

Philips Consumer Electronics Company

A Division of Philips Electronics North America Corporation

MANUAL 5891

Technical Service Data

Service Solutions Group
 Technical Publications Dept.
 P.O. Box 555, 401 E. Old Andrew Johnson Hwy.
 Jefferson City, TN 37760

Sec. 1A: Main Section
 (27MDTR20S/17)

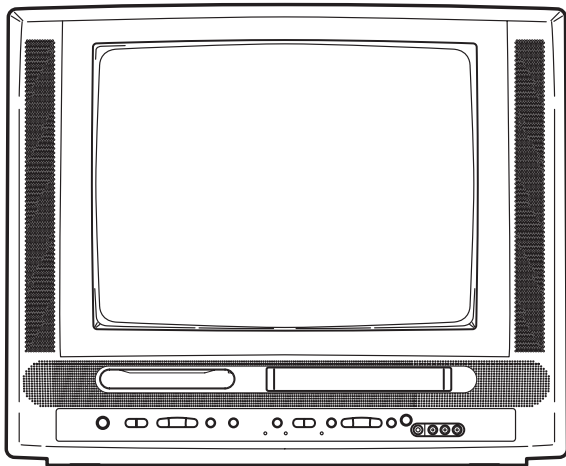
Supplement 1

Sec. 1B: Main Section
 (19MDTR20/17)

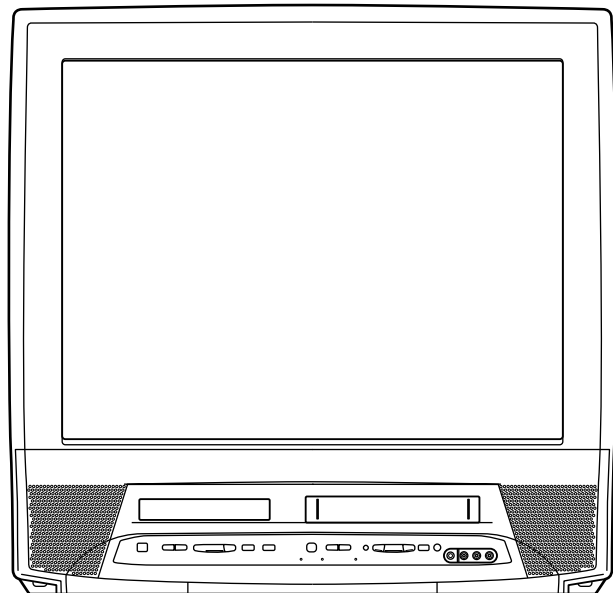
Specifications
 Adjustment Procedures
 Schematic Diagrams and CBA's
 Exploded Views
 Cabinet & Electrical Parts Lists

Sec. 2: Deck Mechanism Section

Color TV with Built-In VCR/DVD Player Service Manual



MAGNAVOX
 Model: 19MDTR20/17



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Color TV with Built-In VCR/DVD Player

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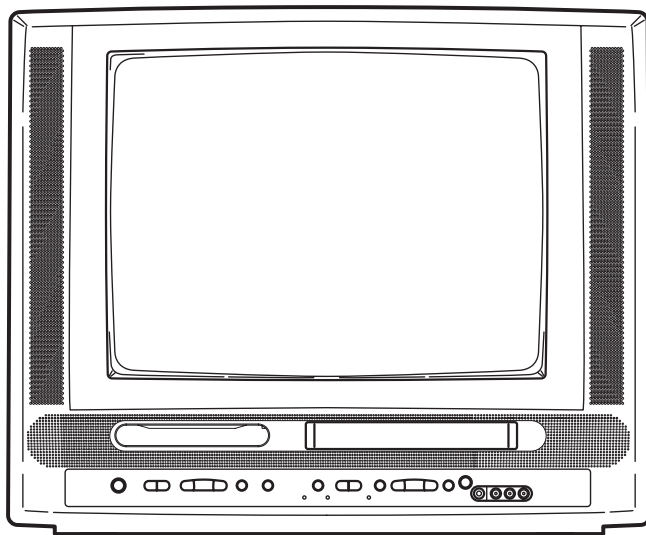
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**Sec. 1B: Main Section
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Model: 19MDTR20/17

Color TV with Built-In VCR/DVD Player

IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Philips Consumer Electronics Company** Equipment. The service procedures recommended by Philips and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Philips could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Philips has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Philips must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

** Hereafter throughout this manual, Philips Consumer Electronics Company will be referred to as Philips.

WARNING

Critical components having special safety characteristics are identified with a  by the Ref. No. in the parts list and enclosed within a broken line* (where several critical components are grouped in one area) along with the safety symbol  on the schematics or exploded views.

Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from Philips. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.

* Broken Line 

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Note:

One model, 19MDTR20/17, is covered by Supplement 1. This section only shows what differs between this model and its base model covered by Section 1A and the Deck Mechanism Section.

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SPECIFICATIONS

✳ Mode-----SP mode unless otherwise specified

✳ Test input terminal

<Except Tuner>-----Video input (1Vp-p)
Audio input (-10dB)

<Tuner>-----Ant. input (80dB μ V) Video: 87.5%
Audio: 25kHz dev (1kHz Sin)

<DEFLECTION>

Description	Condition	Unit	Nominal	Limit
1. Over Scan	—	%	90	—
2. Linearity	Horizontal	%	—	15
	Vertical	%	—	10
3. High Voltage	—	kV	25	—

<VIDEO & CHROMA>

Description	Condition	Unit	Nominal	Limit
1. Misconvergence	Center	m/m	—	0.4
	Corner	m/m	—	2.5
	Side	m/m	—	1.5
2. Tint Control Range	—	deg	± 30	—
3. Contrast Control Range	—	dB	6	2
4. Brightness (100% White Full Field)	Contrast: Max	ft-L	35	24
5. Color Temperature	—	K	9200	—

<DVD>

Description	Condition	Unit	Nominal	Limit
1. Horizontal Resolution (TDV-540 TIT.2 CHP.16)	—	Line	330	320
2. Video S/N at CN3400 (TDV-540 TIT.2 CHP.6)	—	dB	60	55
3. S/N Chroma at CN3400 (TDV-540 TIT.2 CHP.17)	AM	dB	58	53
	PM	dB	58	53
4. Audio Distortion (LPCM 48 kHz, W/LPF) (PTD 1-NOR TIT.1 CHP.1)	L	%	0.03	0.07
	R		0.03	0.07
5. Audio freq. response (LPCM 48kHz) (PTD 1-NOR TIT.1 CHP.5 -- 10)	L, 20 Hz R, 20 Hz L, 20 kHz R, 20 kHz	dB	0	+4/-5
6. Audio S/N (LPCM 48kHz, W/LPF, A-WTD) (PTD 1-NOR TIT.1 CHP.1 -- 2)	L R	dB	85	75

<VCR>

Description	Condition	Unit	Nominal	Limit
1. Horizontal Resolution	(R/P, SP)	Line	230	200
2. Jitter (Low)	(R/P, SP)	μS	0.1	0.2
3. S/N Chroma AM(SP)	(R/P, SP)	dB	38	33
PM(SP)	(R/P, SP)	dB	38	33
4. Wow & Flutter (JIS, UNWTD)	(R/P, SP)	%	0.25	0.5

<TUNER>

Description	Condition	Unit	Nominal	Limit
1. Video S/N (80dBμV, TV4ch)	—	dB	45	40
2. Audio S/N (W/LPF)	—	dB	45	40

<NORMAL AUDIO>

All items are measured across 8Ω resistor at speaker output terminal.

Description	Condition	Unit	Nominal	Limit
1. Audio Output Power	(R/P, SP)	W	1.0	0.8
2. Audio S/N (W/LPF)	(R/P, SP)	dB	40	36
3. Audio distortion (W/LPF, -10dB 1kHz IN)	(R/P, SP)	%	3.0	5.0
4. Audio Freq. Response (-10dB 1kHz IN) 200 Hz	(R/P, SP)	dB	-2.0	-2.0±5.0
8 kHz	(R/P, SP)	dB	0	0±6.0

<Hi-Fi AUDIO>

All items are measured at TP1701 and TP1702.

Description	Condition	Unit	Nominal	Limit
1. Output Level (-10dB 1kHz IN)	(R/P, SP)	dB	-8.0	-8±4
2. Audio Distortion (-10dB 1kHz IN)	(R/P, SP)	%	0.5	1.0
3. Freq. Response (-15dB 1kHz IN) 20 Hz	(R/P, SP)	dB	0	±4
20 kHz	(R/P, SP)	dB	0	±4

Note: Nominal specifications represent the design specifications. All units should be able to approximate these. Some will exceed and some may drop slightly below these specifications. Limit specifications represent the absolute worst condition that still might be considered acceptable. In no case should a unit fail to meet limit specifications.

PREPARATION FOR SERVICING

How to Enter the Service Mode

Caution: 1

- Optical sensors system are used for Tape Start and End Sensor on this equipment. Read this page carefully and prepare as described on this page before starting to service; otherwise, the unit may operate unexpectedly.

Preparing: 1

- Cover Q202 (START SENSOR) and Q201 (END SENSOR) with Insulation Tape or enter the service mode to activate Sensor Inhibition automatically.

Note: Avoid playing, rewinding or fast forwarding the tape to its beginning or end, because both Tape End Sensors are not active.

How to Enter the Service Mode

- Turn power on.
- Use service remote control unit and press DISC MENU key. (See page 1-4-1)
- When entering the service mode, one of the number (1, 2 or 4) will display at corners of the screen.
- During the service mode, electrical adjustment mode can be selected by remote control key. (Service remote control unit).

Details are as follows.

Key	Adjustment Mode
MENU	Picture adjustment mode: Press the MENU button to change from BRT (Bright), *CNT (Contrast), *COL(Color), *TNT(Tint) and *V-T. Press CH UP/DOWN key to adjust Initial Value. *Marked items are not necessary to adjust normally.
0	No need to use.
1	No need to use.
2	H adjustment mode: See adjustment instructions page 1-4-2.
3	No need to use.
4	Auto record mode: Perform recording (15 Sec.)-->Stop-->Rewind (Zero return) automatically.
5	Head switching point adjustment mode: See adjustment instructions page 1-4-5.
6	No need to use.
7	Purity check mode: Shows Red, Green, Blue or White cyclically on the screen each time the "7" key is pressed.

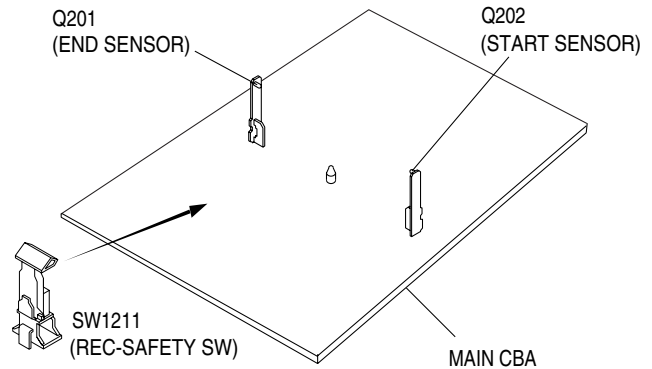
Key	Adjustment Mode
8	H. Shift adjustment mode: See adjustment instructions page 1-4-3.
9	V.size/V. shift adjustment: See adjustment instructions pages 1-4-2 and 1-4-3.
VOL ▼	Cut-off Adjustment 1-4-3.

Caution: 2

- The deck mechanism assembly is mounted on the Main CBA directly, and SW1211 (REC-SAFETY SW) is mounted on the Main CBA. When deck mechanism assembly is removed from the Main CBA due to servicing, this switch can not be operated automatically.

Preparing: 2

- To eject the tape, press the STOP/EJECT button on the unit (or Remote Control).
- When you want to record during the Service mode, press the Rec button while depressing SW1211 (REC-SAFETY SW) on the Main CBA.



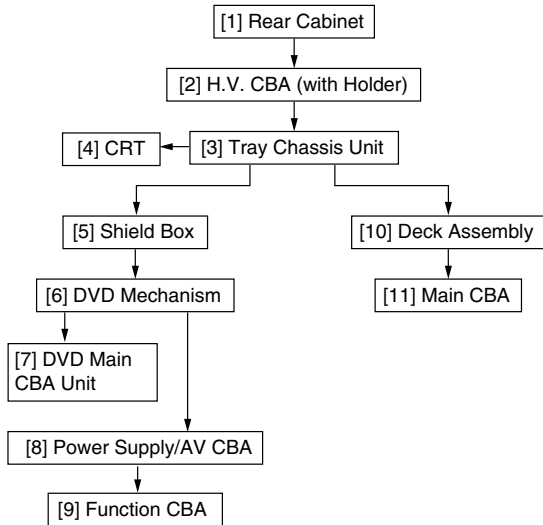
CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts, and the CBA in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.

Caution !

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.



2. Disassembly Method

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/ *UNHOOK/UNLOCK/ RELEASE/UNPLUG/ DESOLDER	Note
[1]	Rear Cabinet	1, 2	6(S-1), 1(S-2), 1(S-3)	-
[2]	H.V. CBA (With Holder)	3, 4, 6	Anode Cap, CN501, CRT CBA, CN571, CN1301, CN2602	1
[3]	Tray Chassis Unit	3, 6	CN1802, CN2801, CN2601	-
[4]	CRT	4	4(S-4)	-
[5]	Shield Box	3	5(S-5)	-
[6]	DVD Mechanism	3, 6	CN2401, CN2402, 3(S-6)	-

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/ *UNHOOK/UNLOCK/ RELEASE/UNPLUG/ DESOLDER	Note
[7]	DVD Main CBA Unit	5	2(S-7), CN201, CN301	2-1 2-2 2-3 3
[8]	Power Supply/AV CBA	3, 6	4(S-8), CN2803, CN2804	-
[9]	Function CBA	3	3(S-9)	-
[10]	Deck Assembly	3, 6	7(S-10), 2(S-11), CL1201, CL1401, CL1402, CL1403	4
[11]	Main CBA	3	3(S-12)	-

↓ (1) ↓ (2) ↓ (3) ↓ (4) ↓ (5)

(1): Order of steps in Procedure. When reassembling, follow the steps in reverse order. These numbers are also used as the Identification (location) No. of parts in Figures.

(2): Parts to be removed or installed.

(3): Fig. No. showing Procedure of Part Location.

(4): Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.

S=Screw, P=Spring, L=Locking Tab, CN=Connector, *=Unhook, Unlock, Release, Unplug, or Desolder

2(S-2) = two Screw (S-2)

(5): Refer to the following "Reference Notes in the Table."

Reference Notes in the Table

Caution !

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

Reference Notes in the Table

CAUTION 1: Discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

1. Disconnect the following: Anode Cap, CN501, CRT CBA, CN571, CN2602, and CN1301.
Then remove H.V. CBA (with Holder).

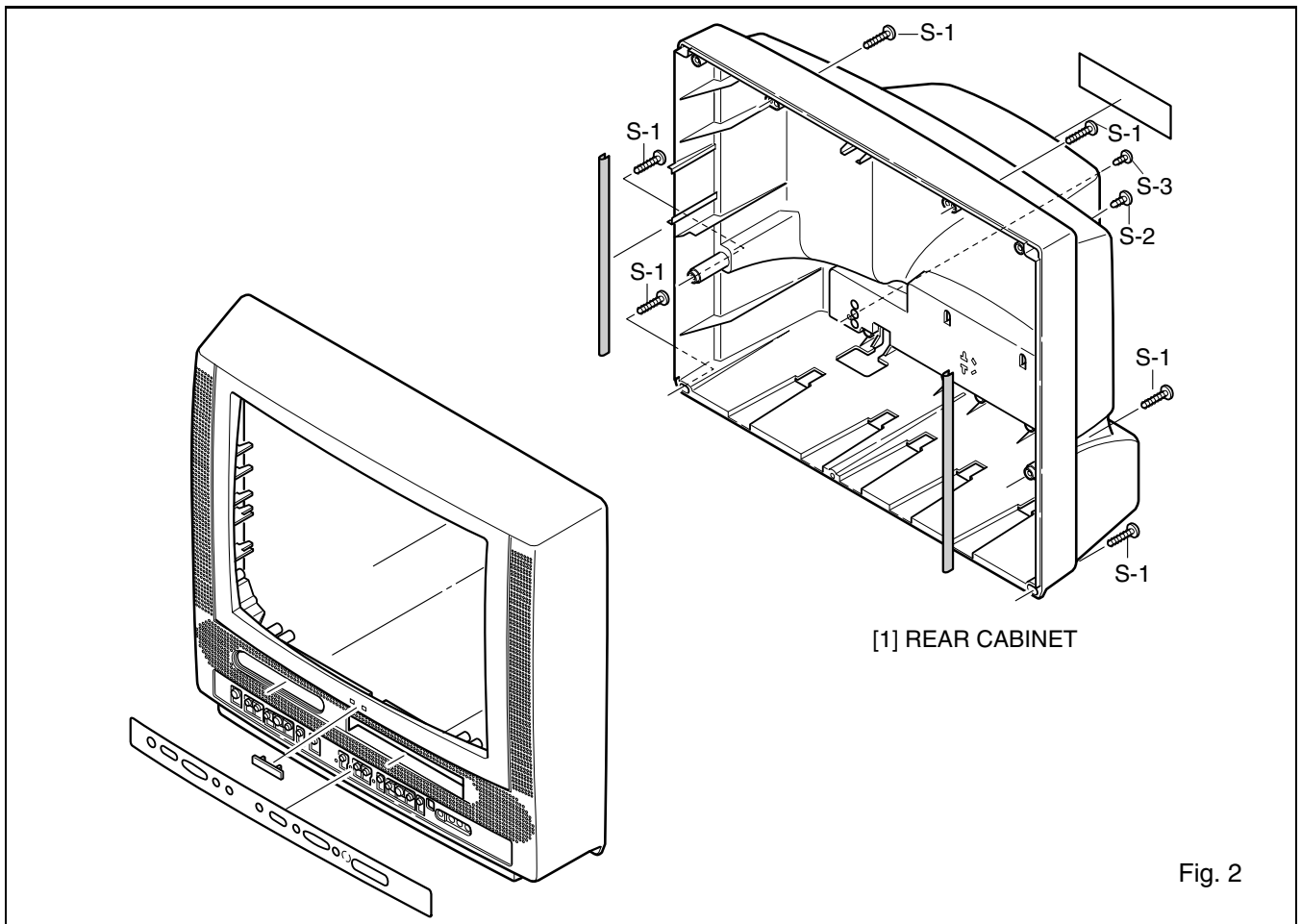
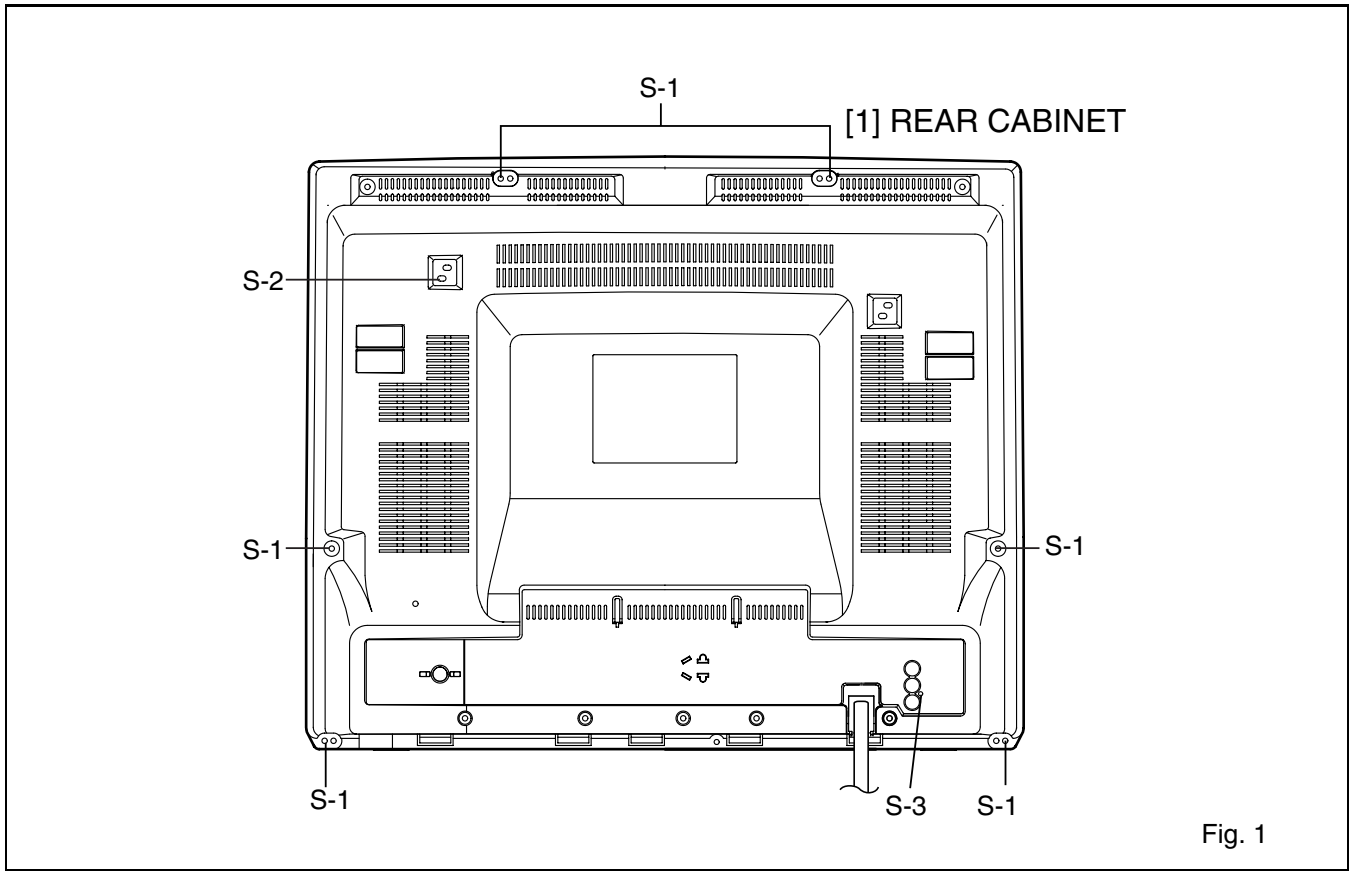
CAUTION 2: Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc., during unpacking or repair work.

To avoid damage of pickup follow these procedures.

- 2-1. Slide out the pickup unit as shown in Fig. 5.
- 2-2. Short the three short lands of FPC cable with solder before removing the FFC cable (CN201) from it. If you disconnect the FFC cable (CN201), the laser diode of pickup will be destroyed. (Fig. 5)
- 2-3. Disconnect connector (CN301). Remove two screws (S-7) and lift the DVD Main CBA Unit. (Fig. 5)

CAUTION 3: When reassembling, confirm the FFC cable (CN201) is connected completely. Then remove the solder from the three short lands of FPC cable. (Fig. 5)

4. Remove screws 7(S-10) and 2(S-11). Then, desolder connectors (CL1201, C1401, CL1402, CL1403) and lift up the Deck Assembly.



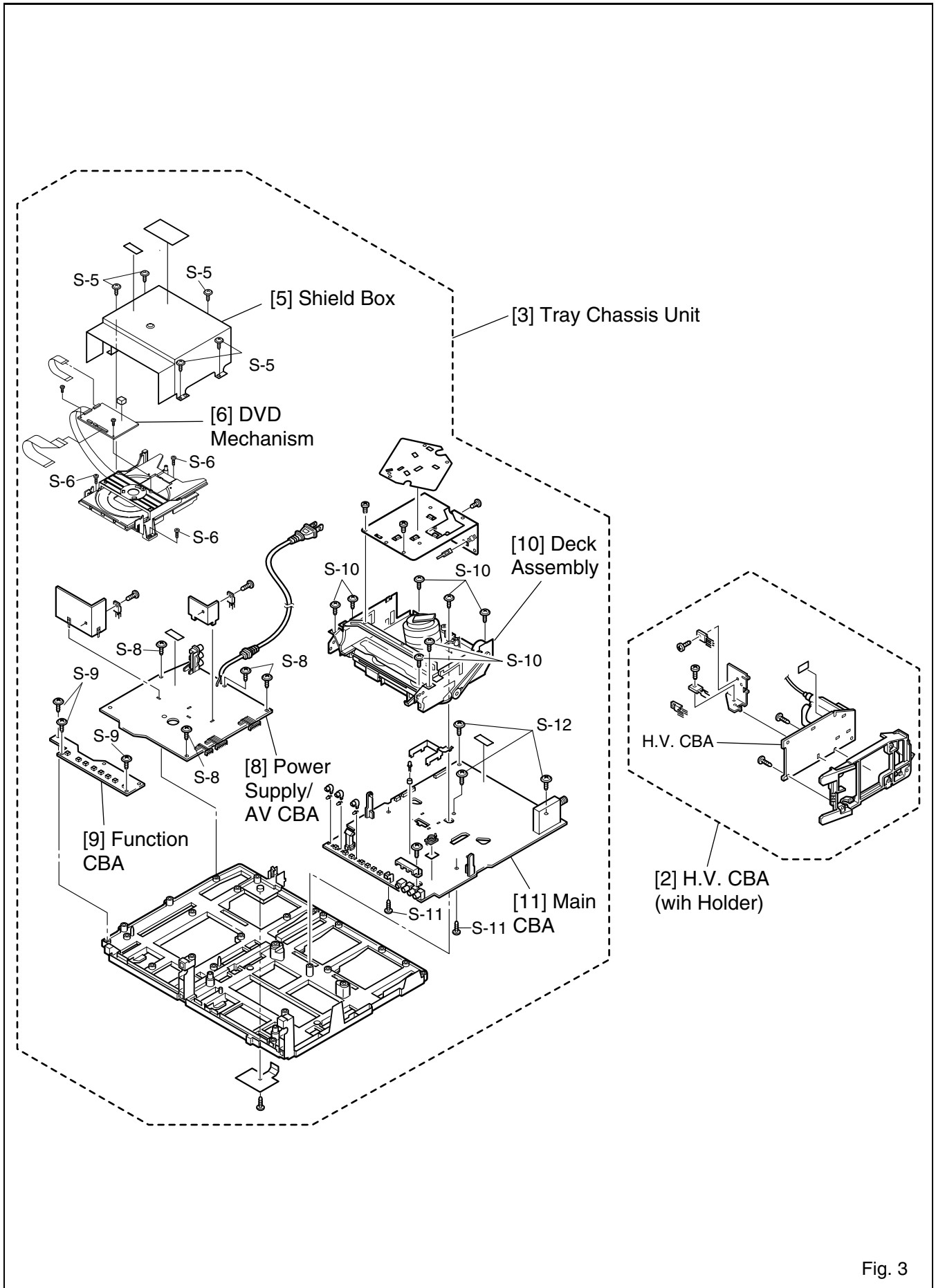
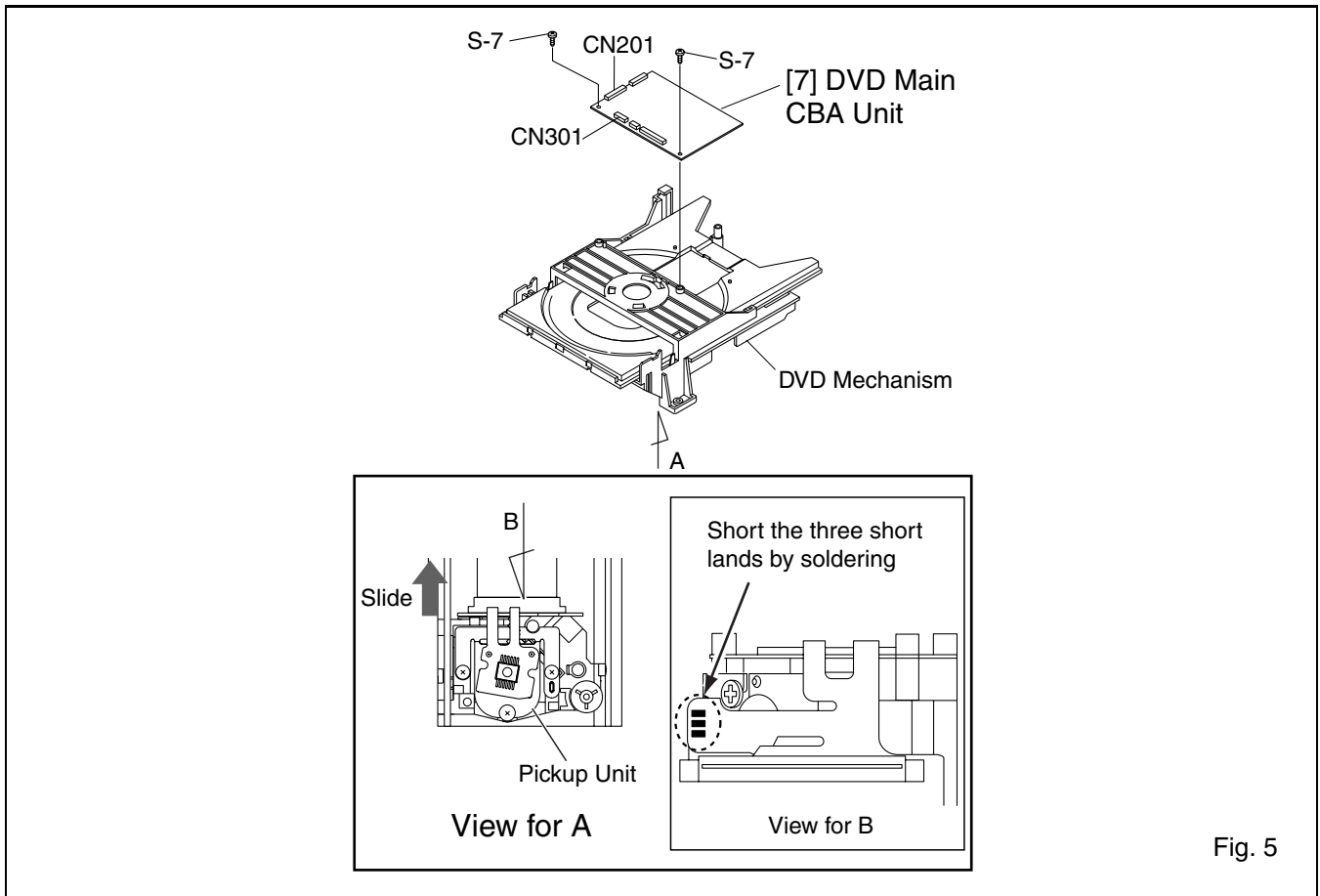
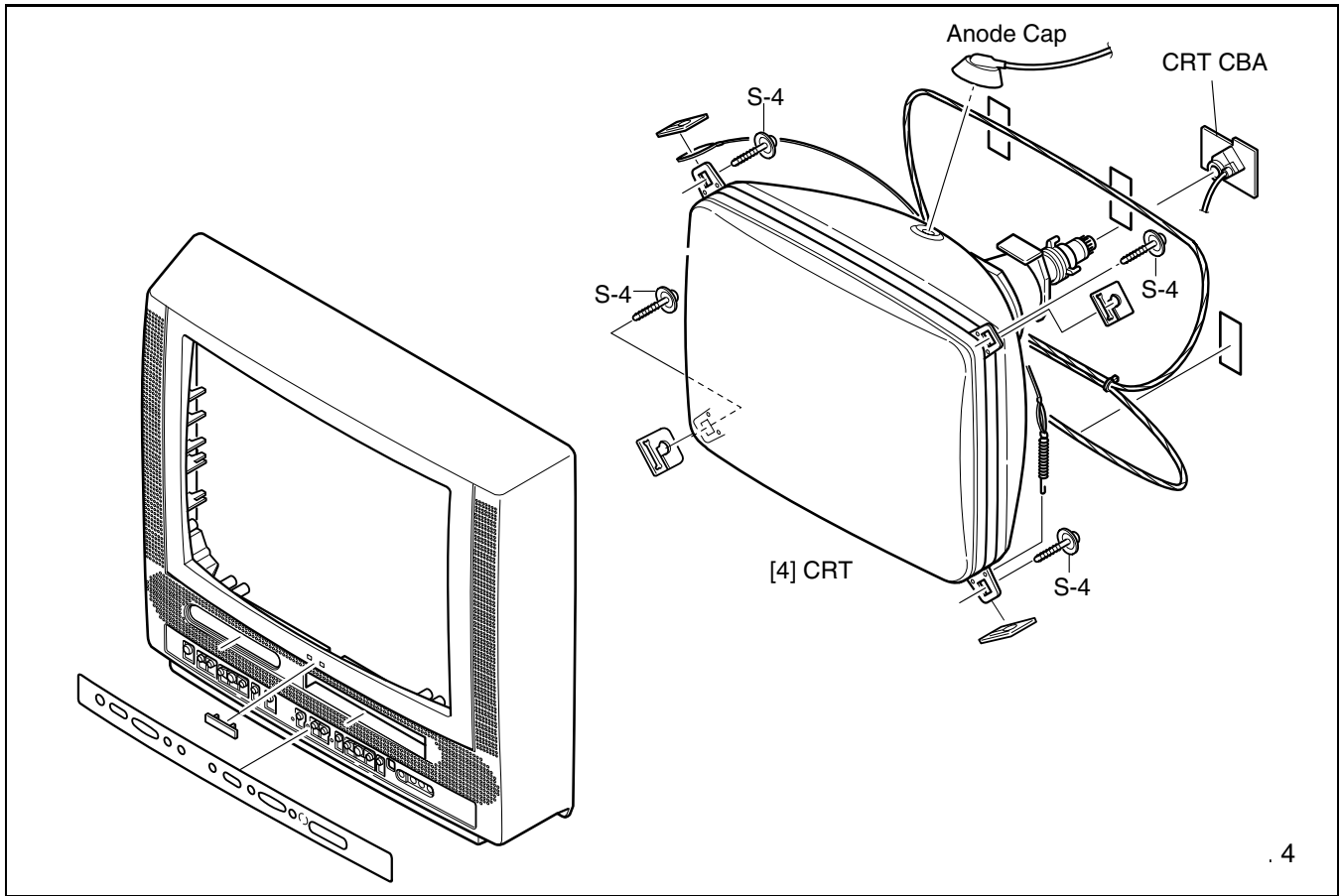


Fig. 3



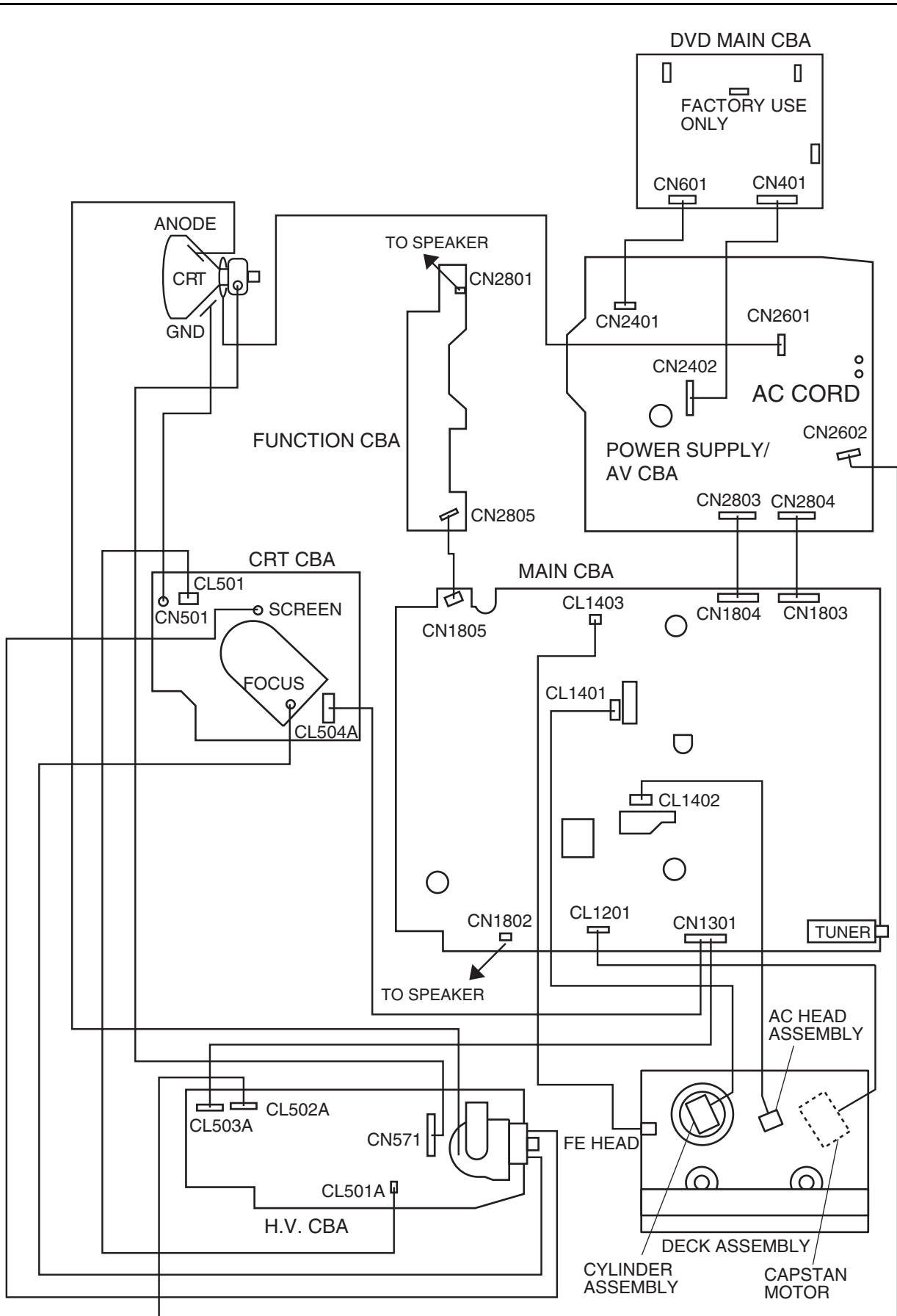


Fig. 6

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note:

"CBA" is abbreviation for "Circuit Board Assembly."

NOTE:

Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed.

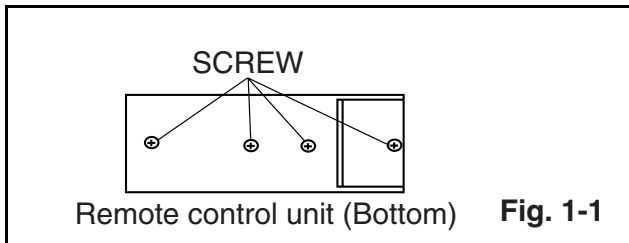
Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

1. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
2. AC Milli Voltmeter (RMS)
3. Alignment Tape (VFMS0001H6), Blank Tape
4. DC Voltmeter
5. Oscilloscope: Dual-trace with 10:1 probe,
V-Range: 0.001~50V/Div,
F-Range: DC~AC-60MHz
6. Frequency Counter
7. Plastic Tip Driver
8. Color Analyzer

How to make service remote control unit:

1. Prepare remote control unit (ID No. NE206UD, Part No. 4835 218 37345). Remove 4 screws from the back lid (Fig. 1-1).



2. Cut off pin 10 of the remote control microprocessor and short circuit pins 10 and 17 of the microprocessor with a jumper wire.

How to Set Up the Service Mode:

1. Turn the power on. (Use main power on the TV unit.)
2. To enter the TV mode, press "CH ▲" or "CH ▼" button on the TV unit.
3. Press "DISC MENU" button on the service remote control unit. (Version of micro computer will display on the CRT. (Ex: 057-001)

X-Ray Protection Test

X-Ray protection test should be done when replacing any parts of this chassis.

1. Short test points J551 and J552 (on H.V. CBA).
2. Confirm that the main power turns off.
3. If the main power does not turn off, then replace the following parts (D591, Q591, R592, R593, R594 and IC1201).
4. Perform steps 1 to 3 again.

1. DC 114V (+B) Adjustment

Purpose: To obtain correct operation.

Symptom of Misadjustment: The picture is dark and unit does not operate correctly.

Test Point	Adj. Point
J553(+B) HEAT SINK (on H.V. CBA) (GND)	VR2601
M. EQ.	Spec.
DC Voltmeter	+114±0.5V DC

Notes: J553(+B), HEAT SINK --- H.V. CBA
VR2601 --- Power Supply/AV CBA

1. Connect the unit to AC power outlet.
2. Connect DC Volt Meter to J553(+B) and HEAT SINK (on H.V. CBA) (GND).
3. Adjust VR2601 so that the voltage of J553(+B) becomes +114±0.5V DC.

2. H Adjustment

Purpose: To get correct horizontal position and size of screen image.

Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test Point	Adj. Point	Mode
R583	CH ▲ / ▼ buttons	Video
M. EQ.		Spec.
Frequency Counter		15.734kHz±300Hz

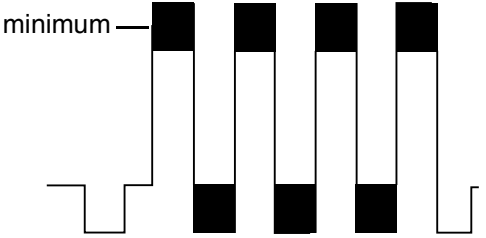
Note: R583 --- H.V. CBA

1. Connect frequency counter to R583.
2. Operate the unit for at least 20 minutes.
3. Enter the Service mode. (See page 1-4-1.) Press "2" button on the service remote control unit and select H-ADJ mode.
4. Press "CH ▲ / ▼" buttons on the service remote control unit so that the display will change "0" to "7." At this moment, choose display "0" to "7" when the frequency counter display is closest to 15.734kHz±300Hz.
5. Turn the power off and on again.

3. C-Trap Adjustment

Purpose: To get minimum leakage of the color signal carrier.

Symptom of Misadjustment: If C-Trap Adjustment is incorrect, stripes will appear on the screen.

Test Point	Adj. Point	Input
D1304 (Cathode) (B-OUT)	CH ▲ / ▼ buttons	Color Bar
M. EQ.		
Oscilloscope, Pattern Generator		
Figure		
		

Note: D1304 (Cathode) (B-Out)--- Main CBA

1. Connect Oscilloscope to D1304 (Cathode).
2. Input a color bar signal from RF input.
Enter the Service mode. (See page 1-4-1.)
3. Press "0" button on the service remote control unit and select C-TRAP Mode.
4. Press CH ▲ / ▼ buttons on the service remote control unit so that the carrier leakage B-Out (3.58MHz) value becomes minimum on the oscilloscope.
5. Turn the power off and on again.

4. V. Size Adjustment

Purpose: To obtain correct vertical height of screen image.

Symptom of Misadjustment: If V. Size is incorrect, vertical height of image on the screen may not be properly displayed.

Adj. Point	Input
CH ▲ / ▼ buttons	Monoscope
M. EQ.	Spec.
Pattern Generator	90±5%

1. Enter the Service mode. (See page 1-4-1.)
Press "9" button on the service remote control unit and select V-S mode. (Press "9" button then display will change to V-P and V-S).
2. Input monoscope pattern.
3. Press "CH ▲ / ▼" buttons on the service remote control unit so that the monoscope pattern is 90±5% of display size and the circle is round.

5. V. Shift Adjustment

Purpose: To obtain correct vertical position of screen image.

Symptom of Misadjustment: If V. shift is incorrect, vertical position of image on the screen may not be properly displayed.

Adj. Point	Input
CH ▲ / ▼ buttons	Monoscope
M. EQ.	
Pattern Generator	

1. Enter the Service mode. (See page 1-4-1.)
Press "9" button on the service remote control unit and select V-P mode. (Press "9" button then display will change to V-P and V-S).
2. Input monoscope pattern.
3. Press "CH ▲ / ▼" buttons on the service remote control unit so that the top and bottom of the monoscope pattern are equal to each other.

6. H. Shift Adjustment

Purpose: To obtain correct horizontal position and size of screen image.

Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

Adj. Point	Input
CH ▲ / ▼ buttons	Monoscope
M. EQ.	
Pattern Generator	

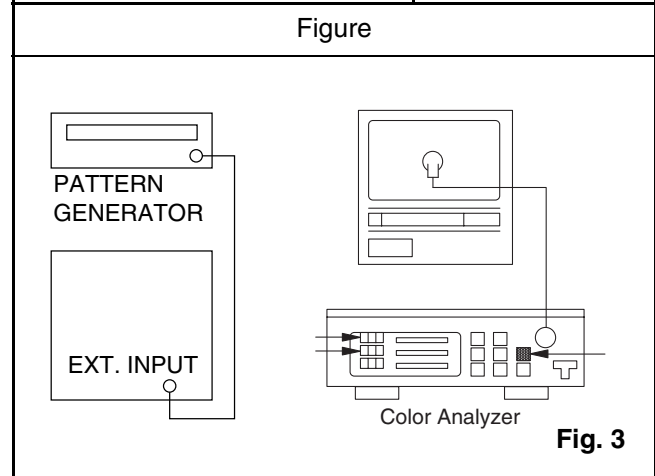
1. Enter the Service mode. (See page 1-4-1.)
Press "8" button on the service remote control unit and select H-P mode.
2. Input monoscope pattern.
3. Press "CH ▲ / ▼" buttons on the service remote control unit so that the left and right side of the monoscope pattern are equal to each other.
4. Turn the power off and on again.

7. Cut-off Adjustment

Purpose: To adjust the beam current of R, G, B, and screen voltage.

Symptom of Misadjustment: White color may be reddish, greenish or bluish.

Adj. Point	Mode	Input
Screen-Control	Ext.	Black Raster / White Raster
M. EQ.		Spec.
Pattern Generator Color Analyzer		See Reference Notes below



Notes: Screen Control FBT --- H.V. CBA
FBT= Fly Back Transformer
Use the service remote control unit

1. Degauss the CRT and allow CRT to operate for 20 minutes before starting the alignment.
2. Input the Black raster signal from EXT. input.
3. Enter the Service mode. (See page 1-4-1.)
4. Press the "VOL ▼" button.
(Press "VOL ▼" then display will change CUT OFF/DRIVE, 7Fh adjustment and DVD-KEY).
5. Choose CUT OFF/DRIVE mode then press "1" button. This adjustment mode is CUT OFF (R).
6. Increase the screen control so that the horizontal line just appears on the CRT.
7. Press the "CH ▲ / ▼" button until the horizontal line becomes white.
8. Choose CUT OFF/DRIVE mode then press "2" button. This adjustment mode is CUT OFF (G). Press "CH ▲ / ▼" until the horizontal line becomes white.
9. Choose CUT OFF/DRIVE mode then press "3" button. This adjustment mode is CUT OFF (B). Press "CH ▲ / ▼" until the horizontal line becomes white.
10. Choose CUT OFF/DRIVE mode then press "4" button.
11. Input the White Raster Signal from Video In.

12. Set the color analyzer to the CHROMA mode and after zero point calibration, bring the optical receptor to the center on the tube surface (CRT).
13. Adjust the RED DRIVE as needed with the CH ▲ / ▼ buttons to get the following value, X= 286, Y= 294.
14. Choose CUT OFF/DRIVE mode then press "5." Adjust the BLUE DRIVE as needed with the CH ▲ / ▼ buttons to get the following value, X= 286.
15. Turn the power off and on again.

8. Sub-Brightness Adjustment

Purpose: To get proper brightness.

Symptom of Misadjustment: If Sub-Brightness is incorrect, proper brightness cannot be obtained by adjusting the Brightness Control.

Adj. Point	Input
CH ▲ / ▼ buttons	SMPTE 7.5IRE
M. EQ.	Spec.
Pattern Generator	See below

Figure

Note: SMPTE Setup level --- 7.5 IRE

1. Enter the Service mode. (See page 1-4-1.) Then input SMPTE signal from RF input.
2. Press "PICTURE" button. (Press "PICTURE" button then display will change B R T, C N T, COL, T N T and V-T). Select BRT and press "CH ▲ / ▼" buttons so that the bar is just visible (See above figure).
3. Turn the power off and on again.

9. Focus Adjustment

Purpose: Set the optimum Focus.

Symptom of Misadjustment: If Focus Adjustment is incorrect, blurred images are shown on the display.

Adj. Point	Input
Focus Control	Monoscope
M. EQ.	Spec.
Pattern Generator	See below.

Notes: Focus VR (FBT) --- H.V. CBA

FBT= Fly Back Transformer

1. Operate the unit more than 30 minutes.
2. Face the unit to the East and degauss the CRT using a degaussing coil.
3. Input the monoscope pattern.
4. Adjust the Focus Control on the FBT to obtain a clear picture.

10. SIF Adjustment

Purpose: To set the SIF (Sound Intermediate Frequency).

Symptom of Misadjustment: Audio may not sound correctly.

Note: This adjustment automatically done by the chrominance IC (IC1301).

11. CCS Text Box Location

Note: This adjustment automatically done by the microcomputer.

12. Head Switching Position Adjustment

Purpose: Determine the Head Switching Point during Playback.

Symptom of Misadjustment: May cause Head Switching Noise or Vertical Jitter in the picture.

Note: Unit reads Head Switching Position automatically and displays it on the screen (Upper Left Corner).

1. Playback test tape (VFMS0001H6).
2. Enter the Service mode. (See page 1-4-1.) Then press the "5" button on the service remote control unit.
3. The Head Switching position will display on the screen; if adjustment is necessary follow step 4. 6.5H(412.7µs) is preferable.
4. Press "CH ▲" or "CH ▼" button on the service remote control unit if necessary. The value will be changed in 0.5H steps up or down. Adjustable range is up to 9.5H. If the value is beyond adjustable range, the display will change as:
Lower out of range: 0.0H
Upper out of range: --H
5. Turn the power off and on again.

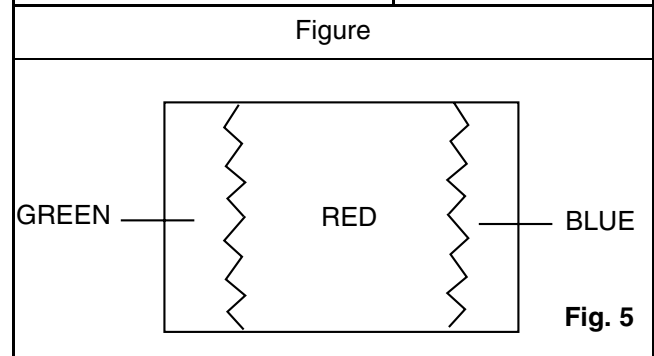
The following 2 adjustments normally are not attempted in the field. They should be done only when replacing the CRT, then adjust as a preparation.

13. Purity Adjustment

Purpose: To obtain pure color.

Symptom of Misadjustment: If Color Purity Adjustment is incorrect, large areas of color may not be properly displayed.

Adj. Point	Input
Deflection Yoke Purity Magnet	Red Color
M. EQ.	Spec.
Pattern Generator	See below.



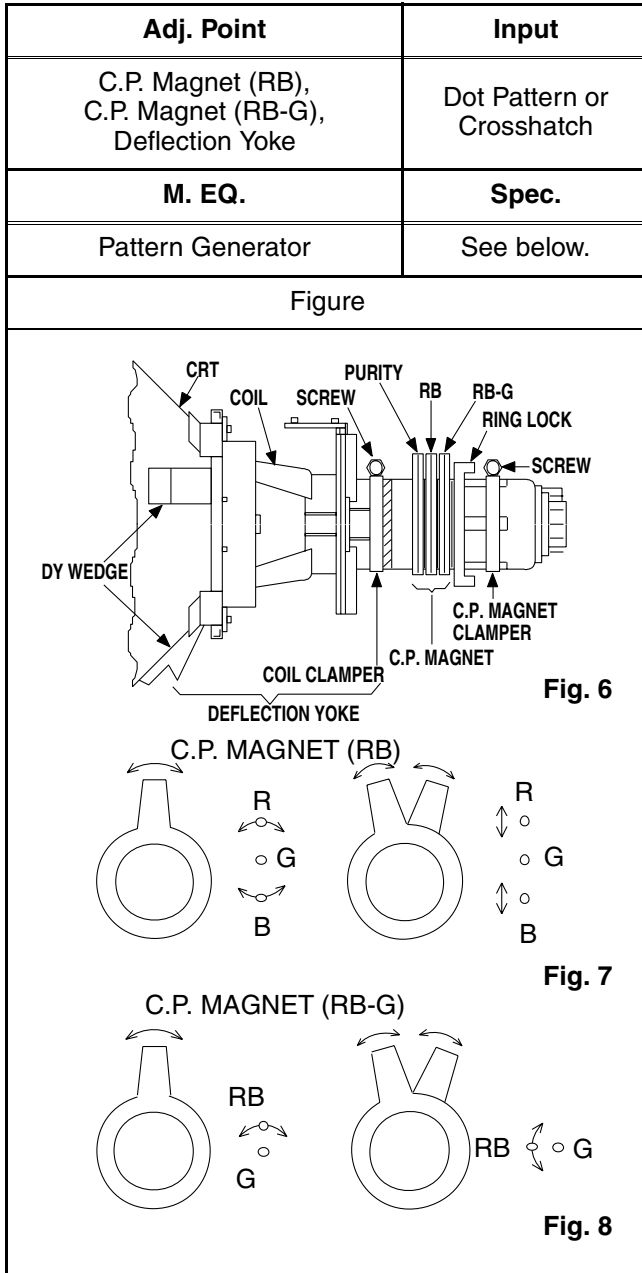
1. Set the unit facing East.
2. Operate the unit for over 30 minutes before adjusting.
3. Fully degauss the unit using an external degaussing coil.
4. Set the unit to the AUX mode, which is located before CH2, then input a red raster from video in.
5. Loosen the screw on the Deflection Yoke Clamper and pull the Deflection Yoke back away from the screen. (See Fig. 6.)
6. Loosen the Ring Lock and adjust the Purity Magnets so that a red field is obtained at the center of the screen. Tighten Ring Lock. (See Fig. 5,6.)
7. Slowly push the Deflection Yoke toward the bell of the CRT and set it where a uniform red field is obtained.
8. Tighten the clamp screw on the Deflection Yoke.

14. Convergence Adjustment

Purpose: To obtain proper convergence of red, green and blue beams.

Symptom of Misadjustment: If Convergence Adjustment is incorrect, the edge of white letters may have color edges.

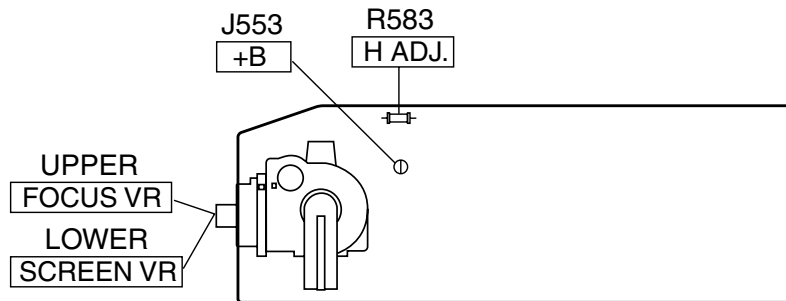
5. Remove the DY Wedges and slightly tilt the Deflection Yoke horizontally and vertically to obtain the best overall convergence.
6. Fix the Deflection Yoke by carefully inserting the DY Wedges between CRT and Deflection Yoke.



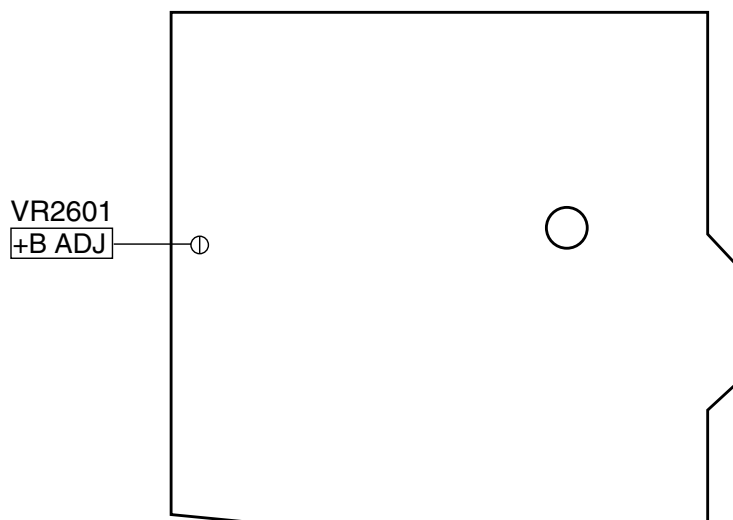
1. Set the unit to the AUX mode which is located before CH2, then input a dot or crosshatch pattern.
2. Loosen the Ring Lock and align red with blue dots or crosshatch at the center of the screen by rotating (RB) C.P. Magnets. (See Fig. 7.)
3. Align red / blue with green dots at the center of the screen by rotating (RB-G) C.P. Magnet. (See Fig. 8.)
4. Fix the C.P. Magnets by tightening the Ring Lock.

Adjustment Points and Test Points

H.V. CBA

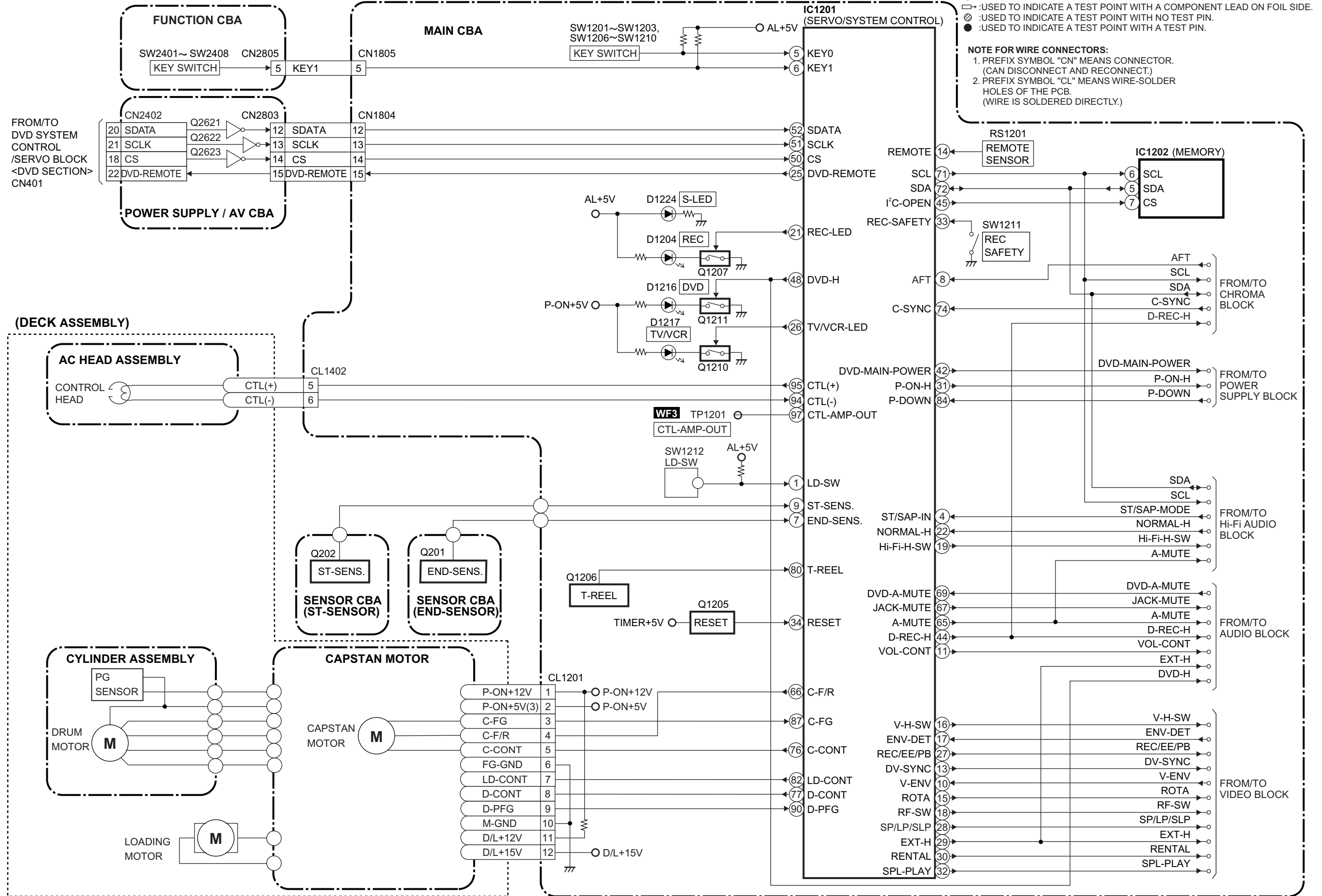


Power Supply/AV CBA

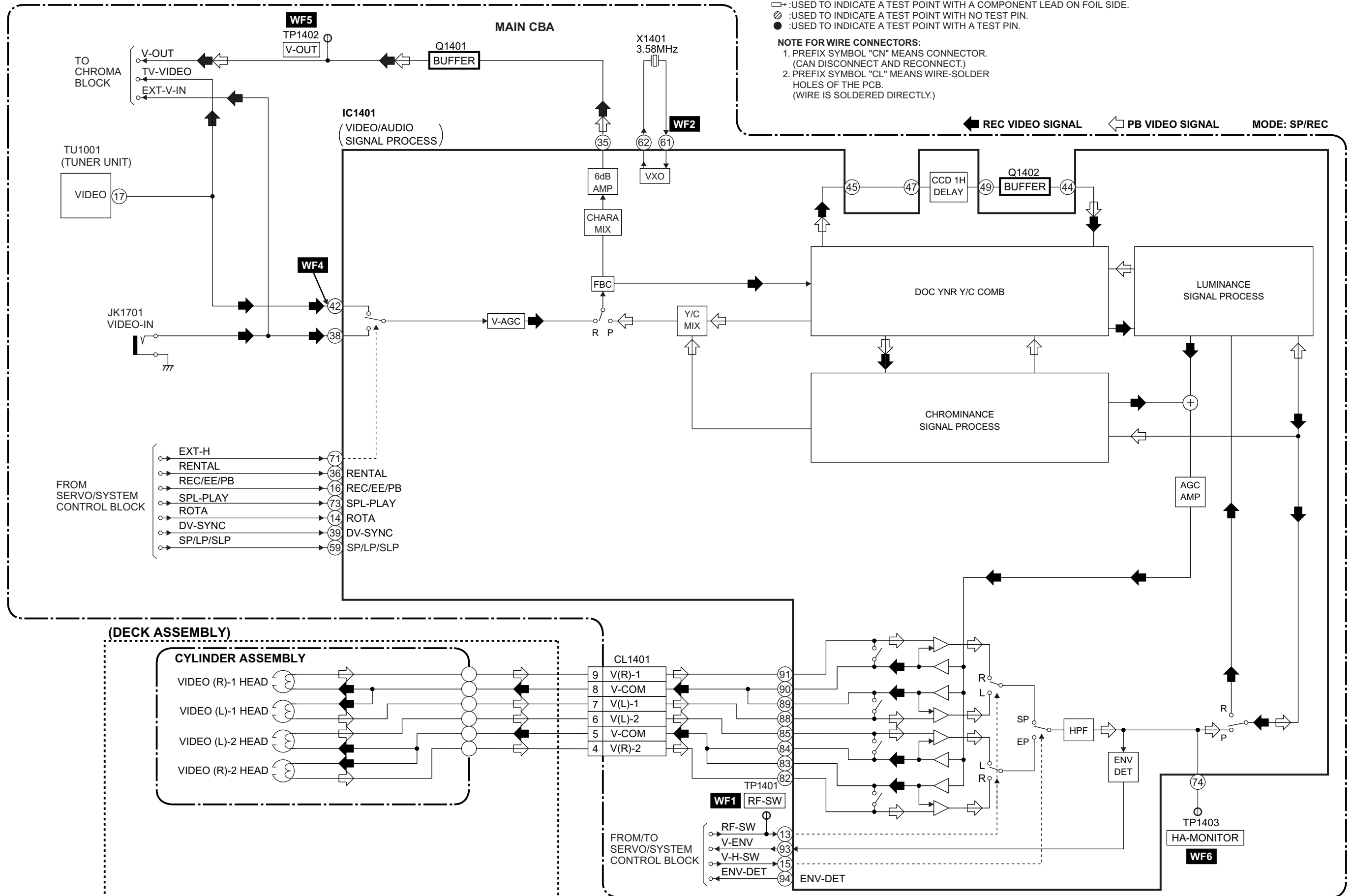


BLOCK DIAGRAMS <TV/VCR Section>

Servo/System Control Block Diagram



Video Block Diagram



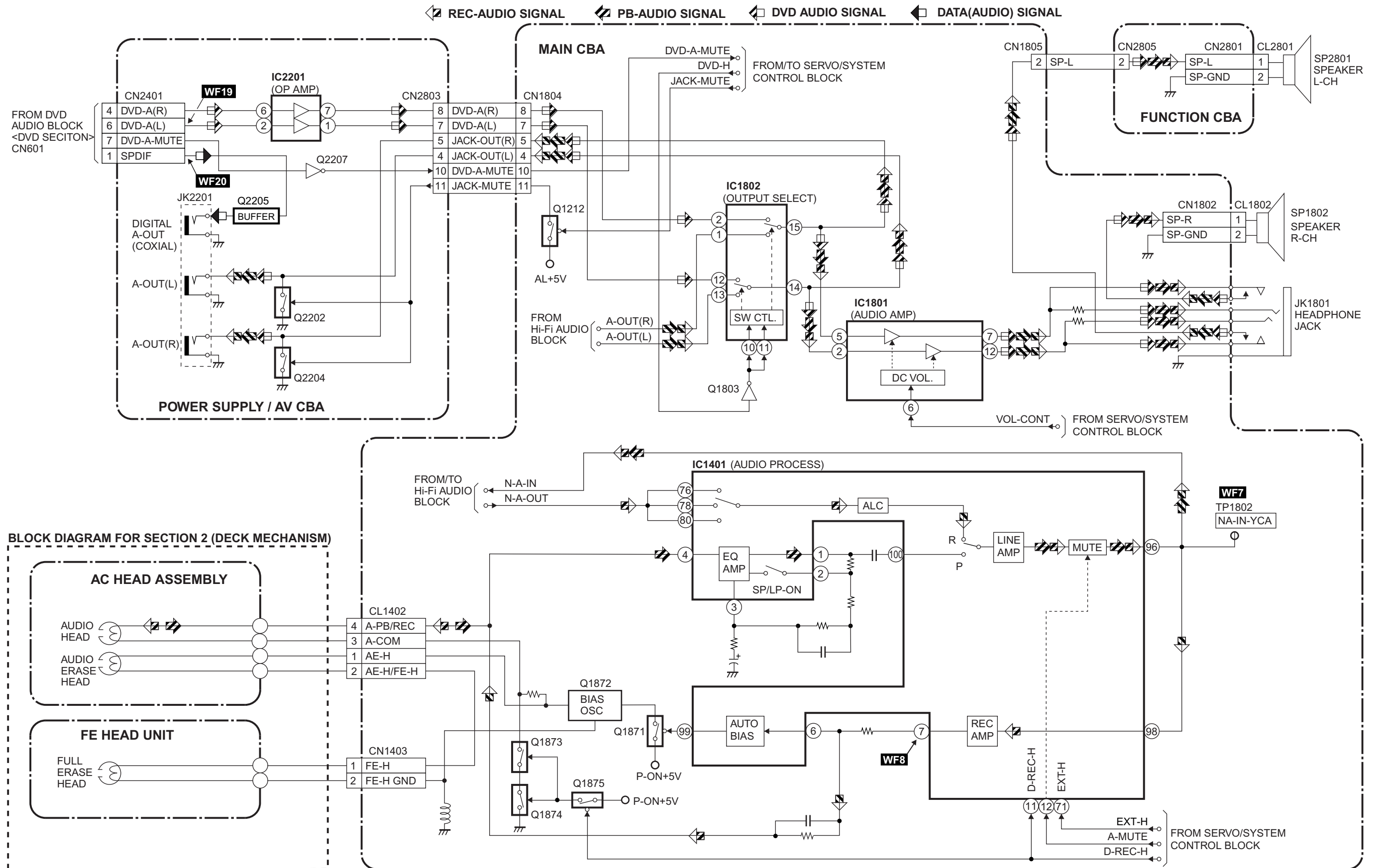
Audio Block Diagram

TEST POINT INFORMATION

- ⊙ :INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
- ◻ :USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
- ⊗ :USED TO INDICATE A TEST POINT WITH NO TEST PIN.
- :USED TO INDICATE A TEST POINT WITH A TEST PIN.

NOTE FOR WIRE CONNECTORS:

1. PREFIX SYMBOL "CN" MEANS CONNECTOR. (CAN DISCONNECT AND RECONNECT.)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB. (WIRE IS SOLDERED DIRECTLY.)



Hi-Fi Audio Block Diagram

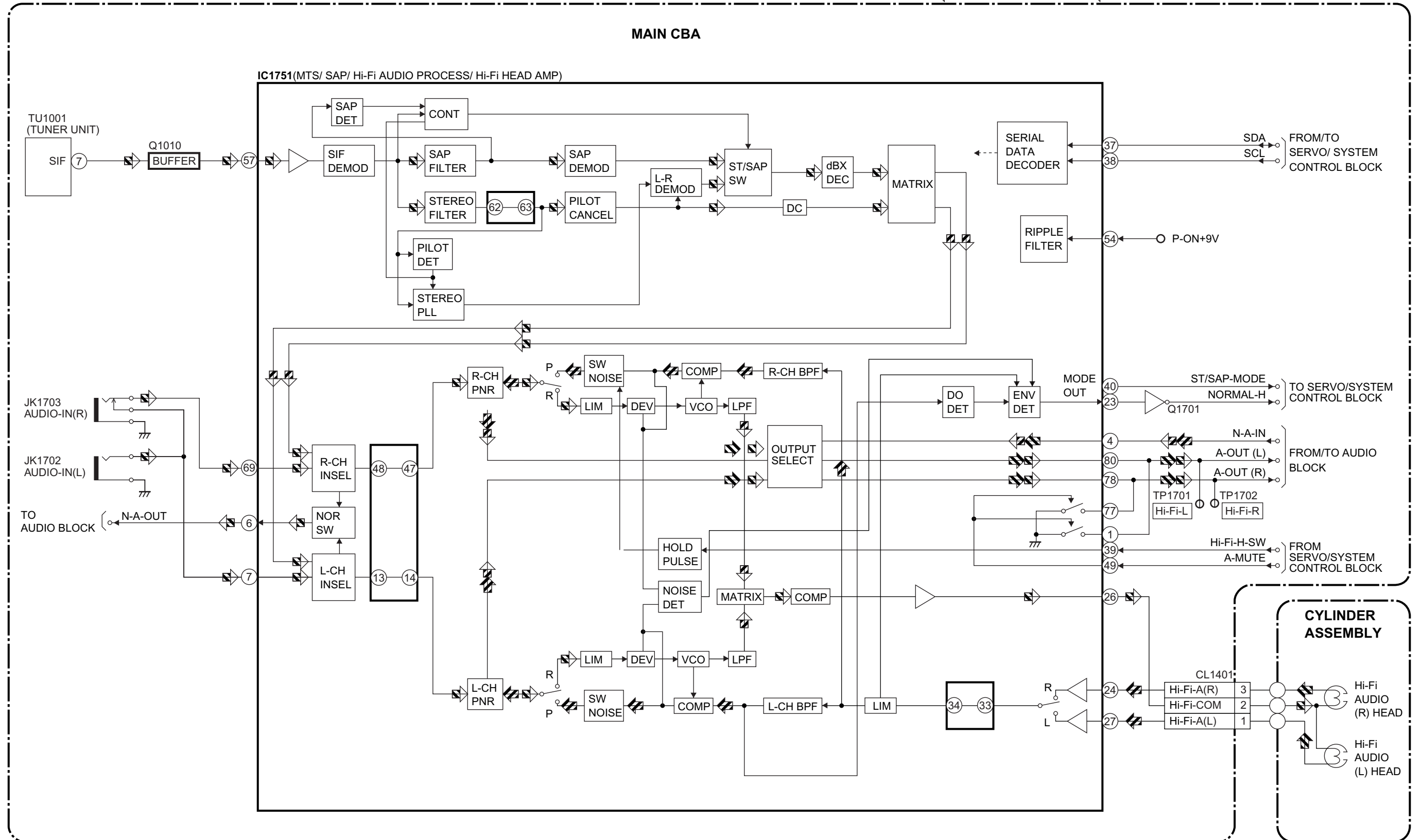
TEST POINT INFORMATION

- ⊙ :INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
- ⇨ :USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
- ⊗ :USED TO INDICATE A TEST POINT WITH NO TEST PIN.
- :USED TO INDICATE A TEST POINT WITH A TEST PIN.

NOTE FOR WIRE CONNECTORS:

1. PREFIX SYMBOL "CN" MEANS CONNECTOR. (CAN DISCONNECT AND RECONNECT.)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB. (WIRE IS SOLDERED DIRECTLY.)

▤ PB-AUDIO SIGNAL ▥ REC-AUDIO SIGNAL



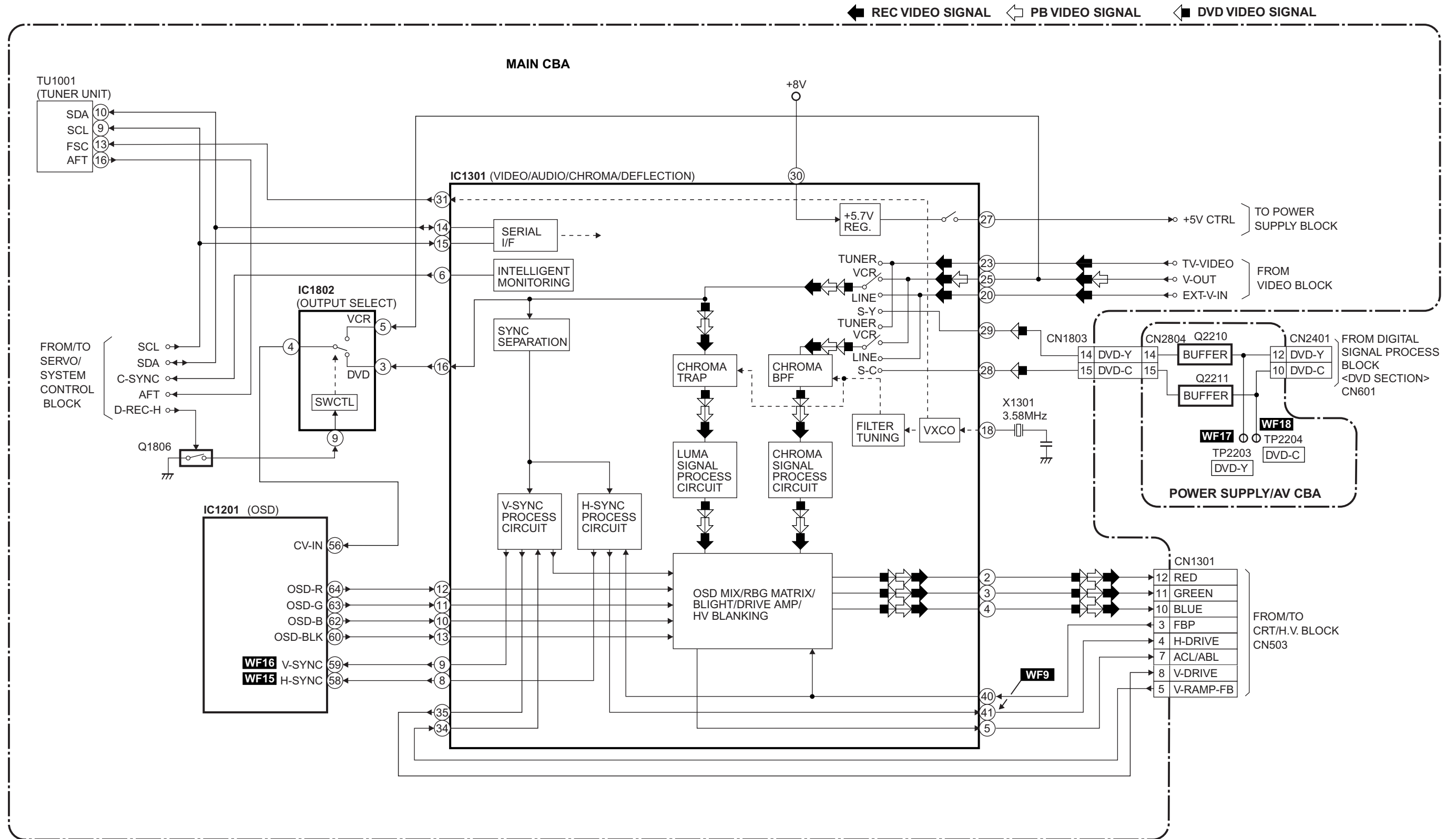
Chroma Block Diagram

TEST POINT INFORMATION

- ⊕ :INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
- ⊞ :USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
- ⊙ :USED TO INDICATE A TEST POINT WITH NO TEST PIN.
- :USED TO INDICATE A TEST POINT WITH A TEST PIN.

NOTE FOR WIRE CONNECTORS:

1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
(CAN DISCONNECT AND RECONNECT.)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB.
(WIRE IS SOLDERED DIRECTLY.)



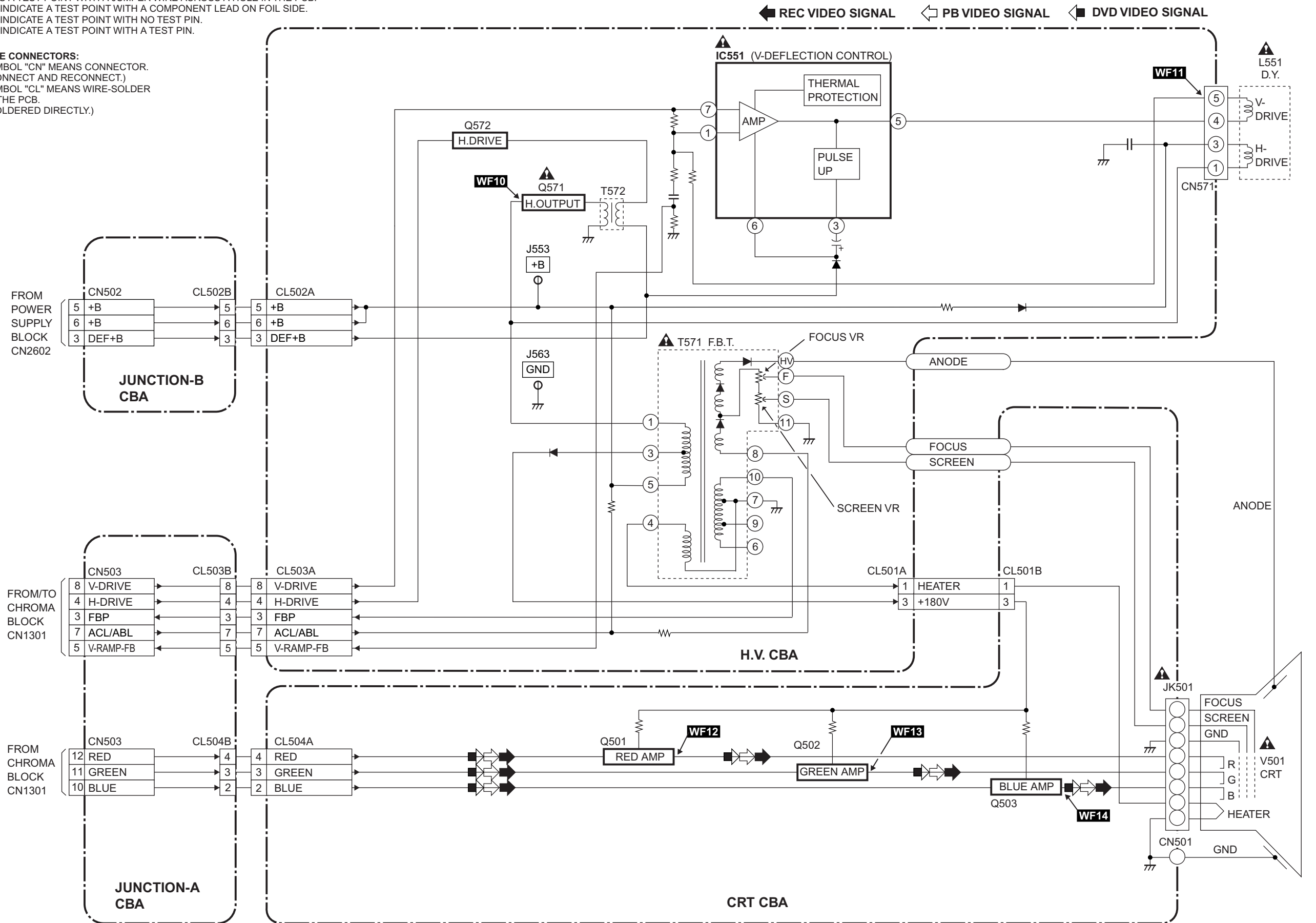
CRT/H.V. Block Diagram

TEST POINT INFORMATION

- ⊕ :INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
- ⊞ :USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
- ⊙ :USED TO INDICATE A TEST POINT WITH NO TEST PIN.
- :USED TO INDICATE A TEST POINT WITH A TEST PIN.

NOTE FOR WIRE CONNECTORS:

1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
(CAN DISCONNECT AND RECONNECT.)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB.
(WIRE IS SOLDERED DIRECTLY.)



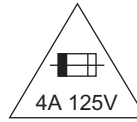
Power Supply Block Diagram

CAUTION !

Fixed voltage power supply circuit is used in this unit.

If Main Fuse (F2601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.

Otherwise it may cause some components in the power supply circuit to fail.



CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4 A, 125V FUSE.

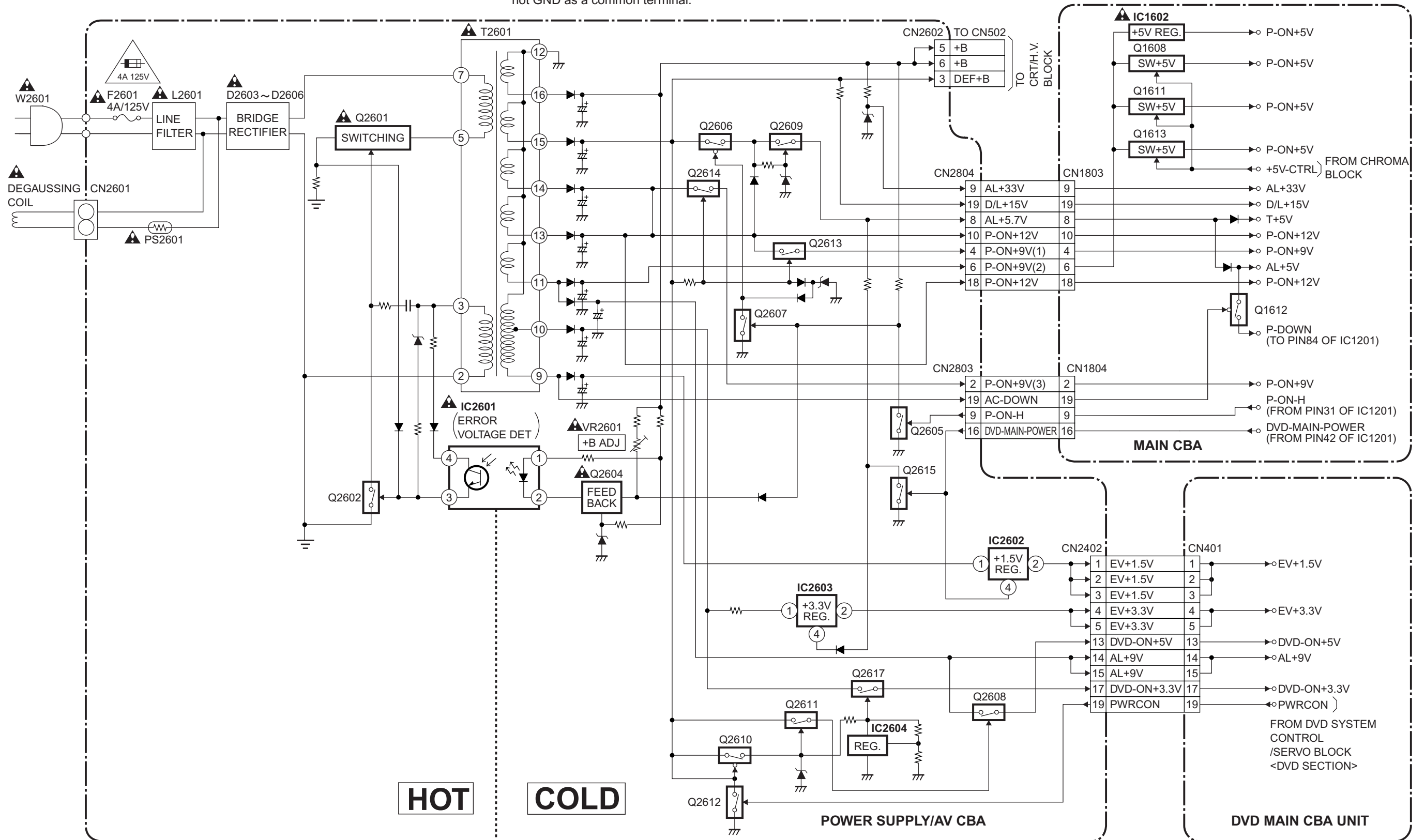
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

NOTE :

The voltage for parts in hot circuit is measured using hot GND as a common terminal.

NOTE FOR WIRE CONNECTORS:

1. PREFIX SYMBOL "CN" MEANS CONNECTOR. (CAN DISCONNECT AND RECONNECT.)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB. (WIRE IS SOLDERED DIRECTLY.)

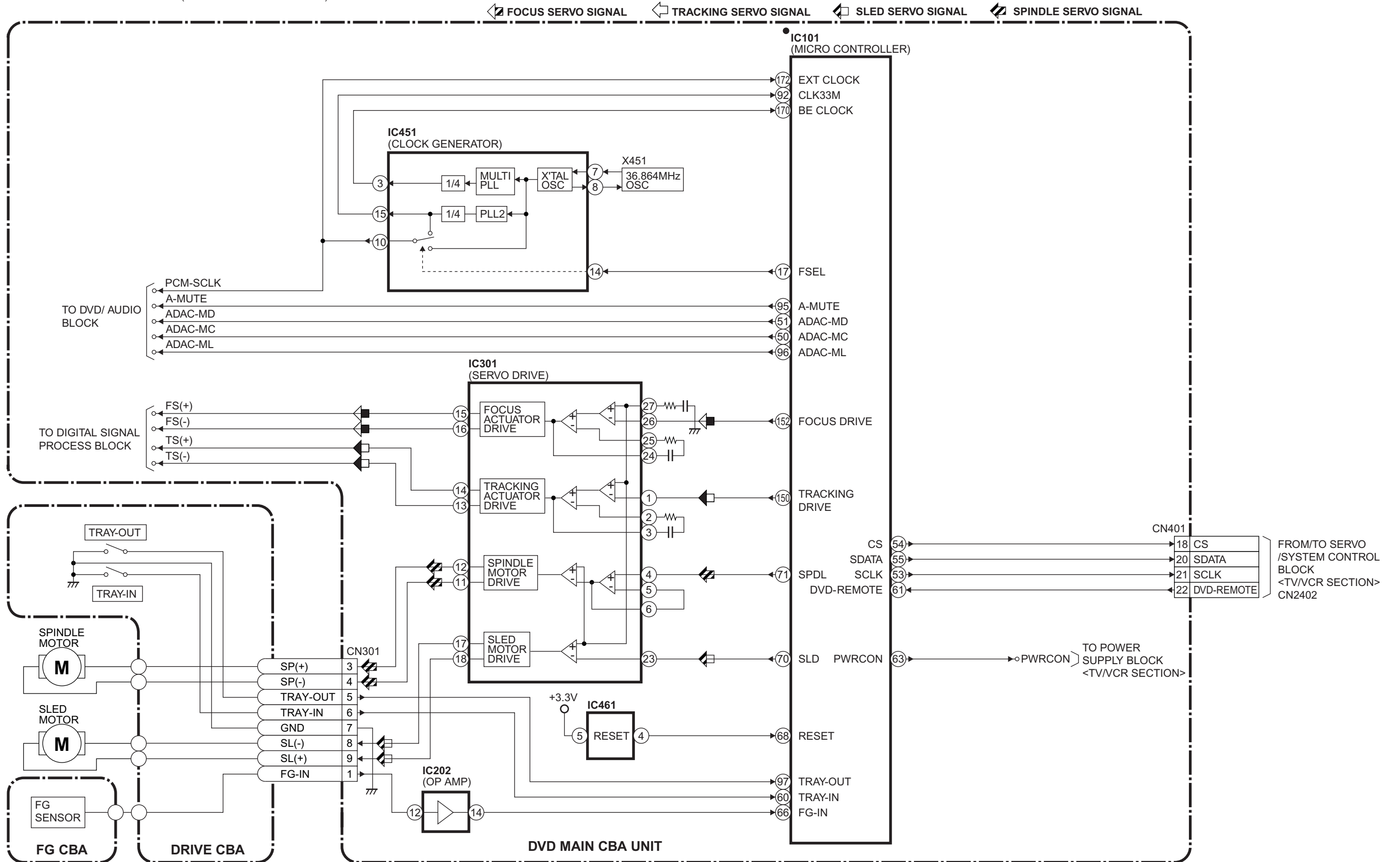


BLOCK DIAGRAMS < DVD Section >

DVD System Control/Servo Block Diagram

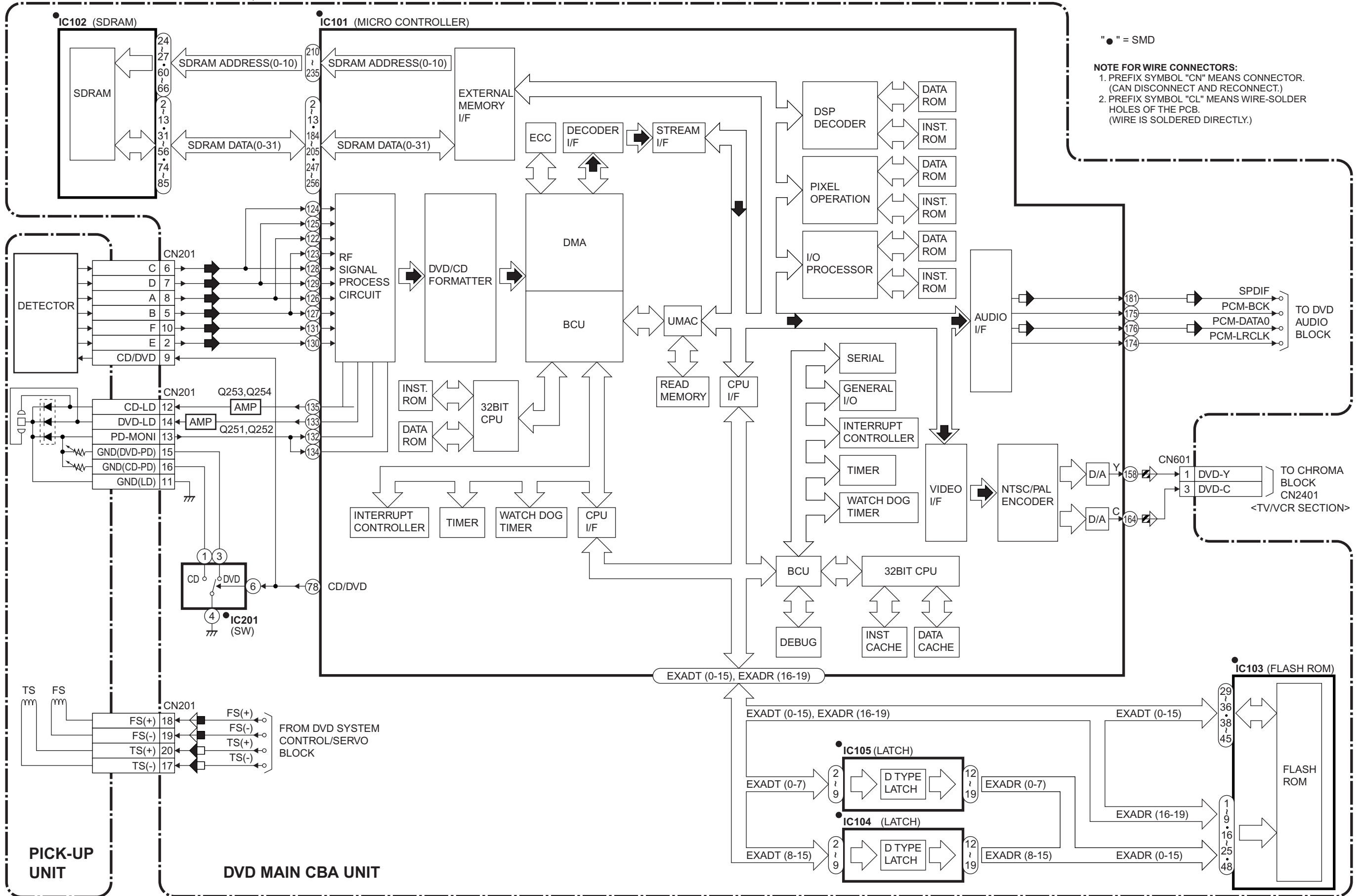
NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 (CAN DISCONNECT AND RECONNECT.)
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER
 HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY.)

"•" = SMD



Digital Signal Process Block Diagram

DATA(AUDIO) SIGNAL ←
 DVD VIDEO SIGNAL ←
 DATA(AUDIO) SIGNAL ←
 FOCUS SERVO SIGNAL ←
 TRACKING SERVO SIGNAL



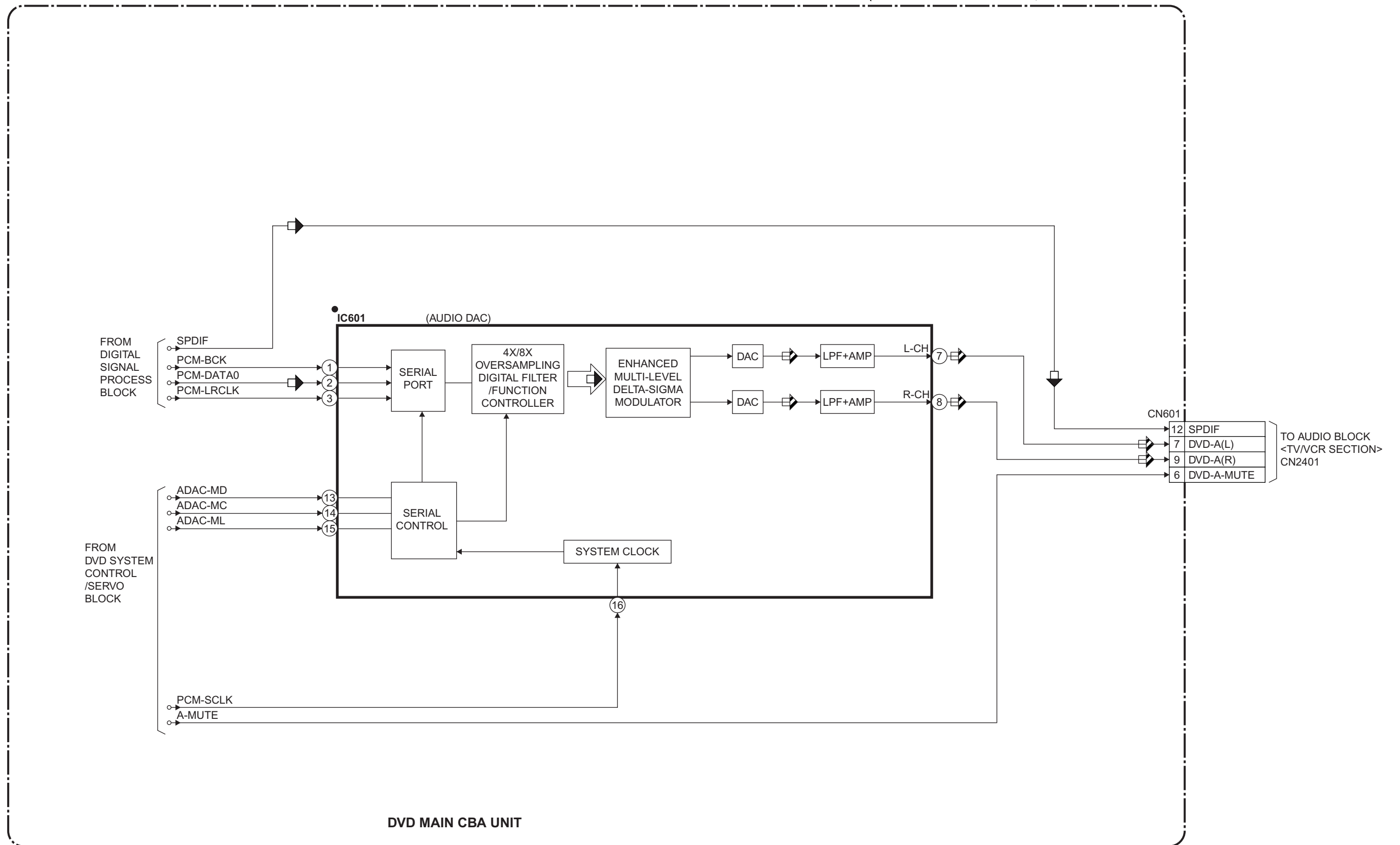
DVD Audio Block Diagram

"●" = SMD

NOTE FOR WIRE CONNECTORS:

1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
(CAN DISCONNECT AND RECONNECT.)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER
HOLES OF THE PCB.
(WIRE IS SOLDERED DIRECTLY.)

◀ DATA(AUDIO) SIGNAL ◀ DVD AUDIO SIGNAL



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

Critical components having special safety characteristics are identified with a **▲** by the Ref. No. in the parts list and enclosed within a broken line* (where several critical components are grouped in one area) along with the safety symbol **▲** on the schematics or exploded views.

Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire or other hazards.

Under no circumstances should the original design be modified or altered without written permission from Philips Consumer Electronics Company. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.

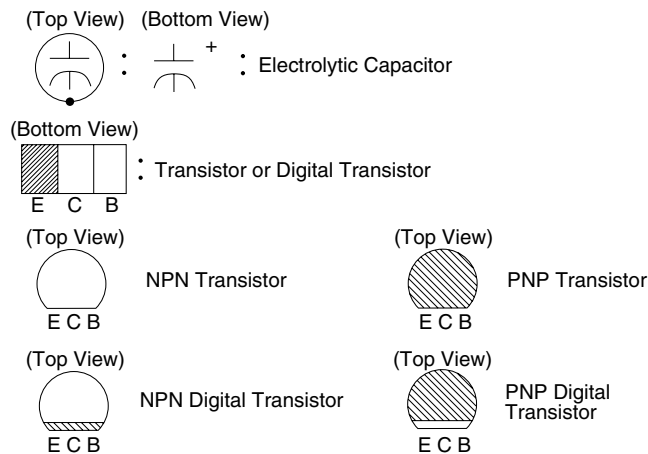
* Broken Line :

Capacitor Temperature Markings

Mark	Capacity change rate	Standard temperature	Temperature range
(B)	±10%	20°C	-25~+85°C
(F)	+30 - 80%	20°C	-25~+85°C
(SR)	±15%	20°C	-25~+85°C
(Z)	±22.5%	20°C	-25~+85°C

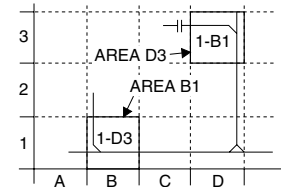
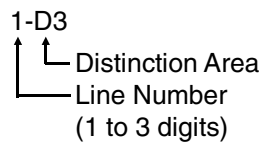
Capacitors and transistors are represented by the following symbols.

< PCB Symbols >



Notes:

- Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
- To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.
- Prefix symbol "CN" means "connector" (can disconnect and reconnect).
Prefix symbol "CL" means "wire-solder holes of the PCB" (wire is soldered directly).
- How to read converged lines.

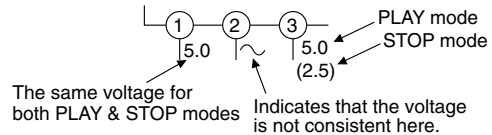


Examples:

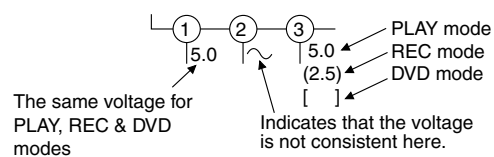
- "1-D3" means that line number "1" goes to area "D3."
- "1-B1" means that line number "1" goes to area "B1."
- All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).
- Resistor wattages are 1/4W or 1/6W unless otherwise specified.
- All capacitance values are indicated in μF ($P=10^{-6} \mu F$).
- All voltages are DC voltages unless otherwise specified.
- Voltage indications for PLAY and REC modes on the schematics are as shown below

< DVD Section >

Unit: Volts

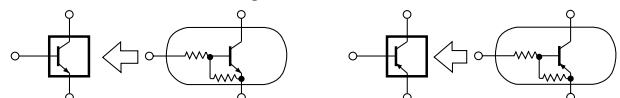


< TV/VCR Section >



< Schematic Diagram Symbols >

Digital Transistor

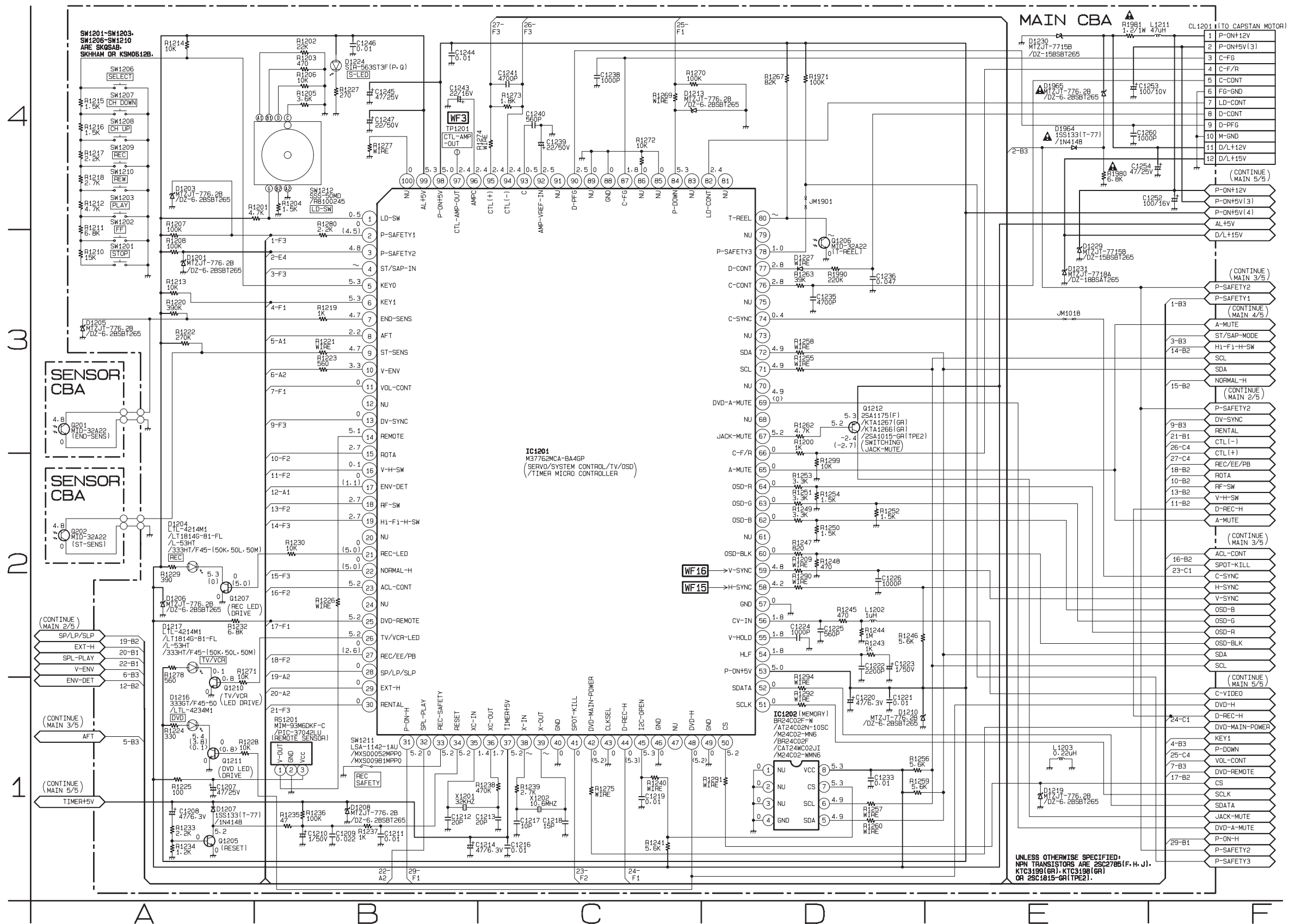
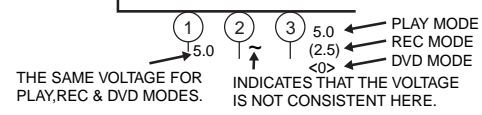


Main 1/5 Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		RESISTORS		RESISTORS	
C1207	A-1	D1207	A-1	R1214	A-4	R1259	D-1
C1208	A-1	D1208	B-1	R1215	A-4	R1260	D-1
C1209	B-1	D1210	D-1	R1216	A-4	R1262	D-3
C1210	B-1	D1213	C-4	R1217	A-4	R1263	D-3
C1211	B-1	D1216	A-1	R1218	A-4	R1267	D-4
C1212	B-1	D1217	A-2	R1219	B-3	R1269	C-4
C1213	C-1	D1219	E-1	R1220	A-3	R1270	C-4
C1214	C-1	D1224	B-4	R1221	B-3	R1271	A-2
C1216	C-1	D1227	D-3	R1222	A-3	R1272	C-4
C1217	C-1	D1229	E-3	R1223	B-3	R1273	C-4
C1218	C-1	D1230	E-4	R1224	A-1	R1274	C-4
C1219	C-1	D1231	E-3	R1225	A-1	R1275	C-1
C1220	D-1	D1964	E-4	R1226	B-2	R1277	B-4
C1221	D-1	D1965	E-4	R1227	B-4	R1278	A-2
C1222	D-2	ICS		R1228	A-1	R1280	B-4
C1223	D-2	IC1201	C-3	R1229	A-2	R1290	D-2
C1224	D-2	IC1202	D-1	R1230	B-2	R1291	D-1
C1225	D-2	COILS		R1232	A-2	R1292	D-1
C1226	D-2	L1202	D-2	R1233	A-1	R1294	D-2
C1233	D-1	L1203	E-1	R1234	A-1	R1299	D-2
C1235	D-3	L1211	F-4	R1235	B-1	R1971	D-4
C1236	D-3	TRANSISTORS		R1236	B-1	R1980	E-4
C1238	C-4	Q1205	A-1	R1237	B-1	R1981	E-4
C1239	C-4	Q1206	D-3	R1238	C-1	R1990	D-3
C1240	C-4	Q1207	A-2	R1239	C-1	SWITCHES	
C1241	C-4	Q1210	A-1	R1240	C-1	SW1201	A-3
C1243	B-4	Q1211	A-1	R1241	C-1	SW1202	A-4
C1244	B-4	Q1212	D-3	R1243	D-2	SW1203	A-4
C1245	B-4	RESISTORS		R1244	D-2	SW1206	A-4
C1246	B-4	R1200	D-3	R1245	D-2	SW1207	A-4
C1247	B-4	R1201	B-4	R1246	D-2	SW1208	A-4
C1252	F-4	R1202	B-4	R1247	D-2	SW1209	A-4
C1253	E-4	R1203	B-4	R1248	D-2	SW1210	A-4
C1254	F-4	R1204	B-4	R1249	D-2	SW1211	B-1
C1260	E-4	R1205	B-4	R1250	D-2	SW1212	B-4
CONNECTOR		R1206	B-4	R1251	D-2	CRYSTAL OSCILLATORS	
CL1201	F-4	R1207	A-4	R1252	D-2	X1201	B-1
DIODES		R1208	A-3	R1253	D-2	X1202	C-1
D1201	A-3	R1209	D-2	R1254	D-2	MISCELLANEOUS	
D1203	A-4	R1210	A-3	R1255	D-3	RS1201	B-1
D1204	A-2	R1211	A-3	R1256	D-1	TEST POINT	
D1205	A-3	R1212	A-4	R1257	D-1	TP1201	B-4
D1206	A-2	R1213	A-3	R1258	D-3		

Main 1/5 Schematic Diagram < TV/VCR Section >

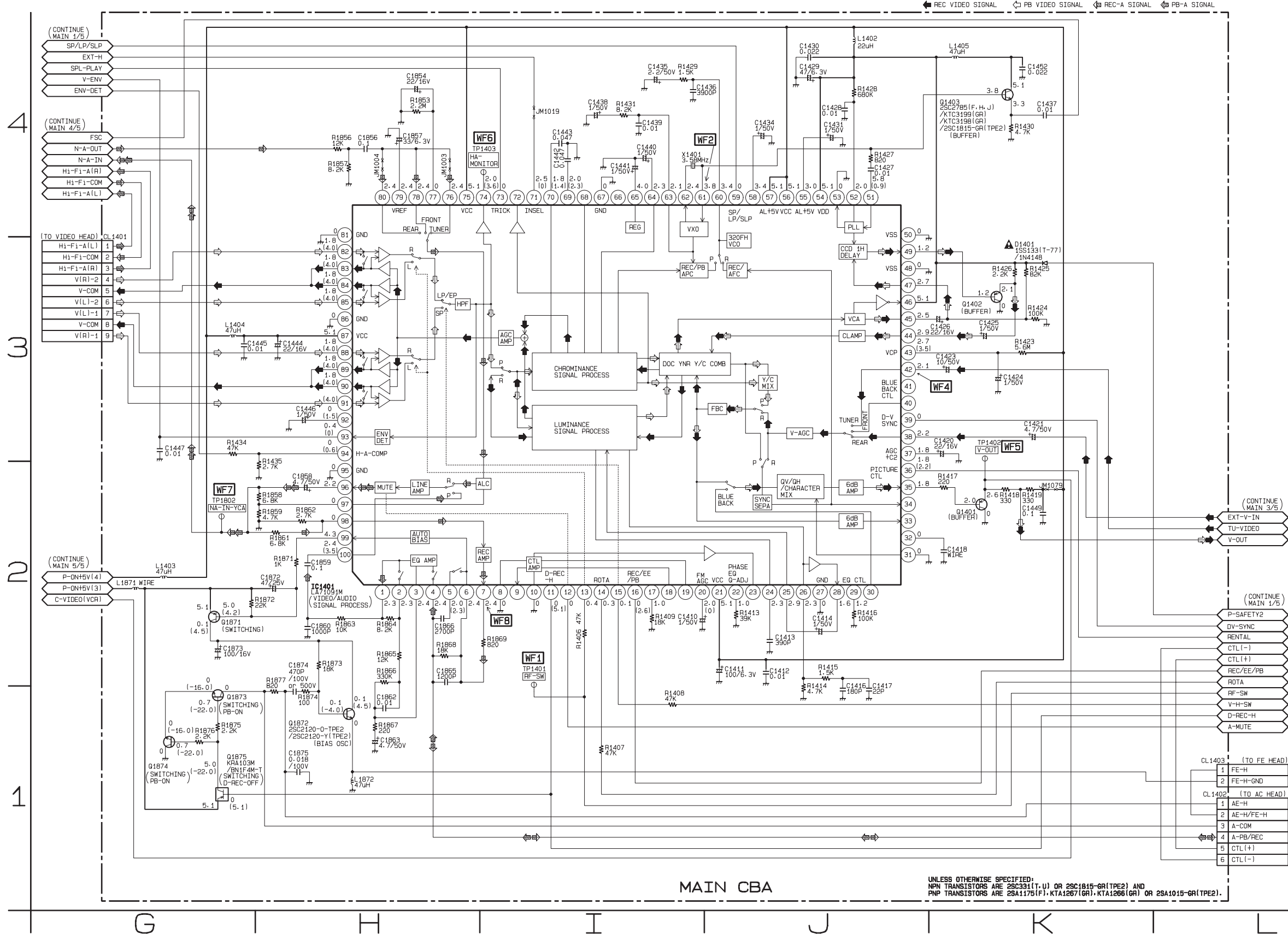
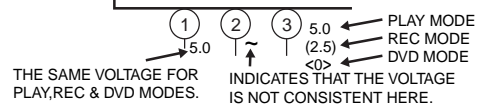
Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



UNLESS OTHERWISE SPECIFIED:
NPN TRANSISTORS ARE 2SC2785(F, H, J),
KTC3195(GR), KTC3198(GR)
OR 2SC1815-GR1(TPE2).

Main 2/5 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



MAIN CBA

UNLESS OTHERWISE SPECIFIED:
NPN TRANSISTORS ARE 2SC331(T-U) OR 2SC1815-GR(TPE2) AND
PNP TRANSISTORS ARE 2SA1175(F), KTA1267(GR), KTA1266(GR) OR 2SA1015-GR(TPE2).

Main 2/5 Schematic Diagram Parts Location Guide

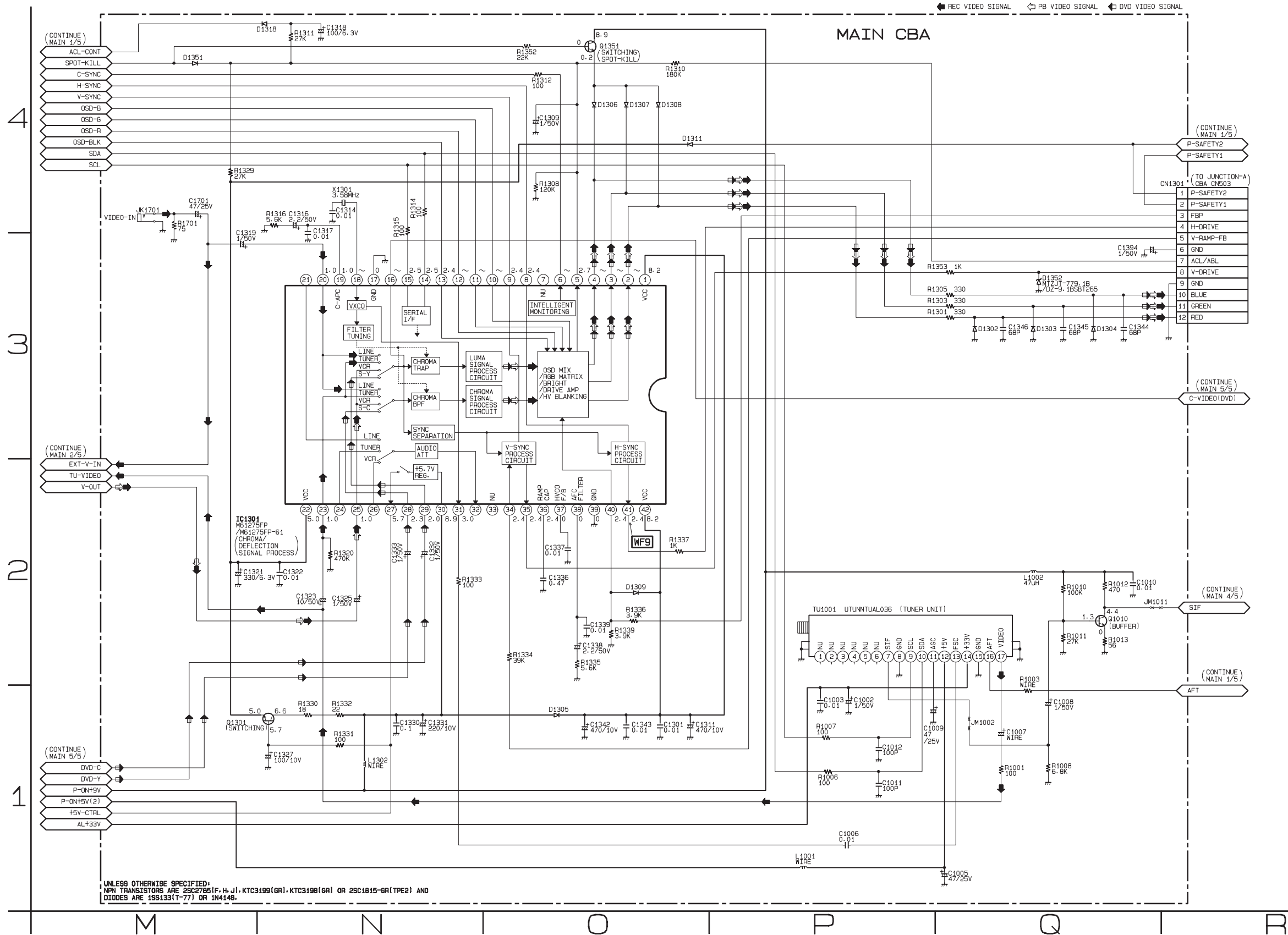
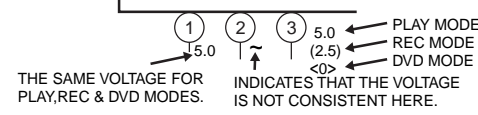
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		TRANSISTORS		RESISTORS	
C1410	I-2	C1445	G-3	Q1401	K-2	R1435	H-3
C1411	J-2	C1446	H-3	Q1402	K-3	R1853	H-4
C1412	J-2	C1447	G-3	Q1403	K-4	R1856	H-4
C1413	J-2	C1449	K-2	Q1871	G-2	R1857	H-4
C1414	J-2	C1452	K-4	Q1872	H-1	R1858	H-2
C1416	J-2	C1854	H-4	Q1873	G-2	R1859	H-2
C1417	J-2	C1856	H-4	Q1874	G-1	R1861	H-2
C1418	K-2	C1857	H-4	Q1875	G-1	R1862	H-2
C1420	K-3	C1858	H-2	RESISTORS		R1863	H-2
C1421	K-3	C1859	H-2	R1406	I-2	R1864	H-2
C1423	K-3	C1860	H-2	R1407	I-1	R1865	H-2
C1424	K-3	C1862	H-1	R1408	I-1	R1866	H-2
C1425	K-3	C1863	H-1	R1409	I-2	R1867	H-1
C1426	K-3	C1865	H-2	R1413	J-2	R1868	H-2
C1427	J-4	C1866	H-2	R1414	J-2	R1869	I-2
C1428	J-4	C1872	H-2	R1415	J-2	R1871	H-2
C1429	J-4	C1873	G-2	R1416	J-2	R1872	H-2
C1430	J-4	C1874	H-2	R1417	K-2	R1873	H-2
C1431	J-4	C1875	H-1	R1418	K-2	R1874	H-2
C1434	J-4	DIODE		R1419	K-2	R1875	G-1
C1435	I-4	D1401	K-3	R1423	K-3	R1876	G-1
C1436	I-4	IC		R1424	K-3	R1877	H-2
C1437	K-4	IC1401	H-2	R1425	K-3	CRYSTAL OSCILLATOR	
C1438	I-4	COILS		R1426	K-3	X1401	I-4
C1439	I-4	L1402	J-4	R1427	J-4	TEST POINTS	
C1440	I-4	L1403	G-2	R1428	J-4	TP1401	I-2
C1441	I-4	L1404	G-3	R1429	I-4	TP1402	K-3
C1442	I-4	L1405	K-4	R1430	K-4	TP1403	H-4
C1443	I-4	L1871	G-2	R1431	I-4	TP1802	G-2
C1444	H-3	L1872	H-1	R1434	G-3		

Main 3/5 Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		DIODES		RESISTORS	
C1002	P-1	C1333	N-1	D1352	Q-3	R1311	N-4
C1003	P-1	C1336	O-2	IC		R1312	O-4
C1005	Q-1	C1337	O-2	IC1301	N-2	R1314	N-4
C1006	P-1	C1338	O-2	COILS		R1315	N-4
C1007	Q-1	C1339	O-2	L1001	P-1	R1316	N-4
C1008	Q-1	C1342	O-1	L1002	Q-2	R1320	N-2
C1009	P-1	C1343	O-1	L1302	N-1	R1329	M-4
C1010	Q-2	C1344	Q-3	TRANSISTORS		R1330	N-1
C1011	P-1	C1345	Q-3	Q1010	Q-2	R1331	N-1
C1012	P-1	C1346	Q-3	Q1301	N-1	R1332	N-1
C1301	O-1	C1394	Q-3	Q1351	O-4	R1333	N-2
C1309	O-4	C1701	M-4	RESISTORS		R1334	O-2
C1311	O-1	CONNECTOR		R1001	Q-1	R1335	O-2
C1314	N-4	CN1301	R-4	R1003	Q-1	R1336	O-2
C1316	N-4	DIODES		R1006	P-1	R1337	O-2
C1317	N-4	D1302	Q-3	R1007	P-1	R1339	O-2
C1318	N-4	D1303	Q-3	R1008	Q-1	R1352	O-2
C1319	M-3	D1304	Q-3	R1010	Q-2	R1353	Q-3
C1321	M-2	D1305	O-1	R1011	Q-2	R1701	M-4
C1322	N-2	D1306	O-4	R1012	Q-2	CRYSTAL OSCILLATOR	
C1323	N-2	D1307	O-4	R1013	Q-2	X1301	N-4
C1325	N-2	D1308	O-4	R1301	Q-3	MISCELLANEOUS	
C1327	N-1	D1309	O-2	R1303	Q-3	JK1701	M-4
C1330	N-1	D1311	O-4	R1305	Q-3	TU1001	P-2
C1331	N-1	D1318	N-4	R1308	O-4		
C1332	N-1	D1351	M-4	R1310	O-4		

Main 3/5 Schematic Diagram < TV/VCR Section >

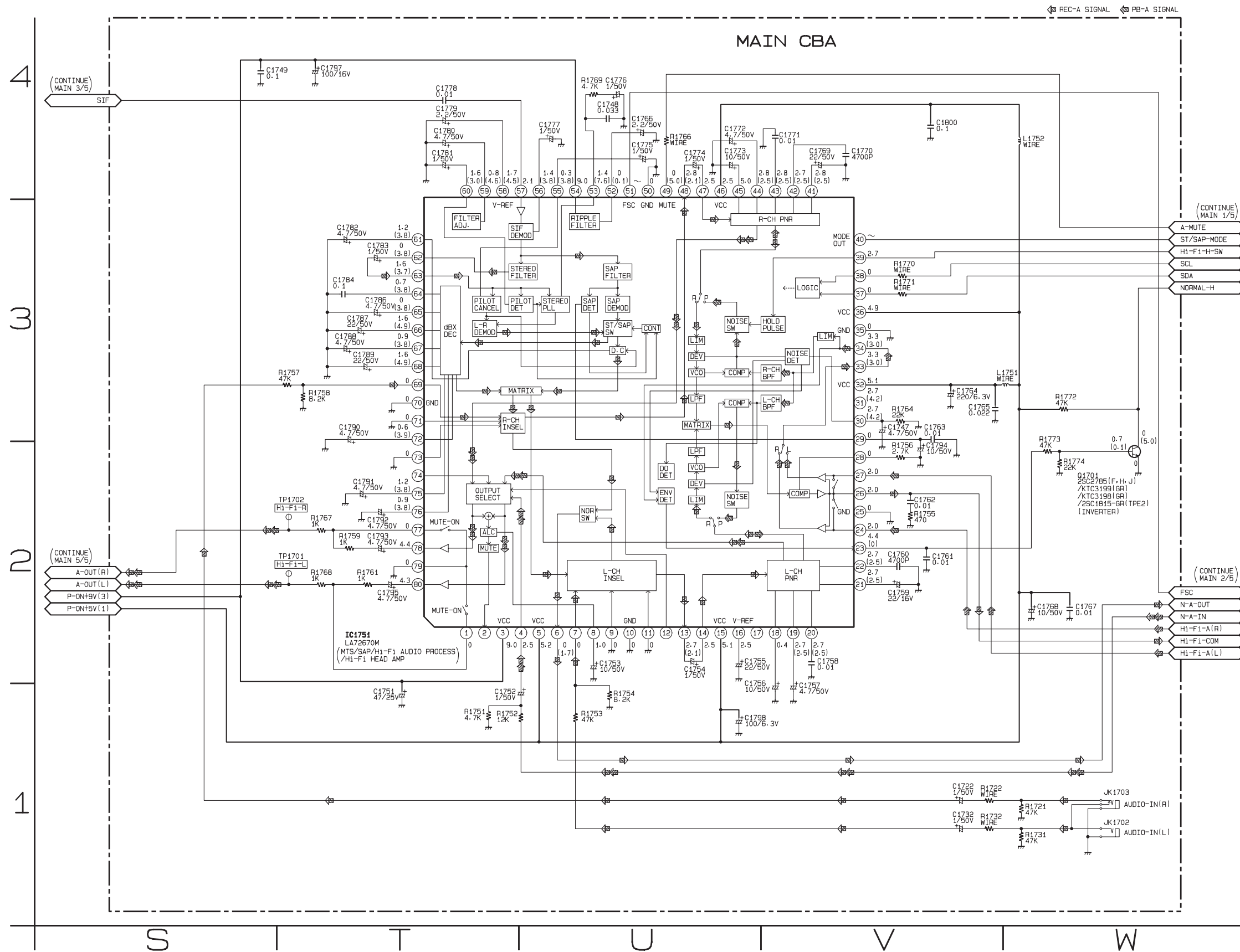
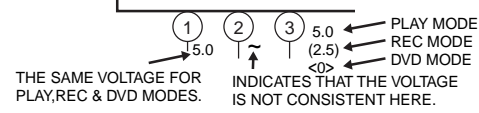
Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



UNLESS OTHERWISE SPECIFIED:
 NPV TRANSISTORS ARE 2SC2785(F, H, J), KTC3199(GR), KTC3198(GR) OR 2SC1815-GR(TPE2) AND
 DIODES ARE 1SS133(T-77) OR 1N4148.

Main 4/5 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



Main 4/5 Schematic Diagram Parts Location Guide

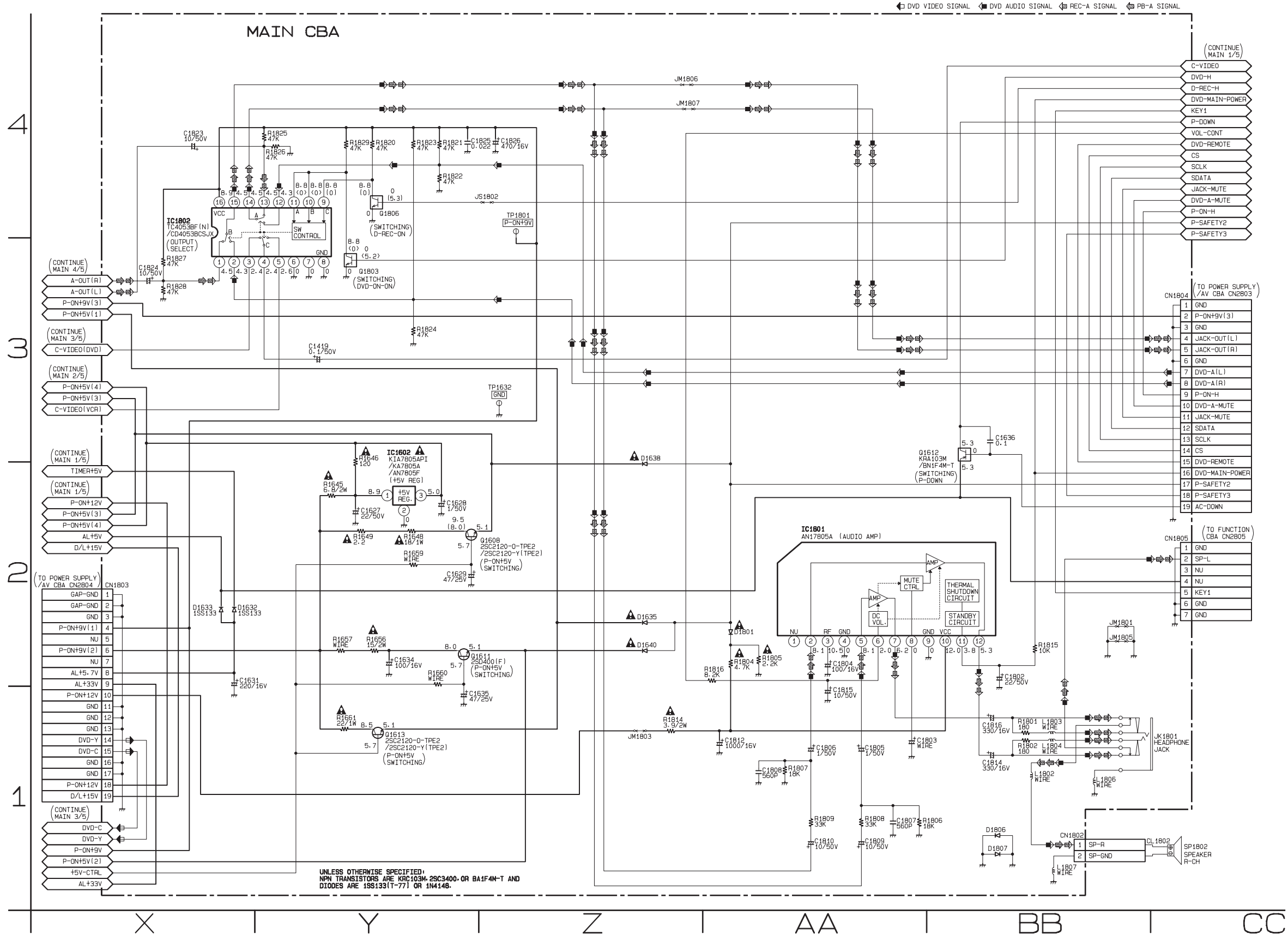
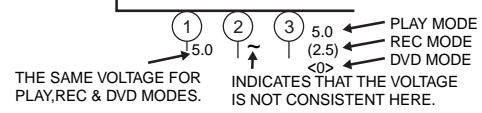
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		CAPACITORS		RESISTORS	
C1722	V-1	C1769	V-4	C1793	T-2	R1756	V-2
C1732	V-1	C1770	V-4	C1794	V-2	R1757	T-3
C1747	V-3	C1771	V-4	C1795	T-2	R1758	T-3
C1748	U-4	C1772	U-4	C1797	T-4	R1759	T-2
C1749	S-4	C1773	U-4	C1798	U-1	R1761	T-2
C1751	T-1	C1774	U-4	C1800	V-4	R1764	V-3
C1752	U-1	C1775	U-4	IC		R1766	U-4
C1753	U-2	C1776	U-4	IC1751	T-2	R1767	T-2
C1754	U-2	C1777	U-4	COILS		R1768	T-2
C1755	U-2	C1778	T-4	L1751	W-3	R1769	U-4
C1756	V-1	C1779	T-4	L1752	W-4	R1770	V-3
C1757	V-1	C1780	T-4	TRANSISTOR		R1771	V-3
C1758	V-2	C1781	T-4	Q1701	W-2	R1772	W-3
C1759	V-2	C1782	T-3	RESISTORS		R1773	W-2
C1760	V-2	C1783	T-3	R1721	W-1	R1774	W-2
C1761	V-2	C1784	T-3	R1722	V-1	MISCELLANEOUS	
C1762	V-2	C1786	T-3	R1731	W-1	JK1702	W-1
C1763	V-3	C1787	T-3	R1732	V-1	JK1703	W-1
C1764	V-3	C1788	T-3	R1751	T-1	TEST POINTS	
C1765	V-3	C1789	T-3	R1752	U-1	TP1701	T-2
C1766	U-4	C1790	T-3	R1753	U-1	TP1702	T-2
C1767	W-2	C1791	T-2	R1754	U-1		
C1768	W-2	C1792	T-2	R1755	V-2		

Main 5/5 Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		COILS		RESISTORS	
C1419	Y-3	C1825	Y-4	L1804	BB-1	R1805	AA-2
C1627	Y-2	C1826	Z-4	L1806	BB-1	R1806	AA-1
C1628	Y-2	CONNECTORS		L1807	BB-1	R1807	AA-1
C1629	Y-2	CN1802	BB-1	TRANSISTORS		R1808	AA-1
C1631	X-2	CN1803	X-2	Q1608	Y-2	R1809	AA-1
C1634	Y-2	CN1804	CC-3	Q1611	Y-2	R1814	Z-1
C1635	Y-1	CN1805	CC-2	Q1612	BB-3	R1815	BB-2
C1636	BB-3	DIODES		Q1613	Y-1	R1816	AA-2
C1802	BB-2	D1632	X-2	Q1803	Y-3	R1820	Y-4
C1803	AA-1	D1633	X-2	Q1806	Y-4	R1821	Y-4
C1804	AA-2	D1635	Z-2	RESISTORS		R1822	Y-4
C1805	AA-1	D1638	Z-2	R1645	Y-2	R1823	Y-4
C1806	AA-1	D1640	Z-2	R1646	Y-2	R1824	Y-3
C1807	AA-1	D1801	AA-2	R1648	Y-2	R1825	Y-4
C1808	AA-1	D1806	BB-1	R1649	Y-2	R1826	Y-4
C1809	AA-1	D1807	BB-1	R1656	Y-2	R1827	X-3
C1810	AA-1	ICS		R1657	Y-2	R1828	X-3
C1812	AA-1	IC1602	Y-2	R1659	Y-2	R1829	X-3
C1814	BB-1	IC1801	AA-2	R1660	Y-2	MISCELLANEOUS	
C1815	AA-1	IC1802	X-4	R1661	Y-1	JK1801	CC-1
C1816	BB-1	COILS		R1801	BB-1	TEST POINTS	
C1823	X-4	L1802	BB-1	R1802	BB-1	TP1632	Z-3
C1824	X-3	L1803	BB-1	R1804	AA-2	TP1801	Z-4

Main 5/5 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



◀ DVD VIDEO SIGNAL ▶ DVD AUDIO SIGNAL ▶ REC-A SIGNAL ▶ P-B-A SIGNAL

- (CONTINUE MAIN 1/5)
- C-VIDEO
 - DVD-H
 - D-REC-H
 - DVD-MAIN-POWER
 - KEY1
 - P-DOWN
 - VOL-CONT
 - DVD-REMOTE
 - CS
 - SCLK
 - SDATA
 - JACK-MUTE
 - DVD-A-MUTE
 - P-ON-H
 - P-SAFETY2
 - P-SAFETY3

- (TO POWER SUPPLY /AV CBA CN2803)
- | | |
|----|----------------|
| 1 | GND |
| 2 | P-ON+9V(3) |
| 3 | GND |
| 4 | JACK-OUT(L) |
| 5 | JACK-OUT(R) |
| 6 | GND |
| 7 | DVD-A(L) |
| 8 | DVD-A(R) |
| 9 | P-ON-H |
| 10 | DVD-A-MUTE |
| 11 | JACK-MUTE |
| 12 | SDATA |
| 13 | SCLK |
| 14 | CS |
| 15 | DVD-REMOTE |
| 16 | DVD-MAIN-POWER |
| 17 | P-SAFETY2 |
| 18 | P-SAFETY3 |
| 19 | AC-DOWN |

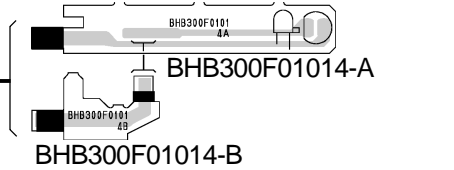
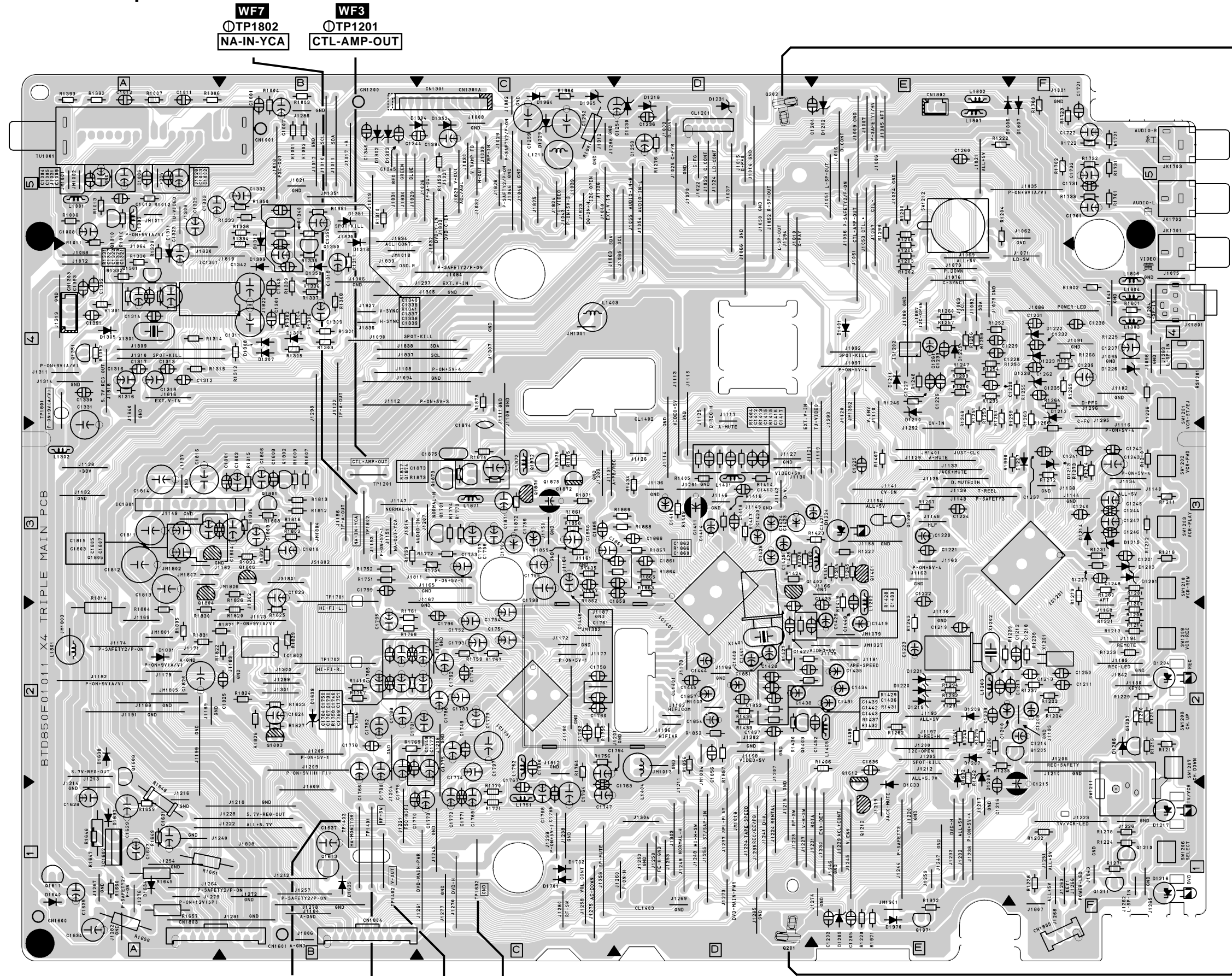
- (TO FUNCTION CBA CN2805)
- | | |
|---|------|
| 1 | GND |
| 2 | SP-L |
| 3 | NU |
| 4 | NU |
| 5 | KEY1 |
| 6 | GND |
| 7 | GND |

4
3
2
1

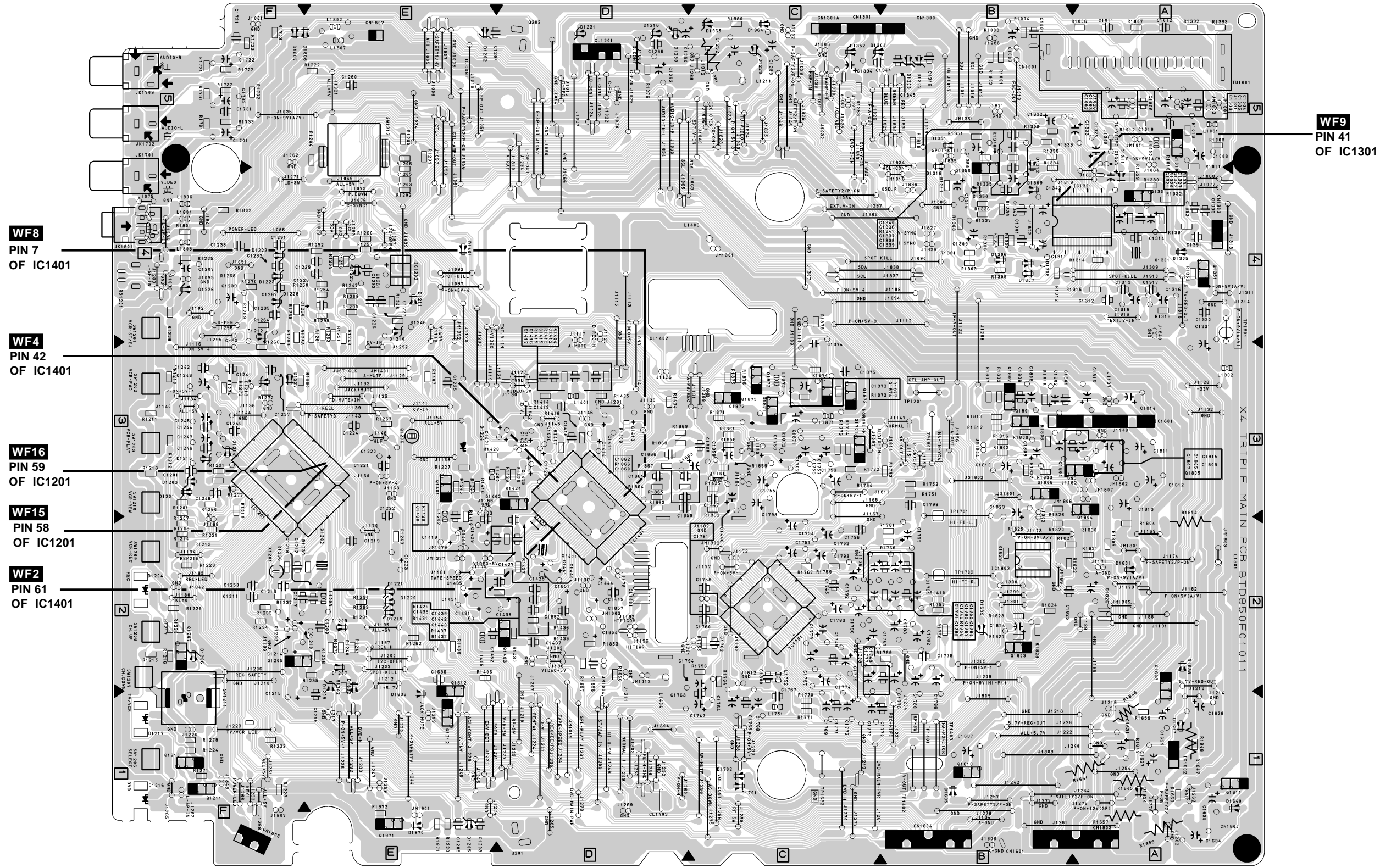
X | Y | Z | AA | BB | CC

Main CBA Top View < TV/VCR Section >

Sensor CBA Top View



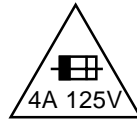
Main CBA Bottom View < TV/VCR Section >



Power Supply / AV CBA Top View < TV/VCR Section >

CAUTION !

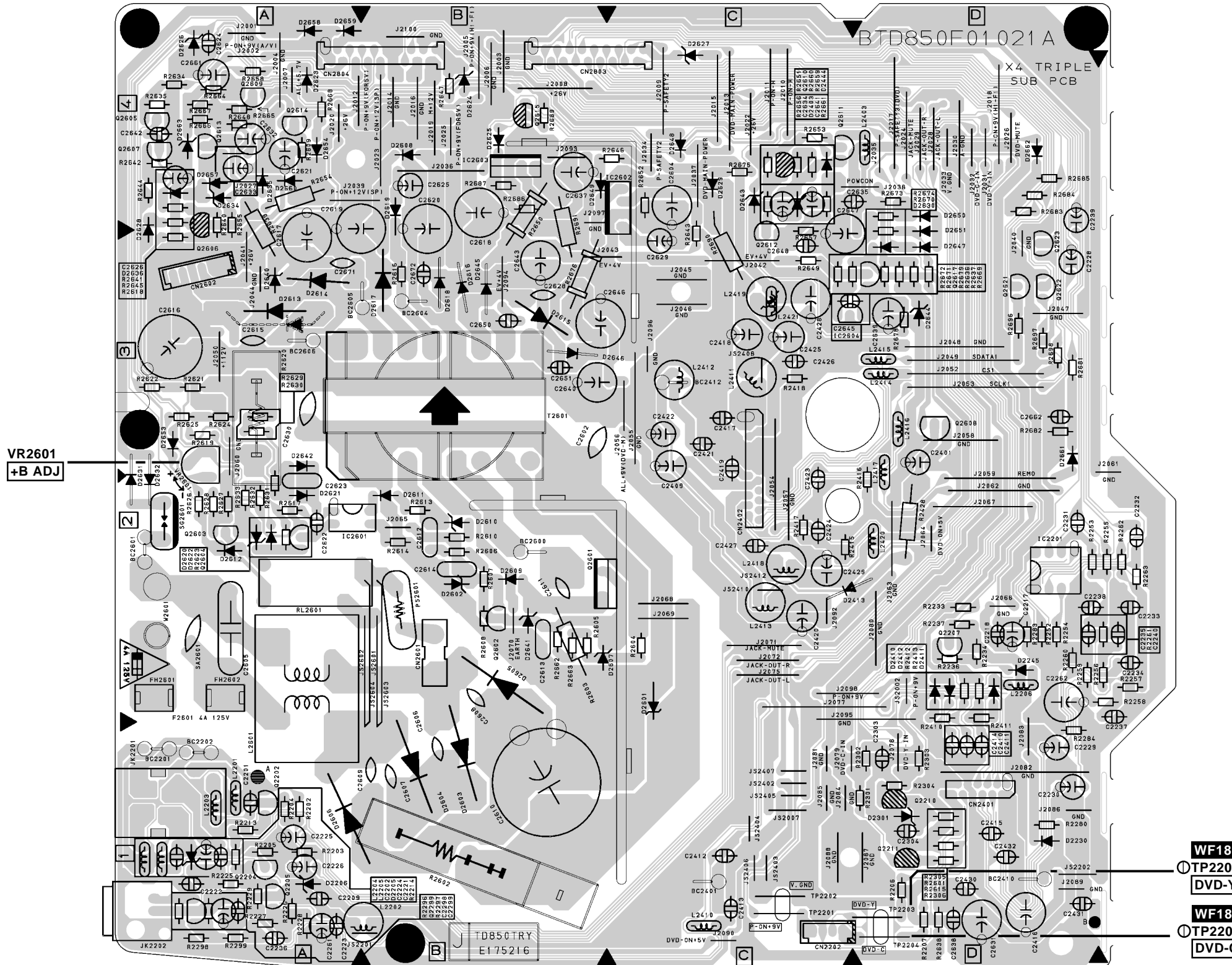
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F2601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.



CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE REMPLACEMENT DE MÊME TYPE DE 4A, 125V.

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.

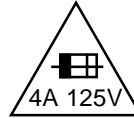
NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



Power Supply / AV CBA Bottom View < TV/VCR Section >

CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
 If Main Fuse (F2601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
 Otherwise it may cause some components in the power supply circuit to fail.

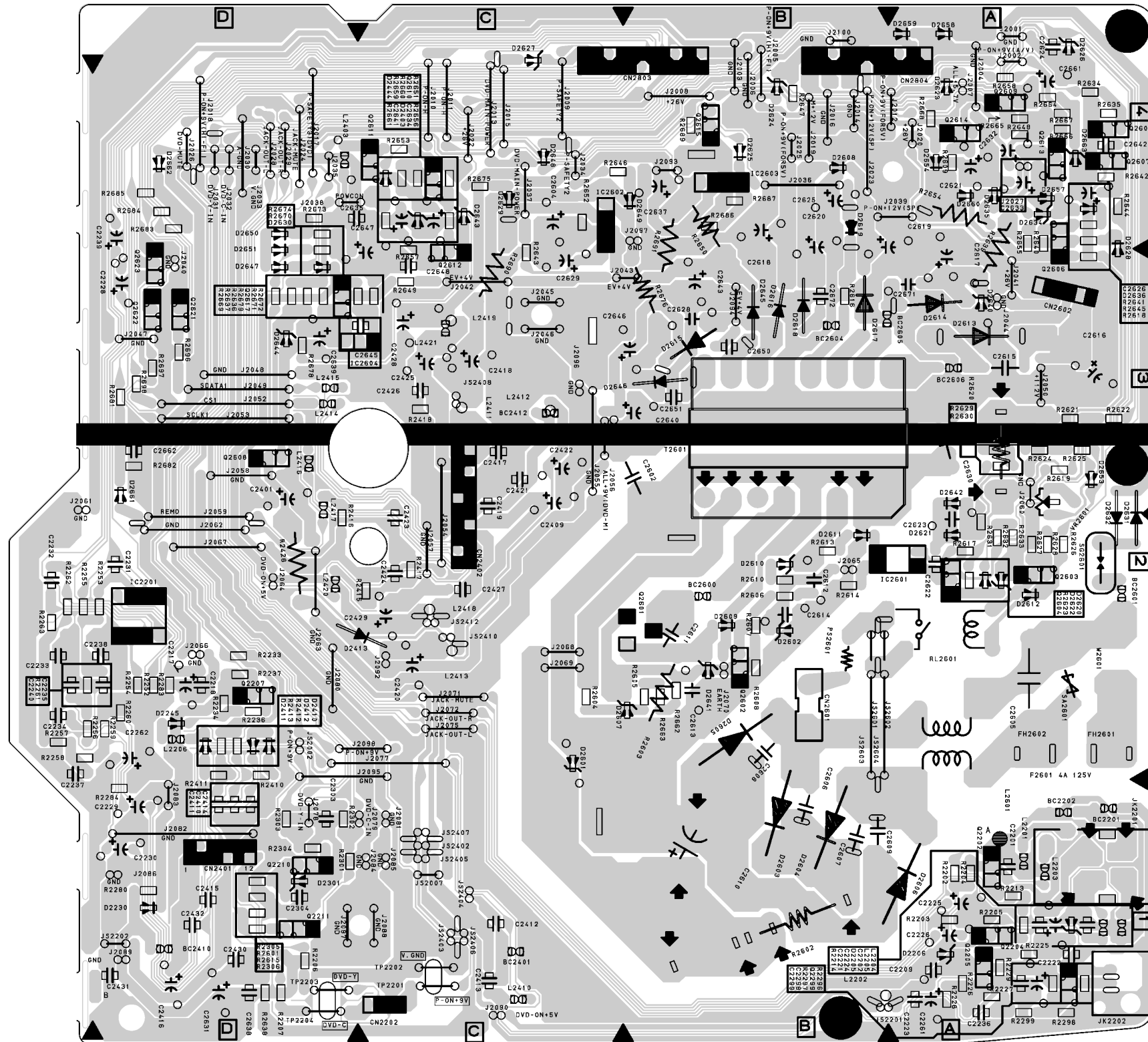


CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE REMPLACEMENT DE MÊME TYPE DE 4A, 125V.

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.

NOTE :

The voltage for parts in hot circuit is measured using hot GND as a common terminal.



Power Supply / AV CBA Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		DIODES		DIODES		TRANSISTORS		RESISTORS		RESISTORS		RESISTORS		MISCELLANEOUS	
C2217	D-2	C2616	A-3	D2245	D-2	D2646	B-3	Q2207	D-2	R2233	D-2	R2615	D-1	R2656	C-4	BC2412	C-3
C2218	D-2	C2617	A-3	D2412	D-2	D2648	C-4	Q2210	D-1	R2236	D-2	R2616	B-3	R2657	C-3	BC2600	B-2
C2222	A-1	C2618	B-3	D2413	C-2	D2649	B-4	Q2211	D-1	R2237	D-2	R2617	A-2	R2659	C-4	BC2601	A-2
C2224	B-1	C2619	A-4	D2403	C-4	D2650	D-4	Q2601	B-2	R2252	D-2	R2618	A-3	R2660	C-4	BC2604	B-3
C2225	A-1	C2620	B-4	D2603	B-1	D2651	D-4	Q2602	B-2	R2253	D-2	R2619	A-3	R2661	C-4	BC2605	A-3
C2226	A-1	C2621	A-4	D2604	B-1	D2657	A-4	Q2604	A-2	R2254	D-2	R2620	A-3	R2662	B-2	BC2606	A-3
C2228	D-3	C2622	A-2	D2605	B-2	D2660	A-4	Q2605	A-4	R2255	D-2	R2621	A-3	R2663	B-2	JK2201	A-1
C2229	D-1	C2624	A-4	D2606	A-1	D2661	D-3	Q2606	A-3	R2256	D-2	R2622	A-3	R2664	A-4	F2601	A-2
C2230	D-1	C2625	B-4	D2607	C-2	D2662	D-4	Q2607	A-4	R2257	D-2	R2623	A-2	R2665	A-4	PS2601	B-2
C2231	D-2	C2626	A-3	D2609	B-2	D2663	A-4	Q2608	D-3	R2258	D-2	R2624	A-3	R2666	A-4	SA2601	A-2
C2232	D-2	C2630	A-3	D2610	B-2	ICS		Q2609	A-4	R2261	D-2	R2625	A-3	R2667	A-4	SG2601	A-2
C2233	D-2	C2631	D-1	D2611	B-2	IC2201	D-2	Q2610	C-4	R2262	D-2	R2629	A-3	R2669	D-3	T2601	B-3
C2236	A-1	C2632	A-4	D2613	A-3	IC2601	A-2	Q2611	C-4	R2263	D-2	R2630	A-3	R2671	D-3	W2601	A-2
C2238	D-2	C2633	A-4	D2614	A-3	IC2602	C-4	Q2612	C-3	R2283	D-2	R2631	A-2	R2672	D-3	VARIABLE RESISTOR	
C2239	D-4	C2637	B-4	D2615	B-3	IC2603	B-4	Q2613	A-4	R2284	D-1	R2632	A-2	R2673	D-4	VR2601	A-2
C2261	A-1	C2640	B-3	D2616	B-3	IC2604	C-3	Q2614	A-4	R2301	D-1	R2633	A-2	R2676	B-3	TEST POINTS	
C2262	D-2	C2642	A-4	D2617	B-3	COILS		Q2615	B-4	R2302	D-1	R2634	A-4	R2678	D-3	TP2201	C-1
C2303	D-1	C2643	B-3	D2618	B-3	L2201	A-1	Q2617	D-3	R2303	D-1	R2635	A-4	R2681	D-3	TP2202	C-1
C2401	D-3	C2645	C-3	D2619	B-4	L2203	A-1	Q2621	D-3	R2304	D-1	R2636	D-3	R2682	D-3	TP2203	D-1
C2416	D-1	C2646	B-3	D2620	A-2	L2204	B-1	Q2622	D-3	R2305	D-1	R2638	D-1	R2683	D-4	TP2204	D-1
C2418	C-3	C2647	C-4	D2621	A-2	L2205	B-1	Q2623	D-3	R2306	D-1	R2639	A-4	R2684	D-4		
C2423	C-2	C2650	B-3	D2622	A-2	L2206	D-2	RESISTORS		R2418	C-3	R2640	A-4	R2685	D-4		
C2427	C-2	C2651	B-3	D2623	A-4	L2403	D-4	R2202	A-1	R2428	D-2	R2641	A-3	R2686	B-4		
C2429	C-2	C2661	A-4	D2625	B-4	L2410	C-1	R2203	A-1	R2601	D-1	R2642	A-4	R2687	B-4		
C2432	D-1	C2662	D-3	D2626	A-4	L2414	C-1	R2204	A-1	R2602	B-1	R2643	C-3	R2689	B-4		
C2604	C-4	C2671	A-3	D2627	C-4	L2415	D-3	R2205	A-1	R2603	B-2	R2644	A-4	R2690	C-3		
C2605	A-2	CONNECTORS		D2628	A-3	L2416	D-3	R2206	D-1	R2604	C-2	R2645	A-3	R2691	B-4		
C2606	B-1	CN2401	D-1	D2631	A-2	L2417	D-4	R2207	D-1	R2605	B-2	R2646	C-4	R2696	D-3		
C2607	B-1	CN2402	C-2	D2634	A-4	L2420	D-4	R2213	A-1	R2606	B-2	R2647	B-4	R2697	D-3		
C2610	B-1	CN2601	B-2	D2635	A-4	L2421	C-3	R2214	B-1	R2607	B-2	R2649	C-3	R2698	D-3		
C2611	B-2	CN2602	A-3	D2636	A-3	L2601	A-1	R2225	A-1	R2608	B-2	R2650	B-4	MISCELLANEOUS			
C2612	B-2	CN2803	B-4	D2640	A-3	TRANSISTORS		R2226	A-1	R2609	A-4	R2651	C-4	BC2201	A-1		
C2613	B-2	CN2804	A-4	D2641	B-2	Q2202	A-1	R2227	A-1	R2610	B-2	R2653	C-4	BC2202	A-1		
C2614	B-2	DIODES		D2644	D-3	Q2204	A-1	R2228	A-1	R2613	B-2	R2654	A-4	BC2401	C-1		
C2615	A-3	D2206	A-1	D2645	B-3	Q2205	A-1	R2229	A-1	R2614	B-2	R2655	A-4	BC2410	D-1		

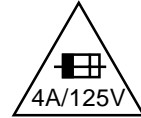
Power Supply /AV 1/2 Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		DIODES		TRANSISTORS		RESISTORS		RESISTORS	
C2401	D-3	C2651	B-2	D2628	D-3	Q2607	E-1	R2629	C-2	R2665	D-3
C2604	C-2	C2661	E-3	D2631	A-4	Q2608	D-3	R2630	C-2	R2666	D-3
C2605	A-3	C2671	B-3	D2634	E-2	Q2609	E-3	R2631	C-1	R2667	D-3
C2606	A-3	CONNECTORS		D2635	E-2	Q2610	C-1	R2632	B-1	R2669	E-2
C2607	A-3	CN2601	A-4	D2636	E-2	Q2611	D-1	R2633	B-1	R2671	D-2
C2610	B-3	CN2602	F-4	D2640	C-3	Q2612	C-1	R2634	D-1	R2672	D-2
C2611	A-3	CN2804	F-4	D2641	A-2	Q2613	E-3	R2635	D-1	R2673	D-2
C2612	B-3	DIODES		D2644	D-2	Q2615	D-2	R2636	D-2	R2676	C-2
C2613	A-3	D2403	C-1	D2645	B-2	Q2617	C-2	R2639	D-3	R2678	D-1
C2614	A-2	D2603	B-3	D2646	B-2	RESISTORS		R2640	D-3	R2686	C-2
C2615	B-3	D2604	B-3	D2648	C-2	R2428	D-3	R2641	D-3	R2687	C-1
C2616	C-3	D2605	B-3	D2649	C-2	R2602	B-3	R2642	E-1	R2689	D-2
C2617	C-3	D2606	B-3	D2650	E-2	R2603	A-2	R2643	C-2	R2690	E-2
C2618	C-2	D2607	A-2	D2651	E-2	R2604	B-3	R2644	D-1	R2691	C-2
C2619	C-3	D2609	A-2	D2657	E-2	R2605	B-3	R2645	D-3	MISCELLANEOUS	
C2620	C-3	D2610	B-2	D2660	D-3	R2606	B-3	R2646	C-2	BC2600	B-3
C2622	B-2	D2611	B-2	D2663	E-3	R2607	A-3	R2647	D-4	BC2601	A-4
C2624	C-3	D2613	B-3	ICS		R2608	A-3	R2649	C-2	BC2604	B-3
C2625	C-3	D2614	B-3	IC2601	B-2	R2610	B-2	R2650	C-2	BC2605	B-3
C2626	E-1	D2615	B-3	IC2602	C-2	R2613	B-2	R2651	C-1	BC2606	B-3
C2630	B-1	D2616	B-3	IC2603	C-2	R2614	B-2	R2653	D-1	F2601	A-3
C2632	E-3	D2617	B-3	IC2604	D-2	R2616	B-3	R2654	E-3	PS2601	B-4
C2633	E-2	D2618	B-3	COILS		R2617	B-2	R2655	E-3	SA2601	A-3
C2637	D-1	D2619	C-3	L2403	D-1	R2618	C-1	R2656	C-1	SG2601	A-4
C2640	C-3	D2620	B-1	L2601	A-4	R2619	C-2	R2657	C-1	T2601	B-3
C2642	E-1	D2621	C-1	TRANSISTORS		R2620	C-2	R2659	C-1	W2601	A-3
C2643	C-2	D2622	C-2	Q2601	A-3	R2621	C-3	R2660	C-1	VARIABLE RESISTOR	
C2645	D-2	D2623	E-2	Q2602	A-2	R2622	C-3	R2661	C-1	VR2601	C-2
C2646	C-2	D2625	C-2	Q2604	B-2	R2623	C-2	R2662	A-3		
C2647	D-1	D2626	C-3	Q2605	D-1	R2624	C-2	R2663	A-3		
C2650	B-2	D2627	C-3	Q2606	D-3	R2625	C-2	R2664	E-3		

Power Supply/AV 1/2 Schematic Diagram < TV/VCR Section >

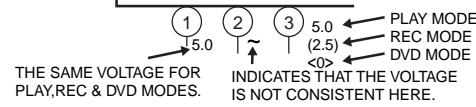
CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F2601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.



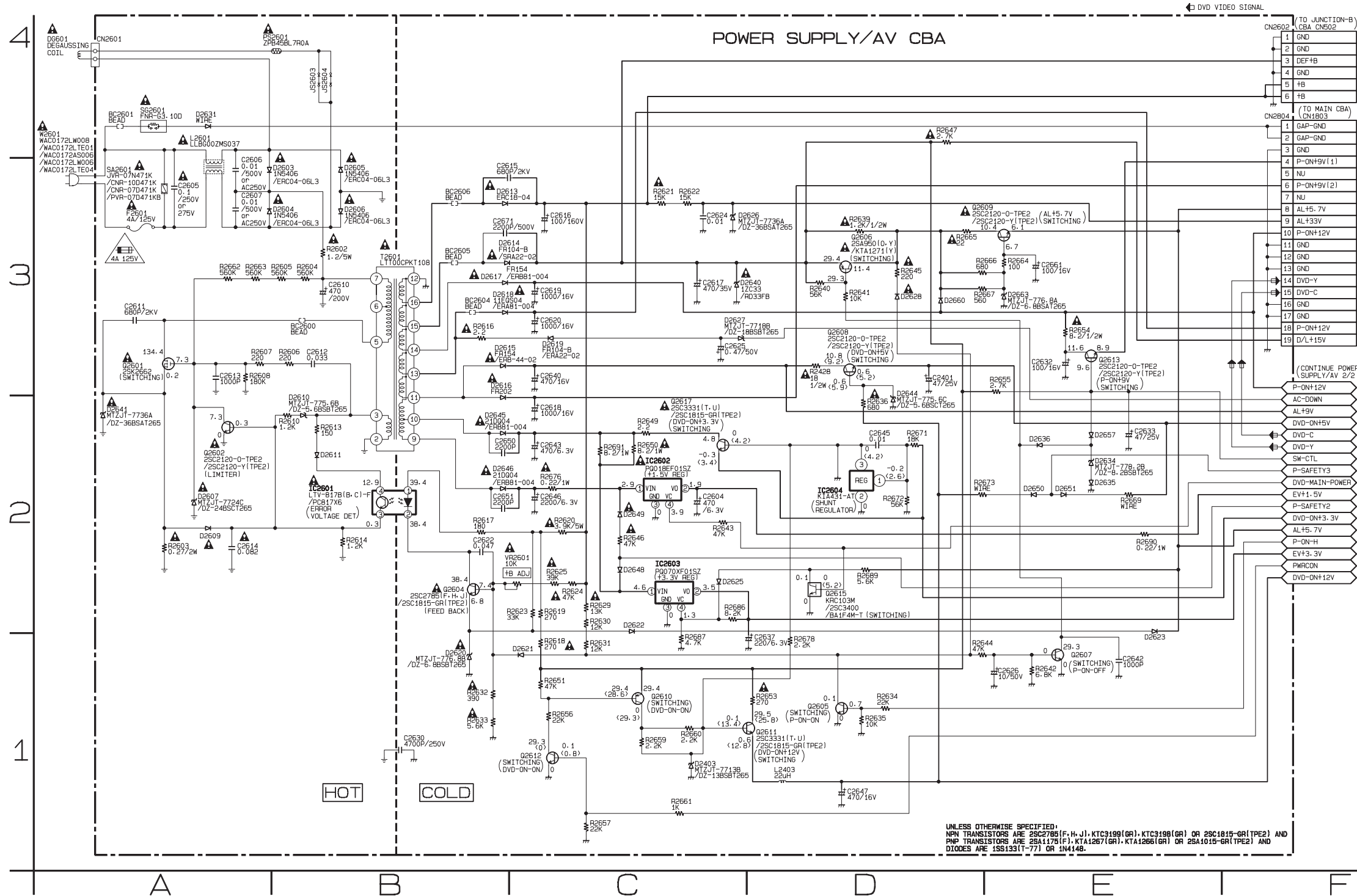
CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



NOTE :

The voltage for parts in hot circuit is measured using hot GND as a common terminal.

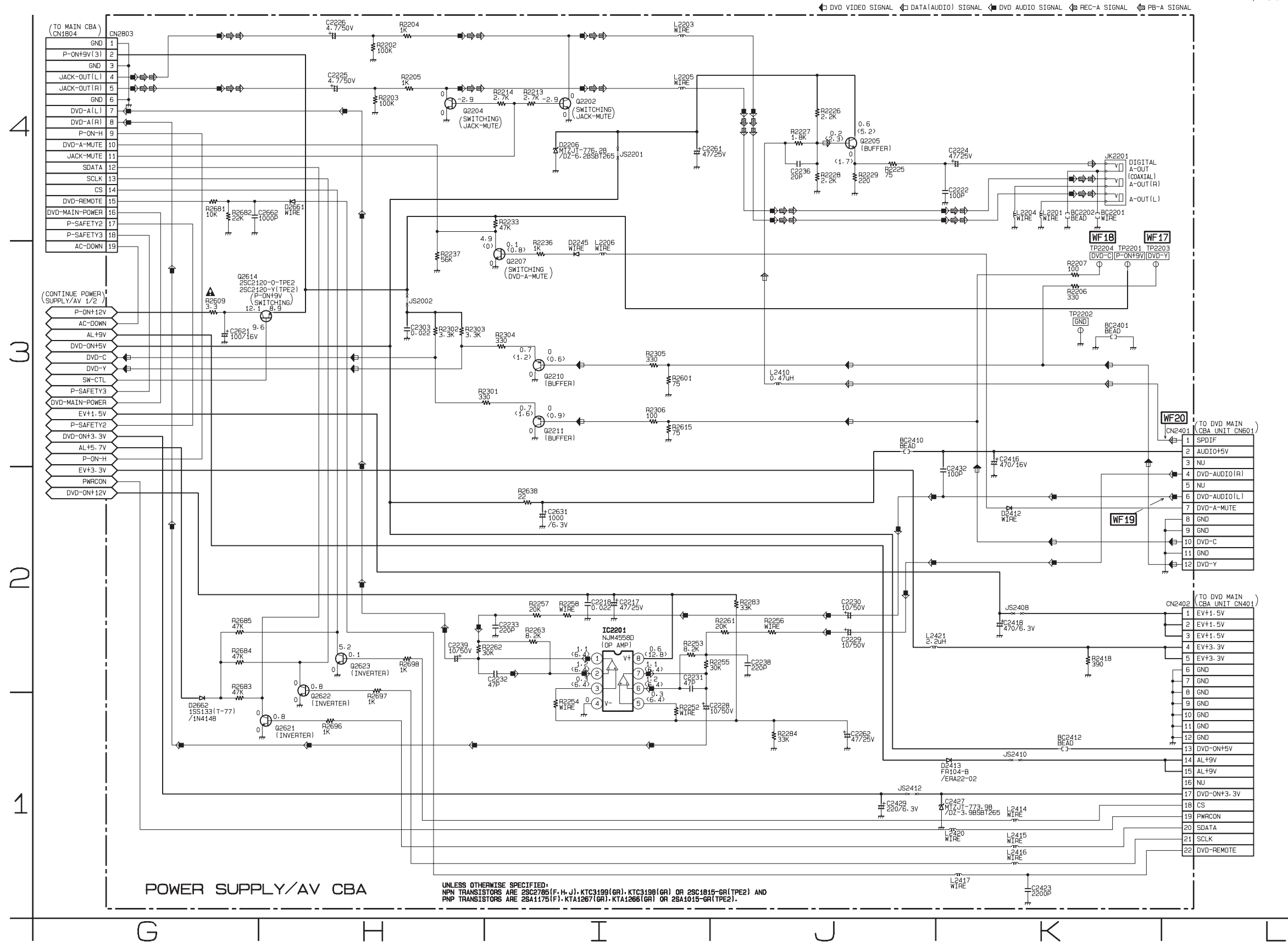
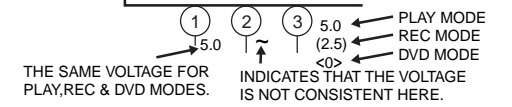


VOLTAGE CHART (Power off mode)

Ref. No.	1	2	3	4
IC2601	13.2	12.1	0.3	2.3
IC2602	2	0	0	0
IC2603	1.8	0.3	0	1.9
IC2604	0	0	0.2	---
Ref. No.	S	D	G	
Q2601	0	140.7	1.4	
Ref. No.	E	C	B	
Q2602	0	1.4	0.3	
Q2603	0	4.9	0	
Q2604	6.8	12.1	7.4	
Q2605	0	8.0	0	
Q2606	10.3	10.2	9.6	
Q2607	0	0.1	0.7	
Q2608	0.1	9.8	0.2	
Q2609	5.9	9.3	6.6	
Q2610	10.3	0.2	10.2	
Q2611	0.2	10.3	0.3	
Q2612	0	10.2	0	
Q2613	0.9	4.6	1.4	
Q2614	0.9	4.6	1.4	
Q2615	0	2.5	0	
Q2617	0.2	1.8	0.5	

Power Supply/AV 2/2 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



POWER SUPPLY/AV CBA

UNLESS OTHERWISE SPECIFIED:
NPN TRANSISTORS ARE 2SC2785(F, H, J), KTC3199(GR), KTC3198(GR) OR 2SC1815-GR(TPE2) AND
PNP TRANSISTORS ARE 2SA1175(F), KTA1267(GR), KTA1266(GR) OR 2SA1015-GR(TPE2).

Power Supply/AV 2/2 Schematic Diagram Parts Location Guide

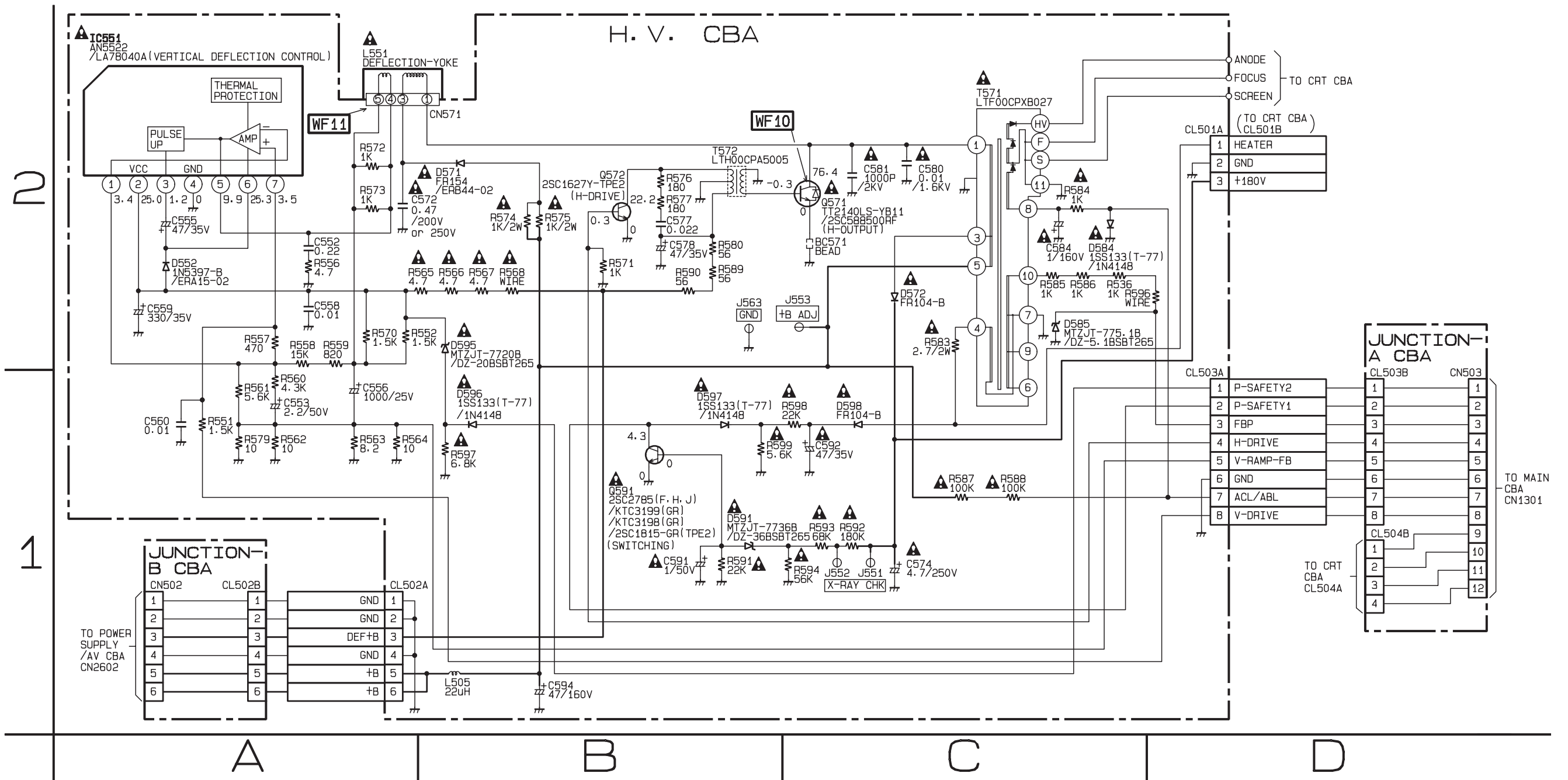
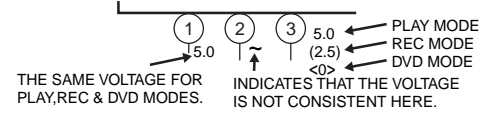
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		TRANSISTORS		RESISTORS	
C2217	I-2	D2206	I-4	Q2623	H-2	R2302	H-3
C2218	I-2	D2245	I-3	RESISTORS		R2303	H-3
C2222	K-4	D2412	K-2	R2202	H-4	R2304	I-3
C2224	K-4	D2413	K-1	R2203	H-4	R2305	I-3
C2225	H-4	D2661	H-4	R2204	H-4	R2306	I-3
C2226	H-4	D2662	G-1	R2205	H-4	R2418	K-2
C2228	I-1	IC		R2206	K-3	R2601	I-3
C2229	J-2	IC2201	I-2	R2207	K-3	R2609	G-3
C2230	J-2	COILS		R2213	I-4	R2615	I-3
C2231	I-2	L2201	K-4	R2214	I-4	R2638	I-2
C2232	I-2	L2203	I-4	R2225	J-4	R2681	G-4
C2233	I-2	L2204	K-4	R2226	J-4	R2682	G-4
C2236	J-4	L2205	I-4	R2227	J-4	R2683	G-1
C2238	J-2	L2206	I-3	R2228	J-4	R2684	G-2
C2239	H-2	L2410	J-3	R2229	J-4	R2685	G-2
C2261	I-4	L2414	K-1	R2233	I-4	R2696	H-1
C2262	J-1	L2415	K-1	R2236	I-3	R2697	H-2
C2303	H-3	L2416	K-1	R2237	H-3	R2698	H-2
C2416	K-3	L2417	K-1	R2252	I-1	MISCELLANEOUS	
C2418	K-2	L2420	K-1	R2253	I-2	BC2201	K-4
C2423	K-1	L2421	J-2	R2254	I-1	BC2202	K-4
C2427	K-1	TRANSISTORS		R2255	I-2	BC2401	K-3
C2429	J-1	Q2202	I-4	R2256	J-2	BC2410	J-3
C2432	K-2	Q2204	H-4	R2257	I-2	BC2412	K-1
C2621	G-3	Q2205	J-4	R2258	I-2	JK2201	K-4
C2631	I-2	Q2207	I-3	R2261	J-2	TEST POINTS	
C2662	G-4	Q2210	I-3	R2262	H-2	TP2201	K-3
CONNECTORS		Q2211	I-3	R2263	I-2	TP2202	K-3
CN2401	L-3	Q2614	H-3	R2283	J-2	TP2203	K-3
CN2402	L-2	Q2621	H-1	R2284	J-1	TP2204	K-3
CN2803	G-4	Q2622	H-2	R2301	I-3		

H.V. Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		RESISTORS		RESISTORS	
C552	A-2	D571	B-2	R559	A-2	R587	C-1
C553	A-1	D572	C-2	R560	A-1	R588	C-1
C555	A-2	D584	C-2	R561	A-1	R589	B-2
C556	A-1	D585	C-2	R562	A-1	R590	B-2
C558	A-2	D591	B-1	R563	A-1	R591	B-1
C559	A-2	D595	B-2	R564	A-1	R592	C-1
C560	A-1	D596	B-1	R565	B-2	R593	C-1
C572	B-2	D597	B-1	R566	B-2	R594	C-1
C574	C-1	D598	C-1	R567	B-2	R596	C-2
C577	B-2	IC		R568	B-2	R597	B-1
C578	B-2	IC551	A-2	R570	A-2	R598	C-1
C580	C-2	COIL		R571	B-2	R599	B-1
C581	C-2	L505	B-1	R572	A-2	MISCELLANEOUS	
C584	C-2	TRANSISTORS		R573	A-3	BC571	C-2
C591	B-1	Q571	C-2	R574	B-2	T571	C-2
C592	C-1	Q572	B-2	R575	B-2	T572	B-2
C594	B-1	Q591	B-1	R576	B-2	TEST POINTS	
CONNECTORS		RESISTORS		R577	B-2	J551	C-1
CL501A	D-2	R536	C-2	R579	A-1	J552	C-1
CL502A	A-1	R551	A-1	R580	B-2	J553	C-2
CL503A	D-1	R552	A-2	R583	C-2	J563	B-2
CN571	B-2	R556	A-2	R584	C-2		
DIODES		R557	A-2	R585	C-2		
D552	A-2	R558	A-2	R586	C-2		

H.V. Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



2

1

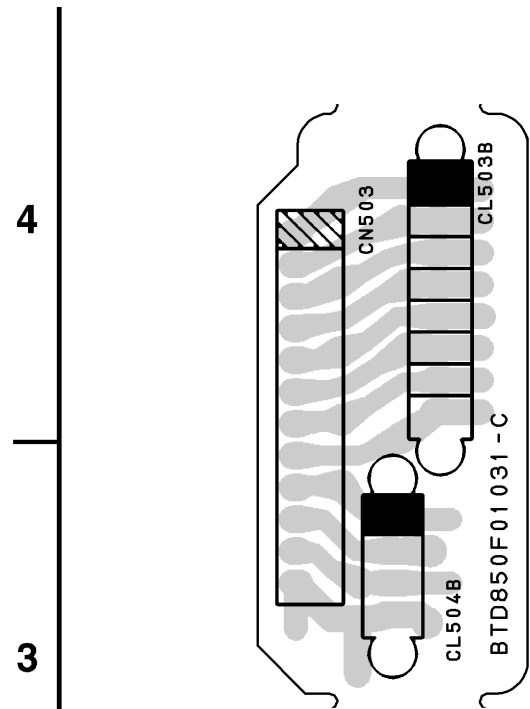
A

B

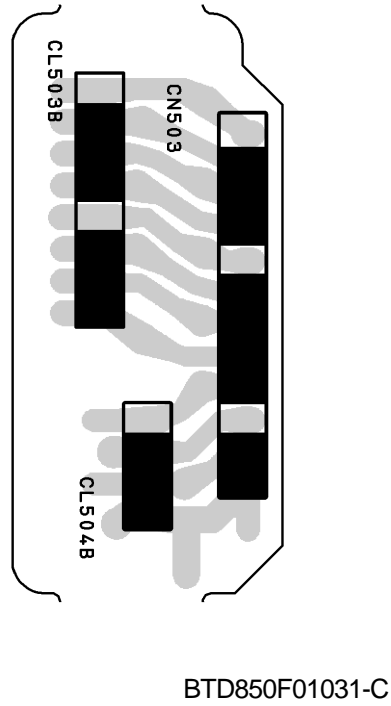
C

D

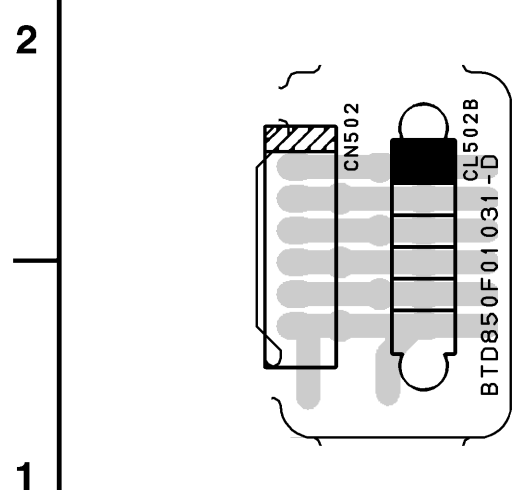
Junction-A CBA
Top View < TV/VCR Section >



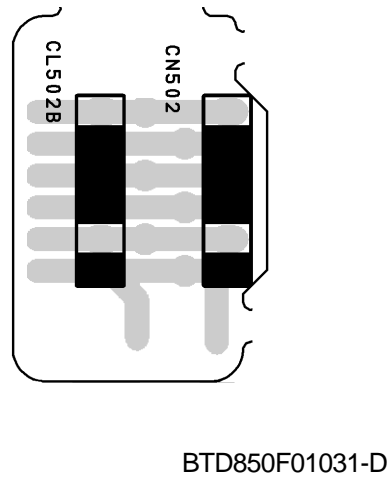
Junction-A CBA
Bottom View < TV/VCR Section >



Junction-B CBA
Top View < TV/VCR Section >



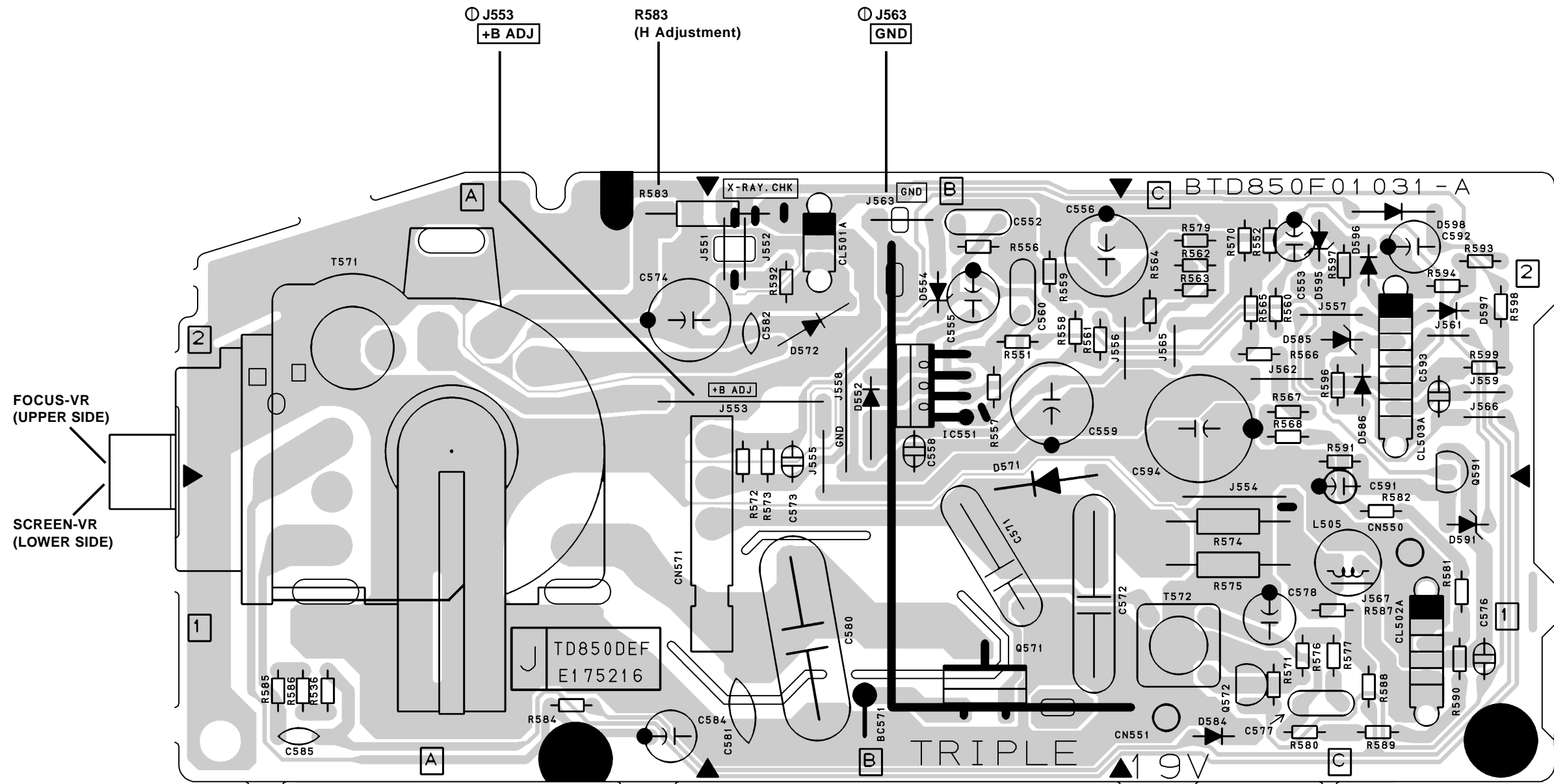
Junction-B CBA
Bottom View < TV/VCR Section >



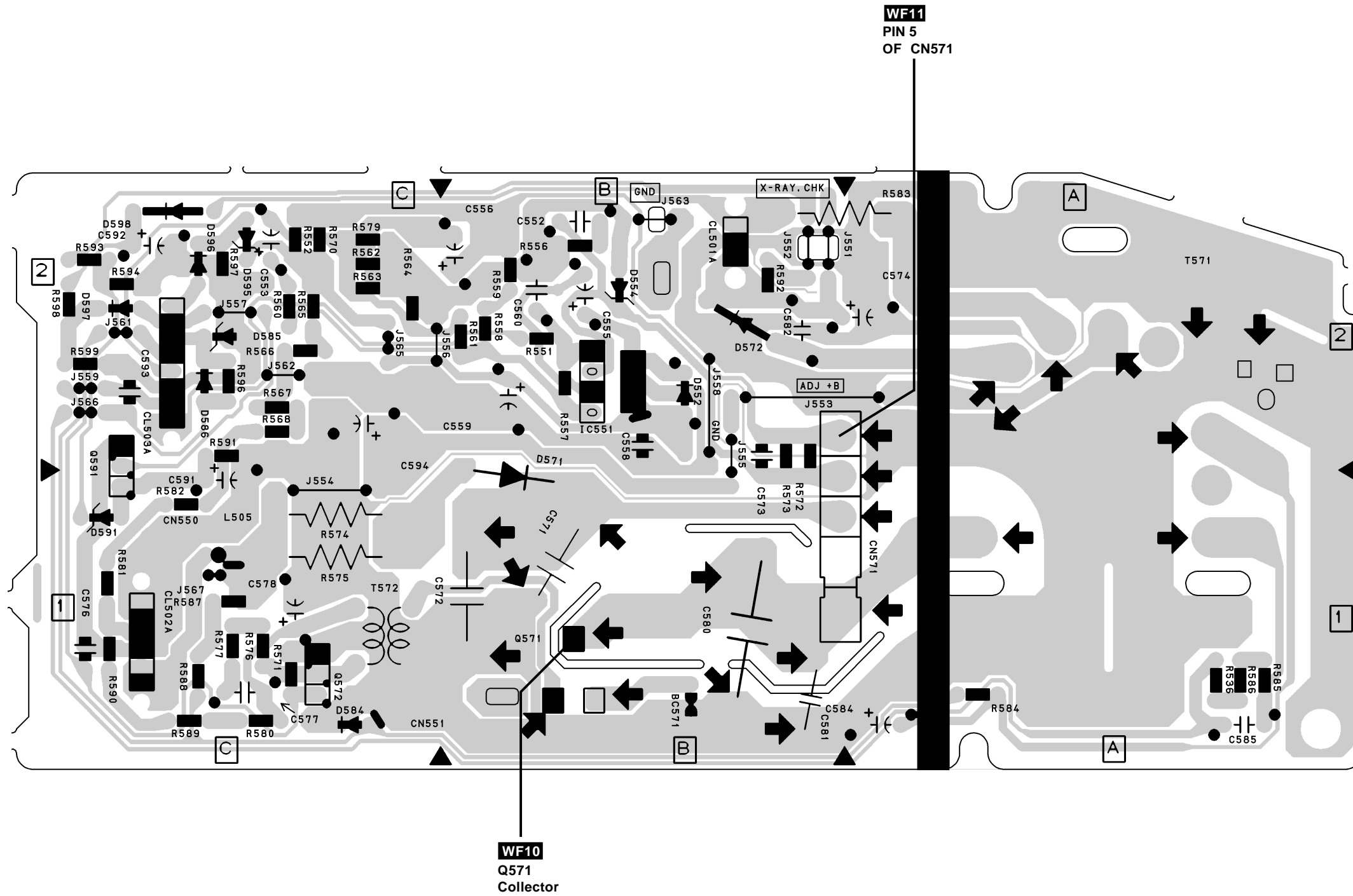
H.V. CBA Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		RESISTORS	
C552	B-2	D597	C-2	R574	C-1
C553	C-2	D598	C-2	R575	C-1
C555	B-2	IC		R576	C-1
C556	B-2	IC551	B-2	R577	C-1
C558	B-2	COIL		R579	C-2
C559	B-2	L505	C-1	R580	C-1
C560	B-2	TRANSISTORS		R583	A-2
C572	C-1	Q571	B-1	R584	A-1
C574	A-2	Q572	C-1	R585	A-1
C577	C-1	Q591	C-2	R586	A-1
C578	C-1	RESISTORS		R587	C-1
C580	B-1	R536	A-1	R588	C-1
C581	B-1	R551	B-2	R589	C-1
C584	B-1	R552	C-2	R590	C-1
C591	C-1	R556	B-2	R591	C-2
C592	C-2	R557	B-2	R592	B-2
C594	C-2	R558	B-2	R593	C-2
CONNECTORS		R559	B-2	R594	C-2
CL501A	B-2	R560	C-2	R596	C-2
CL502A	C-1	R561	B-2	R597	C-2
CL503A	C-2	R562	C-2	R598	C-2
CN571	A-1	R563	C-2	R599	C-2
DIODES		R564	C-2	MISCELLANEOUS	
D552	B-2	R565	C-2	BC571	B-1
D571	B-2	R566	C-2	T571	A-2
D572	B-2	R567	C-2	T572	C-1
D584	C-1	R568	C-2	TEST POINTS	
D585	C-2	R570	C-2	J551	A-2
D591	C-1	R571	C-1	J552	B-2
D595	C-2	R572	B-1	J553	B-2
D596	C-2	R573	B-1	J563	B-2

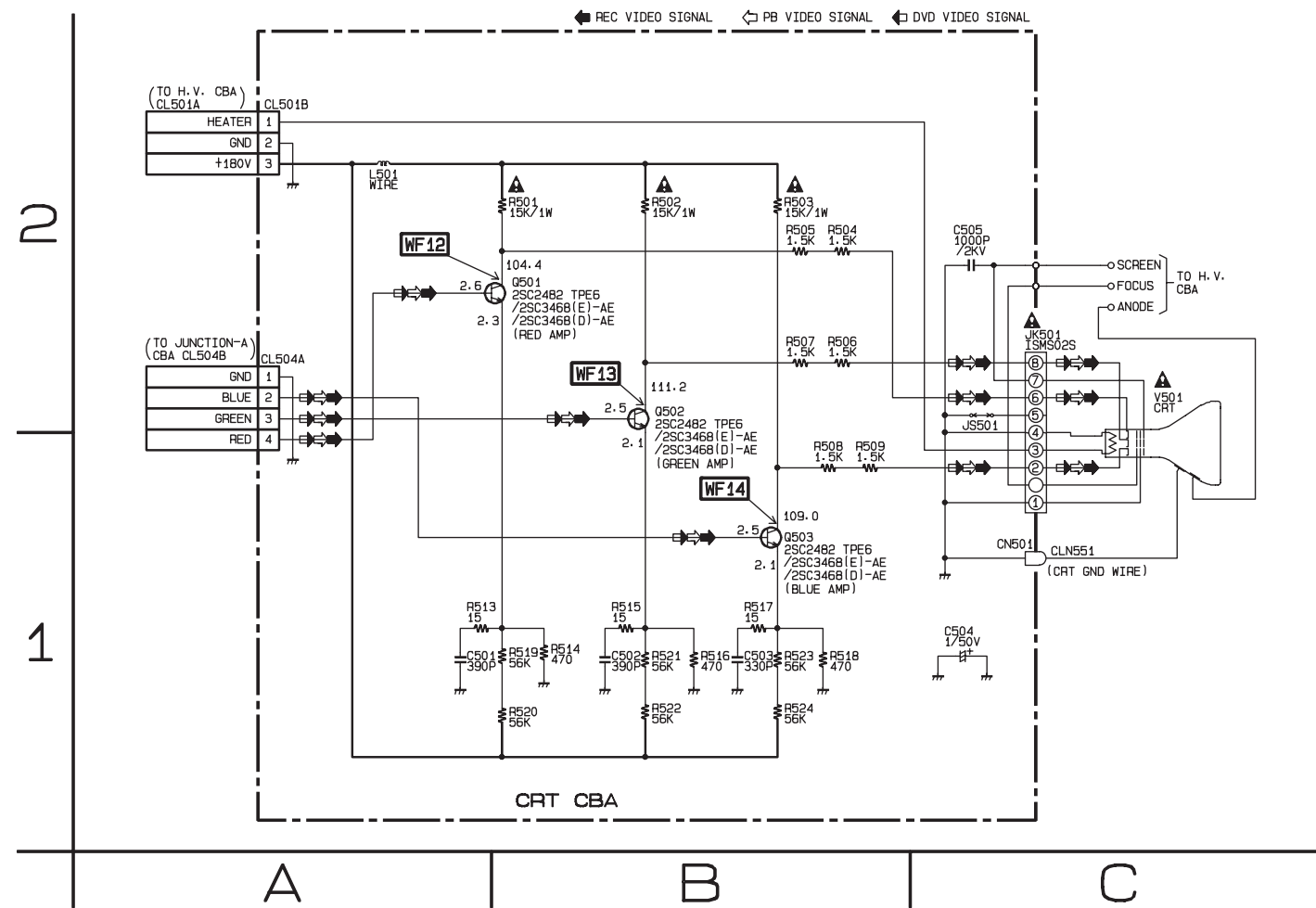
H.V. CBA Top View < TV/VCR Section >



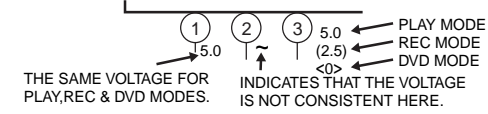
H.V. CBA Bottom View < TV/VCR Section >



CRT Schematic Diagram < TV/VCR Section >



Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:

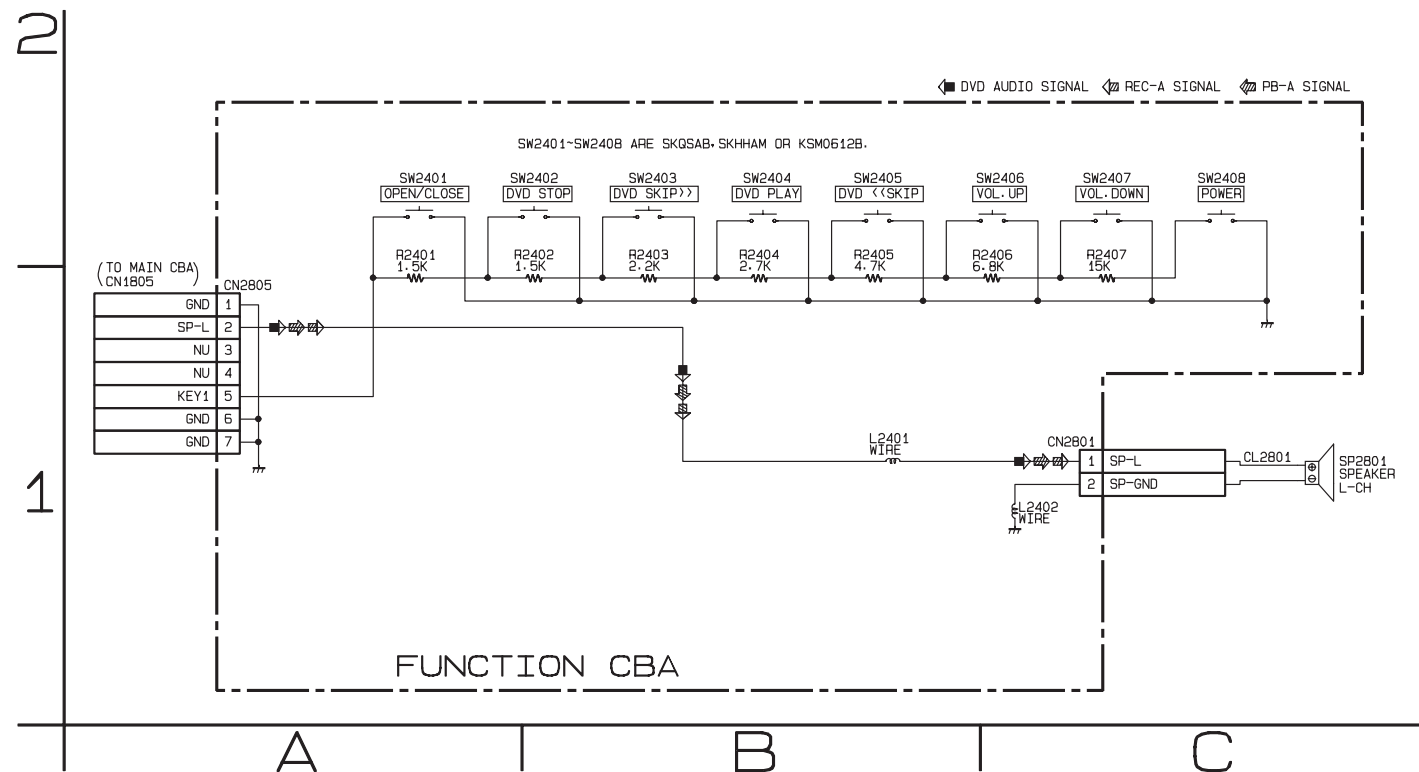


CRT SCHEMATIC DIAGRAM PARTS LOCATION GUIDE

Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		TRANSISTORS		RESISTORS	
C501	A-1	Q503	B-1	R515	B-1
C502	B-1	RESISTORS		R516	B-1
C503	B-1	R501	B-2	R517	B-1
C504	C-1	R502	B-2	R518	B-1
C505	C-2	R503	B-2	R519	B-1
CONNECTORS		R504	B-2	R520	B-1
CL504A	A-2	R505	B-2	R521	B-1
CN501	C-1	R506	B-2	R522	B-1
COIL		R507	B-2	R523	B-1
L501	A-2	R508	B-1	R524	B-1
TRANSISTORS		R509	B-1	MISCELLANEOUS	
Q501	B-2	R513	A-1	JK501	C-2
Q502	B-2	R514	B-1		

Function Schematic Diagram < TV/VCR Section >

TD857SCCRT



FUNCTION SCHEMATIC DIAGRAM PARTS LOCATION GUIDE

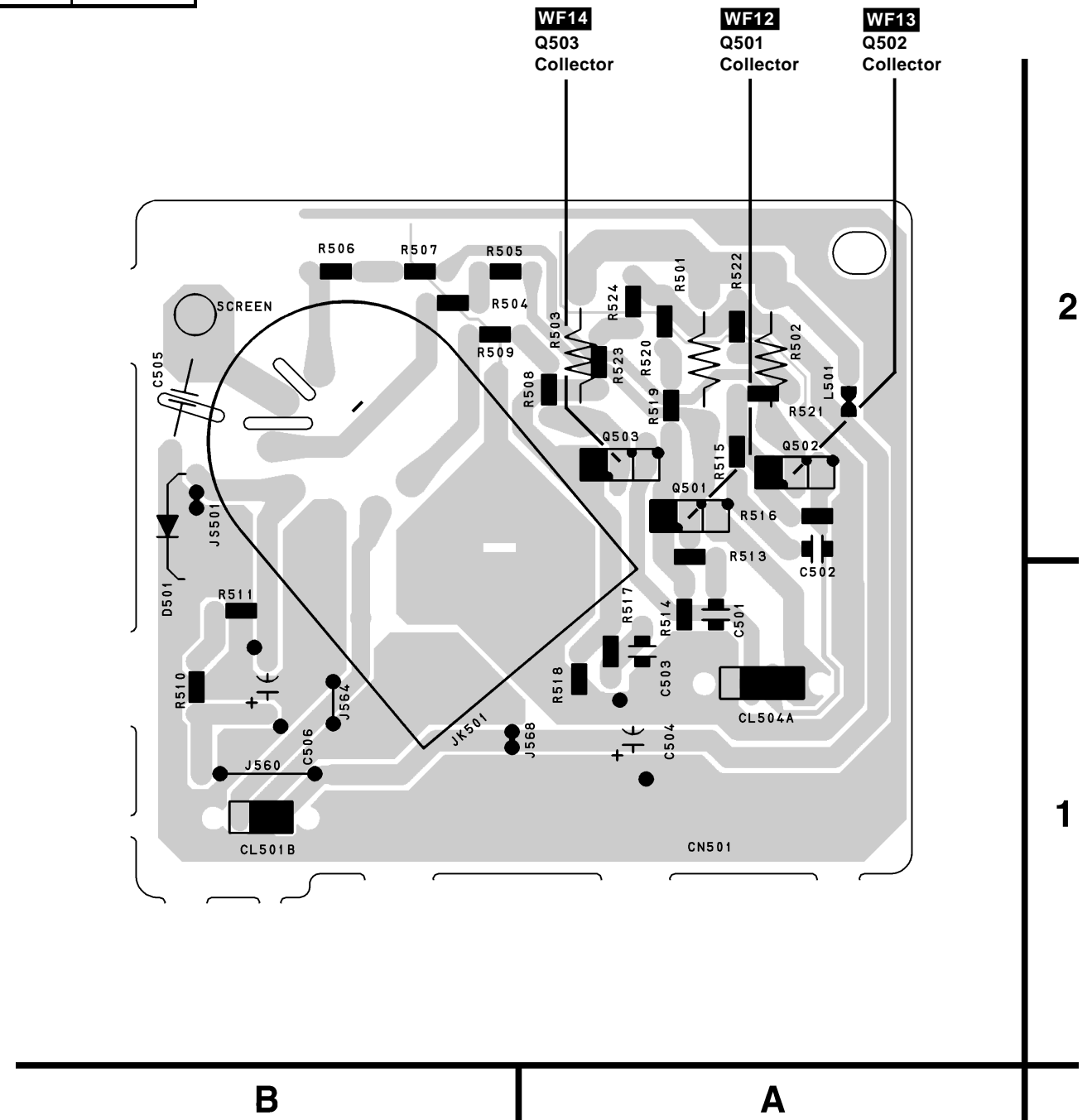
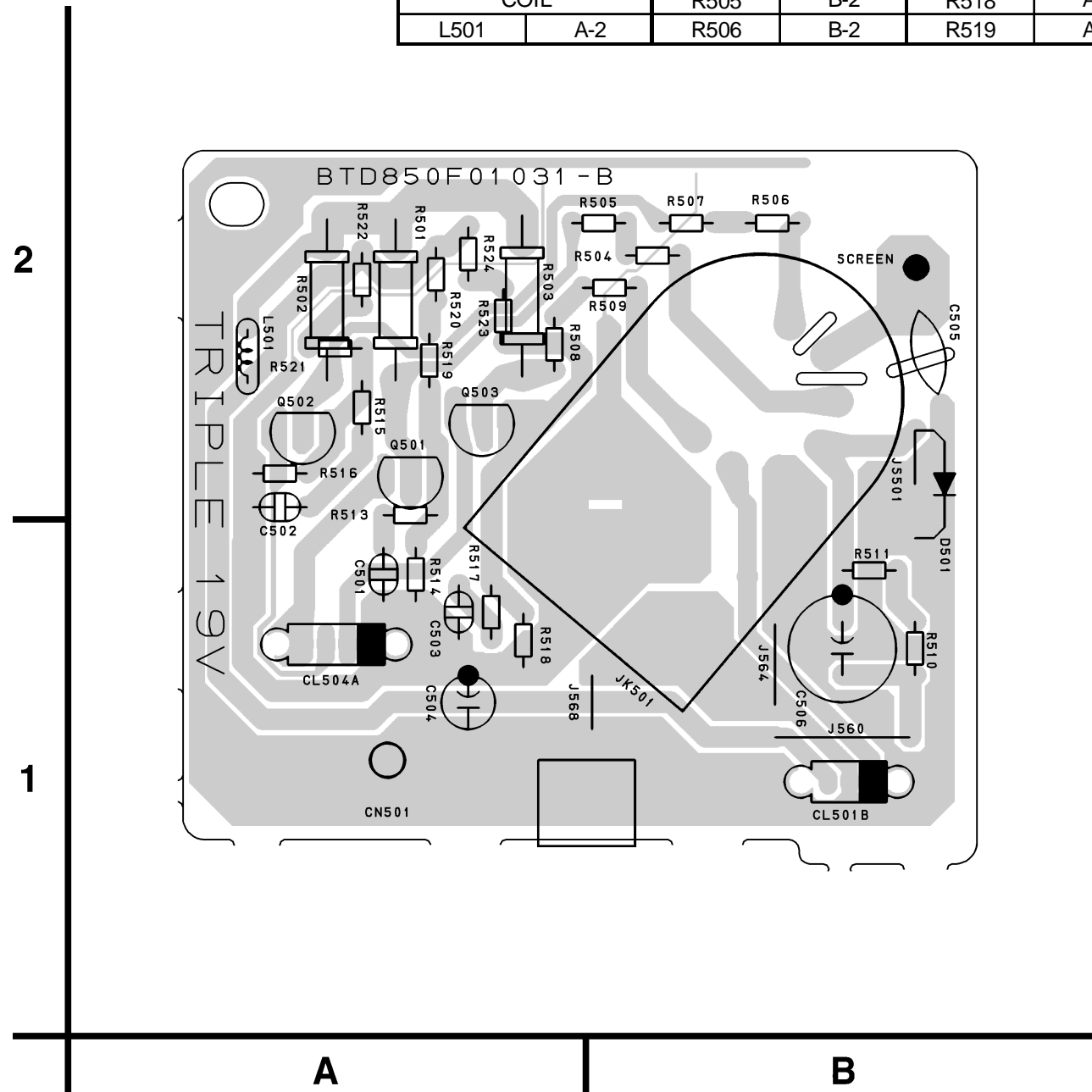
Ref No.	Position	Ref No.	Position
CONNECTORS		RESISTORS	
CN2801	C-1	R2406	C-1
CN2805	A-1	R2407	C-1
COILS		SWITCHES	
L2401	B-1	SW2401	A-2
L2402	C-1	SW2402	B-2
RESISTORS		SW2403	B-2
R2401	A-1	SW2404	B-2
R2402	B-1	SW2405	B-2
R2403	B-1	SW2406	C-2
R2404	B-1	SW2407	C-2
R2405	B-1	SW2408	C-2

CRT CBA Top View < TV/VCR Section >

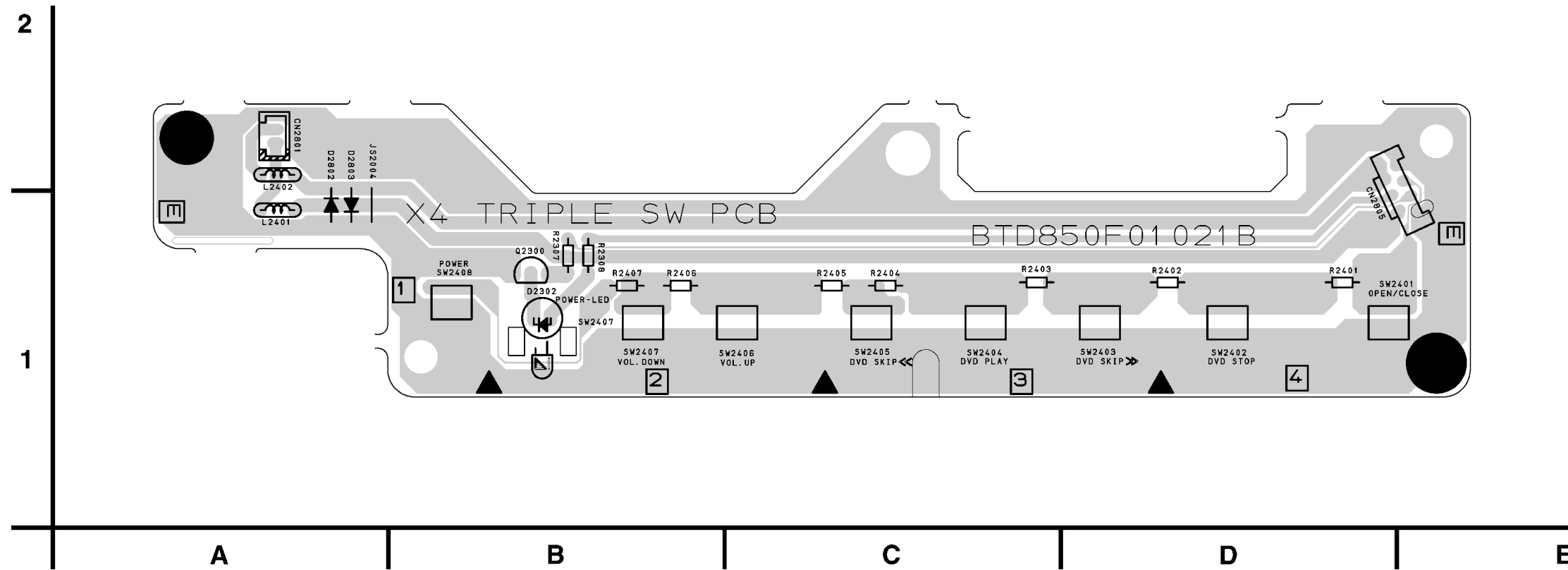
CRT CBA Bottom View < TV/VCR Section >

CRT CBA PARTS LOCATION GUIDE

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		TRANSISTORS		RESISTORS		RESISTORS	
C501	A-1	Q501	A-2	R507	B-2	R520	A-2
C502	A-2	Q502	A-2	R508	A-2	R521	A-2
C503	A-1	Q503	A-2	R509	B-2	R522	A-2
C504	A-1	RESISTORS		R513	A-2	R523	A-2
C505	B-2	R501	A-2	R514	A-1	R524	A-2
CONNECTORS		R502	A-2	R515	A-2	MISCELLANEOUS	
CL504A	A-1	R503	A-2	R516	A-2	JK501	B-1
CN501	A-1	R504	B-2	R517	A-1		
COIL		R505	B-2	R518	A-1		
L501	A-2	R506	B-2	R519	A-2		



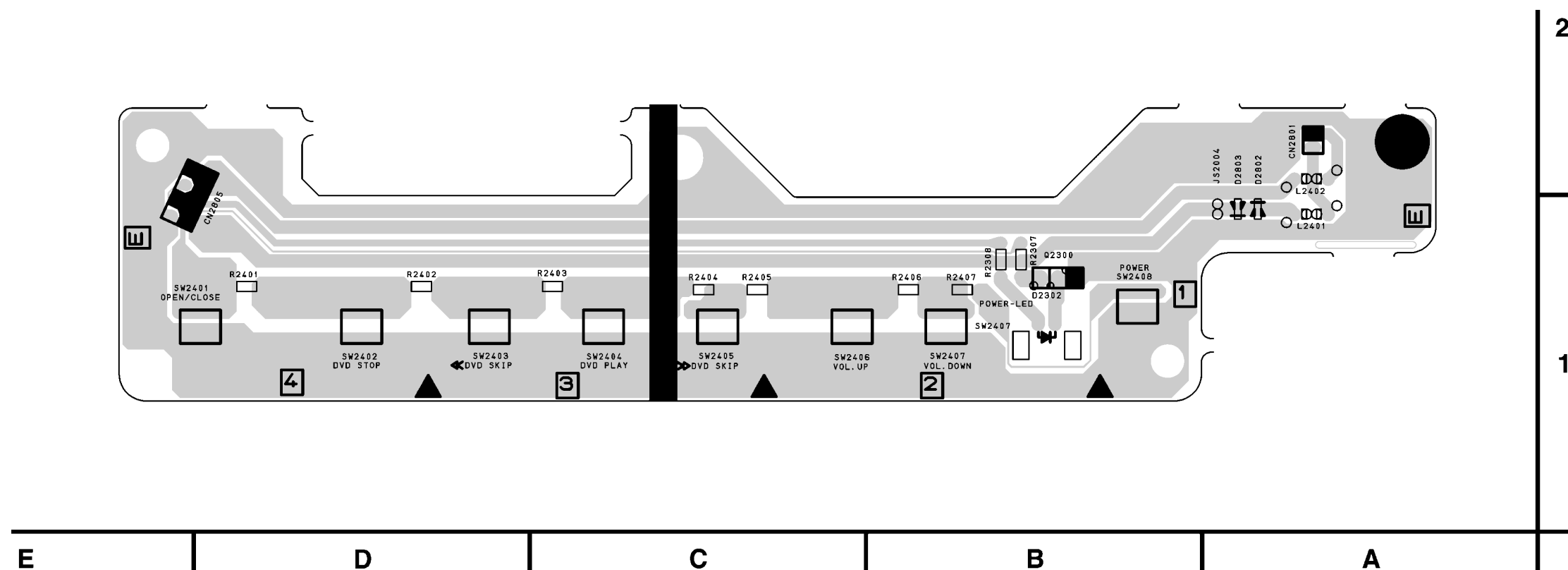
Function CBA Top View < TV/VCR Section >



FUNCTION CBA PARTS LOCATION GUIDE

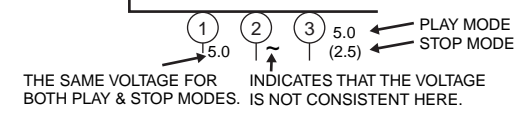
Ref No.	Position
CONNECTORS	
CN2801	A-2
CN2805	D-1
COILS	
L2401	A-1
L2402	A-2
RESISTORS	
R2401	D-1
R2402	D-1
R2403	C-1
R2404	C-1
R2405	C-1
R2406	C-1
R2407	C-1
SWITCHES	
SW2401	D-1
SW2402	D-1
SW2403	D-1
SW2404	C-1
SW2405	C-1
SW2406	C-1
SW2407	B-1
SW2408	B-1

Function CBA Bottom View < TV/VCR Section >



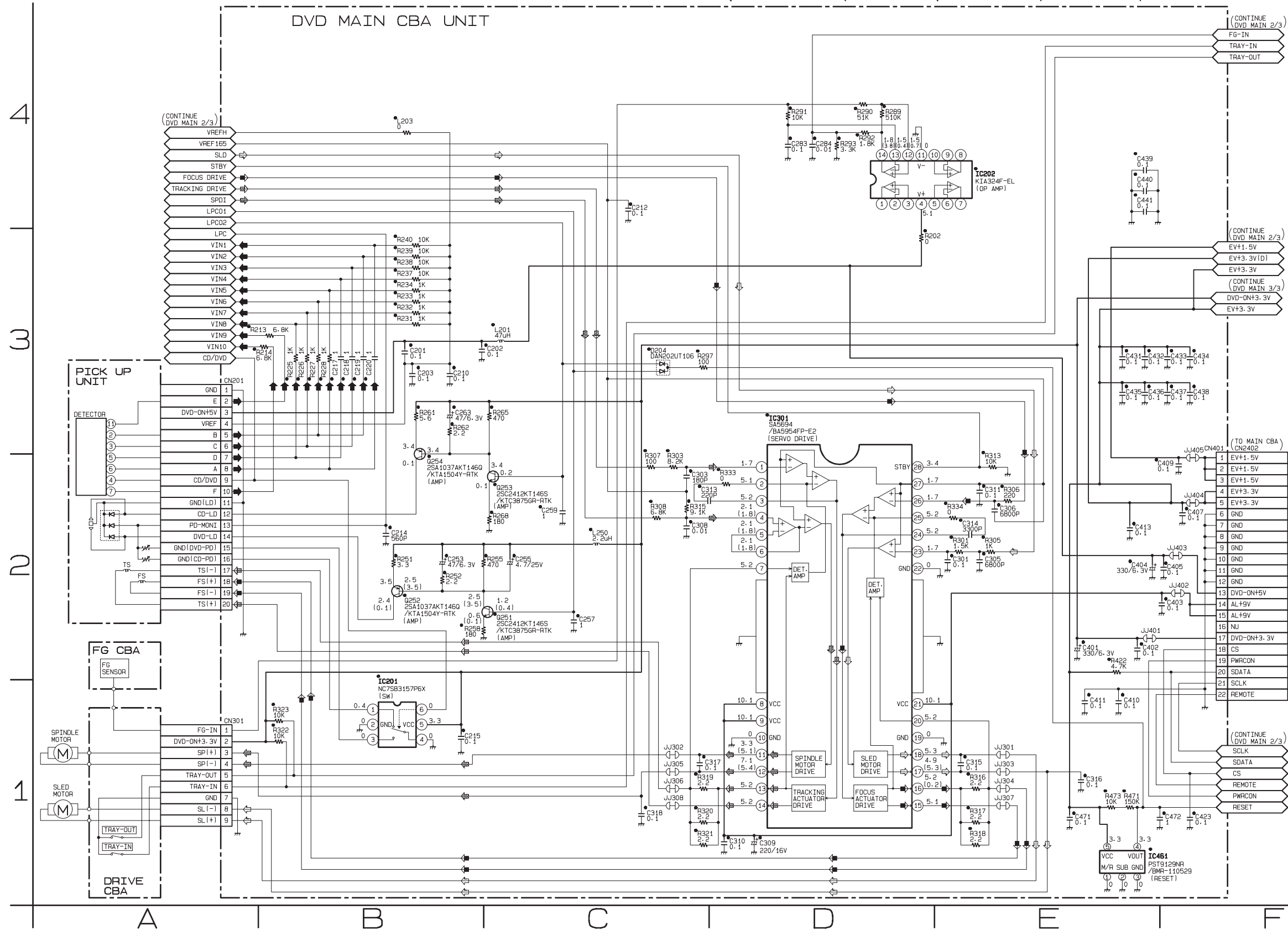
DVD Main 1/3 Schematic Diagram < DVD Section >

Voltage indications for PLAY and STOP modes on the Schematic Diagrams are as shown below:



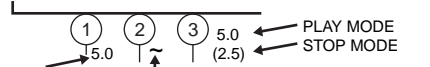
* = SMD

DATA (VIDEO+AUDIO) SIGNAL FOCUS SERVO SIGNAL TRACKING SERVO SIGNAL SPINDLE SERVO SIGNAL SLED SERVO SIGNAL

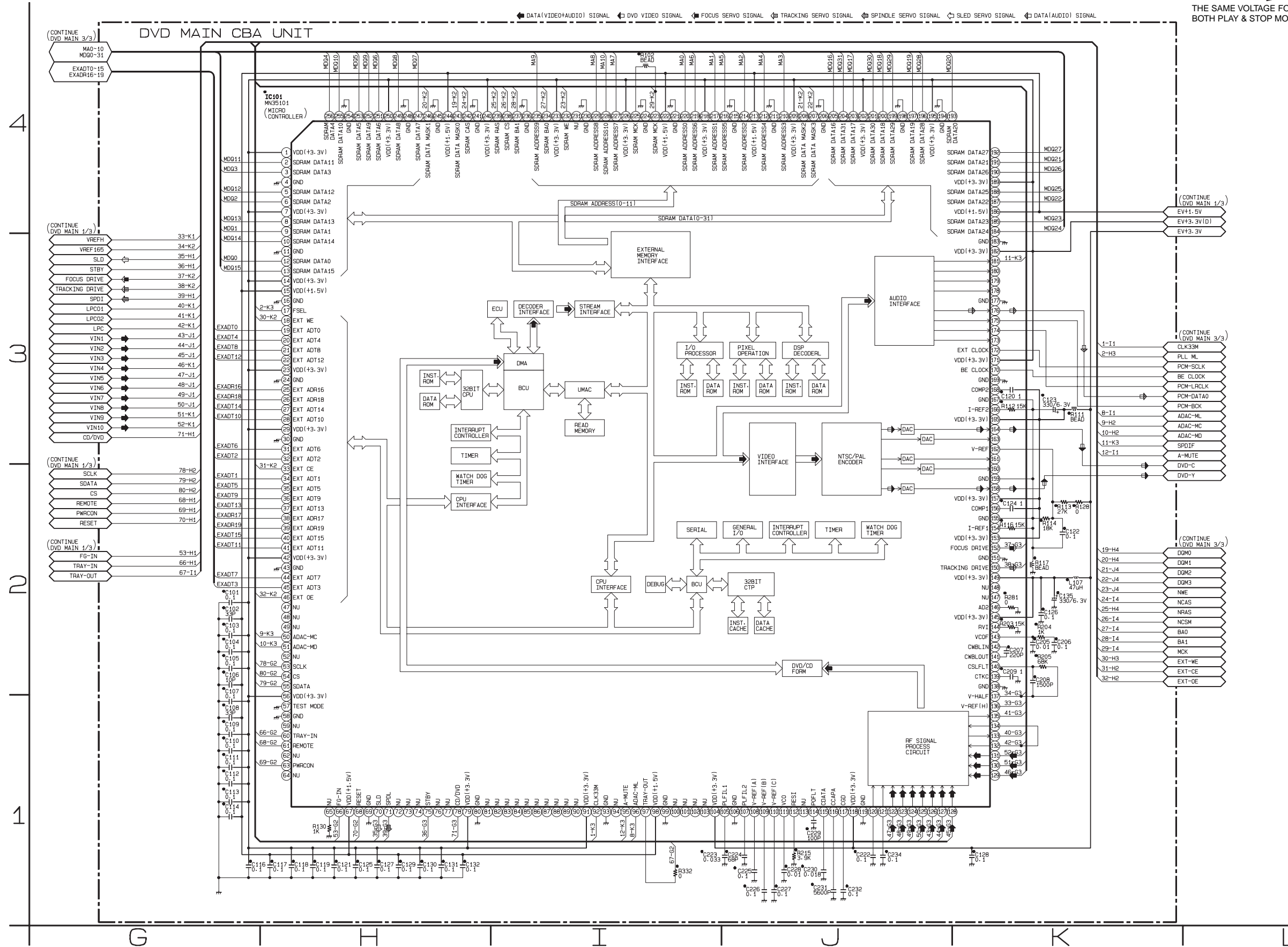


DVD Main 2/3 Schematic Diagram < DVD Section >

Voltage indications for PLAY and STOP modes on the Schematic Diagrams are as shown below:



"●" = SMD

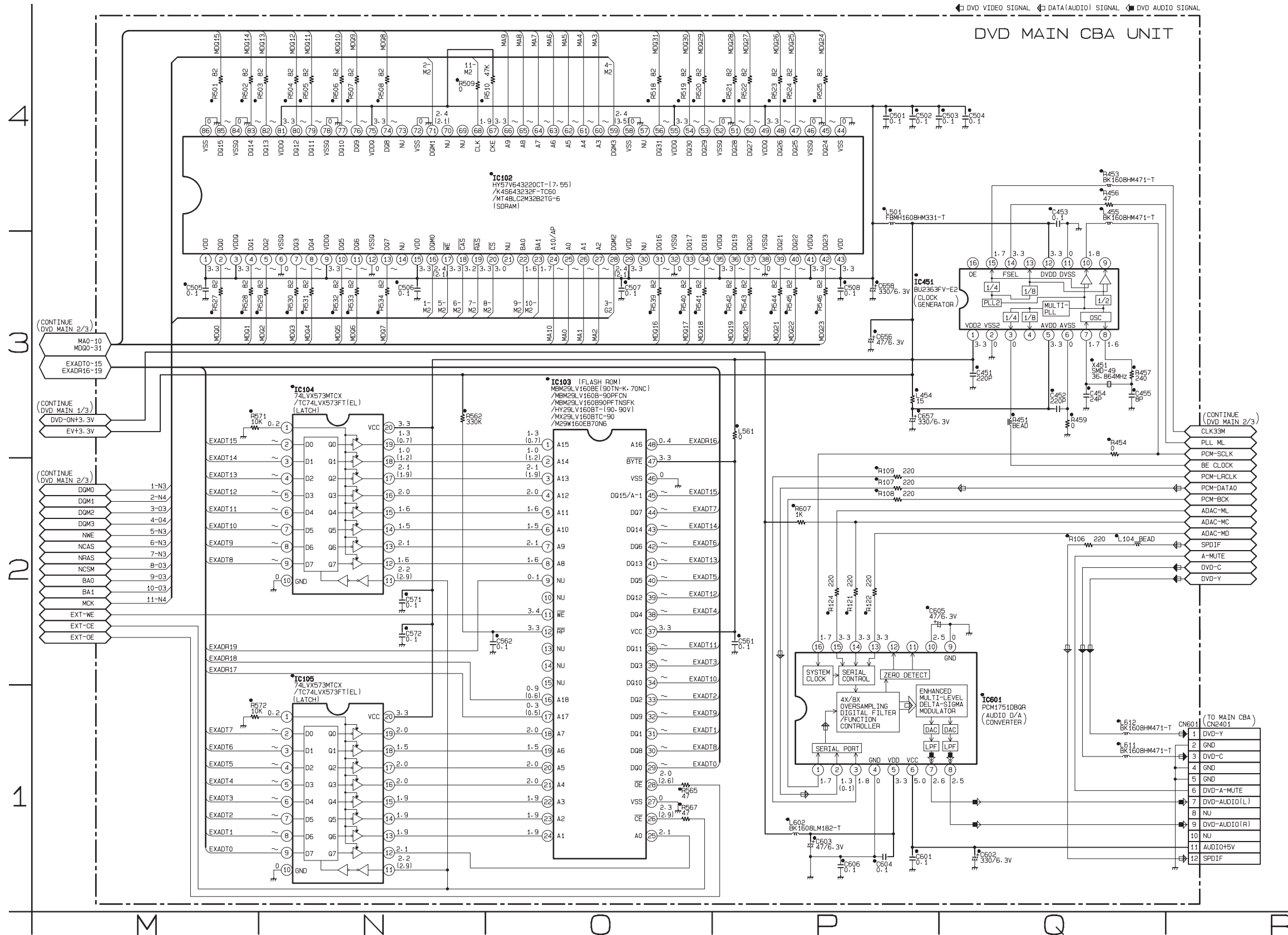
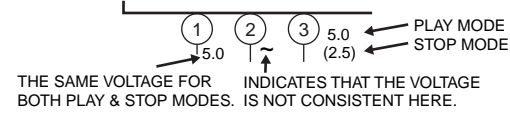


IC101 VOLTAGE CHART

PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP
1	3.3	3.3	33	2.2	2.9	65	0.1	0.1	97	3.4	3.4	129	2.0	2.0	161	----	----	193	~	~	225	1.9	1.9
2	~	~	34	~	~	66	1.2	2.5	98	1.6	1.6	130	2.2	2.2	162	1.4	1.4	194	0	0	226	3.3	3.3
3	~	~	35	~	~	67	1.6	1.6	99	0	0	131	2.3	2.3	163	----	----	195	3.3	3.3	227	~	~
4	0	0	36	~	~	68	3.4	3.4	100	----	----	132	0.4	0.1	164	0.9	0.9	196	~	~	228	~	~
5	~	~	37	~	~	69	0	0	101	----	----	133	1.2	0.4	165	3.3	3.3	197	~	~	229	~	~
6	~	~	38	0.3	0.5	70	1.7	1.7	102	----	----	134	0.4	0.1	166	1.5	1.5	198	0	0	230	0	0
7	3.3	3.3	39	0.1	0.1	71	2.4	1.7	103	----	----	135	0.2	0.2	167	0	0	199	~	~	231	----	----
8	~	~	40	~	~	72	----	----	104	3.3	3.3	136	2.3	2.3	168	2.1	2.1	200	~	~	232	3.3	3.3
9	~	~	41	~	~	73	----	----	105	0.9	0.9	137	1.7	1.7	169	0	0	201	~	~	233	3.3	3.3
10	~	~	42	3.3	3.3	74	----	----	106	0	0	138	0	0	170	0.8	0.8	202	3.3	3.3	234	1.6	1.6
11	0	0	43	0	0	75	3.4	3.4	107	0.8	0.8	139	1.7	1.7	171	3.3	3.3	203	~	~	235	~	~
12	~	~	44	~	~	76	----	----	108	1.6	1.6	140	1.7	1.7	172	1.6	1.6	204	~	~	236	0	0
13	~	~	45	~	~	77	----	----	109	2.1	2.1	141	1.7	1.7	173	----	----	205	~	~	237	1.7	1.7
14	3.3	3.3	46	2.0	2.6	78	0.1	0.1	110	2.6	2.6	142	1.7	1.7	174	1.8	1.8	206	0	0	238	3.0	3.0
15	1.5	1.5	47	----	----	79	3.3	3.3	111	2.0	2.0	143	0.5	0.5	175	1.7	1.7	207	2.4	3.5	239	3.3	3.3
16	0	0	48	----	----	80	0	0	112	0.7	0.9	144	1.6	1.6	176	1.4	0.1	208	2.4	2.1	240	3.3	3.3
17	3.4	3.4	49	----	----	81	----	----	113	----	----	145	3.3	3.3	177	0	0	209	3.3	3.3	241	0	0
18	3.4	3.4	50	3.4	3.4	82	----	----	114	1.8	1.8	146	1.8	1.8	178	----	----	210	~	~	242	3.2	3.2
19	~	~	51	3.4	3.4	83	----	----	115	1.4	1.4	147	----	----	179	----	----	211	0	0	243	2.4	2.1
20	~	~	52	----	----	84	----	----	116	0.3	0.3	148	----	----	180	----	----	212	~	~	244	1.5	1.5
21	~	~	53	3.4	3.4	85	----	----	117	1.6	1.6	149	3.3	3.3	181	1.7	1.7	213	1.5	1.5	245	0	0
22	~	~	54	3.4	3.4	86	----	----	118	3.3	3.3	150	1.7	1.7	182	3.3	3.3	214	~	~	246	2.4	2.1
23	3.3	3.3	55	3.3	3.3	87	----	----	119	0	0	151	0	0	183	0	0	215	0	0	247	~	~
24	0	0	56	3.3	3.3	88	----	----	120	1.9	1.9	152	1.7	1.7	184	~	~	216	~	~	248	0	0
25	0.4	0.4	57	0	0	89	----	----	121	1.9	1.9	153	3.3	3.3	185	~	~	217	~	~	249	~	~
26	0.9	0.6	58	0	0	90	----	----	122	2.4	2.4	154	1.4	1.4	186	1.5	1.5	218	3.3	3.3	250	3.3	3.3
27	~	~	59	----	----	91	3.3	3.3	123	2.4	2.4	155	0	0	187	~	~	219	~	~	251	~	~
28	~	~	60	3.4	3.4	92	1.7	1.5	124	2.4	2.4	156	2.2	2.2	188	~	~	220	~	~	252	~	~
29	3.3	3.3	61	3.1	3.1	93	0	0	125	2.4	2.4	157	3.3	3.3	189	3.3	3.3	221	0	0	253	~	~
30	0	0	62	----	----	94	----	----	126	2.0	2.0	158	0.7	0.7	190	~	~	222	1.5	1.5	254	0	0
31	~	~	63	3.4	3.4	95	3.4	0.1	127	2.0	2.0	159	0	0	191	~	~	223	1.9	1.9	255	~	~
32	~	~	64	----	----	96	3.4	3.4	128	2.0	2.0	160	----	----	192	~	~	224	0	0	256	~	~

DVD Main 3/3 Schematic Diagram < DVD Section >

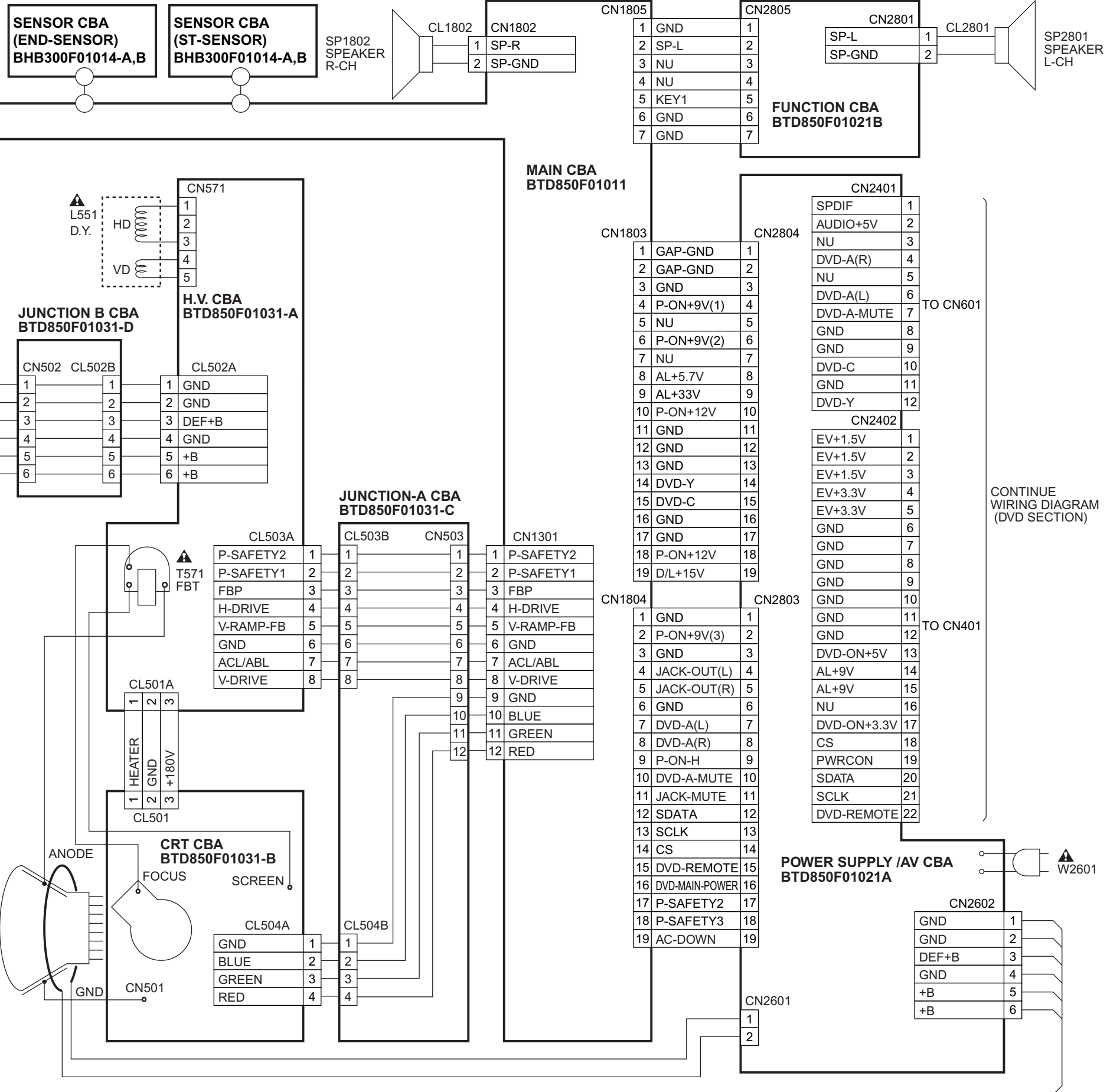
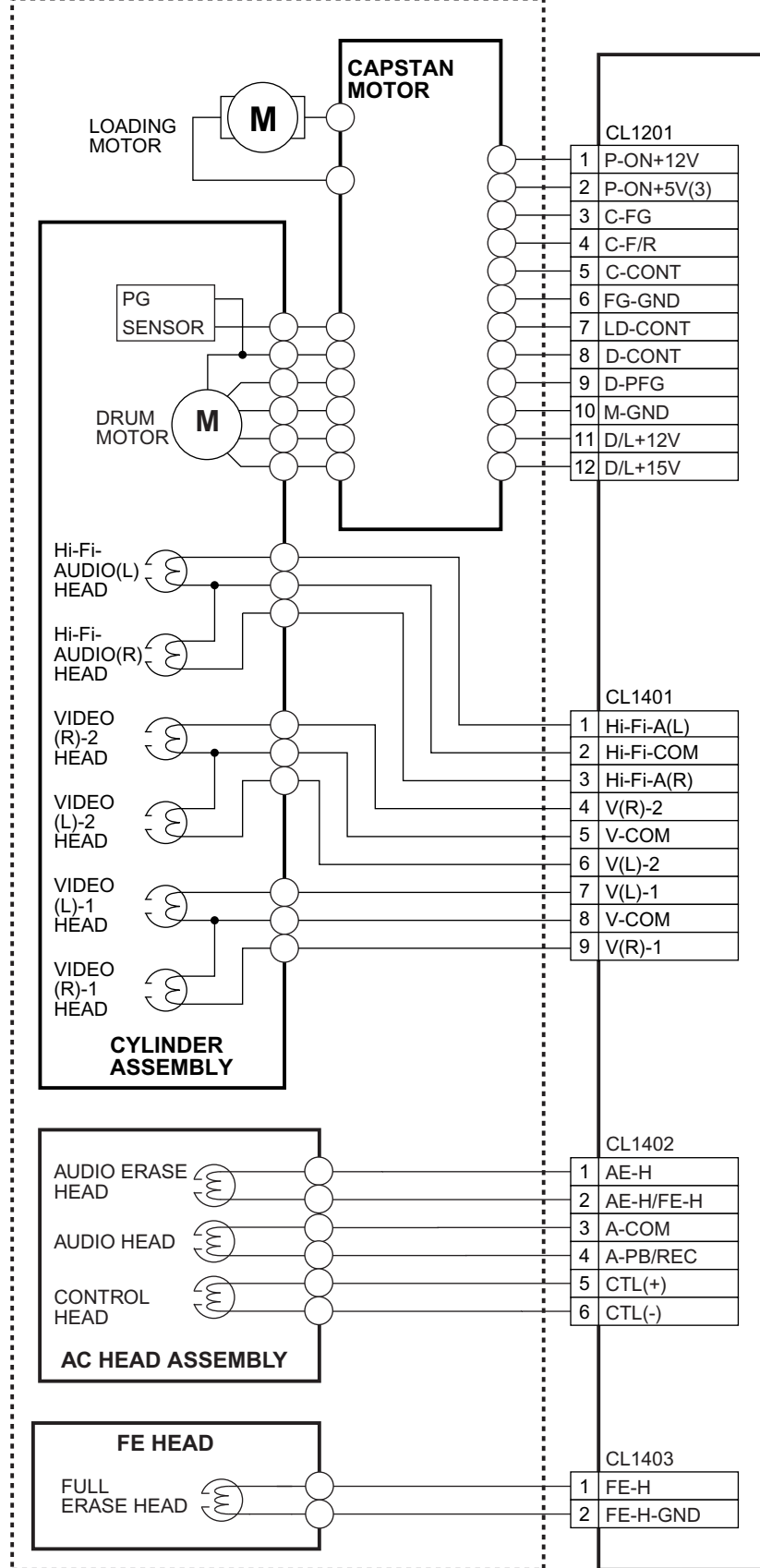
Voltage indications for PLAY and STOP modes on the Schematic Diagrams are as shown below:



WIRING DIAGRAM < TV/VCR SECTION >

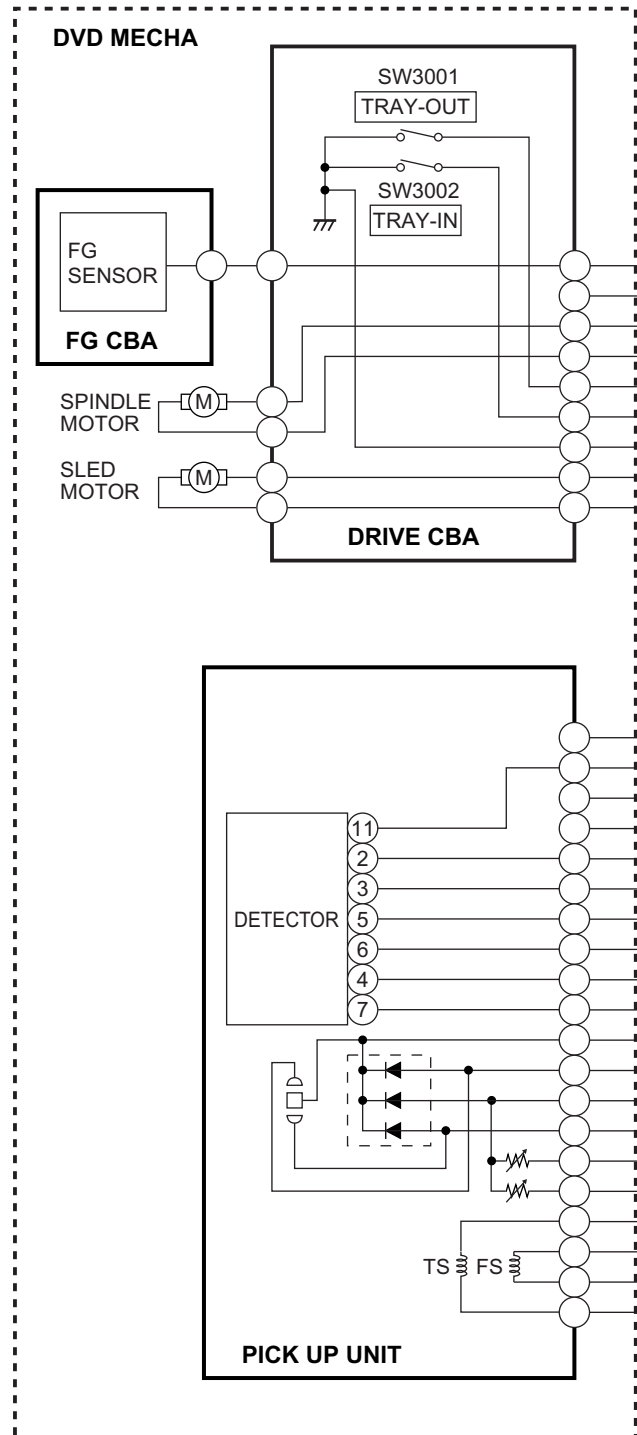
NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 (CAN DISCONNECT AND RECONNECT.)
 2. PREFIX SYMBOL "JP" MEANS WIRE-SOLDER
 HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY.)

WIRING DIAGRAM FOR SECTION 2 (DECK MECHANISM)



WIRING DIAGRAM < DVD SECTION >

NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 (CAN DISCONNECT AND RECONNECT.)
 2. PREFIX SYMBOL "JP" MEANS WIRE-SOLDER
 HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY.)



CN301

1	FG-IN
2	DVD-ON+3.3V
3	SP(+)
4	SP(-)
5	TRAY-OUT
6	TRAY-IN
7	GND
8	SL(-)
9	SL(+)

CN201

1	GND
2	E
3	DVD-ON+5V
4	VREF
5	B
6	C
7	D
8	A
9	CD/DVD
10	F
11	GND(LD)
12	CD-LD
13	PD-MONI
14	DVD-LD
15	GND(DVD-PD)
16	GND(CD-PD)
17	TS(-)
18	FS(+)
19	FS(-)
20	TS(+)

DVD MAIN CBA UNIT

CN601

SPDIF	12
AUDIO+5V	11
NU	10
DVD-A(R)	9
NU	8
DVD-A(L)	7
DVD-A-MUTE	6
GND	5
GND	4
DVD-C	3
GND	2
DVD-Y	1

CN401

EV+1.5V	1
EV+1.5V	2
EV+1.5V	3
EV+3.3V	4
EV+3.3V	5
GND	6
GND	7
GND	8
GND	9
GND	10
GND	11
GND	12
DVD-ON+5V	13
AL+9V	14
AL+9V	15
NU	16
DVD-ON+3.3V	17
CS	18
PWRCON	19
SDATA	20
SCLK	21
DVD-REMOTE	22

TO CN2401

TO CN2402

CONTINUE
 WIRING DIAGRAM
 (TV/VCR SECTION)

IC PIN FUNCTION DESCRIPTIONS

IC1201 (TV/VCR Micro Computer)

“H” ≥ 4.5V, “L” ≤ 1.0V

Pin No.	IN/OUT	Signal Name	Function
1	IN	LD-SW	Loading Switch Input
2	IN	P-SAFETY 1	Power Supply Failure Detection 1
3	IN	P-SAFETY 2	Power Supply Failure Detection 2
4	IN	ST/SAP-IN	Tuner Stereo/Sap Detector Signal Input
5	IN	KEY0	Key 0 Input
6	IN	KEY1	Key 1 Input
7	IN	END-SENS	End-Sensor
8	IN	AFT	AFT Input
9	IN	ST-SENS	Start-Sensor
10	IN	V-ENV	Video Envelope Input
11	OUT	VOL-CONT	Output Volume Control Signal
12	-	NU	Not Used
13	OUT	DV SYNC	Artificial V-Sync Output
14	IN	REMOTE	Remote Signal Input
15	OUT	ROTA	Color Phase Rotary Changeover Signal
16	OUT	V-H-SW	Video Head Amp Switching Pulse
17	IN	ENV-DET	Envelope Comparator Signal
18	OUT	RF-SW	Video Head Switching Pulse
19	OUT	HiFi-H-SW	HiFi Audio Head Switching Pulse
20	-	NU	Not Used
21	OUT	REC-LED	Recording LED Control Signal
22	IN	NORMAL-H	Audio Mode Input Signal
23	OUT	ACL-CONT	ACL Control Signal
24	-	NU	Not Used
25	-	DVD-REMOTE	Remote Control Signal to DVD
26	OUT	TV/VCR-LED	TV/VCR Mode LED Control Signal
27	OUT	REC/EE/PB	YCA IC Mode Output

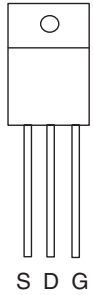
Pin No.	IN/OUT	Signal Name	Function
28	IN/OUT	SP/LP/SLP	Tape Speed Control Output
29	OUT	EXT-H	External Input or Playback Signal Output
30	OUT	RENTAL	Rental Position Control Signal
31	OUT	P-ON-H	Power On Signal at High
32	OUT	SPL-PLAY	Special Playback Control Signal
33	IN	REC-SAFETY	Record Protection Tab Detection
34	IN	RESET	System Reset Signal (Reset="L")
35	IN	XC-IN	Sub Clock 32 kHz
36	OUT	XC-OUT	Sub Clock 32 kHz
37	-	TIMER+5V	Vcc
38	IN	X-IN	Main Clock Input
39	OUT	X-OUT	Main Clock Output
40	-	GND	GND
41	OUT	SPOT-KILL	Counter-measure for Spot
42	IN	DVD-MAIN-POWER	Power On Signal to High for DVD
43	IN	CLKSEL	Clock Select (GND)
44	OUT	D-REC-H	Delayed Record Signal
45	IN	I2C-OPEN	White Balance Adjust Mode Judgment
46	-	GND	GND
47	-	NU	Not Used
48	OUT	DVD-H	DVD at High
49	-	GND	OSD GND
50	-	CS	Chip Select
51	OUT	SCLK	HiFi Communication Clock
52	IN/OUT	SDATA	Serial Data
53	-	P-ON+5V	OSD Vcc
54	-	HLF	HLF
55	IN	V-HOLD	VHOLD
56	IN	CV-IN	Video Signal Input
57	-	GND	GND
58	IN	H-SYNC	H-SYNC Input

Pin No.	IN/OUT	Signal Name	Function
59	IN	V-SYNC	V-SYNC Input
60	OUT	OSD-BLK	Output for Picture Cut off
61	-	NU	Not Used
62	OUT	OSD-B	Blue Output
63	OUT	OSD-G	Green Output
64	OUT	OSD-R	Red Output
65	OUT	A-MUTE	Audio Mute Output
66	OUT	C-F/R	Capstan Motor FWD/REV Control Signal
67	OUT	JACK-MUTE	Earphone Jack Audio Mute Output
68	-	NU	Not Used
69	OUT	DVD-A-MUTE	DVD Audio Mute Signal
70	-	NU	Not Used
71	OUT	SCL	E2PROM/CHROMA IC Tuner Communication Clock
72	IN/OUT	SDA	E2PROM/CHROMA IC Tuner Communication Data
73	-	NU	Not Used
74	IN	C-SYNC	C-Sync Input
75	-	NU	Not Used
76	OUT	C-CONT	Capstan Motor Control Signal
77	OUT	D-CONT	Drum Motor Control Signal
78	IN	P-SAFETY 3	Power Supply Failure Detection 3
79	-	NU	Not Used
80	IN	T-REEL	Take Up Reel Rotation Signal
81	-	NU	Not Used
82	OUT	LD-CONT	Loading Motor Control Signal
83	-	NU	Not Used
84	IN	P-DOWN	Power Voltage Down Detector Signal
85	-	NU	Not Used
86	-	NU	Not Used
87	IN	C-FG	Capstan Motor Rotation Detection Pulse
88	-	GND	GND (AMP)
89	-	NU	Not Used

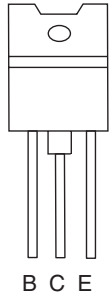
Pin No.	IN/OUT	Signal Name	Function
90	IN	D-PFG	Drum Motor Phase/Frequency Generator
91	-	NU	Not Used
92	OUT	AMP VREF IN	Standard Voltage Input
93	-	C	C
94	IN/OUT	CTL (-)	CTL (-)
95	IN/OUT	CTL (+)	CTL (+)
96	-	AMPC	AMPC
97	OUT	CTL-AMP-OUT	Control Amp Output
98	-	P-ON+5V	Power Supply for AMP
99	-	AL+5V	A/D, D/A Standard Voltage
100	-	NU	Not Used

LEAD IDENTIFICATIONS

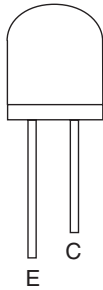
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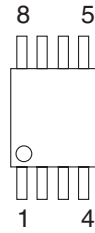
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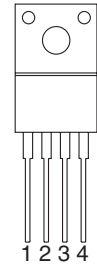
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NJM4558D

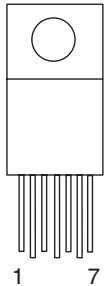
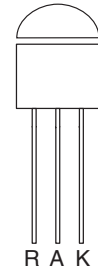


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PQ018EF01SZ

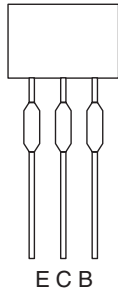


1: Vin
2: Vo
3: GND
4: Vc

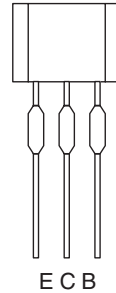
KIA431-AT



LA78041
LA78045



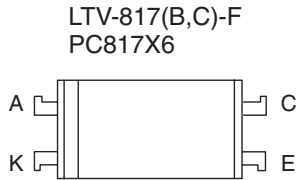
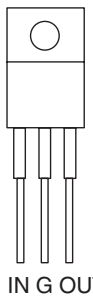
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2SC2120-(O,Y)(TPE2)
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KTC3198(GR)
2SA1015-GR(TPE2)



2SC3331(T,U)
2SC1627Y-TPE2
2SA950(Y,O)
KTA1271(Y)
2SC3400
2SA1175(F)
KTA1267(GR)
KRC103M

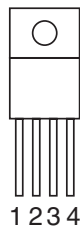
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BA1F4M-T
BN1F4M-T
KRA103M
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2SC3468(E,D)-AE

KIA7805API
KA7805A
AN7805F

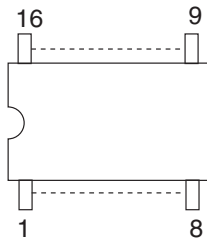


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PC817X6

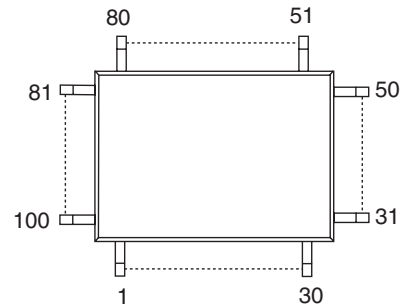
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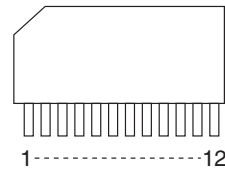
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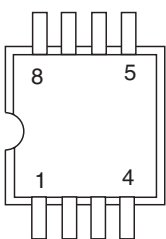
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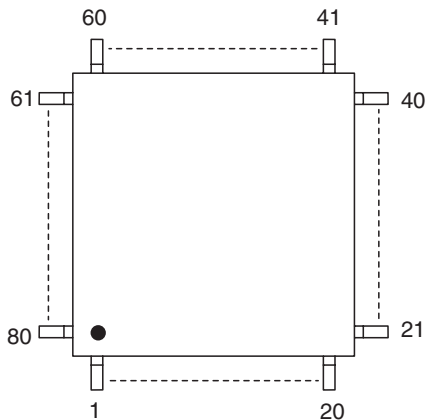
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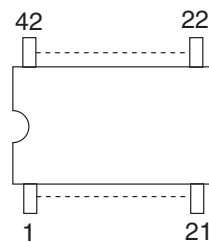
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AT24C02N-10SC
M24C02-MN6
BR24C02F
CAT24WC02JI
M24C02-WMN6



LA72670M




M61275FP
M61275FP-61



Note:

- A: Anode
- K: Cathode
- E: Emitter
- C: Collector
- B: Base
- R: Reference
- S: Source
- G: Gate
- D: Drain

ELECTRICAL PARTS LIST


PRODUCT SAFETY NOTE: Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

To order parts call the TOLL FREE Philips Sales Center number: 1 - 800 - 851 - 8885 (In Canada) 1 - 800 - 363 - PART. 1 - 800 - 535 - 3715 (Fax).


NOTES:

- Parts that are not assigned part numbers (---- or blank) are not normally available.
- “●”=SMD


DVD MAIN CBA UNIT


Ref.		Description	ID No.	Part No.
		DVD MAIN CBA UNIT	N79V0GUP	4835 214 38202

MMA CBA

Ref.		Description	ID No.	Part No.
		MMA CBA Consists of the following:	0ESA05251	----
		MAIN CBA SENSOR CBA	0ESA04524	----

MAIN CBA

Ref.		Description	ID No.	Part No.
		MAIN CBA Consists of the following:	-----	----
CAPACITORS				
C1002		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1003		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKTOB103	----
C1005		ELECTROLYTIC CAP. 47µF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47µF/25V ±20%	CE1EMASTL470	4835 124 47102
C1006		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKTOB103	----
C1007		PCB JUMPER D0.6-P5.0	JW5.0T	----
C1008		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1009		ELECTROLYTIC CAP. 47µF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47µF/25V ±20%	CE1EMASTL470	4835 124 47102
C1010		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKTOB103	----
C1011		CERAMIC CAP.(AX) 100pF/50V ±10% (B)	CCA1JKTOB101	4835 122 47014
C1012		CERAMIC CAP.(AX) 100pF/50V ±10% (B)	CCA1JKTOB101	4835 122 47014
C1207		ELECTROLYTIC CAP. 47µF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47µF/25V ±20%	CE1EMASTL470	4835 124 47102
C1208		ELECTROLYTIC CAP. 47µF/6.3V ±20% H7	CE0KMAVSL470	4835 124 47265
C1209		CERAMIC CAP.(AX) 0.022µF/6V ±30% (Y)	CCA0KNT0Y223	4835 122 47723
C1210		ELECTROLYTIC CAP. 1µF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C1211		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKTOB103	----
C1212		CERAMIC CAP.(AX) 20pF/50V ±5% (CH)	CCA1JITCH200	4835 122 47547
C1213		CERAMIC CAP.(AX) 20pF/50V ±5% (CH)	CCA1JITCH200	4835 122 47547
C1214		ELECTROLYTIC CAP. 47µF/6.3V ±20% H7	CE0KMAVSL470	4835 124 47265

Ref.		Description	ID No.	Part No.
C1216		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKTOB103	----
C1217		CERAMIC CAP.(AX) 10pF/50V ±5% (CH)	CCA1JITCH100	4835 122 47003
C1218		CERAMIC CAP.(AX) 15pF/50V ±5% (CH)	CCA1JITCH150	4835 122 47085
C1219		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKTOB103	----
C1220		ELECTROLYTIC CAP. 47µF/6.3V ±20% H7	CE0KMAVSL470	4835 124 47265
C1221		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKTOB103	----
C1222		CERAMIC CAP.(AX) X M 2200pF/16V	CCA1CMT0X222	4835 122 47727
C1223		ELECTROLYTIC CAP. 1µF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C1224		CERAMIC CAP.(AX) 1000pF/50V ±10% (B)	CCA1JKTOB102	4835 122 47004
C1225		CERAMIC CAP.(AX) 560pF/50V ±10% (B)	CCA1JKTOB561	4835 122 47206
C1226		CERAMIC CAP.(AX) 1000pF/50V ±10% (B)	CCA1JKTOB102	4835 122 47004
C1233		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKTOB103	----
C1235		CERAMIC CAP.(AX) 4700pF/16V ±10% (X)	CCA1CKTOX472	4835 122 47743
C1236		CERAMIC CAP.(AX) 0.047µF/16V +80/-20% (F)	CCA1CZTFZ473	4835 122 47603
C1238		CERAMIC CAP.(AX) 1000pF/50V ±10% (B)	CCA1JKTOB102	4835 122 47004
C1239		ELECTROLYTIC CAP. 22µF/50V ±20% or	CE1JMASDL220	4835 124 47051
		ELECTROLYTIC CAP. 22µF/50V ±20%	CE1JMASTL220	4835 124 47051
C1240		CERAMIC CAP.(AX) 560pF/50V ±10% (B)	CCA1JKTOB561	4835 122 47206
C1241		CERAMIC CAP.(AX) 4700pF/16V ±10% (X)	CCA1CKTOX472	4835 122 47743
C1243		ELECTROLYTIC CAP. 22µF/16V ±20% LL or	CE1CMASLL220	4835 124 47175
		ELECTROLYTIC CAP. 22µF/16V ±20% LL	CE1CMASLH220	4835 124 47175
C1244		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKTOB103	----
C1245		ELECTROLYTIC CAP. 47µF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47µF/25V ±20%	CE1EMASTL470	4835 124 47102
C1246		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKTOB103	----
C1247		ELECTROLYTIC CAP. 22µF/50V ±20% or	CE1JMASDL220	4835 124 47051
		ELECTROLYTIC CAP. 22µF/50V ±20%	CE1JMASTL220	4835 124 47051
C1252		ELECTROLYTIC CAP. 100µF/16V ±20% or	CE1CMASDL101	4835 124 47033
		ELECTROLYTIC CAP. 100µF/16V ±20%	CE1CMASL101	4835 124 47033
C1253		ELECTROLYTIC CAP. 100µF/10V ±20% or	CE1AMASDL101	4835 124 47323
		ELECTROLYTIC CAP. 100µF/10V ±20%	CE1AMASTL101	4835 124 47323
C1254		ELECTROLYTIC CAP. 47µF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47µF/25V ±20%	CE1EMASTL470	4835 124 47102
C1260		CERAMIC CAP.(AX) 1000pF/50V ±10% (B)	CCA1JKTOB102	4835 122 47004
C1301		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKTOB103	----
C1309		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1311		ELECTROLYTIC CAP. 470µF/10V ±20% or	CE1AMASDL471	4835 124 47286
		ELECTROLYTIC CAP. 470µF/10V ±20%	CE1AMASTL471	4835 124 47286
C1314		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKTOB103	----
C1316		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1317		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKTOB103	----
C1318		ELECTROLYTIC CAP. 100µF/6.3V ±20% or	CE0KMASDL101	4835 124 47165
		ELECTROLYTIC CAP. 100µF/6.3V ±20%	CE0KMASTL101	4835 124 47263
C1319		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1321		ELECTROLYTIC CAP. 330µF/6.3V ±20% or	CE0KMASDL331	4835 124 47153
		ELECTROLYTIC CAP. 330µF/6.3V ±20%	CE0KMASTL331	4835 124 47131
C1322		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKTOB103	----
C1323		ELECTROLYTIC CAP. 10µF/50V ±20% or	CE1JMASDL100	4835 124 47202
		ELECTROLYTIC CAP. 10µF/50V ±20%	CE1JMASTL100	4835 124 47037
C1325		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1327		ELECTROLYTIC CAP. 100µF/10V ±20% or	CE1AMASDL101	4835 124 47323
		ELECTROLYTIC CAP. 100µF/10V ±20%	CE1AMASTL101	4835 124 47323
C1330		CERAMIC CAP.(AX) 0.1µF/50V +80/-20% (F)	CCA1JZTFZ104	4835 122 47731
C1331		ELECTROLYTIC CAP. 220µF/10V ±20% or	CE1AMASDL221	4835 124 47099
		ELECTROLYTIC CAP. 220µF/10V ±20%	CE1AMASTL221	4835 124 97065

Ref.	▲	Description	ID No.	Part No.
C1332		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1333		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1336		TF CAP. 0.47µF/50V ±5% or	CT1J474MS045	4835 124 47764
		FILM CAP. 0.47µF/50V ±5%	122Z317S	4835 121 47721
C1337		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	---
C1338		ELECTROLYTIC CAP. 2.2µF/50V ±20% or	CE1JMASDL2R2	4835 124 47086
		ELECTROLYTIC CAP. 2.2µF/50V ±20%	CE1JMASTL2R2	4835 124 47049
C1339		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	---
C1342		ELECTROLYTIC CAP. 470µF/10V ±20% or	CE1AMASDL471	4835 124 47286
		ELECTROLYTIC CAP. 470µF/10V ±20%	CE1AMASTL471	4835 124 47286
C1343		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	---
C1344		CERAMIC CAP.(AX) 68pF/50V ±5% (SL)	CCA1JUTSL680	4835 122 47217
C1345		CERAMIC CAP.(AX) 68pF/50V ±5% (SL)	CCA1JUTSL680	4835 122 47217
C1346		CERAMIC CAP.(AX) 68pF/50V ±5% (SL)	CCA1JUTSL680	4835 122 47217
C1394		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1410		ELECTROLYTIC CAP. 1µF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C1411		ELECTROLYTIC CAP. 100µF/6.3V H7	CE0KMAVSL101	4835 124 47127
C1412		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	---
C1413		CERAMIC CAP.(AX) 390pF/50V ±10% (B)	CCA1JKT0B391	4835 122 47041
C1414		ELECTROLYTIC CAP. 1µF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C1416		CERAMIC CAP.(AX) 180pF/50V ±10% (B)	CCA1JKT0B181	4835 122 17015
C1417		CERAMIC CAP.(AX) 22pF/50V ±5% (SL)	CCA1JUTSL220	4835 122 37016
C1418		PCB JUMPER D0.6-P5.0	JW5.0T	---
C1419		ELECTROLYTIC CAP. 0.1µF/50V ±20% H7	CE1JMAVSLR10	4835 124 47048
C1420		ELECTROLYTIC CAP. 22µF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
C1421		ELECTROLYTIC CAP. 4.7µF/50V ±20% H7	CE1JMAVSL4R7	4835 124 97061
C1423		ELECTROLYTIC CAP. 10µF/50V ±20% H7	CE1JMAVSL100	4835 124 47037
C1424		ELECTROLYTIC CAP. 1µF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C1425		ELECTROLYTIC CAP. 1µF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C1426		ELECTROLYTIC CAP. 22µF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
C1427		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	---
C1428		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	---
C1429		ELECTROLYTIC CAP. 47µF/6.3V ±20% H7	CE0KMAVSL470	4835 124 47265
C1430		CERAMIC CAP.(AX) 0.022µF/25V +80/-20% (F)	CCA1EZTFZ223	4835 122 47736
C1431		ELECTROLYTIC CAP. 1µF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C1434		ELECTROLYTIC CAP. 1µF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C1435		ELECTROLYTIC CAP. 2.2µF/50V ±20% H7	CE1JMAVSL2R2	4835 124 47049
C1436		CERAMIC CAP.(AX) XM 3900pF/16V	CCA1CMT0X392	4835 122 47677
C1437		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	---
C1438		ELECTROLYTIC CAP. 1µF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C1439		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	---
C1440		ELECTROLYTIC CAP. 1µF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C1441		ELECTROLYTIC CAP. 1µF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C1442		CERAMIC CAP.(AX) 0.047µF/50V ±10% (B)	CA1J473TU011	4835 122 47083
C1443		CERAMIC CAP.(AX) 0.047µF/50V ±10% (B)	CA1J473TU011	4835 122 47083
C1444		ELECTROLYTIC CAP. 22µF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
C1445		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	---
C1446		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1447		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	---
C1449		CERAMIC CAP.(AX) 0.1µF/50V +80/-20% (F)	CCA1JZTFZ104	4835 122 47731
C1452		CERAMIC CAP.(AX) 0.022µF/25V +80/-20% (F)	CCA1EZTFZ223	4835 122 47736
C1627		ELECTROLYTIC CAP. 22µF/50V ±20% or	CE1JMASDL220	4835 124 47051
		ELECTROLYTIC CAP. 22µF/50V ±20%	CE1JMASTL220	4835 124 47051
C1628		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1629		ELECTROLYTIC CAP. 47µF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47µF/25V ±20%	CE1EMASTL470	4835 124 47102

Ref.	▲	Description	ID No.	Part No.
C1631		ELECTROLYTIC CAP. 220µF/16V ±20% or	CE1CMASDL221	4835 124 47209
		ELECTROLYTIC CAP. 220µF/16V ±20%	CE1CMASTL221	4835 124 47081
C1634		ELECTROLYTIC CAP. 100µF/16V ±20% or	CE1CMASDL101	4835 124 47033
		ELECTROLYTIC CAP. 100µF/16V ±20%	CE1CMASTL101	4835 124 47033
C1635		ELECTROLYTIC CAP. 47µF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47µF/25V ±20%	CE1EMASTL470	4835 124 47102
C1636		CERAMIC CAP.(AX) 0.1µF/50V +80/-20% (F)	CCA1JZTFZ104	4835 122 47731
C1701		ELECTROLYTIC CAP. 47µF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47µF/25V ±20%	CE1EMASTL470	4835 124 47102
C1722		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1732		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1747		ELECTROLYTIC CAP. 4.7µF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7µF/50V ±20%	CE1JMASTL4R7	4835 124 47506
C1748		CERAMIC CAP.(AX) 0.033µF/50V ±10% (B)	CA1J333TU011	4822 121 42772
C1749		CERAMIC CAP.(AX) 0.1µF/50V +80/-20% (F)	CCA1JZTFZ104	4835 122 47731
C1751		ELECTROLYTIC CAP. 47µF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47µF/25V ±20%	CE1EMASTL470	4835 124 47102
C1752		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1753		ELECTROLYTIC CAP. 10µF/50V ±20% or	CE1JMASDL100	4835 124 47202
		ELECTROLYTIC CAP. 10µF/50V ±20%	CE1JMASTL100	4835 124 47037
C1754		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1755		ELECTROLYTIC CAP. 22µF/50V ±20% or	CE1JMASDL220	4835 124 47051
		ELECTROLYTIC CAP. 22µF/50V ±20%	CE1JMASTL220	4835 124 47051
C1756		ELECTROLYTIC CAP. 10µF/50V ±20% or	CE1JMASDL100	4835 124 47202
		ELECTROLYTIC CAP. 10µF/50V ±20%	CE1JMASTL100	4835 124 47037
C1757		ELECTROLYTIC CAP. 4.7µF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7µF/50V ±20%	CE1JMASTL4R7	4835 124 47506
C1758		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	---
C1759		ELECTROLYTIC CAP. 22µF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
C1760		CERAMIC CAP.(AX) 4700pF/16V ±10% (X)	CCA1CKT0X472	4835 122 47743
C1761		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	---
C1762		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	---
C1763		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	---
C1764		ELECTROLYTIC CAP. 220µF/6.3V ±20% or	CE0KMASDL221	4835 124 47168
		ELECTROLYTIC CAP. 220µF/6.3V ±20%	CE0KMASTL221	4835 124 47168
C1765		CERAMIC CAP.(AX) 0.022µF/25V +80/-20% (F)	CCA1EZTFZ223	4835 122 47736
C1766		ELECTROLYTIC CAP. 2.2µF/50V ±20% or	CE1JMASDL2R2	4835 124 47086
		ELECTROLYTIC CAP. 2.2µF/50V ±20%	CE1JMASTL2R2	4835 124 47049
C1767		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	---
C1768		ELECTROLYTIC CAP. 10µF/50V ±20% or	CE1JMASDL100	4835 124 47202
		ELECTROLYTIC CAP. 10µF/50V ±20%	CE1JMASTL100	4835 124 47037
C1769		ELECTROLYTIC CAP. 22µF/50V ±20% or	CE1JMASDL220	4835 124 47051
		ELECTROLYTIC CAP. 22µF/50V ±20%	CE1JMASTL220	4835 124 47051
C1770		CERAMIC CAP.(AX) 4700pF/16V ±10% (X)	CCA1CKT0X472	4835 122 47743
C1771		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	---
C1772		ELECTROLYTIC CAP. 4.7µF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7µF/50V ±20%	CE1JMASTL4R7	4835 124 47506
C1773		ELECTROLYTIC CAP. 10µF/50V ±20% or	CE1JMASDL100	4835 124 47202
		ELECTROLYTIC CAP. 10µF/50V ±20%	CE1JMASTL100	4835 124 47037
C1774		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1775		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1776		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014

Ref.	▲	Description	ID No.	Part No.
C1777		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASTL1R0	4835 124 47014
C1778		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	---- -- ----
C1779		ELECTROLYTIC CAP. 2.2µF/50V ±20% or	CE1JMASDL2R2	4835 124 47086
		ELECTROLYTIC CAP. 2.2µF/50V ±20% or	CE1JMASTL2R2	4835 124 47049
C1780		ELECTROLYTIC CAP. 4.7µF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7µF/50V ±20%	CE1JMASTL4R7	4835 124 47506
C1781		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1782		ELECTROLYTIC CAP. 4.7µF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7µF/50V ±20%	CE1JMASTL4R7	4835 124 47506
C1783		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1784		CERAMIC CAP.(AX) 0.1µF/50V +80/-20% (F)	CCA1JZTFZ104	4835 122 47731
C1786		ELECTROLYTIC CAP. 4.7µF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7µF/50V ±20%	CE1JMASTL4R7	4835 124 47506
C1787		ELECTROLYTIC CAP. 22µF/50V ±20% or	CE1JMASDL220	4835 124 47051
		ELECTROLYTIC CAP. 22µF/50V ±20%	CE1JMASTL220	4835 124 47051
C1788		ELECTROLYTIC CAP. 4.7µF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7µF/50V ±20%	CE1JMASTL4R7	4835 124 47506
C1789		ELECTROLYTIC CAP. 22µF/50V ±20% or	CE1JMASDL220	4835 124 47051
		ELECTROLYTIC CAP. 22µF/50V ±20%	CE1JMASTL220	4835 124 47051
C1790		ELECTROLYTIC CAP. 4.7µF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7µF/50V ±20%	CE1JMASTL4R7	4835 124 47506
C1791		ELECTROLYTIC CAP. 4.7µF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7µF/50V ±20%	CE1JMASTL4R7	4835 124 47506
C1792		ELECTROLYTIC CAP. 4.7µF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7µF/50V ±20%	CE1JMASTL4R7	4835 124 47506
C1793		ELECTROLYTIC CAP. 4.7µF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7µF/50V ±20%	CE1JMASTL4R7	4835 124 47506
C1794		ELECTROLYTIC CAP. 10µF/50V ±20% or	CE1JMASDL100	4835 124 47202
		ELECTROLYTIC CAP. 10µF/50V ±20%	CE1JMASTL100	4835 124 47037
C1795		ELECTROLYTIC CAP. 4.7µF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7µF/50V ±20%	CE1JMASTL4R7	4835 124 47506
C1797		ELECTROLYTIC CAP. 100µF/16V ±20% or	CE1CMASDL101	4835 124 47033
		ELECTROLYTIC CAP. 100µF/16V ±20%	CE1CMASTL101	4835 124 47033
C1798		ELECTROLYTIC CAP. 100µF/6.3V ±20% or	CE0KMASDL101	4835 124 47165
		ELECTROLYTIC CAP. 100µF/6.3V ±20%	CE0KMASTL101	4835 124 47263
C1800		CERAMIC CAP.(AX) 0.1µF/50V +80/-20% (F)	CCA1JZTFZ104	4835 122 47731
C1802		ELECTROLYTIC CAP. 22µF/50V ±20% or	CE1JMASDL220	4835 124 47051
		ELECTROLYTIC CAP. 22µF/50V ±20%	CE1JMASTL220	4835 124 47051
C1803		PCB JUMPER D0.6-P5.0	JW5.0T	---- -- ----
C1804		ELECTROLYTIC CAP. 100µF/16V ±20% or	CE1CMASDL101	4835 124 47033
		ELECTROLYTIC CAP. 100µF/16V ±20%	CE1CMASTL101	4835 124 47033
C1805		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1806		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C1807		CERAMIC CAP.(AX) 560pF/50V ±10% (B)	CCA1JKT0B561	4835 122 47206
C1808		CERAMIC CAP.(AX) 560pF/50V ±10% (B)	CCA1JKT0B561	4835 122 47206
C1809		ELECTROLYTIC CAP. 10µF/50V ±20% or	CE1JMASDL100	4835 124 47202
		ELECTROLYTIC CAP. 10µF/50V ±20%	CE1JMASTL100	4835 124 47037
C1810		ELECTROLYTIC CAP. 10µF/50V ±20% or	CE1JMASDL100	4835 124 47202
		ELECTROLYTIC CAP. 10µF/50V ±20%	CE1JMASTL100	4835 124 47037
C1812		ELECTROLYTIC CAP. 1000µF/16V ±20% or	CE1CMZPDL102	4835 124 47005
		ELECTROLYTIC CAP. 1000µF/16V ±20%(VRHC)	CE1CMZNTL102	4835 124 47005
C1814		ELECTROLYTIC CAP. 330µF/16V ±20% or	CE1CMASDL331	4835 124 47008
		ELECTROLYTIC CAP. 330µF/16V ±20%	CE1CMASTL331	4835 124 47409
C1815		ELECTROLYTIC CAP. 10µF/50V ±20% or	CE1JMASDL100	4835 124 47202
		ELECTROLYTIC CAP. 10µF/50V ±20%	CE1JMASTL100	4835 124 47037
C1816		ELECTROLYTIC CAP. 330µF/16V ±20% or	CE1CMASDL331	4835 124 47008

Ref.	▲	Description	ID No.	Part No.
		ELECTROLYTIC CAP. 330µF/16V ±20%	CE1CMASTL331	4835 124 47409
C1823		ELECTROLYTIC CAP. 10µF/50V ±20% or	CE1JMASDL100	4835 124 47202
		ELECTROLYTIC CAP. 10µF/50V ±20%	CE1JMASTL100	4835 124 47037
C1824		ELECTROLYTIC CAP. 10µF/50V ±20% or	CE1JMASDL100	4835 124 47202
		ELECTROLYTIC CAP. 10µF/50V ±20%	CE1JMASTL100	4835 124 47037
C1825		CERAMIC CAP.(AX) 0.022µF/25V +80/-20% (F)	CCA1EZTFZ223	4835 122 47736
C1826		ELECTROLYTIC CAP. 470µF/16V ±20% or	CE1CMASDL471	4835 124 47286
		ELECTROLYTIC CAP. 470µF/16V ±20%	CE1CMASTL471	4835 220 17118
C1854		ELECTROLYTIC CAP. 22µF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
C1856		CERAMIC CAP.(AX) 0.1µF/50V +80/-20% (F)	CCA1JZTFZ104	4835 122 47731
C1857		ELECTROLYTIC CAP. 33µF/6.3V ±20% H7	CE0KMAVSL330	4835 124 47169
C1858		ELECTROLYTIC CAP. 4.7µF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7µF/50V ±20%	CE1JMASTL4R7	4835 124 47506
C1859		CERAMIC CAP.(AX) 0.1µF/50V +80/-20% (F)	CCA1JZTFZ104	4835 122 47731
C1860		CERAMIC CAP.(AX) 1000pF/50V ±10% (B)	CCA1JKT0B102	4835 122 47004
C1862		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	---- -- ----
C1863		ELECTROLYTIC CAP. 4.7µF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7µF/50V ±20%	CE1JMASTL4R7	4835 124 47506
C1865		CERAMIC CAP.(AX) 1200pF/16V ±10% (X)	CCA1CKTOX122	4835 122 47739
C1866		CERAMIC CAP.(AX) 2700pF/16V ±10% (X)	CCA1CKTOX272	4835 122 47728
C1872		ELECTROLYTIC CAP. 47µF/25V ±20% H7	CE1EMAVSL470	4835 124 47084
C1873		ELECTROLYTIC CAP. 100µF/16V ±20% or	CE1CMASDL101	4835 124 47033
		ELECTROLYTIC CAP. 100µF/16V ±20%	CE1CMASTL101	4835 124 47033
C1874		CERAMIC CAP. 470pF/100V ±10% (B) or	CCD2AKS0B471	4835 122 47691
		CERAMIC CAP. 470pF/500V ±10% (B)	CCD2JKS0B471	4835 122 47211
C1875		FILM CAP.(P) 0.018µF/100V ±5% or	CMA2AJS00183	4835 121 47665
		FILM CAP.(P) 0.018µF/50V ±5%	CA1J183MS029	4822 121 42701
CONNECTORS				
CN1301		CONNECTOR BASE 12P TUC-P12P-B1	J3TUA12TG001	---- -- ----
CN1802		STRAIGHT CONNECTOR BASE 00 8283 0212 00 000 or	J383C02UG002	---- -- ----
		STRAIGHT PIN HEADER, 2P 173981-2	1770258	---- -- ----
CN1803		TWG CONNECTOR 19P TWG-P19X	JCTWA19TG001	---- -- ----
CN1804		TWG CONNECTOR 19P TWG-P19X	JCTWA19TG001	---- -- ----
CN1805		TWG CONNECTOR 07P TWG-P07P-A1	J3TWA07TG001	---- -- ----
DIODES				
D1201		ZENER DIODE MTZJF-776.2B or	QDTB0MTZJ6R2	4835 130 37593
		ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS	4835 130 38039
D1203		ZENER DIODE MTZJF-776.2B or	QDTB0MTZJ6R2	4835 130 37593
		ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS	4835 130 38039
D1204		LED LTL-4214M1 or	NPQZLTL4214M	4835 130 87149
		LED(RED)L-FORMING LT1814G-81-FL or	NP4ZOLT1814G	4835 130 87149
		LED L-53HT or	NP4Z00L53HT	4835 130 87144
		LED LAMP 333HT/F45-50K or	NPWK333HTF45	4835 130 87149
		LED LAMP 333HT/F45-50L or	NPWL333HTF45	4835 130 87149
		LED LAMP 333HT/F45-50M	NPWM333HTF45	4835 130 87149
D1205		ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2	4835 130 37593
		ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS	4835 130 38039
D1206		ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2	4835 130 37593
		ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS	4835 130 38039
D1207		SWITCHING DIODE 1SS133(F-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D1208		ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2	4835 130 37593
		ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS	4835 130 38039
D1210		ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2	4835 130 37593
		ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS	4835 130 38039
D1213		ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2	4835 130 37593
		ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS	4835 130 38039
D1216		LED LAMP 333GT/F45-50 or	NPWZ33GT4550	4835 130 87165
		LED(GREEN) LTL-4234M1	NPZZLTL4234	4835 130 87165
D1217		LED LTL-4214M1 or	NPQZLTL4214M	4835 130 87149
		LED(RED)L-FORMING LT1814G-81-FL or	NP4ZOLT1814G	4835 130 87149
		LED L-53HT or	NP4Z00L53HT	4835 130 87144
		LED LAMP 333HT/F45-50K or	NPWK333HTF45	4835 130 87149
		LED LAMP 333HT/F45-50L or	NPWL333HTF45	4835 130 87149
		LED LAMP 333HT/F45-50M	NPWM333HTF45	4835 130 87149

Ref.	▲	Description	ID No.	Part No.
D1219		ZENER DIODE MTZJT-776.2B or ZENER DIODE DZ-6.2BSBT265	QDTB0MTZJ6R2 NDTB0DZ6R2BS	4835 130 37593 4835 130 38039
D1224		LED SIR-563ST3F P or LED SIR-563ST3F Q	QPQPS1R563ST QPQSS1R563ST	4835 130 87163 4835 130 87162
D1227		PCB JUMPER D0.6-P5.0	JW5.0T	-----
D1229		ZENER DIODE MTZJT-7715B or ZENER DIODE DZ-15BSBT265	QDTB00MTZJ15 NDTB00DZ15BS	4835 130 37604 4835 130 38029
D1230		ZENER DIODE MTZJT-7715B or ZENER DIODE DZ-15BSBT265	QDTB00MTZJ15 NDTB00DZ15BS	4835 130 37604 4835 130 38029
D1231		ZENER DIODE MTZJT-7718A or ZENER DIODE DZ-18BSAT265	QDTA00MTZJ18 NDTA00DZ18BS	4835 130 37784 4835 130 38031
D1302		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1303		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1304		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1305		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1306		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1307		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1308		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1309		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1311		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1318		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1351		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1352		ZENER DIODE MTZJT-779.1B or ZENER DIODE DZ-9.1BSBT265	QDTB0MTZJ9R1 NDTB0DZ9R1BS	4835 130 37506 4835 130 38028
D1401		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1632		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1633		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1635	▲	SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1638	▲	SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1640	▲	SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1801	▲	SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1806		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1807		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1964	▲	SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D1965	▲	ZENER DIODE MTZJT-776.2B or ZENER DIODE DZ-6.2BSBT265	QDTB0MTZJ6R2 NDTB0DZ6R2BS	4835 130 37593 4835 130 38039
ICS				
IC1201		IC, SERVO/SYSTEM CONTROL/TV/OSD/ TIMER MICROCONTROLLER M37762MCA-BA4GP	QSZAA0RMB169	4835 209 17682
IC1202		IC, MEMORY BR24C02F-W or IC, MEMORY AT24C02N-10SC or IC, MEMORY (EEPROM) M24C02-MN6 or IC, MEMORY BR24C02F or IC, MEMORY EEPROM CAT24WC02Jl or IC, MEMORY (EEP-ROM) M24C02-WMN6	QSMBA0SRM003 NSMMA0SAZ012 NSMMA0SS028 QSMMA0SRM003 NSZBA0SBG001 NSZAA0SSS004	4835 209 47446 4835 209 47434 4835 209 47434 4835 209 47446 4835 209 47596 4835 209 47609

Ref.	▲	Description	ID No.	Part No.
IC1301		IC, CHROMA/DEFLECTION SIGNAL PRO- CESS M61275FP or IC, CHROMA/DEFLECTION SIGNAL PRO- CESS M61275FP-61	QSZAA0RMB133 QSZAB0RMB133	4835 209 47607 4835 209 17683
IC1401		IC, VIDEO/AUDIO SIGNAL PROCESS LA71091M	QSZBA0RSY012	4835 209 47583
IC1602	▲	IC, +5V REGULATOR KIA7805API or IC, +5V REGULATOR KA7805A or IC, +5V REGULATOR AN7805F	NSBBA0SJY011 NSZBA0SF3052 AN7805F	4835 209 47498 4835 209 47592 4835 209 87259
IC1751		IC, MTS/SAP/HI-FI AUDIO PROCESS/HI-FI HEAD AMP LA72670M	QSZBA0RSY034	4835 209 47614
IC1801		IC, AUDIO AMP AN17805A	QSZBA0SMS007	4835 209 47601
IC1802		IC, OUTPUT SELECT TC4053BF(N) or IC, OUTPUT SELECT CD4053BCSJX	QSMBASTS002 NSZBA0TF3071	4835 209 47549 4835 209 47611
COILS				
L1001		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L1002		INDUCTOR 47µH-J-26T or INDUCTOR 47µH-K-26T	LLAXJATTU470 LLAXKDTKA470	4835 157 58271 4835 157 57375
L1202		INDUCTOR 1.0µH-J-26T or INDUCTOR 1.0µH-K-26T	LLAXJATTU010 LLAXKDTKA1R0	4835 157 58144 4835 157 58144
L1203		MICRO INDUCTOR 0.22UH	LLARKBSTUP22	4835 157 58278
L1211		CHOKE COIL 47µH-K or CHOKE COIL 47µH-K	LLBD00PKV007 LLBD00PKV005	4835 157 58208 4835 157 58208
L1302		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L1402		INDUCTOR 22µH-J-26T or INDUCTOR 22µH-K-26T	LLAXJATTU220 LLAXKDTKA220	4835 157 57641 4835 157 57641
L1403		CHOKE COIL 47µH-K or CHOKE COIL 47µH-K	LLBD00PKV007 LLBD00PKV005	4835 157 58208 4835 157 58208
L1404		CHOKE COIL 47µH-K or CHOKE COIL 47µH-K	LLBD00PKV007 LLBD00PKV005	4835 157 58208 4835 157 58208
L1405		INDUCTOR 47µH-J-26T or INDUCTOR 47µH-K-26T	LLAXJATTU470 LLAXKDTKA470	4835 157 58271 4835 157 57375
L1751		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L1752		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L1802		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L1803		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L1804		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L1806		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L1807		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L1871		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L1872		INDUCTOR 47µH-K-5FT or INDUCTOR 47µH-K-5FT	LLARKBSTU470 LLARKDSKA470	4835 157 57375 4835 157 57375
TRANSISTORS				
Q1010		BUFFER 2SC2785(F) "NPN" or BUFFER 2SC2785(H) "NPN" or BUFFER 2SC2785(J) "NPN" or BUFFER KTC3199(GR) "NPN" or BUFFER KTC3198(GR) "NPN" or BUFFER 2SC1815-GR(TPE2) "NPN"	QQSF02SC2785 QQSH02SC2785 QQSJ02SC2785 NQS10KTC3199 NQS40KTC3198 QQS102SC1815	4835 130 47722 4835 130 47722 4835 130 47722 4835 130 47914 4835 130 47946 4835 130 47358
Q1205		RESET 2SC2785(F) "NPN" or RESET 2SC2785(H) "NPN" or RESET 2SC2785(J) "NPN" or RESET KTC3199(GR) "NPN" or RESET KTC3198(GR) "NPN" or RESET 2SC1815-GR(TPE2) "NPN"	QQSF02SC2785 QQSH02SC2785 QQSJ02SC2785 NQS10KTC3199 NQS40KTC3198 QQS102SC1815	4835 130 47722 4835 130 47722 4835 130 47722 4835 130 47914 4835 130 47946 4835 130 47358
Q1206		T-REEL MID-32A22	NPWZM1D32A22	4835 130 48231
Q1207		REC LED DRIVE 2SC2785(F) "NPN" or REC LED DRIVE 2SC2785(H) "NPN" or REC LED DRIVE 2SC2785(J) "NPN" or REC LED DRIVE KTC3199(GR) "NPN" or REC LED DRIVE KTC3198(GR) "NPN" or REC LED DRIVE 2SC1815-GR(TPE2) "NPN"	QQSF02SC2785 QQSH02SC2785 QQSJ02SC2785 NQS10KTC3199 NQS40KTC3198 QQS102SC1815	4835 130 47722 4835 130 47722 4835 130 47722 4835 130 47914 4835 130 47946 4835 130 47358
Q1210		TV/VCR LED DRIVE 2SC2785(F) "NPN" or TV/VCR LED DRIVE 2SC2785(H) "NPN" or TV/VCR LED DRIVE 2SC2785(J) "NPN" or TV/VCR LED DRIVE KTC3199(GR) "NPN" or	QQSF02SC2785 QQSH02SC2785 QQSJ02SC2785 NQS10KTC3199	4835 130 47722 4835 130 47722 4835 130 47722 4835 130 47914

Ref.	▲	Description	ID No.	Part No.
R1808		CARBON RES. 1/4W 33k Ω ±5% or CARBON RES. 1/6W 33k Ω ±5%	RCX4JATZ0333 RCX6JATZ0333	4835 110 57211 4835 110 57211
R1809		CARBON RES. 1/4W 33k Ω ±5% or CARBON RES. 1/6W 33k Ω ±5%	RCX4JATZ0333 RCX6JATZ0333	4835 110 57211 4835 110 57211
R1814	▲	METAL OXIDE FILM RES. 2W 3.9 Ω ±5% or ▲ METAL OXIDE FILM RES. 2W 3.9 Ω ±5%	RN023R9ZU001 RN023R9DP004	4835 116 57794 4835 116 57794
R1815		CARBON RES. 1/4W 10k Ω ±5% or CARBON RES. 1/6W 10k Ω ±5%	RCX4JATZ0103 RCX6JATZ0103	4835 110 57026 4835 111 37163
R1816		CARBON RES. 1/4W 8.2k Ω ±5% or CARBON RES. 1/6W 8.2k Ω ±5%	RCX4JATZ0822 RCX6JATZ0822	4835 110 57264 4835 111 37209
R1820		CARBON RES. 1/4W 47k Ω ±5% or CARBON RES. 1/6W 47k Ω ±5%	RCX4JATZ0473 RCX6JATZ0473	4835 110 57189 4835 110 57189
R1821		CARBON RES. 1/4W 47k Ω ±5% or CARBON RES. 1/6W 47k Ω ±5%	RCX4JATZ0473 RCX6JATZ0473	4835 110 57189 4835 110 57189
R1822		CARBON RES. 1/4W 47k Ω ±5% or CARBON RES. 1/6W 47k Ω ±5%	RCX4JATZ0473 RCX6JATZ0473	4835 110 57189 4835 110 57189
R1823		CARBON RES. 1/4W 47k Ω ±5% or CARBON RES. 1/6W 47k Ω ±5%	RCX4JATZ0473 RCX6JATZ0473	4835 110 57189 4835 110 57189
R1824		CARBON RES. 1/4W 47k Ω ±5% or CARBON RES. 1/6W 47k Ω ±5%	RCX4JATZ0473 RCX6JATZ0473	4835 110 57189 4835 110 57189
R1825		CARBON RES. 1/4W 47k Ω ±5% or CARBON RES. 1/6W 47k Ω ±5%	RCX4JATZ0473 RCX6JATZ0473	4835 110 57189 4835 110 57189
R1826		CARBON RES. 1/4W 47k Ω ±5% or CARBON RES. 1/6W 47k Ω ±5%	RCX4JATZ0473 RCX6JATZ0473	4835 110 57189 4835 110 57189
R1827		CARBON RES. 1/4W 47k Ω ±5% or CARBON RES. 1/6W 47k Ω ±5%	RCX4JATZ0473 RCX6JATZ0473	4835 110 57189 4835 110 57189
R1828		CARBON RES. 1/4W 47k Ω ±5% or CARBON RES. 1/6W 47k Ω ±5%	RCX4JATZ0473 RCX6JATZ0473	4835 110 57189 4835 110 57189
R1829		CARBON RES. 1/4W 47k Ω ±5% or CARBON RES. 1/6W 47k Ω ±5%	RCX4JATZ0473 RCX6JATZ0473	4835 110 57189 4835 110 57189
R1853		CARBON RES. 1/4W 2.2M Ω ±5% or CARBON RES. 1/6W 2.2M Ω ±5%	RCX4JATZ0225 RCX6JATZ0225	4835 110 57039 4835 110 57039
R1856		CARBON RES. 1/4W 12k Ω ±5% or CARBON RES. 1/6W 12k Ω ±5%	RCX4JATZ0123 RCX6JATZ0123	4835 110 57282 4835 111 37166
R1857		CARBON RES. 1/4W 8.2k Ω ±5% or CARBON RES. 1/6W 8.2k Ω ±5%	RCX4JATZ0822 RCX6JATZ0822	4835 110 57264 4835 111 37209
R1858		CARBON RES. 1/4W 6.8k Ω ±5% or CARBON RES. 1/6W 6.8k Ω ±5%	RCX4JATZ0682 RCX6JATZ0682	4835 110 57193 4835 111 37311
R1859		CARBON RES. 1/4W 4.7k Ω ±5% or CARBON RES. 1/6W 4.7k Ω ±5%	RCX4JATZ0472 RCX6JATZ0472	4835 110 57051 4835 111 37194
R1861		CARBON RES. 1/4W 6.8k Ω ±5% or CARBON RES. 1/6W 6.8k Ω ±5%	RCX4JATZ0682 RCX6JATZ0682	4835 110 57193 4835 111 37311
R1862		CARBON RES. 1/4W 2.7k Ω ±5% or CARBON RES. 1/6W 2.7k Ω ±5%	RCX4JATZ0272 RCX6JATZ0272	4835 110 57006 4835 111 37181
R1863		CARBON RES. 1/4W 10k Ω ±5% or CARBON RES. 1/6W 10k Ω ±5%	RCX4JATZ0103 RCX6JATZ0103	4835 110 57026 4835 111 37163
R1864		CARBON RES. 1/4W 8.2k Ω ±5% or CARBON RES. 1/6W 8.2k Ω ±5%	RCX4JATZ0822 RCX6JATZ0822	4835 110 57264 4835 111 37209
R1865		CARBON RES. 1/4W 12k Ω ±5% or CARBON RES. 1/6W 12k Ω ±5%	RCX4JATZ0123 RCX6JATZ0123	4835 110 57282 4835 111 37166
R1866		CARBON RES. 1/4W 330k Ω ±5% or CARBON RES. 1/6W 330k Ω ±5%	RCX4JATZ0334 RCX6JATZ0334	4835 110 57197 4835 111 37213
R1867		CARBON RES. 1/4W 220 Ω ±5% or CARBON RES. 1/6W 220 Ω ±5%	RCX4JATZ0221 RCX6JATZ0221	4835 110 57037 4835 111 37175
R1868		CARBON RES. 1/4W 18k Ω ±5% or CARBON RES. 1/6W 18k Ω ±5%	RCX4JATZ0183 RCX6JATZ0183	4835 110 57034 4835 110 57187
R1869		CARBON RES. 1/4W 820 Ω ±5% or CARBON RES. 1/6W 820 Ω ±5%	RCX4JATZ0821 RCX6JATZ0821	4835 110 57059 4835 110 57059
R1871		CARBON RES. 1/4W 1k Ω ±5% or CARBON RES. 1/6W 1k Ω ±5%	RCX4JATZ0102 RCX6JATZ0102	4835 110 57025 4835 111 37162
R1872		CARBON RES. 1/4W 22k Ω ±5% or CARBON RES. 1/6W 22k Ω ±5%	RCX4JATZ0223 RCX6JATZ0223	4835 110 57038 4835 111 37177
R1873		CARBON RES. 1/4W 18k Ω ±5% or CARBON RES. 1/6W 18k Ω ±5%	RCX4JATZ0183 RCX6JATZ0183	4835 110 57034 4835 110 57034
R1874		CARBON RES. 1/4W 100 Ω ±5% or CARBON RES. 1/6W 100 Ω ±5%	RCX4JATZ0101 RCX6JATZ0101	4835 110 57003 4835 111 37161
R1875		CARBON RES. 1/4W 2.2k Ω ±5% or CARBON RES. 1/6W 2.2k Ω ±5%	RCX4JATZ0222 RCX6JATZ0222	4835 110 57079 4835 111 37176

Ref.	▲	Description	ID No.	Part No.
R1876		CARBON RES. 1/4W 2.2k Ω ±5% or CARBON RES. 1/6W 2.2k Ω ±5%	RCX4JATZ0222 RCX6JATZ0222	4835 110 57079 4835 111 37176
R1877		CARBON RES. 1/4W 820 Ω ±5% or CARBON RES. 1/6W 820 Ω ±5%	RCX4JATZ0821 RCX6JATZ0821	4835 110 57059 4835 110 57059
R1971		CARBON RES. 1/4W 100k Ω ±5% or CARBON RES. 1/6W 100k Ω ±5%	RCX4JATZ0104 RCX6JATZ0104	4835 110 57185 4835 110 57068
R1980	▲	CARBON RES. 1/4W 6.8k Ω ±5% or ▲ CARBON RES. 1/6W 6.8k Ω ±5%	RCX4JATZ0682 RCX6JATZ0682	4835 110 57193 4835 111 37311
R1981	▲	METAL OXIDE FILM RES. 1W 1.2 Ω ±5% or ▲ METAL OXIDE FILM RES. 1W 1.2 Ω ±5%	RN011R2ZU001 RN011R2DP003	4835 116 67022 4835 116 67022
R1990		CARBON RES. 1/4W 220k Ω ±5% or CARBON RES. 1/6W 220k Ω ±5%	RCX4JATZ0224 RCX6JATZ0224	4835 110 57208 4835 110 57208
SWITCHES				
SW1201		TACT SWITCH SKQSAB or TACT SWITCH SKHAM or TACT SWITCH KSM0612B	SST0101AL038 SST0101AL029 SST0101HH003	4835 276 17331 4835 276 17322 4835 276 17331
SW1202		TACT SWITCH SKQSAB or TACT SWITCH SKHAM or TACT SWITCH KSM0612B	SST0101AL038 SST0101AL029 SST0101HH003	4835 276 17331 4835 276 17322 4835 276 17331
SW1203		TACT SWITCH SKQSAB or TACT SWITCH SKHAM or TACT SWITCH KSM0612B	SST0101AL038 SST0101AL029 SST0101HH003	4835 276 17331 4835 276 17322 4835 276 17331
SW1206		TACT SWITCH SKQSAB or TACT SWITCH SKHAM or TACT SWITCH KSM0612B	SST0101AL038 SST0101AL029 SST0101HH003	4835 276 17331 4835 276 17322 4835 276 17331
SW1207		TACT SWITCH SKQSAB or TACT SWITCH SKHAM or TACT SWITCH KSM0612B	SST0101AL038 SST0101AL029 SST0101HH003	4835 276 17331 4835 276 17322 4835 276 17331
SW1208		TACT SWITCH SKQSAB or TACT SWITCH SKHAM or TACT SWITCH KSM0612B	SST0101AL038 SST0101AL029 SST0101HH003	4835 276 17331 4835 276 17322 4835 276 17331
SW1209		TACT SWITCH SKQSAB or TACT SWITCH SKHAM or TACT SWITCH KSM0612B	SST0101AL038 SST0101AL029 SST0101HH003	4835 276 17331 4835 276 17322 4835 276 17331
SW1210		TACT SWITCH SKQSAB or TACT SWITCH SKHAM or TACT SWITCH KSM0612B	SST0101AL038 SST0101AL029 SST0101HH003	4835 276 17331 4835 276 17322 4835 276 17331
SW1211		LEAF SWITCH LSA-1142-1AU or LEAF SWITCH MXS00052MPP0 or LEAF SWITCH MXS00981MPP0	SSC0101KB014 SSC0101MCE01 SSC0101MCE02	4835 276 17349 4835 276 17348 4835 276 17348
SW1212		ROTARY MODE SWITCH SSS-50MD or ROTARY MODE SWITCH R8100245	SSR0106KB002 SSR0106U3002	4835 276 17352 4835 276 17352
MISCELLANEOUS				
CL1201		FMN CONNECTOR, TOP 12P 12FMN- BTRK	JCFNG12JG002	-----
JK1701		RCA JACK(YELLOW) MTJ-032-05B-20	JXRL010LY038	4835 265 97509
JK1702		RCA JACK(WHITE) MTJ-032-05B-22	JXRL010LY039	4835 265 97511
JK1703		RCA JACK(RED) MTJ-032-05A-21	JYRL010LY010	4835 265 97513
JK1801		MINI JACK HSJ2000-01-010 or MINI JACK MSJ-2000	JYSL010HD002 JYSL010LY003	4835 265 97502 4835 265 97502
JM1002		PCB JUMPER D0.6-P5.0	JW5.0T	-----
JM1003		PCB JUMPER D0.6-P5.0	JW5.0T	-----
JM1004		PCB JUMPER D0.6-P5.0	JW5.0T	-----
JM1011		PCB JUMPER D0.6-P5.0	JW5.0T	-----
JM1018		PCB JUMPER D0.6-P7.5	JW7.5T	-----
JM1019		PCB JUMPER D0.6-P30.0	JW30.0T	-----
JM1079		PCB JUMPER D0.6-P5.0	JW5.0T	-----
JM1801		PCB JUMPER D0.6-P7.5	JW7.5T	-----
JM1803		PCB JUMPER D0.6-P7.5	JW7.5T	-----
JM1805		PCB JUMPER D0.6-P10.0	JW10.0T	-----
JM1806		PCB JUMPER D0.6-P5.0	JW5.0T	-----
JM1807		PCB JUMPER D0.6-P5.0	JW5.0T	-----
JM1901		PCB JUMPER D0.6-P5.0	JW5.0T	-----
JS1802		PCB JUMPER D0.6-P20.0	JW20.0T	-----
RS1201		REMOCON RECEIVER MIM-93M6DKF-C or REMOTE RECEIVER PIC-3704ZLU	USESJSRUNT04 USESJSRKK033	4835 210 27058 4835 210 27058
TB3		HEAD SHIELD TD851UB	0EM301823	-----

Ref.	▲	Description	ID No.	Part No.
TB7		LED HOLDER TD851UB	0EM408042	----
TB13		BUSH, LED(F) H3700UD	0VM409508	----
TP1201		PCB JUMPER D0.6-P10.0	JW10.0T	----
TP1401		PCB JUMPER D0.6-P22.5	JW22.5T	----
TP1402		PCB JUMPER D0.6-P15.0	JW15.0T	----
TP1403		PCB JUMPER D0.6-P22.5	JW22.5T	----
TP1632		PCB JUMPER D0.6-P10.0	JW10.0T	----
TP1701		PCB JUMPER D0.6-P22.5	JW22.5T	----
TP1702		PCB JUMPER D0.6-P22.5	JW22.5T	----
TP1801		PCB JUMPER D0.6-P10.0	JW10.0T	----
TP1802		PCB JUMPER D0.6-P17.5	JW17.5T	----
TU1001		TUNER TMQH2-001A	UTUNNTUAL036	4835 210 47124
X1201		CRYSTAL OSCILLATOR 32.768kHz(20PPM) or	FXC323LJNY01	4835 242 77091
		CRYSTAL OSCILLATOR 32.768kHz(20PPM) or	FXC323LCT001	4835 242 77091
		CRYSTAL OSCILLATOR 32.768kHz(20PPM)	FXC323LDS002	4835 242 77091
X1202		CRYSTAL OSCILLATOR HC-49/U 10.6MHz or	FXD106LLN001	4835 242 77326
		CRYSTAL OSCILLATOR AT49-10.6 or	FXD106LDS002	4835 242 77326
		CRYSTAL OSCILLATOR :10.6MHz S8562	FXD106LCT001	4835 242 77326
X1301		CRYSTAL OSCILLATOR 3.579545 MHz or	FXD355LLN003	4835 242 77342
		CRYSTAL OSCILLATOR 3.579545MHz(30PPM)	FXD355LCH001	----
X1401		CRYSTAL OSCILLATOR 3.579545MHz(20PPM) or	FXC355LJNY01	4835 242 77093
		CRYSTAL OSCILLATOR 3.579545MHz(20PPM) or	FXC355LLN003	4835 242 77093
		CRYSTAL OSCILLATOR 3.579545MHz(20PPM) or	FXC355LDS001	4835 242 77093
		CRYSTAL OSCILLATOR 3.579545MHz or	FXC355LLN001	4835 242 77093
		CRYSTAL OSCILLATOR 3.579545MHz(20PPM)	FXC355LCH001	4835 242 77093

SENSOR CBA

Ref.	▲	Description	ID No.	Part No.
		SENSOR CBA Consists of the following:	0ESA04524	----
TRANSISTORS				
Q201		END-SENS MID-32A22	NPWZM1D32A22	4835 130 48231
Q202		ST-SENS MID-32A22	NPWZM1D32A22	4835 130 48231

H.V. CBA ASSEMBLY

Ref.	▲	Description	ID No.	Part No.
		H.V. CBA ASSEMBLY Consists of the following:	X4T19HV1	----
		H.V. CBA CRT CBA JUNCTION A CBA JUNCTION B CBA	-----	-----

H.V. CBA

Ref.	▲	Description	ID No.	Part No.
		H.V. CBA Consists of the following:	-----	-----
CAPACITORS				
C552		MYLAR CAP. 0.22µF/50V ±5% or	CMA1JJS00224	4822 121 43193
		FILM CAP.(P) 0.22µF/50V ±5%	CA1J224MS029	4835 122 47706
C553		ELECTROLYTIC CAP 2.2µF/50V ±20% LL or	CE1JMASLL2R2	4835 124 47183
		ELECTROLYTIC CAP 2.2µF/50V LL	CE1JMASLH2R2	4835 124 47183
C555		ELECTROLYTIC CAP 47µF/35V ±20% or	CE1GMASDL470	4835 124 97066
		ELECTROLYTIC CAP 47µF/35V ±20%	CE1GMASDL470	4835 124 97066
C556		ELECTROLYTIC CAP 1000µF/25V ±20% or	CE1EMZPDL102	4835 124 47007
		ELECTROLYTIC CAP 1000µF/25V ±20% or	CE1EMZZTL102	4835 124 47007
		ELECTROLYTIC CAP 1000µF/25V ±20%	CE1EMZPTL102	4835 124 47007
C558		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKT0B103	----
C559		ELECTROLYTIC CAP 330µF/35V ±20% or	CE1GMZPDL331	4835 124 47666
		ELECTROLYTIC CAP 330µF/35V ±20%	CE1GMZPTL331	4835 124 47666

Ref.	▲	Description	ID No.	Part No.
C560		FILM CAP.(P) 0.01µF/50V ±5% or	CMA1JJS00103	4835 121 47461
		FILM CAP.(P) 0.01µF/50V ±5%	CA1J103MS029	4835 121 47461
C572	▲	PP. CAP 0.47µF/200V ±5% or	CA2D474VC013	4835 121 47411
	▲	PP CAP 0.47µF/250V ±5%	CT2E474MS041	4835 121 47411
C574	▲	ELECTROLYTIC CAP. 4.7µF/250V ±20% or	CE2EMASDL4R7	4835 124 47465
	▲	ELECTROLYTIC CAP. 4.7µF/250V ±20%	CE2EMASTL4R7	4835 124 47465
C577		FILM CAP.(P) 0.022µF/50V ±5% or	CMA1JJS00223	4835 121 47263
		FILM CAP.(P) 0.022µF/50V ±5%	CA1J223MS029	4835 121 47263
C578		ELECTROLYTIC CAP. 47µF/35V ±20% or	CE1GMASDL470	4835 124 97066
		ELECTROLYTIC CAP. 47µF/35V ±20%	CE1GMASDL470	4835 124 97066
C580	▲	PP.CAP 0.01µF/1.6KV ±5% or	CA3C103VC011	4835 121 47622
	▲	PP CAP. 0.01µF/1.6KV ±5% or	CT3C103MS039	4835 121 47622
	▲	PP CAP 0.01µF/1.6KV ±5% or	CBH3CJQ00103	4835 121 47705
	▲	METALLIZED FILM CAP. 0.01µF/1.6KV ±5%	CT3C103F7004	4835 121 47622
C581	▲	CERAMIC CAP. BN 1000pF/2KV or	CCD3DKA0B102	4835 122 47551
	▲	CERAMIC CAP. 1000pF/2KV	CA3D102PAN04	4835 122 47551
C584	▲	ELECTROLYTIC CAP. 1µF/160V ±20% or	CE2CMASDL1R0	4835 124 47516
	▲	ELECTROLYTIC CAP. 1µF/160V ±20%	CE2CMASDL1010	4835 124 47516
C591	▲	ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
	▲	ELECTROLYTIC CAP. 1µF/50V ±20% or	CE1JMASDL1010	4835 124 47014
	▲	ELECTROLYTIC CAP. 1µF/50V ±20%	CE1JMASDL1R0	4835 124 47014
C592	▲	ELECTROLYTIC CAP. 47µF/35V ±20% or	CE1GMASDL470	4835 124 97066
	▲	ELECTROLYTIC CAP. 47µF/35V ±20%	CE1GMASDL470	4835 124 97066
C594		ELECTROLYTIC CAP. 47µF/160V ±20% W/F or	CE2CMZPDL470	4835 124 47518
		ELECTROLYTIC CAP. 47µF/160V ±20% or	CE2CMZPTL470	4835 124 47518
		ELECTROLYTIC CAP. 47µF/160V ±20% W/F	CE2CMZNTL470	4835 124 47518
CONNECTORS				
CN571		CONNECTOR BASE, 5P TV-50P-05-V3 or	J3TVC05TG002	----
		CONNECTOR BASE, 5P RTB-1.5-5P	J3RTC05JG001	----
DIODES				
D552		DIODE 1N5397-B or	NDLZ001N5397	4835 130 38014
		RECTIFIER DIODE ERA15-02	AERA1502****	4835 130 37515
D571	▲	DIODE FR154 or	NDLZ000FR154	4835 130 38019
	▲	FAST RECOVERY DIODE ERB44-02	QDPZ0ERB4402	4835 130 37944
D572	▲	DIODE FR104-B	NDLZ000FR104	4835 130 38018
D584	▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
	▲	SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D585		ZENER DIODE MTZJT-775.1B or	QDTB0MTZJ5R1	4835 130 37964
		ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS	4835 130 38025
D591	▲	ZENER DIODE MTZJT-7736B or	QDTB00MTZJ36	4835 130 37785
	▲	ZENER DIODE DZ-36BSBT265	NDTB00DZ36BS	4835 130 38033
D595	▲	ZENER DIODE MTZJT-7720B or	QDTB00MTZJ20	4835 130 37965
	▲	ZENER DIODE DZ-20BSBT265	NDTB00DZ20BS	4835 130 38032
D596	▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
	▲	SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D597	▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
	▲	SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D598	▲	DIODE FR104-B	NDLZ000FR104	4835 130 38018
ICS				
IC551	▲	IC, VERTICAL DEFLECTION CONTROL AN5522 or	QSZBA0SMS002	4835 209 47584
	▲	IC, VERTICAL DEFLECTION CONTROL LA78040A	QSBBA0SSY003	4835 209 47512
COILS				
L501		PCB JUMPER D0.6-P5.0	JW5.0T	----
L505		CHOKE COIL 22µH-K	LLBD00PKV006	4835 157 58024
TRANSISTORS				
Q571	▲	H-OUTPUT TT2140LS-YB11 or	QQZZ00TT2140	4835 130 48195
	▲	H-OUTPUT 2SC5885000RFP "NPN"	QQZZ02SC5885	4835 130 48238
Q572		H-DRIVE 2SC1627Y-TPE2 "NPN"	QQSY02SC1627	4835 130 48141
Q591	▲	SWITCHING 2SC2785(F) "NPN" or	QQSF02SC2785	4835 130 47722
	▲	SWITCHING 2SC2785(H) "NPN" or	QQSH02SC2785	4835 130 47722
	▲	SWITCHING 2SC2785(J) "NPN" or	QQSJ02SC2785	4835 130 47722
	▲	SWITCHING KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
	▲	SWITCHING KTC3198(GR) "NPN" or	NQS40KTC3198	4835 130 47946
	▲	SWITCHING 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358

Ref.	▲	Description	ID No.	Part No.
R508		CARBON RES. 1/4W 1.5k Ω ±5%	RCX4JATZ0152	4835 110 57186
R509		CARBON RES. 1/4W 1.5k Ω ±5%	RCX4JATZ0152	4835 110 57186
R513		CARBON RES. 1/4W 15 Ω ±5% or	RCX4JATZ0150	4835 110 57177
		CARBON RES. 1/6W 15 Ω ±5%	RCX6JATZ0150	4835 111 37339
R514		CARBON RES. 1/4W 470 Ω ±5% or	RCX4JATZ0471	4835 110 57167
		CARBON RES. 1/6W 470 Ω ±5%	RCX6JATZ0471	4835 111 37193
R515		CARBON RES. 1/4W 15 Ω ±5% or	RCX4JATZ0150	4835 110 57177
		CARBON RES. 1/6W 15 Ω ±5%	RCX6JATZ0150	4835 111 37339
R516		CARBON RES. 1/4W 470 Ω ±5% or	RCX4JATZ0471	4835 110 57167
		CARBON RES. 1/6W 470 Ω ±5%	RCX6JATZ0471	4835 111 37193
R517		CARBON RES. 1/4W 15 Ω ±5% or	RCX4JATZ0150	4835 110 57177
		CARBON RES. 1/6W 15 Ω ±5%	RCX6JATZ0150	4835 111 37339
R518		CARBON RES. 1/4W 470 Ω ±5% or	RCX4JATZ0471	4835 110 57167
		CARBON RES. 1/6W 470 Ω ±5%	RCX6JATZ0471	4835 111 37193
MISCELLANEOUS				
CL501A		LEAD WIRE 3P 400MM	WX1T7100-101	----
CL504A		LEAD WIRE 4P 400MM	WX1TD500-003	----
JK501	▲	CRT SOCKET ISMS02S	JSSC220PK003	4835 265 97453

JUNCTION A CBA

Ref.	▲	Description	ID No.	Part No.
		JUNCTION A CBA Consists of the following:	-----	
CONNECTOR				
CN502		CONNECTOR, 6P TUC-P06X-B1	JCTUS06TG001	----

JUNCTION B CBA

Ref.	▲	Description	ID No.	Part No.
		JUNCTION B CBA Consists of the following:	-----	
CONNECTOR				
CN503		CONNECTOR 12P TUC-P12X-B1	JCTUS12TG001	----

MPS CBA

Ref.	▲	Description	ID No.	Part No.
		MPS CBA Consists of the following:	0ESA05265	----
		POWER SUPPLY/AV CBA (MPS-A)	-----	----
		FUNCTION CBA (MPS-B)	-----	----

POWER SUPPLY/AV CBA

Ref.	▲	Description	ID No.	Part No.
		POWER SUPPLY/AV CBA (MPS-A) Consists of the following:	-----	----
CAPACITORS				
C2217		ELECTROLYTIC CAP. 47μF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47μF/25V ±20%	CE1EMASTL470	4835 124 47102
C2218		CERAMIC CAP.(AX) 0.022μF/25V +80/-20% (F)	CCA1EZTFZ223	4835 122 47736
C2222		CERAMIC CAP.(AX) 100pF/50V ±10% (B)	CCA1JKTOB101	4835 122 47014
C2224		ELECTROLYTIC CAP. 47μF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47μF/25V ±20%	CE1EMASTL470	4835 124 47102
C2225		ELECTROLYTIC CAP. 4.7μF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7μF/50V ±20%	CE1JMASTL4R7	4835 124 47506
C2226		ELECTROLYTIC CAP. 4.7μF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7μF/50V ±20%	CE1JMASTL4R7	4835 124 47506
C2228		ELECTROLYTIC CAP. 10μF/50V ±20% or	CE1JMASDL100	4835 124 47202
		ELECTROLYTIC CAP. 10μF/50V ±20%	CE1JMASTL100	4835 124 47037
C2229		ELECTROLYTIC CAP. 10μF/50V ±20% or	CE1JMASDL100	4835 124 47202
		ELECTROLYTIC CAP. 10μF/50V ±20%	CE1JMASTL100	4835 124 47037
C2230		ELECTROLYTIC CAP. 10μF/50V ±20% or	CE1JMASDL100	4835 124 47202
		ELECTROLYTIC CAP. 10μF/50V ±20%	CE1JMASTL100	4835 124 47037
C2231		CERAMIC CAP.(AX) 47pF/50V ±5% (SL)	CCA1JJTSL470	4835 122 37017

Ref.	▲	Description	ID No.	Part No.
C2232		CERAMIC CAP.(AX) 47pF/50V ±5% (SL)	CCA1JJTSL470	4835 122 37017
C2233		CERAMIC CAP.(AX) 220pF/50V ±10% (B)	CCA1JKTOB221	4835 122 47006
C2236		CERAMIC CAP.(AX) 20pF/50V ±5% (CH)	CCA1JUTCH200	4835 122 47547
C2238		CERAMIC CAP.(AX) 220pF/50V ±10% (B)	CCA1JKTOB221	4835 122 47006
C2239		ELECTROLYTIC CAP. 10μF/50V ±20% or	CE1JMASDL100	4835 124 47202
		ELECTROLYTIC CAP. 10μF/50V ±20%	CE1JMASTL100	4835 124 47037
C2261		ELECTROLYTIC CAP. 47μF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47μF/25V ±20%	CE1EMASTL470	4835 124 47102
C2262		ELECTROLYTIC CAP. 47μF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47μF/25V ±20%	CE1EMASTL470	4835 124 47102
C2303		CERAMIC CAP.(AX) 0.022μF/25V +80/-20% (F)	CCA1EZTFZ223	4835 122 47736
C2401		ELECTROLYTIC CAP. 47μF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47μF/25V ±20%	CE1EMASTL470	4835 124 47102
C2416		ELECTROLYTIC CAP. 470μF/16V ±20% or	CE1CMASDL471	4835 124 47286
		ELECTROLYTIC CAP. 470μF/16V ±20%	CE1CMASTL471	4835 220 17118
C2418		ELECTROLYTIC CAP. 470μF/6.3V ±20% or	CE0KMASDL471	4835 124 47239
		ELECTROLYTIC CAP. 470μF/6.3V ±20%	CE0KMASTL471	4835 124 47239
C2423		CERAMIC CAP.(AX) 2200pF/16V ±20% (X)	CCA1CMT0X222	4835 122 47727
C2427		ZENER DIODE MTZJT-773.9B or	QDTB0MTZ3R9	4835 130 37973
		ZENER DIODE DZ-3.9BSBT265	NDTB0DZ3R9BS	4835 130 38055
C2429		ELECTROLYTIC CAP. 220μF/6.3V ±20% or	CE0KMASDL221	4835 124 47168
		ELECTROLYTIC CAP. 220μF/6.3V ±20%	CE0KMASTL221	4835 124 47168
C2432		CERAMIC CAP.(AX) 100pF/50V ±10% (B)	CCA1JKTOB101	4835 122 47014
C2604		ELECTROLYTIC CAP. 470μF/6.3V ±20% or	CE0KMASDL471	4835 124 47239
		ELECTROLYTIC CAP. 470μF/6.3V ±20%	CE0KMASTL471	4835 124 47239
C2605	▲	METALLIZED FILM CAP. 0.1μF/250V or	CT2E104MS037	4835 121 47025
	▲	FILM CAP.(MP) 0.1μF/250V ±10% or	CT2E104DC011	4835 121 47025
	▲	METALLIZED FILM CAP. 0.1μF/275V ±10%	CT2E104HJ006	4835 121 47025
C2606		CERAMIC CAP. 0.01μF/500V +80/-20% (F) or	CCD2ZJP0F103	4835 122 47423
		CERAMIC CAP. 0.01μF/AC250V	CCD2EZA0F103	4835 122 47502
C2607		CERAMIC CAP. 0.01μF/500V +80/-20% (F) or	CCD2ZJP0F103	4835 122 47423
		CERAMIC CAP. 0.01μF/AC250V	CCD2EZA0F103	4835 122 47502
C2610		ELECTROLYTIC CAP. 470μF/200V or	CA2D471NC013	4835 124 47097
		ELECTROLYTIC CAP. 470μF/200V ±20% W/ F	CA2D471EA029	4835 124 47097
C2611		CERAMIC CAP. BN 680pF/2KV or	CCD3DKA0B681	4835 122 47514
		CERAMIC CAP. 680pF/2KV	CA3D681PAN04	4835 122 47514
C2612		FILM CAP.(P) 0.033μF/50V ±5% or	CMA1JJS00333	4835 121 47154
		FILM CAP.(P) 0.033μF/50V ±5%	CA1J333MS029	4822 121 42772
C2613		FILM CAP.(P) 0.001μF/50V ±5% or	CMA1JJS00102	4822 121 43191
		FILM CAP.(P) 0.001μF/50V ±5%	CA1J102MS029	4822 121 43191
C2614	▲	FILM CAP.(P) 0.082μF/50V ±5% or	CMA1JJS00823	4835 121 47704
	▲	FILM CAP.(P) 0.082μF/50V ±5%	CA1J823MS029	4835 121 47704
C2615		CERAMIC CAP. BN 680pF/2KV or	CCD3DKA0B681	4835 122 47514
		CERAMIC CAP. 680pF/2KV	CA3D681PAN04	4835 122 47514
C2616		ELECTROLYTIC CAP. 100μF/160V ±20% or	CE2CMZPDL101	4835 124 47698
		ELECTROLYTIC CAP. 100μF/160V ±20%	CE2CMZPTL101	4835 124 47698
		ELECTROLYTIC CAP. 100μF/160V ±20% W/ F	CE2CMZNTL101	4822 124 22663
C2617		ELECTROLYTIC CAP. 470μF/35V ±20% or	CE1GMASDL471	4835 124 47069
		ELECTROLYTIC CAP. 470μF/35V ±20%	CE1GMASTL471	4835 124 47069
C2618		ELECTROLYTIC CAP. 1000μF/16V ±20% or	CE1CMZPDL102	4835 124 47005
		ELECTROLYTIC CAP. 1000μF/16V ±20%(VR/HC)	CE1CMZNTL102	4835 124 47005
C2619		ELECTROLYTIC CAP. 1000μF/16V ±20% or	CE1CMZPDL102	4835 124 47005
		ELECTROLYTIC CAP. 1000μF/16V ±20%(VR/HC)	CE1CMZNTL102	4835 124 47005
C2620		ELECTROLYTIC CAP. 1000μF/16V ±20% or	CE1CMZPDL102	4835 124 47005
		ELECTROLYTIC CAP. 1000μF/16V ±20%(VR/HC)	CE1CMZNTL102	4835 124 47005
C2621		ELECTROLYTIC CAP. 100μF/16V ±20% or	CE1CMASDL101	4835 124 47033
		ELECTROLYTIC CAP. 100μF/16V ±20%	CE1CMASTL101	4835 124 47033
C2622		FILM CAP.(P) 0.0047μF/50V ±5% or	CMA1JJS00472	4835 121 47676
		FILM CAP.(P) 0.0047μF/50V ±5%	CA1J472MS029	4835 121 47676
C2624		CERAMIC CAP.(AX) 0.01μF/50V ±10% (B)	CCA1JKTOB103	----
C2625		ELECTROLYTIC CAP. 0.47μF/50V ±20% or	CE1JMASDLR47	4835 124 47155
		ELECTROLYTIC CAP. 0.47μF/50V ±20%	CE1JMASTLR47	4835 124 47155
C2626		ELECTROLYTIC CAP. 10μF/50V ±20% or	CE1JMASDL100	4835 124 47202

Ref.	▲	Description	ID No.	Part No.
		ELECTROLYTIC CAP. 10µF/50V ±20%	CE1JMASTL100	4835 124 47037
C2630	▲	SAFETY CAP. 4700pF/250V KX	CA2E472MR050	4835 124 17078
C2631		ELECTROLYTIC CAP. 1000µF/6.3V ±20% or ELECTROLYTIC CAP. 1000µF/6.3V ±20%	CE0KMASDL102 CE0KMASTL102	4835 124 47203
C2632		ELECTROLYTIC CAP. 100µF/16V ±20% or ELECTROLYTIC CAP. 100µF/16V ±20%	CE1CMASDL101 CE1CMASTL101	4835 124 47033
C2633		ELECTROLYTIC CAP. 47µF/25V ±20% or ELECTROLYTIC CAP. 47µF/25V ±20%	CE1EMASDL470 CE1EMASTL470	4835 124 47102
C2637		ELECTROLYTIC CAP. 220µF/6.3V ±20% or ELECTROLYTIC CAP. 220µF/6.3V ±20%	CE0KMASDL221 CE0KMASTL221	4835 124 47168
C2640		ELECTROLYTIC CAP. 470µF/16V ±20% or ELECTROLYTIC CAP. 470µF/16V ±20%	CE1CMASDL471 CE1CMASTL471	4835 124 47286 4835 220 17118
C2642		CERAMIC CAP.(AX) 1000pF/50V ±10% (B)	CCA1JKTOB102	4835 122 47004
C2643		ELECTROLYTIC CAP. 470µF/6.3V ±20% or ELECTROLYTIC CAP. 470µF/6.3V ±20%	CE0KMASDL471 CE0KMASTL471	4835 124 47239
C2645		CERAMIC CAP.(AX) 0.01µF/50V ±10% (B)	CCA1JKTOB103	----
C2646		ELECTROLYTIC CAP. 2200µF/6.3V ±20% or ELECTROLYTIC CAP. 2200µF/6.3V ±20%	CE0KMZPDL222 CE0KMZNTL222	4835 121 47399 4835 122 87517
C2647		ELECTROLYTIC CAP. 470µF/16V ±20% or ELECTROLYTIC CAP. 470µF/16V ±20%	CE1CMASDL471 CE1CMASTL471	4835 124 47286 4835 220 17118
C2650		CERAMIC CAP.(AX) 2200pF/50V ±10% (B)	CA1J222TU011	4835 122 47007
C2651		CERAMIC CAP.(AX) 2200pF/50V ±10% (B)	CA1J222TU011	4835 122 47007
C2661		ELECTROLYTIC CAP. 100µF/16V ±20% or ELECTROLYTIC CAP. 100µF/16V ±20%	CE1CMASDL101 CE1CMASTL101	4835 124 47033
C2662		CERAMIC CAP.(AX) 1000pF/50V ±10% (B)	CCA1JKTOB102	4835 122 47004
C2671		CERAMIC CAP. 2200pF/500V ±10% (B) or CERAMIC CAP. 2200pF/500V ±10% (B)	CCD2JKPOB222 CCD2JKSOB222	4835 122 47057
CONNECTORS				
CN2401		FMN CONNECTOR, TOP 12P 12FMN-BTRK	JCFNG12JG002	----
CN2402		FMN CONNECTOR, TOP 22P 22FMN-BTRK	JCFNG22JG002	----
CN2601		CONNECTOR BASE, 2P TV-50P-02-V3 or CONNECTOR BASE, 2P RTB-1.5-2P	J3TVC02TG002 J3RTC02JG001	----
CN2602		CONNECTOR BASE, 6P TUC-P06P-B1	J3TUA06TG001	----
CN2803		TWG CONNECTOR 19P TWG-P19P-A1	J3TWA19TG001	----
CN2804		TWG CONNECTOR 19P TWG-P19P-A1	J3TWA19TG001	----
DIODES				
D2206		ZENER DIODE MTZJT-776.2B or ZENER DIODE DZ-6.2BSBT265	QDTB0MTZJ6R2 NDTB0DZ6R2BS	4835 130 37593 4835 130 38039
D2245		PCB JUMPER D0.6-P5.0	JW5.0T	----
D2403		ZENER DIODE MTZJT-7713B or ZENER DIODE DZ-13BSBT265	QDTB00MTZJ13 NDTB00DZ13BS	4822 130 83165 4835 130 38044
D2412		PCB JUMPER D0.6-P5.0	JW5.0T	----
D2413		DIODE FR104-B or RECTIFIER DIODE ERA22-02	NDLZ000FR104 QDPZ0ERA2202	4835 130 38018 4835 130 37788
D2603	▲	DIODE 1N5406 or ▲ DIODE ERC04-06L3	NDLZ001N5406 QD4Z0ERC0406	4835 130 37197 4835 130 37986
D2604	▲	DIODE 1N5406 or ▲ DIODE ERC04-06L3	NDLZ001N5406 QD4Z0ERC0406	4835 130 37197 4835 130 37986
D2605	▲	DIODE 1N5406 or ▲ DIODE ERC04-06L3	NDLZ001N5406 QD4Z0ERC0406	4835 130 37197 4835 130 37986
D2606	▲	DIODE 1N5406 or ▲ DIODE ERC04-06L3	NDLZ001N5406 QD4Z0ERC0406	4835 130 37197 4835 130 37986
D2607	▲	ZENER DIODE MTZJT-7724C or ▲ ZENER DIODE DZ-24BSCT265	QDTC00MTZJ24 NDTC00DZ24BS	4835 130 37984 4835 130 38045
D2609	▲	SWITCHING DIODE 1SS133(T-77) or ▲ SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D2610		ZENER DIODE MTZJT-775.6B or ZENER DIODE DZ-5.6BSBT265	QDTB0MTZJ5R6 NDTB0DZ5R6BS	4835 130 37329 4835 130 38026
D2611		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D2613	▲	RECOVERY DIODE ERC18-04	QDZ0ERC1804	4835 130 37994
D2614	▲	DIODE FR104-B or ▲ RECTIFIER DIODE ERA22-02	NDLZ000FR104 QDPZ0ERA2202	4835 130 38018 4835 130 37788
D2615	▲	DIODE FR154 or ▲ FAST RECOVERY DIODE ERB44-02	NDLZ000FR154 QDPZ0ERB4402	4835 130 38019 4835 130 37944
D2616	▲	RECTIFIER DIODE FR202	NDQZ000FR202	4835 130 38058

Ref.	▲	Description	ID No.	Part No.
D2617	▲	DIODE FR154 or ▲ FAST RECOVERY DIODE ERB44-02	NDLZ000FR154 QDPZ0ERB4402	4835 130 38019 4835 130 37944
D2618	▲	SCHOTTKY BARRIER DIODE 11EQS04 or ▲ SCHOTTKY BARRIER DIODE ERA81-004	QD4Z011EQS04 QDPZERA81004	4835 130 37135 4835 130 37211
D2619		DIODE FR104-B or RECTIFIER DIODE ERA22-02	NDLZ000FR104 QDPZ0ERA2202	4835 130 38018 4835 130 37788
D2620	▲	ZENER DIODE MTZJT-776.8B or ▲ ZENER DIODE DZ-6.8BSBT265	QDTB0MTZJ6R8 NDTB0DZ6R8BS	4835 130 37881 4835 130 38027
D2621		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D2622		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D2623		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D2625		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D2626		ZENER DIODE MTZJT-7736A or ZENER DIODE DZ-36BSAT265	QDTA00MTZJ36 NDTA00DZ36BS	4835 130 37785 4835 130 38033
D2627		ZENER DIODE MTZJT-7718B or ZENER DIODE DZ-18BSBT265	QDTB00MTZJ18 NDTB00DZ18BS	4835 130 37784 4835 130 38031
D2628	▲	SWITCHING DIODE 1SS133(T-77) or ▲ SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D2631		PCB JUMPER D0.6-P10.0	JW10.0T	----
D2634		ZENER DIODE MTZJT-778.2B or ZENER DIODE DZ-8.2BSBT265	QDTB0MTZJ8R2 NDTB0DZ8R2BS	4835 130 37963 4835 130 38041
D2635		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D2636		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D2640	▲	DIODE 1ZC33 or ▲ ZENER DIODE RD33FB	QDQZ0001ZC33 QDQZ000RD33FB	4835 130 37958 4835 130 37995
D2641	▲	ZENER DIODE MTZJT-7736A or ▲ ZENER DIODE DZ-36BSAT265	QDTA00MTZJ36 NDTA00DZ36BS	4835 130 37785 4835 130 38033
D2644		ZENER DIODE MTZJT-775.6C or ZENER DIODE DZ-5.6BSCT265	QDTC00MTZJ5R6 NDTC00DZ5R6BS	4835 130 37329 4835 130 38026
D2645	▲	SCHOTTKY BARRIER DIODE 21DQ04 or ▲ SCHOTTKY BARRIER DIODE ERB81-004	QDQZ0021DQ04 AERB81004***	4835 130 37744 4835 130 37233
D2646	▲	SCHOTTKY BARRIER DIODE 21DQ04 or ▲ SCHOTTKY BARRIER DIODE ERB81-004	QDQZ0021DQ04 AERB81004***	4835 130 37744 4835 130 37233
D2648		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D2649	▲	SWITCHING DIODE 1SS133(T-77) or ▲ SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D2650		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D2651		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D2657		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D2660		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D2661		PCB JUMPER D0.6-P5.0	JW5.0T	----
D2662		SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	4835 130 37235 4835 130 37048
D2663		ZENER DIODE MTZJT-776.8A or ZENER DIODE DZ-6.8BSAT265	QDTA00MTZJ6R8 NDTA00DZ6R8BS	4835 130 37971 4835 130 38027
ICs				
IC2201		IC, OP AMP NJM4558D	QSZBA05JR006	4835 209 47544
IC2601	▲	IC, ERROR VOLTAGE DET LTV-817B-F or ▲ IC, ERROR VOLTAGE DET LTV-817C-F or ▲ IC, ERROR VOLTAGE DET PC817X6	NPEB0LTV817F NPEC0LTV817F QPE600PC817X	4835 130 37977 4835 130 37977 4835 130 87159
IC2602	▲	IC, +1.5V REGULATOR PQ070XF01SZ	QSZBA0SSH012	4835 209 47603
IC2603		IC, +3.3V REGULATOR PQ070XF01SZ	QSZBA0SSH026	4835 209 47612
IC2604		IC, SHUNT REGULATOR KIA431-AT	NSZLA0TJY001	4835 209 88194
COILS				
L2201		PCB JUMPER D0.6-P5.0	JW5.0T	----

Ref.	▲	Description	ID No.	Part No.
L2203		PCB JUMPER D0.6-P5.0	JW5.0T	----
L2204		PCB JUMPER D0.6-P5.0	JW5.0T	----
L2205		PCB JUMPER D0.6-P5.0	JW5.0T	----
L2206		PCB JUMPER D0.6-P5.0	JW5.0T	----
L2401		PCB JUMPER D0.6-P5.0	JW5.0T	----
L2402		PCB JUMPER D0.6-P5.0	JW5.0T	----
L2403		INDUCTOR 22μH-K-5FT or	LLARKBSTU220	4835 157 57373
		INDUCTOR 22μH-K-5FT	LLARKDSKA220	4835 157 57373
L2410		INDUCTOR 0.47μH-J-26T or	LLAXJATTUR47	4835 157 58018
		INDUCTOR 0.47μH-K-26T	LLAXKDTKAR47	4835 157 58018
L2414		PCB JUMPER D0.6-P5.0	JW5.0T	----
L2415		PCB JUMPER D0.6-P5.0	JW5.0T	----
L2416		PCB JUMPER D0.6-P5.0	JW5.0T	----
L2417		PCB JUMPER D0.6-P5.0	JW5.0T	----
L2420		PCB JUMPER D0.6-P5.0	JW5.0T	----
L2421		INDUCTOR 2.2μH-K-5FT or	LLARKBSTU2P2	4835 157 58225
		INDUCTOR 2.2μH-K-5FT	LLARKDSKA2P2	4835 157 58225
L2601	▲	LINE FILTER 2.7MH ELF-15N013A	LLBG00ZMS037	4835 154 97208
TRANSISTORS				
Q2202		SWITCHING JACK-MUTE 2SC2785(F) "NPN" or	QQSF02SC2785	4835 130 47722
		SWITCHING JACK-MUTE 2SC2785(H) "NPN" or	QQSH02SC2785	4835 130 47722
		SWITCHING JACK-MUTE 2SC2785(J) "NPN" or	QQSJ02SC2785	4835 130 47722
		SWITCHING JACK-MUTE KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		SWITCHING JACK-MUTE KTC3198(GR) "NPN" or	NQS40KTC3198	4835 130 47946
		SWITCHING JACK-MUTE 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q2204		SWITCHING JACK-MUTE 2SC2785(F) "NPN" or	QQSF02SC2785	4835 130 47722
		SWITCHING JACK-MUTE 2SC2785(H) "NPN" or	QQSH02SC2785	4835 130 47722
		SWITCHING JACK-MUTE 2SC2785(J) "NPN" or	QQSJ02SC2785	4835 130 47722
		SWITCHING JACK-MUTE KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		SWITCHING JACK-MUTE KTC3198(GR) "NPN" or	NQS40KTC3198	4835 130 47946
		SWITCHING JACK-MUTE 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q2205		BUFFER 2SC2785(F) "NPN" or	QQSF02SC2785	4835 130 47722
		BUFFER 2SC2785(H) "NPN" or	QQSH02SC2785	4835 130 47722
		BUFFER 2SC2785(J) "NPN" or	QQSJ02SC2785	4835 130 47722
		BUFFER KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		BUFFER KTC3198(GR) "NPN" or	NQS40KTC3198	4835 130 47946
		BUFFER 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q2207		SWITCHING DVD-A-MUTE 2SC2785(F) "NPN" or	QQSF02SC2785	4835 130 47722
		SWITCHING DVD-A-MUTE 2SC2785(H) "NPN" or	QQSH02SC2785	4835 130 47722
		SWITCHING DVD-A-MUTE 2SC2785(J) "NPN" or	QQSJ02SC2785	4835 130 47722
		SWITCHING DVD-A-MUTE KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		SWITCHING DVD-A-MUTE KTC3198(GR) "NPN" or	NQS40KTC3198	4835 130 47946
		SWITCHING DVD-A-MUTE 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q2210		BUFFER 2SA1175(F) "PNP" or	QQSF02SA1175	4835 130 47645
		BUFFER KTA1267(GR) "PNP" or	NQS10KTA1267	4835 130 47913
		BUFFER KTA1266(GR) "PNP" or	NQS40KTA1266	4835 130 47422
		BUFFER 2SA1015-GR(TPE2) "PNP"	QQS102SA1015	4835 130 47399
Q2211		BUFFER 2SA1175(F) "PNP" or	QQSF02SA1175	4835 130 47645
		BUFFER KTA1267(GR) "PNP" or	NQS10KTA1267	4835 130 47913
		BUFFER KTA1266(GR) "PNP" or	NQS40KTA1266	4835 130 47422
		BUFFER 2SA1015-GR(TPE2) "PNP"	QQS102SA1015	4835 130 47399
Q2601	▲	SWITCHING 2SK2662	QF5Z02SK2662	4835 130 48205
Q2602	▲	LIMITER 2SC2120-O-TPE2 "NPN" or	QQS002SC2120	4835 130 47756
	▲	LIMITER 2SC2120-Y(TPE2) "NPN"	QQSY02SC2120	4835 130 48047
Q2604	▲	FEED BACK 2SC2785(F) "NPN" or	QQSF02SC2785	4835 130 47722
	▲	FEED BACK 2SC2785(H) "NPN" or	QQSH02SC2785	4835 130 47722

Ref.	▲	Description	ID No.	Part No.
	▲	FEED BACK 2SC2785(J) "NPN" or	QQSJ02SC2785	4835 130 47722
	▲	FEED BACK 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q2605		SWITCHING P-ON-ON 2SC2785(F) "NPN" or	QQSF02SC2785	4835 130 47722
		SWITCHING P-ON-ON 2SC2785(H) "NPN" or	QQSH02SC2785	4835 130 47722
		SWITCHING P-ON-ON 2SC2785(J) "NPN" or	QQSJ02SC2785	4835 130 47722
		SWITCHING P-ON-ON KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		SWITCHING P-ON-ON KTC3198(GR) "NPN" or	NQS40KTC3198	4835 130 47946
		SWITCHING P-ON-ON 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q2606	▲	SWITCHING 2SA950(O) "PNP" or	Q2SA9500TPE2	4835 130 47576
	▲	SWITCHING 2SA950(Y) "PNP" or	Q2SA950YTPE2	4835 130 47576
	▲	SWITCHING KTA1271(Y) "PNP"	NQSY0KTA1271	4835 130 48063
Q2607		SWITCHING P-ON-OFF 2SC2785(F) "NPN" or	QQSF02SC2785	4835 130 47722
		SWITCHING P-ON-OFF 2SC2785(H) "NPN" or	QQSH02SC2785	4835 130 47722
		SWITCHING P-ON-OFF 2SC2785(J) "NPN" or	QQSJ02SC2785	4835 130 47722
		SWITCHING P-ON-OFF KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		SWITCHING P-ON-OFF KTC3198(GR) "NPN" or	NQS40KTC3198	4835 130 47946
		SWITCHING P-ON-OFF 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q2608		DVD-ON+5V SWITCHING 2SC2120-O-TPE2 "NPN" or	QQS002SC2120	4835 130 47756
		DVD-ON+5V SWITCHING 2SC2120-Y(TPE2) "NPN"	QQSY02SC2120	4835 130 48047
Q2609	▲	AL+5.7V SWITCHING 2SC2120-O-TPE2 "NPN" or	QQS002SC2120	4835 130 47756
	▲	AL+5.7V SWITCHING 2SC2120-Y(TPE2) "NPN"	QQSY02SC2120	4835 130 48047
Q2610		SWITCHING DVD-ON-ON 2SA1175(F) "PNP" or	QQSF02SA1175	4835 130 47645
		SWITCHING DVD-ON-ON KTA1267(GR) "PNP" or	NQS10KTA1267	4835 130 47913
		SWITCHING DVD-ON-ON KTA1266(GR) "PNP" or	NQS40KTA1266	4835 130 47422
		SWITCHING DVD-ON-ON 2SA1015-GR(TPE2) "PNP"	QQS102SA1015	4835 130 47399
Q2611		DVD-ON+12V SWITCHING 2SC3331(T) "NPN" or	QSC3331TNPAA	4835 130 47549
		DVD-ON+12V SWITCHING 2SC3331(U) "NPN" or	QSC3331UNPAA	4835 130 47549
		DVD-ON+12V SWITCHING 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q2612		SWITCHING DVD-ON-ON 2SC2785(F) "NPN" or	QQSF02SC2785	4835 130 47722
		SWITCHING DVD-ON-ON 2SC2785(H) "NPN" or	QQSH02SC2785	4835 130 47722
		SWITCHING DVD-ON-ON 2SC2785(J) "NPN" or	QQSJ02SC2785	4835 130 47722
		SWITCHING DVD-ON-ON KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		SWITCHING DVD-ON-ON KTC3198(GR) "NPN" or	NQS40KTC3198	4835 130 47946
		SWITCHING DVD-ON-ON 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q2613		P-ON+9V SWITCHING 2SC2120-O-TPE2 "NPN" or	QQS002SC2120	4835 130 47756
		P-ON+9V SWITCHING 2SC2120-Y(TPE2) "NPN"	QQSY02SC2120	4835 130 48047
Q2614		P-ON+9V SWITCHING 2SC2120-O-TPE2 "NPN" or	QQS002SC2120	4835 130 47756
		P-ON+9V SWITCHING 2SC2120-Y(TPE2) "NPN"	QQSY02SC2120	4835 130 48047
Q2615		SWITCHING KRC103M "NPN" or	NQSZ0KRC103M	4835 130 47909
		SWITCHING 2SC3400 "NPN" or	2SC3400Z	4835 130 47428
		SWITCHING BA1F4M-T	QQSZ00BA1F4M	4835 130 48204
Q2617	▲	DVD-ON+3.3V SWITCHING 2SC3331(T) "NPN" or	QSC3331TNPAA	4835 130 47549
	▲	DVD-ON+3.3V SWITCHING 2SC3331(U) "NPN" or	QSC3331UNPAA	4835 130 47549
	▲	DVD-ON+3.3V SWITCHING 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q2621		INVERTER 2SC2785(F) "NPN" or	QQSF02SC2785	4835 130 47722
		INVERTER 2SC2785(H) "NPN" or	QQSH02SC2785	4835 130 47722

Ref.	▲	Description	ID No.	Part No.
T2601	▲	SWITCHING TRANS 03703	LTT00CPKT108	4835 148 87438
TB9		X3 FILTER HEAT SINK PGL TD500UA	0EM407094	----
TB17		X3 POW HEAT SINK PGK ASSEMBLYTD500UA	0EM407108	----
TL2		SCREW, B-TIGHT M3X8 BIND HEAD+	GBMB3080	----
TL6		SCREW, B-TIGHT M3X8 BIND HEAD+	GBMB3080	----
TP2201		PCB JUMPER D0.6-P10.0	JW10.0T	----
TP2202		PCB JUMPER D0.6-P10.0	JW10.0T	----
TP2203		PCB JUMPER D0.6-P10.0	JW10.0T	----
TP2204		PCB JUMPER D0.6-P10.0	JW10.0T	----
VR2601	▲	CARBON P.O.T. 10k Ω B or	VRCB103KA011	4835 100 97516
	▲	CARBON P.O.T. 10k Ω B	VRCB103HH014	4835 100 97516
W2601	▲	AC CORD PB8K9F9110A-057 or	WAC0172LW008	4835 321 17153
	▲	AC CORD WAC0172LTE01 or	WAC0172LTE01	4835 321 17153
	▲	AC CORD WAC0172AS006 or	WAC0172AS006	4835 321 17153
	▲	AC CORD LA-2366 or	WAC0172LW006	4835 321 17153
	▲	AC CORD A0A0280-007	WAC0172LTE04	4835 321 17153

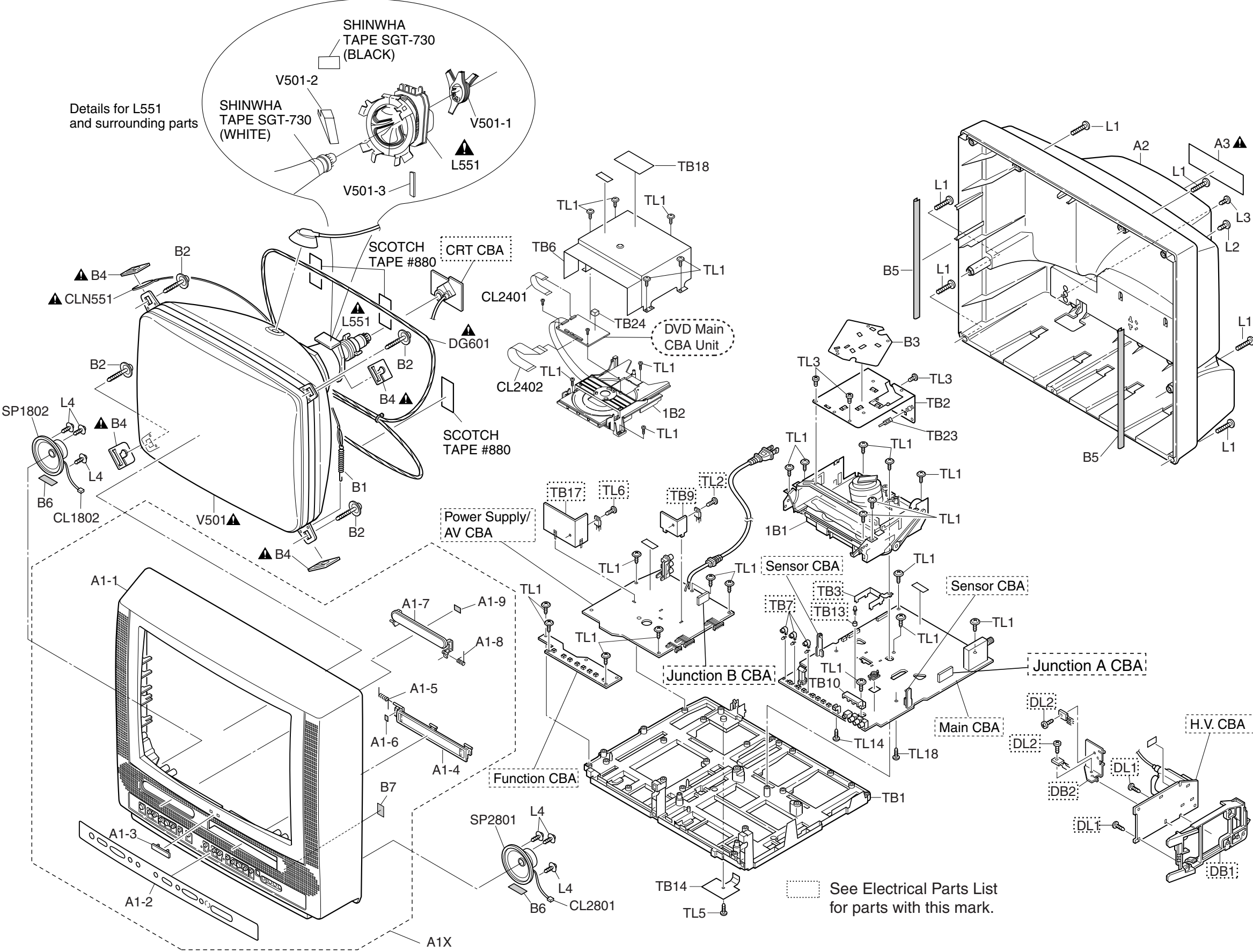
Ref.	▲	Description	ID No.	Part No.
SW2408		TACT SWITCH KSM0612B	SST0101HH003	4835 276 17331

FUNCTION CBA

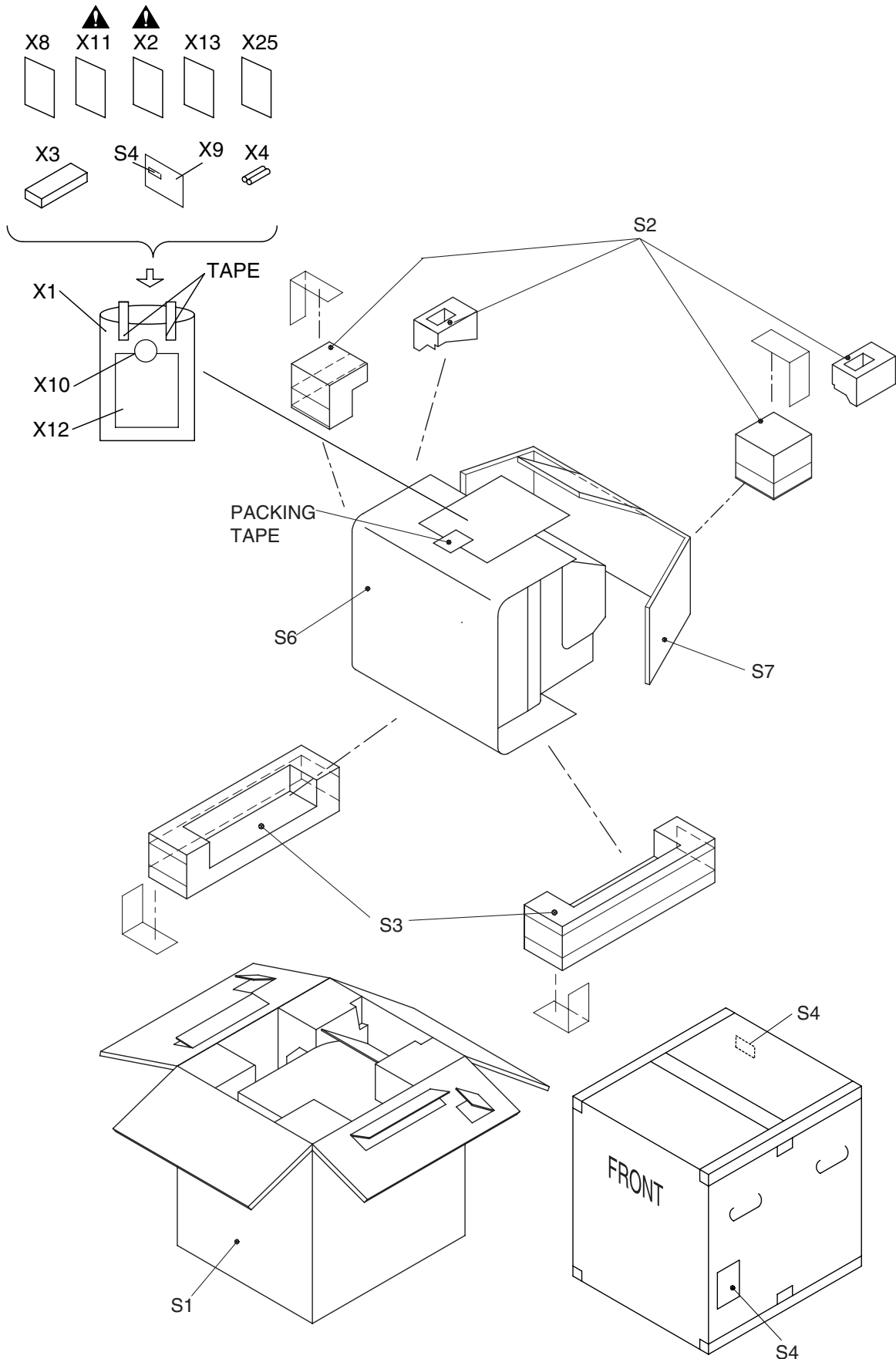
Ref.	▲	Description	ID No.	Part No.
		FUNCTION CBA(MPS-B) Consists of the following:	-----	-----
CONNECTOR				
CN2801		STRAIGHT CONNECTOR BASE 00 8283 0212 00 000 or	J383C02UG002	----
		STRAIGHT PIN HEADER, 2P 173981-2	1770258	----
CN2805		TWG CONNECTOR 07P TWG-P07X	JCTWA07TG001	----
RESISTORS				
R2401		CARBON RES. 1/4W 1.5k Ω ±2% or	RCX4GATZ0152	4835 110 57186
		CARBON RES. 1/6W 1.5k Ω ±2%	RCX6GATZ0152	4835 111 37306
R2402		CARBON RES. 1/4W 1.5k Ω ±2% or	RCX4GATZ0152	4835 110 57186
		CARBON RES. 1/6W 1.5k Ω ±2%	RCX6GATZ0152	4835 111 37306
R2403		CARBON RES. 1/4W 2.2k Ω ±2% or	RCX4GATZ0222	4835 110 57079
		CARBON RES. 1/6W 2.2k Ω ±2%	RCX6GATZ0222	4835 111 37176
R2404		CARBON RES. 1/4W 2.7k Ω ±2% or	RCX4GATZ0272	4835 110 57006
		CARBON RES. 1/6W 2.7k Ω ±2%	RCX6GATZ0272	4835 111 37181
R2405		CARBON RES. 1/4W 4.7k Ω ±2% or	RCX4GATZ0472	4835 110 57278
		CARBON RES. 1/6W 4.7k Ω ±2%	RCX6GATZ0472	4835 111 37194
R2406		CARBON RES. 1/4W 6.8k Ω ±2% or	RCX4GATZ0682	4835 110 57268
		CARBON RES. 1/6W 6.8k Ω ±2%	RCX6GATZ0682	4835 111 37311
R2407		CARBON RES. 1/4W 15k Ω ±2% or	RCX4GATZ0153	4835 110 57326
		CARBON RES. 1/6W 15k Ω ±2%	RCX6GATZ0153	4835 111 37307
SWITCHES				
SW2401		TACT SWITCH SKQSAB or	SST0101AL038	4835 276 17331
		TACT SWITCH SKHHAM or	SST0101AL029	4835 276 17322
		TACT SWITCH KSM0612B	SST0101HH003	4835 276 17331
SW2402		TACT SWITCH SKQSAB	SST0101AL038	4835 276 17331
SW2402		TACT SWITCH SKHHAM	SST0101AL029	4835 276 17322
SW2402		TACT SWITCH KSM0612B	SST0101HH003	4835 276 17331
SW2403		TACT SWITCH SKQSAB	SST0101AL038	4835 276 17331
SW2403		TACT SWITCH SKHHAM	SST0101AL029	4835 276 17322
SW2403		TACT SWITCH KSM0612B	SST0101HH003	4835 276 17331
SW2404		TACT SWITCH SKQSAB	SST0101AL038	4835 276 17331
SW2404		TACT SWITCH SKHHAM	SST0101AL029	4835 276 17322
SW2404		TACT SWITCH KSM0612B	SST0101HH003	4835 276 17331
SW2405		TACT SWITCH SKQSAB	SST0101AL038	4835 276 17331
SW2405		TACT SWITCH SKHHAM	SST0101AL029	4835 276 17322
SW2405		TACT SWITCH KSM0612B	SST0101HH003	4835 276 17331
SW2406		TACT SWITCH SKQSAB	SST0101AL038	4835 276 17331
SW2406		TACT SWITCH SKHHAM	SST0101AL029	4835 276 17322
SW2406		TACT SWITCH KSM0612B	SST0101HH003	4835 276 17331
SW2407		TACT SWITCH SKQSAB	SST0101AL038	4835 276 17331
SW2407		TACT SWITCH SKHHAM	SST0101AL029	4835 276 17322
SW2407		TACT SWITCH KSM0612B	SST0101HH003	4835 276 17331
SW2408		TACT SWITCH SKQSAB	SST0101AL038	4835 276 17331
SW2408		TACT SWITCH SKHHAM	SST0101AL029	4835 276 17322

EXPLODED VIEWS


Cabinet



Packing





















MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE: Parts that are not assigned part numbers (---- -- ----, NSI, or blank) are not normally available.

To order parts call the **TOLL FREE Philips Sales Center number: 1 - 800 - 851 - 8885**
(In Canada) 1 - 800 - 363 - PART.
1 - 800 - 535 - 3715 (Fax).

Ref.		Description	ID No.	Part No.
A1X		FRONT CABINET ASSEMBLY	0EM101347	4835 444 47206
A1-1		FRONT CABINET	0EM000782	----
A1-2		CONTROL PLATE	0EM201740	4835 444 67258
A1-3		BRAND BADGE :MAGNAVOX	0EM407275	----
A1-4		CASSETTE DOOR	0EM408334	4835 444 67256
A1-5		DOOR SPRING or	0VM403773	4835 492 97212
		DOOR SPRING(Z10)	0EM406687	----
A1-6		CLOTH(4X7XT0.7)	0EM404974	----
A1-7		TRAY PANEL	0EM301888	4835 444 67259
A1-8		TRAY SPRING	0EM406504	----
A1-9		CLOTH(B) :15X10X1.0T	0EM400076	----
A2		REAR CABINET	0EM101352	4835 444 47207
A3		RATING LABEL	-----	----
1B1		DECK ASSEMBLY CZD012/VM1666	N1666FT	----
1B2		DVD MECHA 0838 VCDVM040	N79FOGVM	4835 691 17086
B1		TENSION SPRING B0080B0:EM40808	26WH006	4835 492 37025
B2		M7 CRT SCREW(D22)	0EM406573	----
B3		SHIELD PLATE (X3)	0EM407358	----
B4		DEGAUSS HOLDER	0EM405476	----
B5		CLOTH 190X15XT0.5	TS7623	----
B6		CLOTH(10X30XT0.5)	0EM404486	----
B7		CLOTH(15X10XT0.5)	0EM405038	----
CL1802		WIRE ASSEMBLY SPEAKER WIRE(180MM)	WX1L9800-001	----
CL2401		FFC WIRE FFC12P	WX1TD800-003	----
CL2402		FFC WIRE FFC22P	WX1TD951-001	----
CL2801		WIRE ASSEMBLY SPEAKER WIRE(180MM)	WX1L9800-001	----
CLN551		CRT WIRE WX1T7000-005	WX1T7000-005	----
DG601		DEGAUSSING COIL F-036 or	LLBH002TM036	3121 239 36011
		DEGAUSSING COIL AVDG106	LLBH002WFO38	3121 239 36011
L1		SCREW, P-TIGHT 4X18 BIND HEAD +	GBMP4180	----
L2		SCREW TAPPING M4X14	DBU14140	----
L3		SCREW, P-TIGHT 3X10 BIND HEAD+	GBKP3100	----
L4		SCREW, ASSEMBLED 12:M3X12	0EM406746	----
SP1802		SPEAKER S08F02B or	DSD0808XQ010	4835 240 17019
		SPEAKER J-F097-C5	DSD0808DCP01	4835 240 17023
SP2801		SPEAKER S08F02B or	DSD0808XQ010	4835 240 17019
		SPEAKER J-F097-C5	DSD0808DCP01	4835 240 17023
TB1		TRAY CHASSIS	0EM000766	----
TB2		TOP SHIELD	0EM201663	----
TB6		SHIELD BOX(X4)	0EM101275	----
TB10		RCA HOLDER	0EM408041	----
TB14		TRAY COVER	0EM406459	4835 444 67238
TB18		LABEL, LASER CAUTION (C)	-----	----

Ref.		Description	ID No.	Part No.
TB23		WIRE HOLDER	0EM408118	----
TB24		LODER CUSHION	0EM408203	----
TL1		SCREW, P-TIGHT 3X12 WASHER HEAD+	GCMP3120	----
TL3		SCREW, S-TIGHT 3X4 BIND HEAD+	GBMS3040	----
TL5		P-TIGHT SCREW 3X8 BIND +	GBMP3080	----
TL14		SCREW, B-TIGHT M3X8 BIND HEAD+	GBMB3080	----
TL18		SCREW, P-TIGHT M3X8 BIND HEAD+	GBCP3080	----
PACKING				
S1		CARTON	0EM408348	----
S2		STYROFOAM TOP ASSEMBLY	0EM406599	----
S3		STYROFOAM BOTTOM ASSEMBLY	0EM406600	----
S4		SERIAL NO. LABEL	-----	----
S6		SET SHEET :1000X1700	0EM402178	----
S7		HOLD PAD	0EM406598	----
ACCESSORIES				
X1		POLYETHYLENE BAG 250X380XT0.03	Z325380	----
X2		OWNER'S MANUAL	0EMN02212	00IB 843 3E001
X3		REMOTE CONTROL 189/ERC001/NE206UD	NE206UD	4835 218 37345
X4		DRY BATTERY R6P UM3 or	XBOM451GH001	4835 138 17012
		DRY BATTERY R6P(AR)2PX or	XBOM451HU002	4835 138 17012
		DRY BATTERY R6P(AR)2P X ICI or	XBOM451HU003	4835 138 17012
		DRY BATTERY R6SSE/2S or	XBOM451MS002	4835 138 17012
		DRY BATTERY R6P/2S	XBOM451T0001	4835 138 17012
X8		SERVICE CENTER MAP	0VMN01909	----
X9		REGISTRATION CARD MAGNAVOX	0VMN02631	----
X10		SERVICE CONTRACT LABEL PCEC:312123959086	-----	----
X11		IMPORTANT SAFEGUARDS PCEC:00EL4496E006	0EMN01233	----
X12		SERVICE CONTRACT CARD PCEC:313501515571 or	0EMN01623	----
		SERVICE CONTRACT CARD PCEC:312123959089	0EMN01677	----
X13		CATALOG	0EMN01486	----
X25		QUICK SETUP GUIDE	0EMN02231	8239 300 27182
Note: 1. V501 (CRT) HAS SUBSTITUTIONAL PARTS AND EACH PART ALSO HAS A MATCHING COMBINATION WITH L551. PLEASE SEE TABLE 1 FOR DETAILS OF MATCHING COMBINATION. 2. L551 (DEFLECTION YOKE) HAS A MATCHING COMBINATION WITH V501. PLEASE SEE TABLE 1 FOR DETAILS OF MATCHING COMBINATION.				
CRT TYPE A				
V501		CRT A48AKH13X01 K	TCRT190CP043	4835 131 97032
CRT TYPE B				
L551		DEFLECTION YOKE KDY3MDD74X	LLBY00ZMS024	4835 150 17184
V501		CRT A48AKH13X	TCRT190CP044	4835 131 97035
V501-1		C.PMAGNET JH225-014 or	XM04000BV009	----
		CPM E-225-F01	XM04000ETC01	----
V501-2		WEDGE FT-00110W	XV1000T4001	----
CRT TYPE C				
L551		DEFLECTION YOKE LLBY00ZSY008 or	LLBY00ZSY008	4835 150 17181
		DEFLECTION YOKE KDY3MDD18X	LLBY00ZMS019	4835 150 17187
V501		CRT A48LV095X	TCRT190MS011	4835 131 97033
V501-1		C.PMAGNET JH225-014 or	XM04000BV009	----
		CPM E-225-F01	XM04000ETC01	----
V501-2		WEDGE FT-00110W	XV1000T4001	----
CRT TYPE D				
L551		DEFLECTION YOKE LLBY00ZSY006 or	LLBY00ZSY006	4835 150 17179
		DEFLECTION YOKE CDY-M2019F	LLBY00ZQS004	4835 150 17168
V501		CRT A48JLL90X	TCRT190QS009	4835 131 97018
V501-1		C.PMAGNET JH225-014 or	XM04000BV009	----
		CPM E-225-F01	XM04000ETC01	----
V501-2		WEDGE FT-00110W	XV1000T4001	----
CRT TYPE E				

Ref.	▲	Description	ID No.	Part No.
L551	▲	DEFLECTION YOKE LLBY00ZSY007 or	LLBY00ZSY007	4835 150 17179
	▲	DEFLECTION YOKE CDY-M2023F or	LLBY00ZQS005	4835 150 17172
	▲	DEFLECTION YOKE DSE-1922FU(T)	LLBY00ZSM007	4835 150 17186
V501	▲	CRT A48LRH93X(W)	TCRT190P7002	4835 131 97025
V501-1		C.PMAGNET JH225-014 or	XM04000BV009	-----
		CPM E-225-F01	XM04000ETC01	-----
V501-2		WEDGE FT-00110W	XV10000T4001	-----
CRT TYPE F				
L551	▲	DEFLECTION YOKE KDY3MCB20X	LLBY00ZMS016	4835 150 17173
V501	▲	CRT A48LGS30X	TCRT190THA01	4835 131 97026
V501-1		C.PMAGNET JH225-014 or	XM04000BV009	-----
		CPM E-225-F01	XM04000ETC01	-----
V501-2		WEDGE FT-00110W	XV10000T4001	-----
CRT TYPE G				
L551	▲	DEFLECTION YOKE LLBY00ZSY007 or	LLBY00ZSY007	4835 150 17179
	▲	DEFLECTION YOKE CDY-M2023F or	LLBY00ZQS005	4835 150 17172
	▲	DEFLECTION YOKE DSE-1922FU(T)	LLBY00ZSM007	4835 150 17186
V501	▲	CRT A48LRH93X(W)D	TCRT190PTD01	4835 131 97037
V501-1		C.PMAGNET JH225-014 or	XM04000BV009	-----
		CPM E-225-F01	XM04000ETC01	-----
V501-2		WEDGE FT-00110W	XV10000T4001	-----

CRT Warning Label Location

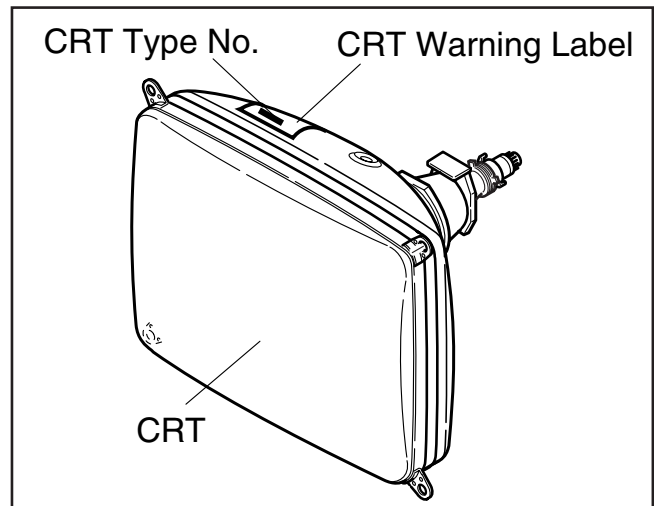


Table 1 (V501 and L551 Combination)

Note 1: Purity and Convergence Adjustments must be performed following CRT replacement. Refer to Electrical Adjustment Instructions.

Note 2: Please confirm CRT Type No. on the CRT Warning Label which is located on the CRT. Then see Table 1 for V501 and L551 combination chart. Please refer to this CRT, Deflection Yoke combination chart for parts order.

V501: CRT Type No.	V501: CRT ID No.	Part No.	L551: Deflection Yoke Part No.
A48AKH13X01 K	TCRT190CP043	4835 131 97032	-----
A48AKH13X	TCRT190CP044	4835 131 97035	4835 150 17184
A48LVL095X	TCRT190MS011	4835 131 97033	4835 150 17181
			4835 150 17187
A48JLL90X	TCRT190QS009	4835 131 97018	4835 150 17179
			4835 150 17168
A48LRH93X(W)	TCRT190P7002	4835 131 97025	4835 150 17179
			4835 150 17172
			4835 150 17186
A48LGS30X	TCRT190THA01	4835 131 97026	4835 150 17173
			4835 150 17179
A48LRH93X(W)D	TCRT190PTD01	4835 131 97037	4835 150 17172
			4835 150 17186

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Color TV with Built-In VCR/DVD Player Service Manual

Second Generation

Sec. 1A: Main Section
 (20MC4304/17)

Supplement 1

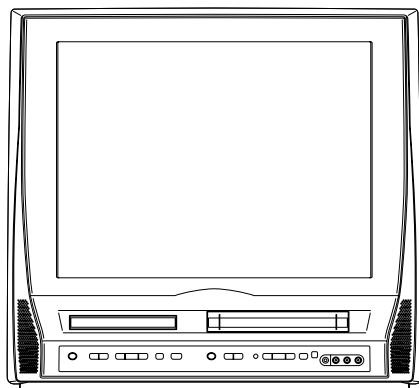
Sec. 1B: Main Section
 (27MC4304/17)

Supplement 2

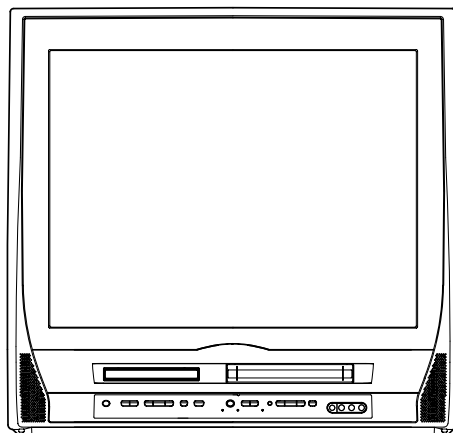
Sec. 1C: Main Section
 (19MDTR20/17)

Specifications
 Adjustment Procedures
 Schematic Diagrams and CBA's
 Exploded Views
 Cabinet & Electrical Parts Lists

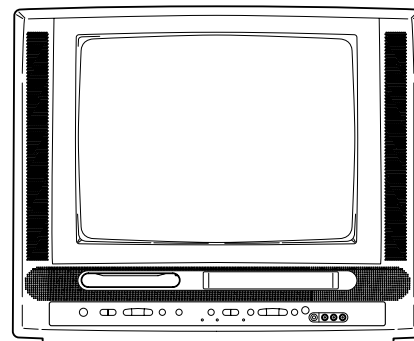
Sec. 2: Deck Mechanism Section



MAGNAVOX
 Model: 20MC4304/17



MAGNAVOX
 Model: 27MC4304/17



MAGNAVOX
 Model: 19MDTR20/17

Color TV with Built-In VCR/DVD Player

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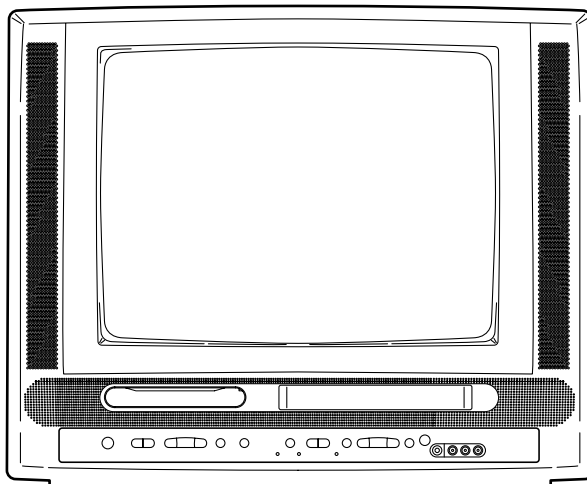
Supplement 2

Sec. 1C: Main Section

(19MDTR20/17)

Specifications
Adjustment Procedures
Schematic Diagrams and CBA's
Exploded Views
Cabinet & Electrical Parts Lists

Color TV with Built-In VCR/DVD Player Service Manual



MAGNAVOX
Model: 19MDTR20/17

Color TV with Built-In VCR/DVD Player


IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Philips Consumer Electronics Company** Equipment. The service procedures recommended by Philips and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Philips could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Philips has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Philips must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

** Hereafter throughout this manual, Philips Consumer Electronics Company will be referred to as Philips.

WARNING

Critical components having special safety characteristics are identified with a  by the Ref. No. in the parts list and enclosed within a broken line* (where several critical components are grouped in one area) along with the safety symbol  on the schematics or exploded views.

Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from Philips. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.

* Broken Line 

Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.

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Note:

One model, 19MDTR20/17, is covered by Supplement 2. This section only shows what differs between this model and its base model, covered by Section 1A and Deck Mechanism Section.

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SPECIFICATIONS

✧ Mode-----SP mode unless otherwise specified

✧ Test input terminal

<Except Tuner>-----Video input (1Vp-p)
Audio input (-10dB)

<Tuner>-----Ant. input (80dBμV) Video: 87.5%
Audio: 25kHz dev (1kHz Sin)

<DEFLECTION>

Description	Condition	Unit	Nominal	Limit
1. Over Scan	—	%	90	5
2. Linearity	Horizontal	%	—	±15
	Vertical	%	—	±10
3. High Voltage	—	kV	25	—

<VIDEO & CHROMA>

Description	Condition	Unit	Nominal	Limit
1. Misconvergence	Center	m/m	—	0.4
	Corner	m/m	—	2.5
	Side	m/m	—	1.5
2. Tint Control Range	—	deg	±30	—
3. Contrast Control Range	—	dB	6	2
4. Brightness (100% White Full Field)	Contrast: Max	ft-L	35	24
5. Color Temperature	—	K	9200	—

<DVD>

Description	Condition	Unit	Nominal	Limit
1. Horizontal Resolution (TDV-540 TIT.2 CHP.16)	—	Line	350	330
2. Video S/N at CN3400 (TDV-540 TIT.2 CHP.6)	—	dB	60	55
3. S/N Chroma at CN3400 (TDV-540 TIT.2 CHP.17)	AM	dB	58	53
	PM	dB	58	53
4. Audio Distortion (LPCM 48 kHz, W/LPF) (PTD 1-NOR TIT.1 CHP.1)	L	%	0.03	0.07
	R		0.03	0.07
5. Audio freq. response (LPCM 48kHz) (PTD 1-NOR TIT.1 CHP.5 -- 10)	L, 20 Hz R, 20 Hz L, 20 kHz R, 20 kHz	dB	0	+4/-5
6. Audio S/N (LPCM 48kHz,W/LPF,A-WTD) (PTD 1-NOR TIT.1 CHP.1 -- 2)	L R	dB	85	75

<VCR>

Description	Condition	Unit	Nominal	Limit
1. Horizontal Resolution	(R/P, SP)	Line	230	200
2. Jitter (Low)	(R/P, SP)	μS	0.1	0.2
3. S/N Chroma AM(SP)	(R/P, SP)	dB	38	33
PM(SP)	(R/P, SP)	dB	38	33
4. Wow & Flutter (JIS, UNWTD)	(R/P, SP)	%	0.25	0.5

<TUNER>

Description	Condition	Unit	Nominal	Limit
1. Video S/N (80dBμV, TV4ch)	—	dB	45	40
2. Audio S/N (W/LPF)	—	dB	45	40

<NORMAL AUDIO>

All items are measured across 8Ω resistor at speaker output terminal.

Description	Condition	Unit	Nominal	Limit
1. Audio Output Power	(R/P, SP)	W	1.0	0.8
2. Audio S/N (W/LPF)	(R/P, SP)	dB	40	36
3. Audio distortion (W/LPF,-10dB 1kHz IN)	(R/P, SP)	%	3.0	5.0
4. Audio Freq. Response (-10dB 1kHz IN) 200 Hz	(R/P, SP)	dB	-2.0	-2.0±5.0
8 kHz	(R/P, SP)	dB	0	0±6.0

<Hi-Fi AUDIO>

Description	Condition	Unit	Nominal	Limit
1. Output Level (-10dB 1kHz IN)	(R/P, SP)	dB	-8.0	-8±4
2. Audio Distortion (-10dB 1kHz IN)	(R/P, SP)	%	0.5	1.0
3. Freq. Response (-15dB 1kHz IN) 20 Hz	(R/P, SP)	dB	0	±4
20 kHz	(R/P, SP)	dB	0	±4

Note: Nominal specifications represent the design specifications. All units should be able to approximate these. Some will exceed and some may drop slightly below these specifications. Limit specifications represent the absolute worst condition that still might be considered acceptable. In no case should a unit fail to meet limit specifications.

PREPARATION FOR SERVICING

How to Enter the Service Mode

Caution: 1

- Optical sensors system are used for Tape Start and End Sensor on this equipment. Read this page carefully and prepare as described on this page before starting to service; otherwise, the unit may operate unexpectedly.

Preparing: 1

- Cover Q202 (START SENSOR) and Q201 (END SENSOR) with Insulation Tape or enter the service mode to activate Sensor Inhibition automatically.

Note: Avoid playing, rewinding or fast forwarding the tape to its beginning or end, because both Tape End Sensors are not active.

How to Enter the Service Mode

- Turn power on.
- Use service remote control unit and press "DISC MENU" key. (See page 1-6-1.)
- When entering the service mode, one of the number (1, 2 or 4) will display at corners of the screen.
- During the service mode, electrical adjustment mode can be selected by remote control key. (Service remote control unit).

Details are as follows.

Key	Adjustment Mode
PICTURE	Picture adjustment mode: Press the "PICTURE" button to change from BRT (Bright), *CNT (Contrast), *COL (Color), *TNT (Tint) and *V-TNT (V-Tint). Press "CH ▲/▼" key to display Initial Value. *Marked items are not necessary to adjust normally.
0	C-Trap and Y DL Time TV/Y DL Time EXT/Y SW LPF/Black Stretch Off/ Black Stretch CONT/C. Angle adjustment mode: See adjustment instructions page 1-6-2 and 1-6-3.
1	No need to use.
2	H fo adjustment mode: See adjustment instructions page 1-6-5.
3	No need to use.
4	Auto record mode: Perform recording (15 Sec.)-->Stop-->Rewind (Zero return) automatically.
5	Head switching position adjustment mode: See adjustment instructions page 1-6-8.
6	No need to use.

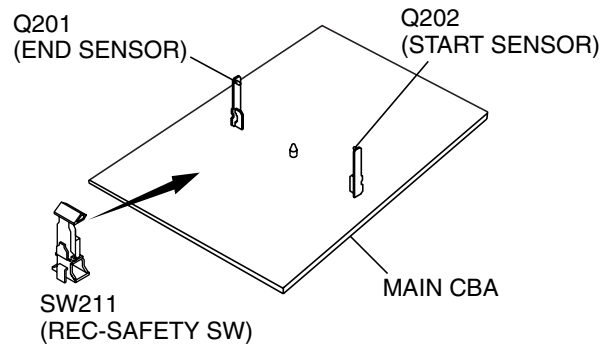
Key	Adjustment Mode
7	Purity check mode: Shows Red, Green, Blue or White cyclically on the screen each time the "7" key is pressed.
8	H. Position Adjustment: See adjustment instructions page 1-6-7.
9	V.size/V. shift adjustment: See adjustment instructions page 1-6-7.
VOL ▲	CD-VOL/DVD-BRT/DVD-SHARP Adjustment mode: See adjustment instructions page 1-6-4.
VOL ▼	Cut-off Adjustment mode: See adjustment instructions page 1-6-5. White balance Adjustment mode: See adjustment instructions page 1-6-6.

Caution: 2

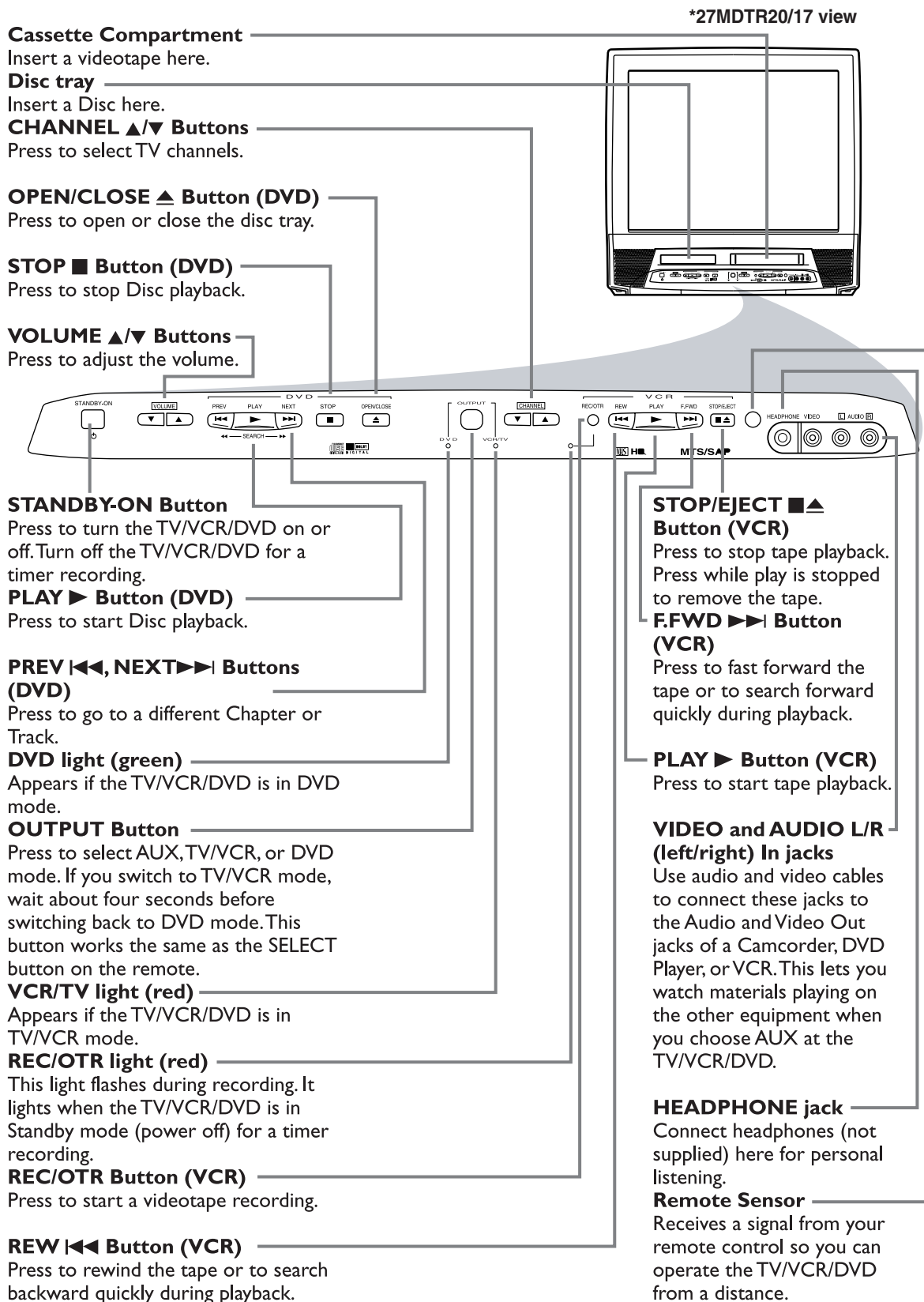
- The deck mechanism assembly is mounted on the Main CBA directly, and SW211 (REC-SAFETY SW) is mounted on the Main CBA. When deck mechanism assembly is removed from the Main CBA due to servicing, this switch can not be operated automatically.

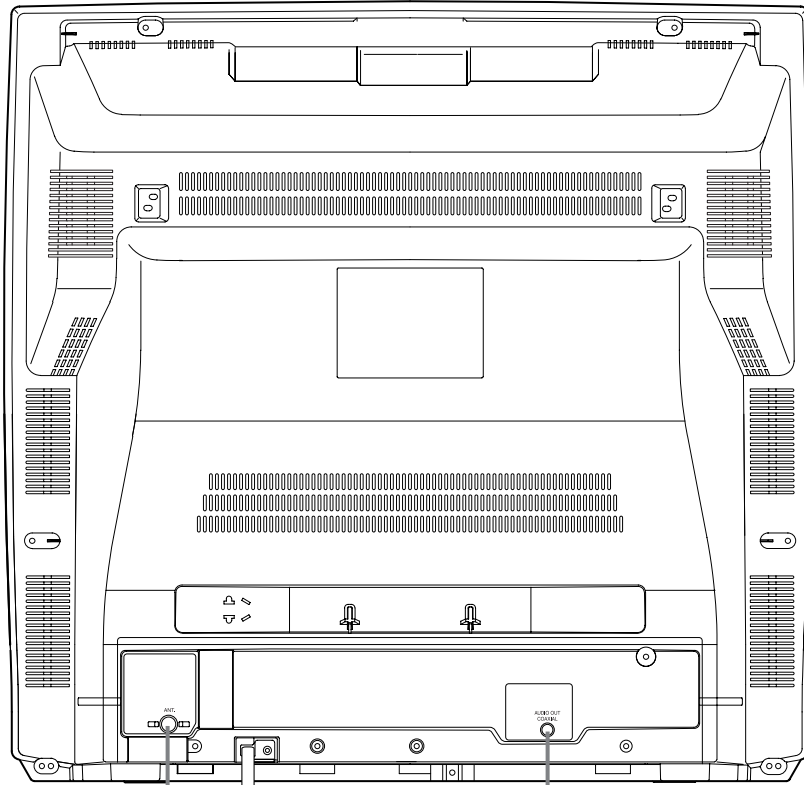
Preparing: 2

- To eject the tape, press the "STOP/EJECT" button on the unit (or Remote Control).
- When you want to record during the Service mode, press the "Rec" button while depressing SW211 (REC-SAFETY SW) on the Main CBA.



OPERATING CONTROLS AND FUNCTIONS





ANT. Jack
(Antenna In)

Connect an antenna or Cable TV signal here. This brings TV channels to the TV/VCR/DVD. If you do not connect an antenna or Cable TV signal to the TV/VCR/DVD (or connect to a Cable Box/Satellite Receiver through this jack), you will not receive any TV channels.

Power Cord

Connect to a standard AC outlet (120V/60Hz).

AUDIO OUT COAXIAL Jack

Connect this jack to a Digital Stereo using a digital audio coaxial cable (not supplied). Use this connection if the Stereo has Dolby Digital compatibility and has a Digital Coaxial Audio In jack. You may also use this connection when connecting the TV/VCR/DVD to a Mini-Disc or Digital Audio Tape deck.

REMOTE CONTROL OPERATION

PICTURE Button

Press to access the picture controls.

STANDBY-ON Button

Press to turn on or off the TV/VCR/DVD.

Number Buttons

TV Mode: Press two digits to access a specific channel. Press 0 before the number of a single-digit channel.

+100/+10 button: To select channels 100 or higher, press +100/+10, then the Number buttons of the last two digits of the channel number.

DVD Mode: Use the Number buttons to enter a Track or Chapter number.

+100/+10 button: Press before entering double-digit numbers. For example, to select Chapter 16, press +100/+10, then 1, 6.

|| (pause) Button

Press to pause videotape recording. Press again to resume recording. Press to pause videotape or DVD playback. Press repeatedly to advance the picture one frame at a time.

RECORD Button

Press once to start a recording on videotape.

DISPLAY Button

TV/VCR Mode: Press to see the videotape counter, channel, or time on the screen.

DVD Mode: Press to see the Disc status on the screen.

TITLE Button

Press to access a DVD's Title menu if available.

SLEEP Button

Press to set the Sleep Timer.

SELECT Button

Press to choose AUX, TV/VCR or DVD mode. The corresponding light will appear on the front of the TV/VCR/DVD to indicate which mode is active.

PLAY ► Button

Press to start playing a Disc or video cassette.

►► / ►►► Button

During Disc playback, press briefly to skip to the next Track or Chapter.

Or, press and hold for two seconds to search forward during Disc playback.

Press to forward a videotape.

STOP ■ Button

Press to stop Disc or videotape playback.

Arrow Buttons

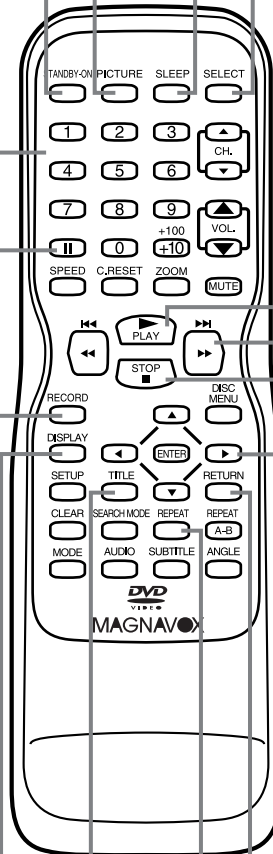
Use the Arrow buttons to select or adjust menu items.

RETURN Button

Press to go to the previous Setup menu in DVD or TV/VCR mode. Press to remove some menus or displays.

REPEAT Button

Press to play a Disc, Title, Chapter, or Track repeatedly.



ZOOM Button

Press to enlarge the picture during DVD playback.

C.RESET (counter reset) Button

Press to reset the tape counter to 0:00:00.
Press to cancel a timer recording.

SPEED Button

Press to choose a tape recording speed (SP or SLP).

⏮ / ⏪ Button

During Disc play, press briefly to skip to the beginning of the current Track/Chapter. Press repeatedly to skip to previous Tracks/Chapters. Or, press and hold for two seconds to search backward during Disc playback.
Press to reverse a videotape.

SETUP Button

Press to access or remove the TV/VCR/DVD's Setup menu.

CLEAR Button

Press to reset or erase a setting or wrong information.

MODE Button

Press to play a Program or to start Random playback.
Press to select a Black Level or Virtual Surround setting.

SEARCH MODE Button

Press to find a specific time, Chapter, Track, or Title on a Disc.
Press to set up Markers.

CH. (channel) ▲/▼ Buttons

Press to select memorized TV channels.

VOL. (volume) ▲/▼ Buttons

Press to adjust the volume.

MUTE Button

Press to mute or restore the sound.

DISC MENU Button

Press to access DVD Disc menus.

ENTER Button

Press to accept or change a menu setting.

REPEAT A-B Button

Press to set a section of a Disc to play repeatedly.

ANGLE Button

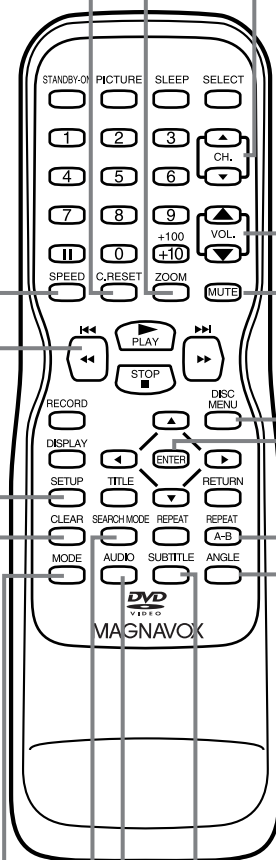
Press to change the camera angle and watch a Disc sequence from a different perspective.

SUBTITLE Button

Press to select a subtitle language.

AUDIO Button

Press to select an audio language or sound mode.



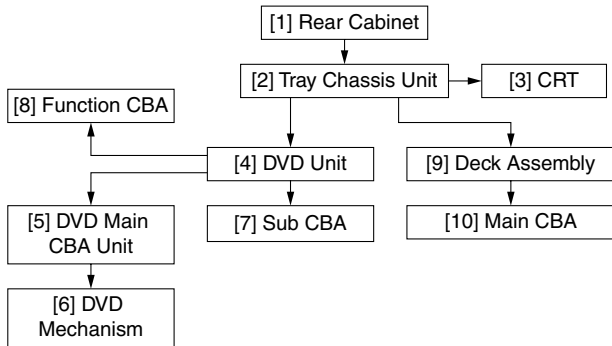
CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts, and the CBA in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.

Caution !

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.



2. Disassembly Method

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/ *UNHOOK/UNLOCK/ RELEASE/UNPLUG/ DESOLDER	Note
[1]	Rear Cabinet	1	6(S-1), (S-2), 2(S-3)	-
[2]	Tray Chassis Unit	2, 3, 5	Anode Cap, *CN501A, CRT CBA, *CN571, *CN601, *CN802, *CN1801	1
[3]	CRT	3, 5	4(S-4), *CL501A	-
[4]	DVD Unit	2, 5	4(S-5), *CN1601, *CN1602	-
[5]	DVD Main CBA Unit	2, 4, 5	(S-6), (S-7), 2(S-8), 2(S-9), *CN201, *CN301, Loader Shield Top	2 2-1 2-2 2-3 2-4 3
[6]	DVD Mechanism	2, 4, 5	(S-10), Loader Shield Bottom	2
[7]	Sub CBA	2, 5	6(S-11), *CN301, *CN602	-

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/ *UNHOOK/UNLOCK/ RELEASE/UNPLUG/ DESOLDER	Note
[8]	Function CBA	2, 5	2(S-12), *CN803	-
[9]	Deck Assembly	2, 5	3(S-13), 7(S-14), (S-15), (S-16), Top Shield, *CL201, *CL401, *CL402, *CL403	4
[10]	Main CBA	2	5(S-17)	-

(1) (2) (3) (4) (5)

(1): Order of steps in Procedure. When reassembling, follow the steps in reverse order. These numbers are also used as the Identification (location) No. of parts in Figures.

(2): Parts to be removed or installed.

(3): Fig. No. showing Procedure of Part Location.

(4): Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.

S=Screw, P=Spring, L=Locking Tab, CN=Connector, *=Unhook, Unlock, Release, Unplug, or Desolder

2(S-2) = two Screws (S-2)

(5): Refer to the following "Reference Notes in the Table."

Reference Notes in the Table

Caution !

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

Reference Notes in the Table

CAUTION 1: Discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

1. Disconnect the following: Anode Cap, CN501A, CRT CBA, CN571, CN601, CN802, and CN1801.
Then remove Tray Chassis Unit.

CAUTION 2: Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc., during unpacking or repair work.

To avoid damage of pickup follow next procedures.

- 2-1. Remove screws (S-6), (S-7) and 2(S-8), and remove Loader Shield Top.

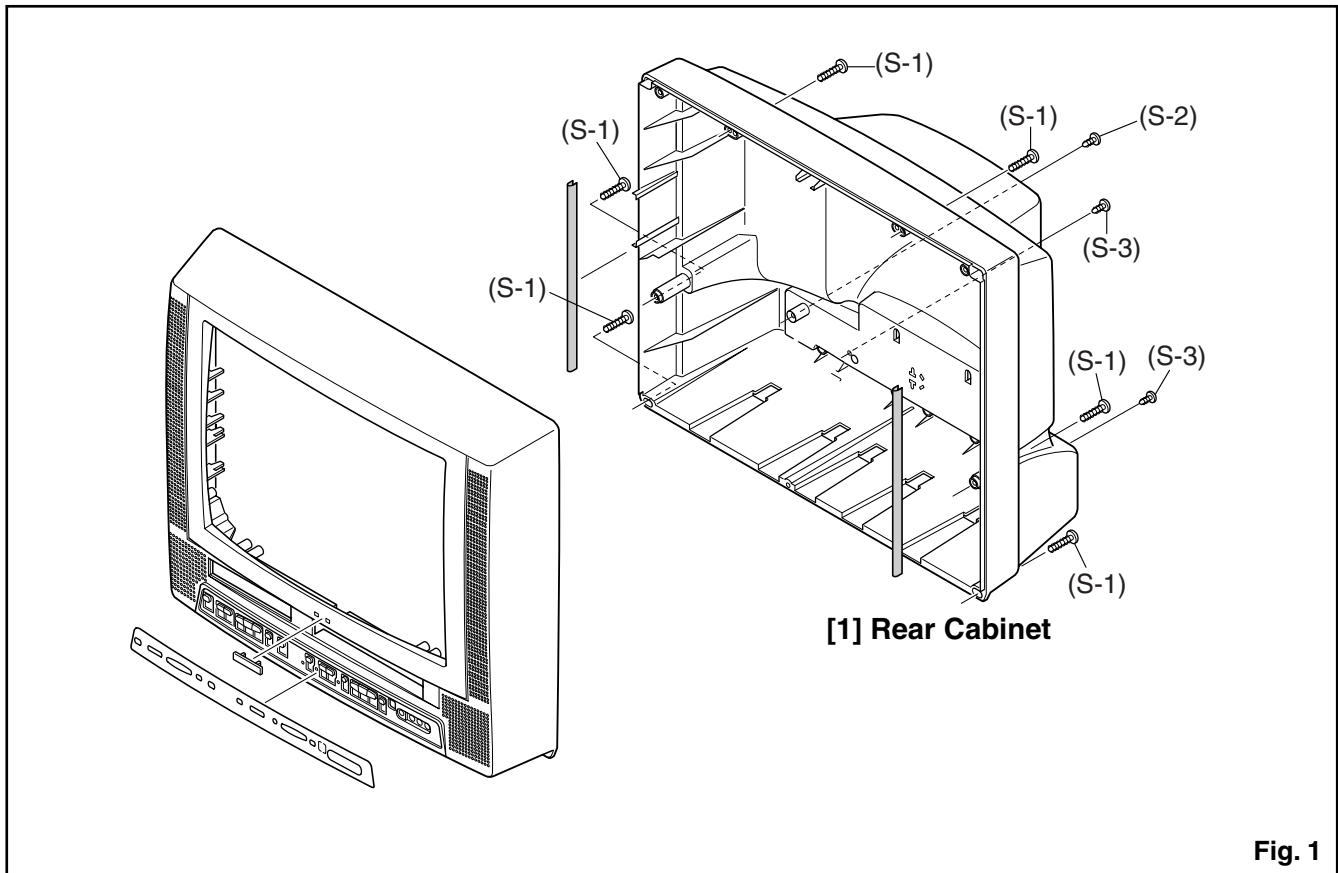
- 2-2. Disconnect Connector (CN301) on the DVD Main CBA Unit.

- 2-3. Short the three short lands of FPC cable with solder before removing the FFC cable (CN201) from it. If you disconnect the FFC cable (CN201), the laser diode of pickup will be destroyed. (Fig. 4)

- 2-4. Remove two screws (S-9) and remove DVD Main CBA Unit.

CAUTION 3: When reassembling, confirm the FFC cable (CN201) is connected completely. Then remove the solder from the three short lands of FPC cable. (Fig. 4)

4. Remove three screws (S-13) and remove Top Shield. Remove screws 7(S-14), (S-15) and (S-16). Then, desolder connectors (CL201, CL401, CL402, CL403) and lift up the Deck Assembly.



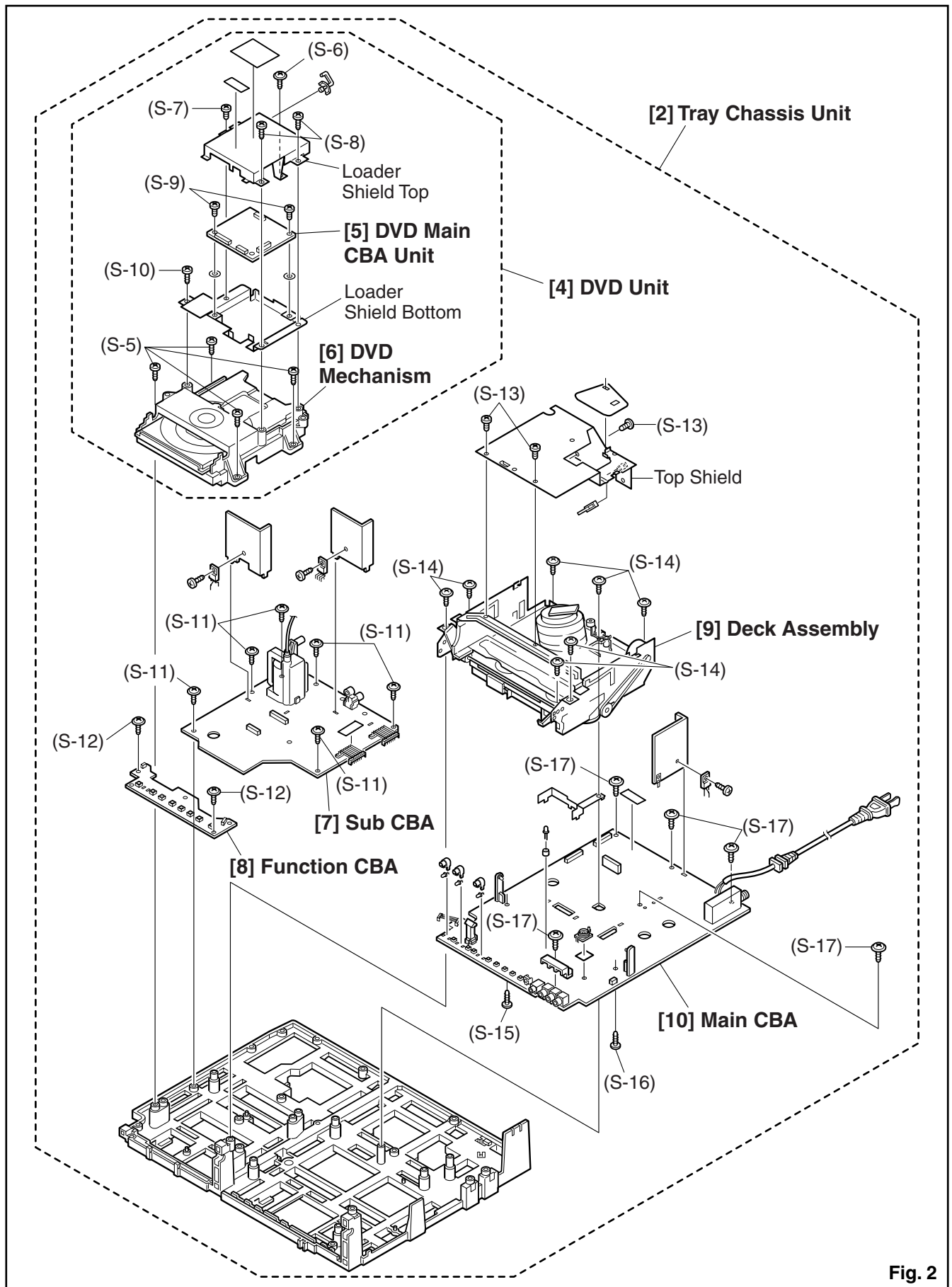


Fig. 2

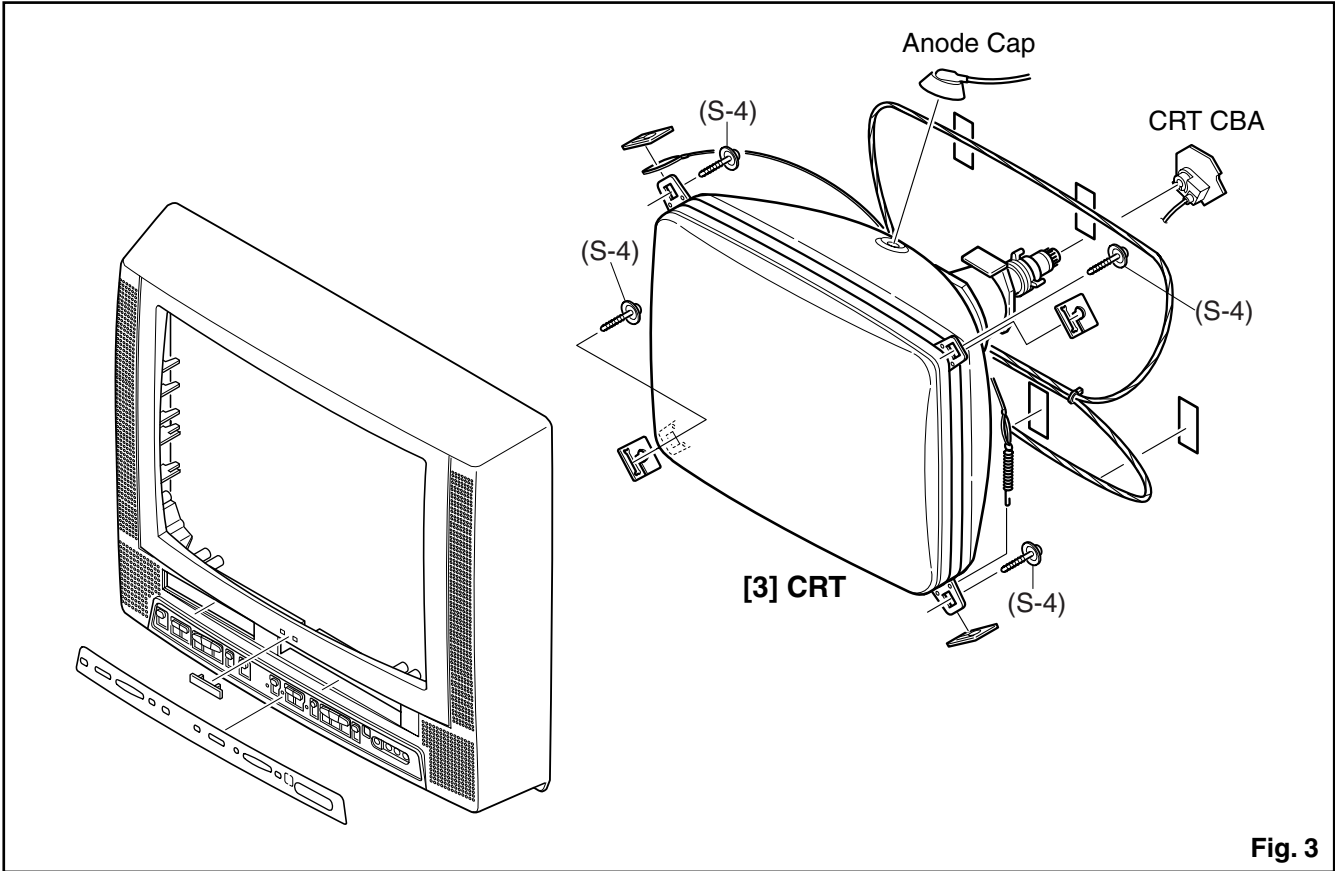


Fig. 3

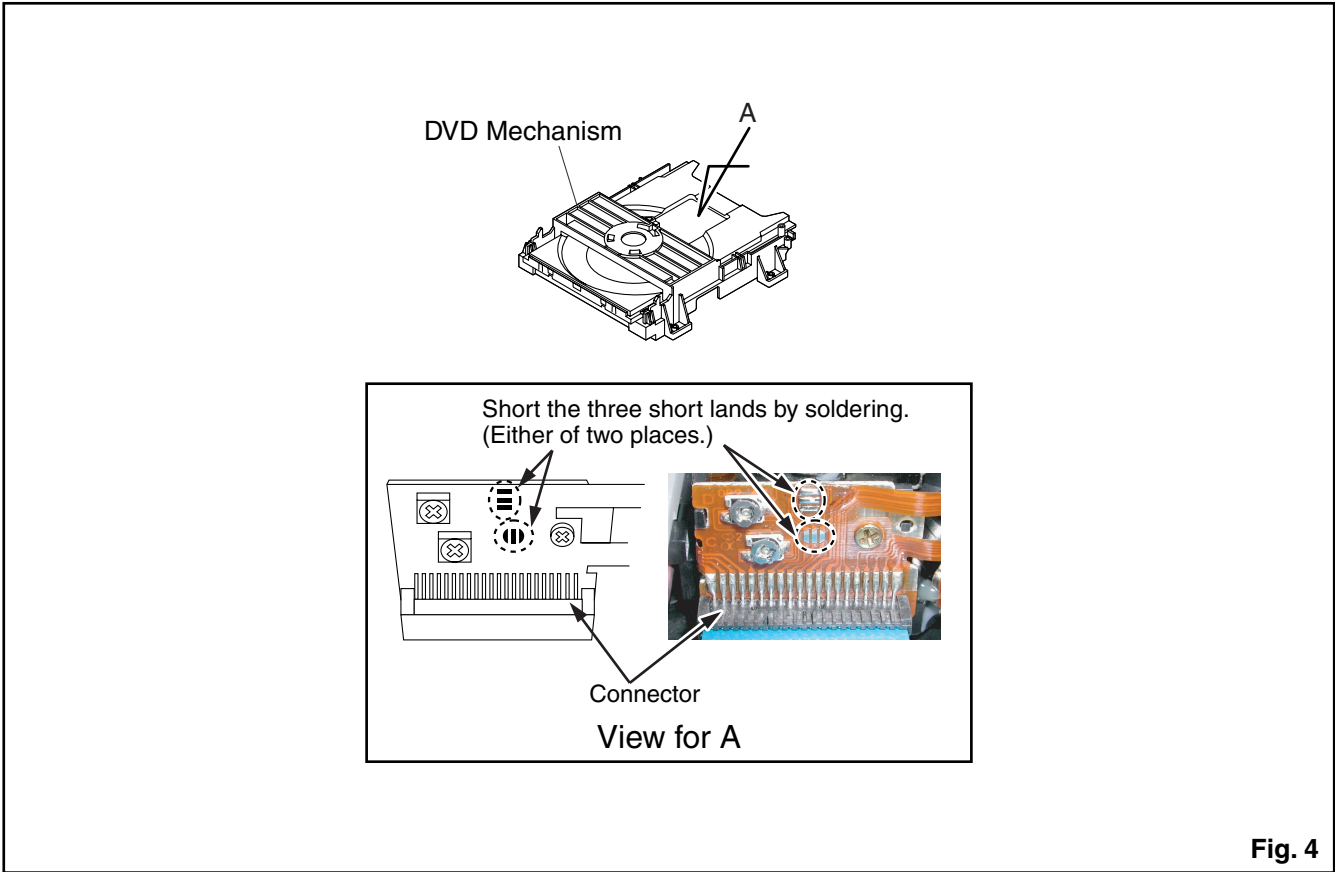


Fig. 4

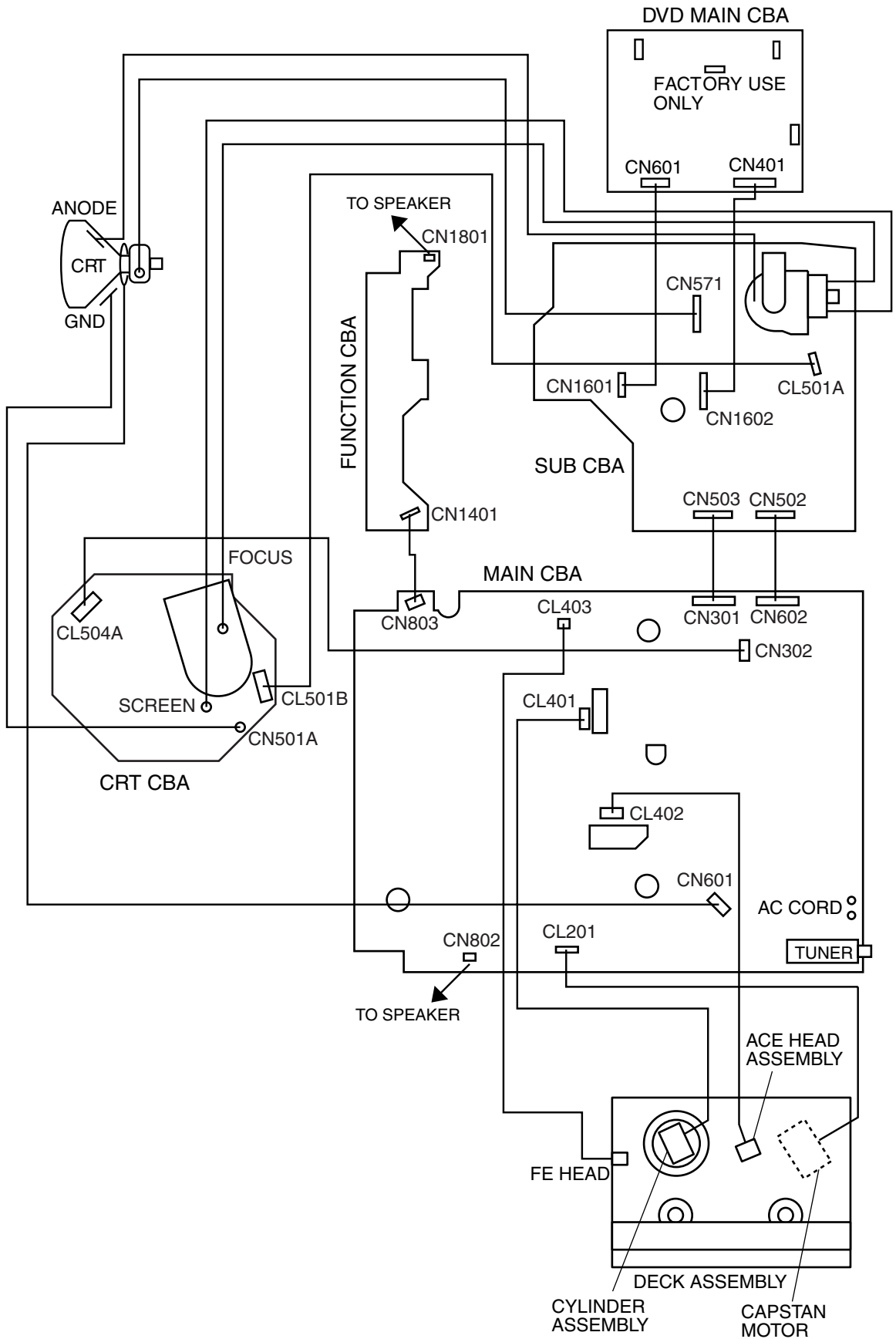


Fig. 5

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note:

"CBA" is abbreviation for "Circuit Board Assembly."

NOTE:

Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed.

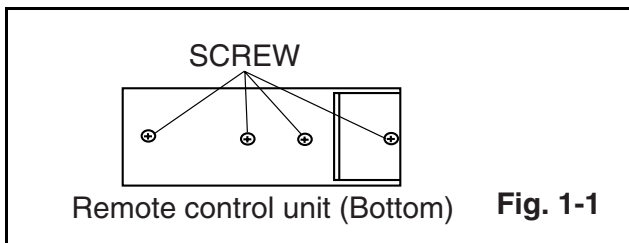
Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

1. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
2. AC Milli Voltmeter (RMS)
3. Alignment Tape (VFMS0001H6), Blank Tape
4. DC Voltmeter
5. Oscilloscope: Dual-trace with 10:1 probe,
V-Range: 0.001~50V/Div,
F-Range: DC~AC-60MHz
6. Frequency Counter
7. Plastic Tip Driver
8. Color Analyzer

How to make service remote control unit:

1. Prepare remote control unit (ID No. NE206UD, Part No. 4835 218 37345). Remove 4 screws from the back lid (Fig. 1-1).



2. Cut off pin 10 of the remote control microprocessor and short circuit pins 10 and 17 of the microprocessor with a jumper wire

How to Set up the Service mode:

Service mode:

1. Use the service remote control unit.
2. Turn the power on. (Use main power on the TV unit.)
3. To enter the TV mode, press "CH ▲ / ▼" button on the TV unit.
4. Press "DISC MENU" button on the service remote control unit. Version of micro computer will display on the CRT. (Ex: 057-001)

X-Ray Protection Test

X-Ray protection test should be done when replacing any parts of this chassis.

1. Short both ends of R592 (on Sub CBA).
2. Confirm that the main power turns off.
3. If the main power does not turn off, then replace the following parts (D591, Q591, R592, R593, R594 and IC201).
4. Perform steps 1 to 3 again.

1. DC 114V (+B) Adjustment

Purpose: To obtain correct operation.

Symptom of Misadjustment: The picture is dark and unit does not operate correctly.

Test point	Adj. Point	Mode	Input
D613 Cathode (+B), HEAT SINK (GND)	VR601	---	-----
Tape	M. EQ.	Spec.	
---	DC Voltmeter	+114±1.0V DC	

Note:

D613 Cathode (+B), HEAT SINK, VR601 --- Main CBA

1. Connect the unit to AC Power Outlet.
2. Connect DC Volt Meter to D613 Cathode (+B) and HEAT SINK (GND).
3. Adjust VR601 so that the voltage of D613 Cathode (+B) becomes +114±1.0V DC.

2. Setting for CONTRAST, COLOR, TINT and V-TINT Data Values

General

1. Enter the Service mode. (See page 1-6-1.)
2. Press "PICTURE" button on the service remote control unit. Display changes "BRT," "CNT," "COL," "TNT," and "V-TNT" cyclically when "PICTURE" button is pressed.

CONTRAST (CNT)

1. Press "PICTURE" button on the service remote control unit. Then select "CONTRAST (CNT)" display.
2. Press "CH ▲ / ▼" buttons on the service remote control unit so that the value of "CONTRAST (CNT)" becomes 76.

COLOR (COL)

1. Press "PICTURE" button on the service remote control unit. Then select "COLOR (COL)" display.
2. Press "CH ▲ / ▼" buttons on the service remote control unit so that the value of "COLOR (COL)" becomes 58.

TINT (TNT)

1. Press "PICTURE" button on the service remote control unit. Then select "TINT (TNT)" display.
2. Press "CH ▲ / ▼" buttons on the service remote control unit so that the value of "TINT (TNT)" becomes 57.

V-TINT (V-TNT)

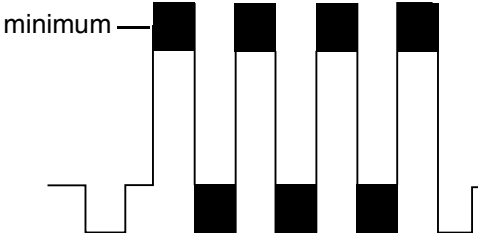
1. Press "PICTURE" button on the service remote control unit. Then select "V-TINT (V-TNT)" display.
2. Press "CH ▲ / ▼" buttons on the service remote control unit so that the value of "V-TINT (V-TNT)" becomes 56.

Note: BRIGHT data value does not need to be adjusted at this moment.

3-1. C-Trap Adjustment

Purpose: To get minimum leakage of the color signal carrier.

Symptom of Misadjustment: If C-Trap Adjustment is incorrect, stripes will appear on the screen.

Test point	Adj. Point	Mode	Input
J302 (B-OUT)	CH ▲ / ▼ buttons	---	Color Bar
Tape	M. EQ.	Spec.	
---	Oscilloscope Pattern Generator	---	
Figure			
 <p>The figure shows an oscilloscope waveform of a color bar signal. The signal consists of a series of pulses. The first pulse is labeled 'minimum' with a horizontal line indicating its peak level. The subsequent pulses are taller, representing the color bars. The signal is shown as a series of black and white bars, with the black bars being taller than the white bars. The label 'Fig. 2' is located in the bottom right corner of the waveform area.</p>			

Note: J302 (B-OUT)--- Main CBA

1. Connect oscilloscope to J302.
2. Input a color bar signal from RF input. Enter the Service mode. (See page 1-6-1.)
3. Press "0" button on the remote control unit and select C-TRAP mode. (Fig. 3)
4. Press "CH ▲ / ▼" buttons on the remote control unit so that the carrier leakage B-Out (3.58MHz) value becomes minimum on the oscilloscope.
5. Turn the power off and on again.

3-2. Setting for Y DL Time TV, Y DL Time EXT, Y SW LPF, Black Stretch Off, Black Stretch CONT and C. Angle Data Values

- Enter the Service mode. (See page 1-6-1.)
- Y DL Time TV Adjustment:** Press "0" button on the service remote control unit twice to show "D-T TV" on the display.

Y DL Time EXT Adjustment: Press "0" button on the service remote control unit three times to show "D-T EXT" on the display.

Y SW LPF Adjustment: Press "0" button on the service remote control unit four times to show "Y SW" on the display.

Black Stretch Off Adjustment: Press "0" button on the service remote control unit five times to show "B-S" on the display.

Black Stretch CONT Adjustment: Press "0" button on the service remote control unit six times to show "BS2" on the display.

C. Angle Adjustment: Press "0" button on the service remote control unit seven times to show "C-ANG" on the display.
- Y DL Time TV Adjustment:** Select "2" by pressing "CH ▲ / ▼" buttons on the service remote control.

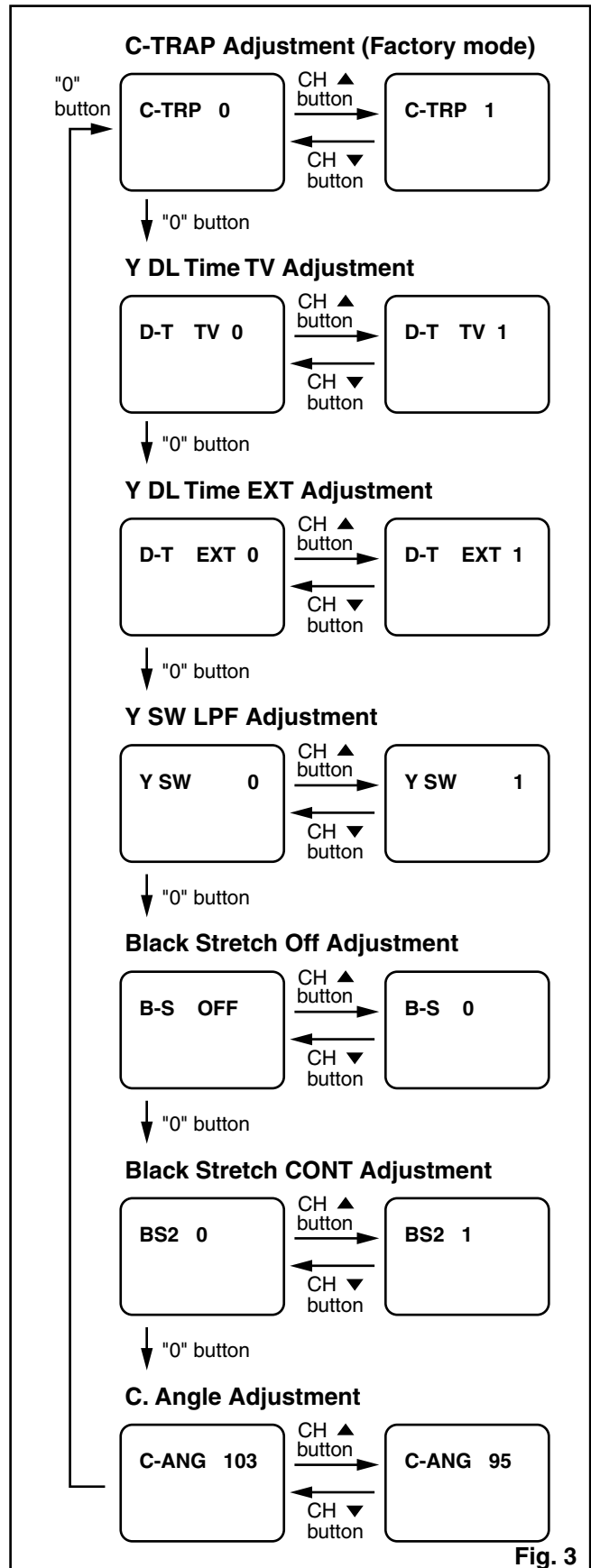
Y DL Time EXT Adjustment: Select "2" by pressing "CH ▲ / ▼" buttons on the service remote control.

Y SW LPF Adjustment: Select "0" by pressing "CH ▲ / ▼" buttons on the service remote control.

Black Stretch Off Adjustment: Select "OFF" by pressing "CH ▲ / ▼" buttons on the service remote control.

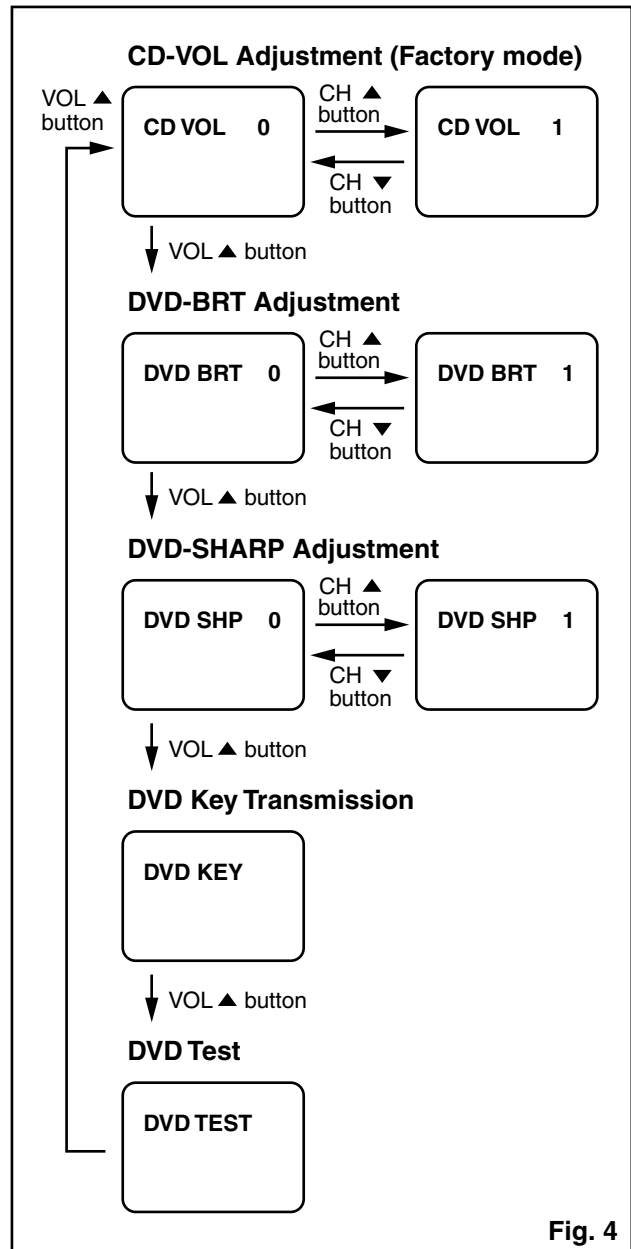
Black Stretch CONT Adjustment: Select "0" by pressing "CH ▲ / ▼" buttons on the service remote control.

C. Angle Adjustment: Select "103" by pressing "CH ▲ / ▼" buttons on the service remote control.



4. Setting for CD-VOL, DVD-BRT and DVD-SHARP Data Values

1. Enter the Service mode. (See page 1-6-1.)
2. **CD-VOL Adjustment:** Press "VOL ▲" button on the service remote control unit once to show "CD VOL" on the display.
DVD-BRT Adjustment: Press "VOL ▲" button on the service remote control unit twice to show "DVD BRT" on the display.
DVD-SHARP Adjustment: Press "VOL ▲" button on the service remote control unit three times to show "DVD SHP" on the display.
3. **CD-VOL Adjustment:** Select "7" by pressing "CH ▲ / ▼" buttons on the service remote control.
DVD-BRT Adjustment: Select "0" by pressing "CH ▲ / ▼" buttons on the service remote control.
DVD-SHARP Adjustment: Select "0" by pressing "CH ▲ / ▼" buttons on the service remote control.



5. H fo Adjustment

Purpose: To get correct horizontal position and size of screen image.

Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test point	Adj. Point	Mode	Input
R583	CH ▲ / ▼ buttons	Video	---
Tape	M. EQ.	Spec.	
---	Frequency Counter	15.734kHz±300Hz	

Note: R583 --- Sub CBA

1. Connect frequency counter to R583.
2. Operate the unit for at least 20 minutes.
3. Enter the Service mode. (See page 1-6-1.) Press "2" button on the remote control unit and select H-ADJ mode.
4. Press "CH ▲ / ▼" buttons on the remote control unit so that the display will change "0" to "7."
5. At this moment, choose display "0" to "7" when the frequency counter display is closest to 15.734kHz±300Hz.
6. Turn the power off and on again.

6. Cut-off Adjustment

Purpose: To adjust the beam current of R, G, B, and screen voltage.

Symptom of Misadjustment: White color may be reddish, greenish or bluish.

Test point	Adj. Point	Mode	Input
---	Screen-Control CH ▲ / ▼ buttons	RF	Black Raster
Tape	M. EQ.	Spec.	
---	Pattern Generator	See Reference Notes below	

Figure

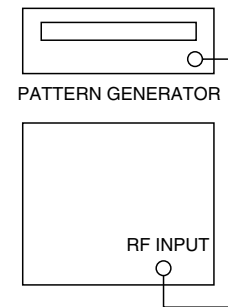


Fig. 5

Notes: Screen Control --- FBT (Sub CBA), FBT= Fly Back Transformer, Use the Remote Control Unit.

1. Degauss the CRT and allow the unit to operate for 20 minutes before starting the alignment.
2. Input the Black raster signal from RF input.
3. Enter the Service mode. (See page 1-6-1.)
4. Press the "VOL ▼" button.
(Press "VOL ▼" then display will change CUT OFF/DRIVE and 7Fh adjustment).
5. Choose CUT OFF/DRIVE mode then press "1" button. This adjustment mode is CUT OFF (R).
6. Increase the screen control so that the horizontal line just appears on the CRT.
7. Press the "CH ▲ / ▼" button until the horizontal line becomes white.
8. Choose CUT OFF/DRIVE mode then press "2" button. This adjustment mode is CUT OFF (G). Press "CH ▲ / ▼" until the horizontal line becomes white.
9. Choose CUT OFF/DRIVE mode then press "3" button. This adjustment mode is CUT OFF (B). Press "CH ▲ / ▼" until the horizontal line becomes white.
10. Turn the power off and on again.

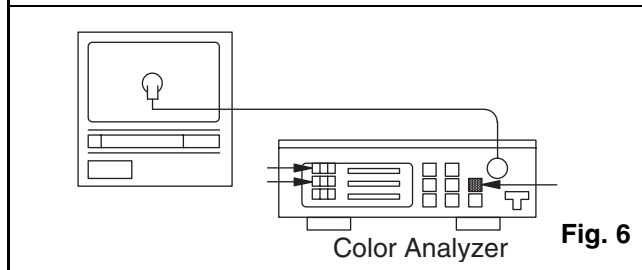
7. White Balance Adjustment

Purpose: To mix red, green and blue beams correctly for pure white.

Symptom of Misadjustment: White becomes bluish or reddish.

Test Point	Adj. Point	Mode	Input
Screen	CH ▲ / ▼ buttons	RF	White Raster (APL 100%)
Tape	M. EQ.	Spec.	
---	Pattern Generator, Color analyzer	See below	

Figure



Note: Use service remote control unit

1. Operate the unit more than 20 minutes.
2. Face the unit to the east. Degauss the CRT using a degaussing coil.
3. Input the White Raster (APL 100%).
4. Set the color analyzer to the CHROMA mode and after zero point calibration, bring the optical receptor to the center on the tube surface (CRT).
5. Enter the Service mode. Press "VOL ▼" button on the service remote control unit and select "C/D" mode. (Display changes "C/D" and "7F" cyclically when "VOL ▼" button is pressed.)
6. Press "4" button on the service remote control unit for Red adjustment. Press "5" button on the service remote control unit for Blue adjustment.
7. In each color mode, press "CH ▲ / ▼" button to adjust the values of color.
8. Adjust Red and Blue color so that the temperature becomes 9200K (x: 286 / y: 294) ±3%.
9. At this time, re-check that horizontal line is white. If not, re-adjust Cut-off Adjustment until the horizontal line becomes pure white.
10. Turn off and on again to return to normal mode. Receive APL 100% white signal and confirm that Chroma temperatures become 9200K (x: 286 / y: 294) ±3%.

Note: Confirm that Cut Off Adj. is correct after this adjustment, and attempt Cut Off Adj. if needed.

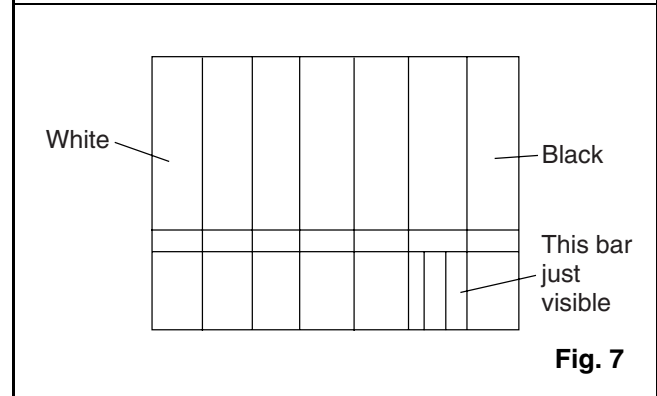
8. Sub-Brightness Adjustment

Purpose: To get proper brightness.

Symptom of Misadjustment: If Sub-Brightness is incorrect, proper brightness cannot be obtained by adjusting the Brightness Control.

Test point	Adj. Point	Mode	Input
---	CH ▲ / ▼ buttons	---	SMPTE 7.5IRE
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	

Figure



Note: SMPTE Setup level --- 7.5 IRE

1. Enter the Service mode. (See page 1-6-1.) Then input SMPTE signal from RF input.
2. Press "PICTURE" button. (Press "PICTURE" button then display will change BRT, CNT, COL, TNT, and V-TNT). Select BRT and press "CH ▲ / ▼" buttons so that the bar is just visible (See above figure).
3. Turn the power off and on again.

9. Focus Adjustment

Purpose: Set the optimum Focus.

Symptom of Misadjustment: If Focus Adjustment is incorrect, blurred images are shown on the display.

Test point	Adj. Point	Mode	Input
---	Focus Control	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below.	

Note: Focus VR --- FBT (Sub CBA), FBT= Fly Back Transformer

1. Operate the unit more than 30 minutes.
2. Face the unit to the East and degauss the CRT using a degaussing coil.
3. Input the monoscope pattern.
4. Adjust the Focus Control on the FBT to obtain a clear picture.

10. H. Position Adjustment

Purpose: To obtain correct horizontal position and size of screen image.

Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test point	Adj. Point	Mode	Input
---	CH ▲ / ▼ buttons	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	---	

1. Enter the Service mode. (See page 1-6-1.) Press "8" button on the remote control unit and select H-P mode.
2. Input monoscope pattern.
3. Press "CH ▲ / ▼" buttons on the remote control unit so that the left and right side of the monoscope pattern are equal to each other.
4. Turn the power off and on again.

11. V. Shift Adjustment

Purpose: To obtain correct vertical position of screen image.

Symptom of Misadjustment: If V. position is incorrect, vertical position of image on the screen may not be properly displayed.

Test point	Adj. Point	Mode	Input
---	CH ▲ / ▼ buttons	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	---	

1. Enter the Service mode. (See page 1-6-1.) Press "9" button on the remote control unit and select V-P mode. (Press "9" button then display will change to V-P and V-S).
2. Input monoscope pattern.
3. Press "CH ▲ / ▼" buttons on the remote control unit so that the top and bottom of the monoscope pattern are equal to each other.

12. V. Size Adjustment

Purpose: To obtain correct vertical height of screen image.

Symptom of Misadjustment: If V. Size is incorrect, vertical height of image on the screen may not be properly displayed.

Test point	Adj. Point	Mode	Input
---	CH ▲ / ▼ buttons	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	90±5%	

1. Enter the Service mode. (See page 1-6-1.) Press "9" button on the remote control unit and select V-S mode. (Press "9" button then display will change to V-P and V-S).
2. Input monoscope pattern.
3. Press "CH ▲ / ▼" buttons on the remote control unit so that the monoscope pattern is 90±5% of display size and the circle is round.

13. Head Switching Position Adjustment

Purpose: Determine the Head Switching Position during Playback.

Symptom of Misadjustment: May cause Head Switching Noise or Vertical Jitter in the picture.

Note: Unit reads Head Switching Position automatically and displays it on the screen (Upper Left Corner).

1. Playback test tape (VFMS0001H6).
2. Enter the Service mode. (See page 1-6-1.)
Then press the number "5" button on the remote control unit.
3. The Head Switching position will display on the screen; if adjustment is necessary follow step 4. 6.5H(412.7µs) is preferable.
4. Press "CH ▲" or "CH ▼" button on the remote control unit if necessary. The value will be changed in 0.5H steps up or down. Adjustable range is up to 9.5H. If the value is beyond adjustable range, the display will change as:
Lower out of range: 0.0H
Upper out of range: -.H
5. Turn the power off and on again.

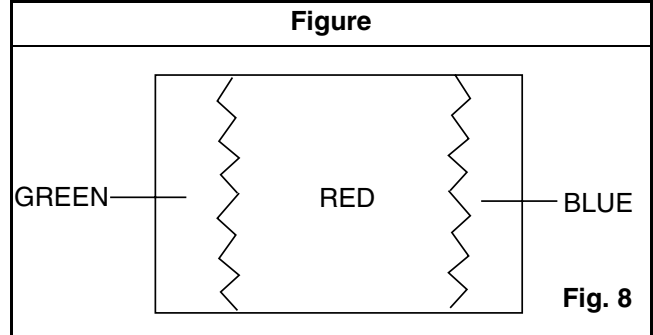
The following 2 adjustments normally are not attempted in the field. They should be done only when replacing the CRT then adjust as a preparation.

14. Purity Adjustment

Purpose: To obtain pure color.

Symptom of Misadjustment: If Color Purity Adjustment is incorrect, large areas of color may not be properly displayed.

Test point	Adj. Point	Mode	Input
---	Deflection Yoke Purity Magnet	---	*Red Color
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below.	



* This becomes RED COLOR if the 7KEY is pressed while in service mode.

1. Set the unit facing east.
2. Operate the unit for over 30 minutes before adjusting.
3. Fully degauss the unit using an external degaussing coil.
4. Set the unit to the AUX mode which is located before CH2 then input a red raster from video in.
5. Loosen the screw on the Deflection Yoke Clamper and pull the Deflection Yoke back away from the screen. (See Fig. 9.)
6. Loosen the Ring Lock and adjust the Purity Magnets so that a red field is obtained at the center of the screen. Tighten Ring Lock. (See Fig. 8,9.)
7. Slowly push the Deflection Yoke toward the bell of the CRT and set it where a uniform red field is obtained.
8. Tighten the clamp screw on the Deflection Yoke.

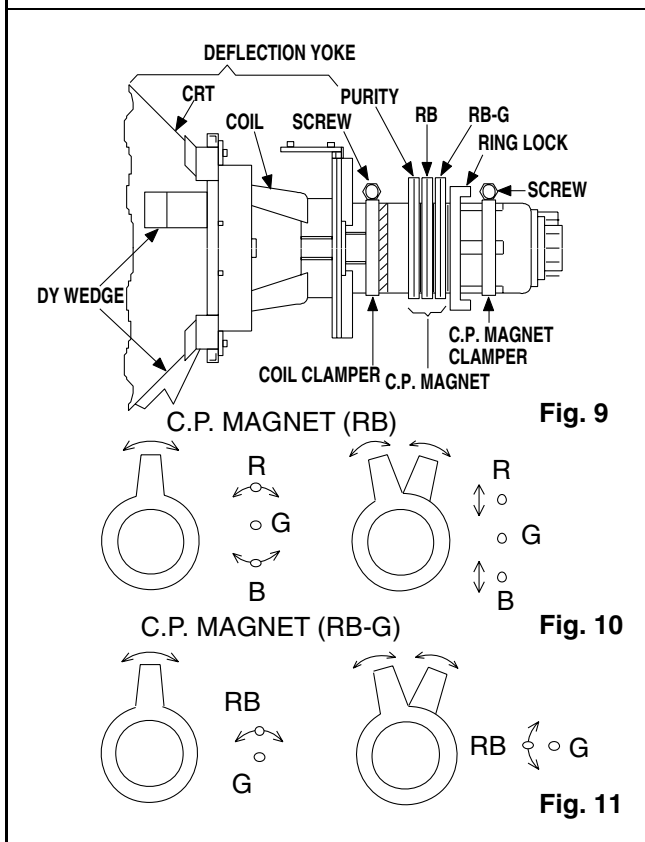
15. Convergence Adjustment

Purpose: To obtain proper convergence of red, green and blue beams.

Symptom of Misadjustment: If Convergence Adjustment is incorrect, the edge of white letters may have color edges.

Test point	Adj. Point	Mode	Input
---	C.P. Magnet (RB), C.P. Magnet (RB-G), Deflection Yoke	---	Dot Pattern or Crosshatch
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below.	

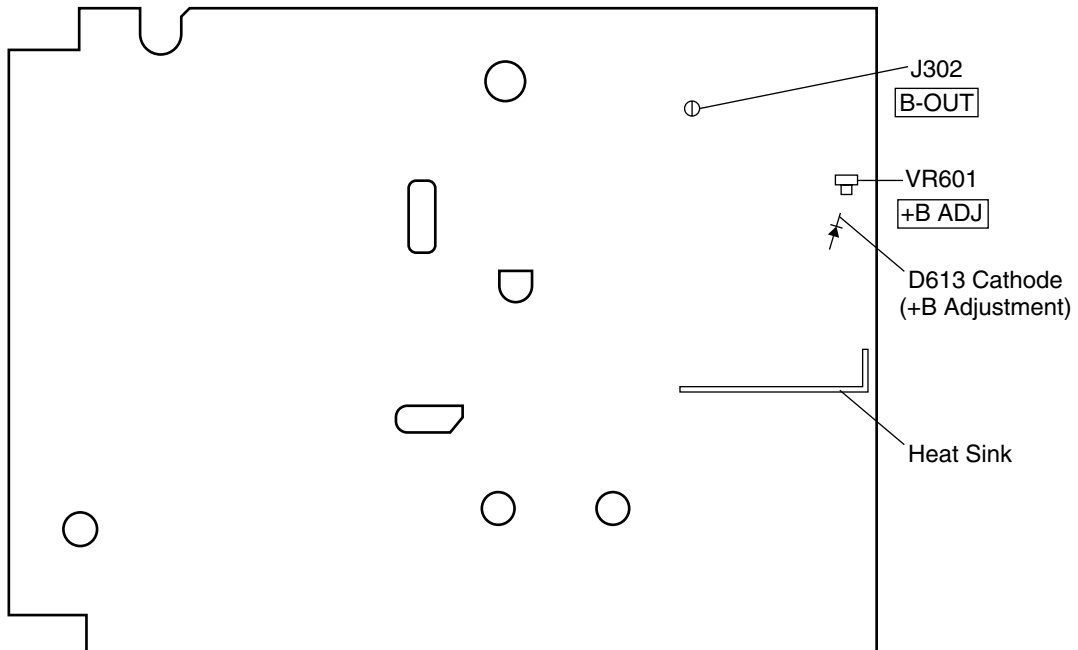
Figure



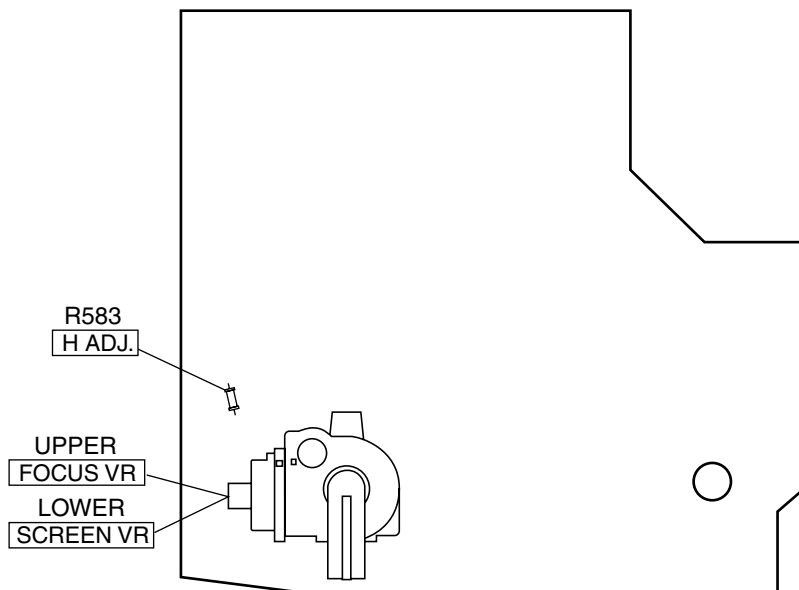
1. Set the unit to the AUX mode which is located before CH2 then input a dot or crosshatch pattern.
2. Loosen the Ring Lock and align red with blue dots or crosshatch at the center of the screen by rotating (RB) C.P. Magnets. (See Fig. 10.)
3. Align red / blue with green dots at the center of the screen by rotating (RB-G) C.P. Magnet. (See Fig. 11.)
4. Fix the C.P. Magnets by tightening the Ring Lock.
5. Remove the DY Wedges and slightly tilt the Deflection Yoke horizontally and vertically to obtain the best overall convergence.
6. Fix the Deflection Yoke by carefully inserting the DY Wedges between CRT and Deflection Yoke.

Adjustment Points and Test Points

Main CBA

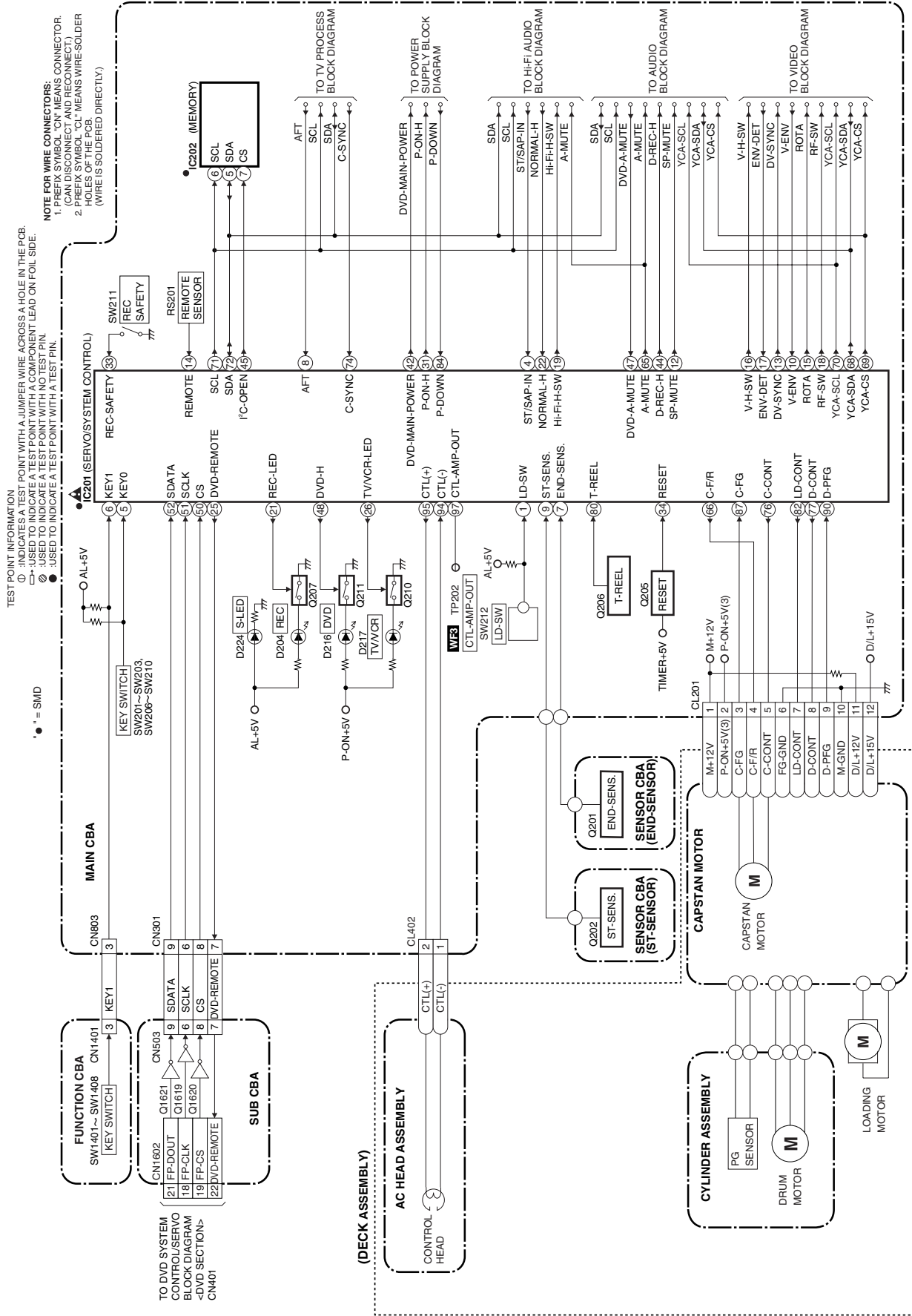


Sub CBA



BLOCK DIAGRAMS < TV/VCR Section >

System Control / Servo Block Diagram



Video Block Diagram

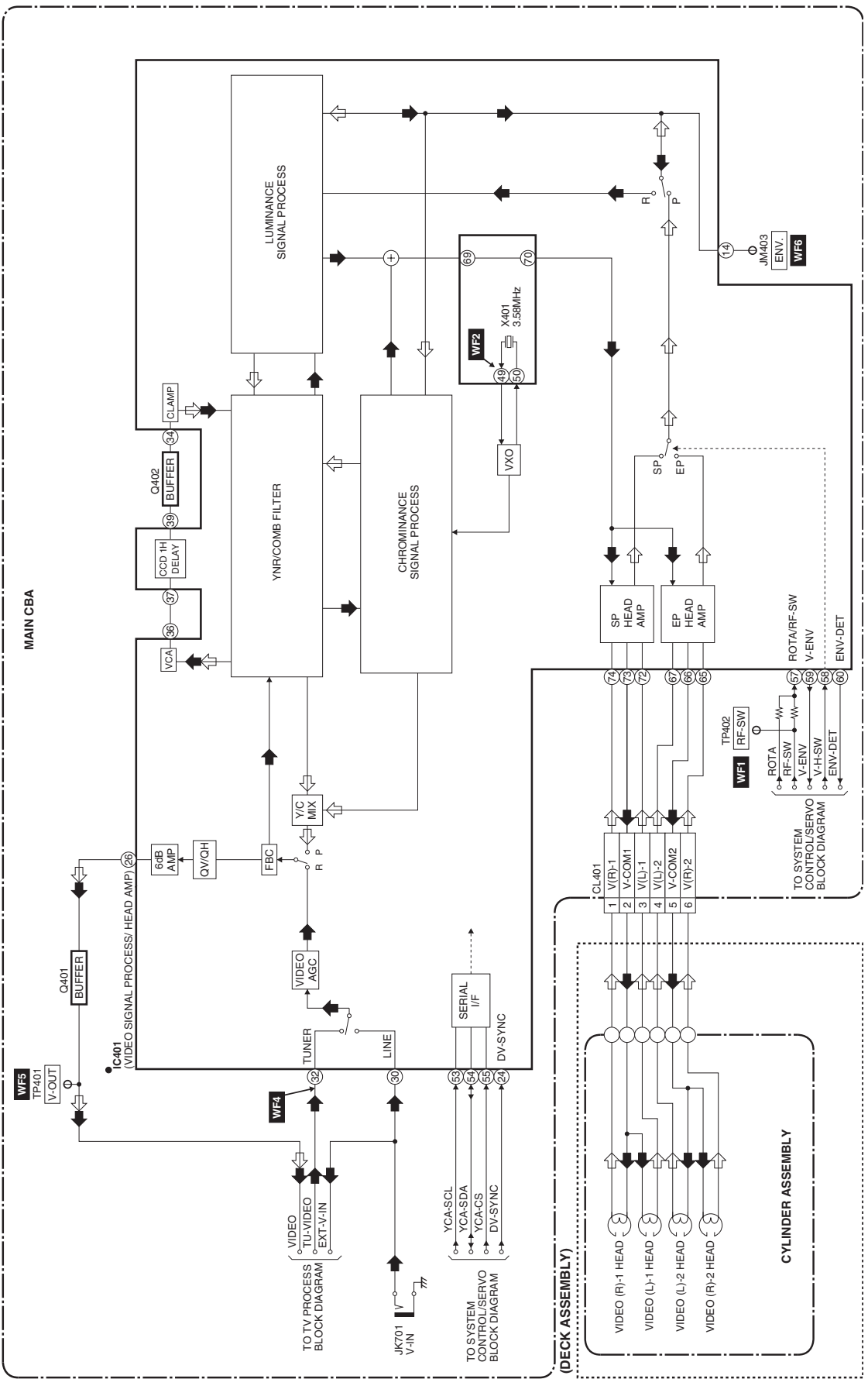
TEST POINT INFORMATION

- : WATERS-TYPE TEST POINT WITH A HOLE IN THE PCB.
- : USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOL SIDE.
- : USED TO INDICATE A TEST POINT WITH NO TEST PIN.
- : USED TO INDICATE A TEST POINT WITH A TEST PIN.

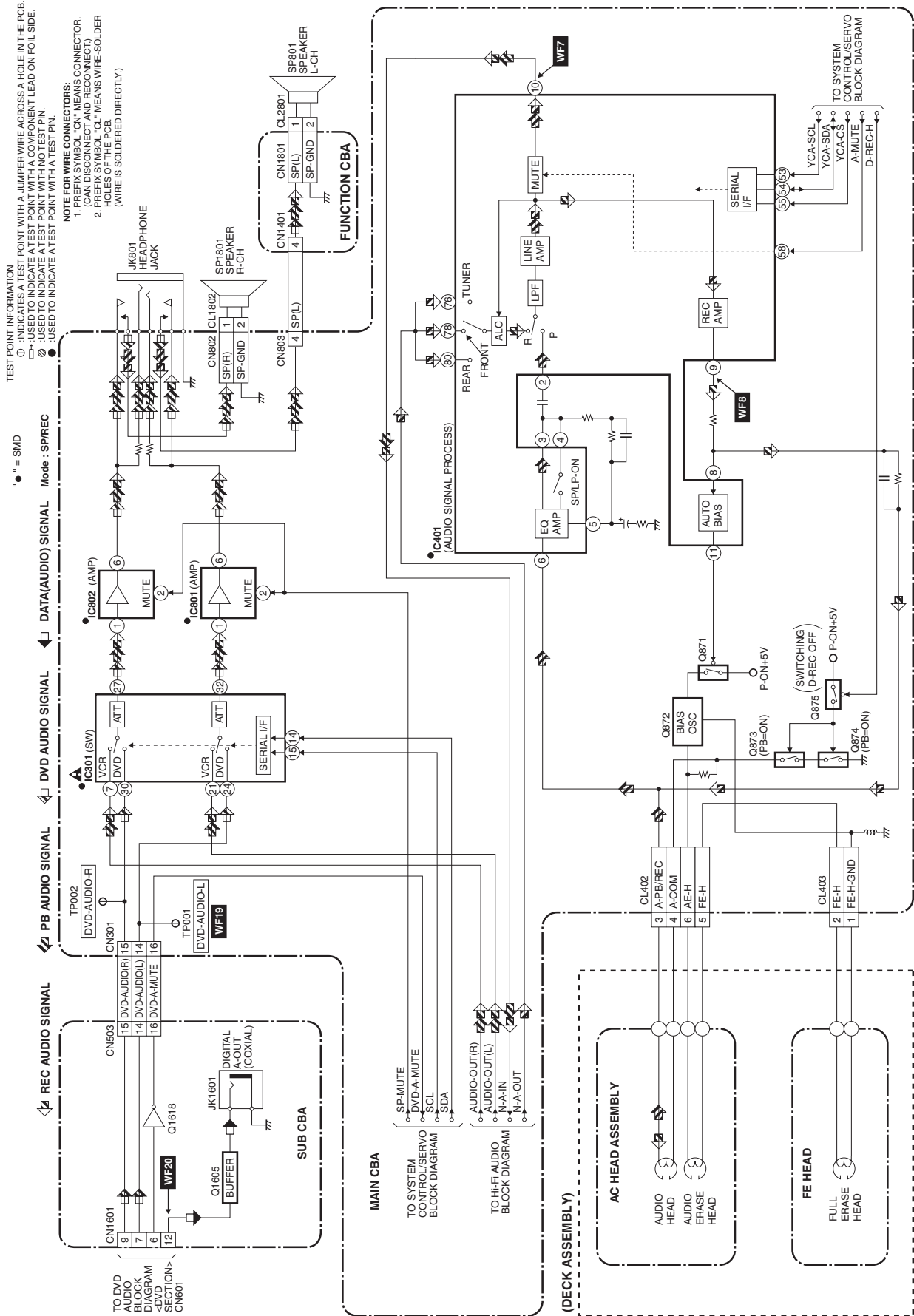
* = SMD

NOTE FOR WIRE CONNECTORS:

1. PREFIX SYMBOL "CN" MEANS CONNECTOR. (CAN DISCONNECT AND RECONNECT)
2. PREFIX SYMBOL "CL" MEANS WIRE SOLDIER HOLES OF THE PCB. (WIRE IS SOLDERED DIRECTLY)



Audio Block Diagram

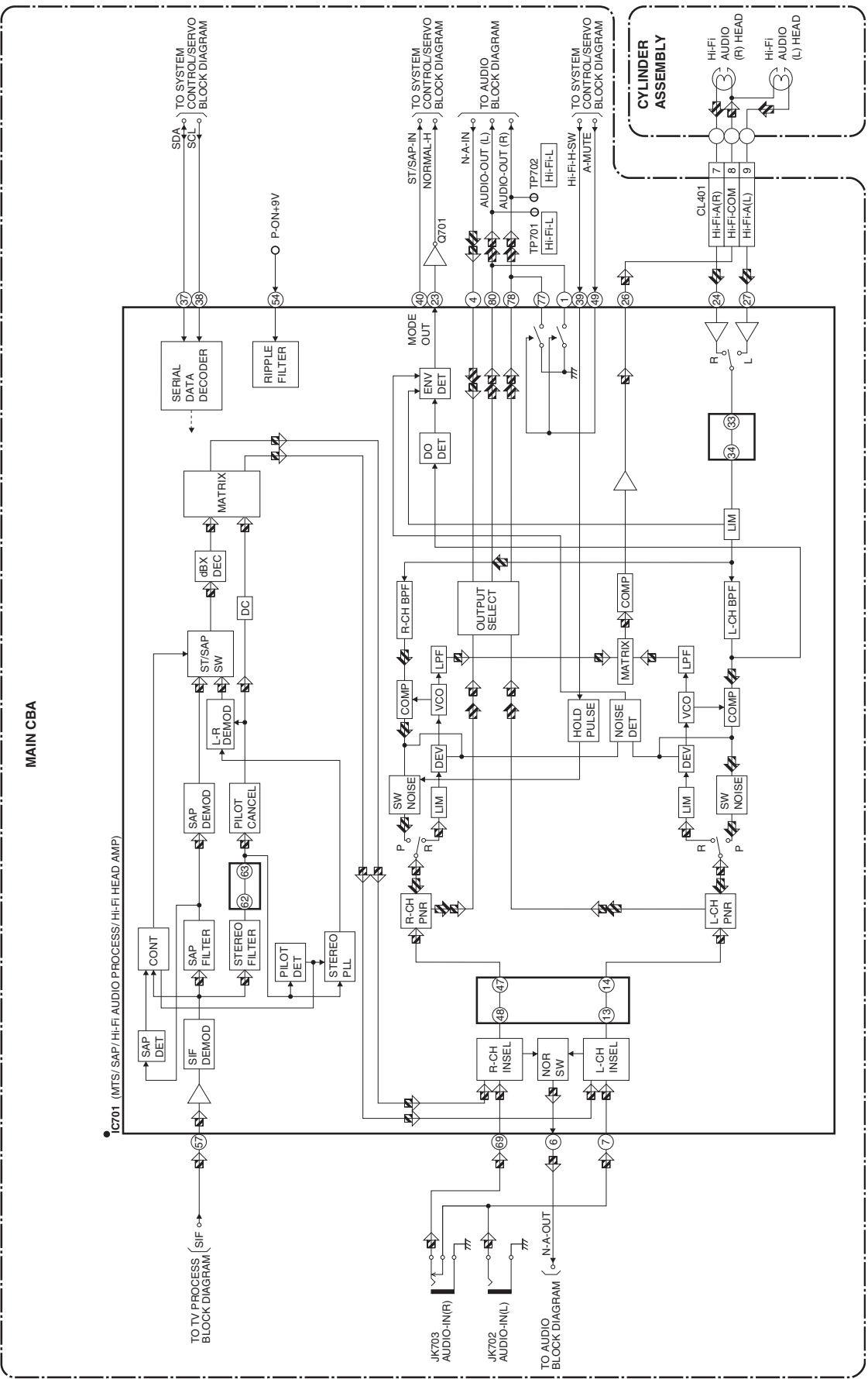


Hi-Fi Audio Block Diagram

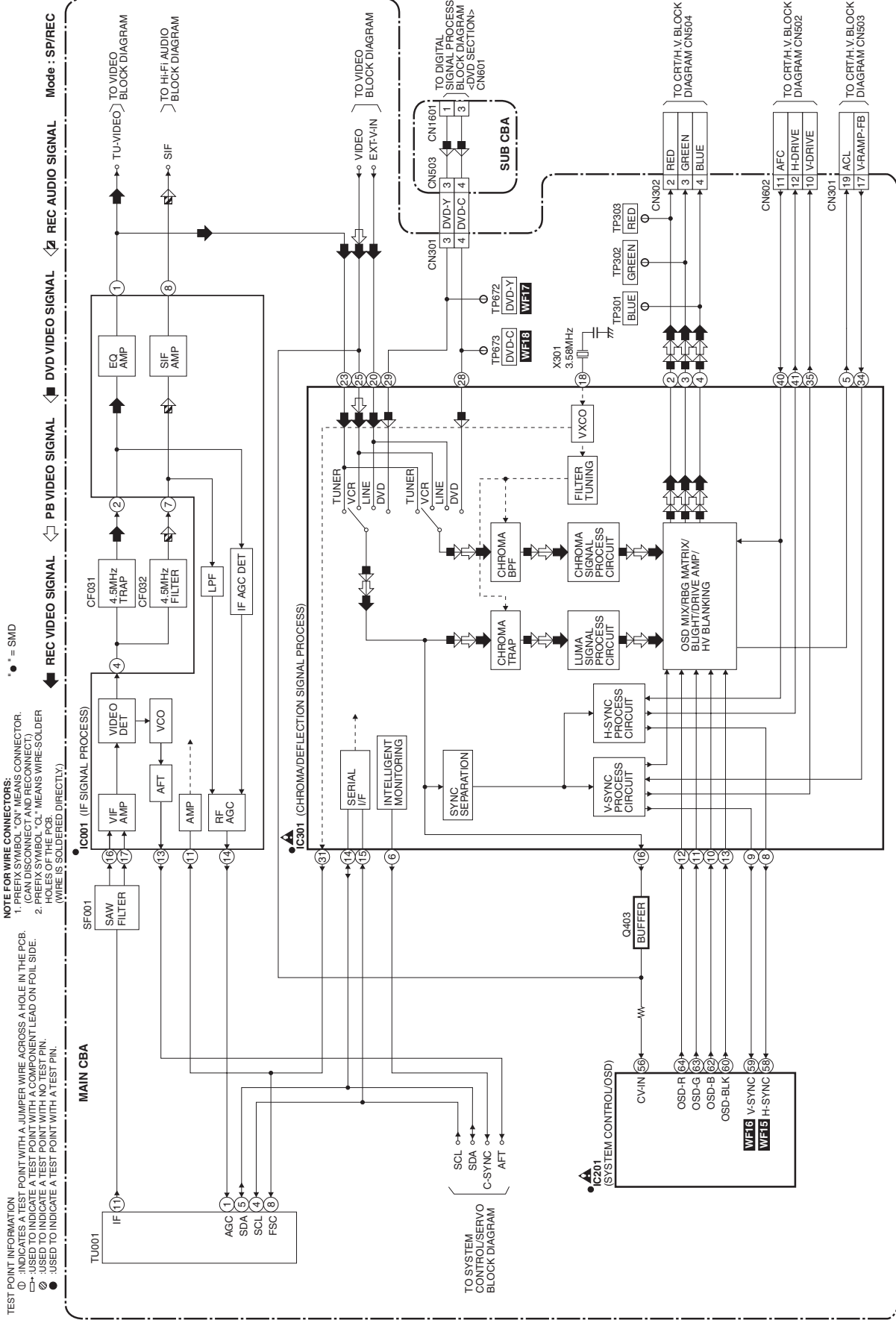
TEST POINT INFORMATION
 ○ INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
 ○ INDICATES A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
 ○-○ USED TO INDICATE A TEST POINT WITH NO TEST PIN.
 ● USED TO INDICATE A TEST POINT WITH A TEST PIN.
 ● USED TO INDICATE A TEST POINT WITH A TEST PIN.
 ● WIRE IS SOLDERED DIRECTLY.

NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 (CAN DISCONNECT AND RECONNECT)
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY).

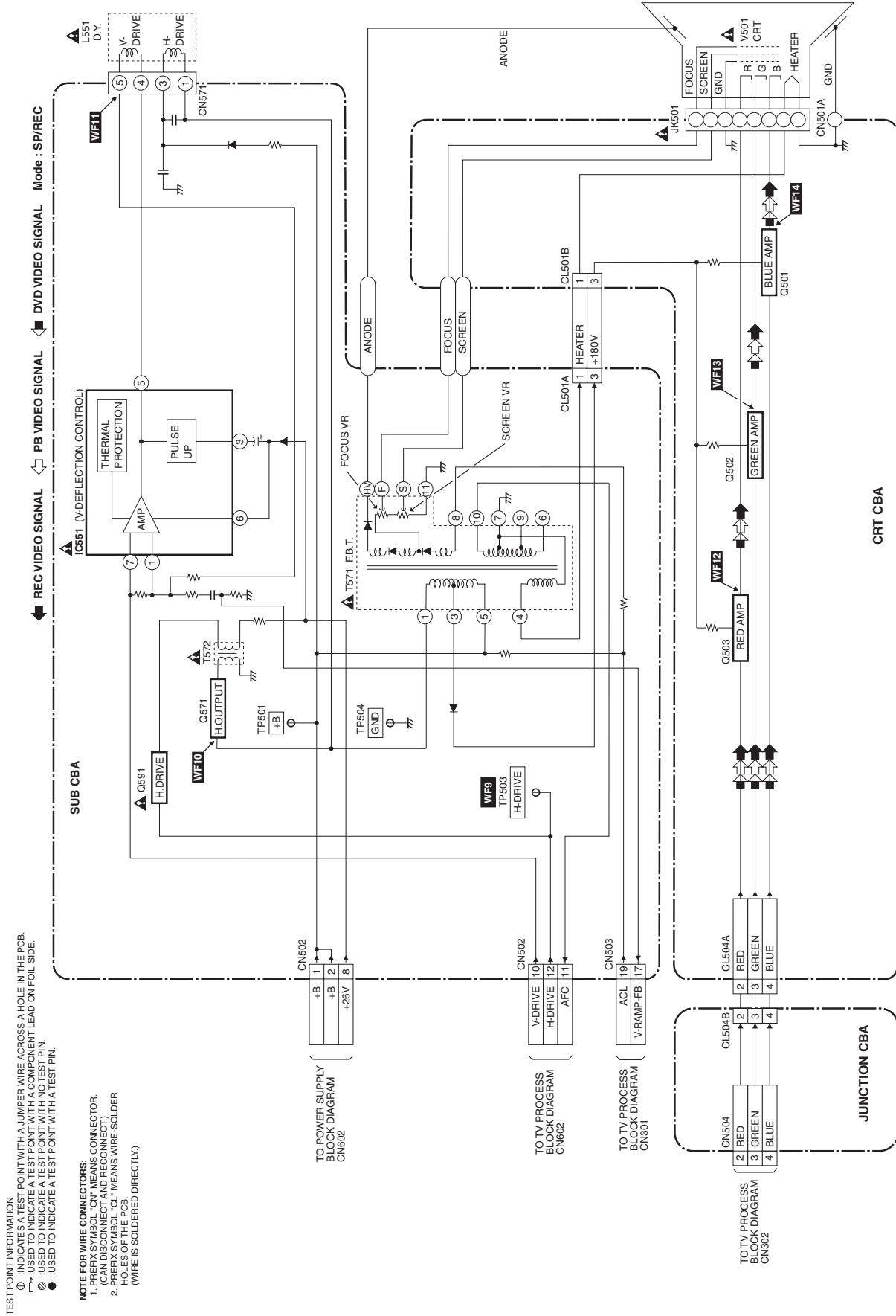
MODE: SP/REC



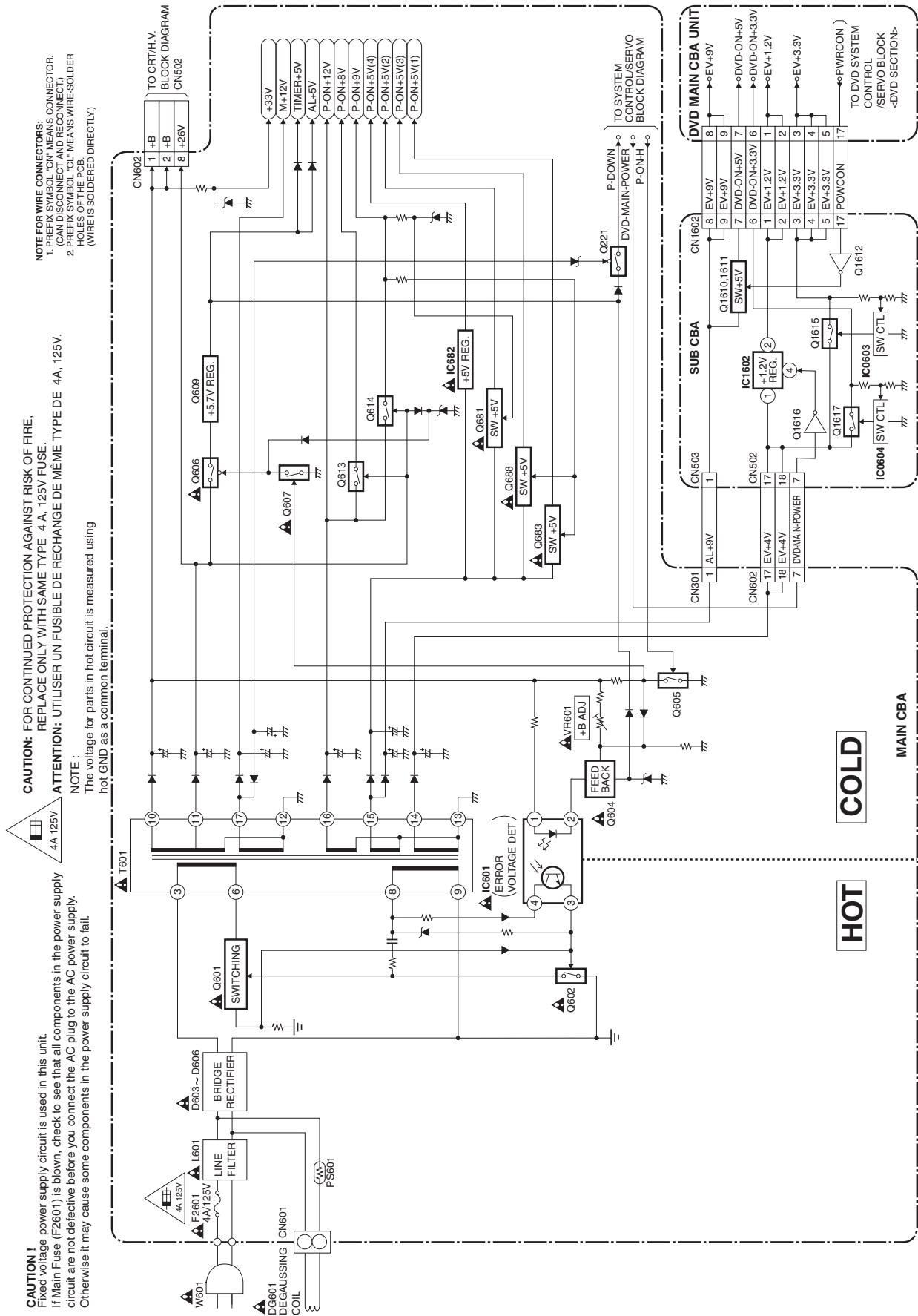
TV Process Block Diagram



CRT/H.V. Block Diagram





Power Supply Block Diagram



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

Critical components having special safety characteristics are identified with a  by the Ref. No. in the parts list and enclosed within a broken line* (where several critical components are grouped in one area) along with the safety symbol  on the schematics or exploded views.

Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire or other hazards.

Under no circumstances should the original design be modified or altered without written permission from Philips Consumer Electronics Company. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.

* Broken Line : 

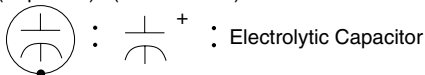
Capacitor Temperature Markings

Mark	Capacity change rate	Standard temperature	Temperature range
(B)	±10%	20°C	-25~+85°C
(F)	+30 - 80%	20°C	-25~+85°C
(SR)	±15%	20°C	-25~+85°C
(Z)	±22.5%	20°C	-25~+85°C

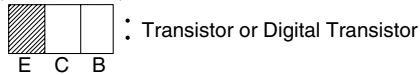
Capacitors and transistors are represented by the following symbols.

< PCB Symbols >

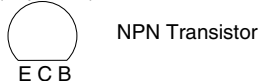
(Top View) (Bottom View)



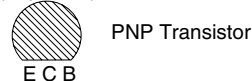
(Bottom View)



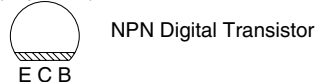
(Top View)



(Top View)



(Top View)

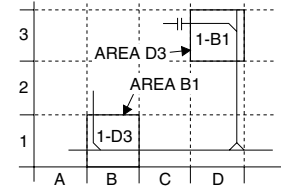
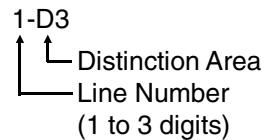


(Top View)



Notes:

- Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
- To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.
- How to read converged lines.

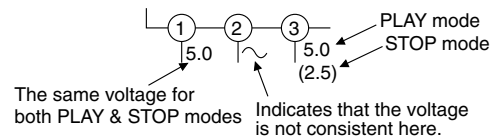


Examples:

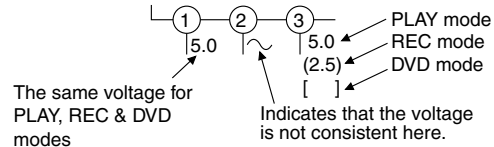
- "1-D3" means that line number "1" goes to area "D3."
- "1-B1" means that line number "1" goes to area "B1."
- All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).
- Resistor wattages are 1/4W or 1/6W unless otherwise specified.
- All capacitance values are indicated in μF ($P=10^{-6} \mu F$).
- All voltages are DC voltages unless otherwise specified.
- Voltage indications for PLAY and REC modes on the schematics are as shown below

< DVD Section >

Unit: Volts

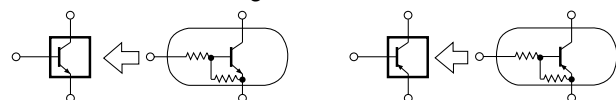


< TV/VCR Section >



< Schematic Diagram Symbols >

Digital Transistor

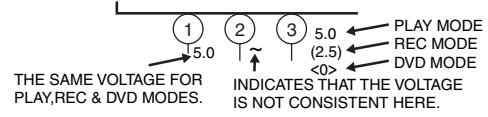


Main 1/6 Schematic Diagram Parts Location Guide

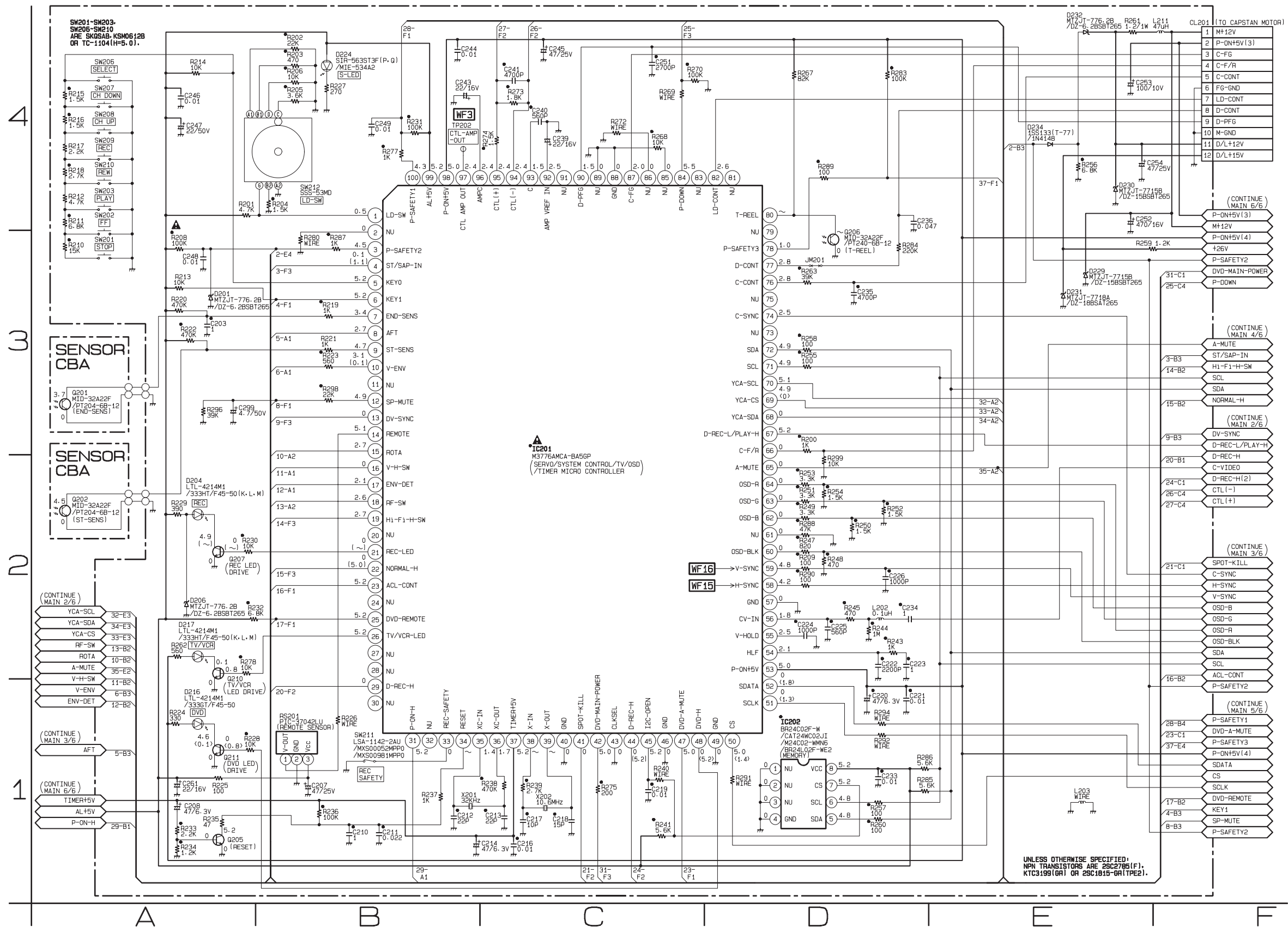
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		RESISTORS		RESISTORS	
C203	A-3	D204	A-2	R220	A-3	R268	C-4
C207	B-1	D206	A-2	R221	B-3	R269	C-4
C208	A-1	D216	A-1	R222	A-3	R270	C-4
C210	B-1	D217	A-2	R223	B-3	R272	C-4
C211	B-1	D224	B-4	R224	A-1	R273	C-4
C212	B-1	D229	E-3	R225	A-1	R274	C-4
C213	C-1	D230	E-4	R226	B-1	R275	C-1
C214	C-1	D231	E-3	R227	B-4	R277	B-4
C216	C-1	D232	E-4	R228	A-1	R278	A-1
C217	C-1	D234	E-4	R229	A-2	R280	B-3
C218	C-1	ICS		R230	A-2	R283	D-4
C219	C-1	IC201	C-3	R231	B-4	R284	D-3
C220	D-1	IC202	D-1	R232	A-2	R285	D-1
C221	D-1	COILS		R233	A-1	R286	D-1
C222	D-2	L202	D-2	R234	A-1	R287	B-3
C223	D-2	L203	E-1	R235	A-1	R288	D-2
C224	D-2	L211	F-4	R236	B-1	R289	D-4
C225	D-2	TRANSISTORS		R237	B-1	R290	D-2
C226	D-2	Q205	A-1	R238	C-1	R291	D-1
C233	D-1	Q206	D-3	R239	C-1	R292	D-1
C234	D-2	Q207	A-2	R240	C-1	R294	D-1
C235	D-3	Q210	A-2	R241	C-1	R296	A-3
C236	D-4	Q211	A-1	R243	D-2	R298	B-3
C239	C-4	RESISTORS		R244	D-2	R299	D-2
C240	C-4	R200	D-3	R245	D-2	SWITCHES	
C241	C-4	R201	A-4	R247	D-2	SW201	A-3
C243	B-4	R202	B-4	R248	D-2	SW202	A-4
C244	B-4	R203	B-4	R249	D-2	SW203	A-4
C245	C-4	R204	B-4	R250	D-2	SW206	A-4
C246	A-4	R205	B-4	R251	D-2	SW207	A-4
C247	A-4	R206	B-4	R252	D-2	SW208	A-4
C248	A-3	R208	A-3	R253	D-2	SW209	A-4
C249	B-4	R209	D-2	R254	D-2	SW210	A-4
C251	C-4	R210	A-3	R255	D-3	SW211	B-1
C252	E-4	R211	A-4	R256	E-4	SW212	B-4
C253	E-4	R212	A-4	R257	D-1	CRYSTAL OSCILLATORS	
C254	E-4	R213	A-3	R258	D-3	X201	B-1
C261	A-1	R214	A-4	R259	E-3	X202	C-1
C299	A-3	R215	A-4	R260	D-1	MISCELLANEOUS	
CONNECTOR		R216	A-4	R261	E-4	RS201	B-1
CL201	F-4	R217	A-4	R262	A-1	TEST POINT	
DIODES		R218	A-4	R263	D-3	TP202	B-4
D201	A-3	R219	B-3	R267	D-4		

Main 1/6 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



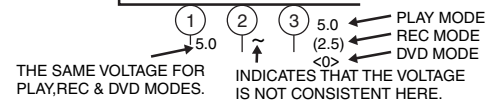
"•" = SMD



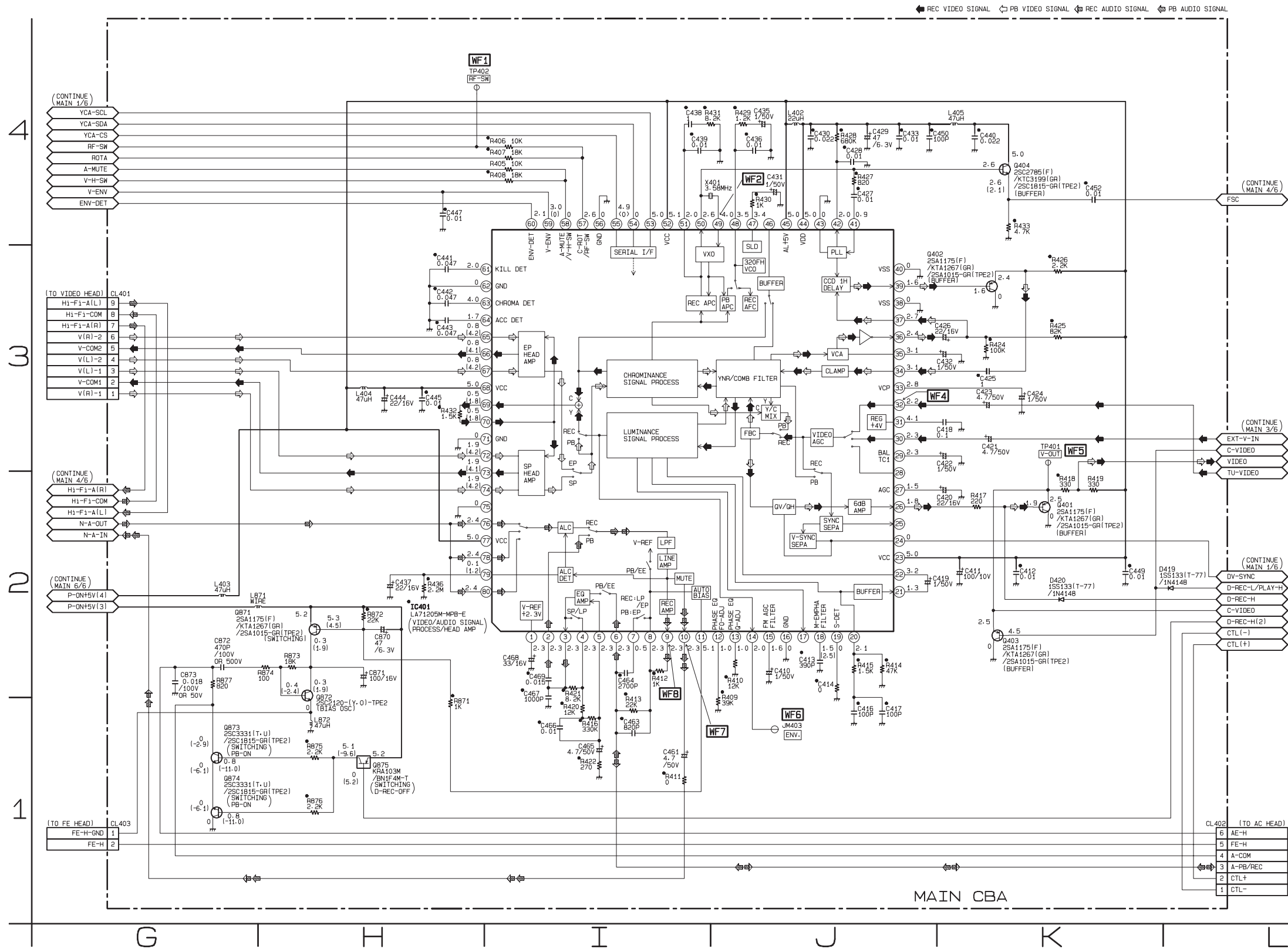
UNLESS OTHERWISE SPECIFIED:
NPN TRANSISTORS ARE 2SC2785(F),
KTC3199(OR) OR 2SC1815-GR(TPE2).

Main 2/6 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



● = SMD



Main 2/6 Schematic Diagram Parts Location Guide

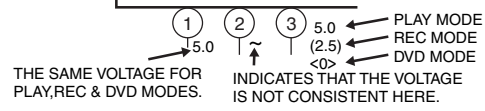
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		COILS		RESISTORS	
C410	J-2	C443	H-3	L404	H-3	R421	I-2
C411	K-2	C444	H-3	L405	K-4	R422	I-1
C412	K-2	C445	H-3	L871	G-2	R424	K-2
C413	J-2	C447	H-4	L872	H-1	R425	K-2
C414	J-2	C449	K-2	TRANSISTORS		R426	K-2
C416	J-1	C450	J-4	Q401	K-2	R427	J-4
C417	J-1	C452	K-4	Q402	K-3	R428	J-4
C418	K-3	C461	I-1	Q403	K-2	R429	J-4
C419	J-2	C463	I-1	Q404	K-4	R430	J-4
C420	K-2	C464	I-2	Q871	G-2	R431	I-4
C421	K-3	C465	I-1	Q872	H-2	R432	H-3
C422	K-3	C466	I-1	Q873	G-1	R433	K-4
C423	K-3	C467	I-2	Q874	G-1	R436	H-2
C424	K-3	C468	I-2	Q875	H-1	R871	H-1
C425	K-3	C469	I-2	RESISTORS		R872	H-2
C426	K-3	C870	H-2	R405	I-4	R873	H-2
C427	J-4	C871	H-2	R406	I-4	R874	H-2
C428	J-4	C872	G-2	R407	I-4	R875	H-1
C429	J-4	C873	G-2	R408	I-4	R876	H-1
C430	J-4	CONNECTORS		R409	J-1	R877	G-2
C431	J-4	CL401	G-3	R410	J-2	CRYSTAL OSCILLATOR	
C432	K-3	CL402	L-1	R411	I-1	X401	J-4
C433	J-4	CL403	G-1	R412	I-2	TEST POINTS	
C435	J-4	DIODES		R413	I-1	JM403	J-1
C436	J-4	D419	K-2	R414	J-2	TP401	K-3
C437	H-2	D420	K-2	R415	J-2	TP402	H-4
C438	I-4	IC		R416	I-1		
C439	I-4	IC401	H-2	R417	K-2		
C440	K-4	COILS		R418	K-2		
C441	H-3	L402	J-4	R419	K-2		
C442	H-3	L403	G-2	R420	I-1		

Main 3/6 Schematic Diagram Parts Location Guide

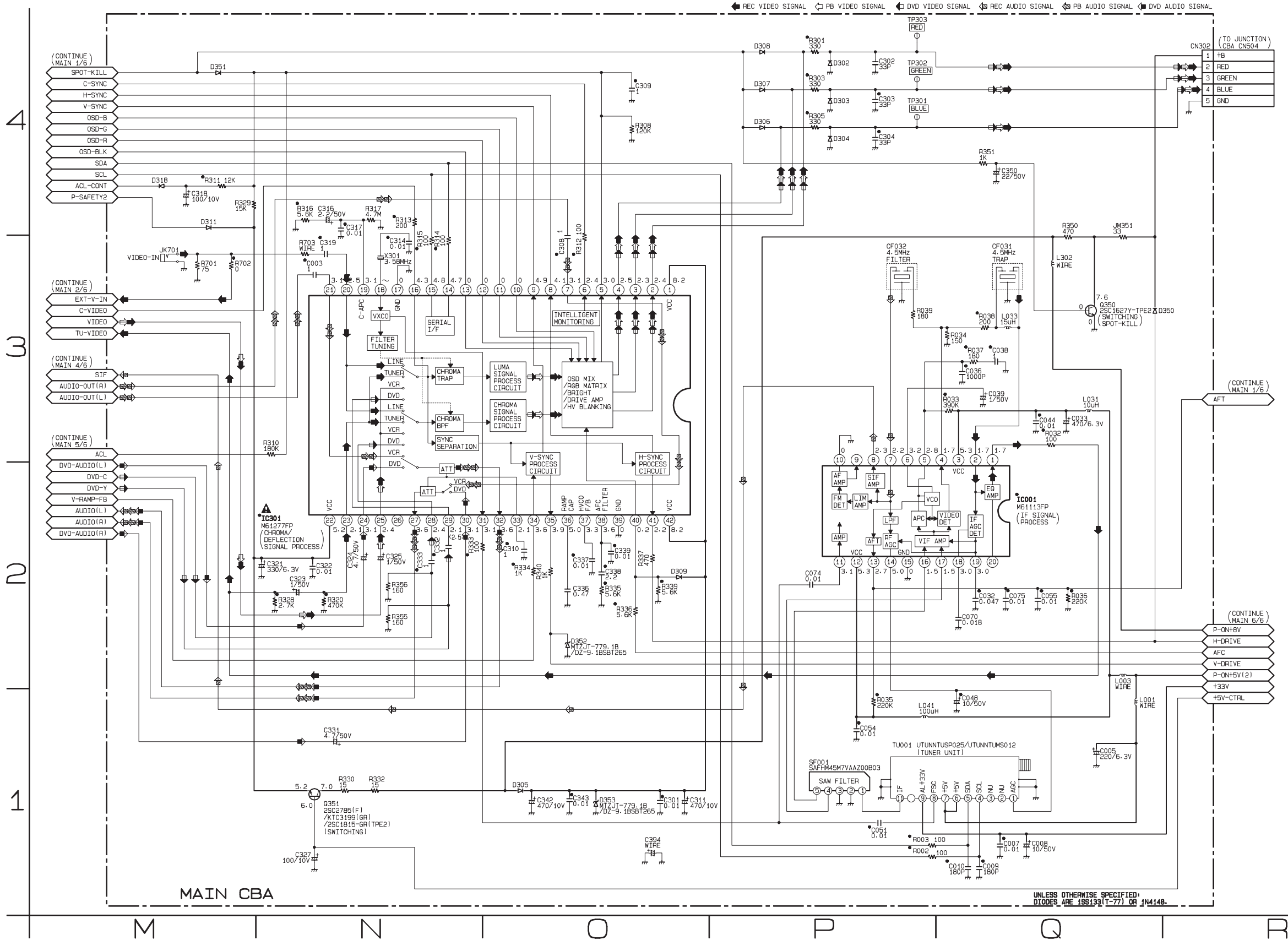
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		ICS		RESISTORS	
C003	N-3	C323	N-2	IC301	N-2	R320	N-2
C005	Q-1	C324	N-2	COILS		R328	N-2
C007	Q-1	C325	N-2	L001	Q-1	R329	M-4
C008	Q-1	C327	N-1	L003	Q-2	R330	N-1
C009	Q-1	C331	N-1	L031	Q-3	R332	N-1
C010	Q-1	C332	N-2	L033	Q-3	R333	N-2
C032	Q-2	C333	N-2	L041	P-1	R334	O-2
C033	Q-3	C336	O-2	L302	Q-3	R335	O-2
C036	Q-3	C337	O-2	TRANSISTORS		R336	O-2
C038	Q-3	C338	O-2	Q350	Q-3	R337	O-2
C039	Q-3	C339	O-2	Q351	N-1	R339	O-2
C044	Q-3	C342	O-1	RESISTORS		R340	O-2
C048	Q-1	C343	O-1	R002	P-1	R350	Q-4
C051	P-1	C350	Q-4	R003	P-1	R351	Q-4
C054	P-1	C394	O-1	R032	Q-3	R355	N-2
C055	Q-2	CONNECTOR		R033	Q-3	R356	N-2
C070	Q-2	CN302	R-4	R034	Q-3	R701	M-3
C074	P-2	DIODES		R035	P-1	R702	M-3
C075	Q-2	D302	P-4	R036	Q-2	R703	N-3
C301	O-1	D303	P-4	R037	Q-3	CRYSTAL OSCILLATOR	
C302	P-4	D304	P-4	R038	Q-3	X301	N-3
C303	P-4	D305	O-1	R039	P-3	MISCELLANEOUS	
C304	P-4	D306	P-4	R301	P-4	CF031	Q-3
C308	O-3	D307	P-4	R303	P-4	CF032	P-3
C309	O-4	D308	P-4	R305	P-4	JK701	M-1
C310	O-2	D309	O-2	R308	O-4	SF001	P-1
C311	O-1	D311	M-4	R310	N-3	TU001	P-3
C314	N-3	D318	M-4	R311	M-4	TEST POINTS	
C316	N-4	D350	Q-3	R312	O-3	TP301	P-4
C317	N-3	D351	M-4	R313	N-4	TP302	P-4
C318	M-4	D352	O-2	R314	N-3	TP303	P-4
C319	N-3	D353	O-1	R315	N-3		
C321	N-2	ICS		R316	N-4		
C322	N-2	IC001	Q-2	R317	N-4		

Main 3/6 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



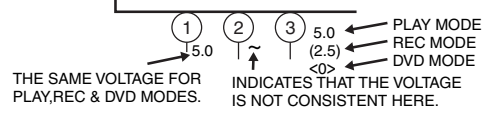
*• = SMD



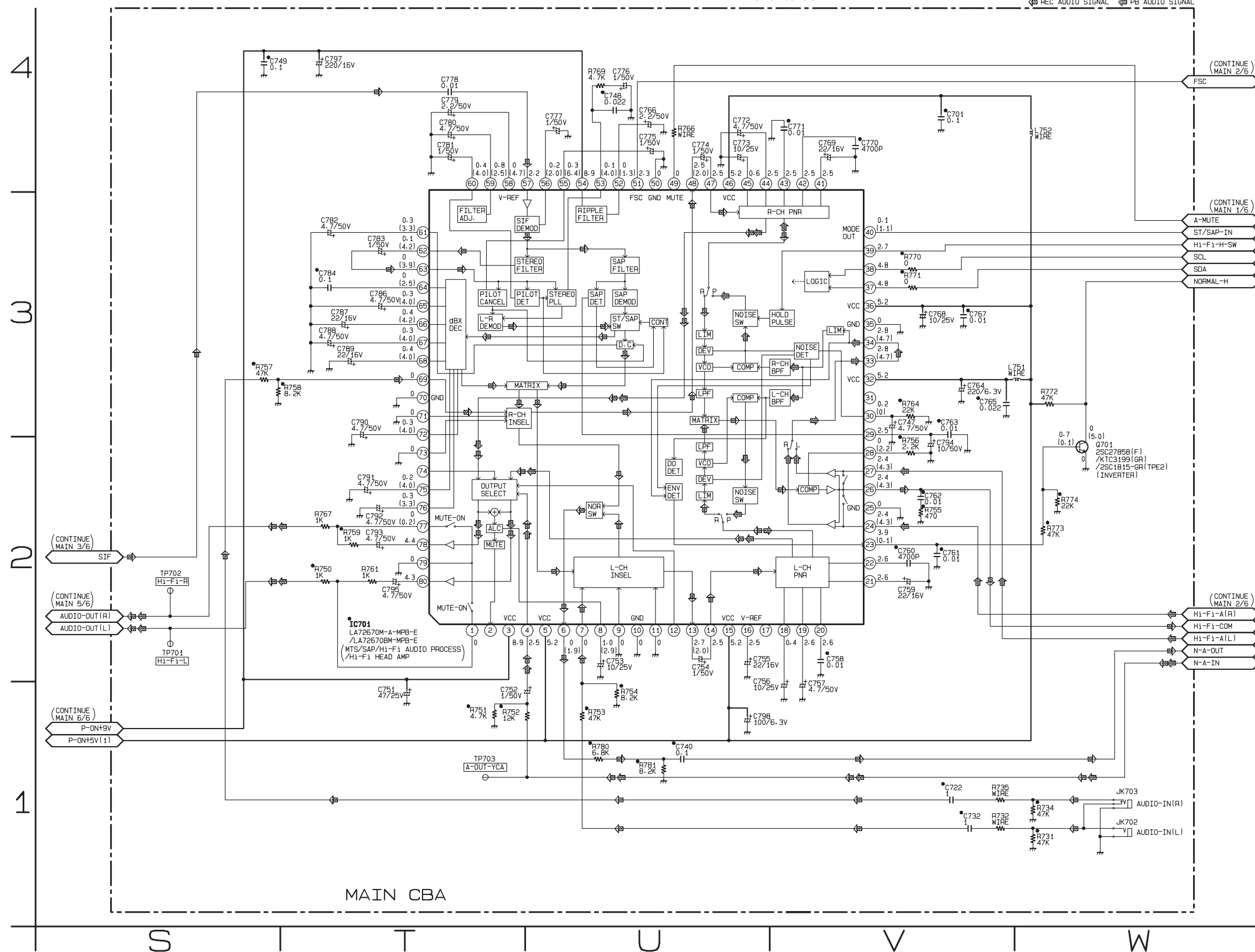
UNLESS OTHERWISE SPECIFIED: DIODES ARE 1SS133(T-77) OR 1N4148.

Main 4/6 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



● = SMD



MAIN CBA

Main 4/6 Schematic Diagram Parts Location Guide

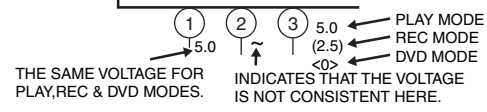
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		CAPACITORS		RESISTORS	
C701	V-4	C766	U-4	C791	T-2	R755	V-2
C722	V-1	C767	V-3	C792	T-2	R756	V-2
C723	V-1	C768	V-3	C793	T-2	R757	S-3
C732	V-1	C769	V-4	C794	V-2	R758	T-2
C733	V-1	C770	V-4	C795	T-2	R759	T-2
C740	U-1	C771	V-4	C797	T-4	R761	T-2
C747	V-3	C772	U-4	C798	U-1	R764	V-3
C748	U-4	C773	U-4	IC		R766	U-4
C749	S-4	C774	U-4	IC701	T-2	R767	T-2
C751	T-1	C775	U-4	COILS		R769	U-4
C752	T-1	C776	U-4	L751	V-3	R770	V-3
C753	U-2	C777	U-4	L752	W-4	R771	V-3
C754	U-2	C778	T-4	TRANSISTOR		R772	W-3
C755	U-2	C779	T-4	Q701	W-2	R773	W-2
C756	U-1	C780	T-4	RESISTORS		R774	W-2
C757	V-1	C781	T-4	R731	W-1	R780	U-1
C758	V-2	C782	T-3	R732	V-1	R781	U-1
C759	V-2	C783	T-3	R734	W-1	MISCELLANEOUS	
C760	V-2	C784	T-3	R735	V-1	JK702	W-1
C761	V-2	C786	T-3	R750	T-2	JK703	W-1
C762	V-2	C787	T-3	R751	T-1	TEST POINTS	
C763	V-3	C788	T-3	R752	T-1	TP701	S-2
C764	V-3	C789	T-3	R753	U-1	TP702	S-2
C765	V-3	C790	T-3	R754	U-1	TP703	T-1

Main 5/6 Schematic Diagram Parts Location Guide

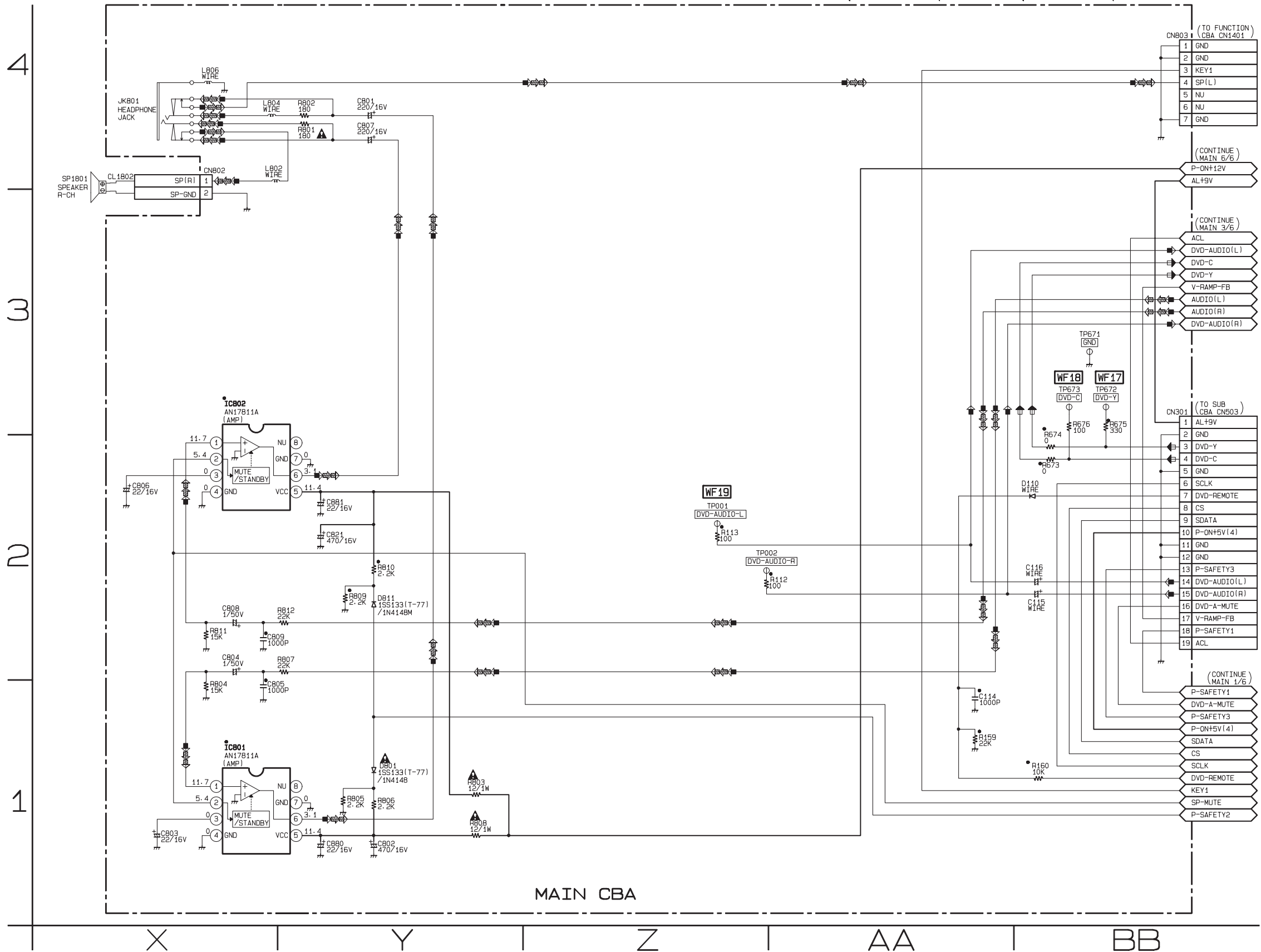
Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		RESISTORS	
C114	AA-1	D801	Y-1	R804	X-1
C115	BB-2	D811	Y-2	R805	Y-1
C116	BB-2	ICS		R806	Y-1
C801	Y-4	IC801	X-1	R807	Y-2
C802	Y-1	IC802	X-3	R808	Y-1
C803	X-1	COILS		R809	Y-2
C804	X-2	L802	X-4	R810	Y-2
C805	X-1	L804	X-4	R811	X-2
C806	X-2	L806	X-4	R812	Y-2
C807	Y-4	RESISTORS		MISCELLANEOUS	
C808	X-2	R112	AA-2	JK801	X-4
C809	X-2	R113	Z-2	TEST POINTS	
C821	Y-2	R159	AA-1	TP001	Z-2
C880	Y-1	R160	BB-1	TP002	Z-2
C881	Y-2	R673	BB-2	TP671	BB-3
CONNECTORS		R674	BB-2	TP672	BB-3
CN301	BB-3	R675	BB-3	TP673	BB-3
CN802	X-4	R676	BB-3		
CN803	BB-4	R801	Y-4		
DIODES		R802	Y-4		
D110	BB-2	R803	Y-1		

Main 5/6 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



*• = SMD



MAIN CBA

(TO FUNCTION)
CBA CN1401

1	GND
2	GND
3	KEY1
4	SP(L)
5	NU
6	NU
7	GND

(CONTINUE)
MAIN 6/6

(CONTINUE)
MAIN 3/6

ACL
DVD-AUDIO(L)
DVD-C
DVD-Y
V-RAMP-FB
AUDIO(L)
AUDIO(R)
DVD-AUDIO(R)

(TO SUB)
CBA CN503

1	AL+9V
2	GND
3	DVD-Y
4	DVD-C
5	GND
6	SCLK
7	DVD-REMOTE
8	CS
9	SDATA
10	P-ON+5V(4)
11	GND
12	GND
13	P-SAFETY3
14	DVD-AUDIO(L)
15	DVD-AUDIO(R)
16	DVD-A-MUTE
17	V-RAMP-FB
18	P-SAFETY1
19	ACL

(CONTINUE)
MAIN 1/6

P-SAFETY1
DVD-A-MUTE
P-SAFETY3
P-ON+5V(4)
SDATA
CS
SCLK
DVD-REMOTE
KEY1
SP-MUTE
P-SAFETY2

4

3

2

1

Main 6/6 Schematic Diagram < TV/VCR Section >

CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F2601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

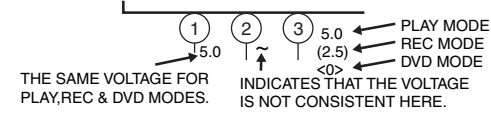


CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

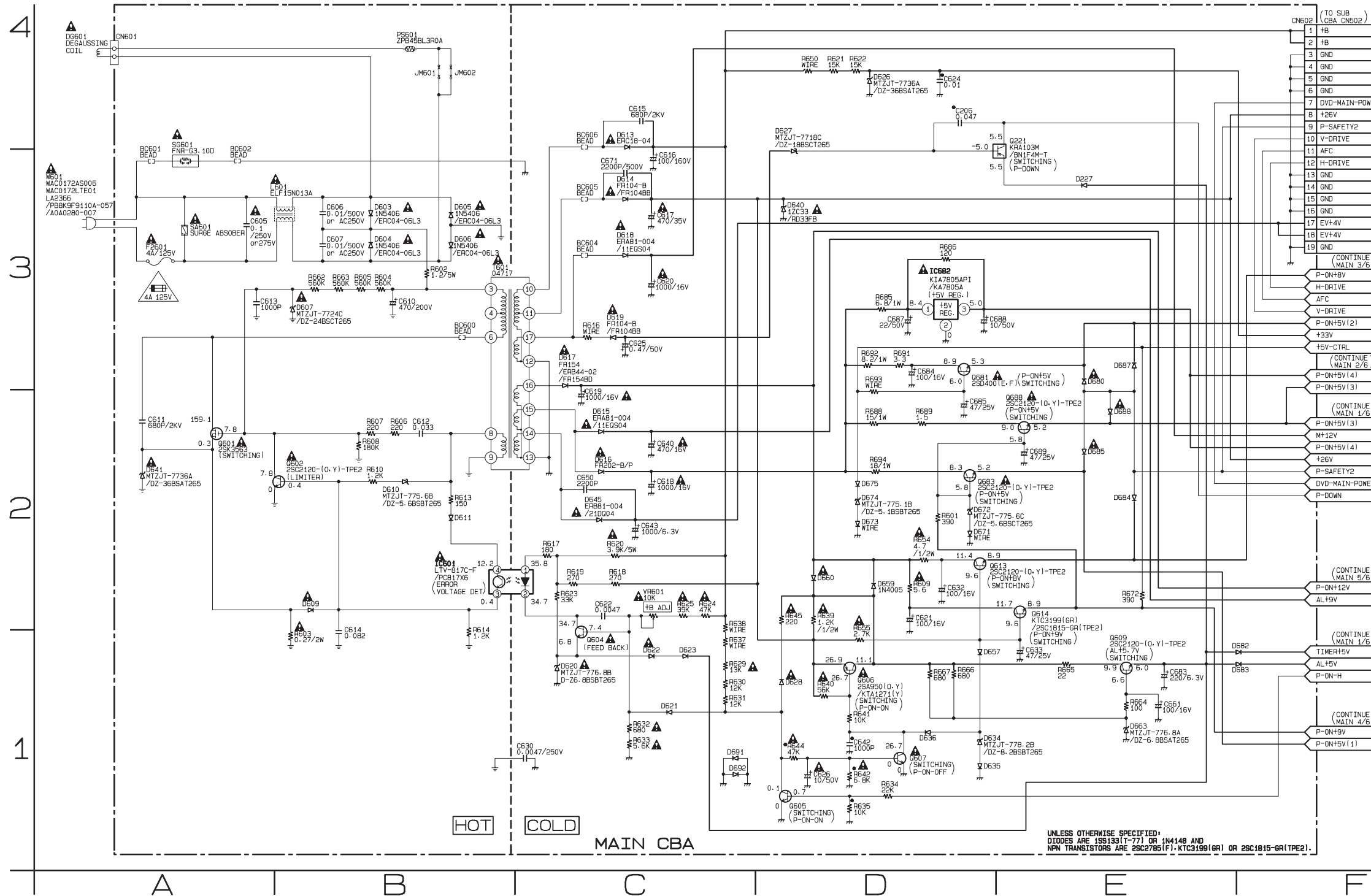
NOTE :

The voltage for parts in hot circuit is measured using hot GND as a common terminal.

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



* = SMD



VOLTAGE CHART (Power off mode)

Ref. No.	1	2	3	4
IC601	12.0	10.9	0.3	1.6
Ref. No.	1	2	3	
IC682	3.1	0	1.9	
Ref. No.	S	D	G	
Q601	0	164.2	1.8	
Ref. No.	E	C	B	
Q221	5.3	5.3	3.5	
Q602	0	1.8	0.3	
Q604	6.8	10.9	7.4	
Q605	0	8.0	0	
Q606	9.2	9.2	8.6	
Q607	0	0.1	0.7	
Q609	5.9	8.2	6.5	
Q613	0.8	8.1	1.4	
Q614	0.9	8.1	1.4	
Q681	0.4	3.2	0.9	
Q683	0.8	3.2	0.9	
Q688	0.3	3.2	0.9	

Main 6/6 Schematic Diagram Parts Location Guide

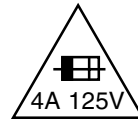
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		ICS		RESISTORS	
C206	FF-4	D607	DD-3	IC682	FF-3	R633	EE-1
C605	CC-3	D609	DD-2	COIL		R634	FF-1
C606	DD-3	D610	DD-2	L601	CC-3	R635	FF-1
C607	DD-3	D611	DD-2	TRANSISTORS		R637	EE-1
C610	DD-3	D613	EE-4	Q221	GG-4	R638	EE-2
C611	CC-2	D614	EE-3	Q601	CC-2	R639	FF-2
C612	DD-3	D615	EE-2	Q602	DD-2	R640	FF-1
C613	CC-3	D616	EE-2	Q604	EE-1	R641	FF-1
C614	DD-2	D617	EE-3	Q605	FF-1	R642	FF-1
C615	EE-4	D618	EE-3	Q606	FF-1	R644	FF-1
C616	EE-3	D619	EE-3	Q607	FF-1	R645	FF-2
C617	EE-3	D620	EE-1	Q609	GG-1	R650	FF-4
C618	EE-2	D621	EE-1	Q613	FF-2	R654	FF-2
C619	EE-2	D622	EE-1	Q614	GG-2	R655	FF-2
C620	EE-3	D623	EE-1	Q681	FF-3	R662	DD-3
C621	FF-2	D626	FF-4	Q683	FF-2	R663	DD-3
C622	EE-2	D627	FF-4	Q688	GG-2	R664	GG-1
C624	FF-4	D628	FF-1	RESISTORS		R665	GG-1
C625	EE-3	D634	FF-1	R601	FF-2	R666	FF-1
C626	FF-1	D635	FF-1	R602	DD-3	R667	FF-1
C630	EE-1	D636	FF-1	R603	DD-1	R672	GG-2
C632	FF-2	D640	FF-3	R604	DD-3	R685	FF-3
C633	GG-1	D641	CC-2	R605	DD-3	R686	FF-3
C640	EE-2	D645	EE-2	R606	DD-2	R688	FF-2
C642	FF-1	D657	FF-1	R607	DD-2	R689	FF-2
C643	CC-2	D659	FF-2	R608	DD-2	R691	FF-3
C650	EE-2	D660	FF-2	R609	FF-2	R692	FF-3
C661	GG-1	D663	GG-1	R610	DD-2	R693	FF-3
C671	EE-3	D671	FF-2	R613	DD-2	R694	FF-2
C683	GG-1	D672	FF-2	R614	DD-2	MISCELLANEOUS	
C684	FF-3	D673	FF-2	R616	EE-3	BC600	DD-3
C685	FF-2	D674	FF-2	R617	EE-2	BC601	CC-3
C687	FF-3	D675	FF-2	R618	EE-2	BC602	CC-3
C688	FF-3	D680	GG-3	R619	EE-2	BC604	EE-3
C689	GG-2	D682	HH-1	R620	EE-2	BC605	EE-3
CONNECTORS		D683	HH-1	R621	FF-4	BC606	EE-4
CN601	CC-4	D684	GG-2	R622	FF-4	F601	CC-3
CN602	HH-4	D685	GG-2	R623	EE-2	PS601	DD-4
DIODES		D687	GG-3	R624	EE-2	SA601	CC-3
D227	GG-3	D688	GG-2	R625	EE-2	SG601	CC-4
D603	DD-3	D691	EE-1	R629	EE-1	T601	DD-3
D604	DD-3	D692	EE-1	R630	EE-1	W601	CC-3
D605	DD-3	ICS		R631	EE-1	VARIABLE RESISTOR	
D606	DD-3	IC601	DD-2	R632	EE-1	VR601	EE-2

Main CBA Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		CAPACITORS		CAPACITORS		DIODES		DIODES		RESISTORS		RESISTORS		RESISTORS		RESISTORS		SWITCHES	
C003	D-1	C308	E-1	C464	D-3	C768	D-4	D230	D-1	D801	C-1	R002	G-1	R255	B-3	R409	D-3	R663	F-3	SW201	A-2
C005	F-1	C309	E-1	C465	D-3	C769	D-4	D231	D-1	D811	C-1	R003	G-1	R256	D-1	R410	D-3	R664	F-4	SW202	A-3
C007	G-1	C310	E-2	C466	D-3	C770	C-4	D232	D-1	ICS		R032	F-1	R257	B-4	R411	D-3	R665	F-4	SW203	A-3
C008	F-1	C311	E-1	C467	D-3	C771	C-4	D234	D-1	IC001	F-1	R033	F-1	R258	B-3	R412	D-3	R666	F-4	SW206	A-5
C009	G-1	C314	E-1	C468	D-4	C772	C-4	D302	E-1	IC201	B-4	R034	F-1	R259	F-4	R413	D-3	R667	F-4	SW207	A-4
C010	G-1	C316	D-1	C469	D-3	C773	C-4	D303	E-1	IC202	B-4	R035	F-1	R260	B-4	R414	D-3	R672	E-4	SW208	A-4
C032	F-1	C317	D-1	C605	G-2	C774	C-4	D304	E-1	IC301	E-1	R036	F-1	R261	D-1	R415	D-3	R673	F-5	SW209	A-4
C033	F-1	C318	E-1	C606	F-2	C775	C-5	D305	E-1	IC401	D-3	R037	F-1	R262	A-5	R416	D-3	R674	F-5	SW210	A-3
C036	F-1	C319	D-1	C607	F-2	C776	C-5	D306	E-1	IC601	G-3	R038	E-1	R263	B-3	R417	C-3	R675	F-5	SW211	A-5
C038	F-1	C321	E-1	C610	G-3	C777	C-5	D307	E-1	IC682	E-4	R039	F-1	R267	B-3	R418	C-3	R676	F-5	SW212	B-1
C039	F-1	C322	D-1	C611	G-2	C778	D-4	D308	E-1	IC701	C-5	R112	E-5	R268	B-3	R419	C-3	R685	F-4	CRYSTAL OSCILLATORS	
C044	F-1	C323	D-1	C612	G-3	C779	C-5	D309	E-1	IC801	B-2	R113	E-5	R269	B-3	R420	D-3	R686	E-4	X201	B-4
C048	F-1	C324	D-2	C613	G-3	C780	C-4	D311	D-1	IC802	B-2	R159	E-5	R270	B-3	R421	D-3	R688	E-4	X202	B-4
C051	G-1	C325	D-2	C614	G-2	C781	C-5	D318	E-1	COILS		R160	C-5	R272	B-2	R422	D-3	R689	E-4	X301	E-1
C054	F-1	C327	D-2	C615	G-4	C782	C-5	D350	E-2	L001	F-1	R200	B-3	R273	B-2	R424	C-3	R691	F-4	X401	C-4
C055	F-1	C331	E-2	C616	G-4	C783	C-5	D351	E-1	L003	E-1	R201	B-2	R274	B-2	R425	C-3	R692	F-4	MISCELLANEOUS	
C070	F-1	C332	E-2	C617	G-4	C784	C-5	D352	E-2	L031	F-1	R202	B-2	R275	B-4	R426	C-4	R693	E-3	BC600	G-3
C074	F-1	C333	E-2	C618	F-4	C786	C-5	D353	E-1	L033	E-1	R203	B-1	R277	A-3	R427	C-4	R694	F-4	BC601	G-1
C075	F-1	C336	E-2	C619	F-3	C787	C-5	D419	C-3	L041	E-1	R204	B-1	R278	A-5	R428	C-4	R701	A-1	BC602	G-1
C114	E-5	C337	E-2	C620	F-3	C788	C-5	D420	C-4	L202	B-4	R205	B-1	R280	A-4	R429	C-4	R702	B-1	BC604	F-4
C115	E-5	C338	E-2	C621	E-4	C789	C-5	D603	F-1	L203	B-4	R206	B-1	R283	B-2	R430	C-4	R703	B-1	BC605	G-4
C116	E-5	C339	E-1	C622	G-3	C790	C-5	D604	F-2	L211	D-1	R208	A-3	R284	B-2	R431	C-4	R731	A-1	BC606	G-4
C203	C-5	C342	E-1	C624	F-4	C791	C-5	D605	F-2	L302	E-3	R209	B-3	R285	B-3	R432	D-4	R732	A-1	CF031	F-1
C206	E-4	C343	E-1	C625	F-3	C792	C-5	D606	F-2	L402	C-4	R210	A-3	R286	B-3	R433	C-4	R734	A-1	CF032	F-1
C207	A-2	C350	E-2	C626	F-5	C793	D-5	D607	G-2	L403	D-4	R211	A-3	R287	A-3	R436	D-4	R735	A-1	F601	G-2
C208	B-4	C394	F-5	C630	G-3	C794	D-4	D609	G-2	L404	D-4	R212	A-3	R288	B-3	R601	E-5	R750	D-5	JK701	A-2
C210	B-4	C410	D-3	C632	E-3	C795	D-5	D610	G-3	L405	C-3	R213	A-4	R289	B-2	R602	F-2	R751	D-5	JK702	A-1
C211	B-4	C411	D-3	C633	E-3	C797	D-5	D611	G-3	L601	G-2	R214	A-4	R290	B-3	R603	G-2	R752	D-5	JK703	A-1
C212	B-4	C412	D-3	C640	F-4	C798	E-5	D613	G-4	L751	D-4	R215	A-4	R291	B-5	R604	F-3	R753	D-5	JK801	A-2
C213	B-4	C413	D-3	C642	F-5	C801	A-2	D614	G-4	L752	C-4	R216	A-4	R292	B-4	R605	F-3	R754	D-5	PS601	F-2
C214	B-4	C414	D-3	C643	G-4	C802	C-1	D615	F-4	L802	C-1	R217	A-4	R294	B-4	R606	G-2	R755	D-4	RS201	A-2
C216	B-4	C416	D-3	C650	G-4	C803	A-2	D616	F-4	L804	A-2	R218	A-4	R296	A-2	R607	G-2	R756	D-4	SA601	G-2
C217	B-4	C417	D-3	C661	F-5	C804	D-2	D617	F-4	L806	A-2	R219	A-5	R298	A-2	R608	G-3	R757	B-4	SF001	E-1
C218	B-4	C418	C-3	C671	G-4	C805	D-2	D618	F-4	L871	E-3	R220	C-5	R299	B-2	R609	E-3	R758	C-5	SG601	G-1
C219	B-4	C419	C-3	C683	B-5	C806	A-2	D619	F-3	L872	D-3	R221	A-4	R301	E-1	R610	G-2	R759	C-5	T601	G-4
C220	B-5	C420	C-3	C684	F-3	C807	A-2	D620	G-4	TRANSISTORS		R222	B-2	R303	E-1	R613	G-3	R761	D-5	TU001	G-1
C221	B-5	C421	C-3	C685	F-3	C808	B-2	D621	G-2	Q205	B-4	R223	A-4	R305	E-1	R614	G-2	R764	D-4	W601	G-2
C222	B-3	C422	C-3	C687	F-4	C809	B-2	D622	G-4	Q206	B-3	R224	A-5	R308	E-1	R616	F-3	R766	C-4	TEST POINTS	
C223	B-4	C423	C-3	C688	E-4	C821	C-1	D623	E-4	Q207	A-4	R225	A-2	R310	E-2	R617	G-3	R767	C-5	JM403	D-5
C224	B-3	C424	C-3	C689	E-4	C870	D-3	D626	F-4	Q210	A-5	R226	A-2	R311	E-1	R618	G-5	R769	C-4	TP001	E-5
C225	B-3	C425	C-4	C701	C-4	C871	D-3	D627	F-3	Q211	A-5	R227	C-3	R312	E-1	R619	G-5	R770	C-4	TP002	E-5
C226	B-3	C426	C-4	C722	B-1	C872	D-3	D628	F-4	Q221	E-4	R228	A-5	R313	D-1	R620	G-5	R771	C-4	TP202	B-5
C233	B-5	C427	C-4	C723	B-2	C873	D-3	D634	F-4	Q350	E-2	R229	A-4	R314	E-1	R621	F-4	R772	D-5	TP301	F-5
C234	C-3	C428	C-4	C732	A-1	C880	B-1	D635	F-5	Q351	D-2	R230	A-4	R315	D-1	R622	F-4	R773	D-5	TP302	F-5
C235	B-3	C429	C-4	C733	B-2	C881	A-2	D636	F-4	Q401	C-3	R231	A-3	R316	D-1	R623	G-5	R774	D-5	TP303	F-5
C236	B-2	C430	C-4	C740	D-4	CONNECTORS		D640	G-4	Q402	C-3	R232	B-5	R317	D-1	R624	G-4	R780	D-5	TP401	C-1
C239	A-3	C431	C-4	C747	D-4	CL201	D-1	D641	G-2	Q403	C-3	R233	B-4	R320	D-1	R625	G-4	R781	D-5	TP402	B-5
C240	A-3	C432	C-3	C748	C-4	CL401	D-4	D645	F-4	Q404	C-4	R234	A-5	R328	F-1	R629	G-5	R801	A-2	TP671	F-5
C241	B-2	C433	C-3	C749	C-4	CL402	D-2	D657	F-4	Q601	G-3	R235	B-4	R329	E-1	R630	G-5	R802	A-2	TP672	F-5
C243	A-3	C435	C-4	C751	D-5	CL403	D-5	D659	F-4	Q602	G-2	R236	B-4	R330	D-1	R631	G-5	R803	E-3	TP673	F-5
C244	A-3	C436	C-4	C752	D-5	CN301	F-5	D660	F-4	Q604	G-4	R237	B-4	R332	D-1	R632	G-3	R804	B-2	TP701	C-1
C245	A-3	C437	D-4	C753	D-5	CN302	F-5	D663	F-4	Q605	F-5	R238	B-4	R333	E-2	R633	G-3	R805	B-1	TP702	C-1
C246	A-3	C438	C-4	C754	D-5	CN601	F-1	D671	E-4	Q606	F-4	R239	B-4	R334	E-2	R634	C-5	R806	C-1	TP703	D-5
C247	A-3	C439	C-4	C755	D-5	CN602	G-5	D672	E-4	Q607	F-5	R240	B-4	R335	E-2	R635	F-5	R807	D-2	VARIABLE RESISTOR	
C248	A-3	C440	C-4	C756	D-5	CN802	C-1	D673	E-3	Q609	F-5	R241	B-4	R336	E-2	R637	G-4	R808	E-3	VR601	G-4
C249	A-3	C441	D-4	C757	D-5	CN803	B-5	D674	E-3	Q613	E-3	R243	B-3	R337	E-1	R638	G-4	R809	C-1		
C251	A-3	C442	D-4	C758	D-5	DIODES		D675	E-3	Q614	E-5	R244	B-3	R339	E-1	R639	F-4	R810	C-1		
C252	D-1	C443	D-4	C759	D-5	D110	E-5	D680	E-3	Q681	E-3	R245	B-3	R340	E-2	R640	F-4	R811	B-2		
C253	D-1	C444	D-4	C760	D-5	D201	A-3	D682	D-5	Q683	E-4	R247	B-3	R350	E-2	R641	F-4	R812	B-2		
C254	D-1	C445	D-4	C761	D-4	D204	A-4	D683	B-5	Q688	E-4	R248	B-3	R351	E-2	R642	F-5	R871	D-3		
C261	B-5	C447	C-4	C762	D-4	D206	E-4	D684	E-4	Q701	D-5	R249	B-3	R355	F-5	R644	F-5	R872	D-3		
C299	A-2	C449	C-3	C763	D-4	D216	A-5	D685	E-4	Q871	D-3	R250	B-3	R356	F-5	R645	F-4	R873	D-3		
C301	E-1	C450	C-4	C764	D-4	D217	A-5	D687	E-4	Q872	D-3	R251	B-3	R405	C-4	R650	G-4	R874	D-3		
C302	E-1	C452	C-4	C765	D-4	D224	C-3	D688	D-3	Q873	E-3	R252	B-3	R406	C-4	R654	E-3	R875	D-3		
C303	E-1	C461	D-3	C766	C-4	D227	E-5	D691	F-2	Q874	D-3	R253	B-3	R407	C-4	R655	F-4	R876	D-3		
C304	E-1	C463	D-3	C767	D-4	D229	D-1	D692	F-2	Q875	D-3	R254	B-3	R408	B-4	R662	G-3	R877	D-3		

Main CBA Top View < TV/VCR Section >

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.

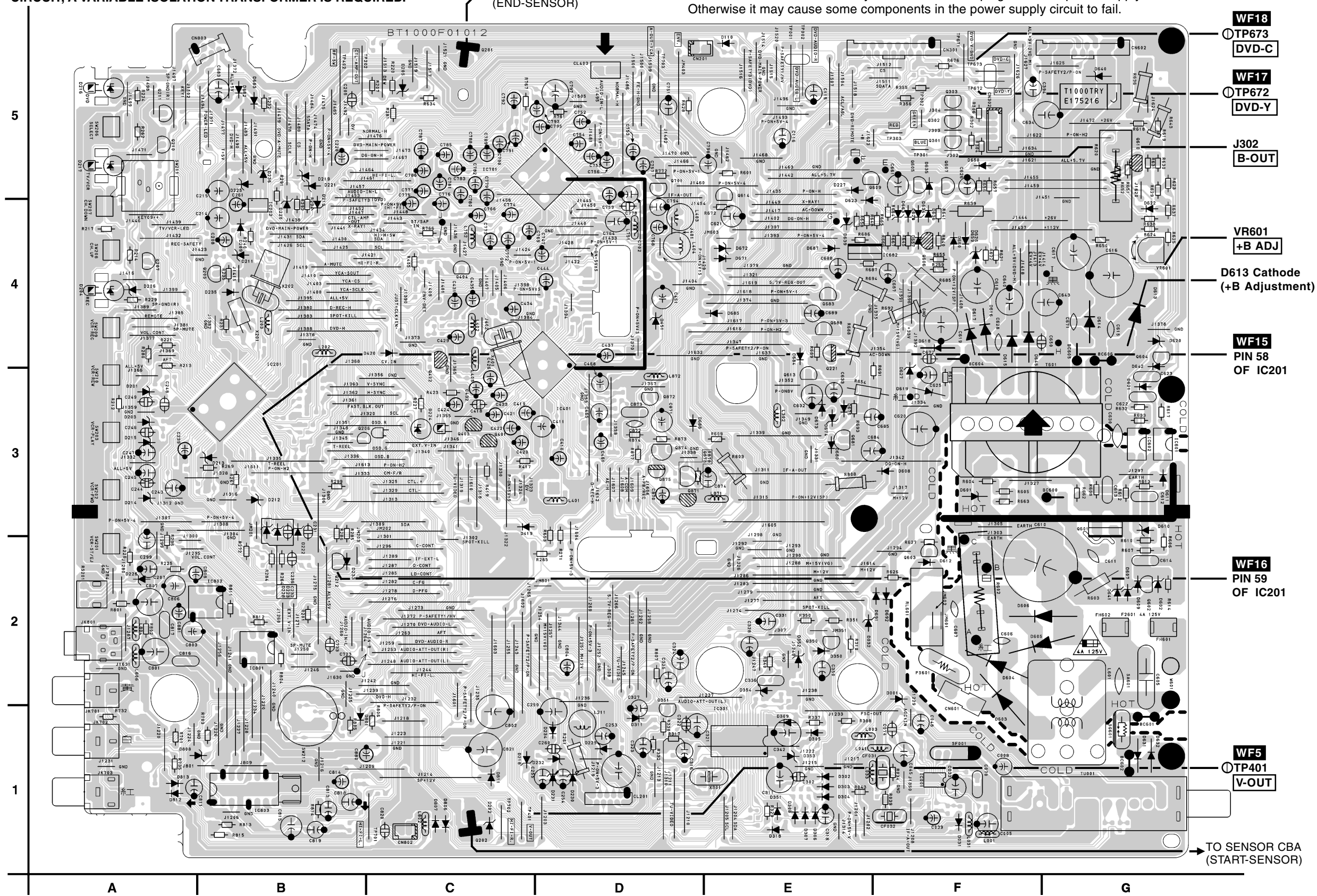
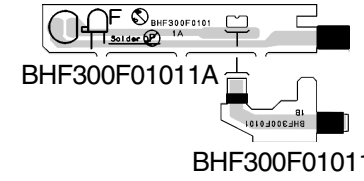


CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

NOTE: The voltage for parts in hot circuit is measured using hot GND as a common terminal.

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F2601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

Sensor CBA Top View



WF18
TP673
DVD-C

WF17
TP672
DVD-Y

J302
B-OUT

VR601
+B ADJ

D613 Cathode
(+B Adjustment)

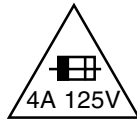
WF15
PIN 58
OF IC201

WF16
PIN 59
OF IC201

WF5
TP401
V-OUT

Main CBA Bottom View < TV/VCR Section >

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.



CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A, 125V FUSE. **ATTENTION:** UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F2601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

NOTE:

The voltage for parts in hot circuit is measured using hot GND as a common terminal.

WF19
TP001
DVD-AUDIO-L

WF6
JM403
ENV.

WF4
PIN 32
OF IC401

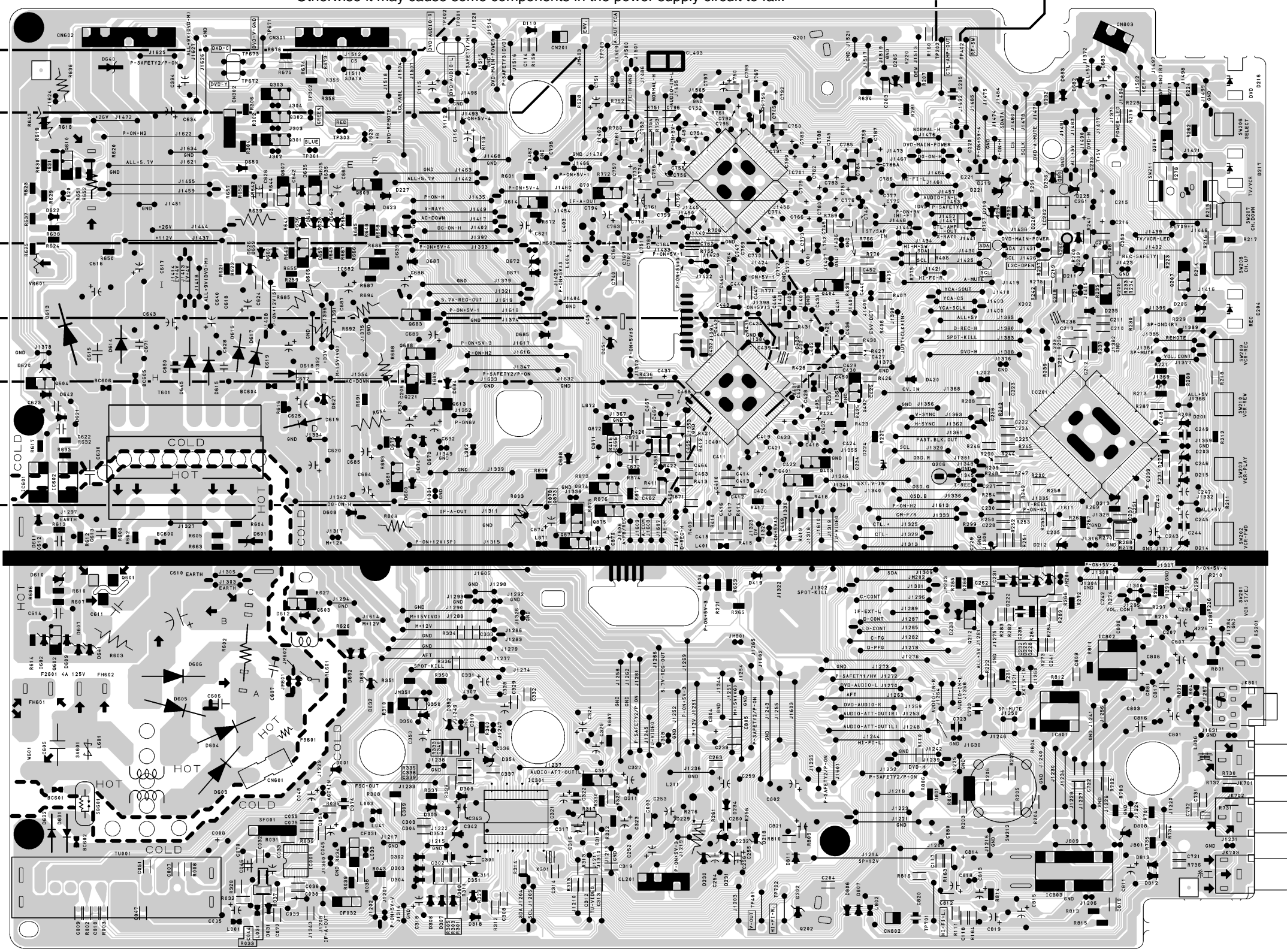
WF2
PIN 49
OF IC401

WF8
PIN 9
OF IC401

WF7
PIN 10
OF IC401

WF3
TP202
CTL-AMP-OUT

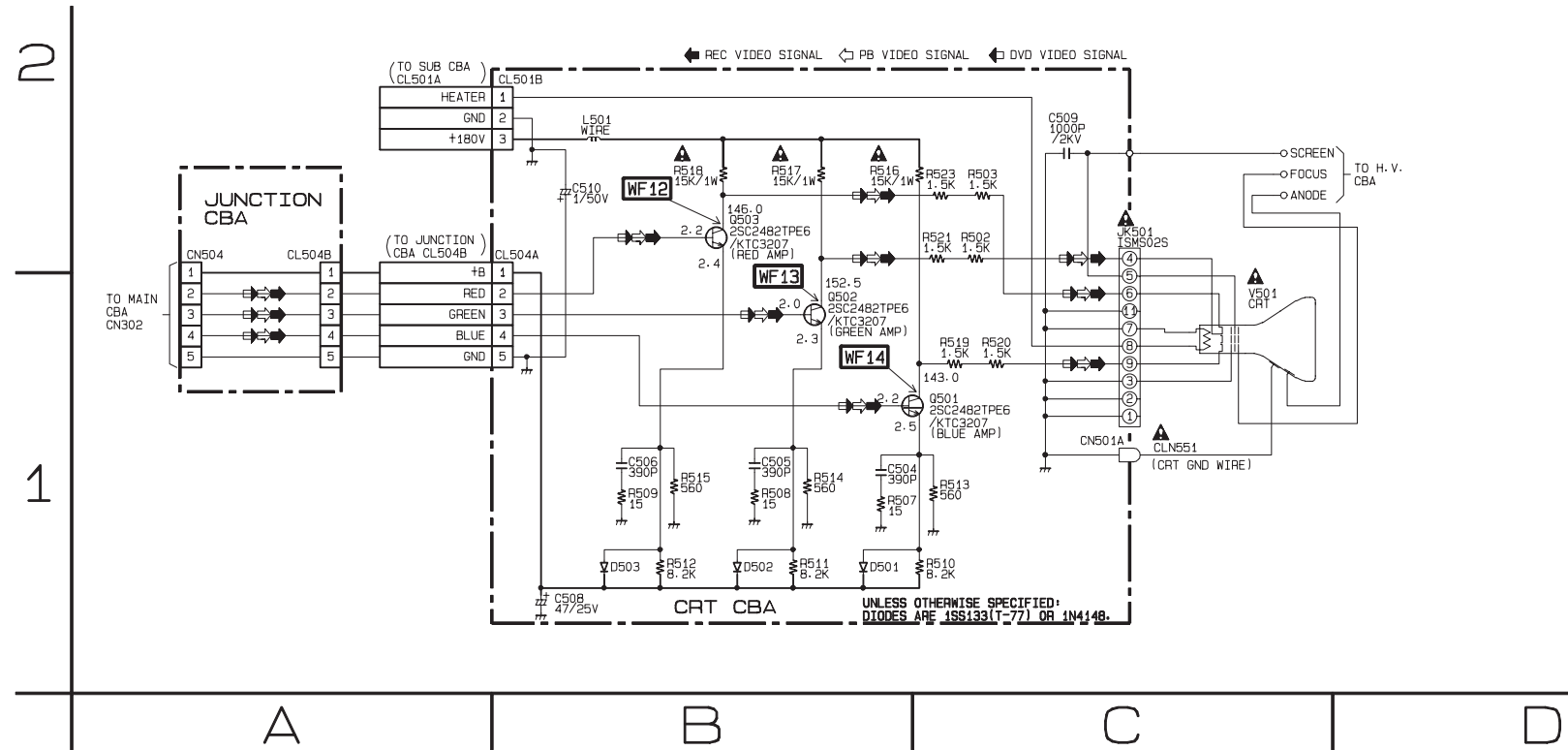
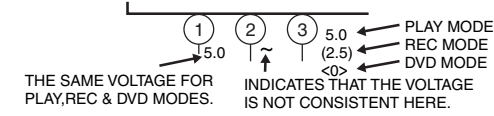
WF1
TP402
RF-SW



G F E D C B A

CRT Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:

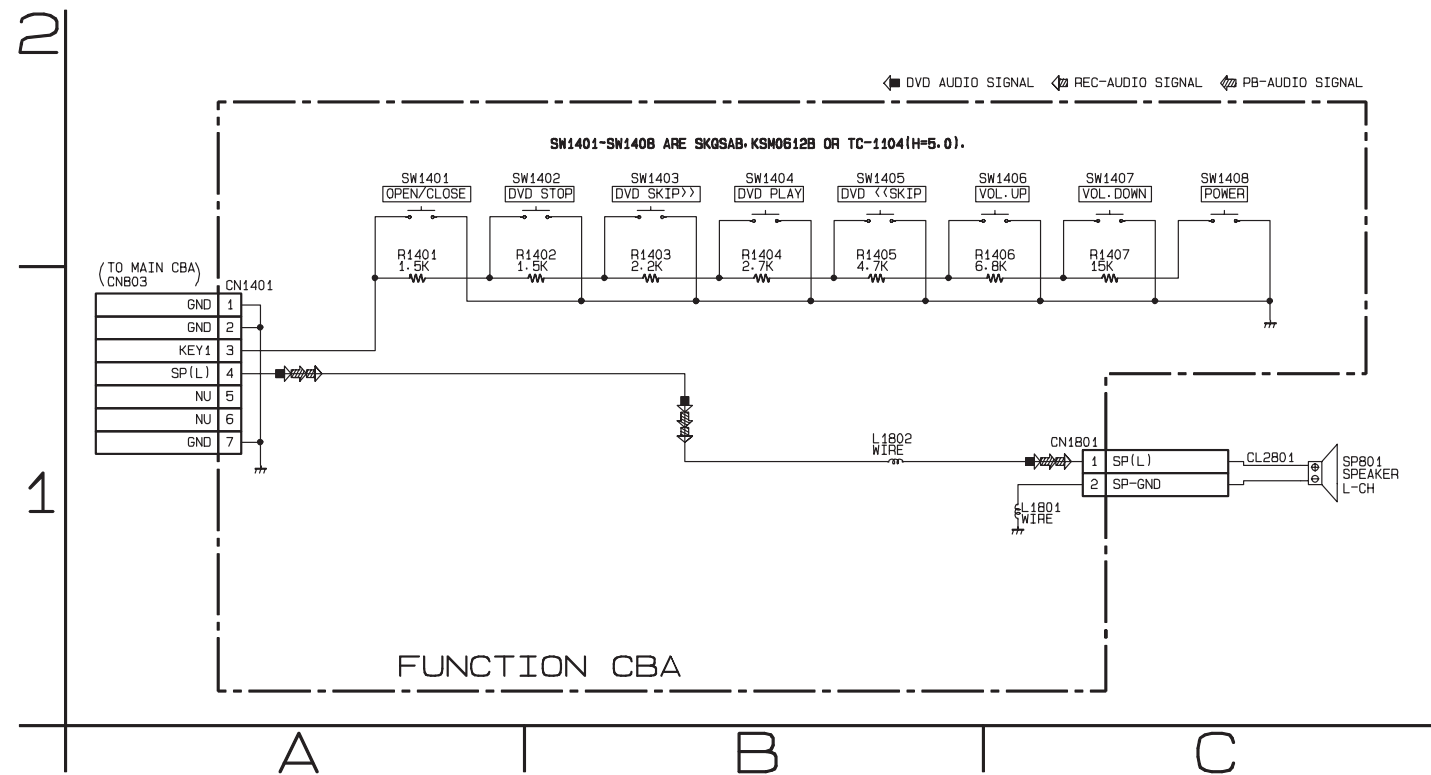


CRT SCHEMATIC DIAGRAM PARTS LOCATION GUIDE

Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		COIL		RESISTORS	
C504	B-1	L501	B-2	R513	C-1
C505	B-1	TRANSISTORS		R514	B-1
C506	B-1	Q501	C-1	R515	B-1
C508	B-1	Q502	B-1	R516	B-2
C509	C-2	Q503	B-2	R517	B-2
C510	B-2	RESISTORS		R518	B-2
CONNECTORS		R502	C-2	R519	C-1
CL501B	B-2	R503	C-2	R520	C-1
CL504A	B-2	R507	B-1	R521	C-2
CN501A	C-1	R508	B-1	R523	C-2
DIODES		R509	B-1	MISCELLANEOUS	
D501	B-1	R510	C-1	JK501	C-2
D502	B-1	R511	B-1		
D503	B-1	R512	B-1		

Function Schematic Diagram < TV/VCR Section >

T0006SCCRT



FUNCTION SCHEMATIC DIAGRAM PARTS LOCATION GUIDE

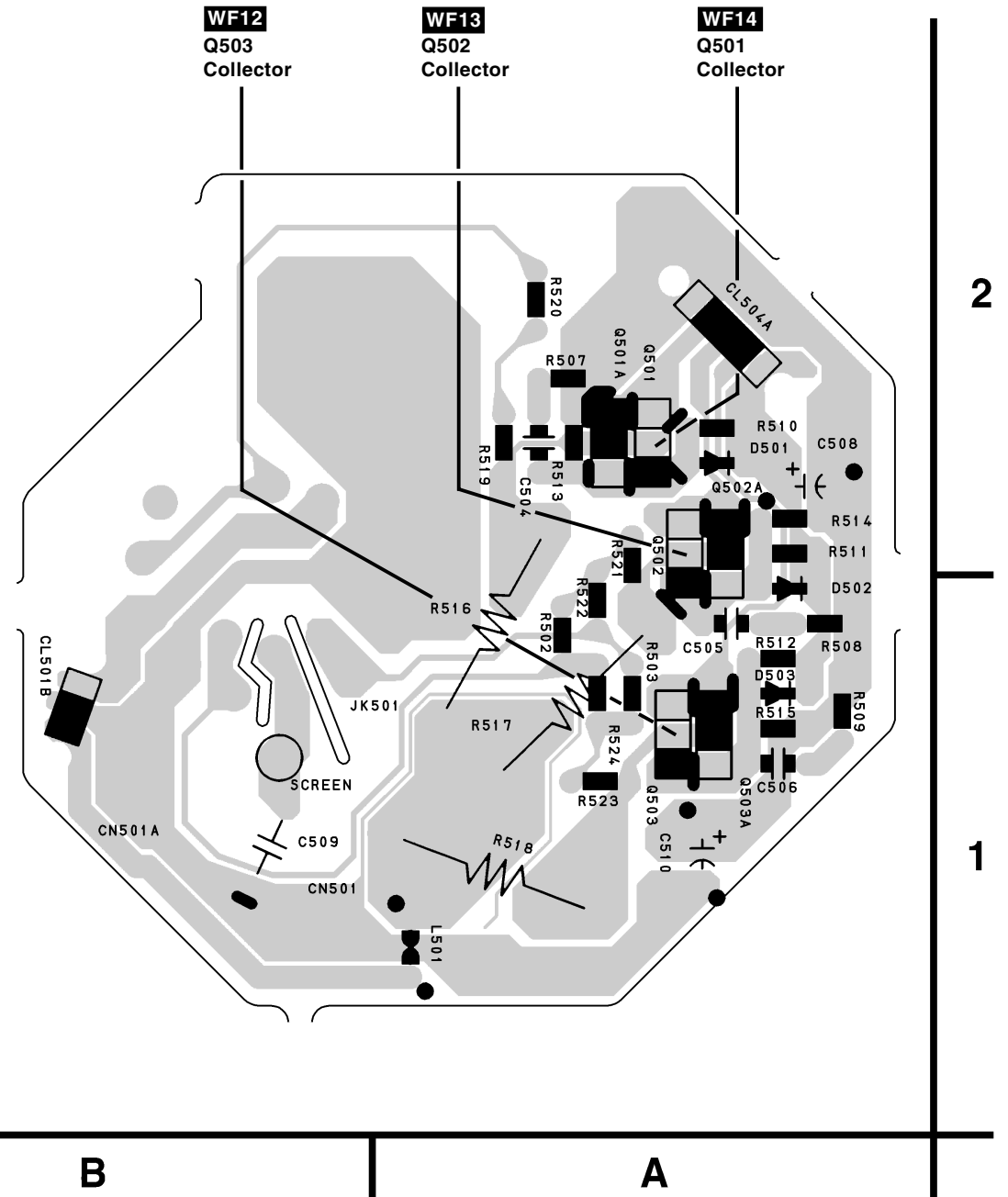
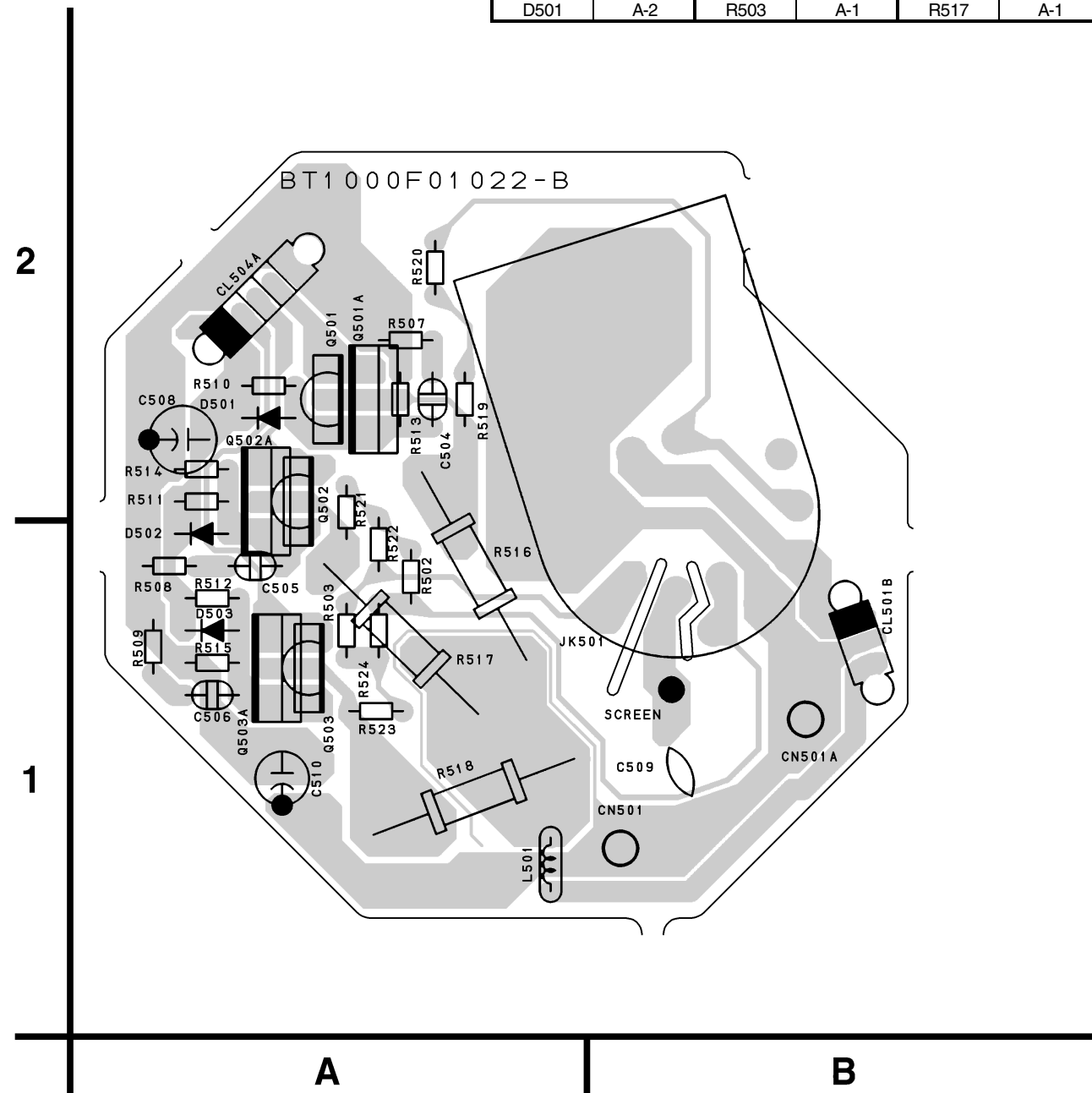
Ref No.	Position	Ref No.	Position
CONNECTORS		RESISTORS	
CN1401	A-1	R1406	C-2
CN1801	C-1	R1407	C-2
COILS		SWITCHES	
L1801	C-1	SW1401	A-2
L1802	B-1	SW1402	B-2
RESISTORS		SW1403	B-2
R1401	A-2	SW1404	B-2
R1402	B-2	SW1405	B-2
R1403	B-2	SW1406	C-2
R1404	B-2	SW1407	C-2
R1405	B-2	SW1408	C-2

CRT CBA Top View < TV/VCR Section >

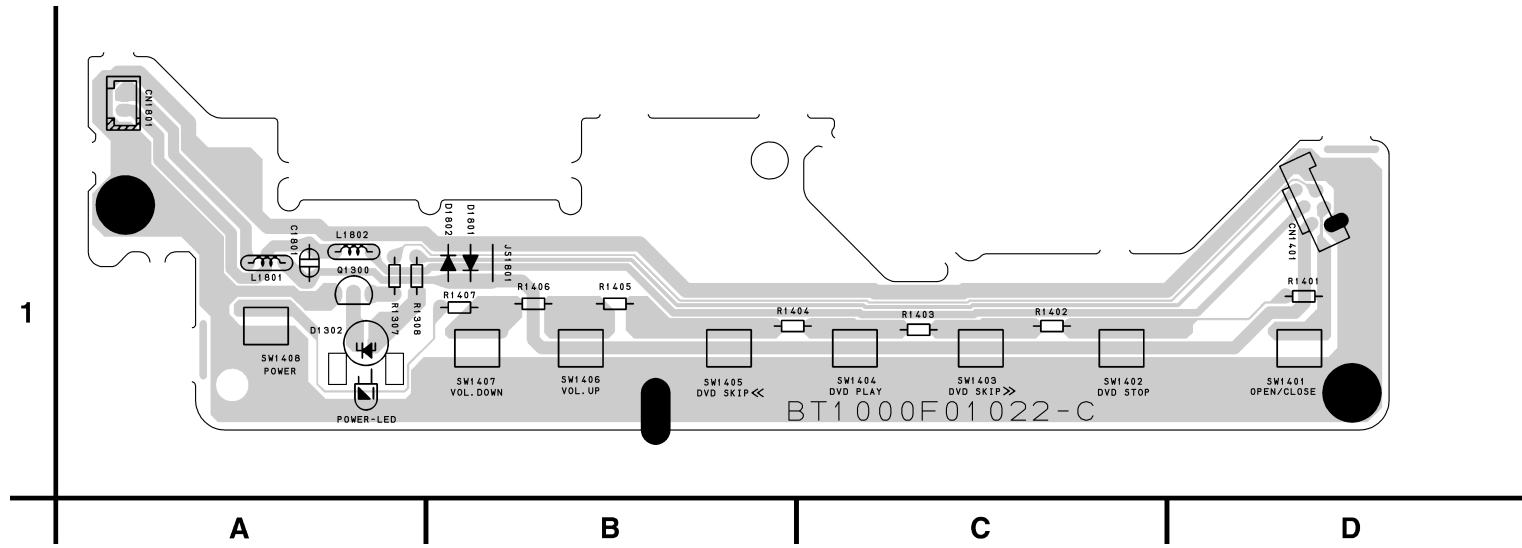
CRT CBA Bottom View < TV/VCR Section >

CRT CBA PARTS LOCATION GUIDE

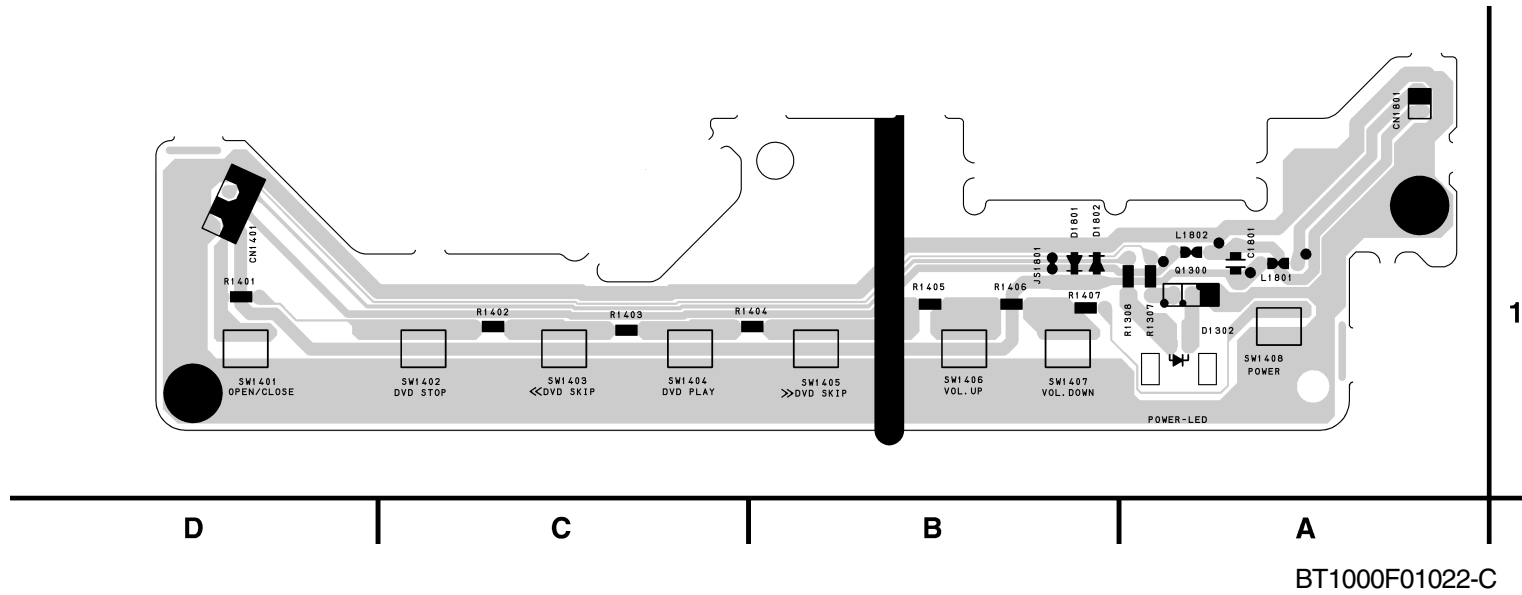
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		RESISTORS		RESISTORS	
C504	A-2	D502	A-1	R507	A-2	R518	A-1
C505	A-1	D503	A-1	R508	A-1	R519	A-2
C506	A-1	COILS		R509	A-1	R520	A-2
C508	A-2	L501	A-1	R510	A-2	R521	A-2
C509	B-1	TRANSISTORS		R511	A-2	R523	A-1
C510	A-1	Q501	A-2	R512	A-1	MISCELLANEOUS	
CONNECTORS		Q502	A-2	R513	A-2	JK501	B-1
CL504A	A-2	Q503	A-1	R514	A-2		
CN501A	B-1	RESISTORS		R515	A-1		
DIODES		R502	A-1	R516	A-1		
D501	A-2	R503	A-1	R517	A-1		



Function CBA Top View < TV/VCR Section >



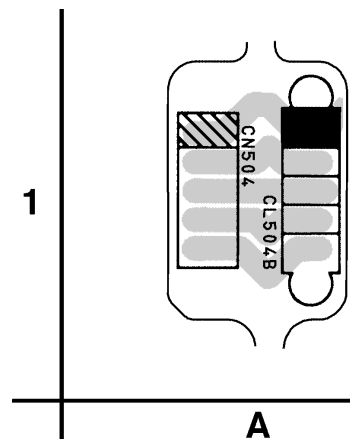
Function CBA Bottom View < TV/VCR Section >



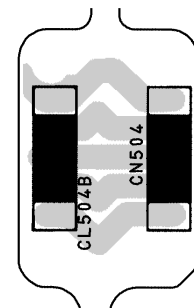
FUNCTION CBA PARTS LOCATION GUIDE

Ref No.	Position
CONNECTORS	
CN1401	D-1
CN1801	A-1
COILS	
L1801	A-1
L1802	A-1
RESISTORS	
R1401	D-1
R1402	C-1
R1403	C-1
R1404	C-1
R1405	B-1
R1406	B-1
R1407	B-1
SWITCHES	
SW1401	D-1
SW1402	C-1
SW1403	C-1
SW1404	C-1
SW1405	B-1
SW1406	B-1
SW1407	B-1
SW1408	A-1

Junction CBA Top View



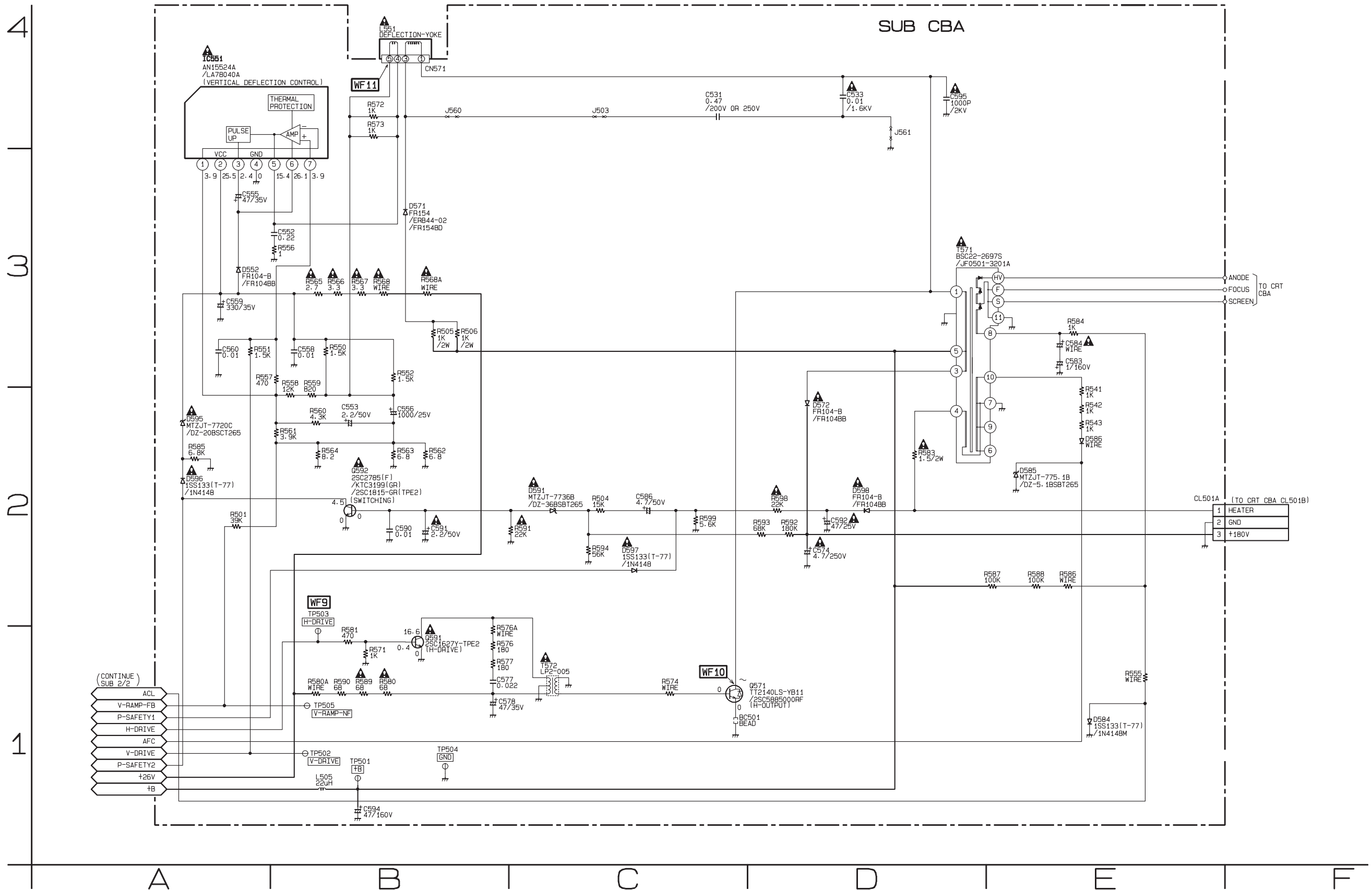
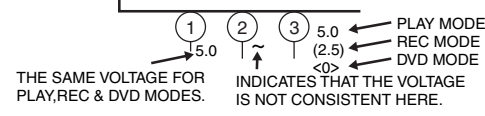
Junction CBA Bottom View



BT1000F01022

Sub 1/2 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



Sub 1/2 Schematic Diagram Parts Location Guide

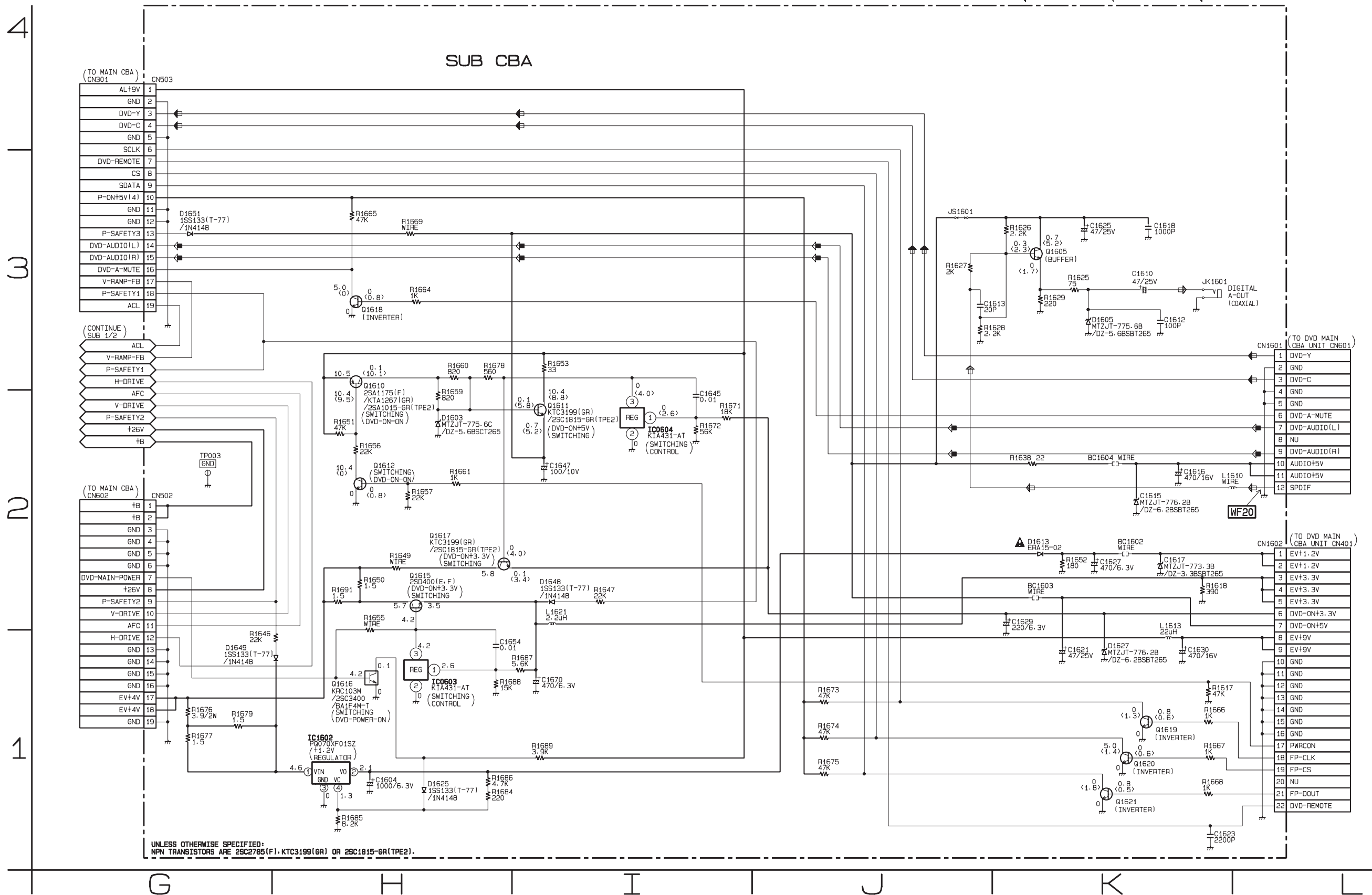
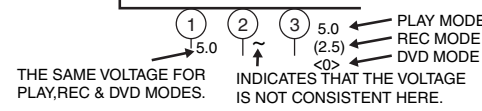
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		RESISTORS		RESISTORS	
C531	C-4	D572	D-2	R551	A-3	R581	B-1
C533	D-4	D584	E-1	R552	B-3	R583	D-2
C552	B-3	D585	E-2	R555	E-1	R584	E-3
C553	B-2	D586	E-2	R556	B-3	R585	A-2
C555	A-3	D591	C-2	R557	A-3	R586	E-2
C556	B-2	D595	A-2	R558	B-3	R587	E-2
C558	B-3	D596	A-2	R559	B-3	R588	E-2
C559	A-3	D597	C-2	R560	B-2	R589	B-1
C560	A-3	D598	D-2	R561	B-2	R590	B-1
C574	D-2	IC		R562	B-2	R591	C-2
C577	B-1	IC551	A-4	R563	B-2	R592	D-2
C578	B-1	COIL		R564	B-2	R593	D-2
C583	E-3	L505	B-1	R565	B-3	R594	C-2
C584	E-3	TRANSISTORS		R566	B-3	R598	D-2
C586	C-2	Q571	D-1	R567	B-3	R599	C-2
C590	B-2	Q591	B-1	R568	B-3	MISCELLANEOUS	
C591	B-2	Q592	B-2	R568A	B-3	BC501	C-1
C592	D-2	RESISTORS		R571	B-1	T571	D-3
C594	B-1	R501	A-2	R572	B-4	T572	C-1
C595	D-4	R504	C-2	R573	B-4	TEST POINTS	
CONNECTORS		R505	B-3	R574	C-1	TP501	B-1
CL501A	E-2	R506	B-3	R576	B-1	TP502	B-1
CN571	B-4	R541	E-2	R576A	B-1	TP503	B-2
DIODES		R542	E-2	R577	B-1	TP504	B-1
D552	A-3	R543	E-2	R580	B-1	TP505	B-1
D571	B-3	R550	B-3	R580A	B-1		

Sub 2/2 Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		RESISTORS		RESISTORS	
C1604	H-1	D1613	K-2	R1617	K-1	R1669	H-3
C1610	K-3	D1625	H-1	R1618	K-2	R1671	I-2
C1612	K-3	D1627	K-1	R1625	K-3	R1672	I-2
C1613	J-3	D1648	I-2	R1626	K-3	R1673	J-1
C1615	K-2	D1649	G-1	R1627	J-3	R1674	J-1
C1616	K-2	D1651	G-3	R1628	J-3	R1675	J-1
C1617	K-2	ICS		R1629	K-3	R1676	G-1
C1618	K-3	IC0603	H-1	R1638	K-2	R1677	G-1
C1621	K-1	IC0604	I-2	R1646	G-1	R1678	H-3
C1623	K-1	IC1602	H-1	R1647	I-2	R1679	G-1
C1625	K-3	COILS		R1649	H-2	R1684	H-1
C1627	K-2	L1610	K-2	R1650	H-2	R1685	H-1
C1629	K-2	L1613	K-2	R1651	H-2	R1686	H-1
C1630	K-1	L1621	I-2	R1652	K-2	R1687	I-1
C1645	I-2	TRANSISTORS		R1653	I-3	R1688	H-1
C1647	I-2	Q1605	K-3	R1655	H-2	R1689	I-1
C1654	H-1	Q1610	H-3	R1656	H-2	R1691	H-2
C1670	I-1	Q1611	I-2	R1657	H-2	MISCELLANEOUS	
CONNECTORS		Q1612	H-2	R1659	H-2	BC1602	K-2
CN502	G-2	Q1615	H-2	R1660	H-3	BC1603	K-2
CN503	G-4	Q1616	H-1	R1661	H-2	BC1604	K-2
CN1601	L-3	Q1617	H-2	R1664	H-3	JK1601	K-3
CN1602	L-2	Q1618	H-3	R1665	H-3	TEST POINT	
DIODES		Q1619	K-1	R1666	K-1	TP003	G-2
D1603	H-2	Q1620	K-1	R1667	K-1		
D1605	K-3	Q1621	K-1	R1668	K-1		

Sub 2/2 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:

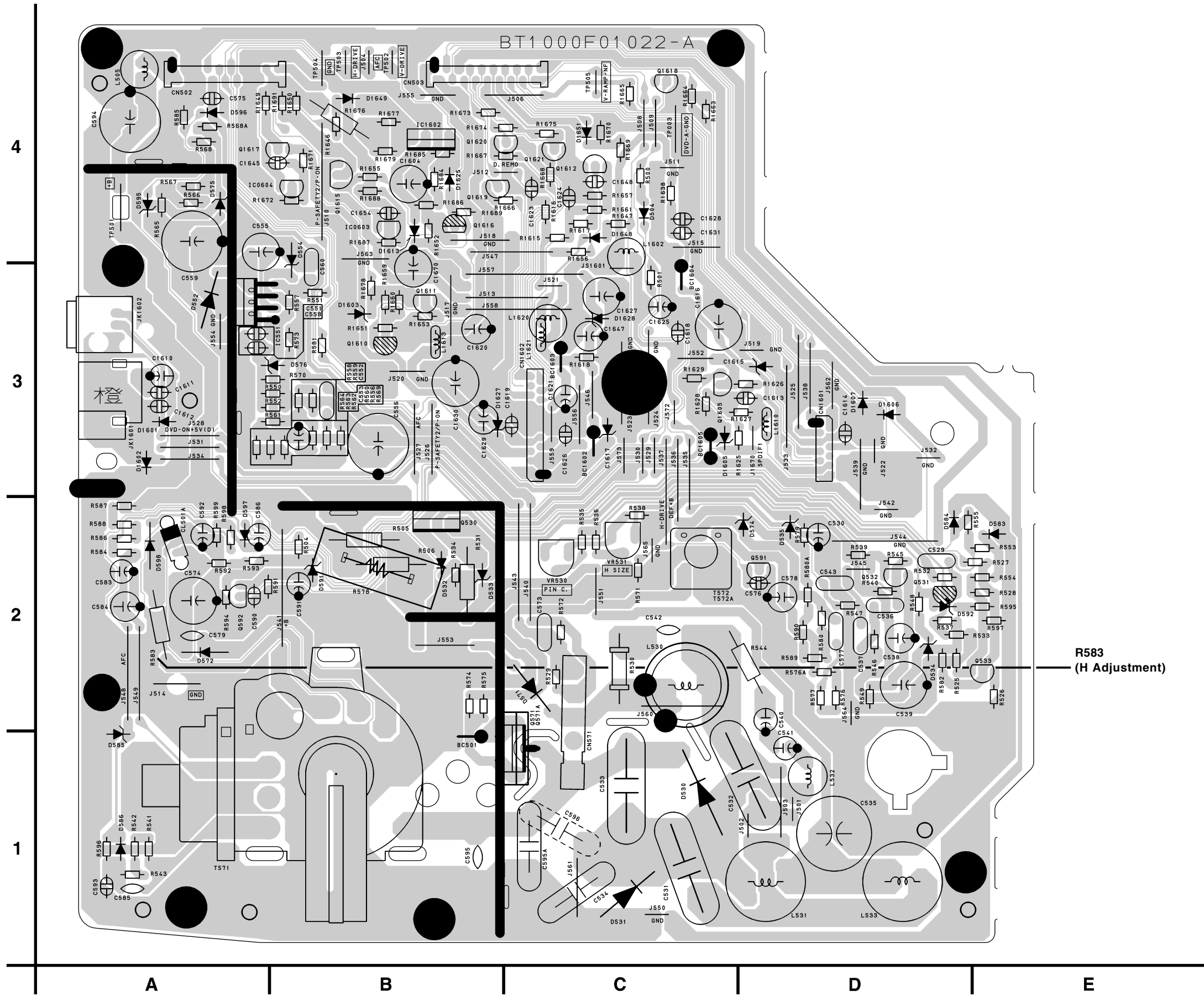


UNLESS OTHERWISE SPECIFIED:
NPN TRANSISTORS ARE 2SC2785(F), KTC3199(GR) OR 2SC1815-GR(TPE2).

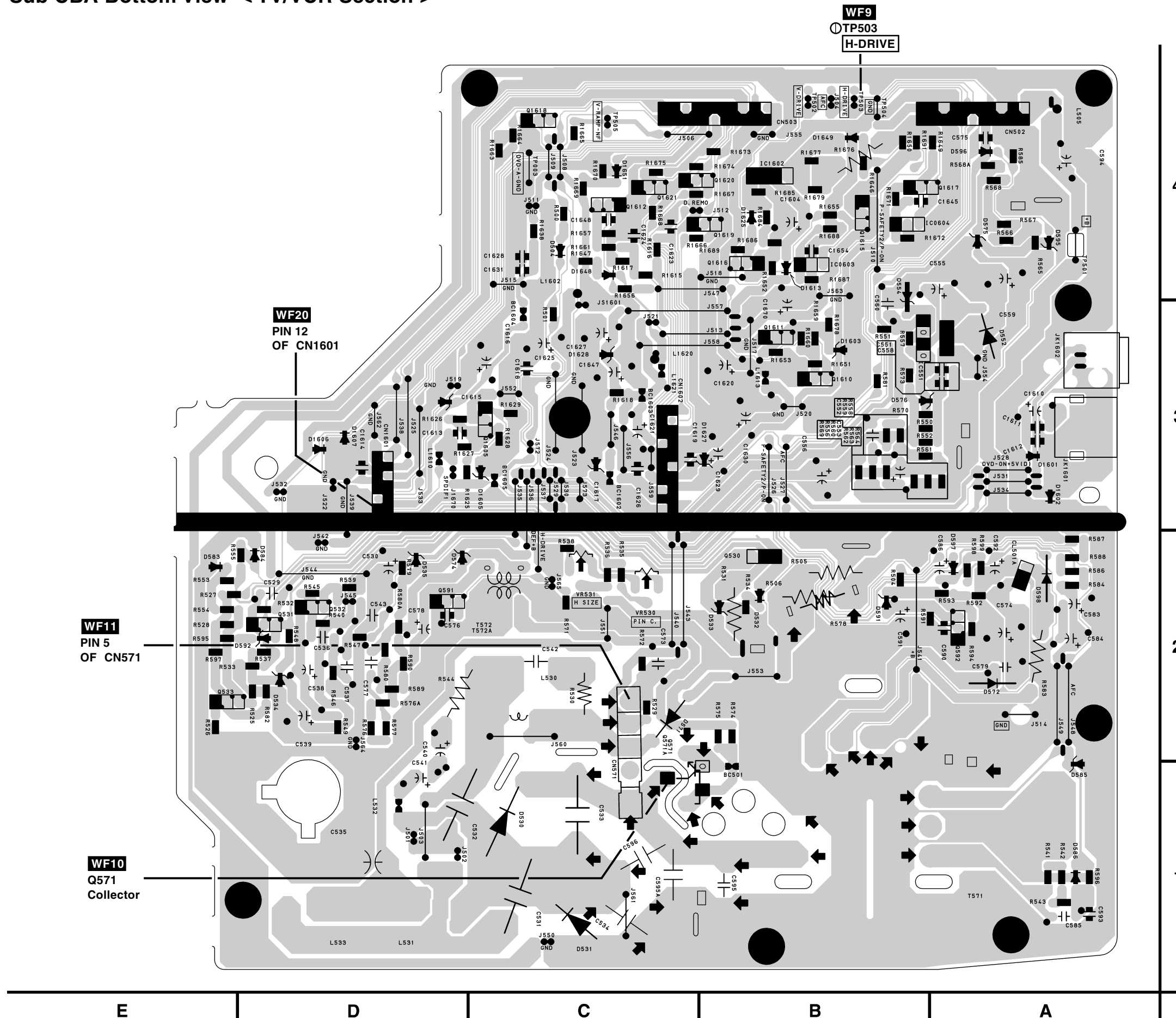
Sub CBA Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		DIODES		RESISTORS		RESISTORS		RESISTORS		MISCELLANEOUS	
C531	C-1	C1627	C-3	D1648	C-4	R505	B-2	R580A	D-2	R1655	B-4	BC1603	C-3
C533	C-1	C1629	B-3	D1649	B-4	R506	B-2	R581	A-3	R1656	C-4	BC1604	C-3
C552	B-3	C1630	B-3	D1651	C-4	R541	A-1	R583	A-2	R1657	C-4	JK1601	A-3
C553	B-3	C1645	A-4	ICS		R542	A-1	R584	A-2	R1659	B-3	T571	A-1
C555	A-4	C1647	C-3	IC551	B-3	R543	A-1	R585	A-5	R1660	B-3	T572	C-2
C556	B-3	C1654	B-4	IC0603	B-4	R550	C-4	R586	A-2	R1661	C-4	TEST POINTS	
C558	B-3	C1670	B-3	IC0604	A-4	R551	B-3	R587	A-2	R1664	C-4	TP003	C-4
C559	A-3	CONNECTORS		IC1602	D-4	R552	B-3	R588	A-2	R1665	C-4	TP501	A-4
C560	B-3	CL501A	A-2	COILS		R555	D-2	R589	D-2	R1666	C-4	TP502	B-4
C574	A-2	CN502	A-4	L505	A-4	R556	B-3	R590	D-2	R1667	B-4	TP503	B-4
C577	D-2	CN503	B-4	L1610	D-3	R557	B-3	R591	B-2	R1668	C-4	TP504	B-4
C578	B-2	CN571	C-1	L1613	B-3	R558	B-3	R592	A-2	R1669	C-4	TP505	C-4
C583	A-2	CN1601	D-3	L1621	C-3	R559	B-3	R593	A-2	R1671	B-4		
C584	A-2	CN1602	C-3	TRANSISTORS		R560	B-3	R594	A-2	R1672	A-4		
C586	A-2	DIODES		Q571	C-2	R561	B-3	R598	A-2	R1673	B-4		
C590	A-2	D552	A-3	Q591	D-2	R562	B-3	R599	A-2	R1674	B-4		
C591	B-2	D571	C-2	Q592	A-2	R563	B-3	R1617	C-4	R1675	C-4		
C592	A-2	D572	A-2	Q1605	C-3	R564	B-3	R1618	C-3	R1676	B-4		
C594	A-4	D584	D-2	Q1610	B-3	R565	A-4	R1625	D-3	R1677	B-4		
C595	B-1	D585	A-1	Q1611	B-3	R566	A-4	R1626	D-3	R1678	B-3		
C1604	B-4	D586	A-1	Q1612	C-4	R567	A-4	R1627	D-3	R1679	B-4		
C1610	A-3	D591	B-2	Q1615	B-4	R568	A-4	R1628	C-3	R1684	B-4		
C1612	A-3	D595	A-4	Q1616	B-4	R568A	A-4	R1629	C-3	R1685	B-4		
C1613	D-3	D596	A-4	Q1617	A-4	R571	C-2	R1638	C-4	R1686	B-4		
C1615	D-3	D597	A-2	Q1618	C-4	R572	C-2	R1646	B-4	R1687	B-4		
C1616	C-3	D598	A-2	Q1619	B-4	R573	A-3	R1647	C-4	R1688	B-4		
C1617	C-3	D1603	B-3	Q1620	B-4	R574	B-2	R1649	A-4	R1689	B-4		
C1618	C-3	D1605	C-3	Q1621	C-4	R576	D-2	R1650	B-4	R1691	B-4		
C1621	C-3	D1613	B-4	RESISTORS		R576A	D-2	R1651	B-3	MISCELLANEOUS			
C1623	C-4	D1625	B-4	R501	C-3	R577	D-2	R1652	B-4	BC501	B-1		
C1625	C-3	D1627	B-3	R504	B-2	R580	D-2	R1653	B-3	BC1602	C-3		

Sub CBA Top View < TV/VCR Section >



Sub CBA Bottom View < TV/VCR Section >



WF9
TP503
H-DRIVE

WF20
PIN 12
OF CN1601

WF11
PIN 5
OF CN571

WF10
Q571
Collector

4

3

2

1

E

D

C

B

A

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a **▲** have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

To order parts call the TOLL FREE Philips Sales Center number: 1 - 800 - 851 - 8885 (In Canada) 1 - 800 - 363 - PART. 1 - 800 - 535 - 3715 (Fax).

NOTES:

- Parts that are not assigned part numbers (----) are not normally available.
- “●”=SMD

DVD MAIN CBA UNIT

Ref.	▲	Description	ID No.	Part No.
		DVD MAIN CBA UNIT	N79V0HUP	4835 214 38208

MMA CBA

Ref.	▲	Description	ID No.	Part No.
		MMA CBA Consists of the following:	0ESA06264	----
		MAIN CBA SENSOR CBA	----- 0ESA06165	---- ----

MAIN CBA

Ref.	▲	Description	ID No.	Part No.
		MAIN CBA Consists of the following:	-----	----
CAPACITORS				
●C003		CHIP CERAMIC CAP. 1µF/10V +80/-20% (F)	CHD1AZB0F105	4835 122 87639
C005		ELECTROLYTIC CAP. 220µF/6.3V ±20% or ELECTROLYTIC CAP. 220µF/6.3V ±20%	CE0KMASDL221 CE0KMASTL221	4835 124 47168 4835 124 47168
●C007		CHIP CERAMIC CAP. 0.01µF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
C008		ELECTROLYTIC CAP. 10µF/50V ±20% H7	CE1JMAVSL100	4835 124 47037
●C009		CHIP CERAMIC CAP. 180pF/50V ±5% (CH)	CHD1JJBCH181	4835 122 87196
●C010		CHIP CERAMIC CAP. 180pF/50V ±5% (CH)	CHD1JJBCH181	4835 122 87196
●C032		CHIP CERAMIC CAP. 0.047µF/50V ±10% (B)	CHD1JKB0B473	4835 122 87162
C033		ELECTROLYTIC CAP. 470µF/6.3V ±20% or ELECTROLYTIC CAP. 470µF/6.3V ±20%	CE0KMASDL471 CE0KMASTL471	4835 124 47239 4835 124 47239
●C036		CHIP CERAMIC CAP. 1000pF/50V ±10% (B)	CHD1JKB0B102	4835 122 87443
●C038		CHIP CERAMIC CAP. 1µF/10V +80/-20% (F)	CHD1AZB0F105	4835 122 87639
C039		ELECTROLYTIC CAP. 1µF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
●C044		CHIP CERAMIC CAP. 0.01µF/50V +80/-20% (F)	CHD1JZB0F103	4835 122 87668
C048		ELECTROLYTIC CAP. 10µF/50V ±20% or ELECTROLYTIC CAP. 10µF/50V ±20%	CE1JMASDL100 CE1JMASTL100	4835 124 47202 4835 124 47037
●C051		CHIP CERAMIC CAP. 0.01µF/50V +80/-20% (F)	CHD1JZB0F103	4835 122 87668
●C054		CHIP CERAMIC CAP. 0.01µF/50V +80/-20% (F)	CHD1JZB0F103	4835 122 87668
●C055		CHIP CERAMIC CAP. 0.01µF/50V +80/-20% (F)	CHD1JZB0F103	4835 122 87668
C070		FILM CAP.(P) 0.018µF/50V ±5% or FILM CAP.(P) 0.018µF/50V ±5%	CMA1JJS00183 CA1J183MS029	4822 121 42701 4822 121 42701
C074		CERAMIC CAP.(AX) 0.01µF/50V +80/-20% (F)	CA1J103TU014	4835 122 47098
●C075		CHIP CERAMIC CAP. 0.01µF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255

Ref.	▲	Description	ID No.	Part No.
●C114		CHIP CERAMIC CAP. 1000pF/50V ±10% (B)	CHD1JKB0B102	4835 122 87443
C115		PCB JUMPER D0.6-P5.0	JW5.0T	----
C116		PCB JUMPER D0.6-P5.0	JW5.0T	----
●C203		CHIP CERAMIC CAP. 1µF/10V +80/-20% (F)	CHD1AZB0F105	4835 122 87639
●C206		CHIP CERAMIC CAP. 0.047µF/50V +80/-20% (F)	CHD1JZB0F473	4835 122 87071
C207		ELECTROLYTIC CAP. 47µF/25V ±20% or ELECTROLYTIC CAP. 47µF/25V ±20%	CE1EMASDL470 CE1EMASTL470	4835 124 47102 4835 124 47102
C208		ELECTROLYTIC CAP. 47µF/6.3V ±20% H7	CE0KMAVSL470	4835 124 47265
●C210		CHIP CERAMIC CAP. 1µF/10V +80/-20% (F)	CHD1AZB0F105	4835 122 87639
●C211		CHIP CERAMIC CAP. 0.022µF/50V ±10% (B)	CHD1JKB0B223	4835 122 87209
●C212		CHIP CERAMIC CAP. 22pF/50V ±5% (CH)	CHD1JJBCH220	4835 122 87049
●C213		CHIP CERAMIC CAP. 22pF/50V ±5% (CH)	CHD1JJBCH220	4835 122 87049
C214		ELECTROLYTIC CAP. 47µF/6.3V ±20% H7	CE0KMAVSL470	4835 124 47265
●C216		CHIP CERAMIC CAP. 0.01µF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
●C217		CHIP CERAMIC CAP. 10pF/50V ±0.5% (CH)	CHD1JDBCH100	4835 122 87045
●C218		CHIP CERAMIC CAP. 15pF/50V ±5% (CH)	CHD1JJBCH150	4835 122 87047
●C219		CHIP CERAMIC CAP. 0.01µF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
C220		ELECTROLYTIC CAP. 47µF/6.3V ±20% H7	CE0KMAVSL470	4835 124 47265
●C221		CHIP CERAMIC CAP. 0.01µF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
●C222		CHIP CERAMIC CAP. 2200pF/50V ±10% (B)	CHD1JKB0B222	4835 122 87207
●C223		CHIP CERAMIC CAP. 1µF/10V +80/-20% (F)	CHD1AZB0F105	4835 122 87639
●C224		CHIP CERAMIC CAP. 1000pF/50V ±10% (B)	CHD1JKB0B102	4835 122 87443
●C225		CHIP CERAMIC CAP. 560pF/50V ±5% (CH)	CHD1JJBCH561	4835 122 87055
●C226		CHIP CERAMIC CAP. 1000pF/50V ±10% (B)	CHD1JKB0B102	4835 122 87443
●C233		CHIP CERAMIC CAP. 0.01µF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
●C234		CHIP CERAMIC CAP. 1µF/10V +80/-20% (F)	CHD1AZB0F105	4835 122 87639
●C235		CHIP CERAMIC CAP. 4700pF/50V ±10% (B)	CHD1JKB0B472	4835 122 87326
C236		CERAMIC CAP.(AX) 0.047µF/16V +80/-20% (F)	CCA1CZTFZ473	4835 122 47603
C239		ELECTROLYTIC CAP. 22µF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
●C240		CHIP CERAMIC CAP. 560pF/50V ±5% (CH)	CHD1JJBCH561	4835 122 87055
●C241		CHIP CERAMIC CAP. 4700pF/50V ±10% (B)	CHD1JKB0B472	4835 122 87326
C243		ELECTROLYTIC CAP. 22µF/16V ±20% LL or ELECTROLYTIC CAP. 22µF/16V ±20% LL	CE1CMASTL220 CE1CMASLH220	4835 124 47175 4835 124 47175
C244		CERAMIC CAP.(AX) 0.01µF/16V ±20% (Y)	CCA1CMT0Y103	4835 122 47522
C245		ELECTROLYTIC CAP. 47µF/25V ±20% or ELECTROLYTIC CAP. 47µF/25V ±20%	CE1EMASDL470 CE1EMASTL470	4835 124 47102 4835 124 47102
C246		CERAMIC CAP.(AX) 0.01µF/16V ±20% (Y)	CCA1CMT0Y103	4835 122 47522
C247		ELECTROLYTIC CAP. 22µF/50V ±20% or ELECTROLYTIC CAP. 22µF/50V ±20%	CE1JMASDL220 CE1JMASTL220	4835 124 47051 4835 124 47051
C248		CERAMIC CAP.(AX) 0.01µF/16V ±20% (Y)	CCA1CMT0Y103	4835 122 47522
C249		CERAMIC CAP.(AX) 0.01µF/16V ±20% (Y)	CCA1CMT0Y103	4835 122 47522
●C251		CHIP CERAMIC CAP. 2700pF/50V ±10% (B)	CHD1JKB0B272	4835 122 87098
C252		ELECTROLYTIC CAP. 470µF/16V ±20% or ELECTROLYTIC CAP. 470µF/16V ±20%	CE1CMASDL471 CE1CMASTL471	4835 124 47286 4835 220 17118
C253		ELECTROLYTIC CAP. 100µF/10V ±20% or ELECTROLYTIC CAP. 100µF/10V ±20%	CE1AMASDL101 CE1AMASTL101	4835 124 47323 4835 124 47323
C254		ELECTROLYTIC CAP. 47µF/25V ±20% or ELECTROLYTIC CAP. 47µF/25V ±20%	CE1EMASDL470 CE1EMASTL470	4835 124 47102 4835 124 47102
C261		ELECTROLYTIC CAP. 22µF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
C299		ELECTROLYTIC CAP. 4.7µF/50V ±20% or ELECTROLYTIC CAP. 4.7µF/50V ±20%	CE1JMASDL4R7 CE1JMASTL4R7	4835 124 47088 4835 124 47506
●C301		CHIP CERAMIC CAP. 0.01µF/50V +80/-20% (F)	CHD1JZB0F103	4835 122 87668
C302		CERAMIC CAP.(AX) 33pF/50V ±5% (SL)	CCA1JUTSL330	4835 122 47119
●C303		CHIP CERAMIC CAP. 33pF/50V ±5% (CH)	CHD1JJBCH330	4835 122 87138
●C304		CHIP CERAMIC CAP. 33pF/50V ±5% (CH)	CHD1JJBCH330	4835 122 87138
●C308		CHIP CERAMIC CAP. 1µF/10V +80/-20% (F)	CHD1AZB0F105	4835 122 87639
●C309		CHIP CERAMIC CAP. 1µF/10V +80/-20% (F)	CHD1AZB0F105	4835 122 87639
●C310		CHIP CERAMIC CAP. 1µF/10V +80/-20% (F)	CHD1AZB0F105	4835 122 87639
C311		ELECTROLYTIC CAP. 470µF/10V ±20% or ELECTROLYTIC CAP. 470µF/10V ±20%	CE1AMASDL471 CE1AMASTL471	4835 124 47286 4835 124 47286
●C314		CHIP CERAMIC CAP. 0.01µF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255

Ref.	▲	Description	ID No.	Part No.
C316		ELECTROLYTIC CAP. 2.2μF/50V ±20% or	CE1JMASDL2R2	4835 124 47086
		ELECTROLYTIC CAP. 2.2μF/50V ±20%	CE1JMASTL2R2	4835 124 47049
●C317		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
C318		ELECTROLYTIC CAP. 100μF/10V ±20% or	CE1AMASDL101	4835 124 47323
		ELECTROLYTIC CAP. 100μF/10V ±20%	CE1AMASTL101	4835 124 47323
●C319		CHIP CERAMIC CAP. 1μF/10V +80/-20% (F)	CHD1AZB0F105	4835 122 87639
C321		ELECTROLYTIC CAP. 330μF/6.3V ±20% or	CE0KMASDL331	4835 124 47153
		ELECTROLYTIC CAP. 330μF/6.3V ±20%	CE0KMASTL331	4835 124 47131
C322		CERAMIC CAP.(AX) 0.01μF/16V ±20% (Y)	CCA1CMT0Y103	4835 122 47522
C323		ELECTROLYTIC CAP. 1μF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1μF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1μF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C324		ELECTROLYTIC CAP. 4.7μF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7μF/50V ±20%	CE1JMASTL4R7	4835 124 47506
C325		ELECTROLYTIC CAP. 1μF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1μF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1μF/50V ±20%	CE1JMASTL1R0	4835 124 47014
C327		ELECTROLYTIC CAP. 100μF/10V ±20% or	CE1AMASDL101	4835 124 47323
		ELECTROLYTIC CAP. 100μF/10V ±20%	CE1AMASTL101	4835 124 47323
C331		ELECTROLYTIC CAP. 4.7μF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7μF/50V ±20%	CE1JMASTL4R7	4835 124 47506
●C332		CHIP CERAMIC CAP. 1μF/10V +80/-20% (F)	CHD1AZB0F105	4835 122 87639
●C333		CHIP CERAMIC CAP. 1μF/10V +80/-20% (F)	CHD1AZB0F105	4835 122 87639
C336		TF CAP. 0.47μF/50V ±5% or	CT1J474MS045	4835 124 47764
		FILM CAP. 0.47μF/50V ±5%	122Z317S	4835 121 47721
●C337		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
●C338		CHIP CERAMIC CAP. 2.2μF/10V +80/-20% (F)	CHD1AZB0F225	4835 122 87658
●C339		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
C342		ELECTROLYTIC CAP. 470μF/10V ±20% or	CE1AMASDL471	4835 124 47286
		ELECTROLYTIC CAP. 470μF/10V ±20%	CE1AMASTL471	4835 124 47286
●C343		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
C350		ELECTROLYTIC CAP. 22μF/50V ±20% or	CE1JMASDL220	4835 124 47051
		ELECTROLYTIC CAP. 22μF/50V ±20%	CE1JMASTL220	4835 124 47051
C394		PCB JUMPER D0.8-P5.0	JW5.0T	----
C410		ELECTROLYTIC CAP. 1μF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C411		ELECTROLYTIC CAP. 1μF/10V ±20% H7	CE1AMAVSL101	4822 124 40178
●C412		CHIP CERAMIC CAP. 0.01μF/50V +80/-20% (F)	CHD1JZB0F103	4835 122 87668
●C413		CHIP CERAMIC CAP. 390pF/50V ±5% (CH)	CHD1JJBCH391	4835 122 87268
●C414		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000	----
●C416		CHIP CERAMIC CAP. 100pF/50V ±5% (CH)	CHD1JJBCH101	4835 122 87193
●C417		CHIP CERAMIC CAP. 100pF/50V ±5% (CH)	CHD1JJBCH101	4835 122 87193
C418		CERAMIC CAP.(AX) 0.1μF/50V ±10% (B)	CA1J104TU011	4835 122 47162
C419		ELECTROLYTIC CAP. 1μF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C420		ELECTROLYTIC CAP. 22μF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
C421		ELECTROLYTIC CAP. 4.7μF/50V ±20% H7	CE1JMAVSL4R7	4835 124 97061
C422		ELECTROLYTIC CAP. 1μF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C423		ELECTROLYTIC CAP. 4.7μF/50V ±20% H7	CE1JMAVSL4R7	4835 124 97061
C424		ELECTROLYTIC CAP. 1μF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
●C425		CHIP CERAMIC CAP. 1μF/10V +80/-20% (F)	CHD1AZB0F105	4835 122 87639
C426		ELECTROLYTIC CAP. 22μF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
●C427		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
●C428		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
C429		ELECTROLYTIC CAP. 47μF/6.3V ±20% H7	CE0KMAVSL470	4835 124 47265
●C430		CHIP CERAMIC CAP. 0.022μF/50V ±10% (B)	CHD1JKB0B223	4835 122 87209
C431		ELECTROLYTIC CAP. 1μF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C432		ELECTROLYTIC CAP. 1μF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
●C433		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
C435		ELECTROLYTIC CAP. 1μF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
●C436		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
C437		ELECTROLYTIC CAP. 22μF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
●C438		CHIP CERAMIC CAP. 1μF/10V +80/-20% (F)	CHD1AZB0F105	4835 122 87639
●C439		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
●C440		CHIP CERAMIC CAP. 0.022μF/50V +80/-20% (F)	CHD1JZB0F223	4835 122 87209
●C441		CHIP CERAMIC CAP. 0.047μF/50V +80/-20% (F)	CHD1JZB0F473	4835 122 87071

Ref.	▲	Description	ID No.	Part No.
●C442		CHIP CERAMIC CAP. 0.047μF/50V +80/-20% (F)	CHD1JZB0F473	4835 122 87071
●C443		CHIP CERAMIC CAP. 0.047μF/50V +80/-20% (F)	CHD1JZB0F473	4835 122 87071
C444		ELECTROLYTIC CAP. 22μF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
●C445		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
●C447		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
●C449		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
●C450		CHIP CERAMIC CAP. 100pF/50V ±5% (CH)	CHD1JJBCH101	4835 122 87193
●C452		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
C461		ELECTROLYTIC CAP. 4.7μF/50V ±20% H7	CE1JMAVSL4R7	4835 124 97061
●C463		CHIP CERAMIC CAP. 820pF/25V ±5% (CH)	CHD1EJBCH821	4835 122 87667
●C464		CHIP CERAMIC CAP. 2700pF/50V ±10% (B)	CHD1JKB0B272	4835 122 87098
C465		ELECTROLYTIC CAP. 4.7μF/50V ±20% H7	CE1JMAVSL4R7	4835 124 97061
●C466		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
●C467		CHIP CERAMIC CAP. 1000pF/50V ±10% (B)	CHD1JKB0B102	4835 122 87443
C468		ELECTROLYTIC CAP. 33μF/16V ±20% H7	CE1CMAVSL330	4835 124 47306
●C469		CHIP CERAMIC CAP. 0.015μF/50V ±10% (B)	CHD1JKB0B153	4835 122 87155
C605	▲	METALLIZED FILM CAP. 0.1μF/250V or	CT2E104MS037	4835 121 47025
	▲	FILM CAP.(MP) 0.1μF/250V ±10% or	CT2E104DC011	4835 121 47025
	▲	METALLIZED FILM CAP. 0.1μF/275V ±10% or	CT2E104HJE06	4835 121 47025
		LINE ACROSS CAP. 0.1U/250V	CT2E104DC015	4835 121 47025
C606		CERAMIC CAP. 0.01μF/500V +80/-20% (F) or	CCD2JZP0F103	4835 122 47423
		CERAMIC CAP. 0.01μF/AC250V or	CCD2EZA0F103	4835 122 47502
		CERAMIC CAP. E Z 0.01μF/500V	CCD2JZP0E103	4835 122 47423
C607		CERAMIC CAP. 0.01μF/500V +80/-20% (F) or	CCD2JZP0F103	4835 122 47423
		CERAMIC CAP. 0.01μF/AC250V or	CCD2EZA0F103	4835 122 47502
		CERAMIC CAP. E Z 0.01μF/500V	CCD2JZP0E103	4835 122 47423
C610		ELECTROLYTIC CAP. 470μF/200V or	CA2D471NC013	4835 124 47097
		ELECTROLYTIC CAP. 470μF/200V ±20% W/ F	CA2D471EA029	4835 124 47097
C611		CERAMIC CAP. BN 680pF/2KV or	CCD3DKA0B681	4835 122 47514
		CERAMIC CAP. 680pF/2KV or	CA3D681PAN04	4835 122 47514
		CERAMIC CAP. RB 680pF/2KV	CA3D681TE006	4835 122 47514
C612		FILM CAP.(P) 0.033μF/50V ±5% or	CMA1JJS00333	4835 121 47154
		FILM CAP.(P) 0.033μF/50V ±5%	CA1J333MS029	4822 121 42772
C613		FILM CAP.(P) 0.001μF/50V ±5% or	CMA1JJS00102	4822 121 43191
		FILM CAP.(P) 0.001μF/50V ±5%	CA1J102MS029	4822 121 43191
C614		FILM CAP.(P) 0.082μF/50V ±5% or	CMA1JJS00823	4835 121 47704
		FILM CAP.(P) 0.082μF/50V ±5%	CA1J823MS029	4835 121 47704
C615		CERAMIC CAP. BN 680pF/2KV or	CCD3DKA0B681	4835 122 47514
		CERAMIC CAP. 680pF/2KV or	CA3D681PAN04	4835 122 47514
		CERAMIC CAP. RB 680pF/2KV	CA3D681TE006	4835 122 47514
C616		ELECTROLYTIC CAP. 100μF/160V ±20% or	CE2CMZPDL101	4835 124 47698
		ELECTROLYTIC CAP. 100μF/160V ±20% or	CE2CMZPTL101	4835 124 47698
		ELECTROLYTIC CAP. 100μF/160V ±20% W/ F	CE2CMZNTL101	4822 124 22663
C617	▲	ELECTROLYTIC CAP. 470μF/35V ±20% or	CE1GMASDL471	4835 124 47069
	▲	ELECTROLYTIC CAP. 470μF/35V ±20%	CE1GMASTL471	4835 124 47069
C618	▲	ELECTROLYTIC CAP. 1000μF/16V ±20% or	CE1CMZPDL102	4835 124 47005
	▲	ELECTROLYTIC CAP. 1000μF/16V ±20%(VR/HC)	CE1CMZNTL102	4835 124 47005
C619	▲	ELECTROLYTIC CAP. 1000μF/16V ±20% or	CE1CMZPDL102	4835 124 47005
	▲	ELECTROLYTIC CAP. 1000μF/16V ±20%(VR/HC)	CE1CMZNTL102	4835 124 47005
C620	▲	ELECTROLYTIC CAP. 1000μF/16V ±20% or	CE1CMZPDL102	4835 124 47005
	▲	ELECTROLYTIC CAP. 1000μF/16V ±20%(VR/HC)	CE1CMZNTL102	4835 124 47005
C621		ELECTROLYTIC CAP. 100μF/16V ±20% or	CE1CMASDL101	4835 124 47033
		ELECTROLYTIC CAP. 100μF/16V ±20%	CE1CMASTL101	4835 124 47033
C622		FILM CAP.(P) 0.0047μF/50V ±5% or	CMA1JJS00472	4835 121 47676
		FILM CAP.(P) 0.0047μF/50V ±5%	CA1J472MS029	4835 121 47676
●C624		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
C625		ELECTROLYTIC CAP. 0.47μF/50V ±20% or	CE1JMASDLR47	4835 124 47155
		ELECTROLYTIC CAP. 0.47μF/50V ±20%	CE1JMASTLR47	4835 124 47155
C626	▲	ELECTROLYTIC CAP. 10μF/50V ±20% or	CE1JMASDL100	4835 124 47202
	▲	ELECTROLYTIC CAP. 10μF/50V ±20%	CE1JMASTL100	4835 124 47037
C630	▲	SAFETY CAP. 4700pF/250V ±10% X	CA2E472MR050	4835 124 17078
C632		ELECTROLYTIC CAP. 100μF/16V ±20% or	CE1CMASDL101	4835 124 47033

Ref.		Description	ID No.	Part No.
		ELECTROLYTIC CAP. 100μF/16V ±20%	CE1CMASL101	4835 124 47033
C633		ELECTROLYTIC CAP. 47μF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47μF/25V ±20%	CE1EMASDL470	4835 124 47102
C640		ELECTROLYTIC CAP. 470μF/16V ±20% or	CE1CMASDL471	4835 124 47286
		ELECTROLYTIC CAP. 470μF/16V ±20%	CE1CMASL471	4835 220 17118
●C642		CHIP CERAMIC CAP. 1000pF/50V ±10% (B)	CHD1JKB0B102	4835 122 87443
C643		ELECTROLYTIC CAP. 1000μF/6.3V ±20% or	CE0KMASDL102	4835 124 47203
		ELECTROLYTIC CAP. 1000μF/6.3V ±20%	CE0KMASTL102	4835 124 47203
C650		CERAMIC CAP.(AX) 2200pF/50V ±10% (B)	CA1J222TU011	4835 122 47007
C661		ELECTROLYTIC CAP. 100μF/16V ±20% or	CE1CMASDL101	4835 124 47033
		ELECTROLYTIC CAP. 100μF/16V ±20%	CE1CMASL101	4835 124 47033
C671		CERAMIC CAP. 2200pF/500V ±10% (B) or	CCD2JKP0B222	4835 122 47057
		CERAMIC CAP. 2200pF/500V ±10% (B)	CCD2JKS0B222	4835 122 47057
C683		ELECTROLYTIC CAP. 220μF/6.3V ±20% or	CE0KMASDL221	4835 124 47168
		ELECTROLYTIC CAP. 220μF/6.3V ±20%	CE0KMASTL221	4835 124 47168
C684		ELECTROLYTIC CAP. 100μF/16V ±20% or	CE1CMASDL101	4835 124 47033
		ELECTROLYTIC CAP. 100μF/16V ±20%	CE1CMASL101	4835 124 47033
C685		ELECTROLYTIC CAP. 47μF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47μF/25V ±20%	CE1EMASL470	4835 124 47102
C687		ELECTROLYTIC CAP. 22μF/50V ±20% or	CE1JMASDL220	4835 124 47051
		ELECTROLYTIC CAP. 22μF/50V ±20%	CE1JMASTL220	4835 124 47051
C688		ELECTROLYTIC CAP. 10μF/50V ±20% or	CE1JMASDL100	4835 124 47202
		ELECTROLYTIC CAP. 10μF/50V ±20%	CE1JMASTL100	4835 124 47037
C689		ELECTROLYTIC CAP. 47μF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47μF/25V ±20%	CE1EMASL470	4835 124 47102
●C701		CHIP CERAMIC CAP. 0.1μF/50V +80/-20% (F)	CHD1JZB0F104	4835 122 87645
●C722		CHIP CERAMIC CAP. 1μF/10V +80/-20% (F)	CHD1AZB0F105	4835 122 87639
●C732		CHIP CERAMIC CAP. 1μF/10V +80/-20% (F)	CHD1AZB0F105	4835 122 87639
●C740		CHIP CERAMIC CAP. 0.1μF/50V +80/-20% (F)	CHD1JZB0F104	4835 122 87645
C747		ELECTROLYTIC CAP. 4.7μF/50V ±20% H7	CE1JMAVSL4R7	4835 124 97061
●C748		CHIP CERAMIC CAP. 0.033μF/50V ±10% (B)	CHD1JKB0B333	4835 122 87384
●C749		CHIP CERAMIC CAP. 0.1μF/50V +80/-20% (F)	CHD1JZB0F104	4835 122 87645
C751		ELECTROLYTIC CAP. 47μF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47μF/25V ±20%	CE1EMASL470	4835 124 47102
C752		ELECTROLYTIC CAP. 1μF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C753		ELECTROLYTIC CAP. 10μF/25V ±20% H7	CE1EMAVSL100	4822 124 41291
C754		ELECTROLYTIC CAP. 1μF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C755		ELECTROLYTIC CAP. 22μF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
C756		ELECTROLYTIC CAP. 10μF/25V ±20% H7	CE1EMAVSL100	4822 124 41291
C757		ELECTROLYTIC CAP. 4.7μF/50V ±20% H7	CE1JMAVSL4R7	4835 124 97061
●C758		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
C759		ELECTROLYTIC CAP. 22μF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
●C760		CHIP CERAMIC CAP. 4700pF/50V ±10% (B)	CHD1JKB0B472	4835 122 87326
●C761		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
●C762		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
●C763		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
C764		ELECTROLYTIC CAP. 220μF/6.3V ±20% or	CE0KMASDL221	4835 124 47168
		ELECTROLYTIC CAP. 220μF/6.3V ±20%	CE0KMASTL221	4835 124 47168
●C765		CHIP CERAMIC CAP. 0.022μF/50V ±10% (B)	CHD1JKB0B223	4835 122 87209
C766		ELECTROLYTIC CAP. 2.2μF/50V ±20% H7	CE1JMAVSL2R2	4835 124 47049
●C767		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
C768		ELECTROLYTIC CAP. 10μF/25V ±20% H7	CE1EMAVSL100	4822 124 41291
C769		ELECTROLYTIC CAP. 22μF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
●C770		CHIP CERAMIC CAP. 4700pF/50V ±10% (B)	CHD1JKB0B472	4835 122 87326
●C771		CHIP CERAMIC CAP. 0.01μF/50V ±10% (B)	CHD1JKB0B103	4835 122 87255
C772		ELECTROLYTIC CAP. 4.7μF/50V ±20% H7	CE1JMAVSL4R7	4835 124 97061
C773		ELECTROLYTIC CAP. 10μF/25V ±20% H7	CE1EMAVSL100	4822 124 41291
C774		ELECTROLYTIC CAP. 1μF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C775		ELECTROLYTIC CAP. 1μF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C776		ELECTROLYTIC CAP. 1μF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C777		ELECTROLYTIC CAP. 1μF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
C778		CERAMIC CAP.(AX) 0.01μF/50V ±10% (B)	CA1J103TU011	4835 122 47098
C779		ELECTROLYTIC CAP. 2.2μF/50V ±20% H7	CE1JMAVSL2R2	4835 124 47049
C780		ELECTROLYTIC CAP. 4.7μF/50V ±20% H7	CE1JMAVSL4R7	4835 124 97061
C781		ELECTROLYTIC CAP. 1μF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014

Ref.		Description	ID No.	Part No.
C782		ELECTROLYTIC CAP. 4.7μF/50V ±20% H7	CE1JMAVSL4R7	4835 124 97061
C783		ELECTROLYTIC CAP. 1μF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
●C784		CHIP CERAMIC CAP. 0.1μF/50V +80/-20% (F)	CHD1JZB0F104	4835 122 87645
C786		ELECTROLYTIC CAP. 4.7μF/50V ±20% H7	CE1JMAVSL4R7	4835 124 97061
C787		ELECTROLYTIC CAP. 22μF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
C788		ELECTROLYTIC CAP. 4.7μF/50V ±20% H7	CE1JMAVSL4R7	4835 124 97061
C789		ELECTROLYTIC CAP. 22μF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
C790		ELECTROLYTIC CAP. 4.7μF/50V ±20% H7	CE1JMAVSL4R7	4835 124 97061
C791		ELECTROLYTIC CAP. 4.7μF/50V ±20% H7	CE1JMAVSL4R7	4835 124 97061
C792		ELECTROLYTIC CAP. 4.7μF/50V ±20% H7	CE1JMAVSL4R7	4835 124 97061
C793		ELECTROLYTIC CAP. 4.7μF/50V ±20% H7	CE1JMAVSL4R7	4835 124 97061
C794		ELECTROLYTIC CAP. 10μF/50V ±20% or	CE1JMASDL100	4835 124 47202
		ELECTROLYTIC CAP. 10μF/50V ±20%	CE1JMASTL100	4835 124 47037
C795		ELECTROLYTIC CAP. 4.7μF/50V ±20% H7	CE1JMAVSL4R7	4835 124 97061
C797		ELECTROLYTIC CAP. 220μF/16V ±20% or	CE1CMASDL221	4835 124 47209
		ELECTROLYTIC CAP. 220μF/16V ±20%	CE1CMASL221	4835 124 47081
C798		ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101	4835 124 47127
C801		ELECTROLYTIC CAP. 220μF/16V ±20% or	CE1CMASDL221	4835 124 47209
		ELECTROLYTIC CAP. 220μF/16V ±20%	CE1CMASL221	4835 124 47081
C802		ELECTROLYTIC CAP. 470μF/16V ±20% or	CE1CMASDL471	4835 124 47286
		ELECTROLYTIC CAP. 470μF/16V ±20%	CE1CMASL471	4835 220 17118
C803		ELECTROLYTIC CAP. 22μF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
C804		ELECTROLYTIC CAP. 1μF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
●C805		CHIP CERAMIC CAP. 1000pF/50V ±10% (B)	CHD1JKB0B102	4835 122 87443
C806		ELECTROLYTIC CAP. 22μF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
C807		ELECTROLYTIC CAP. 220μF/16V ±20% or	CE1CMASDL221	4835 124 47209
		ELECTROLYTIC CAP. 220μF/16V ±20%	CE1CMASL221	4835 124 47081
C808		ELECTROLYTIC CAP. 1μF/50V ±20% H7	CE1JMAVSL1R0	4835 124 47014
●C809		CHIP CERAMIC CAP. 1000pF/50V ±10% (B)	CHD1JKB0B102	4835 122 87443
C821		ELECTROLYTIC CAP. 470μF/16V ±20% or	CE1CMASDL471	4835 124 47286
		ELECTROLYTIC CAP. 470μF/16V ±20%	CE1CMASL471	4835 220 17118
C870		ELECTROLYTIC CAP. 47μF/6.3V ±20% H7	CE0KMAVSL470	4835 124 47265
C871		ELECTROLYTIC CAP. 100μF/16V ±20% H7	CE1CMAVSL101	4835 124 47033
C872		CERAMIC CAP. 470pF/100V ±10% (B) or	CCD2AKS0B471	4835 122 47691
		CERAMIC CAP. 470pF/500V ±10% (B)	CCD2JKS0B471	4835 122 47211
C873		FILM CAP.(P) 0.018μF/100V ±5% or	CA2AJSS00183	4835 121 47665
		FILM CAP.(P) 0.018μF/50V ±5%	CA1J183MS029	4822 124 42701
C880		ELECTROLYTIC CAP. 22μF/16V ±20% H7	CE1CMAVSL220	4835 124 47175
C881		ELECTROLYTIC CAP. 22μF/16V ±20% H7	CE1CMAVSL220	4835 124 47175

CONNECTORS

CN301		TWG CONNECTOR 19P TWG-P19X	JCTWA19TG001	----
CN302		CONNECTOR BASE, 5P TUC-P05P-B1	J3TUA05TG001	----
CN601		CONNECTOR BASE, 2P TV-50P-02-V3 or	J3TVC02TG002	----
		CONNECTOR BASE, 2P RTB-1.5-2P	J3RTC02JG001	----
CN602		TWG CONNECTOR 19P TWG-P19X	JCTWA19TG001	----
CN802		STRAIGHT CONNECTOR BASE 00 8283 0212 00 000 or	J383C02UG002	----
		STRAIGHT PIN HEADER, 2P 173981-2	1770258	----
CN803		TWG CONNECTOR 07P TWG-P07P-A1	J3TWA07TG001	----

DIODES

D110		PCB JUMPER D0.6-P5.0	JW5.0T	----
D201		ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6P2	4835 130 37593
		ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS	4835 130 38039
D204		LED LTL-4214M1 or	NPZQZLTL4214M	4835 130 87149
		LED LAMP 333HT/F45-50K or	NPWK333HTF45	4835 130 87149
		LED LAMP 333HT/F45-50L or	NPWL333HTF45	4835 130 87149
		LED LAMP 333HT/F45-50M	NPWM333HTF45	4835 130 87149
D206		ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6P2	4835 130 37593
		ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS	4835 130 38039
D216		LED LAMP 333GT/F45-50 or	NPWZ3GTG4550	4835 130 87165
		LED(GREEN) LTL-4234M1	NPZZ0LTL4234	4835 130 87165
D217		LED LTL-4214M1 or	NPQZLTL4214M	4835 130 87149
		LED LAMP 333HT/F45-50K or	NPWK333HTF45	4835 130 87149
		LED LAMP 333HT/F45-50L or	NPWL333HTF45	4835 130 87149
		LED LAMP 333HT/F45-50M	NPWM333HTF45	4835 130 87149
D224		LED SIR-563S3F P or	QPQPS1R563ST	4835 130 87163

Ref.	▲	Description	ID No.	Part No.
		LED SIR-563ST3F Q or	QPQGS1R563ST	4835 130 87162
		LED MIE-534A2	NPZZM1E534A2	4835 130 87168
D227		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D229		ZENER DIODE MTZJT-7715B or	QDTB00MTZJ15	4835 130 37604
		ZENER DIODE DZ-15BSBT265	NDTB00DZ15BS	4835 130 38029
D230		ZENER DIODE MTZJT-7715B or	QDTB00MTZJ15	4835 130 37604
		ZENER DIODE DZ-15BSBT265	NDTB00DZ15BS	4835 130 38029
D231		ZENER DIODE MTZJT-7718A or	QDTA00MTZJ18	4835 130 37784
		ZENER DIODE DZ-18BSAT265	NDTA00DZ18BS	4835 130 38031
D232		ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2	4835 130 37593
		ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS	4835 130 38039
D234		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D302		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D303		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D304		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D305		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D306		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D307		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D308		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D309		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D311		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D318		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D350		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D351		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D352		ZENER DIODE MTZJT-779.1B or	QDTB0MTZJ9R1	4835 130 37506
		ZENER DIODE DZ-9.1BSBT265	NDTB0DZ9R1BS	4835 130 38028
D353		ZENER DIODE MTZJT-779.1B or	QDTB0MTZJ9R1	4835 130 37506
		ZENER DIODE DZ-9.1BSBT265	NDTB0DZ9R1BS	4835 130 38028
D419		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D420		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D603	▲	DIODE 1N5406 or	NDLZ001N5406	4835 130 37197
	▲	DIODE ERC04-06L3	QD4Z0ERC0406	4835 130 37986
D604	▲	DIODE 1N5406 or	NDLZ001N5406	4835 130 37197
	▲	DIODE ERC04-06L3	QD4Z0ERC0406	4835 130 37986
D605	▲	DIODE 1N5406 or	NDLZ001N5406	4835 130 37197
	▲	DIODE ERC04-06L3	QD4Z0ERC0406	4835 130 37986
D606	▲	DIODE 1N5406 or	NDLZ001N5406	4835 130 37197
	▲	DIODE ERC04-06L3	QD4Z0ERC0406	4835 130 37986
D607	▲	ZENER DIODE MTZJT-7724C or	QDTC00MTZJ24	4835 130 37984
	▲	ZENER DIODE DZ-24BSCT265	NDTC00DZ24BS	4835 130 38045
D609	▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
	▲	SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D610		ZENER DIODE MTZJT-775.6B or	QDTB0MTZJ5R6	4835 130 37329
		ZENER DIODE DZ-5.6BSBT265	NDTB0DZ5R6BS	4835 130 38026
D611		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D613	▲	RECOVERY DIODE ERC18-04	QDZZOERC1804	4835 130 37994
D614	▲	DIODE FR104-B or	NDLZ000FR104	4835 130 38018
	▲	DIODE FR104BB	NDL1000FR104	4835 130 38018
D615	▲	SCHOTTKY BARRIER DIODE 11EQS04 or	QD4Z011EQS04	4835 130 37135
	▲	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004	4835 130 37211

Ref.	▲	Description	ID No.	Part No.
D616	▲	RECTIFIER DIODE FR202-B/P	NDQZ000FR202	4835 130 38058
D617	▲	DIODE FR154 or	NDLZ000FR154	4835 130 38019
	▲	FAST RECOVERY DIODE ERB44-02 or	QDPZ0ERB4402	4835 130 37944
	▲	DIODE FR154BD	NDL1000FR154	4835 130 38019
D618	▲	SCHOTTKY BARRIER DIODE 11EQS04 or	QD4Z011EQS04	4835 130 37135
	▲	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004	4835 130 37211
D619	▲	DIODE FR104-B or	NDLZ000FR104	4835 130 38018
	▲	DIODE FR104BB	NDL1000FR104	4835 130 38018
D620	▲	ZENER DIODE MTZJT-776.8B or	QDTB0MTZJ6R8	4835 130 37881
	▲	ZENER DIODE DZ-6.8BSBT265	NDTB0DZ6R8BS	4835 130 38027
D621		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D622	▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
	▲	SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D623		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D626		ZENER DIODE MTZJT-7736A or	QDTA00MTZJ36	4835 130 37785
		ZENER DIODE DZ-36BSAT265	NDTA00DZ36BS	4835 130 38033
D627		ZENER DIODE MTZJT-7718C or	QDTC00MTZJ18	4835 130 37784
		ZENER DIODE DZ-18BSCT265	NDTC00DZ18BS	4835 130 38031
D628	▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
	▲	SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D634		ZENER DIODE MTZJT-778.2B or	QDTB0MTZJ8R2	4835 130 37963
		ZENER DIODE DZ-8.2BSBT265	NDTB0DZ8R2BS	4835 130 38041
D635		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D636		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D640	▲	DIODE 1ZC33 or	QDQZ0001ZC33	4835 130 37958
	▲	ZENER DIODE RD33FB	QDQZ000RD33F	4835 130 37995
D641	▲	ZENER DIODE MTZJT-7736A or	QDTA00MTZJ36	4835 130 37785
	▲	ZENER DIODE DZ-36BSAT265	NDTA00DZ36BS	4835 130 38033
D645	▲	SCHOTTKY BARRIER DIODE 21DQ04 or	QDQZ0021DQ04	4835 130 37744
	▲	SCHOTTKY BARRIER DIODE ERB81-004	AERB81004***	4835 130 37233
D657		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D659		RECTIFIER DIODE 1N4005	NDQZ001N4005	4835 130 37047
D660	▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
	▲	SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D663		ZENER DIODE MTZJT-776.8A or	QDTA0MTZJ6R8	4835 130 37971
		ZENER DIODE DZ-6.8BSAT265	NDTA0DZ6R8BS	4835 130 38027
D671		PCB JUMPER D0.6-P5.0	JW5.0T	--- ---
D672		ZENER DIODE MTZJT-775.6C or	QDTC00MTZJ5R6	4835 130 37329
		ZENER DIODE DZ-5.6BSCT265	NDTC00DZ5R6BS	4835 130 38026
D673		PCB JUMPER D0.6-P5.0	JW5.0T	--- ---
D674		ZENER DIODE MTZJT-775.1B or	QDTB0MTZJ5R1	4835 130 37964
		ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS	4835 130 38025
D675		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D680	▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
	▲	SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D682		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D683		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D684		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D685	▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
	▲	SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D687		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D688	▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
	▲	SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D691		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D692		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048

Ref.	▲	Description	ID No.	Part No.
D801	▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
	▲	SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D811		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
ICs				
●IC001		IC, IF SIGNAL PROCESS M61113FP	QSZBA0SHT019	4835 209 47631
●IC201	▲	IC, SERVO/SYSTEM CONTROL/TV/OSD/TIMER MICRO CONTROLLER M3776AMCA-BA5GP	QSZAA0RHT023	4835 209 17687
●IC202		IC, MEMORY BR24C02F-W or	QSMBA0SRM003	4835 209 47446
		IC, MEMORY CAT24WC02JI or	NSZBA0SBG001	4835 209 47596
		IC, MEMORY M24C02-WMN6 or	NSZAA0SS004	4835 209 47609
		IC, MEMORY BF24L02F-WE2	QSZBA0TRM068	4835 209 47636
●IC301	▲	IC, CHROMA/DEFLECTION SIGNAL PROCESS M61277FP	QSZAA0RHT010	4835 209 47633
●IC401		IC, VIDEO/AUDIO SIGNAL PROCESS/HEAD AMP LA721205M-MPB-E	QSZBA0RSY037	4835 209 47629
IC601	▲	IC, ERROR VOLTAGE DET LTV-817C-F or	NPECOLTV817F	4835 130 37977
	▲	IC, ERROR VOLTAGE DET PC817X6	QPE600PC817X	4835 130 87159
IC682	▲	IC, +5V REGULATOR KIA7805API or	NSBBA0SJY011	4835 209 47498
	▲	IC, +5V REGULATOR KA7805A	NSZBA0SF3052	4835 209 47592
●IC701		IC, MTS/SAP/Hi-Fi AUDIO PROCESS/Hi-Fi HEAD AMP LA72670M-A-MPB-E or	QSZBA0RSY034	4835 209 47614
		IC, MTS/SAP/Hi-Fi AUDIO PROCESS/Hi-Fi HEAD AMP LA72670BM-MPB-E	QSZBA0RSY039	4835 209 47634
●IC801		IC, AMP AN17811A	QSZAA0SMS015	4835 209 47628
●IC802		IC, AMP AN17811A	QSZAA0SMS015	4835 209 47628
COILS				
L001		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L003		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L031		INDUCTOR 10μH-J-26T or	LLAXJATTU100	4835 157 57643
		INDUCTOR 10μH-K-26T	LLAXKDTKA100	4835 157 57643
L033		INDUCTOR 15μH-J-26T or	LLAXJATTU150	4835 157 57753
		INDUCTOR 15μH-K-26T	LLAXKDTKA150	4835 157 57753
L041		INDUCTOR 100μH-K-5FT or	LLARKBSTU101	4835 157 57798
		INDUCTOR 100μH-K	LLARKDQKA101	4835 157 58218
L202		INDUCTOR 0.10μH-K-26T	LLAXKATTUR10	4835 157 58236
L203		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L211		CHOKE COIL 47μH-K or	LLBD00PKV007	4835 157 58208
		CHOKE COIL 47μH-K or	LLBD00PKV005	4835 157 58208
		CHOKE COIL 47μH-K	LLBD00PKT001	4835 157 58208
L302		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L402		INDUCTOR 22μH-J-26T or	LLAXJATTU220	4835 157 57641
		INDUCTOR 22μH-K-26T	LLAXKDTKA220	4835 157 57641
L403		CHOKE COIL 47μH-K or	LLBD00PKV007	4835 157 58208
		CHOKE COIL 47μH-K or	LLBD00PKV005	4835 157 58208
		CHOKE COIL 47μH-K	LLBD00PKT001	4835 157 58208
L404		CHOKE COIL 47μH-K or	LLBD00PKV007	4835 157 58208
		CHOKE COIL 47μH-K or	LLBD00PKV005	4835 157 58208
		CHOKE COIL 47μH-K	LLBD00PKT001	4835 157 58208
L405		INDUCTOR 47μH-J-26T or	LLAXJATTU470	4835 157 58271
		INDUCTOR 47μH-K-26T	LLAXKDTKA470	4835 157 57375
L601	▲	LINE FILTER 2.7MH ELF15N013A	LLBG00ZMS037	4835 154 97208
L751		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L752		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L802		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L804		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L806		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L871		PCB JUMPER D0.6-P5.0	JW5.0T	-----
L872		INDUCTOR 47μH-K-5FT or	LLARKBSTU470	4835 157 57375
		INDUCTOR 47μH-K-5FT	LLARKDSKA470	4835 157 57375
TRANSISTORS				
Q205		RESET 2SC2785(F) "NPN" or	QSF02SC2785	4835 130 47722
		RESET KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		RESET 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q206		T-REEL MID-32A22F or	NPWZ1D32A22F	4835 130 48231
		T-REEL PT204-6B-12	NPWZT2046B12	4835 130 48222
Q207		REC LED DRIVE 2SC2785(F) "NPN" or	QSF02SC2785	4835 130 47722
		REC LED DRIVE KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914

Ref.	▲	Description	ID No.	Part No.
		REC LED DRIVE 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q210		TV/VCR LED DRIVE 2SC2785(F) "NPN" or	QSF02SC2785	4835 130 47722
		TV/VCR LED DRIVE KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		TV/VCR LED DRIVE 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q211		DVD LED DRIVE 2SC2785(F) "NPN" or	QSF02SC2785	4835 130 47722
		DVD LED DRIVE KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		DVD LED DRIVE 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q221		SWITCHING P-DOWN KRA103M "PNP" or	NQSZ0KRA103M	4835 130 47907
		SWITCHING P-DOWN BN1F4M-T	QQSZ00BN1F4M	4835 130 48201
Q350		SWITCHING SPOT-KILL 2SC1627Y-TPE2 "NPN"	QYSY02SC1627	4835 130 48141
Q351		SWITCHING 2SC2785(F) "NPN" or	QSF02SC2785	4835 130 47722
		SWITCHING KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		SWITCHING 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q401		BUFFER 2SA1175(F) "PNP" or	QSF02SA1175	4835 130 47645
		BUFFER KTA1267(GR) "PNP" or	NQS10KTA1267	4835 130 47913
		BUFFER 2SA1015-GR(TPE2) "PNP"	QQS102SA1015	4835 130 47399
Q402		BUFFER 2SA1175(F) "PNP" or	QSF02SA1175	4835 130 47645
		BUFFER KTA1267(GR) "PNP" or	NQS10KTA1267	4835 130 47913
		BUFFER 2SA1015-GR(TPE2) "PNP"	QQS102SA1015	4835 130 47399
Q403		BUFFER 2SA1175(F) "PNP" or	QSF02SA1175	4835 130 47645
		BUFFER KTA1267(GR) "PNP" or	NQS10KTA1267	4835 130 47913
		BUFFER 2SA1015-GR(TPE2) "PNP"	QQS102SA1015	4835 130 47399
Q404		BUFFER 2SC2785(F) "NPN" or	QSF02SC2785	4835 130 47722
		BUFFER KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		BUFFER 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q601	▲	SWITCHING 2SK3563	QFWZ02SK3563	4835 130 48244
Q602	▲	LIMITER 2SC2120-O-TPE2 "NPN" or	QQS002SC2120	4835 130 47756
	▲	LIMITER 2SC2120-Y(TPE2) "NPN"	QYSY02SC2120	4835 130 48047
Q604	▲	FEED BACK 2SC2785(F) "NPN" or	QSF02SC2785	4835 130 47722
	▲	FEED BACK KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
	▲	FEED BACK 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q605		SWITCHING P-ON-ON 2SC2785(F) "NPN" or	QSF02SC2785	4835 130 47722
		SWITCHING P-ON-ON KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		SWITCHING P-ON-ON 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q606	▲	SWITCHING P-ON-ON 2SA950(O) "PNP" or	Q2SA9500TPE2	4835 130 47576
	▲	SWITCHING P-ON-ON 2SA950(Y) "PNP" or	Q2SA950YTPE2	4835 130 47576
	▲	SWITCHING P-ON-ON KTA1271(Y) "PNP"	NQSY0KTA1271	4835 130 48063
Q607	▲	SWITCHING P-ON-OFF 2SC2785(F) "NPN" or	QSF02SC2785	4835 130 47722
	▲	SWITCHING P-ON-OFF KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
	▲	SWITCHING P-ON-OFF 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q609		P-ON+5.7V SWITCHING 2SC2120-O-TPE2 "NPN" or	QQS002SC2120	4835 130 47756
		P-ON+5.7V SWITCHING 2SC2120-Y(TPE2) "NPN"	QYSY02SC2120	4835 130 48047
Q613		P-ON+8V SWITCHING 2SC2120-O-TPE2 "NPN" or	QQS002SC2120	4835 130 47756
		P-ON+8V SWITCHING 2SC2120-Y(TPE2) "NPN"	QYSY02SC2120	4835 130 48047
Q614		P-ON+9V SWITCHING KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		P-ON+9V SWITCHING 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q681	▲	P-ON+5V SWITCHING 2SD400(F) or	QQUF002SD400	4835 130 47433
	▲	P-ON+5V SWITCHING 2SD400(E)	QQUE002SD400	4835 130 47079
Q683	▲	P-ON+5V SWITCHING 2SC2120-O-TPE2 "NPN" or	QQS002SC2120	4835 130 47756
	▲	P-ON+5V SWITCHING 2SC2120-Y(TPE2) "NPN"	QYSY02SC2120	4835 130 48047
Q688	▲	P-ON+5V SWITCHING 2SC2120-O-TPE2 "NPN" or	QQS002SC2120	4835 130 47756
	▲	P-ON+5V SWITCHING 2SC2120-Y(TPE2) "NPN"	QYSY02SC2120	4835 130 48047
Q701		INVERTER 2SC2785(F) "NPN" or	QSF02SC2785	4835 130 47722
		INVERTER KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		INVERTER 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q871		SWITCHING 2SA1175(F) "PNP" or	QSF02SA1175	4835 130 47645
		SWITCHING KTA1267(GR) "PNP" or	NQS10KTA1267	4835 130 47913

Ref.	▲	Description	ID No.	Part No.
●R335		CHIP RES.(1608) 1/10W 5.6k Ω ±5%	RRXAJB5Z0562	4835 111 17168
●R336		CHIP RES.(1608) 1/10W 5.6k Ω ±5%	RRXAJB5Z0562	4835 111 17168
R337		CARBON RES. 1/4W 470 Ω ±5%	RCX4JATZ0471	4835 110 57167
●R339		CHIP RES.(1608) 1/10W 5.6k Ω ±5%	RRXAJB5Z0562	4835 111 17168
R340		CARBON RES. 1/4W 1k Ω ±5%	RCX4JATZ0102	4835 110 57025
R350		CARBON RES. 1/4W 470 Ω ±5%	RCX4JATZ0471	4835 110 57167
R351		CARBON RES. 1/4W 1k Ω ±5%	RCX4JATZ0102	4835 110 57025
R355		CARBON RES. 1/4W 160 Ω ±5%	RCX4JATZ0161	4835 110 57365
R356		CARBON RES. 1/4W 160 Ω ±5%	RCX4JATZ0161	4835 110 57365
R405		CARBON RES. 1/4W 10k Ω ±5%	RCX4JATZ0103	4835 110 57026
●R406		CHIP RES.(1608) 1/10W 10k Ω ±5%	RRXAJB5Z0103	4835 111 27027
●R407		CHIP RES.(1608) 1/10W 18k Ω ±5%	RRXAJB5Z0183	4835 111 17396
●R408		CHIP RES.(1608) 1/10W 18k Ω ±5%	RRXAJB5Z0183	4835 111 17396
●R409		CHIP RES.(1608) 1/10W 39k Ω ±5%	RRXAJB5Z0393	4835 111 37255
●R410		CHIP RES.(1608) 1/10W 12k Ω ±5%	RRXAJB5Z0123	4835 111 17148
●R411		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000	-----
●R412		CHIP RES.(1608) 1/10W 1k Ω ±5%	RRXAJB5Z0102	4835 111 17068
●R413		CHIP RES.(1608) 1/10W 22k Ω ±5%	RRXAJB5Z0223	4835 111 17287
●R414		CHIP RES.(1608) 1/10W 47k Ω ±5%	RRXAJB5Z0473	4835 111 17408
●R415		CHIP RES.(1608) 1/10W 1.5k Ω ±5%	RRXAJB5Z0152	4835 111 17152
●R416		CHIP RES.(1608) 1/10W 330k Ω ±5%	RRXAJB5Z0334	4835 111 17404
R417		CARBON RES. 1/4W 220 Ω ±5%	RCX4JATZ0221	4835 110 57037
●R418		CHIP RES.(1608) 1/10W 330 Ω ±5%	RRXAJB5Z0331	4835 111 17402
R419		CARBON RES. 1/4W 330 Ω ±5%	RCX4JATZ0331	4835 110 57045
●R420		CHIP RES.(1608) 1/10W 12k Ω ±5%	RRXAJB5Z0123	4835 111 17148
●R421		CHIP RES.(1608) 1/10W 8.2k Ω ±5%	RRXAJB5Z0822	4835 111 17416
●R422		CHIP RES.(1608) 1/10W 270 Ω ±5%	RRXAJB5Z0271	4835 111 17113
●R424		CHIP RES.(1608) 1/10W 100k Ω ±5%	RRXAJB5Z0104	4835 111 17147
●R425		CHIP RES.(1608) 1/10W 82k Ω ±5%	RRXAJB5Z0823	4835 111 17173
●R426		CHIP RES.(1608) 1/10W 2.2k Ω ±5%	RRXAJB5Z0222	4835 111 17156
●R427		CHIP RES.(1608) 1/10W 820 Ω ±5%	RRXAJB5Z0821	4835 111 17415
●R428		CHIP RES.(1608) 1/10W 680k Ω ±5%	RRXAJB5Z0684	4835 111 17414
●R429		CHIP RES.(1608) 1/10W 1.2k Ω ±5%	RRXAJB5Z0122	4835 111 17394
●R430		CHIP RES.(1608) 1/10W 1k Ω ±5%	RRXAJB5Z0102	4835 111 17068
●R431		CHIP RES.(1608) 1/10W 8.2k Ω ±5%	RRXAJB5Z0822	4835 111 17416
●R432		CHIP RES.(1608) 1/10W 1.5k Ω ±5%	RRXAJB5Z0152	4835 111 17152
●R433		CHIP RES.(1608) 1/10W 4.7k Ω ±5%	RRXAJB5Z0472	4835 111 17166
●R436		CHIP RES.(1608) 1/10W 2.2M Ω ±5%	RRXAJB5Z0225	4835 111 17514
R601		CARBON RES. 1/4W 390 Ω ±5%	RCX4JATZ0391	4835 110 57048
R602	▲	CEMENT RES. 5W 1.2 Ω ±10% (W) K or	RW051R2DP005	4835 113 87008
	▲	CEMENT RESISTOR 5W 1.2 Ω ±10% (W) K or	RW051R2PG001	4835 113 87008
	▲	CEMENT RESISTOR 5W 1.2 Ω H:10MM J	RW051R2PAK10	4835 113 87008
R603	▲	METAL OXIDE FILM RES. 2W 0.27 Ω ±5% or	RN02R27ZU001	4835 116 67186
	▲	METAL OXIDE FILM RES. 2W 0.27 Ω ±5%	RN02R27DP004	4835 116 67186
R604		CARBON RES. 1/4W 560k Ω ±5%	RCX4JATZ0564	4835 110 57053
R605		CARBON RES. 1/4W 560k Ω ±5%	RCX4JATZ0564	4835 110 57053
R606		CARBON RES. 1/4W 220 Ω ±5%	RCX4JATZ0221	4835 110 57037
R607		CARBON RES. 1/4W 220 Ω ±5%	RCX4JATZ0221	4835 110 57037
R608		CARBON RES. 1/4W 180k Ω ±5%	RCX4JATZ0184	4835 110 57259
R609	▲	CARBON RES. 1/4W 5.6 Ω ±5%	RCX4JATZ05R6	4835 110 57246
R610		CARBON RES. 1/4W 1.2k Ω ±5%	RCX4JATZ0122	4835 110 57027
R613		CARBON RES. 1/4W 150 Ω ±5%	RCX4JATZ0151	4835 110 57031
R614		CARBON RES. 1/4W 1.2k Ω ±5%	RCX4JATZ0122	4835 110 57027
R616		PCB JUMPER D0.6-P5.0	JW5.0T	-----
R617		CARBON RES. 1/4W 180 Ω ±5%	RCX4JATZ0181	4835 110 57219
R618		CARBON RES. 1/4W 270 Ω ±5%	RCX4JATZ0271	4835 110 57041
R619		CARBON RES. 1/4W 270 Ω ±5%	RCX4JATZ0271	4835 110 57041
R620	▲	CEMENT RES. 5W 3.9k Ω ±5% or	RW05392DP008	4835 113 87021
	▲	CEMENT RES. 5W 3.9k Ω ±5% or	RW05392PG004	4835 113 87021
	▲	CEMENT RESISTOR 5W 3.9k Ω ±5%	RW05392PAK13	4835 113 87021
R621		CARBON RES. 1/4W 15k Ω ±5%	RCX4JATZ0153	4835 110 57032
R622		CARBON RES. 1/4W 15k Ω ±5%	RCX4JATZ0153	4835 110 57032
R623		CARBON RES. 1/4W 33k Ω ±5%	RCX4JATZ0333	4835 110 57211
R624	▲	CARBON RES. 1/4W 47k Ω ±5%	RCX4JATZ0473	4835 110 57189
R625	▲	CARBON RES. 1/4W 39k Ω ±5%	RCX4JATZ0393	4835 110 57262
R629	▲	CARBON RES. 1/4W 13k Ω ±5%	RCX4JATZ0133	4835 110 57386

Ref.	▲	Description	ID No.	Part No.
R630		CARBON RES. 1/4W 12k Ω ±5%	RCX4JATZ0123	4835 110 57282
R631		CARBON RES. 1/4W 12k Ω ±5%	RCX4JATZ0123	4835 110 57282
R632	▲	CARBON RES. 1/4W 680 Ω ±5%	RCX4JATZ0681	4835 110 57054
R633	▲	CARBON RES. 1/4W 5.6k Ω ±5%	RCX4JATZ0562	4835 110 57304
R634		CARBON RES. 1/4W 22k Ω ±5%	RCX4JATZ0223	4835 110 57038
●R635		CHIP RES.(1608) 1/10W 10k Ω ±5%	RRXAJB5Z0103	4835 111 27027
R637		PCB JUMPER D0.6-P5.0	JW5.0T	-----
R638		PCB JUMPER D0.6-P5.0	JW5.0T	-----
R639	▲	CARBON RES. 1/2W 1.2k Ω ±5% or	RCX2JZQZ0122	4835 110 47233
	▲	CARBON RES. 1/2W 1.2k Ω ±5%	RCX2122KA013	4835 110 47233
R640	▲	CARBON RES. 1/4W 56k Ω ±5%	RCX4JATZ0563	4835 110 57213
R641		CARBON RES. 1/4W 10k Ω ±5%	RCX4JATZ0103	4835 110 57026
●R642	▲	CHIP RES.(1608) 1/10W 6.8k Ω ±5%	RRXAJB5Z0682	4835 111 17413
●R644	▲	CHIP RES.(1608) 1/10W 47k Ω ±5%	RRXAJB5Z0473	4835 111 17408
R645	▲	CARBON RES. 1/4W 220 Ω ±5%	RCX4JATZ0221	4835 110 57037
R650		PCB JUMPER D0.6-P5.0	JW5.0T	-----
R654	▲	CARBON RES. 1/2W 4.7 Ω ±5% or	RCX2JZQZ04R7	4835 110 47023
	▲	CARBON RES. 1/2W 4.7 Ω ±5%	RCX24R7KA013	4835 110 47023
R655	▲	CARBON RES. 1/4W 2.7k Ω ±5%	RCX4JATZ0272	4835 110 57006
R662		CARBON RES. 1/4W 560k Ω ±5%	RCX4JATZ0564	4835 110 57053
R663		CARBON RES. 1/4W 560k Ω ±5%	RCX4JATZ0564	4835 110 57053
R664		CARBON RES. 1/4W 100 Ω ±5%	RCX4JATZ0101	4835 110 57003
R665		CARBON RES. 1/4W 22 Ω ±5%	RCX4JATZ0220	4835 110 57036
R666		CARBON RES. 1/4W 680 Ω ±5%	RCX4JATZ0681	4835 110 57054
R667		CARBON RES. 1/4W 680 Ω ±5%	RCX4JATZ0681	4835 110 57054
R672		CARBON RES. 1/4W 390 Ω ±5%	RCX4JATZ0391	4835 110 57048
●R673		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000	-----
●R674		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000	-----
●R675		CHIP RES.(1608) 1/10W 330 Ω ±5%	RRXAJB5Z0331	4835 111 17402
R676		CARBON RES. 1/4W 100 Ω ±5%	RCX4JATZ0101	4835 110 57003
R685		METAL OXIDE FILM RES. 1W 6.8 Ω ±5% or	RN016R8ZU001	4835 113 97077
		METAL OXIDE FILM RES. 1W 6.8 Ω ±5%	RN016R8DP003	4835 113 97077
R686		CARBON RES. 1/4W 120 Ω ±5%	RCX4JATZ0121	4835 110 57217
R688		METAL OXIDE FILM RES. 1W 15 Ω ±5% or	RN01150ZU001	4835 116 57606
		METAL OXIDE FILM RES. 1W 15 Ω ±5%	RN01150DP003	4835 116 57606
R689		CARBON RES. 1/4W 1.5 Ω ±5%	RCX4JATZ01R5	4835 110 57074
R691		CARBON RES. 1/4W 3.3 Ω ±5%	RCX4JATZ03R3	4835 110 57043
R692		METAL OXIDE FILM RES. 1W 8.2 Ω ±5% or	RN018R2ZU001	4835 116 67061
		METAL OXIDE FILM RES. 1W 8.2 Ω ±5%	RN018R2DP003	4835 116 67061
R693		PCB JUMPER D0.6-P5.0	JW5.0T	-----
R694		METAL OXIDE FILM RES. 1W 18 Ω ±5% or	RN01180ZU001	4835 113 97065
		METAL OXIDE FILM RES. 1W 18 Ω ±5%	RN01180DP003	4835 113 97065
R701		CARBON RES. 1/4W 75 Ω ±5%	RCX4JATZ0750	4835 110 57056
●R702		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000	-----
R703		PCB JUMPER D0.6-P5.0	JW5.0T	-----
●R731		CHIP RES.(1608) 1/10W 47k Ω ±5%	RRXAJB5Z0473	4835 111 17408
R732		PCB JUMPER D0.6-P5.0	JW5.0T	-----
●R734		CHIP RES.(1608) 1/10W 47k Ω ±5%	RRXAJB5Z0473	4835 111 17408
R735		PCB JUMPER D0.6-P5.0	JW5.0T	-----
●R750		CHIP RES.(1608) 1/10W 1k Ω ±5%	RRXAJB5Z0102	4835 111 17068
●R751		CHIP RES.(1608) 1/10W 4.7k Ω ±5%	RRXAJB5Z0472	4835 111 17166
●R752		CHIP RES.(1608) 1/10W 12k Ω ±5%	RRXAJB5Z0123	4835 111 17148
●R753		CHIP RES.(1608) 1/10W 47k Ω ±5%	RRXAJB5Z0473	4835 111 17408
●R754		CHIP RES.(1608) 1/10W 8.2k Ω ±5%	RRXAJB5Z0822	4835 111 17416
●R755		CHIP RES.(1608) 1/10W 470 Ω ±5%	RRXAJB5Z0471	4835 111 17263
●R756		CHIP RES.(1608) 1/10W 2.2k Ω ±5%	RRXAJB5Z0222	4835 111 17156
●R757		CHIP RES.(1608) 1/10W 47k Ω ±5%	RRXAJB5Z0473	4835 111 17408
●R758		CHIP RES.(1608) 1/10W 8.2k Ω ±5%	RRXAJB5Z0822	4835 111 17416
●R759		CHIP RES.(1608) 1/10W 1k Ω ±5%	RRXAJB5Z0102	4835 111 17068
R761		CARBON RES. 1/4W 1k Ω ±5%	RCX4JATZ0102	4835 110 57025
●R764		CHIP RES.(1608) 1/10W 22k Ω ±5%	RRXAJB5Z0223	4835 111 17287
R766		PCB JUMPER D0.6-P5.0	JW5.0T	-----
R767		CARBON RES. 1/4W 1k Ω ±5%	RCX4JATZ0102	4835 110 57025
●R769		CHIP RES.(1608) 1/10W 4.7k Ω ±5%	RRXAJB5Z0472	4835 111 17166
●R770		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000	-----
●R771		CHIP RES.(1608) 1/10W 0 Ω	RRXAZB5Z0000	-----
R772		CARBON RES. 1/4W 47k Ω ±5%	RCX4JATZ0473	4835 110 57189

Ref.	▲	Description	ID No.	Part No.
X202		CRYSTAL OSCILLATOR HC-49/U 10.6MHz or	FXD106LLN001	4835 242 77326
		CRYSTAL OSCILLATOR AT49-10.6	FXD106LDS002	4835 242 77326
X301		CRYSTAL OSCILLATOR 3.579545 MHz or	FXD355LLN003	4835 242 77342
		CRYSTAL OSCILLATOR 3.579545MHz(30PPM)	FXD355L.CHE01	-----
X401		CRYSTAL OSCILLATOR 3.579545MHz(20PPM) or	FXC355LLN003	4835 242 77093
		CRYSTAL OSCILLATOR 3.579545MHz(20PPM) or	FXC355LDS001	4835 242 77093
		CRYSTAL OSCILLATOR 3.579545MHz(20PPM)	FXC355L.CHE01	4835 242 77093

SENSOR CBA

Ref.	▲	Description	ID No.	Part No.
		SENSOR CBA Consists of the following:	0ESA06165	-----
TRANSISTORS				
Q201		END-SENS MID-32A22F or	NPWZ1D32A22F	4835 130 48231
		END-SENS PT204-6B-12	NPWZT2046B12	4835 130 48222
Q202		ST-SENS MID-32A22F or	NPWZ1D32A22F	4835 130 48231
		ST-SENS PT204-6B-12	NPWZT2046B12	4835 130 48222

MPS CBA

Ref.	▲	Description	ID No.	Part No.
		MPS CBA Consists of the following:	0ESA06255	-----
		SUB CBA (MPS-A)	-----	-----
		CRT CBA (MPS-B)	-----	-----
		FUNCTION CBA (MPS-C)	-----	-----
		JUNCTION CBA	-----	-----

SUB CBA

Ref.	▲	Description	ID No.	Part No.
		SUB CBA (MPS-A) Consists of the following:	-----	-----
CAPACITORS				
C531		METALLIZED FILM CAP. 0.47µF/200V ±5% or	CT2D474F7001	4835 121 47449
		METALLIZED FILM CAP. 0.47µF/200V ±5% or	CT2D474F7003	4835 121 47449
		P.PCAP 0.47µF/200 J or	CA2D474VC012	4835 121 47449
		PP CAP. 0.47µF/250V ±5%	CT2E474MS041	4835 121 47411
C533	▲	P.PCAP 0.01µF/1.6KV ±5% or	CA3C103VC011	4835 121 47622
	▲	PP CAP. 0.01µF/1.6KV ±5% or	CT3C103MS039	4835 121 47622
	▲	METALLIZED FILM CAP. 0.01µF/1.6KV ±5% or	CT3C103F7004	4835 121 47622
	▲	POLYPROPYLENE FILM CAP. 0.01µF/1.6KV	CT3C103HJE16	4835 121 47622
C552		MYLAR CAP. 0.22µF/50V ±5% or	CMA1.JJS00224	4822 121 43193
		FILM CAP.(P) 0.22µF/50V ±5%	CA1.J224MS029	4835 122 47706
C553		ELECTROLYTIC CAP. 2.2µF/50V ±20% LL or	CE1JMASL2R2	4835 124 47183
		ELECTROLYTIC CAP. 2.2µF/50V LL	CE1JMASL2R2	4835 124 47183
C555		ELECTROLYTIC CAP. 47µF/35V ±20% or	CE1GMASDL470	4835 124 97066
		ELECTROLYTIC CAP. 47µF/35V ±20%	CE1GMASDL470	4835 124 97066
C556		ELECTROLYTIC CAP. 1000µF/25V ±20% or	CE1EMZPDL102	4835 124 47007
		ELECTROLYTIC CAP. 1000µF/25V ±20% or	CE1EMZZTL102	4835 124 47007
		ELECTROLYTIC CAP. 1000µF/25V ±20%	CE1EMZPTL102	4835 124 47007
C558		CERAMIC CAP.(AX) 0.01µF/16V ±20% (Y)	CCA1CMT0Y103	4835 122 47522
C559		ELECTROLYTIC CAP. 330µF/35V ±20% or	CE1GMASDL331	4835 124 47666
		ELECTROLYTIC CAP. 330µF/35V ±20%	CE1GMASDL331	4835 124 47666
C560		FILM CAP.(P) 0.01µF/50V ±5% or	CMA1.JJS00103	4835 121 47461
		FILM CAP.(P) 0.01µF/50V ±5%	CA1.J103MS029	4835 121 47461
C574	▲	ELECTROLYTIC CAP. 4.7µF/250V ±20% or	CE2EMASDL4R7	4835 124 47465
	▲	ELECTROLYTIC CAP. 4.7µF/250V ±20%	CE2EMASDL4R7	4835 124 47465
C577		FILM CAP.(P) 0.022µF/50V ±5% or	CMA1.JJS00223	4835 121 47263
		FILM CAP.(P) 0.022µF/50V ±5%	CA1.J223MS029	4835 121 47263
C578		ELECTROLYTIC CAP. 47µF/35V ±20% or	CE1GMASDL470	4835 124 97066
		ELECTROLYTIC CAP. 47µF/35V ±20%	CE1GMASDL470	4835 124 97066
C583		ELECTROLYTIC CAP. 1µF/160V ±20% or	CE2CMASDL1R0	4835 124 47516

Ref.	▲	Description	ID No.	Part No.
		ELECTROLYTIC CAP. 1µF/160V ±20%	CE2CMASDL1010	4835 124 47516
C584	▲	PCB JUMPER D0.6-P5.0	JW5.0T	---
C586		ELECTROLYTIC CAP. 4.7µF/50V ±20% or	CE1JMASDL4R7	4835 124 47088
		ELECTROLYTIC CAP. 4.7µF/50V ±20%	CE1JMASDL4R7	4835 124 47506
C590		CERAMIC CAP.(AX) 0.01µF/16V ±20% (Y)	CCA1CMT0Y103	4835 122 47522
C591	▲	ELECTROLYTIC CAP. 2.2µF/50V ±20% or	CE1JMASDL2R2	4835 124 47086
	▲	ELECTROLYTIC CAP. 2.2µF/50V ±20%	CE1JMASDL2R2	4835 124 47049
C592		ELECTROLYTIC CAP. 47µF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47µF/25V ±20%	CE1EMASDL470	4835 124 47102
C594		ELECTROLYTIC CAP. 47µF/160V ±20% W/F or	CE2CMZNDL470	4835 124 47518
		ELECTROLYTIC CAP. 47µF/160V ±20% W/F or	CE2CMZNTL470	4835 124 47518
		ELECTROLYTIC CAP. 47µF/160V ±20% W/F	CE2CMZPDL470	4835 124 47518
C595		CERAMIC CAP. BN 1000pF/2KV or	CCD3DKA0B102	4835 122 47551
		CERAMIC CAP. 1000pF/2KV or	CA3D102PAN04	4835 122 47551
		CERAMIC CAP. RB 1000pF/2KV	CA3D102TE006	4835 122 47551
C1604		ELECTROLYTIC CAP. 1000µF/6.3V ±20% or	CE0KMASDL102	4835 124 47203
		ELECTROLYTIC CAP. 1000µF/6.3V ±20%	CE0KMASTL102	4835 124 47203
C1610		ELECTROLYTIC CAP. 47µF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47µF/25V ±20%	CE1EMASDL470	4835 124 47102
C1612		CERAMIC CAP.(AX) 100pF/50V ±10% (B)	CCA1JKT0B101	4835 122 47014
C1613		CERAMIC CAP.(AX) 20pF/50V ±5% (CH)	CCA1JJTCH200	4835 122 47547
C1615		ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2	4835 130 37593
		ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS	4835 130 38039
C1616		ELECTROLYTIC CAP. 470µF/16V ±20% or	CE1CMASDL471	4835 124 47286
		ELECTROLYTIC CAP. 470µF/16V ±20%	CE1CMASDL471	4835 220 17118
C1617		ZENER DIODE MTZJT-773.3B or	QDTB0MTZJ3R3	4835 130 38071
		ZENER DIODE DZ-3.3BSBT265	NDTB0DZ3R3BS	4835 130 38069
C1618		CERAMIC CAP.(AX) 1000pF/50V ±10% (B)	CCA1JKT0B102	4835 122 47004
C1621		ELECTROLYTIC CAP. 47µF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47µF/25V ±20%	CE1EMASDL470	4835 124 47102
C1623		CERAMIC CAP.(AX) X M 2200pF/16V	CCA1CMT0X222	4835 122 47727
C1625		ELECTROLYTIC CAP. 47µF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47µF/25V ±20%	CE1EMASDL470	4835 124 47102
C1627		ELECTROLYTIC CAP. 470µF/6.3V ±20% or	CE0KMASDL471	4835 124 47239
		ELECTROLYTIC CAP. 470µF/6.3V ±20%	CE0KMASTL471	4835 124 47239
C1629		ELECTROLYTIC CAP. 220µF/6.3V ±20% or	CE0KMASDL221	4835 124 47168
		ELECTROLYTIC CAP. 220µF/6.3V ±20%	CE0KMASTL221	4835 124 47168
C1630		ELECTROLYTIC CAP. 470µF/16V ±20% or	CE1CMASDL471	4835 124 47286
		ELECTROLYTIC CAP. 470µF/16V ±20%	CE1CMASDL471	4835 220 17118
C1645		CERAMIC CAP.(AX) 0.01µF/16V ±20% (Y)	CCA1CMT0Y103	4835 122 47522
C1647		ELECTROLYTIC CAP. 100µF/10V ±20% or	CE1AMASDL101	4835 124 47323
		ELECTROLYTIC CAP. 100µF/10V ±20%	CE1AMASDL101	4835 124 47323
C1654		CERAMIC CAP.(AX) 0.01µF/16V ±20% (Y)	CCA1CMT0Y103	4835 122 47522
C1670		ELECTROLYTIC CAP. 470µF/6.3V ±20% or	CE0KMASDL471	4835 124 47239
		ELECTROLYTIC CAP. 470µF/6.3V ±20%	CE0KMASTL471	4835 124 47239
CONNECTORS				
CN502		TWG CONNECTOR 19P TWG-P19P-A1	J3TWA19TG001	---
CN503		TWG CONNECTOR 19P TWG-P19P-A1	J3TWA19TG001	---
CN571		CONNECTOR BASE, 5P TV-50P-05-V3 or	J3TVC05TG002	---
		CONNECTOR BASE, 5P RTB-1.5-5P	J3RTC05JG001	---
CN1601		FMN CONNECTOR, TOP 12P 12FMN- BTRK	JCFNG12JG002	4835 321 27469
CN1602		FMN CONNECTOR, TOP 22P 22FMN- BTRK	JCFNG22JG002	---
DIODES				
D552		DIODE FR104-B or	NDLZ000FR104	4835 130 38018
		DIODE FR104BB	NDL1000FR104	4835 130 38018
D571		DIODE FR154 or	NDLZ000FR154	4835 130 38019
		FAST RECOVERY DIODE ERB44-02 or	QDPZ0ERB4402	4835 130 37944
		DIODE FR154BD	NDL1000FR154	4835 130 38019
D572	▲	DIODE FR104-B or	NDLZ000FR104	4835 130 38018
	▲	DIODE FR104BB	NDL1000FR104	4835 130 38018
D584		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D585		ZENER DIODE MTZJT-775.1B or	QDTB0MTZJ5R1	4835 130 37964
		ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS	4835 130 38025

Ref.	▲	Description	ID No.	Part No.
D586		PCB JUMPER D0.6-P5.0	JW5.0T	---- --
D591	▲	ZENER DIODE MTZJT-7736B or	QDTB00MTZJ36	4835 130 37785
	▲	ZENER DIODE DZ-36BSBT265	NDTB00DZ36BS	4835 130 38033
D595	▲	ZENER DIODE MTZJT-7720C or	QDTC00MTZJ20	4835 130 37983
	▲	ZENER DIODE DZ-20BSCT265	NDTC00DZ20BS	4835 130 38032
D596	▲	SWITCHING DIODE 1SS133(F-77) or	QDTZ001SS133	4835 130 37235
	▲	SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D597	▲	SWITCHING DIODE 1SS133(F-77) or	QDTZ001SS133	4835 130 37235
	▲	SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D598	▲	DIODE FR104-B or	NDLZ000FR104	4835 130 38018
	▲	DIODE FR104BB	NDL1000FR104	4835 130 38018
D1603		ZENER DIODE MTZJT-775.6C or	QDTCOMTZJ5R6	4835 130 37329
		ZENER DIODE DZ-5.6BSCT265	NDTCODZ5R6BS	4835 130 38026
D1605		ZENER DIODE MTZJT-775.6B or	QDTBOMTZJ5R6	4835 130 37329
		ZENER DIODE DZ-5.6BSBT265	NDTBODZ5R6BS	4835 130 38026
D1613	▲	RECTIFIER DIODE ERA15-02	AERA1502****	4835 130 37515
D1625		SWITCHING DIODE 1SS133(F-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D1627		ZENER DIODE MTZJT-776.2B or	QDTBOMTZJ6R2	4835 130 37593
		ZENER DIODE DZ-6.2BSBT265	NDTBODZ6R2BS	4835 130 38039
D1648		SWITCHING DIODE 1SS133(F-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D1649		SWITCHING DIODE 1SS133(F-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D1651		SWITCHING DIODE 1SS133(F-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
ICS				
IC551	▲	IC, VERTICAL DEFLECTION CONTROL LA78040A or	QSBBA0SSY003	4835 209 47512
	▲	IC, VERTICAL DEFLECTION CONTROL AN15524A	QSZBA0SMS019	4835 209 47635
IC0603		IC, SWITCHING CONTROL KIA431-AT	NSZLA0TJY001	4835 209 88194
IC0604		IC, SWITCHING CONTROL KIA431-AT	NSZLA0TJY001	4835 209 88194
IC1602		IC, +1.2V REGULATOR PQ070XF01SZ	QSZBA0SSH026	4835 209 47612
COILS				
L505		CHOKO COIL 22µH-K or	LLBD00PKV006	4835 157 58024
		CHOKO COIL 22µH-K or	LLBD00PKT002	4835 157 58024
		CHOKO COIL LGB0810T-220K	LLBD00PU6005	4835 157 58024
L1610		PCB JUMPER D0.6-P5.0	JW5.0T	---- --
L1613		INDUCTOR 22µH-K-5FT or	LLARKBSTU220	4835 157 57373
		INDUCTOR 22µH-K-5FT	LLARKDLSKA220	4835 157 57373
L1621		INDUCTOR 2.2µH-K-5FT or	LLARKBSTU2R2	4835 157 58225
		INDUCTOR 2.2µH-K-5FT	LLARKDLSKA2R2	4835 157 58225
TRANSISTORS				
Q571		H-OUTPUT TT2140LS-YB11 or	QQZ00TT2140	4835 130 48195
		H-OUTPUT 2SC5885000RF "NPN"	QQZZ02SC5885	4835 130 48238
Q591	▲	H-DRIVE 2SC1627Y-TPE2 "NPN"	QQSY02SC1627	4835 130 48141
Q592	▲	SWITCHING 2SC2785(F) "NPN" or	QQSF02SC2785	4835 130 47722
	▲	SWITCHING KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
	▲	SWITCHING 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q1605		BUFFER 2SC2785(F) "NPN" or	QQSF02SC2785	4835 130 47722
		BUFFER KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		BUFFER 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q1610		SWITCHING DVD-ON-ON 2SA1175(F) "PNP" or	QQSF02SA1175	4835 130 47645
		SWITCHING DVD-ON-ON KTA1267(GR) "PNP" or	NQS10KTA1267	4835 130 47913
		SWITCHING DVD-ON-ON 2SA1015-GR(TPE2) "PNP"	QQS102SA1015	4835 130 47399
Q1611		DVD-ON+5V SWITCHING KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		DVD-ON+5V SWITCHING 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q1612		SWITCHING DVD-ON-ON 2SC2785(F) "NPN" or	QQSF02SC2785	4835 130 47722
		SWITCHING DVD-ON-ON KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		SWITCHING DVD-ON-ON 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q1615		DVD-ON+3.3V SWITCHING 2SD400(F) or	QQUF002SD400	4835 130 47433

Ref.	▲	Description	ID No.	Part No.
		DVD-ON+3.3V SWITCHING 2SD400(E)	QQUE002SD400	4835 130 47079
Q1616		SWITCHING DVD-POWER-ON KRC103M "NPN" or	NQSZ0KRC103M	4835 130 47909
		SWITCHING DVD-POWER-ON 2SC3400 "NPN" or	2SC3400Z	4835 130 47428
		SWITCHING DVD-POWER-ON BA1F4M-T	QQS200BA1F4M	4835 130 48204
Q1617		DVD-ON+3.3V SWITCHING KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		DVD-ON+3.3V SWITCHING 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q1618		INVERTER 2SC2785(F) "NPN" or	QQSF02SC2785	4835 130 47722
		INVERTER KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		INVERTER 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q1619		INVERTER 2SC2785(F) "NPN" or	QQSF02SC2785	4835 130 47722
		INVERTER KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		INVERTER 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q1620		INVERTER 2SC2785(F) "NPN" or	QQSF02SC2785	4835 130 47722
		INVERTER KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		INVERTER 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
Q1621		INVERTER 2SC2785(F) "NPN" or	QQSF02SC2785	4835 130 47722
		INVERTER KTC3199(GR) "NPN" or	NQS10KTC3199	4835 130 47914
		INVERTER 2SC1815-GR(TPE2) "NPN"	QQS102SC1815	4835 130 47358
RESISTORS				
R501		CARBON RES. 1/4W 39k Ω ±5%	RCX4JATZ0393	4835 110 57262
R504		CARBON RES. 1/4W 15k Ω ±5%	RCX4JATZ0153	4835 110 57032
R505		METAL OXIDE FILM RES. 2W 1k Ω ±5% or	RN02102DP004	4835 116 57057
		METAL OXIDE FILM RES. 2W 1k Ω ±5%	RN02102ZU001	4835 116 57057
R506		METAL OXIDE FILM RES. 2W 1k Ω ±5% or	RN02102DP004	4835 116 57057
		METAL OXIDE FILM RES. 2W 1k Ω ±5%	RN02102ZU001	4835 116 57057
R541		CARBON RES. 1/4W 1k Ω ±5%	RCX4JATZ0102	4835 110 57025
R542		CARBON RES. 1/4W 1k Ω ±5%	RCX4JATZ0102	4835 110 57025
R543		CARBON RES. 1/4W 1k Ω ±5%	RCX4JATZ0102	4835 110 57025
R550		CARBON RES. 1/4W 1.5k Ω ±5%	RCX4JATZ0152	4835 110 57186
R551		CARBON RES. 1/4W 1.5k Ω ±5%	RCX4JATZ0152	4835 110 57186
R552		CARBON RES. 1/4W 1.5k Ω ±5%	RCX4JATZ0152	4835 110 57186
R555		PCB JUMPER D0.6-P5.0	JW5.0T	---- --
R556		CARBON RES. 1/4W 1 Ω ±5%	RCX4JATZ01R0	4835 110 57229
R557		CARBON RES. 1/4W 470 Ω ±5%	RCX4JATZ0471	4835 110 57167
R558		CARBON RES. 1/4W 15k Ω ±5%	RCX4JATZ0153	4835 110 57032
R559		CARBON RES. 1/4W 820 Ω ±5%	RCX4JATZ0821	4835 110 57059
R560		CARBON RES. 1/4W 4.3k Ω ±5%	RCX4JATZ0432	4835 110 57149
R561		CARBON RES. 1/4W 5.6k Ω ±5%	RCX4JATZ0562	4835 110 57304
R562		CARBON RES. 1/4W 6.8 Ω ±5%	RCX4JATZ06R8	4835 110 57297
R563		CARBON RES. 1/4W 6.8 Ω ±5%	RCX4JATZ06R8	4835 110 57297
R564		CARBON RES. 1/4W 8.2 Ω ±5%	RCX4JATZ08R2	4835 110 47044
R565	▲	CARBON RES. 1/4W 2.7 Ω ±5%	RCX4JATZ02R7	4835 110 57234
R566	▲	CARBON RES. 1/4W 3.3 Ω ±5%	RCX4JATZ03R3	4835 110 57043
R567	▲	CARBON RES. 1/4W 3.3 Ω ±5%	RCX4JATZ03R3	4835 110 57043
R568	▲	PCB JUMPER D0.6-P5.0	JW5.0T	---- --
R568A	▲	PCB JUMPER D0.6-P5.0	JW5.0T	---- --
R571		CARBON RES. 1/4W 1k Ω ±5%	RCX4JATZ0102	4835 110 57025
R572		CARBON RES. 1/4W 1k Ω ±5%	RCX4JATZ0102	4835 110 57025
R573		CARBON RES. 1/4W 1k Ω ±5%	RCX4JATZ0102	4835 110 57025
R574		PCB JUMPER D0.6-P5.0	JW5.0T	---- --
R576		CARBON RES. 1/4W 180 Ω ±5%	RCX4JATZ0181	4835 110 57219
R576A		PCB JUMPER D0.6-P5.0	JW5.0T	---- --
R577		CARBON RES. 1/4W 180 Ω ±5%	RCX4JATZ0181	4835 110 57219
R580	▲	CARBON RES. 1/4W 68 Ω ±5%	RCX4JATZ0680	4835 110 57248
R580A		PCB JUMPER D0.6-P5.0	JW5.0T	---- --
R581		CARBON RES. 1/4W 470 Ω ±5%	RCX4JATZ0471	4835 110 57167
R583	▲	METAL OXIDE FILM RES. 2W 1.5 Ω ±5% or	RN021R5DP004	4835 110 27004
	▲	METAL OXIDE FILM RES. 2W 1.5 Ω ±5%	RN021R5ZU001	4835 110 27004
R584		CARBON RES. 1/4W 1k Ω ±5%	RCX4JATZ0102	4835 110 57025
R585		CARBON RES. 1/4W 6.8k Ω ±5%	RCX4JATZ0682	4835 110 57193
R586		PCB JUMPER D0.6-P5.0	JW5.0T	---- --
R587		CARBON RES. 1/4W 100k Ω ±5%	RCX4JATZ0104	4835 110 57185
R588		CARBON RES. 1/4W 100k Ω ±5%	RCX4JATZ0104	4835 110 57185
R589	▲	CARBON RES. 1/4W 68 Ω ±5%	RCX4JATZ0680	4835 110 57248

Ref.	▲	Description	ID No.	Part No.
R590		CARBON RES. 1/4W 68 Ω ±5%	RCX4JATZ0680	4835 110 57248
R591	▲	CARBON RES. 1/4W 22k Ω ±5%	RCX4JATZ0223	4835 110 57038
R592		CARBON RES. 1/4W 180k Ω ±5%	RCX4JATZ0184	4835 110 57259
R593		CARBON RES. 1/4W 68k Ω ±5%	RCX4JATZ0683	4835 110 57168
R594		CARBON RES. 1/4W 56k Ω ±5%	RCX4JATZ0563	4835 110 57213
R598	▲	CARBON RES. 1/4W 22k Ω ±5%	RCX4JATZ0223	4835 110 57038
R599		CARBON RES. 1/4W 5.6k Ω ±5%	RCX4JATZ0562	4835 110 57304
R1617		CARBON RES. 1/4W 47k Ω ±5%	RCX4JATZ0473	4835 110 57189
R1618		CARBON RES. 1/4W 390 Ω ±5%	RCX4JATZ0391	4835 110 57048
R1625		CARBON RES. 1/4W 75 Ω ±5%	RCX4JATZ0750	4835 110 57056
R1626		CARBON RES. 1/4W 2.2k Ω ±5%	RCX4JATZ0222	4835 110 57079
R1627		CARBON RES. 1/4W 2k Ω ±5%	RCX4JATZ0202	4835 110 57253
R1628		CARBON RES. 1/4W 2.2k Ω ±5%	RCX4JATZ0222	4835 110 57079
R1629		CARBON RES. 1/4W 220 Ω ±5%	RCX4JATZ0221	4835 110 57037
R1638		CARBON RES. 1/4W 22 Ω ±5%	RCX4JATZ0220	4835 110 57036
R1646		CARBON RES. 1/4W 22k Ω ±5%	RCX4JATZ0223	4835 110 57038
R1647		CARBON RES. 1/4W 22k Ω ±5%	RCX4JATZ0223	4835 110 57038
R1649		PCB JUMPER D0.6-P5.0	JW5.0T	-----
R1650		CARBON RES. 1/4W 1.5 Ω ±5%	RCX4JATZ01R5	4835 110 57074
R1651		CARBON RES. 1/4W 47k Ω ±5%	RCX4JATZ0473	4835 110 57189
R1652		CARBON RES. 1/4W 180 Ω ±5%	RCX4JATZ0181	4835 110 57219
R1653		CARBON RES. 1/4W 33 Ω ±5%	RCX4JATZ0330	4835 110 57044
R1655		PCB JUMPER D0.6-P5.0	JW5.0T	-----
R1656		CARBON RES. 1/4W 22k Ω ±5%	RCX4JATZ0223	4835 110 57038
R1657		CARBON RES. 1/4W 22k Ω ±5%	RCX4JATZ0223	4835 110 57038
R1659		CARBON RES. 1/4W 820 Ω ±5%	RCX4JATZ0821	4835 110 57059
R1660		CARBON RES. 1/4W 820 Ω ±5%	RCX4JATZ0821	4835 110 57059
R1661		CARBON RES. 1/4W 1k Ω ±5%	RCX4JATZ0102	4835 110 57025
R1664		CARBON RES. 1/4W 1k Ω ±5%	RCX4JATZ0102	4835 110 57025
R1665		CARBON RES. 1/4W 47k Ω ±5%	RCX4JATZ0473	4835 110 57189
R1666		CARBON RES. 1/4W 1k Ω ±5%	RCX4JATZ0102	4835 110 57025
R1667		CARBON RES. 1/4W 1k Ω ±5%	RCX4JATZ0102	4835 110 57025
R1668		CARBON RES. 1/4W 1k Ω ±5%	RCX4JATZ0102	4835 110 57025
R1669		PCB JUMPER D0.6-P5.0	JW5.0T	-----
R1671		CARBON RES. 1/4W 18k Ω ±2%	RCX4GATZ0183	4835 110 57187
R1672		CARBON RES. 1/4W 56k Ω ±2%	RCX4GATZ0563	4835 110 57213
R1673		CARBON RES. 1/4W 47k Ω ±5%	RCX4JATZ0473	4835 110 57189
R1674		CARBON RES. 1/4W 47k Ω ±5%	RCX4JATZ0473	4835 110 57189
R1675		CARBON RES. 1/4W 47k Ω ±5%	RCX4JATZ0473	4835 110 57189
R1676		METAL OXIDE FILM RES. 2W 3.9 Ω ±5% or METAL OXIDE FILM RES. 2W 3.9 Ω ±5%	RN023R9DP004 RN023R9ZU001	4835 116 57794 4835 116 57794
R1677		CARBON RES. 1/4W 1.5 Ω ±5%	RCX4JATZ01R5	4835 110 57074
R1678		CARBON RES. 1/4W 560 Ω ±5%	RCX4JATZ0561	4835 110 57052
R1679		CARBON RES. 1/4W 1.5 Ω ±5%	RCX4JATZ01R5	4835 110 57074
R1684		CARBON RES. 1/4W 220 Ω ±2%	RCX4GATZ0221	4835 110 57037
R1685		CARBON RES. 1/4W 8.2k Ω ±2%	RCX4GATZ0822	4835 110 57264
R1686		CARBON RES. 1/4W 4.7k Ω ±2%	RCX4GATZ0472	4835 110 57278
R1687		CARBON RES. 1/4W 5.6k Ω ±2%	RCX4GATZ0562	4835 110 57304
R1688		CARBON RES. 1/4W 15k Ω ±2%	RCX4GATZ0153	4835 110 57326
R1689		CARBON RES. 1/4W 3.9k Ω ±5%	RCX4JATZ0392	4835 110 57049
R1691		CARBON RES. 1/4W 1.5 Ω ±5%	RCX4JATZ01R5	4835 110 57074
MISCELLANEOUS				
BC501		BEAD INDUCTOR FBA04HA600VB-00	LLBF00STU026	-----
BC1602		PCB JUMPER D0.6-P5.0	JW5.0T	-----
BC1603		PCB JUMPER D0.6-P5.0	JW5.0T	-----
BC1604		PCB JUMPER D0.6-P5.0	JW5.0T	-----
CL501A		LEAD WIRE 3P 420MM	WX1T1000-001	-----
DB2		X5 V-HEAT SINK PIW T1000UA	OEM408926	-----
DB5		X5 H-HEAT SINK PIY T1000UA	OEM408927	-----
DL2		SCREW, B-TIGHT M3X8 BIND HEAD+	GBMB3080	-----
JK1601		RCA JACK MSP-241V-05 PBSN W/O	JXRL010LY085	4835 265 97521
JS1601		PCB JUMPER D0.6-P5.0	JW5.0T	-----
T571	▲	FLYBACK TRANSFORMER JF0501-3201A or	LTF00CPXB040	4835 140 67232
	▲	FLYBACK TRANS BSC22-2697S	LTF00CPS2055	4835 140 67237
T572	▲	HORIZONTAL DRIVE TRANS LP2-005	LTH00CPA5005	4835 148 87413
TP003		PCB JUMPER D0.6-P10.0	JW10.0T	-----

Ref.	▲	Description	ID No.	Part No.
TP501		PCB JUMPER D0.6-P10.0	JW10.0T	-----
TP502		PCB JUMPER D0.6-P5.0	JW5.0T	-----
TP503		PCB JUMPER D0.6-P5.0	JW5.0T	-----
TP504		PCB JUMPER D0.6-P7.5	JW7.5T	-----
TP505		PCB JUMPER D0.6-P5.0	JW5.0T	-----

CRT CBA

Ref.	▲	Description	ID No.	Part No.
		CRT CBA (MPS-B) Consists of the following:	-----	-----
CAPACITORS				
C504		CERAMIC CAP.(AX) 390pF/50V ±5% (B)	CCA1JUT0B391	4835 122 47041
C505		CERAMIC CAP.(AX) 390pF/50V ±5% (B)	CCA1JUT0B391	4835 122 47041
C506		CERAMIC CAP.(AX) 390pF/50V ±5% (B)	CCA1JUT0B391	4835 122 47041
C508		ELECTROLYTIC CAP. 47μF/25V ±20% or	CE1EMASDL470	4835 124 47102
		ELECTROLYTIC CAP. 47μF/25V ±20%	CE1EMASTL470	4835 124 47102
C509		CERAMIC CAP. 1000pF/2KV ±10% (B) or	CCD3DKP0B102	4835 122 37048
		CERAMIC CAP. 1000pF/2KV ±10% (B) or	CA3D102MR300	4835 122 47551
		CERAMIC CAP. 1000pF/2KV ±10% (B)	CCD3DKD0B102	4835 122 37048
C510		ELECTROLYTIC CAP. 1μF/50V ±20% or	CE1JMASDL1R0	4835 124 47305
		ELECTROLYTIC CAP. 1μF/50V ±20% or	CE1JMASDL010	4835 124 47014
		ELECTROLYTIC CAP. 1μF/50V ±20%	CE1JMASTL1R0	4835 124 47014
CONNECTORS				
CN501A		PIN CONNECTOR 005P-5100 or	JTEA001TG001	-----
		CONNECTOR PIN, 1P LV or	1700576	-----
		CONNECTOR PIN, 1P RT-01N-2.3A	1730688	-----
DIODES				
D501		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D502		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
D503		SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133	4835 130 37235
		SWITCHING DIODE 1N4148	NDTZ001N4148	4835 130 37048
COIL				
L501		PCB JUMPER D0.6-P5.0	JW5.0T	-----
TRANSISTORS				
Q501		BLUE AMP 2SC2482 TPE6 "NPN" or	QQSZ02SC2482	4835 130 48046
		BLUE AMP KTC3207 "NPN"	NQSZ02KTC3207	4835 130 48228
Q502		GREEN AMP 2SC2482 TPE6 "NPN" or	QQSZ02SC2482	4835 130 48046
		GREEN AMP KTC3207 "NPN"	NQSZ02KTC3207	4835 130 48228
Q503		RED AMP 2SC2482 TPE6 "NPN" or	QQSZ02SC2482	4835 130 48046
		RED AMP KTC3207 "NPN"	NQSZ02KTC3207	4835 130 48228
RESISTORS				
R502		CARBON RES. 1/4W 1.5k Ω ±5%	RCX4JATZ0152	4835 110 57186
R503		CARBON RES. 1/4W 1.5k Ω ±5%	RCX4JATZ0152	4835 110 57186
R507		CARBON RES. 1/4W 15 Ω ±5%	RCX4JATZ0150	4835 110 57177
R508		CARBON RES. 1/4W 15 Ω ±5%	RCX4JATZ0150	4835 110 57177
R509		CARBON RES. 1/4W 15 Ω ±5%	RCX4JATZ0150	4835 110 57177
R510		CARBON RES. 1/4W 8.2k Ω ±5%	RCX4JATZ0822	4835 110 57264
R511		CARBON RES. 1/4W 8.2k Ω ±5%	RCX4JATZ0822	4835 110 57264
R512		CARBON RES. 1/4W 8.2k Ω ±5%	RCX4JATZ0822	4835 110 57264
R513		CARBON RES. 1/4W 560 Ω ±5%	RCX4JATZ0561	4835 110 57052
R514		CARBON RES. 1/4W 560 Ω ±5%	RCX4JATZ0561	4835 110 57052
R515		CARBON RES. 1/4W 560 Ω ±5%	RCX4JATZ0561	4835 110 57052
R516	▲	METAL OXIDE FILM RES. 1W 15k Ω ±5% or	RN01153DP003	4835 116 87019
	▲	METAL OXIDE FILM RES. 1W 15k Ω ±5%	RN01153ZU001	4835 116 87019
R517	▲	METAL OXIDE FILM RES. 1W 15k Ω ±5% or	RN01153DP003	4835 116 87019
	▲	METAL OXIDE FILM RES. 1W 15k Ω ±5%	RN01153ZU001	4835 116 87019
R518	▲	METAL OXIDE FILM RES. 1W 15k Ω ±5% or	RN01153DP003	4835 116 87019
	▲	METAL OXIDE FILM RES. 1W 15k Ω ±5%	RN01153ZU001	4835 116 87019
R519		CARBON RES. 1/4W 1.5k Ω ±5%	RCX4JATZ0152	4835 110 57186
R520		CARBON RES. 1/4W 1.5k Ω ±5%	RCX4JATZ0152	4835 110 57186
R521		CARBON RES. 1/4W 1.5k Ω ±5%	RCX4JATZ0152	4835 110 57186
R523		CARBON RES. 1/4W 1.5k Ω ±5%	RCX4JATZ0152	4835 110 57186
MISCELLANEOUS				

Ref.	▲	Description	ID No.	Part No.
CL504A		LEAD WIRE 5P 350MM	WX1T1000-002	---- --
JK501	▲	CRT SOCKET ISMS02S	JSCC220PK003	4835 265 97453

FUNCTION CBA

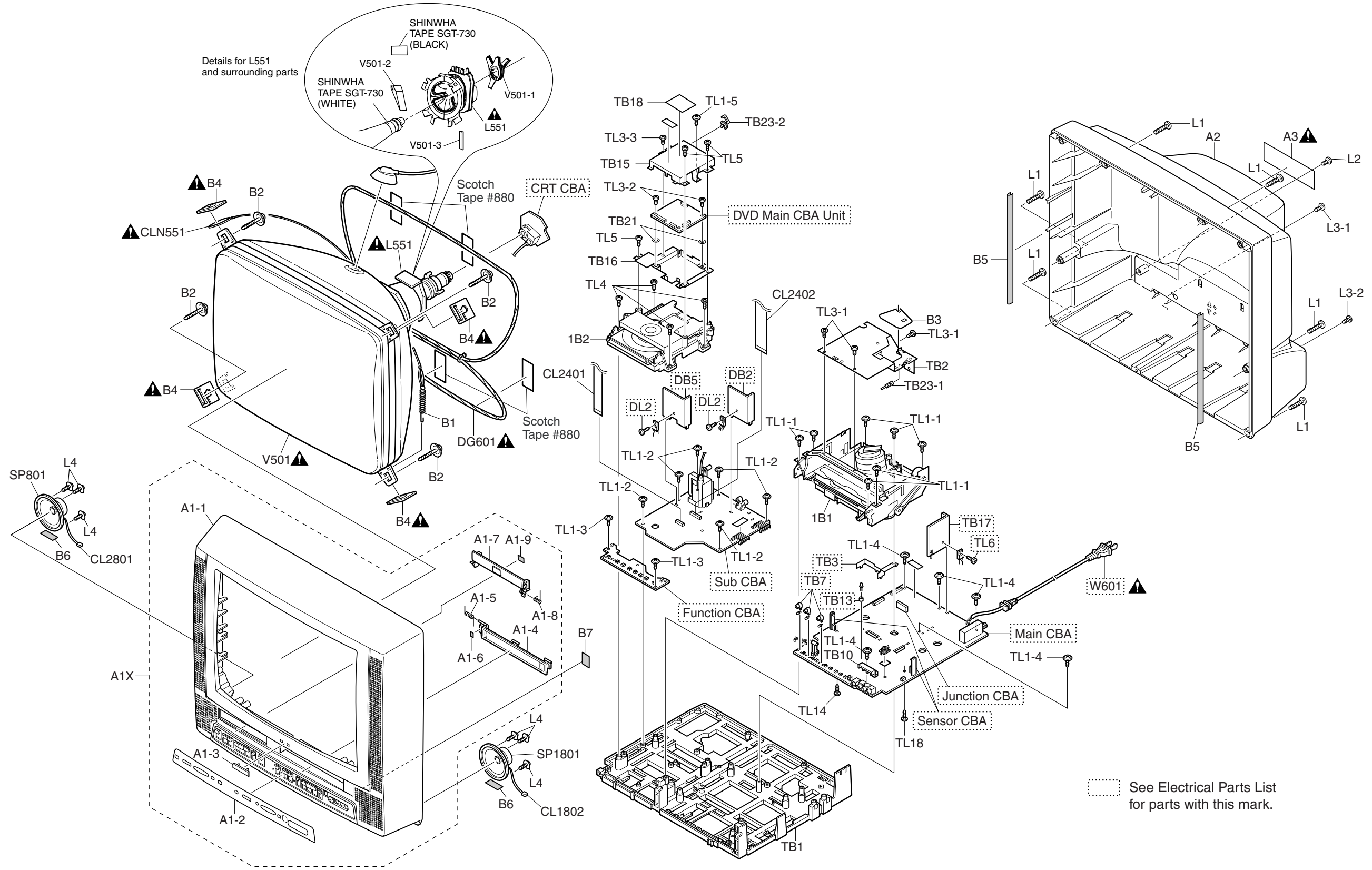
Ref.	▲	Description	ID No.	Part No.
		FUNCTION CBA (MPS-C) Consists of the following:	-----	---- --
CONNECTORS				
CN1401		TWG CONNECTOR 07P TWG-P07X	JCTWA07TG001	---- --
CN1801		STRAIGHT CONNECTOR BASE 00 8283 0212 00 000 or	J383C02UG002	---- --
		STRAIGHT PIN HEADER, 2P 173981-2	1770258	---- --
COILS				
L1801		PCB JUMPER D0.6-P5.0	JW5.0T	---- --
L1802		PCB JUMPER D0.6-P5.0	JW5.0T	---- --
RESISTORS				
R1401		CARBON RES. 1/4W 1.5k Ω $\pm 2\%$	RCX4GATZ0152	4835 110 57186
R1402		CARBON RES. 1/4W 1.5k Ω $\pm 2\%$	RCX4GATZ0152	4835 110 57186
R1403		CARBON RES. 1/4W 2.2k Ω $\pm 2\%$	RCX4GATZ0222	4835 110 57079
R1404		CARBON RES. 1/4W 2.7k Ω $\pm 2\%$	RCX4GATZ0272	4835 110 57006
R1405		CARBON RES. 1/4W 4.7k Ω $\pm 2\%$	RCX4GATZ0472	4835 110 57278
R1406		CARBON RES. 1/4W 6.8k Ω $\pm 2\%$	RCX4GATZ0682	4835 110 57268
R1407		CARBON RES. 1/4W 15k Ω $\pm 2\%$	RCX4GATZ0153	4835 110 57326
SWITCHES				
SW1401		TACT SWITCH SKQSAB or	SST0101AL038	4835 276 17331
		TACT SWITCH KSM0612B or	SST0101HH003	4835 276 17331
		TACT SWITCH TC-1104(H=5.0)	SST0101DNG02	4835 276 17331
SW1402		TACT SWITCH SKQSAB or	SST0101AL038	4835 276 17331
		TACT SWITCH KSM0612B or	SST0101HH003	4835 276 17331
		TACT SWITCH TC-1104(H=5.0)	SST0101DNG02	4835 276 17331
SW1403		TACT SWITCH SKQSAB or	SST0101AL038	4835 276 17331
		TACT SWITCH KSM0612B or	SST0101HH003	4835 276 17331
		TACT SWITCH TC-1104(H=5.0)	SST0101DNG02	4835 276 17331
SW1404		TACT SWITCH SKQSAB or	SST0101AL038	4835 276 17331
		TACT SWITCH KSM0612B or	SST0101HH003	4835 276 17331
		TACT SWITCH TC-1104(H=5.0)	SST0101DNG02	4835 276 17331
SW1405		TACT SWITCH SKQSAB or	SST0101AL038	4835 276 17331
		TACT SWITCH KSM0612B or	SST0101HH003	4835 276 17331
		TACT SWITCH TC-1104(H=5.0)	SST0101DNG02	4835 276 17331
SW1406		TACT SWITCH SKQSAB or	SST0101AL038	4835 276 17331
		TACT SWITCH KSM0612B or	SST0101HH003	4835 276 17331
		TACT SWITCH TC-1104(H=5.0)	SST0101DNG02	4835 276 17331
SW1407		TACT SWITCH SKQSAB or	SST0101AL038	4835 276 17331
		TACT SWITCH KSM0612B or	SST0101HH003	4835 276 17331
		TACT SWITCH TC-1104(H=5.0)	SST0101DNG02	4835 276 17331
SW1408		TACT SWITCH SKQSAB or	SST0101AL038	4835 276 17331
		TACT SWITCH KSM0612B or	SST0101HH003	4835 276 17331
		TACT SWITCH TC-1104(H=5.0)	SST0101DNG02	4835 276 17331

JUNCTION CBA

Ref.	▲	Description	ID No.	Part No.
		JUNCTION CBA Consists of the following:	-----	---- --
CONNECTOR				
CN504		CONNECTOR, 5P TUC-P05X-B1	JCTUS05TG001	---- --

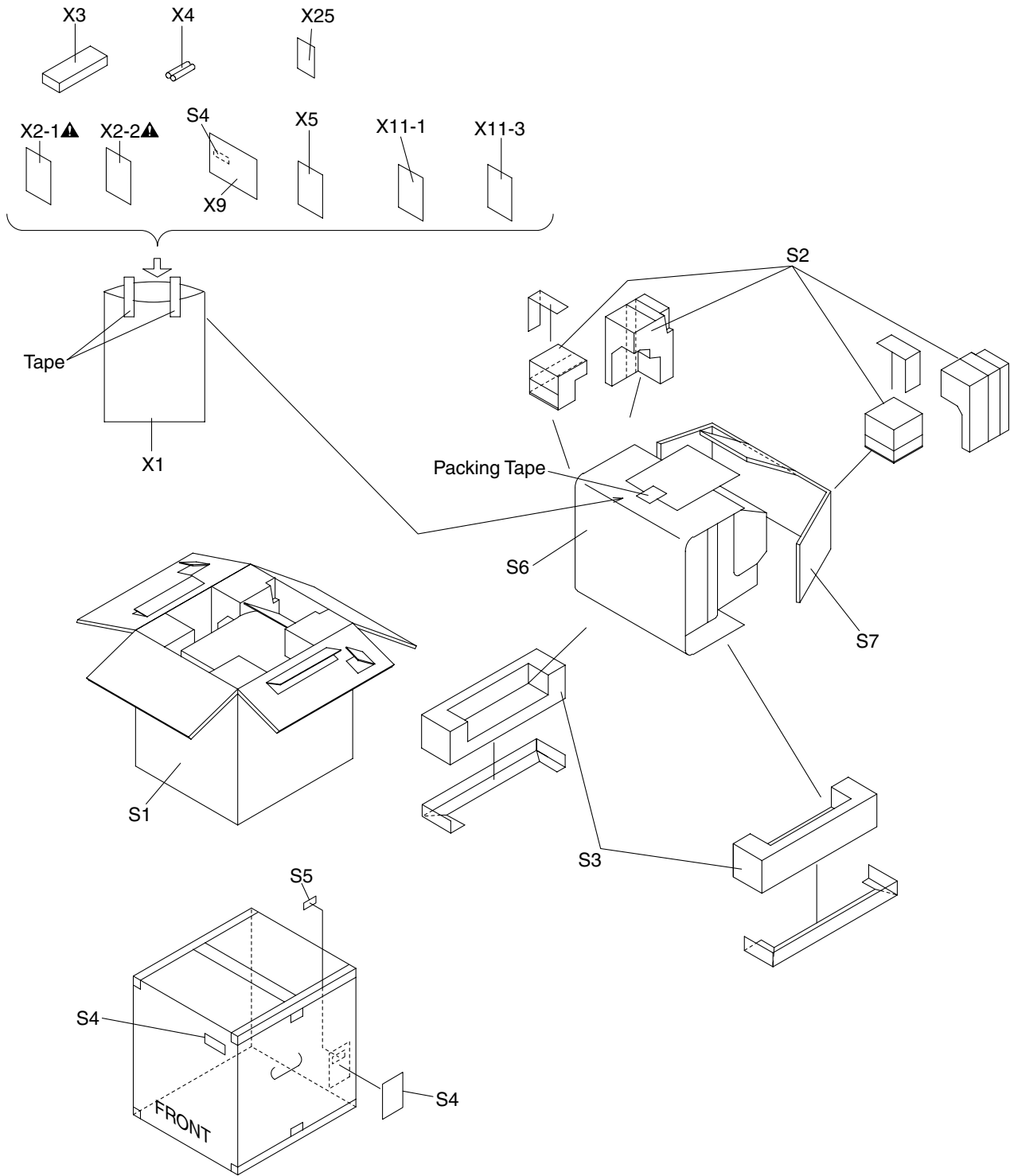
Cabinet

EXPLODED VIEWS



See Electrical Parts List for parts with this mark.

Packing



MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a **▲** have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE: Parts that are not assigned part numbers (---- -) are not normally available.

To order parts call the **TOLL FREE Philips Sales Center number: 1 - 800 - 851 - 8885**
(In Canada) 1 - 800 - 363 - PART.
1 - 800 - 535 - 3715 (Fax).

Ref.	▲	Description	ID No.	Part No.
A1X		FRONT CABINET ASSEMBLY	1EM120035	4835 444 47227
A1-1		FRONT CABINET	0EM000782	----
A1-2		CONTROL PLATE	1EM220026	4835 444 67276
A1-3		BADGE BRAND	0EM407275	----
A1-4		DOOR CASSETTE	0EM408334	4835 444 67256
A1-5		SPRING DOOR(Z10)	0EM406687	----
A1-6		CLOTH(4X7XT0.7)	0EM404974	----
A1-7		TRAY PANEL	0EM301888A	4835 444 67259
A1-8		TRAY SPRING	0EM408552	----
A1-9		CLOTH(B):15X10X1.0T	0EM400076	----
A2		REAR CABINET	0EM000931	4835 444 47226
A3	▲	RATING LABEL	-----	----
1B1		DECK ASSEMBLY CZD013/VM2266	N2266FT	----
1B2		DVD MECHA(TRP-COMBO) 0838 VCZL0500	N79T0HVM	4835 691 17092
B1		SPRING TENSION B0080B0:EM40808	26WH006	4835 492 37025
B2		SCREW M7 CRT(D22)	0EM406573	----
B3		SHIELD PLATE	0EM408707	----
B4	▲	DEGAUSS HOLDER	0EM405476	----
B5		CLOTH 190X15XT0.5	TS7623	----
B6		CLOTH(10X30XT0.5)	0EM404486	----
B7		CLOTH(15X10XT0.5)	0EM405038	----
CL1802		WIRE ASSEMBLY SPEAKER WIRE(180MM)	WX1L9800-001	----
CL2401		FFC WIRE FFC12P	WX1TD800-003	----
CL2402		FFC WIRE 22P 22P 230MM	WX1T1000-003	----
CL2801		WIRE ASSEMBLY SPEAKER WIRE(180MM)	WX1L9800-001	----
CLN551	▲	CRT WIRE WX1T7000-005	WX1T7000-005	----
DG601	▲	DEGAUSSING COIL AVDG172 or	LLBH00ZWR049	4835 157 97123
	▲	DEGAUSSING COIL F-55	LLBH00ZTM055	4835 157 97123
L1		SCREW, P-TIGHT 4X18 BIND HEAD +	GBMP4180	----
L2		SCREW TAPPING M4X14	DBU14140	----
L3-1		SCREW, P-TIGHT 3X10 BIND HEAD+	GBKP3100	----
L3-2		SCREW, P-TIGHT 3X10 BIND HEAD+	GBKP3100	----
L4		SCREW, ASSEMBLED 12.M3X12	0EM406746	----
SP801		SPEAKER S08F02B or	DSD0808XQ010	4835 240 17019
		SPEAKER J-F097-C5	DSD0808DCP01	4835 240 17023
SP1801		SPEAKER S08F02B or	DSD0808XQ010	4835 240 17019
		SPEAKER J-F097-C5	DSD0808DCP01	4835 240 17023
TB1		TRAY CHASSIS	0EM000874	4835 444 67268
TB2		TOP SHIELD	0EM201787	----
TB10		RCA HOLDER	0EM409108	----
TB15		X5 LOADER SHIELD TOP	0EM302066A	----
TB16		X5 LOADER SHIELD BTM	0EM302067A	----
TB18		LABEL, LASER CAUTION (C)	-----	----
TB21		LOADER WASHER	0EM409064	----

Ref.	▲	Description	ID No.	Part No.
TB23-1		WIRE HOLDER A	0EM409109	----
TB23-2		WIRE HOLDER B	0EM409110	----
TL1-1		SCREW, P-TIGHT 3X12 WASHER HEAD+	GCMP3120	----
TL1-2		SCREW, P-TIGHT 3X12 WASHER HEAD+	GCMP3120	----
TL1-3		SCREW, P-TIGHT 3X12 WASHER HEAD+	GCMP3120	----
TL1-4		SCREW, P-TIGHT 3X12 WASHER HEAD+	GCMP3120	----
TL1-5		SCREW, P-TIGHT 3X12 WASHER HEAD+	GCMP3120	----
TL3-1		SCREW, S-TIGHT 3X4 BIND HEAD+	GBMS3040	----
TL3-2		SCREW, S-TIGHT 3X4 BIND HEAD+	GBMS3040	----
TL3-3		SCREW, S-TIGHT 3X4 BIND HEAD+	GBMS3040	----
TL4		SCREW, P-TIGHT 3X16 BIND HEAD +	GBMP3160	----
TL5		P-TIGHT SCREW 3X8 BIND +	GBMP3080	----
TL14		SCREW, B-TIGHT M3X8 BIND HEAD+	GBMB3080	----
TL18		SCREW, P-TIGHT M3X8 BIND HEAD+	GBCP3080	----
PACKING				
S1		CARTON	1EM420173	----
S2		STYROFOAM TOP ASSEMBLY	0EM406599	----
S3		STYROFOAM BOTTOM ASSEMBLY	0EM406600	----
S4		SERIAL NO. LABEL	-----	----
S5		LABEL, EAS	-----	----
S6		SET SHEET:1000X1700	0EM402178	----
S7		HOLD PAD	0EM406598	----
ACCESSORIES				
X1		BAG POLYETHYLENE 235X365XT0.03	0EM408420	----
X2-1	▲	OWNER'S MANUAL	1EMN20060	00IB 849 1E003
X2-2	▲	OWNER'S MANUAL(SP)	1EMN20077	00IB 849 1S003
X3		REMOTE CONTROL 189/ERC001/NE206UD	NE206UD	4835 218 37345
X4		DRY BATTERY R6P UM3 or	XB0M451GH001	4835 138 17012
		DRY BATTERY R6P(AR)2PX or	XB0M451HU002	4835 138 17012
		DRY BATTERY R6P(AR)2P X ICl or	XB0M451HU003	4835 138 17012
		DRY BATTERY(SUNRISE) R6SSE/2S or	XB0M451MS002	4835 138 17012
		DRY BATTERY R6P/2S	XB0M451T0001	4835 138 17012
X5		SHEET RETURN STOP(ES)	0EM408909	----
X9		CARD REGISTRATION (EN)	1EMN20021	----
X11-1		IMPORTANT SAFEGUARDS(E) PCE:EL6567E**(E)	0EMN02304	----
X11-3		IMPORTANT SAFEGUARDS(SP)	1EMN20064	----
X25		QUICK SETUP GUIDE	1EMN20062	8239 300 32861
Note: 1. V501 (CRT) HAS SUBSTITUTIONAL PARTS AND EACH PART ALSO HAS A MATCHING COMBINATION WITH L551. PLEASE SEE TABLE 1 FOR DETAILS OF MATCHING COMBINATION. 2. L551 (DEFLECTION YOKE) HAS A MATCHING COMBINATION WITH V501. PLEASE SEE TABLE 1 FOR DETAILS OF MATCHING COMBINATION.				
CRT TYPE A				
V501	▲	CRT A48AKH13X01 K	TCRT190CP043	4835 131 97032
CRT TYPE B				
L551	▲	DEFLECTION YOKE KDY3MDD74X	LLBY00ZMS024	4835 150 17184
V501	▲	CRT A48AKH13X	TCRT190CP044	4835 131 97035
V501-1		C.PMAGNET JH225-014 or	XM04000BV009	----
		CPM E-225-F01	XM04000ETC01	----
V501-2		WEDGE FT-00110W or	XV10000T4001	----
		WEDGE FT-00110W or	XV10000T4001	----
		WEDGE DB25SR	XV10000D9001	----
V501-3		RUBBER MAGNET 20X10X1.2	XM05000BV001	----
CRT TYPE C				
L551	▲	DEFLECTION YOKE LLBY00ZSY007 or	LLBY00ZSY007	4835 150 17179
	▲	DEFLECTION YOKE CDY-M2023F or	LLBY00ZQS005	4835 150 17172
	▲	DEFLECTION YOKE TMY0301F	LLBY00ZMS017	4835 150 17185
V501	▲	CRT A48LRH93X(W)D or	TCRT190PTD01	4835 131 97037
	▲	CRT A48LRH93X(W)	TCRT190P7002	4835 131 97025
V501-1		C.PMAGNET JH225-014 or	XM04000BV009	----
		CPM E-225-F01	XM04000ETC01	----
V501-2		WEDGE FT-00110W or	XV10000T4001	----

Ref.	▲	Description	ID No.	Part No.
		WEDGE DB25SR	XV10000D9001	-----
V501-3		RUBBER MAGNET 20X10X1.2	XM05000BV001	-----

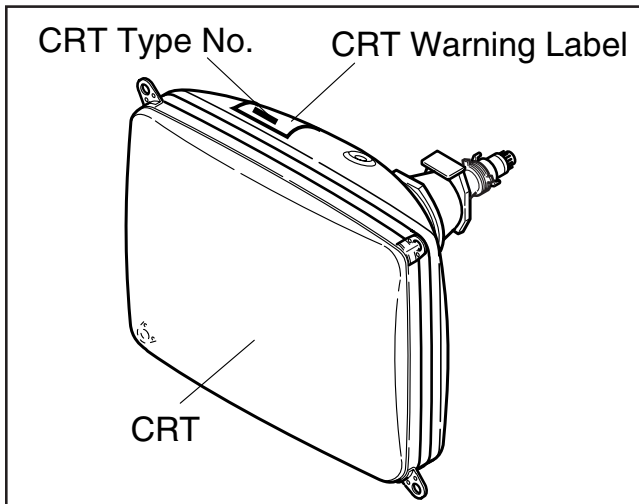
Table 1 (V501 and L551 Combination)

Note 1: Purity and Convergence Adjustments must be performed following CRT replacement. Refer to Electrical Adjustment Instructions.

Note 2: Please confirm CRT Type No. on the CRT Warning Label which is located on the CRT. Then see Table 1 for V501 and L551 combination chart. Please refer to this CRT, Deflection Yoke combination chart for parts order.

V501: CRT Type No.	V501: CRT ID No.	Part No.	L551: Deflection Yoke Part No.
A48AKH13X01 K	TCRT190CP043	4835 131 97032	-----
A48AKH13X	TCRT190CP044	4835 131 97035	4835 150 17184
A48LRH93X(W)D	TCRT190PTD01	4835 131 97037	4835 150 17179
			4835 150 17172
			4835 150 17185
A48LRH93X(W)	TCRT190P7002	4835 131 97025	4835 150 17179
			4835 150 17172
			4835 150 17185

CRT Warning Label Location



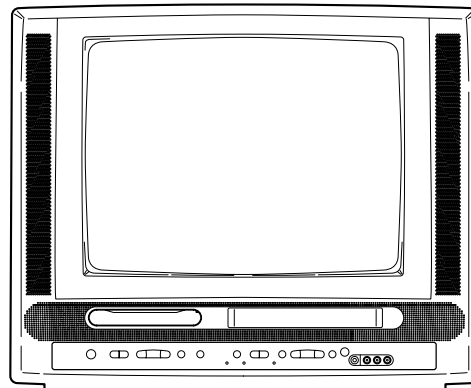
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Service Solutions Group

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Jefferson City, TN 37760

Service
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Service

Second Generation



Service Manual

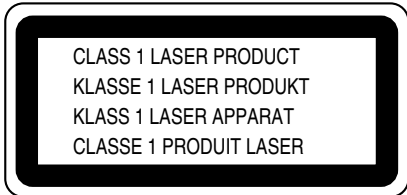


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- Chapter
- Sec. 1: Adjustment Procedures
 - Schematic Diagrams and CBA's
 - Exploded Views
 - Mechanical and Electrical Parts Lists
- Sec. 2: Standard Maintenance
 - Mechanism Alignment Procedures
 - Disassembly / Assembly of Mechanism
 - Deck Exploded Views
 - Deck Parts List

Survey of versions:

/17 NTSC



This service manual is for 19MDTR20/17 Second Generation model, which is different from the previous generation 19MDTR20/17 models.

For Second Generation model, the serial number begins with DD2Bxxxxxxxxxx. Refer to the rating label illustration at right.

Rating label

MAGNAVOX MODEL 19MDTR20/17 AC 120V 60Hz 90W DISTRIBUTED BY: Philips Consumer Electronics, P. O. BOX 14810 KNOXVILLE, TN, 37914-1810 MADE IN MALAYSIA FABRIQUE EN MALAISIE COMPLIES WITH DHHS RADIATION PERFORMANCE STANDARDS, 21 CFR SUBPART J.	LISTED Television Equipment 314 MANUFACTURED/ FABRICANT E175216	PRECAUCIÓN NO ABRIR RIESGO DE DESCARGA ELÉCTRICA
		MARCH 2005 V x x x x DD2Bxxxxxxxxxx

Serial number

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MAIN SECTION

Color TV with Built-In VCR/DVD Player

Sec. 1: Main Section

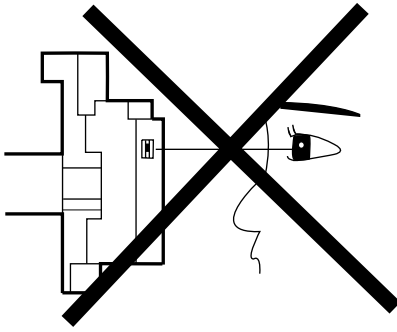
- Adjustment Procedures
- Schematic Diagrams and CBA's
- Exploded Views
- Mechanical and Electrical Parts List

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LASER BEAM SAFETY PRECAUTIONS

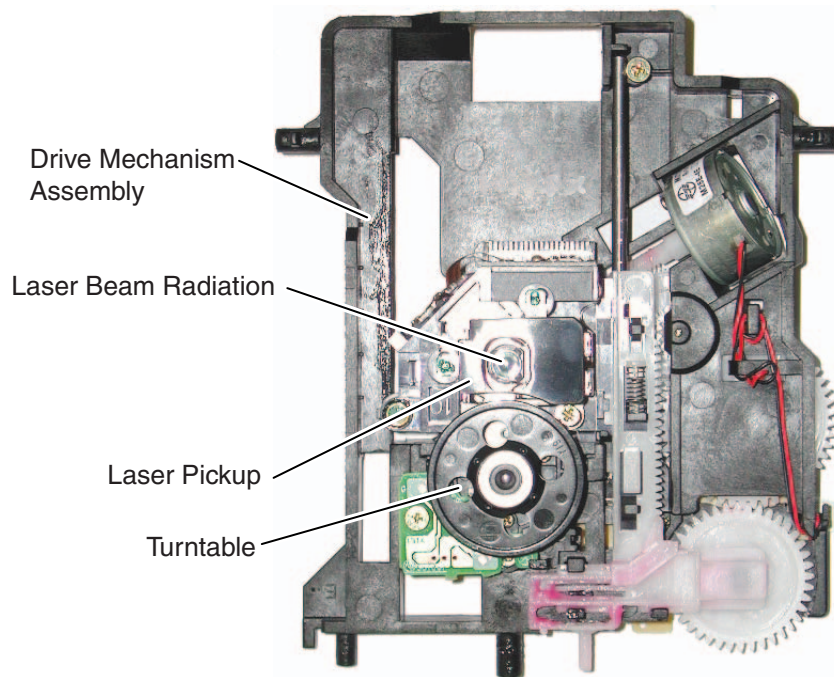
This DVD player uses a pickup that emits a laser beam.



Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 30 cm away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

CAUTION: Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.



CAUTION
LASER RADIATION
WHEN OPEN. DO NOT
STARE INTO BEAM.

Location: Top of DVD mechanism.

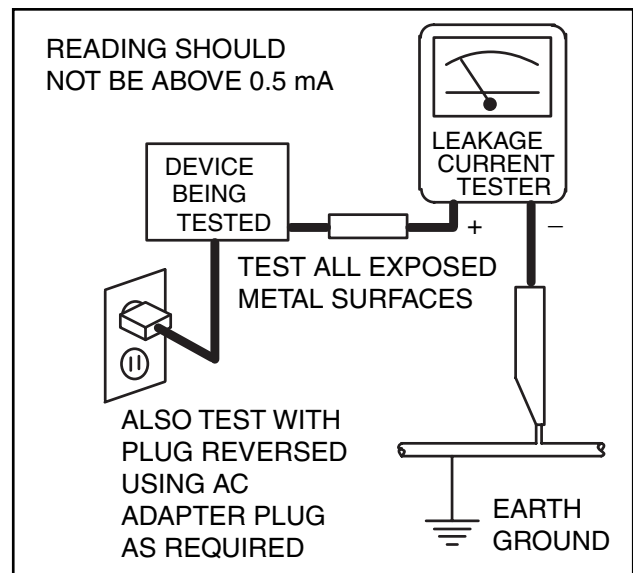
IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Safety Precautions for TV Circuit

1. **Before returning an instrument to the customer**, always make a safety check of the entire instrument, including, but not limited to, the following items:
 - a. Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**
 - b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) spacing between the picture tube and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.
 - c. **Antenna Cold Check** - With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.
 - d. **Leakage Current Hot Check** - With the instrument completely reassembled, plug the AC line cord directly into a 120 V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1


Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.




ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

- e. **X-Radiation and High Voltage Limits** - Because the picture tube is the primary potential source of X-radiation in solid-state TV receivers, it is specially constructed to prohibit X-radiation emissions. For continued X-radiation protection, the replacement picture tube must be the same type as the original. Also, because the picture tube shields and mounting hardware perform an X-radiation protection function, they must be correctly in place. High voltage must be measured each time servicing is performed that involves B+, horizontal deflection or high voltage. Correct operation of the X-radiation protection circuits also must be reconfirmed each time they are serviced. (X-radiation protection circuits also

may be called “horizontal disable” or “hold down.”) Read and apply the high voltage limits and, if the chassis is so equipped, the X-radiation protection circuit specifications given on instrument labels and in the Product Safety & X-Radiation Warning note on the service data chassis schematic. High voltage is maintained within specified limits by close tolerance safety-related components/adjustments in the high-voltage circuit. If high voltage exceeds specified limits, check each component specified on the chassis schematic and take corrective action.

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.
3. **Design Alteration Warning** - Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.
4. **Picture Tube Implosion Protection Warning** - The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck. Some “in-line” picture tubes are equipped with a permanently attached deflection yoke; because of potential hazard, do not try to remove such “permanently attached” yokes from the picture tube.
5. **Hot Chassis Warning** -
 - a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and maybe safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.
 - b. Some TV receiver chassis normally have 85V AC(RMS) between chassis and earth ground
- regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.
- c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.
6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c. the AC supply, d. high voltage, and, e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.
7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.
8. **Product Safety Notice** - Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc.. Parts that have special safety characteristics are identified by a  on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The product's safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm they comply with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

- A.** Parts identified by the  symbol are critical for safety.
Replace only with part number specified.
- B.** In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.
- C.** Use specified internal wiring. Note especially:
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
- D.** Use specified insulating materials for hazardous live parts. Note especially:
 - 1) Insulation Tape
 - 2) PVC tubing
 - 3) Spacers
 - 4) Insulators for transistors.
- E.** When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.
- F.** Observe that the wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.)
- G.** Check that replaced wires do not contact sharp edged or pointed parts.
- H.** When a power cord has been replaced, check that 5~6 kg of force in any direction will not loosen it.
- I.** Also check areas surrounding repaired locations.
- J.** Be careful that foreign objects (screws, solder droplets, etc.) do not remain inside the set.
- K.** Crimp type wire connector
When replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, in order to prevent shock hazards, perform carefully and precisely the following steps.
Replacement procedure
 - 1) Remove the old connector by cutting the wires at a point close to the connector.
Important: Do not re-use a connector (discard it).
 - 2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.
 - 3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
 - 4) Use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.
- L.** When connecting or disconnecting the DVD/VCR connectors, first, disconnect the AC plug from the AC supply socket.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1: Ratings for selected area

AC Line Voltage	Region	Clearance Distance (d), (d')
110 to 130 V	U.S.A. or Canada	≥ 3.2 mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

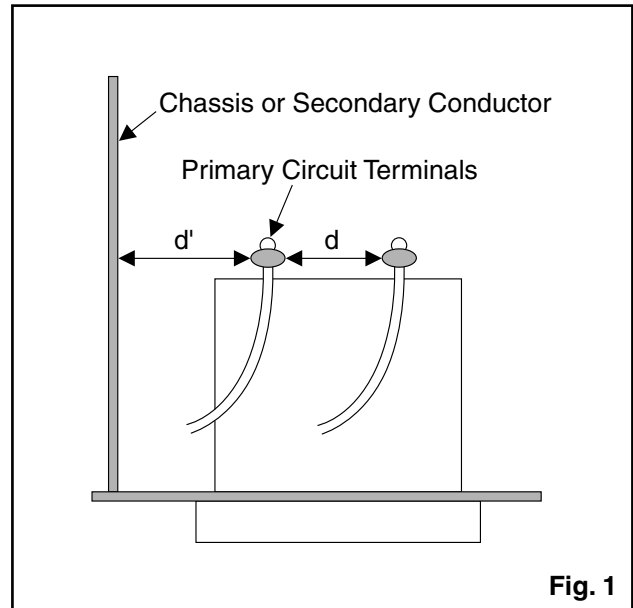


Fig. 1

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method: (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.

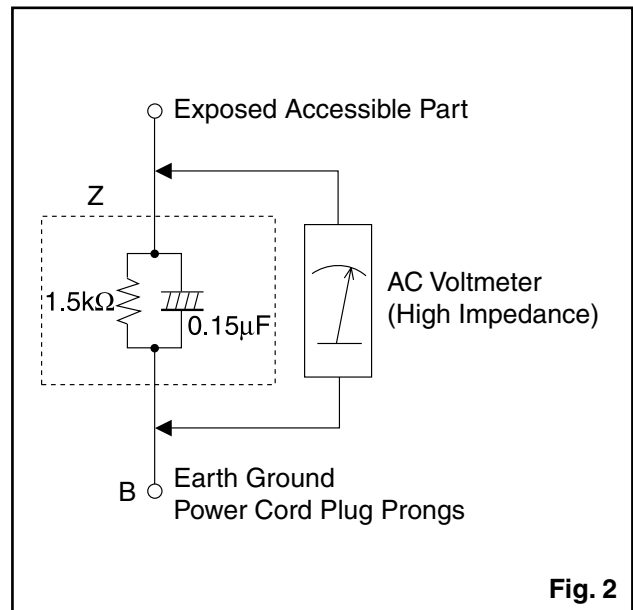


Fig. 2

Table 2: Leakage current ratings for selected areas

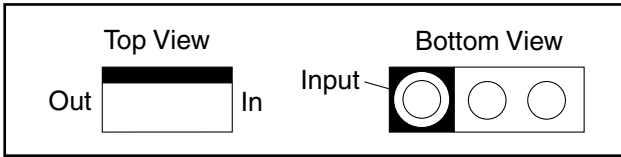
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	U.S.A. or Canada	$0.15\ \mu\text{F}$ CAP. & $1.5\ \text{k}\Omega$ RES. Connected in parallel	$i \leq 0.5\ \text{mA rms}$	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

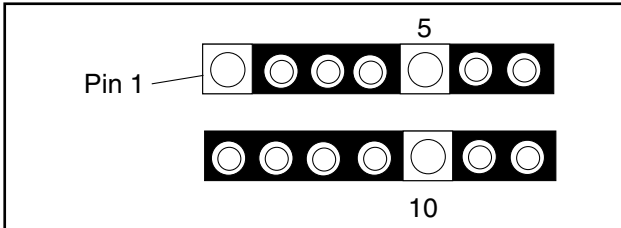
STANDARD NOTES FOR SERVICING

Circuit Board Indications

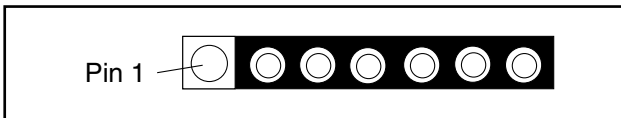
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



2. For other ICs, pin 1 and every fifth pin are indicated as shown.

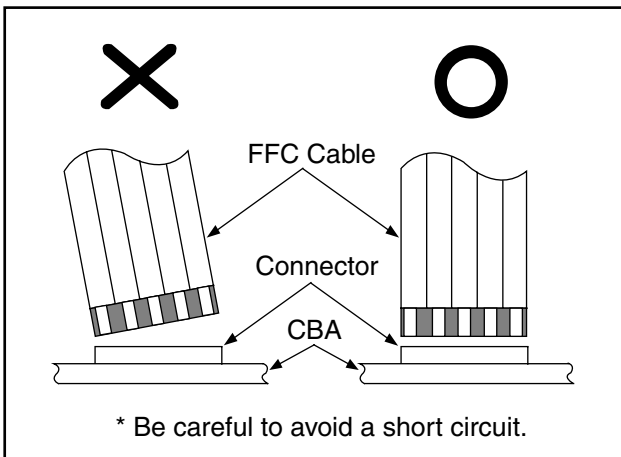


3. The 1st pin of every male connector is indicated as shown.



Instructions for Connectors

1. When you connect or disconnect the FFC (Flexible Foil Connector) cable, be sure to first disconnect the AC cord.
2. FFC (Flexible Foil Connector) cable should be inserted parallel into the connector, not at an angle.



Pb (Lead) Free Solder

When soldering, be sure to use the Pb free solder.

Information about lead-free soldering

Philips CE is producing lead-free sets from 1.1.2005 onwards.

IDENTIFICATION

Regardless of special logo (not always indicated)



One must treat all sets from 1 Jan 2005 onwards, according to the next rule:

Serial Number gives a 9-digit. Digit 2&3 shows the WEEK, and digit 4 shows the YEAR.

So from 015 onwards=from 1 Jan 2005 onwards

Important note: In fact also products of year 2004 must be treated in this way as long as you avoid mixing solder-alloys (lead/ lead-free). So best to always use SAC305 and the higher temperatures belong to this.

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free solder alloy Philips SAC305 with order code 0622 149 00106. If lead-free solder-paste is required, please contact the manufacturer of your solder-equipment. In general use of solder-paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free solder alloy. The solder tool must be able
 - To reach at least a solder-temperature of 400°C,
 - To stabilize the adjusted temperature at the solder-tip
 - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature around 360°C - 380°C is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. To avoid wear-out of tips switch off un-used equipment, or reduce heat.

- Mix of lead-free solder alloy / parts with leaded solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed solder alloy types (leaded and lead-free).
If one cannot avoid or does not know whether product is lead-free, clean carefully the solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).
- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.
- **Special information for BGA-ICs:**
 - always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use the lead-free temperature profile, in case of doubt)
 - lead free BGA-ICs will be delivered in so-called 'dry-packaging' (sealed pack including a silica gel pack) to protect the IC against moisture. After opening, dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. (MSL=Moisture Sensitivity Level). This will be communicated via AYS-website. Do not re-use BGAs at all.
- For sets produced before 1.1.2005 (except products of 2004), containing leaded solder-alloy and components, all needed spare-parts will be available till the end of the service-period. For repair of such sets nothing changes.
- On our website www.atyourservice.ce.Philips.com you find more information to:
 - BGA-de-/soldering (+ baking instructions)
 - Heating-profiles of BGAs and other ICs used in Philips-sets

You will find this and more technical information within the "magazine", chapter "workshop news".

For additional questions please contact your local repair-helpdesk.

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

1. Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

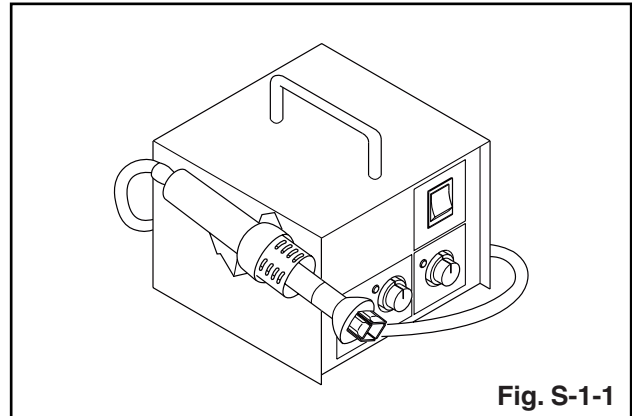


Fig. S-1-1

2. Remove the flat pack-IC with tweezers while applying the hot air.
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

CAUTION:

1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)
3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

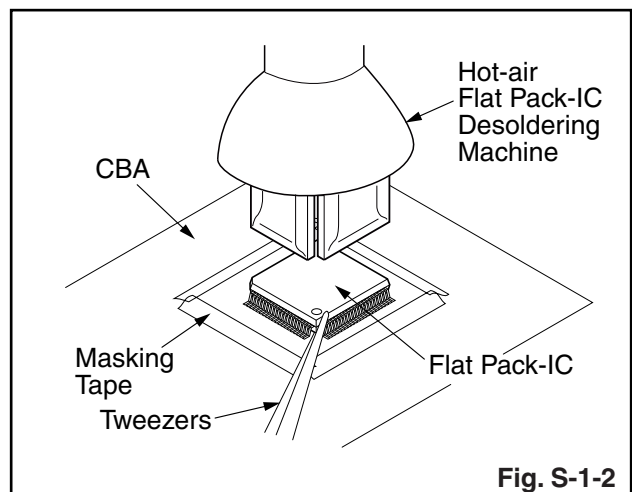
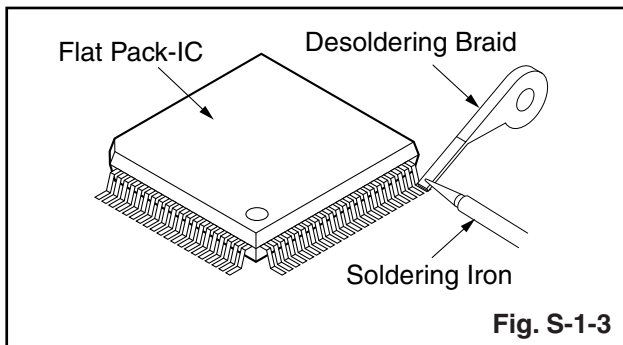


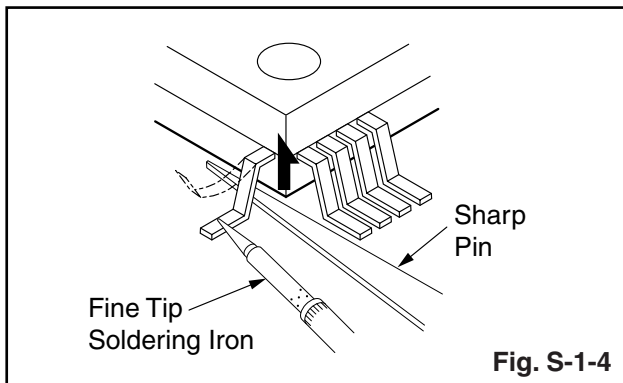
Fig. S-1-2

With Soldering Iron:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)



2. Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

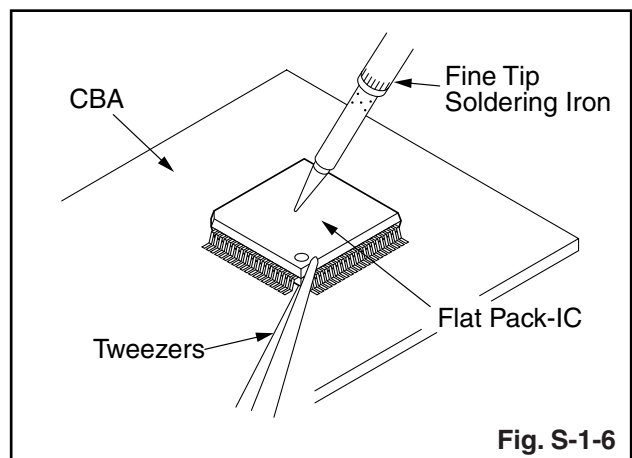
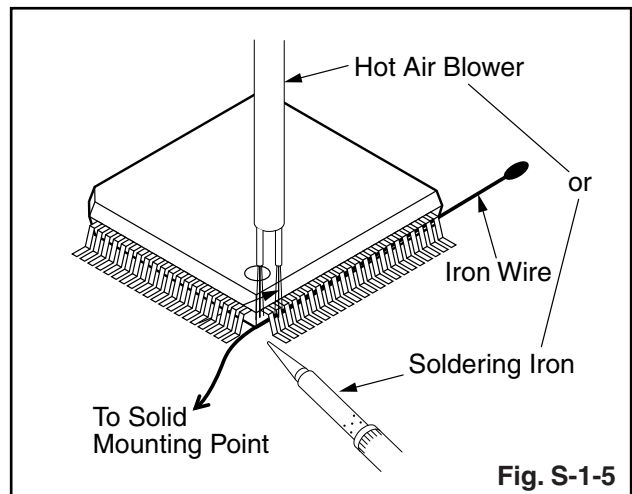


3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

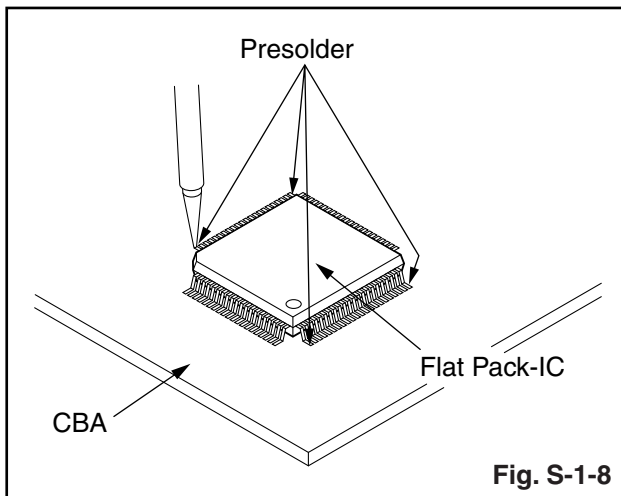
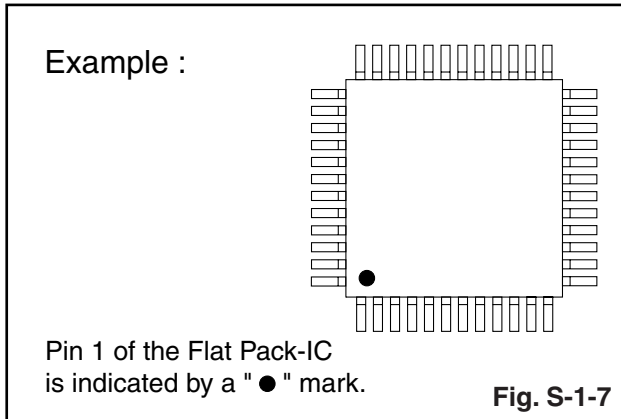
1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.
4. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
5. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Note: When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.



2. Installation

1. Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
2. The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)
3. Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.



Instructions for Handling Semi-conductors

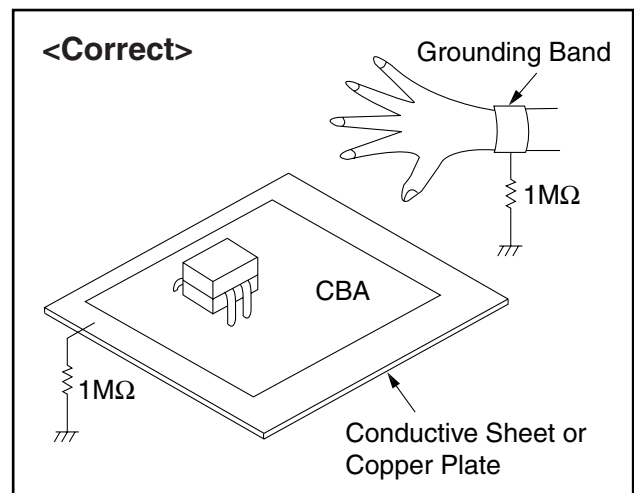
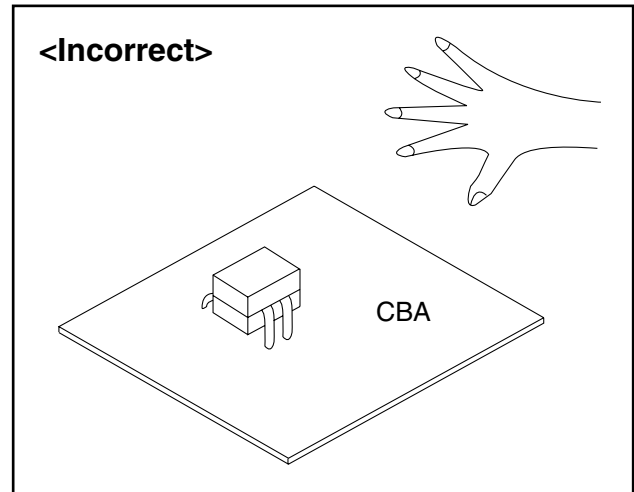
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

1. Ground for Human Body

Be sure to wear a grounding band (1 M Ω) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding (1 M Ω) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.



PREPARATION FOR SERVICING

How to Enter the Service Mode

Caution 1:

- Optical sensors system are used for Tape Start and End Sensor on this equipment. Read this page carefully and prepare as described on this page before starting to service; otherwise, the unit may operate unexpectedly.

Preparing 1:

- Cover Q202 (START SENSOR) and Q201 (END SENSOR) with Insulation Tape or enter the service mode to activate Sensor Inhibition automatically.

Note: Avoid playing, rewinding or fast forwarding the tape to its beginning or end, because both Tape End Sensors are not active.

How to Enter the Service Mode

- Turn power on.
- Use service remote control unit and press [DISC MENU] button. (See page 1-7-1.)
- When entering the service mode, one of the number (1, 2 or 4) will display at corners of the screen.
- During the service mode, electrical adjustment mode can be selected by remote control key. (Service remote control unit).

Details are as follows.

Key	Adjustment Mode
PICTURE	Picture adjustment mode: Press the [PICTURE] button to change from BRT (Bright), *CNT (Contrast), *COL (Color), *TNT (Tint), *V-TNT (V-Tint) and *SHP (Sharpness). Press [CH. ▲/▼] buttons to display Initial Value. *Marked items are not necessary to adjust normally.
0	C-Trap adjustment: See adjustment instructions page 1-7-2. Y DL Time TV/Y DL Time EXT/Y SW LPF/Black Stretch Off/ Black Stretch CONT/C. Angle data values setting: See adjustment instructions page 1-7-3.
1	No need to use.
2	H f ₀ adjustment mode: See adjustment instructions page 1-7-5.
3	No need to use.
4	Auto record mode: Perform recording (15 Sec.) --> Stop --> Rewind (Zero return) automatically.
5	Head switching position adjustment: See adjustment instructions page 1-7-8.
6	No need to use.

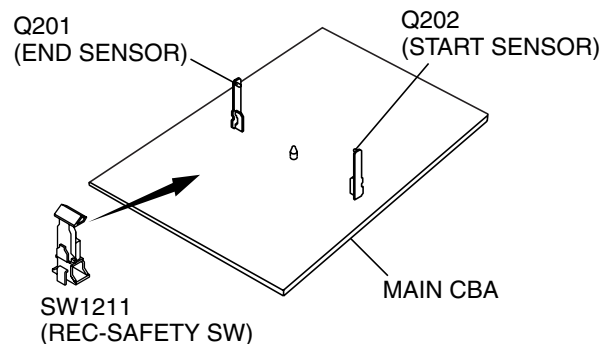
Key	Adjustment Mode
7	Purity check mode: Shows Red, Green, Blue or White cyclically on the screen each time the [7] button is pressed.
8	H. Position adjustment: See adjustment instructions page 1-7-7.
9	V. Shift/V.Size adjustment: See adjustment instructions page 1-7-8.
VOL ▲	CD-VOL/DVD-BRT/DVD-CNT/DVD-SHARP data values setting: See adjustment instructions page 1-7-4.
VOL ▼	Cut-off adjustment: See adjustment instructions page 1-7-5. 7F DATA/SLP REC/MONO data values setting: See adjustment instructions page 1-7-6. White balance adjustment: See adjustment instructions page 1-7-6.

Caution 2:

- The deck mechanism assembly is mounted on the Main CBA directly, and SW1211 (REC-SAFETY SW) is mounted on the Main CBA. When deck mechanism assembly is removed from the Main CBA due to servicing, this switch can not be operated automatically.

Preparing 2:

- To eject the tape, press the [STOP/EJECT] button on the unit (or Remote Control).
- When you want to record during the Service mode, press the [Rec] button while depressing SW1211 (REC-SAFETY SW) on the Main CBA.



OPERATING CONTROLS AND FUNCTIONS

Front design varies slightly among models.

Cassette Compartment

Insert a videotape here.

Disc Tray

Insert a disc here.

CHANNEL ▲/▼ Buttons

Press to select TV channels.

OPEN/CLOSE ▲ Button (DVD)

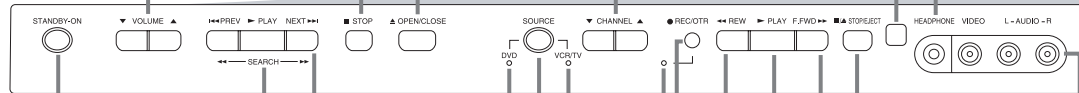
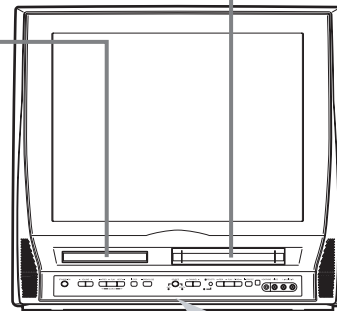
Press to open or close the disc tray.

STOP ■ Button (DVD)

Press to stop disc playback.

VOLUME ▲/▼ Buttons

Press to adjust the volume.



STANDBY-ON Button

Press to turn the TV/VCR/DVD on or off. Turn off the TV/VCR/DVD for a timer recording.

PLAY ► Button (DVD)

Press to start disc playback.

PREV ◀◀,

NEXT ▶▶ Buttons (DVD)

Press to go to a different chapter or track.

DVD light (green)

Appears if the TV/VCR/DVD is in DVD mode.

SOURCE Button

Press to select AUX, TV/VCR or DVD mode. If you switch to TV/VCR mode, wait about 4 seconds before switching back to DVD mode. This button works the same as the SELECT button on the remote.

VCR/TV light (red)

Appears if the TV/VCR/DVD is in TV/VCR mode.

REC/OTR light (red)

This light flashes during recording. It lights when the TV/VCR/DVD is in Standby mode (power off) for a timer recording.

REC/OTR ● Button (VCR)

Press to start a videotape recording. Press repeatedly to start a One-Touch Recording.

REW ◀◀ Button (VCR)

Press to rewind the tape or to search backward quickly during playback.

STOP/EJECT ■/▲ Button (VCR)

Press to stop tape playback. Press while playback is stopped to remove the tape.

F.FWD ▶▶ Button (VCR)

Press to fast forward the tape or to search forward quickly during playback.

PLAY ► Button (VCR)

Press to start tape playback.

VIDEO and AUDIO L/R (left/right) In jacks

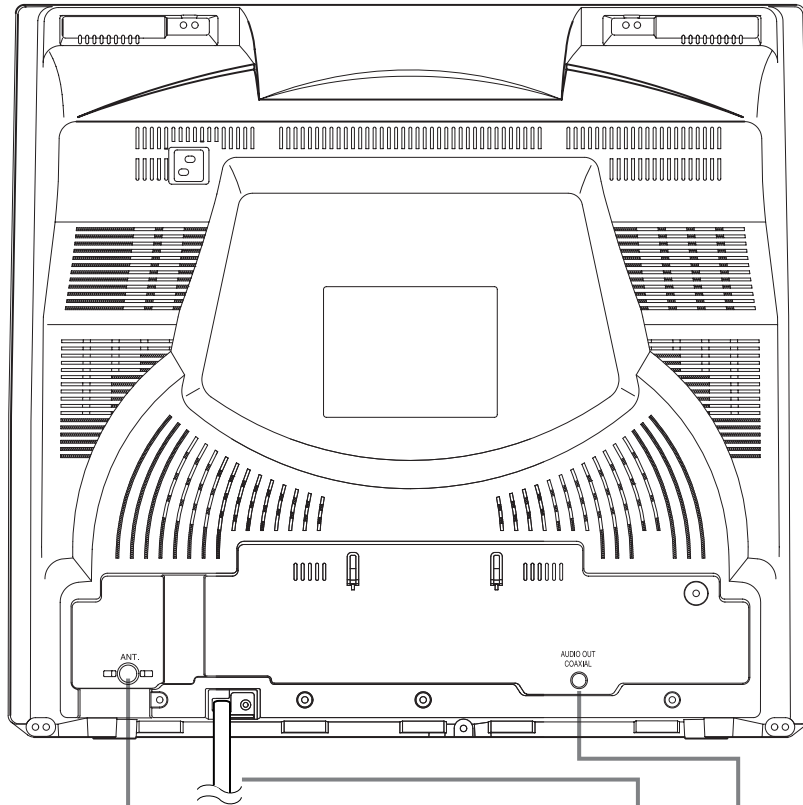
Use audio and video cables to connect these jacks to the Audio and Video Out jacks of a Camcorder, DVD player or VCR. This lets you watch materials playing on the other equipment when you choose AUX at the TV/VCR/DVD.

HEADPHONE jack

Connect headphones (not supplied) here for personal listening.

Remote Sensor

Receives a signal from your remote control so you can operate the TV/VCR/DVD from a distance.



ANT. Jack
(Antenna In)

Connect an antenna or Cable TV signal here. This brings TV channels to the TV/VCR/DVD. If you do not connect an antenna or Cable TV signal to the TV/VCR/DVD (or connect to a Cable Box/Satellite Receiver through this jack), you will not receive any TV channels.

Power Cord

Connect to a standard AC outlet (120V/60Hz).

AUDIO OUT COAXIAL Jack

Connect this jack to a Digital Stereo using a digital audio coaxial cable (not supplied). Use this connection if the Stereo has Dolby Digital compatibility and has a Digital Coaxial Audio In jack. You may also use this connection when connecting the TV/VCR/DVD to a Mini-Disc or Digital Audio Tape deck.

PICTURE Button
Press to access the picture controls.

STANDBY-ON Button
Press to turn on or off the TV/VCR/DVD.

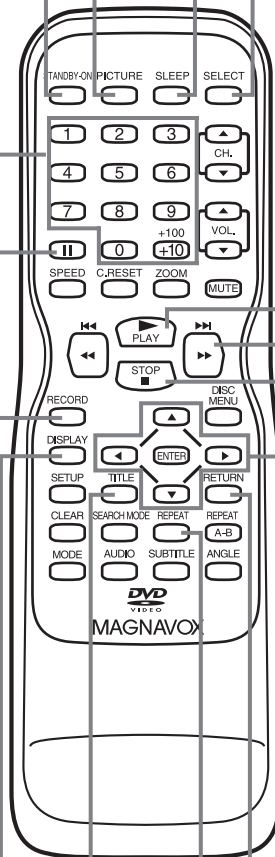
Number Buttons
TV Mode: Press two digits to access a specific channel. Press 0 before the number of a single-digit channel.
+100/+10 button: To select channels 100 or higher, press +100/+10, then the Number buttons of the last 2 digits of the channel number.
DVD Mode: Use the Number buttons to enter a track or chapter number.
+100/+10 button: Press before entering double-digit numbers. For example, to select chapter 16, press +100/+10, then 1, 6.

II (pause) Button
Press to pause videotape recording. Press again to resume recording. Press to pause videotape or DVD playback. Press repeatedly to advance the picture one frame at a time.

RECORD Button
Press once to start a recording on videotape.

DISPLAY Button
TV/VCR Mode: Press to see the videotape counter, channel or time on the screen.
DVD Mode: Press to see the disc status on the screen.

TITLE Button
Press to access a DVD's title menu if available.



SLEEP Button
Press to set the Sleep Timer.

SELECT Button
Press to choose AUX, TV/VCR or DVD mode. The corresponding light will appear on the front of the TV/VCR/DVD to indicate which mode is active.

PLAY ► Button
Press to start playing a disc or video cassette.

▶▶ / ▶▶▶ Button
During disc playback, press briefly to skip to the next track or chapter.
Or, press and hold for 2 seconds to search forward during disc playback. Press to forward a videotape.

STOP ■ Button
Press to stop disc or videotape playback.

Arrow Buttons
Use the Arrow buttons to select or adjust menu items.

RETURN Button
Press to go to the previous setup menu in DVD or TV/VCR mode. Press to remove some menus or displays.

REPEAT Button
Press to play a disc, title, chapter or track repeatedly.

ZOOM Button
Press to enlarge the picture during DVD playback.

C.RESET (counter reset) Button
Press to reset the tape counter to 0:00:00. Press to cancel a Timer Recording.

SPEED Button
Press to choose a tape recording speed (SP or SLP).

⏮ / ⏪ Button
During disc playback, press briefly to skip to the beginning of the current Track/Chapter. Press repeatedly to skip to previous tracks/chapters.
Or, press and hold for 2 seconds to search backward during disc playback. Press to reverse a videotape.

SETUP Button
Press to access or remove the TV/VCR/DVD's setup menu.

CLEAR Button
Press to reset or erase a setting or wrong information.

MODE Button
Press to play a program or to start Random playback. Press to select a Black Level or Virtual Surround setting.

SEARCH MODE Button
Press to find a specific time, chapter, track or title on a disc. Press to set up Markers.

CH. (channel) ▲/▼ Buttons
Press to select memorized TV channels.

VOL. (volume) ▲/▼ Buttons
Press to adjust the volume.

MUTE Button
Press to mute or restore the sound.

DISC MENU Button
Press to access DVD disc menus.

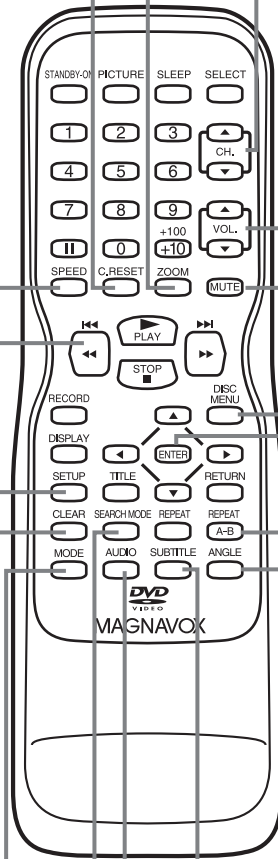
ENTER Button
Press to accept or change a menu setting.

REPEAT A-B Button
Press to set a section of a disc to play repeatedly.

ANGLE Button
Press to change the camera angle and watch a disc sequence from a different perspective.

SUBTITLE Button
Press to select a subtitle language.

AUDIO Button
Press to select an audio language during DVD playback.
Press to select a sound mode during Audio CD or Video CD playback. Press to select STEREO, SAP or MONO while receiving MTS broadcast.
Press to switch MONO/HIFI during playback of a videotape.



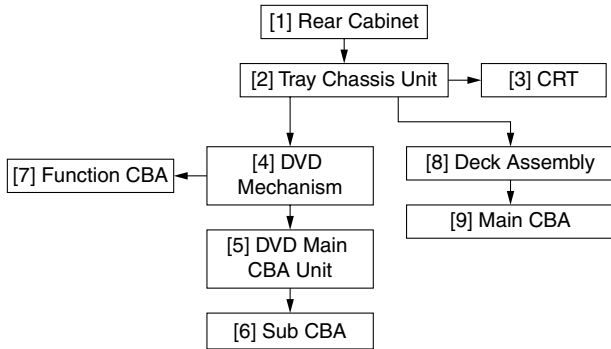
CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts, and the CBA in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.

CAUTION!

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.



2. Disassembly Method

Step/ Loc. No.	Part	Removal		
		Fig. No.	Remove/*Unhook/ Unlock/Release/ Unplug/Unclamp/ Desolder	Note
[1]	Rear Cabinet	D1	6(S-1), (S-2), (S-3A), (S-3B)	---
[2]	Tray Chassis Unit	D2 D3 D5	Anode Cap, *CN2501, CRT CBA, *CN1601, *CN1802, *CN2571, *CN2801	1
[3]	CRT	D3 D5	4(S-4)	---
[4]	DVD Mechanism	D2 D4 D5	4(S-5), Wire Holder C, 2(S-6), Loader Cover, *CN201, *CN301	2, 3
[5]	DVD Main CBA Unit	D2 D4 D5	*CN1, *CN2	---
[6]	Sub CBA	D2 D5	6(S-7), Loader PCB Holder, *CN1301, *CN1602	---
[7]	Function CBA	D2 D5	(S-8), *CN2401	---
[8]	Deck Assembly	D2 D5	3(S-9), Top Shield, 7(S-10), (S-11), (S-12), *CL1201, *CL1401, *CL1402, *CL403	4

Step/ Loc. No.	Part	Removal		
		Fig. No.	Remove/*Unhook/ Unlock/Release/ Unplug/Unclamp/ Desolder	Note
[9]	Main CBA	D2	5(S-13)	---

↓ (1) ↓ (2) ↓ (3) ↓ (4) ↓ (5)

Note:

- (1) Order of steps in procedure. When reassembling, follow the steps in reverse order. These numbers are also used as the Identification (location) No. of parts in figures.
- (2) Parts to be removed or installed.
- (3) Fig. No. showing procedure of part location
- (4) Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
 P = Spring, L = Locking Tab, S = Screw,
 CN = Connector
 * = Unhook, Unlock, Release, Unplug, or Desolder
 e.g. 2(S-2) = two Screws (S-2),
 2(L-2) = two Locking Tabs (L-2)
- (5) Refer to the following "Reference Notes in the Table".

Reference Notes in the Table

CAUTION!

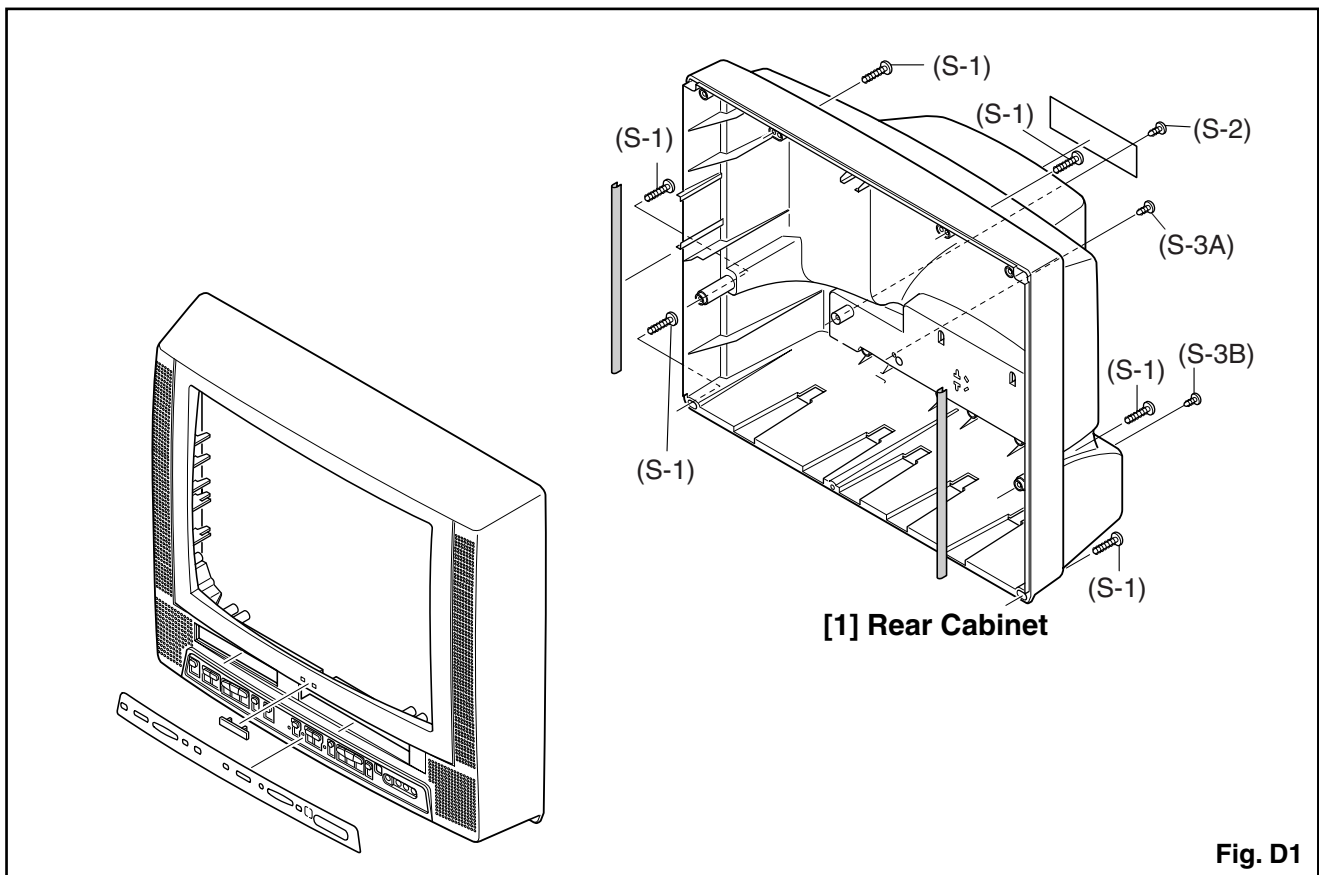
When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

1. **CAUTION 1:** Discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

Disconnect the following: Anode Cap, CN2501, CRT CBA, CN1601, CN1802, CN2571 and CN2801. Then remove Tray Chassis Unit.

2. **CAUTION 2:** Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc., during unpacking or repair work.
To avoid damage of pickup follow next procedures.

- 1) Disconnect Connector (CN301) on the DVD Main CBA Unit.
- 2) Short the three short lands of FPC cable with solder before removing the FFC cable (CN201) from it. If you disconnect the FFC cable (CN201), the laser diode of pickup will be destroyed. (Fig. D4)
- 3) Remove four screws (S-5) and Wire Holder C, and remove DVD Mechanism.
3. **CAUTION 3:** When reassembling, confirm the FFC cable (CN201) is connected completely. Then remove the solder from the three short lands of FPC cable. (Fig. D4)
4. Remove three screws (S-9) and remove Top Shield. Remove screws 7(S-10), (S-11) and (S-12). Then, desolder connectors (CL1201, CL1401, CL1402, CL403) and lift up the Deck Assembly.



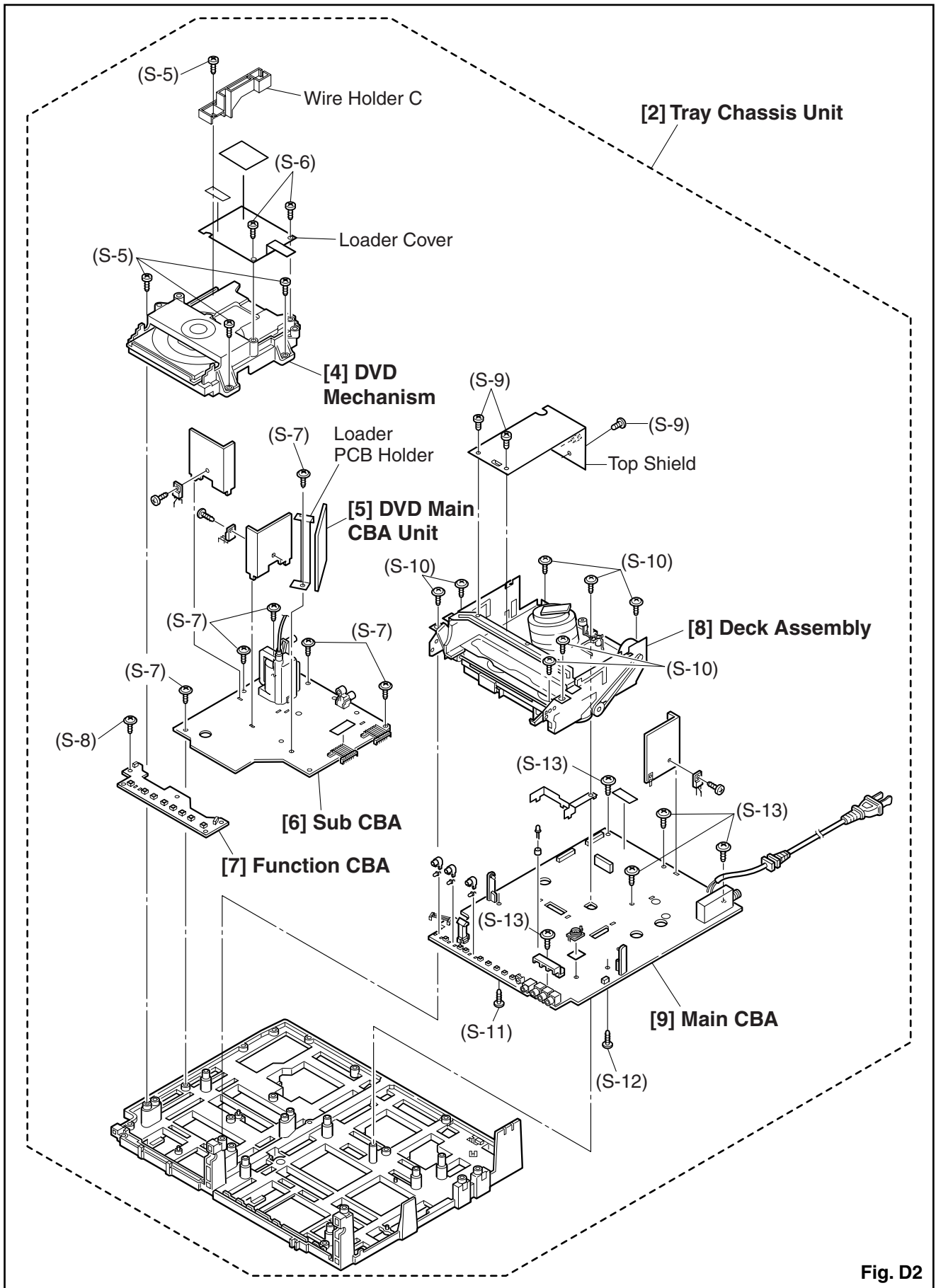


Fig. D2

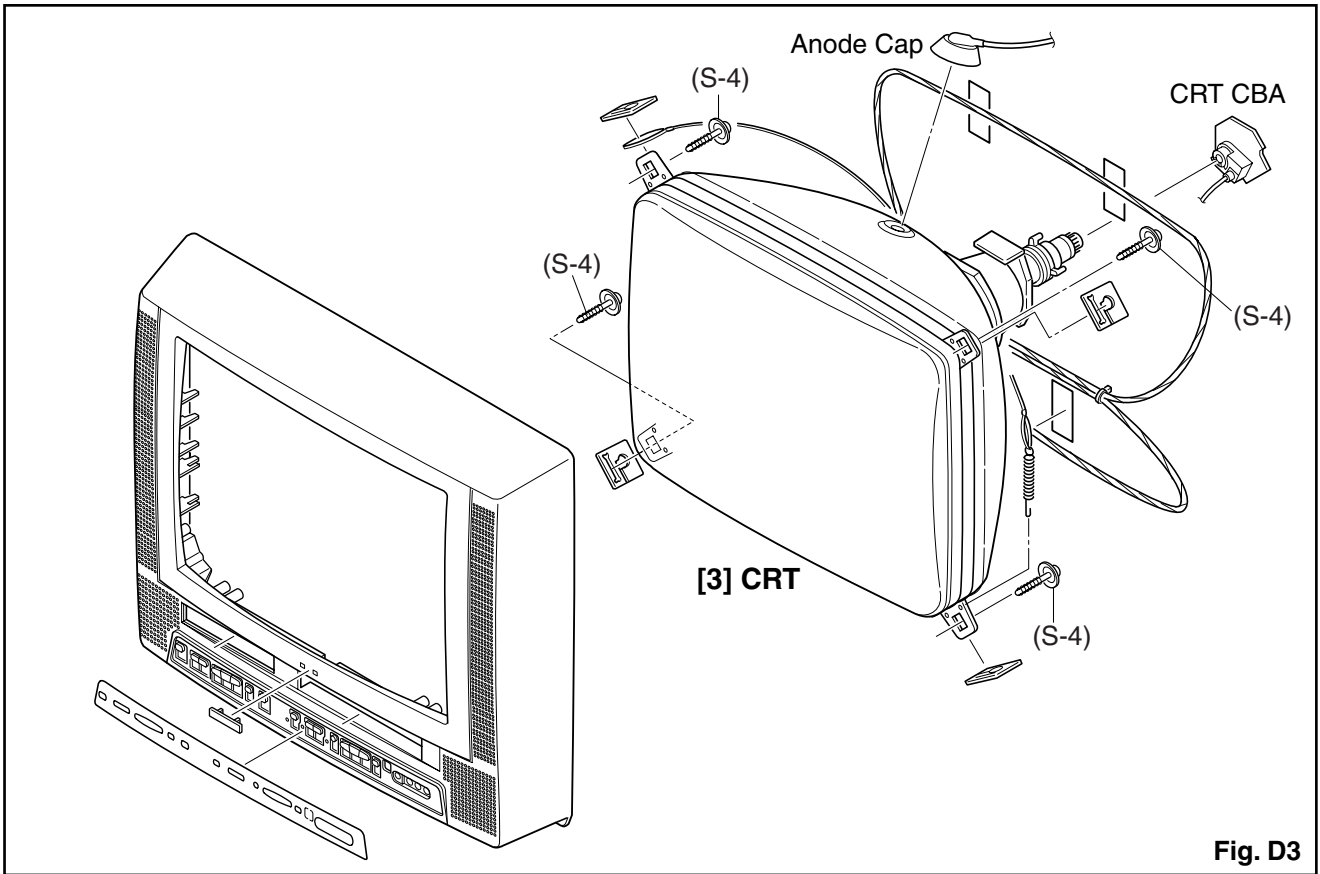


Fig. D3

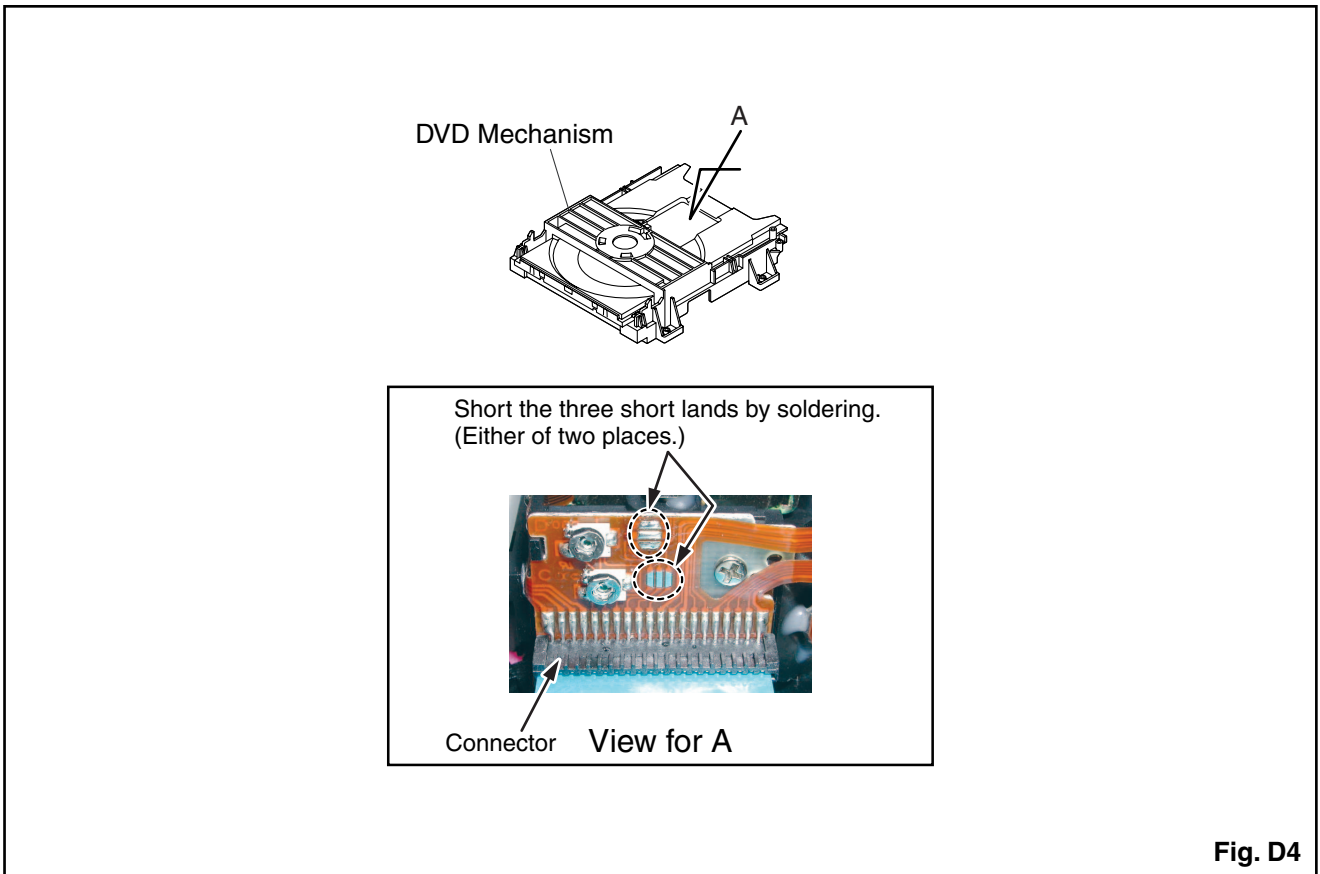


Fig. D4

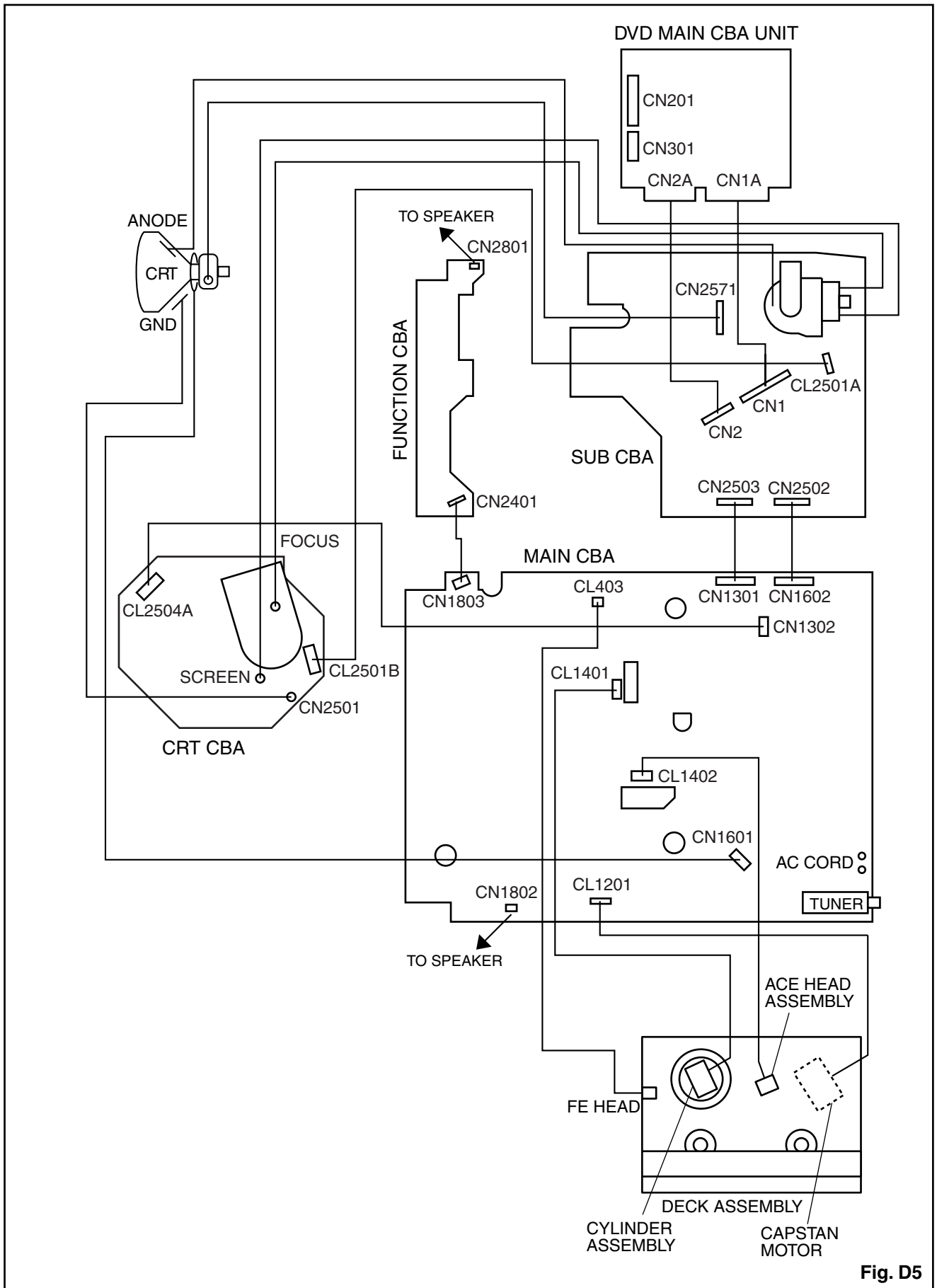


Fig. D5

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note: "CBA" is abbreviation for "Circuit Board Assembly."

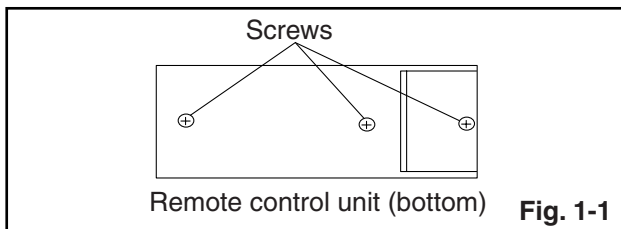
Note: Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

1. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
2. AC Milli Voltmeter (RMS)
3. Alignment Tape (VFMS0001H6), Blank Tape
4. DC Voltmeter
5. Oscilloscope: Dual-trace with 10:1 probe, V-Range: 0.001~50 V/Div, F-Range: DC~AC-60 MHz
6. Frequency Counter
7. Plastic Tip Driver
8. Color Analyzer

How to make service remote control unit:

1. Prepare normal remote control unit (Part No. NE206UD). Remove 4 screws from the back lid (Fig. 1-1).



2. Cut off pin 10 of the remote control microprocessor and short circuit pins 10 and 17 of the microprocessor with a jumper wire

How to Set up the Service mode:

Service mode:

1. Use the service remote control unit.
2. Turn the power on. (Use main power on the TV unit.)
3. To enter the TV mode, press [CH. ▲ / ▼] buttons on the TV unit.
4. Press [DISC MENU] button on the service remote control unit. Version of micro computer will display on the CRT. (Ex: 057-001)

X-Ray Protection Test

X-Ray protection test should be done when replacing any parts of this chassis.

1. Short both ends of R2592 (on Sub CBA).
2. Confirm that the main power turns off.
3. If the main power does not turn off, then replace the following parts (D2591, Q2591, R2592, R2593, R2594 and IC1201).
4. Perform steps 1 to 3 again.

1. DC 114V (+B) Adjustment

Purpose: To obtain correct operation.

Symptom of Misadjustment: The picture is dark and unit does not operate correctly.

Test Point	Adj. Point	Mode	Input
TP2501(+B) J2550(GND)	VR1601	---	---
Tape	M. EQ.	Spec.	
---	DC Voltmeter	+114±1.0 V DC	

Note: TP2501(+B), J2550(GND) --- Sub CBA, VR1601 --- Main CBA

1. Connect the unit to AC Power Outlet.
2. Connect DC Volt Meter to TP2501(+B) and J2550(GND).
3. Adjust VR1601 so that the voltage of TP2501(+B) becomes +114±1.0 V DC.

2. Setting for CONTRAST, COLOR, TINT, V-TINT and SHARP Data Values

General

1. Enter the Service mode. (See page 1-7-1.)
2. Press [PICTURE] button on the service remote control unit. Display changes "BRT," "CNT," "COL," "TNT," "V-TNT," and "SHP" cyclically when [PICTURE] button is pressed.

CONTRAST (CNT)

1. Press [PICTURE] button on the service remote control unit. Then select "CONTRAST (CNT)" display.
2. Press [CH. ▲ / ▼] buttons on the service remote control unit so that the value of "CONTRAST (CNT)" becomes 84.

COLOR (COL)

1. Press [PICTURE] button on the service remote control unit. Then select "COLOR (COL)" display.
2. Press [CH. ▲ / ▼] buttons on the service remote control unit so that the value of "COLOR (COL)" becomes 58.

TINT (TNT)

1. Press [PICTURE] button on the service remote control unit. Then select "TINT (TNT)" display.
2. Press [CH. ▲ / ▼] buttons on the service remote control unit so that the value of "TINT (TNT)" becomes 56.

V-TINT (V-TNT)

1. Press [PICTURE] button on the service remote control unit. Then select "V-TINT (V-TNT)" display.
2. Press [CH. ▲ / ▼] buttons on the service remote control unit so that the value of "V-TINT (V-TNT)" becomes 56.

SHARP (SHP)

1. Press [PICTURE] button on the service remote control unit. Then select "SHARP (SHP)" display.
2. Press [CH. ▲ / ▼] buttons on the service remote control unit so that the value of "SHARP (SHP)" becomes 46.

Note: BRIGHT data value does not need to be adjusted at this moment.

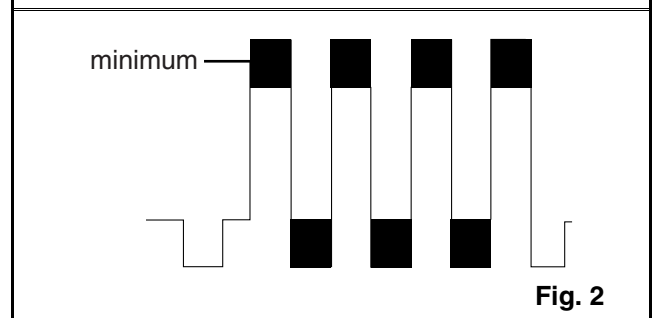
3. C-Trap Adjustment

Purpose: To get minimum leakage of the color signal carrier.

Symptom of Misadjustment: If C-Trap Adjustment is incorrect, stripes will appear on the screen.

Test Point	Adj. Point	Mode	Input
TP1301 (B-OUT)	[CH. ▲ / ▼] buttons	---	Color Bar
Tape	M. EQ.	Spec.	
---	Oscilloscope Pattern Generator	---	

Figure



Note: TP1301(B-OUT) --- Main CBA

1. Connect oscilloscope to TP1301.
2. Input a color bar signal from RF input. Enter the Service mode. (See page 1-7-1.)
3. Press [0] button on the remote control unit and select C-TRAP mode. (Fig. 3)
4. Press [CH. ▲ / ▼] buttons on the remote control unit so that the carrier leakage B-Out (3.58 MHz) value becomes minimum on the oscilloscope.

4. Setting for Y DL Time TV, Y DL Time EXT, Y SW LPF, Black Stretch Off, Black Stretch CONT and C. Angle Data Values

1. Enter the Service mode. (See page 1-7-1.)
2. **Y DL Time TV Adjustment:** Press [0] button on the service remote control unit twice to show "D-T TV" on the display.
Y DL Time EXT Adjustment: Press [0] button on the service remote control unit three times to show "D-T EXT" on the display.
Y SW LPF Adjustment: Press [0] button on the service remote control unit four times to show "Y SW" on the display.
Black Stretch Off Adjustment: Press [0] button on the service remote control unit five times to show "B-S" on the display.
Black Stretch CONT Adjustment: Press [0] button on the service remote control unit six times to show "BS2" on the display.
C. Angle Adjustment: Press [0] button on the service remote control unit seven times to show "C-ANG" on the display.
3. **Y DL Time TV Adjustment:** Select "2" by pressing [CH. ▲ / ▼] buttons on the service remote control.
Y DL Time EXT Adjustment: Select "3" by pressing [CH. ▲ / ▼] buttons on the service remote control.
Y SW LPF Adjustment: Select "0" by pressing [CH. ▲ / ▼] buttons on the service remote control.
Black Stretch Off Adjustment: Select "OFF" by pressing [CH. ▲ / ▼] buttons on the service remote control.
Black Stretch CONT Adjustment: Select "0" by pressing [CH. ▲ / ▼] buttons on the service remote control.
C. Angle Adjustment: Select "103" by pressing [CH. ▲ / ▼] buttons on the service remote control.

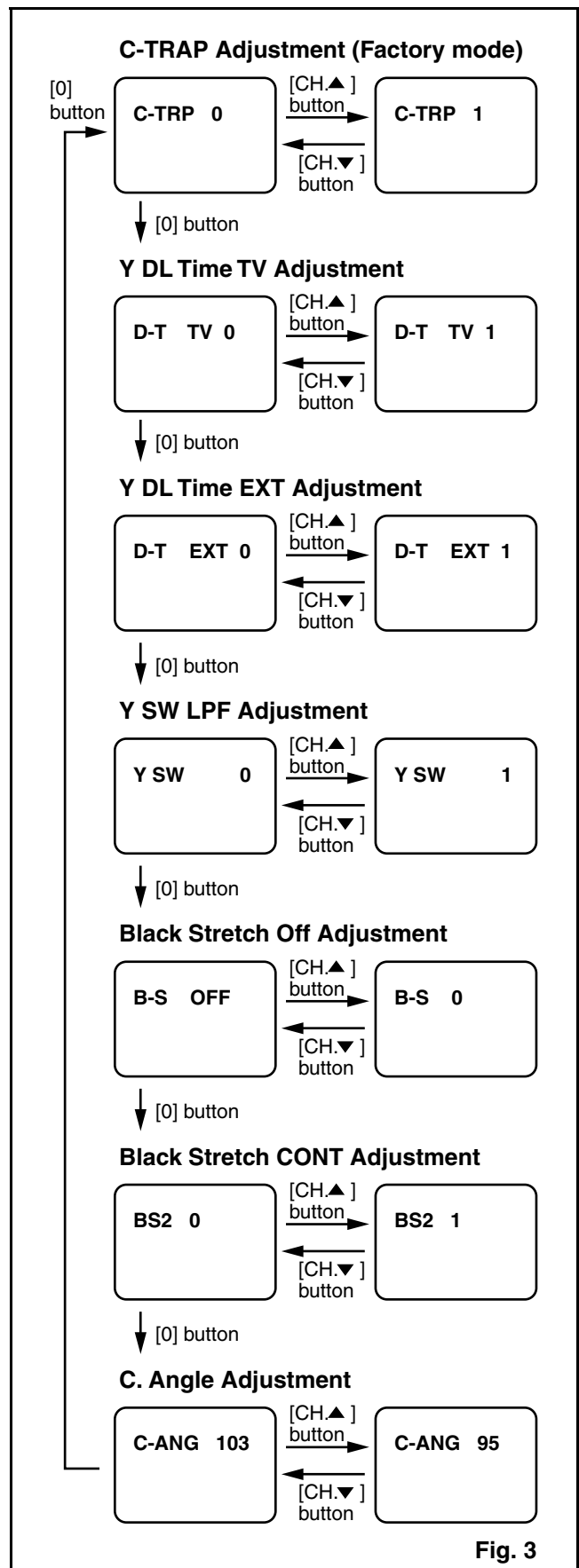


Fig. 3

5. Setting for CD-VOL, DVD-BRT, DVD-CNT and DVD-SHARP Data Values

1. Enter the Service mode. (See page 1-7-1.)
2. **CD-VOL Adjustment:** Press [VOL ▲] button on the service remote control unit once to show "CD VOL" on the display.
DVD-BRT Adjustment: Press [VOL ▲] button on the service remote control unit twice to show "DVD BRT" on the display.
DVD-CNT Adjustment: Press [VOL ▲] button on the service remote control unit three times to show "DVD CNT" on the display.
DVD-SHARP Adjustment: Press [VOL ▲] button on the service remote control unit four times to show "DVD SHP" on the display.
3. **CD-VOL Adjustment:** Select "7" by pressing [CH. ▲ / ▼] buttons on the service remote control.
DVD-BRT Adjustment: Select "14" by pressing [CH. ▲ / ▼] buttons on the service remote control.
DVD-CNT Adjustment: Select "0" by pressing [CH. ▲ / ▼] buttons on the service remote control.
DVD-SHARP Adjustment: Select "3" by pressing [CH. ▲ / ▼] buttons on the service remote control.

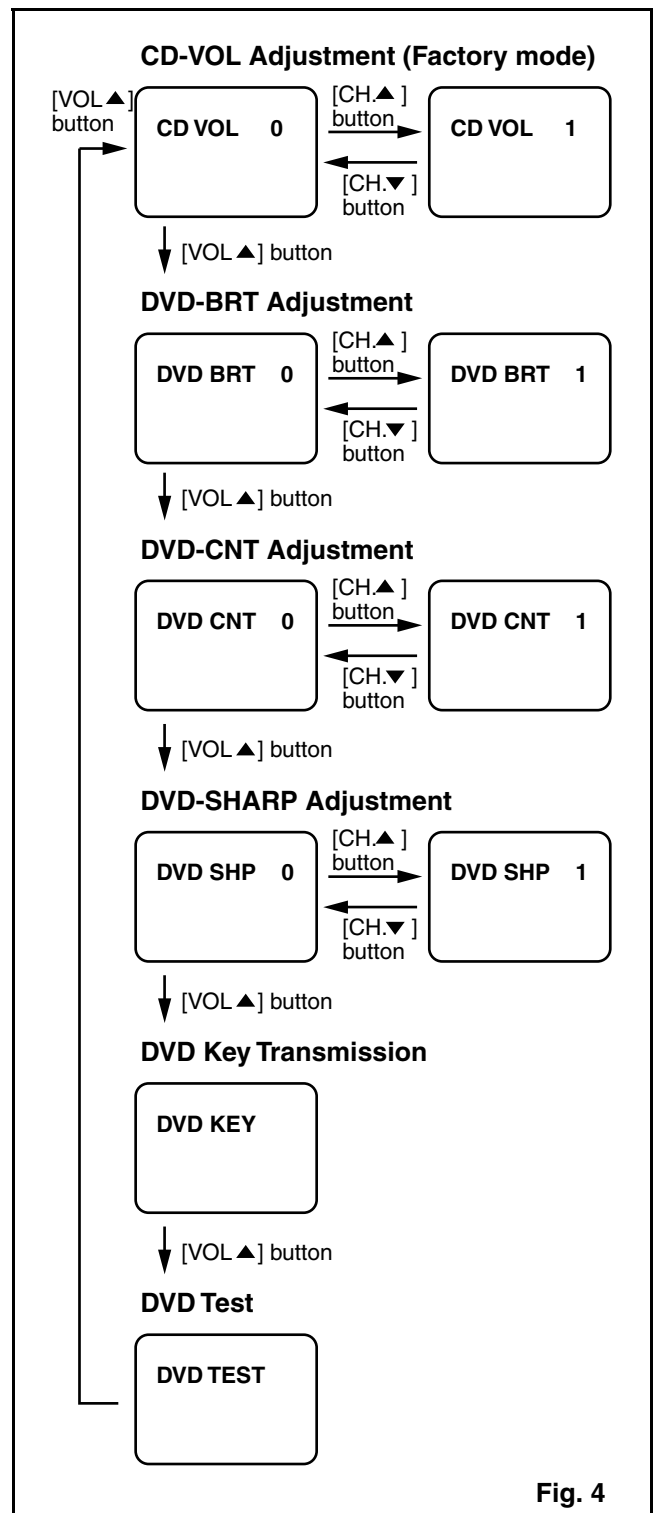


Fig. 4

6. H f₀ Adjustment

Purpose: To get correct horizontal position and size of screen image.

Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test Point	Adj. Point	Mode	Input
R2583	[CH. ▲ / ▼] buttons	Video	---
Tape	M. EQ.	Spec.	
---	Frequency Counter	15.734 kHz±300 Hz	

Note: R2583 --- Sub CBA

1. Connect frequency counter to R2583.
2. Operate the unit for at least 20 minutes.
3. Enter the Service mode. (See page 1-7-1.) Press [2] button on the remote control unit and select H-ADJ mode.
4. Press [CH. ▲ / ▼] buttons on the remote control unit so that the display will change "0" to "7."
5. At this moment, choose display "0" to "7" when the frequency counter display is closest to 15.734 kHz ± 300 Hz.

7. Cut-off Adjustment

Purpose: To adjust the beam current of R, G, B, and screen voltage.

Symptom of Misadjustment: White color may be reddish, greenish or bluish.

Test Point	Adj. Point	Mode	Input
---	Screen-Control [CH. ▲ / ▼] buttons	RF	Black Raster
Tape	M. EQ.	Spec.	
---	Pattern Generator	See Reference Notes below.	

Figure

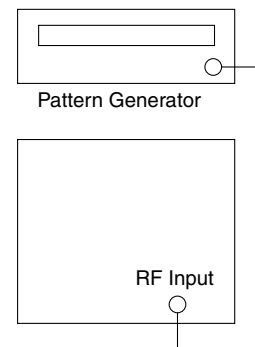


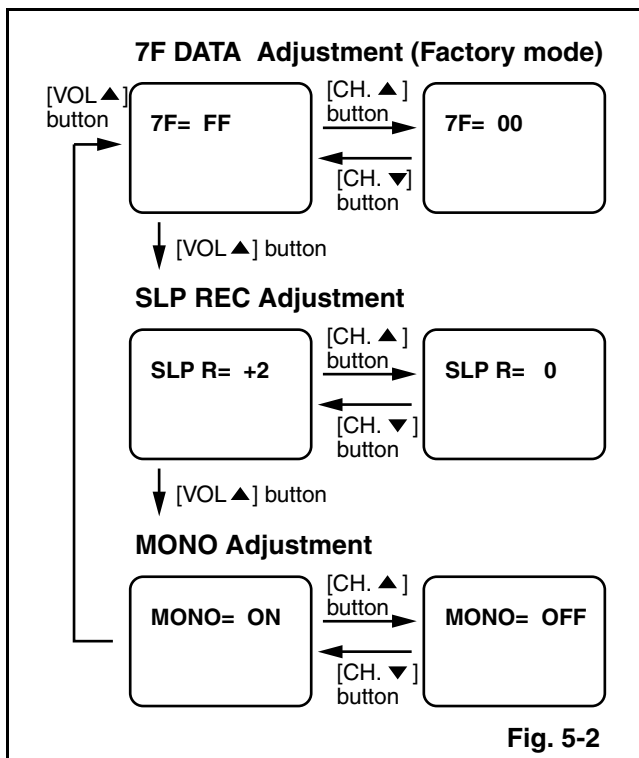
Fig. 5-1

Notes: Screen Control --- FBT (Sub CBA),
FBT = Fly Back Transformer,
Use the Remote Control Unit.

1. Degauss the CRT and allow the unit to operate for 20 minutes before starting the alignment.
2. Input the Black raster signal from RF input.
3. Enter the Service mode. (See page 1-7-1.)
4. Press the [VOL ▼] button.
(Press [VOL ▼] button then display will change "C/D", "7F" and Initial Setting.)
5. Choose CUT OFF/DRIVE mode then press [1] button. This adjustment mode is CUT OFF (R).
6. Increase the screen control so that the horizontal line just appears on the CRT.
7. Press the [CH. ▲ / ▼] buttons until the horizontal line becomes white.
8. Choose CUT OFF/DRIVE mode then press [2] button. This adjustment mode is CUT OFF (G). Press [CH. ▲ / ▼] buttons until the horizontal line becomes white.
9. Choose CUT OFF/DRIVE mode then press [3] button. This adjustment mode is CUT OFF (B). Press [CH. ▲ / ▼] buttons until the horizontal line becomes white.

8. Setting for 7F DATA/SLP REC/ MONO Data Values

1. Enter the Service mode. (See page 1-7-1.)
2. **7F Data Adjustment:** Press [VOL ▼] button on the service remote control unit once to show "7F" on the display.
SLP REC Adjustment: Press [VOL ▼] button on the service remote control unit twice to show "SLP R" on the display.
MONO Adjustment: Press [VOL ▼] button on the service remote control unit three times to show "MONO" on the display.
3. **7F Data Adjustment:** Select "FF" by pressing [CH. ▲ / ▼] buttons on the service remote control.
SLP REC Adjustment: Select "+2" by pressing [CH. ▲ / ▼] buttons on the service remote control.
MONO Adjustment: Select "OFF" by pressing [CH. ▲ / ▼] buttons on the service remote control.



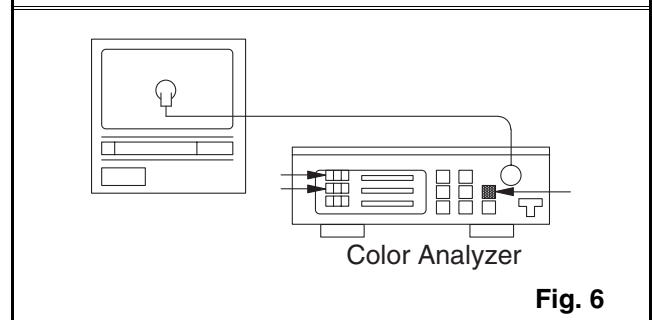
9. White Balance Adjustment

Purpose: To mix red, green and blue beams correctly for pure white.

Symptom of Misadjustment: White becomes bluish or reddish.

Test Point	Adj. Point	Mode	Input
Screen	[CH. ▲ / ▼] buttons	RF	White Raster (APL 100%)
Tape	M. EQ.	Spec.	
---	Pattern Generator, Color analyzer	See below	

Figure



Note: Use service remote control unit

1. Operate the unit more than 20 minutes.
2. Face the unit to the east. Degauss the CRT using a degaussing coil.
3. Input the White Raster (APL 100%).
4. Set the color analyzer to the CHROMA mode and after zero point calibration, bring the optical receptor to the center on the tube surface (CRT).
5. Enter the Service mode. Press [VOL ▼] button on the service remote control unit and select "C/D" mode. (Display changes "C/D", "7F" and Initial Setting cyclically when [VOL ▼] button is pressed.)
6. Press [4] button on the service remote control unit for Red adjustment. Press [5] button on the service remote control unit for Blue adjustment.
7. In each color mode, press [CH. ▲ / ▼] buttons to adjust the values of color.
8. Adjust Red and Blue color so that the temperature becomes 9200K (x: 286 / y: 294) ±3%.
9. At this time, re-check that horizontal line is white. If not, re-adjust Cut-off Adjustment until the horizontal line becomes pure white.
10. Turn off and on again to return to normal mode. Receive APL 100% white signal and confirm that Chroma temperatures become 9200K (x: 286 / y: 294) ±3%.

Note: Confirm that Cut Off Adj. is correct after this adjustment, and attempt Cut Off Adj. if needed.

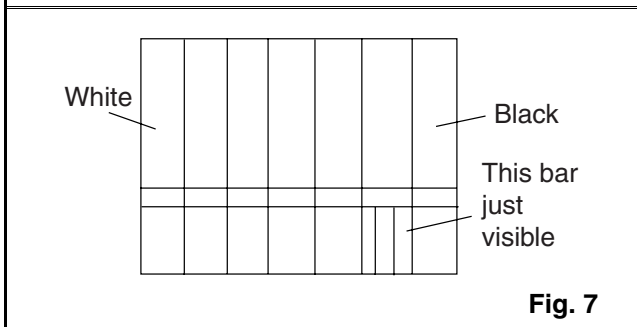
10. Sub-Brightness Adjustment

Purpose: To get proper brightness.

Symptom of Misadjustment: If Sub-Brightness is incorrect, proper brightness cannot be obtained by adjusting the Brightness Control.

Test Point	Adj. Point	Mode	Input
---	[CH. ▲ / ▼] buttons	---	SMPTE 7.5IRE
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	

Figure



Note: SMPTE Setup level --- 7.5 IRE

1. Enter the Service mode. (See page 1-7-1.) Then input SMPTE signal from RF input.
2. Press [PICTURE] button. (Press [PICTURE] button then display will change BRT, CNT, COL, TNT, V-TNT, and SHP). Select BRT and press [CH. ▲ / ▼] buttons so that the bar is just visible (See above figure).

11. Focus Adjustment

Purpose: Set the optimum Focus.

Symptom of Misadjustment: If Focus Adjustment is incorrect, blurred images are shown on the display.

Test Point	Adj. Point	Mode	Input
---	Focus Control	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	

Note: Focus VR --- FBT (Sub CBA),
FBT = Fly Back Transformer

1. Operate the unit more than 30 minutes.
2. Face the unit to the East and degauss the CRT using a degaussing coil.
3. Input the monoscope pattern.
4. Adjust the Focus Control on the FBT to obtain a clear picture.

12. H. Position Adjustment

Purpose: To obtain correct horizontal position of screen image.

Symptom of Misadjustment: H. position may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	[CH. ▲ / ▼] buttons	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	---	

1. Enter the Service mode. (See page 1-7-1.) Press [8] button on the remote control unit and select H-P mode.
2. Input monoscope pattern.
3. Press [CH. ▲ / ▼] buttons on the remote control unit so that the left and right side of the monoscope pattern are equal to each other.

13. V. Shift Adjustment

Purpose: To obtain correct vertical position of screen image.

Symptom of Misadjustment: If V. position is incorrect, vertical position of image on the screen may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	[CH. ▲ / ▼] buttons	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	---	

1. Enter the Service mode. (See page 1-7-1.) Press [9] button on the remote control unit and select V-P mode. (Press [9] button then display will change to V-P and V-S).
2. Input monoscope pattern.
3. Press [CH. ▲ / ▼] buttons on the remote control unit so that the top and bottom of the monoscope pattern are equal to each other.

14. V. Size Adjustment

Purpose: To obtain correct vertical height of screen image.

Symptom of Misadjustment: If V. Size is incorrect, vertical height of image on the screen may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	[CH. ▲ / ▼] buttons	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	90±5%	

1. Enter the Service mode. (See page 1-7-1.) Press [9] button on the remote control unit and select V-S mode. (Press [9] button then display will change to V-P and V-S).
2. Input monoscope pattern.
3. Press [CH. ▲ / ▼] buttons on the remote control unit so that the monoscope pattern is 90±5% of display size and the circle is round.

15. Head Switching Position Adjustment

Purpose: Determine the Head Switching Position during Playback.

Symptom of Misadjustment: May cause Head Switching Noise or Vertical Jitter in the picture.

Note: Unit reads Head Switching Position automatically and displays it on the screen (Upper Left Corner).

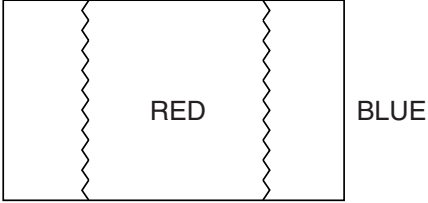
1. Playback test tape (VFMS0001H6).
2. Enter the Service mode. (See page 1-7-1.) Then press the number [5] button on the remote control unit.
3. The Head Switching position will display on the screen; if adjustment is necessary follow step 4. 6.5H(412.7µs) is preferable.
4. Press [CH. ▲] or [CH. ▼] button on the remote control unit if necessary. The value will be changed in 0.5H steps up or down. Adjustable range is up to 9.5H. If the value is beyond adjustable range, the display will change as:
Lower out of range: 0.0H
Upper out of range: -.H

The following 2 adjustments normally are not attempted in the field. They should be done only when replacing the CRT then adjust as a preparation.

16. Purity Adjustment

Purpose: To obtain pure color.

Symptom of Misadjustment: If Color Purity Adjustment is incorrect, large areas of color may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	Deflection Yoke Purity Magnet	---	*Red Color
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	
Figure			
			
Fig. 8			

* This becomes RED COLOR if the [7] button is pressed while in service mode.

1. Set the unit facing east.
2. Operate the unit for over 30 minutes before adjusting.
3. Fully degauss the unit using an external degaussing coil.
4. Set the unit to the AUX mode which is located before CH2 then input a red raster from video in.
5. Loosen the screw on the Deflection Yoke Clamper and pull the Deflection Yoke back away from the screen. (See Fig. 9.)
6. Loosen the Ring Lock and adjust the Purity Magnets so that a red field is obtained at the center of the screen. Tighten Ring Lock. (See Fig. 8, 9.)
7. Slowly push the Deflection Yoke toward the bell of the CRT and set it where a uniform red field is obtained.
8. Tighten the clamp screw on the Deflection Yoke.

17. Convergence Adjustment

Purpose: To obtain proper convergence of red, green and blue beams.

Symptom of Misadjustment: If Convergence Adjustment is incorrect, the edge of white letters may have color edges.

Test Point	Adj. Point	Mode	Input
---	C.P. Magnet (RB) C.P. Magnet (RB-G) Deflection Yoke	---	Dot Pattern or Crosshatch
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	

Figure

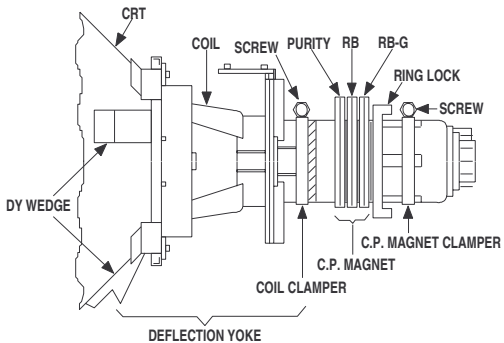


Fig. 9

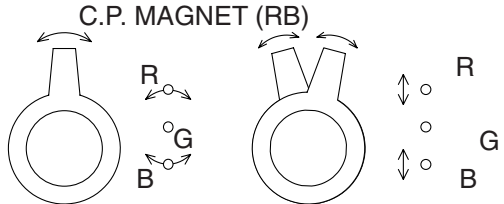


Fig. 10

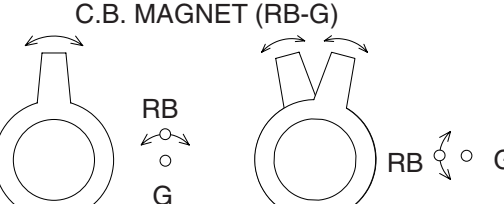
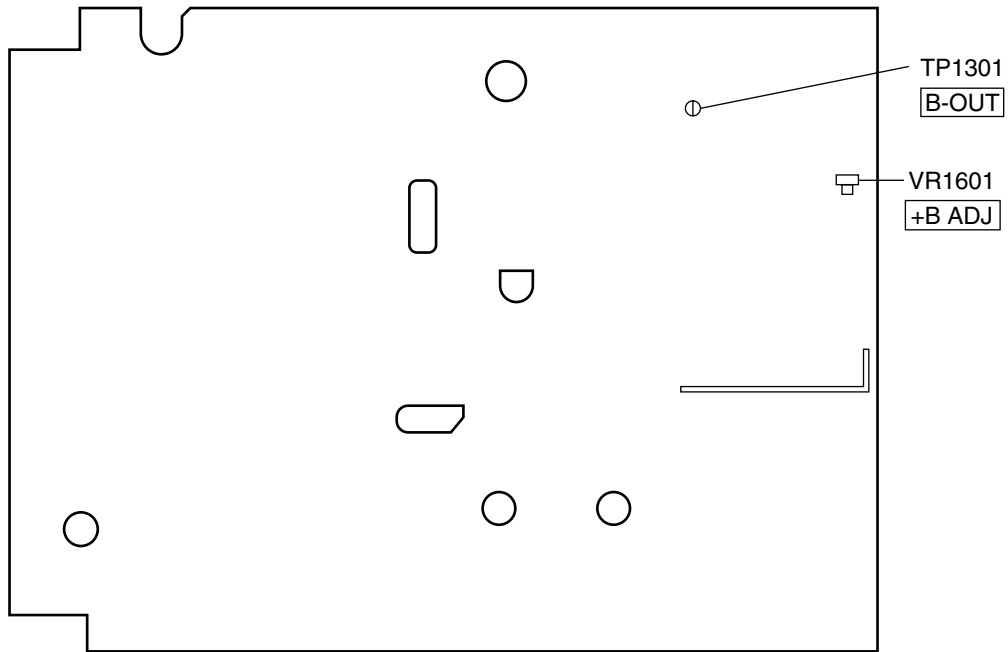


Fig. 11

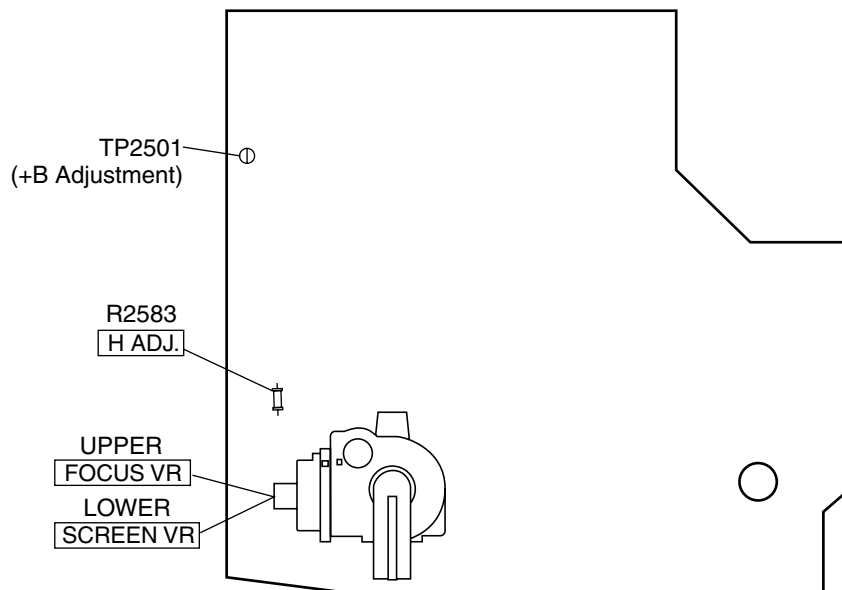
1. Set the unit to the AUX mode which is located before CH2 then input a dot or crosshatch pattern.
2. Loosen the Ring Lock and align red with blue dots or crosshatch at the center of the screen by rotating (RB) C.P. Magnets. (See Fig. 10.)
3. Align red / blue with green dots at the center of the screen by rotating (RB-G) C.P. Magnet. (See Fig. 11.)
4. Fix the C.P. Magnets by tightening the Ring Lock.
5. Remove the DY Wedges and slightly tilt the Deflection Yoke horizontally and vertically to obtain the best overall convergence.
6. Fix the Deflection Yoke by carefully inserting the DY Wedges between CRT and Deflection Yoke.

Adjustment Points and Test Points

Main CBA



Sub CBA



HOW TO INITIALIZE THE TV/DVD/VCR

To put the program back at the factory-default, initialize the TV/DVD/VCR as the following procedure.

< DVD Section >

1. Turn the power on and press [SELECT] button on the remote control unit to put the TV/DVD/VCR into DVD mode.
2. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order. Fig. a appears on the screen.

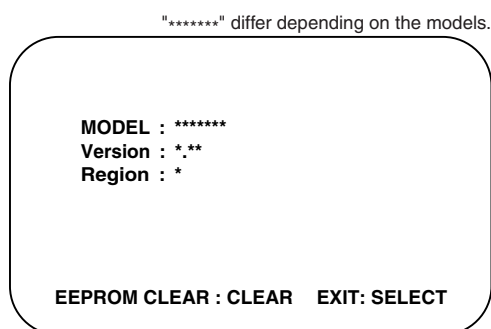


Fig. a

3. Press [CLEAR] button on the remote control unit. Fig. b appears on the screen.

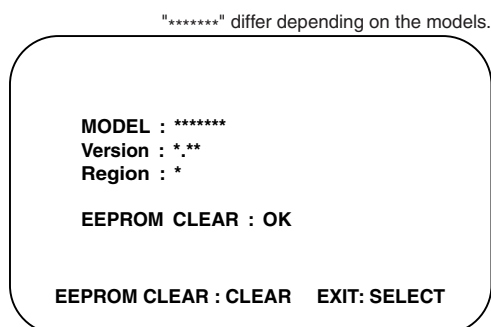


Fig. b

When "OK" appears on the screen, the factory default will be set.

4. To exit this mode, press [CH. ▲ / ▼] or [SELECT] button to go to TV mode, or press [STANDBY-ON] button to turn the power off.

< TV/VCR Section >

1. Use the service remote control unit.
2. Turn the power on. (Use main power on the TV unit.)
3. Press [DISC MENU] button on the service remote control unit to enter the Service mode. (Refer to "How to Set up the Service mode" on page 1-7-1.)
4. Press [VOL ▼] button on the service remote control unit twice, and confirm that OSD indication is "7F = FF." If needed, set it to become "7F = FF" by pressing [CH. ▲ / ▼] buttons on the service remote control unit.
5. Confirm that OSD indication on the four corners on TV screen changes from on and off light indication to red by pressing a [DISPLAY] button. (It is necessary for one or two seconds.)
6. Turn the power off by pressing main power button on the TV unit, and unplug the AC cord from the AC outlet.

FIRMWARE RENEWAL MODE

1. Turn the power on and press [SELECT] button on the remote control unit to put the TV/DVD/VCR into DVD mode. Then remove the disc on the tray. (It is possible to move to F/W version up mode only when the TV/DVD/VCR is in DVD mode with the tray open.)
2. To put the TV/DVD/VCR into F/W version up mode, press [9], [8], [7], [6], and [SEARCH MODE] buttons on the remote control unit in that order. Fig. a appears on the screen.

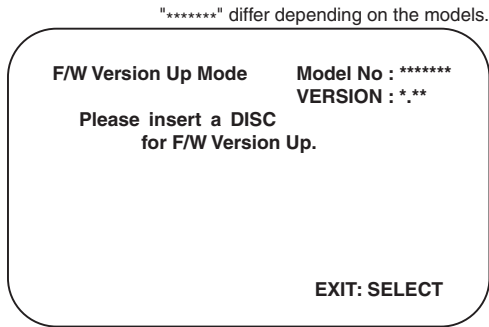


Fig. a Version Up Mode Screen

The TV/DVD/VCR can also enter the version up mode with the tray open. In this case, Fig. a will be shown on the screen while the tray is open.

3. Load the disc for version up.
4. The TV/DVD/VCR enters the F/W version up mode automatically. Fig. b appears on the screen. If you enter the F/W for different models, "Disc Error" will appear on the screen, then the tray will open automatically.

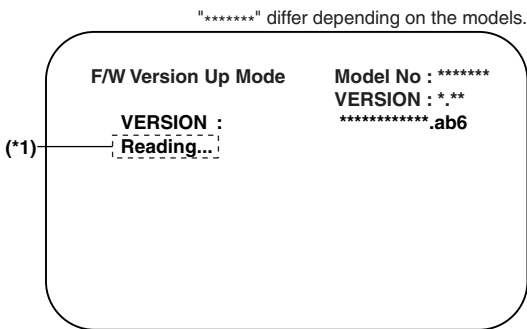


Fig. b Programming Mode Screen

The appearance shown in (*1) of Fig. b is described as follows:

No.	Appearance	State
1	Reading...	Sending files into the memory
2	Erasing...	Erasing previous version data
3	Programming...	Writing new version data

5. After programming is finished, the tray opens automatically. Fig. c appears on the screen and the checksum will be shown in (*2) of Fig. c.

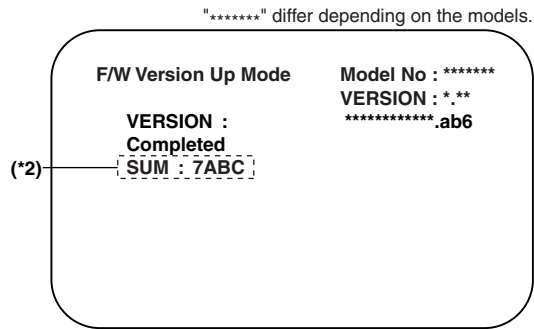


Fig. c Completed Program Mode Screen

At this time, no button is available.

6. Remove the disc on the tray.
7. Press [SELECT] button on the remote control unit to go to TV mode, or press [STANDBY-ON] button on the unit to turn the power off.
8. Press [SELECT] button on the remote control unit to put the TV/DVD/VCR into DVD mode again.
9. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order. Fig. d appears on the screen.

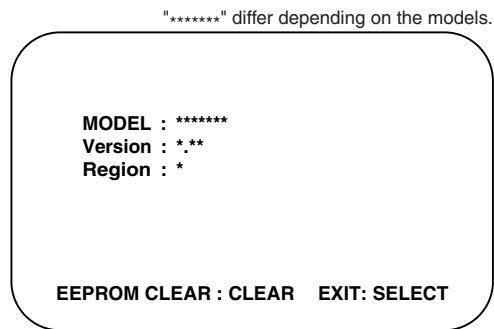


Fig. d

10. Press [CLEAR] button on the remote control unit. Fig. e appears on the screen.

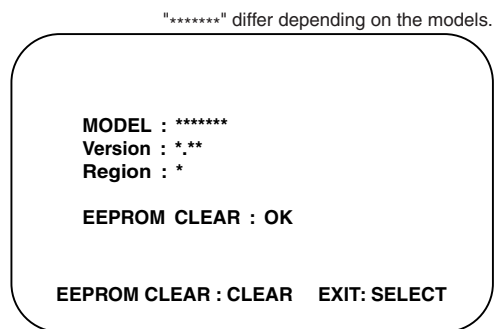


Fig. e

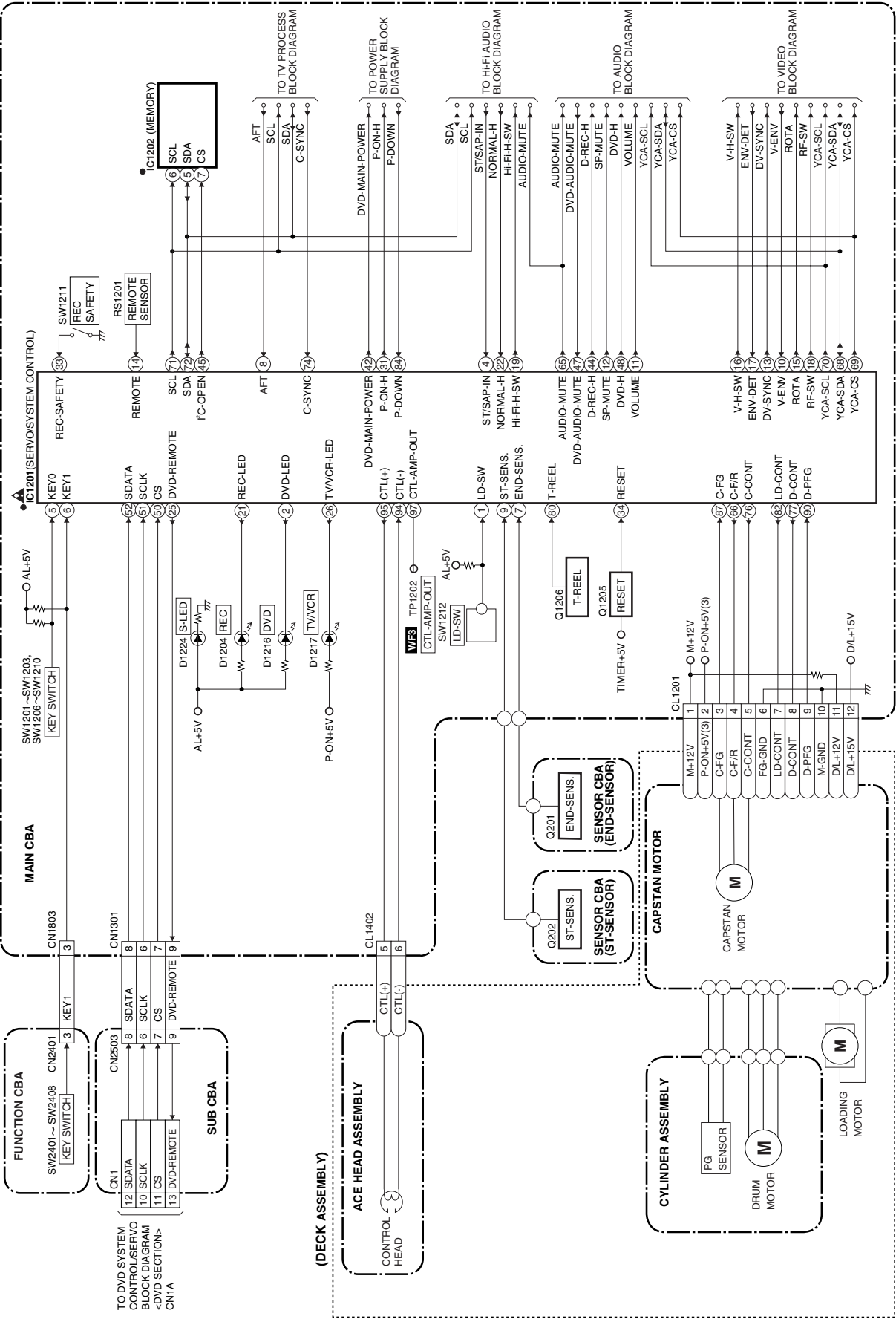
When "OK" appears on the screen, the factory default will be set. Then the firmware renewal mode is complete.

11. To exit this mode, press [CH. ▲ / ▼] or [SELECT] button to go to TV mode, or press [STANDBY-ON] button to turn the power off.

BLOCK DIAGRAMS < TV/VCR Section > System Control / Servo Block Diagram

NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 (CAN DISCONNECT AND RECONNECT)
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY)

TEST POINT INFORMATION
 ○ INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
 □ USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
 ⊗ USED TO INDICATE A TEST POINT WITH NO TEST PIN.
 ● USED TO INDICATE A TEST POINT WITH A TEST PIN.



Video Block Diagram

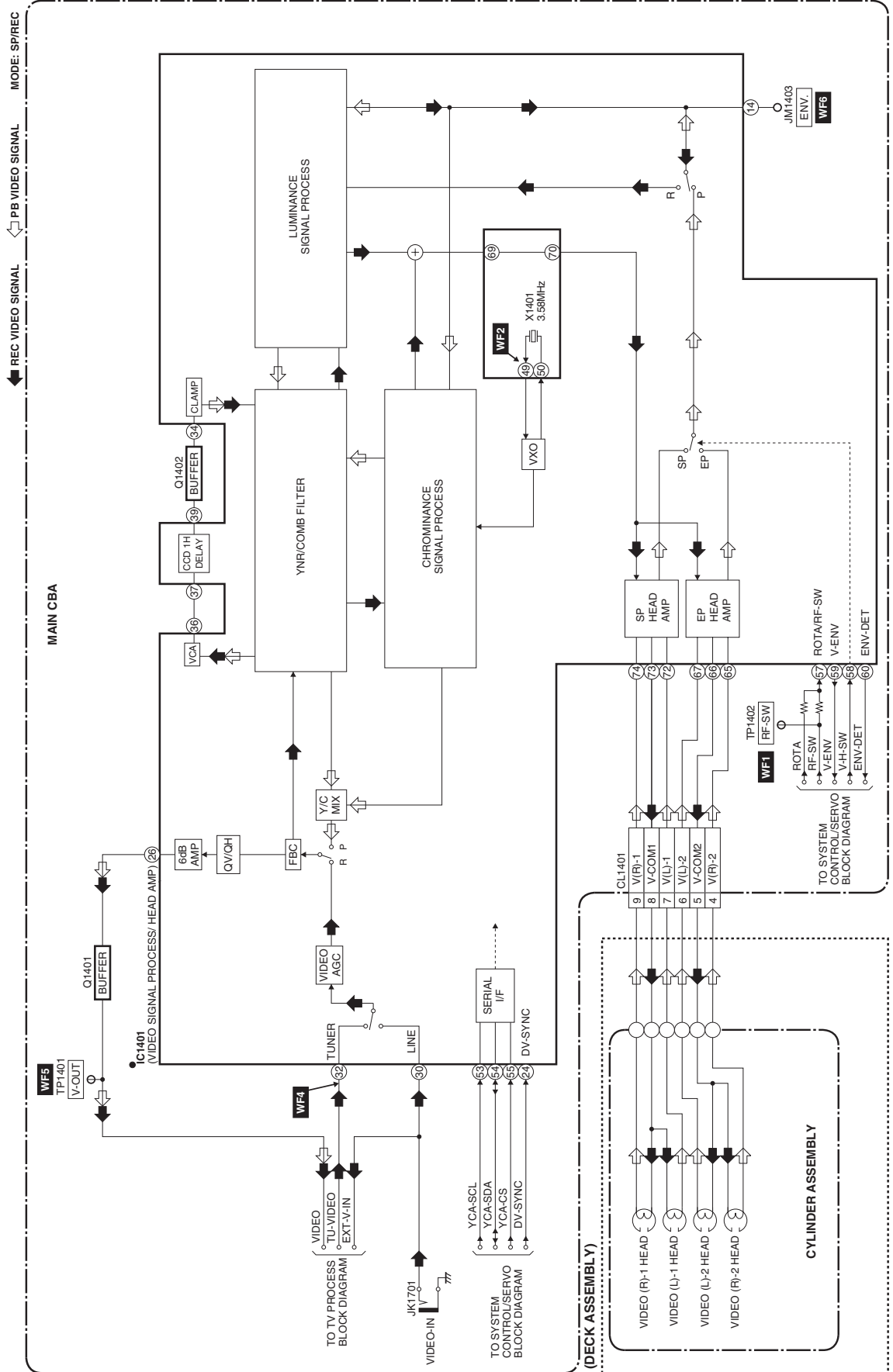
TEST POINT INFORMATION

- :INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
- ◻ :USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
- ⊙ :USED TO INDICATE A TEST POINT WITH NO TEST PIN.
- :USED TO INDICATE A TEST POINT WITH A TEST PIN.

NOTE FOR WIRE CONNECTORS:

1. PREFIX SYMBOL "CN" MEANS CONNECTOR. (CAN DISCONNECT AND RECONNECT)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB. (WIRE IS SOLDERED DIRECTLY)

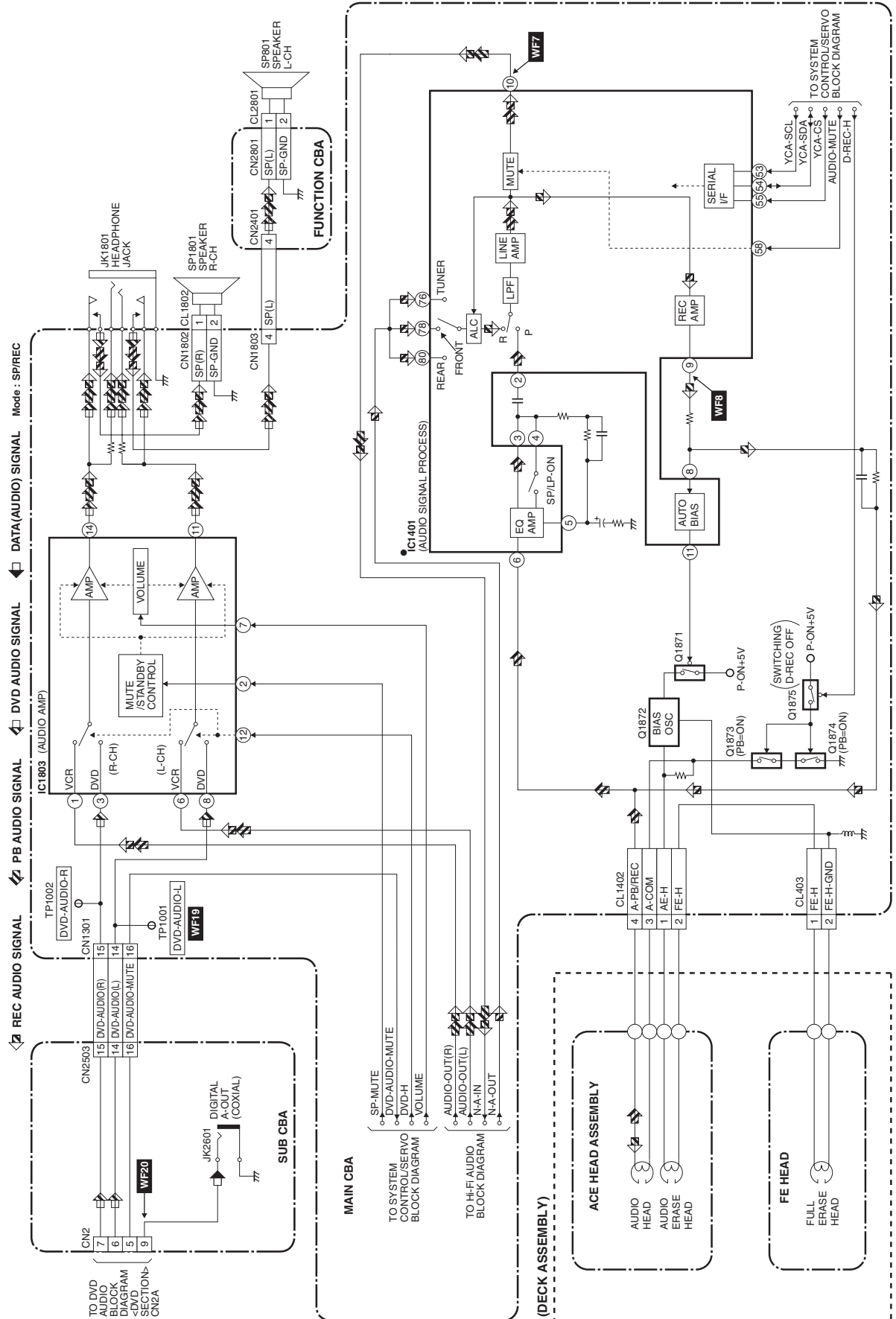
* ● = SMD



Audio Block Diagram

TEST POINT INFORMATION
 ○ INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
 □ USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
 ⊗ USED TO INDICATE A TEST POINT WITH NO TEST PIN.
 ● USED TO INDICATE A TEST POINT WITH A TEST PIN.
 ○● = SMD

NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 (CAN DISCONNECT AND RECONNECT)
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY)



Hi-Fi Audio Block Diagram

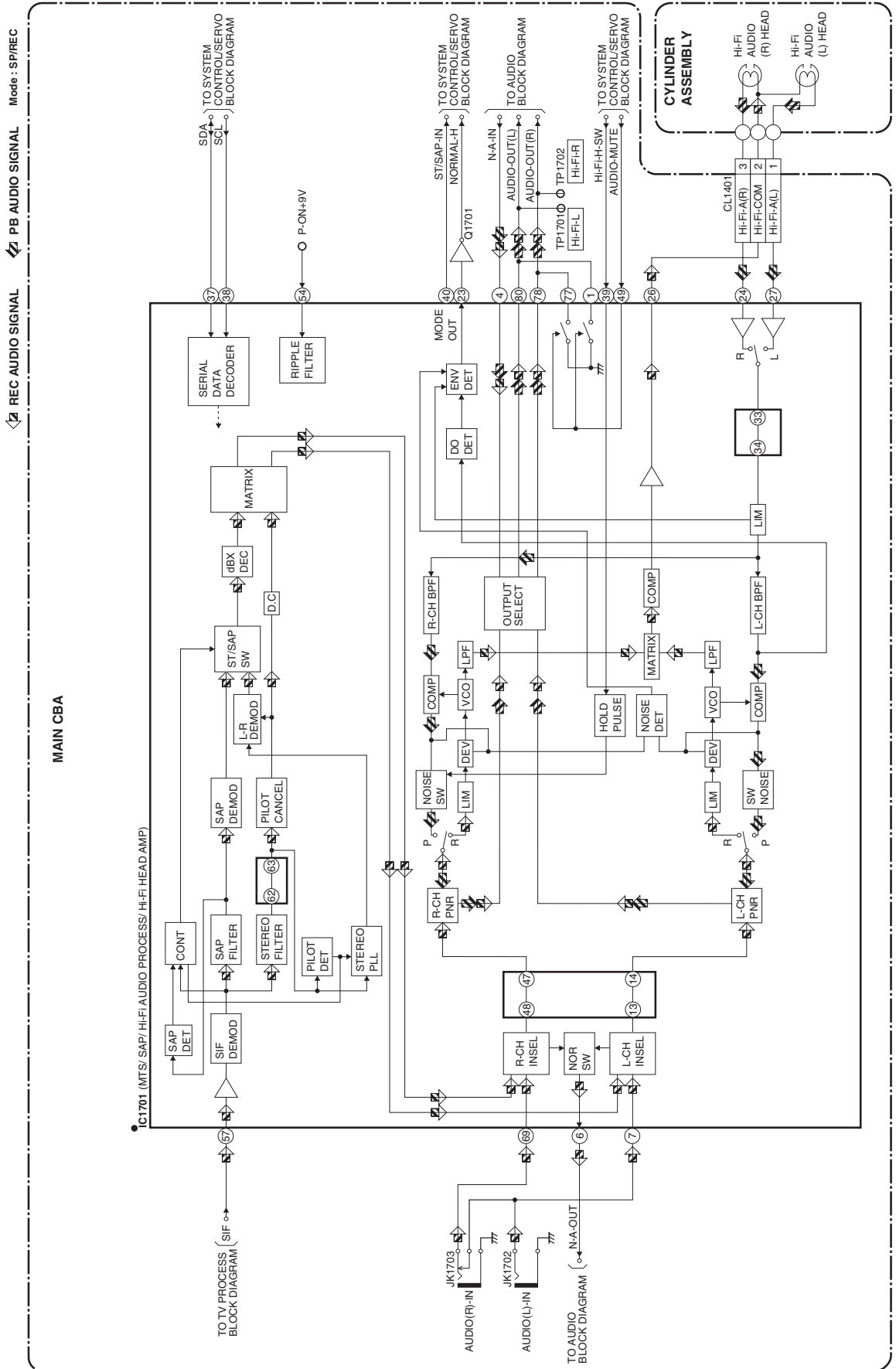
TEST POINT INFORMATION

- :INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
- ◻→ :USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
- ⊗ :USED TO INDICATE A TEST POINT WITH NO TEST PIN.
- :USED TO INDICATE A TEST POINT WITH A TEST PIN.

NOTE FOR WIRE CONNECTORS:

- 1. PREFIX SYMBOL "CN" MEANS CONNECTOR. (CAN DISCONNECT AND RECONNECT)
- 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB (WIRE IS SOLDERED DIRECTLY).

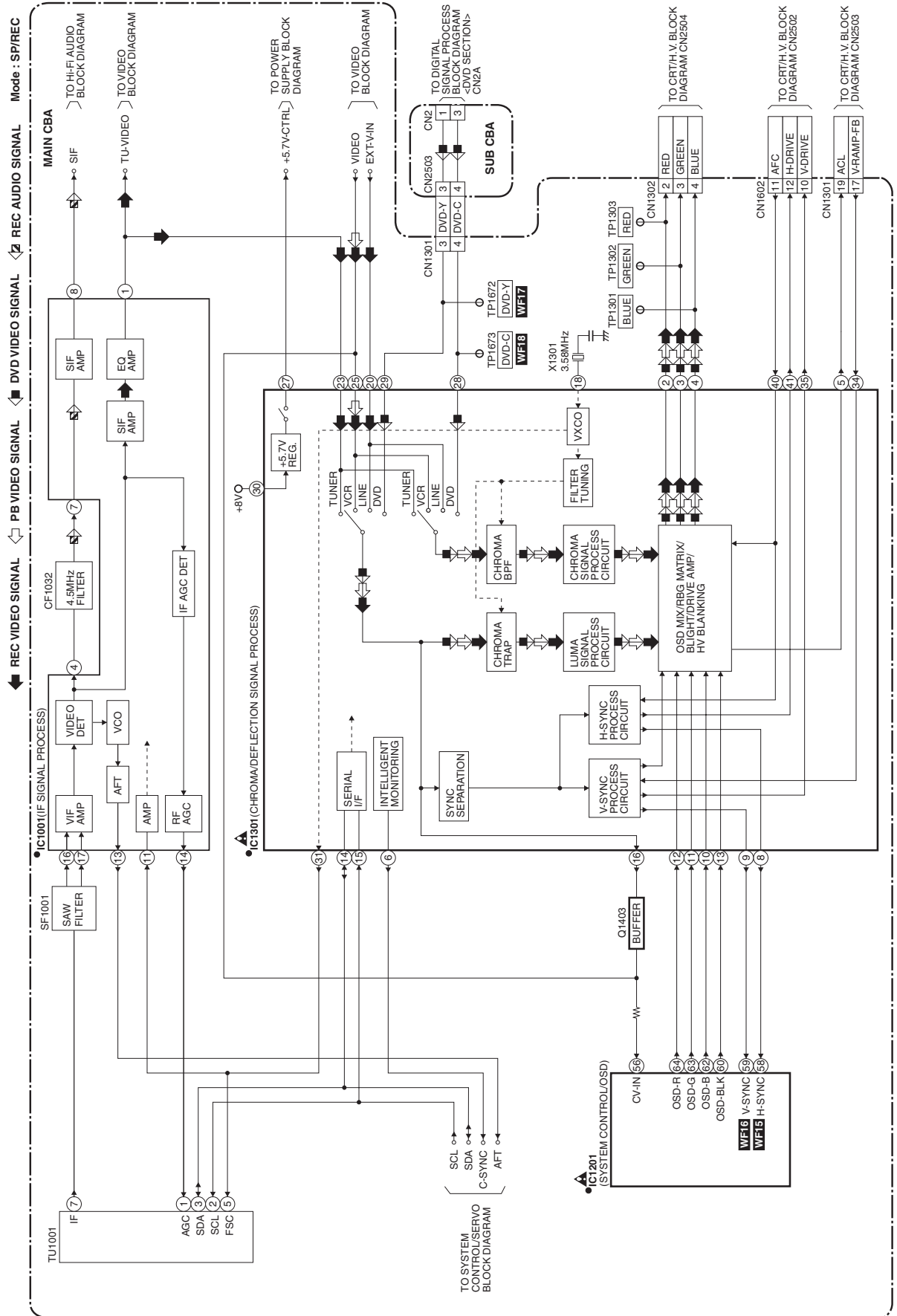
* ● = SMD



TV Process Block Diagram

NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 (CAN DISCONNECT AND RECONNECT)
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY)

TEST POINT INFORMATION
 ○ INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
 ⊕ USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
 ⊙ USED TO INDICATE A TEST POINT WITH NO TEST PIN.
 ● USED TO INDICATE A TEST POINT WITH A TEST PIN.



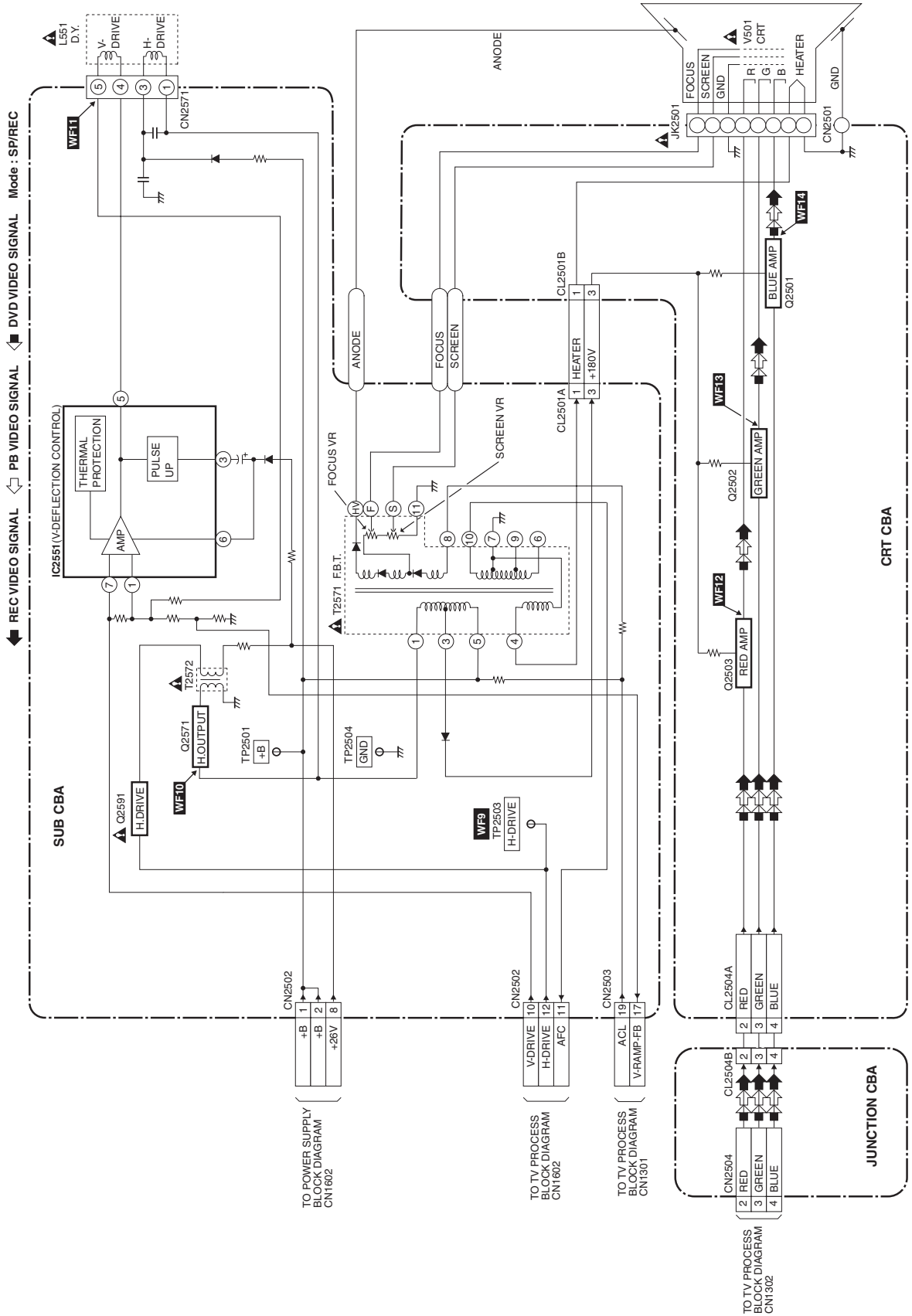
CRT/H.V. Block Diagram

TEST POINT INFORMATION

- :INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
- ⇨ :USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
- ⊗ :USED TO INDICATE A TEST POINT WITH NO TEST PIN.
- :USED TO INDICATE A TEST POINT WITH A TEST PIN.

NOTE FOR WIRE CONNECTORS:

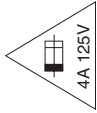
- 1. PREFIX SYMBOL "CN" MEANS CONNECTOR. (CAN DISCONNECT AND RECONNECT)
- 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB. (WIRE IS SOLDERED DIRECTLY)



Power Supply Block Diagram

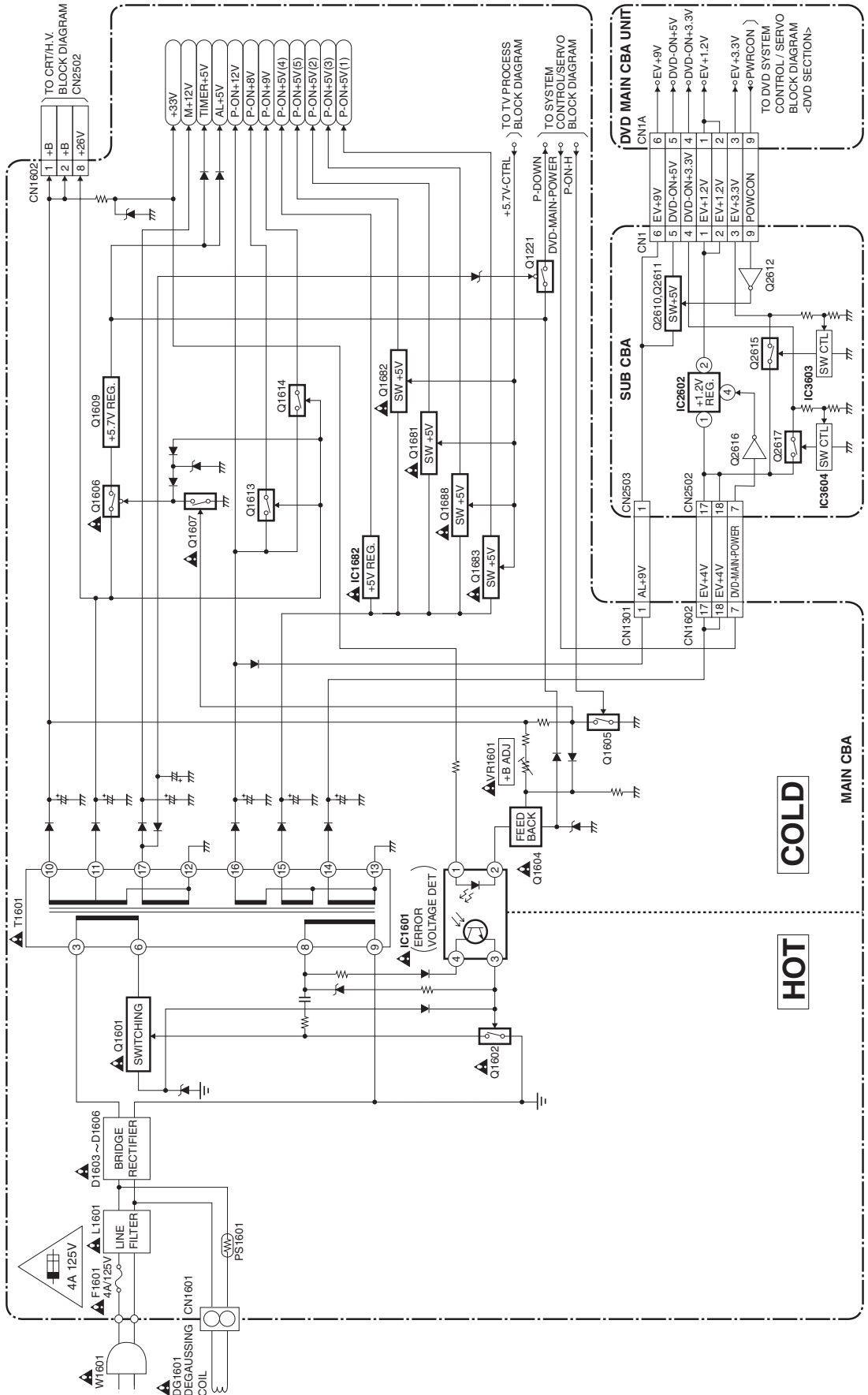
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.



NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

NOTE FOR WIRE CONNECTORS:
1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
(CAN DISCONNECT AND RECONNECT)
2. PREFIX SYMBOL "CI" MEANS WIRE-SOLDER HOLES OF THE PCB.
(WIRE IS SOLDERED DIRECTLY.)

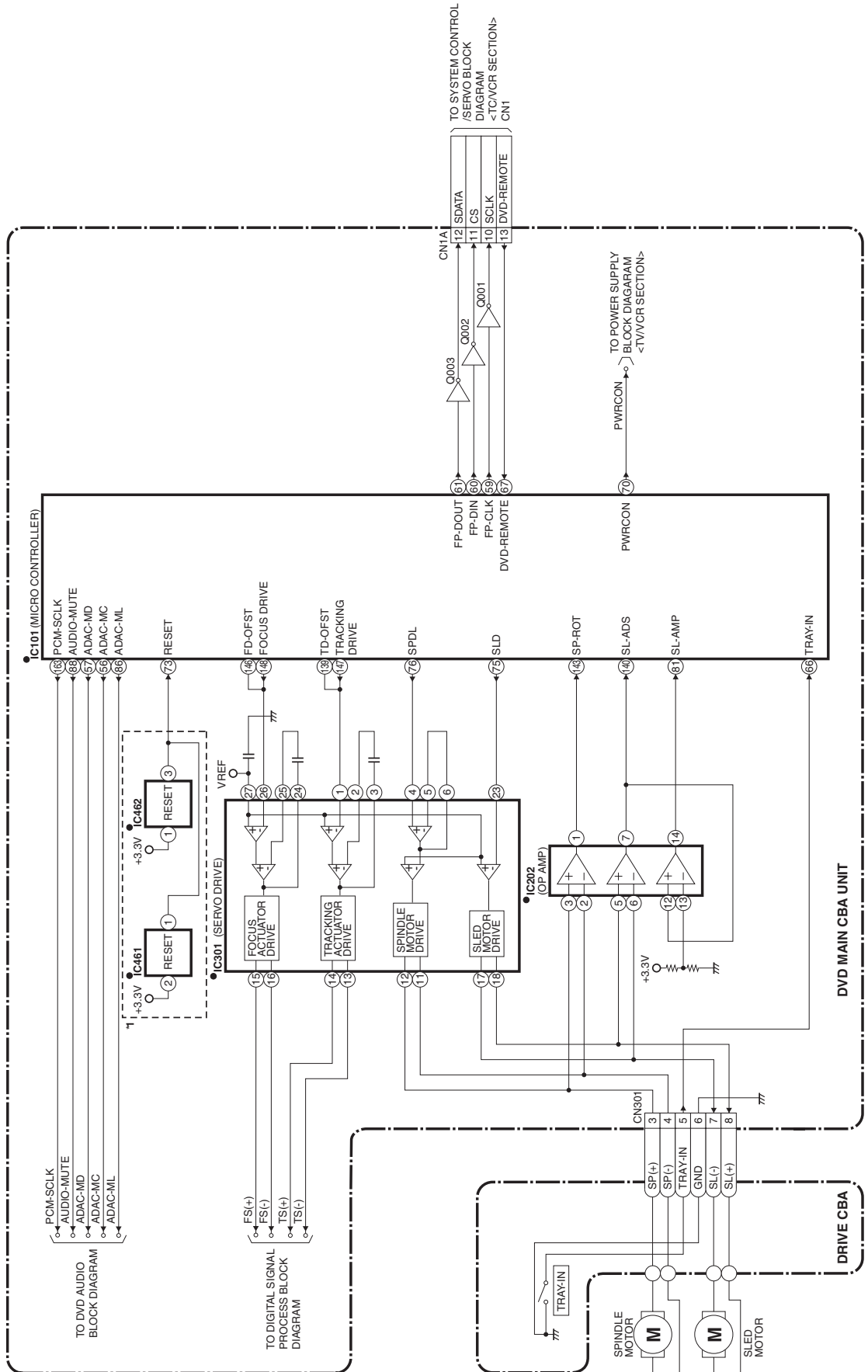


BLOCK DIAGRAMS < DVD Section >

DVD System Control / Servo Block Diagram

NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 1. (CAN DISCONNECT AND RECONNECT)
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY.)

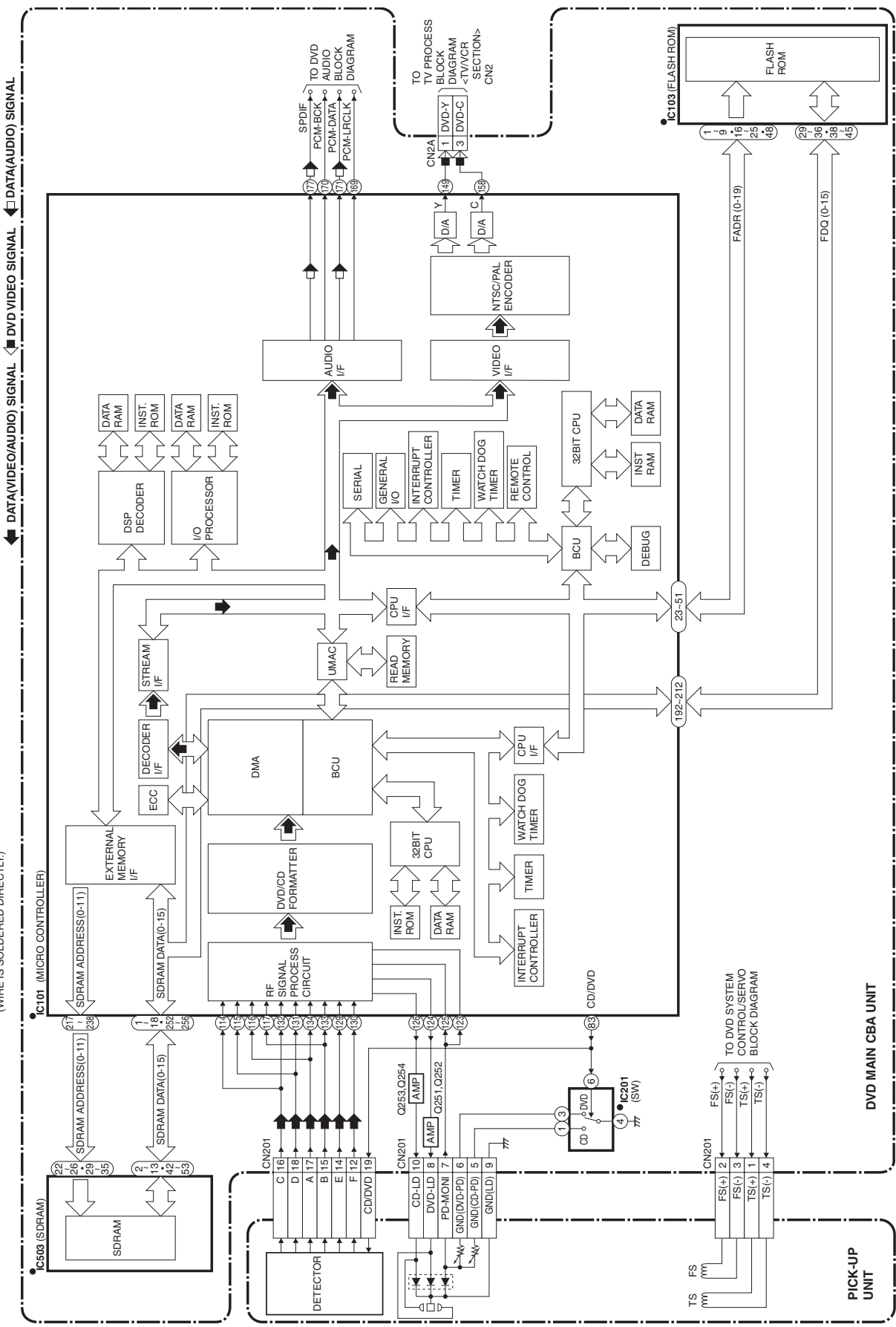
*1 NOTE:
 Either IC461 or IC462 is used for DVD MAIN CBA UNIT.



Digital Signal Process Block Diagram

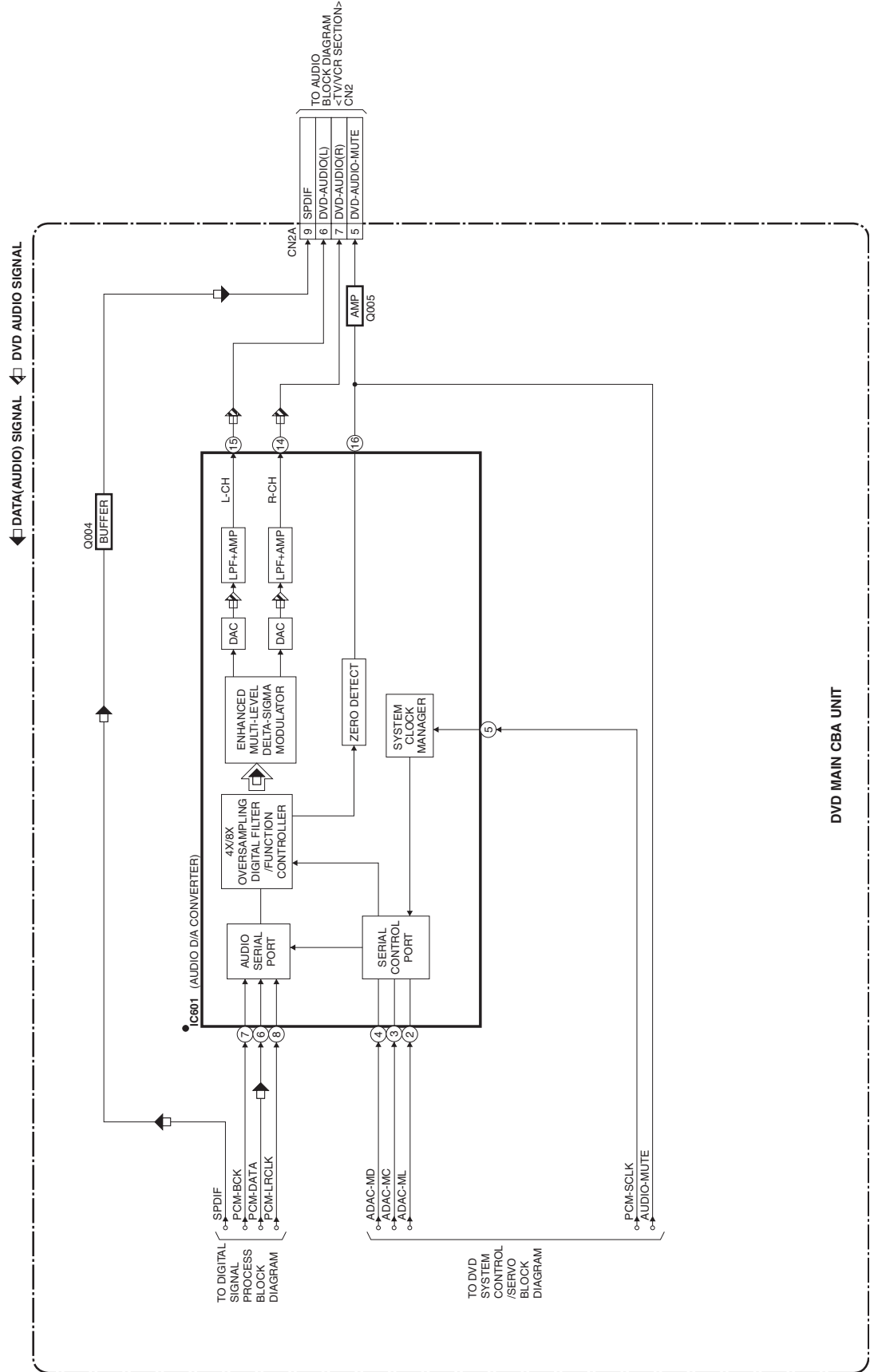
NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 (CAN DISCONNECT AND RECONNECT)
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY)

• = SMD



DVD Audio Block Diagram



NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 (CAN DISCONNECT AND RECONNECT)
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER
 HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY)
 * • = SMD



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

Critical components having special safety characteristics are identified with a  by the Ref. No. in the parts list and enclosed within a broken line* (where several critical components are grouped in one area) along with the safety symbol  on the schematics or exploded views.

Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire or other hazards.

Under no circumstances should the original design be modified or altered without written permission from Philips Consumer Electronics Company. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.

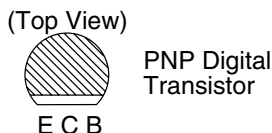
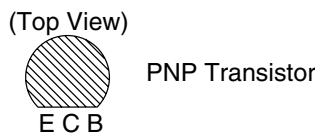
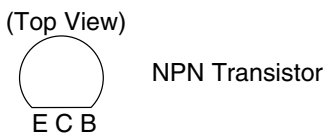
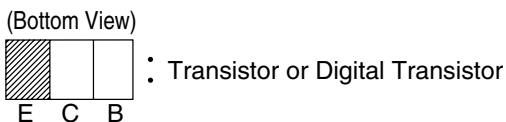
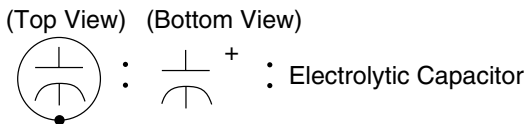
* Broken Line : 

Capacitor Temperature Markings

Mark	Capacity change rate	Standard temperature	Temperature range
(B)	±10%	20°C	-25~+85°C
(F)	±30 - 80%	20°C	-25~+85°C
(SR)	±15%	20°C	-25~+85°C
(Y)	±22.5%	20°C	-25~+85°C

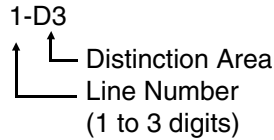
Capacitors and transistors are represented by the following symbols.

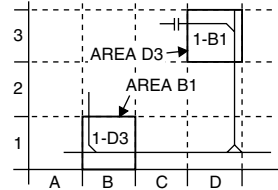
< PCB Symbols >



Notes:

- Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
- To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.
- How to read converged lines.

1-D3

 Distinction Area
 Line Number
 (1 to 3 digits)

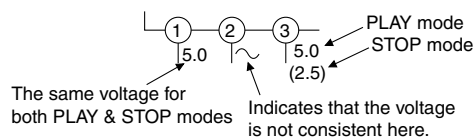


Examples:

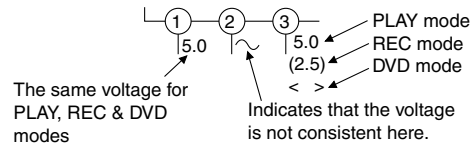
- "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
- "1-B1" means that line number "1" goes to the line number "1" of the area "B1".
- All resistance values are indicated in ohms ($K = 10^3$, $M = 10^6$).
- Resistor wattages are 1/6W unless otherwise specified.
- All capacitance values are indicated in μF ($P = 10^{-6} \mu F$).
- All voltages are DC voltages unless otherwise specified.
- Voltage indications for PLAY and REC modes on the schematics are as shown below.

< DVD Section >

Unit: Volts

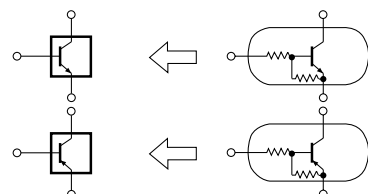


< TV/VCR Section >



< Schematic Diagram Symbols >

Digital Transistor

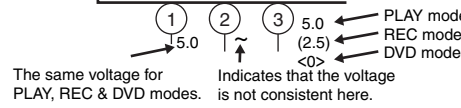


Main 1/6 Schematic Diagram Parts Location Guide

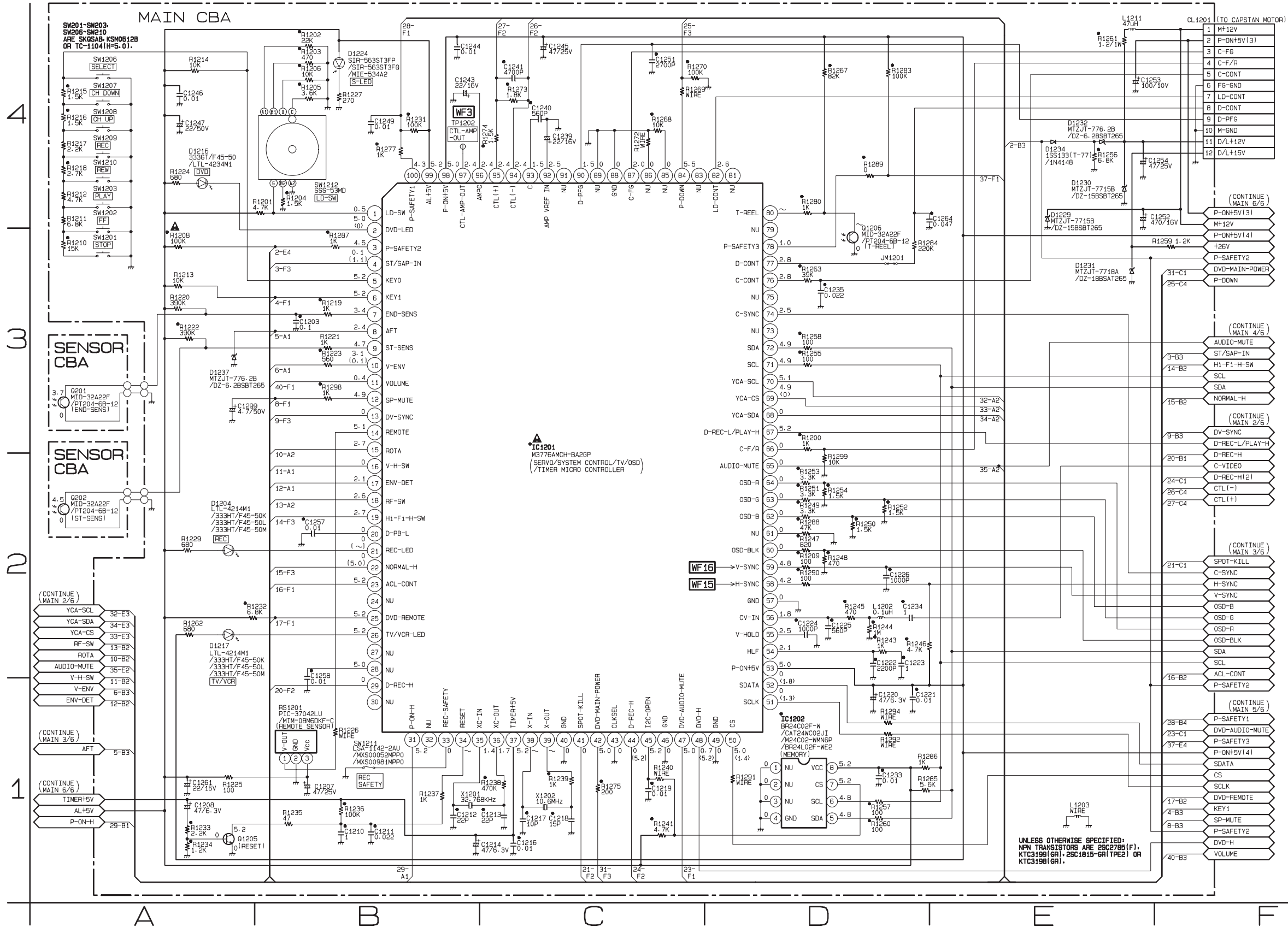
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		RESISTORS		RESISTORS	
C1203	B-3	D1204	A-2	R1222	A-3	R1270	C-4
C1207	B-1	D1216	A-4	R1223	B-3	R1272	C-4
C1208	A-1	D1217	A-2	R1224	A-4	R1273	C-4
C1210	B-1	D1224	B-4	R1225	A-1	R1274	C-4
C1211	B-1	D1229	E-4	R1226	B-1	R1275	C-1
C1212	B-1	D1230	E-4	R1227	B-4	R1277	B-4
C1213	C-1	D1231	E-3	R1229	A-2	R1280	B-4
C1214	C-1	D1232	E-4	R1231	B-4	R1283	D-4
C1216	C-1	D1234	E-4	R1232	A-2	R1284	D-3
C1217	C-1	D1237	A-3	R1233	A-1	R1285	D-1
C1218	C-1	ICS		R1234	A-1	R1286	D-1
C1219	C-1	IC1201	C-3	R1235	B-1	R1287	B-3
C1220	D-1	IC1202	D-1	R1236	B-1	R1288	D-2
C1221	D-1	COILS		R1237	B-1	R1289	D-4
C1222	D-2	L1202	D-2	R1238	C-1	R1290	D-2
C1223	D-2	L1203	E-1	R1239	C-1	R1291	D-1
C1224	D-2	L1211	E-4	R1240	C-1	R1292	D-1
C1225	D-2	TRANSISTORS		R1241	C-1	R1294	D-1
C1226	D-2	Q1205	A-1	R1243	D-2	R1298	B-3
C1233	D-1	Q1206	D-3	R1244	D-2	R1299	D-2
C1234	D-2	RESISTORS		R1245	D-2	SWITCHES	
C1235	D-3	R1200	D-3	R1246	D-2	SW1201	A-3
C1239	C-4	R1201	A-4	R1247	D-2	SW1202	A-4
C1240	C-4	R1202	B-4	R1248	D-2	SW1203	A-4
C1241	C-4	R1203	B-4	R1249	D-2	SW1206	A-4
C1243	B-4	R1204	B-4	R1250	D-2	SW1207	A-4
C1244	B-4	R1205	B-4	R1251	D-2	SW1208	A-4
C1245	C-4	R1206	B-4	R1252	D-2	SW1209	A-4
C1246	A-4	R1208	A-3	R1253	D-2	SW1210	A-4
C1247	A-4	R1209	D-2	R1254	D-2	SW1211	B-1
C1249	B-4	R1210	A-3	R1255	D-3	SW1212	B-4
C1251	C-4	R1211	A-4	R1256	E-4	CRYSTAL OSCILLATORS	
C1252	E-4	R1212	A-4	R1257	D-1	X1201	B-1
C1253	E-4	R1213	A-3	R1258	D-3	X1202	C-1
C1254	E-4	R1214	A-4	R1259	F-3	MISCELLANEOUS	
C1257	B-2	R1215	A-4	R1260	D-1	RS1201	B-1
C1258	B-2	R1216	A-4	R1261	E-4	TEST POINT	
C1261	A-1	R1217	A-4	R1262	A-2	TP1202	B-4
C1264	E-4	R1218	A-4	R1263	D-3		
C1299	A-3	R1219	B-3	R1267	D-4		
CONNECTOR		R1220	A-3	R1268	C-4		
CL1201	F-4	R1221	B-3	R1269	C-4		

Main 1/6 & Sensor Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



● = SMD

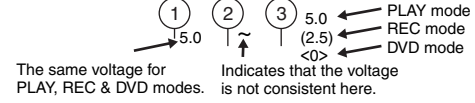


UNLESS OTHERWISE SPECIFIED:
NPN TRANSISTORS ARE 2SC2785(F),
KTC3199(6R), 2SC1815-6R(TPE2) OR
KTC3198(6R).

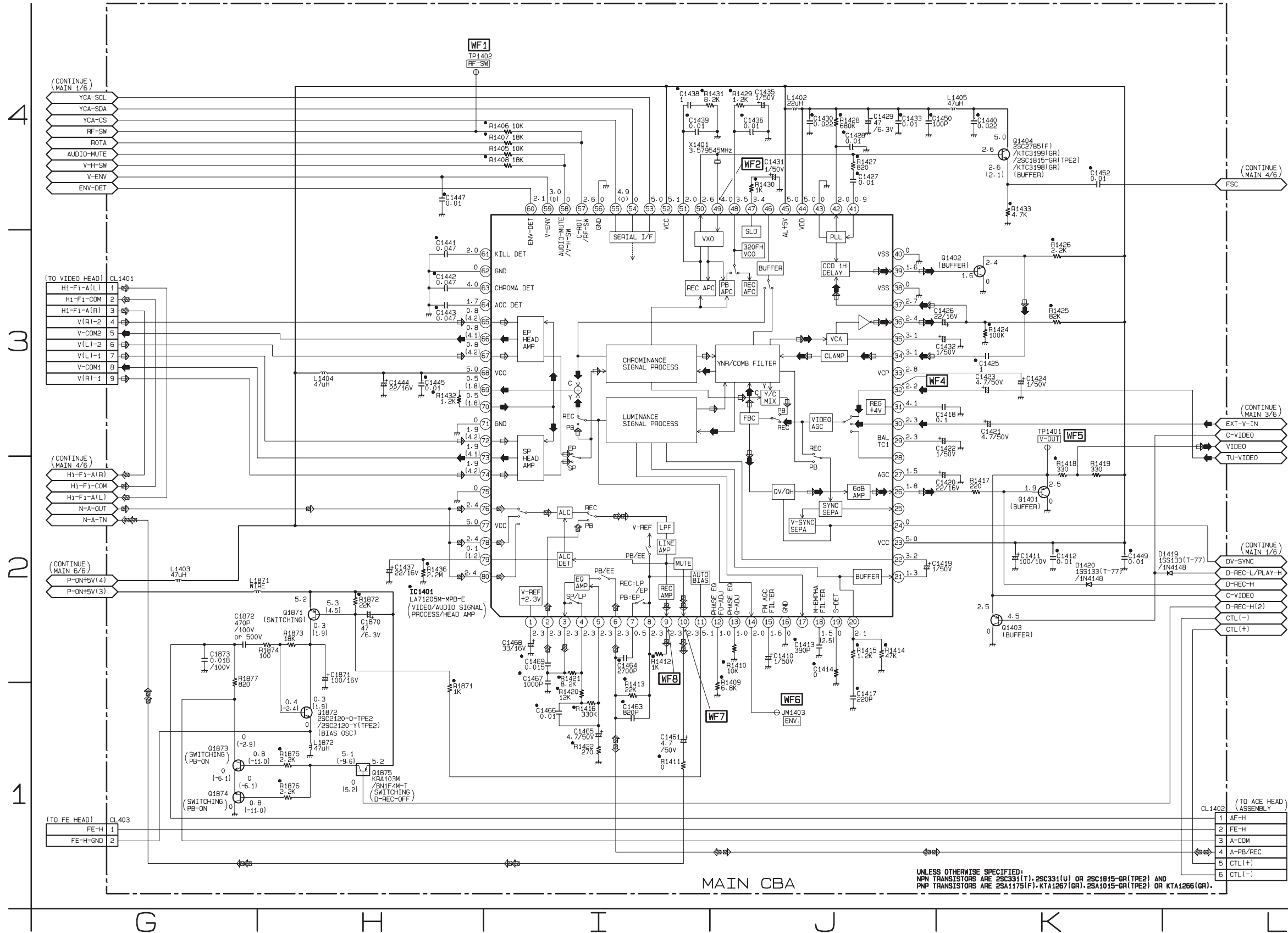
Main 2/6 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:

"●" = SMD



REC VIDEO SIGNAL PB VIDEO SIGNAL REC AUDIO SIGNAL PB AUDIO SIGNAL



MAIN CBA

UNLESS OTHERWISE SPECIFIED:
 NPN TRANSISTORS ARE 2SC331(T), 2SC331(U) OR 2SC1815-GR(TPE2) AND
 PNP TRANSISTORS ARE 2SA1175(F), KTA1257(GR), 2SA1015-GR(TPE2) OR KTA1256(GR).

CL1402 (TO ACE HEAD) (ASSEMBLY)	
1	AE-H
2	FE-H
3	A-COM
4	A-PB/REC
5	CTL(+)
6	CTL(-)

Main 2/6 Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		COILS		RESISTORS	
C1410	J-2	C1443	H-3	L1403	G-2	R1419	K-2
C1411	K-2	C1444	H-3	L1404	H-3	R1420	I-1
C1412	K-2	C1445	H-3	L1405	K-4	R1421	I-2
C1413	J-2	C1447	H-4	L1871	G-2	R1422	I-1
C1414	J-2	C1449	K-2	L1872	H-1	R1424	K-3
C1417	J-1	C1450	J-4	TRANSISTORS		R1425	K-3
C1418	K-3	C1452	K-4	Q1401	K-2	R1426	K-3
C1419	J-2	C1461	I-1	Q1402	K-3	R1427	J-4
C1420	K-2	C1463	I-1	Q1403	K-2	R1428	J-4
C1421	K-3	C1464	I-2	Q1404	K-4	R1429	J-4
C1422	K-3	C1465	I-1	Q1871	H-2	R1430	J-4
C1423	K-3	C1466	I-1	Q1872	H-1	R1431	I-4
C1424	K-3	C1467	I-2	Q1873	G-1	R1432	H-3
C1425	K-3	C1468	I-2	Q1874	G-1	R1433	K-4
C1426	K-3	C1469	I-2	Q1875	H-1	R1436	H-2
C1427	J-4	C1870	H-2	RESISTORS		R1871	H-1
C1428	J-4	C1871	H-2	R1405	I-4	R1872	H-2
C1429	J-4	C1872	G-2	R1406	I-4	R1873	H-2
C1430	J-4	C1873	G-2	R1407	I-4	R1874	H-2
C1431	J-4	CONNECTORS		R1408	I-4	R1875	H-1
C1432	K-3	CL403	G-1	R1409	J-1	R1876	H-1
C1433	J-4	CL1401	G-3	R1410	J-2	R1877	G-2
C1435	J-4	CL1402	L-1	R1411	I-1	CRYSTAL OSCILLATOR	
C1436	J-4	DIODES		R1412	I-2	X1401	I-4
C1437	H-2	D1419	L-2	R1413	I-1	TEST POINTS	
C1438	I-4	D1420	K-2	R1414	J-2	JM1403	J-1
C1439	I-4	IC		R1415	J-2	TP1401	K-3
C1440	K-4	IC1401	H-2	R1416	I-1	TP1402	H-4
C1441	H-3	COILS		R1417	K-2		
C1442	H-3	L1402	J-4	R1418	K-2		

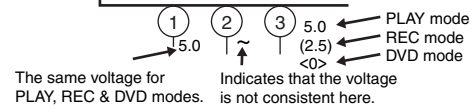
Main 3/6 Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		COILS		RESISTORS	
C1001	Q-1	C1322	N-2	L1032	P-1	R1317	N-4
C1002	Q-1	C1323	N-2	L1033	Q-2	R1320	N-2
C1003	Q-1	C1325	N-2	L1302	Q-3	R1329	M-4
C1004	P-1	C1332	N-2	TRANSISTOR		R1333	N-2
C1005	Q-1	C1333	N-2	Q1350	Q-3	R1334	O-2
C1007	Q-1	C1336	O-2	RESISTORS		R1335	O-2
C1008	Q-1	C1337	O-2	R1002	P-1	R1336	O-2
C1030	Q-3	C1338	O-2	R1003	P-1	R1337	O-2
C1031	Q-3	C1339	O-2	R1032	Q-3	R1340	O-2
C1034	Q-3	C1342	O-1	R1033	Q-3	R1350	Q-4
C1035	Q-3	C1343	O-1	R1034	Q-3	R1351	Q-4
C1037	P-2	C1350	Q-4	R1037	Q-3	R1352	Q-3
C1038	P-1	C1394	O-1	R1038	P-3	R1355	N-2
C1040	Q-2	CONNECTOR		R1039	P-3	R1356	N-2
C1041	Q-1	CN1302	R-4	R1040	Q-2	R1701	M-3
C1043	Q-2	DIODES		R1041	P-3	R1702	M-3
C1044	Q-2	D1302	P-4	R1042	P-3	R1703	N-3
C1045	Q-2	D1303	P-4	R1043	P-3	CRYSTAL OSCILLATOR	
C1046	Q-3	D1304	P-4	R1049	P-3	X1301	N-3
C1049	Q-3	D1305	O-1	R1050	P-3	MISCELLANEOUS	
C1050	Q-2	D1311	M-4	R1301	P-4	CF1032	P-3
C1301	O-1	D1318	M-4	R1303	P-4	JK1701	M-3
C1309	N-3	D1350	Q-3	R1305	P-4	SF1001	P-1
C1310	O-2	D1351	M-4	R1308	N-2	TU1001	Q-1
C1311	O-1	D1353	O-1	R1310	M-3	TEST POINTS	
C1314	N-3	ICS		R1311	M-4	TP1301	P-4
C1316	N-4	IC1001	Q-2	R1312	O-3	TP1302	P-4
C1317	N-4	IC1301	N-2	R1313	N-4	TP1303	P-4
C1318	M-4	COILS		R1314	N-3		
C1319	N-3	L1001	Q-1	R1315	N-3		
C1321	N-2	L1031	Q-3	R1316	N-4		

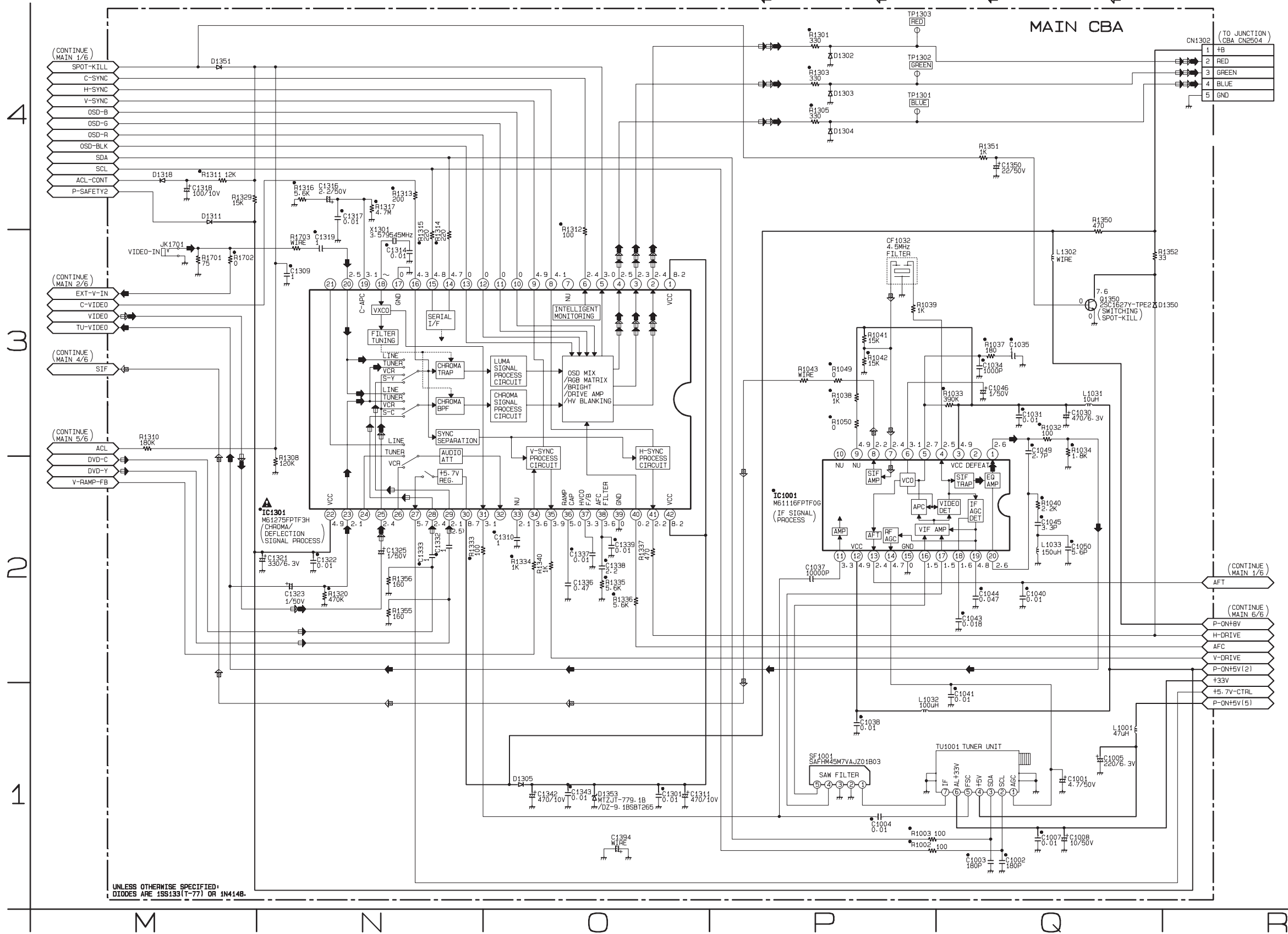
Main 3/6 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:

• = SMD



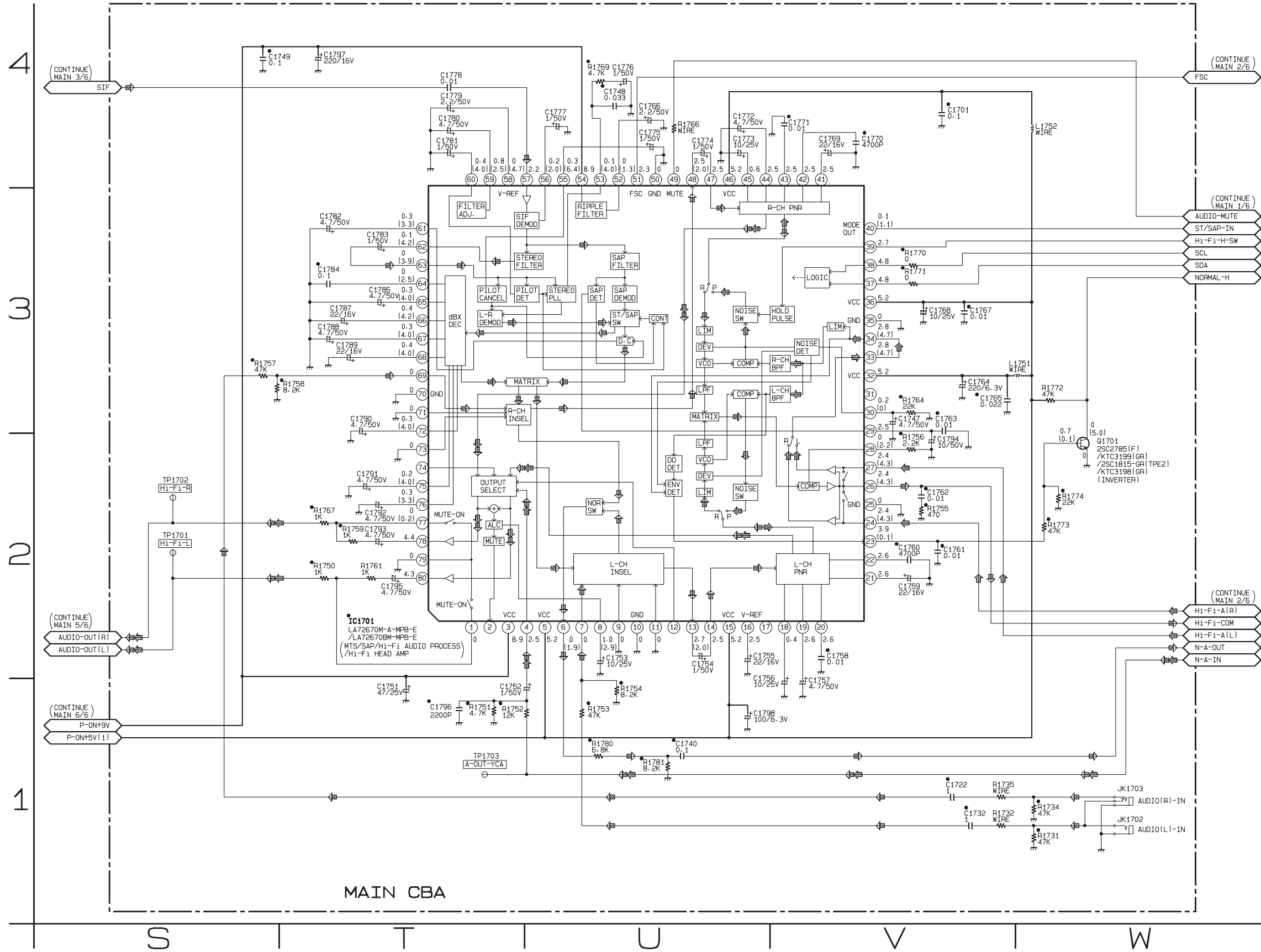
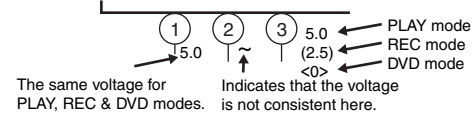
REC VIDEO SIGNAL PB VIDEO SIGNAL DVD VIDEO SIGNAL REC AUDIO SIGNAL



UNLESS OTHERWISE SPECIFIED:
DIODES ARE 1SS133(T-77) OR 1N4148.

Main 4/6 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



Main 4/6 Schematic Diagram Parts Location Guide

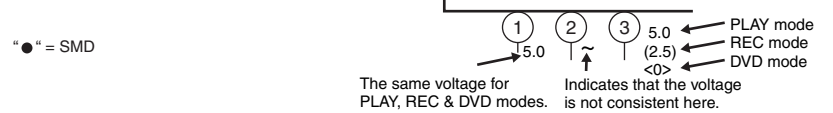
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		CAPACITORS		RESISTORS	
C1701	V-4	C1768	V-3	C1793	T-2	R1756	V-2
C1722	V-1	C1769	V-4	C1794	V-2	R1757	S-3
C1732	V-1	C1770	V-4	C1795	T-2	R1758	T-3
C1740	U-1	C1771	V-4	C1796	T-1	R1759	T-2
C1747	V-3	C1772	U-4	C1797	T-4	R1761	T-2
C1748	U-4	C1773	U-4	C1798	U-1	R1764	V-3
C1749	S-4	C1774	U-4	IC		R1766	U-4
C1751	T-1	C1775	U-4	IC1701	T-2	R1767	T-2
C1752	T-1	C1776	U-4	COILS		R1769	U-4
C1753	U-2	C1777	U-4	L1751	V-3	R1770	V-3
C1754	U-2	C1778	T-4	L1752	W-4	R1771	V-3
C1755	U-2	C1779	T-4	TRANSISTOR		R1772	W-3
C1756	U-1	C1780	T-4	Q1701	W-2	R1773	W-2
C1757	V-1	C1781	T-4	RESISTORS		R1774	W-2
C1758	V-2	C1782	T-3	R1731	W-1	R1780	U-1
C1759	V-2	C1783	T-3	R1732	V-1	R1781	U-1
C1760	V-2	C1784	T-3	R1734	W-1	MISCELLANEOUS	
C1761	V-2	C1786	T-3	R1735	V-1	JK1702	W-1
C1762	V-2	C1787	T-3	R1750	T-2	JK1703	W-1
C1763	V-3	C1788	T-3	R1751	T-1	TEST POINTS	
C1764	V-3	C1789	T-3	R1752	T-1	TP1701	S-2
C1765	V-3	C1790	T-3	R1753	U-1	TP1702	S-2
C1766	U-4	C1791	T-2	R1754	U-1	TP1703	T-1
C1767	V-3	C1792	T-2	R1755	V-2		

Main 5/6 Schematic Diagram Parts Location Guide

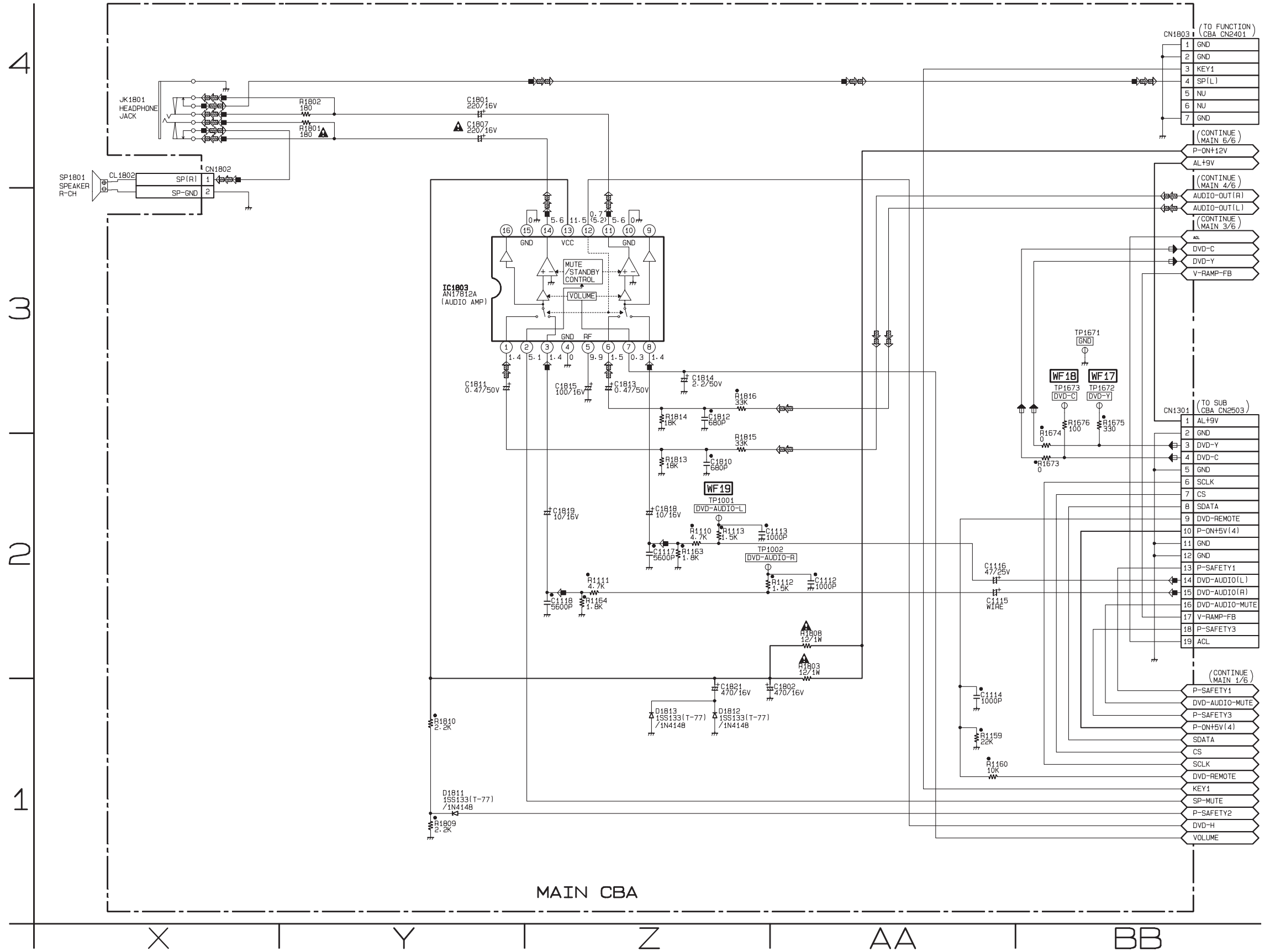
Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CONNECTORS		RESISTORS	
C1112	AA-2	CN1802	X-4	R1801	Y-4
C1113	Z-2	CN1803	BB-4	R1802	Y-4
C1114	AA-1	DIODES		R1803	AA-2
C1115	AA-2	D1811	Y-1	R1808	AA-2
C1116	AA-2	D1812	Z-1	R1809	Y-1
C1117	Z-2	D1813	Z-1	R1810	Y-1
C1118	Z-2	IC		R1813	Z-2
C1801	Y-4	IC1803	Y-3	R1814	Z-3
C1802	AA-1	RESISTORS		R1815	Z-2
C1807	Y-4	R1110	Z-2	R1816	Z-3
C1810	Z-2	R1111	Z-2	MISCELLANEOUS	
C1811	Y-3	R1112	AA-2	JK1801	X-4
C1812	Z-3	R1113	Z-2	TEST POINTS	
C1813	Z-3	R1159	AA-1	TP1001	Z-2
C1814	Z-3	R1160	AA-1	TP1002	Z-2
C1815	Z-3	R1163	Z-2	TP1671	BB-3
C1818	Z-2	R1164	Z-2	TP1672	BB-3
C1819	Z-2	R1673	BB-2	TP1673	BB-3
C1821	Z-1	R1674	BB-2		
CONNECTORS		R1675	BB-3		
CN1301	BB-3	R1676	BB-3		

Main 5/6 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



◀ DVD VIDEO SIGNAL ◀ REC AUDIO SIGNAL ◀ PB AUDIO SIGNAL ◀ DVD AUDIO SIGNAL



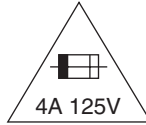
Main 6/6 Schematic Diagram < TV/VCR Section >

CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

NOTE:

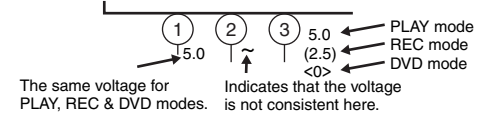
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



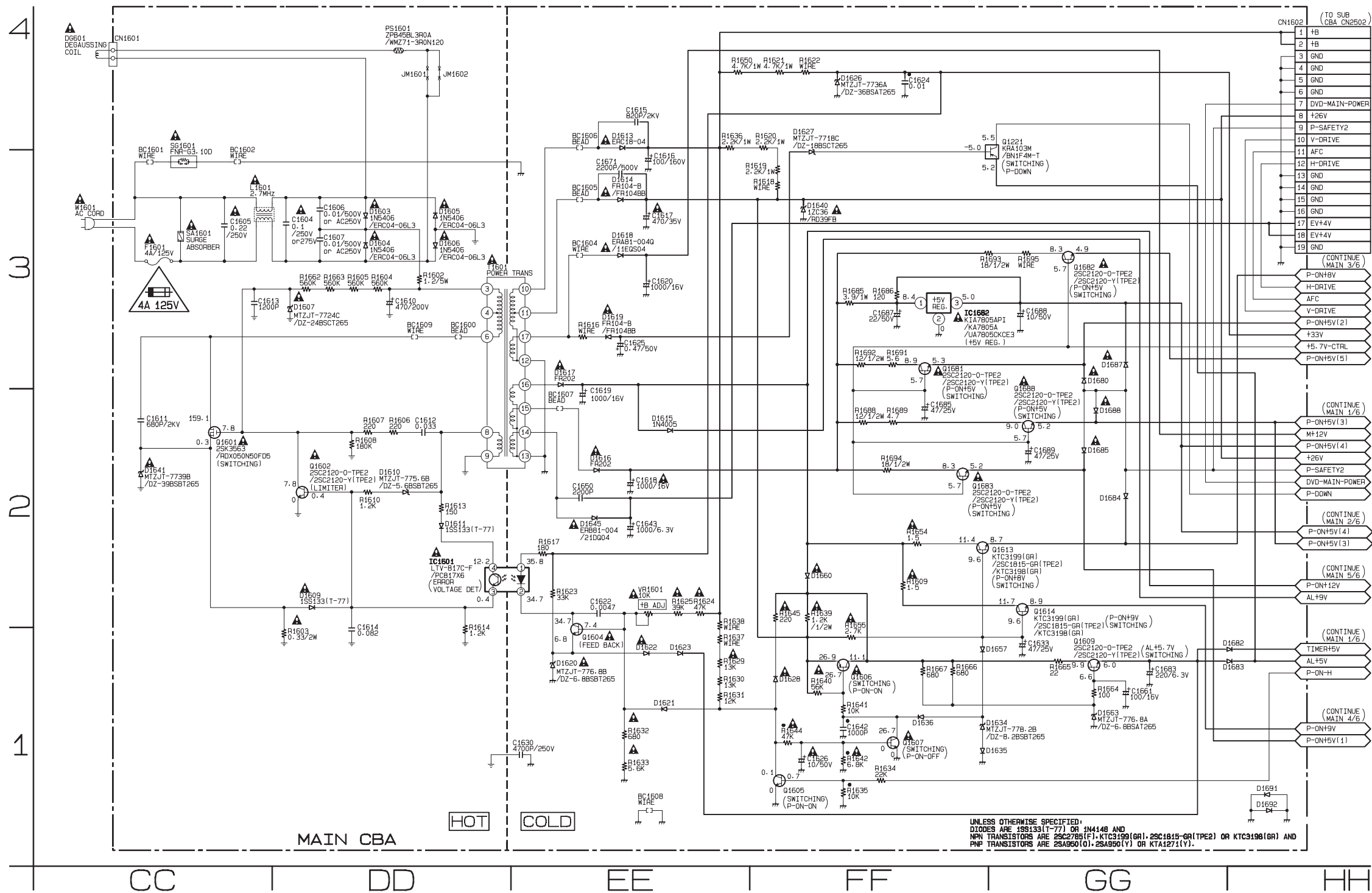
CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.

ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



"●" = SMD



VOLTAGE CHART (Power off mode)

Ref. No.	1	2	3	4
IC1601	12.0	10.9	0.3	1.6
IC1682	3.1	0	1.9	
Ref. No.	S	D	G	
Q1601	0	164.2	1.8	
Ref. No.	E	C	B	
Q1221	5.3	5.3	3.5	
Q1602	0	1.8	0.3	
Q1604	6.8	10.9	7.4	
Q1605	0	8.0	0	
Q1606	9.2	9.2	8.6	
Q1607	0	0.1	0.7	
Q1609	5.9	8.2	6.5	
Q1613	0.8	8.1	1.4	
Q1614	0.9	8.1	1.4	
Q1681	0.4	3.2	0.9	
Q1682	0.3	3.2	0.9	
Q1683	0.8	3.2	0.9	
Q1688	0.3	3.2	0.9	

UNLESS OTHERWISE SPECIFIED:
DIODES ARE 1SS133(T-77) OR 1N4148 AND
PNP TRANSISTORS ARE 2SC2765(F)-KTC3199(GR)-2SC1815-GR(TPE2) OR KTC3198(GR) AND
PNP TRANSISTORS ARE 2SA950(O)-2SA950(Y) OR KTA1271(Y).

Main 6/6 Schematic Diagram Parts Location Guide

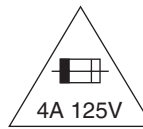
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		TRANSISTORS		RESISTORS	
C1604	DD-3	D1611	DD-2	Q1604	EE-1	R1638	EE-2
C1605	CC-3	D1613	EE-4	Q1605	FF-1	R1639	FF-2
C1606	DD-3	D1614	EE-3	Q1606	FF-1	R1640	FF-1
C1607	DD-3	D1615	EE-2	Q1607	FF-1	R1641	FF-1
C1610	DD-3	D1616	EE-2	Q1609	GG-1	R1642	FF-1
C1611	CC-2	D1617	EE-3	Q1613	GG-2	R1644	FF-1
C1612	DD-2	D1618	EE-3	Q1614	GG-2	R1645	FF-2
C1613	CC-3	D1619	EE-3	Q1681	FF-3	R1650	EE-4
C1614	DD-2	D1620	EE-1	Q1682	GG-3	R1654	FF-2
C1615	EE-4	D1621	EE-1	Q1683	FF-2	R1655	FF-2
C1616	EE-3	D1622	EE-1	Q1688	GG-2	R1662	DD-3
C1617	EE-3	D1623	EE-1	RESISTORS		R1663	DD-3
C1618	EE-2	D1626	FF-4	R1602	DD-3	R1664	GG-1
C1619	EE-2	D1627	FF-4	R1603	DD-1	R1665	GG-1
C1620	EE-3	D1628	FF-1	R1604	DD-3	R1666	FF-1
C1622	EE-2	D1634	GG-1	R1605	DD-3	R1667	FF-1
C1624	FF-4	D1635	GG-1	R1606	DD-2	R1685	FF-3
C1625	EE-3	D1636	FF-1	R1607	DD-2	R1686	FF-3
C1626	FF-1	D1640	FF-3	R1608	DD-2	R1688	FF-2
C1630	EE-1	D1641	CC-2	R1609	FF-2	R1689	FF-2
C1633	GG-1	D1645	EE-2	R1610	DD-2	R1691	FF-3
C1642	FF-1	D1657	GG-1	R1613	DD-2	R1692	FF-3
C1643	EE-2	D1660	FF-2	R1614	DD-2	R1693	GG-3
C1650	EE-2	D1663	GG-1	R1616	EE-3	R1694	FF-2
C1661	GG-1	D1680	GG-3	R1617	EE-2	R1695	GG-3
C1671	EE-3	D1682	HH-1	R1618	FF-3	MISCELLANEOUS	
C1683	GG-1	D1683	HH-1	R1619	FF-3	BC1600	DD-3
C1685	FF-2	D1684	GG-2	R1620	FF-4	BC1601	CC-3
C1687	FF-3	D1685	GG-2	R1621	FF-4	BC1602	CC-3
C1688	GG-3	D1687	GG-3	R1622	FF-4	BC1604	EE-3
C1689	GG-2	D1688	GG-2	R1623	EE-2	BC1605	EE-3
CONNECTORS		D1691	HH-1	R1624	EE-2	BC1606	EE-4
CN1601	CC-4	D1692	HH-1	R1625	EE-2	BC1607	EE-2
CN1602	HH-4	ICS		R1629	EE-1	BC1608	EE-1
DIODES		IC1601	DD-2	R1630	EE-1	BC1609	DD-3
D1603	DD-3	IC1682	FF-3	R1631	EE-1	F1601	CC-3
D1604	DD-3	COIL		R1632	EE-1	PS1601	DD-4
D1605	DD-3	L1601	CC-3	R1633	EE-1	SA1601	CC-3
D1606	DD-3	TRANSISTORS		R1634	FF-1	SG1601	CC-3
D1607	DD-3	Q1221	GG-4	R1635	FF-1	T1601	DD-3
D1609	DD-2	Q1601	CC-2	R1636	EE-4	VR1601	EE-2
D1610	DD-2	Q1602	DD-2	R1637	EE-1	W1601	CC-3

Main CBA Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		CAPACITORS		CAPACITORS		DIODES		ICS		RESISTORS		RESISTORS		RESISTORS		RESISTORS		RESISTORS	
C1001	F-1	C1257	A-4	C1450	B-4	C1766	C-4	D1224	C-3	IC1201	B-3	R1040	F-1	R1253	B-3	R1409	D-3	R1654	E-3	R1874	D-3
C1002	G-1	C1258	B-5	C1452	C-4	C1767	D-4	D1229	C-1	IC1202	B-4	R1041	F-1	R1254	B-3	R1410	C-3	R1655	F-4	R1875	D-3
C1003	G-1	C1261	A-4	C1461	D-3	C1768	D-4	D1230	C-1	IC1301	D-1	R1042	F-1	R1255	B-3	R1411	D-3	R1662	F-3	R1876	D-3
C1004	E-1	C1264	C-1	C1463	C-3	C1769	C-4	D1231	C-1	IC1401	C-3	R1043	E-1	R1256	C-2	R1412	C-3	R1663	F-3	R1877	D-3
C1005	E-1	C1299	A-2	C1464	C-3	C1770	C-4	D1232	C-1	IC1601	G-3	R1049	E-1	R1257	B-4	R1413	C-3	R1664	F-4	SWITCHES	
C1007	F-1	C1301	D-1	C1465	D-3	C1771	C-4	D1234	C-1	IC1682	E-4	R1050	E-1	R1258	B-3	R1414	C-3	R1665	E-4	SW1201	A-2
C1008	F-1	C1309	E-1	C1466	D-3	C1772	C-4	D1237	A-2	IC1701	C-5	R1110	B-2	R1259	F-4	R1415	C-3	R1666	E-4	SW1202	A-3
C1030	F-1	C1310	D-1	C1467	D-3	C1773	C-4	D1302	D-1	IC1803	B-1	R1111	B-1	R1260	B-4	R1416	D-3	R1667	F-4	SW1203	A-3
C1031	F-1	C1311	D-1	C1468	D-3	C1774	C-4	D1303	E-1	COILS		R1112	E-5	R1261	C-1	R1417	C-3	R1673	E-5	SW1206	A-5
C1034	F-1	C1314	D-1	C1469	D-3	C1775	B-4	D1304	E-1	L1001	E-1	R1113	E-5	R1262	A-5	R1418	C-3	R1674	F-5	SW1207	A-4
C1035	F-1	C1316	D-1	C1604	F-1	C1776	C-4	D1305	D-1	L1031	E-1	R1159	D-5	R1263	B-3	R1419	C-3	R1675	F-5	SW1208	A-4
C1037	E-1	C1317	D-1	C1605	G-2	C1777	B-4	D1311	D-1	L1032	E-1	R1160	B-5	R1267	B-2	R1420	D-3	R1676	F-5	SW1209	A-4
C1038	F-1	C1318	E-1	C1606	F-2	C1778	D-4	D1318	D-1	L1033	F-1	R1163	B-1	R1268	A-3	R1421	C-3	R1685	F-4	SW1210	A-3
C1040	F-1	C1319	D-1	C1607	F-2	C1779	C-5	D1350	E-1	L1202	B-4	R1164	B-1	R1269	A-3	R1422	D-3	R1686	E-4	SW1211	A-5
C1041	G-1	C1321	D-1	C1610	F-2	C1780	C-4	D1351	D-1	L1203	B-4	R1200	B-3	R1270	A-3	R1424	C-3	R1688	E-4	SW1212	B-1
C1043	F-1	C1322	D-2	C1611	G-2	C1781	C-4	D1353	D-1	L1211	C-1	R1201	A-2	R1272	A-3	R1425	C-3	R1689	E-4	CRYSTAL OSCILLATORS	
C1044	F-1	C1323	C-2	C1612	G-3	C1782	C-5	D1419	C-2	L1302	E-3	R1202	B-2	R1273	A-2	R1426	C-3	R1691	E-3	X1201	B-4
C1045	F-1	C1325	D-1	C1613	G-3	C1783	C-5	D1420	B-5	L1402	C-4	R1203	B-1	R1274	A-2	R1427	C-4	R1692	E-3	X1202	B-4
C1046	F-1	C1332	D-2	C1614	G-2	C1784	C-5	D1603	F-2	L1403	D-4	R1204	B-1	R1275	B-4	R1428	C-4	R1693	E-4	X1301	D-1
C1049	F-1	C1333	D-1	C1615	G-4	C1786	B-5	D1604	F-2	L1404	D-4	R1205	B-2	R1277	A-3	R1429	C-4	R1694	E-4	X1401	C-3
C1050	F-1	C1336	D-1	C1616	G-4	C1787	C-5	D1605	F-2	L1405	C-3	R1206	B-1	R1280	A-3	R1430	C-4	R1695	E-4	MISCELLANEOUS	
C1112	E-5	C1337	E-1	C1617	G-4	C1788	C-5	D1606	F-2	L1601	G-2	R1208	A-3	R1283	B-2	R1431	C-4	R1701	A-1	BC1600	F-3
C1113	E-5	C1338	D-1	C1618	F-4	C1789	C-5	D1607	G-2	L1751	D-4	R1209	B-3	R1284	B-2	R1432	C-4	R1702	A-1	BC1601	G-1
C1114	D-5	C1339	D-1	C1619	F-4	C1790	C-5	D1609	G-2	L1752	C-4	R1210	A-2	R1285	B-2	R1433	C-4	R1703	A-1	BC1602	G-1
C1115	E-5	C1342	D-1	C1620	E-3	C1791	C-5	D1610	G-2	L1871	D-3	R1211	A-3	R1286	B-2	R1436	D-4	R1731	A-1	BC1604	F-3
C1116	E-5	C1343	D-1	C1622	G-3	C1792	C-5	D1611	G-3	L1872	D-3	R1212	A-3	R1287	A-3	R1602	F-2	R1732	A-1	BC1605	F-4
C1117	B-1	C1350	E-1	C1624	F-4	C1793	C-5	D1613	G-4	TRANSISTORS		R1213	A-4	R1288	B-3	R1603	G-2	R1734	A-1	BC1606	G-3
C1118	B-1	C1394	F-5	C1625	E-3	C1794	D-4	D1614	G-4	Q1205	A-4	R1214	A-4	R1289	B-2	R1604	F-3	R1735	A-1	BC1607	F-3
C1203	B-5	C1410	C-3	C1626	F-5	C1795	C-5	D1615	F-4	Q1206	B-3	R1215	A-4	R1290	B-3	R1605	F-3	R1750	C-5	BC1608	G-4
C1207	A-2	C1411	C-3	C1630	G-3	C1796	D-5	D1616	F-4	Q1221	E-4	R1216	A-4	R1291	B-5	R1606	G-2	R1751	D-5	BC1609	F-2
C1208	A-4	C1412	C-3	C1633	E-3	C1797	C-5	D1617	F-4	Q1350	E-1	R1217	A-4	R1292	B-4	R1607	G-2	R1752	D-5	CF1032	F-1
C1210	A-4	C1413	C-3	C1642	F-5	C1798	D-5	D1618	F-4	Q1401	C-3	R1218	A-4	R1294	B-4	R1608	G-3	R1753	D-5	F1601	G-2
C1211	A-4	C1414	C-3	C1643	F-4	C1801	A-2	D1619	E-3	Q1402	C-3	R1219	A-5	R1298	A-2	R1609	D-3	R1754	D-5	JK1701	A-2
C1212	A-4	C1417	C-3	C1650	F-4	C1802	C-2	D1620	G-4	Q1403	C-3	R1220	B-5	R1299	B-3	R1610	G-2	R1755	C-4	JK1702	A-1
C1213	B-4	C1418	C-3	C1661	E-5	C1807	A-2	D1621	G-3	Q1404	C-4	R1221	A-4	R1301	D-1	R1613	G-3	R1756	C-4	JK1703	A-1
C1214	A-4	C1419	C-3	C1671	F-4	C1810	A-1	D1622	G-4	Q1601	F-2	R1222	A-2	R1303	D-1	R1614	G-2	R1757	B-4	JK1801	A-2
C1216	A-4	C1420	C-3	C1683	E-5	C1811	B-1	D1623	E-4	Q1602	G-2	R1223	A-4	R1305	D-1	R1616	F-3	R1758	C-5	PS1601	F-1
C1217	B-4	C1421	C-3	C1685	E-3	C1812	B-1	D1626	F-4	Q1604	G-3	R1224	A-5	R1308	D-1	R1617	G-3	R1759	C-5	RS1201	A-2
C1218	B-4	C1422	C-3	C1687	F-4	C1813	B-1	D1627	E-3	Q1605	E-5	R1225	A-2	R1310	E-1	R1618	G-5	R1761	C-5	SA1601	G-2
C1219	B-4	C1423	C-3	C1688	E-4	C1814	B-1	D1628	F-4	Q1606	F-5	R1226	A-2	R1311	D-1	R1619	G-5	R1764	C-4	SF1001	F-1
C1220	B-5	C1424	C-3	C1689	E-4	C1815	B-1	D1634	F-4	Q1607	F-5	R1227	C-3	R1312	D-1	R1620	G-5	R1766	C-4	SG1601	G-1
C1221	B-5	C1425	C-3	C1701	C-4	C1818	B-1	D1635	F-5	Q1609	E-4	R1229	A-4	R1313	D-1	R1621	G-4	R1767	C-5	T1601	F-3
C1222	B-3	C1426	C-3	C1722	A-1	C1819	B-1	D1636	F-4	Q1613	E-3	R1231	A-3	R1314	D-1	R1622	F-4	R1769	C-4	TU1001	G-1
C1223	B-3	C1427	C-4	C1732	A-1	C1821	C-1	D1640	F-4	Q1614	D-4	R1232	B-5	R1315	D-1	R1623	G-4	R1770	C-4	VR1601	G-4
C1224	B-3	C1428	C-4	C1740	D-4	C1870	D-3	D1641	G-2	Q1681	E-3	R1233	A-4	R1316	D-1	R1624	G-4	R1771	C-4	W1601	G-2
C1225	B-3	C1429	C-4	C1747	C-4	C1871	D-3	D1645	F-4	Q1682	E-4	R1234	A-4	R1317	D-1	R1625	G-4	R1772	D-5	TEST POINTS	
C1226	B-3	C1430	C-4	C1748	C-4	C1872	D-3	D1657	F-4	Q1683	E-4	R1235	A-4	R1320	D-2	R1629	G-4	R1773	D-5	JM1403	D-5
C1233	A-5	C1431	C-4	C1749	C-4	C1873	D-3	D1660	F-4	Q1688	E-4	R1236	A-4	R1329	D-1	R1630	G-5	R1774	D-5	TP1001	E-5
C1234	C-3	C1432	C-3	C1751	D-5	CONNECTORS		D1663	F-4	Q1701	D-4	R1237	A-4	R1333	E-1	R1631	G-5	R1780	D-5	TP1002	E-5
C1235	B-3	C1433	B-4	C1752	C-5	CL403	D-5	D1680	E-3	Q1871	D-3	R1238	B-4	R1334	D-2	R1632	G-3	R1781	D-5	TP1202	B-5
C1239	A-3	C1435	C-4	C1753	D-5	CL1201	D-1	D1682	E-4	Q1872	D-3	R1239	B-4	R1335	E-1	R1633	G-3	R1801	A-2	TP1301	F-5
C1240	A-3	C1436	C-4	C1754	C-5	CL1401	D-4	D1683	E-5	Q1873	D-3	R1240	A-4	R1336	E-2	R1634	C-5	R1802	A-2	TP1302	F-5
C1241	A-2	C1437	D-4	C1755	D-5	CL1402	D-2	D1684	E-4	Q1874	D-3	R1241	A-4	R1337	D-1	R1635	E-5	R1803	E-3	TP1303	E-5
C1243	A-3	C1438	C-4	C1756	D-5	CN1301	F-5	D1685	D-4	Q1875	D-3	R1243	B-3	R1340	D-1	R1636	G-5	R1808	E-3	TP1401	C-1
C1244	A-3	C1439	C-4	C1757	D-5	CN1302	F-5	D1687	E-4	RESISTORS		R1244	B-3	R1350	E-1	R1637	G-4	R1809	B-1	TP1402	B-5
C1245	A-3	C1440	C-4	C1758	D-5	CN1601	F-1	D1688	D-3	R1002	G-1	R1245	B-3	R1351	E-1	R1638	G-4	R1810	B-1	TP1671	F-5
C1246	A-3	C1441	C-4	C1759	D-4	CN1602	G-5	D1691	E-2	R1003	G-1	R1246	B-3	R1352	E-1	R1639	F-4	R1813	A-1	TP1672	F-5
C1247	A-3	C1442	C-4	C1760	D-4	CN1802	B-1	D1692	E-2	R1032	F-1	R1247	B-3	R1355	E-5	R1640	F-4	R1814	B-1	TP1673	F-5
C1249	A-3	C1443	C-4	C1761	D-4	CN1803	A-5	D1811	B-1	R1033	F-1	R1248	B-4	R1356	E-5	R1641	F-5	R1815	A-1	TP1701	B-1
C1251	A-3	C1444	C-4	C1762	D-4	DIODES		D1812	A-1	R1034	F-1	R1249	B-3	R1405	C-4	R1642	F-5	R1816	B-1	TP1702	C-1
C1252	D-1	C1445	C-4	C1763	D-4	D1204	A-4	D1813	A-1	R1037	F-1	R1250	B-3	R1406	C-4	R1644	F-4	R1871	C-3	TP1703	D-5
C1253	C-1	C1447	C-4	C1764	D-4	D1216	A-5	ICS		R1038	E-1	R1251	B-3	R1407	B-4	R1645	F-4	R1872	D-3		
C1254	C-1	C1449	C-4	C1765	D-4	D1217	A-5	IC1001	F-1	R1039	E-1	R1252	B-3	R1408	B-4	R1650	G-4	R1873	D-3		

Main CBA Top View < TV/VCR Section >

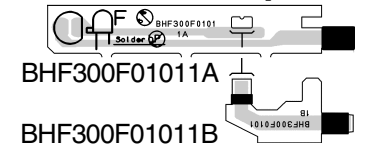
Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.



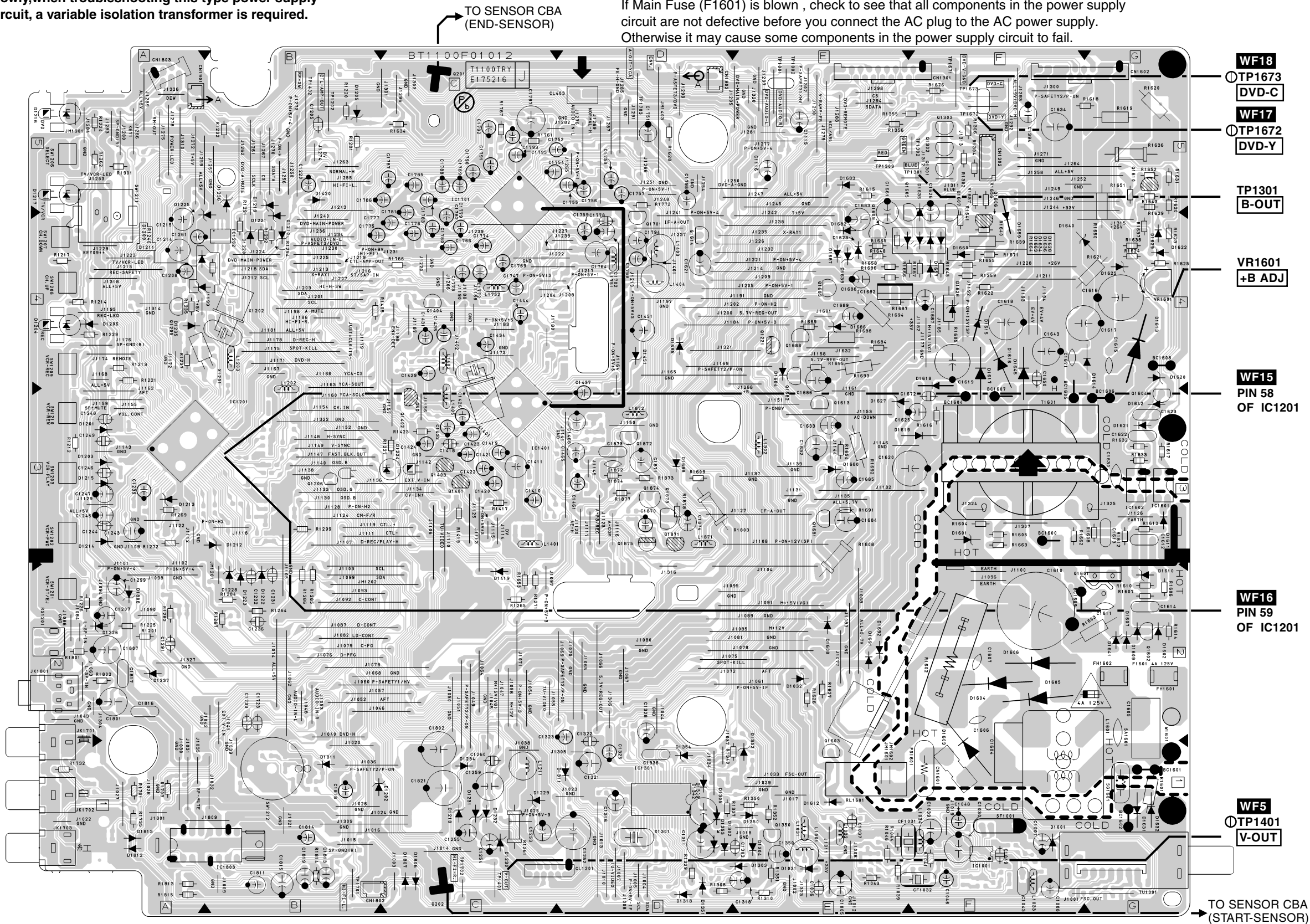
CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

NOTE: The voltage for parts in hot circuit is measured using hot GND as a common terminal.

Sensor CBA Top View

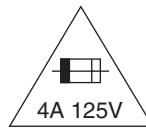


CAUTION !
 Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F1601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.



Main CBA Bottom View < TV/VCR Section >

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.



CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

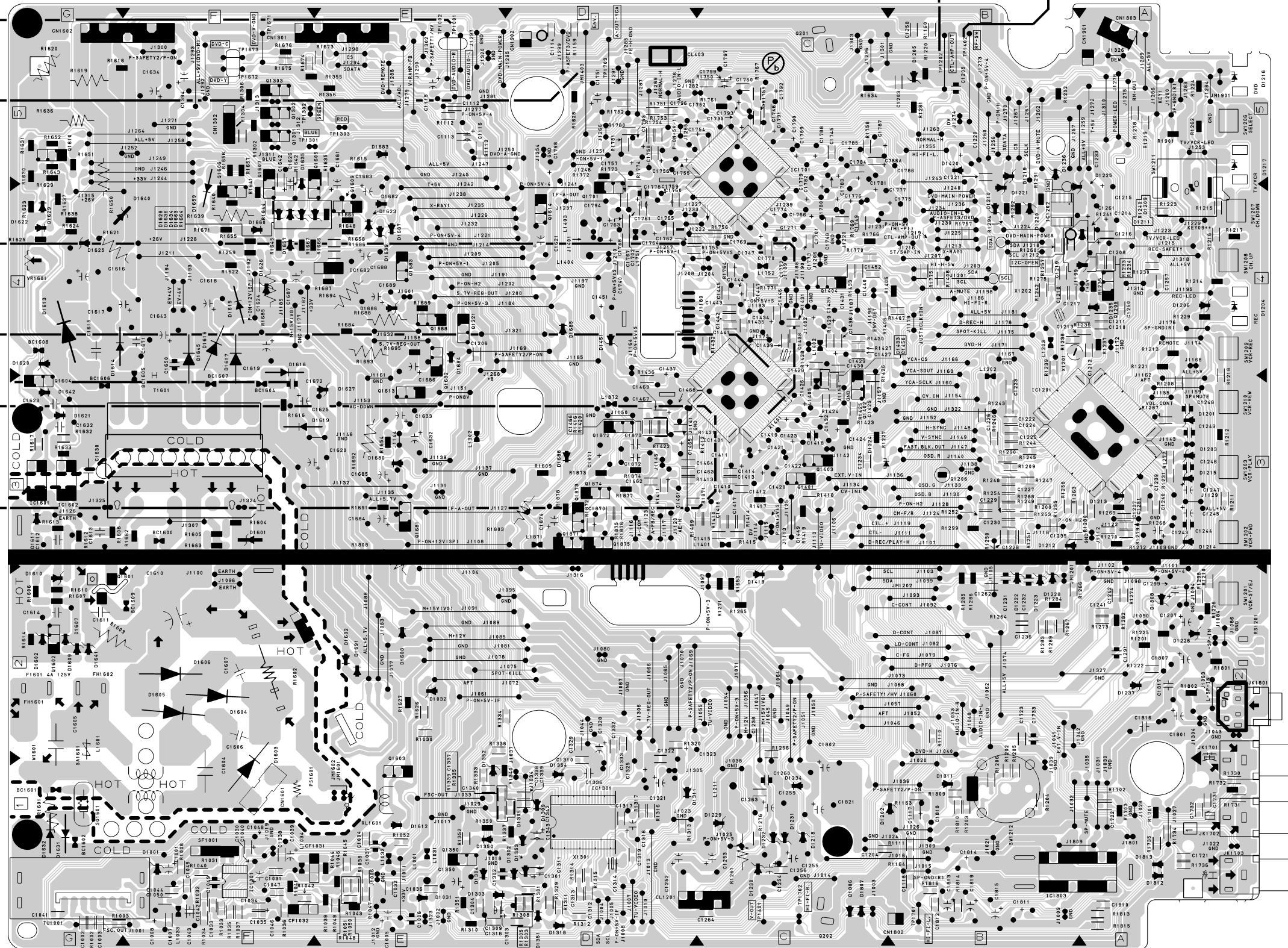
CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F1601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

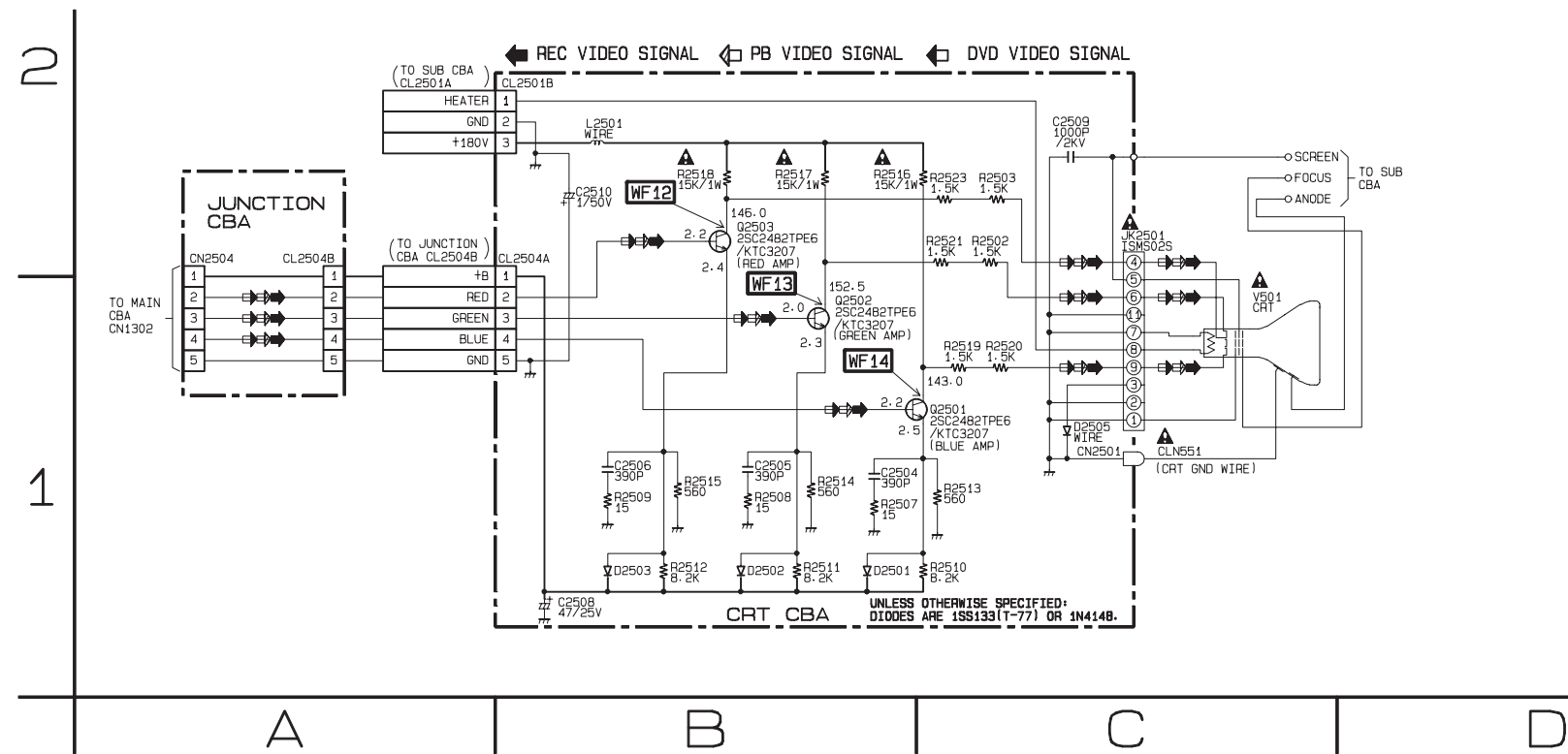
NOTE: The voltage for parts in hot circuit is measured using hot GND as a common terminal.



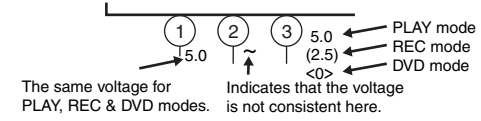
- WF19
TP1001
DVD-AUDIO-L
- WF6
JM1403
ENV.
- WF4
PIN 32
OF IC1401
- WF2
PIN 49
OF IC1401
- WF8
PIN 9
OF IC1401
- WF7
PIN 10
OF IC1401



CRT & Junction Schematic Diagram < TV/VCR Section >



Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:

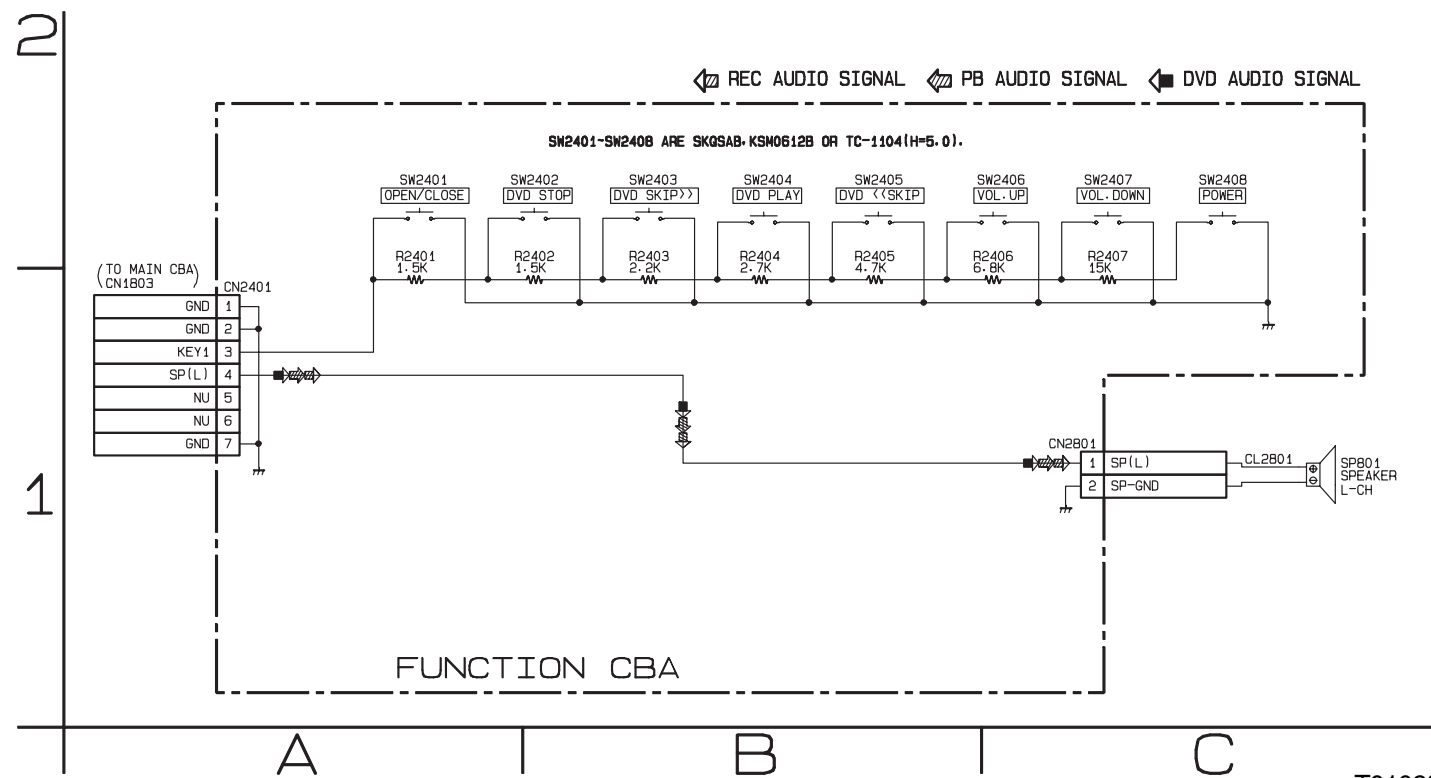


CRT SCHEMATIC DIAGRAM PARTS LOCATION GUIDE

Ref No.	Position	Ref No.	Position	Ref No.	Position	
CAPACITORS			DIODES			
C2504	B-1	D2505	C-1	R2511	B-1	
C2505	B-1	COIL			R2512	B-1
C2506	B-1	L2501	B-2	R2513	C-1	
C2508	B-1	TRANSISTORS			R2514	B-1
C2509	C-2	Q2501	C-1	R2515	B-1	
C2510	B-2	Q2502	B-1	R2516	B-2	
CONNECTORS			Q2503	B-2	R2517	B-2
CL2501B	B-2	RESISTORS			R2518	B-2
CL2504A	B-2	R2502	C-2	R2519	C-1	
CN2501	C-1	R2503	C-2	R2520	C-1	
DIODES			R2507	B-1	R2521	C-2
D2501	B-1	R2508	B-1	R2523	C-2	
D2502	B-1	R2509	B-1	MISCELLANEOUS		
D2503	B-1	R2510	C-1	JK2501	C-2	

Function Schematic Diagram < TV/VCR Section >

T0102SCCRT



FUNCTION SCHEMATIC DIAGRAM PARTS LOCATION GUIDE

Ref No.	Position	Ref No.	Position
CONNECTORS		SWITCHES	
CN2401	A-1	SW2401	A-2
CN2801	C-1	SW2402	B-2
RESISTORS		SW2403	B-2
R2401	A-2	SW2404	B-2
R2402	B-2	SW2405	B-2
R2403	B-2	SW2406	C-2
R2404	B-2	SW2407	C-2
R2405	B-2	SW2408	C-2
R2406	C-2		
R2407	C-2		

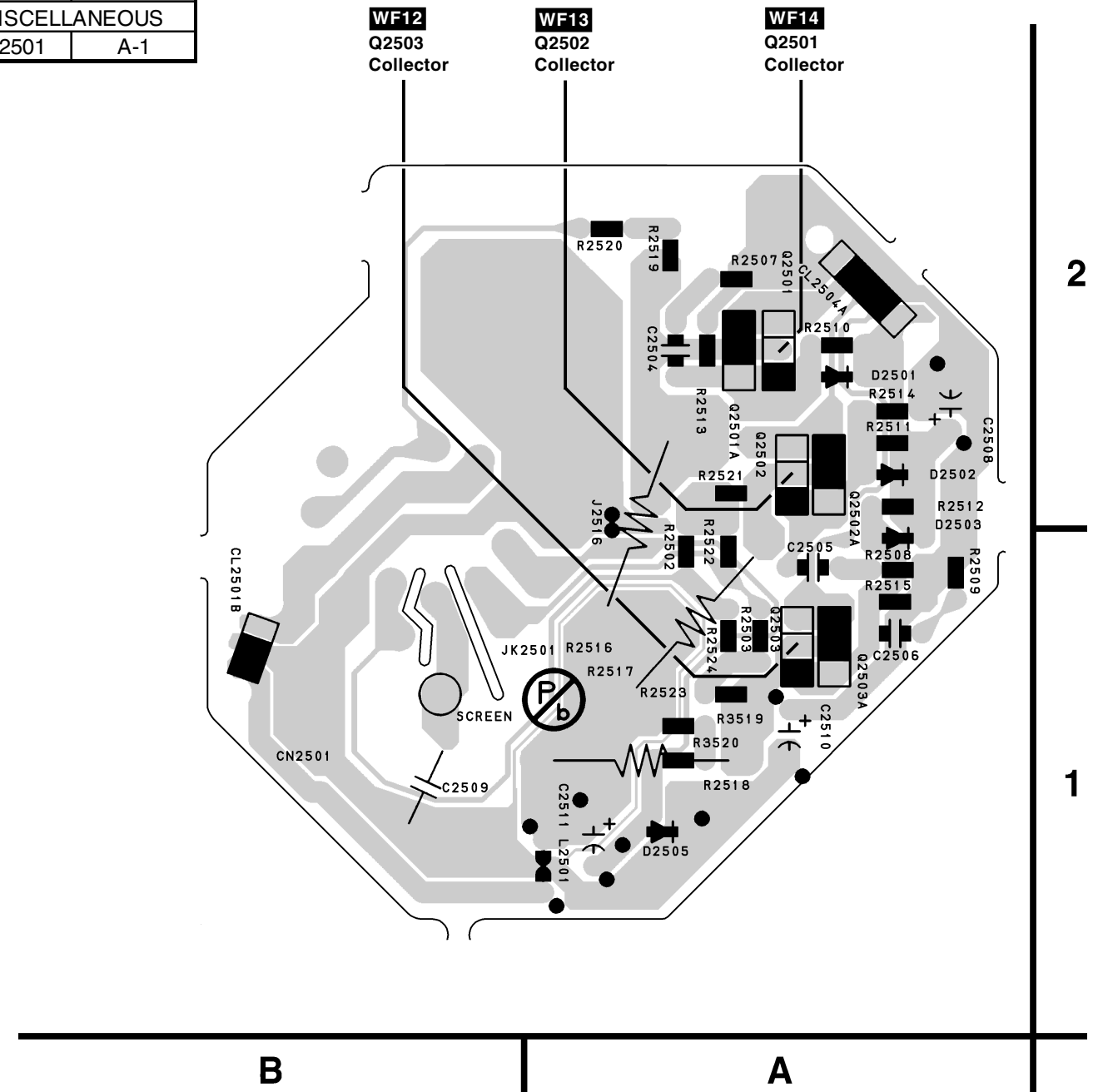
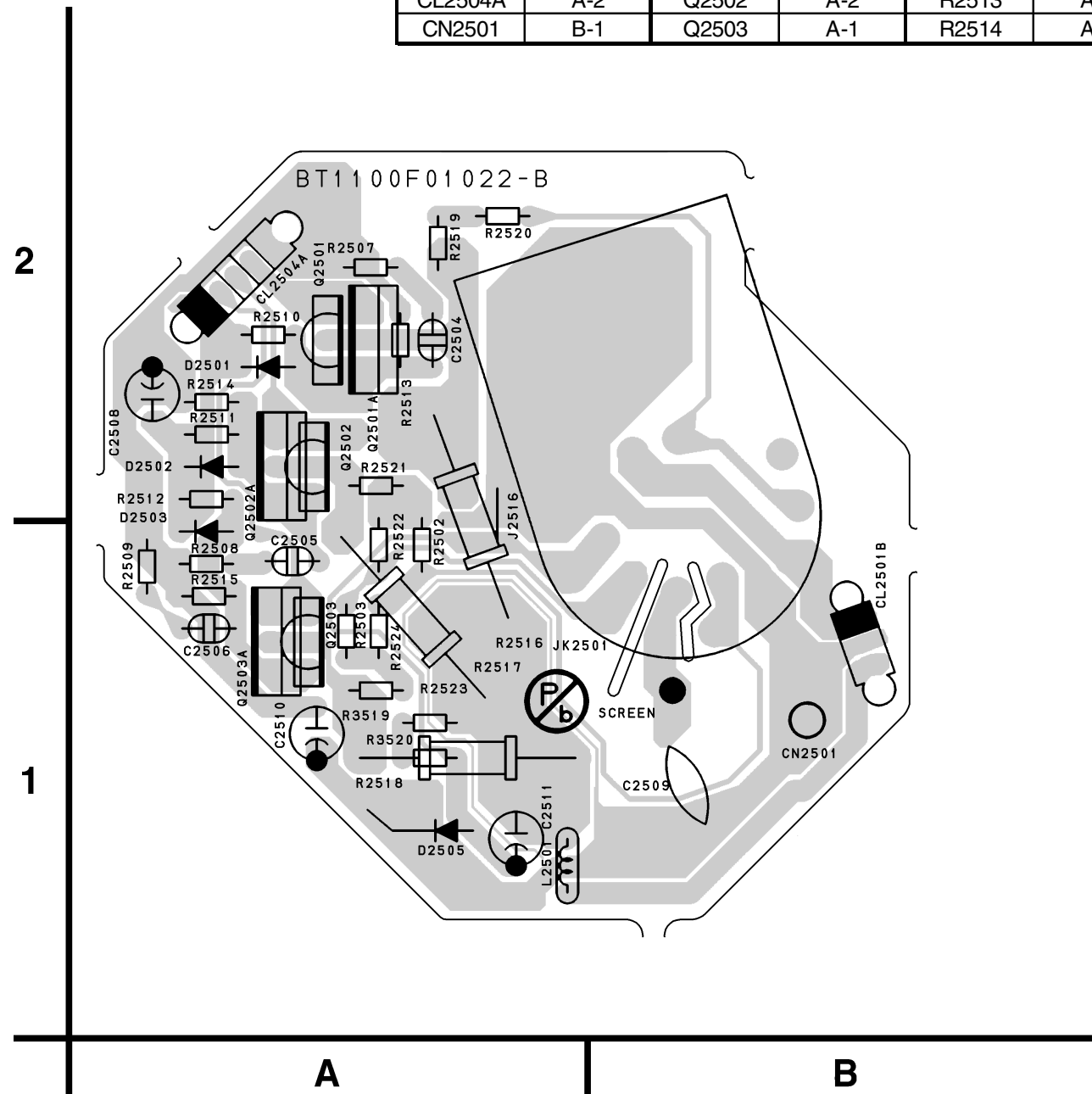
T0102SCF

CRT CBA Top View < TV/VCR Section >

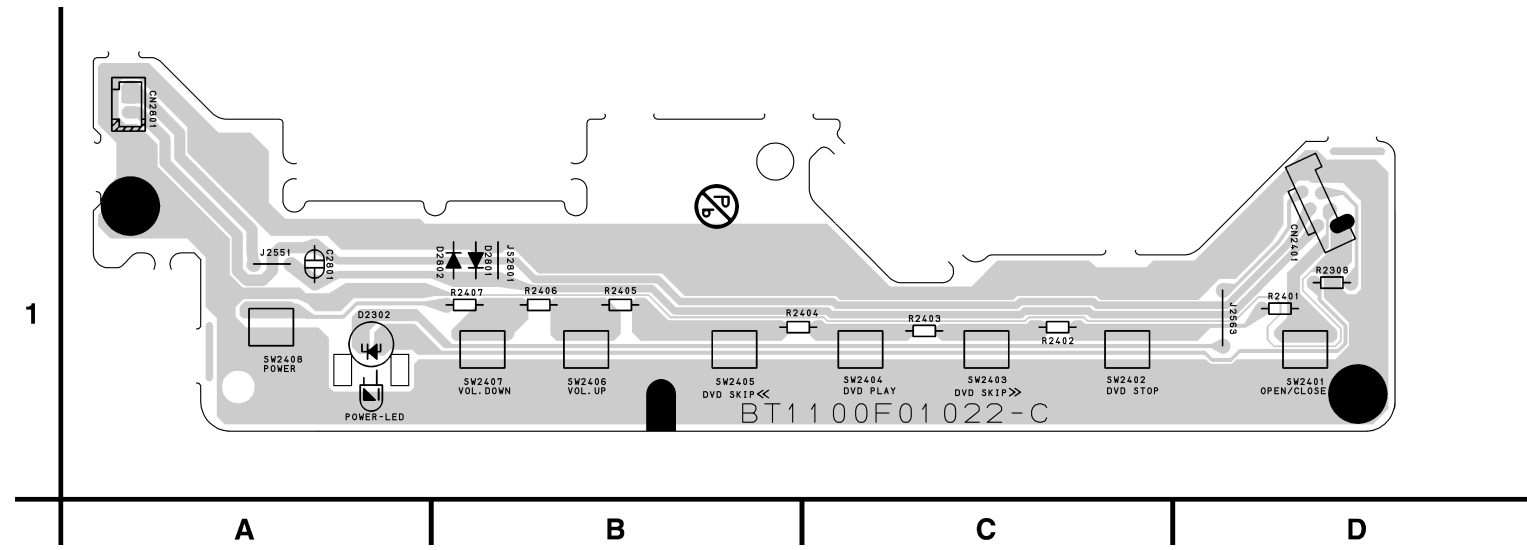
CRT CBA Bottom View < TV/VCR Section >

CRT CBA PARTS LOCATION GUIDE

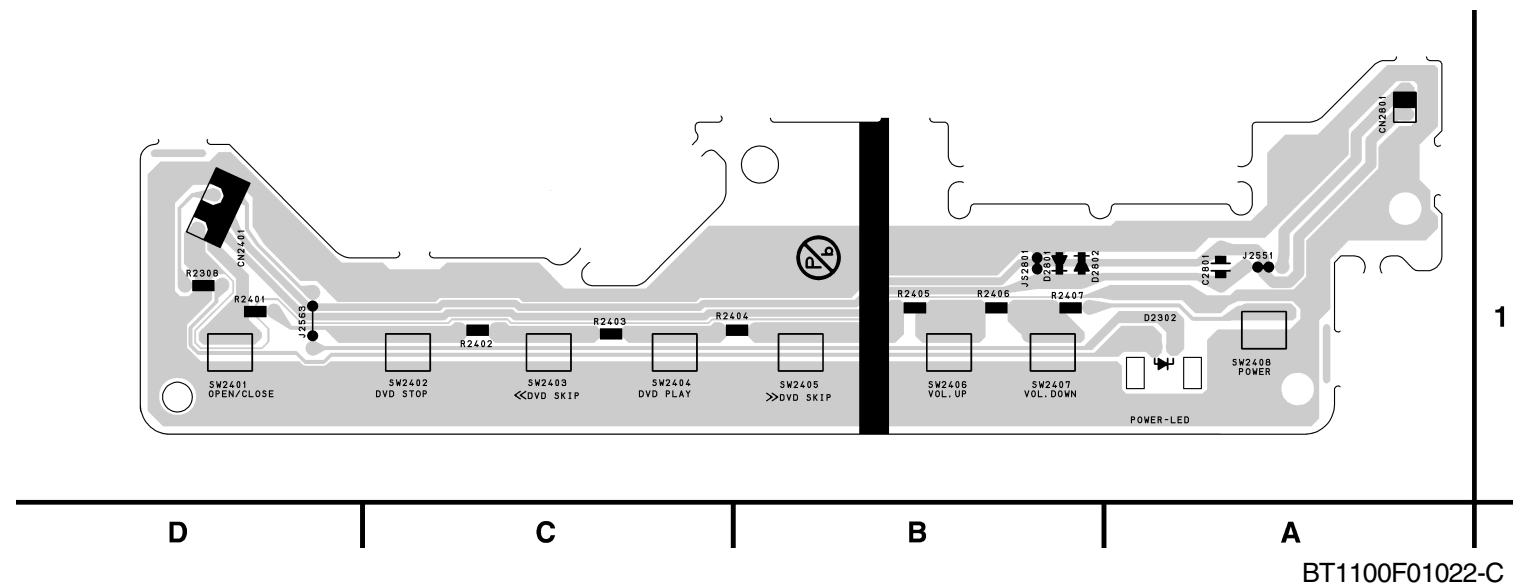
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		RESISTORS		RESISTORS	
C2504	A-2	D2501	A-2	R2502	A-1	R2515	A-1
C2505	A-1	D2502	A-2	R2503	A-1	R2516	A-1
C2506	A-1	D2503	A-1	R2507	A-2	R2517	A-1
C2508	A-2	D2505	A-1	R2508	A-1	R2518	A-1
C2509	B-1	COIL		R2509	A-1	R2519	A-2
C2510	A-1	L2501	A-1	R2510	A-2	R2520	A-2
CONNECTORS		TRANSISTORS		R2511	A-2	R2521	A-2
CL2501B	B-1	Q2501	A-2	R2512	A-2	R2523	A-1
CL2504A	A-2	Q2502	A-2	R2513	A-2	MISCELLANEOUS	
CN2501	B-1	Q2503	A-1	R2514	A-2	JK2501	A-1



Function CBA Top View < TV/VCR Section >



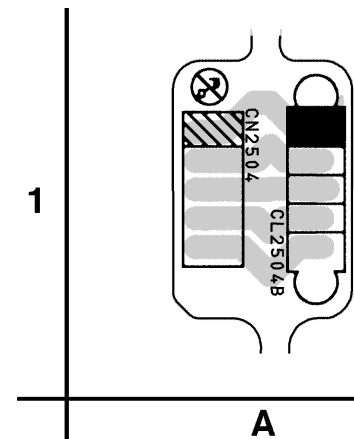
Function CBA Bottom View < TV/VCR Section >



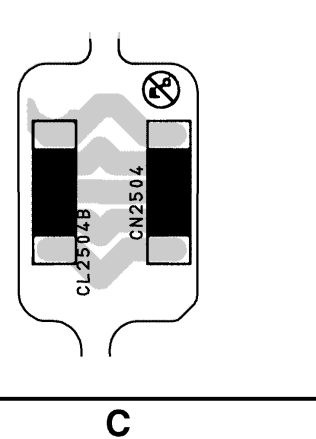
FUNCTION CBA PARTS LOCATION GUIDE

Ref No.	Position
CONNECTORS	
CN2401	D-1
CN2801	A-1
RESISTORS	
R2401	D-1
R2402	C-1
R2403	C-1
R2404	B-1
R2405	B-1
R2406	B-1
R2407	B-1
SWITCHES	
SW2401	D-1
SW2402	C-1
SW2403	C-1
SW2404	C-1
SW2405	B-1
SW2406	B-1
SW2407	B-1
SW2408	A-1

Junction CBA Top View



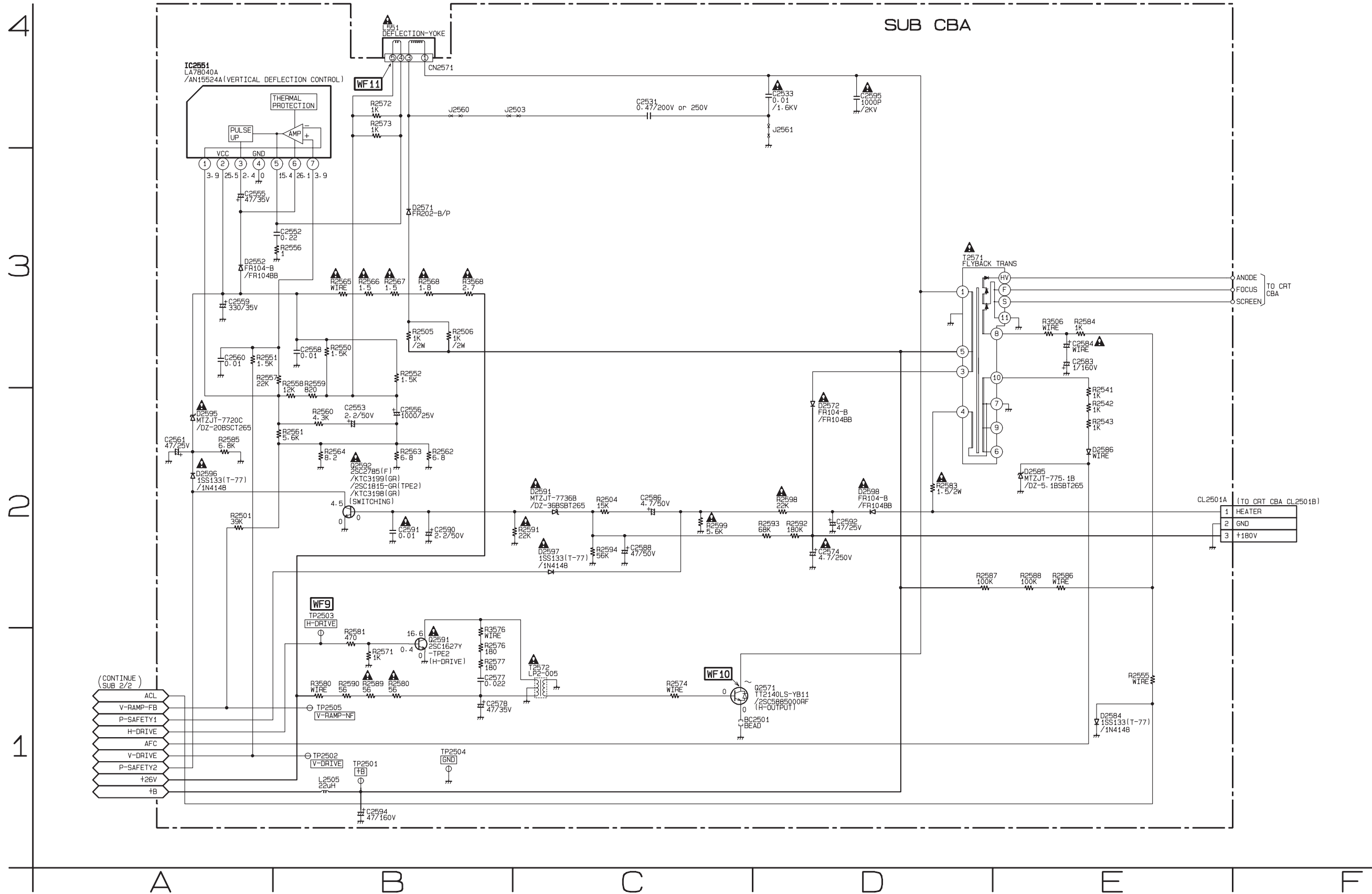
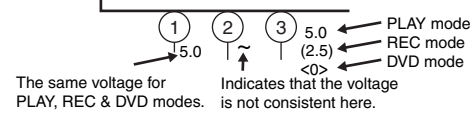
Junction CBA Bottom View



BT1100F01022

Sub 1/2 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



Sub 1/2 Schematic Diagram Parts Location Guide

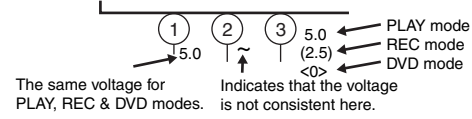
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		RESISTORS		RESISTORS	
C2531	C-4	D2571	B-3	R2551	A-3	R2586	E-2
C2533	D-4	D2572	D-2	R2552	B-3	R2587	D-2
C2552	B-3	D2584	E-1	R2555	E-1	R2588	E-2
C2553	B-2	D2585	E-2	R2556	B-3	R2589	B-1
C2555	A-3	D2586	E-2	R2557	A-3	R2590	B-1
C2556	B-2	D2591	C-2	R2558	B-3	R2591	C-2
C2558	B-3	D2595	A-2	R2559	B-3	R2592	D-2
C2559	A-3	D2596	A-2	R2560	B-2	R2593	D-2
C2560	A-3	D2597	C-2	R2561	B-2	R2594	C-2
C2561	A-2	D2598	D-2	R2562	B-2	R2598	D-2
C2574	D-2	IC		R2563	B-2	R2599	C-2
C2577	B-1	IC2551	A-4	R2564	B-2	R3506	E-3
C2578	B-1	COIL		R2565	B-3	R3568	B-3
C2583	E-3	L2505	B-1	R2566	B-3	R3576	B-1
C2584	E-3	TRANSISTORS		R2567	B-3	R3580	B-1
C2586	C-2	Q2571	D-1	R2568	B-3	MISCELLANEOUS	
C2588	C-2	Q2591	B-1	R2571	B-1	BC2501	C-1
C2590	B-2	Q2592	B-2	R2572	B-4	T2571	D-3
C2591	B-2	RESISTORS		R2573	B-4	T2572	C-1
C2592	D-2	R2501	A-2	R2574	C-1	TEST POINTS	
C2594	B-1	R2504	C-2	R2576	B-1	TP2501	B-1
C2595	D-4	R2505	B-3	R2577	B-1	TP2502	B-1
CONNECTORS		R2506	B-3	R2580	B-1	TP2503	B-2
CL2501A	E-2	R2541	E-2	R2581	B-1	TP2504	B-1
CN2571	B-4	R2542	E-2	R2583	D-2	TP2505	B-1
DIODES		R2543	E-2	R2584	E-3		
D2552	A-3	R2550	B-3	R2585	A-2		

Sub 2/2 Schematic Diagram Parts Location Guide

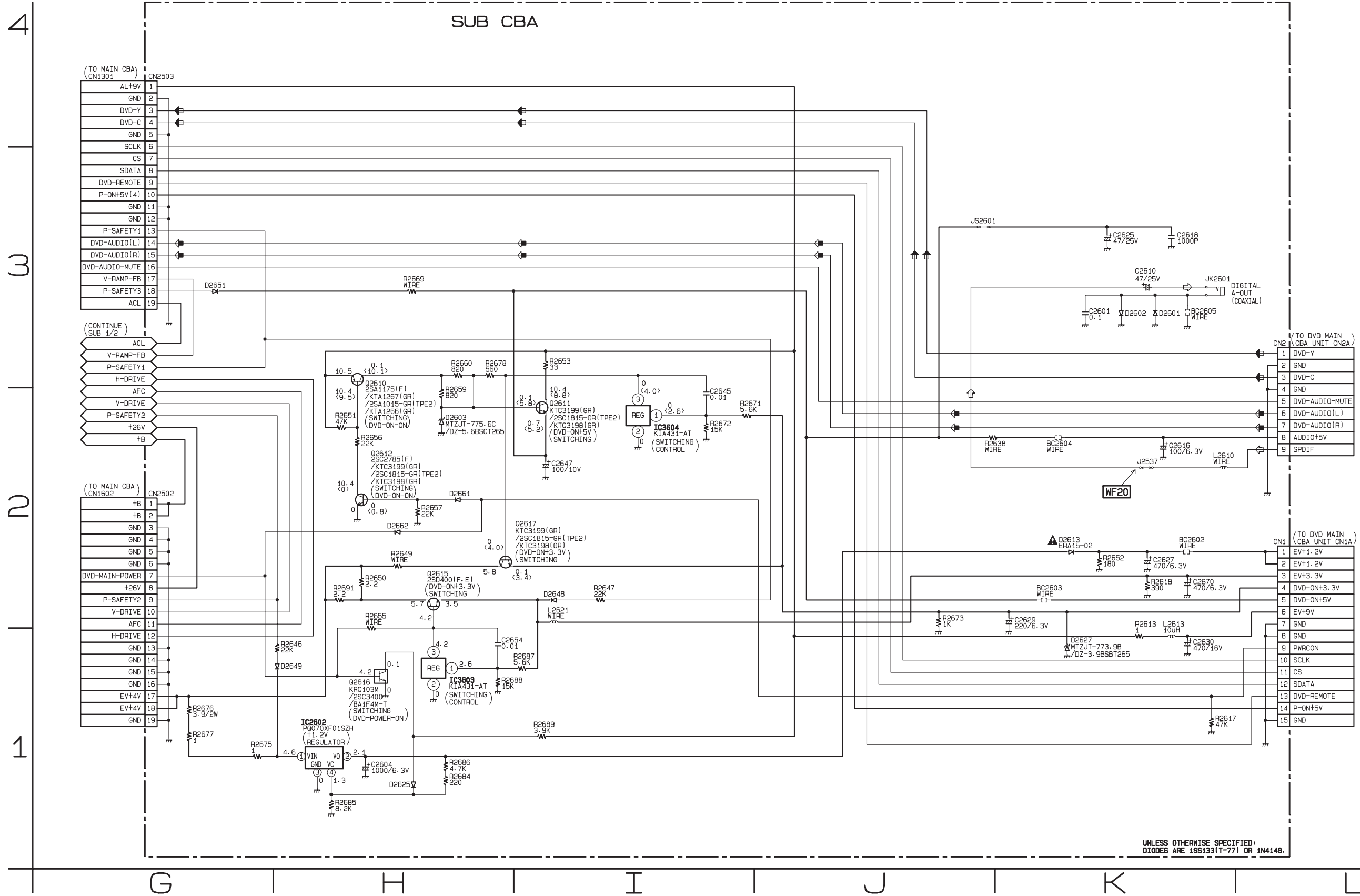
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		TRANSISTORS		RESISTORS	
C2601	K-3	D2603	H-2	Q2615	H-2	R2671	I-2
C2604	H-1	D2613	K-2	Q2616	H-1	R2672	I-2
C2610	K-3	D2625	H-1	Q2617	I-2	R2673	J-2
C2616	K-2	D2627	K-1	RESISTORS		R2675	G-1
C2618	K-3	D2648	I-2	R2613	K-2	R2676	G-1
C2625	K-3	D2649	H-1	R2617	K-1	R2677	G-1
C2627	K-2	D2651	G-3	R2618	K-2	R2678	H-3
C2629	K-2	D2661	H-2	R2638	J-2	R2684	H-1
C2630	K-1	D2662	H-2	R2646	H-1	R2685	H-1
C2645	I-2	ICS		R2647	I-2	R2686	H-1
C2647	I-2	IC2602	H-1	R2649	H-2	R2687	I-1
C2654	H-1	IC3603	H-1	R2650	H-2	R2688	H-1
C2670	K-2	IC3604	I-2	R2651	H-2	R2689	I-1
CONNECTORS		COILS		R2652	K-2	R2691	H-2
CN1	L-2	L2610	K-2	R2653	I-3	MISCELLANEOUS	
CN2	L-3	L2613	K-2	R2655	H-2	BC2602	K-2
CN2502	G-2	L2621	I-2	R2656	H-2	BC2603	K-2
CN2503	G-4	TRANSISTORS		R2657	H-2	BC2604	K-2
DIODES		Q2610	H-3	R2659	H-2	BC2605	K-3
D2601	K-3	Q2611	I-2	R2660	H-3	JK2601	K-3
D2602	K-3	Q2612	H-2	R2669	H-3		

Sub 2/2 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



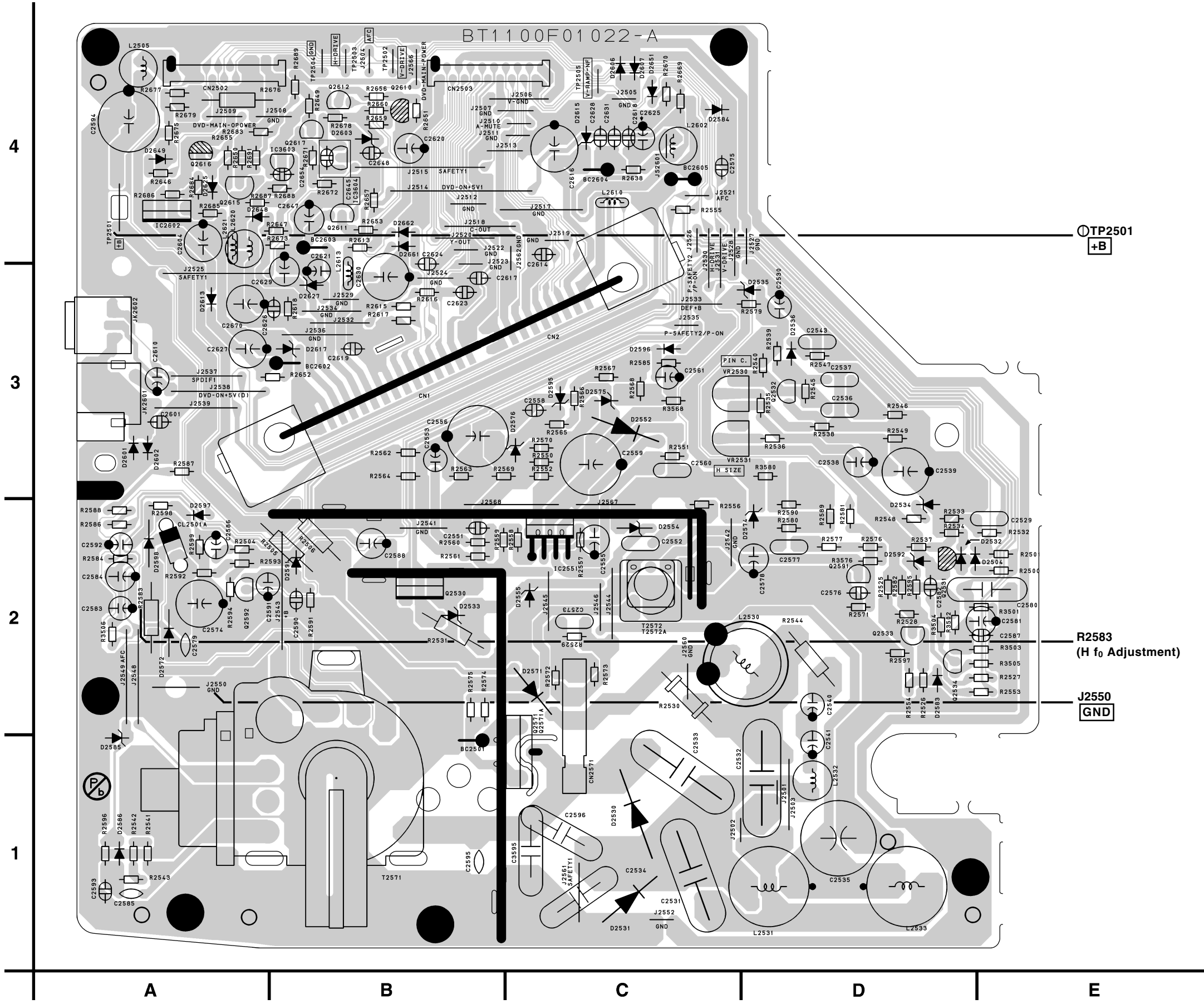
◀ DVD VIDEO SIGNAL ◀ DVD AUDIO SIGNAL ◀ DATA (AUDIO) SIGNAL



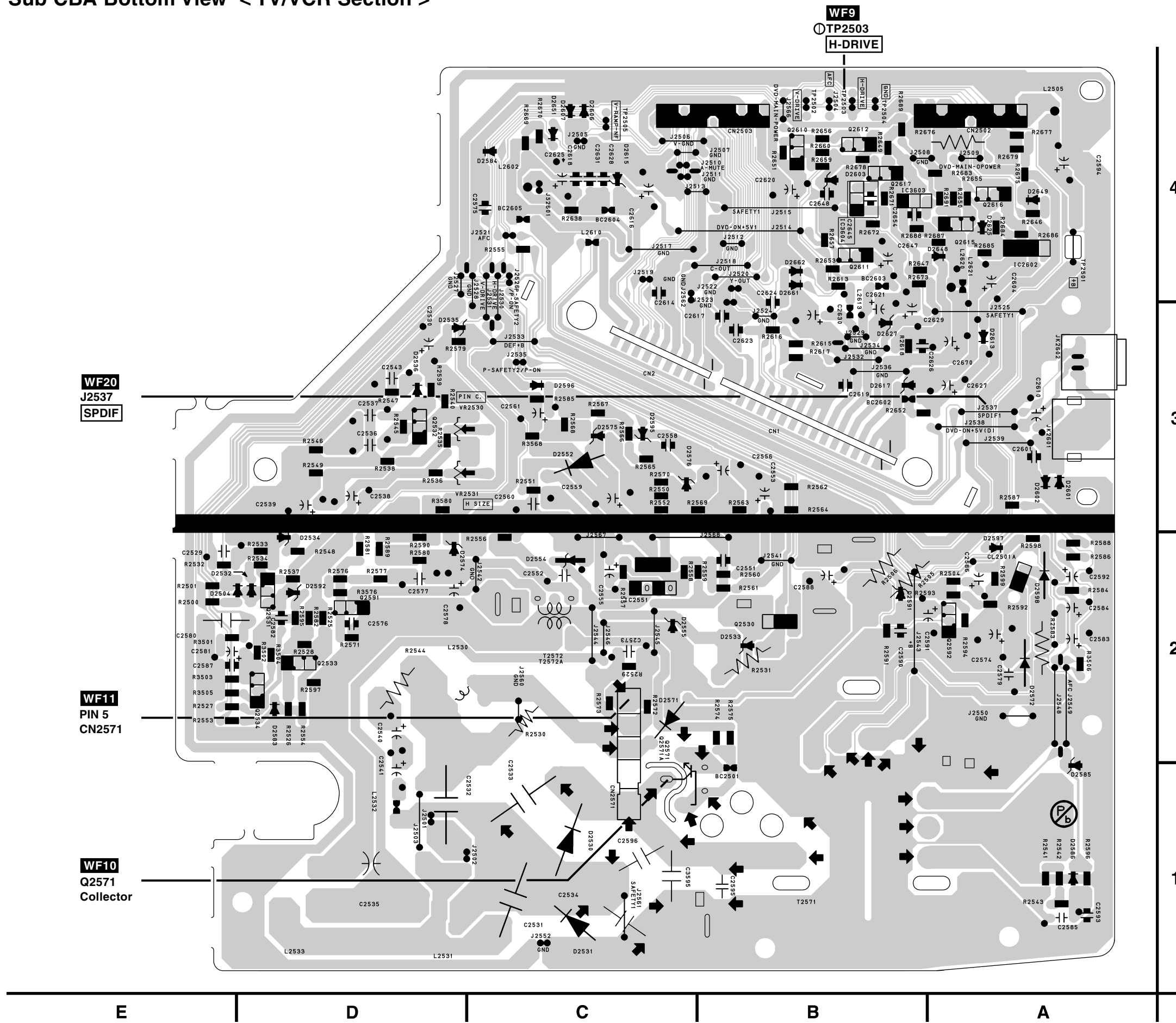
Sub CBA Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		DIODES		TRANSISTORS		RESISTORS		RESISTORS		RESISTORS	
C2531	C-1	C2618	C-4	D2597	A-2	Q2592	A-2	R2563	B-3	R2598	A-2	R2684	A-4
C2533	C-1	C2625	C-4	D2598	A-2	Q2610	B-4	R2564	B-3	R2599	A-2	R2685	A-4
C2552	C-2	C2627	A-3	D2601	A-3	Q2611	B-4	R2565	C-3	R2613	B-4	R2686	A-4
C2553	B-3	C2629	A-3	D2602	A-3	Q2612	B-4	R2566	C-3	R2617	B-3	R2687	A-4
C2555	C-2	C2630	B-3	D2603	B-4	Q2615	A-4	R2567	C-3	R2618	B-3	R2688	B-4
C2556	B-3	C2645	B-4	D2613	A-3	Q2616	A-4	R2568	C-3	R2638	C-4	R2689	B-4
C2558	C-3	C2647	B-4	D2625	A-4	Q2617	B-4	R2571	D-2	R2646	A-4	R2691	A-4
C2559	C-3	C2654	B-4	D2627	B-3	RESISTORS		R2572	C-2	R2647	B-4	R3506	A-2
C2560	C-3	C2670	A-3	D2648	A-4	R2501	E-2	R2573	C-2	R2649	B-4	R3568	C-3
C2561	C-3	CONNECTORS		D2649	A-4	R2504	A-2	R2574	B-2	R2650	A-4	R3576	D-2
C2574	A-2	CL2501A	A-2	D2651	C-4	R2505	A-2	R2576	D-2	R2651	B-4	R3580	D-3
C2577	D-2	CN1	B-3	D2661	B-4	R2506	B-2	R2577	D-2	R2652	B-3	MISCELLANEOUS	
C2578	D-2	CN2	B-3	D2662	B-4	R2541	A-1	R2580	D-2	R2653	B-4	BC2501	B-1
C2583	A-2	CN2502	A-4	ICS		R2542	A-1	R2581	D-2	R2655	A-4	BC2602	B-3
C2584	A-2	CN2503	B-4	IC2551	C-2	R2543	A-1	R2583	A-2	R2656	B-4	BC2603	B-4
C2586	A-2	CN2571	C-1	IC2602	A-4	R2550	C-3	R2584	A-2	R2657	B-4	BC2604	C-4
C2588	B-2	DIODES		IC3603	B-4	R2551	C-3	R2585	C-3	R2659	B-4	BC2605	C-4
C2590	B-2	D2552	C-3	IC3604	B-4	R2552	C-3	R2586	A-2	R2660	B-4	JK2601	A-3
C2591	A-2	D2571	C-2	COILS		R2555	C-4	R2587	A-3	R2669	C-4	T2571	B-1
C2592	A-2	D2572	A-2	L2505	A-4	R2556	C-2	R2588	A-2	R2671	B-4	T2572	C-2
C2594	A-4	D2584	C-4	L2610	C-4	R2557	C-2	R2589	D-2	R2672	B-4	TEST POINTS	
C2595	B-1	D2585	A-1	L2613	B-4	R2558	C-2	R2590	D-2	R2673	B-4	TP2501	A-4
C2601	A-3	D2586	A-1	L2621	A-4	R2559	B-2	R2591	B-2	R2675	A-4	TP2502	B-4
C2604	A-4	D2591	B-2	TRANSISTORS		R2560	B-2	R2592	A-2	R2676	A-4	TP2503	B-4
C2610	A-3	D2595	C-3	Q2571	C-2	R2561	B-2	R2593	A-2	R2677	A-4	TP2504	B-4
C2616	C-4	D2596	C-3	Q2591	D-2	R2562	B-3	R2594	A-2	R2678	B-4	TP2505	C-4

Sub CBA Top View < TV/VCR Section >



Sub CBA Bottom View < TV/VCR Section >



WF20
J2537
SPDIF

WF11
PIN 5
CN2571

WF10
Q2571
Collector

WF9
TP2503
H-DRIVE

4

3

2

1

E

D

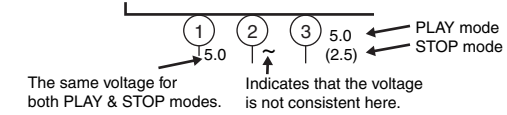
C

B

A

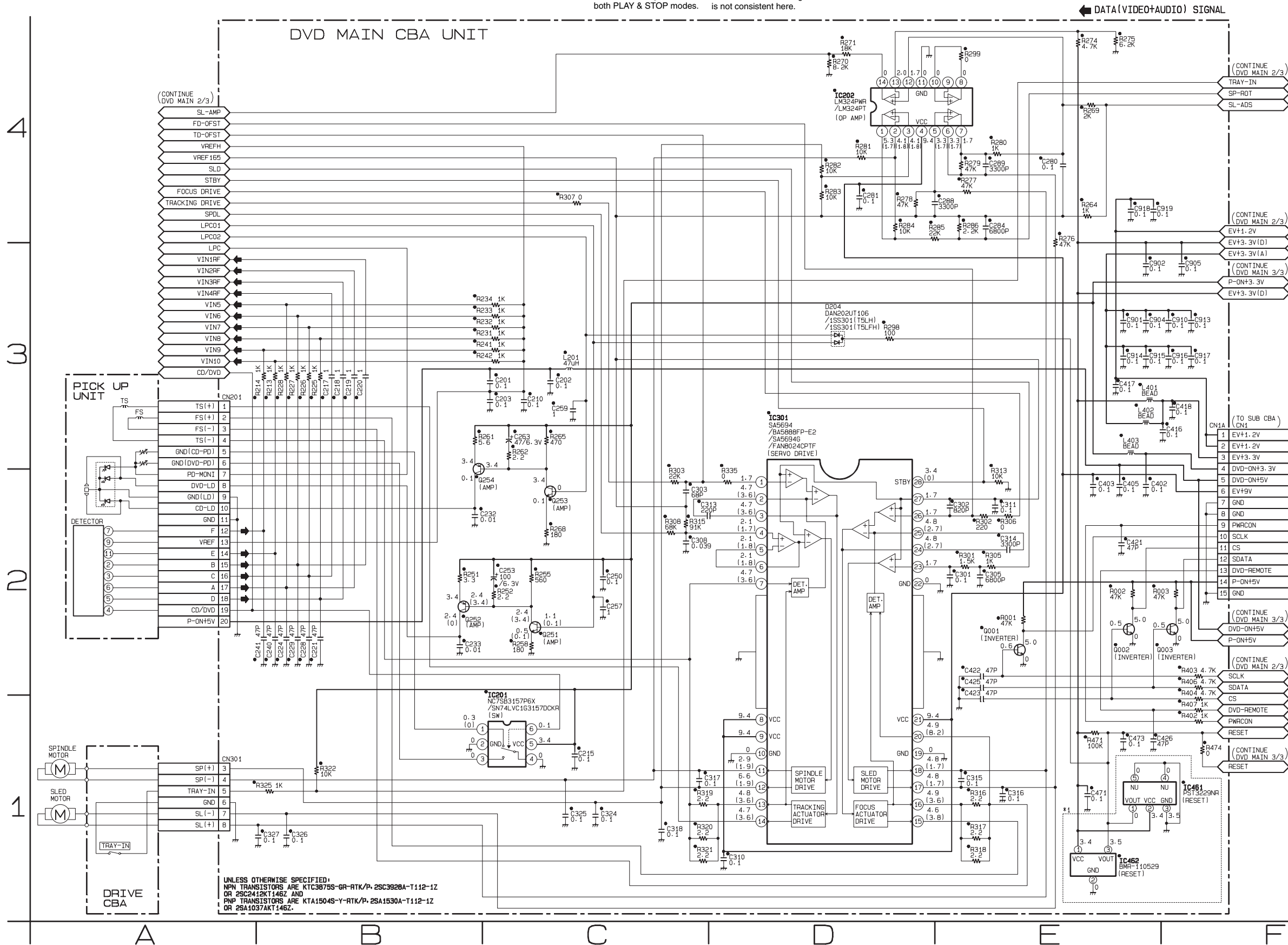
DVD Main 1/3 Schematic Diagram < DVD Section >

Voltage indications for PLAY and STOP modes on the Schematic Diagrams are as shown below:



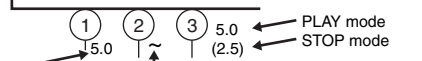
***1 NOTE:**

Either IC461 or IC462 is used for DVD MAIN CBA UNIT.

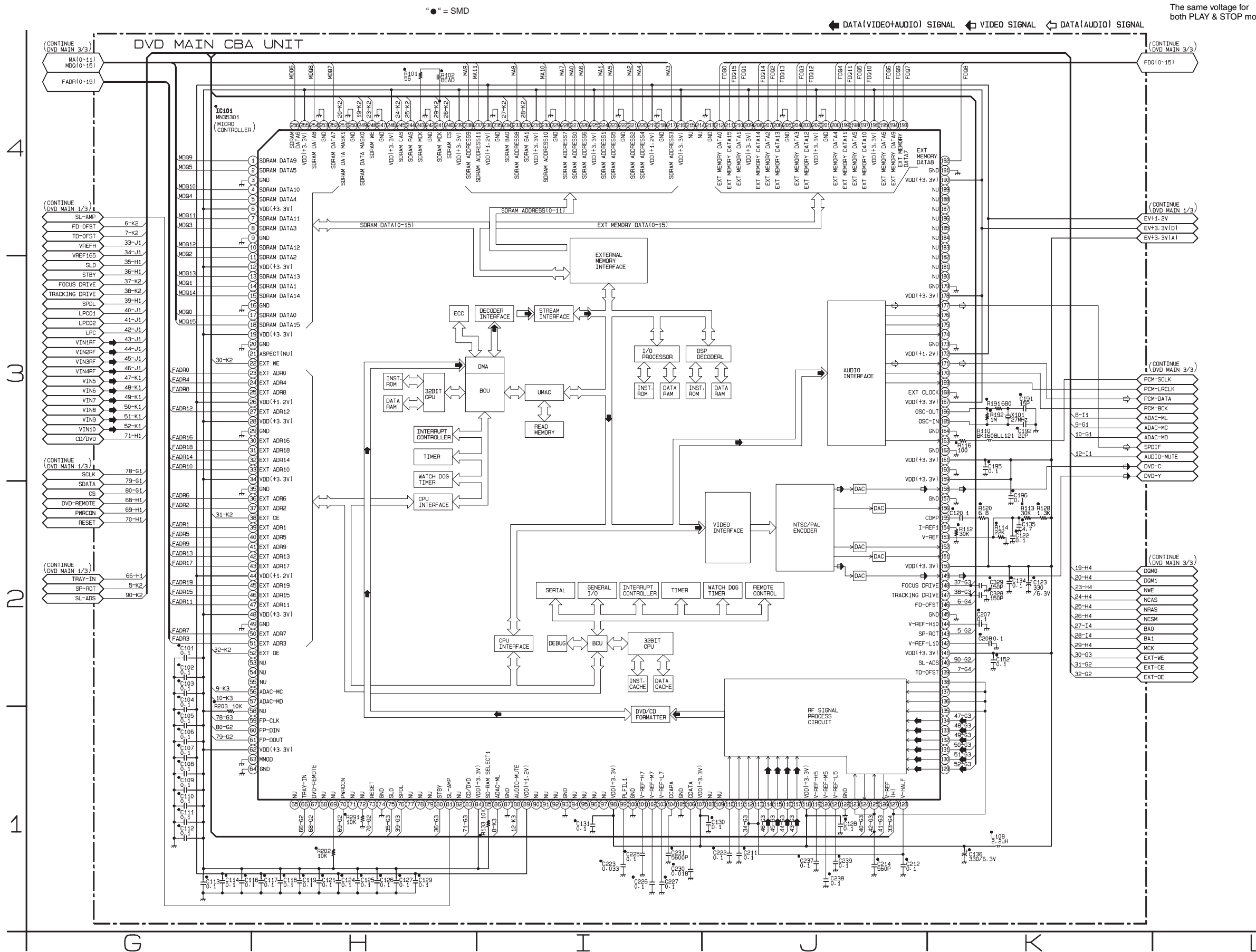


DVD Main 2/3 Schematic Diagram < DVD Section >

Voltage indications for PLAY and STOP modes on the Schematic Diagrams are as shown below:



The same voltage for both PLAY & STOP modes. Indicates that the voltage is not consistent here.



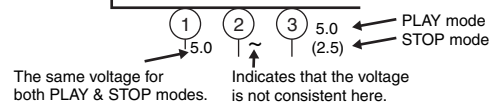
IC101 Voltage Chart

~ : Voltage is not consistent ---- : Not used Unit : Volts

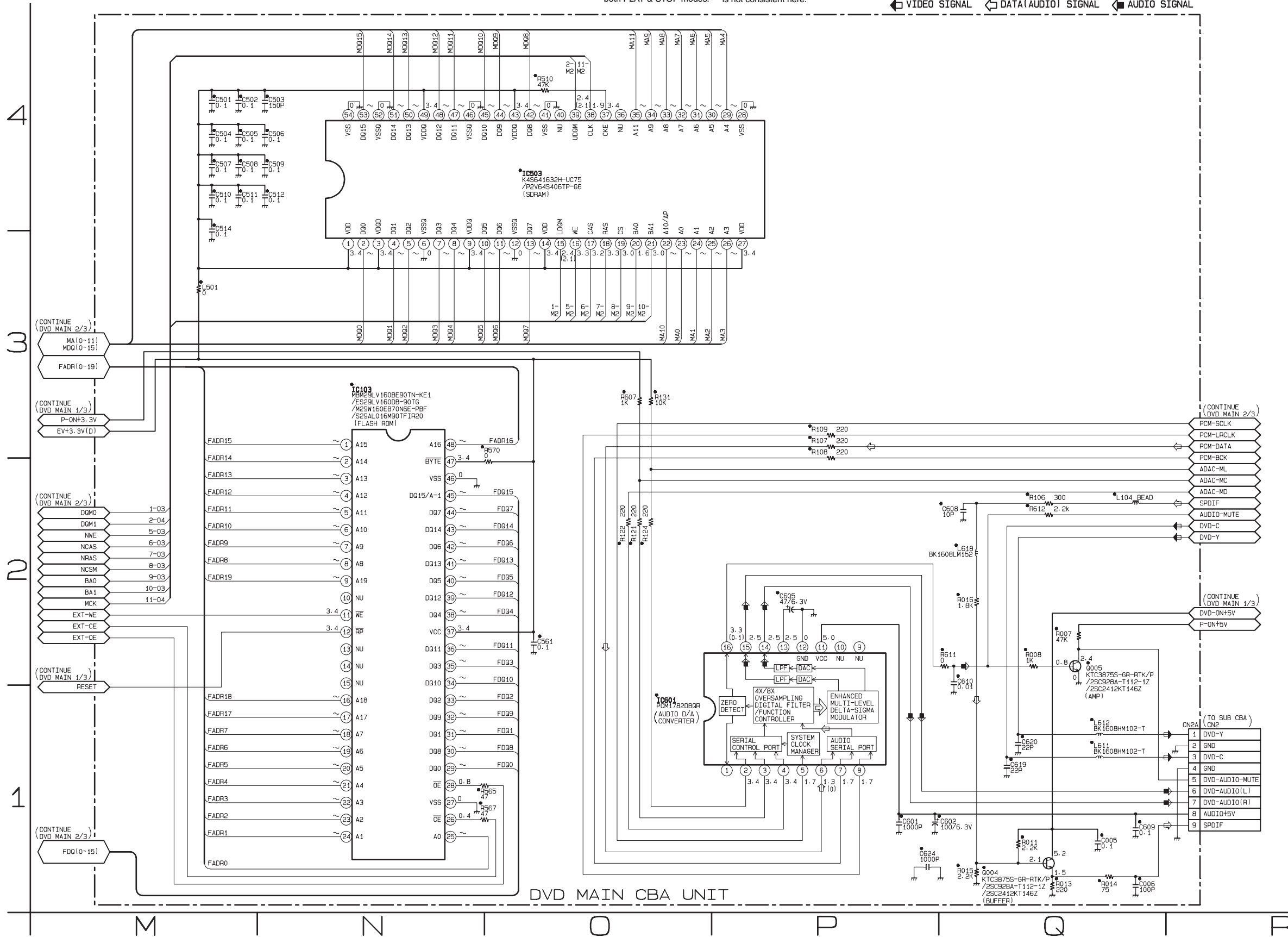
PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP
1	~	~	33	~	~	65	----	----	97	----	----	129	2.3	2.3	161	3.4	3.4	193	~	~	225	3.4	3.4
2	~	~	34	3.4	3.4	66	3.4	3.5	98	3.4	3.4	130	2.3	2.3	162	0	0	194	~	~	226	~	~
3	0	0	35	0	0	67	3.2	3.2	99	0.9	0.8	131	2.3	2.3	163	1.8	1.8	195	~	~	227	~	~
4	~	~	36	~	~	68	----	----	100	0	0	132	2.4	2.3	164	0	0	196	3.4	3.4	228	~	~
5	~	~	37	~	~	69	3.4	3.4	101	2.4	2.4	133	2.4	2.4	165	1.7	1.8	197	~	~	229	0	0
6	3.4	3.4	38	0.4	0.3	70	3.4	3.4	102	2.2	2.2	134	2.4	2.4	166	1.7	1.7	198	~	~	230	~	~
7	~	~	39	~	~	71	----	----	103	1.9	1.9	135	2.3	2.3	167	3.4	3.4	199	~	~	231	3.4	3.4
8	~	~	40	~	~	72	1.4	2.7	104	0.4	0.3	136	2.3	2.3	168	0	0	200	~	~	232	1.3	1.6
9	0	0	41	~	~	73	3.5	3.5	105	0	0	137	2.3	2.3	169	1.8	1.8	201	0	0	233	~	~
10	~	~	42	~	~	74	0	0	106	1.7	1.7	138	2.3	2.3	170	1.7	1.7	202	3.4	3.4	234	1.9	2.3
11	~	~	43	~	~	75	1.7	1.8	107	3.4	3.4	139	1.7	1.7	171	1.3	0.1	203	~	~	235	0	0
12	3.4	3.4	44	1.3	1.3	76	2.3	1.8	108	----	----	140	1.7	1.7	172	1.3	1.3	204	~	~	236	1.3	1.3
13	~	~	45	~	~	77	----	----	109	----	----	141	3.4	3.4	173	0	0	205	0	0	237	~	~
14	~	~	46	~	~	78	----	----	110	1.9	1.9	142	1.3	1.3	174	----	----	206	~	~	238	~	~
15	~	~	47	~	~	79	----	----	111	1.9	1.9	143	2.1	1.7	175	----	----	207	~	~	239	3.4	3.4
16	0	0	48	3.4	3.4	80	3.4	0	112	1.7	1.7	144	2.2	2.2	176	----	----	208	~	~	240	3.4	3.3
17	~	~	49	0	0	81	0.1	0.1	113	1.7	1.7	145	0	0	177	1.8	1.7	209	3.4	3.4	241	1.9	1.9
18	~	~	50	~	~	82	----	----	114	1.7	1.7	146	1.7	1.7	178	3.4	3.5	210	~	~	242	0	0
19	3.4	3.4	51	~	~	83	0.1	0.1	115	1.7	1.7	147	1.8	1.7	179	0	0	211	~	~	243	1.9	1.9
20	0	0	52	0.8	0.8	84	3.4	3.4	116	1.7	1.7	148	1.7	1.7	180	----	----	212	~	~	244	3.4	3.3
21	----	----	53	----	----	85	0.1	0.1	117	1.7	1.7	149	0.6	0.5	181	----	----	213	0	0	245	3.4	3.4
22	3.4	3.4	54	----	----	86	3.6	3.4	118	3.4	3.4	150	3.4	3.4	182	----	----	214	----	----	246	3.4	3.4
23	~	~	55	----	----	87	0	0	119	2.0	2.0	151	----	----	183	----	----	215	----	----	247	0	0
24	~	~	56	3.4	3.4	88	3.5	0.1	120	1.7	1.7	152	----	----	184	----	----	216	3.4	3.4	248	3.3	3.4
25	~	~	57	3.5	3.5	89	1.3	1.3	121	1.5	1.5	153	1.4	1.3	185	----	----	217	~	~	249	3.2	3.0
26	1.3	1.3	58	3.4	3.4	90	----	----	122	0	0	154	1.4	1.3	186	----	----	218	0	0	250	0	0
27	~	~	59	3.4	3.4	91	----	----	123	0.3	0.1	155	2.4	2.4	187	----	----	219	1.3	1.3	251	3.2	3.0
28	3.4	3.4	60	3.4	3.4	92	----	----	124	1.1	0.1	156	----	----	188	----	----	220	~	~	252	~	~
29	0	0	61	3.5	3.5	93	0	0	125	0.3	0.1	157	0	0	189	----	----	221	~	~	253	0	0
30	~	~	62	3.4	3.4	94	----	----	126	0.1	0.1	158	0.9	0.9	190	3.4	3.5	222	0	0	254	~	~
31	~	~	63	0	0	95	----	----	127	2.3	2.3	159	3.4	3.4	191	0	0	223	~	~	255	3.4	3.4
32	~	~	64	0	0	96	----	----	128	1.7	1.7	160	0	0	192	~	~	224	~	~	256	~	~

DVD Main 3/3 Schematic Diagram < DVD Section >

Voltage indications for PLAY and STOP modes on the Schematic Diagrams are as shown below:

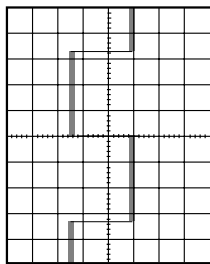


◀ VIDEO SIGNAL ◀ DATA (AUDIO) SIGNAL ◀ AUDIO SIGNAL

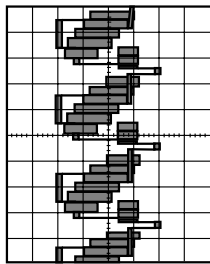


WAVEFORMS

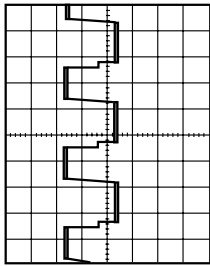
Input: NTSC Color-Bar Signal (with 1kHz Audio Signal) --- WF1 - WF16
 DVD Video (Power on (Stop) MODE) --- WF17, WF18
 CD (1KHz Play) --- WF19, WF20
INITIAL POSITION: Unplug unit from AC outlet for at least five minutes, reconnect to AC outlet and then turn power on.
 (Brightness---Center Color---Center Tint --- Center Contrast---Approx 70%)



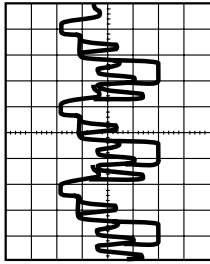
WF1 1DIV: 2V 5ms
TP1402 RF-SW



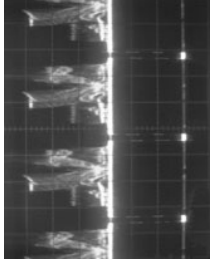
WF5 1DIV: 0.5V 20µs
TP1401 V-OUT



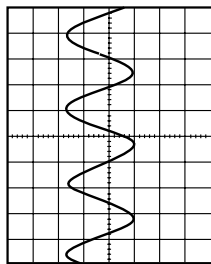
WF9 1DIV: 1V 20µs
TP2503 H-DRIVE



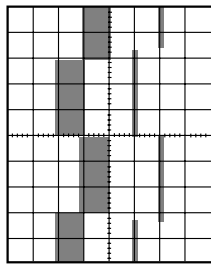
WF13 1DIV: 20V 20µs
Q2502 COLLECTOR



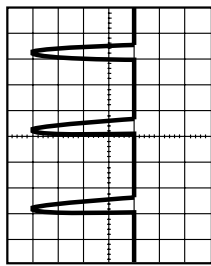
WF17 1DIV: 0.1V 20µs
TP1672 DVD-Y



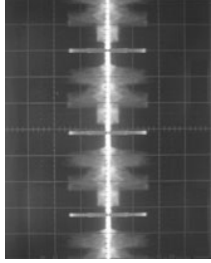
WF2 1DIV: 0.2V 0.1µs
IC1401 Pin 49



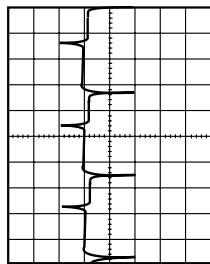
Upper: **WF6** Lower: **WF1**
1DIV: 0.2V 2DIV: 5V 5ms
JMI1403 ENV.



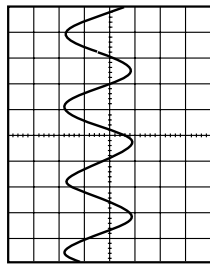
WF10 1DIV: 200V 20µs
Q2571 COLLECTOR



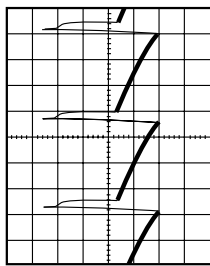
WF18 1DIV: 0.1V 20µs
TP1673 DVD-C



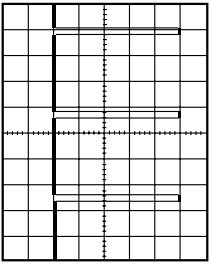
WF3 1DIV: 1V 10ms
TP1202 CTL-AMP-OUT



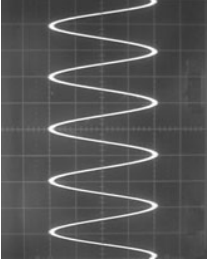
WF7 1DIV: 0.5V 0.5ms
IC1401 PIN10



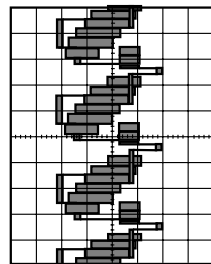
WF11 1DIV: 10V 5ms
CN2571 PIN5



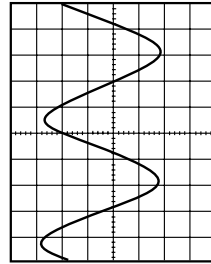
WF15 1DIV: 1V 20µs
IC1201 PIN58



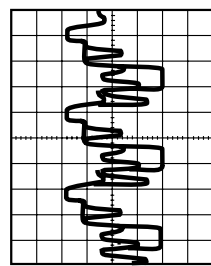
WF19 1DIV: 1V 0.5ms
TP1001 DVD-AUDIO-L



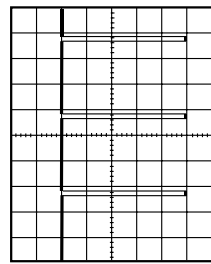
WF4 1DIV: 0.25V 20µs
IC1401 Pin 32



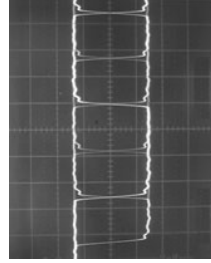
WF8 1DIV: 0.5V 0.5ms
IC1401 PIN9



WF12 1DIV: 20V 20µs
Q2503 COLLECTOR



WF16 1DIV: 1V 5ms
IC1201 PIN59

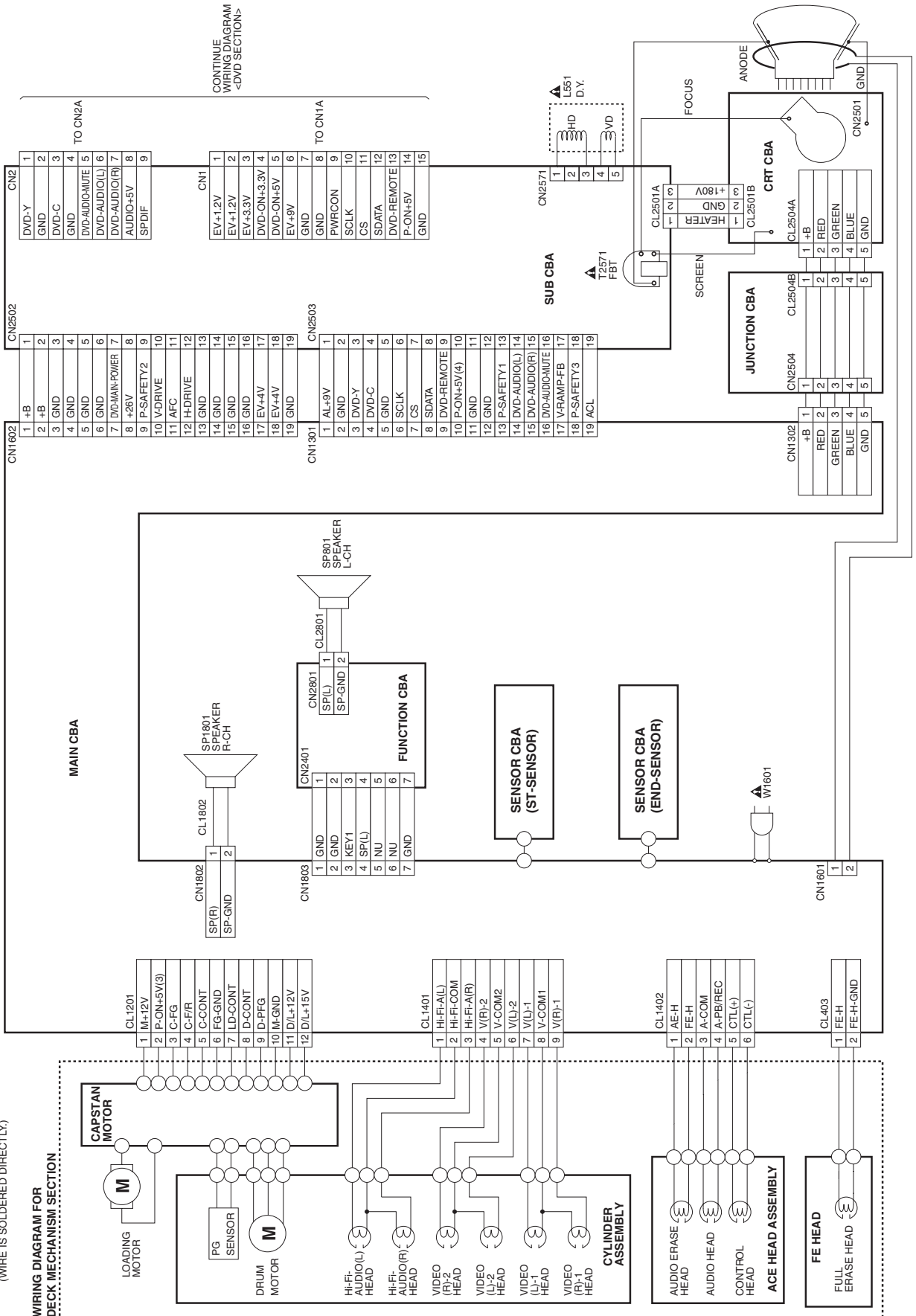


WF20 1DIV: 1V 0.1µs
J2537 SPDIF

WIRING DIAGRAM < TV/VCR Section >

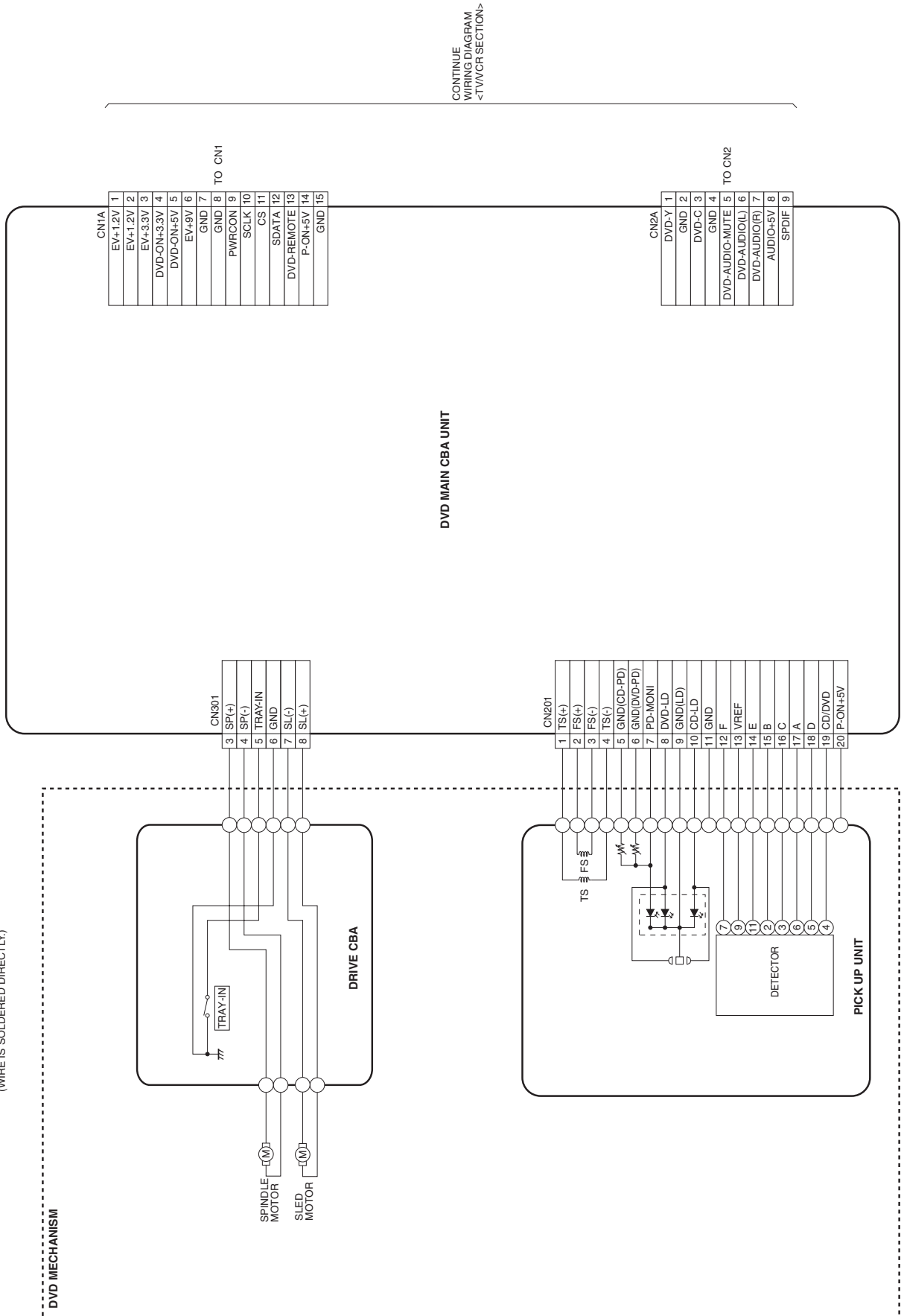
NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 (CAN DISCONNECT AND RECONNECT).
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER
 HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY)

**WIRING DIAGRAM FOR
DECK MECHANISM SECTION**



WIRING DIAGRAM < DVD Section >

NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 (CAN DISCONNECT AND RECONNECT)
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER
 HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY.)



CONTINUE
 WIRING DIAGRAM
 <TV/GR SECTION>

SYSTEM CONTROL TIMING CHARTS

< TV/VCR Section >

Mode SW: LD-SW

LD-SW Position detection A/D Input voltage Limit (Calculated voltage)	Symbol
3.76 V ~ 4.50 V (4.12 V)	EJ
4.51 V ~ 5.00 V (5.00 V)	CL
0.00 V ~ 0.25 V (0.00 V)	SB
1.06 V ~ 1.50 V (1.21 V)	TL
0.66 V ~ 1.05 V (0.91 V)	FB
1.99 V ~ 2.60 V (2.17 V)	SF
1.51 V ~ 1.98 V (1.80 V)	SM
3.20 V ~ 3.75 V (3.40 V)	AU
0.26 V ~ 0.65 V (0.44 V)	AL
4.51 V ~ 5.00 V (5.00 V)	SS
2.61 V ~ 3.19 V (2.97 V)	RS

↑
Note:

Note: EJ → RS: Loading FWD (LM-FWD / REV "H")
 RS → EJ: Loading REV (LM-FWD / REV "L")
 Stop (A) = Loading
 Stop (B) = Unloading

Note:

Symbol	Loading Status
EJ	Eject
CL	Eject ~ REW Reel
SB	REW Reel ~ Stop (B)
TL	Stop (B) ~ Brake Cancel
FB	Brake Cancel ~ FF / REW
SF	FF / REW ~ Stop (M), (FF / REW)
SM	Stop (M), (FF / REW) ~ Stop (A)
AU	Stop (A) ~ Play / REC
AL	Play / REC ~ Still / Slow
SS	Still / Slow ~ RS (REW Search)
RS	RS (REW Search)

Chart 1

1) SP MODE

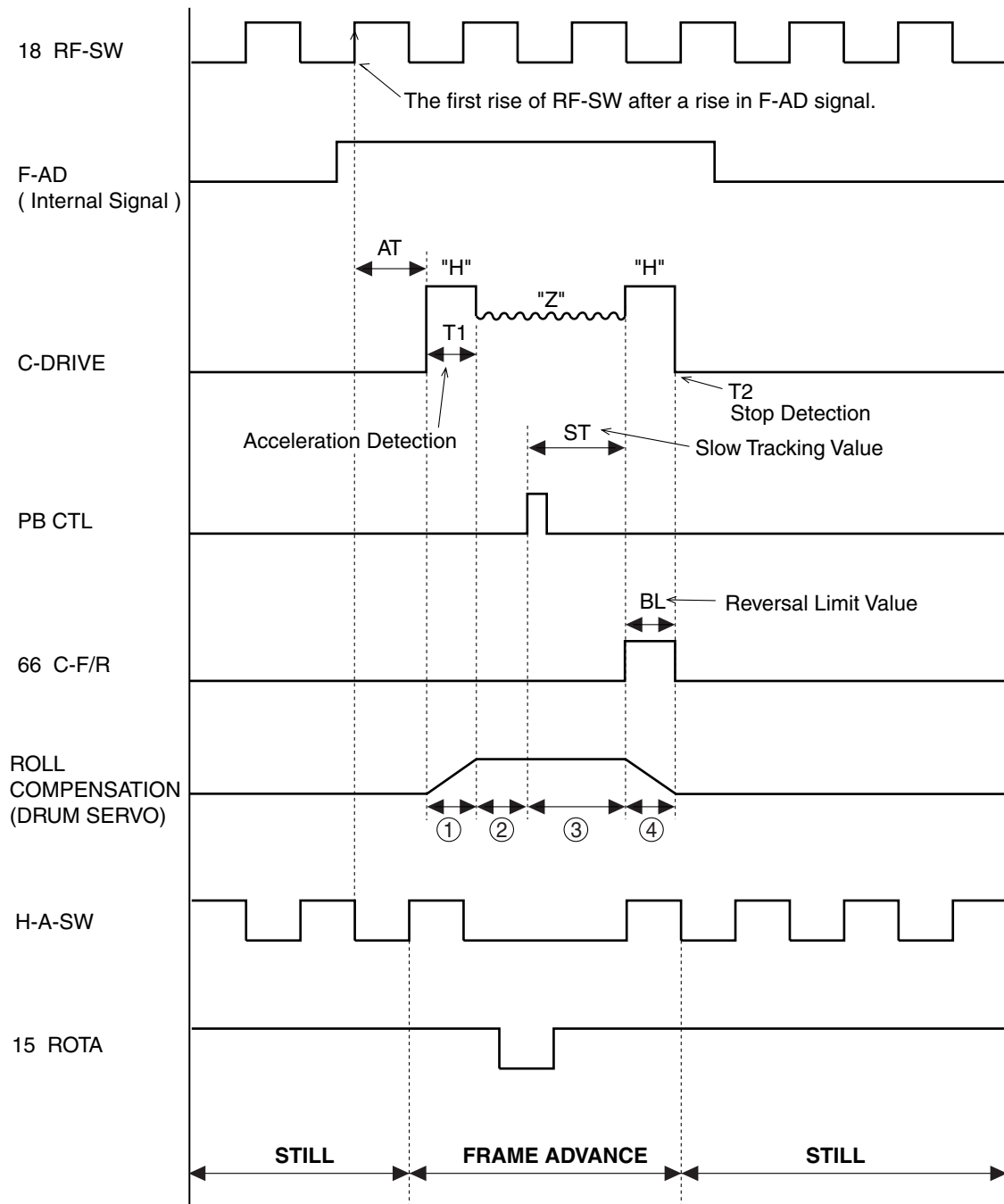


Chart 2

2) LP/EP MODE

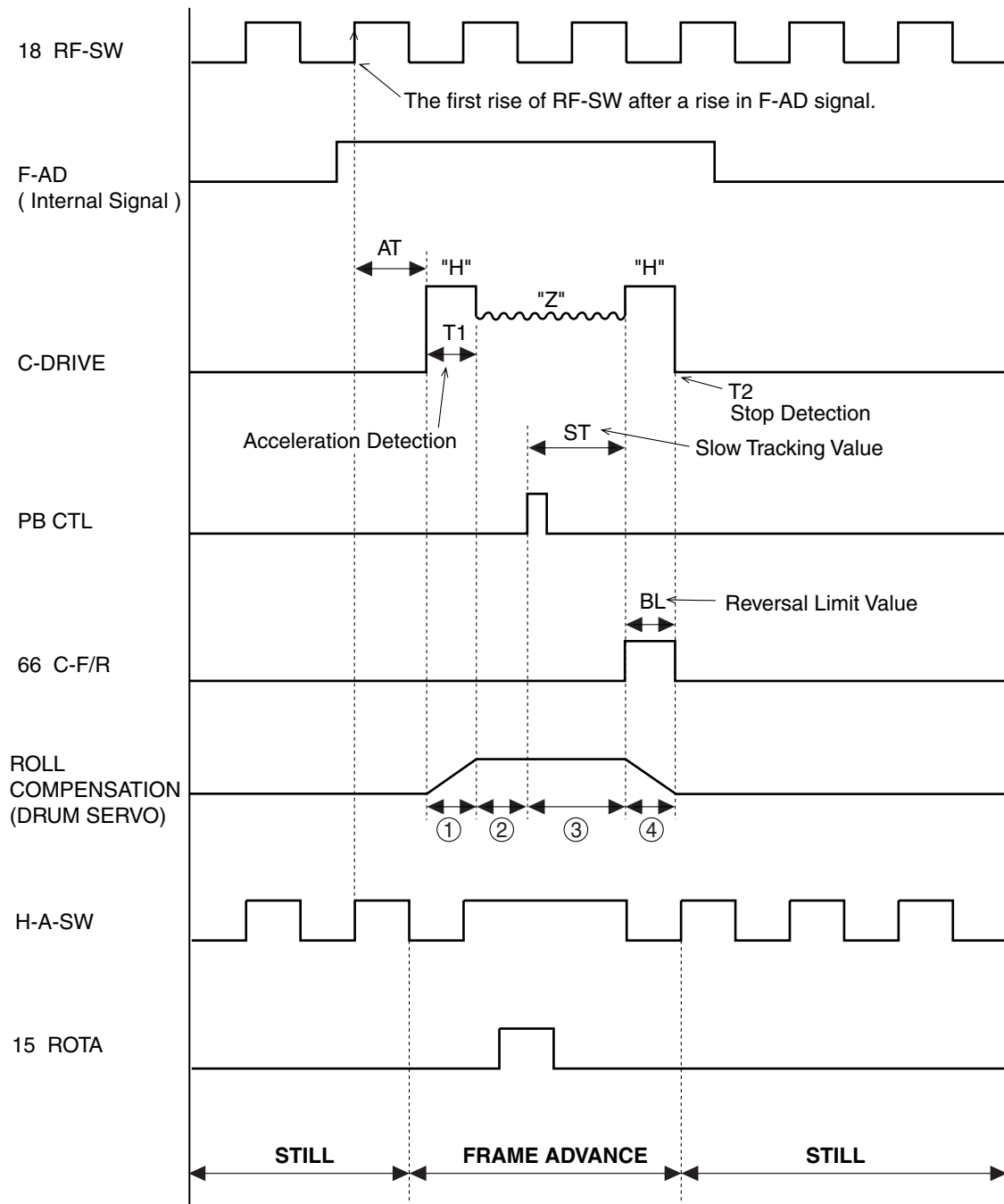


Chart 3

1. EJECT (POWER OFF) -> CASSETTE IN (POWER ON) -> STOP(B) -> STOP(A) -> PLAY -> RS -> FS -> PLAY -> STILL/SLOW -> PLAY -> STOP(A)

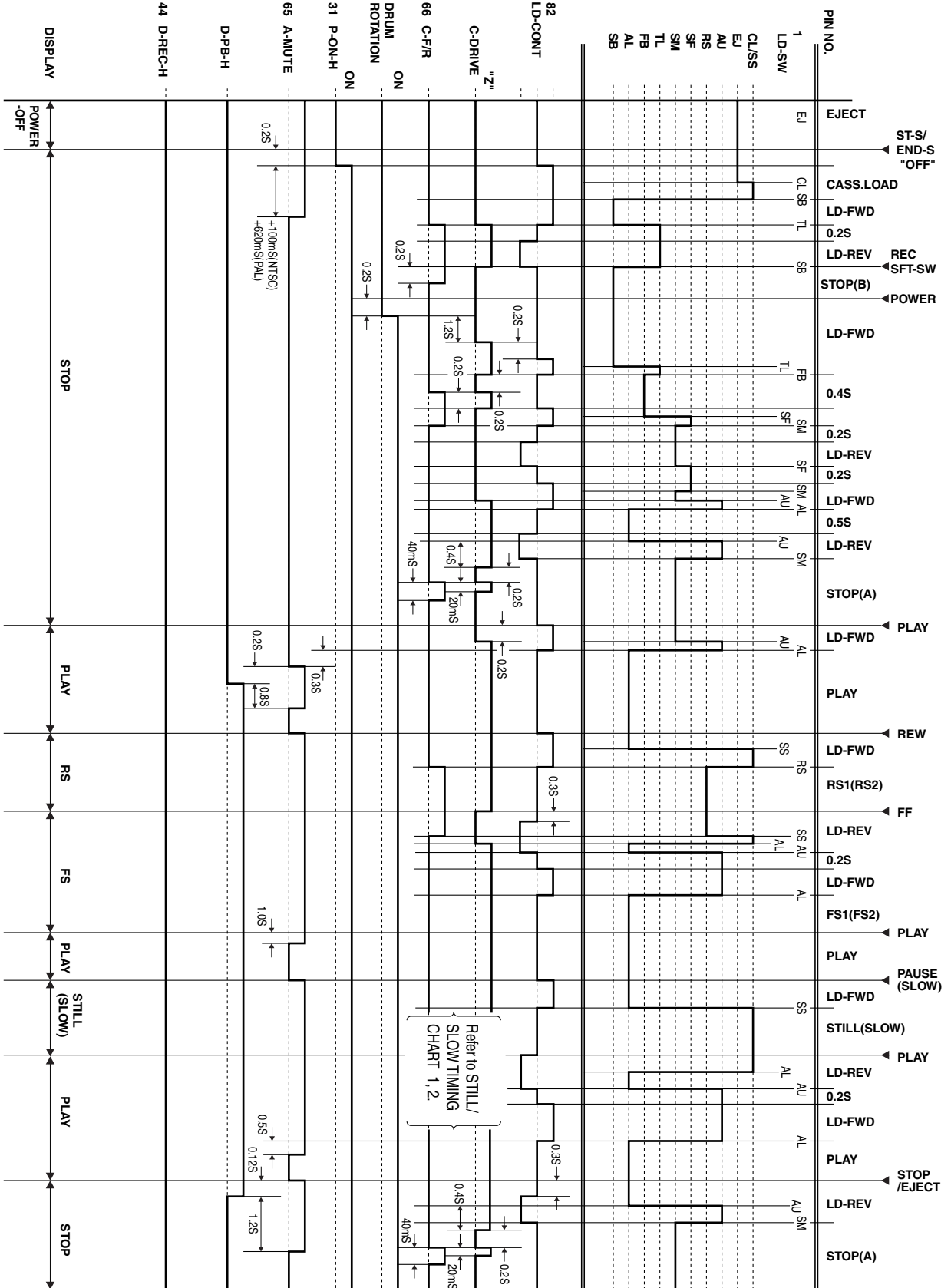
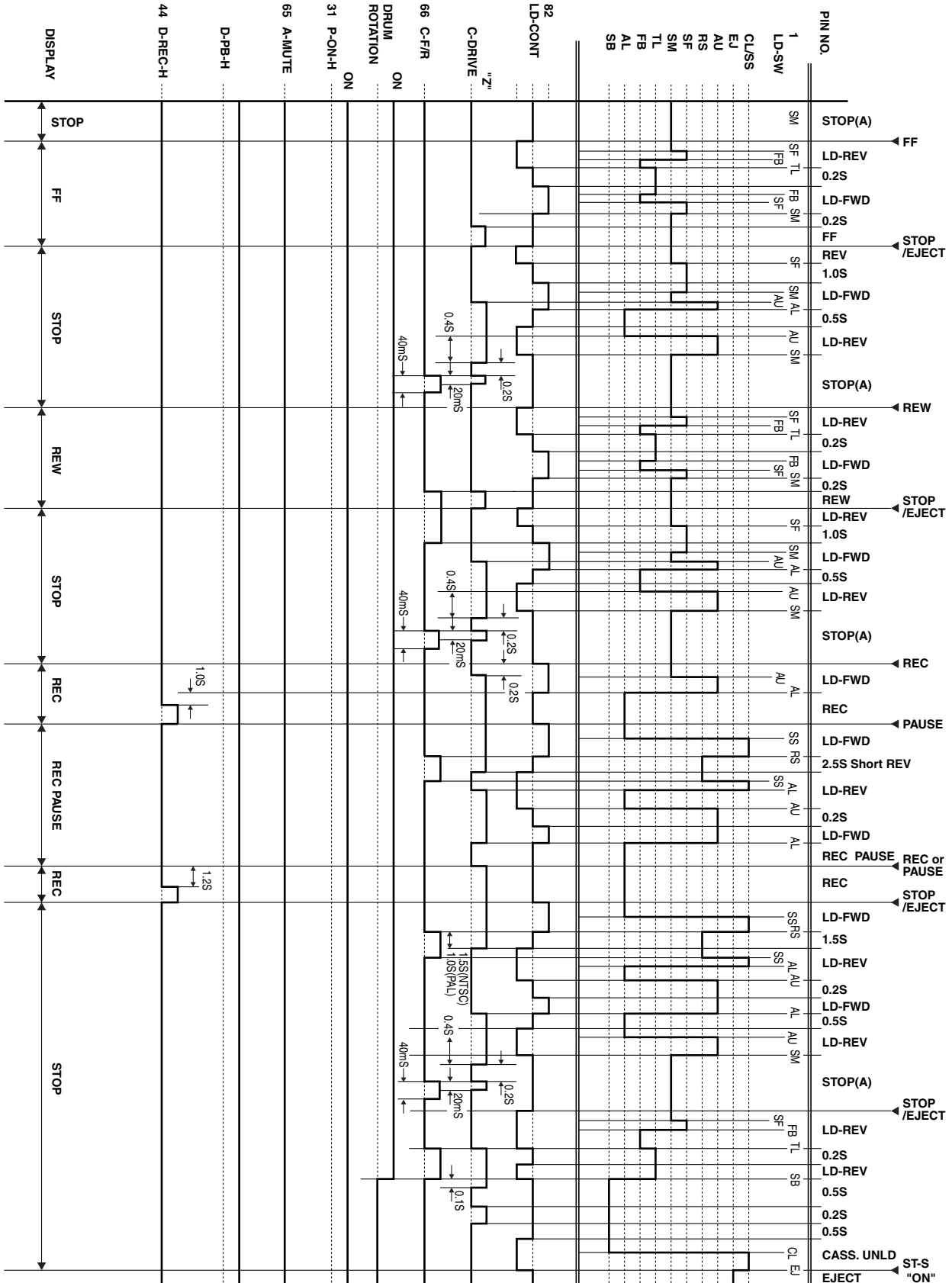


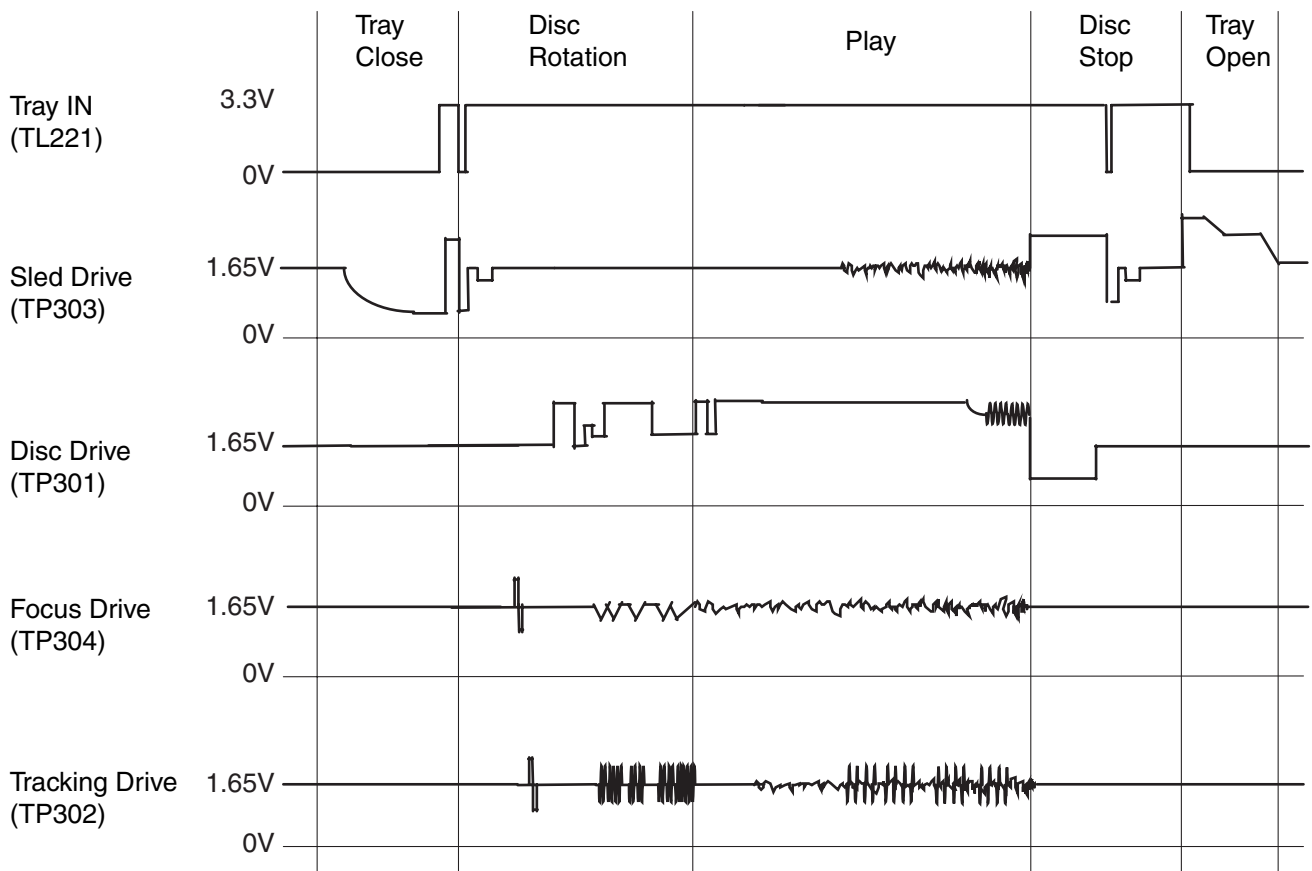
Chart 4

2. STOP(A) -> FF -> STOP(A) -> REW -> STOP(A) -> REC -> PAUSE -> PAUSE or REC -> STOP(A) -> EJECT



< DVD Section >

Tray Close ~ Play / Play ~ Tray Open



IC PIN FUNCTION DESCRIPTIONS

IC1201 (TV/VCR Micro Controller IC)

“H” ≥ 4.5 V, “L” ≤ 1.0 V

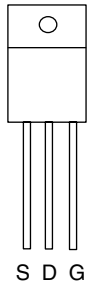
Pin No.	IN/OUT	Signal Name	Function
1	IN	LD-SW	Loading Switch Input
2	OUT	DVD-LED	DVD-LED Output
3	IN	P-SAFETY 2	Power Supply Failure Detection 2
4	IN	ST/SAP-IN	Tuner Stereo/Sap Detector Signal Input
5	IN	KEY0	Key 0 Input
6	IN	KEY1	Key 1 Input
7	IN	END-SENS	End-Sensor
8	IN	AFT	AFT Input
9	IN	ST-SENS	Start-Sensor
10	IN	V-ENV	Video Envelope Input
11	OUT	VOLUME	Volume Adjustment Output
12	OUT	SP-MUTE	Speaker Mute Output
13	OUT	DV-SYNC	Artificial V-Sync Output
14	IN	REMOTE	Remote Signal Input
15	OUT	ROTA	Color Phase Rotary Changeover Signal
16	OUT	V-H-SW	Video Head Amp Switching Pulse
17	IN	ENV-DET	Envelope Comparator Signal
18	OUT	RF-SW	Video Head Switching Pulse
19	OUT	Hi-Fi-H-SW	HiFi Audio Head Switching Pulse
20	OUT	D-PB-L	Output in Playback
21	OUT	REC-LED	Recording LED Control Signal
22	IN	NORMAL-H	Audio Mode Input Signal
23	OUT	ACL-CONT	ACL Control Signal
24	-	NU	Not Used
25	-	DVD-REMOTE	Remote Control Signal to DVD
26	OUT	TV/VCR-LED	TV/VCR Mode LED Control Signal
27	-	NU	Not Used
28	-	NU	Not Used
29	OUT	D-REC-H	Delayed Record Signal
30	-	NU	Not Used
31	OUT	P-ON-H	Power On Signal at High
32	-	NU	Not Used
33	IN	REC-SAFETY	Record Protection Tab Detection

Pin No.	IN/OUT	Signal Name	Function
34	IN	RESET	System Reset Signal (Reset = “L”)
35	IN	XC-IN	Sub Clock 32 kHz
36	OUT	XC-OUT	Sub Clock 32 kHz
37	-	TIMER+5V	Vcc
38	IN	X-IN	Main Clock Input
39	OUT	X-OUT	Main Clock Output
40	-	GND	GND
41	OUT	SPOT-KILL	Counter-measure for Spot
42	IN	DVD-MAIN-POWER	Power On Signal to High for DVD
43	IN	CLKSEL	Clock Select (GND)
44	OUT	D-REC-H	Delayed Record Signal
45	IN	I2C-OPEN	White Balance Adjust Mode Judgment
46	-	GND	GND
47	IN	DVD-AUDIO-MUTE	DVD Audio Mute Signal
48	OUT	DVD-H	DVD at High
49	-	GND	OSD GND
50	IN	CS	DVD Interface Chip Select
51	IN	SCLK	DVD Interface Communication Clock
52	IN	SDATA	DVD Interface Serial Data
53	-	P-ON+5V	OSD Vcc
54	-	HLF	HLF
55	IN	V-HOLD	VHOLD
56	IN	CV-IN	Video Signal Input
57	-	GND	GND
58	IN	H-SYNC	H-SYNC Input
59	IN	V-SYNC	V-SYNC Input
60	OUT	OSD-BLK	Output for Picture Cut off
61	-	NU	Not Used
62	OUT	OSD-B	Blue Output
63	OUT	OSD-G	Green Output
64	OUT	OSD-R	Red Output
65	OUT	AUDIO-MUTE	Audio Mute Output
66	OUT	C-F/R	Capstan Motor FWD/REV Control Signal
67	OUT	D-REC-L/PLAY-H	Recording/Playback Output
68	OUT	YCA-SDA	YCA IC Control Data
69	OUT	YCA-CS	YCA IC Control Chip Select
70	OUT	YCA-SCL	YCA IC Control Clock

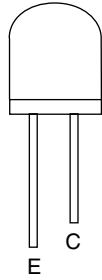
Pin No.	IN/ OUT	Signal Name	Function
71	OUT	SCL	E2PROM/CHROMA IC Tuner Communication Clock
72	IN/ OUT	SDA	E2PROM/CHROMA IC Tuner Communication Data
73	-	NU	Not Used
74	IN	C-SYNC	C-Sync Input
75	-	NU	Not Used
76	OUT	C-CONT	Capstan Motor Control Signal
77	OUT	D-CONT	Drum Motor Control Signal
78	IN	P-SAFETY 3	Power Supply Failure Detection 3
79	-	NU	Not Used
80	IN	T-REEL	Take Up Reel Rotation Signal
81	-	NU	Not Used
82	OUT	LD-CONT	Loading Motor Control Signal
83	-	NU	Not Used
84	IN	P-DOWN	Power Voltage Down Detector Signal
85	-	NU	Not Used
86	-	NU	Not Used
87	IN	C-FG	Capstan Motor Rotation Detection Pulse
88	-	GND	GND (AMP)
89	-	NU	Not Used
90	IN	D-PFG	Drum Motor Pulse Generator
91	-	NU	Not Used
92	OUT	AMP VREF IN	Standard Voltage Input
93	-	C	C
94	IN/ OUT	CTL (-)	CTL (-)
95	IN/ OUT	CTL (+)	CTL (+)
96	-	AMPC	AMPC
97	OUT	CTL-AMP-OUT	Control Amp Output
98	-	P-ON+5V	Power Supply for AMP
99	-	AL+5V	A/D, D/A Standard Voltage
100	IN	P-SAFETY 1	Power Supply Failure Detection 1

LEAD IDENTIFICATIONS

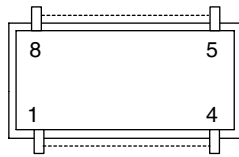
2SK3563
RDX050N50 FD5



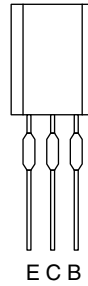
MID-32A22F
PT204-6B-12



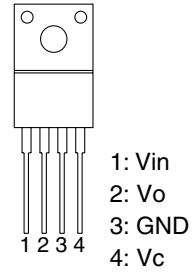
AN17812A



2SD400(E,F)

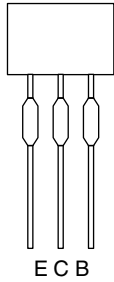
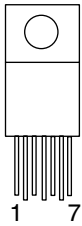


PQ070XF01SZH

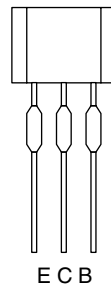


1: Vin
2: Vo
3: GND
4: Vc

LA78040A
AN15524A



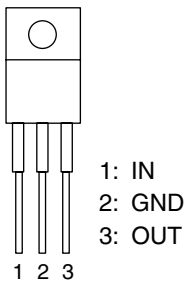
2SA1015-GR(TPE2)
2SC1815-GR(TPE2)
2SC2120-O-TPE2
2SC2120-Y(TPE2)
KTC3207



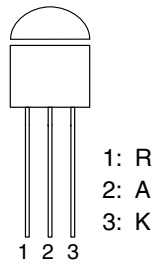
2SA1175(F)
2SA950(O,Y)
2SC1627Y-TPE2
2SC2785(F)
2SC3331(T,U)
2SC3400
2SC2482 TPE6
KTA1266(GR)

BA1F4M-T
BN1F4M-T
KRA103M
KRC103M
KTA1267(GR)
KTA1271(Y)
KTC3199(GR)
KTC3198(GR)

KA7805A
KIA7805API
UA7805CKCE3

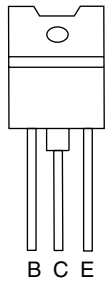


KIA431-AT

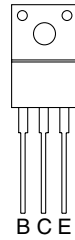


1: R
2: A
3: K

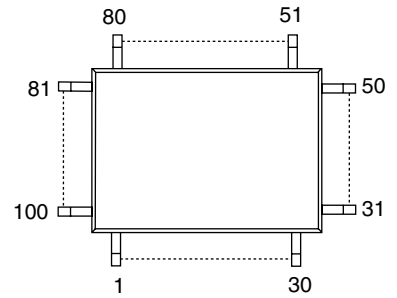
TT2140LS-YB11



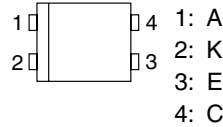
2SC5885000RF



M3776AMCH-BA2GP

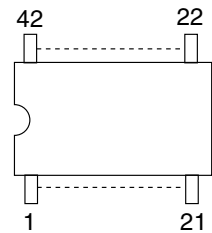


LTV-817C-F
PC817X6

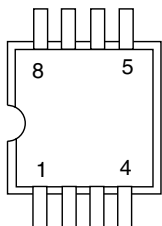


1: A
2: K
3: E
4: C

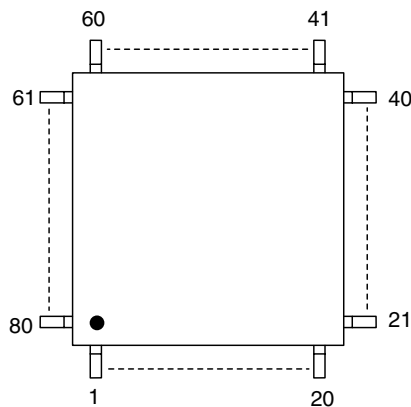
M61275FP TF1H



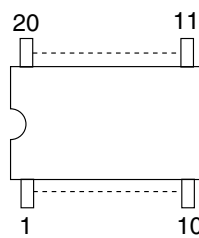
BR24C02F-W
BR24L02F-WE2
CAT24WC02JI
M24C02-WMN6P



LA71205M-MPB-E
LA72670BM-MPB-E
LA72670M-A-MPB-E



M61116FP TF0G



Note:

- A: Anode
- K: Cathode
- E: Emitter
- C: Collector
- B: Base
- R: Reference
- S: Source
- G: Gate
- D: Drain

ELECTRICAL PARTS LIST**MISCELLANEOUS**

9965 000 28878	DVD MAIN CBA UNIT
9965 000 29338	MPS CBA
9965 000 28880	MMA CBA
9965 000 28882	SENSOR CBA

MPS CBA UNIT

MPS CBA UNIT consists of SUB CBA, CRT CBA, FUNCTION CBA and JUNCTION CBA

SUB CBA**MISCELLANEOUS**

BC2501	9965 000 13874	BEAD INDUCTORS FBA04HA600VB-00
JK2601	9965 000 29032	RCA JACK MSP-241V-05 PBSN W/O
T2571!	9965 000 29033	△ FLYBACK TRANSFO JF0501-3201A
T2571! *	9965 000 29034	△ FLYBACK TRANS BSC22-2697S
T2572!	9965 000 13904	△ HORIZONTAL DRIVE TRANS LP2-005

CAPACITORS

C2531	9965 000 29353	METALLIZED FILM CAP. 0.47UF/200V
C2531 *	9965 000 29354	P.P.CAP 0.47UF/200 J
C2531 *	9965 000 29355	PP CAP. 0.47UF/250V J
C2533!	9965 000 29356	△ P.P.CAP 0.01UF/1.6KV J
C2533! *	9965 000 29357	△ PP CAP. 0.01UF/1.6KV J
C2533! *	9965 000 29358	△ PP FILM CAP. 0.01UF/1.6KV
C2533! *	9965 000 29359	△ METALLIZED FILM CAP. 0.01UF/1.6KV
C2574!	9965 000 22656	△ ELECTROLYTIC CAP. 4.7UF/250V M
C2574! *	9965 000 29008	△ ELCAP. 4.7UF/250V M
C2583	9965 000 22654	ELECTROLYTIC CAP. 1UF/160V M
C2583 *	9965 000 29009	ELCAP. 1UF/160V M
C2594	9965 000 29010	ELCAP. 47UF/160V M W/F
C2594 *	9965 000 29011	ELCAP. 47UF/160V M W/F
C2594 *	9965 000 24185	ELECTROLYTIC CAP. 47UF/160V M W/
C2595!	9965 000 29360	△ CERAMIC CAP. BN 1000PF/2KV
C2595! *	9965 000 29361	△ CERAMIC CAP. 1000PF/2KV
C2595! *	9965 000 29362	△ CERAMIC CAP RB 1000PF/2KV

RESISTORS

R2505	9965 000 29027	MET OXIDE RES. 2W J 1K OHM
R2505 *	9965 000 29028	MET OXIDE RES. 2W J 1K OHM
R2506	9965 000 29027	MET OXIDE RES. 2W J 1K OHM
R2506 *	9965 000 29028	MET OXIDE RES. 2W J 1K OHM
R2583!	9965 000 29363	△ METAL OXIDE FILM RES. 2W J 1.5 O
R2583! *	9965 000 29364	△ METAL OXIDE FILM RES. 2W J 1.5 O
R2676	9965 000 29030	MET OXIDE RES. 2W J 3.9 OHM
R2676 *	9965 000 29031	MET OXIDE RES. 2W J 3.9 OHM

COILS

L2505	9965 000 18121	CHOKO COIL 22UH-K
L2505 *	9965 000 29021	CHOKO COIL 22UH-K
L2505 *	9965 000 29022	FIXED INDUCTOR LGB0810TLF-220K
L2613	4822 157 10326	10UH-K-5FT
L2613 *	4822 157 10646	10UH

DIODES

D2552	9965 000 13880	DIODE FR104-B OR
D2552 *	9965 000 28913	DIODE FR104BB
D2571	9965 000 18235	DIODE FR202
D2572!	9965 000 13880	△ DIODE FR104-B OR
D2572! *	9965 000 28913	△ DIODE FR104BB
D2584	4822 130 32778	1SS133
D2584 *	4822 130 30621	1N4148
D2585	4822 130 82703	MTZ5.1B
D2585 *	9965 000 12904	ZENER DIODE DZ-5.1BSBT265 OR
D2591!	9965 000 13881	△ ZENER DIODE MTZJT-7736B OR
D2591! *	9965 000 29015	△ ZENER DIODE DZ-36BSBT265
D2595!	9965 000 13884	△ ZENER DIODE MTZJT-7720C OR
D2595! *	9965 000 29016	△ ZENER DIODE DZ-20BSCT265
D2596!	4822 130 32778	△ 1SS133
D2596! *	4822 130 30621	△ 1N4148
D2597!	4822 130 32778	△ 1SS133
D2597! *	4822 130 30621	△ 1N4148
D2598!	9965 000 13880	△ DIODE FR104-B OR
D2598! *	9965 000 28913	△ DIODE FR104BB
D2601	4822 130 32778	1SS133
D2601 *	4822 130 30621	1N4148
D2602	4822 130 32778	1SS133
D2602 *	4822 130 30621	1N4148
D2603	4822 130 10926	UZ5.6BSC
D2603 *	9965 000 08649	ZENER DIODE DZ-5.6BSCT265
D2613!	9965 000 29018	△ RECTIFIER DIODE ERA15-02
D2625	4822 130 32778	1SS133
D2625 *	4822 130 30621	1N4148
D2627	9965 000 01155	ZENER DIODE MTZJ3.9B
D2627 *	9965 000 29017	ZENER DIODE DZ-3.9BSBT265
D2648	4822 130 32778	1SS133
D2648 *	4822 130 30621	1N4148
D2649	4822 130 32778	1SS133
D2649 *	4822 130 30621	1N4148
D2651	4822 130 32778	1SS133
D2651 *	4822 130 30621	1N4148
D2661	4822 130 32778	1SS133
D2661 *	4822 130 30621	1N4148
D2662	4822 130 32778	1SS133
D2662 *	4822 130 30621	1N4148

TRANSISTORS

Q2571	9965 000 18167	TRANSISTOR TT2140LS-YB11
Q2571 *	9965 000 29023	TRANSISTOR 2SC5885000RF
Q2591!	9965 000 13899	△ TRANSISTOR 2SC1627Y-TPE2
Q2592!	9965 000 05643	△ TRANSISTOR 2SC2785(F)
Q2592! *	9965 000 10994	△ 2SC3199-GR/KTC3199-GR
Q2592! *	4822 130 41306	△ 2SC1815GR
Q2610	9965 000 05644	TRANSISTOR 2SA1175(F)
Q2610 *	4822 130 10462	KTA1267-GR

ELECTRICAL PARTS LIST**TRANSISTORS**

Q2610 *	4822 130 11101	2SA1015GR
Q2611	9965 000 10994	2SC3199-GR/KTC3199-GR
Q2611 *	4822 130 41306	2SC1815GR
Q2612	9965 000 05643	TRANSISTOR 2SC2785(F)
Q2612 *	9965 000 10994	2SC3199-GR/KTC3199-GR
Q2612 *	4822 130 41306	2SC1815GR
Q2615	9965 000 29024	TRANSISTOR 2SD400(F)
Q2615 *	9965 000 29025	TRANSISTOR 2SD400(E)
Q2616	9965 000 23377	RES. BUILT-IN TRANSISTOR KRC103M
Q2616 *	9965 000 29026	RES. BUILT-IN TR 2SC3400
Q2616 *	9965 000 05389	TRANSISTOR BA1F4M-T
Q2617	9965 000 10994	2SC3199-GR/KTC3199-GR
Q2617 *	4822 130 41306	2SC1815GR

INTEGRATED CIRCUITS

IC2551	9965 000 18120	VERTICAL OUTPUT IC LA78040A
IC2551 *	9965 000 29019	VERTICAL OUTPUT IC AN15524A
IC2602	9965 000 29020	VOLTAGE REGULATOR PQ070XF01SZH
IC3603	9965 000 14884	IC KIA431-AT
IC3604	9965 000 14884	IC KIA431-AT

CRT CBA**MISCELLANEOUS**

JK2501! 9965 000 29042 △ CRT SOCKET ISMS02S

CAPACITORS

C2509	9965 000 13909	CERAMIC CAP. B K 1000PF/2KV OR
C2509 *	9965 000 29035	CERAMIC CAP. B K 1000PF/2KV
C2509 *	9965 000 29036	CERAMIC CAP. B K 1000PF/2KV

RESISTORS

R2516!	9965 000 29040	△ MET OXIDE RES. 1W J 15K OHM
R2516! *	9965 000 29041	△ MET OXIDE RES. 1W J 15K OHM
R2517!	9965 000 29040	△ MET OXIDE RES. 1W J 15K OHM
R2517! *	9965 000 29041	△ MET OXIDE RES. 1W J 15K OHM
R2518!	9965 000 29040	△ MET OXIDE RES. 1W J 15K OHM
R2518! *	9965 000 29041	△ MET OXIDE RES. 1W J 15K OHM

DIODES

D2501	4822 130 32778	1SS133
D2501 *	4822 130 30621	1N4148
D2502	4822 130 32778	1SS133
D2502 *	4822 130 30621	1N4148
D2503	4822 130 32778	1SS133
D2503 *	4822 130 30621	1N4148

TRANSISTORS

Q2501	4822 130 60578	2SC2482
Q2501 *	9965 000 29039	TRANSISTOR KTC3207
Q2502	4822 130 60578	2SC2482
Q2502 *	9965 000 29039	TRANSISTOR KTC3207

Q2503	4822 130 60578	2SC2482
Q2503 *	9965 000 29039	TRANSISTOR KTC3207

FUNCTION CBA**MISCELLANEOUS**

SW2401	9965 000 13864	TACT SWITCH SKQSAB OR
SW2401 *	9965 000 28959	TACT SWITCH KSM0612B
SW2401 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW2402	9965 000 13864	TACT SWITCH SKQSAB OR
SW2402 *	9965 000 28959	TACT SWITCH KSM0612B
SW2402 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW2403	9965 000 13864	TACT SWITCH SKQSAB OR
SW2403 *	9965 000 28959	TACT SWITCH KSM0612B
SW2403 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW2404	9965 000 13864	TACT SWITCH SKQSAB OR
SW2404 *	9965 000 28959	TACT SWITCH KSM0612B
SW2404 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW2405	9965 000 13864	TACT SWITCH SKQSAB OR
SW2405 *	9965 000 28959	TACT SWITCH KSM0612B
SW2405 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW2406	9965 000 13864	TACT SWITCH SKQSAB OR
SW2406 *	9965 000 28959	TACT SWITCH KSM0612B
SW2406 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW2407	9965 000 13864	TACT SWITCH SKQSAB OR
SW2407 *	9965 000 28959	TACT SWITCH KSM0612B
SW2407 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW2408	9965 000 13864	TACT SWITCH SKQSAB OR
SW2408 *	9965 000 28959	TACT SWITCH KSM0612B
SW2408 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)

Note: * Alternative parts

Only the parts mentioned in this list are normal service spare parts.

ELECTRICAL PARTS LIST**MMA CBA UNIT**

MMA CBA UNIT consists of MAIN CBA and SENSOR CBA

MAIN CBA**MISCELLANEOUS**

BC1600	9965 000 13875	BEAD INDUCTORS FBR07HA121TB-00
BC1605	9965 000 13874	BEAD INDUCTORS FBA04HA600VB-00
BC1606	9965 000 13875	BEAD INDUCTORS FBR07HA121TB-00
BC1607	9965 000 13874	BEAD INDUCTORS FBA04HA600VB-00
CF1032	9965 000 28962	CER FILTER SFSRA4M50CF00-B0
CF1032 *	9965 000 28963	4.5M FILTER LTH4.5MCB
CL1201	9965 000 28883	FMN CONN. TOP 12P 12FMN-BTRK
F1601!	9965 000 28964	△ FUSE 4.00A/125V
F1601! *	9965 000 28965	△ FUSE 51MS040L
F1601! *	9965 000 28966	△ FUSE STC4A125V U/CT
F1601! *	9965 000 28967	△ FUSE 4.00A/125V
JK1701	9965 000 18160	RCA JACK(YELLOW) MTJ-032-05B-20
JK1701 *	9965 000 28968	RCA JACK 1P YEL DA1-05A3N0S001
JK1702	9965 000 18161	RCA JACK(WHITE) MTJ-032-05B-22
JK1702 *	9965 000 28969	RCA JACK 1P WTE DA1-05A4N0S001
JK1703	9965 000 28970	RCA JACK(RED) MTJ-032-05A-21
JK1703 *	9965 000 28971	RCA JACK 1P RED DA1-05A2N1S001
JK1801	9965 000 28972	MINI JACK HJSJ2000-01-010
JK1801 *	9965 000 28973	MINI JACK MSJ-2000
JK1801 *	9965 000 28974	PHONE JACK DP3-25-7-001
PS1601	9965 000 28975	THERMISTOR ZPB45BL3R0A
PS1601 *	9965 000 28976	PTC THERMISTOR WMZ71-3R0N120
RS1201	9965 000 10857	REMOTE RECEIVER
RS1201 *	9965 000 28958	REMOCON RESEVER MIM-0BM6DKF-C
SA1601!	9965 000 20946	△ SURGE ABSORBER PVR-10D471KB
SA1601! *	4822 252 11373	△ JVR-10N471K
SF1001	9965 000 28977	SAW FILTER SAFHM45M7VAJZ01B03
SG1601! *	9965 000 08671	△ GAP. FNR-G3.10D
SW1201	9965 000 13864	TACT SWITCH SKQSAB OR
SW1201 *	9965 000 28959	TACT SWITCH KSM0612B
SW1201 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW1202	9965 000 13864	TACT SWITCH SKQSAB OR
SW1202 *	9965 000 28959	TACT SWITCH KSM0612B
SW1202 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW1203	9965 000 13864	TACT SWITCH SKQSAB OR
SW1203 *	9965 000 28959	TACT SWITCH KSM0612B
SW1203 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW1206	9965 000 13864	TACT SWITCH SKQSAB OR
SW1206 *	9965 000 28959	TACT SWITCH KSM0612B
SW1206 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW1207	9965 000 13864	TACT SWITCH SKQSAB OR
SW1207 *	9965 000 28959	TACT SWITCH KSM0612B
SW1207 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW1208	9965 000 13864	TACT SWITCH SKQSAB OR
SW1208 *	9965 000 28959	TACT SWITCH KSM0612B
SW1208 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW1209	9965 000 13864	TACT SWITCH SKQSAB OR

SW1209 *	9965 000 28959	TACT SWITCH KSM0612B
SW1209 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW1210	9965 000 13864	TACT SWITCH SKQSAB OR
SW1210 *	9965 000 28959	TACT SWITCH KSM0612B
SW1210 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW1211	9965 000 15333	LEAF SWITCH LSA-1142-1AU
SW1211 *	9965 000 12192	LEAF SWITCH MXS00052MPP0
SW1211 *	9965 000 28961	LEAF SWITCH MXS00981MPP0
SW1212	9965 000 23359	ROTARY MODE SWITCH SSS-53MD
T1601!	9965 000 28978	△ SWITCHING TRANS 4717
T1601! *	9965 000 28979	△ SWITCHING TRANS CGS-SW0032A
TU1001	9965 000 28980	TUNER UNIT TEFH9-001A
VR1601!	9965 000 28985	△ CARBON POT VZ067TL1 B103 PB(F)
W1601!	9965 000 28981	△ AC CORD PB8K9F9110A-057
W1601! *	9965 000 28982	△ AC CORD A0A0280-014
W1601! *	9965 000 28983	△ AC CORD PB8K9F4110AC057
W1601! *	9965 000 28984	△ AC CORD A0A0280-012
X1201	9965 000 09200	X'TAL 32.768KHZ(20PPM)
X1201 *	9965 000 12195	X'TAL 32.768KHZ(20PPM)
X1201 *	9965 000 19592	X'TAL 32.768KHZ(20PPM)
X1201 *	9965 000 12288	X'TAL 32.768KHZ(20PPM)
X1201 *	9965 000 27588	X'TAL 32.768KHZ(20PPM)
X1202	9965 000 28986	XTAL HC-49/U 10.6MHZ
X1202 *	9965 000 28987	XTAL AT49-10.6
X1301	9965 000 28988	XTAL 3.579545 MHZ
X1301 *	9965 000 28989	XTAL 3.579545MHZ(30PPM)
X1401	9965 000 12363	X'TAL 3.579545MHZ(20PPM)
X1401 *	9965 000 24170	X'TAL 3.579545MHZ(20PPM)
X1401 *	9965 000 27587	X'TAL 3.579545MHZ(20PPM)

CAPACITORS

C1604!	9965 000 14280	△ METALLIZED FILM CAP. 0.1UF/250V
C1604! *	9965 000 28884	△ FILM CAP.(MP) 0.1UF/250V K
C1604! *	9965 000 28885	△ MET FILM CAP. 0.1UF/275V K
C1604! *	9965 000 28887	△ LINE ACROSS CAP. 0.1U/250V
C1605!	9965 000 28886	△ MET FILM CAP. 0.22UF/250V
C1605! *	9965 000 28888	△ LINE CAP. 0.22UF/250V
C1606	9965 000 28889	CERAMIC CAP. F Z 0.01UF/500V
C1607	9965 000 28889	CERAMIC CAP. F Z 0.01UF/500V
C1610	9965 000 28895	ELCAP. 470UF/200V
C1611	9965 000 22652	CERAMIC CAP. R K 680PF/2KV(HR)
C1611 *	9965 000 28890	CERAMIC CAP. 680PF/2KV
C1611 *	9965 000 28891	CERAMIC CAP. RB 680PF/2KV
C1615	9965 000 28892	CERAMIC CAP. BN 820PF/2KV
C1615 *	9965 000 28893	CERAMIC CAP. 820PF/2KV
C1615 *	9965 000 28894	CERAMIC CAP RB 820PF/2KV
C1616	9965 000 22655	ELECTROLYTIC CAP. 100UF/160V M
C1616 *	9965 000 28896	ELCAP. 100UF/160V M
C1616 *	9965 000 28897	ELCAP. 100UF/160V M W/F
C1618!	9965 000 25495	△ ELECTROLYTIC CAP. 1000UF/16V M
C1618! *	9965 000 28898	△ ELCAP. 1000UF/16V M(VR/HC)
C1619	9965 000 25495	ELECTROLYTIC CAP. 1000UF/16V M

ELECTRICAL PARTS LIST

CAPACITORS

C1619 *	9965 000 28898	ELCAP. 1000UF/16V M(VR/HC)
C1620	9965 000 25495	ELECTROLYTIC CAP. 1000UF/16V M
C1620 *	9965 000 28898	ELCAP. 1000UF/16V M(VR/HC)
C1630!	9965 000 28899	△ SAFETY CAP. 4700PF/250V KX
C1643	9965 000 24154	ELECTROLYTIC CAP. 1000UF/6.3V M
C1643 *	9965 000 25351	ELECTROLYTIC CAP. 1000UF/6.3V M
C1671	9965 000 28900	CERAMIC CAP. B K 2200PF/500V
C1872	9965 000 06523	CERAMIC CAP. B K 470PF/100V
C1872 *	9965 000 28990	CERAMIC CAP. B K 470PF/500V
C1873	9965 000 28991	FILM CAP.(P) 0.018UF/100V J

RESISTORS

R1261	9965 000 28943	MET OXIDE RES. 1W J 1.2 OHM
R1261 *	9965 000 28944	MET OXIDE RES. 1W J 1.2 OHM
R1602!	9965 000 28945	△ CEMENT RES. 5W K 1.2 OHM
R1602! *	9965 000 28946	△ CEMENT RESISTOR 5W K 1.2 OHM
R1602! *	9965 000 28947	△ CEMENT RES 5W J 1.2 OHM H 10MM
R1603!	9965 000 28948	△ MET OXIDE RES. 2W J 0.33 OHM
R1603! *	9965 000 28949	△ MET OXIDE RES. 2W J 0.33 OHM
R1619	9965 000 28950	MET OXIDE RES. 1W J 2.2K OHM
R1619 *	9965 000 28951	MET OXIDE RES. 1W J 2.2K OHM
R1620	9965 000 28950	MET OXIDE RES. 1W J 2.2K OHM
R1620 *	9965 000 28951	MET OXIDE RES. 1W J 2.2K OHM
R1621	9965 000 28952	MET OXIDE RES. 1W J 4.7K OHM
R1621 *	9965 000 28953	MET OXIDE RES. 1W J 4.7K OHM
R1636	9965 000 28950	MET OXIDE RES. 1W J 2.2K OHM
R1636 *	9965 000 28951	MET OXIDE RES. 1W J 2.2K OHM
R1650	9965 000 28952	MET OXIDE RES. 1W J 4.7K OHM
R1650 *	9965 000 28953	MET OXIDE RES. 1W J 4.7K OHM
R1685	9965 000 28954	METAL RESISTOR 1W J 3.9 OHM
R1685 *	9965 000 28955	MET OXIDE RES. 1W J 3.9 OHM
R1803!	9965 000 28956	△ MET OXIDE RES. 1W J 12 OHM
R1803! *	9965 000 28957	△ MET OXIDE RES. 1W J 12 OHM
R1808!	9965 000 28956	△ MET OXIDE RES. 1W J 12 OHM
R1808! *	9965 000 28957	△ MET OXIDE RES. 1W J 12 OHM

COILS

L1001	9965 000 05627	CHOKE COIL 47UH-K
L1001 *	9965 000 05702	CHOKE COIL 47UH-K
L1001 *	9965 000 23990	CHOKE COIL 47UH-K
L1001 *	9965 000 28934	FIXED INDUCTOR LGB0810TLF-470K
L1031	9965 000 18142	INDUCTOR 10UH-J-26T
L1031 *	9965 000 18142	INDUCTOR 10UH-J-26T
L1032	4822 157 10649	100UH
L1032 *	4822 157 10649	100UH
L1033	9965 000 28935	INDUCTOR 150UH-J-26T
L1033 *	9965 000 28936	INDUCTOR 150UH-K-26T
L1202	9965 000 13857	INDUCTOR 0.10UH-K-26T OR
L1202 *	9965 000 28937	INDUCTOR 0.1UH-M-26T
L1211	9965 000 05627	CHOKE COIL 47UH-K
L1211 *	9965 000 05702	CHOKE COIL 47UH-K
L1211 *	9965 000 23990	CHOKE COIL 47UH-K

L1211 *	9965 000 28934	FIXED INDUCTOR LGB0810TLF-470K
L1402	9965 000 13859	INDUCTOR 22UH-J-26T OR
L1402 *	4822 157 10331	22UH-K-26T
L1403	9965 000 05627	CHOKE COIL 47UH-K
L1403 *	9965 000 05702	CHOKE COIL 47UH-K
L1403 *	9965 000 23990	CHOKE COIL 47UH-K
L1403 *	9965 000 28934	FIXED INDUCTOR LGB0810TLF-470K
L1404	9965 000 05627	CHOKE COIL 47UH-K
L1404 *	9965 000 05702	CHOKE COIL 47UH-K
L1404 *	9965 000 23990	CHOKE COIL 47UH-K
L1404 *	9965 000 28934	FIXED INDUCTOR LGB0810TLF-470K
L1405	9965 000 28938	INDUCTOR 47UH-J-26T
L1405 *	4822 157 10343	47UH
L1601!	9965 000 28940	△ LINE FILTER 2.7MH ELF15N013A
L1872	9965 000 28939	INDUCTOR 47UH-K-5FT

DIODES

D1204	9965 000 28901	LED LTL-4214M1
D1204 *	9965 000 28902	LED LAMP 333HT/F45-50K
D1204 *	9965 000 28903	LED LAMP 333HT/F45-50L
D1216	9965 000 28904	LED LAMP 333GT/F45-50
D1216 *	9965 000 08622	ZENER DIODE DZ-5.6BSBT265
D1217	9965 000 28901	LED LTL-4214M1
D1217 *	9965 000 28902	LED LAMP 333HT/F45-50K
D1217 *	9965 000 28903	LED LAMP 333HT/F45-50L
D1224	9965 000 05250	LED SIR-563ST3F P
D1224 *	9965 000 19572	LED MIE-534A2
D1229	9965 000 18091	ZENER DIODE MTZJT-7715B
D1229 *	9965 000 28905	ZENER DIODE DZ-15BSBT265
D1230	9965 000 18091	ZENER DIODE MTZJT-7715B
D1230 *	9965 000 28905	ZENER DIODE DZ-15BSBT265
D1231	9965 000 28906	ZENER DIODE MTZJT-7718A
D1231 *	9965 000 28907	ZENER DIODE DZ-18BSAT265
D1232	4822 130 83166	MTZJ6.2B
D1232 *	9965 000 27569	ZENER DIODE DZ-6.2BSBT265
D1234	4822 130 32778	1SS133
D1234 *	4822 130 30621	1N4148
D1237	4822 130 83166	MTZJ6.2B
D1237 *	9965 000 27569	ZENER DIODE DZ-6.2BSBT265
D1302	4822 130 32778	1SS133
D1302 *	4822 130 30621	1N4148
D1303	4822 130 32778	1SS133
D1303 *	4822 130 30621	1N4148
D1304	4822 130 32778	1SS133
D1304 *	4822 130 30621	1N4148
D1305	4822 130 32778	1SS133
D1305 *	4822 130 30621	1N4148
D1311	4822 130 32778	1SS133
D1311 *	4822 130 30621	1N4148
D1318	4822 130 32778	1SS133
D1318 *	4822 130 30621	1N4148
D1350	4822 130 32778	1SS133

ELECTRICAL PARTS LIST**TRANSISTORS**

Q1402 *	4822 130 11101	2SA1015GR
Q1403	9965 000 05644	TRANSISTOR 2SA1175(F)
Q1403 *	4822 130 10462	KTA1267-GR
Q1403 *	4822 130 11101	2SA1015GR
Q1404	9965 000 05643	TRANSISTOR 2SC2785(F)
Q1404 *	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1404 *	4822 130 41306	2SC1815GR
Q1601!	9965 000 25510	△ MOS FET 2SK3563
Q1601! *	9965 000 28941	△ MOS FET RDX050N50 FD5
Q1602!	9965 000 28942	△ TRANSISTOR 2SC2120-O-TPE2
Q1602! *	9965 000 21660	△ TOSHIBA 2SC2120-Y
Q1604!	9965 000 05643	△ TRANSISTOR 2SC2785(F)
Q1604! *	9965 000 10994	△ 2SC3199-GR/KTC3199-GR
Q1604! *	4822 130 41306	△ 2SC1815GR
Q1605	9965 000 05643	TRANSISTOR 2SC2785(F)
Q1605 *	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1605 *	4822 130 41306	2SC1815GR
Q1606!	4822 130 63665	△ 2SA950-O
Q1606! *	9965 000 28992	△ TRANSISTOR 2SA950(Y)
Q1606! *	9965 000 28993	△ TRANSISTOR KTA1271(Y)
Q1607!	9965 000 05643	△ TRANSISTOR 2SC2785(F)
Q1607! *	9965 000 10994	△ 2SC3199-GR/KTC3199-GR
Q1607! *	4822 130 41306	△ 2SC1815GR
Q1609	9965 000 28942	TRANSISTOR 2SC2120-O-TPE2
Q1609 *	9965 000 21660	TOSHIBA 2SC2120-Y
Q1613	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1613 *	4822 130 41306	2SC1815GR
Q1614	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1614 *	4822 130 41306	2SC1815GR
Q1681!	9965 000 28942	△ TRANSISTOR 2SC2120-O-TPE2
Q1681! *	9965 000 21660	△ TOSHIBA 2SC2120-Y
Q1682!	9965 000 28942	△ TRANSISTOR 2SC2120-O-TPE2
Q1682! *	9965 000 21660	△ TOSHIBA 2SC2120-Y
Q1683!	9965 000 28942	△ TRANSISTOR 2SC2120-O-TPE2
Q1683! *	9965 000 21660	△ TOSHIBA 2SC2120-Y
Q1688!	9965 000 28942	△ TRANSISTOR 2SC2120-O-TPE2
Q1688! *	9965 000 21660	△ TOSHIBA 2SC2120-Y
Q1701	9965 000 05643	TRANSISTOR 2SC2785(F)
Q1701 *	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1701 *	4822 130 41306	2SC1815GR
Q1871	9965 000 05644	TRANSISTOR 2SA1175(F)
Q1871 *	4822 130 10462	KTA1267-GR
Q1871 *	4822 130 11101	2SA1015GR
Q1872	9965 000 28942	TRANSISTOR 2SC2120-O-TPE2
Q1872 *	9965 000 21660	TOSHIBA 2SC2120-Y
Q1873	4822 130 10097	2SC3331T
Q1873 *	9965 000 05646	TRANSISTOR 2SC3331(U)
Q1873 *	4822 130 41306	2SC1815GR
Q1874	4822 130 10097	2SC3331T
Q1875	4822 130 10145	KRA103M
Q1875 *	9965 000 05388	TRANSISTOR BN1F4M-T

INTEGRATED CIRCUITS

IC1001	9965 000 28925	IC VIF/SIF M61116FP TF0G
IC1201!	9965 000 28926	△ MICRO COMPUTER M3776AMCH-BA2GP
IC1202	9965 000 06554	IC:MEMORY BR24C02F-W
IC1202 *	9965 000 16620	IC:EEPROM CAT24WC02JI
IC1202 *	9965 000 28927	IC(EEP-ROM) M24C02-WMN6
IC1202 *	9965 000 23983	IC BR24L02F-WE2
IC1301!	9965 000 28928	△ VCD IC M61275FP-TF3H
IC1401	9965 000 24158	IC:Y/C/A LA71205M-MPB-E
IC1601!	9965 000 09187	△ PHOTOCOUPLER LTV-817C-F
IC1601! *	9965 000 28929	△ PHOTO COUPLER PC817X6
IC1682!	9965 000 13851	△ VOLTAGE REGULATOR KIA7805API OR
IC1682! *	9965 000 28930	△ VOLTAGE REGULATOR KA7805A
IC1682! *	9965 000 28931	△ 3-TERMINAL REGULATORS UA7805CKC
IC1701	9965 000 28932	IC HIFI LA72670M-A-MPB-E
IC1701 *	9965 000 24159	IC:HIFI LA72670BM-MPB-E
IC1803	9965 000 28933	IC AN17812A

SENSOR CBA

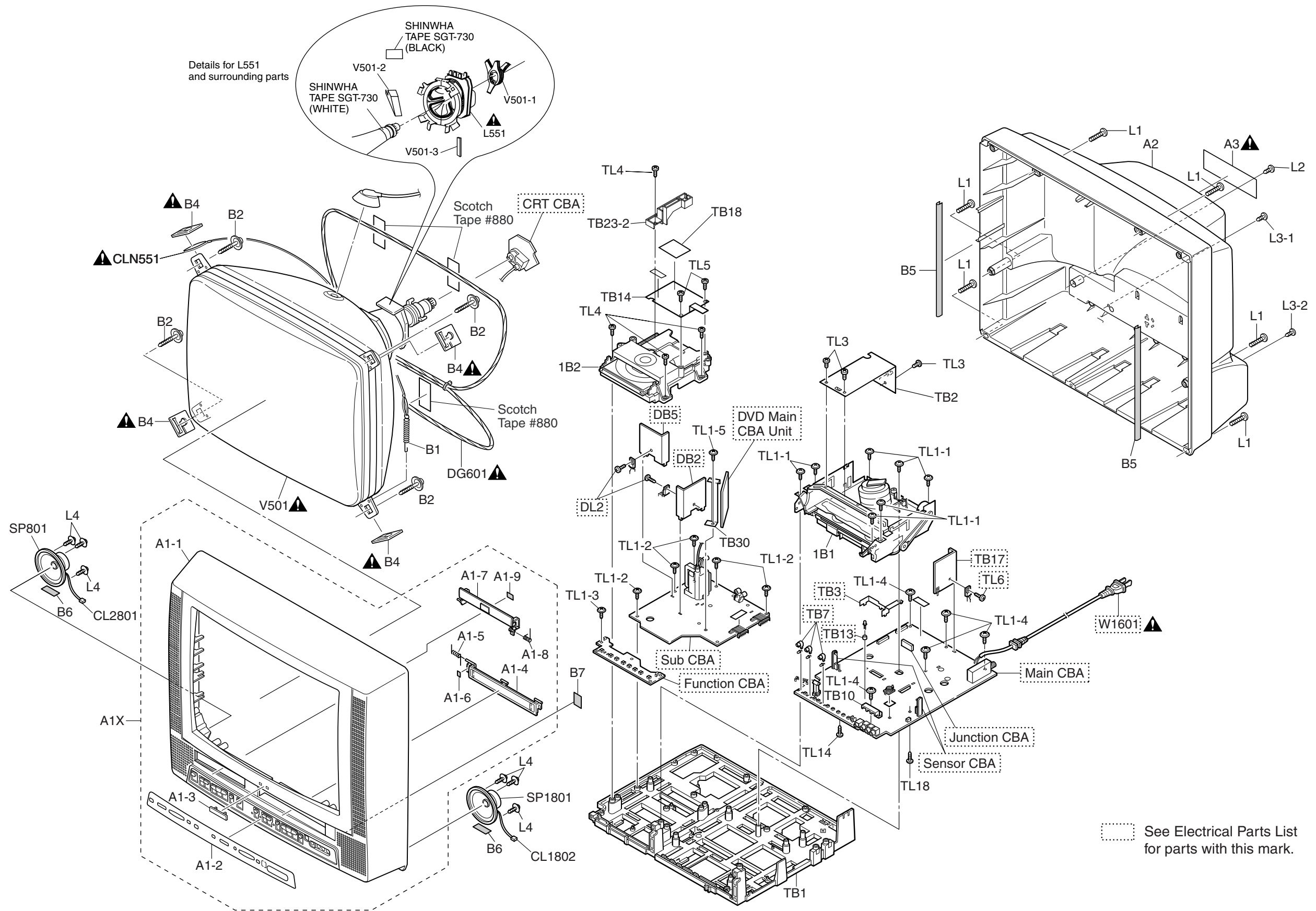
Q201	9965 000 20922	PHOTO TRANSISTOR MID-32A22F
Q201 *	9965 000 08630	PHOTO TRANSISTOR PT204-6B-12
Q202	9965 000 20922	PHOTO TRANSISTOR MID-32A22F
Q202 *	9965 000 08630	PHOTO TRANSISTOR PT204-6B-12

Note: * Alternative parts

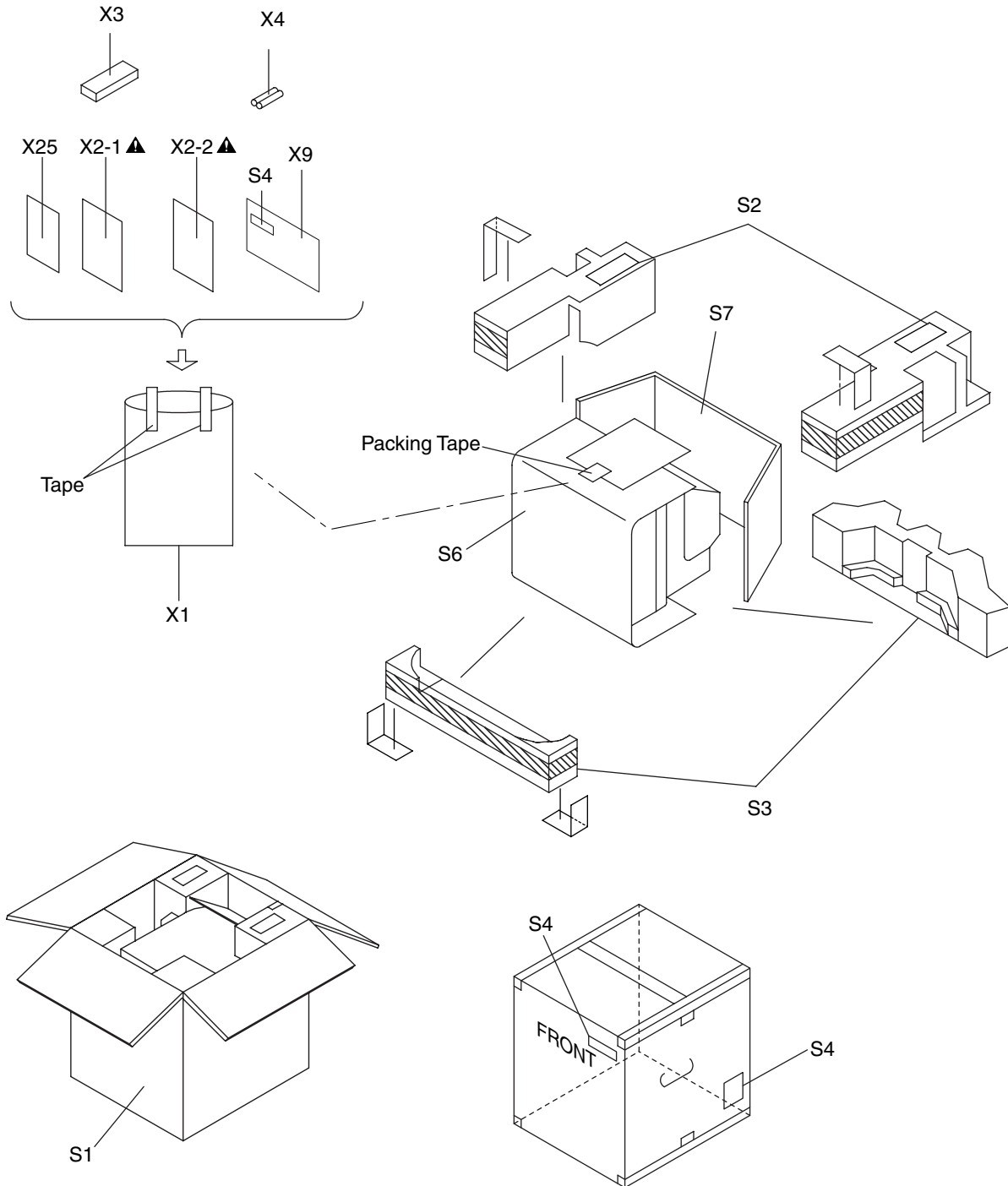
Only the parts mentioned in this list are normal service spare parts.

EXPLODED VIEWS

Cabinet



Packing



MECHANICAL SET & ACCESSORY PARTS LIST**ELECTRICAL PARTS**

	9965 000 28878		DVD MAIN CBA UNIT
	9965 000 29338		MPS CBA
	9965 000 28880		MMA CBA
	9965 000 28882		SENSOR CBA
DG601!	9965 000 29335	△	DEGAUSSING COIL AVDG172
DG601! *	9965 000 29336	△	DEGAUSSING COIL F-55
DG601! *	9965 000 29337	△	DEGAUSSING COIL AI-011-00
SP1801	9965 000 13829		SPEAKER S08F02B OR
SP1801 *	9965 000 18085		SPEAKER ASSY
SP801	9965 000 13829		SPEAKER S08F02B OR
SP801 *	9965 000 18085		SPEAKER ASSY

CRT TYPE A: A48AKH13X01 K

V501! 9965 000 29339 △ CRT A48AKH13X01 K W/COILS COMP

CRT TYPE B: A48AKH13X

L551! 9965 000 29340 △ DEFLECTION YOKE KDY3MDD74X

V501! 9965 000 29341 △ CRT A48AKH13X

CRT TYPE C: A48LRH93X(W)D OR A48LRH93X(W)

L551! 9965 000 29342 △ DEFLECTION YOKE LLBY00ZSY007

L551! * 9965 000 29343 △ DEFLECTION YOKE CDY-M2023F

L551! * 9965 000 29344 △ DEFLECTION YOKE TMY0301F

V501! 9965 000 29345 △ CRT A48LRH93X(W)D

V501! * 9965 000 29346 △ CRT A48LRH93X(W)

CRT TYPE D: A48LGS30X

L551! 9965 000 29347 △ DEFLECTION YOKE KDY3MCB20X

L551! * 9965 000 29348 △ DEFLECTION YOKE 330P510A37

V501! 9965 000 29349 △ CRT A48LGS30X

MECHANICAL PARTS

1B1	9965 000 28865		DECK ASSEMBLY CZD014/VM2466
1B2	9965 000 28866		DVD MECHA E6 N79U0JVM
A1-1	9965 000 29330		FRONT CABINET TD857UH
A1-2	9965 000 29331		CONTROL PLATE T0102UC
A1-3	9965 000 28861		BADGE BRAND T7310UL ~MAGNAVOX~
A1-4	9965 000 29332		DOOR CASSETTE TD957UH
A1-7	9965 000 29333		TRAY PANEL TD857UH
A1X	9965 000 29329		FRONT CABINET ASSEMBLY T0102UC
A2	9965 000 29334		REAR CABINET T0006UG
B1	9965 000 28867		SPRING TENSION B0080B0 EM40808
TB1	9965 000 28874		TRAY CHASSIS T1100UA
X3	9965 000 28877		REM CONTROL 189/ERC001/NE206UD

Note: * Alternative parts

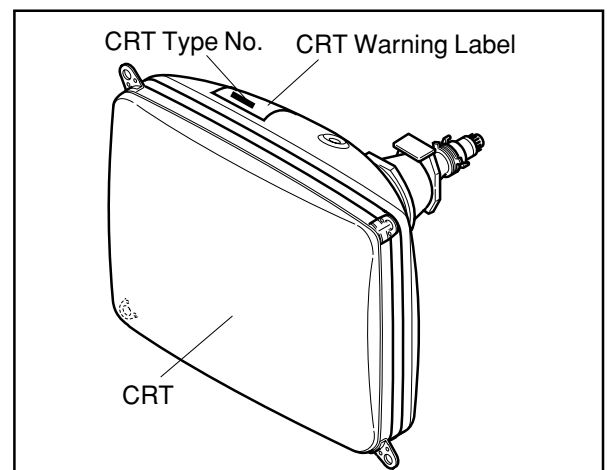
Only the parts mentioned in this list are normal service spare parts.

V501 and L551 Combination

Note 1: Purity and Convergence Adjustments must be performed following CRT replacement. Refer to Electrical Adjustment Instructions.

Note 2: Please confirm CRT Type No. on the CRT Warning Label which is located on the CRT. then see table below for V501 and L551 combination.

V501: CRT Type No.	L551 Deflection coil part code.
A48AKH13X01 K	-----
A48AKH13X	Refer to CRT Type Set B
A48LRH93X(W)D	Refer to CRT Type Set C
A48LRH93X(W)	Refer to CRT Type Set C
A48LGS30X	Refer to CRT Type Set D

CRT Warning Label Location

DECK MECHANISM SECTION

Color TV with Built-In VCR/DVD Player

Sec. 2: Deck Mechanism Section

- Standard Maintenance
- Mechanism Alignment Procedures
- Disassembly / Assembly of Mechanism
- Deck Exploded Views
- Deck Parts List

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STANDARD MAINTENANCE

Service Schedule of Components

This maintenance chart shows you the standard of replacement and cleaning time for each part. Because those may replace depending on environment and purpose for use, use the chart for reference.

Deck		Periodic Service Schedule			
Ref.No.	Part Name	1,000 h	2,000 h	3,000 h	4,000 h
B2	Cylinder Assembly	○	●	○	●
B3	Loading Motor Assembly			●	
B8	Pulley Assembly		●		●
B587	Tension Lever Assembly		●		●
B31	ACE Head Assembly			●	
B573, B574	Reel (SP)(D2), Reel (TU)(D2)			●	
B37	Capstan Motor		●		●
B52	Cap Belt		●		●
B73	FE Head			●	
B133, B134	Idler Gear, Idler Arm		●		●
B410	Pinch Arm (A) Assembly		●		●
B414	M Brake (SP) Assembly		●		●
B416	M Brake (TU) Assembly		●		●
B525	LDG Belt		●		●
B593	Cam Holder Assembly		●		●

Notes:

1. Clean all parts for the tape transport (Upper Drum with Video Head / Pinch Roller / ACE Head / FE Head) using 90% ethyl alcohol.
2. After cleaning the parts, do all DECK ADJUSTMENTS.
3. For the reference numbers listed above, refer to Deck Exploded Views.

Cleaning

Cleaning of Video Head

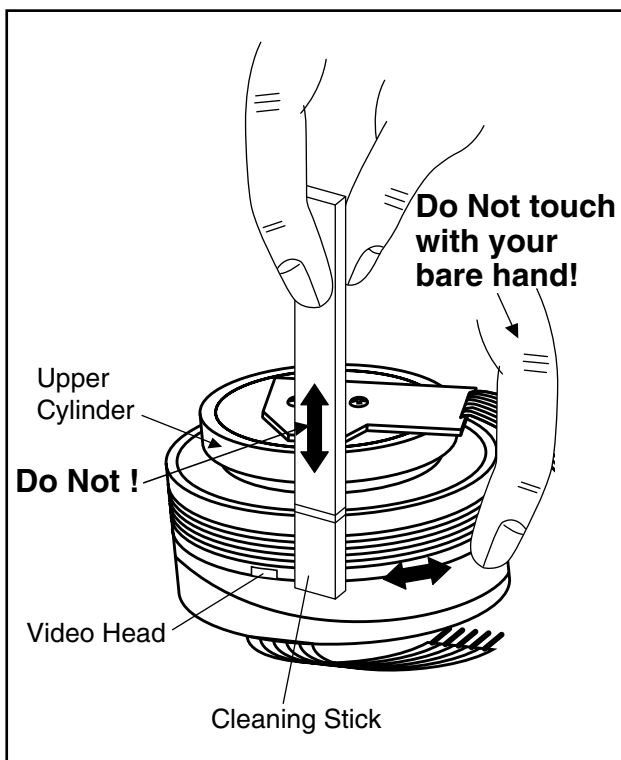
Clean the head with a head cleaning stick or chamois cloth.

Procedure

1. Remove the top cabinet.
2. Put on a glove (thin type) to avoid touching the upper and lower drum with your bare hand.
3. Put a few drops of 90% ethyl alcohol on the head cleaning stick or on the chamois cloth and, by slightly pressing it against the head tip, turn the upper drum to the right and to the left.

Notes:

1. The video head surface is made of very hard material, but since it is very thin, avoid cleaning it vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit.
3. Do not reuse a stained head cleaning stick or a stained chamois cloth.



Cleaning of ACE Head

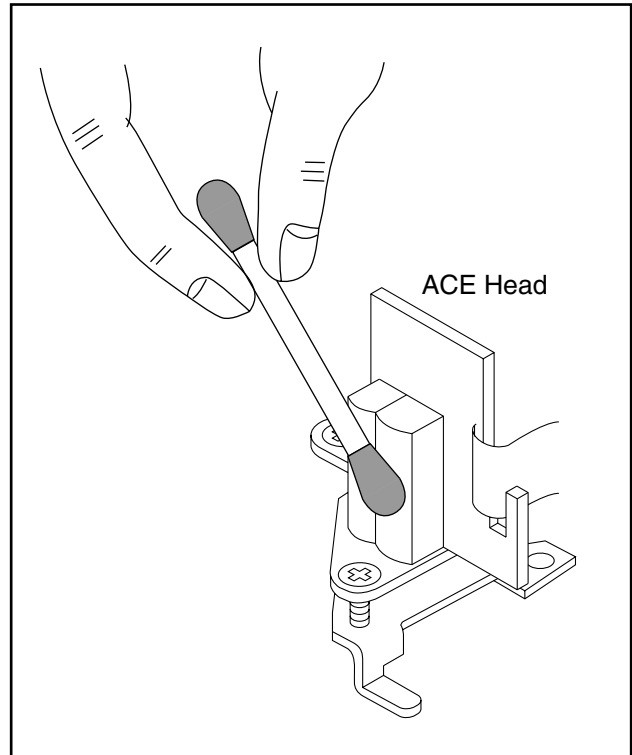
Clean the head with a cotton swab.

Procedure

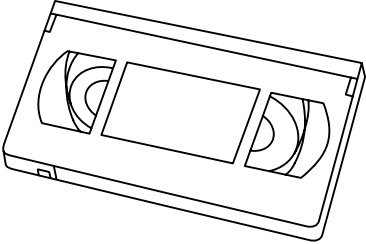
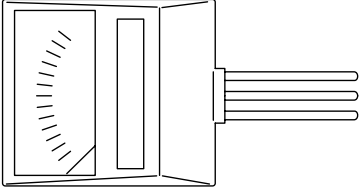
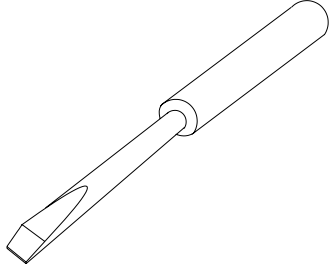
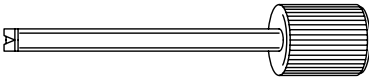
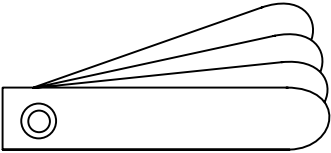

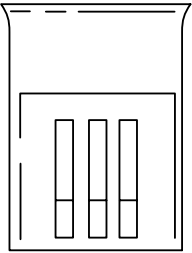
1. Remove the top cabinet.
2. Dip the cotton swab in 90% ethyl alcohol and clean the ACE Head. Be careful not to damage the upper drum and other tape running parts.

Notes:

1. Avoid cleaning the ACE Head vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit or damage may occur.



SERVICE FIXTURE AND TOOLS

<p>VFMS0001H6 Alignment Tape</p>  A rectangular alignment tape with two circular windows on the left side.	<p>Back Tension Meter (Made in USA)</p>  A rectangular device with a scale on the left and three parallel rods extending from the right.	<p>Flat Screw Driver (Purchase Locally)</p>  A long-handled screwdriver with a flat tip.
<p>Post Adjustment Screwdriver</p>  A screwdriver with a long shaft and a cylindrical, ribbed handle.	<p>Metric Thickness Gauges (Purchase Locally)</p>  A set of three overlapping metal gauges of varying thicknesses, each with a circular hole at one end.	<p>Lock Screw Driver (Purchase Locally)</p>  A long-handled screwdriver with a hook-shaped tip and a small notch at the end of the handle.
<p>Head Cleaning Stick</p>  A rectangular package containing three vertical cleaning sticks.		

MECHANICAL ALIGNMENT PROCEDURES

Explanation of alignment for the tape to correctly run starts on the next page. Refer to the information below on this page if a tape gets stuck, for example, in the mechanism due to some electrical trouble of the unit.

Service Information

A. Method for Manual Tape Loading/Unloading

To load a cassette tape manually:

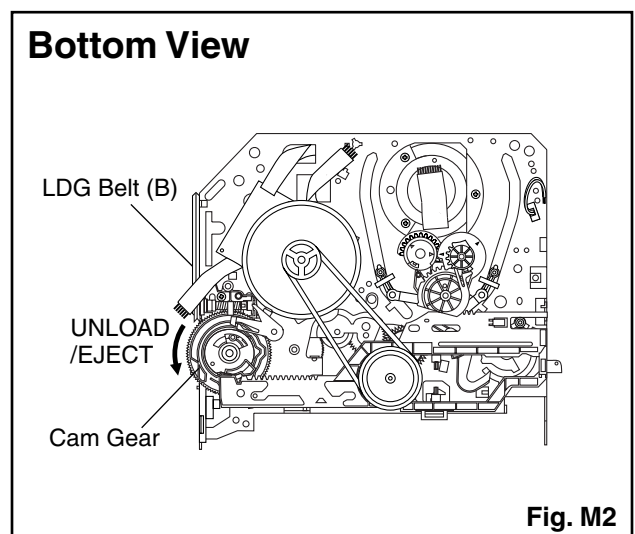
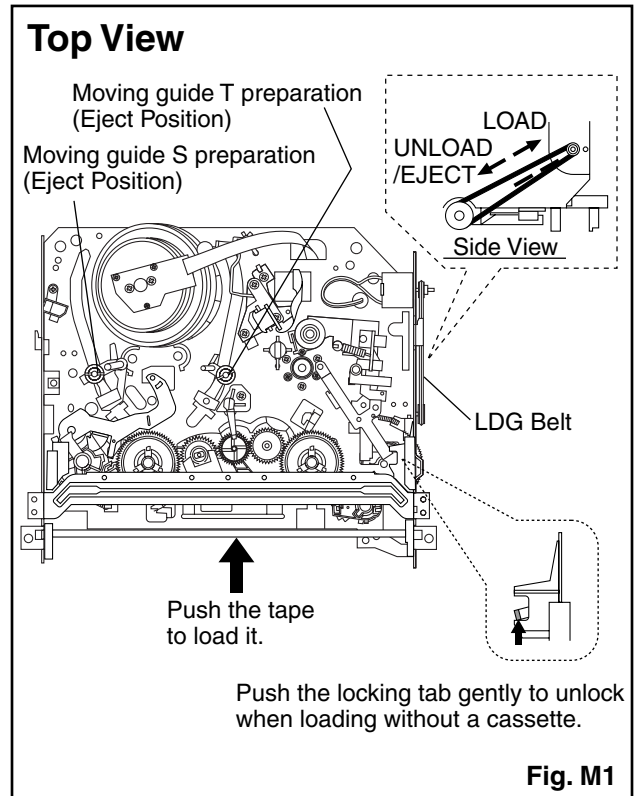
1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Insert a cassette tape. Though the tape will not be automatically loaded, make sure that the cassette tape is all the way in at the inlet of the Cassette Holder. To confirm this, lightly push the cassette tape further in and see if the tape comes back out, by a spring motion, just as much as you have pushed in.
4. Turn the LDG Belt in the appropriate direction shown in Fig. M1 for a minute or two to complete this task.

To unload a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Make sure that the Moving guide preparations are in the Eject Position.
4. Turn the LDG Belt in the appropriate direction shown in Fig. M1 until the Moving guide preparations come to the Eject Position. Stop turning when the preparations begin clicking or can not be moved further. However, the tape will be left wound around the cylinder.
5. Turn the LDG Belt in the appropriate direction continuously, and the cassette tape will be ejected. Allow a minute or two to complete this task.

B. Method to place the Cassette Holder in the tape-loaded position without a cassette tape

1. Disconnect the AC Plug.
2. Remove the Top Case and Front Assembly.
3. Turn the LDG Belt in the appropriate direction shown in Fig. M1. Release the locking tabs shown in Fig. M1 and continue turning the LDG Belt until the Cassette Holder comes to the tape-loaded position. Allow a minute or two to complete this task.



1. Tape Interchangeability Alignment

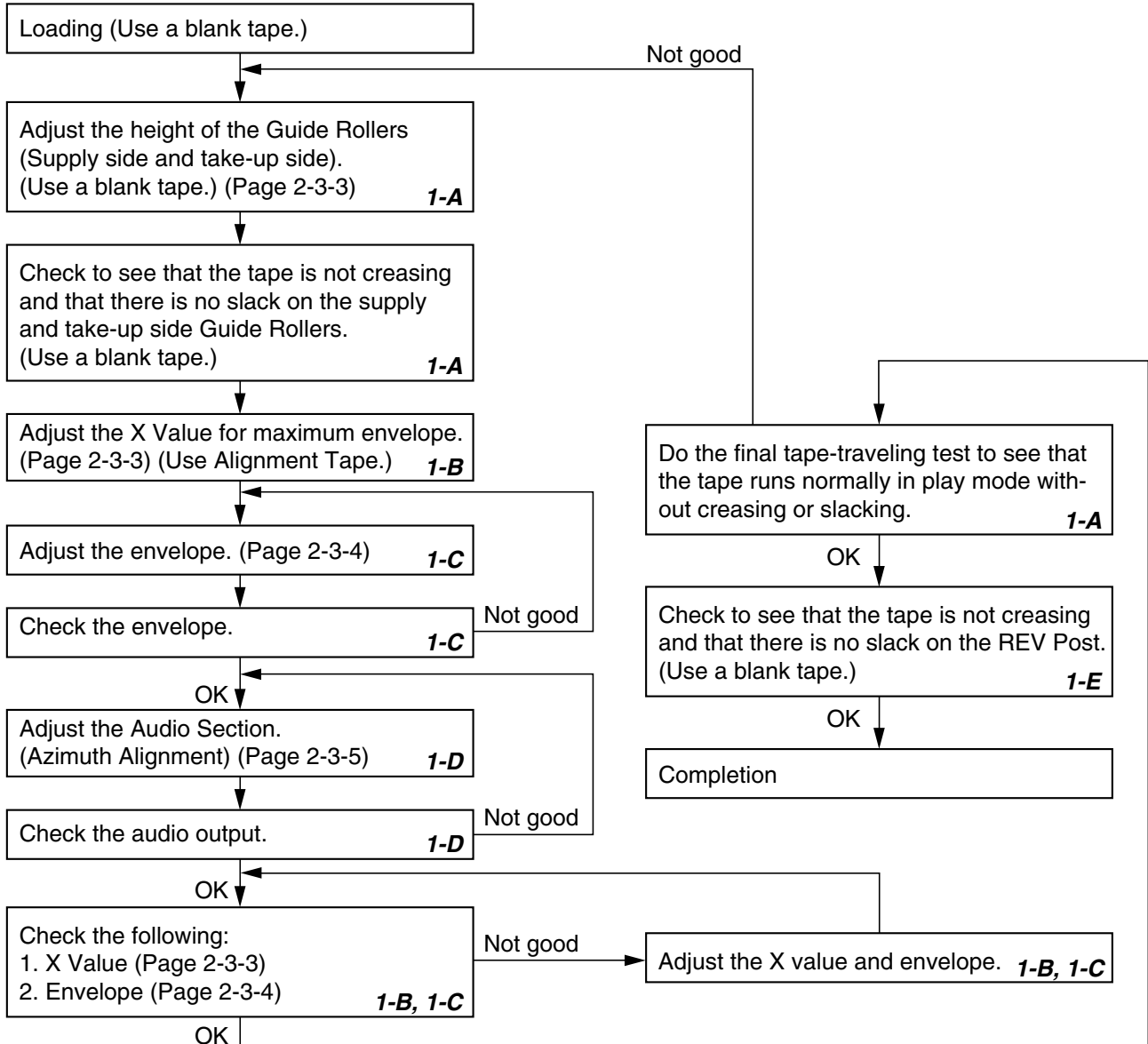
Note: To do these alignment procedures, make sure that the Tracking Control Circuit is set to the preset position every time a tape is loaded or unloaded. (Refer to page 2-3-4, procedure 1-C, step 2.)

Equipment required:

- Dual Trace Oscilloscope
- VHS Alignment Tape (VFMS0001H6)
- Guide Roller Adj. Screwdriver
- Flat Screwdriver (Purchase Locally)

Note: Before starting this Mechanical Alignment, do all Electrical Adjustment procedures.

Flowchart of Alignment for tape traveling



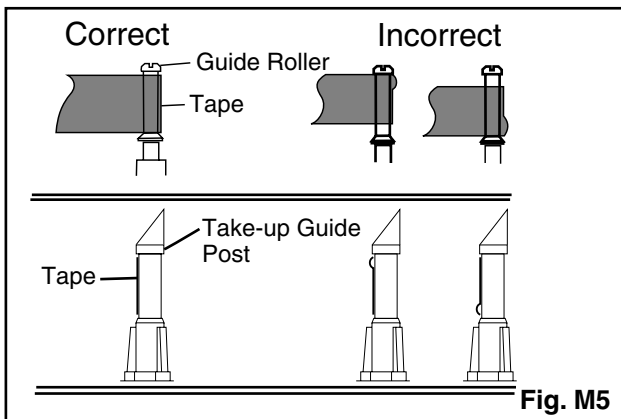
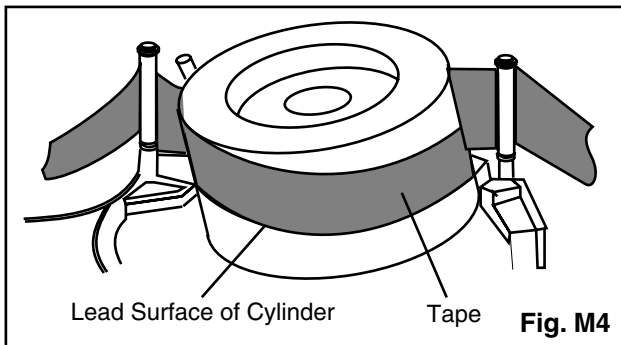
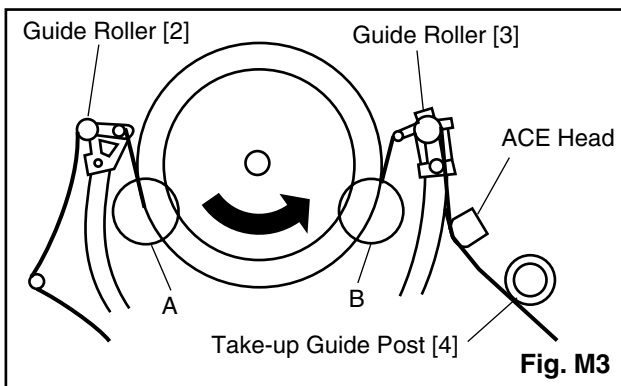
1-A. Preliminary/Final Checking and Alignment of Tape Path

Purpose: To make sure that the tape path is well stabilized.

Symptom of Misalignment: If the tape path is unstable, the tape will be damaged.

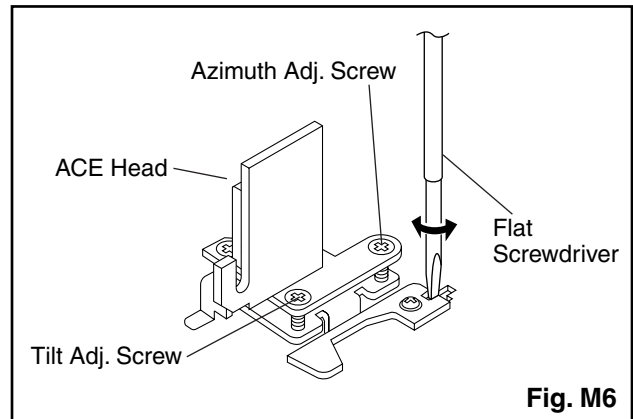
Note: Do not use an Alignment Tape for this procedure. If the unit is not correctly aligned, the tape may be damaged.

1. Playback a blank cassette tape and check to see that the tape runs without creasing at Guide Rollers [2] and [3], and at points A and B on the lead surface. (Refer to Fig. M3 and M4.)
2. If creasing is apparent, align the height of the guide rollers by turning the top of Guide Rollers [2] and [3] with a Guide Roller Adj. Screwdriver. (Refer to Fig. M3 and M5.)



3. Check to see that the tape runs without creasing at Take-up Guide Post [4] or without snaking between Guide Roller [3] and ACE Head. (Fig. M3 and M5)

4. If creasing or snaking is apparent, adjust the Tilt Adj. Screw of the ACE Head. (Fig. M6)



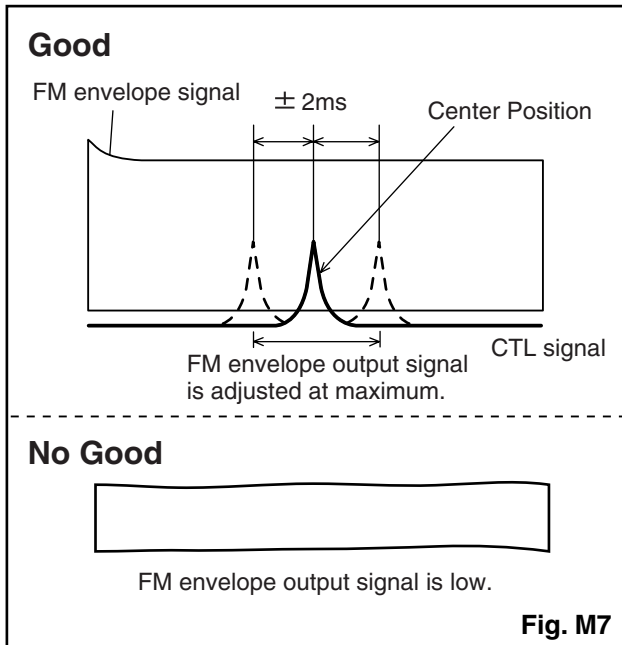
1-B. X Value Alignment

Purpose: To obtain maximum PB FM envelope signal at the preset position of the Tracking Control Circuit, align the Horizontal Position of the ACE Head.

Symptom of Misalignment: If the Horizontal Position of the ACE Head is not properly aligned, maximum PB FM envelope cannot be obtained at the preset position of the Tracking Control Circuit.

1. Connect the oscilloscope to TP (C-PB and CTL) on the Main CBA. Use TP (RF-SW) as a trigger.
2. Playback the Gray Scale of the Alignment Tape (VFMS0001H6) and confirm that the PB FM signal is present.
3. Set the Tracking Control Circuit to the preset position by pressing [CHANNEL ▲] button then [PLAY] button on the unit. (Refer to note on bottom of page 2-3-4.)
4. Use the Flat Screwdriver so that the PB FM signal at TP (C-PB) is maximum. (Fig. M6)

- To shift the CTL waveform, press [CHANNEL ▲] or [CHANNEL ▼] buttons on the unit. Then make sure that the maximum output position of PB FM envelope signal become within $\pm 2\text{ms}$ from preset position.



- Set the Tracking Control Circuit to the preset position by pressing [CHANNEL ▲] button and then [PLAY] button on the unit.

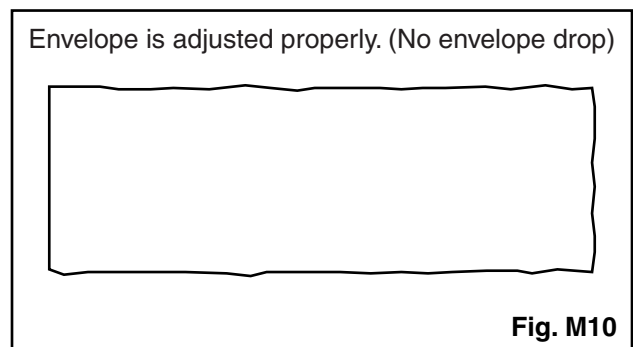
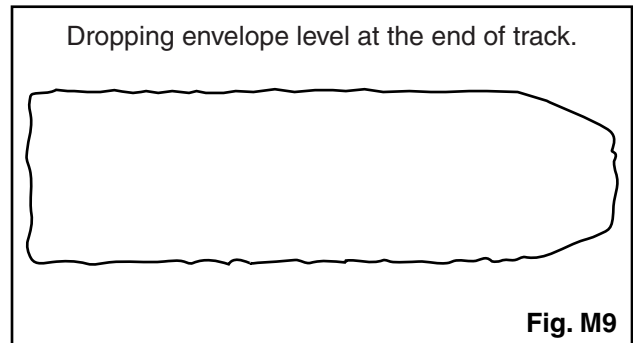
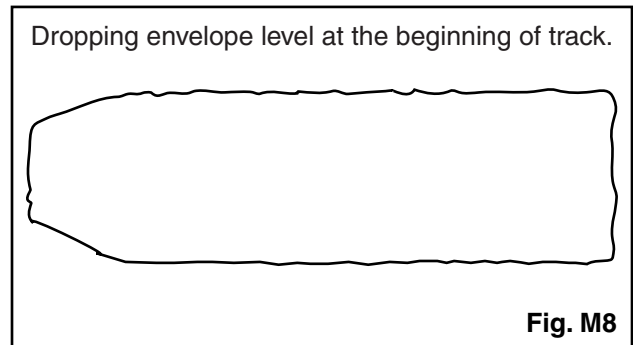
1-C. Checking/Adjustment of Envelope Waveform

Purpose: To achieve a satisfactory picture, adjust the PB FM envelope becomes as flat as possible.

Symptom of Misalignment: If the envelope output is poor, noise will appear in the picture. The tracking will then lose precision and the playback picture will be distorted by any slight variation of the Tracking Control Circuit.

- Connect the oscilloscope to TP (C-PB) on the Main CBA. Use TP (RF-SW) as a trigger.
- Playback the Gray Scale on the Alignment Tape (VFMS0001H6). Set the Tracking Control Circuit to the preset position by pressing [CHANNEL ▲] button and then [PLAY] button on the unit. Adjust the height of Guide Rollers [2] and [3] (Fig. M3, Page 2-3-3) watching the oscilloscope display so that the envelope becomes as flat as possible. To do this adjustment, turn the top of the Guide Roller with the Guide Roller Adj. Screwdriver.
- If the envelope is as shown in Fig. M7, adjust the height of Guide Roller [2] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
- If the envelope is as shown in Fig. M8, adjust the height of Guide Roller [3] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
- When Guide Rollers [2] and [3] (Refer to Fig. M3) are aligned properly, there is no envelope drop

either at the beginning or end of track as shown in Fig. M9.



Note: Upon completion of the adjustment of Guide Rollers [2] and [3] (Refer to Fig. M3), check the X Value by pushing the [CHANNEL ▲] or [CHANNEL ▼] buttons on the unit alternately, to check the symmetry of the envelope. Check the number of pushes to ensure preset position. The number of pushes [CHANNEL ▲] button on the unit to achieve 1/2 level of envelope should match the number of pushes [CHANNEL ▼] button on the unit from center. If required, redo the "X Value Alignment."

1-D. Azimuth Alignment of Audio/Control/ Erase Head

Purpose: To correct the Azimuth alignment so that the Audio/Control/Erase Head meets tape tracks properly.

Symptom of Misalignment: If the position of the Audio/Control/Erase Head is not properly aligned, the Audio S/N Ratio or Frequency Response will be poor.

1. Connect the oscilloscope to the audio output jack on the rear side of the deck.
2. Playback the alignment tape (VFMS0001H6) and confirm that the audio signal output level is 8kHz.
3. Adjust Azimuth Adj. Screw so that the output level on the AC Voltmeter or the waveform on the oscilloscope is at maximum. (Fig. M6)

Note: Upon completion of the adjustment of Azimuth Adj. Screw, check the X Value by pushing the [CHANNEL ▲] or [CHANNEL ▼] buttons on the unit alternately, to check the symmetry of the envelope. Check the number of pushes to ensure preset position. The number of pushes [CHANNEL ▲] button to achieve 1/2 level of envelope should match the number of pushes [CHANNEL ▼] button from center. If required, redo the "X Value Alignment."

1-E. Checking and Alignment of Tape Path during reversing

Purpose: To make sure that the tape path is well stabilized during reversing.

Symptom of Misalignment: If the tape path is unstable during reversing, the tape will be damaged.

Note: Do not use an Alignment Tape for this procedure. If the unit is not correctly aligned, the tape may be damaged.

1. Insert a blank cassette tape into the tray and set the unit to REV. Then confirm if the tape has been curled up or bent at the Take-up Guide Post[4] or REV Post[5]. (Refer to Fig. M11 and M12.)
2. When the tape has been curled up or bent, turn the alignment screw to adjust the height of REV Post. (Refer to Fig. M11 and M13.)

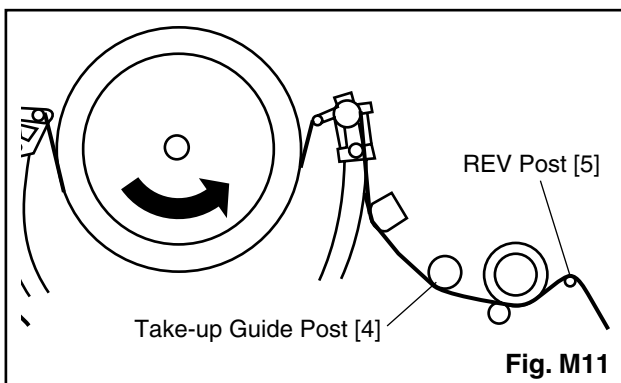


Fig. M11

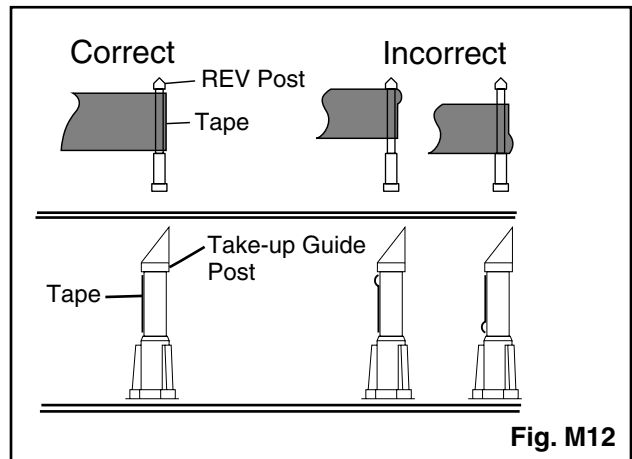


Fig. M12

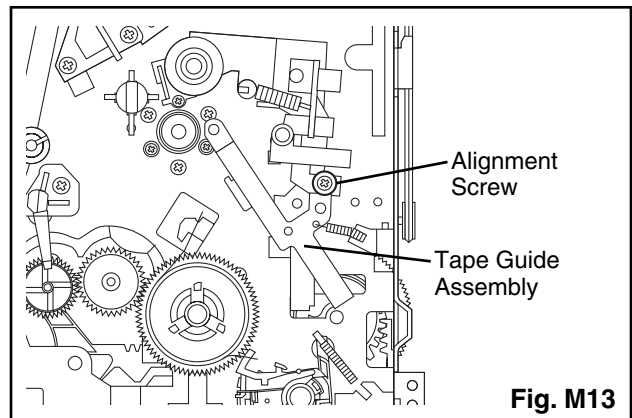


Fig. M13

DISASSEMBLY/ASSEMBLY PROCEDURES OF DECK MECHANISM

Before following the procedures described below, be sure to remove the deck assembly from the cabinet. (Refer to CABINET DISASSEMBLY INSTRUCTIONS of Main Section.)

All the following procedures, including those for adjustment and replacement of parts, should be done in Eject mode; see the positions of [41] and [42] in Fig. DM1 on page 2-4-3. When reassembling, follow the steps in reverse order.

Step /Loc. No.	Starting No.	Part		Removal		Installation
				Fig. No.	Remove/*Unhook/Unlock/Release/Unplug/Desolder	Adjustment Condition
[1]	[1]	Guide Holder A	T	DM3	2(S-1)	
[2]	[1]	Cassette Holder Assembly	T	DM4	(S-10)	
[3]	[2]	Slider (SP)	T	DM5	(S-1A), *(L-1)	
[4]	[2]	Slider (TU)	T	DM5	*(L-2)	
[5]	[4]	Lock Lever	T	DM5	*(L-3), *(P-1)	
[6]	[2]	Cassette Plate	T	DM5		
[7]	[7]	Cylinder Assembly	T	DM1, DM6	Desolder, 3(S-2)	
[8]	[8]	Loading Motor Assembly	T	DM1, DM7	Desolder, LDG Belt, 2(S-3)	
[9]	[9]	ACE Head Assembly	T	DM1, DM7	(S-4)	
[10]	[2]	Tape Guide Arm Assembly	T	DM1, DM8-1	*(P-2)	
[11]	[10]	C Door Opener	T	DM1, DM8-1	(S-4A), *(L-4)	
[12]	[11]	Pinch Arm (B)	T	DM1, DM8-1, DM8-2	*(P-3)	
[13]	[12]	Pinch Arm (A) Assembly	T	DM1, DM8-1, DM8-2		
[14]	[14]	FE Head	T	DM1, DM9	(S-5)	
[15]	[15]	Prism	T	DM1, DM9	(S-6)	
[16]	[2],[15]	Sensor Gear	T	DM1, DM9		
[17]	[2]	Slider Shaft	T	DM10	*(L-5)	
[18]	[17]	C Drive Lever (SP)	T	DM10		
[19]	[17]	C Drive Lever (TU)	T	DM10	(S-7), *(P-4)	
[20]	[7],[8],[10]	Capstan Motor	B	DM2, DM11	3(S-8), Cap Belt	
[21]	[21]	Clutch Assembly	B	DM2, DM12	(C-1)	
[22]	[22]	Cam Holder Assembly	B	DM2, DM12	*(L-6)	
[23]	[23]	Cam Gear (B)	B	DM2, DM12	(C-2), *(P-5)	
[24]	[24]	Mode Gear	B	DM2, DM13-1	(C-3)	
[25]	[21],[23],[24]	Mode Lever	B	DM2, DM13-1, DM13-2	(C-4), *(L-8)	
[26]	[22]	Worm Holder	B	DM2, DM13-1	(S-9), *(L-9), *(L-10)	
[27]	[26]	Pulley Assembly	B	DM2, DM13-1		
[28]	[25], [26]	Cam Gear (A)	B	DM2, DM13-1, DM13-2		
[29]	[25]	Idler Gear	B	DM1, DM14		
[30]	[29]	Idler Arm	B	DM1, DM14	*(L-11)	
[31]	[25]	BT Arm	B	DM2, DM14	*(P-6)	

Top View

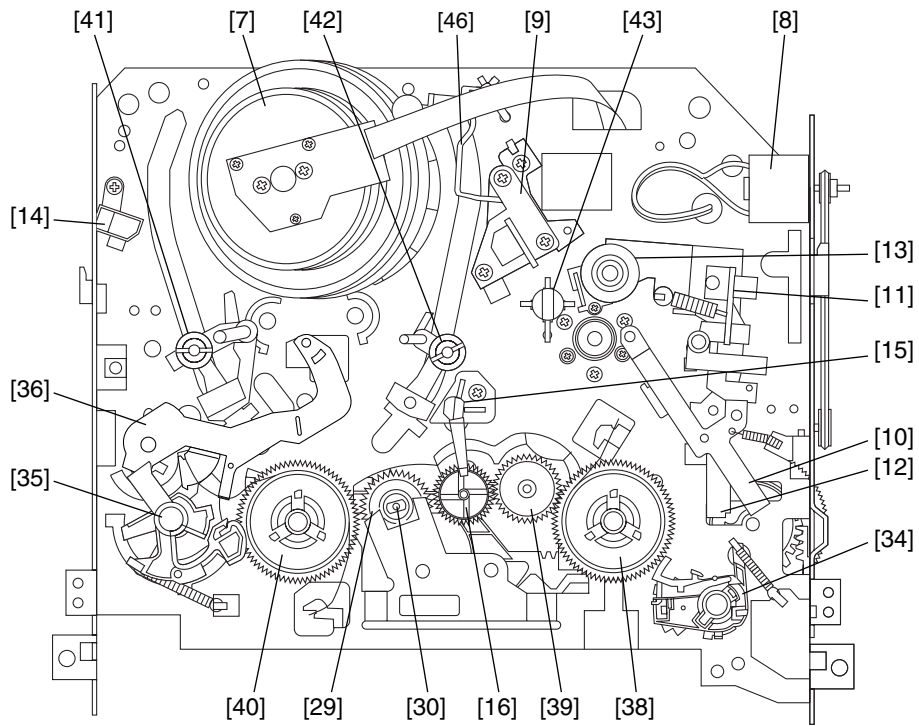


Fig. DM1

Bottom View

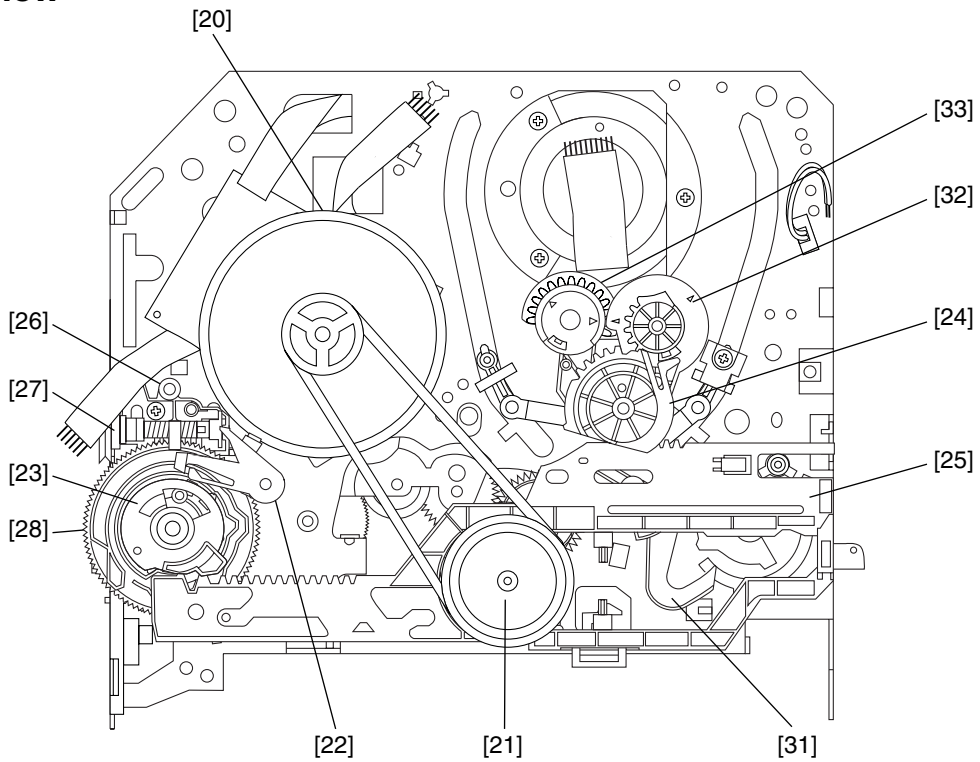


Fig. DM2

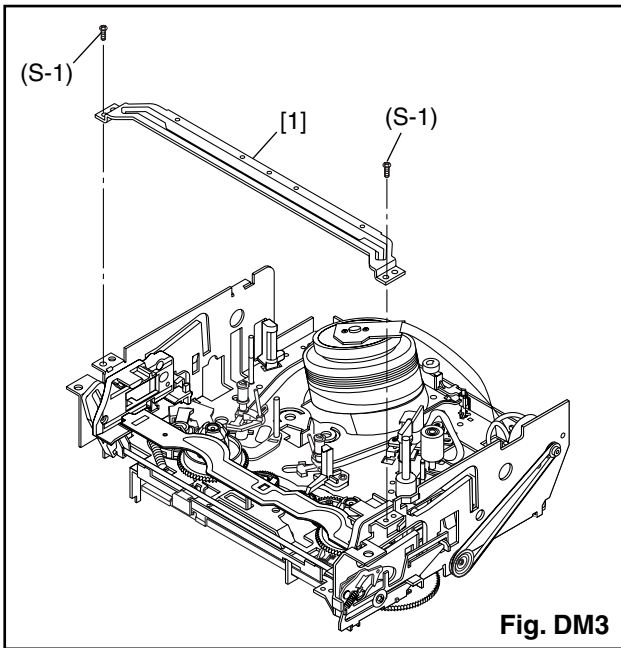
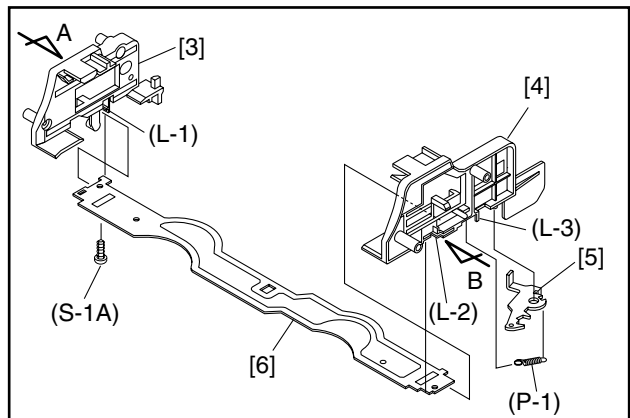
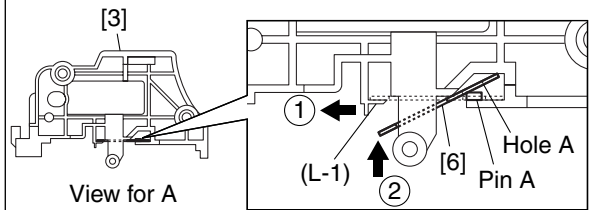


Fig. DM3



Installation of [3] and [6]

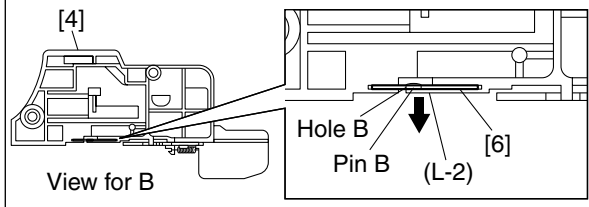
First, insert [6] diagonally in [3] as shown below. Then, install [6] in [3] while pushing (L-1) in a direction of arrow. After installing [6] in [3], confirm that pin A of [3] enters hole A of [6] properly.



View for A

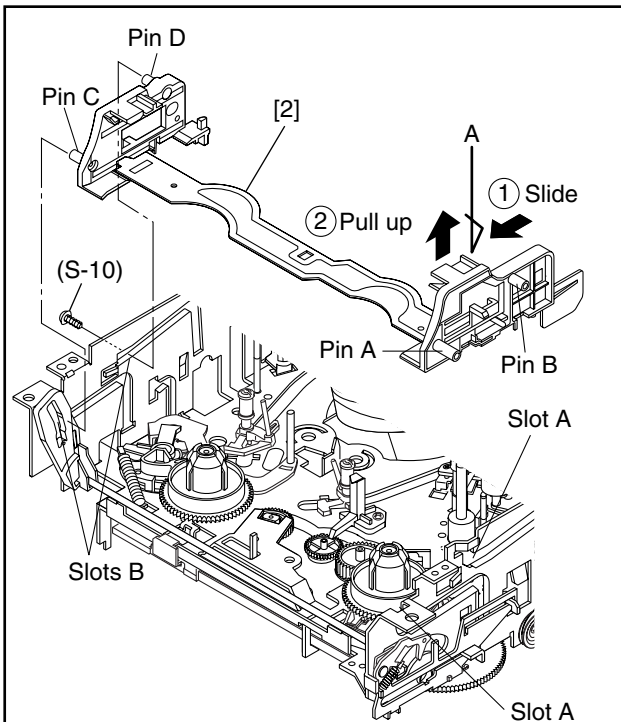
Installation of [4] and [6]

Install [6] in [4] while pulling (L-2) in a direction of arrow. After installing [6] in [4], confirm that pin B of [4] enters hole B of [6] properly.



View for B

Fig. DM5



First, while pushing the locking tab as shown at right, slide and pull up the right side on [2] to release Pin A and Pin B from the slots A.
Then, remove Pin C and Pin D on [2] from the slots B as shown.

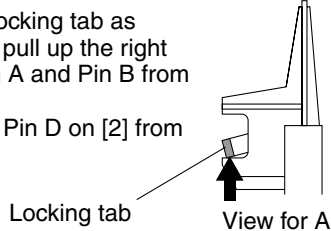
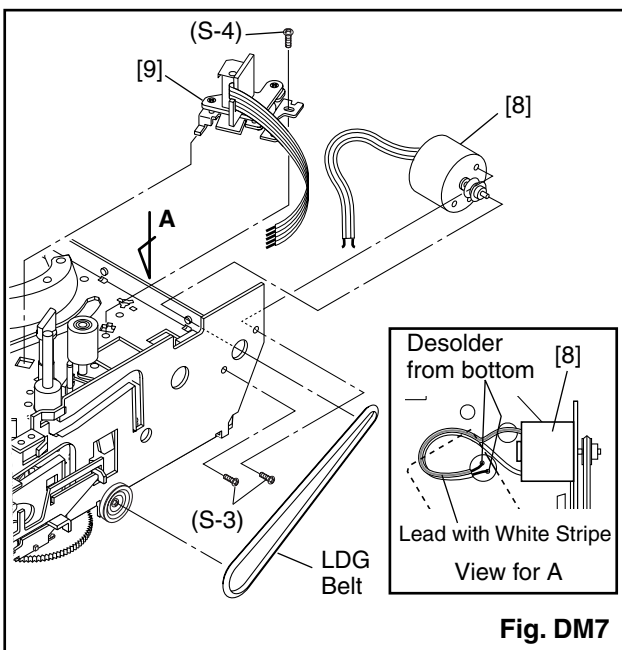
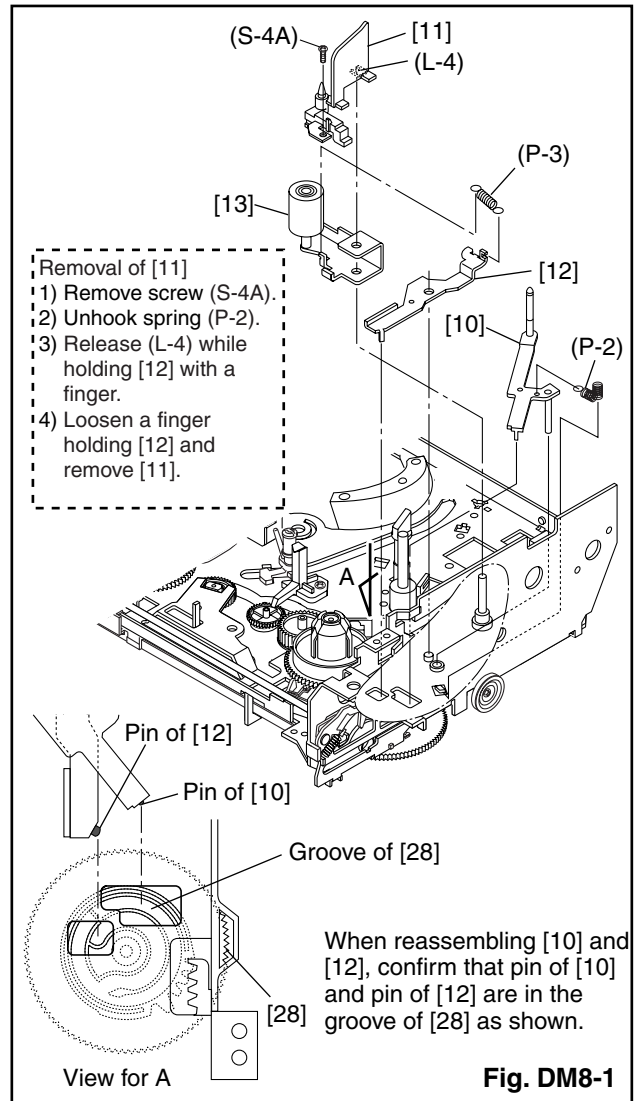
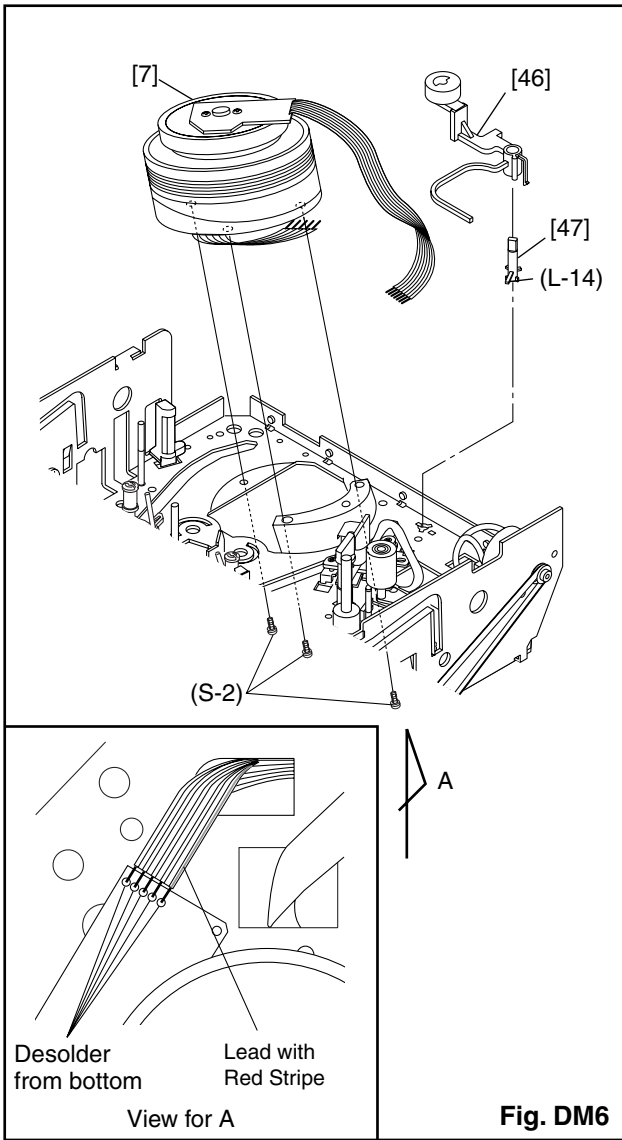


Fig. DM4



Installation of [13] and [12]

Hook spring (P-3) up to [12] and [13], then install then to the specified position so that [12] will be floated slightly while holding [12] and [13]. (Refer to Fig. A.)

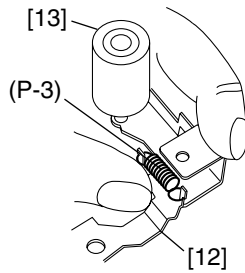


Fig. A

Install pin of [12] in groove of [28]. (Refer to Fig. B.)

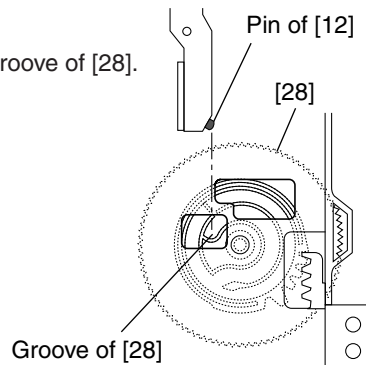


Fig. B (Top view)

Hold [12] and [13] till groove of pin of chassis looks and fit [13] in notch of chassis. Then, turn a few [13] while holding [12]. (Refer to Fig. C.)

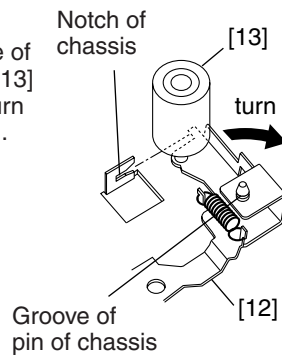


Fig. C

Install [11] and [10] while holding [12]. (Refer to Fig. DM8-1.)

Fig. DM8-2

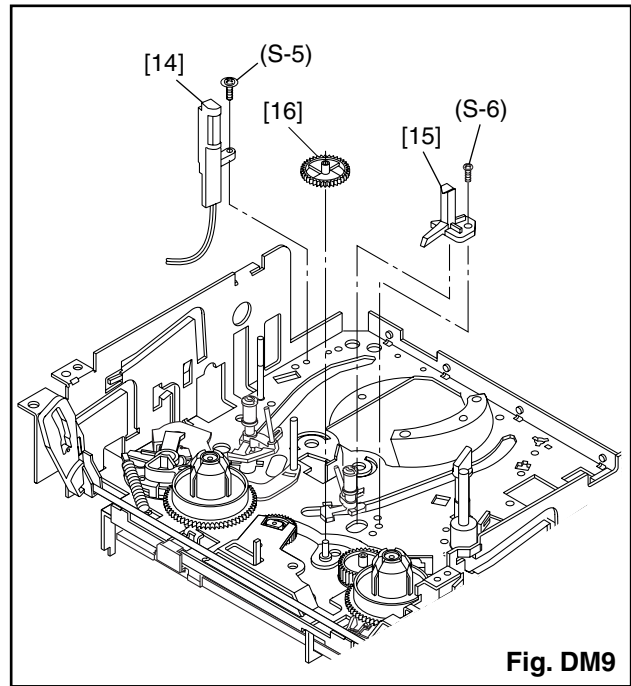


Fig. DM9

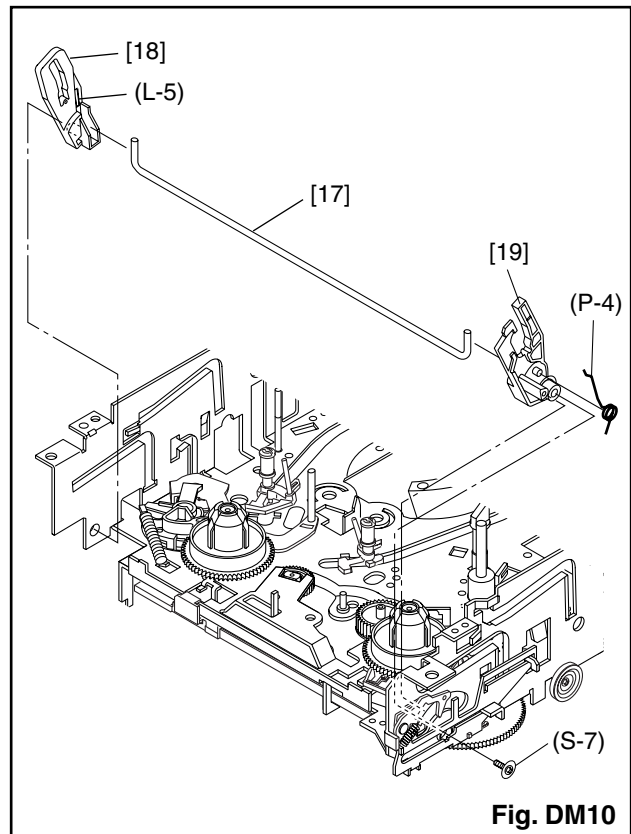


Fig. DM10

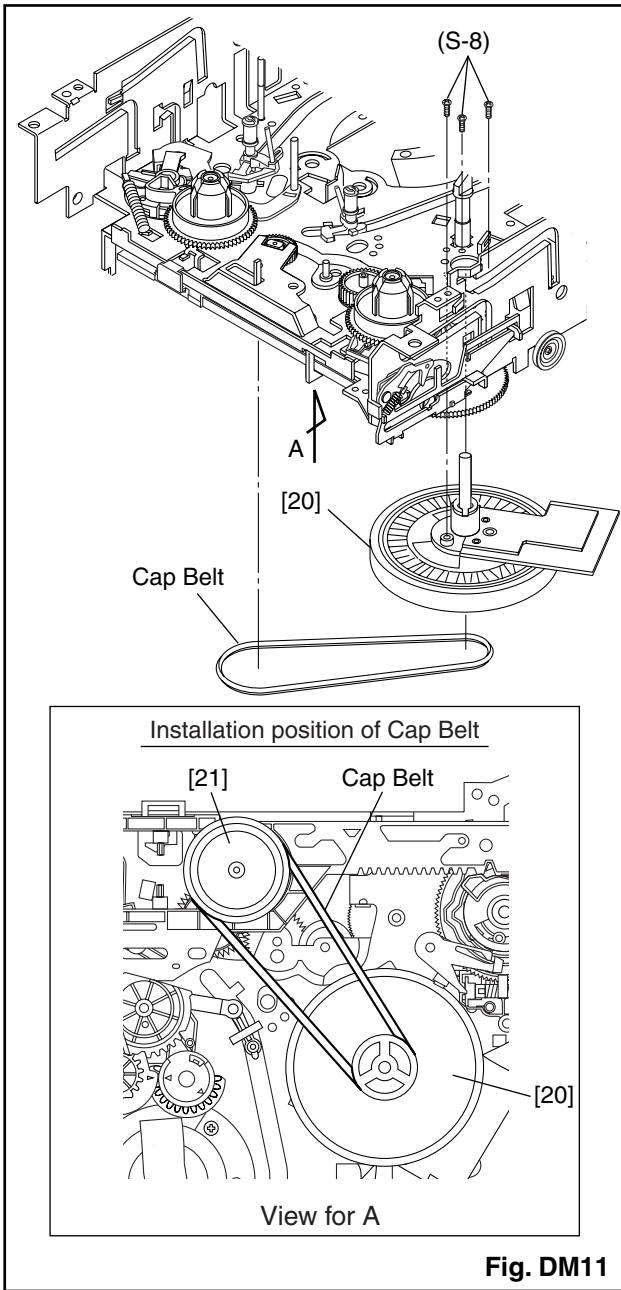


Fig. DM11

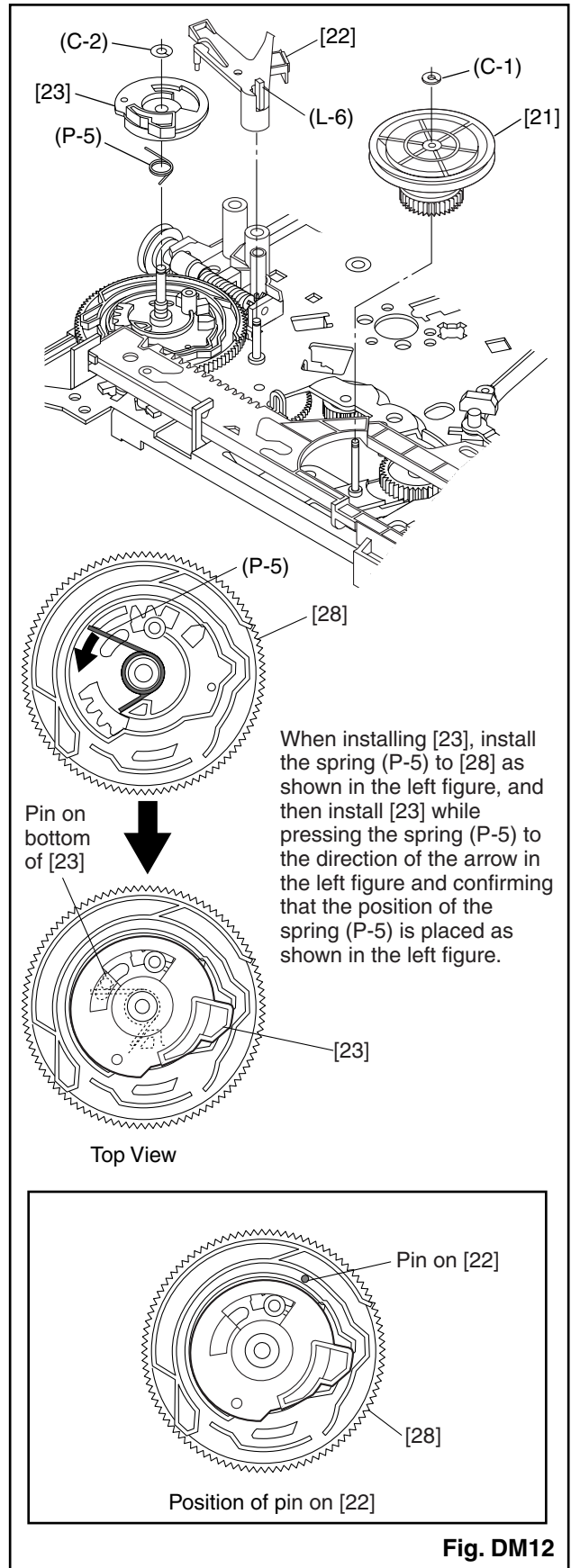


Fig. DM12

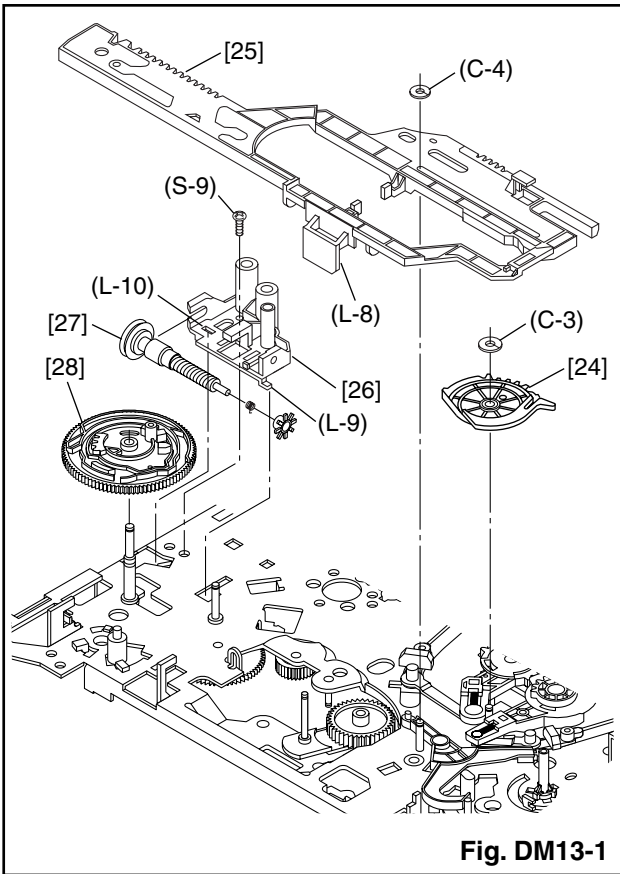


Fig. DM13-1

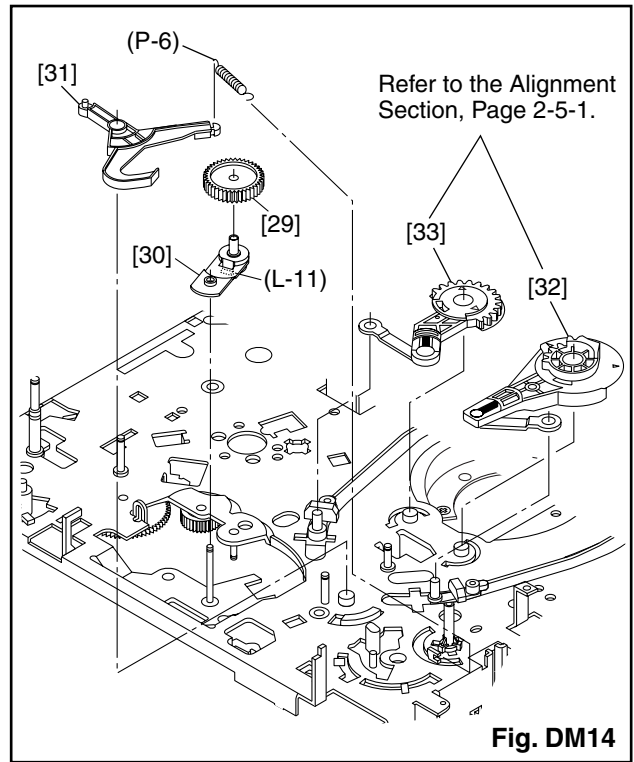


Fig. DM14

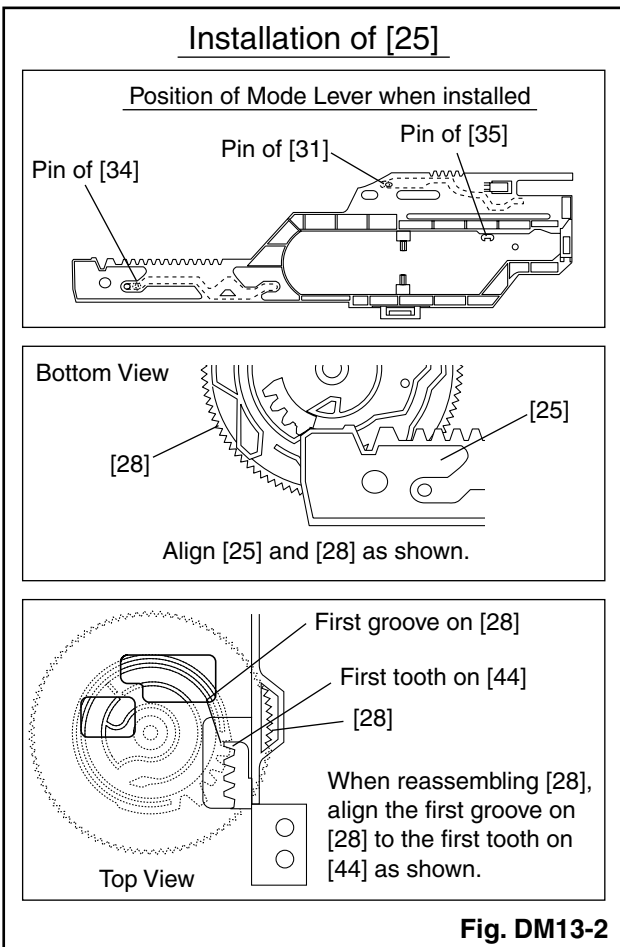


Fig. DM13-2

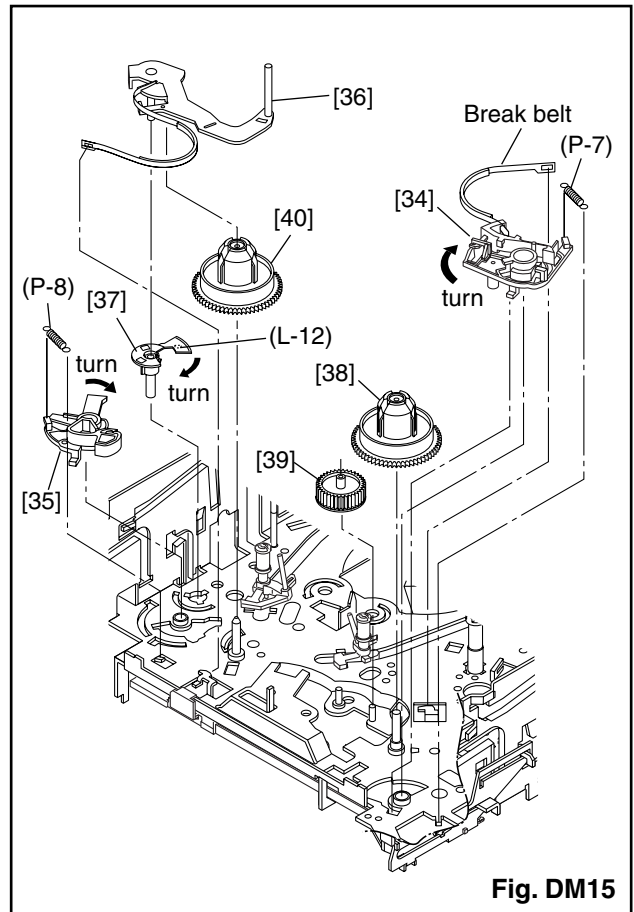
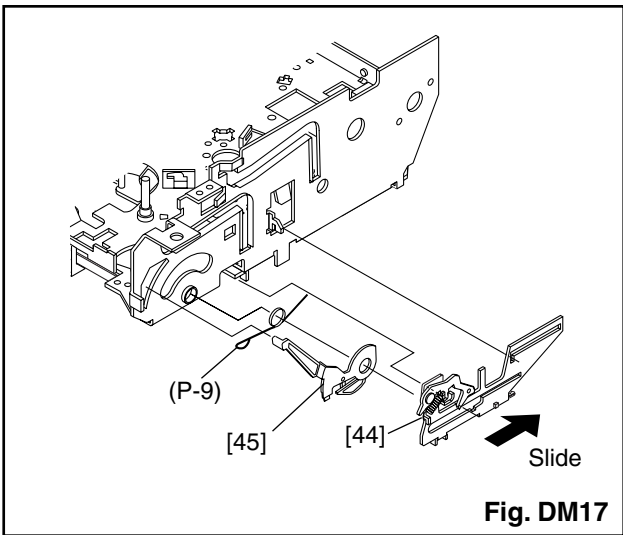
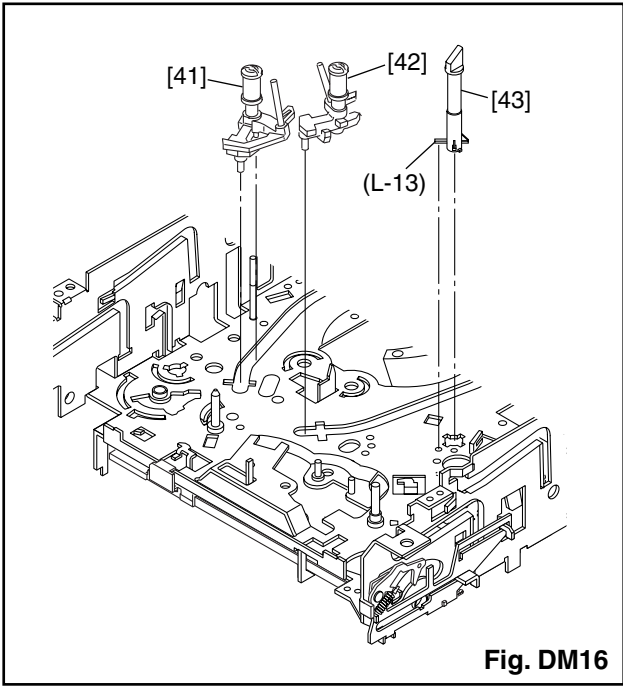


Fig. DM15



ALIGNMENT PROCEDURES OF MECHANISM

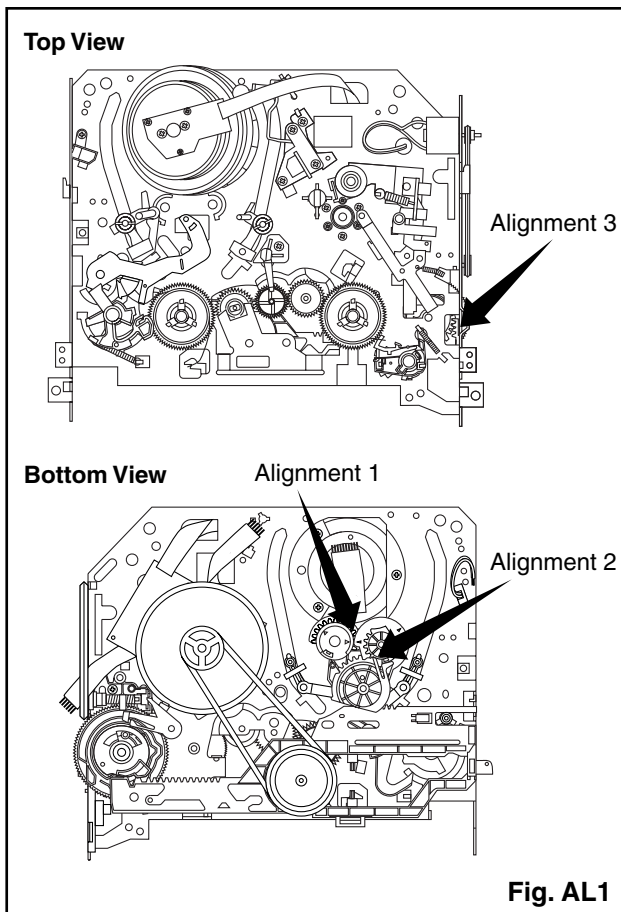
The following procedures describe how to align the individual gears and levers that make up the tape loading/unloading mechanism. Since information about the state of the mechanism is provided to the System Control Circuit only through the Mode Switch, it is essential that the correct relationship between individual gears and levers be maintained.

All alignments are to be performed with the mechanism in Eject mode, in the sequence given. Each procedure assumes that all previous procedures have been completed.

IMPORTANT:

If any one of these alignments is not performed properly, even if off by only one tooth, the unit will unload or stop and it may result in damage to the mechanical or electrical parts.

Alignment points in Eject Position



Alignment 1

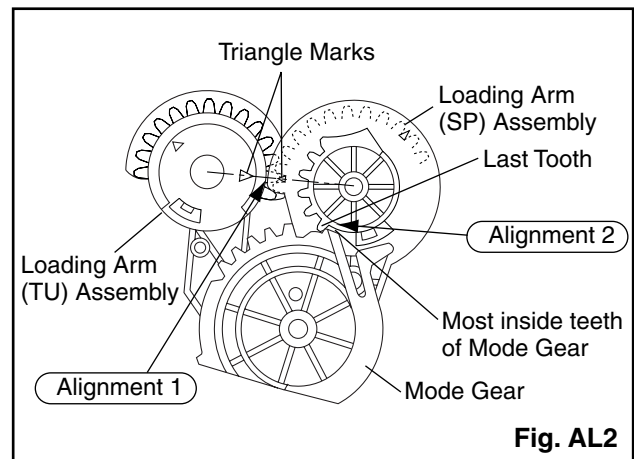
Loading Arm (SP) and (TU) Assembly

Install Loading Arm (SP) and (TU) Assembly so that their triangle marks point to each other as shown in Fig. AL2.

Alignment 2

Mode Gear

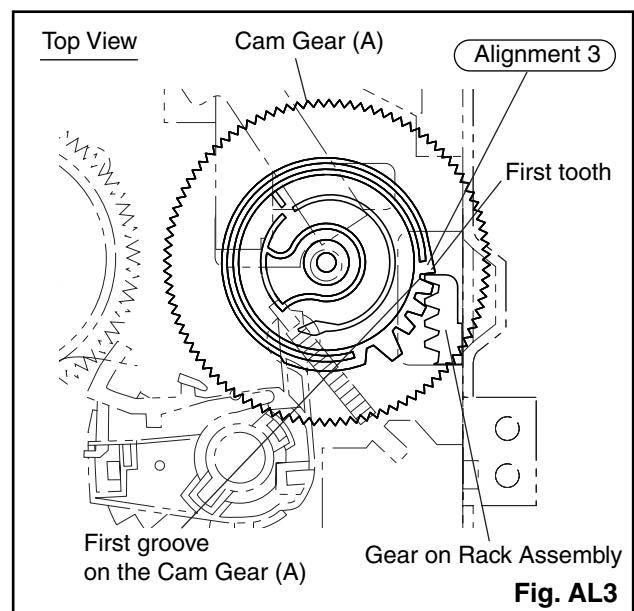
Keeping the two triangles pointing at each other, install the Loading Arm (SP) Assembly so that the last tooth of the gear meets the most inside teeth of the Mode Gear. See Fig. AL2.



Alignment 3

Cam Gear (A), Rack Assembly

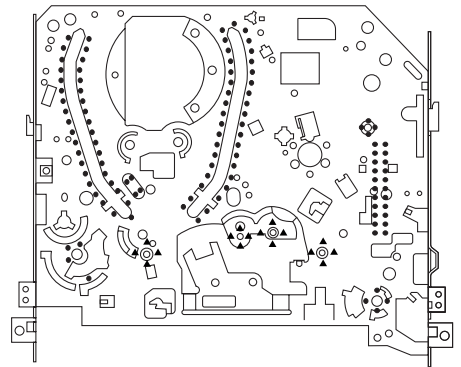
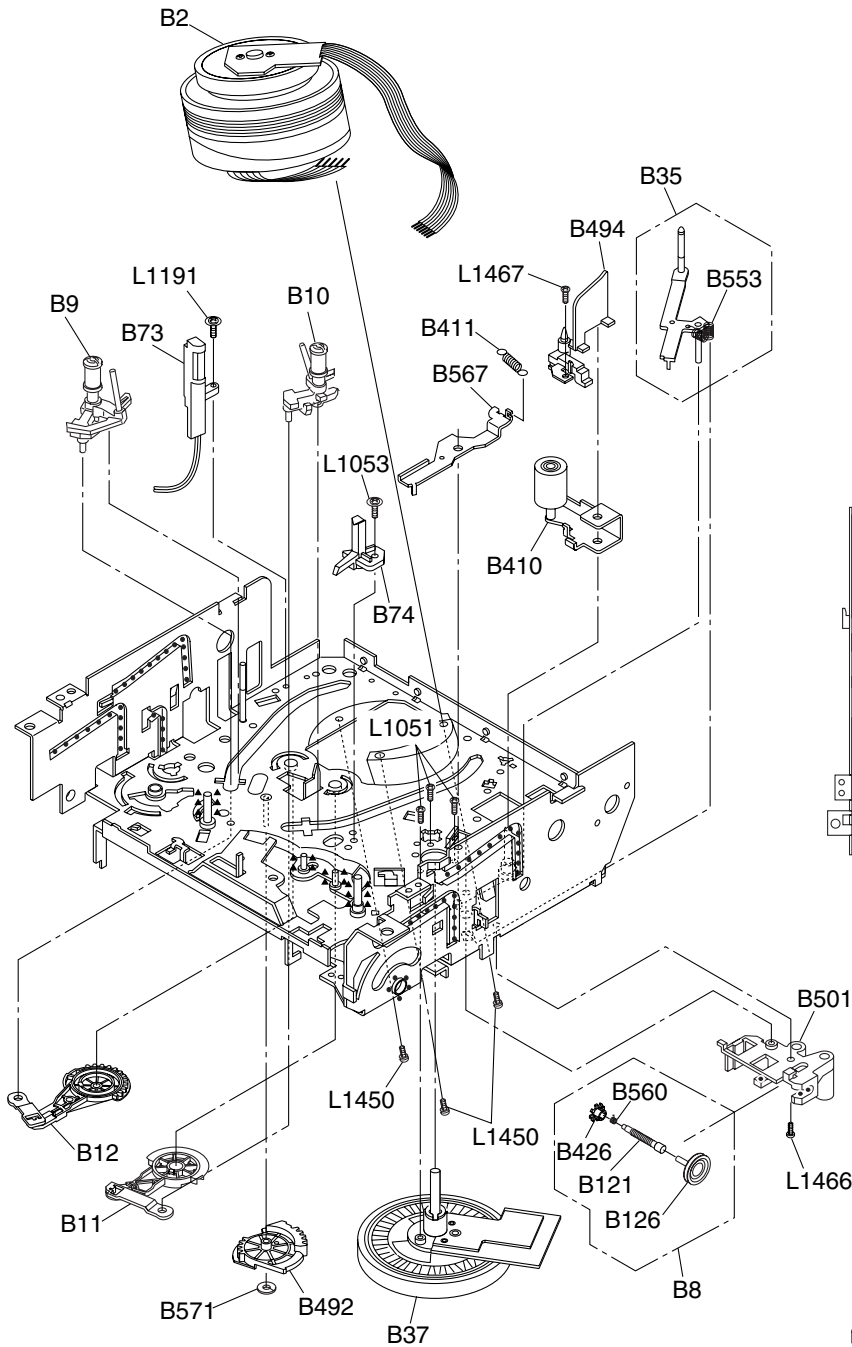
Install the Rack Assembly so that the first tooth on the gear of the Rack Assembly meets the first groove on the Cam Gear (A) as shown in Fig. AL3.



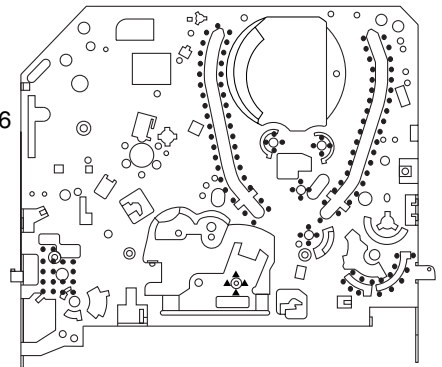
DECK EXPLODED VIEWS

Deck Mechanism View 1

Mark	Description
•••••	Floil G-684G or Multemp MH-D (Blue grease)
▲▲▲▲▲	SLIDUS OIL #150



Chassis Assembly
Top View (Lubricating Point)

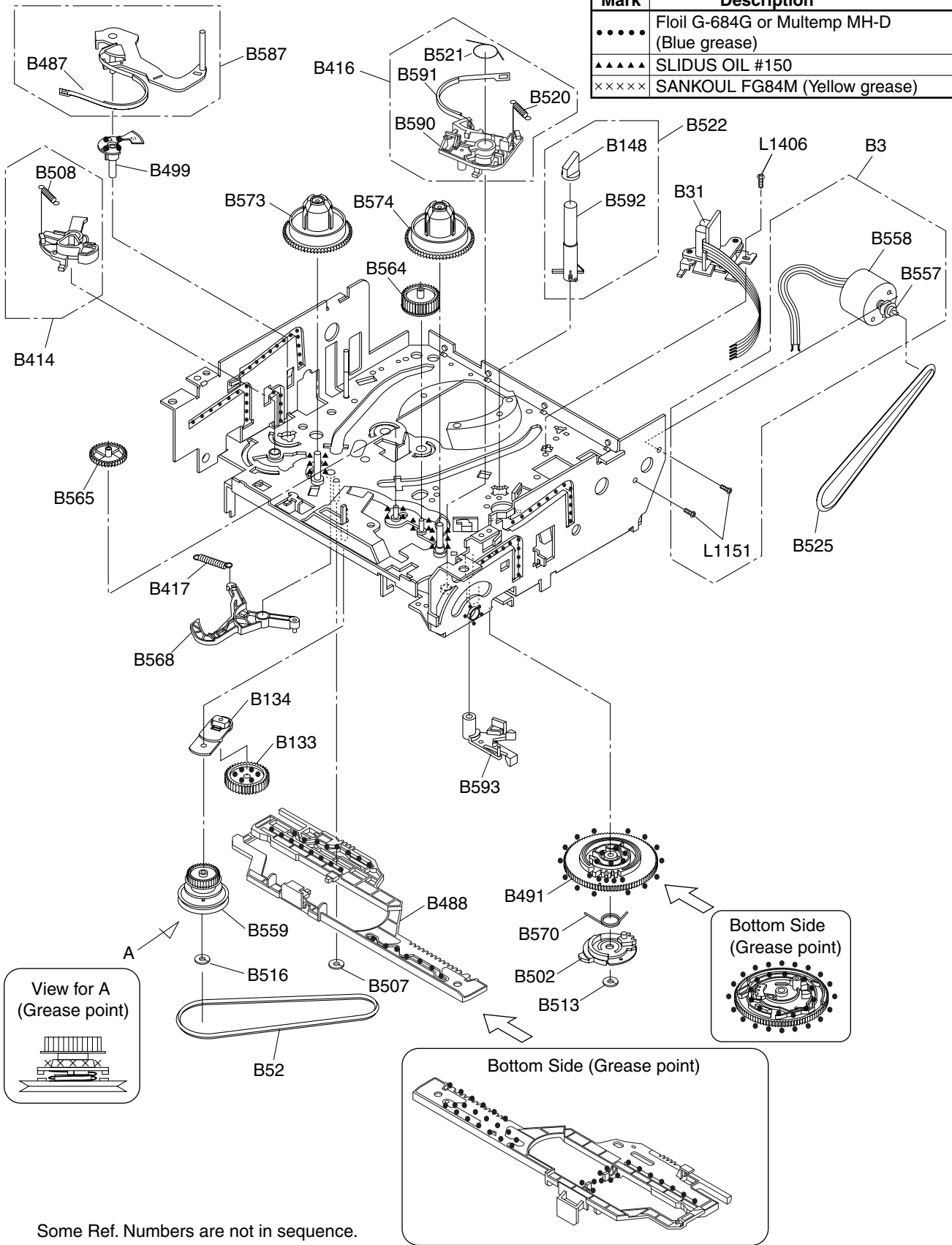


Chassis Assembly
Bottom View (Lubricating Point)

Some Ref. Numbers are not in sequence.

Deck Mechanism View 2

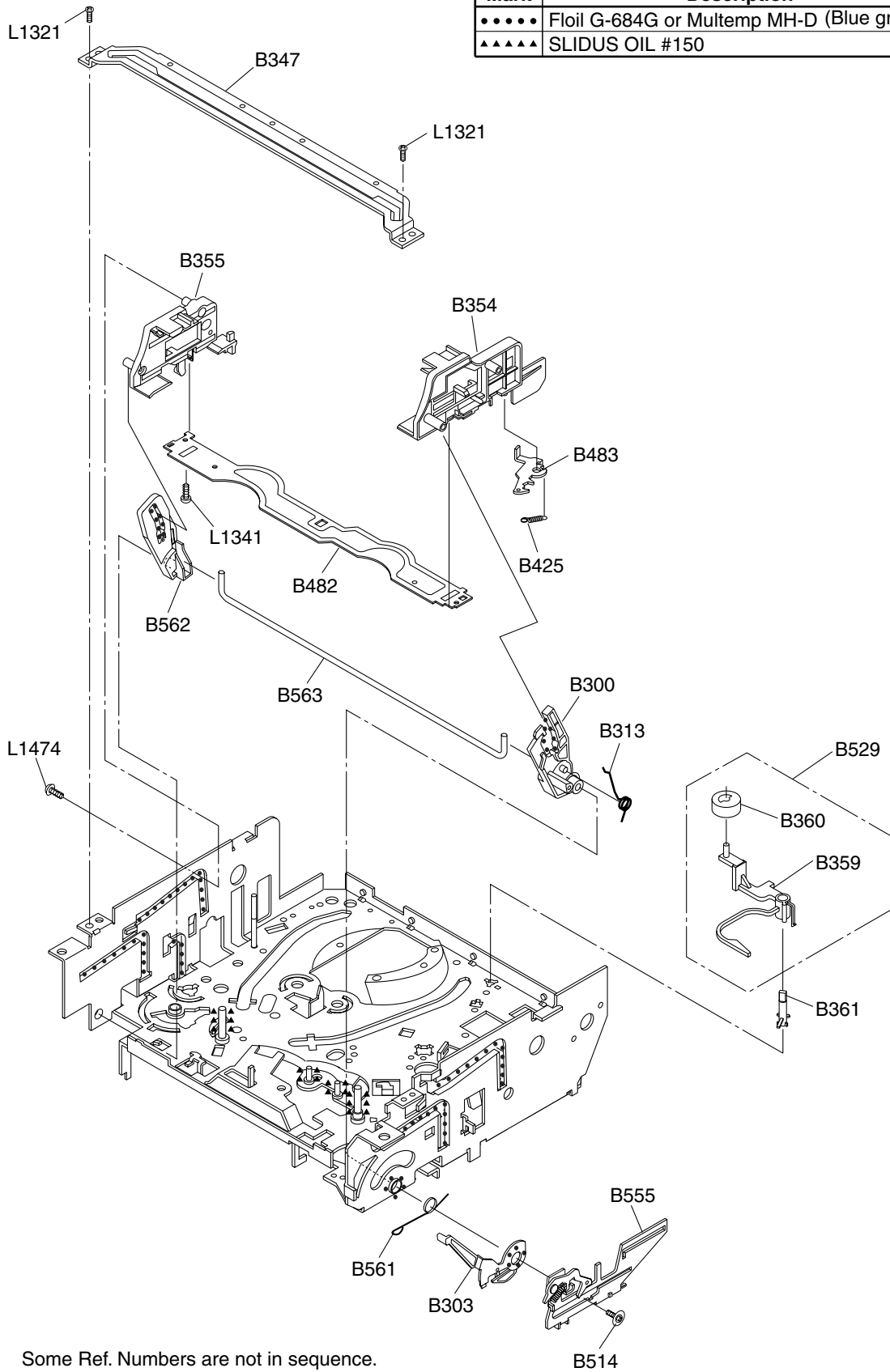
Mark	Description
•••••	Floil G-684G or Multemp MH-D (Blue grease)
▲▲▲▲▲	SLIDUS OIL #150
×××××	SANKOUL FG84M (Yellow grease)



Some Ref. Numbers are not in sequence.

Deck Mechanism View 3

Mark	Description
•••••	Floil G-684G or Multemp MH-D (Blue grease)
▲▲▲▲▲	SLIDUS OIL #150



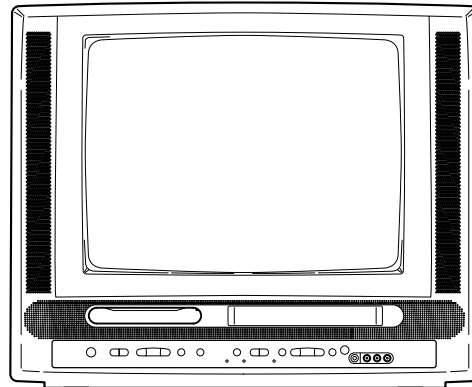
Some Ref. Numbers are not in sequence.

MECHANICAL PARTS LIST - VCR MECHANISM

B2	9965 000 29043	CYLINDER ASSY MK12.5 NTSC 6HD	B563	9965 000 16666	SLIDER SHAFT MK12
B2 *	9965 000 29044	CYLINDER ASSY MK12.5 NTSC 6HD	B564	9965 000 17205	M GEAR MK12
B3	9965 000 23363	LOADING MOTOR ASSEMBLY MK12.5	B565	9965 000 17206	SENSOR GEAR MK12
B8	9965 000 17191	PULLEY ASSEMBLY MK12	B567	9965 000 16669	PINCH ARM(B) MK12
B9	9965 000 23364	MOVING GUIDE S P.P MK12.5	B568	9965 000 16670	BT ARM MK12
B10	9965 000 23365	MOVING GUIDE T P.P MK12.5	B570	9965 000 12240	CAM RACK SPRING(HI) MK11
B11	9965 000 16634	LOADING ARM(TU) ASSEMBLY MK12	B571	4822 532 13159	P.S.W. 1.6X4.0X0.5T
B12	9965 000 16635	LOADING ARM(SP) ASSEMBLY MK12	B573	9965 000 17208	REEL(SP)(D2) MK12
B31	9965 000 29045	AC HEAD ASSEMBLY(TVCR) MK12.5	B574	9965 000 17209	REEL(TU)(D2) MK12
B35	9965 000 23382	TAPE GUIDE ARM ASSEMBLY MK12.5	B587	9965 000 16674	TENSION LEVER ASSEMBLY MK12
B37	9965 000 23418	CAPSTAN MOTOR 288/VCZC1300	B593	9965 000 24172	CAM HOLDER ASSEMBLY MK12.5
B52	9965 000 08593	CAP BELT MK10	L1051	9965 000 05359	SCREW, M2.6X6 PAN HEAD+
B73	9965 000 12210	FE HEAD ASSEMBLY MK11	L1053	9965 000 05375	SCREW, M2.6X8 WASHER HEAD+
B73 *	9965 000 19627	FE HEAD(MK12) VTR-1X2ERS11-155	L1191	9965 000 05375	SCREW, M2.6X8 WASHER HEAD+
B73 *	9965 000 12210	FE HEAD ASSEMBLY MK11	L1321	4822 502 14009	M 3 X 6
B74	9965 000 08555	PRISM MK10	L1341	9965 000 23375	SCREW, P-TIGHT M2X6 PAN HEAD+
B133	9965 000 17193	IDLER GEAR MK12	L1406	9965 000 08643	AC HEAD SCREW MK9
B134	9965 000 17194	IDLER ARM MK12	L1450	4822 502 14671	SCREW M2.6X5
B300	9965 000 16643	C DRIVE LEVER(TU) MK12	L1466	9965 000 05364	SCREW, M2.6X6 BIND HEAD+
B303	9965 000 18129	F DOOR OPENER MK12	L1467	9965 000 23376	SCREW M2.6X5 WASHER HEAD+
B313	9965 000 16645	C DRIVE SPRING MK12	L1474	4822 502 14019	M2.6X12
B347	9965 000 08445	GUIDE HOLDER MK10			
B354	9965 000 18130	SLIDER(TU) MK12	Note:	* Alternative Parts	
B355	9965 000 23555	SLIDER(SP) MK12			Only the parts mentioned in this list are normal service spare parts.
B361	9965 000 08450	CL POST MK10			
B410	9965 000 23370	PINCH ARM(A) ASSEMBLY(6) MK12.5			
B410 *	9965 000 16648	PINCH ARM(A) ASSEMBLY(4) MK12			
B411	9965 000 16649	PINCH SPRING MK12			
B414	9965 000 23419	M BRAKE(SP) ASSEMBLY MK12.5			
B416	9965 000 17196	M BRAKE(TU) ASSEMBLY MK12			
B417	9965 000 24008	TENSION SPG(3002645) MK12.5			
B425	9965 000 08457	LOCK LEVER SPRING MK10			
B482	9965 000 16653	CASSETTE PLATE MK12			
B483	9965 000 16654	LOCK LEVER MK12			
B488	9965 000 23420	MODE LEVER MK12.5			
B491	9965 000 17199	CAM GEAR(A) MK12			
B492	9965 000 16658	MODE GEAR MK12			
B494	9965 000 16659	C DOOR OPENER MK12			
B499	9965 000 16660	T LEVER HOLDER MK12			
B501	9965 000 16661	WORM HOLDER MK12			
B502	9965 000 17200	CAM GEAR(B) MK12			
B507	9965 000 05342	REEL WASHER MK9 5*2.1*0.5			
B513	9965 000 17201	CAM WASHER MK12			
B514	9965 000 08641	SCREW RACK MK10			
B516	9965 000 05342	REEL WASHER MK9 5*2.1*0.5			
B522	9965 000 12373	TG POST ASSEMBLY MK11			
B525	9965 000 12230	LDG BELT MK11			
B529	9965 000 08504	CLEANER ASSEMBLY MK10			
B555	9965 000 16663	RACK ASSEMBLY MK12			
B559	9965 000 17204	CLUTCH ASSEMBLY MK12			
B559 *	9965 000 23421	CLUTCH ASSEMBLY(64) MK12			
B561	9965 000 08523	F DOOR SPRING MK10			
B562	9965 000 16665	C DRIVE LEVER(SP) MK12			

Service
Service
Service

Third Generation



Service Manual



Contents

- Chapter
- Sec. 1: Adjustment Procedures
 - Schematic Diagrams and CBA's
 - Exploded Views
 - Mechanical and Electrical Parts Lists
- Sec. 2: Standard Maintenance
 - Mechanism Alignment Procedures
 - Disassembly / Assembly of Mechanism
 - Deck Exploded Views
 - Deck Parts List

Survey of versions:

/17 NTSC

CLASS 1 LASER PRODUCT
 KLASSE 1 LASER PRODUKT
 KLASS 1 LASER APPARAT
 CLASSE 1 PRODUIT LASER

This service manual is for 19MDTR20/17 Third Generation model, which is different from the previous generation 19MDTR20/17 models.

For Third Generation model, the serial number begins with DD3Cxxxxxxxxxx. Refer to the rating label illustration at right.

Rating label

<p>MAGNAVOX MODEL 19MDTR20/17 AC 120V 60Hz 90W DISTRIBUTED BY: Philips Consumer Electronics, P. O. BOX 14810 KNOXVILLE, TN 37914-1810 MADE IN MALAYSIA FABRIQUE EN MALAISIE COMPLIES WITH DHHS RADIATION PERFORMANCE STANDARDS, 21 CFR SUBPART J.</p>	<p style="text-align: right;">PRECAUCIÓN NO ABRIR RIESGO DE DESCARGA ELÉCTRICA</p> <p style="text-align: center;">UL us LISTED Television Equipment 317A E175216</p> <p style="text-align: center;">MANUFACTURED/ FABRICANT</p> <p style="text-align: center;">MARCH 2005 V x x x x DD3Cxxxxxxxxxx</p> <p style="text-align: center;">SERIAL NO./ NO. DE SERIE</p>
---	--

↑
Serial number

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MAIN SECTION

Color TV with Built-In VCR/DVD Player

Sec. 1: Main Section

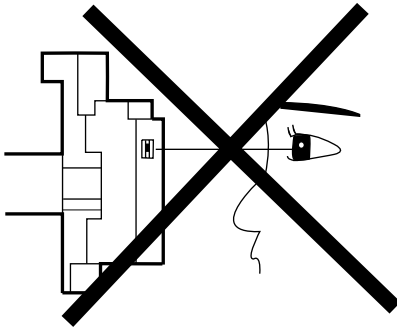
- Adjustment Procedures
- Schematic Diagrams and CBA's
- Exploded Views
- Mechanical and Electrical Parts List

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LASER BEAM SAFETY PRECAUTIONS

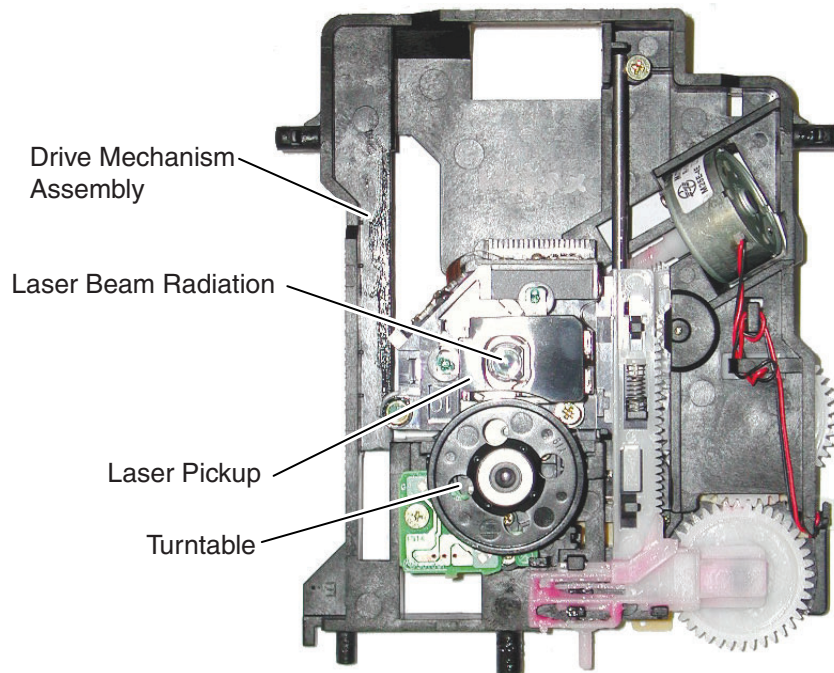
This DVD player uses a pickup that emits a laser beam.



Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 30 cm away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

CAUTION: Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.



CAUTION
LASER RADIATION
WHEN OPEN. DO NOT
STARE INTO BEAM.

Location: Top of DVD mechanism.

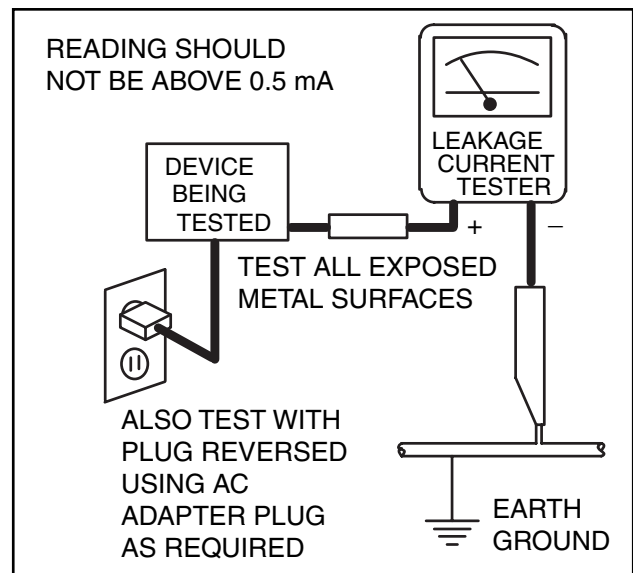
IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Safety Precautions for TV Circuit

1. **Before returning an instrument to the customer**, always make a safety check of the entire instrument, including, but not limited to, the following items:
 - a. Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**
 - b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) spacing between the picture tube and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.
 - c. **Antenna Cold Check** - With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.
 - d. **Leakage Current Hot Check** - With the instrument completely reassembled, plug the AC line cord directly into a 120 V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1


Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.




ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

- e. **X-Radiation and High Voltage Limits** - Because the picture tube is the primary potential source of X-radiation in solid-state TV receivers, it is specially constructed to prohibit X-radiation emissions. For continued X-radiation protection, the replacement picture tube must be the same type as the original. Also, because the picture tube shields and mounting hardware perform an X-radiation protection function, they must be correctly in place. High voltage must be measured each time servicing is performed that involves B+, horizontal deflection or high voltage. Correct operation of the X-radiation protection circuits also must be reconfirmed each time they are serviced. (X-radiation protection circuits also

may be called “horizontal disable” or “hold down.”) Read and apply the high voltage limits and, if the chassis is so equipped, the X-radiation protection circuit specifications given on instrument labels and in the Product Safety & X-Radiation Warning note on the service data chassis schematic. High voltage is maintained within specified limits by close tolerance safety-related components/adjustments in the high-voltage circuit. If high voltage exceeds specified limits, check each component specified on the chassis schematic and take corrective action.

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.
3. **Design Alteration Warning** - Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.
4. **Picture Tube Implosion Protection Warning** - The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck. Some “in-line” picture tubes are equipped with a permanently attached deflection yoke; because of potential hazard, do not try to remove such “permanently attached” yokes from the picture tube.
5. **Hot Chassis Warning** -
 - a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and maybe safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.
 - b. Some TV receiver chassis normally have 85V AC(RMS) between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.
- c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.
6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c. the AC supply, d. high voltage, and, e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.
7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.
8. **Product Safety Notice** - Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc.. Parts that have special safety characteristics are identified by a  on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The product's safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm they comply with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

- A.** Parts identified by the  symbol are critical for safety.
Replace only with part number specified.
- B.** In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.
- C.** Use specified internal wiring. Note especially:
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
- D.** Use specified insulating materials for hazardous live parts. Note especially:
 - 1) Insulation Tape
 - 2) PVC tubing
 - 3) Spacers
 - 4) Insulators for transistors.
- E.** When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.
- F.** Observe that the wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.)
- G.** Check that replaced wires do not contact sharp edged or pointed parts.
- H.** When a power cord has been replaced, check that 5~6 kg of force in any direction will not loosen it.
- I.** Also check areas surrounding repaired locations.
- J.** Be careful that foreign objects (screws, solder droplets, etc.) do not remain inside the set.
- K.** Crimp type wire connector
When replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, in order to prevent shock hazards, perform carefully and precisely the following steps.
Replacement procedure
 - 1) Remove the old connector by cutting the wires at a point close to the connector.
Important: Do not re-use a connector (discard it).
 - 2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.
 - 3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
 - 4) Use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.
- L.** When connecting or disconnecting the DVD/VCR connectors, first, disconnect the AC plug from the AC supply socket.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1: Ratings for selected area

AC Line Voltage	Region	Clearance Distance (d), (d')
110 to 130 V	U.S.A. or Canada	≥ 3.2 mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

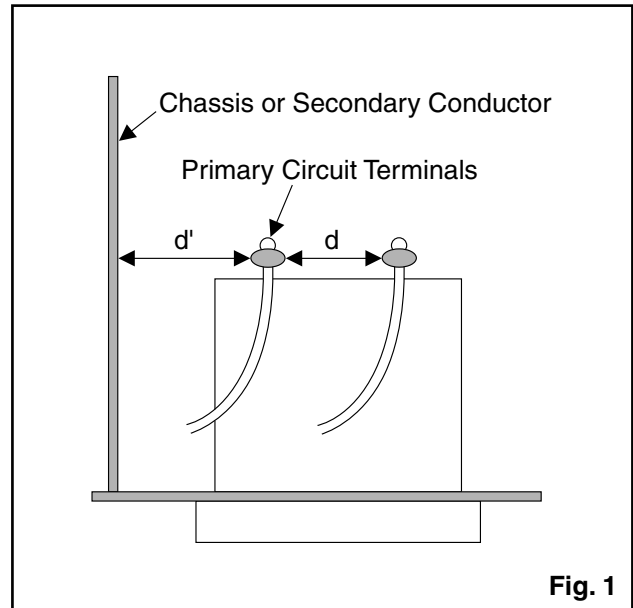


Fig. 1

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method: (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.

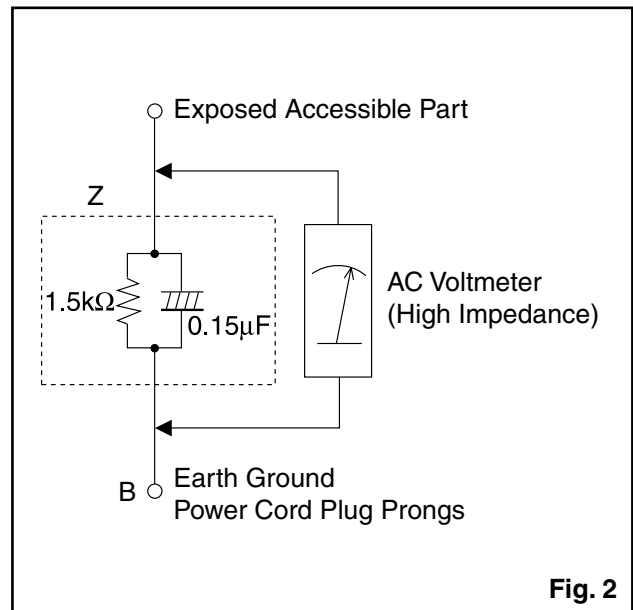


Fig. 2

Table 2: Leakage current ratings for selected areas

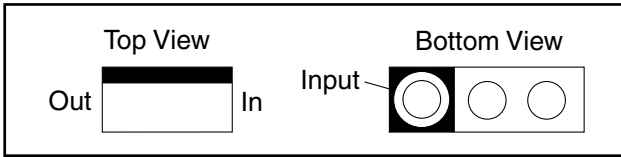
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	U.S.A. or Canada	$0.15\ \mu\text{F}$ CAP. & $1.5\ \text{k}\Omega$ RES. Connected in parallel	$i \leq 0.5\ \text{mA rms}$	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

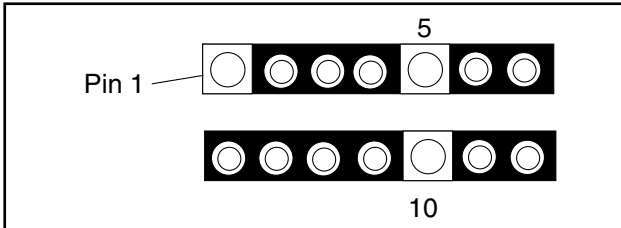
STANDARD NOTES FOR SERVICING

Circuit Board Indications

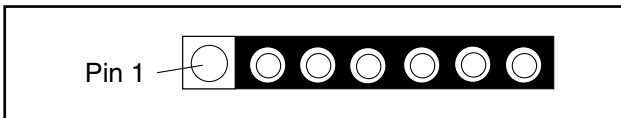
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



2. For other ICs, pin 1 and every fifth pin are indicated as shown.

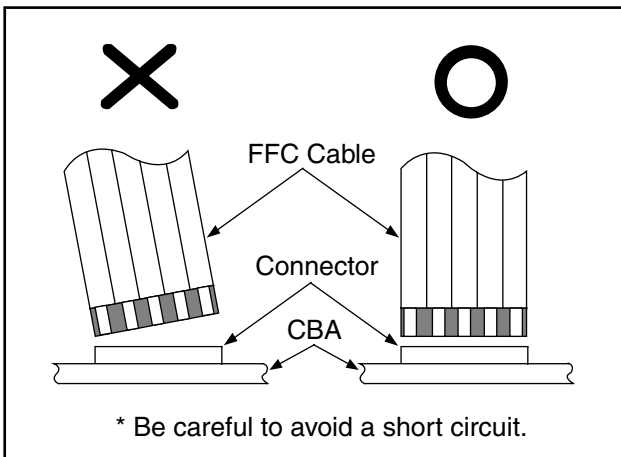


3. The 1st pin of every male connector is indicated as shown.



Instructions for Connectors

1. When you connect or disconnect the FFC (Flexible Foil Connector) cable, be sure to first disconnect the AC cord.
2. FFC (Flexible Foil Connector) cable should be inserted parallel into the connector, not at an angle.



Pb (Lead) Free Solder

When soldering, be sure to use the Pb free solder.

Information about lead-free soldering

Philips CE is producing lead-free sets from 1.1.2005 onwards.

IDENTIFICATION

Regardless of special logo (not always indicated)



One must treat all sets from 1 Jan 2005 onwards, according to the next rule:

Serial Number gives a 9-digit. Digit 2&3 shows the WEEK, and digit 4 shows the YEAR.

So from 015 onwards=from 1 Jan 2005 onwards

Important note: In fact also products of year 2004 must be treated in this way as long as you avoid mixing solder-alloys (lead/ lead-free). So best to always use SAC305 and the higher temperatures belong to this.

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free solder alloy Philips SAC305 with order code 0622 149 00106. If lead-free solder-paste is required, please contact the manufacturer of your solder-equipment. In general use of solder-paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free solder alloy. The solder tool must be able
 - To reach at least a solder-temperature of 400°C,
 - To stabilize the adjusted temperature at the solder-tip
 - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature around 360°C - 380°C is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. To avoid wear-out of tips switch off un-used equipment, or reduce heat.

- Mix of lead-free solder alloy / parts with leaded solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed solder alloy types (leaded and lead-free).
If one cannot avoid or does not know whether product is lead-free, clean carefully the solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).
- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.
- **Special information for BGA-ICs:**
 - always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use the lead-free temperature profile, in case of doubt)
 - lead free BGA-ICs will be delivered in so-called 'dry-packaging' (sealed pack including a silica gel pack) to protect the IC against moisture. After opening, dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. (MSL=Moisture Sensitivity Level). This will be communicated via AYS-website. Do not re-use BGAs at all.
- For sets produced before 1.1.2005 (except products of 2004), containing leaded solder-alloy and components, all needed spare-parts will be available till the end of the service-period. For repair of such sets nothing changes.
- On our website www.atyourservice.ce.Philips.com you find more information to:
 - BGA-de-/soldering (+ baking instructions)
 - Heating-profiles of BGAs and other ICs used in Philips-sets

You will find this and more technical information within the "magazine", chapter "workshop news".

For additional questions please contact your local repair-helpdesk.

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

1. Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

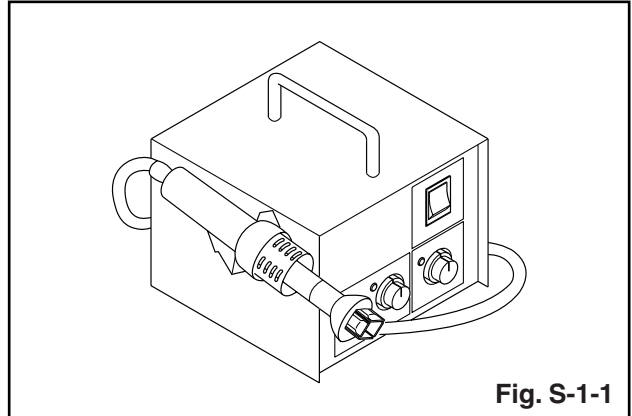


Fig. S-1-1

2. Remove the flat pack-IC with tweezers while applying the hot air.
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

CAUTION:

1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)
3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

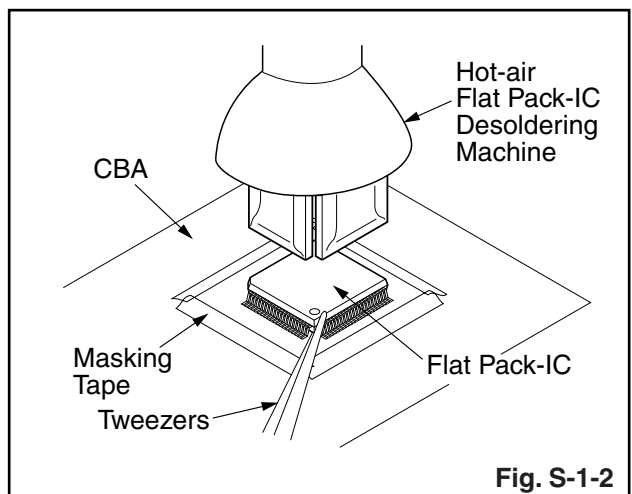
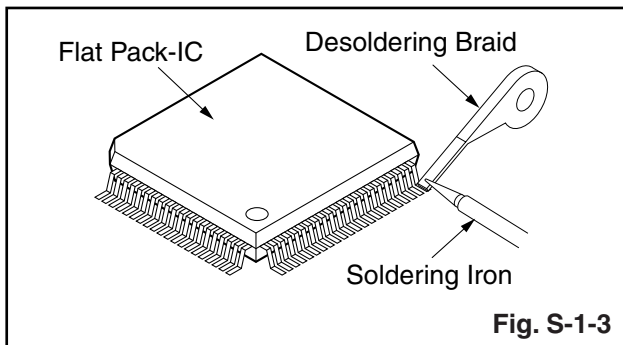


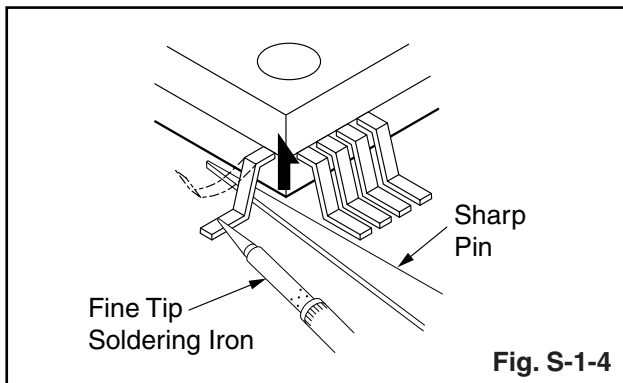
Fig. S-1-2

With Soldering Iron:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)



2. Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

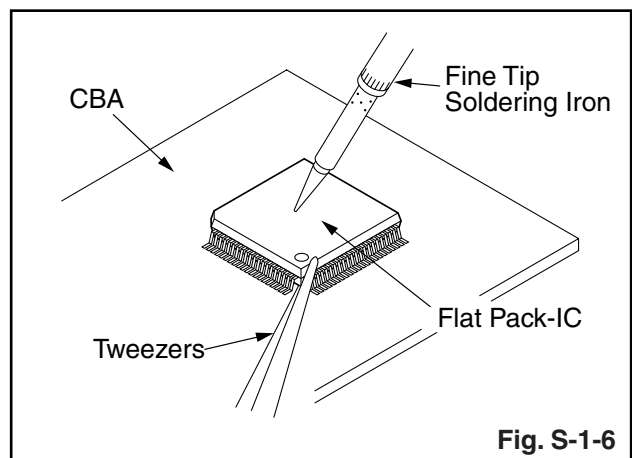
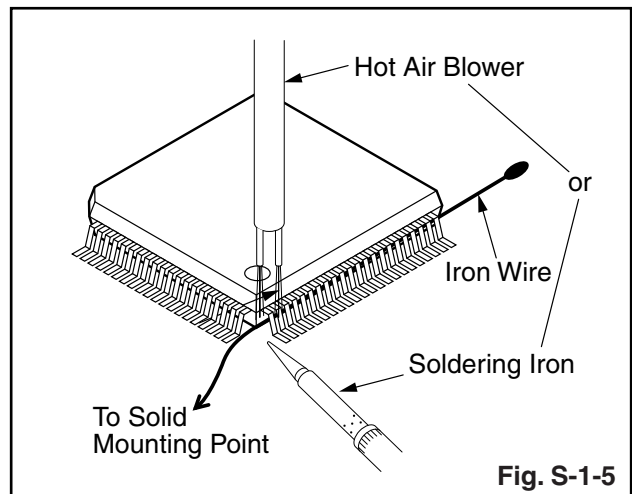


3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

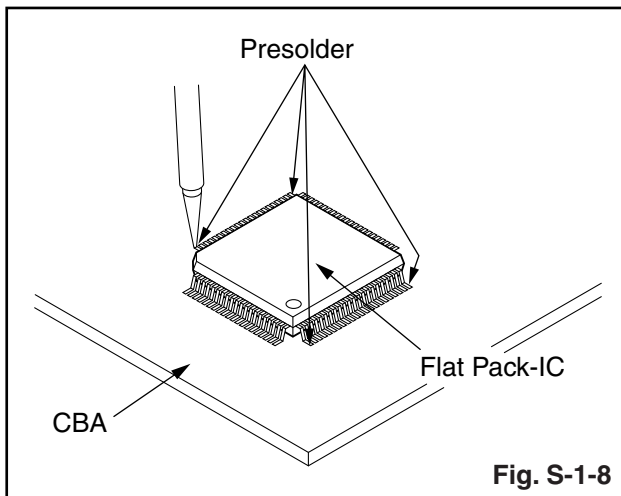
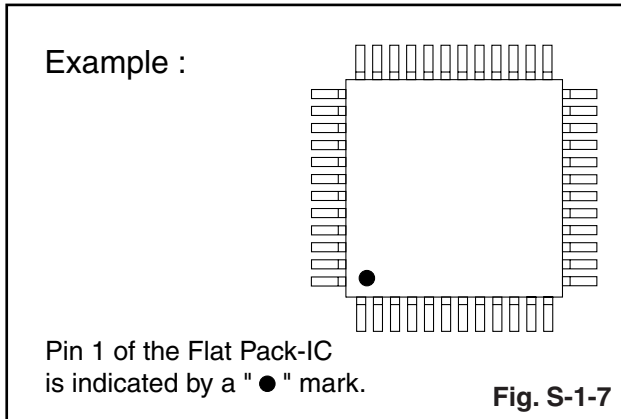
1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.
4. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
5. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Note: When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.



2. Installation

1. Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
2. The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)
3. Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.



Instructions for Handling Semi-conductors

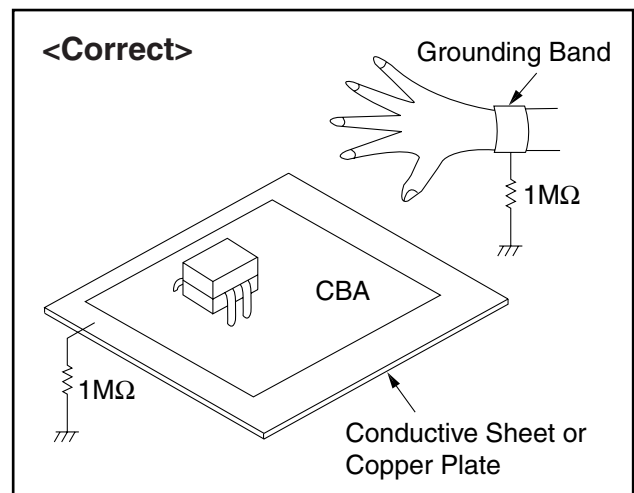
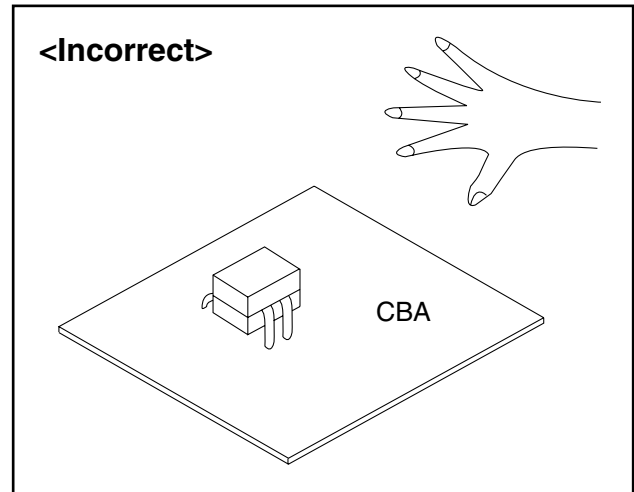
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

1. Ground for Human Body

Be sure to wear a grounding band (1 M Ω) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding (1 M Ω) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.



PREPARATION FOR SERVICING

How to Enter the Service Mode

Caution 1:

- Optical sensors system are used for Tape Start and End Sensor on this equipment. Read this page carefully and prepare as described on this page before starting to service; otherwise, the unit may operate unexpectedly.

Preparing 1:

- Cover Q202 (START SENSOR) and Q201 (END SENSOR) with Insulation Tape or enter the service mode to activate Sensor Inhibition automatically.

Note: Avoid playing, rewinding or fast forwarding the tape to its beginning or end, because both Tape End Sensors are not active.

How to Enter the Service Mode

- Turn power on.
- Use service remote control unit and press [DISC MENU] button. (See page 1-7-1.)
- When entering the service mode, one of the number (1, 2 or 4) will display at corners of the screen.
- During the service mode, electrical adjustment mode can be selected by remote control key. (Service remote control unit).

Details are as follows.

Key	Adjustment Mode
PICTURE	Picture adjustment mode: Press the [PICTURE] button to change from BRT (Bright), *CNT (Contrast), *COL (Color), *TNT (Tint), *V-TNT (V-Tint) and *SHP (Sharpness). Press [CH. ▲/▼] buttons to display Initial Value. *Marked items are not necessary to adjust normally.
0	C-Trap adjustment: See adjustment instructions page 1-7-2. Y DL Time TV/Y DL Time EXT/Y SW LPF/Black Stretch Off/ Black Stretch CONT/C. Angle data values setting: See adjustment instructions page 1-7-3.
1	No need to use.
2	H f ₀ adjustment mode: See adjustment instructions page 1-7-5.
3	No need to use.
4	Auto record mode: Perform recording (15 Sec.) --> Stop --> Rewind (Zero return) automatically.
5	Head switching position adjustment: See adjustment instructions page 1-7-8.
6	No need to use.

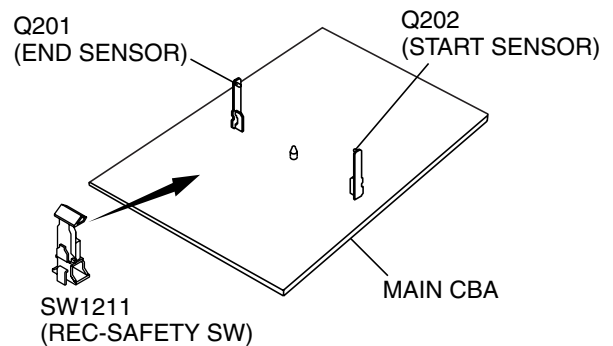
Key	Adjustment Mode
7	Purity check mode: Shows Red, Green, Blue or White cyclically on the screen each time the [7] button is pressed.
8	H. Position adjustment: See adjustment instructions page 1-7-7.
9	V. Shift/V.Size adjustment: See adjustment instructions page 1-7-8.
VOL ▲	CD-VOL/DVD-BRT/DVD-CNT/DVD-SHARP data values setting: See adjustment instructions page 1-7-4.
VOL ▼	Cut-off adjustment: See adjustment instructions page 1-7-5. 7F DATA/SLP REC/MONO data values setting: See adjustment instructions page 1-7-6. White balance adjustment: See adjustment instructions page 1-7-6.

Caution 2:

- The deck mechanism assembly is mounted on the Main CBA directly, and SW1211 (REC-SAFETY SW) is mounted on the Main CBA. When deck mechanism assembly is removed from the Main CBA due to servicing, this switch can not be operated automatically.

Preparing 2:

- To eject the tape, press the [STOP/EJECT] button on the unit (or Remote Control).
- When you want to record during the Service mode, press the [Rec] button while depressing SW1211 (REC-SAFETY SW) on the Main CBA.



OPERATING CONTROLS AND FUNCTIONS

NOTE:

Front Cabinet and Rear Cabinet illustrations differ from the actual model since these pages are made extracts from the Owners Manual.

Front design varies slightly among models.

Cassette Compartment

Insert a videotape here.

Disc Tray

Insert a disc here.

CHANNEL ▲/▼ Buttons

Press to select TV channels.

OPEN/CLOSE ▲ Button (DVD)

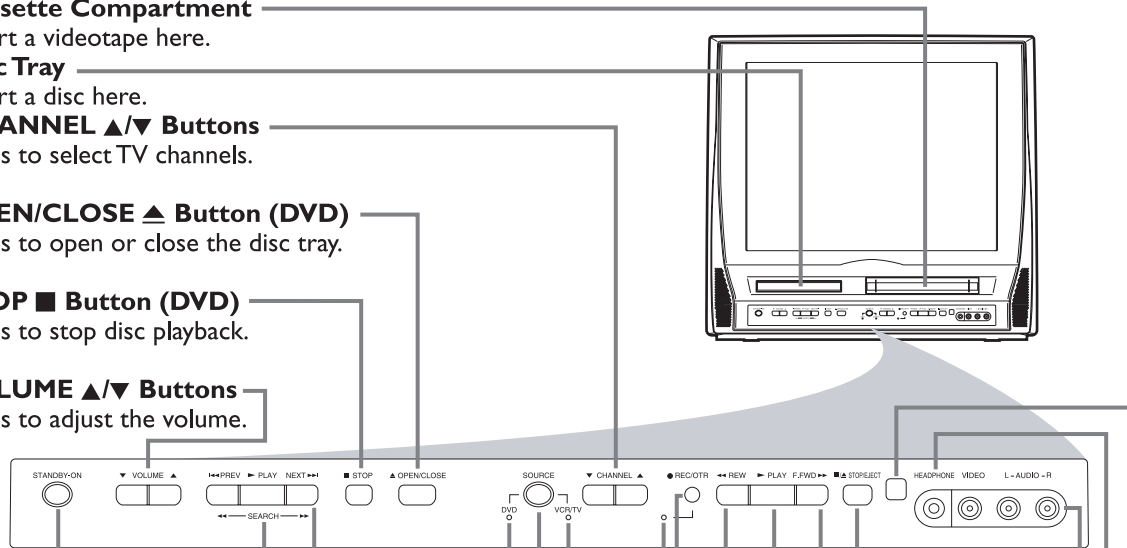
Press to open or close the disc tray.

STOP ■ Button (DVD)

Press to stop disc playback.

VOLUME ▲/▼ Buttons

Press to adjust the volume.



STANDBY-ON Button

Press to turn the TV/VCR/DVD on or off. Turn off the TV/VCR/DVD for a timer recording.

PLAY ► Button (DVD)

Press to start disc playback.

PREV ◀◀,

NEXT ▶▶ Buttons (DVD)

Press to go to a different chapter or track.

DVD light (green)

Appears if the TV/VCR/DVD is in DVD mode.

SOURCE Button

Press to select AUX, TV/VCR or DVD mode. If you switch to TV/VCR mode, wait about 4 seconds before switching back to DVD mode. This button works the same as the SELECT button on the remote.

VCR/TV light (red)

Appears if the TV/VCR/DVD is in TV/VCR mode.

REC/OTR light (red)

This light flashes during recording. It lights when the TV/VCR/DVD is in Standby mode (power off) for a timer recording.

REC/OTR ● Button (VCR)

Press to start a videotape recording. Press repeatedly to start a One-Touch Recording.

REW ◀◀ Button (VCR)

Press to rewind the tape or to search backward quickly during playback.

STOP/EJECT ■/▲ Button (VCR)

Press to stop tape playback. Press while playback is stopped to remove the tape.

F.FWD ▶▶ Button (VCR)

Press to fast forward the tape or to search forward quickly during playback.

PLAY ► Button (VCR)

Press to start tape playback.

VIDEO and AUDIO L/R (left/right) In jacks

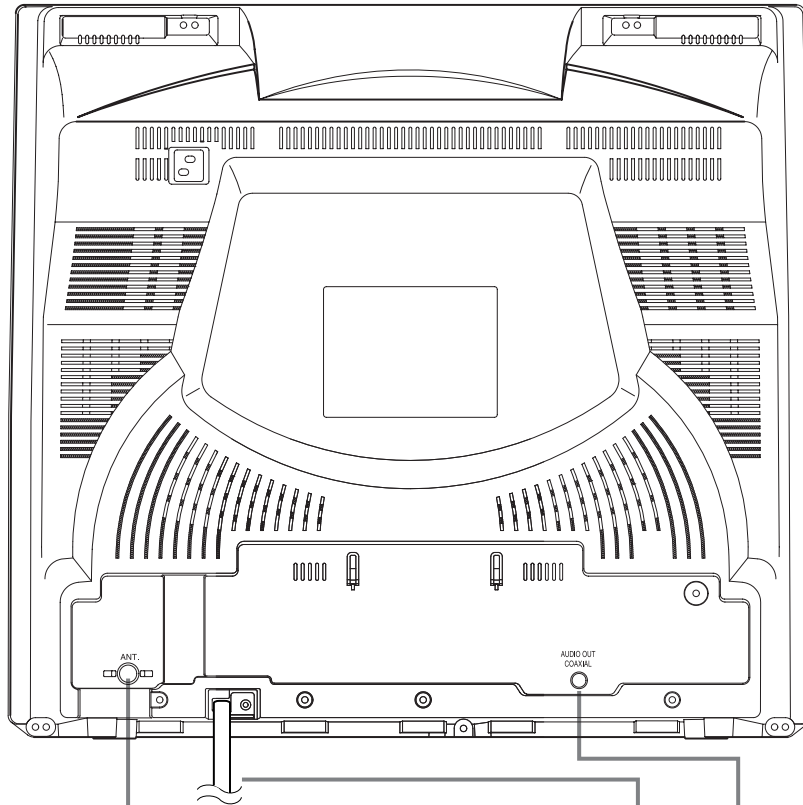
Use audio and video cables to connect these jacks to the Audio and Video Out jacks of a Camcorder, DVD player or VCR. This lets you watch materials playing on the other equipment when you choose AUX at the TV/VCR/DVD.

HEADPHONE jack

Connect headphones (not supplied) here for personal listening.

Remote Sensor

Receives a signal from your remote control so you can operate the TV/VCR/DVD from a distance.



ANT. Jack
(Antenna In)

Connect an antenna or Cable TV signal here. This brings TV channels to the TV/VCR/DVD. If you do not connect an antenna or Cable TV signal to the TV/VCR/DVD (or connect to a Cable Box/Satellite Receiver through this jack), you will not receive any TV channels.

Power Cord

Connect to a standard AC outlet (120V/60Hz).

AUDIO OUT COAXIAL Jack

Connect this jack to a Digital Stereo using a digital audio coaxial cable (not supplied). Use this connection if the Stereo has Dolby Digital compatibility and has a Digital Coaxial Audio In jack. You may also use this connection when connecting the TV/VCR/DVD to a Mini-Disc or Digital Audio Tape deck.

PICTURE Button
Press to access the picture controls.

STANDBY-ON Button
Press to turn on or off the TV/VCR/DVD.

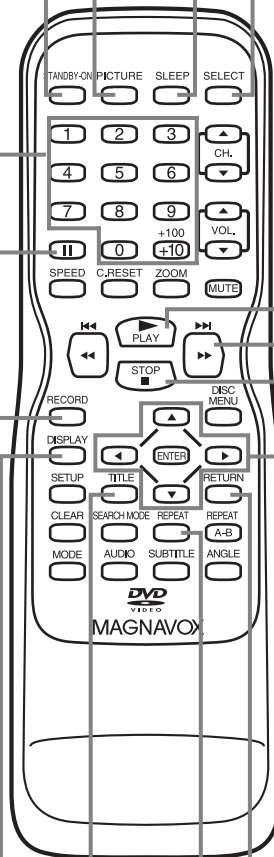
Number Buttons
TV Mode: Press two digits to access a specific channel. Press 0 before the number of a single-digit channel.
+100/+10 button: To select channels 100 or higher, press +100/+10, then the Number buttons of the last 2 digits of the channel number.
DVD Mode: Use the Number buttons to enter a track or chapter number.
+100/+10 button: Press before entering double-digit numbers. For example, to select chapter 16, press +100/+10, then 1, 6.

II (pause) Button
Press to pause videotape recording. Press again to resume recording. Press to pause videotape or DVD playback. Press repeatedly to advance the picture one frame at a time.

RECORD Button
Press once to start a recording on videotape.

DISPLAY Button
TV/VCR Mode: Press to see the videotape counter, channel or time on the screen.
DVD Mode: Press to see the disc status on the screen.

TITLE Button
Press to access a DVD's title menu if available.



SLEEP Button
Press to set the Sleep Timer.

SELECT Button
Press to choose AUX, TV/VCR or DVD mode. The corresponding light will appear on the front of the TV/VCR/DVD to indicate which mode is active.

PLAY ► Button
Press to start playing a disc or video cassette.

▶▶ / ▶▶▶ Button
During disc playback, press briefly to skip to the next track or chapter.
Or, press and hold for 2 seconds to search forward during disc playback. Press to forward a videotape.

STOP ■ Button
Press to stop disc or videotape playback.

Arrow Buttons
Use the Arrow buttons to select or adjust menu items.

RETURN Button
Press to go to the previous setup menu in DVD or TV/VCR mode. Press to remove some menus or displays.

REPEAT Button
Press to play a disc, title, chapter or track repeatedly.

ZOOM Button
Press to enlarge the picture during DVD playback.

C.RESET (counter reset) Button
Press to reset the tape counter to 0:00:00. Press to cancel a Timer Recording.

SPEED Button
Press to choose a tape recording speed (SP or SLP).

⏮ / ⏪ Button
During disc playback, press briefly to skip to the beginning of the current Track/Chapter. Press repeatedly to skip to previous tracks/chapters.
Or, press and hold for 2 seconds to search backward during disc playback. Press to reverse a videotape.

SETUP Button
Press to access or remove the TV/VCR/DVD's setup menu.

CLEAR Button
Press to reset or erase a setting or wrong information.

MODE Button
Press to play a program or to start Random playback. Press to select a Black Level or Virtual Surround setting.

SEARCH MODE Button
Press to find a specific time, chapter, track or title on a disc. Press to set up Markers.

CH. (channel) ▲/▼ Buttons
Press to select memorized TV channels.

VOL. (volume) ▲/▼ Buttons
Press to adjust the volume.

MUTE Button
Press to mute or restore the sound.

DISC MENU Button
Press to access DVD disc menus.

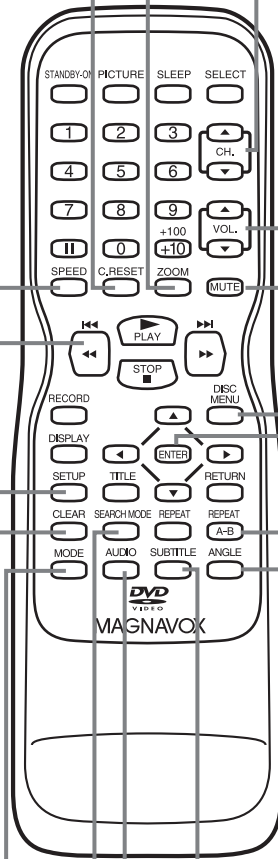
ENTER Button
Press to accept or change a menu setting.

REPEAT A-B Button
Press to set a section of a disc to play repeatedly.

ANGLE Button
Press to change the camera angle and watch a disc sequence from a different perspective.

SUBTITLE Button
Press to select a subtitle language.

AUDIO Button
Press to select an audio language during DVD playback.
Press to select a sound mode during Audio CD or Video CD playback. Press to select STEREO, SAP or MONO while receiving MTS broadcast.
Press to switch MONO/HIFI during playback of a videotape.



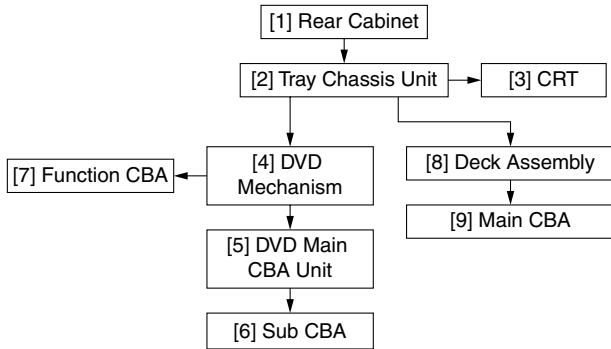
CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts, and the CBA in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.

CAUTION!

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.



2. Disassembly Method

Step/ Loc. No.	Part	Removal		
		Fig. No.	Remove/*Unhook/ Unlock/Release/ Unplug/Unclamp/ Desolder	Note
[1]	Rear Cabinet	D1	6(S-1), (S-2), (S-3A), (S-3B)	---
[2]	Tray Chassis Unit	D2 D3 D5	Anode Cap, *CN2501, CRT CBA, *CN1601, *CN1802, *CN2571, *CN2801	1
[3]	CRT	D3 D5	4(S-4)	---
[4]	DVD Mechanism	D2 D4 D5	4(S-5), Wire Holder C, 2(S-6), Loader Cover, *CN201, *CN301	2, 3
[5]	DVD Main CBA Unit	D2 D4 D5	*CN1, *CN2	---
[6]	Sub CBA	D2 D5	6(S-7), Loader PCB Holder, *CN1301, *CN1602	---
[7]	Function CBA	D2 D5	(S-8), *CN2401	---
[8]	Deck Assembly	D2 D5	3(S-9), Top Shield, 7(S-10), (S-11), (S-12), *CL1201, *CL1401, *CL1402, *CL403	4

Step/ Loc. No.	Part	Removal		
		Fig. No.	Remove/*Unhook/ Unlock/Release/ Unplug/Unclamp/ Desolder	Note
[9]	Main CBA	D2	5(S-13)	---
(1)	(2)	(3)	(4)	(5)

Note:

- Order of steps in procedure. When reassembling, follow the steps in reverse order. These numbers are also used as the Identification (location) No. of parts in figures.
- Parts to be removed or installed.
- Fig. No. showing procedure of part location
- Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P = Spring, L = Locking Tab, S = Screw, CN = Connector
* = Unhook, Unlock, Release, Unplug, or Desolder
e.g. 2(S-2) = two Screws (S-2),
2(L-2) = two Locking Tabs (L-2)
- Refer to the following "Reference Notes in the Table".

Reference Notes in the Table

CAUTION!

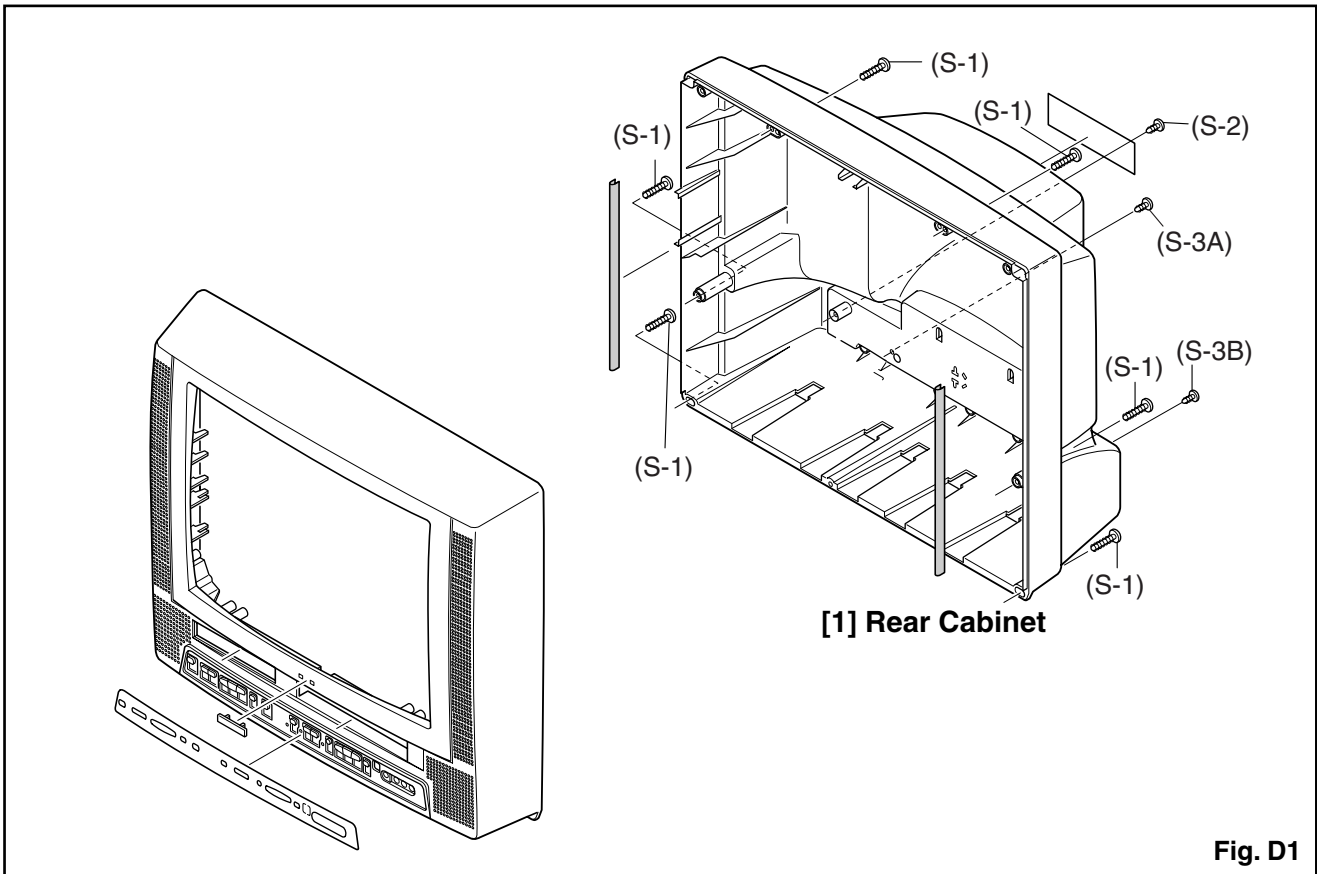
When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

1. **CAUTION 1:** Discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

Disconnect the following: Anode Cap, CN2501, CRT CBA, CN1601, CN1802, CN2571 and CN2801. Then remove Tray Chassis Unit.

2. **CAUTION 2:** Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc., during unpacking or repair work.
To avoid damage of pickup follow next procedures.

- 1) Disconnect Connector (CN301) on the DVD Main CBA Unit.
- 2) Short the three short lands of FPC cable with solder before removing the FFC cable (CN201) from it. If you disconnect the FFC cable (CN201), the laser diode of pickup will be destroyed. (Fig. D4)
- 3) Remove four screws (S-5) and Wire Holder C, and remove DVD Mechanism.
3. **CAUTION 3:** When reassembling, confirm the FFC cable (CN201) is connected completely. Then remove the solder from the three short lands of FPC cable. (Fig. D4)
4. Remove three screws (S-9) and remove Top Shield. Remove screws 7(S-10), (S-11) and (S-12). Then, desolder connectors (CL1201, CL1401, CL1402, CL403) and lift up the Deck Assembly.



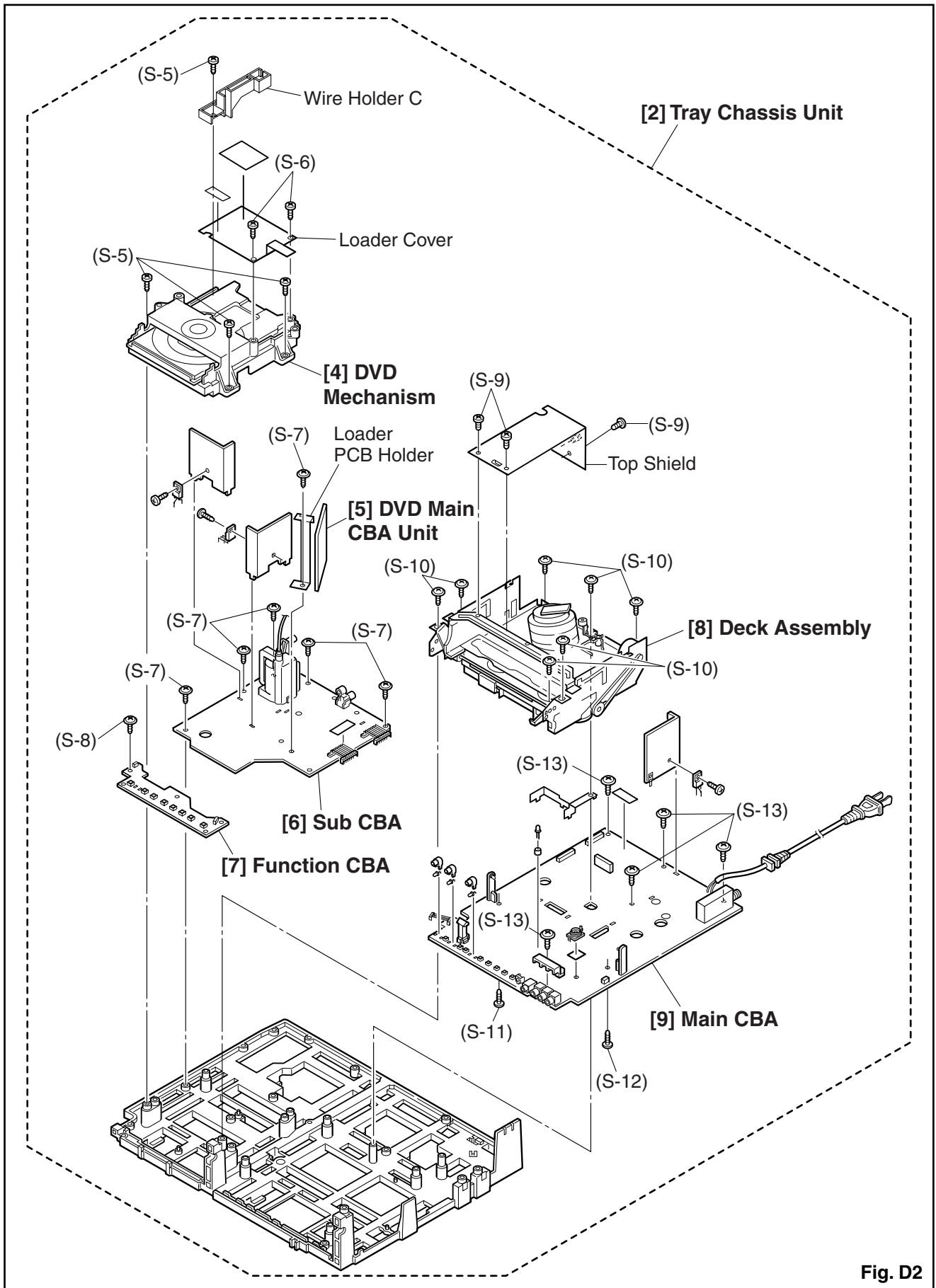


Fig. D2

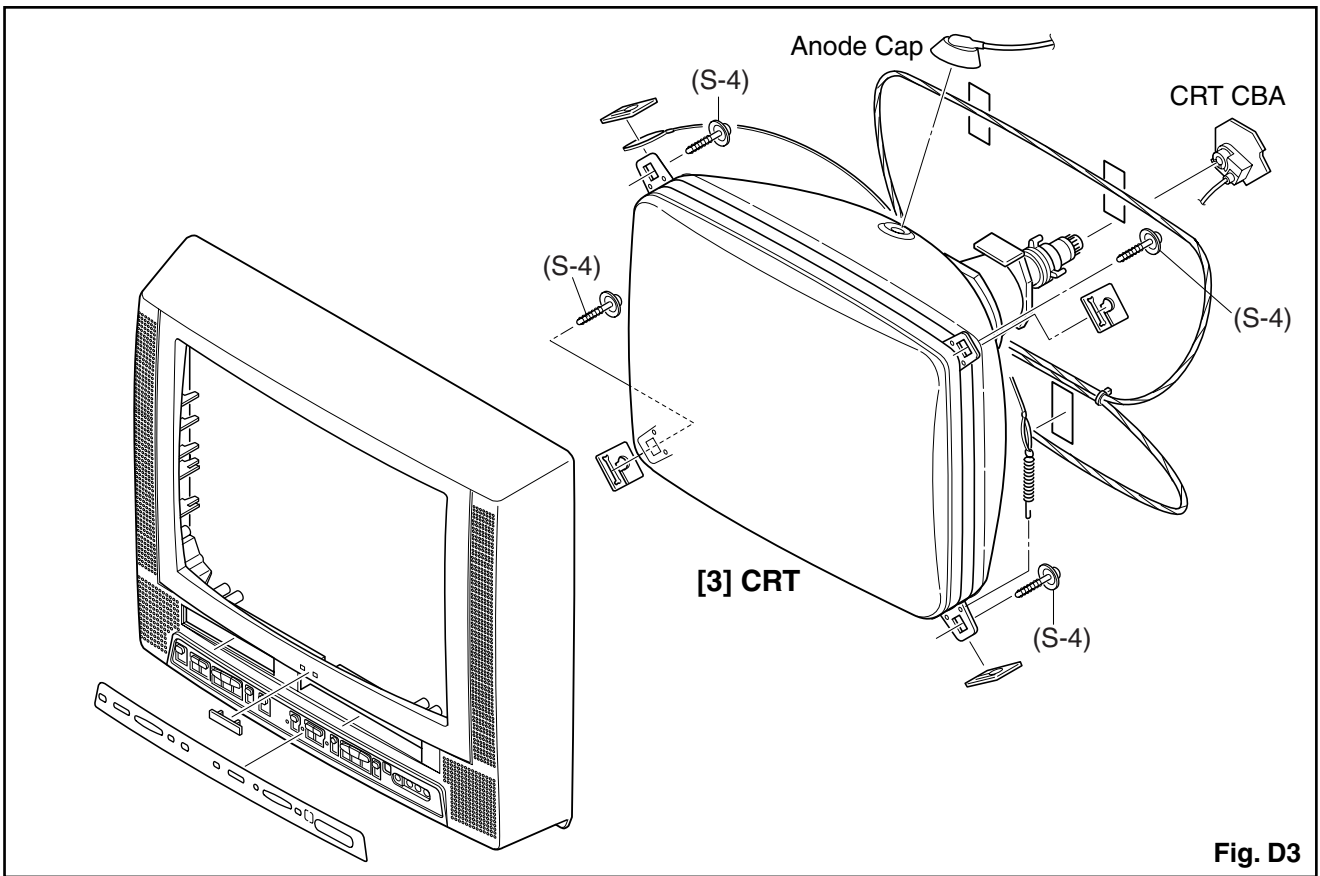


Fig. D3

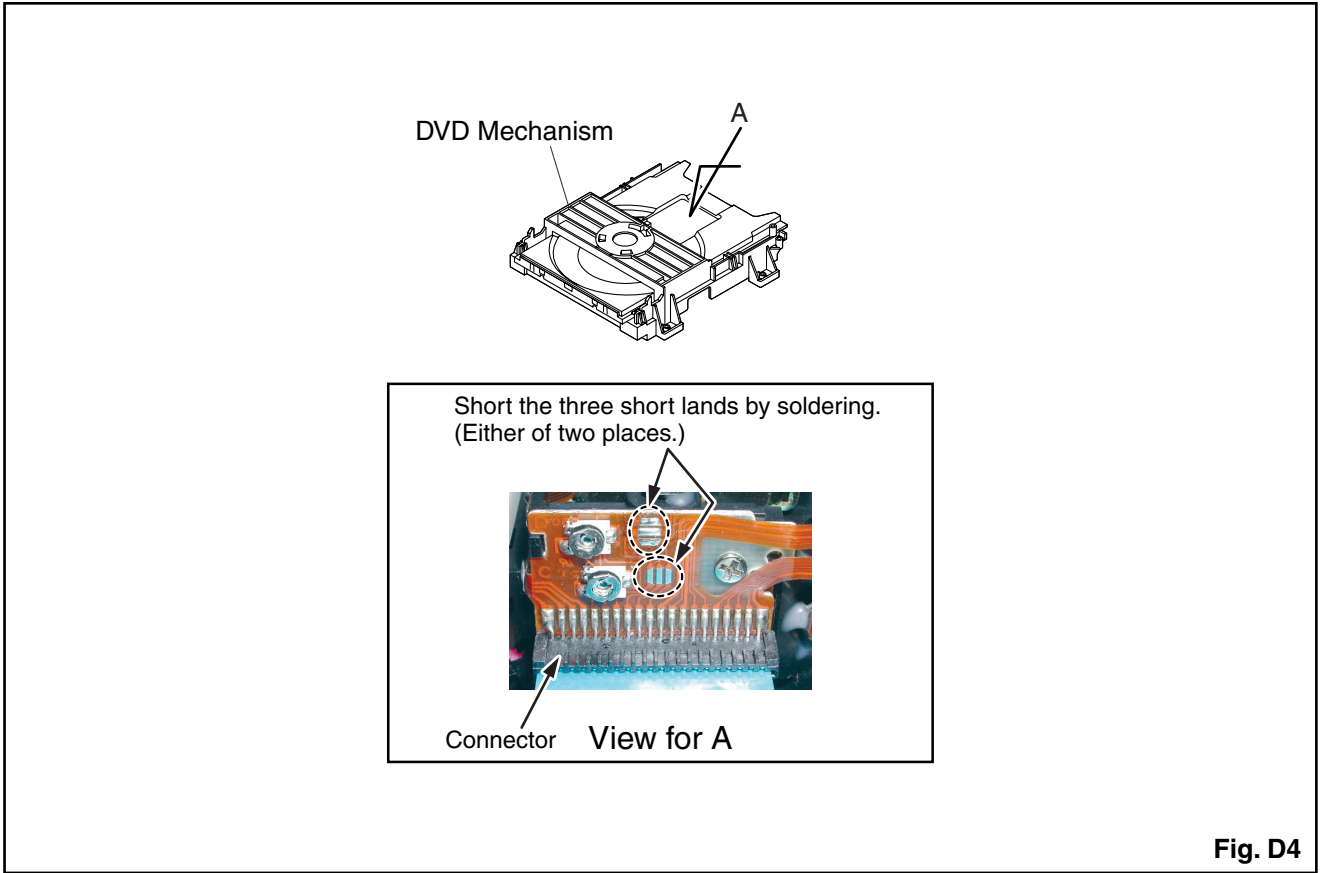


Fig. D4

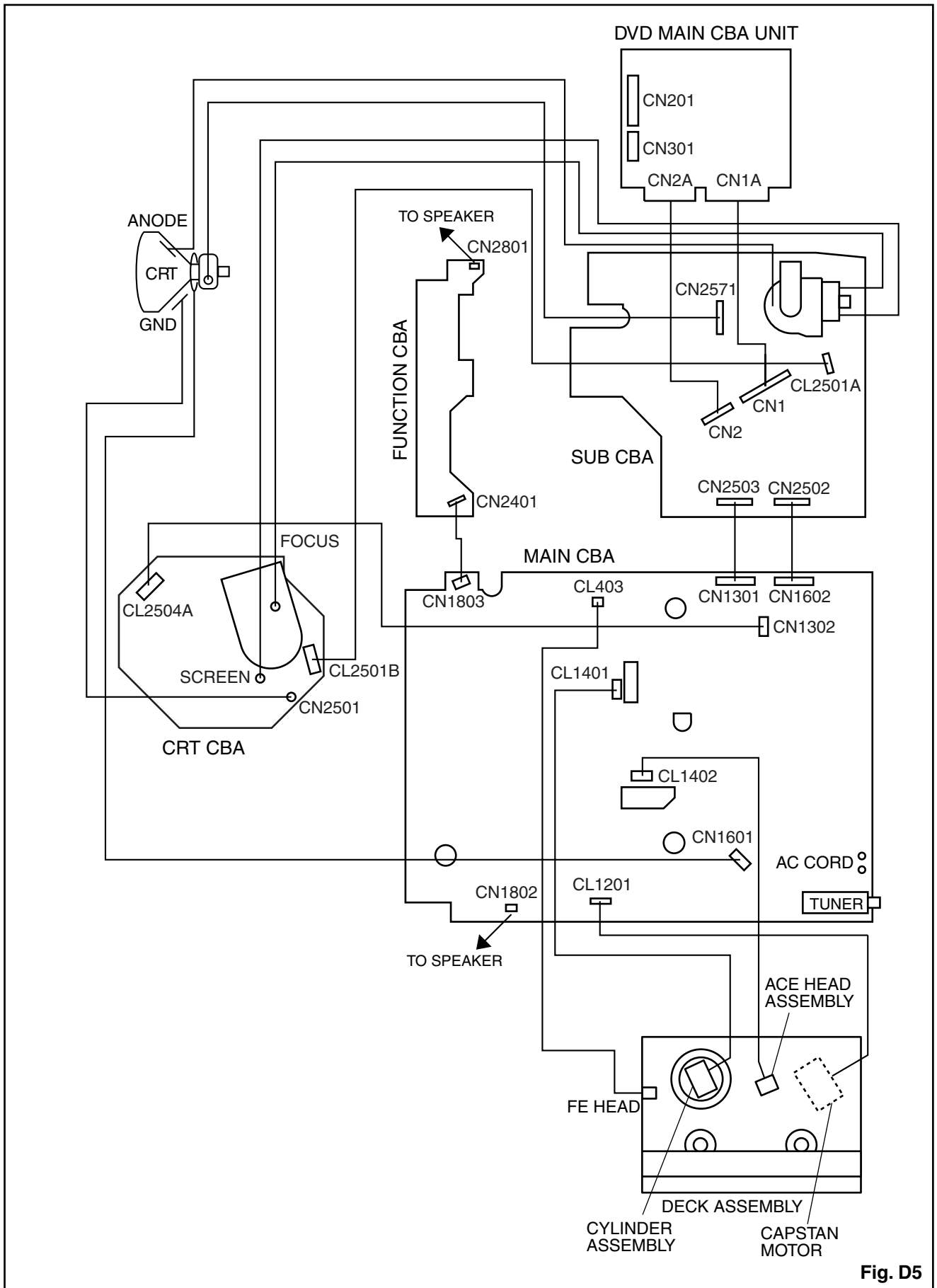


Fig. D5

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note: “CBA” is abbreviation for “Circuit Board Assembly.”

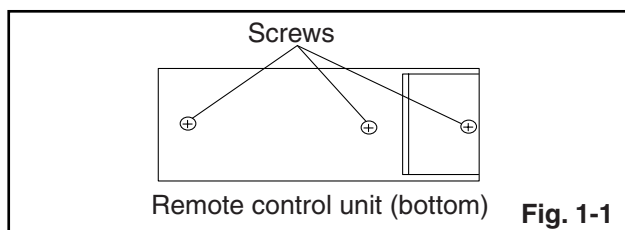
Note: Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

1. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
2. AC Milli Voltmeter (RMS)
3. Alignment Tape (VFMS0001H6), Blank Tape
4. DC Voltmeter
5. Oscilloscope: Dual-trace with 10:1 probe, V-Range: 0.001~50 V/Div, F-Range: DC~AC-60 MHz
6. Frequency Counter
7. Plastic Tip Driver
8. Color Analyzer

How to make service remote control unit:

1. Prepare normal remote control unit (Part No. NE206UD). Remove 4 screws from the back lid (Fig. 1-1).



2. Cut off pin 10 of the remote control microprocessor and short circuit pins 10 and 17 of the microprocessor with a jumper wire

How to Set up the Service mode:

Service mode:

1. Use the service remote control unit.
2. Turn the power on. (Use main power on the TV unit.)
3. To enter the TV mode, press [CH. ▲ / ▼] buttons on the TV unit.
4. Press [DISC MENU] button on the service remote control unit. Version of micro computer will display on the CRT. (Ex: 057-001)

X-Ray Protection Test

X-Ray protection test should be done when replacing any parts of this chassis.

1. Short both ends of R2592 (on Sub CBA).
2. Confirm that the main power turns off.
3. If the main power does not turn off, then replace the following parts (D2591, Q2591, R2592, R2593, R2594 and IC1201).
4. Perform steps 1 to 3 again.

1. DC 114V (+B) Adjustment

Purpose: To obtain correct operation.

Symptom of Misadjustment: The picture is dark and unit does not operate correctly.

Test Point	Adj. Point	Mode	Input
TP2501(+B) J2550(GND)	VR1601	---	---
Tape	M. EQ.	Spec.	
---	DC Voltmeter	+114±1.0 V DC	

Note: TP2501(+B), J2550(GND) --- Sub CBA, VR1601 --- Main CBA

1. Connect the unit to AC Power Outlet.
2. Connect DC Volt Meter to TP2501(+B) and J2550(GND).
3. Adjust VR1601 so that the voltage of TP2501(+B) becomes +114±1.0 V DC.

2. Setting for CONTRAST, COLOR, TINT, V-TINT and SHARP Data Values

General

1. Enter the Service mode. (See page 1-7-1.)
2. Press [PICTURE] button on the service remote control unit. Display changes "BRT," "CNT," "COL," "TNT," "V-TNT," and "SHP" cyclically when [PICTURE] button is pressed.

CONTRAST (CNT)

1. Press [PICTURE] button on the service remote control unit. Then select "CONTRAST (CNT)" display.
2. Press [CH. ▲ / ▼] buttons on the service remote control unit so that the value of "CONTRAST (CNT)" becomes 84.

COLOR (COL)

1. Press [PICTURE] button on the service remote control unit. Then select "COLOR (COL)" display.
2. Press [CH. ▲ / ▼] buttons on the service remote control unit so that the value of "COLOR (COL)" becomes 58.

TINT (TNT)

1. Press [PICTURE] button on the service remote control unit. Then select "TINT (TNT)" display.
2. Press [CH. ▲ / ▼] buttons on the service remote control unit so that the value of "TINT (TNT)" becomes 56.

V-TINT (V-TNT)

1. Press [PICTURE] button on the service remote control unit. Then select "V-TINT (V-TNT)" display.
2. Press [CH. ▲ / ▼] buttons on the service remote control unit so that the value of "V-TINT (V-TNT)" becomes 56.

SHARP (SHP)

1. Press [PICTURE] button on the service remote control unit. Then select "SHARP (SHP)" display.
2. Press [CH. ▲ / ▼] buttons on the service remote control unit so that the value of "SHARP (SHP)" becomes 46.

Note: BRIGHT data value does not need to be adjusted at this moment.

3. C-Trap Adjustment

Purpose: To get minimum leakage of the color signal carrier.

Symptom of Misadjustment: If C-Trap Adjustment is incorrect, stripes will appear on the screen.

Test Point	Adj. Point	Mode	Input
TP1301 (B-OUT)	[CH. ▲ / ▼] buttons	---	Color Bar
Tape	M. EQ.	Spec.	
---	Oscilloscope Pattern Generator	---	

Figure

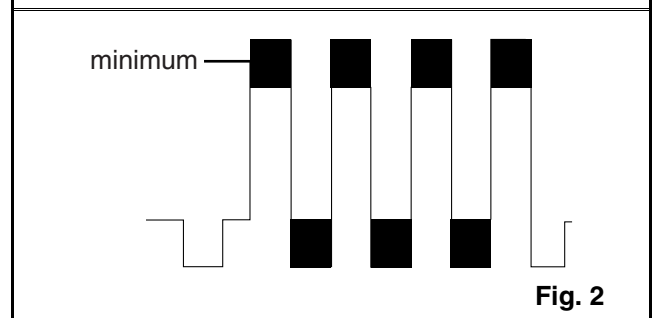


Fig. 2

Note: TP1301(B-OUT) --- Main CBA

1. Connect oscilloscope to TP1301.
2. Input a color bar signal from RF input. Enter the Service mode. (See page 1-7-1.)
3. Press [0] button on the remote control unit and select C-TRAP mode. (Fig. 3)
4. Press [CH. ▲ / ▼] buttons on the remote control unit so that the carrier leakage B-Out (3.58 MHz) value becomes minimum on the oscilloscope.

4. Setting for Y DL Time TV, Y DL Time EXT, Y SW LPF, Black Stretch Off, Black Stretch CONT and C. Angle Data Values

1. Enter the Service mode. (See page 1-7-1.)
2. **Y DL Time TV Adjustment:** Press [0] button on the service remote control unit twice to show "D-T TV" on the display.
Y DL Time EXT Adjustment: Press [0] button on the service remote control unit three times to show "D-T EXT" on the display.
Y SW LPF Adjustment: Press [0] button on the service remote control unit four times to show "Y SW" on the display.
Black Stretch Off Adjustment: Press [0] button on the service remote control unit five times to show "B-S" on the display.
Black Stretch CONT Adjustment: Press [0] button on the service remote control unit six times to show "BS2" on the display.
C. Angle Adjustment: Press [0] button on the service remote control unit seven times to show "C-ANG" on the display.
3. **Y DL Time TV Adjustment:** Select "2" by pressing [CH. ▲ / ▼] buttons on the service remote control.
Y DL Time EXT Adjustment: Select "3" by pressing [CH. ▲ / ▼] buttons on the service remote control.
Y SW LPF Adjustment: Select "0" by pressing [CH. ▲ / ▼] buttons on the service remote control.
Black Stretch Off Adjustment: Select "OFF" by pressing [CH. ▲ / ▼] buttons on the service remote control.
Black Stretch CONT Adjustment: Select "0" by pressing [CH. ▲ / ▼] buttons on the service remote control.
C. Angle Adjustment: Select "103" by pressing [CH. ▲ / ▼] buttons on the service remote control.

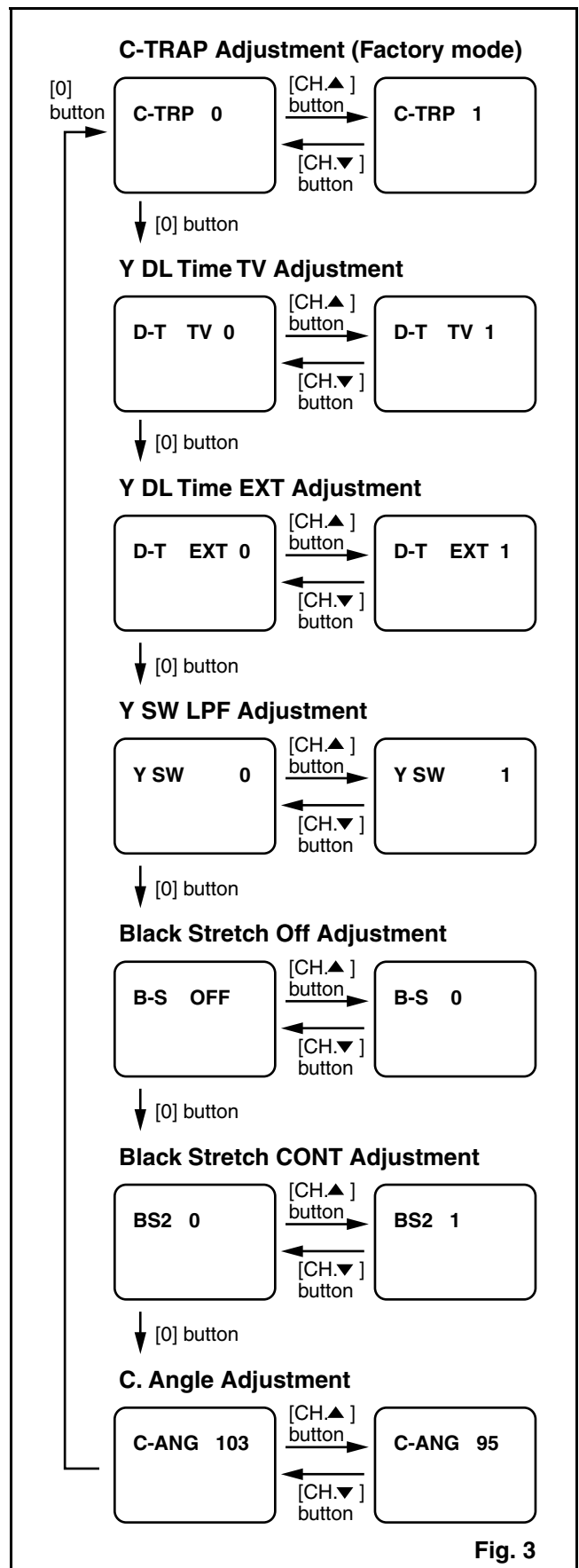


Fig. 3

5. Setting for CD-VOL, DVD-BRT, DVD-CNT and DVD-SHARP Data Values

1. Enter the Service mode. (See page 1-7-1.)
2. **CD-VOL Adjustment:** Press [VOL ▲] button on the service remote control unit once to show "CD VOL" on the display.
DVD-BRT Adjustment: Press [VOL ▲] button on the service remote control unit twice to show "DVD BRT" on the display.
DVD-CNT Adjustment: Press [VOL ▲] button on the service remote control unit three times to show "DVD CNT" on the display.
DVD-SHARP Adjustment: Press [VOL ▲] button on the service remote control unit four times to show "DVD SHP" on the display.
3. **CD-VOL Adjustment:** Select "7" by pressing [CH. ▲ / ▼] buttons on the service remote control.
DVD-BRT Adjustment: Select "14" by pressing [CH. ▲ / ▼] buttons on the service remote control.
DVD-CNT Adjustment: Select "0" by pressing [CH. ▲ / ▼] buttons on the service remote control.
DVD-SHARP Adjustment: Select "3" by pressing [CH. ▲ / ▼] buttons on the service remote control.

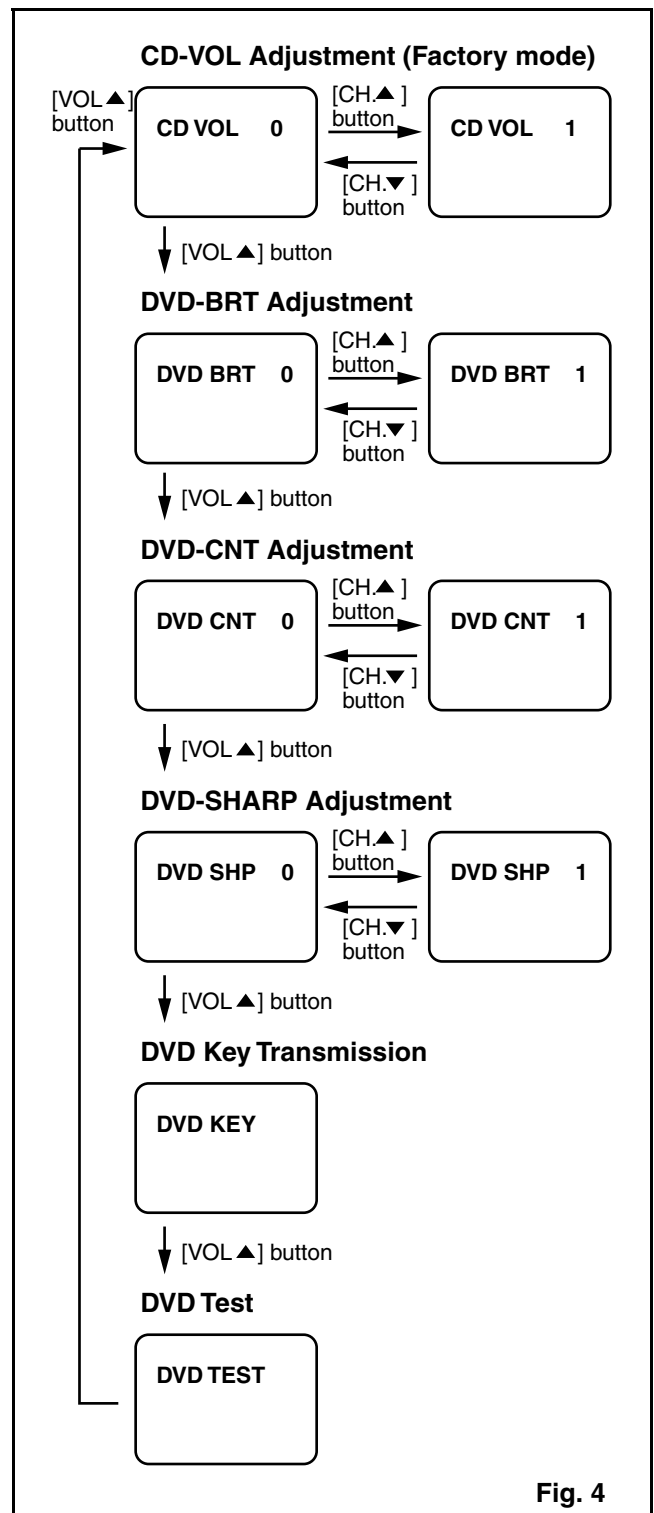


Fig. 4

6. H f₀ Adjustment

Purpose: To get correct horizontal position and size of screen image.

Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test Point	Adj. Point	Mode	Input
R2583	[CH. ▲ / ▼] buttons	Video	---
Tape	M. EQ.	Spec.	
---	Frequency Counter	15.734 kHz±300 Hz	

Note: R2583 --- Sub CBA

1. Connect frequency counter to R2583.
2. Operate the unit for at least 20 minutes.
3. Enter the Service mode. (See page 1-7-1.) Press [2] button on the remote control unit and select H-ADJ mode.
4. Press [CH. ▲ / ▼] buttons on the remote control unit so that the display will change "0" to "7."
5. At this moment, choose display "0" to "7" when the frequency counter display is closest to 15.734 kHz ± 300 Hz.

7. Cut-off Adjustment

Purpose: To adjust the beam current of R, G, B, and screen voltage.

Symptom of Misadjustment: White color may be reddish, greenish or bluish.

Test Point	Adj. Point	Mode	Input
---	Screen-Control [CH. ▲ / ▼] buttons	RF	Black Raster
Tape	M. EQ.	Spec.	
---	Pattern Generator	See Reference Notes below.	

Figure

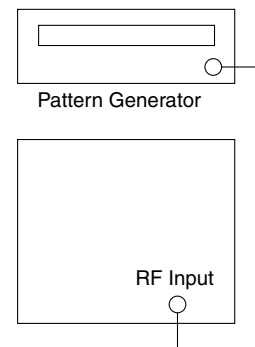


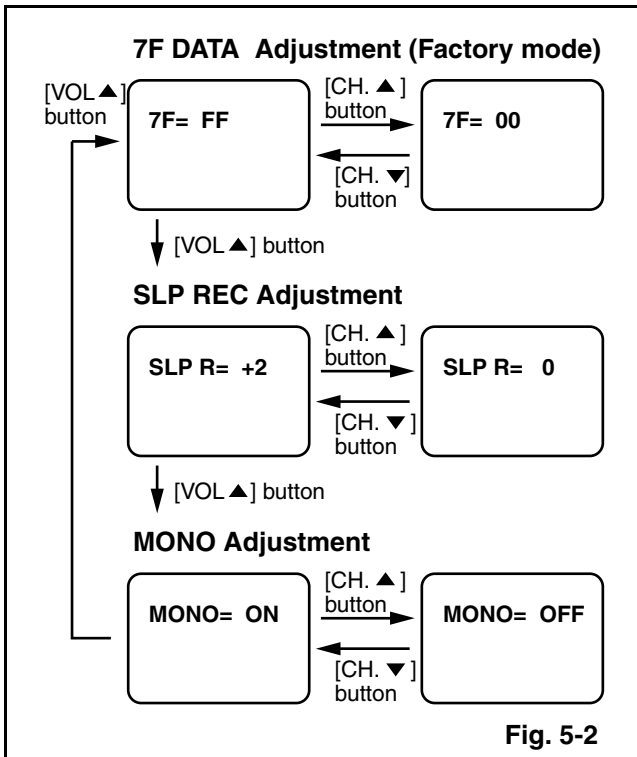
Fig. 5-1

Notes: Screen Control --- FBT (Sub CBA),
FBT = Fly Back Transformer,
Use the Remote Control Unit.

1. Degauss the CRT and allow the unit to operate for 20 minutes before starting the alignment.
2. Input the Black raster signal from RF input.
3. Enter the Service mode. (See page 1-7-1.)
4. Press the [VOL ▼] button.
(Press [VOL ▼] button then display will change "C/D", "7F" and Initial Setting.)
5. Choose CUT OFF/DRIVE mode then press [1] button. This adjustment mode is CUT OFF (R).
6. Increase the screen control so that the horizontal line just appears on the CRT.
7. Press the [CH. ▲ / ▼] buttons until the horizontal line becomes white.
8. Choose CUT OFF/DRIVE mode then press [2] button. This adjustment mode is CUT OFF (G). Press [CH. ▲ / ▼] buttons until the horizontal line becomes white.
9. Choose CUT OFF/DRIVE mode then press [3] button. This adjustment mode is CUT OFF (B). Press [CH. ▲ / ▼] buttons until the horizontal line becomes white.

8. Setting for 7F DATA/SLP REC/ MONO Data Values

1. Enter the Service mode. (See page 1-7-1.)
2. **7F Data Adjustment:** Press [VOL ▼] button on the service remote control unit once to show "7F" on the display.
SLP REC Adjustment: Press [VOL ▼] button on the service remote control unit twice to show "SLP R" on the display.
MONO Adjustment: Press [VOL ▼] button on the service remote control unit three times to show "MONO" on the display.
3. **7F Data Adjustment:** Select "FF" by pressing [CH. ▲ / ▼] buttons on the service remote control.
SLP REC Adjustment: Select "0" by pressing [CH. ▲ / ▼] buttons on the service remote control.
MONO Adjustment: Select "OFF" by pressing [CH. ▲ / ▼] buttons on the service remote control.



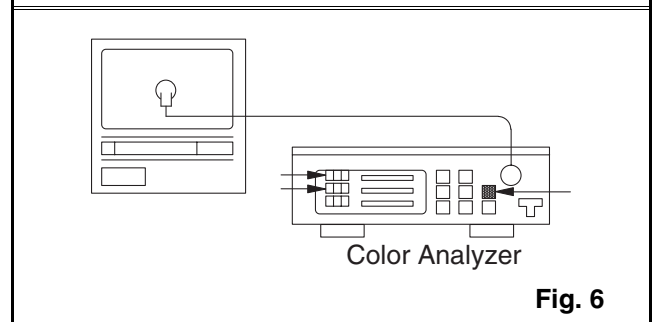
9. White Balance Adjustment

Purpose: To mix red, green and blue beams correctly for pure white.

Symptom of Misadjustment: White becomes bluish or reddish.

Test Point	Adj. Point	Mode	Input
Screen	[CH. ▲ / ▼] buttons	RF	White Raster (APL 100%)
Tape	M. EQ.	Spec.	
---	Pattern Generator, Color analyzer	See below	

Figure



Note: Use service remote control unit

1. Operate the unit more than 20 minutes.
2. Face the unit to the east. Degauss the CRT using a degaussing coil.
3. Input the White Raster (APL 100%).
4. Set the color analyzer to the CHROMA mode and after zero point calibration, bring the optical receptor to the center on the tube surface (CRT).
5. Enter the Service mode. Press [VOL ▼] button on the service remote control unit and select "C/D" mode. (Display changes "C/D", "7F" and Initial Setting cyclically when [VOL ▼] button is pressed.)
6. Press [4] button on the service remote control unit for Red adjustment. Press [5] button on the service remote control unit for Blue adjustment.
7. In each color mode, press [CH. ▲ / ▼] buttons to adjust the values of color.
8. Adjust Red and Blue color so that the temperature becomes 9200K (x: 286 / y: 294) ±3%.
9. At this time, re-check that horizontal line is white. If not, re-adjust Cut-off Adjustment until the horizontal line becomes pure white.
10. Turn off and on again to return to normal mode. Receive APL 100% white signal and confirm that Chroma temperatures become 9200K (x: 286 / y: 294) ±3%.

Note: Confirm that Cut Off Adj. is correct after this adjustment, and attempt Cut Off Adj. if needed.

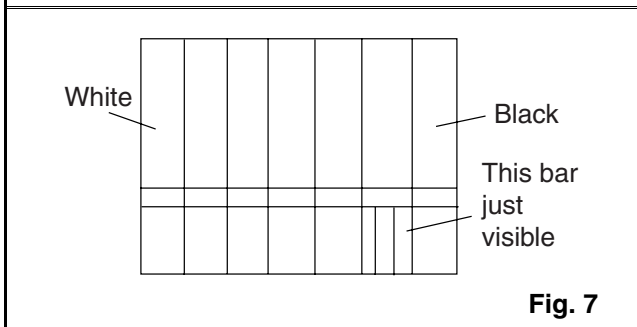
10. Sub-Brightness Adjustment

Purpose: To get proper brightness.

Symptom of Misadjustment: If Sub-Brightness is incorrect, proper brightness cannot be obtained by adjusting the Brightness Control.

Test Point	Adj. Point	Mode	Input
---	[CH. ▲ / ▼] buttons	---	SMPTE 7.5IRE
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	

Figure



Note: SMPTE Setup level --- 7.5 IRE

1. Enter the Service mode. (See page 1-7-1.) Then input SMPTE signal from RF input.
2. Press [PICTURE] button. (Press [PICTURE] button then display will change BRT, CNT, COL, TNT, V-TNT, and SHP). Select BRT and press [CH. ▲ / ▼] buttons so that the bar is just visible (See above figure).

11. Focus Adjustment

Purpose: Set the optimum Focus.

Symptom of Misadjustment: If Focus Adjustment is incorrect, blurred images are shown on the display.

Test Point	Adj. Point	Mode	Input
---	Focus Control	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	

Note: Focus VR --- FBT (Sub CBA),
FBT = Fly Back Transformer

1. Operate the unit more than 30 minutes.
2. Face the unit to the East and degauss the CRT using a degaussing coil.
3. Input the monoscope pattern.
4. Adjust the Focus Control on the FBT to obtain a clear picture.

12. H. Position Adjustment

Purpose: To obtain correct horizontal position of screen image.

Symptom of Misadjustment: H. position may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	[CH. ▲ / ▼] buttons	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	---	

1. Enter the Service mode. (See page 1-7-1.) Press [8] button on the remote control unit and select H-P mode.
2. Input monoscope pattern.
3. Press [CH. ▲ / ▼] buttons on the remote control unit so that the left and right side of the monoscope pattern are equal to each other.

13. V. Shift Adjustment

Purpose: To obtain correct vertical position of screen image.

Symptom of Misadjustment: If V. position is incorrect, vertical position of image on the screen may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	[CH. ▲ / ▼] buttons	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	---	

1. Enter the Service mode. (See page 1-7-1.) Press [9] button on the remote control unit and select V-P mode. (Press [9] button then display will change to V-P and V-S).
2. Input monoscope pattern.
3. Press [CH. ▲ / ▼] buttons on the remote control unit so that the top and bottom of the monoscope pattern are equal to each other.

14. V. Size Adjustment

Purpose: To obtain correct vertical height of screen image.

Symptom of Misadjustment: If V. Size is incorrect, vertical height of image on the screen may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	[CH. ▲ / ▼] buttons	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	90±5%	

1. Enter the Service mode. (See page 1-7-1.) Press [9] button on the remote control unit and select V-S mode. (Press [9] button then display will change to V-P and V-S).
2. Input monoscope pattern.
3. Press [CH. ▲ / ▼] buttons on the remote control unit so that the monoscope pattern is 90±5% of display size and the circle is round.

15. Head Switching Position Adjustment

Purpose: Determine the Head Switching Position during Playback.

Symptom of Misadjustment: May cause Head Switching Noise or Vertical Jitter in the picture.

Note: Unit reads Head Switching Position automatically and displays it on the screen (Upper Left Corner).

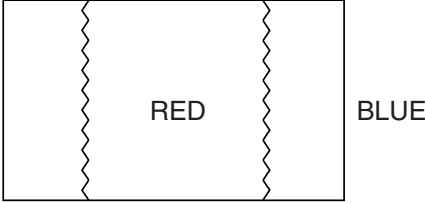
1. Playback test tape (VFMS0001H6).
2. Enter the Service mode. (See page 1-7-1.) Then press the number [5] button on the remote control unit.
3. The Head Switching position will display on the screen; if adjustment is necessary follow step 4. 6.5H(412.7µs) is preferable.
4. Press [CH. ▲] or [CH. ▼] button on the remote control unit if necessary. The value will be changed in 0.5H steps up or down. Adjustable range is up to 9.5H. If the value is beyond adjustable range, the display will change as:
Lower out of range: 0.0H
Upper out of range: -.H

The following 2 adjustments normally are not attempted in the field. They should be done only when replacing the CRT then adjust as a preparation.

16. Purity Adjustment

Purpose: To obtain pure color.

Symptom of Misadjustment: If Color Purity Adjustment is incorrect, large areas of color may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	Deflection Yoke Purity Magnet	---	*Red Color
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	
Figure			
			
Fig. 8			

* This becomes RED COLOR if the [7] button is pressed while in service mode.

1. Set the unit facing east.
2. Operate the unit for over 30 minutes before adjusting.
3. Fully degauss the unit using an external degaussing coil.
4. Set the unit to the AUX mode which is located before CH2 then input a red raster from video in.
5. Loosen the screw on the Deflection Yoke Clamper and pull the Deflection Yoke back away from the screen. (See Fig. 9.)
6. Loosen the Ring Lock and adjust the Purity Magnets so that a red field is obtained at the center of the screen. Tighten Ring Lock. (See Fig. 8, 9.)
7. Slowly push the Deflection Yoke toward the bell of the CRT and set it where a uniform red field is obtained.
8. Tighten the clamp screw on the Deflection Yoke.

17. Convergence Adjustment

Purpose: To obtain proper convergence of red, green and blue beams.

Symptom of Misadjustment: If Convergence Adjustment is incorrect, the edge of white letters may have color edges.

Test Point	Adj. Point	Mode	Input
---	C.P. Magnet (RB) C.P. Magnet (RB-G) Deflection Yoke	---	Dot Pattern or Crosshatch
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	

Figure

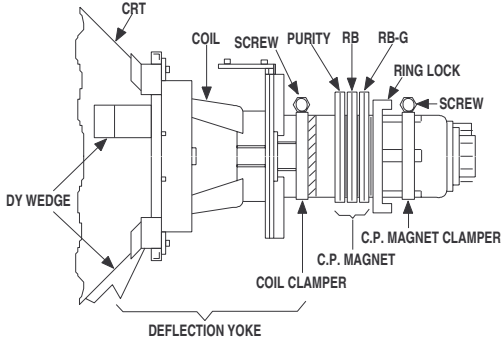


Fig. 9

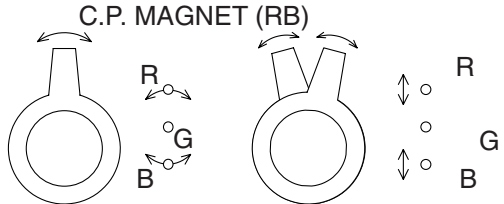


Fig. 10

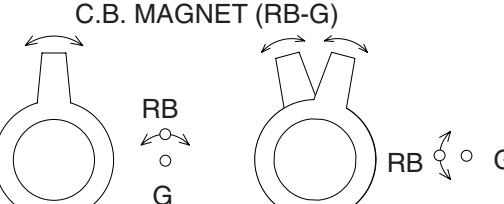
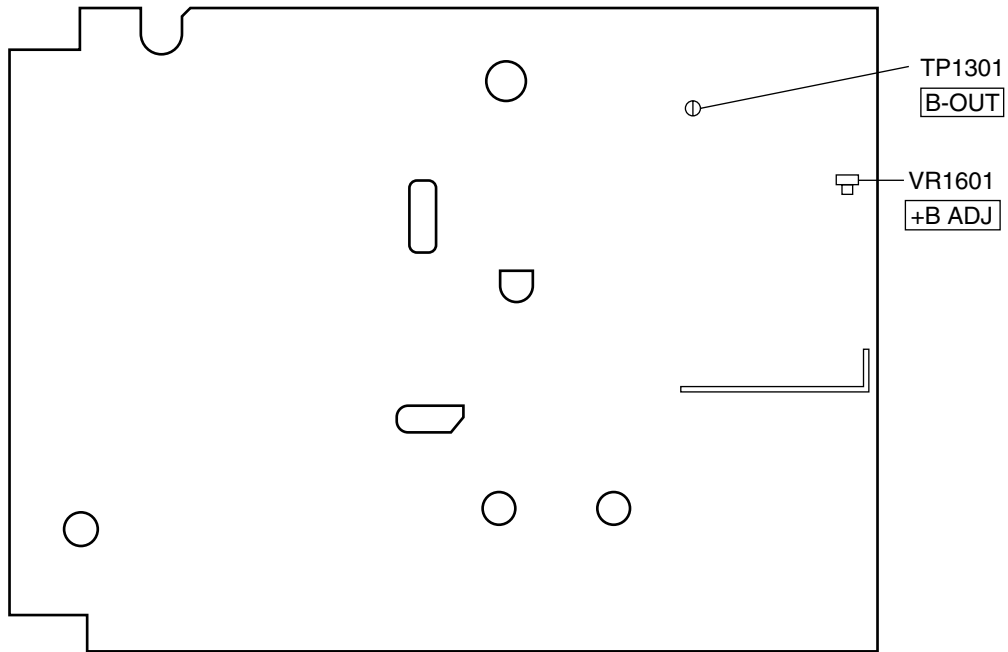


Fig. 11

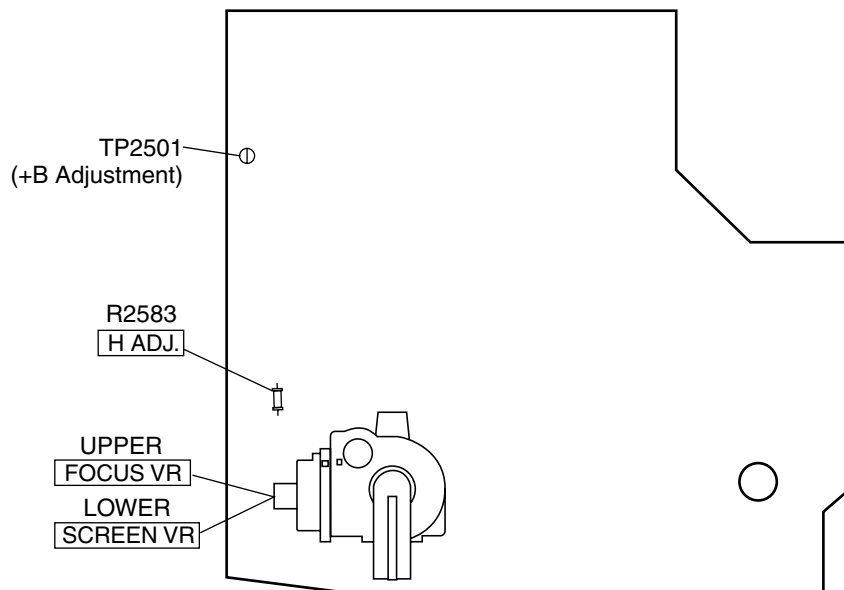
1. Set the unit to the AUX mode which is located before CH2 then input a dot or crosshatch pattern.
2. Loosen the Ring Lock and align red with blue dots or crosshatch at the center of the screen by rotating (RB) C.P. Magnets. (See Fig. 10.)
3. Align red / blue with green dots at the center of the screen by rotating (RB-G) C.P. Magnet. (See Fig. 11.)
4. Fix the C.P. Magnets by tightening the Ring Lock.
5. Remove the DY Wedges and slightly tilt the Deflection Yoke horizontally and vertically to obtain the best overall convergence.
6. Fix the Deflection Yoke by carefully inserting the DY Wedges between CRT and Deflection Yoke.

Adjustment Points and Test Points

Main CBA



Sub CBA



HOW TO INITIALIZE THE TV/DVD/VCR

To put the program back at the factory-default, initialize the TV/DVD/VCR as the following procedure.

< DVD Section >

1. Turn the power on and press [SELECT] button on the remote control unit to put the TV/DVD/VCR into DVD mode.
2. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order. Fig. a appears on the screen.

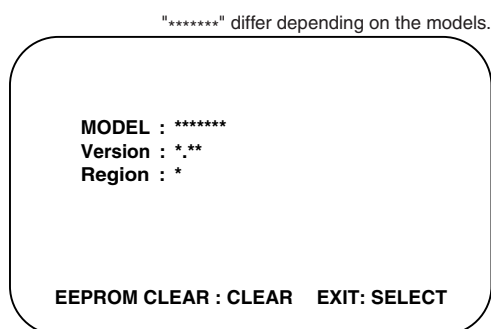


Fig. a

3. Press [CLEAR] button on the remote control unit. Fig. b appears on the screen.

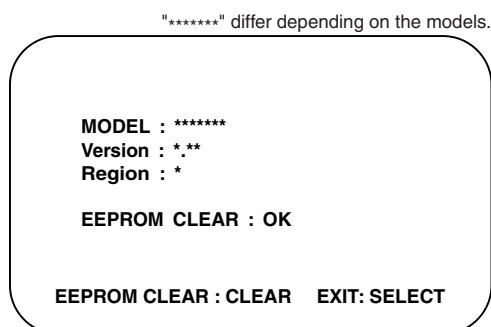


Fig. b

When "OK" appears on the screen, the factory default will be set.

4. To exit this mode, press [CH. ▲ / ▼] or [SELECT] button to go to TV mode, or press [STANDBY-ON] button to turn the power off.

< TV/VCR Section >

1. Use the service remote control unit.
2. Turn the power on. (Use main power on the TV unit.)
3. Press [DISC MENU] button on the service remote control unit to enter the Service mode. (Refer to "How to Set up the Service mode" on page 1-7-1.)
4. Press [VOL ▼] button on the service remote control unit twice, and confirm that OSD indication is "7F = FF." If needed, set it to become "7F = FF" by pressing [CH. ▲ / ▼] buttons on the service remote control unit.
5. Confirm that OSD indication on the four corners on TV screen changes from on and off light indication to red by pressing a [DISPLAY] button. (It is necessary for one or two seconds.)
6. Turn the power off by pressing main power button on the TV unit, and unplug the AC cord from the AC outlet.

FIRMWARE RENEWAL MODE

1. Turn the power on and press [SELECT] button on the remote control unit to put the TV/DVD/VCR into DVD mode. Then remove the disc on the tray. (It is possible to move to F/W version up mode only when the TV/DVD/VCR is in DVD mode with the tray open.)
2. To put the TV/DVD/VCR into F/W version up mode, press [9], [8], [7], [6], and [SEARCH MODE] buttons on the remote control unit in that order. Fig. a appears on the screen.

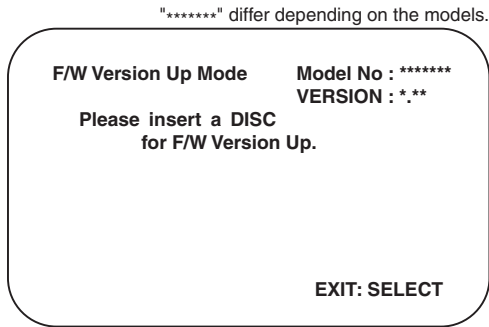


Fig. a Version Up Mode Screen

The TV/DVD/VCR can also enter the version up mode with the tray open. In this case, Fig. a will be shown on the screen while the tray is open.

3. Load the disc for version up.
4. The TV/DVD/VCR enters the F/W version up mode automatically. Fig. b appears on the screen. If you enter the F/W for different models, "Disc Error" will appear on the screen, then the tray will open automatically.

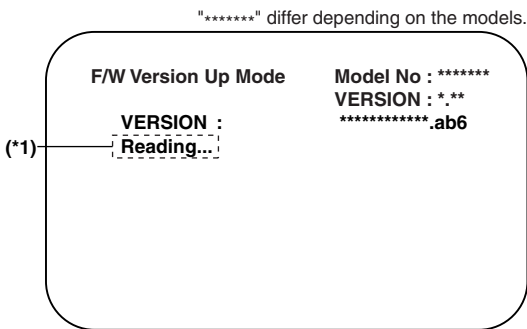


Fig. b Programming Mode Screen

The appearance shown in (*1) of Fig. b is described as follows:

No.	Appearance	State
1	Reading...	Sending files into the memory
2	Erasing...	Erasing previous version data
3	Programming...	Writing new version data

5. After programming is finished, the tray opens automatically. Fig. c appears on the screen and the checksum will be shown in (*2) of Fig. c.

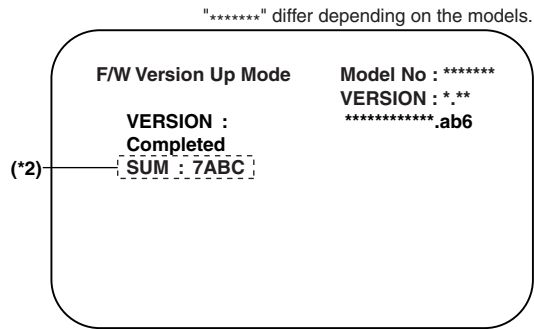


Fig. c Completed Program Mode Screen

At this time, no button is available.

6. Remove the disc on the tray.
7. Press [SELECT] button on the remote control unit to go to TV mode, or press [STANDBY-ON] button on the unit to turn the power off.
8. Press [SELECT] button on the remote control unit to put the TV/DVD/VCR into DVD mode again.
9. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order. Fig. d appears on the screen.

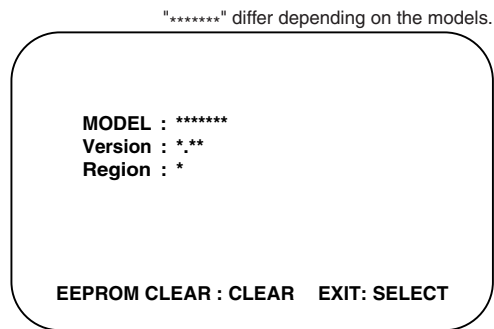


Fig. d

10. Press [CLEAR] button on the remote control unit. Fig. e appears on the screen.

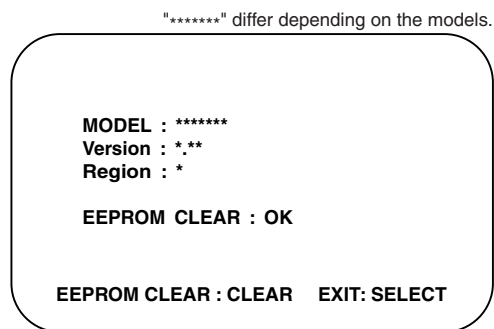


Fig. e

When "OK" appears on the screen, the factory default will be set. Then the firmware renewal mode is complete.

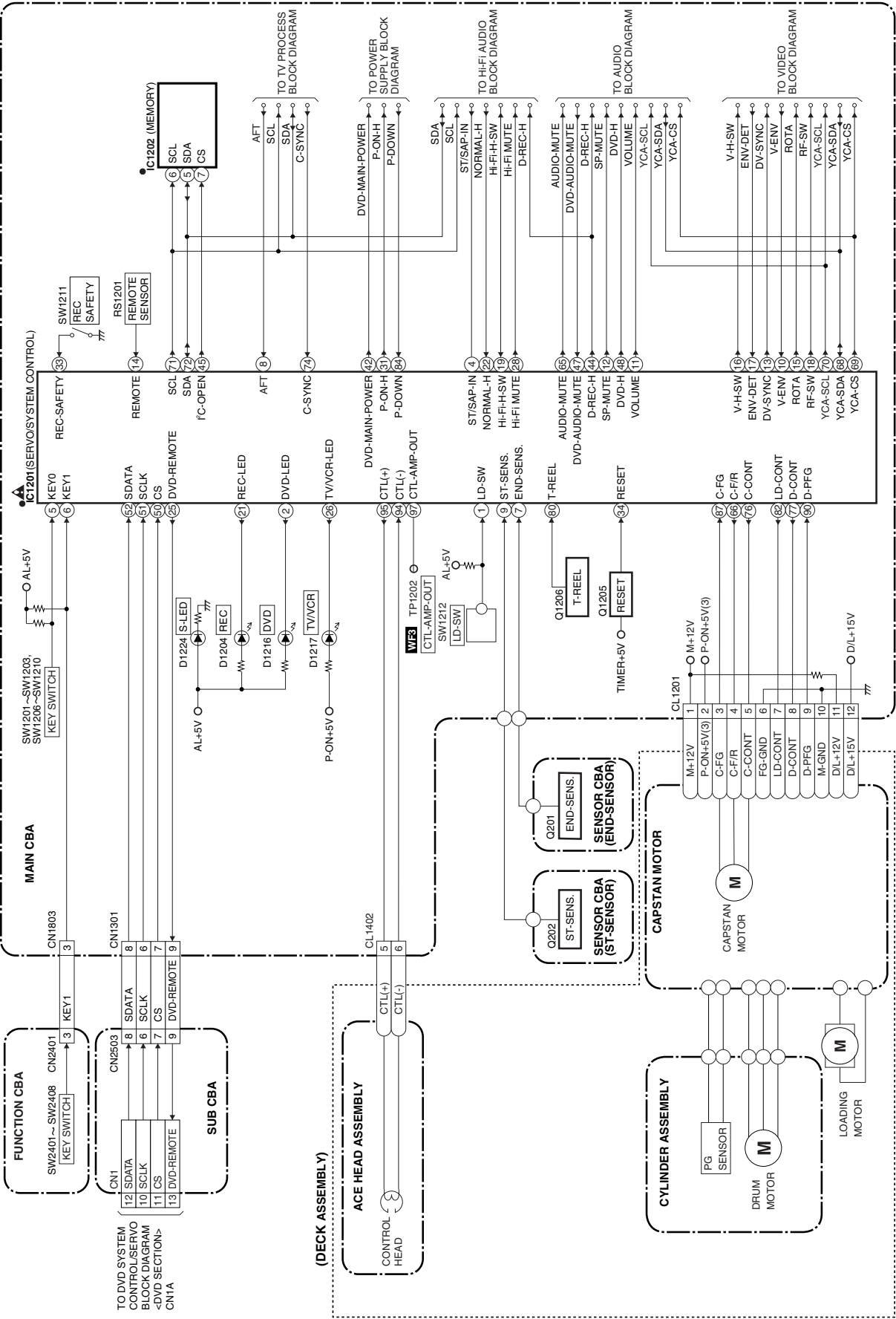
11. To exit this mode, press [CH. ▲ / ▼] or [SELECT] button to go to TV mode, or press [STANDBY-ON] button to turn the power off.

BLOCK DIAGRAMS < TV/VCR Section >

System Control / Servo Block Diagram

NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 (CAN DISCONNECT AND RECONNECT)
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY)

TEST POINT INFORMATION
 ○ INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
 □ USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
 ⊗ USED TO INDICATE A TEST POINT WITH NO TEST PIN.
 ● USED TO INDICATE A TEST POINT WITH A TEST PIN.



Video Block Diagram

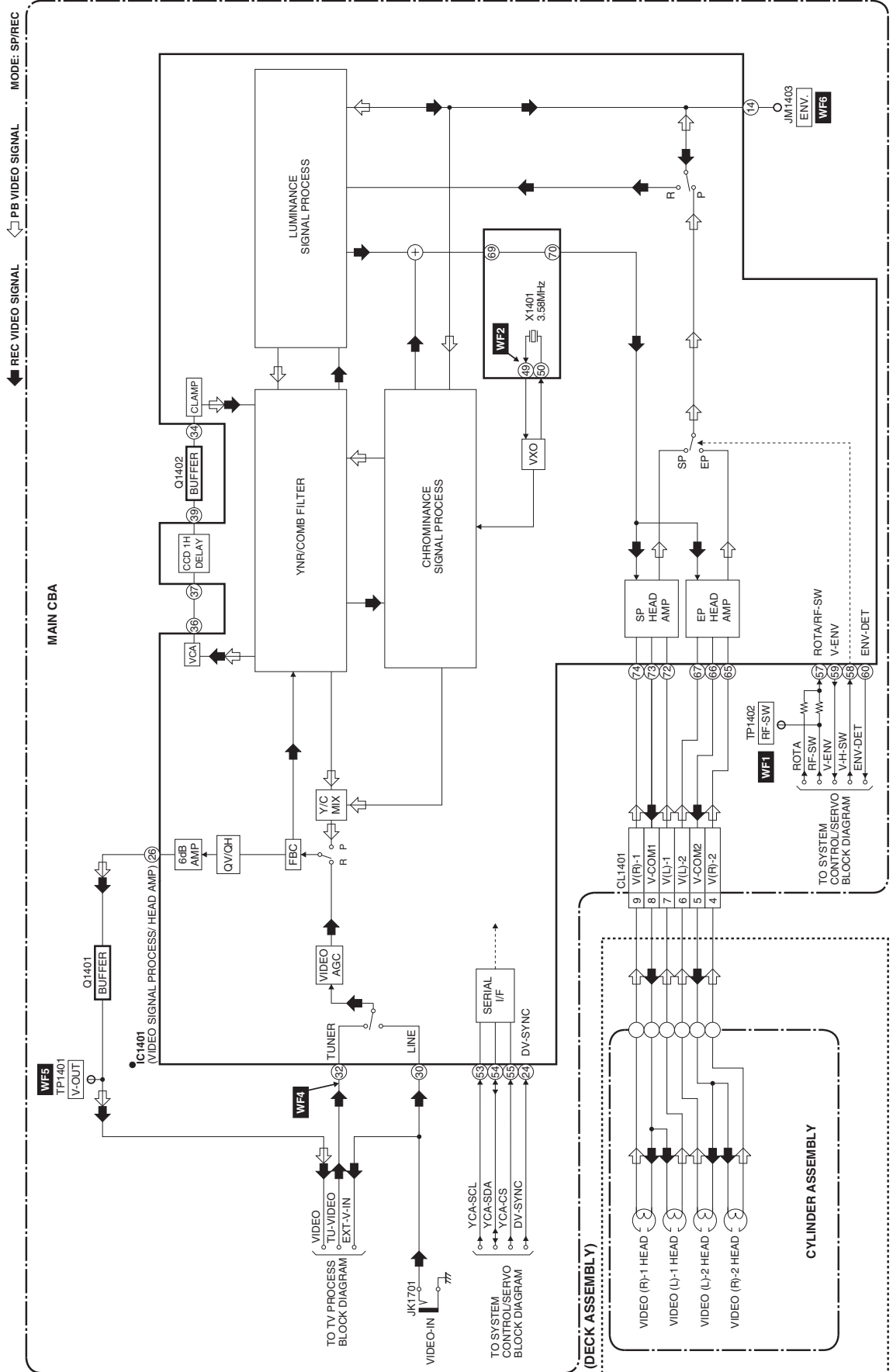
TEST POINT INFORMATION

- :INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
- ◻ :USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
- :USED TO INDICATE A TEST POINT WITH NO TEST PIN.
- ⊙ :USED TO INDICATE A TEST POINT WITH A TEST PIN.

NOTE FOR WIRE CONNECTORS:

1. PREFIX SYMBOL "CN" MEANS CONNECTOR. (CAN DISCONNECT AND RECONNECT)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB. (WIRE IS SOLDERED DIRECTLY)

* ● = SMD

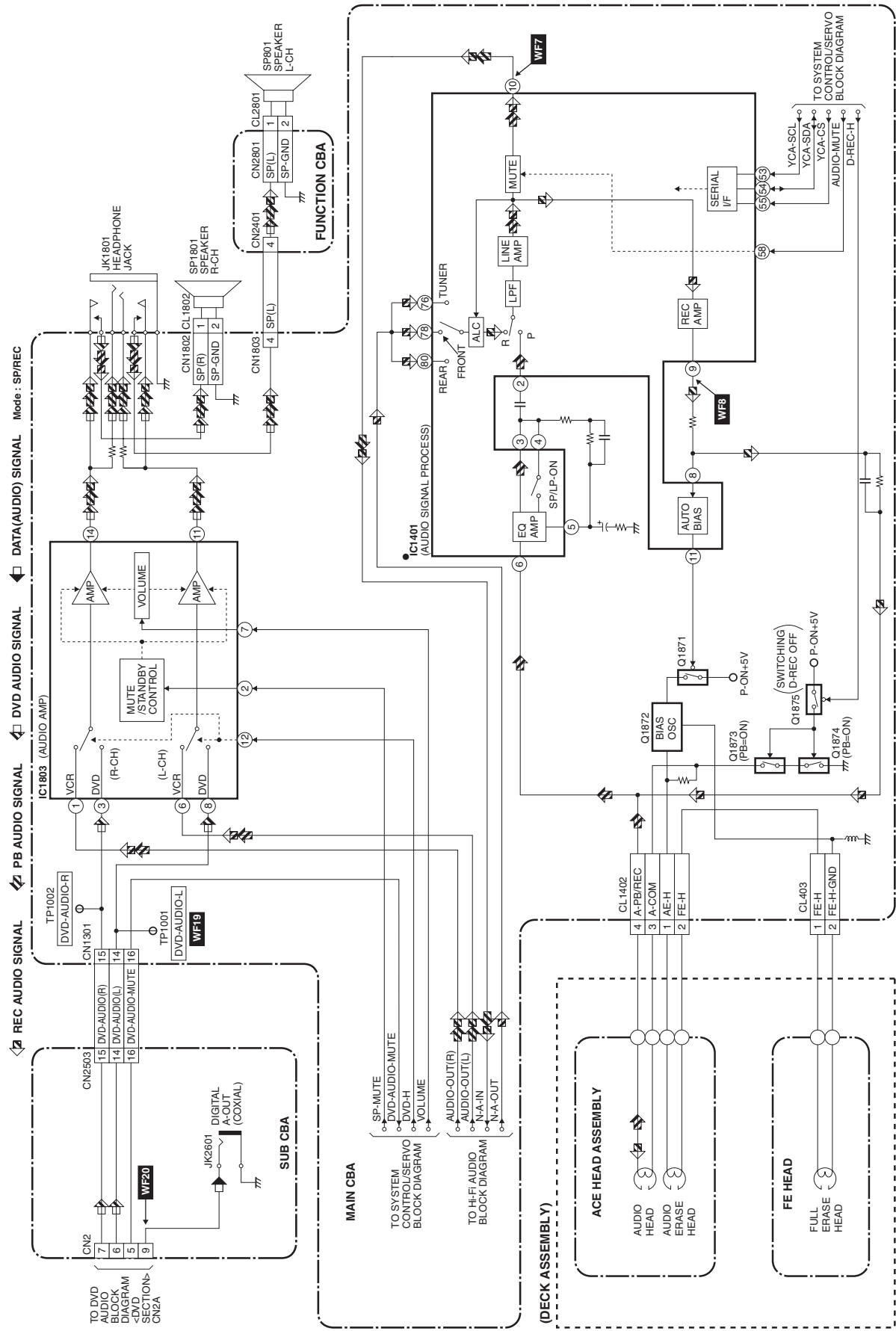


Audio Block Diagram

TEST POINT INFORMATION
 ○ INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
 □ USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOLIO SIDE.
 ⊙ USED TO INDICATE A TEST POINT WITH NO TEST PIN.
 ● USED TO INDICATE A TEST POINT WITH A TEST PIN.

NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 (CAN DISCONNECT AND RECONNECT)
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY)

● = SMD



Hi-Fi Audio Block Diagram

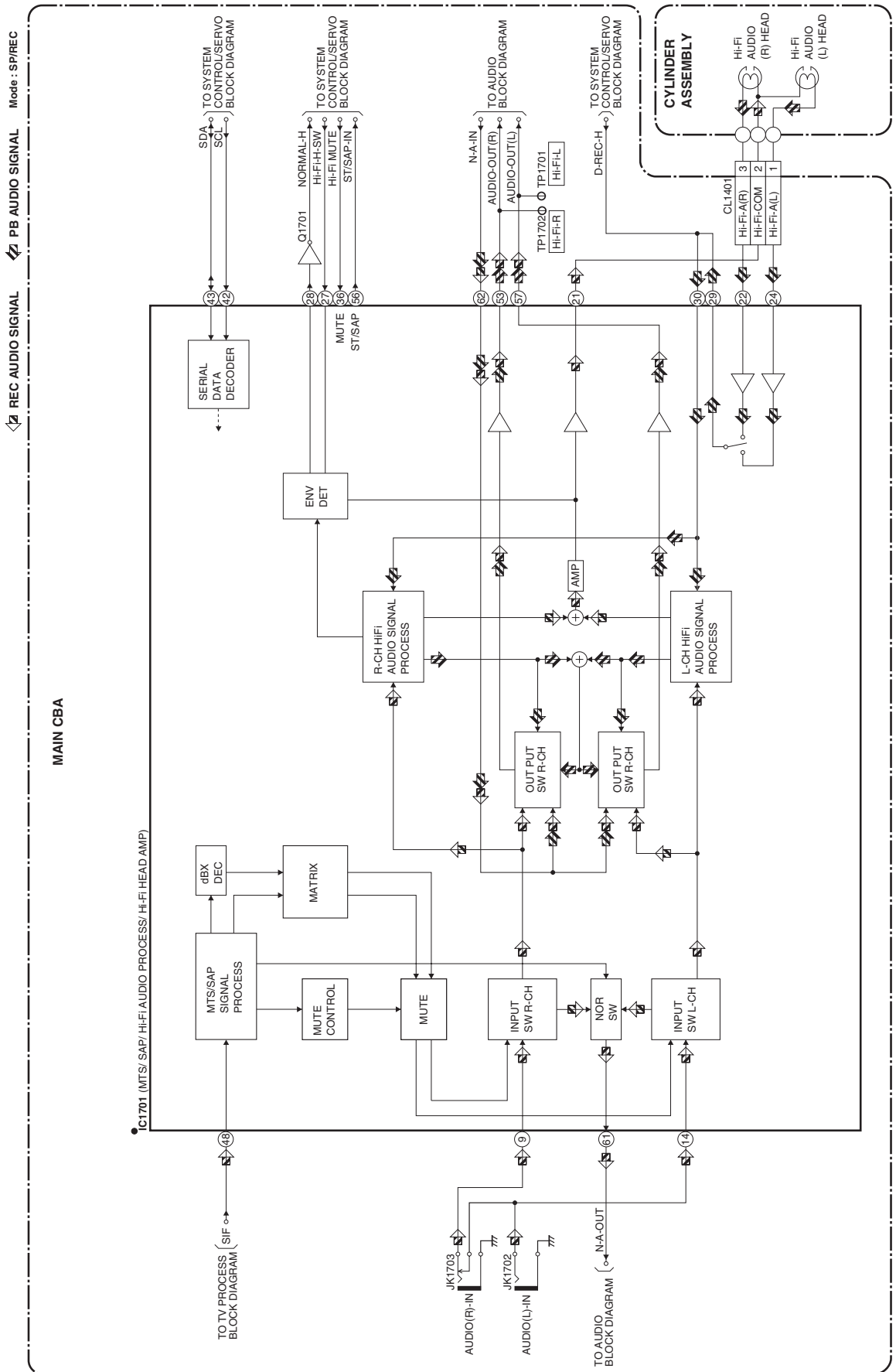
TEST POINT INFORMATION

- :INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
- ◻ :USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
- ◻ :USED TO INDICATE A TEST POINT WITH NO TEST PIN.
- :USED TO INDICATE A TEST POINT WITH A TEST PIN.

NOTE FOR WIRE CONNECTORS:

- 1. PREFIX SYMBOL "CN" MEANS CONNECTOR. (CAN DISCONNECT AND RECONNECT)
- 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB (WIRE IS SOLDERED DIRECTLY).

* ● = SMD

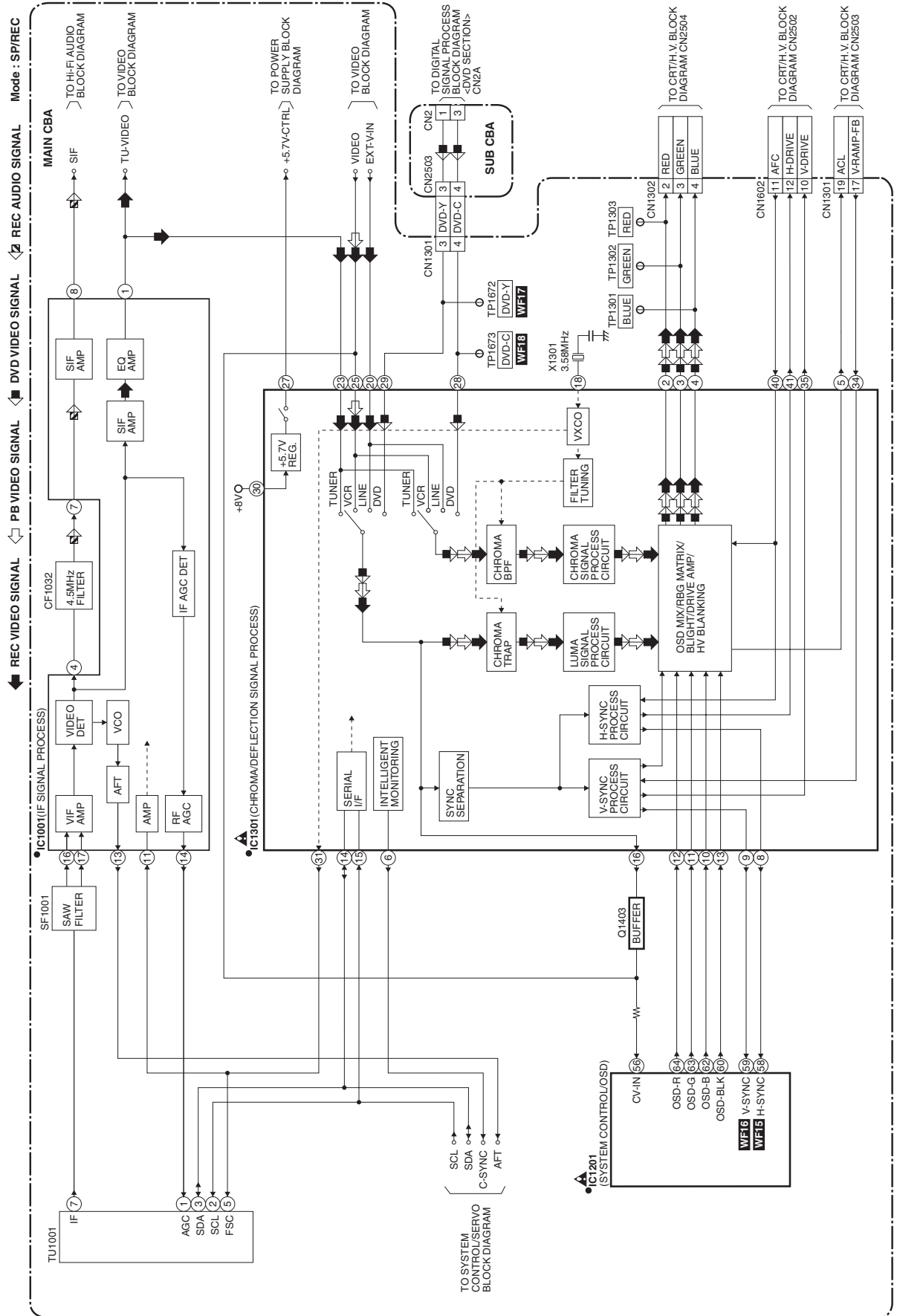


TV Process Block Diagram

TEST POINT INFORMATION
 ○ INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
 ⊕ USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
 ⊗ USED TO INDICATE A TEST POINT WITH NO TEST PIN.
 ● USED TO INDICATE A TEST POINT WITH A TEST PIN.

NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 (CAN DISCONNECT AND RECONNECT)
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY)

● = SMD



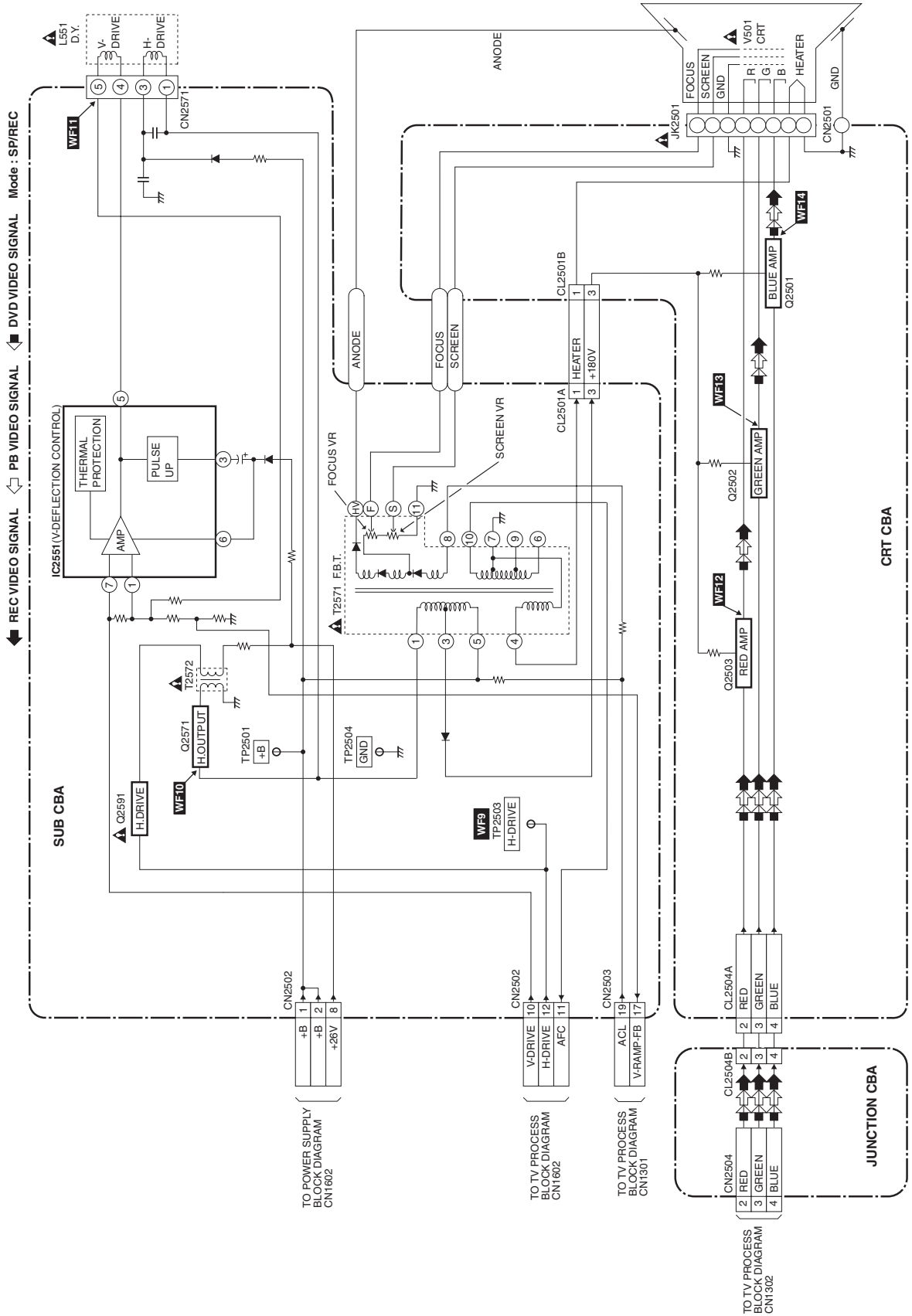
CRT/H.V. Block Diagram

TEST POINT INFORMATION

- :INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
- ⇄ :USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
- ⊗ :USED TO INDICATE A TEST POINT WITH NO TEST PIN.
- :USED TO INDICATE A TEST POINT WITH A TEST PIN.

NOTE FOR WIRE CONNECTORS:

- 1. PREFIX SYMBOL "CN" MEANS CONNECTOR. (CAN DISCONNECT AND RECONNECT)
- 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB. (WIRE IS SOLDERED DIRECTLY)



Power Supply Block Diagram

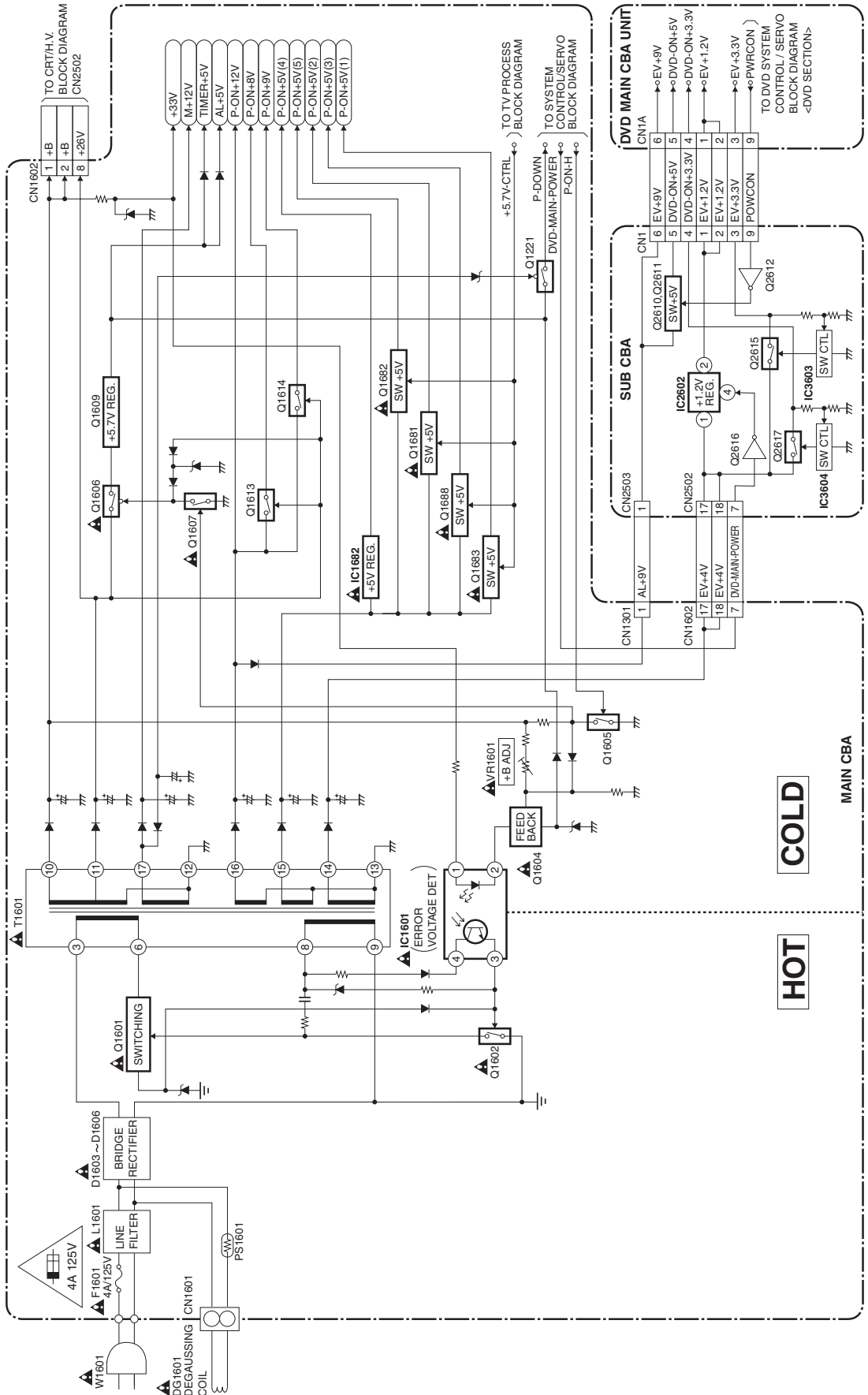
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.



NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

NOTE FOR WIRE CONNECTORS:
1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
(CAN DISCONNECT AND RECONNECT)
2. PREFIX SYMBOL "CI" MEANS WIRE-SOLDER HOLES OF THE PCB.
(WIRE IS SOLDERED DIRECTLY.)

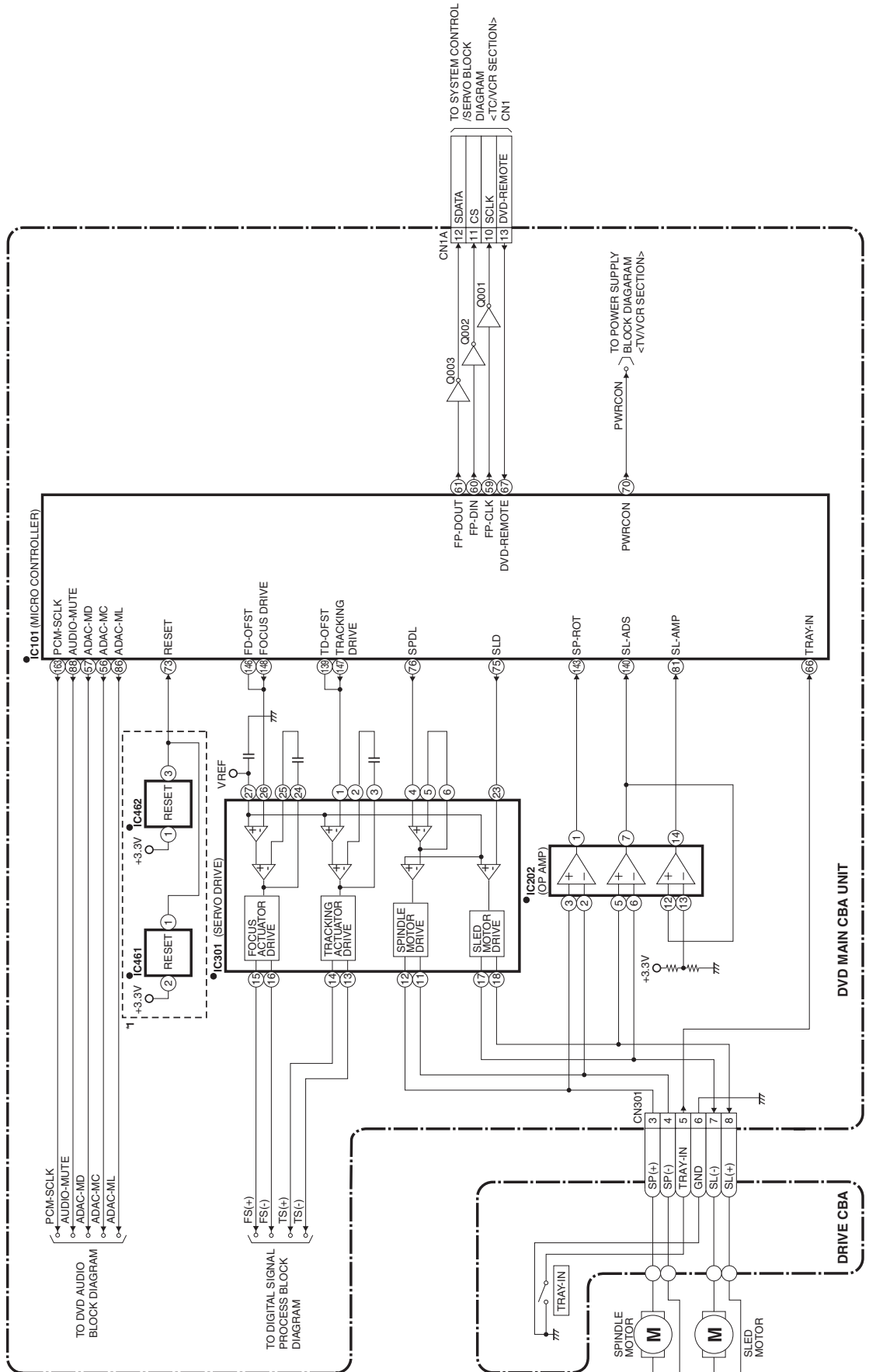


BLOCK DIAGRAMS < DVD Section >

DVD System Control / Servo Block Diagram

NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 1. (CAN DISCONNECT AND RECONNECT)
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY.)

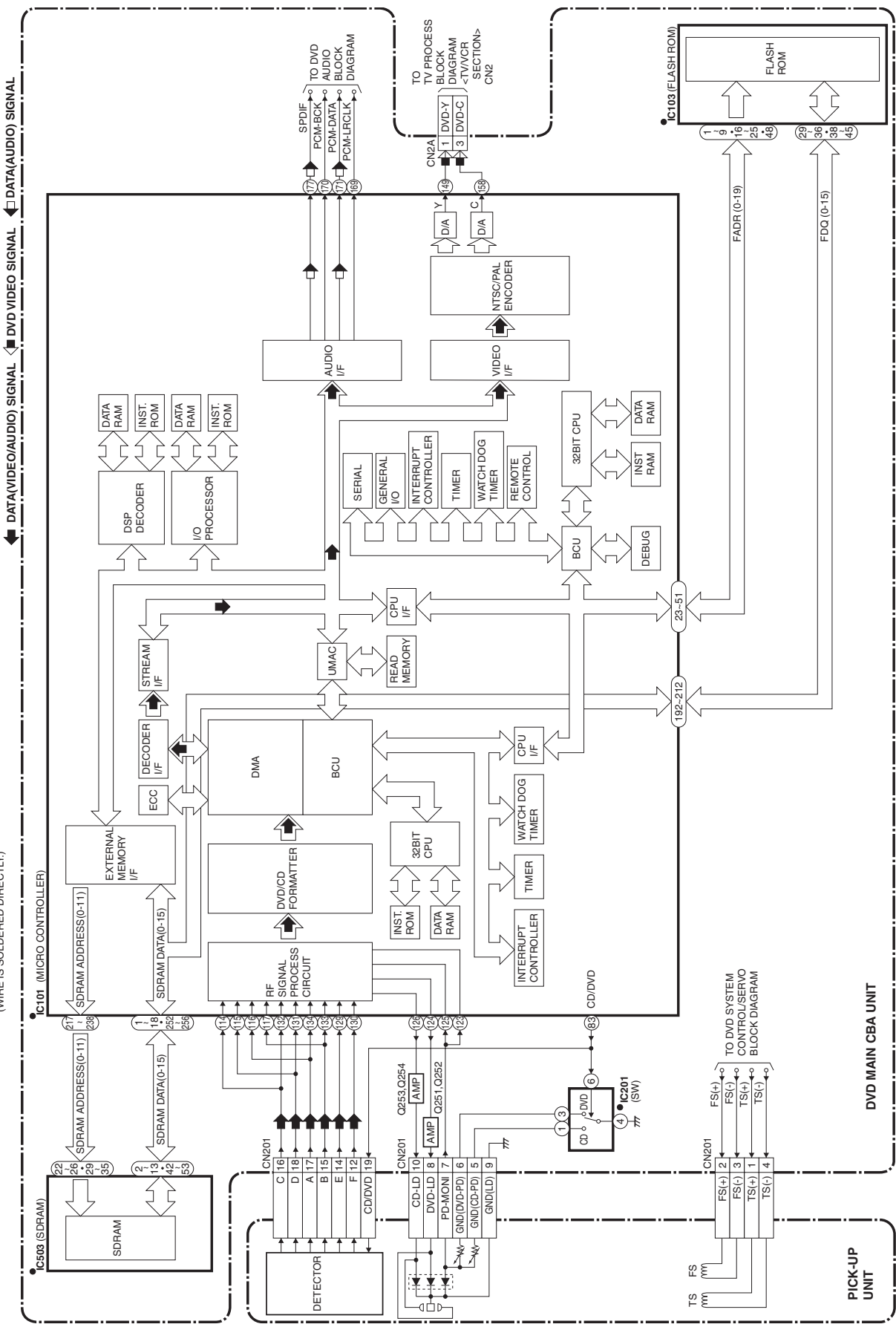
***1 NOTE:**
 Either IC461 or IC462 is used for DVD MAIN CBA UNIT.



Digital Signal Process Block Diagram

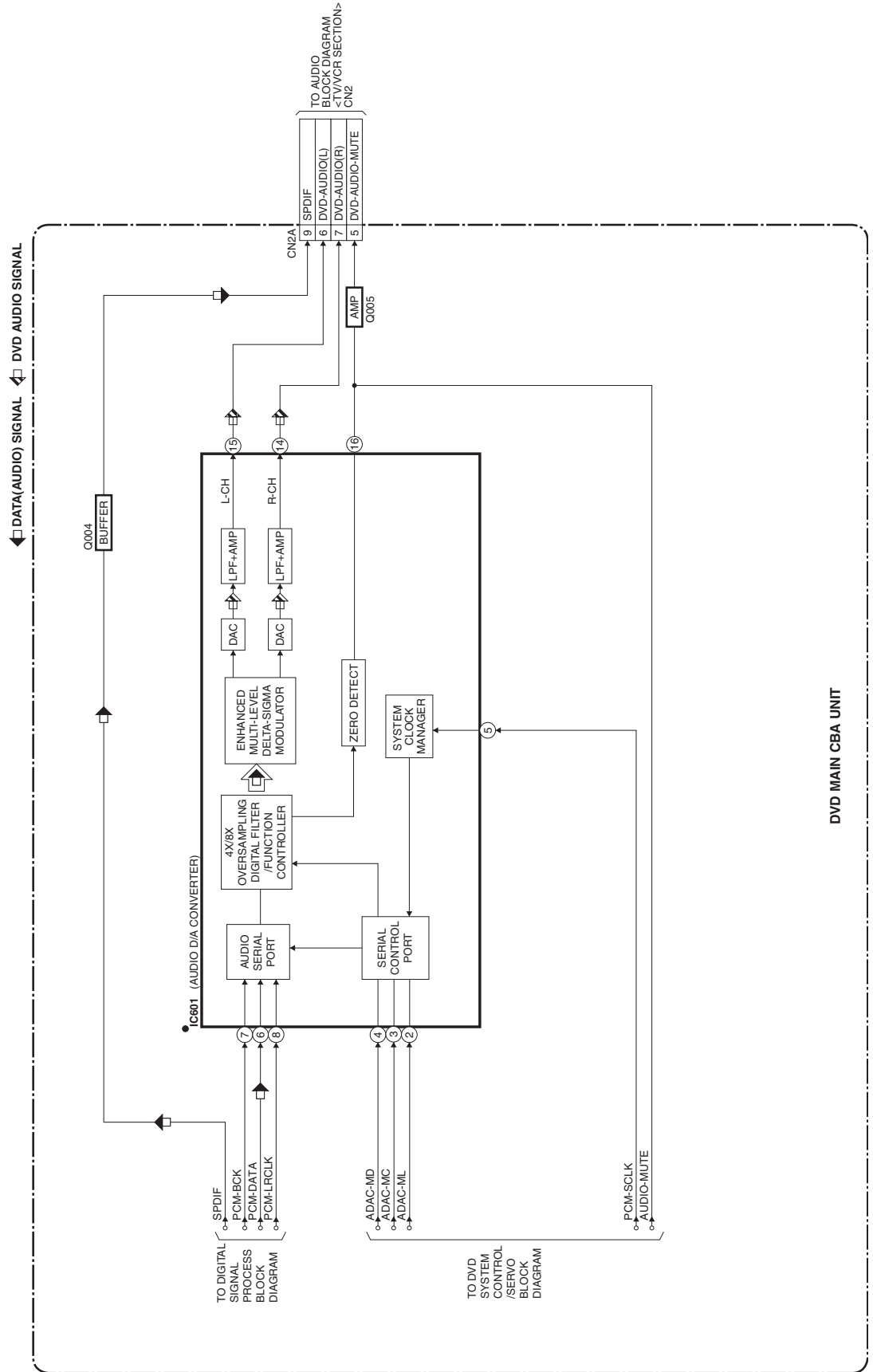
NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 (CAN DISCONNECT AND RECONNECT)
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER
 HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY)

• = SMD



DVD Audio Block Diagram



NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 (CAN DISCONNECT AND RECONNECT)
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER
 HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY)
 * • = SMD



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

Critical components having special safety characteristics are identified with a  by the Ref. No. in the parts list and enclosed within a broken line* (where several critical components are grouped in one area) along with the safety symbol  on the schematics or exploded views.

Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire or other hazards.

Under no circumstances should the original design be modified or altered without written permission from Philips Consumer Electronics Company. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.

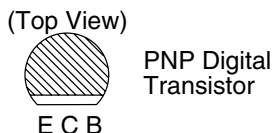
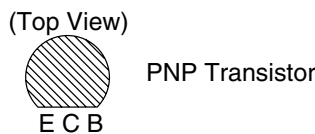
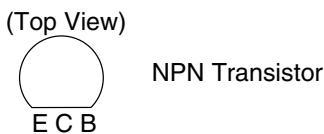
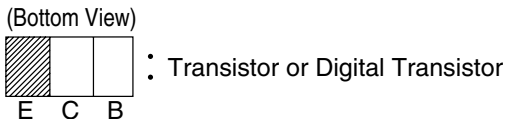
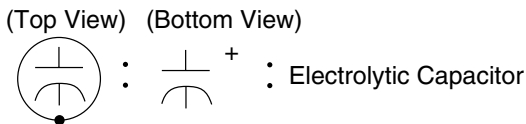
* Broken Line : 

Capacitor Temperature Markings

Mark	Capacity change rate	Standard temperature	Temperature range
(B)	±10%	20°C	-25~+85°C
(F)	±30 - 80%	20°C	-25~+85°C
(SR)	±15%	20°C	-25~+85°C
(Y)	±22.5%	20°C	-25~+85°C

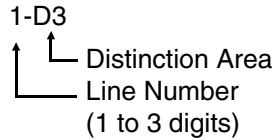
Capacitors and transistors are represented by the following symbols.

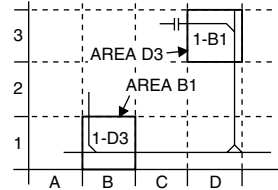
< PCB Symbols >



Notes:

- Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
- To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.
- How to read converged lines.

1-D3

 Distinction Area
 Line Number
 (1 to 3 digits)

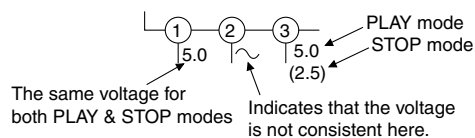


Examples:

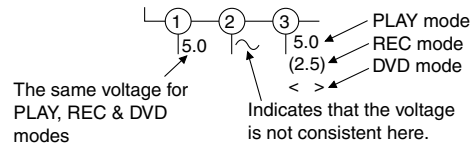
- "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
- "1-B1" means that line number "1" goes to the line number "1" of the area "B1".
- All resistance values are indicated in ohms ($K = 10^3$, $M = 10^6$).
- Resistor wattages are 1/6W unless otherwise specified.
- All capacitance values are indicated in μF ($P = 10^{-6} \mu F$).
- All voltages are DC voltages unless otherwise specified.
- Voltage indications for PLAY and REC modes on the schematics are as shown below.

< DVD Section >

Unit: Volts

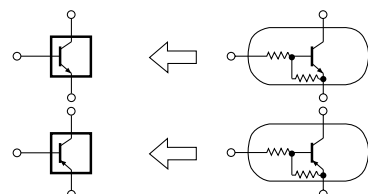


< TV/VCR Section >



< Schematic Diagram Symbols >

Digital Transistor



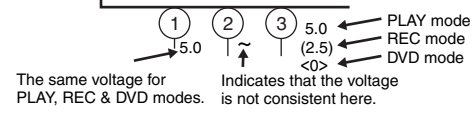
Main 1/6 Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		RESISTORS		RESISTORS	
C1203	B-3	D1204	A-2	R1221	B-3	R1269	C-4
C1207	B-1	D1216	A-4	R1222	A-3	R1270	C-4
C1208	A-1	D1217	A-2	R1223	B-3	R1272	C-4
C1210	B-1	D1219	E-1	R1224	A-4	R1273	C-4
C1211	B-1	D1224	B-4	R1225	A-1	R1274	C-4
C1212	B-1	D1229	E-4	R1226	B-1	R1275	C-1
C1213	C-1	D1230	E-4	R1227	B-4	R1277	B-4
C1214	C-1	D1231	E-3	R1229	A-2	R1280	B-4
C1216	C-1	D1232	E-4	R1231	B-4	R1283	D-4
C1217	C-1	D1234	E-4	R1232	A-2	R1284	D-3
C1218	C-1	D1237	A-3	R1233	A-1	R1285	D-1
C1219	C-1	ICS		R1234	A-1	R1286	D-1
C1220	D-1	IC1201	C-3	R1235	B-1	R1287	B-3
C1221	D-1	IC1202	D-1	R1236	B-1	R1288	D-2
C1222	D-2	COILS		R1237	B-1	R1289	D-4
C1223	D-2	L1202	D-2	R1238	C-1	R1290	D-2
C1224	D-2	L1203	E-1	R1239	C-1	R1291	D-1
C1225	D-2	L1211	E-4	R1240	C-1	R1292	D-1
C1226	D-2	TRANSISTORS		R1241	C-1	R1294	D-1
C1233	D-1	Q1205	A-1	R1243	D-2	R1298	B-3
C1234	D-2	Q1206	D-3	R1244	D-2	R1299	D-2
C1235	D-3	RESISTORS		R1245	D-2	SWITCHES	
C1239	C-4	R1200	D-3	R1246	D-2	SW1201	A-3
C1240	C-4	R1201	A-4	R1247	D-2	SW1202	A-4
C1241	C-4	R1202	B-4	R1248	D-2	SW1203	A-4
C1243	B-4	R1203	B-4	R1249	D-2	SW1206	A-4
C1244	B-4	R1204	B-4	R1250	D-2	SW1207	A-4
C1245	C-4	R1205	B-4	R1251	D-2	SW1208	A-4
C1246	A-4	R1206	B-4	R1252	D-2	SW1209	A-4
C1247	A-4	R1208	A-3	R1253	D-2	SW1210	A-4
C1249	B-4	R1209	D-2	R1254	D-2	SW1211	B-1
C1251	C-4	R1210	A-3	R1255	D-3	SW1212	B-4
C1252	E-4	R1211	A-4	R1256	E-4	CRYSTAL OSCILLATORS	
C1253	E-4	R1212	A-4	R1257	D-1	X1201	B-1
C1254	E-4	R1213	A-3	R1258	D-3	X1202	C-1
C1257	B-2	R1214	A-4	R1259	F-3	MISCELLANEOUS	
C1258	B-2	R1215	A-4	R1260	D-1	RS1201	B-1
C1261	A-1	R1216	A-4	R1261	E-4	TEST POINT	
C1264	E-4	R1217	A-4	R1262	A-2	TP1202	B-4
C1299	A-3	R1218	A-4	R1263	D-3		
CONNECTOR		R1219	B-3	R1267	D-4		
CL1201	F-4	R1220	A-3	R1268	C-4		

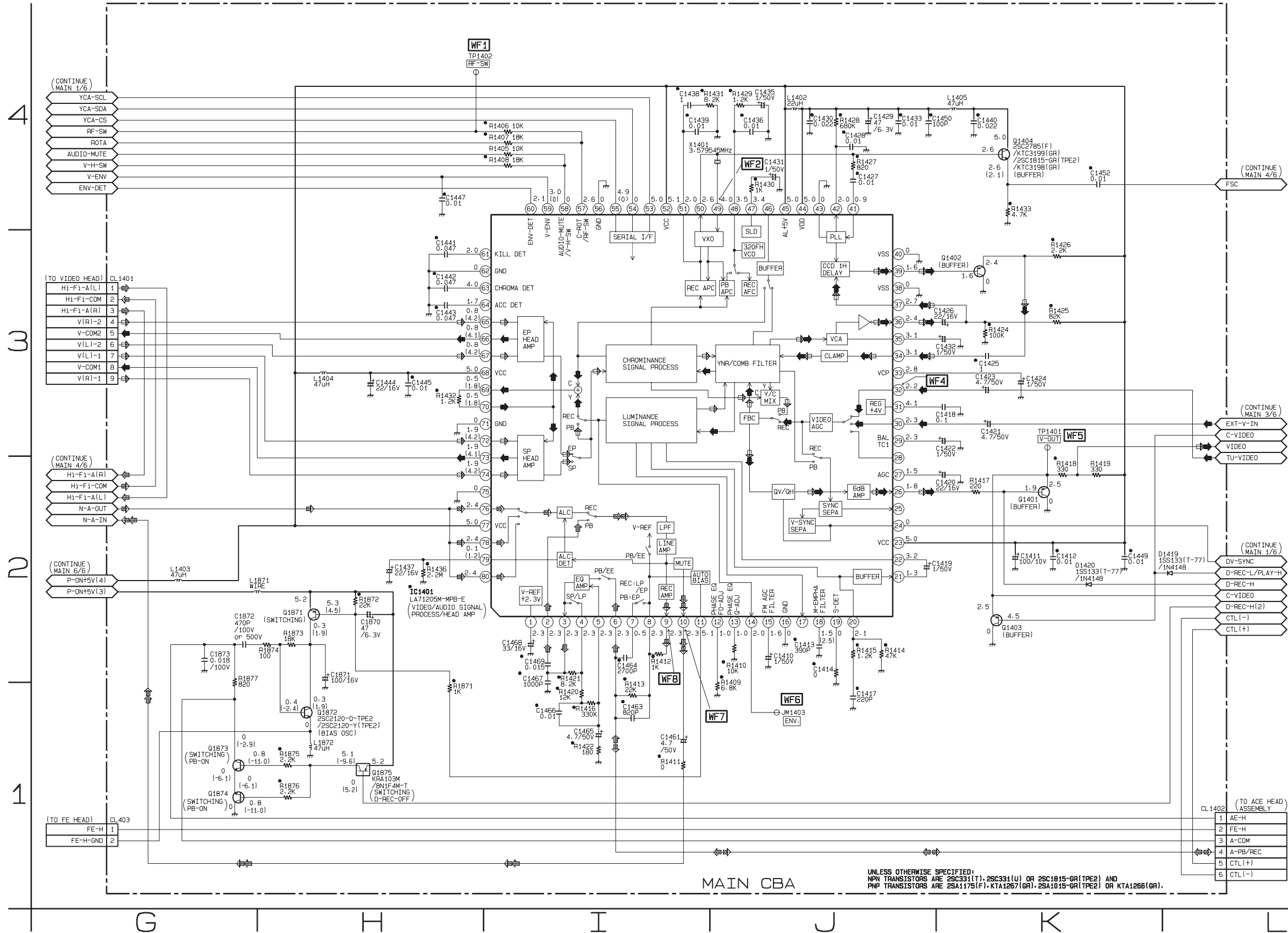
Main 2/6 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:

"●" = SMD



REC VIDEO SIGNAL PB VIDEO SIGNAL REC AUDIO SIGNAL PB AUDIO SIGNAL



MAIN CBA

UNLESS OTHERWISE SPECIFIED:
NPN TRANSISTORS ARE 2SC331(T), 2SC331(U) OR 2SC1815-GR(TPE2) AND
PNP TRANSISTORS ARE 2SA1175(F), KTA1267(GR), 2SA1015-GR(TPE2) OR KTA1266(GR).

CL1402 (TO ACE HEAD ASSEMBLY)	
1	AE-H
2	FE-H
3	A-COM
4	A-PB/REC
5	CTL(+)
6	CTL(-)

Main 2/6 Schematic Diagram Parts Location Guide

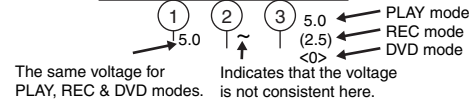
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		COILS		RESISTORS	
C1410	J-2	C1443	H-3	L1403	G-2	R1419	K-2
C1411	K-2	C1444	H-3	L1404	H-3	R1420	I-1
C1412	K-2	C1445	H-3	L1405	K-4	R1421	I-2
C1413	J-2	C1447	H-4	L1871	G-2	R1422	I-1
C1414	J-2	C1449	K-2	L1872	H-1	R1424	K-3
C1417	J-1	C1450	J-4	TRANSISTORS		R1425	K-3
C1418	K-3	C1452	K-4	Q1401	K-2	R1426	K-3
C1419	J-2	C1461	I-1	Q1402	K-3	R1427	J-4
C1420	K-2	C1463	I-1	Q1403	K-2	R1428	J-4
C1421	K-3	C1464	I-2	Q1404	K-4	R1429	J-4
C1422	K-3	C1465	I-1	Q1871	H-2	R1430	J-4
C1423	K-3	C1466	I-1	Q1872	H-1	R1431	I-4
C1424	K-3	C1467	I-2	Q1873	G-1	R1432	H-3
C1425	K-3	C1468	I-2	Q1874	G-1	R1433	K-4
C1426	K-3	C1469	I-2	Q1875	H-1	R1436	H-2
C1427	J-4	C1870	H-2	RESISTORS		R1871	H-1
C1428	J-4	C1871	H-2	R1405	I-4	R1872	H-2
C1429	J-4	C1872	G-2	R1406	I-4	R1873	H-2
C1430	J-4	C1873	G-2	R1407	I-4	R1874	H-2
C1431	J-4	CONNECTORS		R1408	I-4	R1875	H-1
C1432	K-3	CL403	G-1	R1409	J-1	R1876	H-1
C1433	J-4	CL1401	G-3	R1410	J-2	R1877	G-2
C1435	J-4	CL1402	L-1	R1411	I-1	CRYSTAL OSCILLATOR	
C1436	J-4	DIODES		R1412	I-2	X1401	I-4
C1437	H-2	D1419	L-2	R1413	I-1	TEST POINTS	
C1438	I-4	D1420	K-2	R1414	J-2	JM1403	J-1
C1439	I-4	IC		R1415	J-2	TP1401	K-3
C1440	K-4	IC1401	H-2	R1416	I-1	TP1402	H-4
C1441	H-3	COILS		R1417	K-2		
C1442	H-3	L1402	J-4	R1418	K-2		

Main 3/6 Schematic Diagram Parts Location Guide

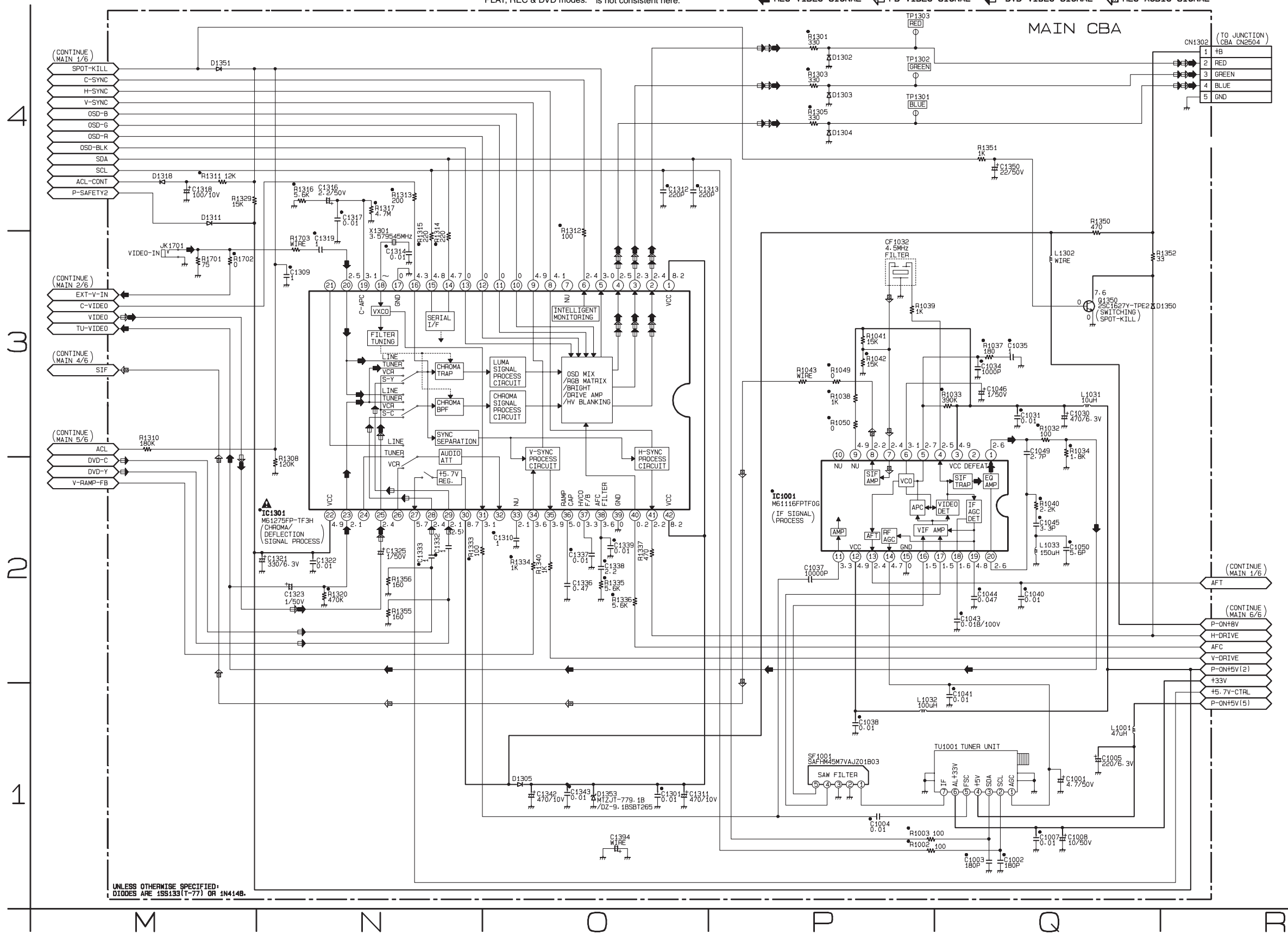
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		COILS		RESISTORS	
C1001	Q-1	C1321	N-2	L1032	P-1	R1320	N-2
C1002	Q-1	C1322	N-2	L1033	Q-2	R1329	M-4
C1003	Q-1	C1323	N-2	L1302	Q-3	R1333	N-2
C1004	P-1	C1325	N-2	TRANSISTOR		R1334	O-2
C1005	Q-1	C1332	N-2	Q1350	Q-3	R1335	O-2
C1007	Q-1	C1333	N-2	RESISTORS		R1336	O-2
C1008	Q-1	C1336	O-2	R1002	P-1	R1337	O-2
C1030	Q-3	C1337	O-2	R1003	P-1	R1340	O-2
C1031	Q-3	C1338	O-2	R1032	Q-3	R1350	Q-4
C1034	Q-3	C1339	O-2	R1033	Q-3	R1351	Q-4
C1035	Q-3	C1342	O-1	R1034	Q-3	R1352	Q-3
C1037	P-2	C1343	O-1	R1037	Q-3	R1355	N-2
C1038	P-1	C1350	Q-4	R1038	P-3	R1356	N-2
C1040	Q-2	C1394	O-1	R1039	P-3	R1701	M-3
C1041	Q-1	CONNECTOR		R1040	Q-2	R1702	M-3
C1043	Q-2	CN1302	R-4	R1041	P-3	R1703	N-3
C1044	Q-2	DIODES		R1042	P-3	CRYSTAL OSCILLATOR	
C1045	Q-2	D1302	P-4	R1043	P-3	X1301	N-3
C1046	Q-3	D1303	P-4	R1049	P-3	MISCELLANEOUS	
C1049	Q-3	D1304	P-4	R1050	P-3	CF1032	P-3
C1050	Q-2	D1305	O-1	R1301	P-4	JK1701	M-3
C1301	O-1	D1311	M-4	R1303	P-4	SF1001	P-1
C1309	N-3	D1318	M-4	R1305	P-4	TU1001	Q-1
C1310	O-2	D1350	Q-3	R1308	N-2	TEST POINTS	
C1311	O-1	D1351	M-4	R1310	M-3	TP1301	P-4
C1312	O-4	D1353	O-1	R1311	M-4	TP1302	P-4
C1313	O-4	ICS		R1312	O-3	TP1303	P-4
C1314	N-3	IC1001	Q-2	R1313	N-4		
C1316	N-4	IC1301	N-2	R1314	N-3		
C1317	N-4	COILS		R1315	N-3		
C1318	M-4	L1001	Q-1	R1316	N-4		
C1319	N-3	L1031	Q-3	R1317	N-4		

Main 3/6 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



*● = SMD



UNLESS OTHERWISE SPECIFIED:
DIODES ARE 1SS133(T-77) OR 1N4148.

Main 4/6 Schematic Diagram Parts Location Guide

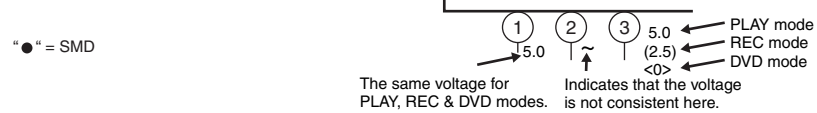
Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		RESISTORS	
C1701	V-3	C1782	T-3	R1737	T-3
C1702	V-3	C1783	T-3	R1739	T-3
C1722	V-1	C1784	T-4	R1743	T-2
C1732	V-1	C1786	T-3	R1744	T-2
C1740	V-3	C1787	T-2	R1745	V-3
C1741	T-2	C1788	T-3	R1750	U-2
C1747	V-2	C1790	T-2	R1751	U-1
C1749	T-2	C1791	T-2	R1752	U-1
C1751	V-2	C1792	T-3	R1753	U-2
C1752	U-1	C1793	T-3	R1754	U-3
C1753	V-2	C1796	U-2	R1755	V-3
C1754	U-2	C1797	T-2	R1756	V-3
C1755	U-2	C1798	V-4	R1757	T-4
C1756	U-1	C1799	V-3	R1764	V-3
C1757	U-1	DIODE		R1769	V-3
C1758	V-3	D1751	V-3	R1770	U-4
C1760	V-2	IC		R1771	U-4
C1761	V-3	IC1701	T-2	R1772	W-3
C1763	V-2	COILS		R1773	V-3
C1764	V-3	L1751	V-3	R1774	V-3
C1765	V-2	L1752	U-4	R1780	T-2
C1766	U-3	L1754	U-4	R1781	T-2
C1769	V-3	TRANSISTOR		MISCELLANEOUS	
C1772	V-4	Q1701	W-3	JK1702	W-1
C1773	V-4	RESISTORS		JK1703	W-1
C1774	T-3	R1731	W-1	TEST POINTS	
C1777	U-4	R1732	V-1	TP1701	S-3
C1778	T-4	R1734	W-1	TP1702	S-3
C1781	T-2	R1735	V-1	TP1703	T-2

Main 5/6 Schematic Diagram Parts Location Guide

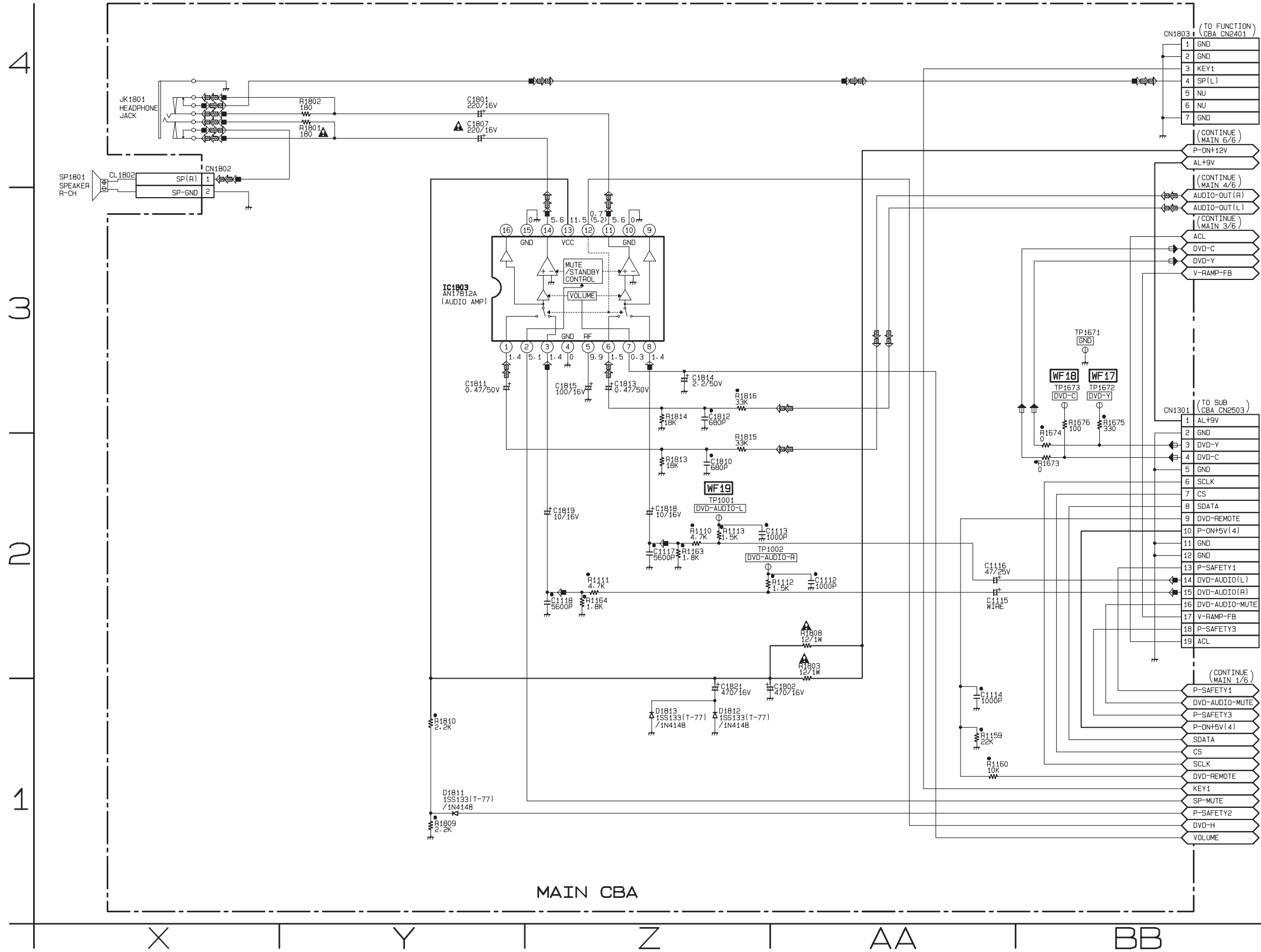
Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CONNECTORS		RESISTORS	
C1112	AA-2	CN1802	X-4	R1801	Y-4
C1113	Z-2	CN1803	BB-4	R1802	Y-4
C1114	AA-1	DIODES		R1803	AA-2
C1115	AA-2	D1811	Y-1	R1808	AA-2
C1116	AA-2	D1812	Z-1	R1809	Y-1
C1117	Z-2	D1813	Z-1	R1810	Y-1
C1118	Z-2	IC		R1813	Z-2
C1801	Y-4	IC1803	Y-3	R1814	Z-3
C1802	AA-1	RESISTORS		R1815	Z-2
C1807	Y-4	R1110	Z-2	R1816	Z-3
C1810	Z-2	R1111	Z-2	MISCELLANEOUS	
C1811	Y-3	R1112	AA-2	JK1801	X-4
C1812	Z-3	R1113	Z-2	TEST POINTS	
C1813	Z-3	R1159	AA-1	TP1001	Z-2
C1814	Z-3	R1160	AA-1	TP1002	Z-2
C1815	Z-3	R1163	Z-2	TP1671	BB-3
C1818	Z-2	R1164	Z-2	TP1672	BB-3
C1819	Z-2	R1673	BB-2	TP1673	BB-3
C1821	Z-1	R1674	BB-2		
CONNECTORS		R1675	BB-3		
CN1301	BB-3	R1676	BB-3		

Main 5/6 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



◀ DVD VIDEO SIGNAL ◀ REC AUDIO SIGNAL ◀ PB AUDIO SIGNAL ◀ DVD AUDIO SIGNAL



MAIN CBA

Main 6/6 Schematic Diagram < TV/VCR Section >

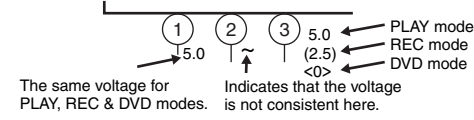
CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

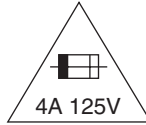
NOTE:

The voltage for parts in hot circuit is measured using hot GND as a common terminal.

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:

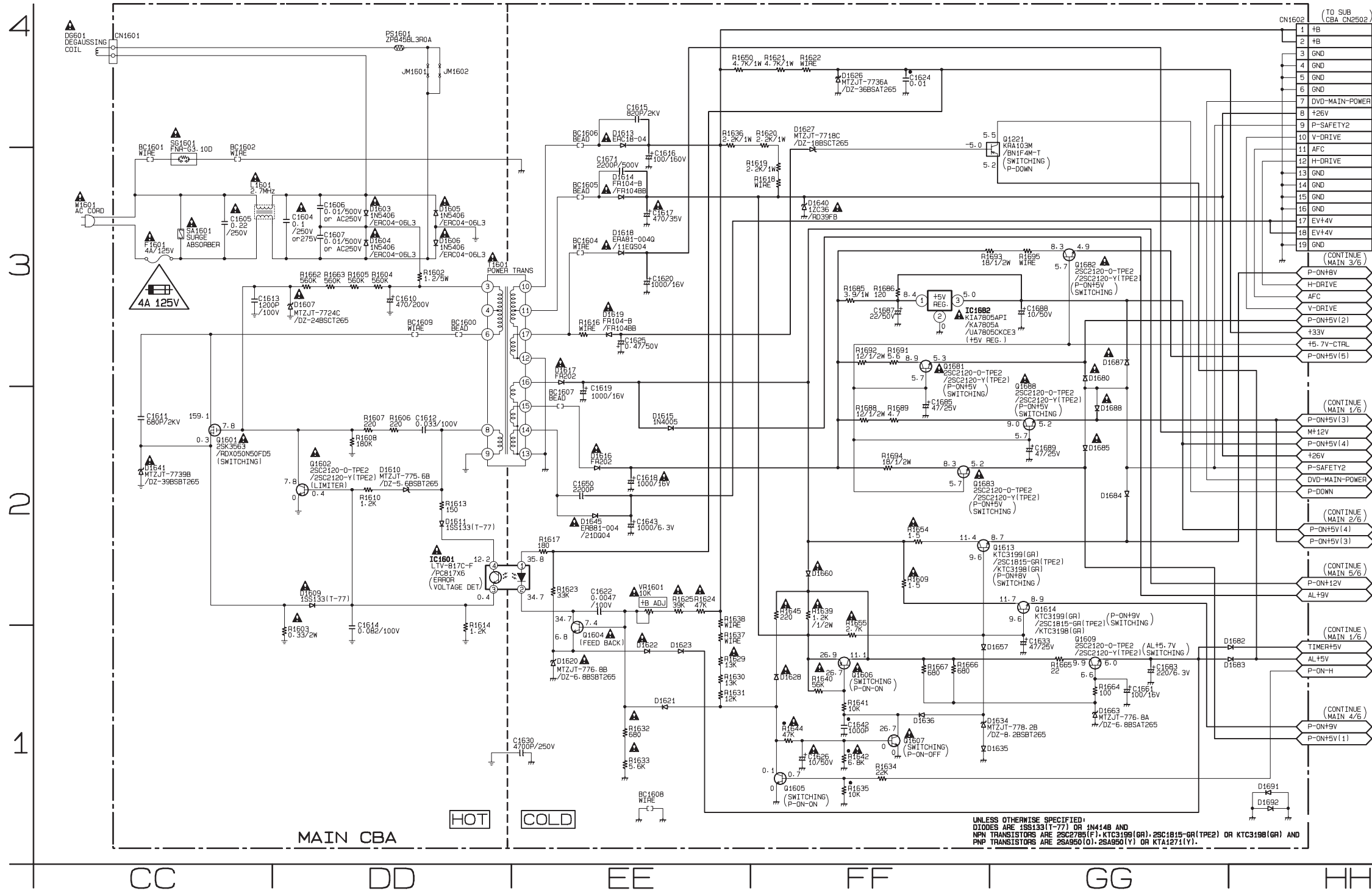


"•" = SMD



CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.

ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.



UNLESS OTHERWISE SPECIFIED:
DIODES ARE 1SS133(T-77) OR 1N4148 AND
NPN TRANSISTORS ARE 2SC2785(F), KTC3199(GR), 2SC1815-GR(TPE2) OR KTC3198(GR) AND
PNP TRANSISTORS ARE 2SA950(O), 2SA950(Y) OR KTA1271(Y).

VOLTAGE CHART (Power off mode)

Ref. No.	1	2	3	4
IC1601	12.0	10.9	0.3	1.6
IC1682	3.1	0	1.9	
Ref. No.	S	D	G	
Q1601	0	164.2	1.8	
Ref. No.	E	C	B	
Q1221	5.3	5.3	3.5	
Q1602	0	1.8	0.3	
Q1604	6.8	10.9	7.4	
Q1605	0	8.0	0	
Q1606	9.2	9.2	8.6	
Q1607	0	0.1	0.7	
Q1609	5.9	8.2	6.5	
Q1613	0.8	8.1	1.4	
Q1614	0.9	8.1	1.4	
Q1681	0.4	3.2	0.9	
Q1682	0.3	3.2	0.9	
Q1683	0.8	3.2	0.9	
Q1688	0.3	3.2	0.9	

Main 6/6 Schematic Diagram Parts Location Guide

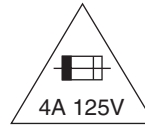
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		TRANSISTORS		RESISTORS	
C1604	DD-3	D1611	DD-2	Q1604	EE-1	R1638	EE-2
C1605	CC-3	D1613	EE-4	Q1605	FF-1	R1639	FF-2
C1606	DD-3	D1614	EE-3	Q1606	FF-1	R1640	FF-1
C1607	DD-3	D1615	EE-2	Q1607	FF-1	R1641	FF-1
C1610	DD-3	D1616	EE-2	Q1609	GG-1	R1642	FF-1
C1611	CC-2	D1617	EE-3	Q1613	GG-2	R1644	FF-1
C1612	DD-2	D1618	EE-3	Q1614	GG-2	R1645	FF-2
C1613	CC-3	D1619	EE-3	Q1681	FF-3	R1650	EE-4
C1614	DD-2	D1620	EE-1	Q1682	GG-3	R1654	FF-2
C1615	EE-4	D1621	EE-1	Q1683	FF-2	R1655	FF-2
C1616	EE-3	D1622	EE-1	Q1688	GG-2	R1662	DD-3
C1617	EE-3	D1623	EE-1	RESISTORS		R1663	DD-3
C1618	EE-2	D1626	FF-4	R1602	DD-3	R1664	GG-1
C1619	EE-2	D1627	FF-4	R1603	DD-1	R1665	GG-1
C1620	EE-3	D1628	FF-1	R1604	DD-3	R1666	FF-1
C1622	EE-2	D1634	GG-1	R1605	DD-3	R1667	FF-1
C1624	FF-4	D1635	GG-1	R1606	DD-2	R1685	FF-3
C1625	EE-3	D1636	FF-1	R1607	DD-2	R1686	FF-3
C1626	FF-1	D1640	FF-3	R1608	DD-2	R1688	FF-2
C1630	EE-1	D1641	CC-2	R1609	FF-2	R1689	FF-2
C1633	GG-1	D1645	EE-2	R1610	DD-2	R1691	FF-3
C1642	FF-1	D1657	GG-1	R1613	DD-2	R1692	FF-3
C1643	EE-2	D1660	FF-2	R1614	DD-2	R1693	GG-3
C1650	EE-2	D1663	GG-1	R1616	EE-3	R1694	FF-2
C1661	GG-1	D1680	GG-3	R1617	EE-2	R1695	GG-3
C1671	EE-3	D1682	HH-1	R1618	FF-3	MISCELLANEOUS	
C1683	GG-1	D1683	HH-1	R1619	FF-3	BC1600	DD-3
C1685	FF-2	D1684	GG-2	R1620	FF-4	BC1601	CC-3
C1687	FF-3	D1685	GG-2	R1621	FF-4	BC1602	CC-3
C1688	GG-3	D1687	GG-3	R1622	FF-4	BC1604	EE-3
C1689	GG-2	D1688	GG-2	R1623	EE-2	BC1605	EE-3
CONNECTORS		D1691	HH-1	R1624	EE-2	BC1606	EE-4
CN1601	CC-4	D1692	HH-1	R1625	EE-2	BC1607	EE-2
CN1602	HH-4	ICS		R1629	EE-1	BC1608	EE-1
DIODES		IC1601	DD-2	R1630	EE-1	BC1609	DD-3
D1603	DD-3	IC1682	FF-3	R1631	EE-1	F1601	CC-3
D1604	DD-3	COIL		R1632	EE-1	PS1601	DD-4
D1605	DD-3	L1601	CC-3	R1633	EE-1	SA1601	CC-3
D1606	DD-3	TRANSISTORS		R1634	FF-1	SG1601	CC-3
D1607	DD-3	Q1221	GG-4	R1635	FF-1	T1601	DD-3
D1609	DD-2	Q1601	CC-2	R1636	EE-4	VR1601	EE-2
D1610	DD-2	Q1602	DD-2	R1637	EE-1	W1601	CC-3

Main CBA Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		CAPACITORS		CAPACITORS		DIODES		ICS		RESISTORS		RESISTORS		RESISTORS		RESISTORS		SWITCHES	
C1001	F-1	C1257	A-4	C1447	C-4	C1765	D-4	D1303	E-1	IC1803	B-1	R1110	B-2	R1259	F-4	R1415	C-3	R1666	E-4	SW1202	A-3
C1002	G-1	C1258	B-5	C1449	C-3	C1766	C-4	D1304	E-1	COILS		R1111	B-1	R1260	B-4	R1416	D-3	R1667	F-4	SW1203	A-3
C1003	G-1	C1261	A-4	C1450	B-4	C1769	C-4	D1305	D-1	L1001	E-1	R1112	E-5	R1261	C-1	R1417	C-3	R1673	E-5	SW1206	A-5
C1004	E-1	C1264	C-1	C1452	C-4	C1772	C-4	D1311	D-1	L1031	E-1	R1113	E-5	R1262	A-5	R1418	C-3	R1674	F-5	SW1207	A-4
C1005	E-1	C1299	A-2	C1461	D-3	C1773	C-4	D1318	D-1	L1032	E-1	R1159	D-5	R1263	B-3	R1419	C-3	R1675	F-5	SW1208	A-4
C1007	F-1	C1301	D-1	C1463	C-3	C1774	C-4	D1350	E-1	L1033	F-1	R1160	B-5	R1267	B-2	R1420	D-3	R1676	F-5	SW1209	A-4
C1008	F-1	C1309	E-1	C1464	C-3	C1777	B-4	D1351	D-1	L1202	B-4	R1163	B-1	R1268	A-3	R1421	C-3	R1685	F-4	SW1210	A-3
C1030	F-1	C1310	D-1	C1465	D-3	C1778	D-4	D1353	D-1	L1203	B-4	R1164	B-1	R1269	A-3	R1422	D-3	R1686	E-4	SW1211	A-5
C1031	F-1	C1311	D-1	C1466	D-3	C1781	C-4	D1419	C-2	L1211	C-1	R1200	B-3	R1270	A-3	R1424	C-3	R1688	E-4	SW1212	B-1
C1034	F-1	C1312	D-1	C1467	D-3	C1782	C-5	D1420	B-5	L1302	E-3	R1201	A-2	R1272	A-3	R1425	C-3	R1689	E-4	CRYSTAL OSCILLATORS	
C1035	F-1	C1313	D-1	C1468	D-3	C1783	C-5	D1603	F-2	L1402	C-4	R1202	B-2	R1273	A-2	R1426	C-3	R1691	E-3	X1201	B-4
C1037	E-1	C1314	D-1	C1469	D-3	C1784	C-5	D1604	F-2	L1403	D-4	R1203	B-1	R1274	A-2	R1427	C-4	R1692	E-3	X1202	B-4
C1038	F-1	C1316	D-1	C1604	F-1	C1786	C-4	D1605	F-2	L1404	D-4	R1204	B-1	R1275	B-4	R1428	C-4	R1693	E-4	X1301	D-1
C1040	F-1	C1317	D-1	C1605	G-2	C1787	C-5	D1606	F-2	L1405	C-3	R1205	B-2	R1277	A-3	R1429	C-4	R1694	E-4	X1401	C-3
C1041	G-1	C1318	E-1	C1606	F-2	C1788	C-5	D1607	G-2	L1601	G-2	R1206	B-1	R1280	A-3	R1430	C-4	R1695	E-4	MISCELLANEOUS	
C1043	F-1	C1319	D-1	C1607	F-2	C1790	C-5	D1609	G-2	L1751	D-4	R1208	A-3	R1283	B-2	R1431	C-4	R1701	A-1	BC1600	F-3
C1044	F-1	C1321	D-1	C1610	F-2	C1791	C-5	D1610	G-2	L1752	C-4	R1209	B-3	R1284	B-2	R1432	C-4	R1702	A-1	BC1601	G-1
C1045	F-1	C1322	D-2	C1611	G-2	C1792	C-5	D1611	G-3	L1754	B-4	R1210	A-2	R1285	B-2	R1433	C-4	R1703	A-1	BC1602	G-1
C1046	F-1	C1323	C-2	C1612	G-3	C1793	C-5	D1613	G-4	L1871	D-3	R1211	A-3	R1286	B-2	R1436	D-4	R1731	A-1	BC1604	F-3
C1049	F-1	C1325	D-1	C1613	G-3	C1796	C-5	D1614	G-4	L1872	D-3	R1212	A-3	R1287	A-3	R1602	F-2	R1732	A-1	BC1605	F-4
C1050	F-1	C1332	D-2	C1614	G-2	C1797	C-5	D1615	F-4	TRANSISTORS		R1213	A-4	R1288	B-3	R1603	G-2	R1734	A-1	BC1606	G-3
C1112	E-5	C1333	D-1	C1615	G-4	C1798	D-5	D1616	F-4	Q1205	A-4	R1214	A-4	R1289	B-2	R1604	F-3	R1735	A-1	BC1607	F-3
C1113	E-5	C1336	D-1	C1616	G-4	C1799	D-4	D1617	F-4	Q1206	B-3	R1215	A-4	R1290	B-3	R1605	F-3	R1737	B-5	BC1608	G-4
C1114	D-5	C1337	E-1	C1617	G-4	C1801	A-2	D1618	F-4	Q1221	E-4	R1216	A-4	R1291	B-5	R1606	G-2	R1739	C-5	BC1609	F-2
C1115	E-5	C1338	D-1	C1618	F-4	C1802	C-2	D1619	E-3	Q1350	E-1	R1217	A-4	R1292	B-4	R1607	G-2	R1743	C-5	CF1032	F-1
C1116	E-5	C1339	D-1	C1619	F-4	C1807	A-2	D1620	G-4	Q1401	C-3	R1218	A-4	R1294	B-4	R1608	G-3	R1744	C-5	F1601	G-2
C1117	B-1	C1342	D-1	C1620	E-3	C1810	A-1	D1621	G-3	Q1402	C-3	R1219	A-5	R1298	A-2	R1609	D-3	R1745	B-4	JK1701	A-2
C1118	B-1	C1343	D-1	C1622	G-3	C1811	B-1	D1622	G-4	Q1403	C-3	R1220	B-5	R1299	B-3	R1610	G-2	R1750	D-5	JK1702	A-1
C1203	B-5	C1350	E-1	C1624	F-4	C1812	B-1	D1623	E-4	Q1404	C-4	R1221	A-4	R1301	D-1	R1613	G-3	R1751	D-5	JK1703	A-1
C1207	A-2	C1394	F-5	C1625	E-3	C1813	B-1	D1626	F-4	Q1601	F-2	R1222	A-2	R1303	D-1	R1614	G-2	R1752	D-5	JK1801	A-2
C1208	A-4	C1410	C-3	C1626	F-5	C1814	B-1	D1627	E-3	Q1602	G-2	R1223	A-4	R1305	D-1	R1616	F-3	R1753	C-5	PS1601	F-1
C1210	A-4	C1411	C-3	C1630	G-3	C1815	B-1	D1628	F-4	Q1604	G-3	R1224	A-5	R1308	D-1	R1617	G-3	R1754	C-4	RS1201	A-2
C1211	A-4	C1412	C-3	C1633	E-3	C1818	B-1	D1634	F-4	Q1605	E-5	R1225	A-2	R1310	E-1	R1618	G-5	R1755	C-4	SA1601	G-2
C1212	A-4	C1413	C-3	C1642	F-5	C1819	B-1	D1635	F-5	Q1606	F-5	R1226	A-2	R1311	D-1	R1619	G-5	R1756	C-4	SF1001	F-1
C1213	B-4	C1414	C-3	C1643	F-4	C1821	C-1	D1636	F-4	Q1607	F-5	R1227	C-3	R1312	D-1	R1620	G-5	R1757	D-5	SG1601	G-1
C1214	A-4	C1417	C-3	C1650	F-4	C1870	D-3	D1640	F-4	Q1609	E-4	R1229	A-4	R1313	D-1	R1621	G-4	R1764	C-4	T1601	F-3
C1216	A-4	C1418	C-3	C1661	E-5	C1871	D-3	D1641	G-2	Q1613	E-3	R1231	A-3	R1314	D-1	R1622	F-4	R1769	C-4	TU1001	G-1
C1217	B-4	C1419	C-3	C1671	F-4	C1872	D-3	D1645	F-4	Q1614	D-4	R1232	B-5	R1315	D-1	R1623	G-4	R1770	C-4	VR1601	G-4
C1218	B-4	C1420	C-3	C1683	E-5	C1873	D-3	D1657	F-4	Q1681	E-3	R1233	A-4	R1316	D-1	R1624	G-4	R1771	C-4	W1601	G-2
C1219	B-4	C1421	C-3	C1685	E-3	CONNECTORS		D1660	F-4	Q1682	E-4	R1234	A-4	R1317	D-1	R1625	G-4	R1772	D-5	TEST POINTS	
C1220	B-5	C1422	C-3	C1687	F-4	CL403	D-5	D1663	F-4	Q1683	E-4	R1235	A-4	R1320	D-2	R1629	G-4	R1773	D-4	JM1403	D-5
C1221	B-5	C1423	C-3	C1688	E-4	CL1201	D-1	D1680	E-3	Q1688	E-4	R1236	A-4	R1329	D-1	R1630	G-5	R1774	D-5	TP1001	E-5
C1222	B-3	C1424	C-3	C1689	E-4	CL1401	D-4	D1682	E-4	Q1701	D-4	R1237	A-4	R1333	E-1	R1631	G-5	R1780	C-5	TP1002	E-5
C1223	B-3	C1425	C-3	C1701	D-4	CL1402	D-2	D1683	E-5	Q1871	D-3	R1238	B-4	R1334	E-2	R1632	G-3	R1781	C-5	TP1202	B-5
C1224	B-3	C1426	C-3	C1702	C-4	CN1301	F-5	D1684	E-4	Q1872	D-3	R1239	B-4	R1335	E-1	R1633	G-3	R1801	A-2	TP1301	F-5
C1225	B-3	C1427	C-4	C1722	A-1	CN1302	F-5	D1685	D-4	Q1873	D-3	R1240	A-4	R1336	E-2	R1634	C-5	R1802	A-2	TP1302	F-5
C1226	B-3	C1428	C-4	C1732	A-1	CN1601	F-1	D1687	E-4	Q1874	D-3	R1241	A-4	R1337	D-1	R1635	E-5	R1803	E-3	TP1303	E-5
C1233	A-5	C1429	C-4	C1740	D-4	CN1602	G-5	D1688	D-3	Q1875	D-3	R1243	B-3	R1340	D-1	R1636	G-5	R1808	E-3	TP1401	C-1
C1234	C-3	C1430	C-4	C1741	C-5	CN1802	B-1	D1691	E-2	RESISTORS		R1244	B-3	R1350	E-1	R1637	G-4	R1809	B-1	TP1402	B-5
C1235	B-3	C1431	C-4	C1747	C-4	CN1803	A-5	D1692	E-2	R1002	G-1	R1245	B-3	R1351	E-1	R1638	G-4	R1810	B-1	TP1671	F-5
C1239	A-3	C1432	C-3	C1749	C-4	DIODES		D1751	C-4	R1003	G-1	R1246	B-3	R1352	E-1	R1639	F-4	R1813	A-1	TP1672	F-5
C1240	A-3	C1433	B-4	C1751	D-4	D1204	A-4	D1811	B-1	R1032	F-1	R1247	B-3	R1355	E-5	R1640	F-4	R1814	B-1	TP1673	F-5
C1241	A-2	C1435	C-4	C1752	C-5	D1216	A-5	D1812	A-1	R1033	F-1	R1248	B-3	R1356	E-5	R1641	F-5	R1815	A-1	TP1701	B-1
C1243	A-3	C1436	C-4	C1753	D-5	D1217	A-5	D1813	A-1	R1034	F-1	R1249	B-3	R1405	B-4	R1642	F-5	R1816	B-1	TP1702	C-1
C1244	A-3	C1437	D-4	C1754	C-5	D1219	B-5	ICS		R1037	F-1	R1250	B-3	R1406	B-4	R1644	F-4	R1871	C-3	TP1703	D-5
C1245	A-3	C1438	C-4	C1755	D-5	D1224	C-3	IC1001	F-1	R1038	E-1	R1251	B-3	R1407	C-4	R1645	F-4	R1872	D-3		
C1246	A-3	C1439	C-4	C1756	D-5	D1229	C-1	IC1201	B-3	R1039	E-1	R1252	B-3	R1408	B-4	R1650	G-4	R1873	D-3		
C1247	A-3	C1440	C-4	C1757	D-5	D1230	C-1	IC1202	B-4	R1040	F-1	R1253	B-3	R1409	D-3	R1654	E-3	R1874	D-3		
C1249	A-3	C1441	C-4	C1758	D-5	D1231	C-1	IC1301	D-1	R1041	F-1	R1254	B-3	R1410	C-3	R1655	F-4	R1875	D-3		
C1251	A-3	C1442	C-4	C1760	D-4	D1232	C-1	IC1401	C-3	R1042	F-1	R1255	B-3	R1411	D-3	R1662	F-3	R1876	D-3		
C1252	D-1	C1443	C-4	C1761	D-4	D1234	C-1	IC1601	G-3	R1043	E-1	R1256	C-2	R1412	C-3	R1663	F-3	R1877	D-3		
C1253	C-1	C1444	C-4	C1763	D-4	D1237	A-2	IC1682	E-4	R1049	E-1	R1257	B-4	R1413	C-3	R1664	F-4	SWITCHES			
C1254	C-1	C1445	C-4	C1764	D-4	D1302	D-1	IC1701	C-5	R1050	E-1	R1258	B-3	R1414	C-3	R1665	E-4	SW1201	A-2		

Main CBA Top View < TV/VCR Section >

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.

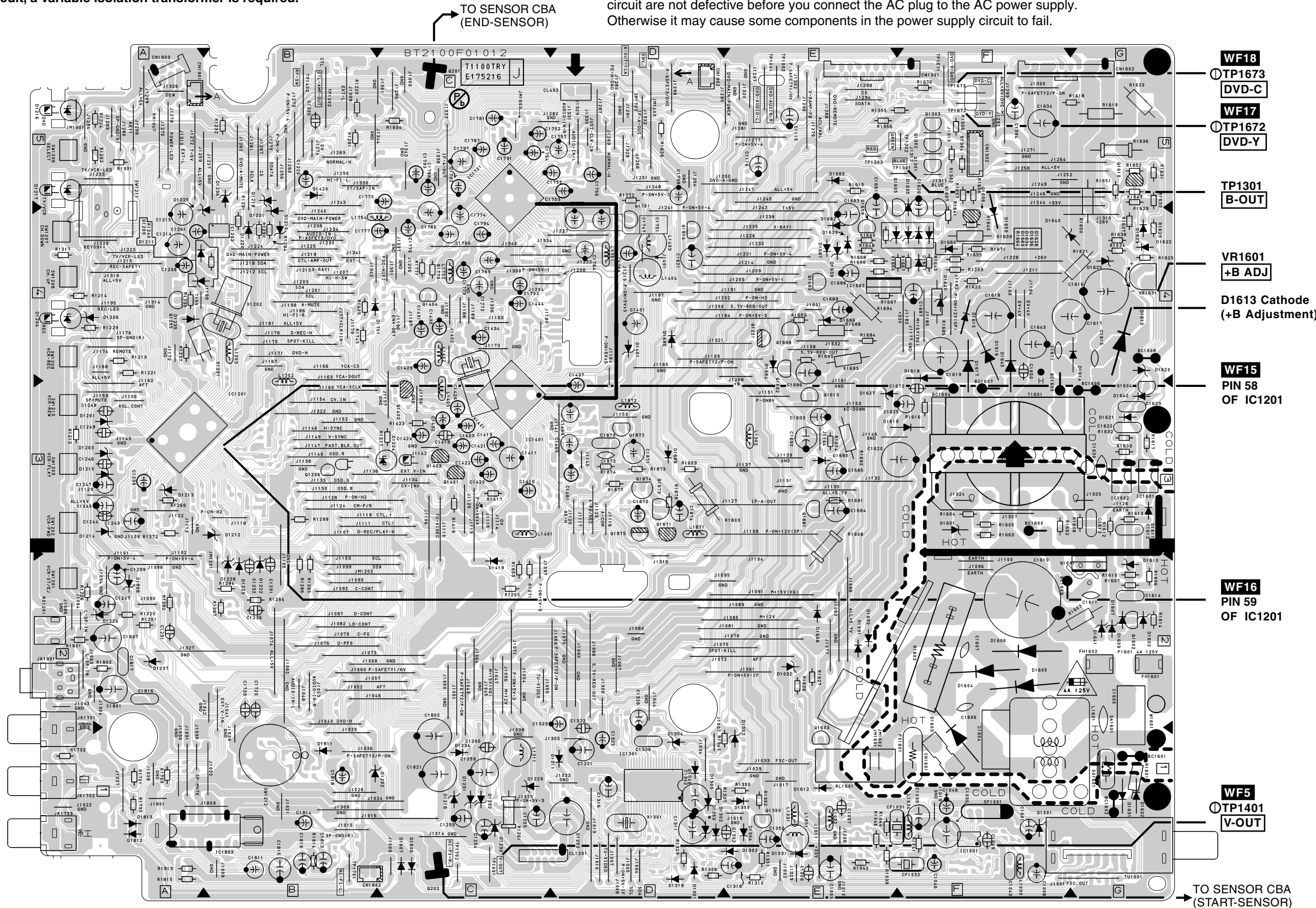
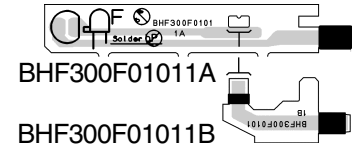


CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

NOTE: The voltage for parts in hot circuit is measured using hot GND as a common terminal.

CAUTION !
 Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
 If Main Fuse (F1601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

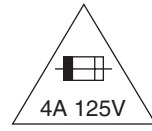
Sensor CBA Top View



- WF18
- TP1673 DVD-C
- WF17
- TP1672 DVD-Y
- TP1301 B-OUT
- VR1601 +B ADJ
- D1613 Cathode (+B Adjustment)
- WF15
- PIN 58 OF IC1201
- WF16
- PIN 59 OF IC1201
- WF5
- TP1401 V-OUT

Main CBA Bottom View < TV/VCR Section >

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.



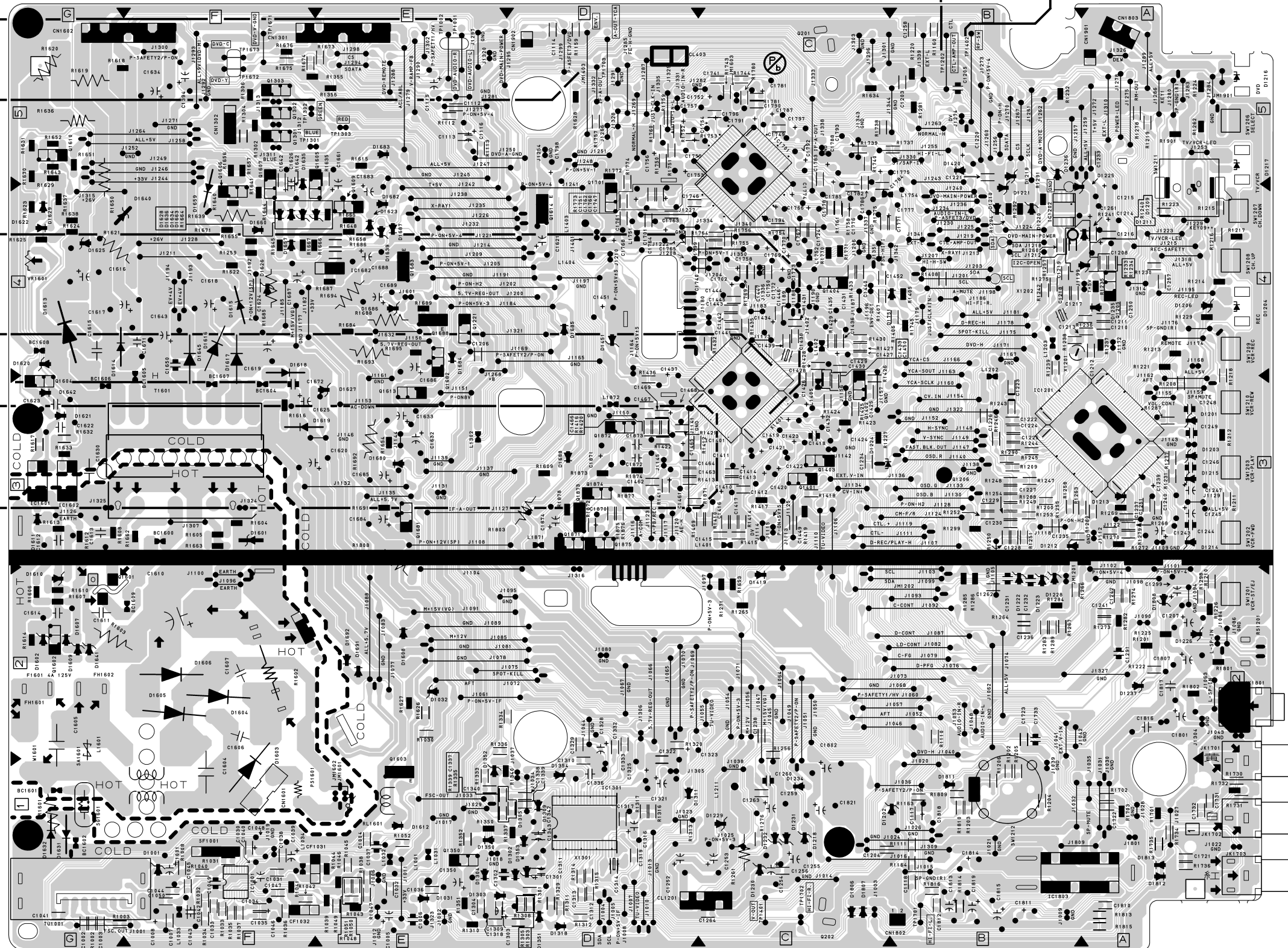
CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

CAUTION !
 Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F1601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

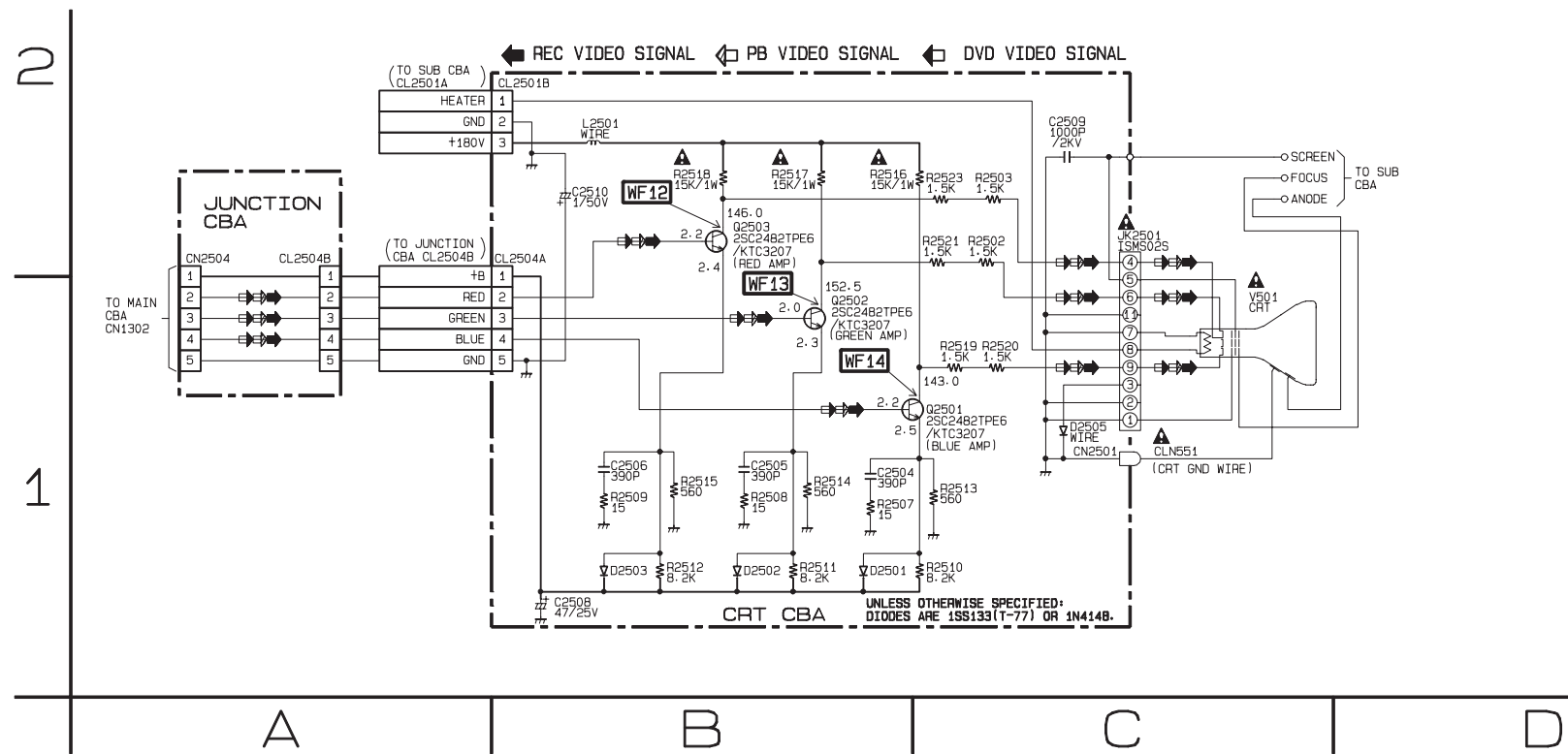
NOTE:
 The voltage for parts in hot circuit is measured using hot GND as a common terminal.

- WF19
TP1001
DVD-AUDIO-L
- WF6
JM1403
ENV.
- WF4
PIN 32
OF IC1401
- WF2
PIN 49
OF IC1401
- WF8
PIN 9
OF IC1401
- WF7
PIN 10
OF IC1401

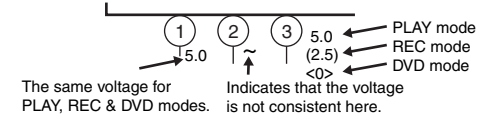
- WF3
TP1202
CTL-AMP-OUT
- WF1
TP1402
RF-SW



CRT & Junction Schematic Diagram < TV/VCR Section >



Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:

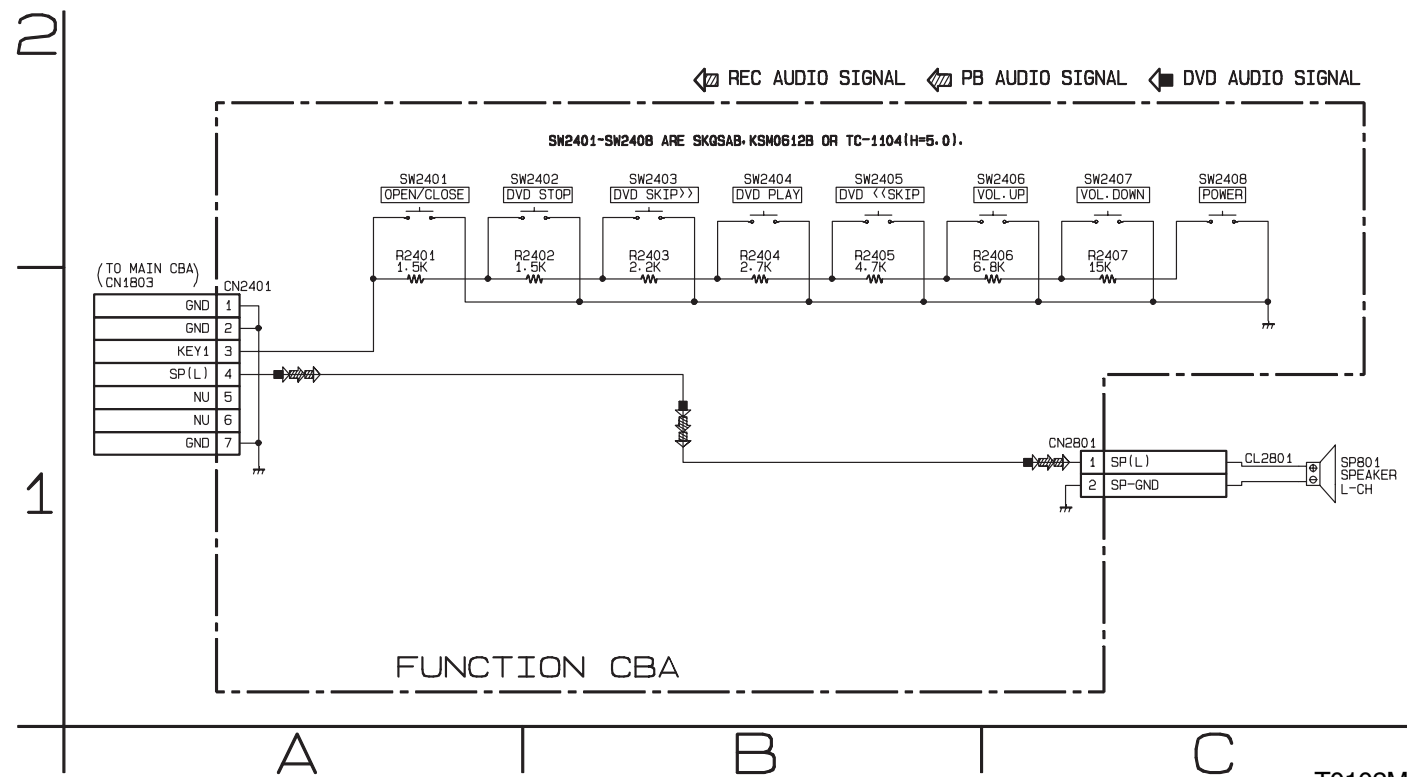


CRT SCHEMATIC DIAGRAM PARTS LOCATION GUIDE

Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		RESISTORS	
C2504	B-1	D2505	C-1	R2511	B-1
C2505	B-1	COIL		R2512	B-1
C2506	B-1	L2501	B-2	R2513	C-1
C2508	B-1	TRANSISTORS		R2514	B-1
C2509	C-2	Q2501	C-1	R2515	B-1
C2510	B-2	Q2502	B-1	R2516	B-2
CONNECTORS		Q2503	B-2	R2517	B-2
CL2501B	B-2	RESISTORS		R2518	B-2
CL2504A	B-2	R2502	C-2	R2519	C-1
CN2501	C-1	R2503	C-2	R2520	C-1
DIODES		R2507	B-1	R2521	C-2
D2501	B-1	R2508	B-1	R2523	C-2
D2502	B-1	R2509	B-1	MISCELLANEOUS	
D2503	B-1	R2510	C-1	JK2501	C-2

Function Schematic Diagram < TV/VCR Section >

T0102MCSCCRT



FUNCTION SCHEMATIC DIAGRAM PARTS LOCATION GUIDE

Ref No.	Position	Ref No.	Position
CONNECTORS		SWITCHES	
CN2401	A-1	SW2401	A-2
CN2801	C-1	SW2402	B-2
RESISTORS		SW2403	B-2
R2401	A-2	SW2404	B-2
R2402	B-2	SW2405	B-2
R2403	B-2	SW2406	C-2
R2404	B-2	SW2407	C-2
R2405	B-2	SW2408	C-2
R2406	C-2		
R2407	C-2		

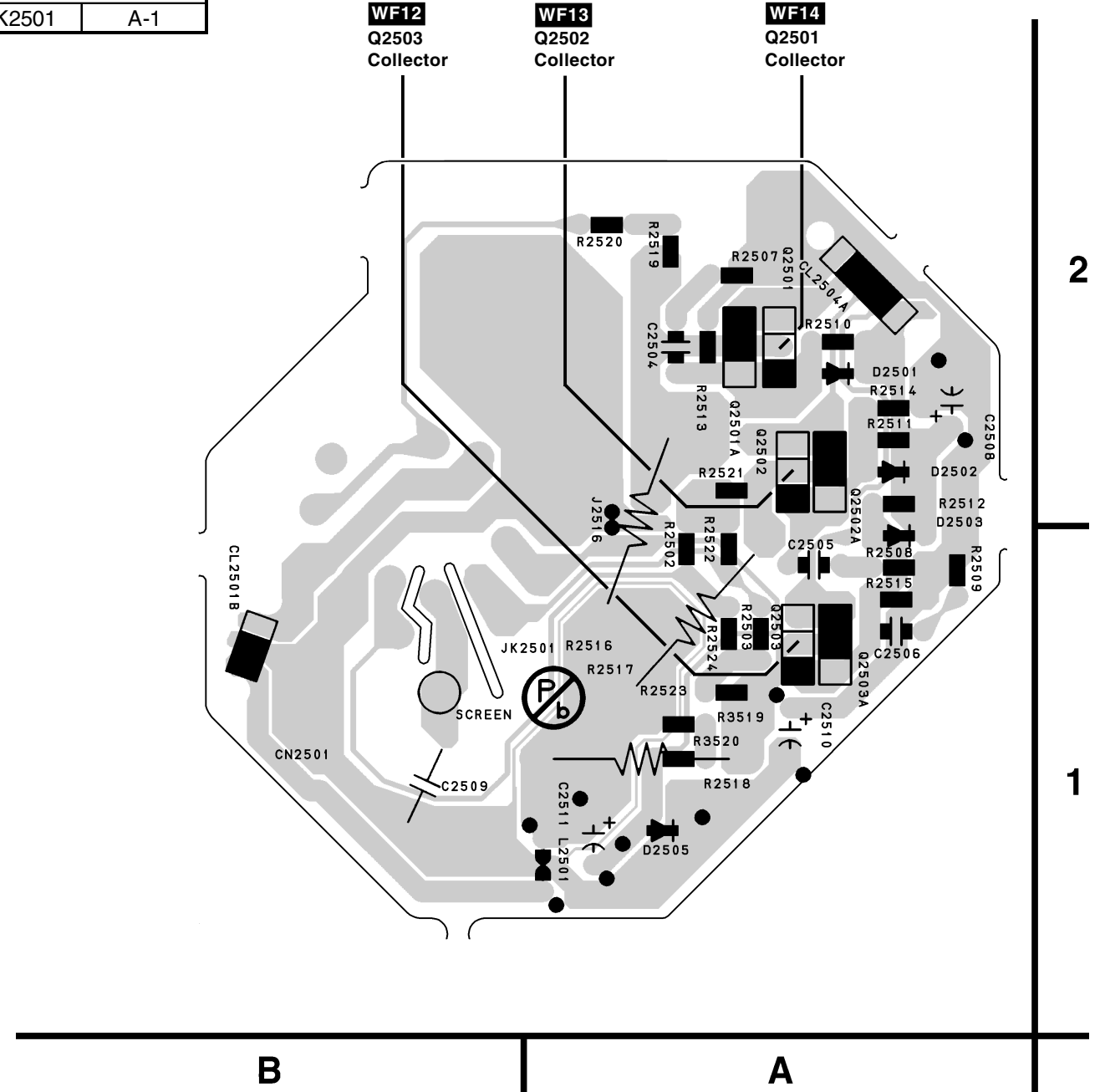
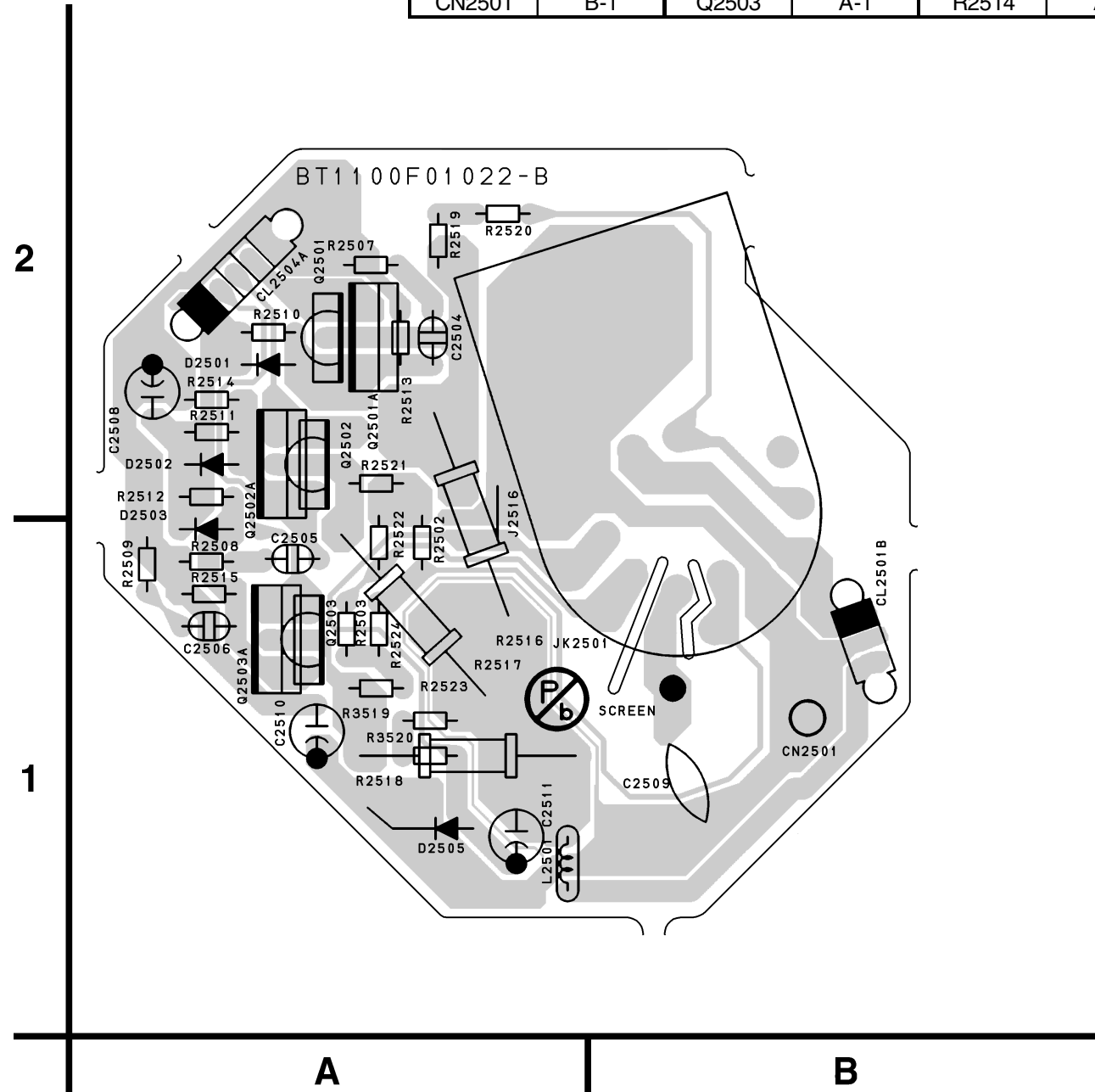
T0102MCSCF

CRT CBA Top View < TV/VCR Section >

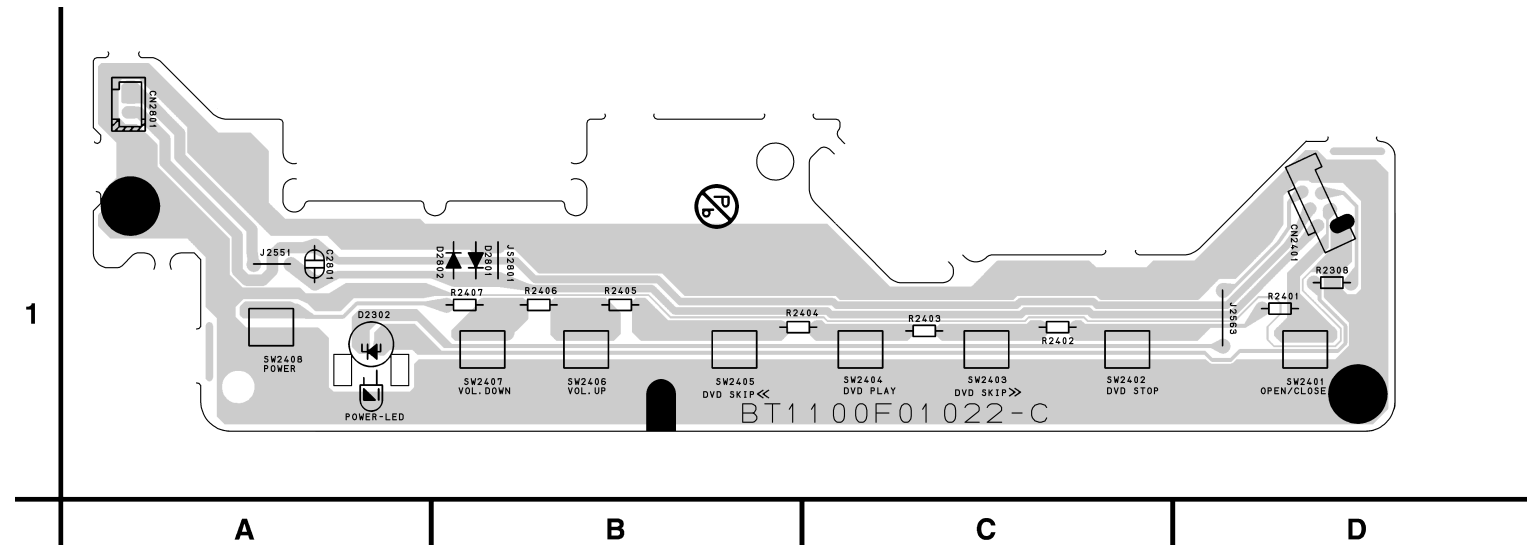
CRT CBA Bottom View < TV/VCR Section >

CRT CBA PARTS LOCATION GUIDE

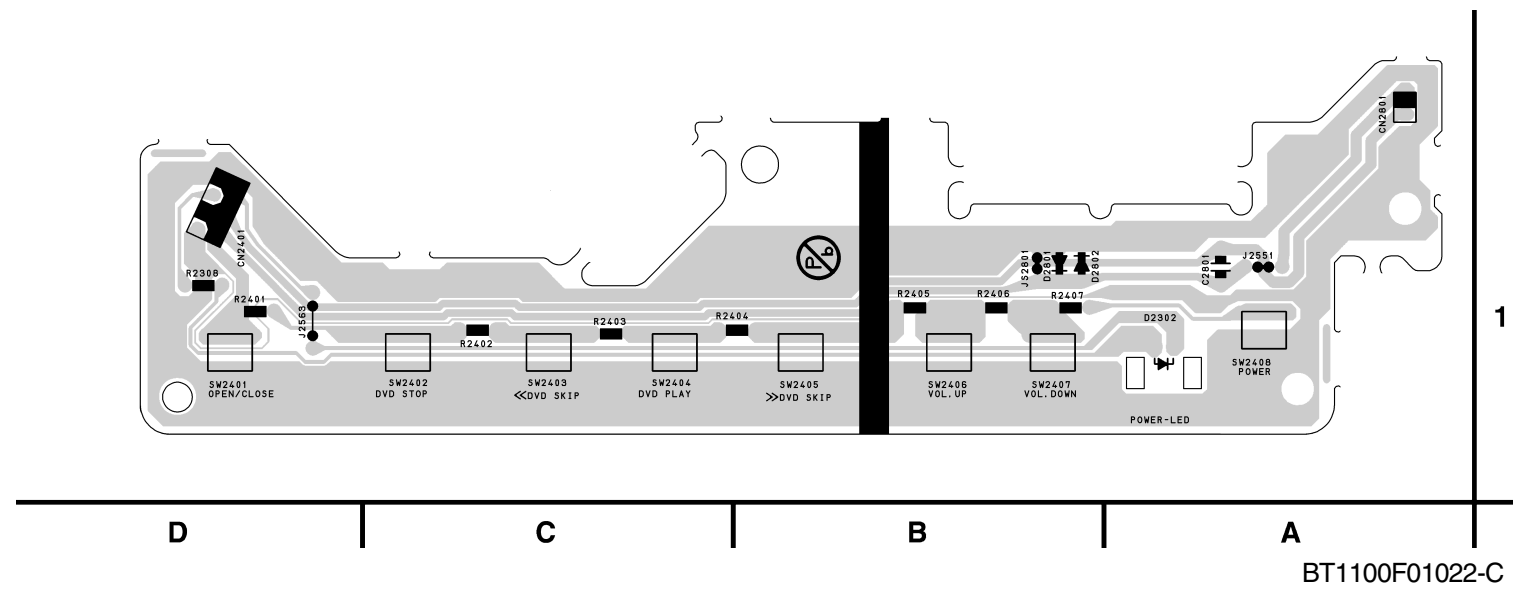
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		RESISTORS		RESISTORS	
C2504	A-2	D2501	A-2	R2502	A-1	R2515	A-1
C2505	A-1	D2502	A-2	R2503	A-1	R2516	A-1
C2506	A-1	D2503	A-1	R2507	A-2	R2517	A-1
C2508	A-2	D2505	A-1	R2508	A-1	R2518	A-1
C2509	B-1	COIL		R2509	A-1	R2519	A-2
C2510	A-1	L2501	A-1	R2510	A-2	R2520	A-2
CONNECTORS		TRANSISTORS		R2511	A-2	R2521	A-2
CL2501B	B-1	Q2501	A-2	R2512	A-2	R2523	A-1
CL2504A	A-2	Q2502	A-2	R2513	A-2	MISCELLANEOUS	
CN2501	B-1	Q2503	A-1	R2514	A-2	JK2501	A-1



Function CBA Top View < TV/VCR Section >



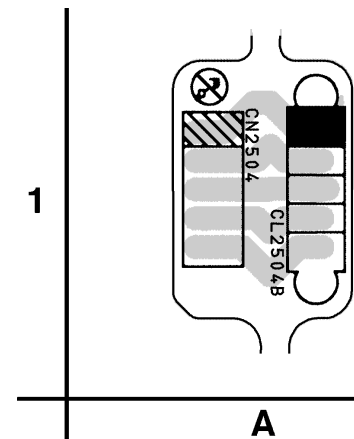
Function CBA Bottom View < TV/VCR Section >



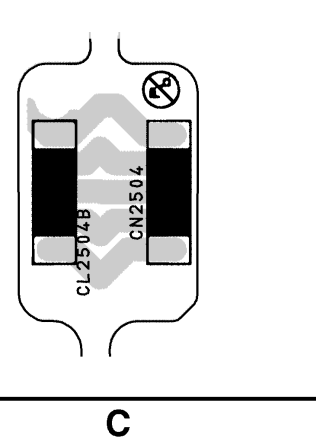
FUNCTION CBA PARTS LOCATION GUIDE

Ref No.	Position
CONNECTORS	
CN2401	D-1
CN2801	A-1
RESISTORS	
R2401	D-1
R2402	C-1
R2403	C-1
R2404	B-1
R2405	B-1
R2406	B-1
R2407	B-1
SWITCHES	
SW2401	D-1
SW2402	C-1
SW2403	C-1
SW2404	C-1
SW2405	B-1
SW2406	B-1
SW2407	B-1
SW2408	A-1

Junction CBA Top View



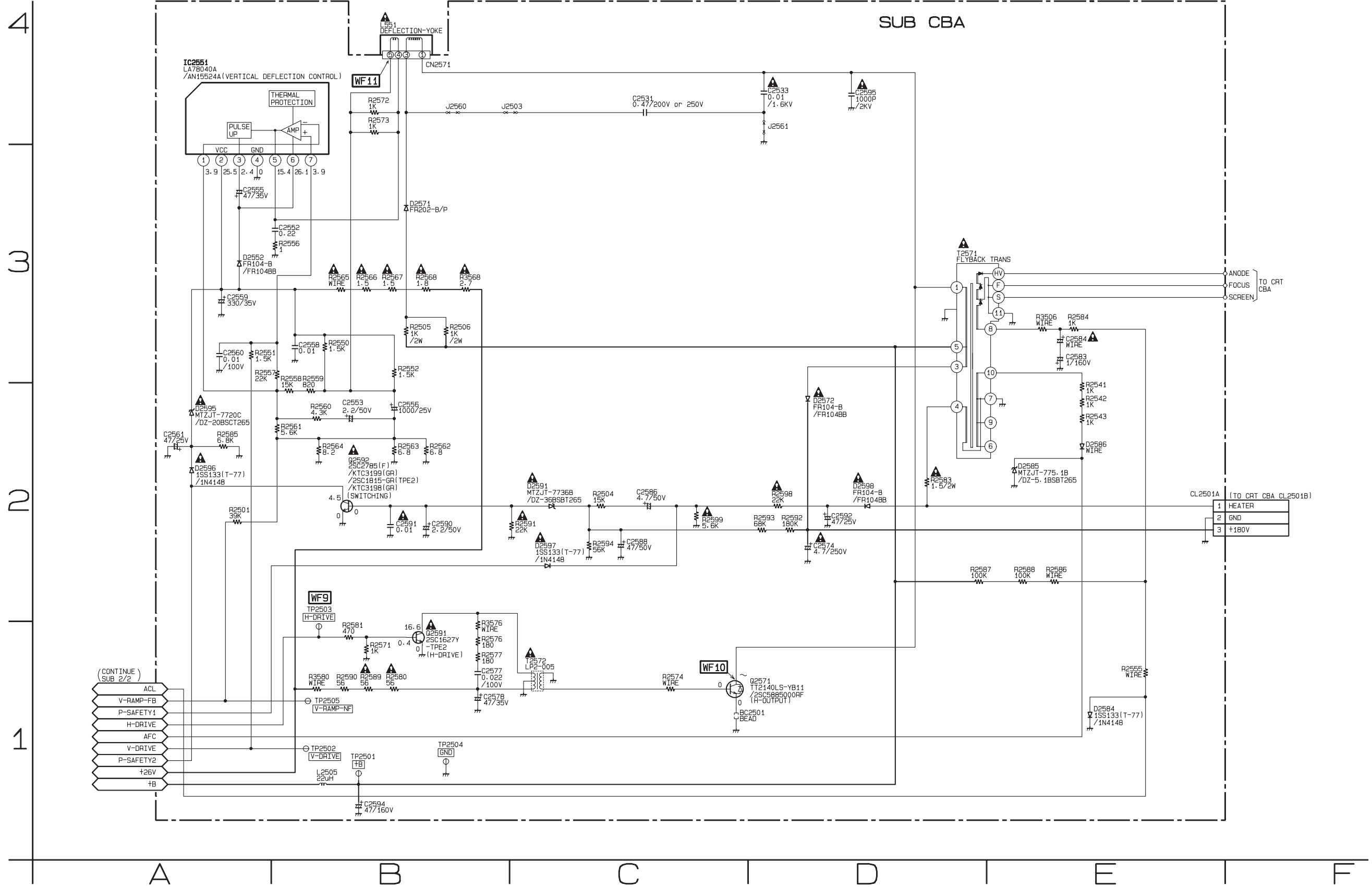
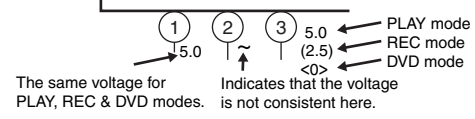
Junction CBA Bottom View



BT1100F01022

Sub 1/2 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



Sub 1/2 Schematic Diagram Parts Location Guide

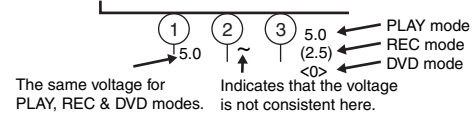
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		RESISTORS		RESISTORS	
C2531	C-4	D2571	B-3	R2551	A-3	R2586	E-2
C2533	D-4	D2572	D-2	R2552	B-3	R2587	D-2
C2552	B-3	D2584	E-1	R2555	E-1	R2588	E-2
C2553	B-2	D2585	E-2	R2556	B-3	R2589	B-1
C2555	A-3	D2586	E-2	R2557	A-3	R2590	B-1
C2556	B-2	D2591	C-2	R2558	B-3	R2591	C-2
C2558	B-3	D2595	A-2	R2559	B-3	R2592	D-2
C2559	A-3	D2596	A-2	R2560	B-2	R2593	D-2
C2560	A-3	D2597	C-2	R2561	B-2	R2594	C-2
C2561	A-2	D2598	D-2	R2562	B-2	R2598	D-2
C2574	D-2	IC		R2563	B-2	R2599	C-2
C2577	B-1	IC2551	A-4	R2564	B-2	R3506	E-3
C2578	B-1	COIL		R2565	B-3	R3568	B-3
C2583	E-3	L2505	B-1	R2566	B-3	R3576	B-1
C2584	E-3	TRANSISTORS		R2567	B-3	R3580	B-1
C2586	C-2	Q2571	D-1	R2568	B-3	MISCELLANEOUS	
C2588	C-2	Q2591	B-1	R2571	B-1	BC2501	C-1
C2590	B-2	Q2592	B-2	R2572	B-4	T2571	D-3
C2591	B-2	RESISTORS		R2573	B-4	T2572	C-1
C2592	D-2	R2501	A-2	R2574	C-1	TEST POINTS	
C2594	B-1	R2504	C-2	R2576	B-1	TP2501	B-1
C2595	D-4	R2505	B-3	R2577	B-1	TP2502	B-1
CONNECTORS		R2506	B-3	R2580	B-1	TP2503	B-2
CL2501A	E-2	R2541	E-2	R2581	B-1	TP2504	B-1
CN2571	B-4	R2542	E-2	R2583	D-2	TP2505	B-1
DIODES		R2543	E-2	R2584	E-3		
D2552	A-3	R2550	B-3	R2585	A-2		

Sub 2/2 Schematic Diagram Parts Location Guide

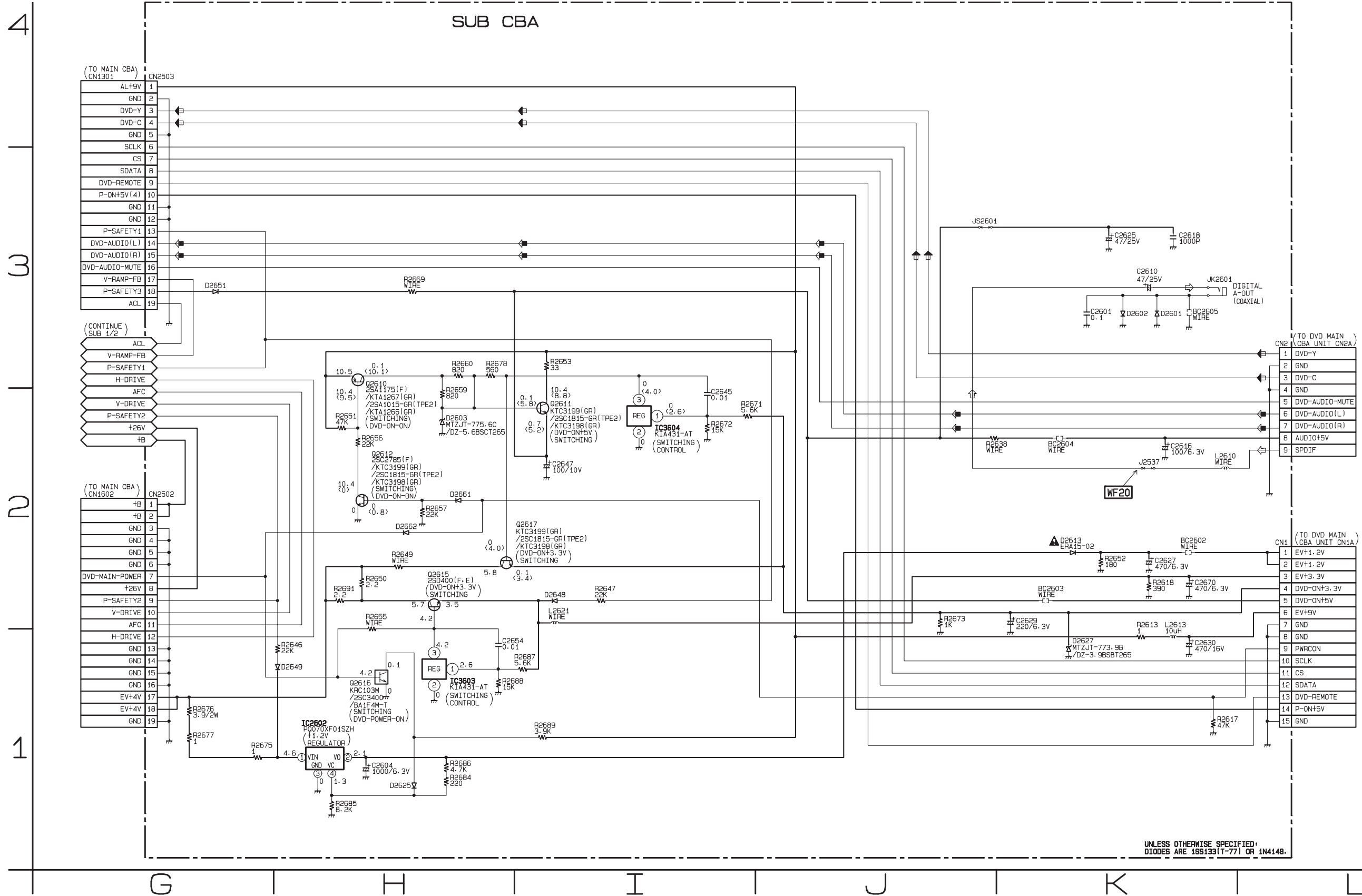
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		TRANSISTORS		RESISTORS	
C2601	K-3	D2603	H-2	Q2615	H-2	R2671	I-2
C2604	H-1	D2613	K-2	Q2616	H-1	R2672	I-2
C2610	K-3	D2625	H-1	Q2617	I-2	R2673	J-2
C2616	K-2	D2627	K-1	RESISTORS		R2675	G-1
C2618	K-3	D2648	I-2	R2613	K-2	R2676	G-1
C2625	K-3	D2649	H-1	R2617	K-1	R2677	G-1
C2627	K-2	D2651	G-3	R2618	K-2	R2678	H-3
C2629	K-2	D2661	H-2	R2638	J-2	R2684	H-1
C2630	K-1	D2662	H-2	R2646	H-1	R2685	H-1
C2645	I-2	ICS		R2647	I-2	R2686	H-1
C2647	I-2	IC2602	H-1	R2649	H-2	R2687	I-1
C2654	H-1	IC3603	H-1	R2650	H-2	R2688	H-1
C2670	K-2	IC3604	I-2	R2651	H-2	R2689	I-1
CONNECTORS		COILS		R2652	K-2	R2691	H-2
CN1	L-2	L2610	K-2	R2653	I-3	MISCELLANEOUS	
CN2	L-3	L2613	K-2	R2655	H-2	BC2602	K-2
CN2502	G-2	L2621	I-2	R2656	H-2	BC2603	K-2
CN2503	G-4	TRANSISTORS		R2657	H-2	BC2604	K-2
DIODES		Q2610	H-3	R2659	H-2	BC2605	K-3
D2601	K-3	Q2611	I-2	R2660	H-3	JK2601	K-3
D2602	K-3	Q2612	H-2	R2669	H-3		

Sub 2/2 Schematic Diagram < TV/VCR Section >

Voltage indications for PLAY, REC and DVD modes on the Schematic Diagrams are as shown below:



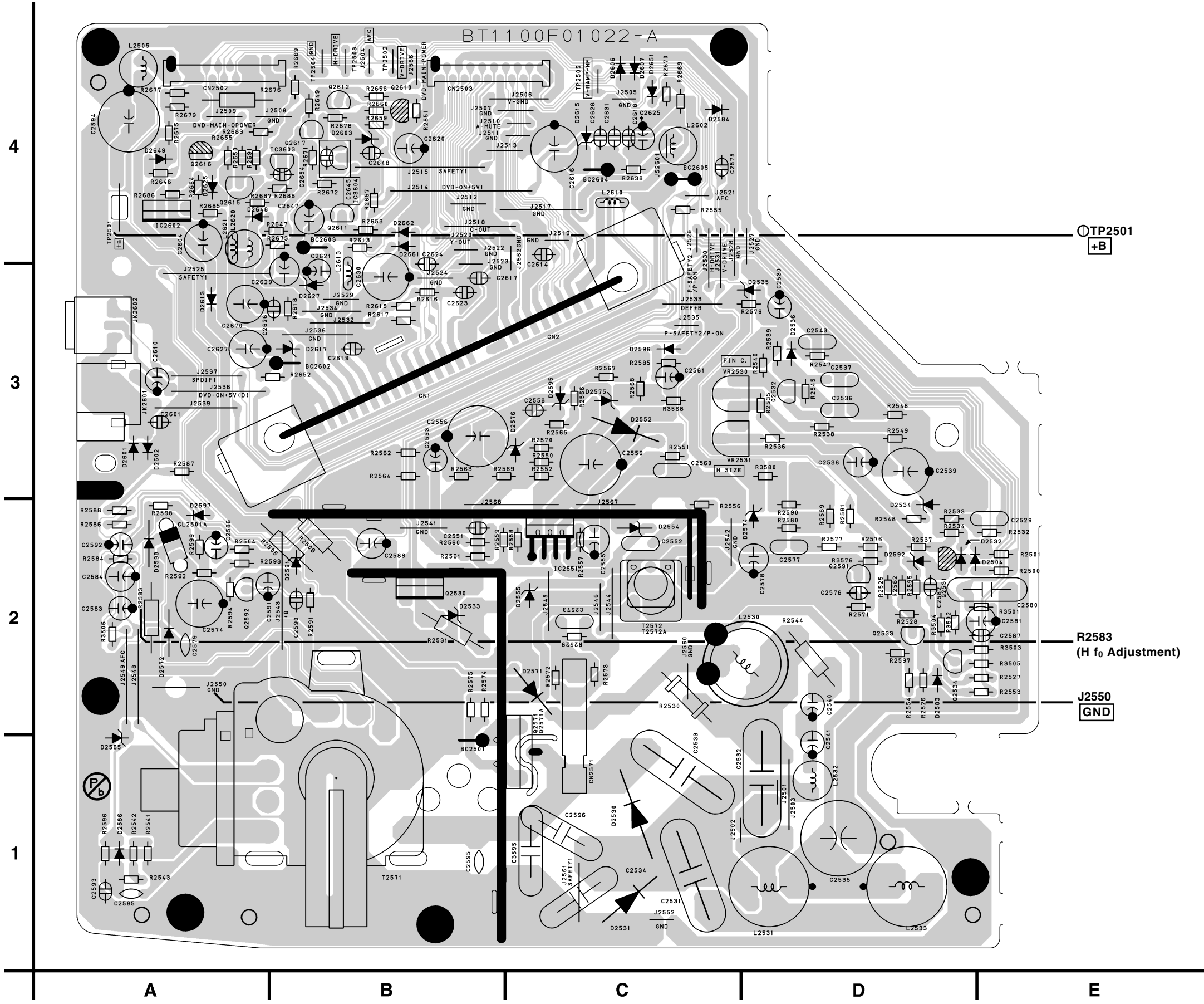
◀ DVD VIDEO SIGNAL ◀ DVD AUDIO SIGNAL ◀ DATA (AUDIO) SIGNAL



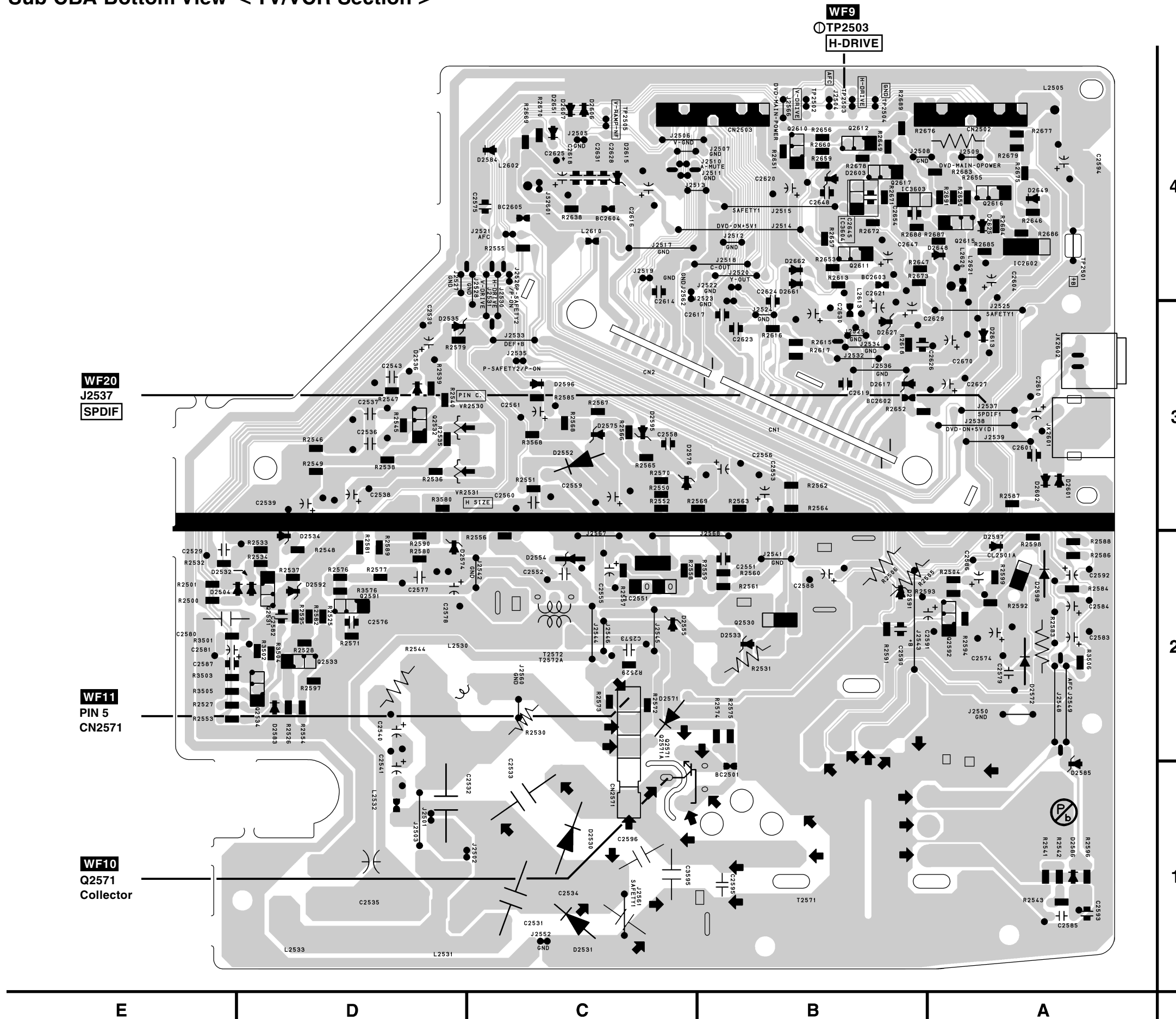
Sub CBA Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		DIODES		TRANSISTORS		RESISTORS		RESISTORS		RESISTORS	
C2531	C-1	C2618	C-4	D2597	A-2	Q2592	A-2	R2563	B-3	R2598	A-2	R2684	A-4
C2533	C-1	C2625	C-4	D2598	A-2	Q2610	B-4	R2564	B-3	R2599	A-2	R2685	A-4
C2552	C-2	C2627	A-3	D2601	A-3	Q2611	B-4	R2565	C-3	R2613	B-4	R2686	A-4
C2553	B-3	C2629	A-3	D2602	A-3	Q2612	B-4	R2566	C-3	R2617	B-3	R2687	A-4
C2555	C-2	C2630	B-3	D2603	B-4	Q2615	A-4	R2567	C-3	R2618	B-3	R2688	B-4
C2556	B-3	C2645	B-4	D2613	A-3	Q2616	A-4	R2568	C-3	R2638	C-4	R2689	B-4
C2558	C-3	C2647	B-4	D2625	A-4	Q2617	B-4	R2571	D-2	R2646	A-4	R2691	A-4
C2559	C-3	C2654	B-4	D2627	B-3	RESISTORS		R2572	C-2	R2647	B-4	R3506	A-2
C2560	C-3	C2670	A-3	D2648	A-4	R2501	E-2	R2573	C-2	R2649	B-4	R3568	C-3
C2561	C-3	CONNECTORS		D2649	A-4	R2504	A-2	R2574	B-2	R2650	A-4	R3576	D-2
C2574	A-2	CL2501A	A-2	D2651	C-4	R2505	A-2	R2576	D-2	R2651	B-4	R3580	D-3
C2577	D-2	CN1	B-3	D2661	B-4	R2506	B-2	R2577	D-2	R2652	B-3	MISCELLANEOUS	
C2578	D-2	CN2	B-3	D2662	B-4	R2541	A-1	R2580	D-2	R2653	B-4	BC2501	B-1
C2583	A-2	CN2502	A-4	ICS		R2542	A-1	R2581	D-2	R2655	A-4	BC2602	B-3
C2584	A-2	CN2503	B-4	IC2551	C-2	R2543	A-1	R2583	A-2	R2656	B-4	BC2603	B-4
C2586	A-2	CN2571	C-1	IC2602	A-4	R2550	C-3	R2584	A-2	R2657	B-4	BC2604	C-4
C2588	B-2	DIODES		IC3603	B-4	R2551	C-3	R2585	C-3	R2659	B-4	BC2605	C-4
C2590	B-2	D2552	C-3	IC3604	B-4	R2552	C-3	R2586	A-2	R2660	B-4	JK2601	A-3
C2591	A-2	D2571	C-2	COILS		R2555	C-4	R2587	A-3	R2669	C-4	T2571	B-1
C2592	A-2	D2572	A-2	L2505	A-4	R2556	C-2	R2588	A-2	R2671	B-4	T2572	C-2
C2594	A-4	D2584	C-4	L2610	C-4	R2557	C-2	R2589	D-2	R2672	B-4	TEST POINTS	
C2595	B-1	D2585	A-1	L2613	B-4	R2558	C-2	R2590	D-2	R2673	B-4	TP2501	A-4
C2601	A-3	D2586	A-1	L2621	A-4	R2559	B-2	R2591	B-2	R2675	A-4	TP2502	B-4
C2604	A-4	D2591	B-2	TRANSISTORS		R2560	B-2	R2592	A-2	R2676	A-4	TP2503	B-4
C2610	A-3	D2595	C-3	Q2571	C-2	R2561	B-2	R2593	A-2	R2677	A-4	TP2504	B-4
C2616	C-4	D2596	C-3	Q2591	D-2	R2562	B-3	R2594	A-2	R2678	B-4	TP2505	C-4

Sub CBA Top View < TV/VCR Section >

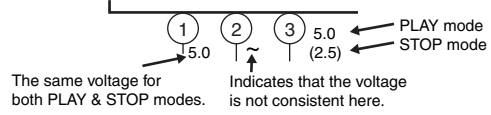


Sub CBA Bottom View < TV/VCR Section >



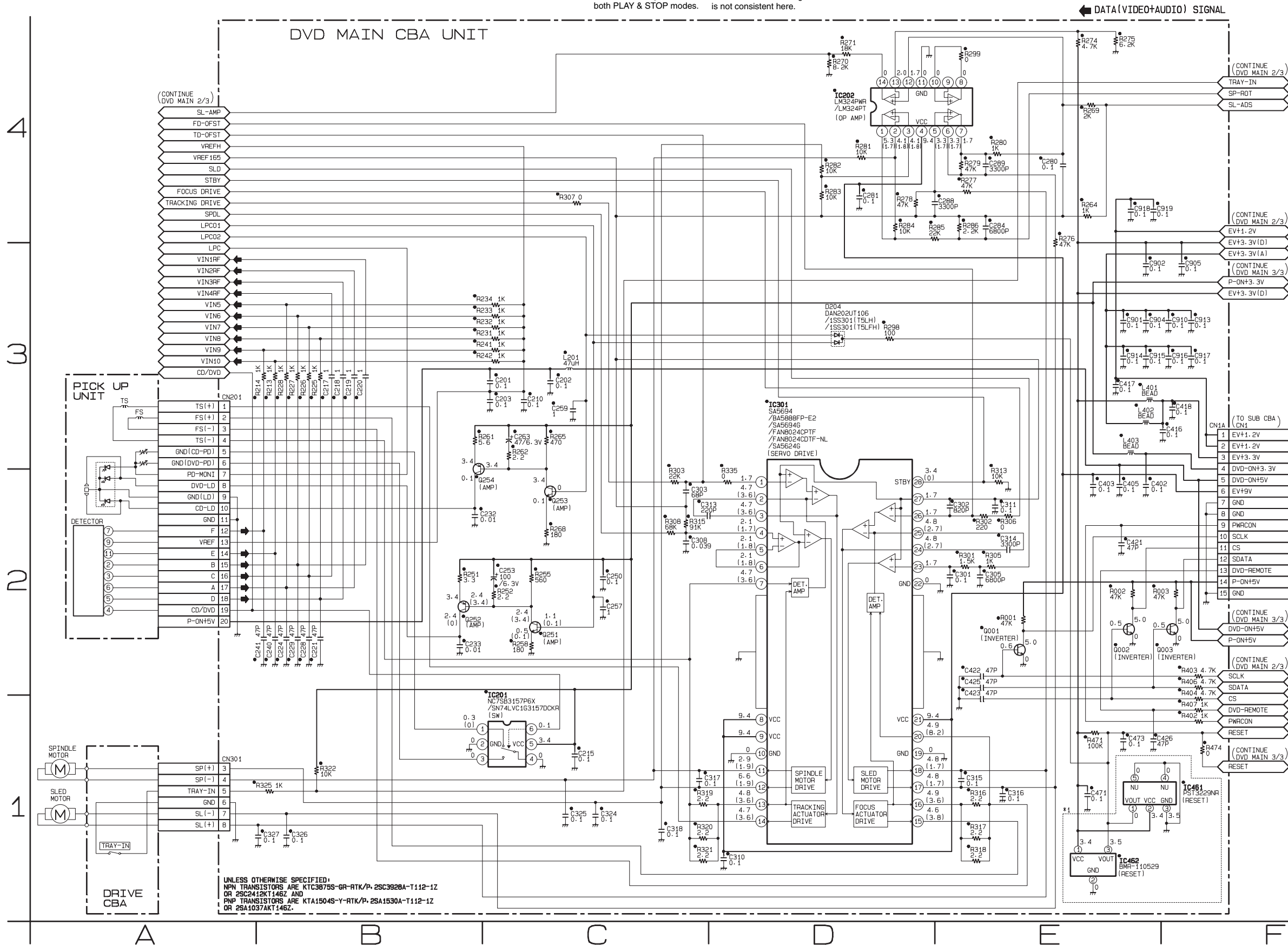
DVD Main 1/3 Schematic Diagram < DVD Section >

Voltage indications for PLAY and STOP modes on the Schematic Diagrams are as shown below:



***1 NOTE:**

Either IC461 or IC462 is used for DVD MAIN CBA UNIT.



UNLESS OTHERWISE SPECIFIED:
 NPN TRANSISTORS ARE KTC3875S-GR-RTK/P, 2SC3928A-T112-1Z
 OR 2SC2412KT146Z AND
 PNP TRANSISTORS ARE KTA1504S-Y-RTK/P, 2SA1530A-T112-1Z
 OR 2SA1037AKT146Z.

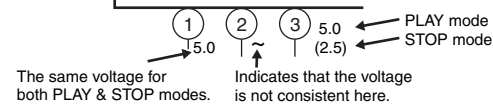
IC101 Voltage Chart

~ : Voltage is not consistent ---- : Not used Unit : Volts

PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP
1	~	~	33	~	~	65	----	----	97	----	----	129	2.3	2.3	161	3.4	3.4	193	~	~	225	3.4	3.4
2	~	~	34	3.4	3.4	66	3.4	3.5	98	3.4	3.4	130	2.3	2.3	162	0	0	194	~	~	226	~	~
3	0	0	35	0	0	67	3.2	3.2	99	0.9	0.8	131	2.3	2.3	163	1.8	1.8	195	~	~	227	~	~
4	~	~	36	~	~	68	----	----	100	0	0	132	2.4	2.3	164	0	0	196	3.4	3.4	228	~	~
5	~	~	37	~	~	69	3.4	3.4	101	2.4	2.4	133	2.4	2.4	165	1.7	1.8	197	~	~	229	0	0
6	3.4	3.4	38	0.4	0.3	70	3.4	3.4	102	2.2	2.2	134	2.4	2.4	166	1.7	1.7	198	~	~	230	~	~
7	~	~	39	~	~	71	----	----	103	1.9	1.9	135	2.3	2.3	167	3.4	3.4	199	~	~	231	3.4	3.4
8	~	~	40	~	~	72	1.4	2.7	104	0.4	0.3	136	2.3	2.3	168	0	0	200	~	~	232	1.3	1.6
9	0	0	41	~	~	73	3.5	3.5	105	0	0	137	2.3	2.3	169	1.8	1.8	201	0	0	233	~	~
10	~	~	42	~	~	74	0	0	106	1.7	1.7	138	2.3	2.3	170	1.7	1.7	202	3.4	3.4	234	1.9	2.3
11	~	~	43	~	~	75	1.7	1.8	107	3.4	3.4	139	1.7	1.7	171	1.3	0.1	203	~	~	235	0	0
12	3.4	3.4	44	1.3	1.3	76	2.3	1.8	108	----	----	140	1.7	1.7	172	1.3	1.3	204	~	~	236	1.3	1.3
13	~	~	45	~	~	77	----	----	109	----	----	141	3.4	3.4	173	0	0	205	0	0	237	~	~
14	~	~	46	~	~	78	----	----	110	1.9	1.9	142	1.3	1.3	174	----	----	206	~	~	238	~	~
15	~	~	47	~	~	79	----	----	111	1.9	1.9	143	2.1	1.7	175	----	----	207	~	~	239	3.4	3.4
16	0	0	48	3.4	3.4	80	3.4	0	112	1.7	1.7	144	2.2	2.2	176	----	----	208	~	~	240	3.4	3.3
17	~	~	49	0	0	81	0.1	0.1	113	1.7	1.7	145	0	0	177	1.8	1.7	209	3.4	3.4	241	1.9	1.9
18	~	~	50	~	~	82	----	----	114	1.7	1.7	146	1.7	1.7	178	3.4	3.5	210	~	~	242	0	0
19	3.4	3.4	51	~	~	83	0.1	0.1	115	1.7	1.7	147	1.8	1.7	179	0	0	211	~	~	243	1.9	1.9
20	0	0	52	0.8	0.8	84	3.4	3.4	116	1.7	1.7	148	1.7	1.7	180	----	----	212	~	~	244	3.4	3.3
21	----	----	53	----	----	85	0.1	0.1	117	1.7	1.7	149	0.6	0.5	181	----	----	213	0	0	245	3.4	3.4
22	3.4	3.4	54	----	----	86	3.6	3.4	118	3.4	3.4	150	3.4	3.4	182	----	----	214	----	----	246	3.4	3.4
23	~	~	55	----	----	87	0	0	119	2.0	2.0	151	----	----	183	----	----	215	----	----	247	0	0
24	~	~	56	3.4	3.4	88	3.5	0.1	120	1.7	1.7	152	----	----	184	----	----	216	3.4	3.4	248	3.3	3.4
25	~	~	57	3.5	3.5	89	1.3	1.3	121	1.5	1.5	153	1.4	1.3	185	----	----	217	~	~	249	3.2	3.0
26	1.3	1.3	58	3.4	3.4	90	----	----	122	0	0	154	1.4	1.3	186	----	----	218	0	0	250	0	0
27	~	~	59	3.4	3.4	91	----	----	123	0.3	0.1	155	2.4	2.4	187	----	----	219	1.3	1.3	251	3.2	3.0
28	3.4	3.4	60	3.4	3.4	92	----	----	124	1.1	0.1	156	----	----	188	----	----	220	~	~	252	~	~
29	0	0	61	3.5	3.5	93	0	0	125	0.3	0.1	157	0	0	189	----	----	221	~	~	253	0	0
30	~	~	62	3.4	3.4	94	----	----	126	0.1	0.1	158	0.9	0.9	190	3.4	3.5	222	0	0	254	~	~
31	~	~	63	0	0	95	----	----	127	2.3	2.3	159	3.4	3.4	191	0	0	223	~	~	255	3.4	3.4
32	~	~	64	0	0	96	----	----	128	1.7	1.7	160	0	0	192	~	~	224	~	~	256	~	~

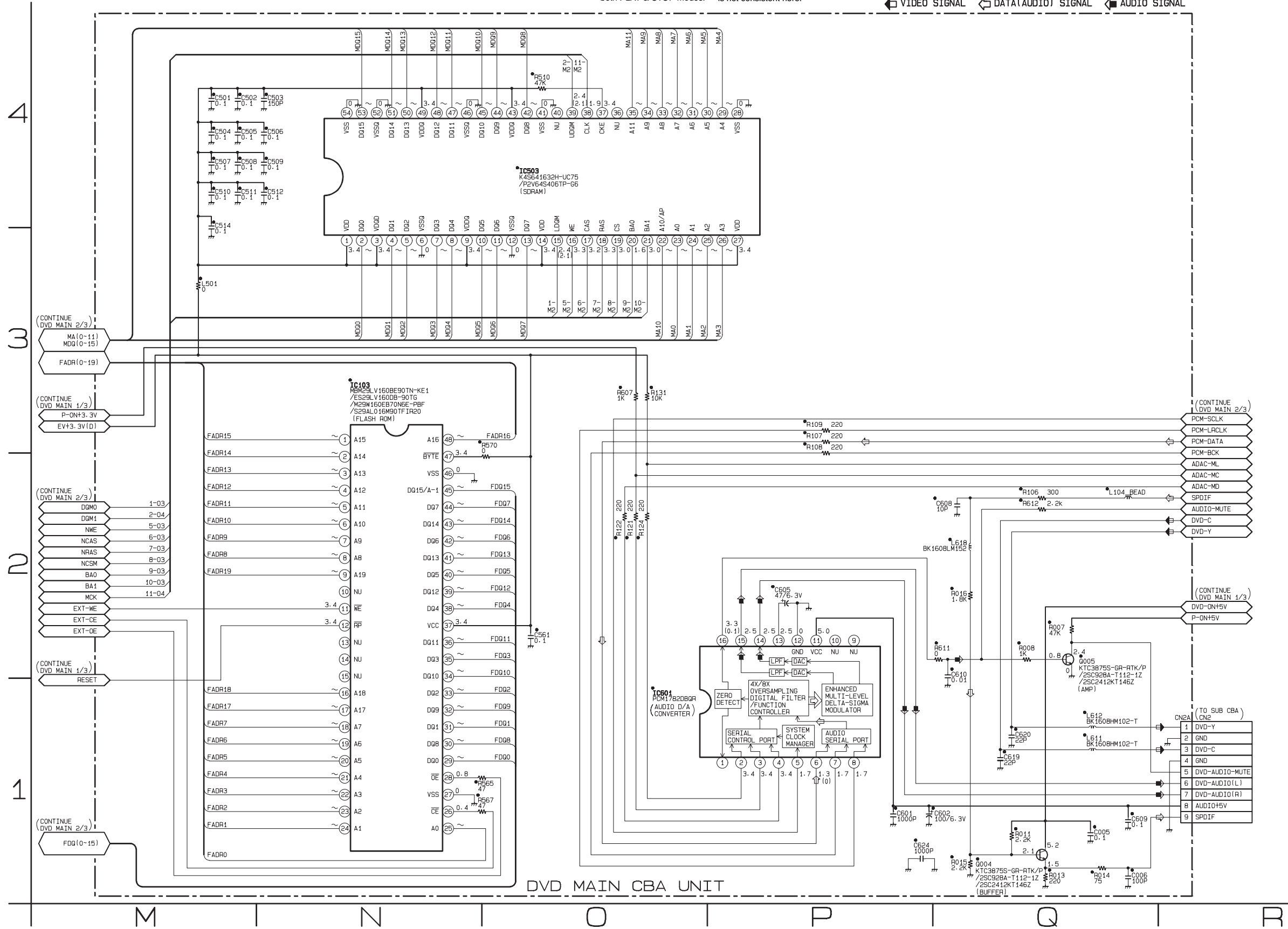
DVD Main 3/3 Schematic Diagram < DVD Section >

Voltage indications for PLAY and STOP modes on the Schematic Diagrams are as shown below:



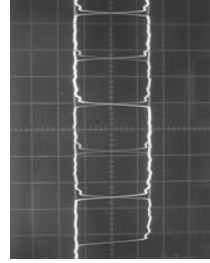
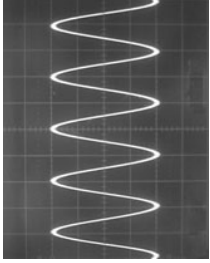
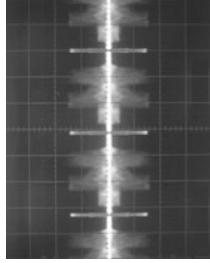
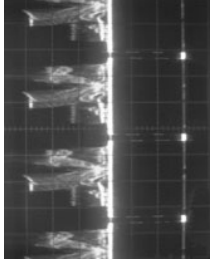
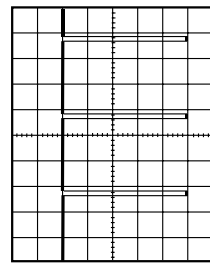
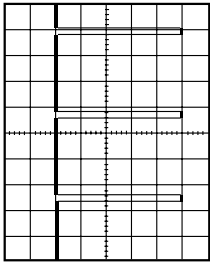
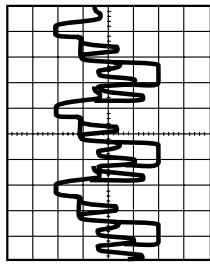
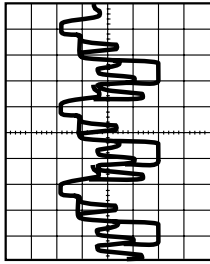
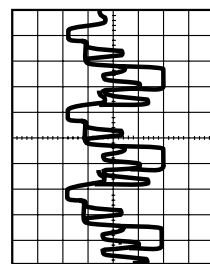
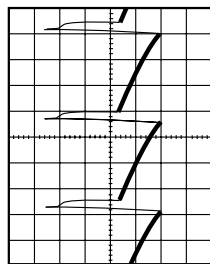
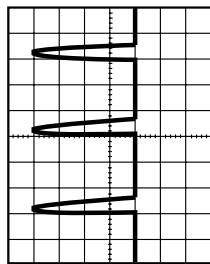
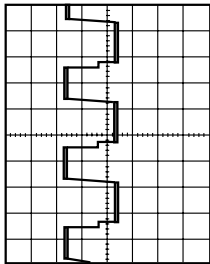
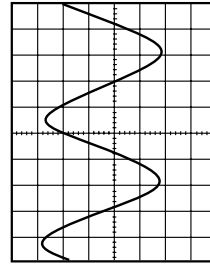
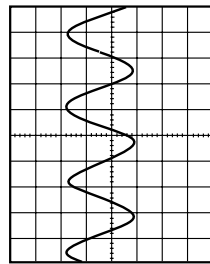
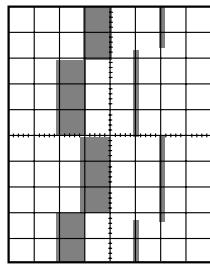
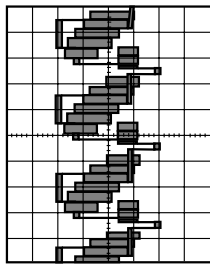
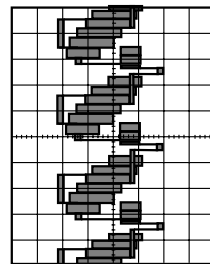
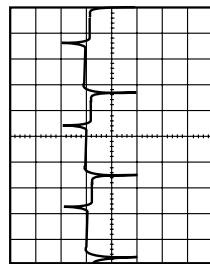
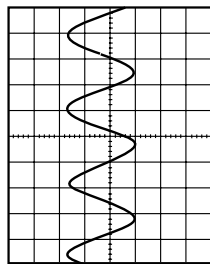
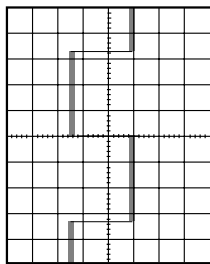
"•" = SMD

◀ VIDEO SIGNAL ◀ DATA (AUDIO) SIGNAL ◀ AUDIO SIGNAL



WAVEFORMS

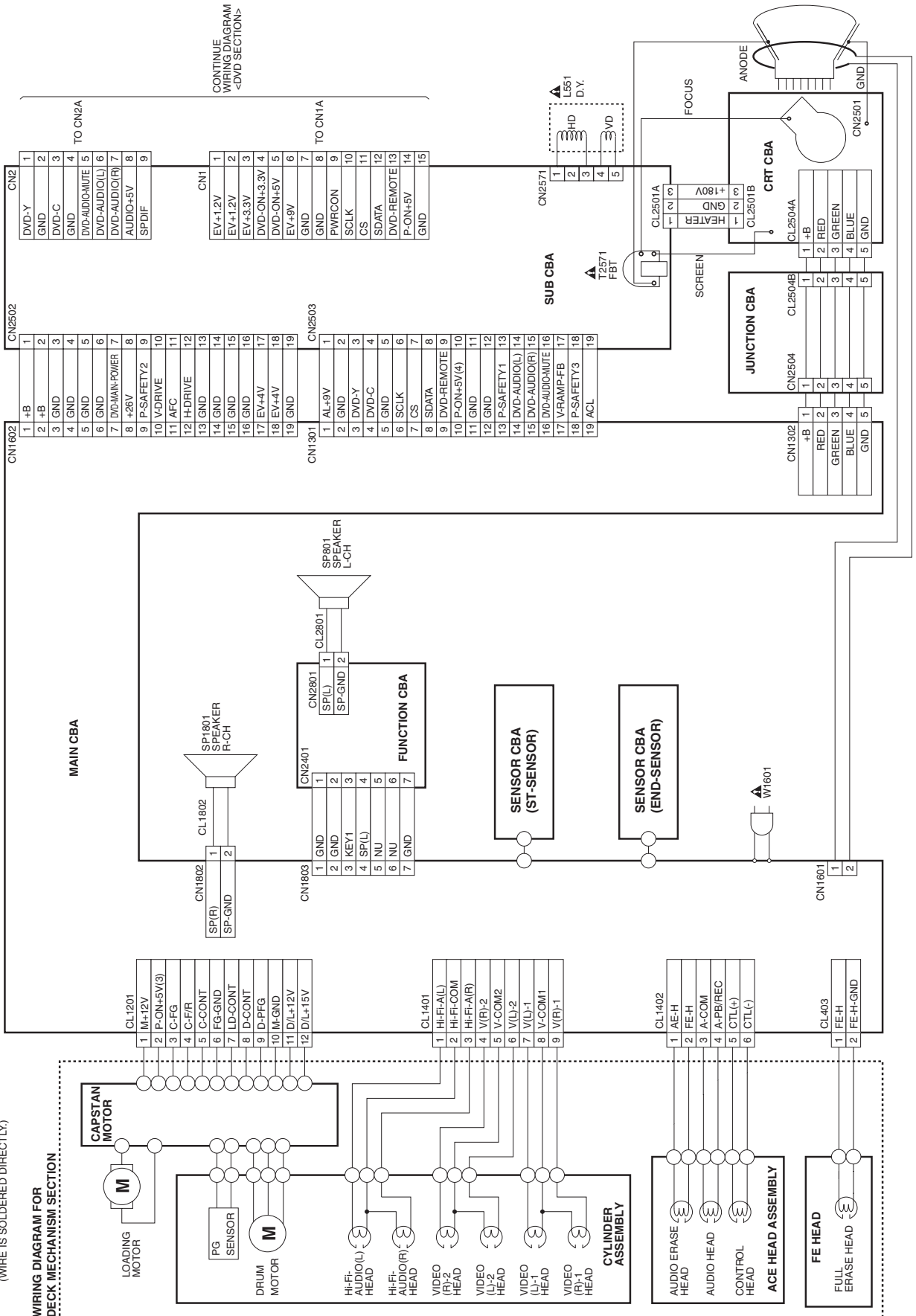
Input: NTSC Color-Bar Signal (with 1kHz Audio Signal) --- WF1 - WF16
 DVD Video (Power on (Stop) MODE) --- WF17, WF18
 CD (1KHz Play) --- WF19, WF20
INITIAL POSITION: Unplug unit from AC outlet for at least five minutes, reconnect to AC outlet and then turn power on.
 (Brightness---Center Color---Center Tint --- Center Contrast---Approx 70%)



WIRING DIAGRAM < TV/VCR Section >

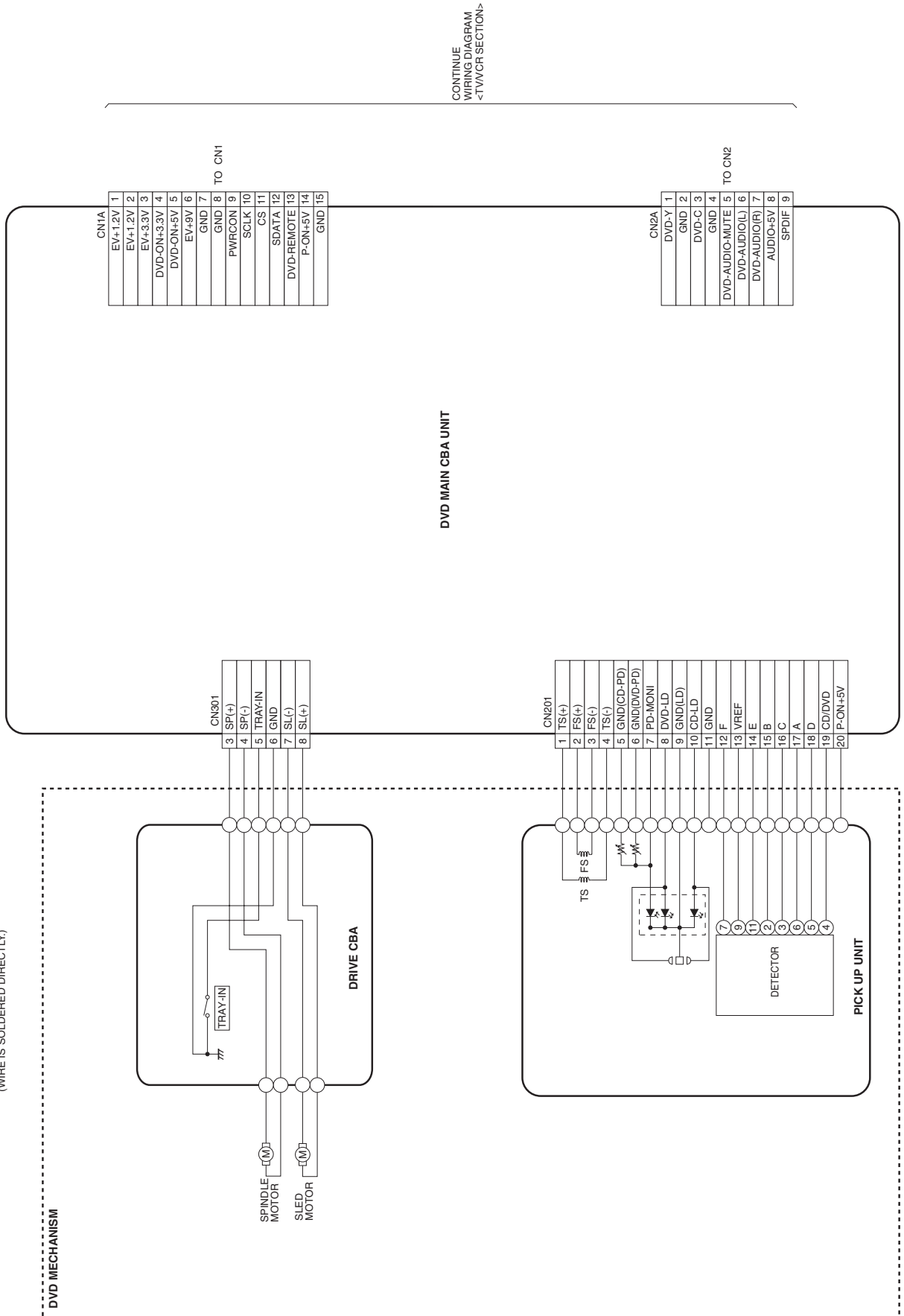
NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY)

WIRING DIAGRAM FOR DECK MECHANISM SECTION



WIRING DIAGRAM < DVD Section >

NOTE FOR WIRE CONNECTORS:
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
 (CAN DISCONNECT AND RECONNECT)
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER
 HOLES OF THE PCB.
 (WIRE IS SOLDERED DIRECTLY.)



CONTINUE
 WIRING DIAGRAM
 <TV/GR SECTION>

SYSTEM CONTROL TIMING CHARTS

< TV/VCR Section >

Mode SW: LD-SW

LD-SW Position detection A/D Input voltage Limit (Calculated voltage)	Symbol
3.76 V ~ 4.50 V (4.12 V)	EJ
4.51 V ~ 5.00 V (5.00 V)	CL
0.00 V ~ 0.25 V (0.00 V)	SB
1.06 V ~ 1.50 V (1.21 V)	TL
0.66 V ~ 1.05 V (0.91 V)	FB
1.99 V ~ 2.60 V (2.17 V)	SF
1.51 V ~ 1.98 V (1.80 V)	SM
3.20 V ~ 3.75 V (3.40 V)	AU
0.26 V ~ 0.65 V (0.44 V)	AL
4.51 V ~ 5.00 V (5.00 V)	SS
2.61 V ~ 3.19 V (2.97 V)	RS

↑
Note:

Note: EJ → RS: Loading FWD (LM-FWD / REV "H")
 RS → EJ: Loading REV (LM-FWD / REV "L")
 Stop (A) = Loading
 Stop (B) = Unloading

Note:

Symbol	Loading Status
EJ	Eject
CL	Eject ~ REW Reel
SB	REW Reel ~ Stop (B)
TL	Stop (B) ~ Brake Cancel
FB	Brake Cancel ~ FF / REW
SF	FF / REW ~ Stop (M), (FF / REW)
SM	Stop (M), (FF / REW) ~ Stop (A)
AU	Stop (A) ~ Play / REC
AL	Play / REC ~ Still / Slow
SS	Still / Slow ~ RS (REW Search)
RS	RS (REW Search)

Chart 1

1) SP MODE

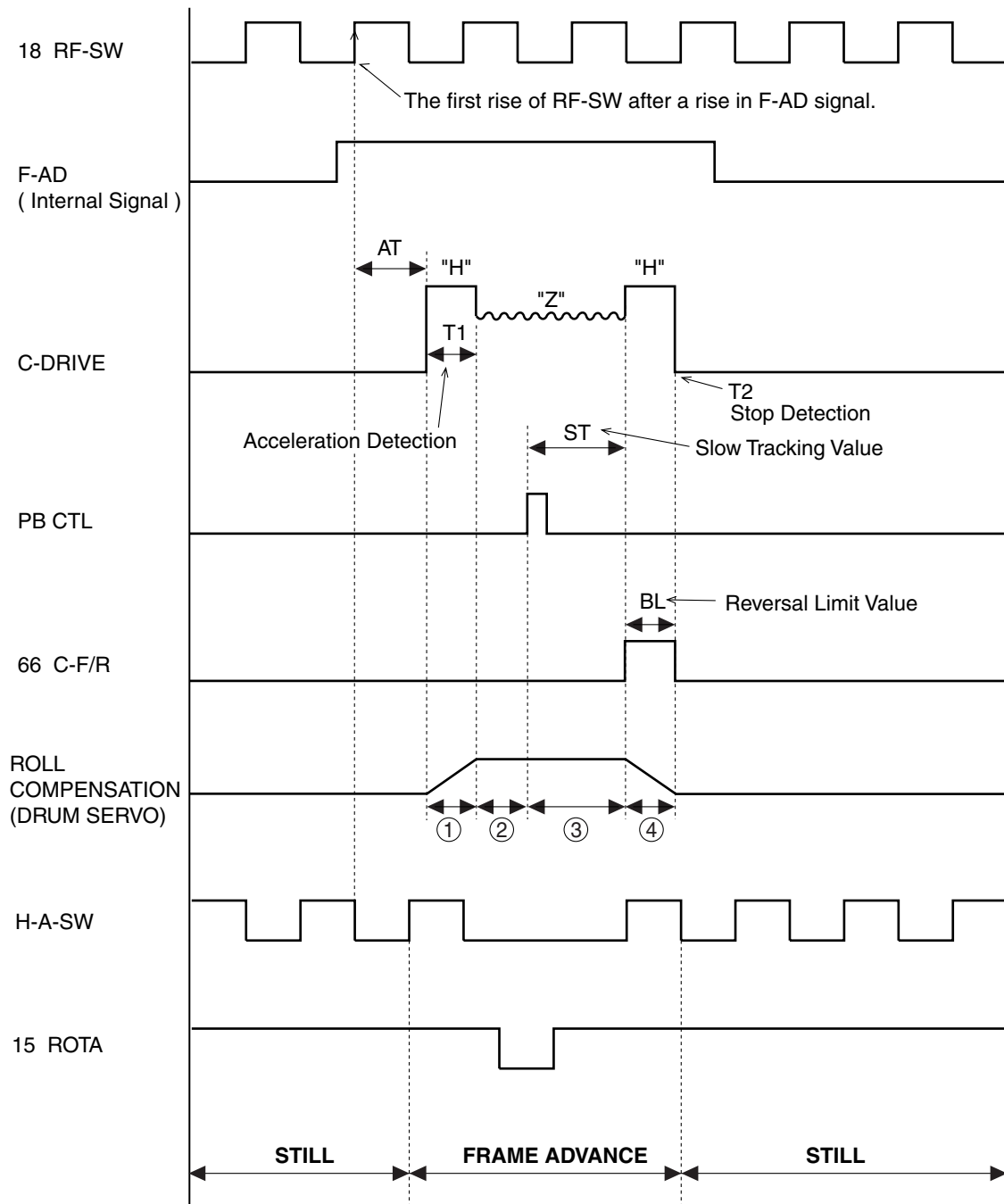


Chart 2

2) LP/EP MODE

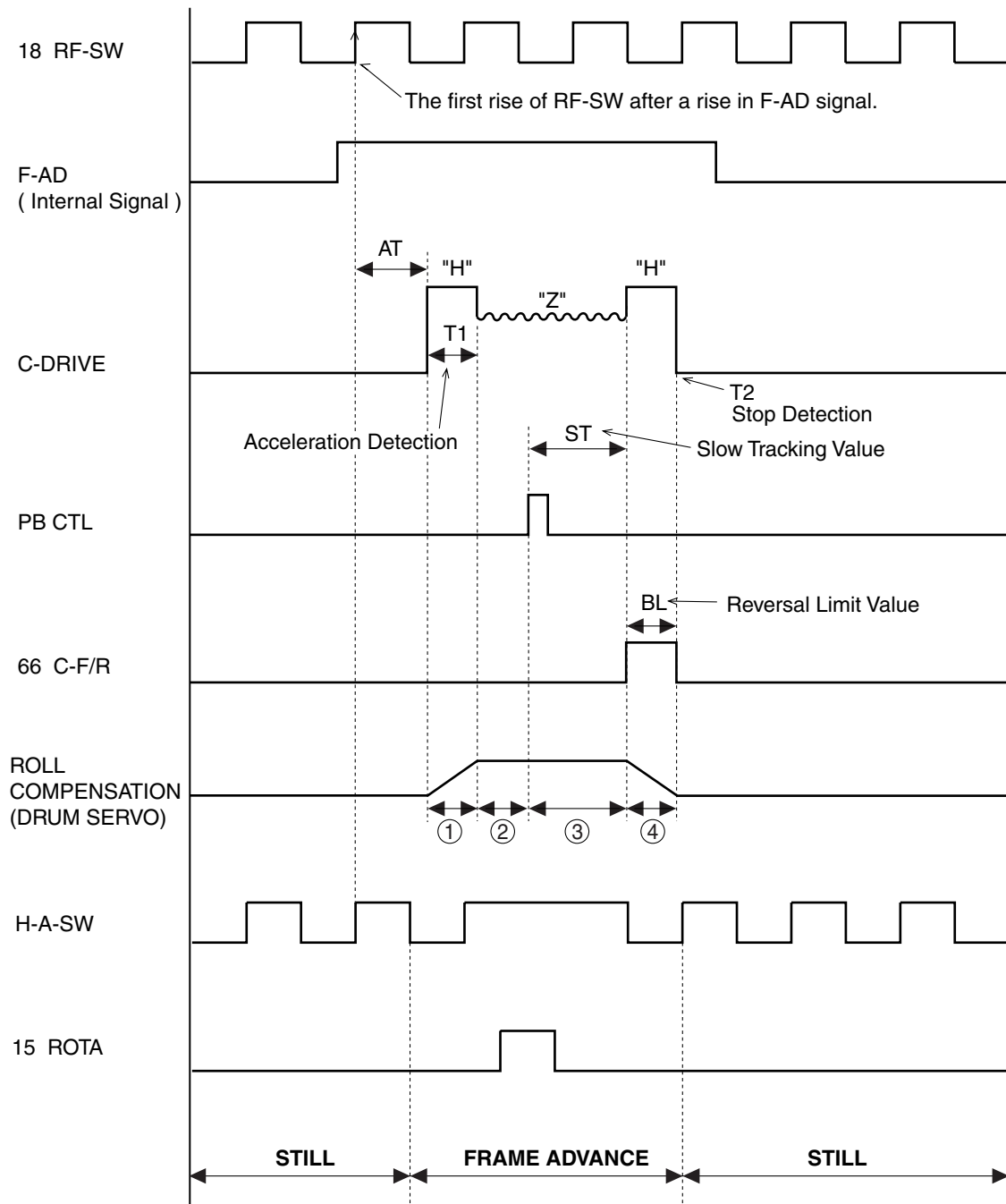


Chart 3

1. EJECT (POWER OFF) -> CASSETTE IN (POWER ON) -> STOP(B) -> STOP(A) -> PLAY -> RS -> FS -> PLAY -> STILL/SLOW -> PLAY -> STOP(A)

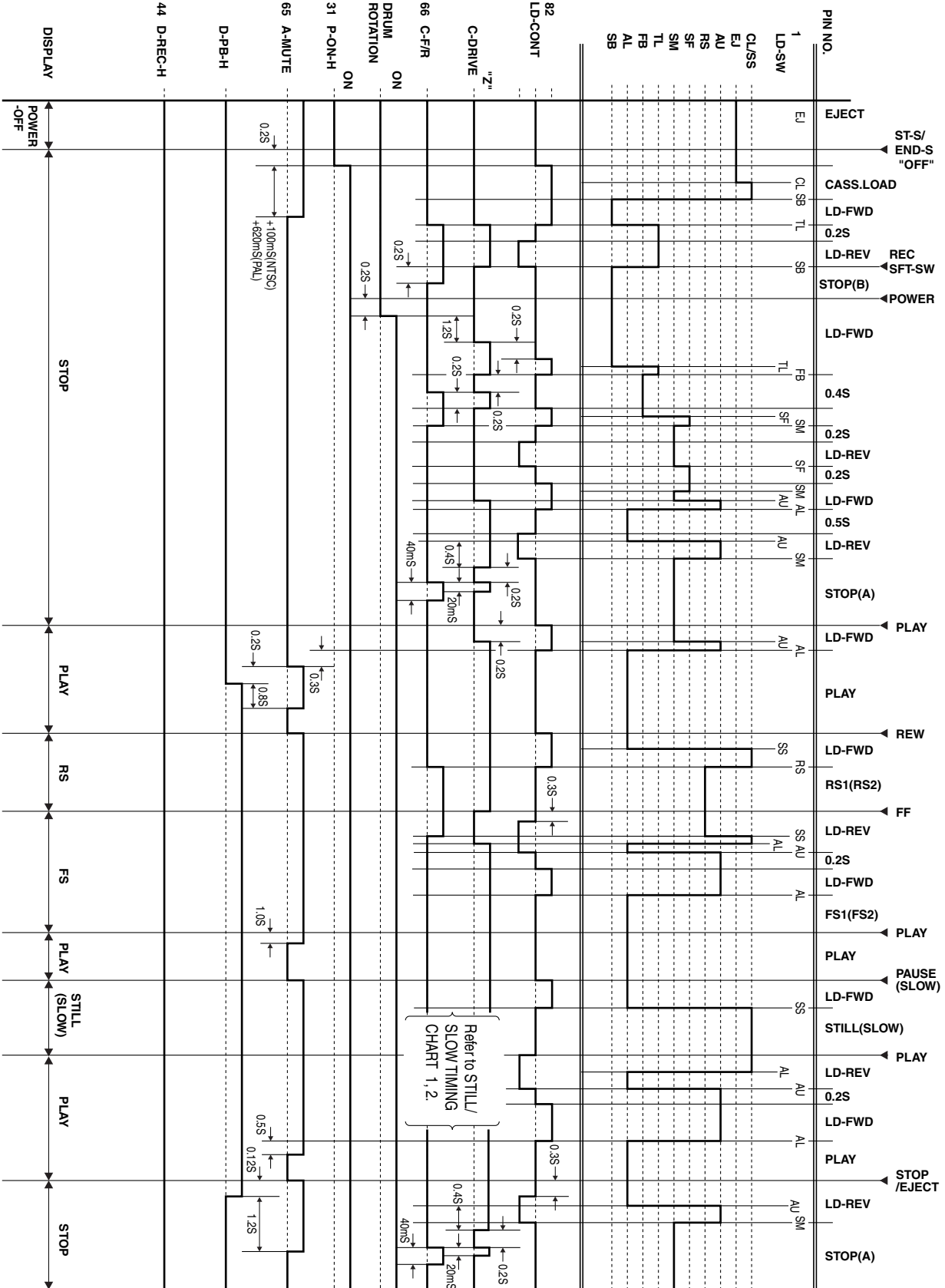
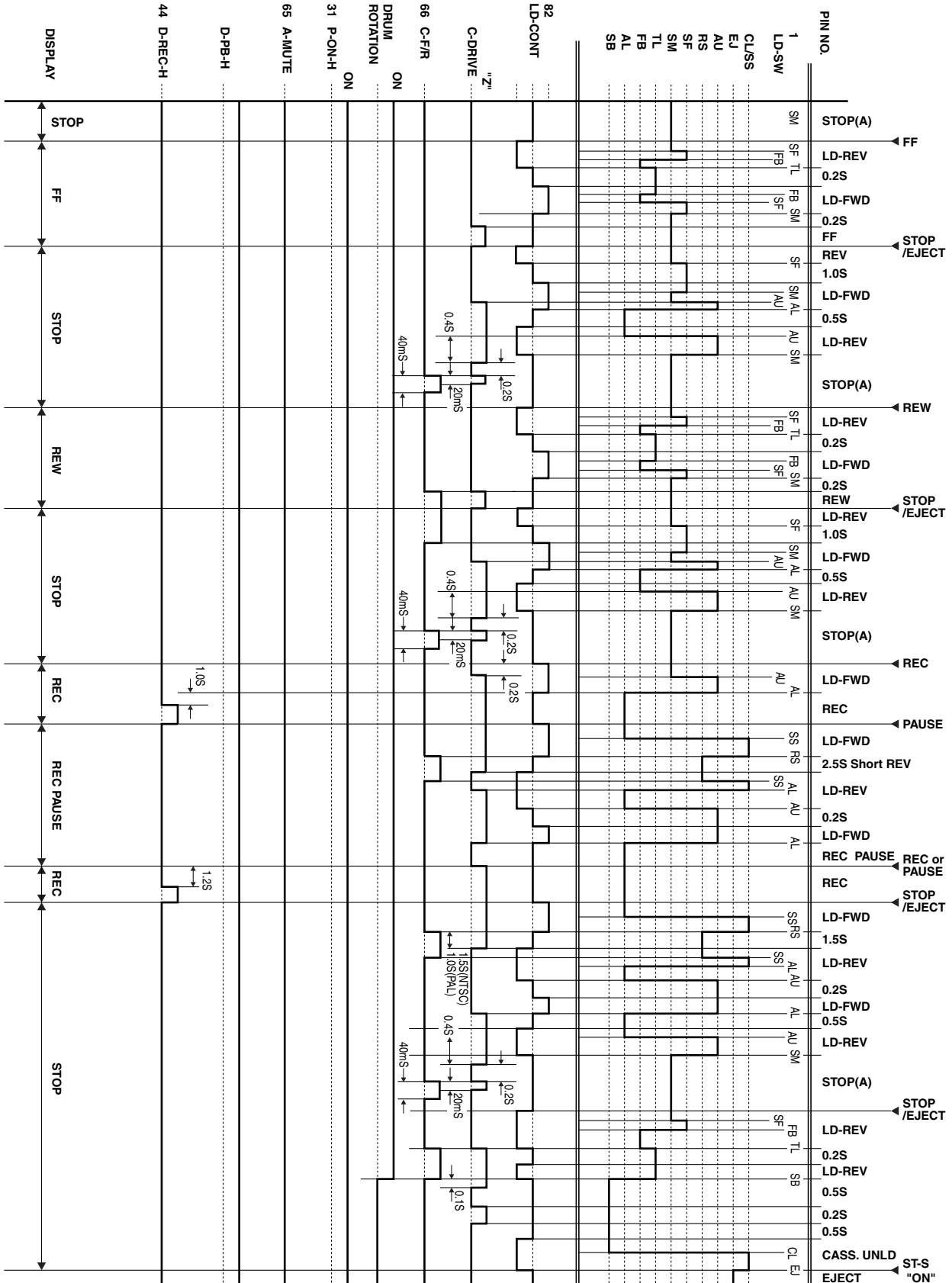


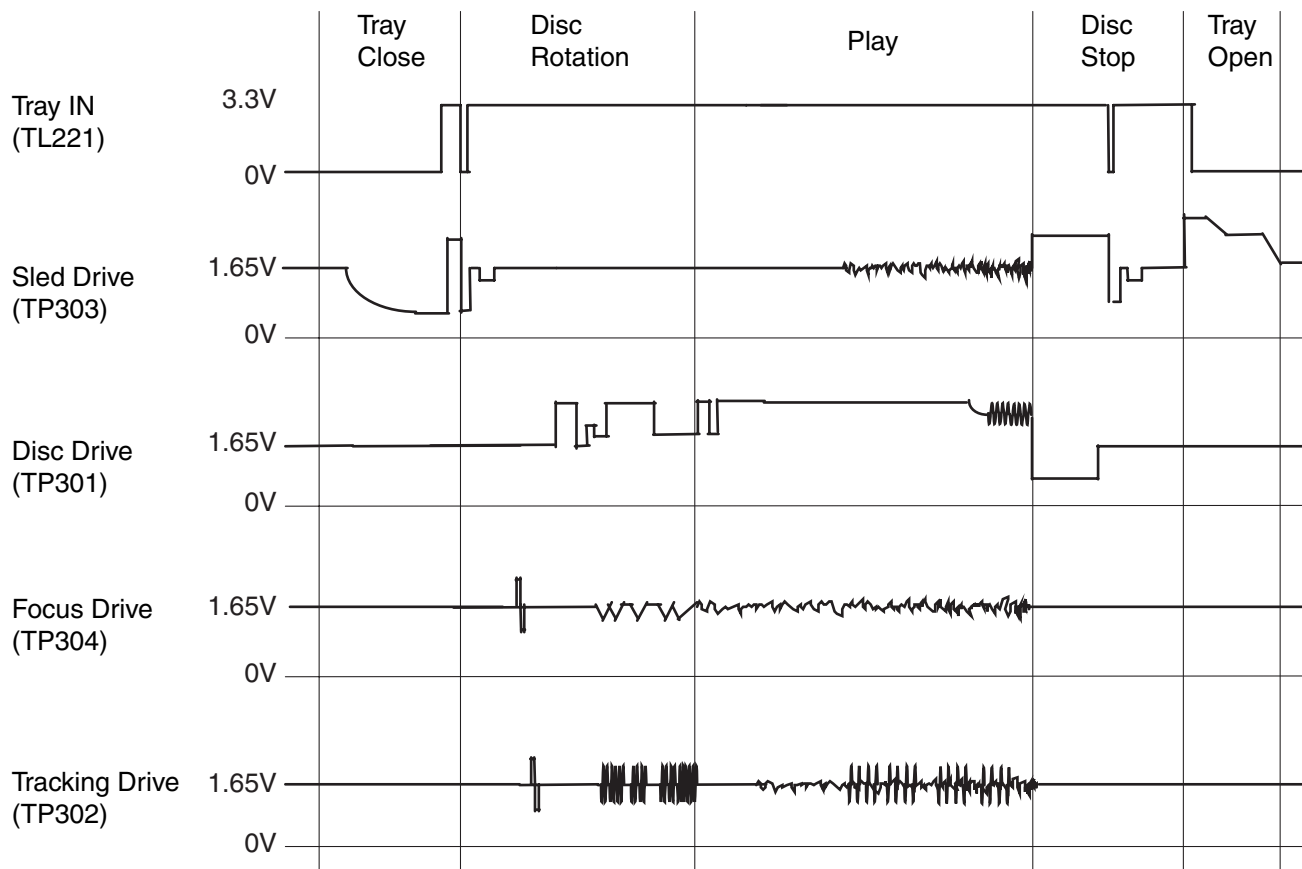
Chart 4

2. STOP(A) -> FF -> STOP(A) -> REW -> STOP(A) -> REC -> PAUSE -> PAUSE or REC -> STOP(A) -> EJECT



< DVD Section >

Tray Close ~ Play / Play ~ Tray Open



IC PIN FUNCTION DESCRIPTIONS

IC1201 (TV/VCR Micro Controller IC)

“H” ≥ 4.5 V, “L” ≤ 1.0 V

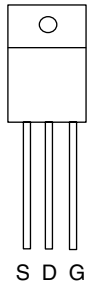
Pin No.	IN/OUT	Signal Name	Function
1	IN	LD-SW	Loading Switch Input
2	OUT	DVD-LED	DVD-LED Output
3	IN	P-SAFETY 2	Power Supply Failure Detection 2
4	IN	ST/SAP-IN	Tuner Stereo/Sap Detector Signal Input
5	IN	KEY0	Key 0 Input
6	IN	KEY1	Key 1 Input
7	IN	END-SENS	End-Sensor
8	IN	AFT	AFT Input
9	IN	ST-SENS	Start-Sensor
10	IN	V-ENV	Video Envelope Input
11	OUT	VOLUME	Volume Adjustment Output
12	OUT	SP-MUTE	Speaker Mute Output
13	OUT	DV-SYNC	Artificial V-Sync Output
14	IN	REMOTE	Remote Signal Input
15	OUT	ROTA	Color Phase Rotary Changeover Signal
16	OUT	V-H-SW	Video Head Amp Switching Pulse
17	IN	ENV-DET	Envelope Comparator Signal
18	OUT	RF-SW	Video Head Switching Pulse
19	OUT	Hi-Fi-H-SW	HiFi Audio Head Switching Pulse
20	OUT	D-PB-L	Output in Playback
21	OUT	REC-LED	Recording LED Control Signal
22	IN	NORMAL-H	Audio Mode Input Signal
23	OUT	ACL-CONT	ACL Control Signal
24	-	NU	Not Used
25	-	DVD-REMOTE	Remote Control Signal to DVD
26	OUT	TV/VCR-LED	TV/VCR Mode LED Control Signal
27	-	NU	Not Used
28	-	NU	Not Used
29	OUT	D-REC-H	Delayed Record Signal
30	-	NU	Not Used
31	OUT	P-ON-H	Power On Signal at High
32	-	NU	Not Used
33	IN	REC-SAFETY	Record Protection Tab Detection

Pin No.	IN/OUT	Signal Name	Function
34	IN	RESET	System Reset Signal (Reset = “L”)
35	IN	XC-IN	Sub Clock 32 kHz
36	OUT	XC-OUT	Sub Clock 32 kHz
37	-	TIMER+5V	Vcc
38	IN	X-IN	Main Clock Input
39	OUT	X-OUT	Main Clock Output
40	-	GND	GND
41	OUT	SPOT-KILL	Counter-measure for Spot
42	IN	DVD-MAIN-POWER	Power On Signal to High for DVD
43	IN	CLKSEL	Clock Select (GND)
44	OUT	D-REC-H	Delayed Record Signal
45	IN	I2C-OPEN	White Balance Adjust Mode Judgment
46	-	GND	GND
47	IN	DVD-AUDIO-MUTE	DVD Audio Mute Signal
48	OUT	DVD-H	DVD at High
49	-	GND	OSD GND
50	IN	CS	DVD Interface Chip Select
51	IN	SCLK	DVD Interface Communication Clock
52	IN	SDATA	DVD Interface Serial Data
53	-	P-ON+5V	OSD Vcc
54	-	HLF	HLF
55	IN	V-HOLD	VHOLD
56	IN	CV-IN	Video Signal Input
57	-	GND	GND
58	IN	H-SYNC	H-SYNC Input
59	IN	V-SYNC	V-SYNC Input
60	OUT	OSD-BLK	Output for Picture Cut off
61	-	NU	Not Used
62	OUT	OSD-B	Blue Output
63	OUT	OSD-G	Green Output
64	OUT	OSD-R	Red Output
65	OUT	AUDIO-MUTE	Audio Mute Output
66	OUT	C-F/R	Capstan Motor FWD/REV Control Signal
67	OUT	D-REC-L/PLAY-H	Recording/Playback Output
68	OUT	YCA-SDA	YCA IC Control Data
69	OUT	YCA-CS	YCA IC Control Chip Select
70	OUT	YCA-SCL	YCA IC Control Clock

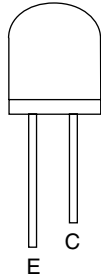
Pin No.	IN/ OUT	Signal Name	Function
71	OUT	SCL	E2PROM/CHROMA IC Tuner Communication Clock
72	IN/ OUT	SDA	E2PROM/CHROMA IC Tuner Communication Data
73	-	NU	Not Used
74	IN	C-SYNC	C-Sync Input
75	-	NU	Not Used
76	OUT	C-CONT	Capstan Motor Control Signal
77	OUT	D-CONT	Drum Motor Control Signal
78	IN	P-SAFETY 3	Power Supply Failure Detection 3
79	-	NU	Not Used
80	IN	T-REEL	Take Up Reel Rotation Signal
81	-	NU	Not Used
82	OUT	LD-CONT	Loading Motor Control Signal
83	-	NU	Not Used
84	IN	P-DOWN	Power Voltage Down Detector Signal
85	-	NU	Not Used
86	-	NU	Not Used
87	IN	C-FG	Capstan Motor Rotation Detection Pulse
88	-	GND	GND (AMP)
89	-	NU	Not Used
90	IN	D-PFG	Drum Motor Pulse Generator
91	-	NU	Not Used
92	OUT	AMP VREF IN	Standard Voltage Input
93	-	C	C
94	IN/ OUT	CTL (-)	CTL (-)
95	IN/ OUT	CTL (+)	CTL (+)
96	-	AMPC	AMPC
97	OUT	CTL-AMP-OUT	Control Amp Output
98	-	P-ON+5V	Power Supply for AMP
99	-	AL+5V	A/D, D/A Standard Voltage
100	IN	P-SAFETY 1	Power Supply Failure Detection 1

LEAD IDENTIFICATIONS

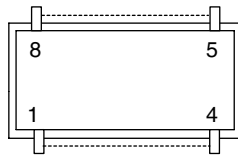
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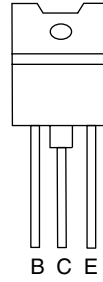
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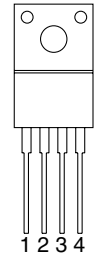
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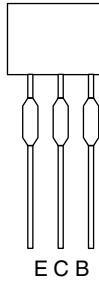
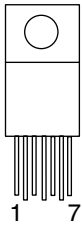


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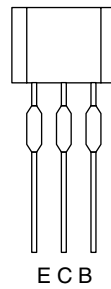


1: Vin
2: Vo
3: GND
4: Vc

LA78040A
AN15524A



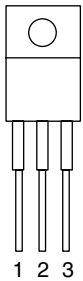
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2SC1815-GR(TPE2)
2SC2120-O-TPE2
2SC2120-Y(TPE2)
KTC3207



2SA1175(F)
2SA950(O,Y)
2SC1627Y-TPE2
2SC2785(F)
2SC3331(T,U)
2SC3400
2SC2482 TPE6
2SD400(E,F)

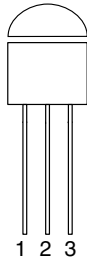
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BN1F4M-T
KRA103M
KRC103M
KTA1267(GR)
KTA1271(Y)
KTC3199(GR)

KA7805A
KIA7805API
UA7805CKCE3



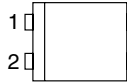
1: IN
2: GND
3: OUT

KIA431-AT



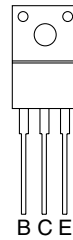
1: R
2: A
3: K

LTV-817C-F
PC817X6



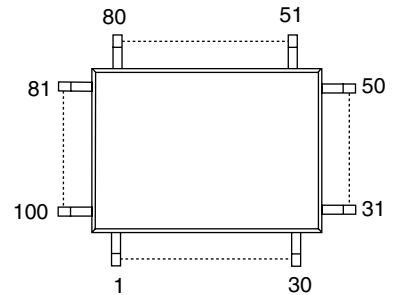
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3: E
4: C

2SC5885000RF

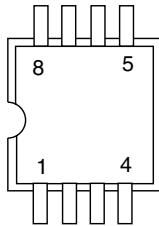


B C E

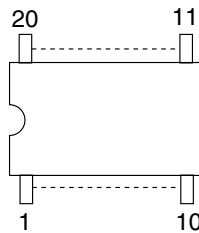
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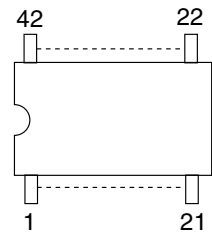
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BR24L02F-WE2
CAT24WC02JI
M24C02-WMN6P



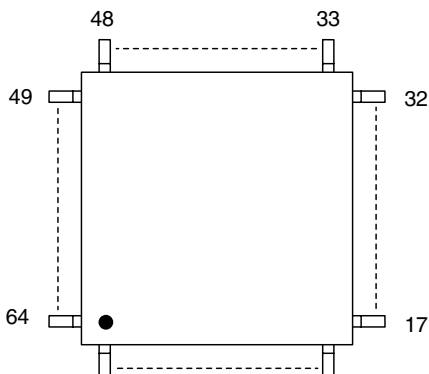
M61116FP TF0G



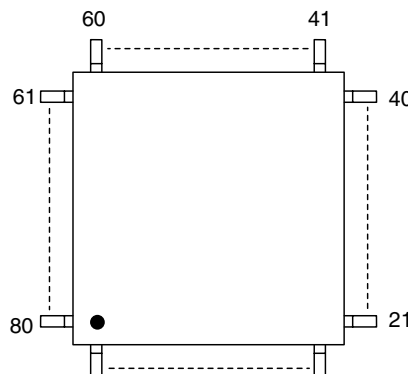
M61275FP-TF3H



AN3663FBP-TV



LA71205M-MPB-E



Note:

- A: Anode
- K: Cathode
- E: Emitter
- C: Collector
- B: Base
- R: Reference
- S: Source
- G: Gate
- D: Drain

ELECTRICAL PARTS LIST**MISCELLANEOUS**

9965 000 28878	DVD MAIN CBA UNIT
9965 000 29338	MPS CBA
9965 000 29046	MMA CBA
9965 000 28882	SENSOR C

MPS CBA

MMA CBA consists of SUB, CRT, FUNCTION and JUNCTION CBA

SUB CBA**MISCELLANEOUS**

BC2501	9965 000 13874	BEAD INDUCTORS FBA04HA600VB-00
JK2601	9965 000 29032	RCA JACK MSP-241V-05 PBSN W/O
T2571!	9965 000 29033	△ FLYBACK TRANSFO JF0501-3201A
T2571! *	9965 000 29034	△ FLYBACK TRANS BSC22-2697S
T2572!	9965 000 13904	△ HORIZONTAL DRIVE TRANS LP2-005

CAPACITORS

C2531	9965 000 29353	METALLIZED FILM CAP. 0.47UF/200V
C2531 *	9965 000 29354	P.P.CAP 0.47UF/200 J
C2531 *	9965 000 29355	PP CAP. 0.47UF/250V J
C2533!	9965 000 29356	△ P.P.CAP 0.01UF/1.6KV J
C2533! *	9965 000 29357	△ PP CAP. 0.01UF/1.6KV J
C2533! *	9965 000 29358	△ PP FILM CAP. 0.01UF/1.6KV
C2533! *	9965 000 29359	△ METALLIZED FILM CAP. 0.01UF/1.6KV
C2574!	9965 000 22656	△ ELECTROLYTIC CAP. 4.7UF/250V M
C2574! *	9965 000 29008	△ ELCAP. 4.7UF/250V M
C2583	9965 000 22654	ELECTROLYTIC CAP. 1UF/160V M
C2583 *	9965 000 29009	ELCAP. 1UF/160V M
C2594	9965 000 29010	ELCAP. 47UF/160V M W/F
C2594 *	9965 000 29011	ELCAP. 47UF/160V M W/F
C2594 *	9965 000 24185	ELECTROLYTIC CAP. 47UF/160V M W/
C2595!	9965 000 29360	△ CERAMIC CAP. BN 1000PF/2KV
C2595! *	9965 000 29361	△ CERAMIC CAP. 1000PF/2KV
C2595! *	9965 000 29362	△ CERAMIC CAP RB 1000PF/2KV

RESISTORS

R2505	9965 000 29027	MET OXIDE RES. 2W J 1K OHM
R2505 *	9965 000 29028	MET OXIDE RES. 2W J 1K OHM
R2506	9965 000 29027	MET OXIDE RES. 2W J 1K OHM
R2506 *	9965 000 29028	MET OXIDE RES. 2W J 1K OHM
R2583!	9965 000 29363	△ METAL OXIDE FILM RES. 2W J 1.5 O
R2583! *	9965 000 29364	△ METAL OXIDE FILM RES. 2W J 1.5 O
R2676	9965 000 29030	MET OXIDE RES. 2W J 3.9 OHM
R2676 *	9965 000 29031	MET OXIDE RES. 2W J 3.9 OHM

COILS

L2505	9965 000 18121	CHOKE COIL 22UH-K
L2505 *	9965 000 29021	CHOKE COIL 22UH-K
L2505 *	9965 000 29022	FIXED INDUCTOR LGB0810TLF-220K
L2613	4822 157 10326	10UH-K-5FT
L2613 *	4822 157 10646	10UH

DIODES

D2552	9965 000 13880	DIODE FR104-B OR
D2552 *	9965 000 28913	DIODE FR104BB
D2571	9965 000 18235	DIODE FR202
D2572!	9965 000 13880	△ DIODE FR104-B OR
D2572! *	9965 000 28913	△ DIODE FR104BB
D2584	4822 130 32778	1SS133
D2584 *	4822 130 30621	1N4148
D2585	4822 130 82703	MTZ5.1B
D2585 *	9965 000 12904	ZENER DIODE DZ-5.1BSBT265 OR
D2591!	9965 000 13881	△ ZENER DIODE MTZJT-7736B OR
D2591! *	9965 000 29015	△ ZENER DIODE DZ-36BSBT265
D2595!	9965 000 13884	△ ZENER DIODE MTZJT-7720C OR
D2595! *	9965 000 29016	△ ZENER DIODE DZ-20BSC265
D2596!	4822 130 32778	△ 1SS133
D2596! *	4822 130 30621	△ 1N4148
D2597!	4822 130 32778	△ 1SS133
D2597! *	4822 130 30621	△ 1N4148
D2598!	9965 000 13880	△ DIODE FR104-B OR
D2598! *	9965 000 28913	△ DIODE FR104BB
D2601	4822 130 32778	1SS133
D2601 *	4822 130 30621	1N4148
D2602	4822 130 32778	1SS133
D2602 *	4822 130 30621	1N4148
D2603	4822 130 10926	UZ5.6BSC
D2603 *	9965 000 08649	ZENER DIODE DZ-5.6BSCT265
D2613!	9965 000 29018	△ RECTIFIER DIODE ERA15-02
D2625	4822 130 32778	1SS133
D2625 *	4822 130 30621	1N4148
D2627	9965 000 01155	ZENER DIODE MTZJ3.9B
D2627 *	9965 000 29017	ZENER DIODE DZ-3.9BSBT265
D2648	4822 130 32778	1SS133
D2648 *	4822 130 30621	1N4148
D2649	4822 130 32778	1SS133
D2649 *	4822 130 30621	1N4148
D2651	4822 130 32778	1SS133
D2651 *	4822 130 30621	1N4148
D2661	4822 130 32778	1SS133
D2661 *	4822 130 30621	1N4148
D2662	4822 130 32778	1SS133
D2662 *	4822 130 30621	1N4148

TRANSISTORS

Q2571	9965 000 18167	TRANSISTOR TT2140LS-YB11
Q2571 *	9965 000 29023	TRANSISTOR 2SC5885000RF
Q2591!	9965 000 13899	△ TRANSISTOR 2SC1627Y-TPE2
Q2592!	9965 000 05643	△ TRANSISTOR 2SC2785(F)
Q2592! *	9965 000 10994	△ 2SC3199-GR/KTC3199-GR
Q2592! *	4822 130 41306	△ 2SC1815GR
Q2610	9965 000 05644	TRANSISTOR 2SA1175(F)
Q2610 *	4822 130 10462	KTA1267-GR
Q2610 *	4822 130 11101	2SA1015GR
Q2611	9965 000 10994	2SC3199-GR/KTC3199-GR

ELECTRICAL PARTS LIST**TRANSISTORS**

Q2611 *	4822 130 41306	2SC1815GR
Q2612	9965 000 05643	TRANSISTOR 2SC2785(F)
Q2612 *	9965 000 10994	2SC3199-GR/KTC3199-GR
Q2612 *	4822 130 41306	2SC1815GR
Q2615	9965 000 29024	TRANSISTOR 2SD400(F)
Q2615 *	9965 000 29025	TRANSISTOR 2SD400(E)
Q2616	9965 000 23377	RES. BUILT-IN TRANSISTOR KRC103M
Q2616 *	9965 000 29026	RES. BUILT-IN TR 2SC3400
Q2616 *	9965 000 05389	TRANSISTOR BA1F4M-T
Q2617	9965 000 10994	2SC3199-GR/KTC3199-GR
Q2617 *	4822 130 41306	2SC1815GR

INTEGRATED CIRCUITS

IC2551	9965 000 18120	VERTICAL OUTPUT IC LA78040A
IC2551 *	9965 000 29019	VERTICAL OUTPUT IC AN15524A
IC2602	9965 000 29020	VOLTAGE REGULATOR PQ070XF01SZH
IC3603	9965 000 14884	IC KIA431-AT
IC3604	9965 000 14884	IC KIA431-AT

CRT CBA**MISCELLANEOUS**

JK2501! 9965 000 29042 Δ CRT SOCKET ISMS02S

CAPACITORS

C2509	9965 000 13909	CERAMIC CAP. B K 1000PF/2KV OR
C2509 *	9965 000 29035	CERAMIC CAP. B K 1000PF/2KV
C2509 *	9965 000 29036	CERAMIC CAP. B K 1000PF/2KV

RESISTORS

R2516!	9965 000 29040	Δ MET OXIDE RES. 1W J 15K OHM
R2516! *	9965 000 29041	Δ MET OXIDE RES. 1W J 15K OHM
R2517!	9965 000 29040	Δ MET OXIDE RES. 1W J 15K OHM
R2517! *	9965 000 29041	Δ MET OXIDE RES. 1W J 15K OHM
R2518!	9965 000 29040	Δ MET OXIDE RES. 1W J 15K OHM
R2518! *	9965 000 29041	Δ MET OXIDE RES. 1W J 15K OHM

DIODES

D2501	4822 130 32778	1SS133
D2501 *	4822 130 30621	1N4148
D2502	4822 130 32778	1SS133
D2502 *	4822 130 30621	1N4148
D2503	4822 130 32778	1SS133
D2503 *	4822 130 30621	1N4148

TRANSISTORS

Q2501	4822 130 60578	2SC2482
Q2501 *	9965 000 29039	TRANSISTOR KTC3207
Q2502	4822 130 60578	2SC2482
Q2502 *	9965 000 29039	TRANSISTOR KTC3207
Q2503	4822 130 60578	2SC2482
Q2503 *	9965 000 29039	TRANSISTOR KTC3207

FUNCTION CBA**MISCELLANEOUS**

SW2401	9965 000 13864	TACT SWITCH SKQSAB OR
SW2401 *	9965 000 28959	TACT SWITCH KSM0612B
SW2401 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW2402	9965 000 13864	TACT SWITCH SKQSAB OR
SW2402 *	9965 000 28959	TACT SWITCH KSM0612B
SW2402 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW2403	9965 000 13864	TACT SWITCH SKQSAB OR
SW2403 *	9965 000 28959	TACT SWITCH KSM0612B
SW2403 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW2404	9965 000 13864	TACT SWITCH SKQSAB OR
SW2404 *	9965 000 28959	TACT SWITCH KSM0612B
SW2404 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW2405	9965 000 13864	TACT SWITCH SKQSAB OR
SW2405 *	9965 000 28959	TACT SWITCH KSM0612B
SW2405 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW2406	9965 000 13864	TACT SWITCH SKQSAB OR
SW2406 *	9965 000 28959	TACT SWITCH KSM0612B
SW2406 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW2407	9965 000 13864	TACT SWITCH SKQSAB OR
SW2407 *	9965 000 28959	TACT SWITCH KSM0612B
SW2407 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW2408	9965 000 13864	TACT SWITCH SKQSAB OR
SW2408 *	9965 000 28959	TACT SWITCH KSM0612B
SW2408 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)

Note: * Alternative parts

Only the parts mentioned in this list are normal service spare parts.

ELECTRICAL PARTS LIST**MMA CBA**

MMA CBA consists of MAIN and SENSOR CBA

MAIN CBA**MISCELLANEOUS**

BC1600	9965 000 13875	BEAD INDUCTORS FBR07HA121TB-00
BC1605	9965 000 13874	BEAD INDUCTORS FBA04HA600VB-00
BC1606	9965 000 13875	BEAD INDUCTORS FBR07HA121TB-00
BC1607	9965 000 13875	BEAD INDUCTORS FBR07HA121TB-00
F1601!	9965 000 28964	△ FUSE 4.00A/125V
F1601! *	9965 000 28965	△ FUSE 51MS040L
F1601! *	9965 000 28966	△ FUSE STC4A125V U/CT
F1601! *	9965 000 28967	△ FUSE 4.00A/125V
CF1032	9965 000 28962	CER FILTER SFSRA4M50CF00-B0
CF1032 *	9965 000 28963	4.5M FILTER LTH4.5MCB
CL1201	9965 000 28883	FMN CONN. TOP 12P 12FMN-BTRK
JK1701	9965 000 18160	RCA JACK(YELLOW) MTJ-032-05B-20
JK1701 *	9965 000 28968	RCA JACK 1P YEL DA1-05A3N0S001
JK1702	9965 000 18161	RCA JACK(WHITE) MTJ-032-05B-22
JK1702 *	9965 000 28969	RCA JACK 1P WTE DA1-05A4N0S001
JK1703	9965 000 28970	RCA JACK(RED) MTJ-032-05A-21
JK1703 *	9965 000 28971	RCA JACK 1P RED DA1-05A2N1S001
JK1801	9965 000 28972	MINI JACK HJSJ2000-01-010
JK1801 *	9965 000 28973	MINI JACK MSJ-2000
JK1801 *	9965 000 28974	PHONE JACK DP3-25-7-001
PS1601	9965 000 28975	THERMISTOR ZPB45BL3R0A
PS1601 *	9965 000 28976	PTC THERMISTOR WMZ71-3R0N120
RS1201	9965 000 10857	REMOTE RECEIVER
RS1201 *	9965 000 28958	REMOCON RESEVER MIM-0BM6DKF-C
SA1601!	9965 000 20946	△ SURGE ABSORBER PVR-10D471KB
SA1601! *	4822 252 11373	△ JVR-10N471K
SF1001	9965 000 28977	SAW FILTER SAFHM45M7VAJZ01B03
SG1601! *	9965 000 08671	△ GAP. FNR-G3.10D
SW1201	9965 000 13864	TACT SWITCH SKQSAB OR
SW1201 *	9965 000 28959	TACT SWITCH KSM0612B
SW1201 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW1202	9965 000 13864	TACT SWITCH SKQSAB OR
SW1202 *	9965 000 28959	TACT SWITCH KSM0612B
SW1202 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW1203	9965 000 13864	TACT SWITCH SKQSAB OR
SW1203 *	9965 000 28959	TACT SWITCH KSM0612B
SW1203 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW1206	9965 000 13864	TACT SWITCH SKQSAB OR
SW1206 *	9965 000 28959	TACT SWITCH KSM0612B
SW1206 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW1207	9965 000 13864	TACT SWITCH SKQSAB OR
SW1207 *	9965 000 28959	TACT SWITCH KSM0612B
SW1207 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW1208	9965 000 13864	TACT SWITCH SKQSAB OR
SW1208 *	9965 000 28959	TACT SWITCH KSM0612B
SW1208 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW1209	9965 000 13864	TACT SWITCH SKQSAB OR
SW1209 *	9965 000 28959	TACT SWITCH KSM0612B

SW1209 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW1210	9965 000 13864	TACT SWITCH SKQSAB OR
SW1210 *	9965 000 28959	TACT SWITCH KSM0612B
SW1210 *	9965 000 28960	TACT SWITCH TC-1104(H=5.0)
SW1211	9965 000 15333	LEAF SWITCH LSA-1142-1AU
SW1211 *	9965 000 12192	LEAF SWITCH MXS00052MPP0
SW1211 *	9965 000 28961	LEAF SWITCH MXS00981MPP0
SW1212	9965 000 23359	ROTARY MODE SWITCH SSS-53MD
T1601!	9965 000 28978	△ SWITCHING TRANS 4717
T1601! *	9965 000 28979	△ SWITCHING TRANS CGS-SW0032A
TU1001	9965 000 28980	TUNER UNIT TEFH9-001A
VR1601!	9965 000 28985	△ CARBON POT VZ067TL1 B103 PB(F)
W1601!	9965 000 28981	△ AC CORD PB8K9F9110A-057
W1601! *	9965 000 28982	△ AC CORD A0A0280-014
W1601! *	9965 000 28983	△ AC CORD PB8K9F4110AC057
W1601! *	9965 000 28984	△ AC CORD A0A0280-012
X1201	9965 000 09200	X'TAL 32.768KHZ(20PPM)
X1201 *	9965 000 12195	X'TAL 32.768KHZ(20PPM)
X1201 *	9965 000 19592	X'TAL 32.768KHZ(20PPM)
X1201 *	9965 000 12288	X'TAL 32.768KHZ(20PPM)
X1201 *	9965 000 27588	X'TAL 32.768KHZ(20PPM)
X1202	9965 000 28986	XTAL HC-49/U 10.6MHZ
X1202 *	9965 000 28987	XTAL AT49-10.6
X1301	9965 000 28988	XTAL 3.579545 MHZ
X1301 *	9965 000 28989	XTAL 3.579545MHZ(30PPM)
X1401	9965 000 12363	X'TAL 3.579545MHZ(20PPM)
X1401 *	9965 000 24170	X'TAL 3.579545MHZ(20PPM)
X1401 *	9965 000 27587	X'TAL 3.579545MHZ(20PPM)

CAPACITORS

C1604!	9965 000 14280	△ METALLIZED FILM CAP. 0.1UF/250V
C1604! *	9965 000 28884	△ FILM CAP.(MP) 0.1UF/250V K
C1604! *	9965 000 28885	△ MET FILM CAP. 0.1UF/275V K
C1604! *	9965 000 28887	△ LINE ACROSS CAP. 0.1U/250V
C1605!	9965 000 28886	△ MET FILM CAP. 0.22UF/250V
C1605! *	9965 000 28888	△ LINE CAP. 0.22UF/250V
C1606	9965 000 28889	CERAMIC CAP. F Z 0.01UF/500V
C1607	9965 000 28889	CERAMIC CAP. F Z 0.01UF/500V
C1610	9965 000 28895	ELCAP. 470UF/200V
C1611	9965 000 22652	CERAMIC CAP. R K 680PF/2KV(HR)
C1611 *	9965 000 28890	CERAMIC CAP. 680PF/2KV
C1611 *	9965 000 28891	CERAMIC CAP. RB 680PF/2KV
C1615	9965 000 28892	CERAMIC CAP. BN 820PF/2KV
C1615 *	9965 000 28893	CERAMIC CAP. 820PF/2KV
C1615 *	9965 000 28894	CERAMIC CAP RB 820PF/2KV
C1616	9965 000 22655	ELECTROLYTIC CAP. 100UF/160V M
C1616 *	9965 000 28896	ELCAP. 100UF/160V M
C1616 *	9965 000 28897	ELCAP. 100UF/160V M W/F
C1618!	9965 000 25495	△ ELECTROLYTIC CAP. 1000UF/16V M
C1618! *	9965 000 28898	△ ELCAP. 1000UF/16V M(VR/HC)
C1619	9965 000 25495	ELECTROLYTIC CAP. 1000UF/16V M
C1619 *	9965 000 28898	ELCAP. 1000UF/16V M(VR/HC)

ELECTRICAL PARTS LIST

CAPACITORS

C1620	9965 000 25495	ELECTROLYTIC CAP. 1000UF/16V M
C1620 *	9965 000 28898	ELCAP. 1000UF/16V M(VR/HC)
C1630!	9965 000 28899	△ SAFETY CAP. 4700PF/250V KX
C1643	9965 000 24154	ELECTROLYTIC CAP. 1000UF/6.3V M
C1643 *	9965 000 25351	ELECTROLYTIC CAP. 1000UF/6.3V M
C1671	9965 000 28900	CERAMIC CAP. B K 2200PF/500V
C1872	9965 000 06523	CERAMIC CAP. B K 470PF/100V
C1872 *	9965 000 28990	CERAMIC CAP. B K 470PF/500V
C1873	9965 000 28991	FILM CAP.(P) 0.018UF/100V J

RESISTORS

R1261	9965 000 28943	MET OXIDE RES. 1W J 1.2 OHM
R1261 *	9965 000 28944	MET OXIDE RES. 1W J 1.2 OHM
R1602!	9965 000 28945	△ CEMENT RES. 5W K 1.2 OHM
R1602! *	9965 000 28946	△ CEMENT RESISTOR 5W K 1.2 OHM
R1602! *	9965 000 28947	△ CEMENT RES 5W J 1.2 OHM H 10MM
R1603!	9965 000 28948	△ MET OXIDE RES. 2W J 0.33 OHM
R1603! *	9965 000 28949	△ MET OXIDE RES. 2W J 0.33 OHM
R1619	9965 000 28950	MET OXIDE RES. 1W J 2.2K OHM
R1619 *	9965 000 28951	MET OXIDE RES. 1W J 2.2K OHM
R1620	9965 000 28950	MET OXIDE RES. 1W J 2.2K OHM
R1620 *	9965 000 28951	MET OXIDE RES. 1W J 2.2K OHM
R1621	9965 000 28952	MET OXIDE RES. 1W J 4.7K OHM
R1621 *	9965 000 28953	MET OXIDE RES. 1W J 4.7K OHM
R1636	9965 000 28950	MET OXIDE RES. 1W J 2.2K OHM
R1636 *	9965 000 28951	MET OXIDE RES. 1W J 2.2K OHM
R1650	9965 000 28952	MET OXIDE RES. 1W J 4.7K OHM
R1650 *	9965 000 28953	MET OXIDE RES. 1W J 4.7K OHM
R1685	9965 000 28954	METAL RESISTOR 1W J 3.9 OHM
R1685 *	9965 000 28955	MET OXIDE RES. 1W J 3.9 OHM
R1803!	9965 000 28956	△ MET OXIDE RES. 1W J 12 OHM
R1803! *	9965 000 28957	△ MET OXIDE RES. 1W J 12 OHM
R1808!	9965 000 28956	△ MET OXIDE RES. 1W J 12 OHM
R1808! *	9965 000 28957	△ MET OXIDE RES. 1W J 12 OHM

COILS

L1001	9965 000 05627	CHOKE COIL 47UH-K
L1001 *	9965 000 05702	CHOKE COIL 47UH-K
L1001 *	9965 000 23990	CHOKE COIL 47UH-K
L1001 *	9965 000 28934	FIXED INDUCTOR LGB0810TLF-470K
L1031	9965 000 18142	INDUCTOR 10UH-J-26T
L1031 *	9965 000 18142	INDUCTOR 10UH-J-26T
L1032	4822 157 10649	100UH
L1032 *	4822 157 10649	100UH
L1033	9965 000 28935	INDUCTOR 150UH-J-26T
L1033 *	9965 000 28936	INDUCTOR 150UH-K-26T
L1202	9965 000 13857	INDUCTOR 0.10UH-K-26T OR
L1202 *	9965 000 28937	INDUCTOR 0.1UH-M-26T
L1211	9965 000 05627	CHOKE COIL 47UH-K
L1211 *	9965 000 05702	CHOKE COIL 47UH-K
L1211 *	9965 000 23990	CHOKE COIL 47UH-K
L1211 *	9965 000 28934	FIXED INDUCTOR LGB0810TLF-470K

L1402	9965 000 13859	INDUCTOR 22UH-J-26T OR
L1402 *	4822 157 10331	22UH-K-26T
L1403	9965 000 05627	CHOKE COIL 47UH-K
L1403 *	9965 000 05702	CHOKE COIL 47UH-K
L1403 *	9965 000 23990	CHOKE COIL 47UH-K
L1403 *	9965 000 28934	FIXED INDUCTOR LGB0810TLF-470K
L1404	9965 000 05627	CHOKE COIL 47UH-K
L1404 *	9965 000 05702	CHOKE COIL 47UH-K
L1404 *	9965 000 23990	CHOKE COIL 47UH-K
L1404 *	9965 000 28934	FIXED INDUCTOR LGB0810TLF-470K
L1405	9965 000 28938	INDUCTOR 47UH-J-26T
L1405 *	4822 157 10343	47UH
L1601!	9965 000 28940	△ LINE FILTER 2.7MH ELF15N013A
L1872	9965 000 28939	INDUCTOR 47UH-K-5FT

DIODES

D1204	9965 000 28901	LED LTL-4214M1
D1204 *	9965 000 28902	LED LAMP 333HT/F45-50K
D1204 *	9965 000 28903	LED LAMP 333HT/F45-50L
D1216	9965 000 28904	LED LAMP 333GT/F45-50
D1216 *	9965 000 08622	ZENER DIODE DZ-5.6BSBT265
D1217	9965 000 28901	LED LTL-4214M1
D1217 *	9965 000 28902	LED LAMP 333HT/F45-50K
D1217 *	9965 000 28903	LED LAMP 333HT/F45-50L
D1219	4822 130 83166	MTZJ6.2B
D1219 *	9965 000 27569	ZENER DIODE DZ-6.2BSBT265
D1224	9965 000 05250	LED SIR-563ST3F P
D1224 *	9965 000 05648	LED SIR-563ST3F Q
D1224 *	9965 000 19572	LED MIE-534A2
D1229	9965 000 18091	ZENER DIODE MTZJT-7715B
D1229 *	9965 000 28905	ZENER DIODE DZ-15BSBT265
D1230	9965 000 18091	ZENER DIODE MTZJT-7715B
D1230 *	9965 000 28905	ZENER DIODE DZ-15BSBT265
D1231	9965 000 28906	ZENER DIODE MTZJT-7718A
D1231 *	9965 000 28907	ZENER DIODE DZ-18BSAT265
D1232	4822 130 83166	MTZJ6.2B
D1232 *	9965 000 27569	ZENER DIODE DZ-6.2BSBT265
D1234	4822 130 32778	1SS133
D1234 *	4822 130 30621	1N4148
D1237	4822 130 83166	MTZJ6.2B
D1237 *	9965 000 27569	ZENER DIODE DZ-6.2BSBT265
D1302	4822 130 32778	1SS133
D1302 *	4822 130 30621	1N4148
D1303	4822 130 32778	1SS133
D1303 *	4822 130 30621	1N4148
D1304	4822 130 32778	1SS133
D1304 *	4822 130 30621	1N4148
D1305	4822 130 32778	1SS133
D1305 *	4822 130 30621	1N4148
D1311	4822 130 32778	1SS133
D1311 *	4822 130 30621	1N4148
D1318	4822 130 32778	1SS133

ELECTRICAL PARTS LIST**TRANSISTORS**

Q1401 *	4822 130 10462	KTA1267-GR
Q1401 *	4822 130 11101	2SA1015GR
Q1402	9965 000 05644	TRANSISTOR 2SA1175(F)
Q1402 *	4822 130 10462	KTA1267-GR
Q1402 *	4822 130 11101	2SA1015GR
Q1403	9965 000 05644	TRANSISTOR 2SA1175(F)
Q1403 *	4822 130 10462	KTA1267-GR
Q1403 *	4822 130 11101	2SA1015GR
Q1404	9965 000 05643	TRANSISTOR 2SC2785(F)
Q1404 *	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1404 *	4822 130 41306	2SC1815GR
Q1601!	9965 000 25510	△ MOS FET 2SK3563
Q1601! *	9965 000 28941	△ MOS FET RDX050N50 FD5
Q1602!	9965 000 28942	△ TRANSISTOR 2SC2120-O-TPE2
Q1602! *	9965 000 21660	△ TOSHIBA 2SC2120-Y
Q1604!	9965 000 05643	△ TRANSISTOR 2SC2785(F)
Q1604! *	9965 000 10994	△ 2SC3199-GR/KTC3199-GR
Q1604! *	4822 130 41306	△ 2SC1815GR
Q1605	9965 000 05643	TRANSISTOR 2SC2785(F)
Q1605 *	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1605 *	4822 130 41306	2SC1815GR
Q1606!	4822 130 63665	△ 2SA950-O
Q1606! *	9965 000 28992	△ TRANSISTOR 2SA950(Y)
Q1606! *	9965 000 28993	△ TRANSISTOR KTA1271(Y)
Q1607!	9965 000 05643	△ TRANSISTOR 2SC2785(F)
Q1607! *	9965 000 10994	△ 2SC3199-GR/KTC3199-GR
Q1607! *	4822 130 41306	△ 2SC1815GR
Q1609	9965 000 28942	TRANSISTOR 2SC2120-O-TPE2
Q1609 *	9965 000 21660	TOSHIBA 2SC2120-Y
Q1613	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1613 *	4822 130 41306	2SC1815GR
Q1614	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1614 *	4822 130 41306	2SC1815GR
Q1681!	9965 000 28942	△ TRANSISTOR 2SC2120-O-TPE2
Q1681! *	9965 000 21660	△ TOSHIBA 2SC2120-Y
Q1682!	9965 000 28942	△ TRANSISTOR 2SC2120-O-TPE2
Q1682! *	9965 000 21660	△ TOSHIBA 2SC2120-Y
Q1683!	9965 000 28942	△ TRANSISTOR 2SC2120-O-TPE2
Q1683! *	9965 000 21660	△ TOSHIBA 2SC2120-Y
Q1688!	9965 000 28942	△ TRANSISTOR 2SC2120-O-TPE2
Q1688! *	9965 000 21660	△ TOSHIBA 2SC2120-Y
Q1701	9965 000 05643	TRANSISTOR 2SC2785(F)
Q1701 *	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1701 *	4822 130 41306	2SC1815GR
Q1871	9965 000 05644	TRANSISTOR 2SA1175(F)
Q1871 *	4822 130 10462	KTA1267-GR
Q1871 *	4822 130 11101	2SA1015GR
Q1872	9965 000 28942	TRANSISTOR 2SC2120-O-TPE2
Q1872 *	9965 000 21660	TOSHIBA 2SC2120-Y
Q1873	4822 130 10097	2SC3331T
Q1873 *	9965 000 05646	TRANSISTOR 2SC3331(U)
Q1873 *	4822 130 41306	2SC1815GR

Q1874	4822 130 10097	2SC3331T
Q1875	4822 130 10145	KRA103M
Q1875 *	9965 000 05388	TRANSISTOR BN1F4M-T

INTEGRATED CIRCUITS

IC1001	9965 000 28925	IC VIF/SIF M61116FP TF0G
IC1201!	9965 000 29252	△ MICRO COMPUTER M3776AMCH-BA3GP
IC1202	9965 000 06554	IC:MEMORY BR24C02F-W
IC1202 *	9965 000 16620	IC:EEPROM CAT24WC02JI
IC1202 *	9965 000 28927	IC(EEP-ROM) M24C02-WMN6
IC1202 *	9965 000 23983	IC BR24L02F-WE2
IC1301!	9965 000 28928	△ VCD IC M61275FP-TF3H
IC1401	9965 000 24158	IC:Y/C/A LA71205M-MPB-E
IC1601!	9965 000 09187	△ PHOTOCOUPLER LTV-817C-F
IC1601! *	9965 000 28929	△ PHOTO COUPLER PC817X6
IC1682!	9965 000 13851	△ VOLTAGE REGULATOR KIA7805API OR
IC1682! *	9965 000 28930	△ VOLTAGE REGULATOR KA7805A
IC1682! *	9965 000 28931	△ 3-TERMINAL REGULATORS UA7805CKC
IC1701	9965 000 07817	AN3663FBP
IC1803	9965 000 28933	IC AN17812A

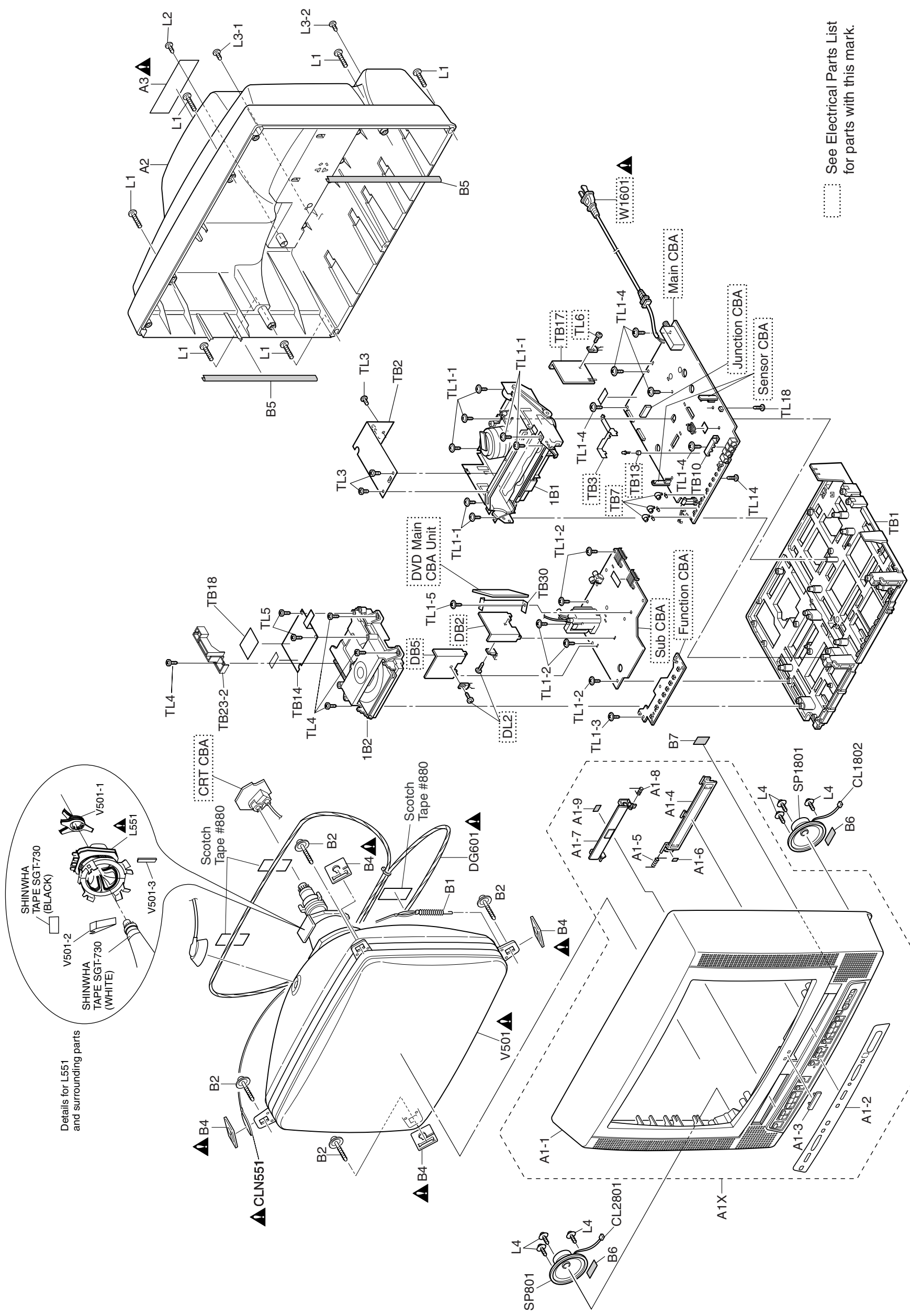
SENSOR CBA

Q201	9965 000 20922	PHOTO TRANSISTOR MID-32A22F
Q201 *	9965 000 08630	PHOTO TRANSISTOR PT204-6B-12
Q202	9965 000 20922	PHOTO TRANSISTOR MID-32A22F
Q202 *	9965 000 08630	PHOTO TRANSISTOR PT204-6B-12

Note: * Alternative parts

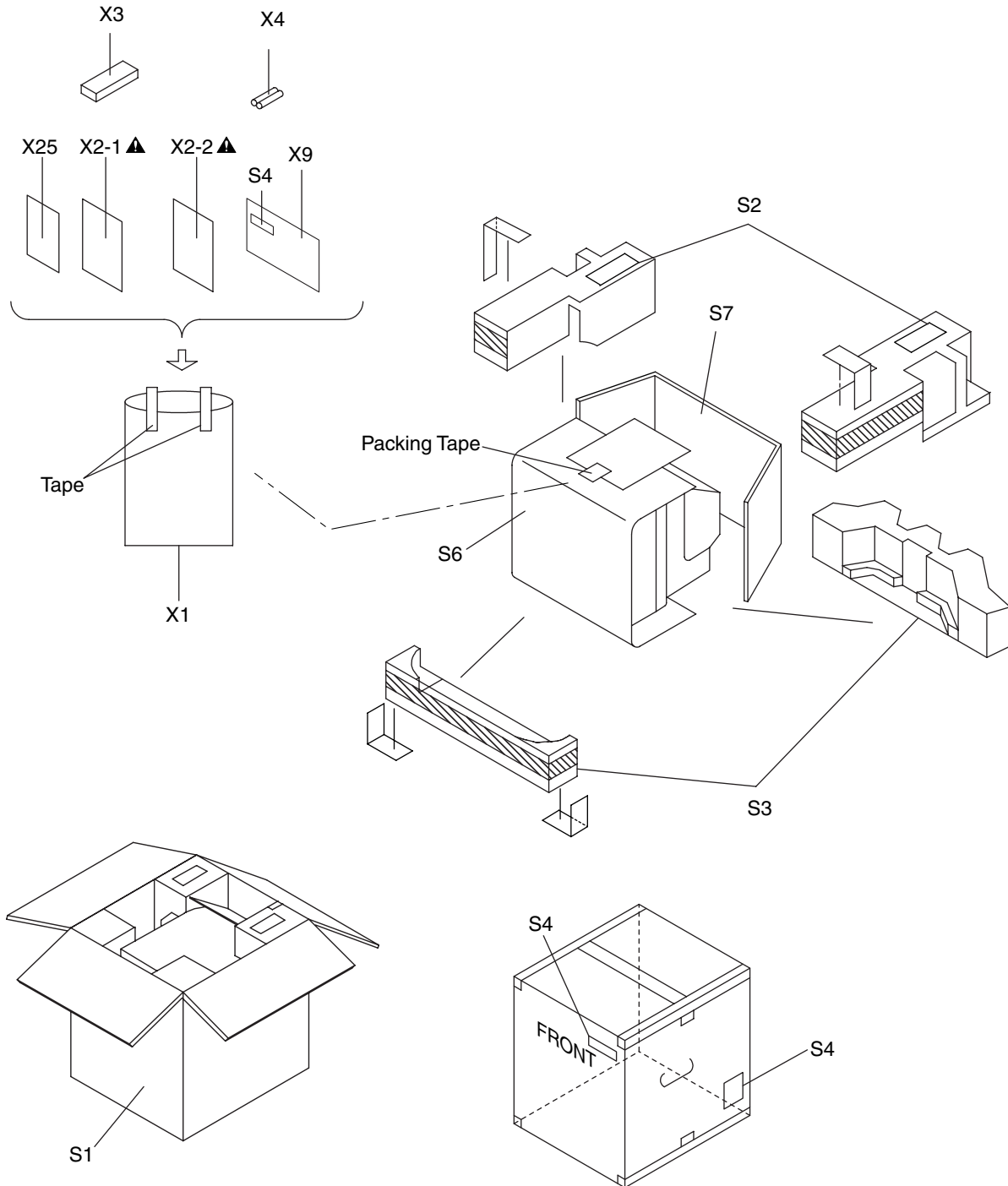
Only the parts mentioned in this list are normal service spare parts.

EXPLODED VIEWS



See Electrical Parts List for parts with this mark.

Packing



MECHANICAL SET & ACCESSORY PARTS LIST**ELECTRICAL PARTS**

	9965 000 28878		DVD MAIN CBA UNIT
	9965 000 29046		MMA CBA
	9965 000 29338		MPS CBA (SUB CRT FUN JUN CBA)
	9965 000 28882		SENSOR CBA
DG601!	9965 000 29335	△	DEGAUSSING COIL AVDG172
DG601! *	9965 000 29336	△	DEGAUSSING COIL F-55
DG601! *	9965 000 29337	△	DEGAUSSING COIL AI-011-00
SP801	9965 000 13829		SPEAKER S08F02B OR
SP801 *	9965 000 18085		SPEAKER ASSY
SP1801	9965 000 13829		SPEAKER S08F02B OR
SP1801 *	9965 000 18085		SPEAKER ASSY

CRT Type A : A48AKH13X01 K

V501!	9965 000 29339	△	CRT A48AKH13X01 K W/COILS COMP
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CRT Type B : A48AKH13X

L551!	9965 000 29340	△	DEFLECTION YOKE KDY3MDD74X
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V501!	9965 000 29341	△	CRT A48AKH13X
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CRT Type C : A48LRH93X(W)D OR A48LRH93X(W)

L551!	9965 000 29342	△	DEFLECTION YOKE LLBY00ZSY007
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L551! *	9965 000 29343	△	DEFLECTION YOKE CDY-M2023F
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L551! *	9965 000 29344	△	DEFLECTION YOKE TMY0301F
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V501!	9965 000 29345	△	CRT A48LRH93X(W)D
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V501! *	9965 000 29346	△	CRT A48LRH93X(W)
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CRT Type D : A48LGS30X

L551!	9965 000 29347	△	DEFLECTION YOKE KDY3MCB20X
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L551! *	9965 000 29348	△	DEFLECTION YOKE 330P510A37
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V501!	9965 000 29349	△	CRT A48LGS30X
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MECHANICAL PARTS

1B1	9965 000 28865		DECK ASSEMBLY CZD014/VM2466
1B2	9965 000 28866		DVD MECHA E6 N79U0JVM
A1-1	9965 000 29330		FRONT CABINET TD857UH
A1-2	9965 000 29331		CONTROL PLATE T0102UC
A1-3	9965 000 28861		BADGE BRAND T7310UL ~MAGNAVOX~
A1-4	9965 000 29332		DOOR CASSETTE TD957UH
A1-7	9965 000 29333		TRAY PANEL TD857UH
A1X	9965 000 29329		FRONT CABINET ASSEMBLY T0102UC
A2	9965 000 29334		REAR CABINET T0006UG
B1	9965 000 28867		SPRING TENSION B0080B0 EM40808
TB1	9965 000 28874		TRAY CHASSIS T1100UA
X3	9965 000 28877		REM CONTROL 189/ERC001/NE206UD

Note: * Alternative parts

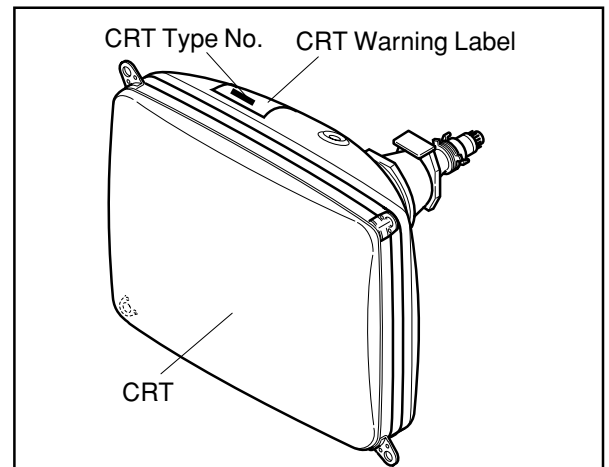
Only the parts mentioned in this list are normal service spare parts.

V501 and L551 Combination

Note 1: Purity and Convergence Adjustments must be performed following CRT replacement. Refer to Electrical Adjustment Instructions.

Note 2: Please confirm CRT Type No. on the CRT Warning Label which is located on the CRT. then see table below for V501 and L551 combination.

V501: CRT Type No.	L551 Deflection coil part code.
A48AKH13X01 K	-----
A48AKH13X	Refer to CRT Type Set B
A48LRH93X(W)D	Refer to CRT Type Set C
A48LRH93X(W)	Refer to CRT Type Set C
A48LGS30X	Refer to CRT Type Set D

CRT Warning Label Location

DECK MECHANISM SECTION

Color TV with Built-In VCR/DVD Player

Sec. 2: Deck Mechanism Section

- Standard Maintenance
- Mechanism Alignment Procedures
- Disassembly / Assembly of Mechanism
- Deck Exploded Views
- Deck Parts List

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STANDARD MAINTENANCE

Service Schedule of Components

This maintenance chart shows you the standard of replacement and cleaning time for each part. Because those may replace depending on environment and purpose for use, use the chart for reference.

Deck		Periodic Service Schedule			
Ref.No.	Part Name	1,000 h	2,000 h	3,000 h	4,000 h
B2	Cylinder Assembly	○	●	○	●
B3	Loading Motor Assembly			●	
B8	Pulley Assembly		●		●
B587	Tension Lever Assembly		●		●
B31	ACE Head Assembly			●	
B573, B574	Reel (SP)(D2), Reel (TU)(D2)			●	
B37	Capstan Motor		●		●
B52	Cap Belt		●		●
B73	FE Head			●	
B133, B134	Idler Gear, Idler Arm		●		●
B410	Pinch Arm (A) Assembly		●		●
B414	M Brake (SP) Assembly		●		●
B416	M Brake (TU) Assembly		●		●
B525	LDG Belt		●		●
B593	Cam Holder Assembly		●		●

Notes:

1. Clean all parts for the tape transport (Upper Drum with Video Head / Pinch Roller / ACE Head / FE Head) using 90% ethyl alcohol.
2. After cleaning the parts, do all DECK ADJUSTMENTS.
3. For the reference numbers listed above, refer to Deck Exploded Views.

Cleaning

Cleaning of Video Head

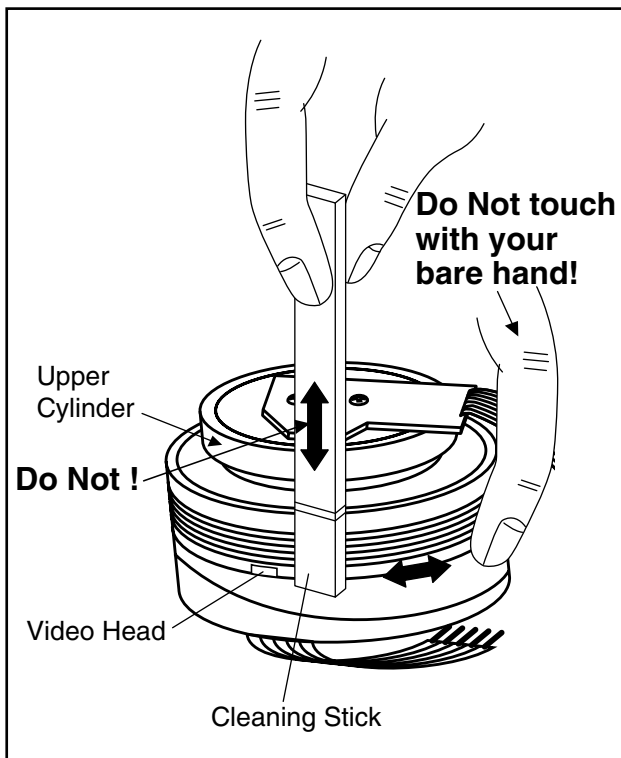
Clean the head with a head cleaning stick or chamois cloth.

Procedure

1. Remove the top cabinet.
2. Put on a glove (thin type) to avoid touching the upper and lower drum with your bare hand.
3. Put a few drops of 90% ethyl alcohol on the head cleaning stick or on the chamois cloth and, by slightly pressing it against the head tip, turn the upper drum to the right and to the left.

Notes:

1. The video head surface is made of very hard material, but since it is very thin, avoid cleaning it vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit.
3. Do not reuse a stained head cleaning stick or a stained chamois cloth.



Cleaning of ACE Head

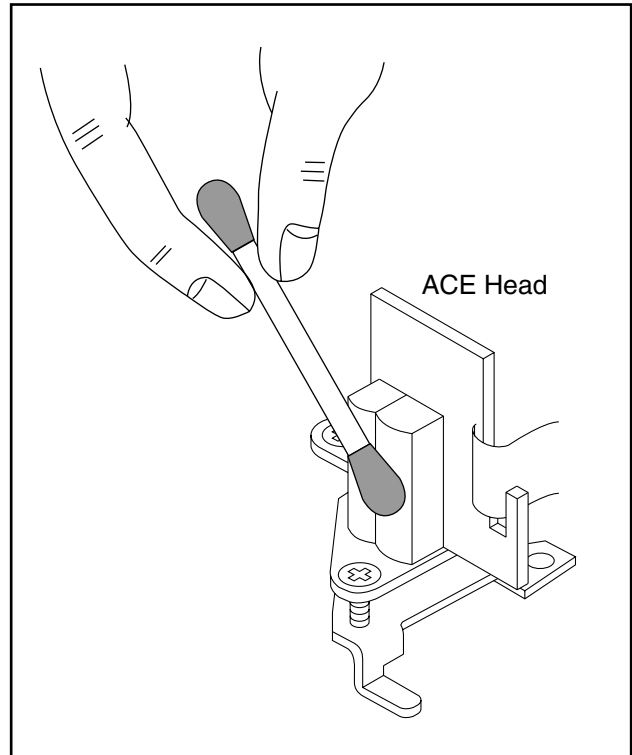
Clean the head with a cotton swab.

Procedure

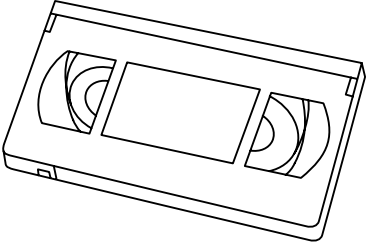
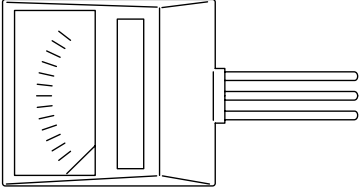
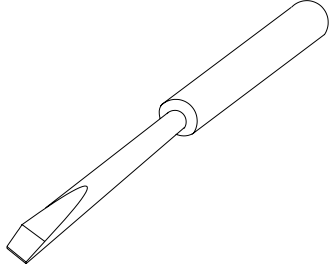
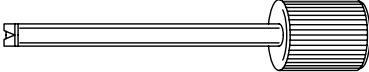
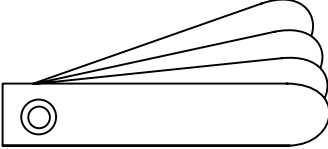

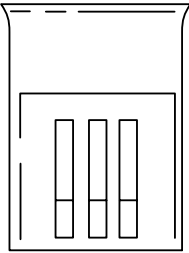
1. Remove the top cabinet.
2. Dip the cotton swab in 90% ethyl alcohol and clean the ACE Head. Be careful not to damage the upper drum and other tape running parts.

Notes:

1. Avoid cleaning the ACE Head vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit or damage may occur.



SERVICE FIXTURE AND TOOLS

<p>VFMS0001H6 Alignment Tape</p>  A rectangular alignment tape with two circular windows on the left side.	<p>Back Tension Meter (Made in USA)</p>  A rectangular device with a scale on the left and three parallel rods extending from the right.	<p>Flat Screw Driver (Purchase Locally)</p>  A long, thin screwdriver with a flat tip and a cylindrical handle.
<p>Post Adjustment Screwdriver</p>  A screwdriver with a long, thin shaft and a cylindrical handle with a textured grip.	<p>Metric Thickness Gauges (Purchase Locally)</p>  A set of three overlapping, fan-shaped gauges with a circular hole on the left side.	<p>Lock Screw Driver (Purchase Locally)</p>  A long, thin screwdriver with a hook-shaped tip and a small notch at the end of the handle.
<p>Head Cleaning Stick</p>  A rectangular package containing three vertical cleaning sticks.		

MECHANICAL ALIGNMENT PROCEDURES

Explanation of alignment for the tape to correctly run starts on the next page. Refer to the information below on this page if a tape gets stuck, for example, in the mechanism due to some electrical trouble of the unit.

Service Information

A. Method for Manual Tape Loading/Unloading

To load a cassette tape manually:

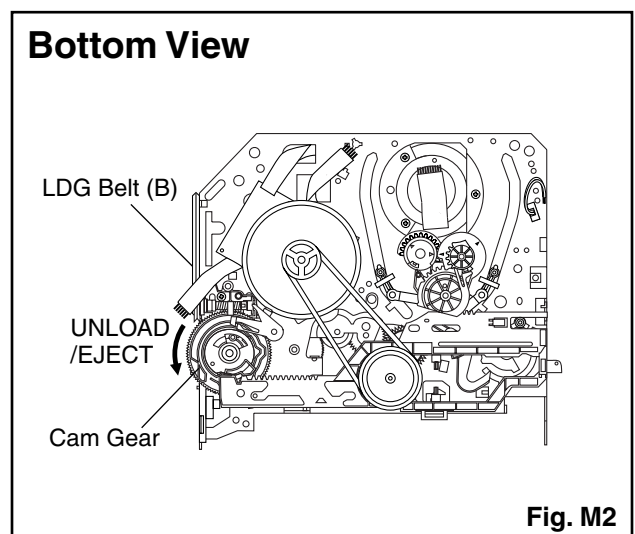
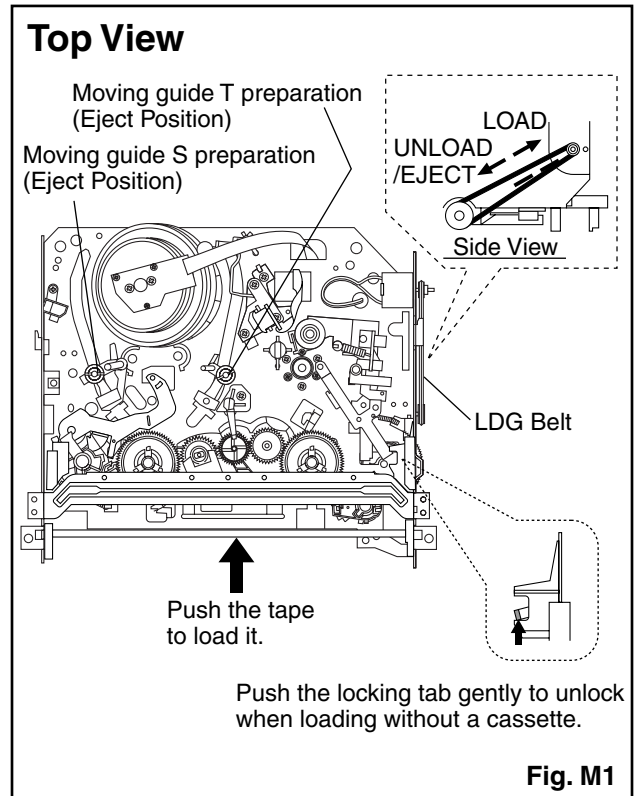
1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Insert a cassette tape. Though the tape will not be automatically loaded, make sure that the cassette tape is all the way in at the inlet of the Cassette Holder. To confirm this, lightly push the cassette tape further in and see if the tape comes back out, by a spring motion, just as much as you have pushed in.
4. Turn the LDG Belt in the appropriate direction shown in Fig. M1 for a minute or two to complete this task.

To unload a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Make sure that the Moving guide preparations are in the Eject Position.
4. Turn the LDG Belt in the appropriate direction shown in Fig. M1 until the Moving guide preparations come to the Eject Position. Stop turning when the preparations begin clicking or can not be moved further. However, the tape will be left wound around the cylinder.
5. Turn the LDG Belt in the appropriate direction continuously, and the cassette tape will be ejected. Allow a minute or two to complete this task.

B. Method to place the Cassette Holder in the tape-loaded position without a cassette tape

1. Disconnect the AC Plug.
2. Remove the Top Case and Front Assembly.
3. Turn the LDG Belt in the appropriate direction shown in Fig. M1. Release the locking tabs shown in Fig. M1 and continue turning the LDG Belt until the Cassette Holder comes to the tape-loaded position. Allow a minute or two to complete this task.



1. Tape Interchangeability Alignment

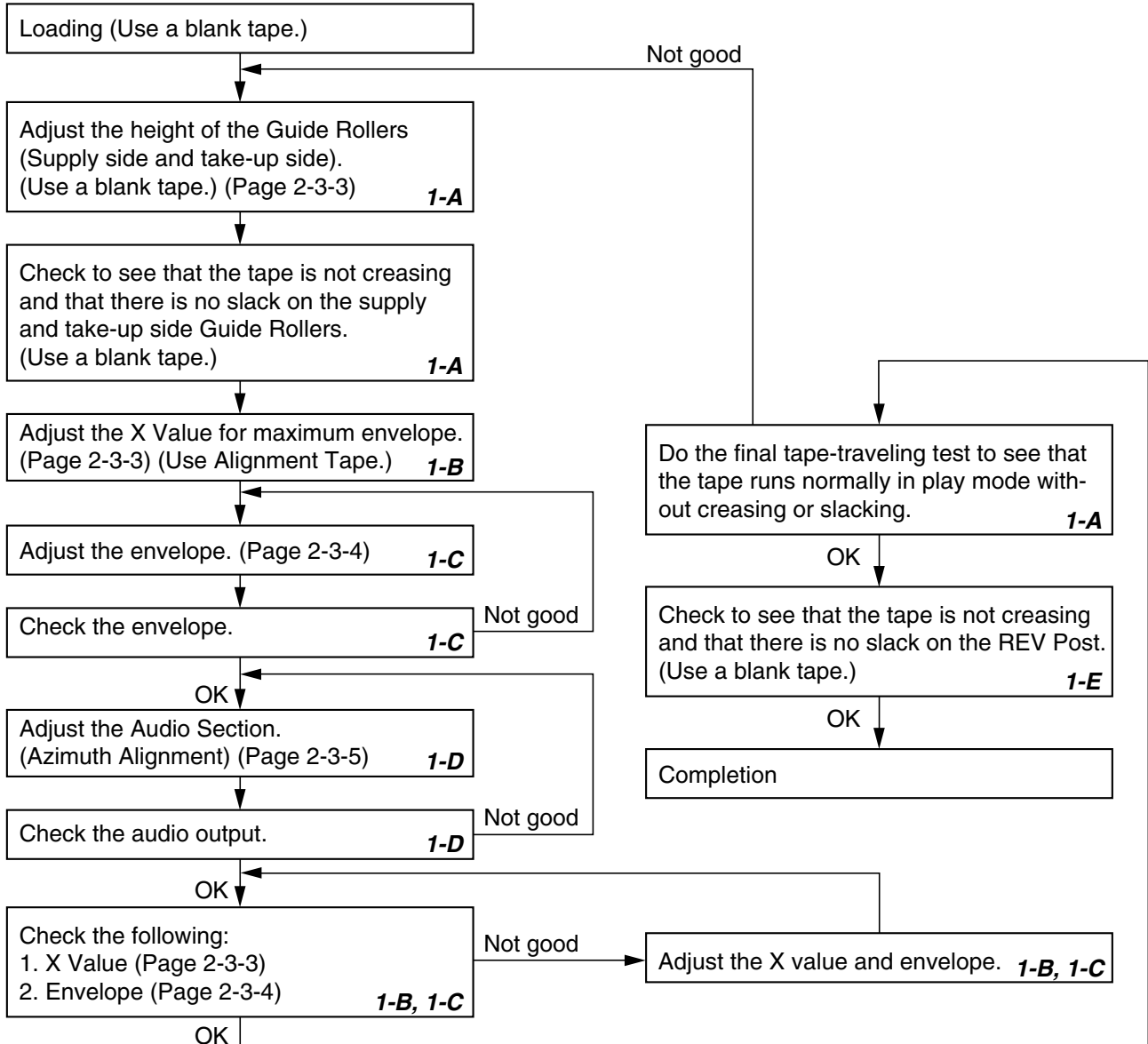
Note: To do these alignment procedures, make sure that the Tracking Control Circuit is set to the preset position every time a tape is loaded or unloaded. (Refer to page 2-3-4, procedure 1-C, step 2.)

Equipment required:

- Dual Trace Oscilloscope
- VHS Alignment Tape (VFMS0001H6)
- Guide Roller Adj. Screwdriver
- Flat Screwdriver (Purchase Locally)

Note: Before starting this Mechanical Alignment, do all Electrical Adjustment procedures.

Flowchart of Alignment for tape traveling



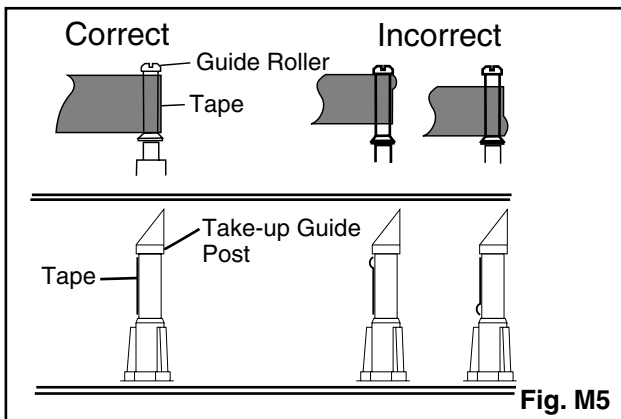
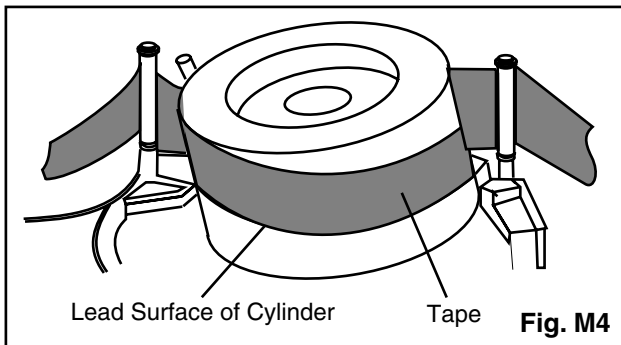
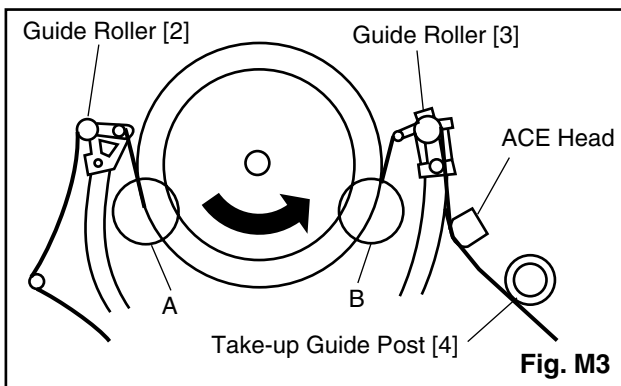
1-A. Preliminary/Final Checking and Alignment of Tape Path

Purpose: To make sure that the tape path is well stabilized.

Symptom of Misalignment: If the tape path is unstable, the tape will be damaged.

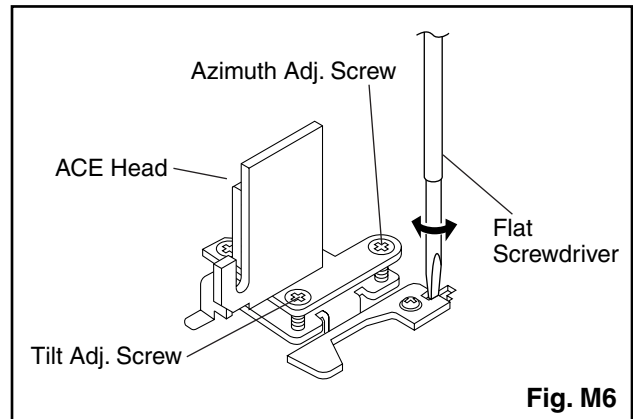
Note: Do not use an Alignment Tape for this procedure. If the unit is not correctly aligned, the tape may be damaged.

1. Playback a blank cassette tape and check to see that the tape runs without creasing at Guide Rollers [2] and [3], and at points A and B on the lead surface. (Refer to Fig. M3 and M4.)
2. If creasing is apparent, align the height of the guide rollers by turning the top of Guide Rollers [2] and [3] with a Guide Roller Adj. Screwdriver. (Refer to Fig. M3 and M5.)



3. Check to see that the tape runs without creasing at Take-up Guide Post [4] or without snaking between Guide Roller [3] and ACE Head. (Fig. M3 and M5)

4. If creasing or snaking is apparent, adjust the Tilt Adj. Screw of the ACE Head. (Fig. M6)



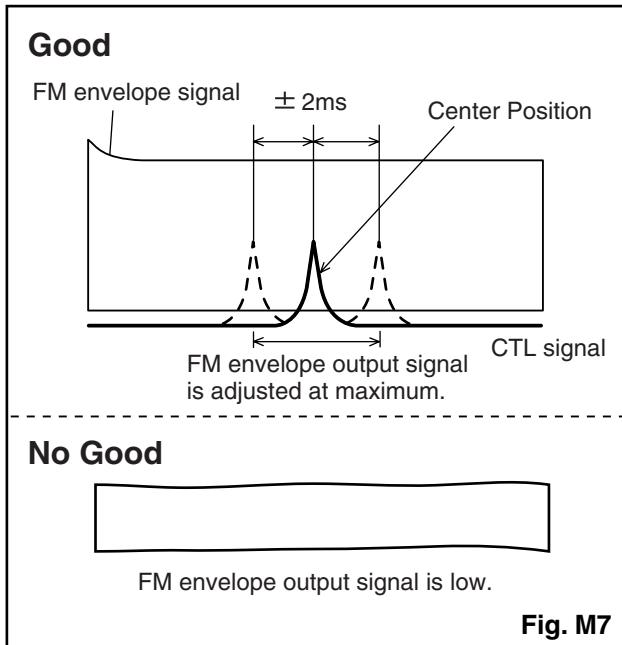
1-B. X Value Alignment

Purpose: To obtain maximum PB FM envelope signal at the preset position of the Tracking Control Circuit, align the Horizontal Position of the ACE Head.

Symptom of Misalignment: If the Horizontal Position of the ACE Head is not properly aligned, maximum PB FM envelope cannot be obtained at the preset position of the Tracking Control Circuit.

1. Connect the oscilloscope to TP (C-PB and CTL) on the Main CBA. Use TP (RF-SW) as a trigger.
2. Playback the Gray Scale of the Alignment Tape (VFMS0001H6) and confirm that the PB FM signal is present.
3. Set the Tracking Control Circuit to the preset position by pressing [CHANNEL ▲] button then [PLAY] button on the unit. (Refer to note on bottom of page 2-3-4.)
4. Use the Flat Screwdriver so that the PB FM signal at TP (C-PB) is maximum. (Fig. M6)

- To shift the CTL waveform, press [CHANNEL ▲] or [CHANNEL ▼] buttons on the unit. Then make sure that the maximum output position of PB FM envelope signal become within $\pm 2\text{ms}$ from preset position.



- Set the Tracking Control Circuit to the preset position by pressing [CHANNEL ▲] button and then [PLAY] button on the unit.

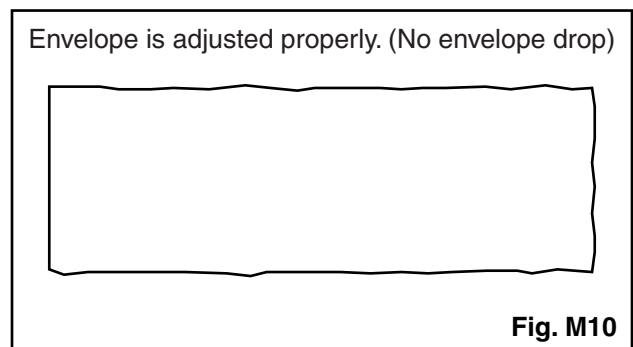
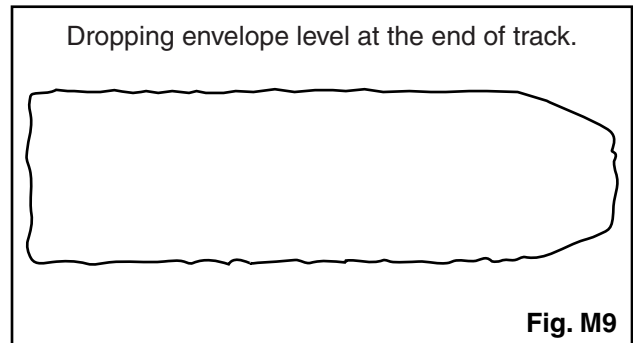
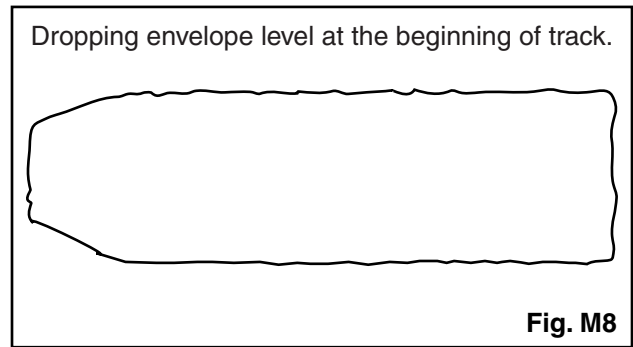
1-C. Checking/Adjustment of Envelope Waveform

Purpose: To achieve a satisfactory picture, adjust the PB FM envelope becomes as flat as possible.

Symptom of Misalignment: If the envelope output is poor, noise will appear in the picture. The tracking will then lose precision and the playback picture will be distorted by any slight variation of the Tracking Control Circuit.

- Connect the oscilloscope to TP (C-PB) on the Main CBA. Use TP (RF-SW) as a trigger.
- Playback the Gray Scale on the Alignment Tape (VFMS0001H6). Set the Tracking Control Circuit to the preset position by pressing [CHANNEL ▲] button and then [PLAY] button on the unit. Adjust the height of Guide Rollers [2] and [3] (Fig. M3, Page 2-3-3) watching the oscilloscope display so that the envelope becomes as flat as possible. To do this adjustment, turn the top of the Guide Roller with the Guide Roller Adj. Screwdriver.
- If the envelope is as shown in Fig. M7, adjust the height of Guide Roller [2] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
- If the envelope is as shown in Fig. M8, adjust the height of Guide Roller [3] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
- When Guide Rollers [2] and [3] (Refer to Fig. M3) are aligned properly, there is no envelope drop

either at the beginning or end of track as shown in Fig. M9.



Note: Upon completion of the adjustment of Guide Rollers [2] and [3] (Refer to Fig. M3), check the X Value by pushing the [CHANNEL ▲] or [CHANNEL ▼] buttons on the unit alternately, to check the symmetry of the envelope. Check the number of pushes to ensure preset position. The number of pushes [CHANNEL ▲] button on the unit to achieve 1/2 level of envelope should match the number of pushes [CHANNEL ▼] button on the unit from center. If required, redo the "X Value Alignment."

1-D. Azimuth Alignment of Audio/Control/ Erase Head

Purpose: To correct the Azimuth alignment so that the Audio/Control/Erase Head meets tape tracks properly.

Symptom of Misalignment: If the position of the Audio/Control/Erase Head is not properly aligned, the Audio S/N Ratio or Frequency Response will be poor.

1. Connect the oscilloscope to the audio output jack on the rear side of the deck.
2. Playback the alignment tape (VFMS0001H6) and confirm that the audio signal output level is 8kHz.
3. Adjust Azimuth Adj. Screw so that the output level on the AC Voltmeter or the waveform on the oscilloscope is at maximum. (Fig. M6)

Note: Upon completion of the adjustment of Azimuth Adj. Screw, check the X Value by pushing the [CHANNEL ▲] or [CHANNEL ▼] buttons on the unit alternately, to check the symmetry of the envelope. Check the number of pushes to ensure preset position. The number of pushes [CHANNEL ▲] button to achieve 1/2 level of envelope should match the number of pushes [CHANNEL ▼] button from center. If required, redo the "X Value Alignment."

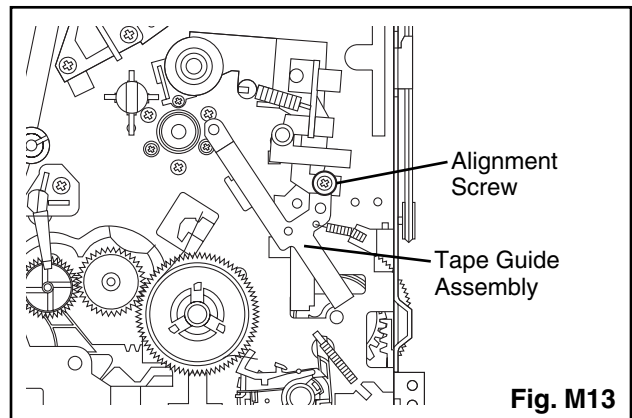
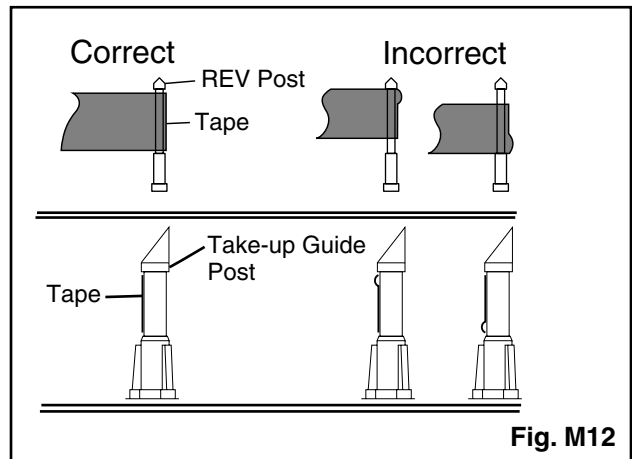
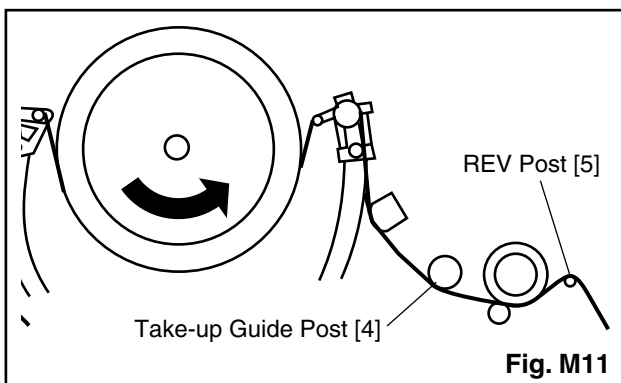
1-E. Checking and Alignment of Tape Path during reversing

Purpose: To make sure that the tape path is well stabilized during reversing.

Symptom of Misalignment: If the tape path is unstable during reversing, the tape will be damaged.

Note: Do not use an Alignment Tape for this procedure. If the unit is not correctly aligned, the tape may be damaged.

1. Insert a blank cassette tape into the tray and set the unit to REV. Then confirm if the tape has been curled up or bent at the Take-up Guide Post[4] or REV Post[5]. (Refer to Fig. M11 and M12.)
2. When the tape has been curled up or bent, turn the alignment screw to adjust the height of REV Post. (Refer to Fig. M11 and M13.)



DISASSEMBLY/ASSEMBLY PROCEDURES OF DECK MECHANISM

Before following the procedures described below, be sure to remove the deck assembly from the cabinet. (Refer to CABINET DISASSEMBLY INSTRUCTIONS of Main Section.)

All the following procedures, including those for adjustment and replacement of parts, should be done in Eject mode; see the positions of [41] and [42] in Fig. DM1 on page 2-4-3. When reassembling, follow the steps in reverse order.

Step /Loc. No.	Starting No.	Part		Removal		Installation
				Fig. No.	Remove/*Unhook/Unlock/Release/Unplug/Desolder	Adjustment Condition
[1]	[1]	Guide Holder A	T	DM3	2(S-1)	
[2]	[1]	Cassette Holder Assembly	T	DM4	(S-10)	
[3]	[2]	Slider (SP)	T	DM5	(S-1A), *(L-1)	
[4]	[2]	Slider (TU)	T	DM5	*(L-2)	
[5]	[4]	Lock Lever	T	DM5	*(L-3), *(P-1)	
[6]	[2]	Cassette Plate	T	DM5		
[7]	[7]	Cylinder Assembly	T	DM1, DM6	Desolder, 3(S-2)	
[8]	[8]	Loading Motor Assembly	T	DM1, DM7	Desolder, LDG Belt, 2(S-3)	
[9]	[9]	ACE Head Assembly	T	DM1, DM7	(S-4)	
[10]	[2]	Tape Guide Arm Assembly	T	DM1, DM8-1	*(P-2)	
[11]	[10]	C Door Opener	T	DM1, DM8-1	(S-4A), *(L-4)	
[12]	[11]	Pinch Arm (B)	T	DM1, DM8-1, DM8-2	*(P-3)	
[13]	[12]	Pinch Arm (A) Assembly	T	DM1, DM8-1, DM8-2		
[14]	[14]	FE Head	T	DM1, DM9	(S-5)	
[15]	[15]	Prism	T	DM1, DM9	(S-6)	
[16]	[2],[15]	Sensor Gear	T	DM1, DM9		
[17]	[2]	Slider Shaft	T	DM10	*(L-5)	
[18]	[17]	C Drive Lever (SP)	T	DM10		
[19]	[17]	C Drive Lever (TU)	T	DM10	(S-7), *(P-4)	
[20]	[7],[8],[10]	Capstan Motor	B	DM2, DM11	3(S-8), Cap Belt	
[21]	[21]	Clutch Assembly	B	DM2, DM12	(C-1)	
[22]	[22]	Cam Holder Assembly	B	DM2, DM12	*(L-6)	
[23]	[23]	Cam Gear (B)	B	DM2, DM12	(C-2), *(P-5)	
[24]	[24]	Mode Gear	B	DM2, DM13-1	(C-3)	
[25]	[21],[23],[24]	Mode Lever	B	DM2, DM13-1, DM13-2	(C-4), *(L-8)	
[26]	[22]	Worm Holder	B	DM2, DM13-1	(S-9), *(L-9), *(L-10)	
[27]	[26]	Pulley Assembly	B	DM2, DM13-1		
[28]	[25], [26]	Cam Gear (A)	B	DM2, DM13-1, DM13-2		
[29]	[25]	Idler Gear	B	DM1, DM14		
[30]	[29]	Idler Arm	B	DM1, DM14	*(L-11)	
[31]	[25]	BT Arm	B	DM2, DM14	*(P-6)	

Top View

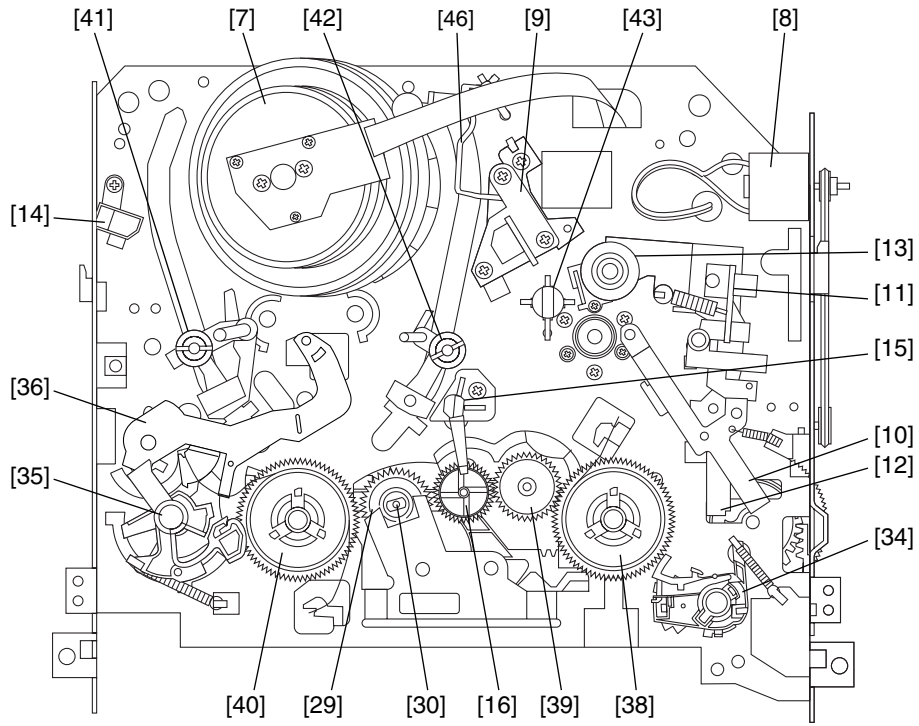


Fig. DM1

Bottom View

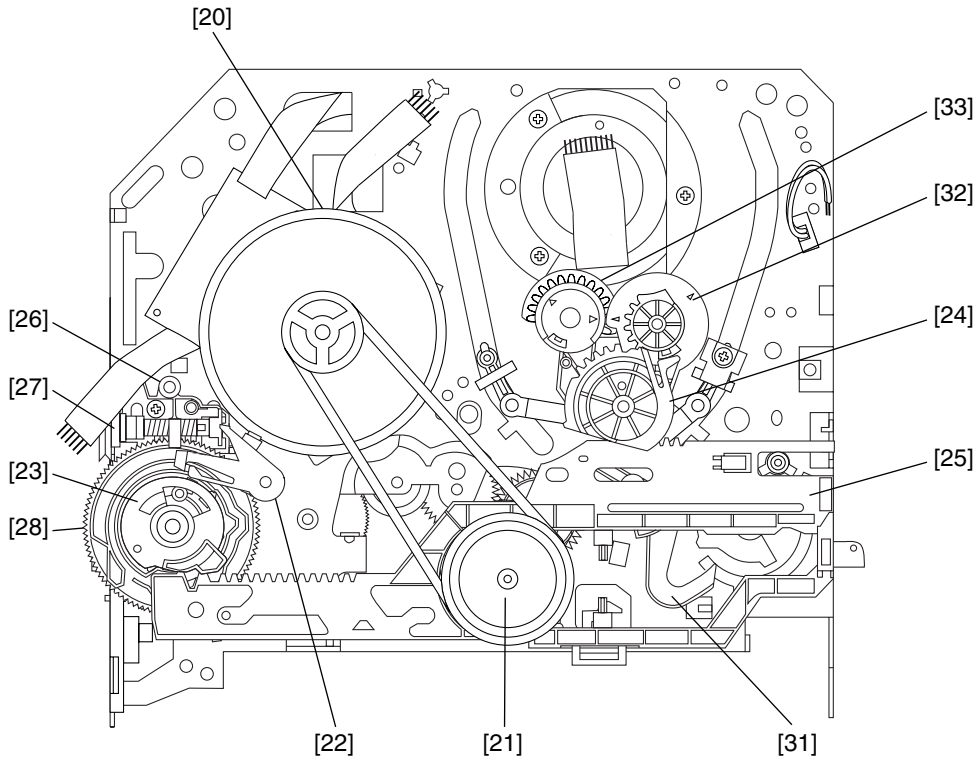


Fig. DM2

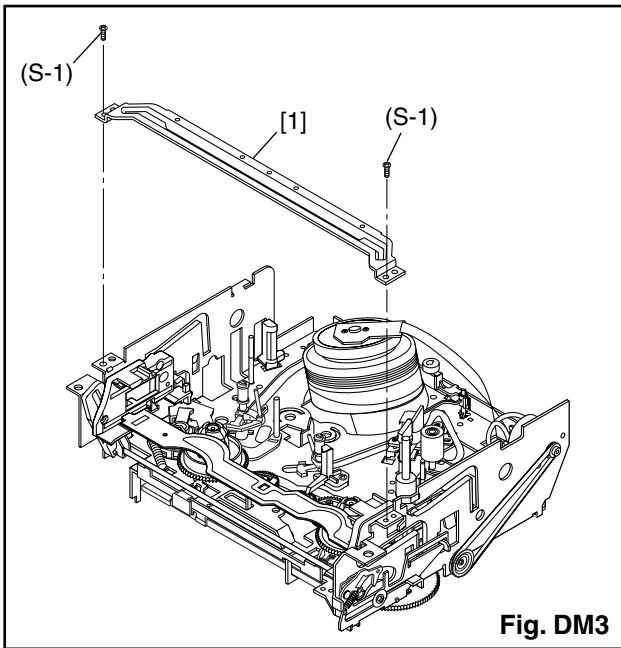
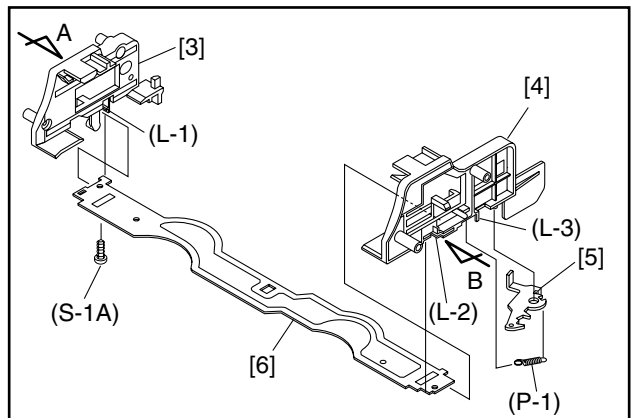
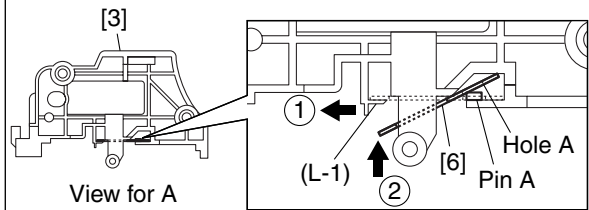


Fig. DM3



Installation of [3] and [6]

First, insert [6] diagonally in [3] as shown below. Then, install [6] in [3] while pushing (L-1) in a direction of arrow. After installing [6] in [3], confirm that pin A of [3] enters hole A of [6] properly.



Installation of [4] and [6]

Install [6] in [4] while pulling (L-2) in a direction of arrow. After installing [6] in [4], confirm that pin B of [4] enters hole B of [6] properly.

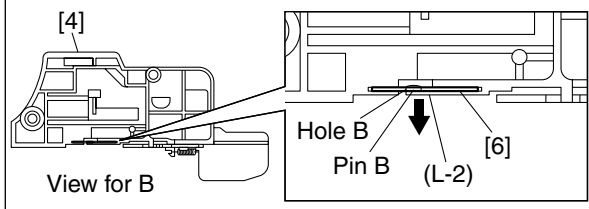
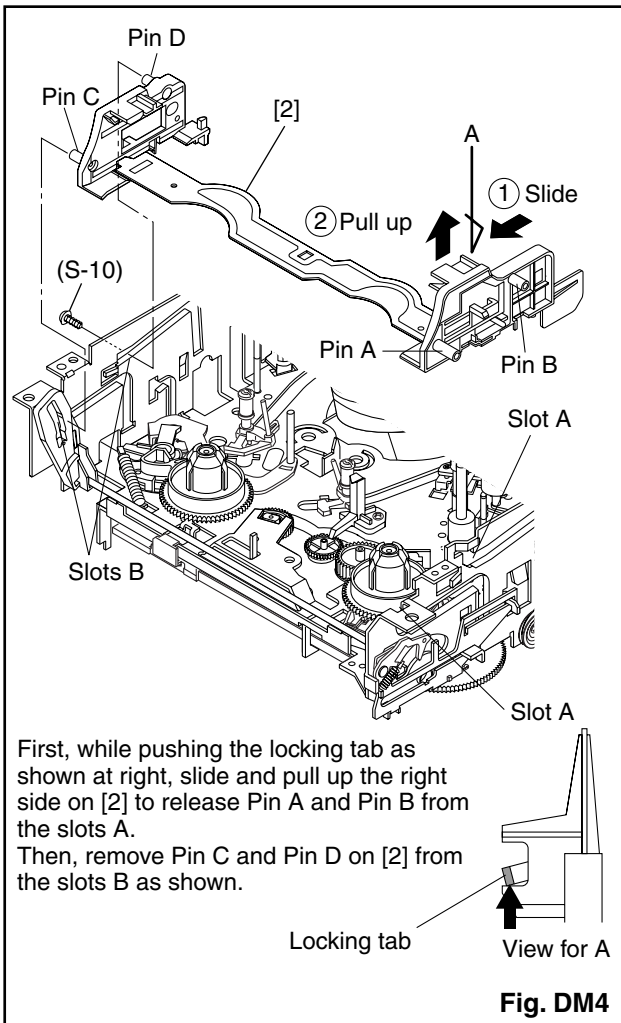


Fig. DM5



First, while pushing the locking tab as shown at right, slide and pull up the right side on [2] to release Pin A and Pin B from the slots A. Then, remove Pin C and Pin D on [2] from the slots B as shown.

Locking tab

Fig. DM4

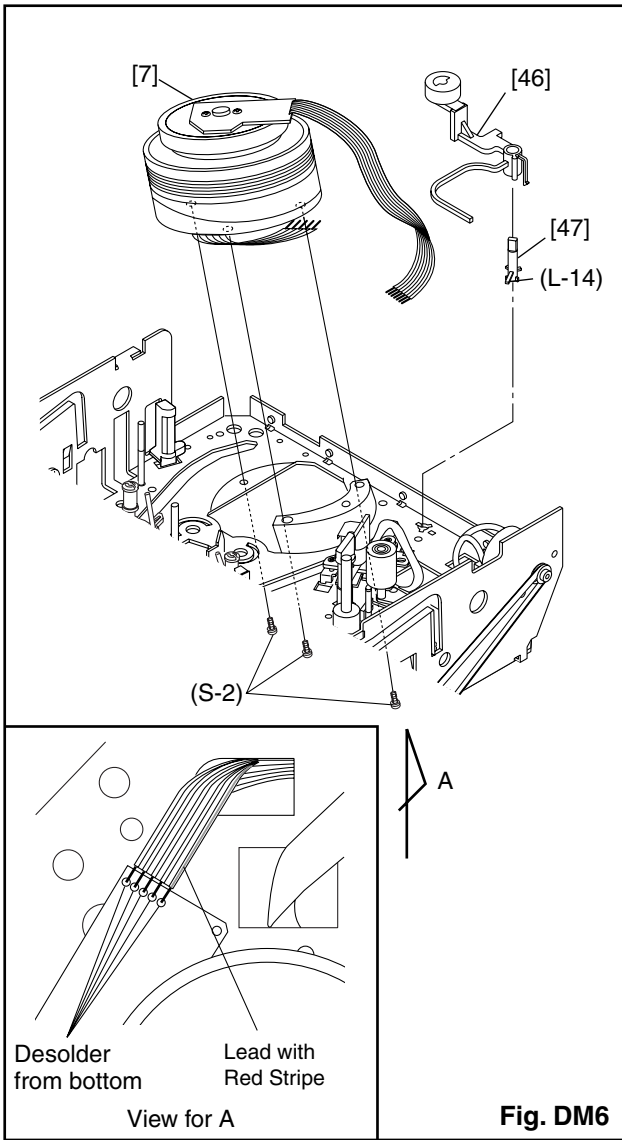


Fig. DM6

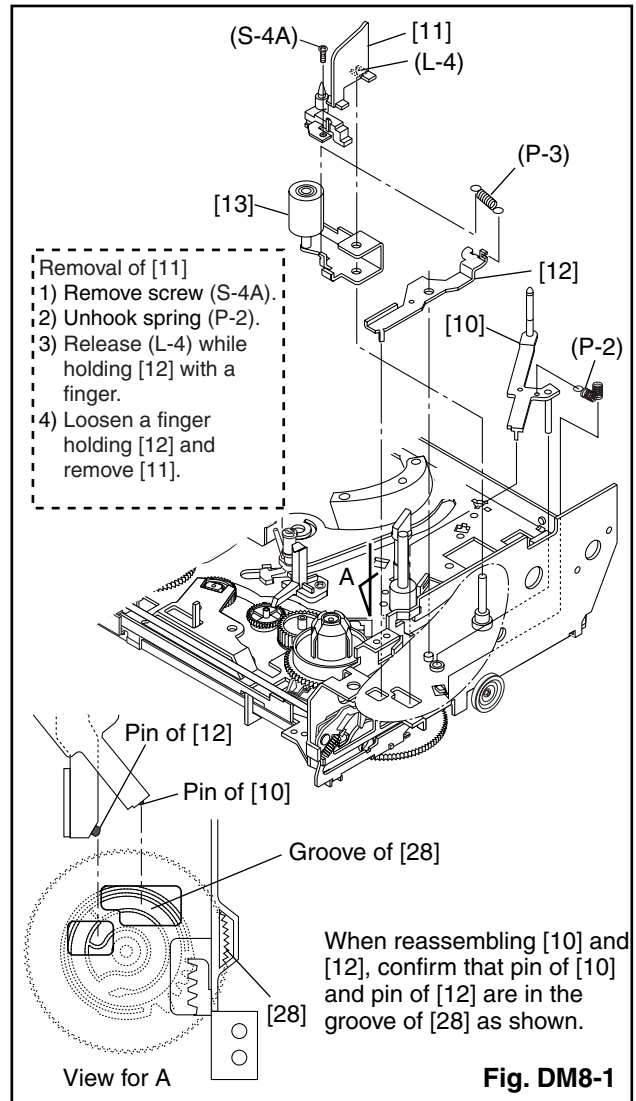


Fig. DM8-1

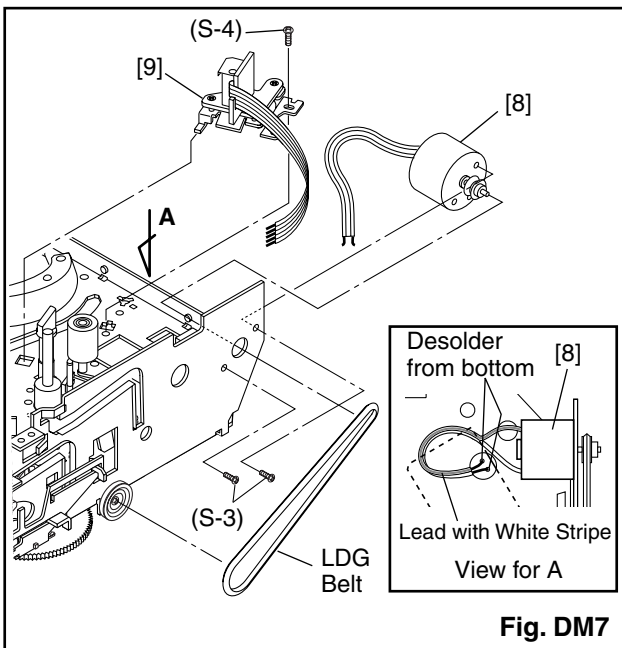


Fig. DM7

Installation of [13] and [12]

Hook spring (P-3) up to [12] and [13], then install then to the specified position so that [12] will be floated slightly while holding [12] and [13]. (Refer to Fig. A.)

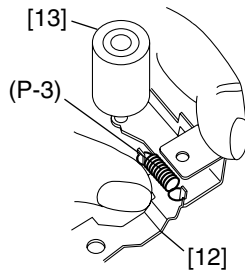


Fig. A

Install pin of [12] in groove of [28]. (Refer to Fig. B.)

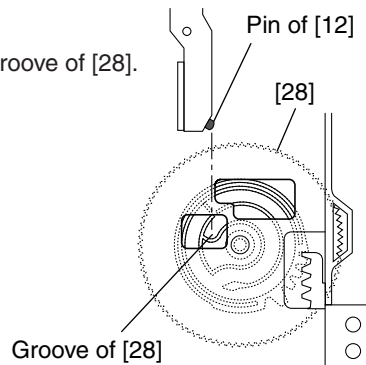


Fig. B (Top view)

Hold [12] and [13] till groove of pin of chassis looks and fit [13] in notch of chassis. Then, turn a few [13] while holding [12]. (Refer to Fig. C.)

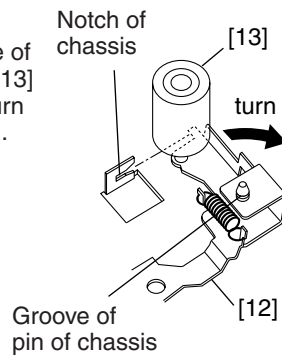


Fig. C

Install [11] and [10] while holding [12]. (Refer to Fig. DM8-1.)

Fig. DM8-2

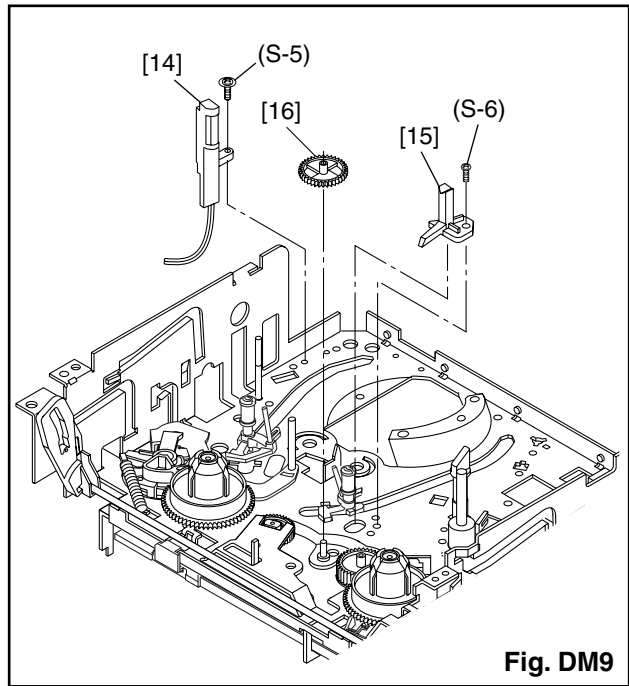


Fig. DM9

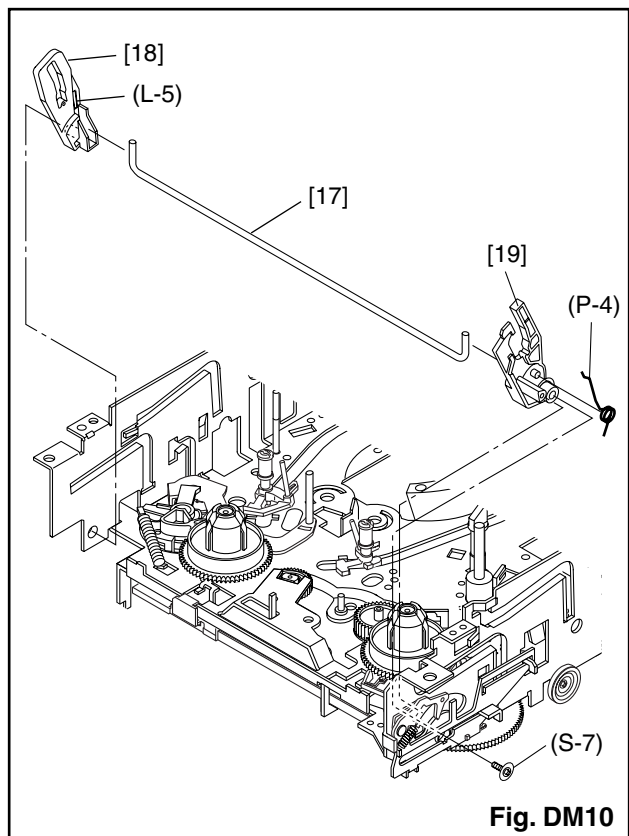


Fig. DM10

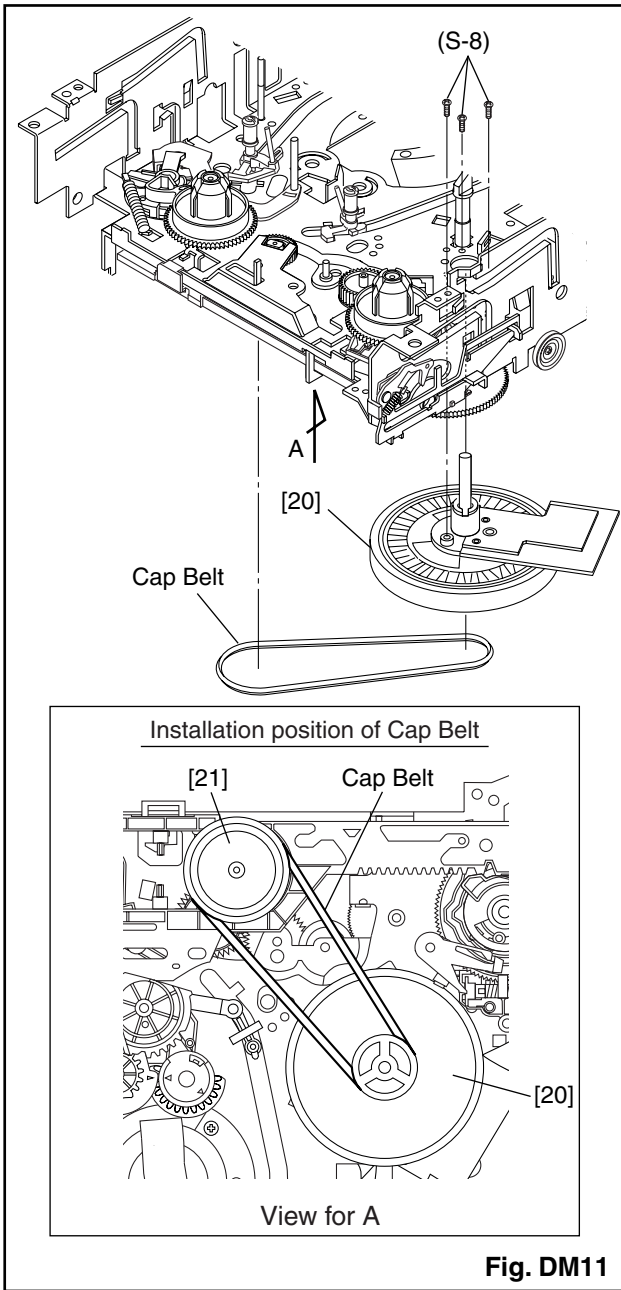


Fig. DM11

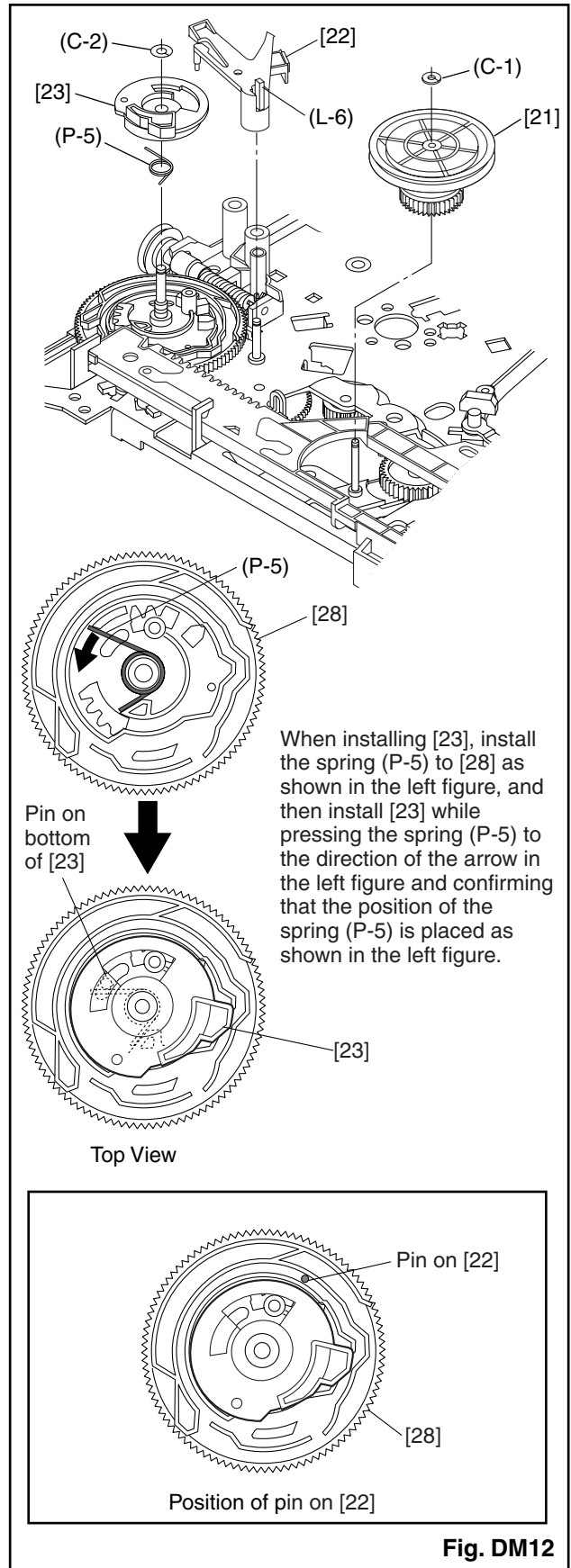


Fig. DM12

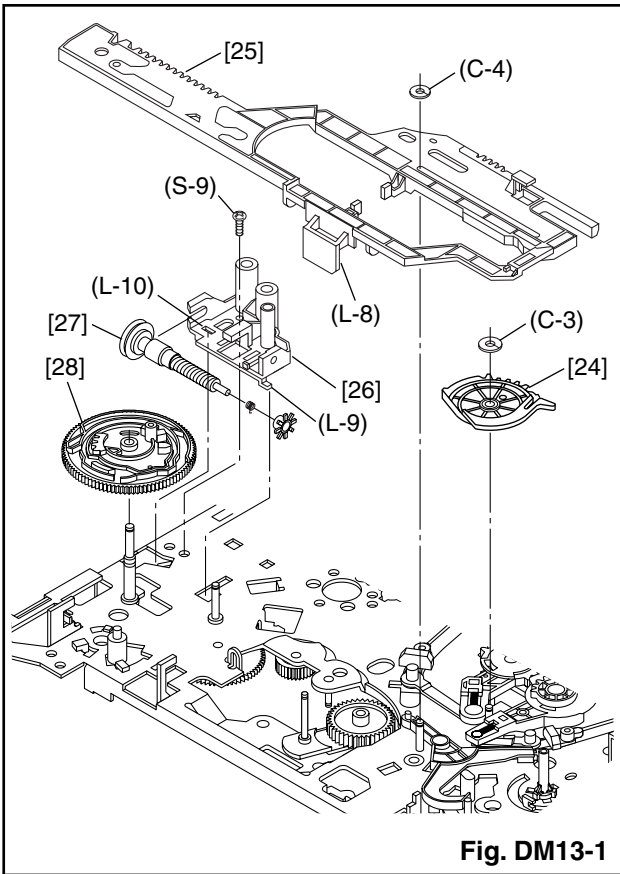


Fig. DM13-1

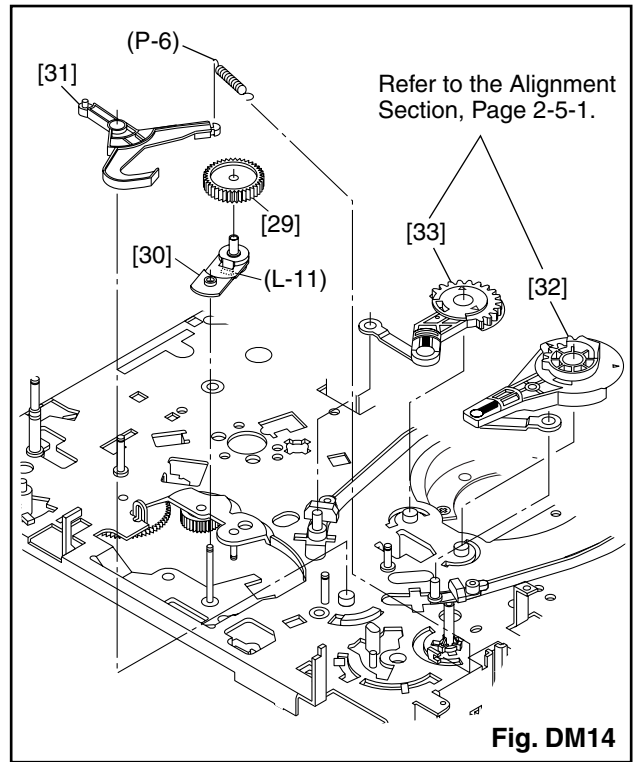


Fig. DM14

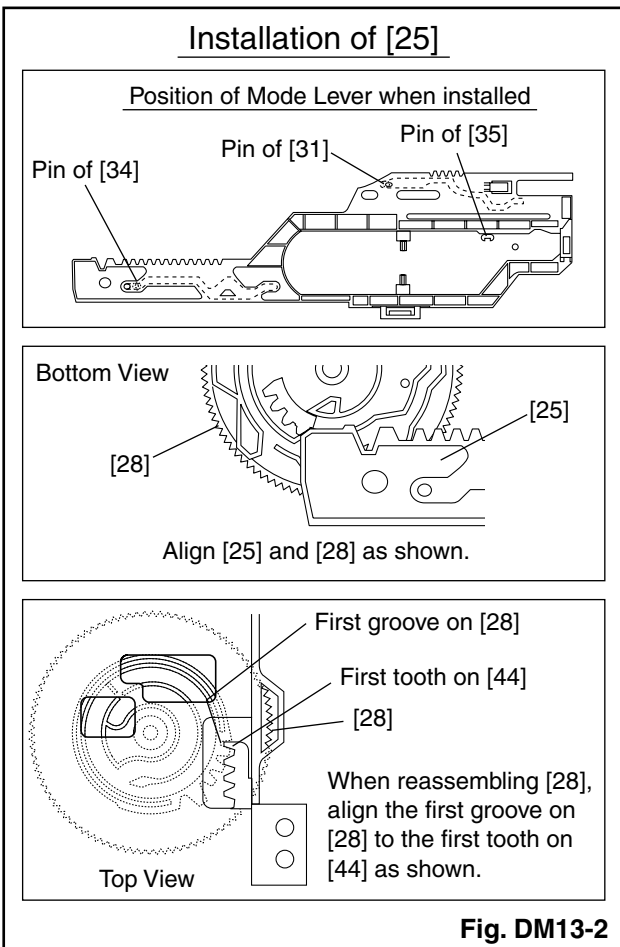


Fig. DM13-2

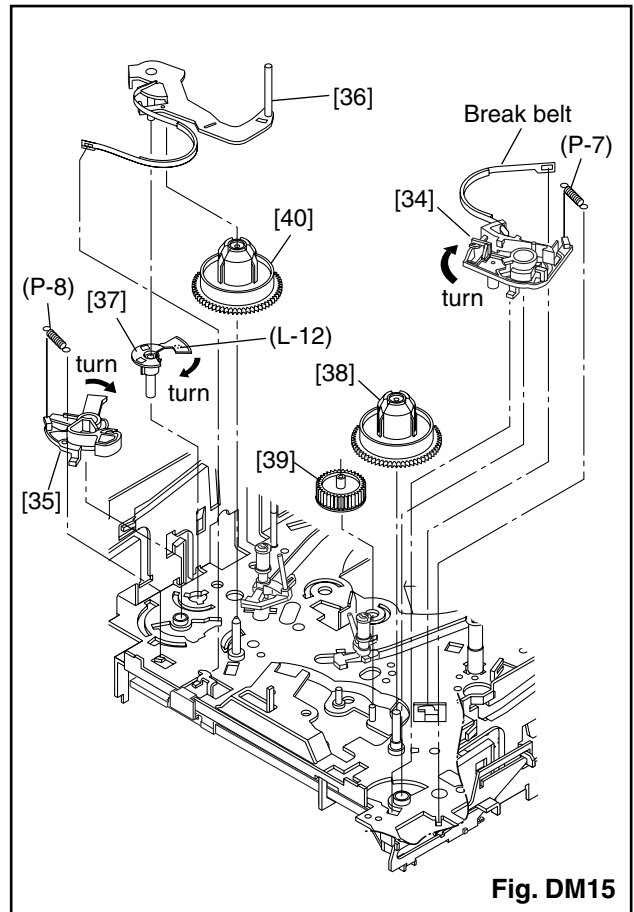
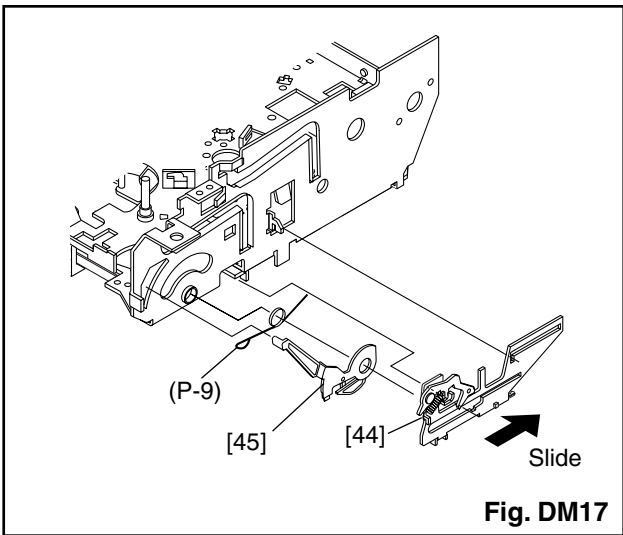
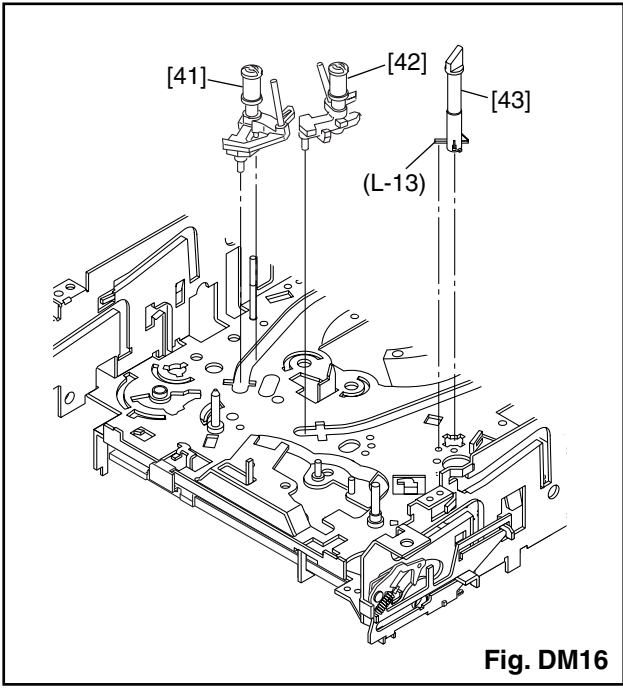


Fig. DM15



ALIGNMENT PROCEDURES OF MECHANISM

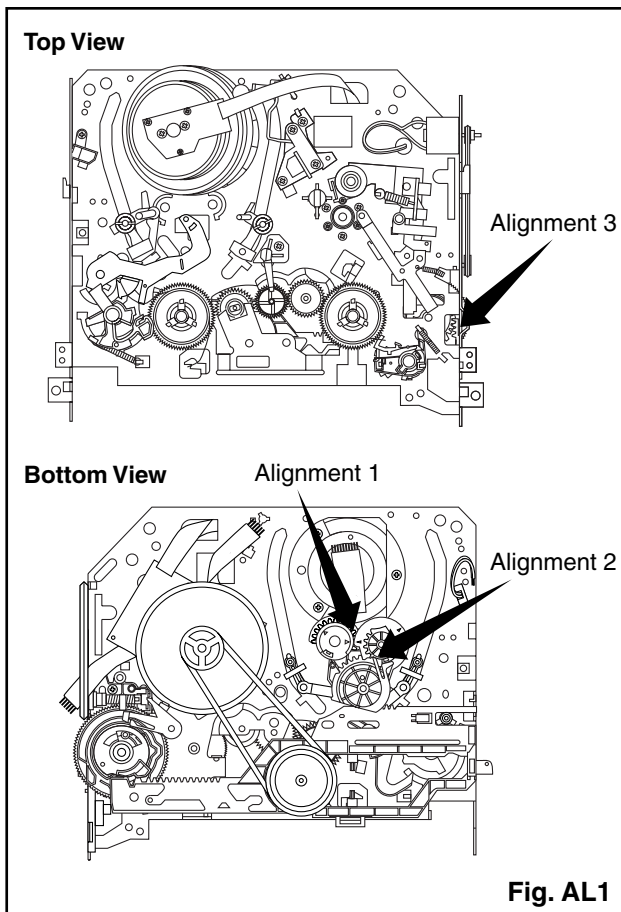
The following procedures describe how to align the individual gears and levers that make up the tape loading/unloading mechanism. Since information about the state of the mechanism is provided to the System Control Circuit only through the Mode Switch, it is essential that the correct relationship between individual gears and levers be maintained.

All alignments are to be performed with the mechanism in Eject mode, in the sequence given. Each procedure assumes that all previous procedures have been completed.

IMPORTANT:

If any one of these alignments is not performed properly, even if off by only one tooth, the unit will unload or stop and it may result in damage to the mechanical or electrical parts.

Alignment points in Eject Position



Alignment 1

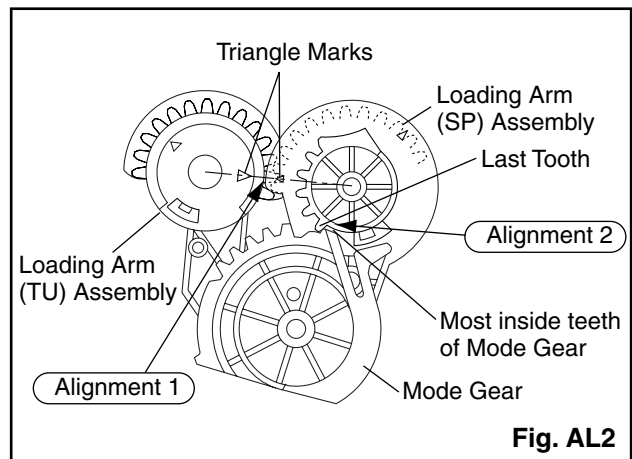
Loading Arm (SP) and (TU) Assembly

Install Loading Arm (SP) and (TU) Assembly so that their triangle marks point to each other as shown in Fig. AL2.

Alignment 2

Mode Gear

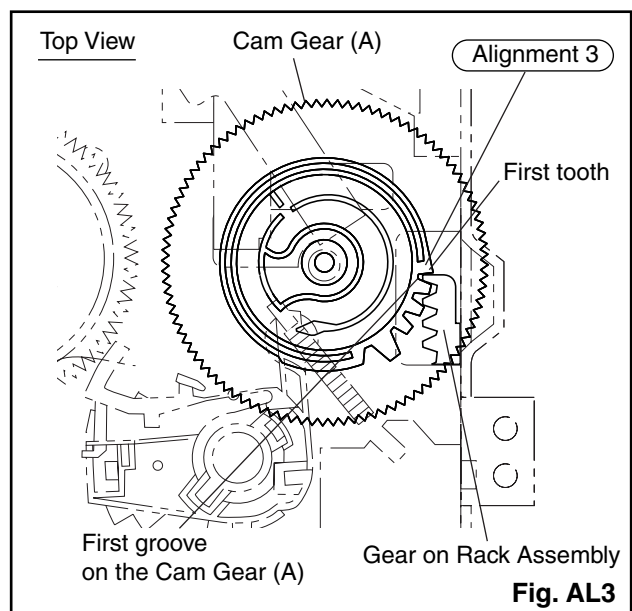
Keeping the two triangles pointing at each other, install the Loading Arm (SP) Assembly so that the last tooth of the gear meets the most inside teeth of the Mode Gear. See Fig. AL2.



Alignment 3

Cam Gear (A), Rack Assembly

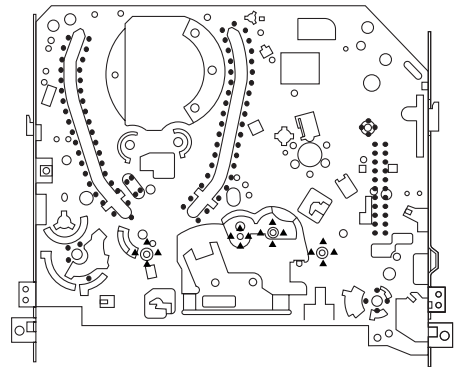
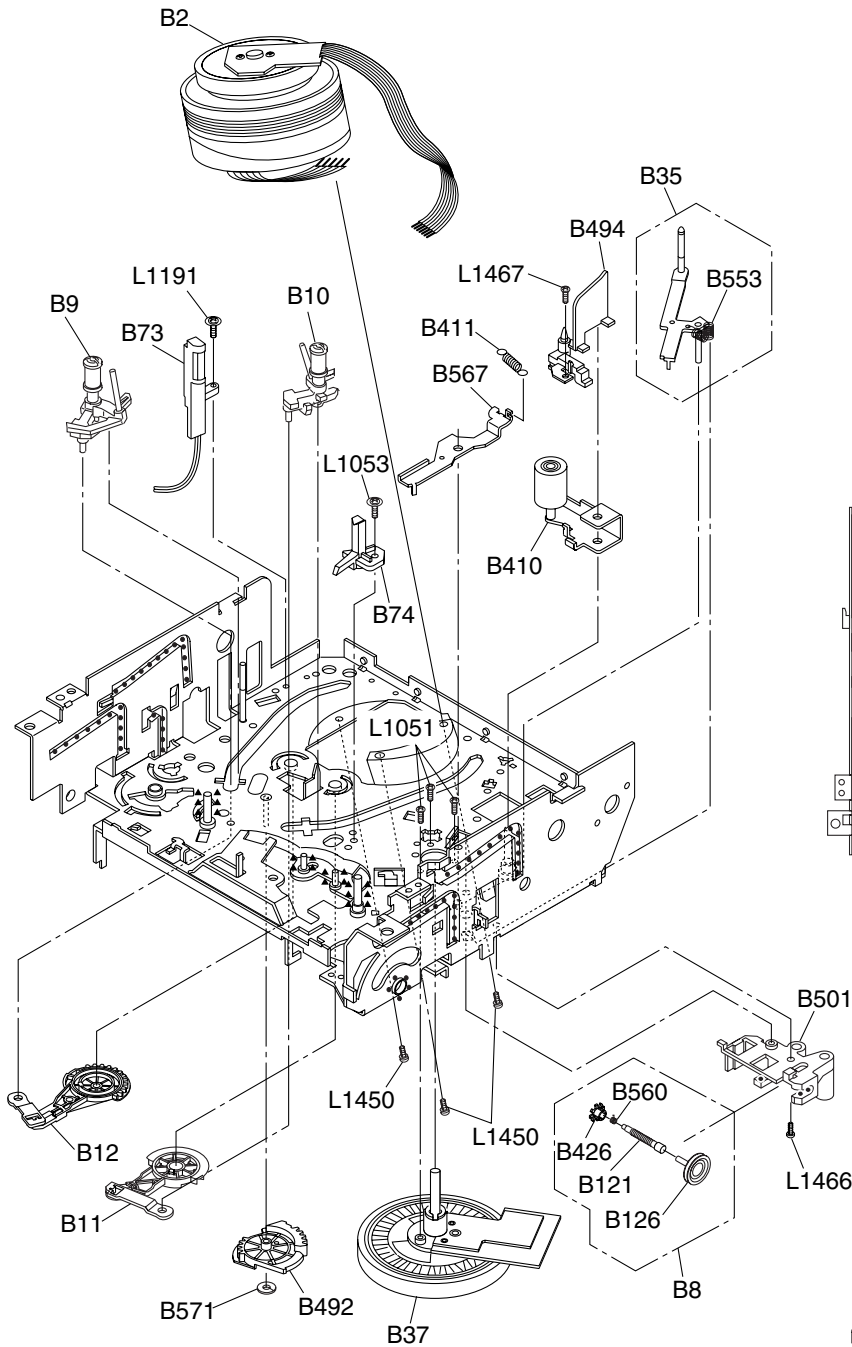
Install the Rack Assembly so that the first tooth on the gear of the Rack Assembly meets the first groove on the Cam Gear (A) as shown in Fig. AL3.



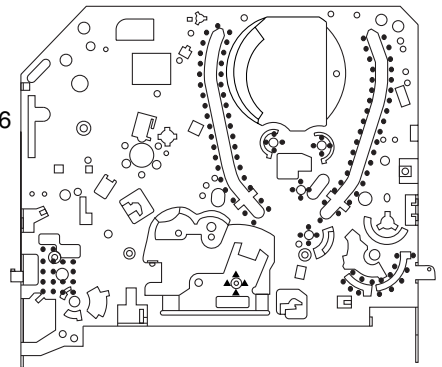
DECK EXPLODED VIEWS

Deck Mechanism View 1

Mark	Description
•••••	Floil G-684G or Multemp MH-D (Blue grease)
▲▲▲▲▲	SLIDUS OIL #150



Chassis Assembly
Top View (Lubricating Point)

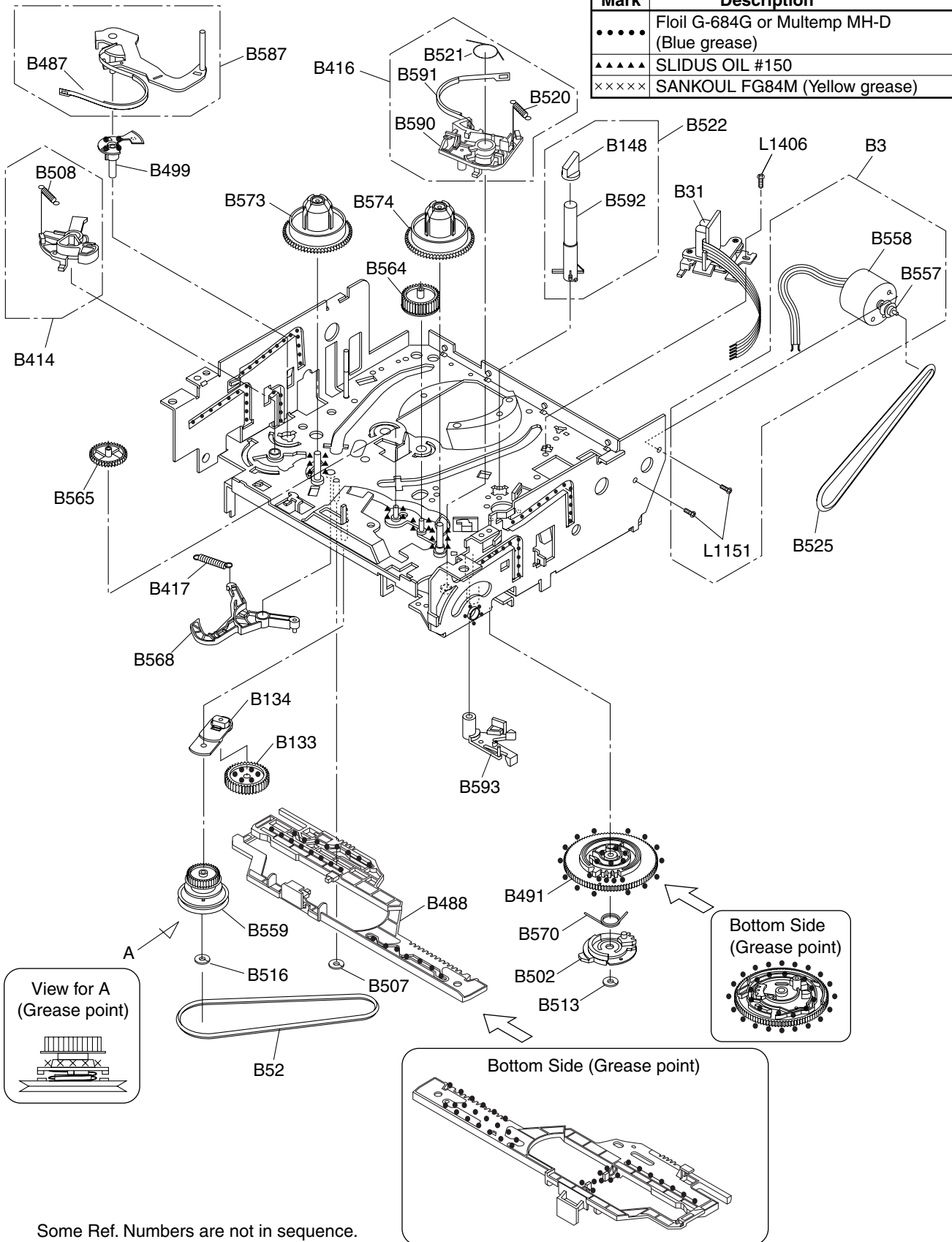


Chassis Assembly
Bottom View (Lubricating Point)

Some Ref. Numbers are not in sequence.

Deck Mechanism View 2

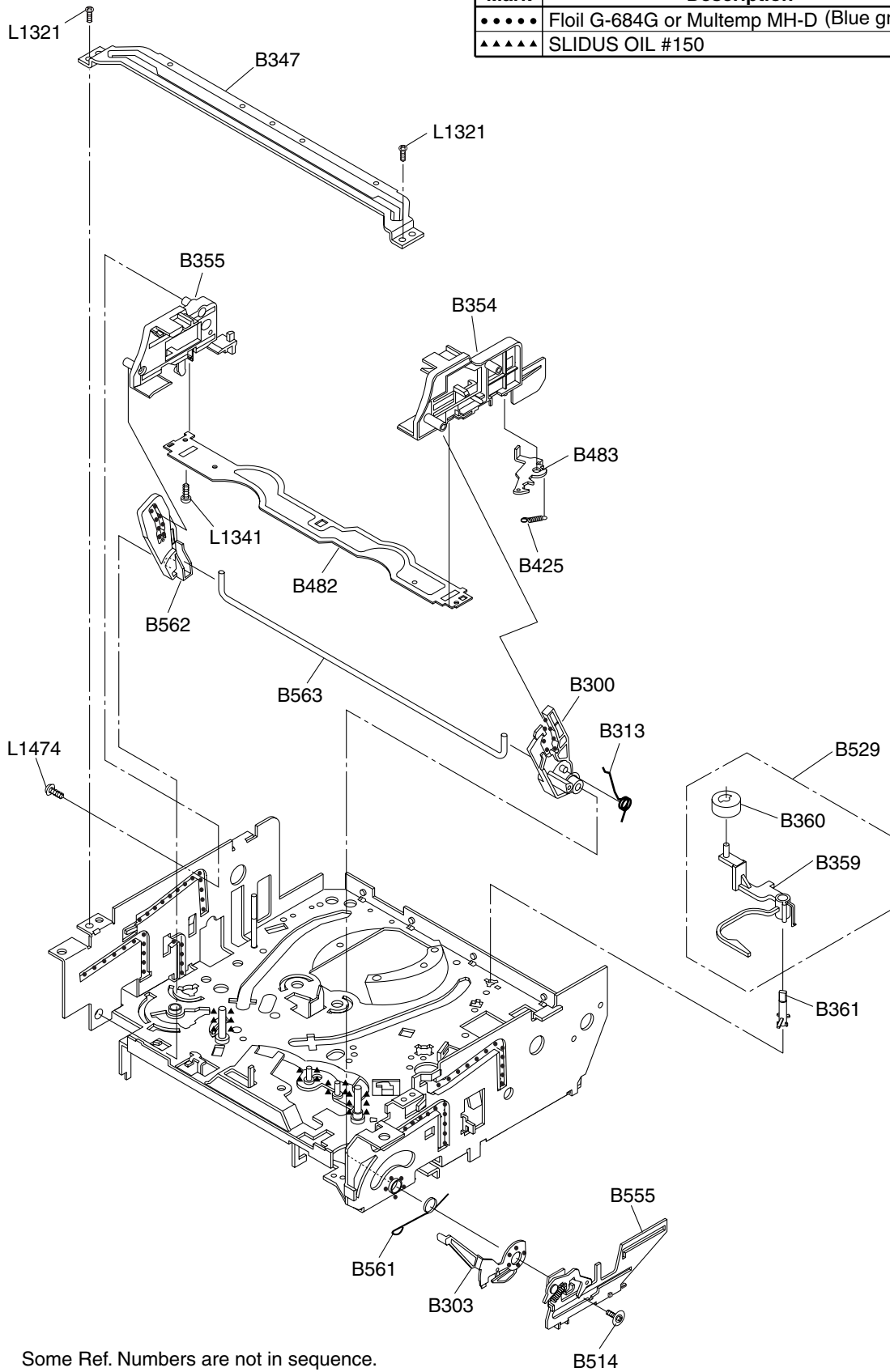
Mark	Description
•••••	Floil G-684G or Multemp MH-D (Blue grease)
▲▲▲▲▲	SLIDUS OIL #150
×××××	SANKOUL FG84M (Yellow grease)



Some Ref. Numbers are not in sequence.

Deck Mechanism View 3

Mark	Description
•••••	Floil G-684G or Multemp MH-D (Blue grease)
▲▲▲▲▲	SLIDUS OIL #150



Some Ref. Numbers are not in sequence.

MECHANICAL PARTS LIST - VCR MECHANISM

B2	9965 000 29043	CYLINDER ASSY MK12.5 NTSC 6HD	B563	9965 000 16666	SLIDER SHAFT MK12
B2 *	9965 000 29044	CYLINDER ASSY MK12.5 NTSC 6HD	B564	9965 000 17205	M GEAR MK12
B3	9965 000 23363	LOADING MOTOR ASSEMBLY MK12.5	B565	9965 000 17206	SENSOR GEAR MK12
B8	9965 000 17191	PULLEY ASSEMBLY MK12	B567	9965 000 16669	PINCH ARM(B) MK12
B9	9965 000 23364	MOVING GUIDE S P.P MK12.5	B568	9965 000 16670	BT ARM MK12
B10	9965 000 23365	MOVING GUIDE T P.P MK12.5	B570	9965 000 12240	CAM RACK SPRING(HI) MK11
B11	9965 000 16634	LOADING ARM(TU) ASSEMBLY MK12	B571	4822 532 13159	P.S.W. 1.6X4.0X0.5T
B12	9965 000 16635	LOADING ARM(SP) ASSEMBLY MK12	B573	9965 000 17208	REEL(SP)(D2) MK12
B31	9965 000 29045	AC HEAD ASSEMBLY(TVCR) MK12.5	B574	9965 000 17209	REEL(TU)(D2) MK12
B35	9965 000 23382	TAPE GUIDE ARM ASSEMBLY MK12.5	B587	9965 000 16674	TENSION LEVER ASSEMBLY MK12
B37	9965 000 23418	CAPSTAN MOTOR 288/VCZC1300	B593	9965 000 24172	CAM HOLDER ASSEMBLY MK12.5
B52	9965 000 08593	CAP BELT MK10	L1051	9965 000 05359	SCREW, M2.6X6 PAN HEAD+
B73	9965 000 12210	FE HEAD ASSEMBLY MK11	L1053	9965 000 05375	SCREW, M2.6X8 WASHER HEAD+
B73 *	9965 000 19627	FE HEAD(MK12) VTR-1X2ERS11-155	L1191	9965 000 05375	SCREW, M2.6X8 WASHER HEAD+
B73 *	9965 000 12210	FE HEAD ASSEMBLY MK11	L1321	4822 502 14009	M 3 X 6
B74	9965 000 08555	PRISM MK10	L1341	9965 000 23375	SCREW, P-TIGHT M2X6 PAN HEAD+
B133	9965 000 17193	IDLER GEAR MK12	L1406	9965 000 08643	AC HEAD SCREW MK9
B134	9965 000 17194	IDLER ARM MK12	L1450	4822 502 14671	SCREW M2.6X5
B300	9965 000 16643	C DRIVE LEVER(TU) MK12	L1466	9965 000 05364	SCREW, M2.6X6 BIND HEAD+
B303	9965 000 18129	F DOOR OPENER MK12	L1467	9965 000 23376	SCREW M2.6X5 WASHER HEAD+
B313	9965 000 16645	C DRIVE SPRING MK12	L1474	4822 502 14019	M2.6X12
B347	9965 000 08445	GUIDE HOLDER MK10			
B354	9965 000 18130	SLIDER(TU) MK12	Note:	* Alternative Parts	
B355	9965 000 23555	SLIDER(SP) MK12			Only the parts mentioned in this list are normal service spare parts.
B361	9965 000 08450	CL POST MK10			
B410	9965 000 23370	PINCH ARM(A) ASSEMBLY(6) MK12.5			
B410 *	9965 000 16648	PINCH ARM(A) ASSEMBLY(4) MK12			
B411	9965 000 16649	PINCH SPRING MK12			
B414	9965 000 23419	M BRAKE(SP) ASSEMBLY MK12.5			
B416	9965 000 17196	M BRAKE(TU) ASSEMBLY MK12			
B417	9965 000 24008	TENSION SPG(3002645) MK12.5			
B425	9965 000 08457	LOCK LEVER SPRING MK10			
B482	9965 000 16653	CASSETTE PLATE MK12			
B483	9965 000 16654	LOCK LEVER MK12			
B488	9965 000 23420	MODE LEVER MK12.5			
B491	9965 000 17199	CAM GEAR(A) MK12			
B492	9965 000 16658	MODE GEAR MK12			
B494	9965 000 16659	C DOOR OPENER MK12			
B499	9965 000 16660	T LEVER HOLDER MK12			
B501	9965 000 16661	WORM HOLDER MK12			
B502	9965 000 17200	CAM GEAR(B) MK12			
B507	9965 000 05342	REEL WASHER MK9 5*2.1*0.5			
B513	9965 000 17201	CAM WASHER MK12			
B514	9965 000 08641	SCREW RACK MK10			
B516	9965 000 05342	REEL WASHER MK9 5*2.1*0.5			
B522	9965 000 12373	TG POST ASSEMBLY MK11			
B525	9965 000 12230	LDG BELT MK11			
B529	9965 000 08504	CLEANER ASSEMBLY MK10			
B555	9965 000 16663	RACK ASSEMBLY MK12			
B559	9965 000 17204	CLUTCH ASSEMBLY MK12			
B559 *	9965 000 23421	CLUTCH ASSEMBLY(64) MK12			
B561	9965 000 08523	F DOOR SPRING MK10			
B562	9965 000 16665	C DRIVE LEVER(SP) MK12			