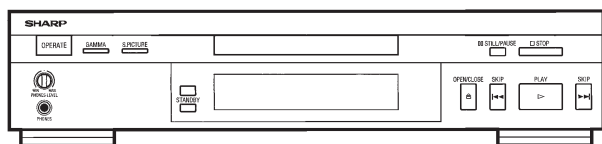


SHARP SERVICE MANUAL

SX9Q5DV-760X/



DVD VIDEO PLAYER

MODEL DV-760X

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified be used.



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1. IMPORTANT SAFEGUARDS AND PRECAUTIONS

CAUTION

BEFORE OPERATING YOUR NEW DVD PLAYER, PLEASE CAREFULLY READ THIS OPERATION MANUAL AND THEN SAVE IT FOR FUTURE REFERENCE AS IT WILL BE USEFUL IF YOU HAVE ANY PROBLEMS OPERATING YOUR DVD PLAYER IN THE FUTURE.

Note:
This unit can be used only where the power supply is AC 220V-240V, 50/60Hz. It cannot be used elsewhere.

CAUTION:
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

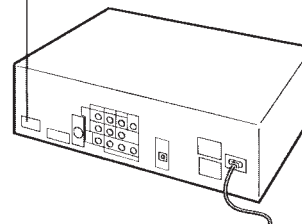
AS THE LASER BEAM USED IN THIS DVD PLAYER IS HARMFUL TO THE EYES, DO NOT ATTEMPT TO DISASSEMBLE THE CABINET. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

Laser Diode Properties
Material: AlGaInP
Wave length: 650 nm
Emission Duration: Continuous
Laser output: Max. 0.7 mW

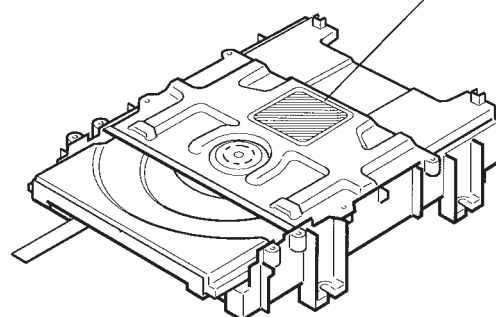
- This DVD player is classified as a CLASS 1 LASER product.
- The CLASS 1 LASER PRODUCT label is located on the rear cover.
- This product contains a low power laser device. To ensure continued safety do not remove any cover or attempt to gain access to the inside of the product. Refer all servicing to qualified personnel.



(Back of product)



CAUTION-WHEN OPEN DO NOT STARE INTO BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS.
 VARNING-NÄR DENNA DEL ÄR ÖPPNAD. STIRRA EJ IN I STRÅLEN OCH BETRAKTA EJ STRÅLEN MED OPTISKA INSTRUMENT.
 ADVARSEL-VED ÅBNING SE IKKE IND I STRÅLEN-HELLER IKKE MED OPTISKE INSTRUMENTER.
 VARO! AVATTAESSA OLET ALTTIINA. ÄLÄ TUUJOTA SÄTEESEEN ÄLÄKÄ KATSO SITÄ OPTISEN LAITTEEN LÄPI.
 VARNING-NÄR DENNA DEL ÄR ÖPPNAD. STIRRA EJ IN I STRÅLEN OCH BETRAKTA EJ STRÅLEN GENOM OPTISKT INSTRUMENT.
 ADVARSEL-NÄR DEKSEL ÅPNES. STIRR IKKE INN I STRÅLEN ELLER SE DIREKTE MED OPTISKE INSTRUMENTER.
 ここを開くとレーザー光が出ます。レーザー光をのぞき込まないでください。光学機器で直接ビームを見ないでください。



2. FEATURES

- Plays DVD, video CD and CD (Digital Audio) discs
- Built-in Dolby Digital decoder supporting Dolby Pro Logic*¹ decoding and Virtual Surround
- For the audio on a DVD disc recorded in MPEG Audio Version 2.0 multi channel (5.1ch)
- New Digital Gamma correction and New Digital Super Picture functions
- Separate colour component output connectors (Y, P_B (C_B) and P_R (C_R))
- DTS*² AUDIO DECODER (DIGITAL THEATRE SYSTEM)

*¹ Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories.

*² "DTS" and "DTS Digital Surround" are trademarks of Digital Theater Systems, Inc.

3. SPECIFICATIONS

Signal System:	NTSC/PAL
Video output:	Output connector: Pin-jack Output level: 1 Vp-p (75Ω)
S video output:	Y output level: 1 Vp-p (75Ω) C output level: 0.30 Vp-p (75Ω) Output connector: S connector
Component colour output:	Y output level: 1 Vp-p (75Ω) P _B (C _B) output level: 0.525 Vp-p (75Ω)/75% colour P _R (C _R) output level: 0.525 Vp-p (75Ω)/75% colour Output connector: Pin-jack
Audio output:	5.1ch output: Front L/R, surround L/R, centre and subwoofer 5ch output: Front L/R, surround L/R and center Output connector: Pin-jack Output level: 2 Vrms (1 kHz, 0 dB)
Digital audio I/F:	Optical digital output: Optical connector Audio output: Coaxial digital output: Pin-jack
Headphone output:	Output connector: Standard jack
Video signal horizontal resolution:	500 lines (DVD)
S/N ratio:	60 dB (DVD)
Audio signal frequency characteristics:	For DVD linear PCM playback: 4 Hz to 22 kHz (48 kHz sampling) 4 Hz to 44 kHz (96 kHz sampling) CD playback: 4Hz to 20 kHz (EIAJ) (MPEG Audio 1/2)
S/N ratio:	CD: 105 dB, 1 kHz (EIAJ)
Dynamic range:	DVD linear PCM: 94 dB (EIAJ) CD: 94 dB (EIAJ)
Total harmonic distortion ratio:	CD: 0.005% or less (EIAJ)
Operating temperature:	5°C to 40°C
Storage temperature:	-20°C to 55°C
Power supply :	220 V to 240 V AC, 50/60 Hz
Power consumption:	16 W
Dimensions:	430 mm × 351 mm × 97 mm (W × D × H) (Including attachments)
Weight:	3.8 kg

Specifications are subject to change without notice.

Weight and dimensions are approximate.

Digital Output

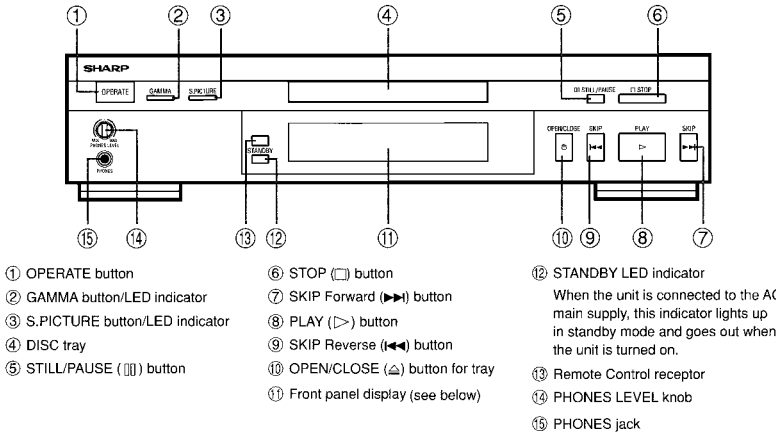
- The digital output format (optical or coaxial) used in this DVD player is linear PCM audio sampling at 44.1 kHz or 48 kHz. Linear PCM sound for DVD video discs sampled at 96 kHz cannot be output digitally. Check the disc jacket for information on the audio sampling used.

3-1. ACCESSORIES

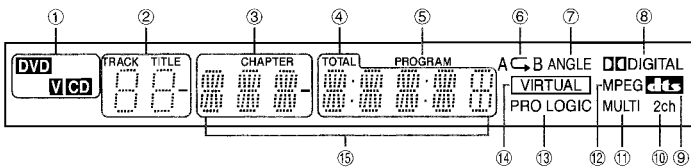
Accessories: Video/audio cord x 1, UM3 battery x 2,
Remote Control Unit x 1, S-Video cord x 1

4. PART NAMES

Front

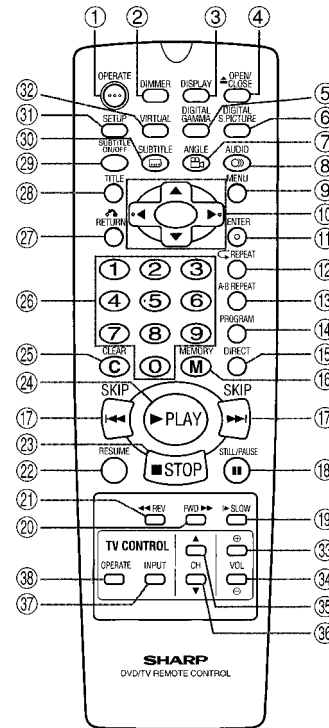


Front Panel Display



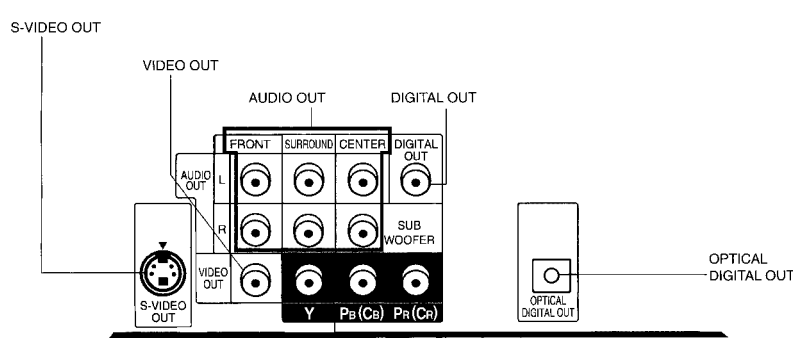
The figure above shows the front panel with all the displays on.

- ① Lights when a DVD is loaded
 - Lights when an audio CD is loaded
 - Lights when a Video CD is loaded
 - ② Shows the title number [DVD only]/Shows the track number [Video CD and Audio CD]
 - ③ Shows the chapter number [DVD only]
 - ④ Shows the total time elapsed since the disc started playing.
 - ⑤ PROGRAM indicator
Lights during PROGRAM play.
 - ⑥ Lights during repeat play
C : Repeat A C B: A-B repeat
 - ⑦ Lights when it is possible to switch the angle. [DVD only]
 - ⑧ Dolby Digital indicator
 - ⑨ "dts" indicator
 - ⑩ "2ch" indicator
 - ⑪ "MULTI" indicator
 - ⑫ "MPEG" indicator
 - ⑬ PRO LOGIC indicator
 - ⑭ Virtual Surround indicator
 - ⑮ Operating mode indicator (Messages)
- <Display examples>
- | | | |
|---------|-------|-------|
| NO DISC | PLAY | PAUSE |
| OPEN | FWD | CLOSE |
| LOAD | REV | SLOW |
| STOP | STILL | PIC |



- <TV CONTROL>
- ⑳ VOL (volume) (+) button
 - ㉑ VOL (volume) (-) button
 - ㉒ CH (channel) (▲) button
 - ㉓ CH (channel) (▼) button
 - ㉔ INPUT button
 - ㉕ OPERATE button of TV CONTROL

Rear



Colour Output Connectors (Y, Pb(Cb) and Pr(Cr)):
 Some TVs and monitors are equipped with input connectors for the component colour signals (Y, Pb(Cb) and Pr(Cr)). By connecting these input connectors to the corresponding output connectors on the DVD player, you can enjoy higher quality playback images.
 If you are using a TV or monitor equipped with Y, Pb(Cb) and Pr(Cr) connectors, use these connectors rather than the VIDEO OUT or S-VIDEO OUT connector.

5. MAINTENANCE CHECK ITEMS AND EXECUTION TIME

MECHANICAL PARTS REQUIRING PERIODICAL INSPECTION

Use the following table as a guide to maintain the mechanical parts in good operating condition.

Parts	Maintained	1,000 hrs.	2,000 hrs.
Pickup		○	○
Spindle Unit		□	○
Sled Motor			○
Loading Motor			○
Belt		□	○

Note ○ : Part Replacement

 □ : Cleaning

(For cleaning, use a lint-free cloth dampened with pure isopropyl alcohol.)

CARES WHEN USING THE PICKUP

1. The laser light having wavelength 650 nm is emitted from the objective lens. BE CAREFUL SO THAT THE LASER LIGHT DOES NOT ENTER DIRECTLY INTO YOUR EYE.
2. The semiconductor laser may be easily damaged by electrostatic charges. When handling the pickup, take care so that the electrostatic charge is not generated.
3. The semiconductor laser may be easily damaged by overcurrent. Use the power supply unit which does not give any spike current when the power is turned on and off.
4. Carefully remove the dust and dirt from the objective lens with the lens blower.
When handling the objective lens, take due care so that it is not contaminated with fingerprint, etc. If the objective lens is contaminated, impregnate the cleaning paper with a small quantity of solvent (isopropyl alcohol), and gently wipe to clean.
5. The ozone layer depleting components (ODC) are not used in the production process for the product.

6. DISASSEMBLY AND REPLACEMENT OF MAIN PARTS

6-1. DISASSEMBLY

1. Remove five screws (A), and remove the cabinet.

Note: When assembling it, tighten the screws in order of ①-②.

(Because the set may rise a little by tightening the screws.)

2. Remove two screws (B).

3. Remove three screw (C).

4. Release the hooks of the front panel at two places on both sides and at three places on the bottom, and slide the front panel toward you.

5. Disconnect the connector (D).

6. Remove four screws (E) which installs the mechanical unit.

7. Disconnect the lead lines (F) and (G) and (H) from the main PWB under the mechanism.

8. Remove three screws (J) on both sides of the terminal angle frame.

9. Remove three screws (K) which install the terminal/power PWB.

10. Remove three screws (L) which install the terminal block.

11. Remove three screws (M) of the display PWB.

12. Remove four screws (N) of the mecha angle.

13. Remove one screw (P) of the mecha angle.

14. Remove two screws (Q) of the decorative leg.

15. Push out the middle pin (R) of the setting leg in the direction opposite to insertion. (Two places)

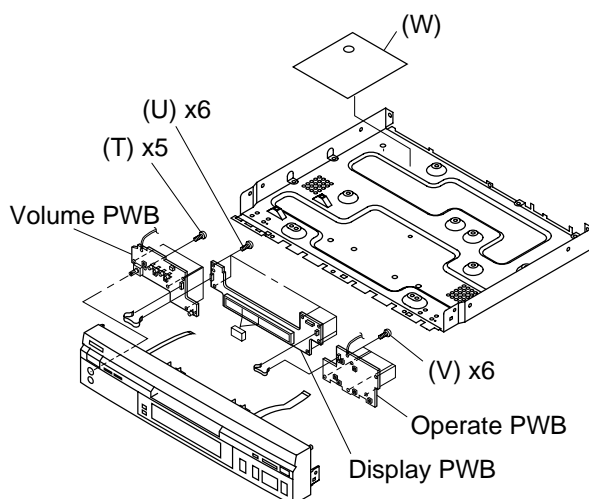
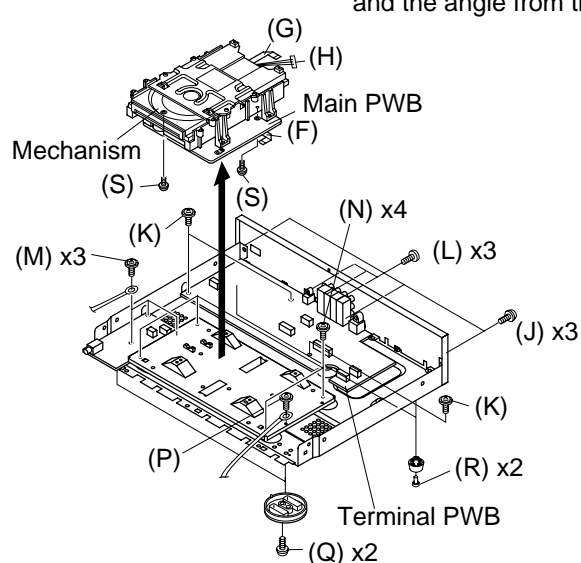
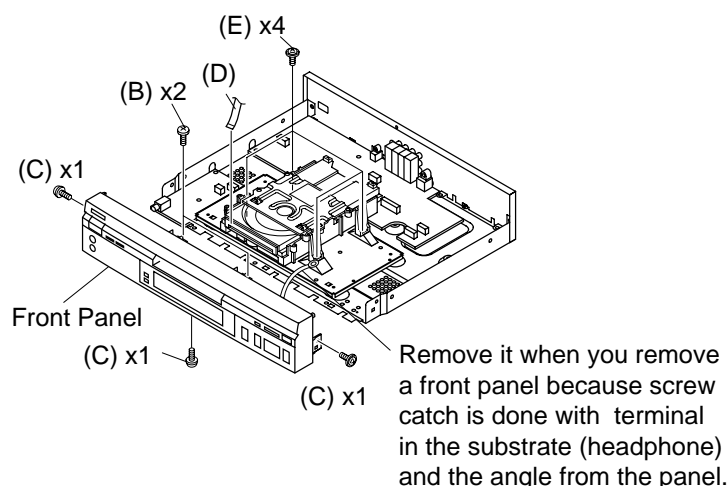
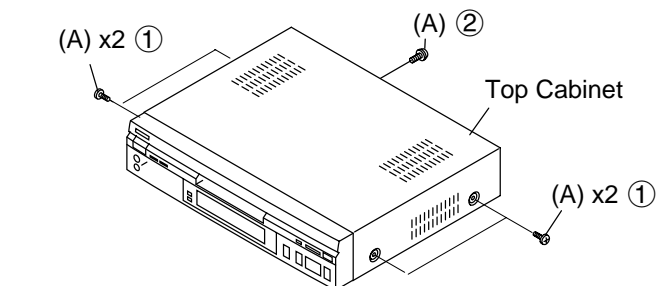
16. Remove two screws (S) which install the main PWB under the mechanical unit.

17. Remove five screws (T) which install the volume PWB of the front panel.

18. Remove six screws (U) which install the display PWB.

19. Remove six screws (V) which install the operate PWB.

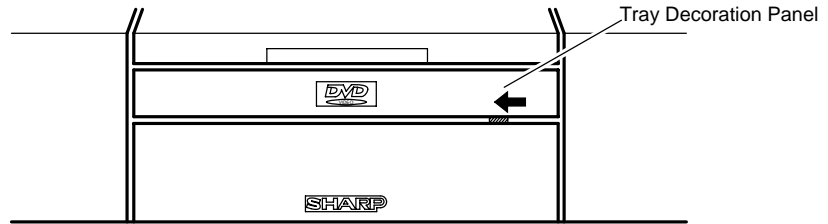
* The spacer and insulation seat under the indication tube of (W) are bonded with both-side sticking tape.



6-2. REPLACEMENT OF MAIN PARTS

<Disassembling and assembling procedure>

- Removing the tray (emergency ejection)
- Removing the tray lock (set state)



Insert a thin plate into the hatching part, slowly move the it in the arrow direction so that the tray is moved out a little in the arrow direction.

Note: In this state the tray cannot be removed completely.

- Drive Unit State



Slowly move in the arrow direction, using the screwdriver having a fine head.

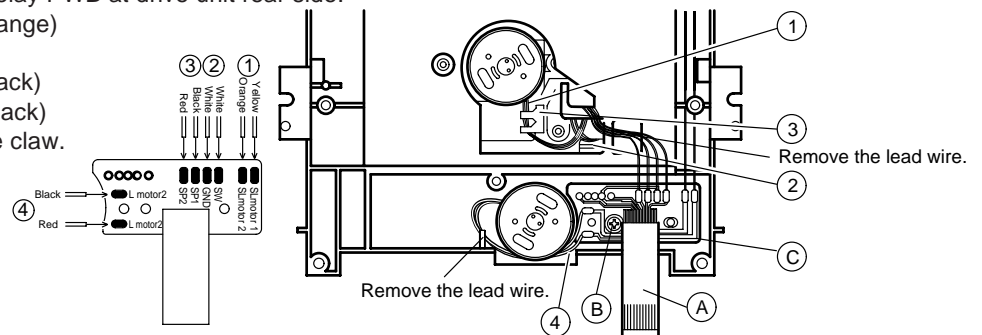
<Disassembling and assembling the mechanism chassis>

1. Remove the pickup FPC and loading relay FFC (A) from the main PWB.

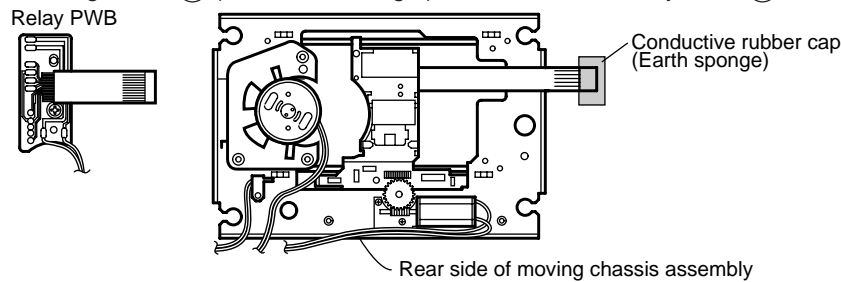
Note: Fit the conductive rubber cap to the front end of pickup FPC (short-circuit).

2. Remove the solder joint of loading relay PWB at drive unit rear side.

- ① Sled motor lead wire (Yellow-Orange)
- ② IN SW lead wire 2 (White)
- ③ Spindle motor lead wire (Red-Black)
- ④ Loading motor lead wire (Red-Black)
- ⑤ Remove each lead wire from the claw.

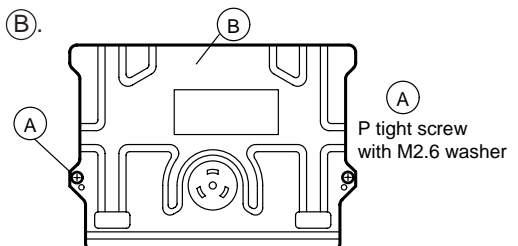
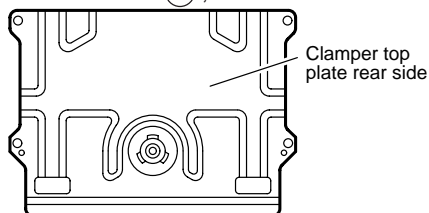


3. Remove the relay PWB mounting screw (B) (M2.6S + 6S S tight), and remove the relay PWB (C).



4. Disassembling the mechanism chassis moving chassis assembly

- (1) Remove the four M2.6 screws (A), and remove the clamped top plate (B).

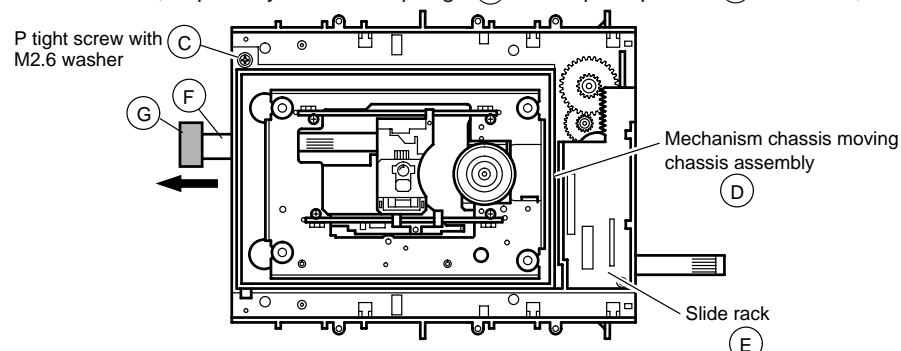


- (2) Remove the M2.6 screw (C).

- (3) Holding aslant upward the mechanism chassis moving chassis assembly (D) in the arrow direction, remove.

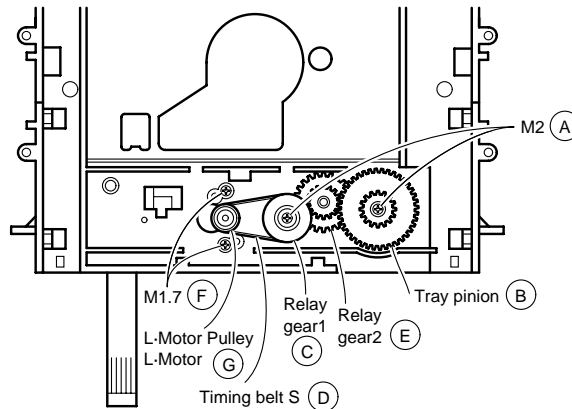
Note: The slide rack (E) must be moved to the left side as shown in diagram.

Take care so that the lead wires, especially the earth sponge (G) at the pickup FPC (F) front end, must not beremoved.



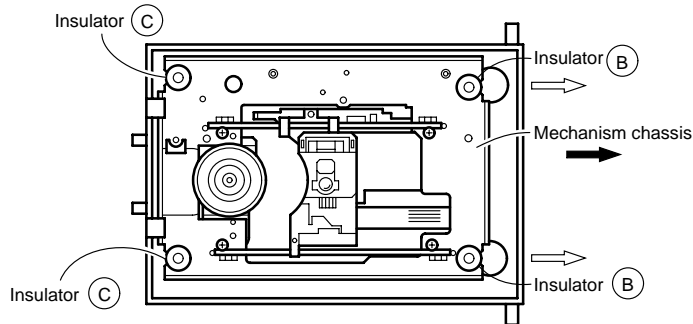
5. Disassembling the loading drive system

- (1) Remove the two M2 screws (A).
- (2) Remove the tray pinion (B).
- (3) Remove the relay gear 1 (C) together with the timing belt S (D).
- (4) Remove relay gear 2 (E).
- (5) Remove the two M1.7 screws (F).
- (6) Remove the L motor (G) (with pulley) downward.



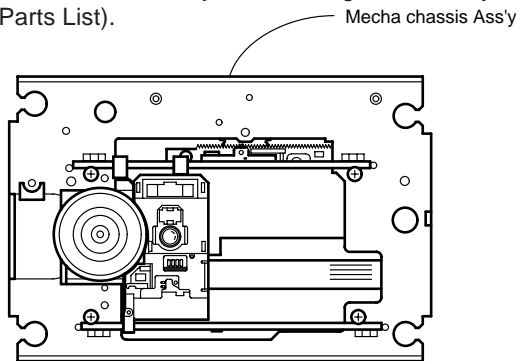
6. Disassembling the mechanism chassis from the moving chassis

- (1) Remove the insulator (B) (2 pcs. at the right side in diagram) parallel in the arrow direction. (At this time it is better to insert the fine head of screw driver at the ID side of insulator and to move in the arrow direction, which facilitates removal.)
- (2) Remove the mechanism chassis in the arrow direction, pulling upward aslant. At this time take care so that the insulator (C) (left side, 2 pcs.) is not damaged. (Do not put at once the mechanism chassis assembly.)



7. Replacing the pickup and the spindle motor

Since the pickup optical axis and turntable inclination of DVD are adjusted with higher accuracy than of CD/MD, make a replacement as a mechanism service chassis ass'y (refer to Parts List).

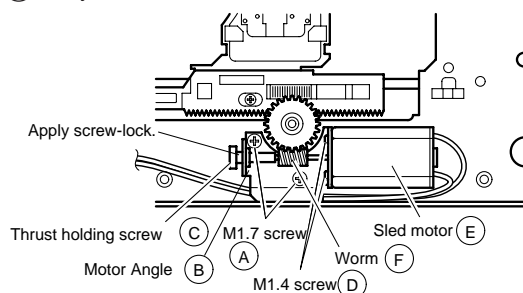


8. Replacing the Sled Motor

- (1) At the rear side of chassis remove the two M1.7 screws (A), and remove the motor angle (B).
- (2) Remove the thrust holding screw (C) (for easier removing wipe off the thread lock).
- (3) Remove the two motor fitting screws M1.4 (D), and replace the motor (E). Motor is replaced in the state while the worm (F) is kept press-fitted to the output shaft.

Note: When installing the motor, take care so that the worm does not damage the ANG (B) hole.

- (4) Screw in the thrust holding screw (C), adjust the worm front end clearance to 0 to 0.1 mm, and apply screw lock.



7. EXPLANATION OF MECHANISM

(1) Tray loading mechanism

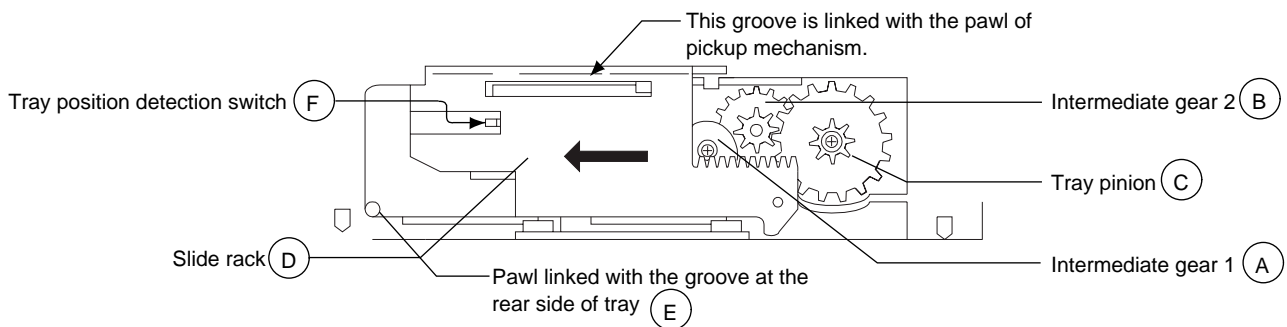
When the tray loading motor rotates counterclockwise, motion is transmitted to the slide rack (D) through the intermediate gear 1 (A), intermediate gear 2 (B) and tray pinion (C), resulting in insignificant motion in the arrow direction.

The slide rack is linked with the operating chassis. It lowers the pickup mechanism.

The protrusion of slide rack (E) is linked with the tray through the groove at the rear side of tray, so that the tray is pushed ahead a little. When the tray is pushed out, the slide rack is disconnected from the tray pinion, and at the same time the gear at the rear side of tray is connected with the tray pinion, and the tray is pushed ahead.

When the tray is pushed out fully, the slide rack moves further in the arrow direction through the groove at the rear side of tray. The tray position detection switch (F) is turned on, and the tray loading motor stops.

When the tray closes the operation is as follows. If the tray OPEN/CLOSE button or tray is pressed and the detection switch is turned off, the tray loading motor rotates clockwise, so that the tray is retracted. When the detection switch is turned on again, the tray loading motor stops.



(2) Pickup feed mechanism

When the sled motor (A) rotates, the rack (C) moves through the sled pinion (B) so that the pickup (D) is moved to the internal or external periphery.

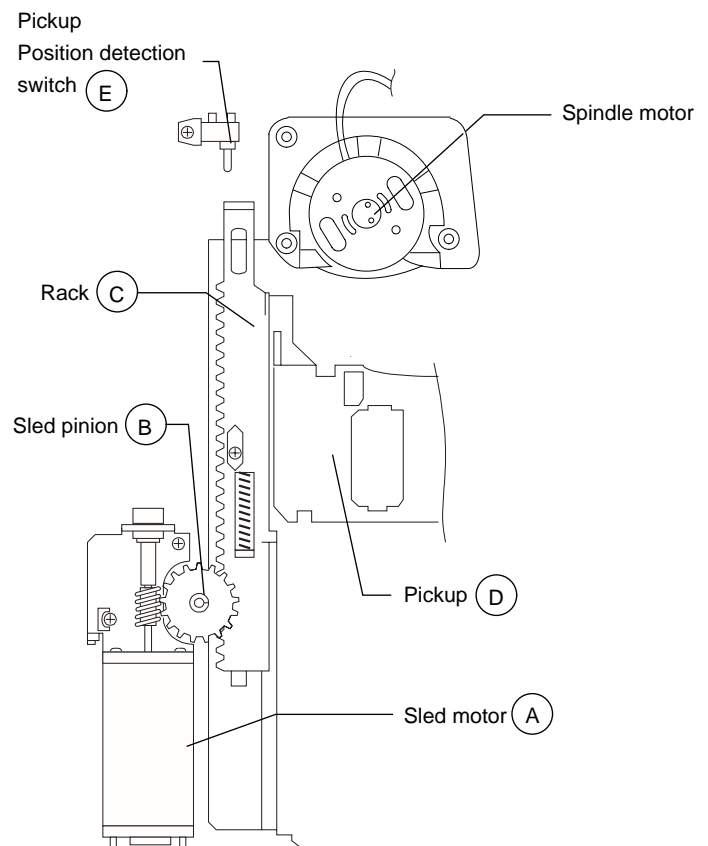
When it is moved to the innermost periphery, the position detection switch (E) is pushed by the rack, so that the position of pickup is initialized.

(3) Disc rotation mechanism

The spindle motor is used to rotate.

IC701 is used to control.

When the spindle motor is replaced, replace the spindle unit.

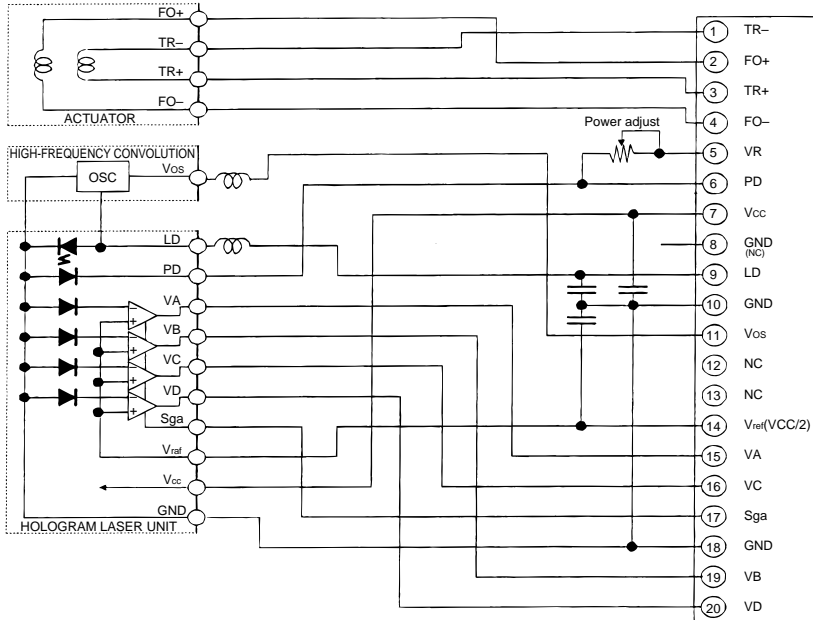


8. OPERATION OF PICKUP

8-1. CIRCUIT CONFIGURATION OF PICKUP

The pickup unit reads signals from the disk, and the flexible cable is connected to the board. The following signals flow through the cable.

8-2. EQUIVALENT CIRCUIT OF PICKUP



8-3. POLARITIES OF SIGNAL

Focus FO+, FO-	When electric current is flowed from FO+ to FO-, the lens comes to near the disk.	
Tracking TR+, TR-	When electric current is flowed from TR+ to TR-, the lens goes toward the outer circumference.	
Gain switching Sga	DVD one Layer DVD two Layer CD	High gain Sga : +5V

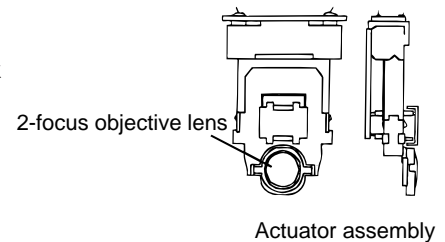
8-4. SIGNALS OF PICKUP

8-4-1. Tracking drive signal (TR+, TR-)

The signal drives the tracking servo mechanism which projects the beam on the track by moving the objective lens (OL) to the outer or inner circumference (at a right angle against the track) of the disk.

8-4-2. Focus drive signal (FO+, FO-)

The signal drives the focus servo mechanism which aligns the focus on the pit of the disk by elevating OL (vertically against the disk surface.)



The VR terminal is connected to GND.

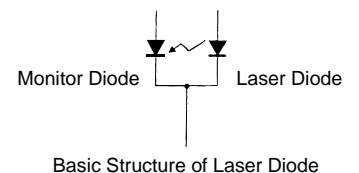
8-4-3. Monitor Diode (PD)

Since the laser diode largely varies output of the laser light even if the flowing current is slightly varied, the projection light is detected with the monitor diode to control the laser light to be equally output.

Since the current varies on the monitor diode according to the intensity of the received light of the laser diode, the drive current of the laser diode is reduced if the current of the monitor diode increases. On the contrary, the drive current of the laser diode is increased if the current of the monitor diode decreases.

As the projection light of the laser diode becomes stronger, the current of the monitor diode increases to increase the current which flows into the monitor diode output (PD). This is input to the pin 44 of IC303 and is compared with the reference voltage to control the drive current of the laser diode.

The circuit is called ALPC (Automatic Laser Power Control).



8-4-4. Laser diode drive current control (LD)

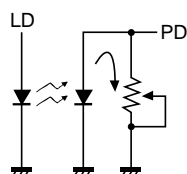
Power supply to drive the laser diode

8-4-5. High-frequency convolution module power supply (VOSC)

The high-frequency convolution imposes the high-frequency signal on the DC current to impose the high frequency on the drive current of the laser. Thus, the interference of outgoing light and reflected light is prevented.

8-4-6. HF Signal (VA, VB, VC, VD)

Signals recorded in the disk



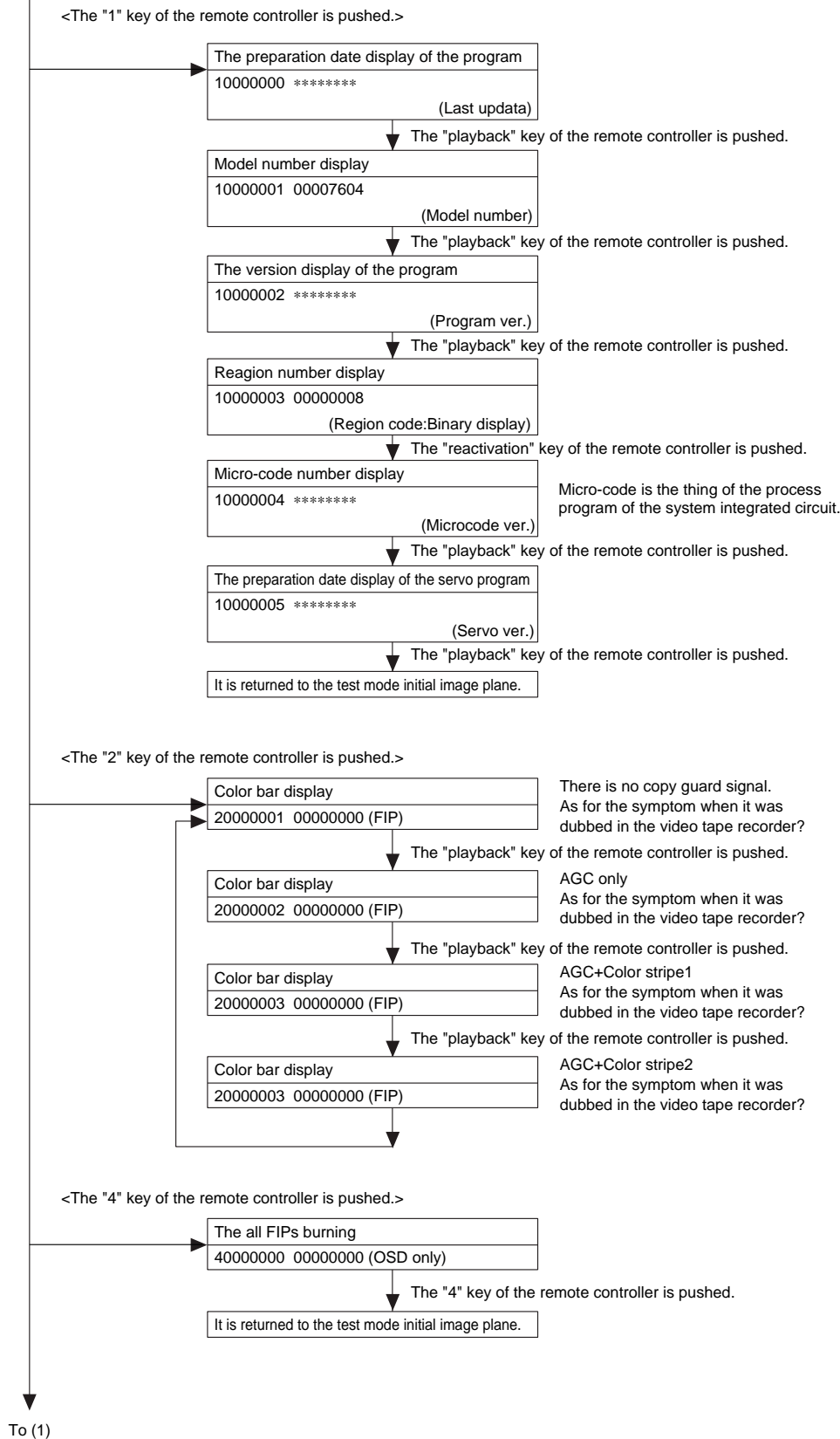
When the quantity of laser light increases, the current shown in figure increases and the PD terminal voltage rises. IC303 is used to control. The LD terminal voltage lowers, and the quantity of light reduces. (IC303 is actuated by voltage input.)

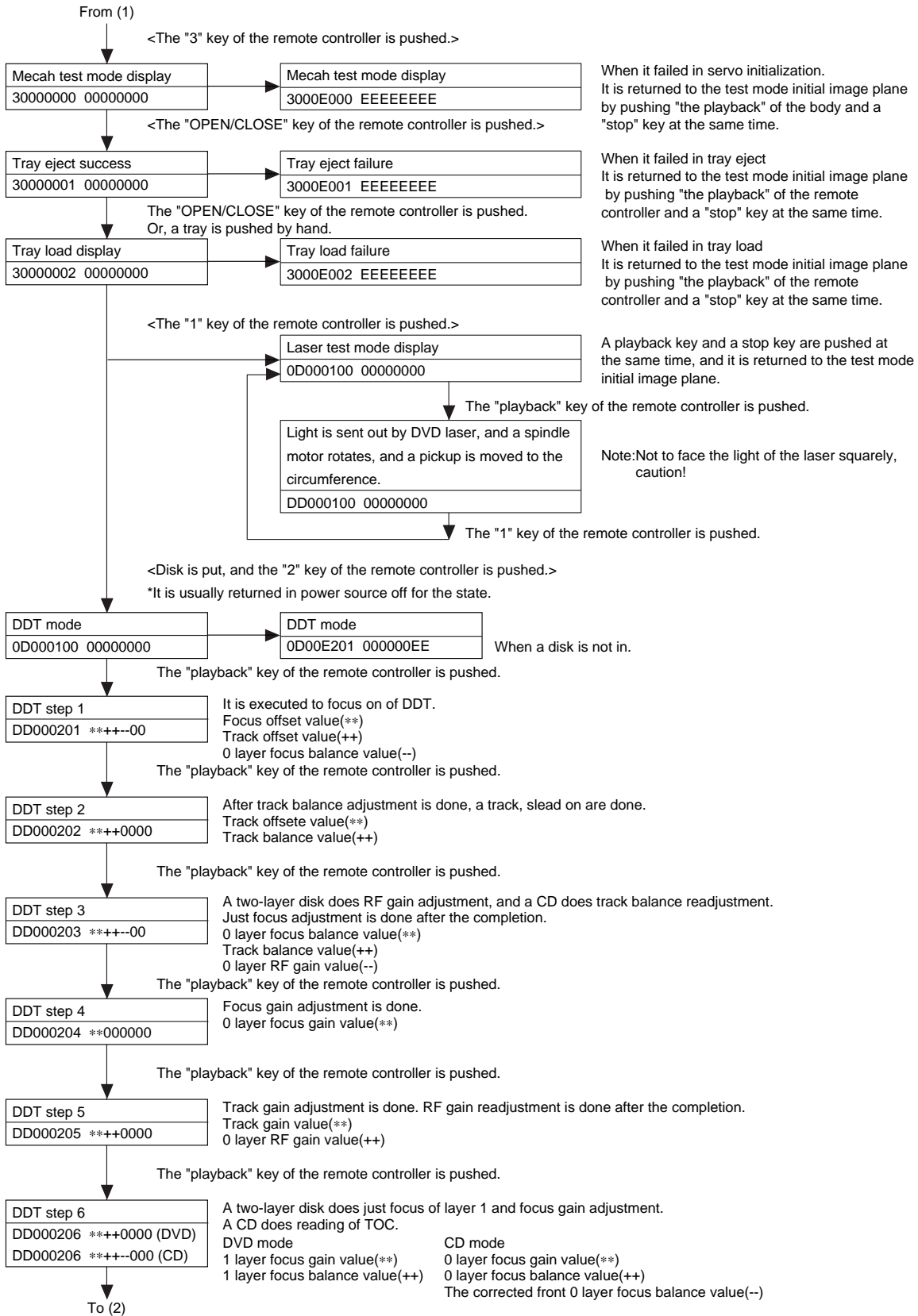
9. TEST MODE

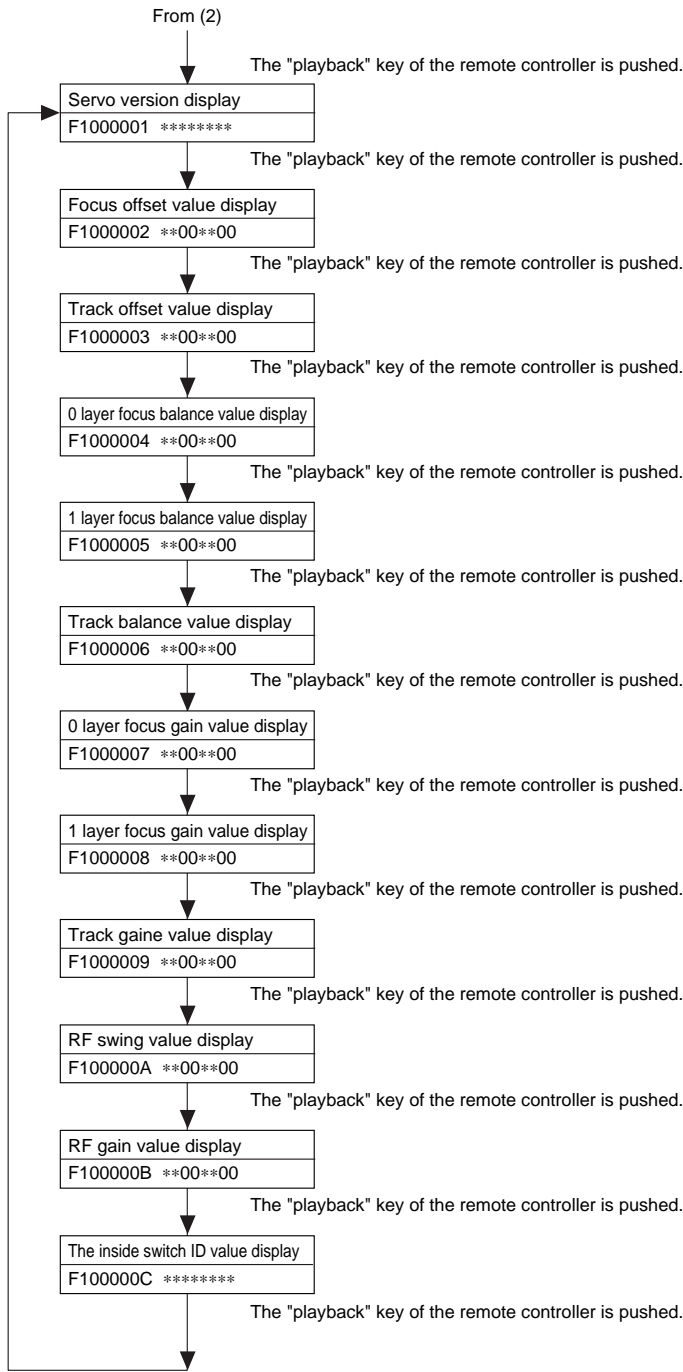
Test Mode	A power source is put, and a playback key and a stop key are pushed after the "NO DISC" display at the same time. (It keeps pushing it for about three seconds.)
ROM Renewal Mode	A power source is put with pushing a playback key and a halt key at the same time. (It keeps pushing it for about three seconds.)

[TEST MODE]

Test mode initial image plane
F0000000 00000000







[ROM RENEWAL MODE]

1. A DVD itself and a personal computer are articulated as the right figure. Software for the renewal is started more.
2. A power source is put with pushing a DVD's own playback key and a halt key at the same time. (It keeps pushing it for about three seconds.)

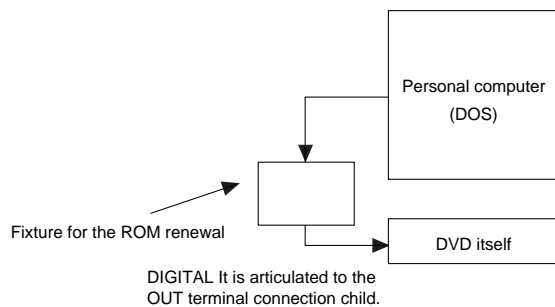
R : OK It is displayed.

3. When "a lateral" is inputted in accordance with the personal computer display and data transfer indication is shown and renewal process is started normally when an ENTER key is pushed.

W : STR It is displayed.

4. When renewal is completed normally.

W : END It is displayed.

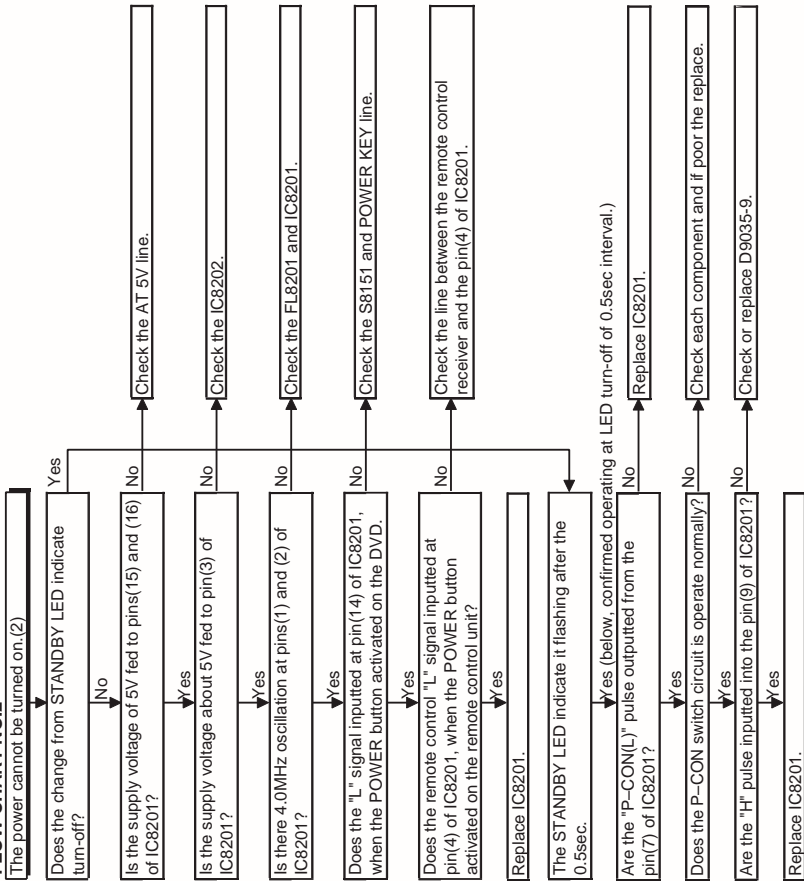


10. TROUBLESHOOTING

FLOW CHART NO.1



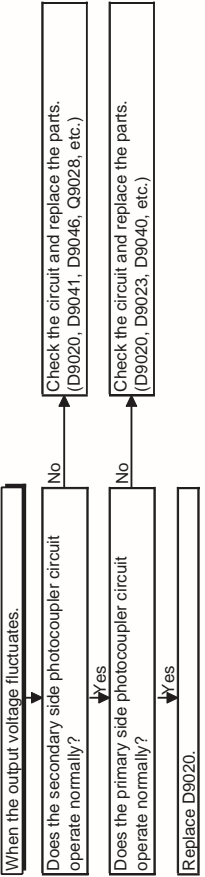
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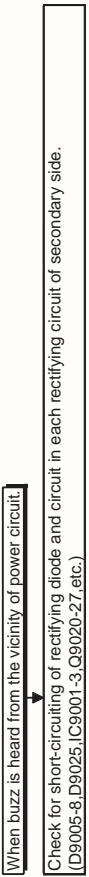
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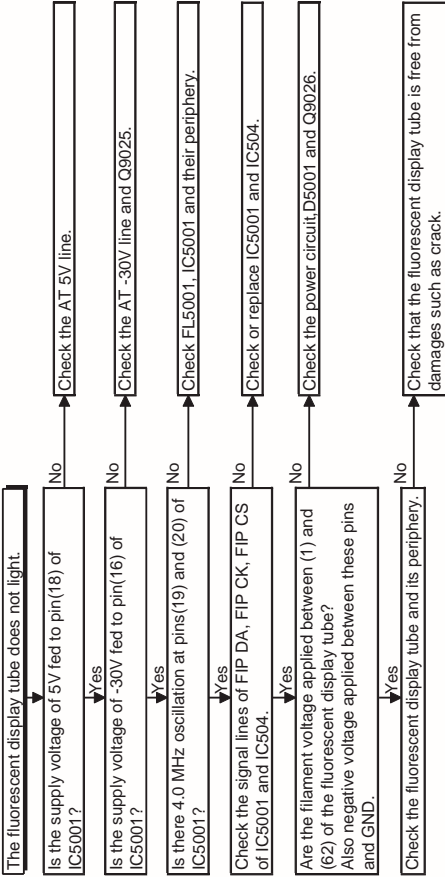
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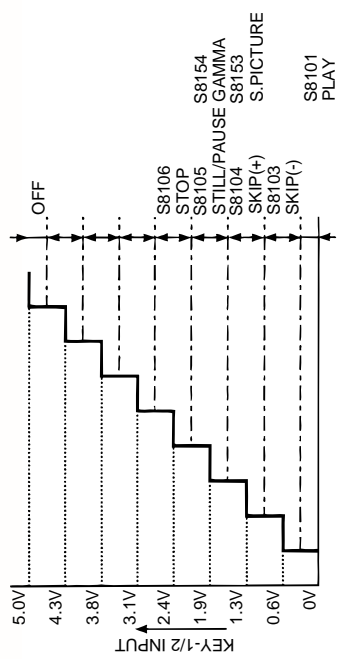
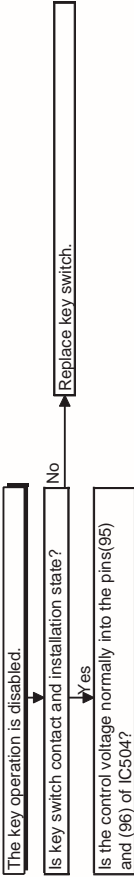
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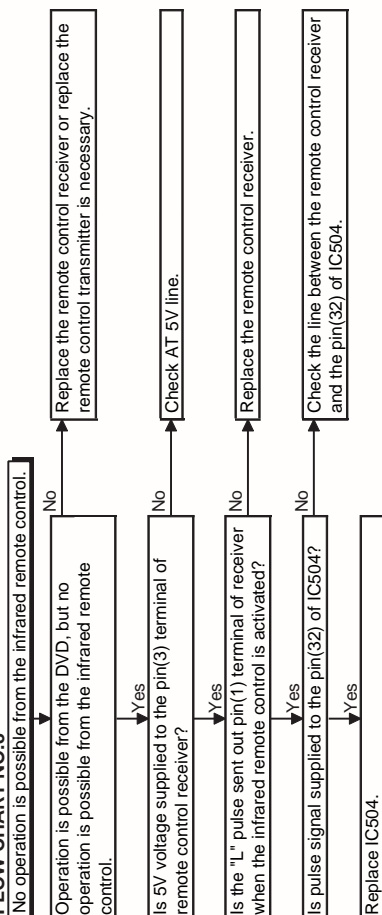
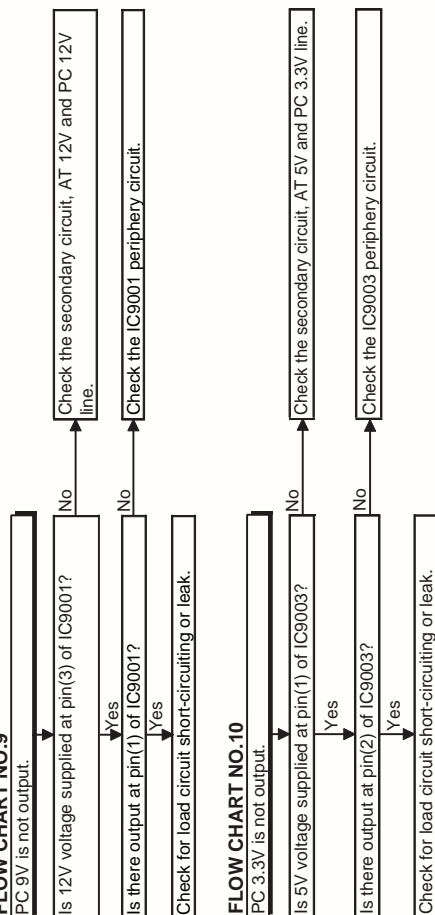
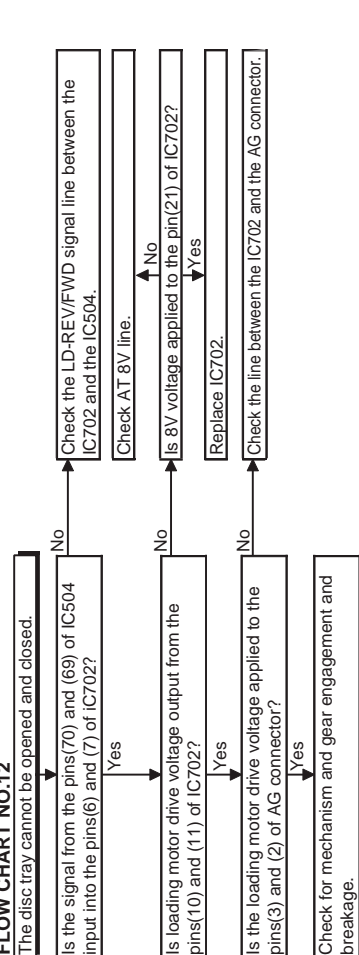
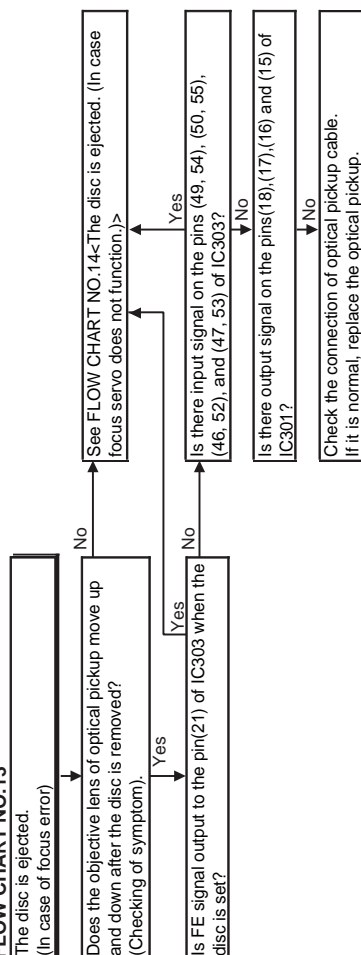
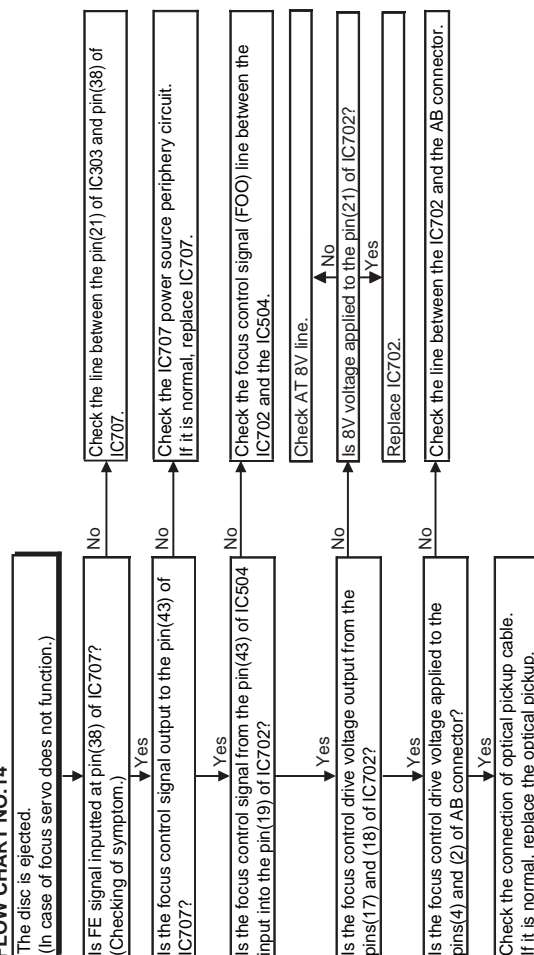
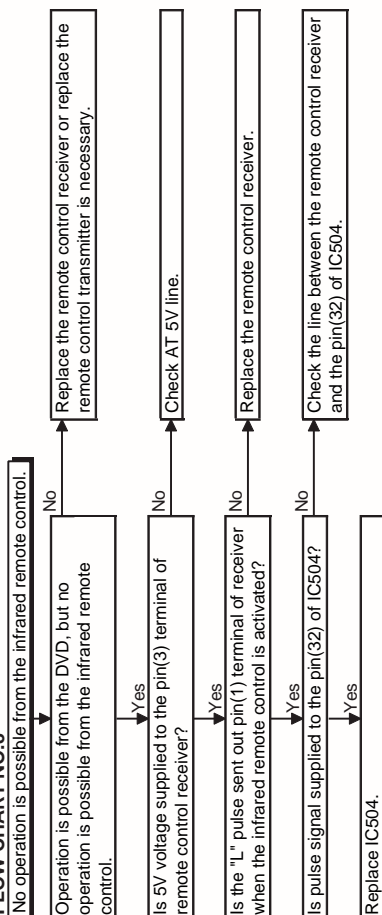
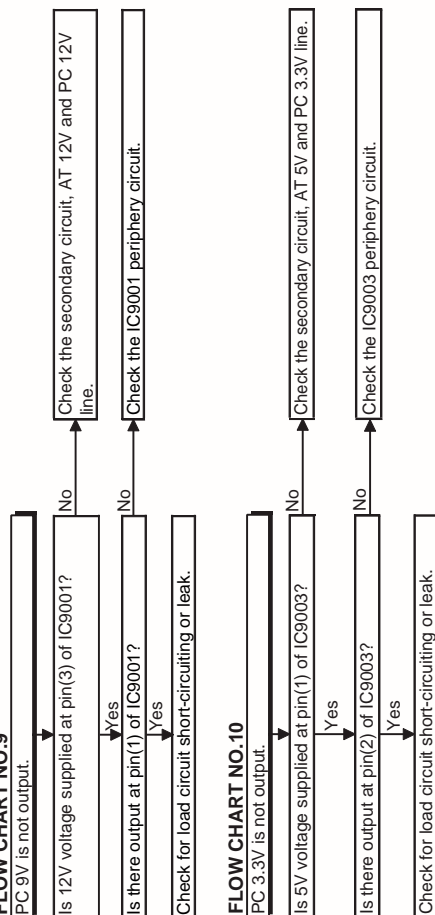
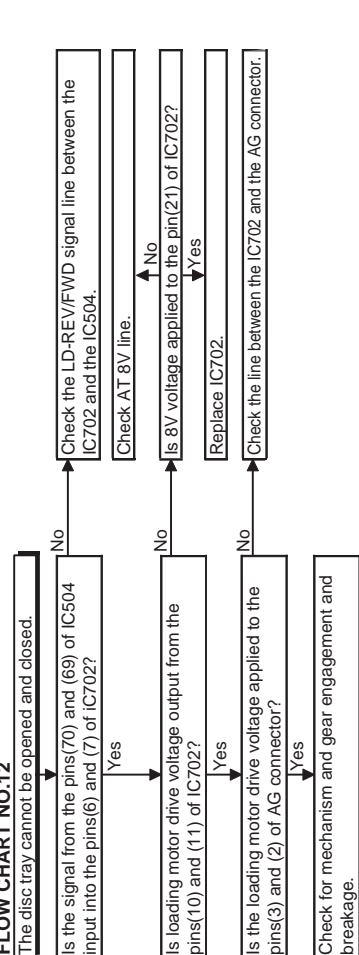
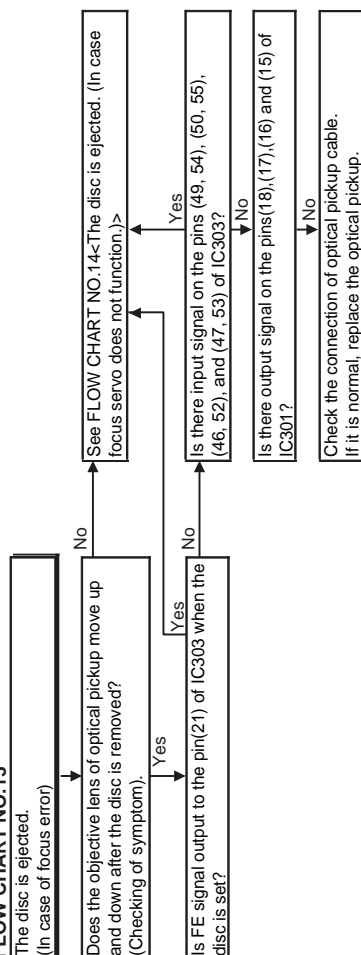
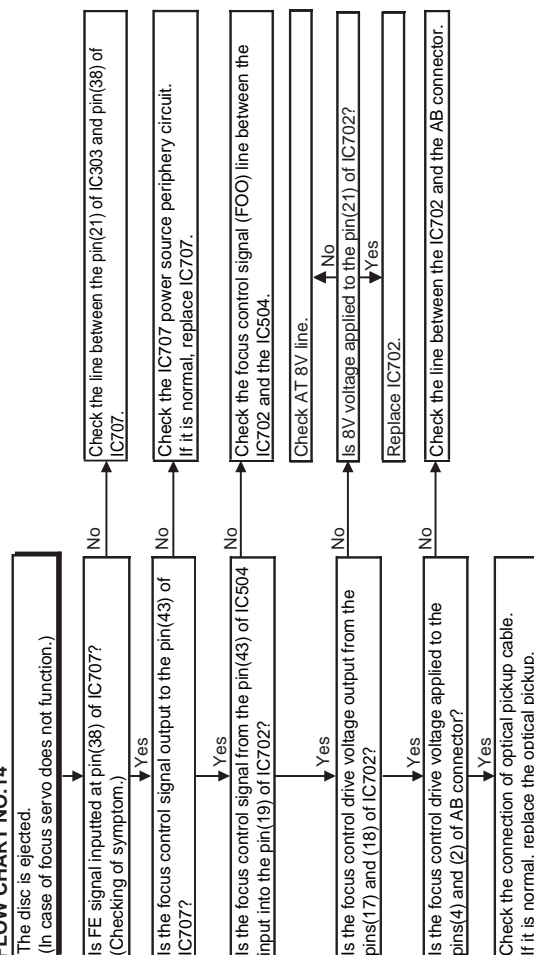
FLOW CHART NO.6



FLOW CHART NO.7



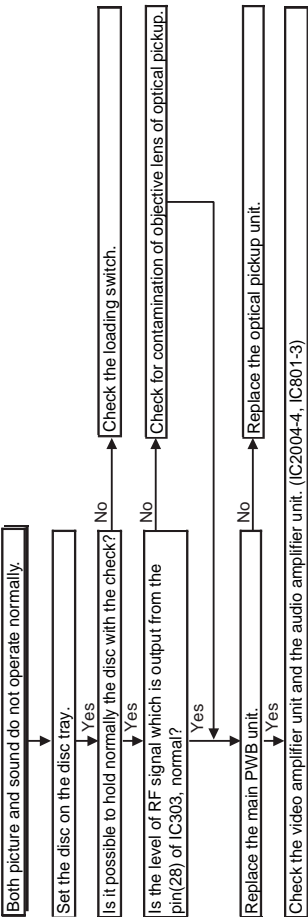
KEY-1 KEY-2

FLOW CHART NO.8**FLOW CHART NO.9****10-2****FLOW CHART NO.12****FLOW CHART NO.13****FLOW CHART NO.14****FLOW CHART NO.8****FLOW CHART NO.9****10-2****FLOW CHART NO.12****FLOW CHART NO.13****FLOW CHART NO.14**

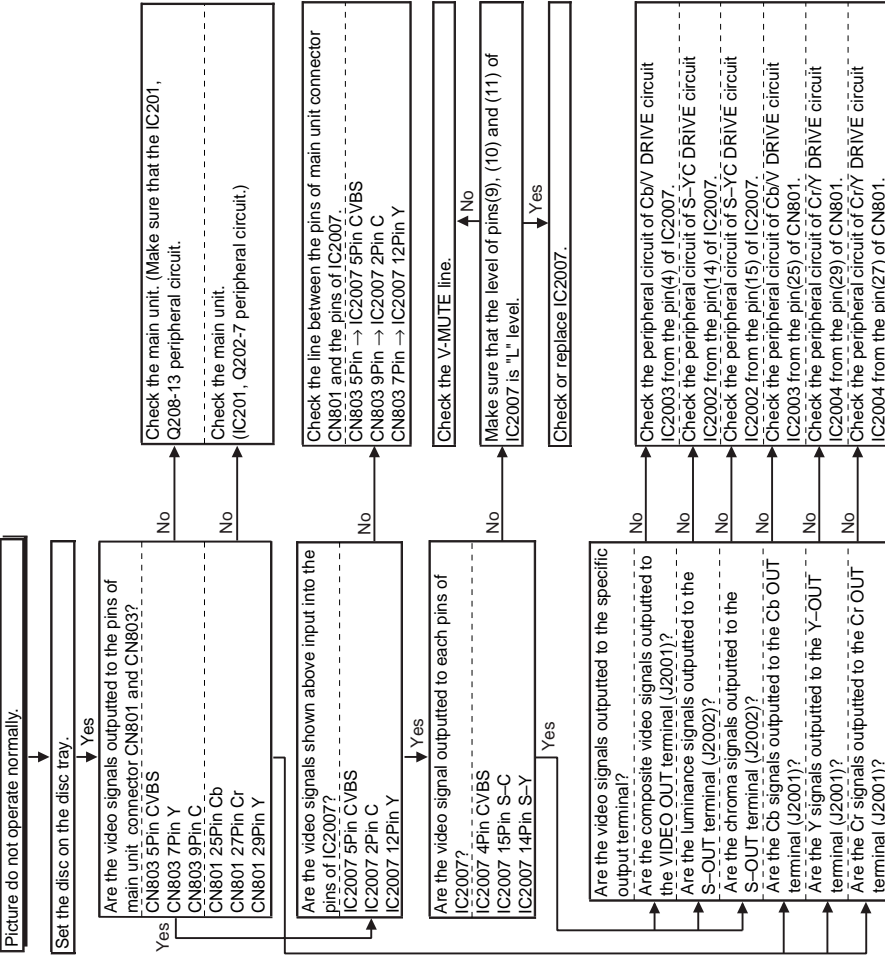
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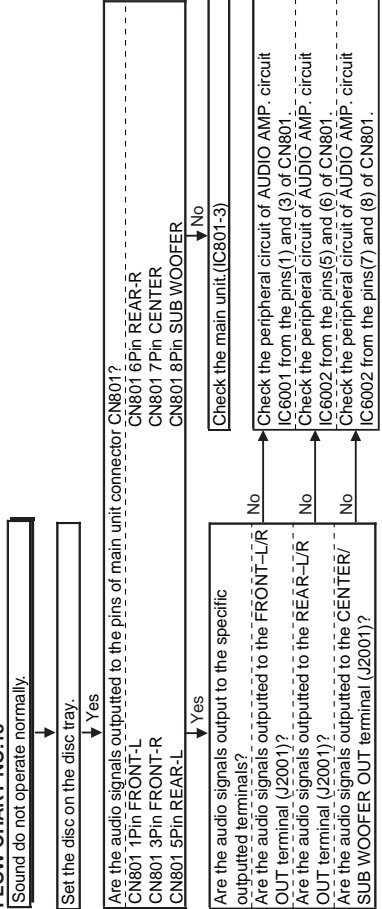
FLOW CHART NO.16



FLOW CHART NO.17



FLOW CHART NO.18

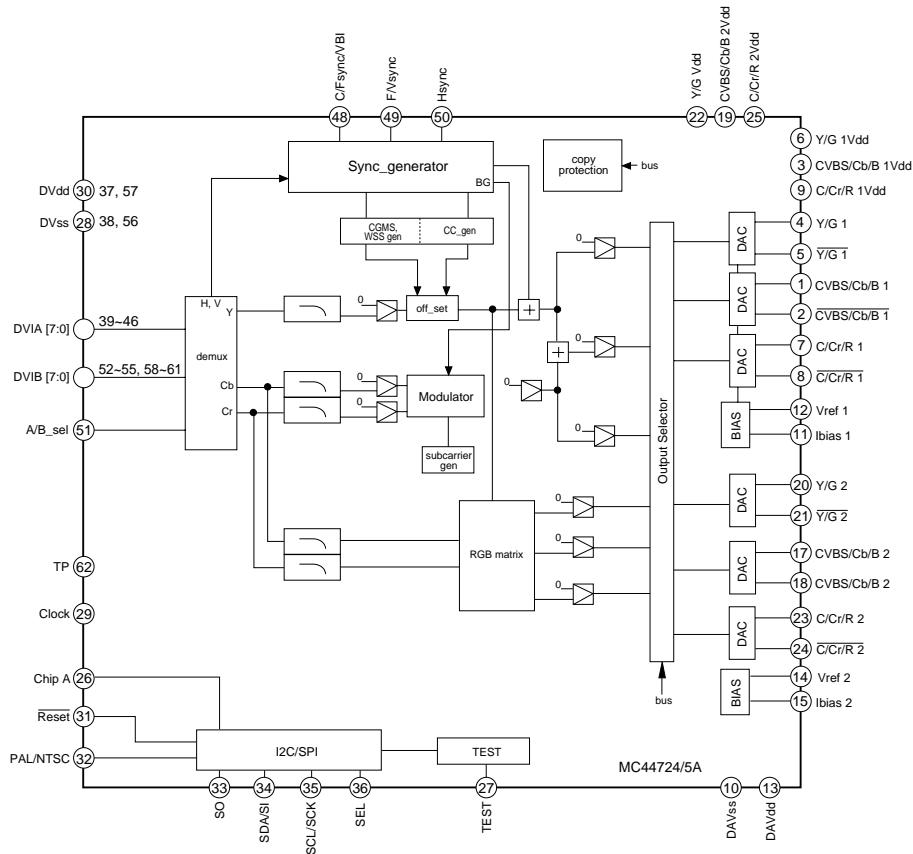


11. IC FUNCTION LIST

11-1. IC201 MC44724A DIGITAL VIDEO ENCODER

Pin No.	Terminal name	I/O	Operation function
1	CVBS/Cb/B1	O	Analog composite video signal output or Cb or B signal output current drive (positive)
2	$\overline{\text{CVBS/Cb/B1}}$	O	Analog composite video signal output or Cb or B signal output current drive (negative)
3	CVBS/Cb/B1 Vdd		Power Supply for CVBS / Cb/B DAC1 circuit
4	Y/G 1	O	Analog luminance or G signal output current drive (positive)
5	$\overline{\text{Y/G 1}}$	O	Analog luminance or G signal output current drive (negative)
6	Y/G 1Vdd		Power Supply for Y/G DAC1 circuit
7	C/Cr/R 1	O	Analog chrominance signal output or Cr or R signal output current drive (positive)
8	$\overline{\text{C/Cr/R 1}}$	O	Analog chrominance signal output or Cr or R signal output current drive (negative)
9	C/Cr/R 1Vdd		Power Supply for C/Cr/R DAC1 circuit
10	DA Vss		Ground for DAC circuit
11	Ibias 1	O	Reference current for the 1st set of 3 DACs
12	VRef 1		Reference full scale voltage for the 1st set of 3 DACs
13	DA Vdd		Power Supply for DACs
14	VRef 2		Reference full scale voltage for the 2nd set of 3 DACs
15	Ibias 2	O	Reference current for 2nd set of the 3 DACs
16	NC		No connect to pin
17	CVBS/Cb/B2	O	Analog composite video signal output or Cb or B signal output current drive (positive)
18	$\overline{\text{CVBS/Cb/B2}}$	O	Analog composite video signal output or Cb or B signal output current drive (negative)
19	CVBS/Cb/B2 Vdd		Power Supply for CVBS / Cb/B DAC2 circuit
20	Y/G 2	O	Analog luminance or G signal output current drive (positive)
21	$\overline{\text{Y/G 2}}$	O	Analog luminance or G signal output current drive (negative)
22	Y/G Vdd		Power Supply for Y/G DAC2 circuit
23	C/Cr/R 2	O	Analog chrominance signal output or Cr or R signal output current drive (positive)
24	$\overline{\text{C/Cr/R 2}}$	O	Analog chrominance signal output or Cr or R signal output current drive (negative)
25	C/Cr/R 2Vdd		Power Supply for C/Cr/R DAC2 circuit
26	ChipA		I2C chip address select {0 : 40(hex)/41(hex) 1 : 1D(hex)/1E(hex)}
27	TEST	I	TEST pin (Ground)
28	DVss		Ground for Digital circuit
29	CLOCK	I	27MHz clock input
30	DVdd		Power Supply for Digital circuit
31	$\overline{\text{Reset}}$	I	Reset signal, active LOW
32	PAL/NTSC	I	NTSC/PAL select. This pin is sampled only at Reset.(NTSC : Low PAL : High)
33	SO	z(O)	In SPI mode, serial data output / In I2C mode, grounded.
34	SDA/SI	I/O(I)	Serial data input, Open drain output / If SPI mode, serial data input
35	SCL/SCK	I	Serial clock
36	SEL	I/(I)	Connect to Ground / If SPI mode, this pin is chip select
37	DVdd		Power supply for Digital circuit
38	DVss		Ground for Digital circuit
39-46	DVIA7-0	I/O	8-bit Multiplexed Y/Cr/Cb 4:2:2 data (ITU Rec656/601) input (DVIA) or Multiplexed Y data (ITU-Rec656/601) input in 16-bit input mode
47	Vmute	I	Video mute on Reset (0: normal, 1: mute)
48	C/Fsync/VBI	I/O	Csync/Frame sync input/output
49	F/Vsync	I/O	Frame sync or Vertical sync input/output
50	Hsync	I/O	Horizontal sync input/output
51	A/B sel	I	Switch control for 8-bit x 2 Multiplexed 4:2:2 data (ITU Rec656/601) input (DVIA) or (DVIB)
52-55	DVIB7-4	I/O	8-bit Multiplexed 4:2:2 data (ITU Rec656-601) input (DVIB), or Multiplexed Cr/Cb data (ITU Rec656/601) input in 16-bit input mode
56	DVss		Ground for Digital circuit
57	DVdd		Power Supply for Digital circuit
58-61	DVIB3-0	I/O	Multiplexed 4:2:2 data (ITU Rec656/601) input (DVIB), or Multiplexed Cr/Cb data (ITU Rec656/601) input in 16-bit input mode
62	TP	I/O	Test data input/output (Grounded)
63,64	NC		No connect to pin (Ground)

• Block Diagram



11-2. IC301 IX1461GE RF PRE AMP.

Pin No.	Terminal name	I/O	Operation function
1	EIN	I	RF signal input. Input of RF signal output of optical pickup.
2	GND1	-	Ground
3	S/DUAL	I	Single layer/dual layer selection signal input.
4	AIN	I	RF signal input. Input of RF signal output of optical pickup.
5	BIN	I	RF signal input. Input of RF signal output of optical pickup.
6	CIN	I	RF signal input. Input of RF signal output of optical pickup.
7	DIN	I	RF signal input. Input of RF signal output of optical pickup.
8	VrefIN	I	Reference voltage input. (2.1V)
9	FIN	I	RF signal input. Input of RF signal output of optical pickup.
10	GAINsel1	I	Amp gain selection input 1.
11	VCC1	-	Power terminal. (5.0V)
12	GAINsel2	I	Amp gain selection input 2.
13	FOUT	O	RF signal output. Input RF signal is current-voltage-converted and output.
14	EOUT	O	RF signal output. Input RF signal is current-voltage-converted and output.
15	DOUT	O	RF signal output. Input RF signal is current-voltage-converted and output.
16	COOUT	O	RF signal output. Input RF signal is current-voltage-converted and output.
17	BOOUT	O	RF signal output. Input RF signal is current-voltage-converted and output.
18	AOUT	O	RF signal output. Input RF signal is current-voltage-converted and output.
19	VCC2	-	Power terminal. (5.0V)
20	RFPOUT	O	Data read signal output. The same phase as MIXIN.
21	RFNOUT	O	Data read signal output. Reverse phase with respect to MIXIN.
22	MIXIN	I	Data read signal input.
23	MIXOUT	O	Data read signal output.
24	GND2	-	Ground

• Mode selection table

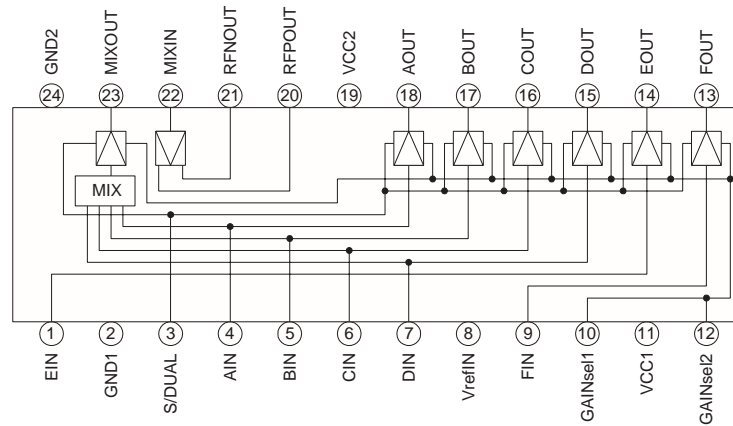
Single layer/dual layer selection

Layer	S/DSEL (Terminal 3)	Amp gain
Single	L, OPEN	0dB
Dual	H	+10dB

Amp. gain selection

GAINsel1 (Terminal 10)	GAINsel2 (Terminal 12)	Amp gain
L	L	+6dB
H, OPEN	L	-2dB
L	H, OPEN	+2dB
H, OPEN	H, OPEN	-6dB

• Block Diagram

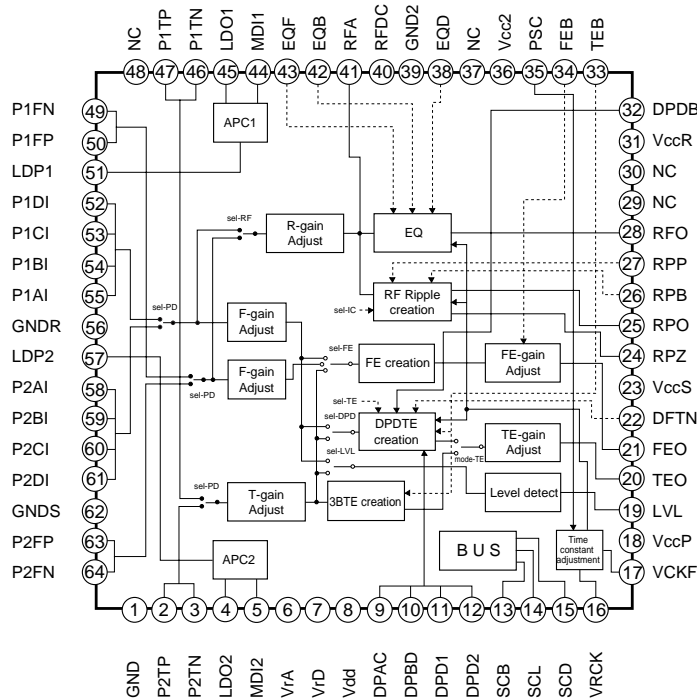


11-3. IC303 IX1517GE RF SIGNAL PROCESSOR

Pin No.	Terminal name	I/O	Operation function	Terminal DC Voltage(TYP.)	Remarks
1	GND	–	GND terminal.	–	
2	P2TP	I	TE+input (CD)	VrA	
3	P2TN	I	TE–input (CD)	VrA	
4	LDO2	O	Drive ouput	–	
5	MDI2	I	Monitor input	–	
6	VrA	O	Analog VREF	2.1[V]	
7	VrD	O	Digital VREF	–	Vdd 1/2
8	Vdd	I	Power terminal	–	4.2V (3.3V)
9	DPAC	–	DPD AC combination capacity 1	–	
10	DPBD	–	DPD AC combination capacity 2	–	
11	DPD1	–	DPD integral capacity 1	–	
12	DPD2	–	DPD integral capacity 2	–	
13	SCB	I	Control line (Bit clock)	2.2[V]	
14	SCL	I	Control line (Latch signal)	2.2[V]	
15	SCD	I	Control line (Serial Data)	2.2[V]	
16	VRCK	I	Reference clock input	2.3[V]	When frequency is increased, the filters excepting the servo LPF are shifted to high frequency side.
17	VCKF	–	Capacity for time constant adjustment	–	
18	VccP	–	Power terminal	–	
19	LVL	O	Servo addition output	Vrd x (1/2)	
20	TEO	O	TE output	VrD	
21	FEO	O	FE output	VrD	
22	DFTN	I	DPD difect	–	Low DPD output: Mute
23	VccS	–	Power terminal (servo)	–	
24	RPZ	O	RF ripple center voltage	VrD	
25	RPO	O	RF ripple output	VrD	
26	RPB	O	RF ripple bottom	–	
27	RPP	O	RF ripple peak	–	
28	RFO	O	Equalizing RF output	2.3[V]	
29	NC	–	NC terminal	–	To be connected to GND
30	NC	–	NC terminal	–	To be connected to GND
31	VccR	–	Power terminal (RF)	–	
32	DPDB	I	Pit depth adjustment	VrD	When D PDB is raised, the A/B side delay increases.
33	TEB	I	TE balance	VrD	When TEB is raised, the TP side gain increases and the A+C side delay increases.
34	FEB	I	FE balance	VrD	When FEB is raised, the A+C (FP) side gain increases.
35	PSC	I	VRCK frequency division ON/OFF	–	High: Frequency division OFF
36	Vcc2	–	Power terminal	–	
37	NC	–	NC terminal	VrD	To be connected to VrD, or to GND through C
38	EQD	I	Group delay correction	VrD	When EQD is raised, the group delay increases at the right side.
39	GND2	–	GND terminal.	–	
40	RFDC	–	DC feedback capacity	–	

Pin No.	Terminal name	I/O	Operation function	Terminal DC Voltage(TYP.)	Remarks
41	RFA	O	RF total addition output	2.2[V]	
42	EQB	I	Boost adjustment	VrD	When EQB is raised, the boost increases.
43	EQF	I	Frequency adjustment	VrD	When EQF is raised, shift to the high frequency side occurs.
44	MDI1	I	Monitor input	-	
45	LDO1	O	Drive output	-	
46	P1TN	I	TE-input (DVD)	VrA	
47	P1TP	I	TE+input (DVD)	VrA	
48	NC	-	NC terminal	-	To be connected to GND
49	P1FN	I	FE-input (DVD)	VrA	
50	P1FP	I	FE+input (DVD)	VrA	
51	LDP1	I	APC polarity 1	-	Positive polarity when this terminal is connected to Vcc.
52	P1DI	I	D input (DVD)	VrA	
53	P1CI	I	C input (DVD)	VrA	
54	P1BI	I	B input (DVD)	VrA	
55	P1AI	I	A input (DVD)	VrA	
56	GNDR	-	GND terminal (RF)	-	
57	LDP2	I	APC polarity 2	-	Positive polarity when this terminal is connected to Vcc.
58	P2AI	I	A input (CD)	VrA	
59	P2BI	I	B input (CD)	VrA	
60	P2CI	I	C input (CD)	VrA	
61	P2DI	I	D input (CD)	VrA	
62	GNDS	-	GND terminal (Servo)	-	
63	P2FP	I	FE+input (CD)	VrA	
64	P2FN	I	FE-input (CD)	VrA	

• Block Diagram



11-4. IC401 IX1484GE 4M DRAM

Terminal	Terminal name	Function
10~13,16~20,9	A0~A8,A9R	Address input
8	RAS	Row address strobe
23	CAS	Column address strobe
2~5,24~27	DQ1~DQ8	Data input/Data output
22	OE	Output enable
7	WE	Light enable
1, 14	Vcc	Power (5V)
15, 28	Vss	Ground (0V)
6, 21	NC	Not connected

11-5. IC402 IX1474GE DEM/ECC (DVD)

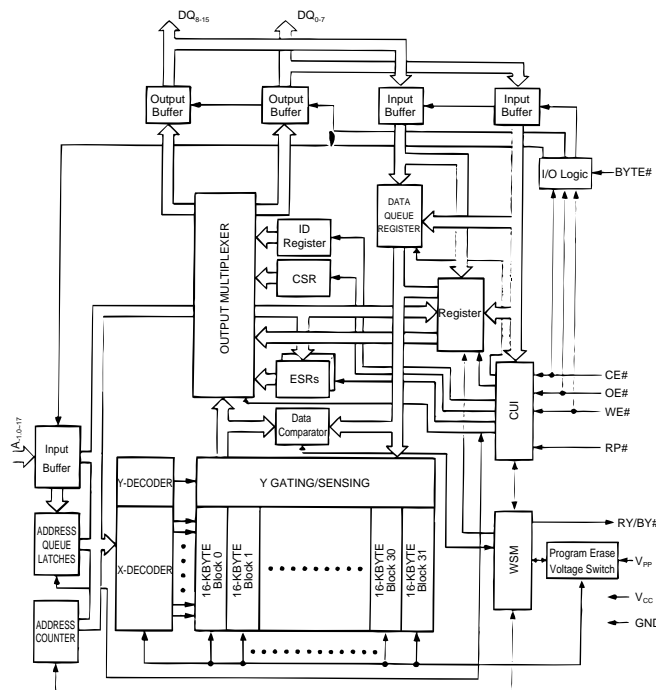
Pin No.	Terminal name	I/O	Operation function	Remarks
1	DPCK1	I	Signal processing reference clock input.	0.5-3.3Vp-p Feedback resistor built in.
2	DVDD3	–	Digital power. (3.3V)	For logic cell
3	SVCK1	I	Servo reference clock input. (Oscillation circuit input terminal)	3.3V-I/F Feedback resistor built in.
4	SVCK0	O	Servo reference clock output. (Oscillation circuit input terminal)	
5	DVSS	–	Digital power. (0V)	For logic cell
6	DVDD2	–	Digital power. (3.3V)	For logic cell
7	N.C.	–	User use prohibited.	Open
8	HDWR	I	MPU write signal.	TTL level
9	HDRD	I	MPU read signal.	TTL level
10	ECCCS	I	MPU chip selection.	TTL level
11	D8	I/O	MPU data bus.	TTL level
12	D9	I/O	MPU data bus.	TTL level
13	D10	I/O	MPU data bus.	TTL level
14	D11	I/O	MPU data bus.	TTL level
15	D12	I/O	MPU data bus.	TTL level
16	D13	I/O	MPU data bus.	TTL level
17	D14	I/O	MPU data bus.	TTL level
18	D15	I/O	MPU data bus.	TTL level
19	DVSS	–	Digital power. (0V)	For I/O cell
20	DVDD5	–	Digital power. (5V)	For I/O cell
21	HINT	O	MPU interruption signal. (Occurrence of interruption = "L")	OPEN DRAIN
22	HA0	I	MPU address bus.	TTL level
23	HA1	I	MPU address bus.	TTL level
24	PLCK	I/O	Read channel clock input/output terminal.	
25	ED0	–	User use is prohibited (N.C.) since it is for shipping adjustment.	Open
26	ED1	–		
27	ED2	–		
28	ED3	–		
29	ED4	–		
30	ED5	–		
31	ED6	–		
32	ED7	–		
33	TEST	I	For shipping adjustment.	Set to "L"
34	PDON	O	PLL phase error signal output. (Negative polarity)	
35	PDOP	O	PLL phase error signal output. (Positive polarity)	
36	RLLD	O	RLL detection result output.	
37	LPFN	I	PLL loop filter amp. reverse input.	
38	LPFO	O	PLL loop filter amp. output.	
39	VCOF	O	VCO filter terminal.	
40	SLCO	O	Built-in comparator reference voltage output terminal.	
41	AVSS	–	Analog power. (0V)	
42	AVR	O	Non-PLL system analog reference potential. (1.65V)	
43	VRC	–	Resistance division point potential. (For analog reference potential generation: 1.65)	
44	PVR	O	PLL system analog reference potential. (1.65V)	
45	AVDD	–	Analog power. (3.3V)	
46	RVR2	–	2nd reference voltage. (For capacitor connection)	
47	RVDD	–	Exclusive-use power terminal. (3.3V)	
48	RFIN	I	RF signal input.	
49	RVSS	–	Exclusive-use power terminal. (0V)	
50	RVR1	–	1nd reference voltage. (For capacitor connection)	
51	DVR	I	DMO reference potential. (1.65V recommended)	
52	DMO	O	Disc equalizer output for DVD. (Triple value PWM + HiZ)	
53	RASN	O	External RAM row address selection. (Negative logic)	
54	CASN	O	External RAM row address selection. (Negative logic)	

Pin No.	Terminal name	I/O	Operation function	Remarks
55	MOEN	O	External RAM output permission signal.	
56	MWEN	O	External RAM read/write selection.	
57	DVSS	–	Digital power. (0V)	For logic cell
58	DVDD3	–	Digital power. (3.3V)	For logic cell
59	MA9	O	External RAM address bus.	
60	MA8	O	External RAM address bus.	
61	MA7	O	External RAM address bus.	
62	MA6	O	External RAM address bus.	
63	MA5	O	External RAM address bus.	
64	MA4	O	External RAM address bus.	
65	MA3	O	External RAM address bus.	
66	MA2	O	External RAM address bus.	
67	MA1	O	External RAM address bus.	
68	MA0	O	External RAM address bus.	
69	DVSS	–	Digital power. (0V)	For I/O cell
70	DVDD5	–	Digital power. (5V)	For I/O cell
71	MD7	I/O	External RAM data bus.	TTL level
72	MD6	I/O	External RAM data bus.	TTL level
73	MD5	I/O	External RAM data bus.	TTL level
74	MD4	I/O	External RAM data bus.	TTL level
75	MD3	I/O	External RAM data bus.	TTL level
76	MD2	I/O	External RAM data bus.	TTL level
77	MD1	I/O	External RAM data bus.	TTL level
78	MD0	I/O	External RAM data bus.	TTL level
79	SD7	O	MPEG data output.	
80	SD6	O	MPEG data output.	
81	SD5	O	MPEG data output.	
82	SD4	O	MPEG data output.	
83	DVSS	–	Digital power. (0V)	For logic cell
84	DVDD3	–	Digital power. (3.3V)	For logic cell
85	SD3	O	MPEG data output.	
86	SD2	O	MPEG data output.	
87	SD1	O	MPEG data output.	
88	SD0	O	MPEG data output.	
89	SERR	O	MPEG data reliability flag. (Data error: "L")	
90	SOSO	O	MPEG output sector sync signal. (Sector top: "L")	
91	SVAL	O	MPEG data effective flag. (Effective state: "L")	
92	SDCK	O	MPEG data transfer clock.	
93	DVSS	–	Digital power. (0V)	For logic cell
94	SREQ	I	MPEG data request flag. (Request state: "L")	TTL level
95	RSTN	I	Hard reset input. (Reset state: "L")	
96	DVDD3	–	Digital power. (3.3V)	For logic cell
97	STDA	O	Operation state monitor data. (Output synchronizing with SDCK fall)	Common with PWM.
98	STCK	O	Operation state monitor sync signal. (Data top bit: "L")	Common with PWM.
99	UPWM	O	General-use PWM output.	4mA, 5V-I/F
100	DVSS	–	Digital power. (0V)	For logic cell

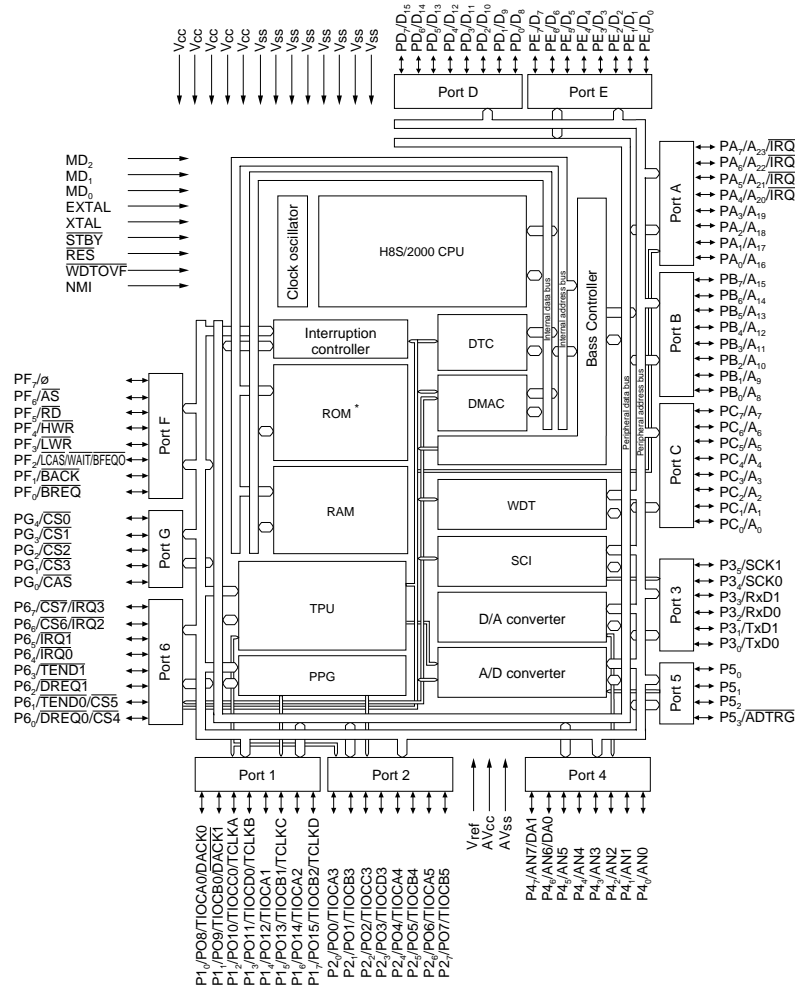
11-6. IC501 IX1614GE FLASH

Symbol	Type	Name and function
DQ ₁₅ /A ₋₁	Input	Byte selection address: When the device is in the x8 mode, the low or high order byte is selected. It is not used in the x16 mode. (If BYTE# is high, DQ ₁₅ /A ₋₁ input circuit does not operate.)
A ₀ -A ₁₂	Input	Word selection address: Selection of one word of 16k byte block. These addresses are latched during data wiring operation.
A ₁₃ -A ₁₇	Input	Block selection address: Selection of 1/32 erase block. These addresses are latched during data writing, erasing and lock block operation.
DQ ₀ -DQ ₇	Input/Output	Low order byte data input/output: Command user interface writing cycle data and command input. Various data read memory identifier and status data output Chip nonselection or output disable: Float state
DQ ₈ -DQ ₁₅	Input/Output	High order byte data input/output: The function is the same as that of low order byte data input/output. Operative only in x16 mode. x8 mode: Float state DQ ₁₅ /A ₋₁ is address.
CE#	Input	Chip enable: Device control logic, input buffer, decoder and sense amp. are activated. Chip becomes active only when CE# is "Low".
RP#	Input	Reset/Power down: If RP# is set to "Low", the control circuit is initialized when power is turned on. Hence, the RP#pin is set to "Low". When power is turned on or off or in case of fluctuation it is kept at "Low" so as to protect data from noise. When RP# is in "Low" state, the device is in deep power down state. 480 ns is required to recover from the deep power down state. If the RP# pin becomes "Low", the whole chip operation is interrupted and reset. After recovery the device is set to array read state.
OE#	Input	Output enable: When OE# is set to "Low", data is output from the DQ pin. When OE# is set to "High", the DQ pin is set to float state.
WE#	Input	Write enable: Command user interface, data Q register and address Q latch access is controlled. In "Low" state WE# becomes active. At rise edge the address and data are fetched.
RY/BY#	Output	Ready/busy: The state of internal write state machine is output. In "Low" state it is indicated that the write state machine is in operation. If the write state machine waits for next operation instruction, erase is suspended or it is in deep power down state, the RY/BY# pin is in float state.
BYTE#	Input	Byte enable: When BYTE# is set to "Low", the device is set to the x8 mode. At this time the DQ ₈ -DQ ₁₅ pin becomes float state. Address A ₋₁ selects high order/low order byte. When BYTE# is "High", the device is set to the x16 mode. The A ₋₁ input circuit is disabled.
V _{pp}		Write/erase power supply: 5.0 ± 0.5V is applied during writing/erasing.
V _{cc}		Device power supply: 5.0 ± 0.5V
GND		Ground
NC		Nonconnection

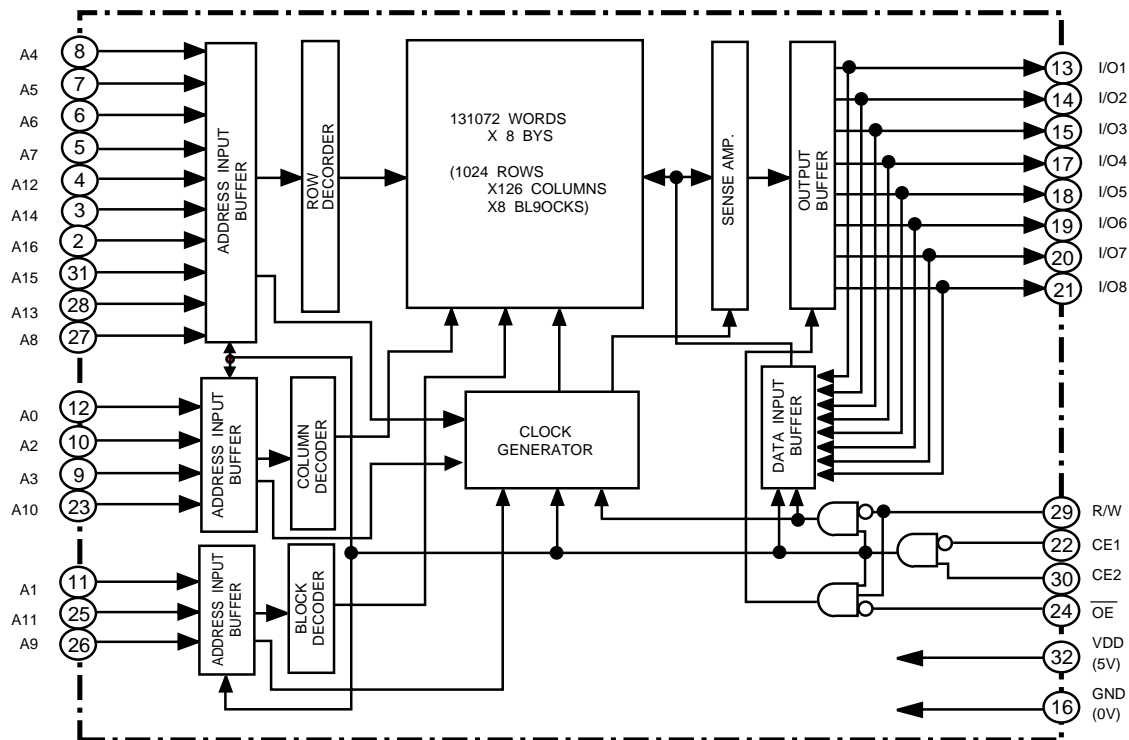
• Block Diagram



11-7. IC504 IX1478GE SYSCON



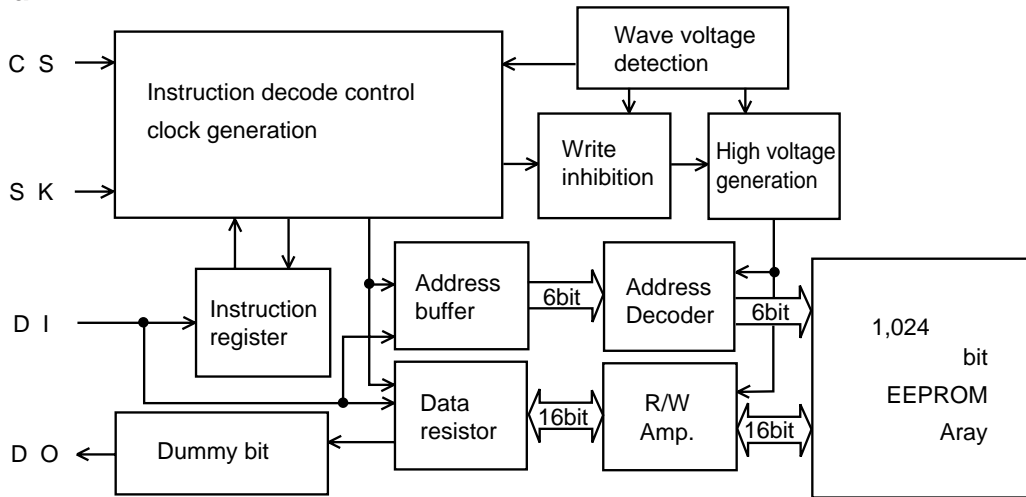
11-8. IC506 IX1618GE 1M SRAM



11-9. IC507 BR93L46F EEPROM

Terminal	Terminal name	In/Output	Function
2	VCC	–	Power
7	GND	–	All input/output reference voltage, 0V
3	CS	Input	Chip select input
4	CLK	Input	Serial clock input
5	DIN	Input	Start bit, operation code, address and serial data input
6	OCNT	Output	Serial data output, READY/BUSY internal status indication output

• Block Diagram

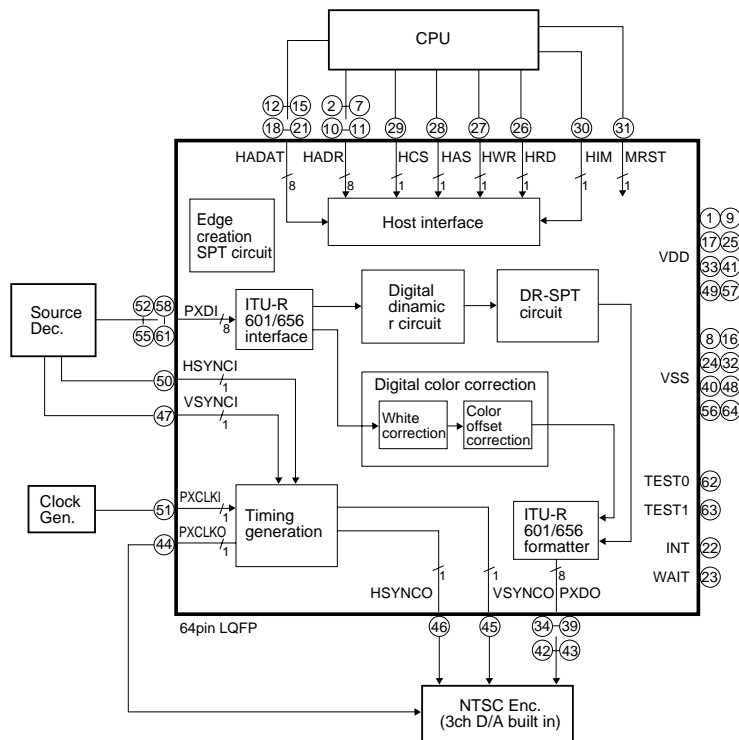


11-10. IC508 IX1516GE GAMMA S-P-TONE

Terminal	Terminal name	In/Output	Function
1	VDD	–	Digital power +3.3V
2	HADR (0)	Input	CPU Address bus
3	HADR (1)	Input	CPU Address bus
4	HADR (2)	Input	CPU Address bus
5	HADR (3)	Input	CPU Address bus
6	HADR (4)	Input	CPU Address bus
7	HADR (5)	Input	CPU Address bus
8	VSS	–	Digital GND
9	VDD	–	Digital power +3.3V
10	HADR (6)	Input	CPU Address bus
11	HADR (7)	Input	CPU Address bus
12	HADAT (0)	Input	CPU Data bus
13	HADAT (1)	Input	CPU Data bus
14	HADAT (2)	Input	CPU Data bus
15	HADAT (3)	Input	CPU Data bus
16	VSS	–	Digital GND
17	VDD	–	Digital power +3.3V
18	HADAT (4)	Input	CPU Data bus
19	HADAT (5)	Input	CPU Data bus
20	HADAT (6)	Input	CPU Data bus
21	HADAT (7)	Input	CPU Data bus
22	INT	Input	CPU Data bus
23	WAIT	Input	CPU Data bus
24	VSS	–	Digital GND
25	VDD	–	Digital power +3.3V
26	HRD	Input	CPU read signal
27	HWR	Input	CPU write signal
28	HAS	Input	CPU address strobe signal
29	HCS	Input	CPU chip select signal
30	HIM	Input	CPU bus control selection signal (I/M mode = H/L)

Terminal	Terminal name	In/Output	Function
31	MRST	Input	Reset signal
32	VSS	-	Digital GND
33	VDD	-	Digital power +3.3V
34	PXDO (0)	Output	Pixel data output
35	PXDO (1)	Output	8-bit parallel video data conforming to ITU-R BT.601 and BT.656 standard (Cb/Y/Cr/Y) MSB=PXDO(7), LSB=PXDO(0)
36	PXDO (2)	Output	
37	PXDO (3)	Output	
38	PXDO (4)	Output	
39	PXDO (5)	Output	
40	VSS	-	Digital GND
41	VDD	-	Digital power +3.3V
42	PXDO (6)	Output	
43	PXDO (7)	Output	
44	PXCLKO	Output	Reference clock output for pixel data. 27 MHz
45	VSYNCO	Output	Vertical sync signal output
46	HSYNCO	Output	Horizontal sync signal output
47	VSYNCI	Input	Vertical sync signal output
48	VSS	-	Digital GND
49	VDD	-	Digital power +3.3V
50	HSYNCI	Input	Horizontal sync signal output
51	PXCLKI	Input	Reference clock output for pixel data. 27 MHz
52	PXDI (0)	Input	Pixel data output 8-bit parallel video data conforming to ITU-R BT.601 and BT.656 standard (Cb/Y/Cr/Y) MSB=PXDI(7), LSB=PXDI(0)
53	PXDI (1)	Input	
54	PXDI (2)	Input	
55	PXDI (3)	Input	
56	VSS	-	
57	VDD	-	Digital power +3.3V
58	PXDI (4)	Input	
59	PXDI (5)	Input	
60	PXDI (6)	Input	
61	PXDI (7)	Input	
62	TEST0	Input	Test terminal
63	TEST1	Input	Test terminal
64	VSS	-	Digital GND

• Block Diagram



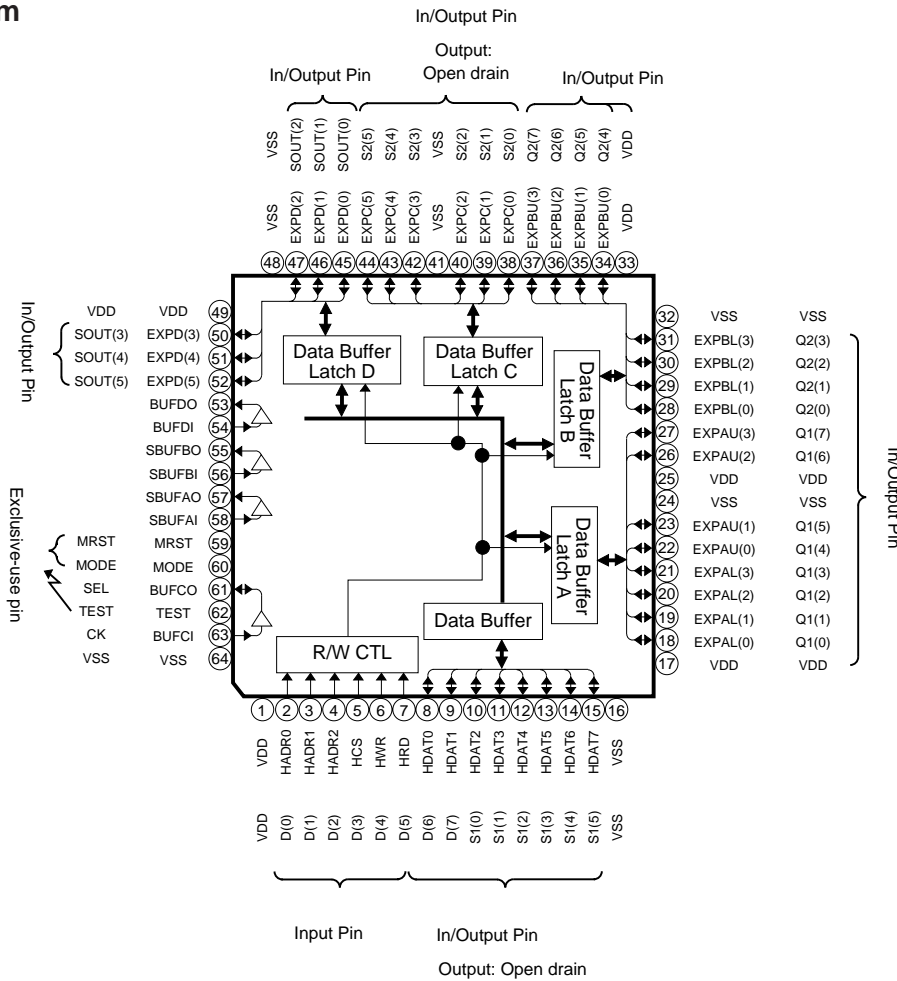
11-11. IC512 IX1535GE HOST I/F

Terminal	Terminal name	In/Output	Function
1	VDD	–	Power +3.3V
2	HADR0	Input	CPU Address bus
3	HADR1	Input	CPU Address bus
4	HADR2	Input	CPU Address bus
5	HCS	Input	CPU Tip select
6	HWR	Input	CPU Write signal
7	HRD	Input	CPU Read signal
8	HDATA0	In/Output	CPU Data bus
9	HDATA1	In/Output	CPU Data bus
10	HDATA2	In/Output	CPU Data bus
11	HDATA3	In/Output	CPU Data bus
12	HDATA4	In/Output	CPU Data bus
13	HDATA5	In/Output	CPU Data bus
14	HDATA6	In/Output	CPU Data bus
15	HDATA7	In/Output	CPU Data bus
16	VSS	–	Digital GND
17	VDD	–	Power +3.3V
18	EXPAL (0)	In/Output	General-use input/output terminal Gr.A
19	EXPAL (1)	In/Output	General-use input/output terminal Gr.A
20	EXPAL (2)	In/Output	General-use input/output terminal Gr.A
21	EXPAL (3)	In/Output	General-use input/output terminal Gr.A
22	EXPAU (0)	In/Output	General-use input/output terminal Gr.A
23	EXPAU (1)	In/Output	General-use input/output terminal Gr.A
24	VSS	–	Digital GND
25	VDD	–	Power +3.3V
26	EXPAU (2)	In/Output	General-use input/output terminal Gr.A
27	EXPAU (3)	In/Output	General-use input/output terminal Gr.A
28	EXPBL (0)	In/Output	General-use input/output terminal Gr.B
29	EXPBL (1)	In/Output	General-use input/output terminal Gr.B
30	EXPBL (2)	In/Output	General-use input/output terminal Gr.B
31	EXPBL (3)	In/Output	General-use input/output terminal Gr.B
32	VSS	–	Digital GND
33	VDD	–	Power +3.3V
34	EXPBU (0)	In/Output	General-use input/output terminal Gr.B
35	EXPBU (1)	In/Output	General-use input/output terminal Gr.B
36	EXPBU (2)	In/Output	General-use input/output terminal Gr.B
37	EXPBU (3)	In/Output	General-use input/output terminal Gr.B
38	EXPC (0)	In/Output	General-use input/output terminal Gr.C
39	EXPC (1)	In/Output	General-use input/output terminal Gr.C
40	EXPC (2)	In/Output	General-use input/output terminal Gr.C
41	VSS	–	Digital GND
42	EXPC (3)	In/Output	General-use input/output terminal Gr.C
43	EXPC (4)	In/Output	General-use input/output terminal Gr.C
44	EXPC (5)	In/Output	General-use input/output terminal Gr.C
45	EXPD (0)	In/Output	General-use input/output terminal Gr.D
46	EXPD (1)	In/Output	General-use input/output terminal Gr.D
47	EXPD (2)	In/Output	General-use input/output terminal Gr.D
48	VSS	–	Digital GND
49	VDD	–	Power +3.3V
50	EXPD (3)	In/Output	General-use input/output terminal Gr.D
51	EXPD (4)	In/Output	General-use input/output terminal Gr.D
52	EXPD (5)	In/Output	General-use input/output terminal Gr.D
53	BUFDO	Output	Buffer output D
54	BUFDI	Input	Buffer input D
55	SBUFBO	Output	Schmidt buffer output B
56	SBUFBI	Input	Schmidt buffer input B
57	SBUFAO	Output	Schmidt buffer output A
58	SBUFAI	Input	Schmidt buffer input A
59	MRST	Input	Reset terminal
60	MODE	Input	Mode selection terminal
61	BUFCO	In/Output	Buffer output C
62	TEST	Input	Test terminal (for Epson)
63	BUFCI	Input	Buffer input C
64	VSS	–	Digital GND

Pin1~15..... There is a possibility of simultaneous change.
 Pin18~47 There is a possibility of simultaneous change.(Static signal)
 Pin50~57 There is almost no possibility of simultaneous change.
 Pin63..... Not used

Operating frequency: Approx. 10 MHz
 Operating frequency: Approx. 1 MHz
 Operating frequency: Approx. 1 MHz

• Block Diagram



11-12. IC601 IX1521GE SOURCE DECODER

Pin No.	Pin name	Type	Direction	Function
Microcomputer interface				
22 24-26	HA[3:0]	I	I	Address bus input for microcomputer connection. Used for register access and so on
27	HWR# (HR/W#)	I	I	HTYPE = L It works as HR/W#(read/write) input terminal for connection to Motorola type microcomputer. HTYPE = H It works as HWR# (write) input terminal for connection to general purpose microcomputer.
29	HCS#	I	I	Chip select input for connection to microcomputer
30	HRD# (HDS#)	I	I	HTYPE = L It works as HDS#(data strobe) input terminal for connection to Motorola type microcomputer. HTYPE = H It works as HRD# (read) input terminal for connection to general purpose microcomputer.
31	HRDY	3-S	O	Bit stream input ready output terminal If the bit stream is input from microcomputer, the terminal is bored. For 3-state output, connect the pull-up resistor. HRDY = L Bit stream can not be input. HRDY = H The number of bytes which are set by CodBurstLen parameter can be transferred from the microcomputer. During the time from transfer start of the number of set bytes to transfer end, the terminal varies in 3 states.

Microcomputer interface terminal list

Pin No.	Pin name	Type	Direction	Function
Microcomputer interface				
32	HACK# (HR/W#)			HTYPE = L It works as HACK# (acknowledge) output terminal for connection to Motorola type microcomputer. It can be used as the weight terminal for connection to the general purpose microcomputer. For 3-state output, connect the pull-up resistor.
34	HIRQ#	3-S	O	Interrupt request. If interrupt status register is read, interrupt is masked or device is reset, the signal is deasserted. For 3-state output, connect the pull-up resistor.
35	HWID	I	I	The bus width of the microcomputer interface If the device is worked as CD-G decoder or CD-DSP is connected, select the 8-bit bus mode. Fix it before power up. L=8bit bus mode H=16bit bus mode
36	HORD	I	I	When HWID is H (16-bit bus MODE), byte order is set. Setting is valid only when HWID is H. Fix it before power up. L=HD [15:8] is regarded as m.s. byte. (Motorola type) H=HD [7:0] is regarded as m.s. byte. (Intel type)
37	HTYPE	I	I	Bus type of microcomputer interface is set. Fix it before power up. L=Motorola type H=General purpose type
141	RESET#	I	I	RESET is input.
142	IDLE	3-S	O	It is output to indicate the idle state.

Microcomputer / CD-subcode interface terminal list

Pin No.	Pin name	Type	Direction	Function
Microcomputer interface / CD-subcode interface				
3	HD15 (CDERR)	3-S (I)	I/O (I)	When 16-bit bus width is selected, (HWID=low) It works as the microcomputer data bus of 15th bit. When 8-bit bus width is selected, (HWID=high) It works as the terminal to input bit clock from DC-DSP.
4	HD14 (CDFRM)	3-S (I)	I/O (I)	When 16-bit bus width is selected, (HWID=low) It works as the microcomputer data bus of 14th bit. When 8-bit bus width is selected, (HWID=high) It works as the terminal to input the stream/PCM data from CD-DSP.
5	HD13 (CDDAT)	3-S (I)	I/O (I)	When 16-bit bus width is selected, (HWID=low) It works as the microcomputer data bus of 13th bit. When 8-bit bus width is selected, (HWID=high) It works as the terminal to input frame synchronous signal from CD-DSP.
6	HD12 (CDCLK)	3-S (I)	I/O (I)	When 16-bit bus width is selected, (HWID=low) It works as the microcomputer data bus of 12th bit. When 8-bit bus width is selected, (HWID=high) It works as the terminal to input error signal to CD-DSP.
7	HD11 (SCCLK)	3-S (O)	I/O (O)	When 16-bit bus width is selected, (HWID=low) It works as the microcomputer data bus of 11th bit. When 8-bit bus width is selected, (HWID=high) It works as the terminal to output the subcode reading clock to the subcode interface of CD-DSP.
9	HD10 (SCDAT)	3-S (I)	I/O (I)	When 16-bit bus width is selected, (HWID=low) It works as the microcomputer data bus of 10th bit. When 8-bit bus width is selected, (HWID=high) It works as the terminal to input subcode data from subcode interface of CD-DSP.

General port terminal list

Pin No.	Pin name	Type	Direction	Function
General port				
2	GPSI	I	I	General purpose terminal.
122-123	GPAIO[1:0]	3-S	I/O	General input/output terminal. After resetting, it becomes the input direction.
159	GPSO	O	O	General output terminal.

Microcomputer / CD-subcode interface terminal list

Pin No.	Pin name	Type	Direction	Function
Microcomputer interface / CD-subcode interface				
10	HD9 (SCSYN)	3-S (I)	I/O (I)	When 16-bit bus width is selected, (HWID=low) It works as the microcomputer data bus of 9th bit. When 8-bit bus width is selected, (HWID=high) It works as the terminal to input the subcode synchronous signal from the subcode interface of CD-DSP.
11	HD8 (SCFRM)	3-S (I)	I/O (I)	When 16-bit bus width is selected, (HWID=low) It works as the microcomputer data bus of 9th bit. When 8-bit bus width is selected, (HWID=high) It works as the terminal to input the frame synchronous signal from the subcode interface of CD-DSP.
12 14-17 19-21	HD[7:0]	3-S	I/O	It works as the microcomputer bus of bits 7 thru 0.

PLL interface terminal list

Pin No.	Pin name	Type	Direction	Function
PLL interface				
126	GCLK1	I	I	Test terminal. Don't connect it.
128	XO	O	O	If quartz oscillator is connected to GCLK terminal, connect the other terminal of quartz oscillator to this pin.
129	GCLK	I	I	Master clock input terminal of device Input 27 MHz.
135, 137	PLLGFG[1:0]	I	I	PLL is set. Before power-up, fix it.
136	PLLCA	-	-	External capacitor terminal for PLL.

Video/OSD interface terminal list

Pin No.	Pin name	Type	Direction	Function
Video interface · OSD interface				
102	C7 (N.C.)	3-S (3-S)	O (O)	Video8 register = 0 Color difference signal output terminal of 7th bit. Video8 register = 1 The terminal becomes invalid.
104	C6 (N.C.)	3-S (3-S)	O (O)	Video8 register = 0 Color difference signal output terminal of 6th bit. Video8 register = 1 The terminal becomes invalid.
105	C5 (N.C.)	3-S (3-S)	O (O)	Video8 register = 0 Color difference signal output terminal of 5th bit. Video8 register = 1 The terminal becomes invalid.
106	C4 (OSDPLT)	3-S (3-S)	O (I)	Video8 register = 0 Color difference signal output terminal of 4th bit. Video8 register = 1 Input terminal to select pallet table of OSD. For OSDPLT=low, pallet table 0 is used. For OSDPLT=high, pallet table 1 is used.
107	C3 (OSDPEL3)	3-S (3-S)	O (I)	Video8 register = 0 Color difference signal output terminal of 3th bit. Video8 register = 1 It works as the OSD pallet data input terminal of 3rd bit.

Video/OSD interface terminal list

Pin No.	Pin name	Type	Direction	Function
Video interface · OSD interface				
109	C2 (OSDPEL2)	3-S (3-S)	O (I)	Video8 register = 0 Color difference signal output terminal of 2th bit. Video8 register = 1 It works as the OSD pallet data input terminal of 2rd bit.
110	C1 (OSDPEL1)	3-S (3-S)	O (I)	Video8 register = 0 Color difference signal output terminal of 1th bit. Video8 register = 1 It works as the OSD pallet data input terminal of 1rd bit.
111	C0 (OSDPEL0)	3-S (3-S)	O (I)	Video8 register = 0 Color difference signal output terminal of 0th bit. Video8 register = 1 It works as the OSD pallet data input terminal of 0rd bit.

Video interface terminal list

Pin No.	Pin name	Type	Direction	Function
Video interface				
84	VCLK	3-S	I/O	Clock gained by dividing VCLK x 2 signal into halves.
85	VMASTER	I	I	Input terminal to switch video master/slave. VMASTER=L Video master mode. Video synchronizing signal and video clock are internally generated. HTYPE=H Video slave mode. Video synchronizing signal and video clock are received from the external.
87	VDEN#	I	I	Video output enable input terminal VDEN#=H Y [7:0] and C [7:0] terminals are made to be disable (3-state). VDEN#=L Y [7:0] and C [7:0] terminals are made to be enable. Note: C [7:0] terminal is the multiplexed terminal as OSDPLT [3:0] and so on. For Video8 register = 0, VDEN# terminal is valid for Y [7:0] alone.
88	CBLANK	O	O	Composite blank output terminal. Horizontal/vertical blanking area and polarity are programmable.
89	VSYNC	3-S	I/O	Input/output terminal of vertically synchronous signal. Polarity and synchronous signal length are programmable.
90	HSYNC	3-S	I/O	Input/output terminal of horizontally synchronous signal. Polarity and synchronous signal length are programmable.
91	FI	3-S	I/O	Input/output terminal for identification of even/odd number field. Polarity is programmable.
92 94-97 99-101	Y[7:0]	3-S	O	Video8 register = 0 Brightness signal output/input terminal. Video8 register = 1 Brightness/color difference multiplex terminal as ITU-T656
124	VCLK X 2	3-S	I/O	Terminal to input video clock or output 27 MHz.

Audio interface terminal list

Pin No.	Pin name	Type	Direction	Function
Audio interface				
112	AIN	I	I	Audio (PCM) input terminal. Stereo x1
114-116	AOUT[2:0]	O	O	Audio (PCM) output terminal. Stereo x3
117	S/PDIF (AOUT[3])	O	O	S/PDIF output terminal AC-3 stream or PCM stream can be output. Moreover, it works as the audio output terminal of 7th and 8th channels
118	ALRCLK	O	O	Left/Right clock output terminal of AOUT [2:0] and AIN. The polarity is programmable.
119	ABCLK	O	O	Bit clock output terminal of AOUT [2:0] and AIN. The polarity is programmable.
132	AMCLK	3-S	I/O	Audio master clock input/output terminal. 256 Fs or 386 Fs can be used.

DVD-DSP interface terminal list

Pin No.	Pin name	Type	Direction	Function
DVD-DSP interface				
143	DVDERR	I	I	Data error input for DVD-DSP connection.
144	DVDSOS	I	I	Sector start input for DVD-DSP connection.
146	DVDVALID	I	I	Data valid input for DVD-DSP connection.
147	DVDSTRB	I	I	Data strobe input for DVD-DSP connection.
148	DVDREQ	O	O	Data request output for DVD-DSP connection.
149 151-154 156-158	DVDDAT[7:0]	I	I	Stream input for DVD-DSP connection

SD-RAM interface terminal list

Pin No.	Pin name	Type	Direction	Function
SDRAM interface				
38-39 42-47 49-52	RAMADD[11:0]	O	O	Address bus output for SDRAM connection.
54	RAMCS0#	O	O	Tip select output for SDRAM connection.
55	RAMCS1#	O	O	Tip select output terminal for SDRAM connection. It is connected to 2nd SDRAM.
56	RAMRAS#	O	O	RAS output terminal for SDRAM connection.
57	PCLK	O	O	Clock output terminal for SDRAM connection.
59	RAMCAS#	O	O	CAS output terminal for SDRAM connection.
60	RAMWE#	O	O	Write enable output terminal for SDRAM.
61	RAMDQM	O	O	Data masking output terminal for SDRAM.
62 64-67 69-72 74-79 82	RAMDAT[15:0]	3-S	I/O	Bi-directional data bus for SDRAM.

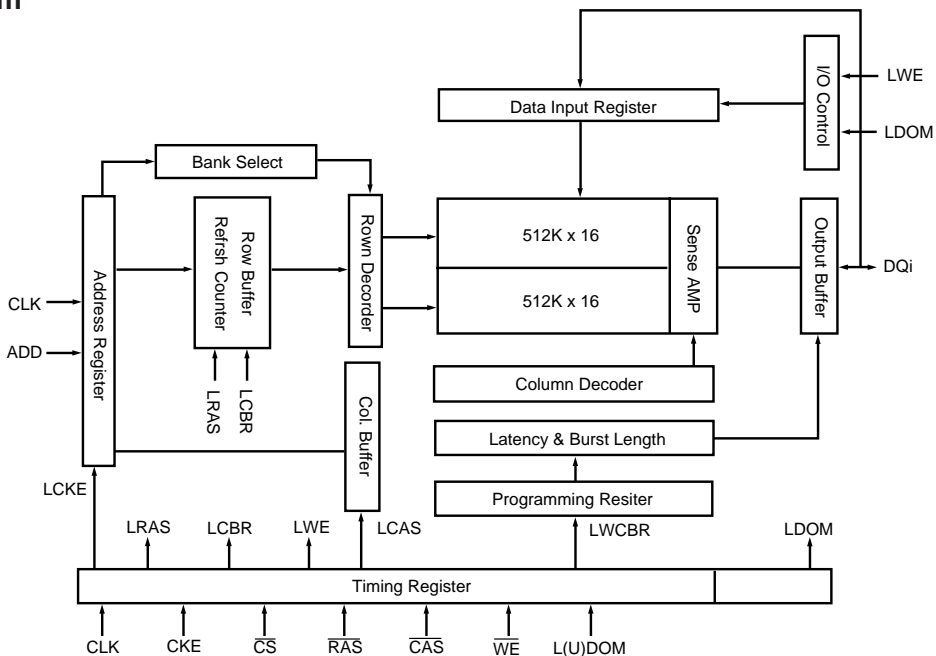
Power terminal - other list

Pin No.	Pin name	Type	Direction	Function
Power terminal - other				
1, 13, 23 40, 41 53, 68 80, 81 93, 108 120, 121 125, 131 145, 160	GND			Ground terminal
8, 18, 28 33, 48 58, 63 73, 86 98, 103 113, 133 140, 150, 155	VDD			+ 3.3V power input terminal
83	TESTMODE	I	I	Test terminal. Pull it down to GND.
127	SCNENBL	I	I	Test terminal. Pull it up to VDD.
130	PWRDN#	I	I	Power-down terminal. When it is [low], current consumption becomes minimum with all functions of the device stopped. (Power-down mode) To return it to normal state, set the terminal at [high]. Then, reset the device with RESET# terminal.
134	PLLGND			Ground terminal for internal PLL.
138	PLLVD			Internal PLL + 3.3V power input terminal.
139	ICEMODE	I	I	Test terminal. Pull it down to GND.

11-13. IC602 IX0750TA 16M SDARM

Terminal	Terminal Name	Name	Input Function
35	CLK	System Clock	Active on the positive going edge to sample all inputs.
18	CS	Chip Select	Disables or enables device operation by masking or enabling all inputs except CLK. CKE and L(U)DQM
34	CKE	Clock Enable	Masks system clock to freeze operation from the next clock cycle. CKE should be enabled at least one cycle prior to new command. Disable input buffers for power down in standby.
21~24 27~32 20	A0~A10/AP	Address	Row/column address are multiplexed on the same pins. Row address: RA0~RA10, column address: CA0~CA7
19	BA	Bank Select Address	Selects bank to be activated during row address latch time. Selects bank for read/write during column address latch time.
17	RAS	Row Address Strobe	Latches row address on the positive going edge of the CLK with RAS low. Enables row access & precharge.
16	CAS	Column Address Strobe	Latches addresses on the positive going edge of the CLK with CAS low. Enables row access.
15	WE	Write Enable	Enable write operation and row precharge. Latches data in starting from CAS, WE active.
14, 36	L(U)DOM	Data Input/Output Mask	Makes data output Hi-Z, tsHZ after the clock and masks the output. Blocks data input when L(U)DQM active.
2, 3, 5, 6, 8, 9, 11, 12, 39, 40, 42, 43, 45, 46, 48, 49	DQ0~15	Data Input/Output	Data inputs/outputs are multiplexed on the same pins.
25, 1/26	Vcc/Vss	Power Supply/Ground	Power and ground for the input buffers and the core logic.
44, 38, 13, 7/4, 10, 41, 47, 50	Vcc/VssO	Data Output Power/Ground	Isolated power supply and ground for the output buffers to provide improved noise immunity.
37	NC/RFU	No Connection/ Reserved for Future Use	This pin is recommended to be left No Connection on the device

• Block Diagram



• Samsung Electronics reserves the right to change products or specification without

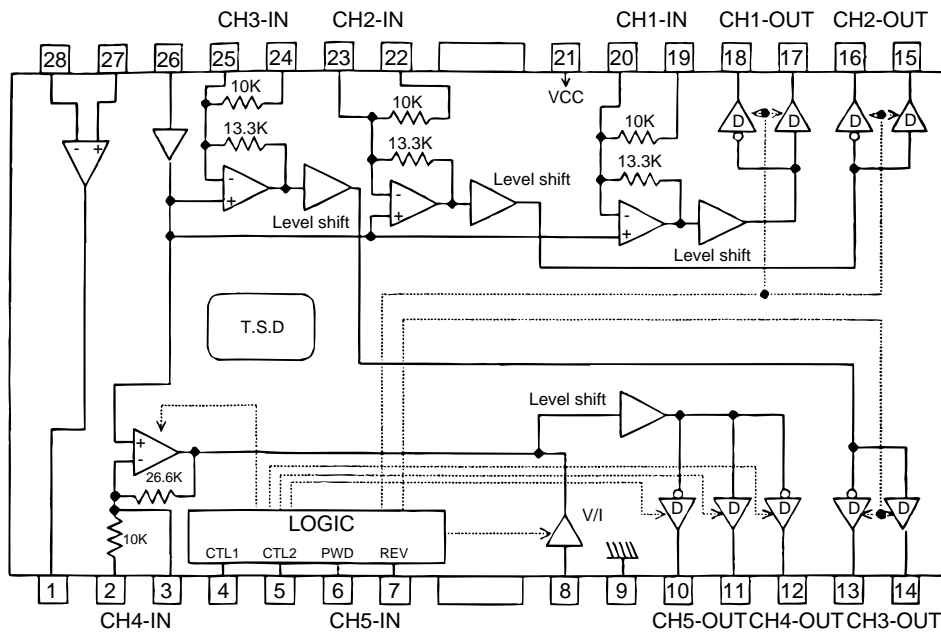
11-14. IC702 BA6796FP MOTOR DRIVER

Pin No.	Terminal name	Operation function	Pin No.	Terminal name	Operation function
1	OPOUT	Ope amp. output terminal	15	CH2-OUT-	CH2 Negative output terminal
2	CH4-IN	CH4 Input terminal	16	CH2-OUT+	CH2 Positive output terminal
3	CH4-IN'	CH4 Gain adjustment input terminal	17	CH1-OUT-	CH1 Negative output terminal
4	CTL1	Contorol 1 input terminal	18	CH1-OUT+	CH1 Positive output terminal
5	CTL2	Contorol 2 input terminal	19	CH1-IN	CH1 Input terminal
6	FWD	Tray forward input terminal	20	CH1-IN'	CH1 Input terminal for gain adjustment
7	REV	Tray reverse input terminal	21	VCC	VCC
8	TRAY-IN	Tray input terminal	22	CH2-IN	CH2 Input terminal
9	GND	Sub-straight GND	23	CH2-IN'	CH2 Input terminal for gain adjustment
10	CH5-OUT-	Tray negative output terminal	24	CH3-IN	CH3 Input terminal
11	COM-OUT	Tray positive output terminal/CH4 negative output terminal	25	CH3-IN'	CH3 Input terminal for gain adjustment
12	CH4-OUT+	CH4 Positive output terminal	26	VREF-IN	Bias amp. input terminal
13	CH3-OUT+	CH3 Positive output terminal	27	OPIN+	Operational amplifier nonreverse input terminal
14	CH3-OUT-	CH3 Negative output terminal	28	OPIN-	Operational amplifier reverse input terminal

Note 1: Positive and negative output have polarity with respect to input. (An example: 19 pin input 'H': 18 pin output 'H')

Note 2: Tray positive output and tray negative output have polarity with respect to mode. (An example: 11 pin output 'H' in FORWARD mode)

• **Block Diagram**



T.S.D ; Thermal shutdown
 D; Drive buffer
 Unit of resistance is [Ω].

• **Mode change table**

CTL1 and CTL2

CTL1	CTL2	CH1	CH2	CH3	CH4	CH5
L	L	OFF				ON
L	H	OFF				ON
H	L	ON				OFF
H	H	OFF	ON	OFF	OFF	ON

For F and R (CH5 control, valid only when CH5 is ON)

F	R	Output mode
L	L	High impedance
L	H	Reversing (reverse)
H	L	Forward rotation (forward)
H	H	Brake

Note: OFF state: Output has high impedance.

11-15. IC707 IX1473GE

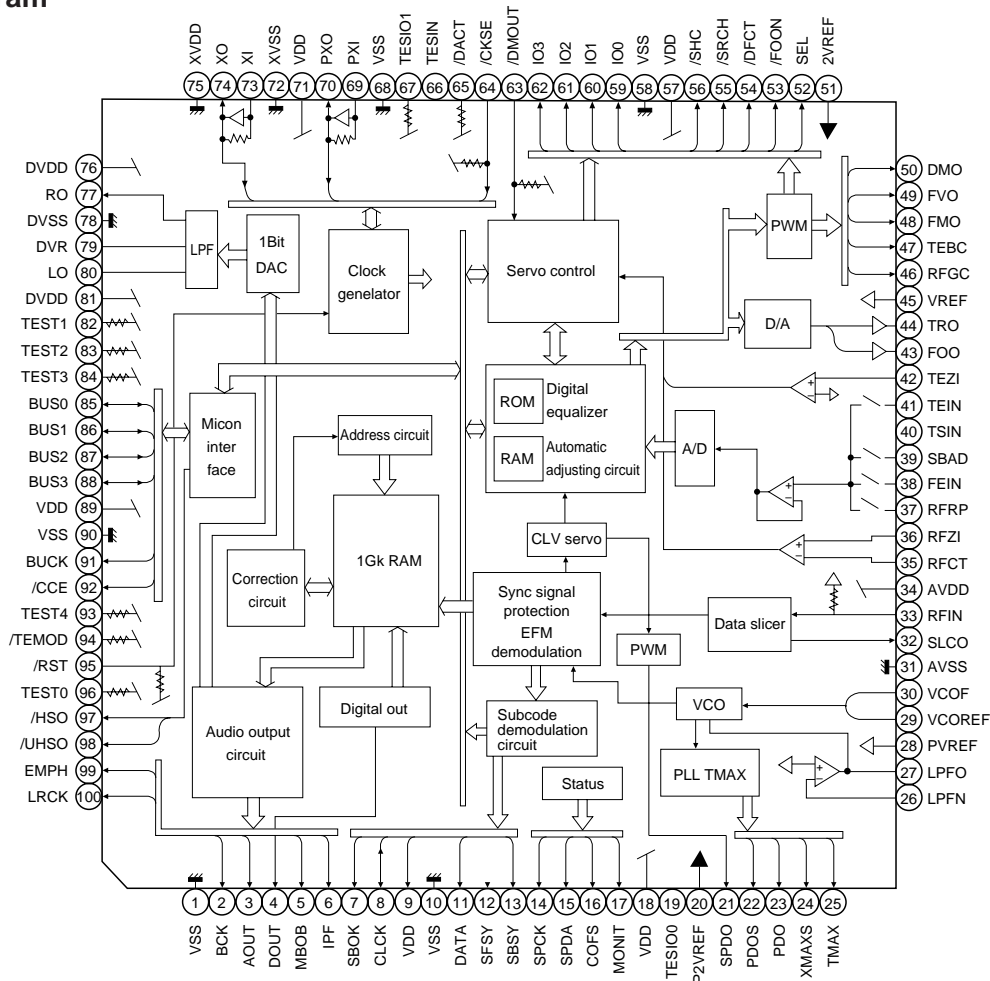
SERVO PROCESSOR

Pin No.	Terminal name	I/O	Operation function	Remarks								
1	VSS	–	Digital ground terminal.									
2	BCK	O	Bit clock (1.4122MHz) output terminal.									
3	AOUT	O	Audio data output terminal.									
4	DOUT	O	Digital out output terminal.									
5	MBOB	O	Buffer memory over signal output terminal. Over: "H"									
6	IPF	O	Correction flag output terminal. When correction disable symbol is given if AOUT output is C2 correction: "H".									
7	SBOK	O	Sub-code Q data CRCC judgment result output terminal. Judgment result OK: "H".									
8	CLCK	I/O	Sub-code P to W data read clock output/input terminal. Selectable with command bit.									
9	VDD	–	Digital + power terminal									
10	VSS	–	Digital ground terminal									
11	DATA	O	Sub code P-W data output terminal.									
12	SFSY	O	Playback system frame sync signal output terminal.									
13	SBSY	O	Subcode block sync output terminal. When subcode sync is detected, S1 position: "H".									
14	SPCK	O	Processor status signal read clock (176.4 kHz) output terminal.									
15	SPDA	O	Processor status signal output terminal.									
16	COFS	O	Correction system frame clock (7.35 kHz) output terminal.									
17	MONIT	O	LSI internal signal monitor terminal. DSP internal flag and PLL system clock can be monitored with microcomputer command.									
18	VDD	–	Digital + power terminal.									
19	TESIO0	I	Test input/output terminal. Usually fixed to "L".									
20	P2VREF	–	PLL system 2VREF terminal.									
21	SPDO	O	VCO center frequency shift terminal.									
22	PDOS	O	EFM and PLCK signal phase error signal output terminal. (To be used when x8 speed operation is used)									
23	PDO	O	EFM and PLCK signal phase error signal output terminal.									
24	XMAXS	O	TMAX detection result output terminal. To be selected with command bit TMPS.									
25	TMAX	O	<table border="1"> <thead> <tr> <th>TMAX detection result</th> <th>TMAXoutput</th> </tr> </thead> <tbody> <tr> <td>Longer than specific period</td> <td>"P2VREFF"</td> </tr> <tr> <td>Shorter than specific period</td> <td>"VSS"</td> </tr> <tr> <td>Within specified period</td> <td>"HiZ"</td> </tr> </tbody> </table>	TMAX detection result	TMAXoutput	Longer than specific period	"P2VREFF"	Shorter than specific period	"VSS"	Within specified period	"HiZ"	
TMAX detection result	TMAXoutput											
Longer than specific period	"P2VREFF"											
Shorter than specific period	"VSS"											
Within specified period	"HiZ"											
26	LPFN	I	Reverse input terminal for low pass filter amplifier.									
27	LPFO	O	Output terminal for low pass filter amplifier.									
28	PVREF	–	PLL system VREF terminal.									
29	VCOREF	I	VCO center frequency reference level terminal. To be fixed usually to "PVREF".									
30	VCOF	O	Filter terminal for VCO.									
31	AVSS	–	Analog system ground terminal.									
32	SLCO	O	Data slice level generation DAC output terminal.									
33	RFIN	I	RF signal input terminal.									
34	AVDD	–	Analog system power terminal.									
35	RFCT	I	RFRP signal center level input terminal.									
36	RFZI	I	RFRP zero cross input terminal.									
37	RFRP	I	RF ripple signal input terminal.									
38	FEIN	I	Focus error signal input terminal.									
39	SBAD	I	Sub-beam addition signal input terminal.									
40	TSIN	I	Test input terminal. To be fixed usually to "Vref"									
41	TEIN	I	Tracking error signal input terminal. (Fetching when tracking servo is ON)									
42	TEZI	I	Tracking error zero cross input terminal.									
43	FOO	O	Focus equalizer output terminal.									

Pin No.	Terminal name	I/O	Operation function	Remarks
44	TRO	O	Tracking equalizer output terminal.	
45	VREF	–	Analog reference power terminal.	
46	RFGC	O	RF amplitude adjustment control signal output terminal. Output of 3-pole PWM signal. (PWM carrier = 88.2 kHz)	
47	TEBC	O	Tracking balance control signal output terminal. Output of 3-pole PWM signal. (PWM carrier = 88.2 kHz)	
48	FMO	O	Feed equalizer output terminal. Output of 3-pole PWM signal. (PWM carrier = 88.2 kHz)	
49	FVO	O	Speed error signal or feed search EQ output terminal. Output of 3-pole PWM signal. (PWM carrier = 88.2 kHz)	
50	DMO	O	Disc equalizer output terminal. Output of 3-pole PWM signal. (PWM carrier = DSP system 88.2kHz, to be synchronized with PXO)	
51	2VREF	–		
52	SEL	O		
53	/FOON	O		
54	/DFCT	O		
55	/SRCH	O		
56	/SHC	O		
57	VDD	–		
58	VSS	–		
59	IO0	I/O	General use I/O port.	
60	IO1		It is possible to select the input port and output port according to command.	
61	IO2		In case of input port the terminal state (H/L) can be read with the read command.	
62	IO3		In case of output port the terminal state (H/L/HiZ) can be controlled with the command.	
63	/DMOUT		Terminal to set the mode to output dual value PWM of feed equalizer from the IO0,1 terminal and to output the dual value PWM from disc equalizer of IO2,3 terminal "L" Active.	
64	/CKSE		X'tal selection terminal. When 16.9344 MHz: "H" When 33.8688 MHz: "L"	
65	/DACT		Test terminal.	
66	TESIN		Test input terminal.	
67	TESIO1		Test input/output terminal.	
68	VSS		Digital ground terminal.	
69	PXI		DSP system clock oscillation circuit input terminal.	
70	PXO		DSP system clock oscillation circuit output terminal.	
71	VDD		Digital + power terminal.	
72	XVSS		Ground terminal for system clock oscillation circuit.	
73	XI		System clock oscillation circuit input terminal.	
74	XO		System clock oscillation circuit output terminal.	
75	XVDD		Positive power terminal for system clock oscillation circuit.	
76	DVDD	–	D/A converting section power terminal.	
77	RO	O	R channel data forward rotation output terminal.	
78	DVSS	–	D/A converting section analog ground terminal.	
79	DVR	–	D/A converting section reference voltage terminal.	
80	LO	O	L channel data forward rotation output terminal.	
81	DVDD	–	D/A converting section power terminal.	
82	TEST1	I	Test terminal. To be opened usually.	Pull-up resistor built in.
83	TEST2	I	Test terminal. To be opened usually.	Pull-up resistor built in.
84	TEST3	I	Test terminal. To be opened usually.	Pull-up resistor built in.
85	BUS0	I/O	Microcomputer interface data input/output terminal.	Schmidt input CMOS port
86	BUS1	I/O		
87	BUS2	I/O		

Pin No.	Terminal name	I/O	Operation function	Remarks															
88	BUS3	I/O																	
89	VDD	-	Digital + power terminal.																
90	VSS	-	Digital ground terminal.																
91	BUCK	I	Microcomputer interface clock input terminal.	Schmidt input															
92	/CCE	I	Microcomputer interface chip enable signal input terminal. BUS0 to 3 is active in "L" state.	Schmidt input															
93	TEST4	I	Test terminal. To be opened usually.	Pull-up resistor built in.															
94	/TEMOD	I	Local test mode selection terminal.	Pull-up resistor built in.															
95	/RST	I	Reset signal input terminal. Reset state: "L"	Pull-up resistor built in.															
96	TEST0	I	Test terminal. To be opened usually.	Pull-up resistor built in.															
97	/HSO	O	Playback speed mode flag output terminal.																
98	/UHSO	O																	
			<table border="1"> <thead> <tr> <th>/UHSO</th> <th>/HSO</th> <th>Playback speed</th> </tr> </thead> <tbody> <tr> <td>H</td> <td>H</td> <td>x1 speed playback</td> </tr> <tr> <td>H</td> <td>L</td> <td>x2 speed playback</td> </tr> <tr> <td>L</td> <td>H</td> <td>x4 speed playback</td> </tr> <tr> <td>L</td> <td>L</td> <td>x8 speed playback</td> </tr> </tbody> </table>	/UHSO	/HSO	Playback speed	H	H	x1 speed playback	H	L	x2 speed playback	L	H	x4 speed playback	L	L	x8 speed playback	
/UHSO	/HSO	Playback speed																	
H	H	x1 speed playback																	
H	L	x2 speed playback																	
L	H	x4 speed playback																	
L	L	x8 speed playback																	
99	EMPH	O	Subcode Q data emphasis flag output terminal. Emphasis ON: "H" OFF: "L" Output polarity can be inverted by the command.																
100	LRCK	O	Channel clock (44.1 kHz) output terminal. L channel "L" R channel: "H" Output polarity can be inverted by the command.																

• Block Diagram

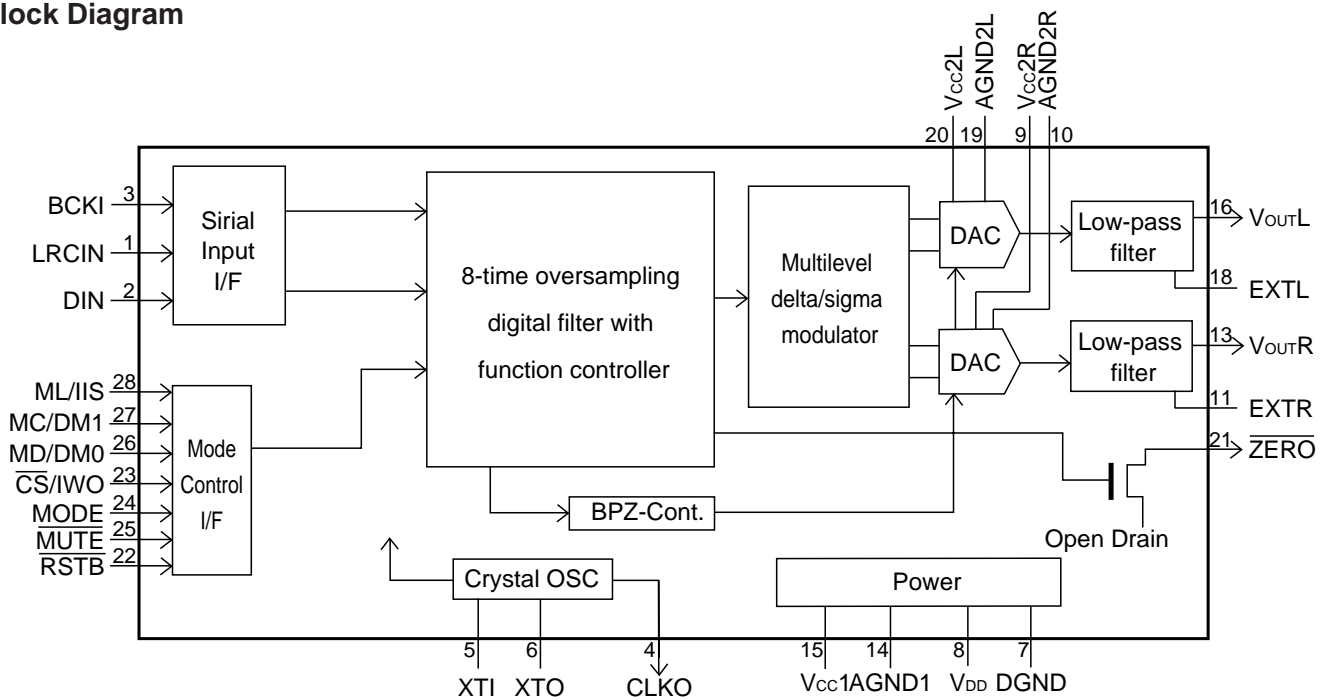


11-16. IC801 PCM1716E AUDIO D/A CONVERTER

Pin No.	Terminal name	I/O	Operation function
1	LRCIN	I	LRCK clock input (fs) ⁽³⁾
2	DIN	I	Data input ⁽³⁾
3	BCKI	I	Bit clock input for data.
4	CLKO	O	System clock buffered output.
5	XTI	I	Connection of crystal oscillator or external clock input.
6	XTO	O	Connection of crystal oscillator
7	DGND	-	Digital GND
8	V _{DD}	-	Digital power +5V
9	V _{CC2R}	-	Analog power +5V
10	AGND2R	-	Analog GND
11	EXTR	O	Rch Analog output amp. • common
12	NC	-	Not connected.
13	V _{OUTR}	O	Rch Analog voltage output
14	AGND1	-	Analog GND
15	V _{CC1}	-	Analog power +5V
16	V _{OUTL}	O	Lch Analog voltage output
17	NC	-	Not connected.
18	EXTL	O	Lch Analog output amp. • common
19	AGND2L	-	Analog GND
20	V _{CC2L}	-	Analog power +5V
21	ZERO	O	Zero data • flug
22	RSTB	I	Resetting. While this pin is in "L" state, the DF and delta-sigma modulator is in reset state. ⁽¹⁾
23	CS/IWO	I	Chip selection/input format selection ⁽²⁾
24	MODE	I	Mode control selection (H: Software, L: Hardware) ⁽¹⁾
25	MUTE	I	Mute control ⁽¹⁾
26	MD/DM0	I	Mode control data/deemphasis selection 1 ⁽¹⁾
27	MC/DM1	I	Mode control BCK/deemphasis selection 2 ⁽²⁾
28	ML/IIS	I	Mode control latch/input format selection ⁽¹⁾

Note: (1) Pins 22, 24, 25, 26, 27, and 28: With Schmidt trigger input pull-up resistor (2) Pin 23: With Schmidt trigger input pull-down resistor (3) Pins 1, 2, and 3: Schmidt trigger input

• Block Diagram



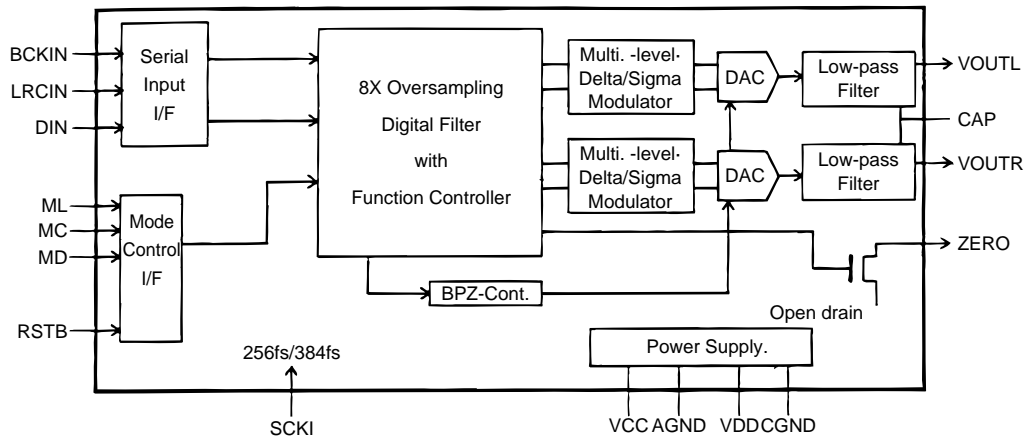
11-17. IC802~ 803 PCM1720E AUDIO D/A CONVERTER

Pin No.	Terminal name	I/O	Operation function
1	NC	–	Not connected.
2	SCKI	I	System clock input. (256fs/384fs)
3	TEST	–	Not connected. Be sure to open.
4	ML	I	Control data input. Enable terminal. *1
5	MC	I	Control data input. Bit clock terminal. *1
6	MD	I	Control data input. Data terminal. *1
7	RSTB	I	Reset input terminal. Active “L” *1
8	ZERO	O	Infinity zero flag output terminal. Open drain.
9	VOUTR	O	Rch analog voltage output terminal.
10	AGND	–	Analog GND terminal.
11	VCC	–	Analog power terminal.
12	VOUTL	O	Lch analog voltage output terminal.
13	CAP	–	Internal bias decouple terminal
14	BCKIN	I	Audio data. Bit clock input terminal. *2
15	DIN	I	Audio data. Data input terminal. *2
16	LRCIN	I	Audio data. Reference sampling clock input terminal. *2
17	TEST	–	Connect to GND.
18	NC	–	Not connected. Be sure to open.
19	VDD	–	Digital power terminal.
20	DGND	–	Digital GND terminal.

*1: Internal pull-up provided. Schmidt trigger input.

*2: Schmidt trigger input.

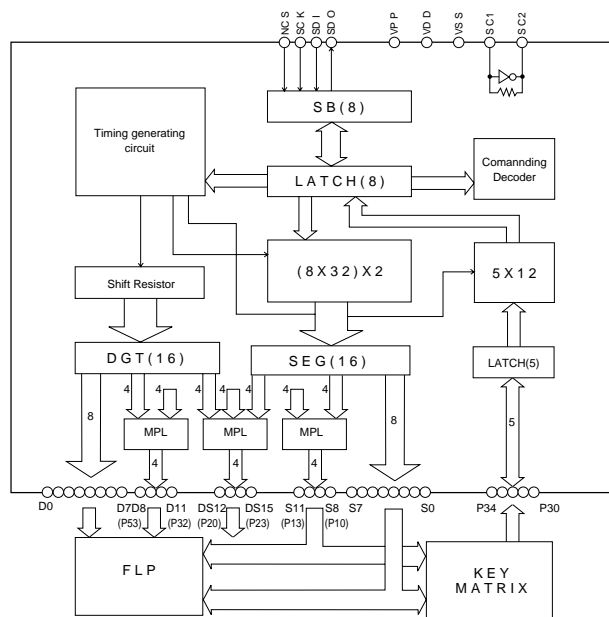
• Block Diagram



11-18. IC5001 IMN12510F FL DRIVER

Terminal	Terminal Name	Name	In/Output	Function
18 21	VDD VSS	Power supply terminal	Input	VDD: +5V±0.5V VSS: 0V
16	VPP	FLP driver power	Input	VPP: VDD-35V The voltage to be supplied to the SEG 0 to 7, DGT 0 to 7 pull-down resistor is applied.
19 20	OSCI OSCO	Clock input Clock output	Input	Oscillation input terminal) A terminal to which the ceramic Oscillation output terminal) oscillation terminal is connected. To OSCI in case of clock input from outside in case of separate excitation
22 23 24	NCS SCK SDI	Chip select input Serial clock input Serial data input	Input Input Input	"L": Serial input allowed "H": Serial input inhibited Serial transfer clock input Serial data input The command data, address data, indication data, control register data, and port output data are input.
25	SDO	Serial data output	Output	Serial data output The key scan input data and port input data are output.
26~30	P30~P34	Key scan input	In/Output	There are 5 bits. Bitwise selection of key scan input/general-use input/general-use output is enabled. The pull-down resistor is provided between this terminal and the VSS terminal. The general-use output is large current output for LED drive.
31~38	SEG0~SEG7	High voltage resistance output	Output	8-bit high voltage resistance output port. (Segment output) The output type is Pch open drain. The pull-down resistor is built in between this terminal and the VPP terminal.
39~42	P10~P13 SEG8~SEG11	High voltage resistance output	Output	4-bit high voltage resistance output port. Bitwise selection of general-use output/segment output is enabled. The output type is Pch open drain.
43, 44 1, 2	P20~23 DGT12/SEG15 DGT15/SEG12	High voltage resistance output	In/Output	4-bit high voltage resistance output port. Bitwise selection of general-use input/general-use output/segment output/digit output is enabled. The output type is Pch open drain. Large current output for LED drive
3~6	P00~P03 DGT8~DGT11	High voltage resistance output	Output	4-bit high voltage resistance output port. Bitwise selection of general-use output/digit output is enabled. The output type is Pch open drain.
7~10 12~15	DGT0~DGT7	High voltage resistance output	Output	8-bit high voltage resistance output port. (Digit output) The output type is Pch open drain. The pull-down resistor is built in between this terminal and the VPP terminal.

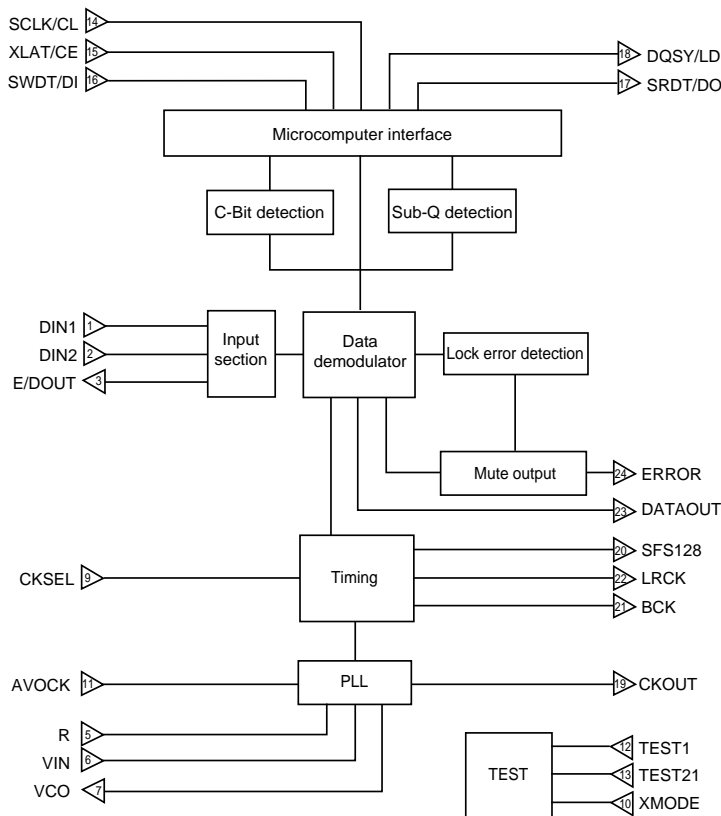
• Block Diagram



11-19. IC6501 LC8905V DIGITAL AUDIO INTERFACE

Pin No.	Terminal name	I/O	Operation function
1	DIN1	I	Amplifier built-in data input terminal (coaxial, corresponding to optical module)
2	DIN2	I	Data input terminal (corresponding to optical module)
3	E/DOUT	O	Emphasis, input biphas, validity flag output terminal
4	VDD		Power
5	R	I	VCO gain control input terminal
6	VIN	I	VCO free run setting input terminal
7	VCO	O	LPF setting terminal of PLL
8	GND		Grounding
9	CKSEL	I	System clock selection input terminal
10	XMODE	I	Reset input terminal
11	AVOCK	I	PLL erroneous lock prevention clock input terminal
12	TEST1	I	Test input terminal (to be grounded usually)
13	TEST2	I	Test input terminal (to be grounded usually)
14	SCLK/CL	I	Microcomputer IF Clock input terminal
15	XLAT/CE	I	Microcomputer IF latch/chip enable input terminal
16	SWDT/DI	I	Microcomputer IF write data input terminal
17	SRDT/DO	O	Microcomputer IF read data output terminal
18	DQSY/LD	O	Microcomputer IF Sub-Q sync and ID sync output terminal
19	CKOUT	O	VCO clock output terminal (Self-run oscillation 384fs, 512fs)
20	FS128	O	128fs clock output terminal
21	BCK	O	Bit clock output terminal
22	LRCK	O	L/R clock output terminal (L-ch=H, R-ch=L)
23	DATAOUT	O	Audio data output terminal
24	ERROR	O	PLL lock error mute output terminal

• Block Diagram



11-20. IC6502 CS49300 MPEG AUDIO DECODER

VA—Analog Positive Supply: Pin 34

Analog positive supply for clock generator. Nominally +3.3 V.

AGND—Analog Supply Ground: Pin 35

Analog ground for clock generator PLL.

VD1, VD2, VD3—Digital Positive Supply: Pins 1, 12, 23

Digital positive supplies. Nominally +2.5 V.

DGND1, DGND2, DGND3—Digital Supply Ground: Pins 2, 13, 24

Digital ground.

FILT1—Phase-Locked Loop Filter: Pin 33

Connects to an external filter for the on-chip phase-locked loop. This pin does not meet Cirrus Logic's ESD tolerance of 2000V using the human body model. This pin will tolerate ESD of 1000V using the human body model.

FILT2—Phase Locked Loop Filter: Pin 32

Connects to an external filter for the on-chip phase-locked loop. This pin does not meet Cirrus Logic's ESD tolerance of 2000V using the human body model. This pin will tolerate ESD of 1000V using the human body model.

CLKIN—Master Clock Input: Pin 30

CS493XX clock input. When in internal clock mode (CLKSEL=DGND), this input is connected to the internal PLL from which all internal clocks are derived. When in external clock mode (CLKSEL=VD), this input is connected to the DSP clock.

CLKSEL—DSP Clock Select: Pin 31

This pin selects the clock mode of the CS493XX. When CLKSEL is low, CLKIN is connected to the internal PLL from which all internal clocks are derived. When CLKSEL is high CLKIN is connected to the DSP clock.

DATA7, EMAD7, GPIO7 — Pin8

DATA6, EMAD6, GPIO6 — Pin9

DATA5, EMAD5, GPIO5 — Pin10

DATA4, EMAD4, GPIO4 — Pin11

DATA3, EMAD3, GPIO3 — Pin14

DATA2, EMAD2, GPIO2 — Pin15

DATA1, EMAD1, GPIO1 — Pin16

DATA0, EMAD0, GPIO0 — Pin17

In parallel host mode, these pins provide a bidirectional data bus. If a serial host mode is selected, these pins can provide a multiplexed address and data bus for connecting an 8-bit external memory. Otherwise, in serial host mode, these pins can act as general-purpose input or output pins that can be individually configured and controlled by the DSP.

A0, SCCLK—Host Parallel Address Bit Zero or Serial Control Port Clock: Pin 7

In parallel host mode, this pin serves as one of two address input pins used to select one of four parallel registers. In serial host mode, this pin serves as the serial control clock signal, specifically as the SPI clock input or the I²C clock input.

A1, SCDIN—Host Address Bit One or SPI Serial Control Data Input: Pin 6

In parallel host mode, this pin serves as one of two address input pins used to select one of four parallel registers. In SPI serial host mode, this pin serves as the data input.

RD, R/W, EMOE, GPIO11—Host Parallel Output Enable or Host Parallel R/W or External Memory Output Enable or General Purpose Input & Output Number 11: Pin 5

In Intel parallel host mode, this pin serves as the active-low data bus enable input. In Motorola parallel host mode, this pin serves as the read-high/write-low control input signal. In serial host mode, this pin can serve as the external memory active-low data-enable output signal. Also in serial host mode, this pin can serve as a general purpose input or output bit.

WR, DS, EMWR, GPIO10—Host Write Strobe or Host Data Strobe or External Memory Write Enable or General Purpose Input & Output Number 10: Pin 4

In Intel parallel host mode, this pin serves as the active-low data-write-input strobe. In Motorola parallel host mode, this pin serves as the active-low data-strobe-input signal. In serial host mode, this pin can serve as the external-memory active-low write-enable output signal. Also in serial host mode, this pin can serve as a general purpose input or output bit.

CS—Host Parallel Chip Select, Host Serial SPI Chip Select: Pin 18

In parallel host mode, this pin serves as the active-low chip-select input signal. In serial host SPI mode, this pin is used as the active-low chip-select input signal.

RESET—Master Reset Input: Pin 36

Asynchronous active-low master reset input. Reset should be low at power-up to initialize the CS493XX and to guarantee that the device is not active during initial power-on stabilization periods. At the rising edge of reset the host interface mode is selected contingent on the state of the RD, WR and PSEL pins. Additionally, an autoboot sequence can be initiated if a serial control mode is selected and ABOOT is held low. If reset is low all bidirectional pins are high impedance inputs.

SCDIO, SCDOUT, PSEL, GPIO9—Serial Control Port Data Input and Output, Parallel Port Type Select: Pin 19

In I²C mode, this pin serves as the open-drain bidirectional data pin. In SPI mode this pin serves as the data output pin. In parallel host mode, this pin is sampled at the rising edge of RESET to configure the parallel host mode as an Intel type bus or as a Motorola type bus.

In Parallel host mode, after the bus mode has been selected, the pin can function as a general-purpose input or output pin.

EXTMEM, GPIO8—External Memory Chip Select or General Purpose Input & Output Number 8: Pin 21

In serial control port mode, this pin can serve as an output to provide the chip-select for an external byte-wide ROM. In parallel and serial host mode, this pin can also function as a general-purpose input or output pin.

INTREQ, ABOOT—Control Port Interrupt Request, Automatic Boot Enable: Pin 20

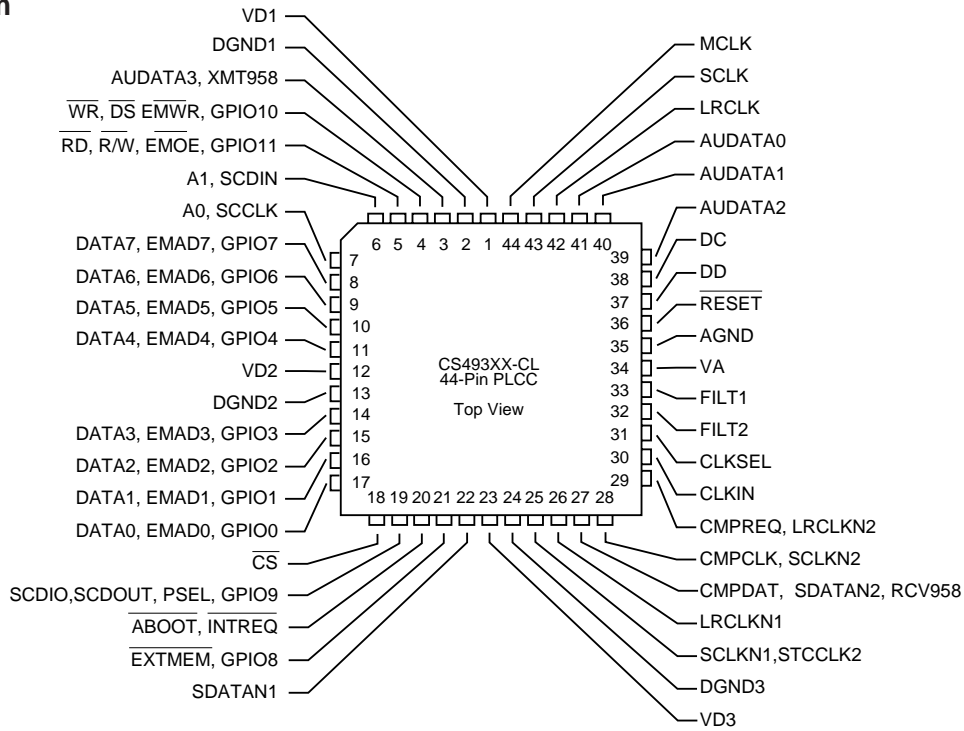
Open-drain interrupt-request output. This pin is driven low to indicate that the DSP has outgoing control data and should be serviced by the host. Also in serial host mode, this signal initiates an automatic boot cycle from external memory if it is held low through the rising edge of reset.

AUDATA2—Digital Audio Output 2: Pin 39

PCM multi-format digital-audio data output, capable of two-channel 20-bit output. This PCM output defaults to DGND as output until enabled by the DSP software.

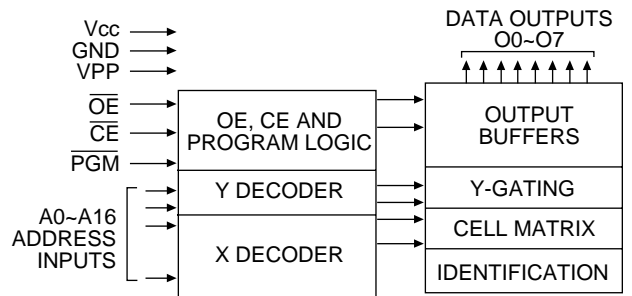
- AUDATA1**—Digital Audio Output 1: Pin 40
PCM multi-format digital-audio data output, capable of two-channel 20-bit output. This PCM output defaults to DGND as output until enabled by the DSP software.
- AUDATA0**—Digital Audio Output 0: Pin 41
PCM multi-format digital-audio data output, capable of two-, four-, or six-channel 20-bit output. This PCM output defaults to DGND as output until enabled by the DSP software.
- MCLK**—Audio Master Clock: Pin 44
Bidirectional master audio clock. MCLK can be an output from the CS493XX that provides an oversampled audio- output clock at either 128 Fs, 256 Fs, or 512 Fs. MCLK can be an input at 128 Fs, 256 Fs, 384 Fs, or 512 Fs. MCLK is used to derive SCLK and LRCLK when SCLK and LRCLK are driven by the CS493XX.
- SCLK**—Audio Output Bit Clock: Pin 43
Bidirectional digital-audio output bit clock. SCLK can be an output that is derived from MCLK to provide 32 Fs, 64 Fs, 128Fs, 256 Fs, or 512 Fs, depending on the MCLK rate and the digital-output configuration. SCLK can also be an input and must be at least 48Fs or greater.
- LRCLK**—Audio Output Sample Rate Clock: Pin 42
Bidirectional digital-audio output-sample-rate clock. LRCLK can be an output that is divided from MCLK to provide the output sample rate depending on the output configuration. LRCLK can also be an input. AS an input LRCLK is independent of MCLK.
- XMT958**—SPDIF Transmitter Output: Pin 3
CMOS level output that contains a biphasic-encoded clock for synchronously providing two channels of PCM digital audio or a IEC61937 compressed-data interface or both. This output typically connects to the input of an RS-422 transmitter or to the input of an optical transmitter.
- SCLKN1, STCCLK2**—PCM Audio Input Bit Clock: Pin 25
Bidirectional digital-audio bit clock that is an output in master mode and an input in slave mode. In slave mode, SCLKN1 operates asynchronously from all other CS493XX clocks. In master mode, SCLKN1 is derived from the CS493XX internal clock generator. In either master or slave mode, the active edge of SCLKN1 can be programmed by the DSP. For applications supporting PES layer synchronization this pin can be used as STCCLK2, which provides a path to the internal STC 33 bit counter.
- LRCLKN1**—PCM Audio Input Sample Rate Clock: Pin 26
Bidirectional digital-audio frame clock that is an output in master mode and an input slave mode. LRCLKN1 typically is run at the sampling frequency. In slave mode, LRCLKN1 operates asynchronously from all other CS493XX clocks. In master mode, LRCLKN1 is derived from the CS493XX internal clock generator. In either master or slave mode, the polarity of LRCLKN1 for a particular subframe can be programmed by the DSP.
- SDATAN1**—PCM Audio Data Input Number One: Pin 22
Digital-audio data input that can accept from one to six channels of compressed or PCM data. SDATAN1 can be sampled with either edge of SCLKN1, depending on how SCLKN1 has been configured.
- CMPCLK, SCLKN2**—PCM Audio Input Bit Clock: Pin 28
Bidirectional digital-audio bit clock that is an output in master mode and an input in slave mode. In slave mode, SCLKN2 operates asynchronously from all other CS493XX clocks. In master mode, SCLKN2 is derived from the CS493XX internal clock generator. In either master or slave mode, the active edge of SCLKN2 can be programmed by the DSP. If the CDI is configured for bursty delivery, CMPCLK is an input used to sample CMPDAT.
- CMPREQ, LRCLKN2**—PCM Audio Input Sample Rate Clock: Pin 29
When the CDI is configured as a digital audio input, this pin serves as a bidirectional digital-audio frame clock that is an output in master mode and an input in slave mode. LRCLKN2 typically is run at the sampling frequency. In slave mode, LRCLKN2 operates asynchronously from all other CS493XX clocks. In master mode, LRCLKN2 is derived from the CS493XX internal clock generator. In either master or slave mode, the polarity of LRCLKN2 for a particular subframe can be programmed by the DSP. When the CDI is configured for bursty delivery, or parallel audio data delivery is being used, CMPREQ is an output which serves as an internal FIFO monitor. CMPREQ is an active low signal that indicates when another block of data can be accepted.
- CMPDAT, SDATAN2**—PCM Audio Data Input Number Two: Pin 27
Digital-audio data input that can accept from one to six channels of compressed or PCM data. SDATAN2 can be sampled with either edge of SCLKN2, depending on how SCLKN2 has been configured. Similarly CMPDAT is the compressed data input pin when the CDI is configured for bursty delivery. When in this mode, the CS493XX internal PLL is driven by the clock recovered from the incoming data stream.
- DC**—Reserved: Pin 38
This pin is reserved and should be pulled up with an external 4.7k resistor.
- DD**—Reserved: Pin 37
This pin is reserved and should be pulled up with an external 4.7k resistor.

• Block Diagram



11-21. IC6503 IX1617GE ROM

Pin No.	Pin Name	Function
2,3,4,5-12,23,25, 26,27,28,29	A0~A16	Addresses
13-15,17-24	O0~O7	Outputs
22	CE	Chip Enable
24	OE	Output Enable
31	PGM	Program Strobe
30	NC	No Connect
32	Vcc	
1	Vpp	
16	GND	



11-22. IC6511 IX1535GE DSP I/F

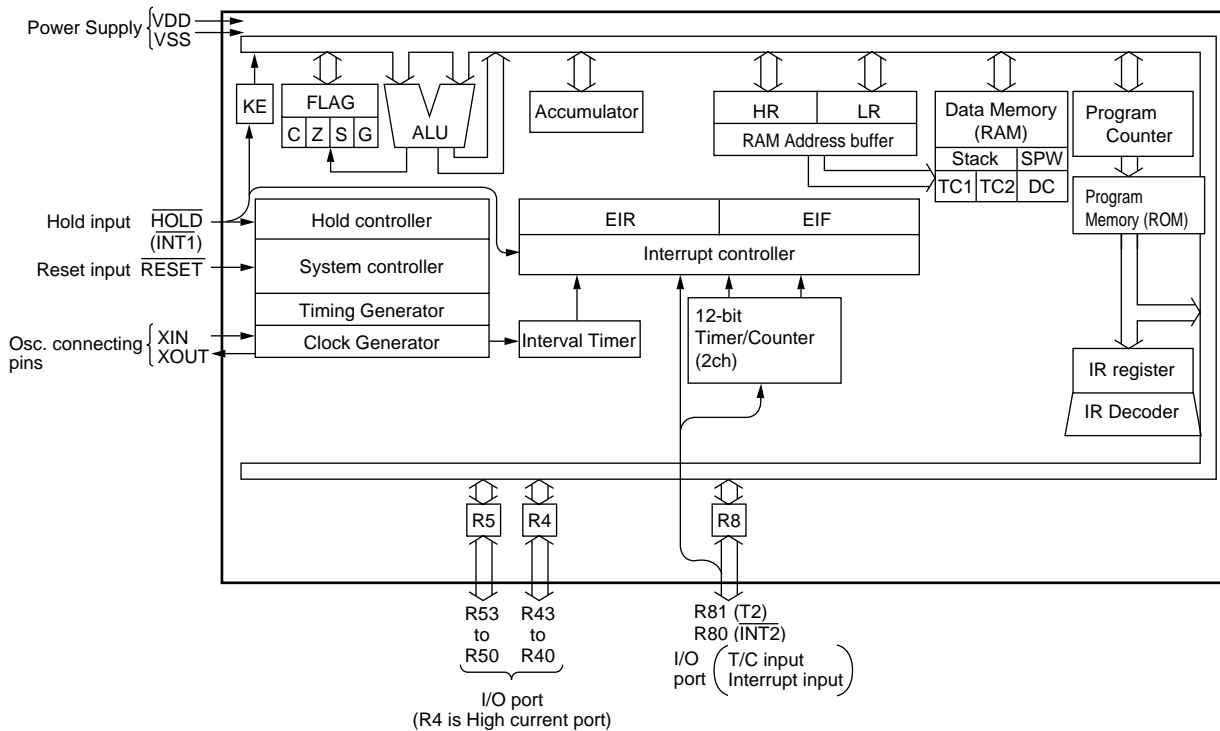
PIN No.	PIN NAME	I/O ATTR	I/O CELL	PDV CELL	LIO CELL
1	VDD	P	VDD	*	*
2	HADR0	I	IDC	*	*
3	HADR1	I	IDC	*	*
4	HADR2	I	IDC	*	*
5	HCS	I	IDC	*	*
6	HWR	I	IDC	*	*
7	HRD	I	IDC	*	*
8	HDAT0	B	BDC3	PDV2T	*
9	HDAT1	B	BDC3	PDV2T	*
10	HDAT2	B	BDC3	PDV2T	*
11	HDAT3	B	BDC3	PDV2T	*
12	HDAT4	B	BDC3	PDV2T	*
13	HDAT5	B	BDC3	PDV2T	*
14	HDAT6	B	BDC3	PDV2T	*
15	HDAT7	B	BDC3	PDV2T	*
16	VSS	P	VSS	PDV2T	*

PIN No.	PIN NAME	I/O ATTR	I/O CELL	PDV CELL	LIO CELL
17	VDD	P	VDD	*	*
18	EXPAL0	B	UC3	PDV2T	*
19	EXPAL1	B	UC3	PDV2T	*
20	EXPAL2	B	UC3	PDV2T	*
21	EXPAL3	B	UC3	PDV2T	*
22	EXPAU0	B	UC3	PDV2T	*
23	EXPAU1	B	UC3	PDV2T	*
24	VSS	P	VSS	*	*
25	VDD	P	VDD	*	*
26	EXPAU2	B	UC3	PDV2T	*
27	EXPAU3	B	UC3	PDV2T	*
28	EXPBL0	B	UC3	PDV2T	*
29	EXPBL1	B	UC3	PDV2T	*
30	EXPBL2	B	UC3	PDV2T	*
31	EXPBL3	B	UC3	PDV2T	*
32	VSS	P	VSS	*	*
33	VDD	P	VDD	*	*
34	EXPBU0	B	UC3	PDV2T	*
35	EXPBU1	B	UC3	PDV2T	*
36	EXPBU2	B	UC3	PDV2T	*
37	EXPBU3	B	UC3	PDV2T	*
38	EXPC0	B	BDC3	PDV2T	*
39	EXPC1	B	BDC3	PDV2T	*
40	EXPC2	P	BDC3	*	*
41	VSS	P	VSS	*	*
42	EXPC3	B	BDC3	PDV2T	*
43	EXPC4	B	BDC3	PDV2T	*
44	EXPC5	B	BDC3	PDV2T	*
45	EXPD0	B	UC3	PDV2T	*
46	EXPD1	B	UC3	PDV2T	*
47	EXPD2	B	UC3	PDV2T	*
48	VSS	P	VSS	*	*
49	VDD	P	VDD	*	*
50	EXPD3	B	UC3	PDV2T	*
51	EXPD4	B	UC3	PDV2T	*
52	EXPD5	B	UC3	PDV2T	*
53	BUFDO	O	ODN3	PDV1T	*
54	BUFDI	I	IDC	*	*
55	SBUFBO	O	ODN3	PDV1T	*
56	SBUFBI	I	LIN	*	STB
57	SBUFAO	O	ODN3	PDV1T	*
58	SBUFAI	I	LIN	*	STB
59	MRST	I	IDC	*	*
60	MODE	I	IDC	*	*
61	BUFCO	B	BDC3	PDV2T	*
62	TEST	I	ITST1	*	*
63	IBUFCI	I	IDC	*	*
64	VSS	P	VSS	*	*

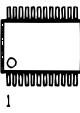
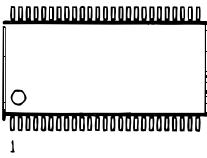
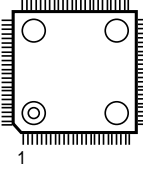
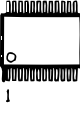
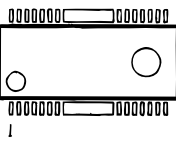

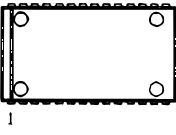
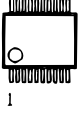


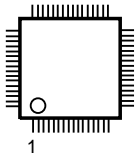
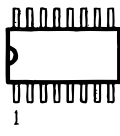
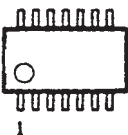
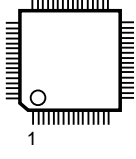
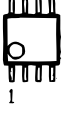
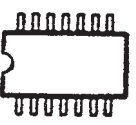
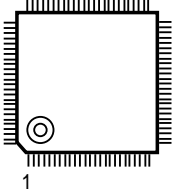

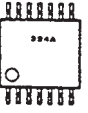
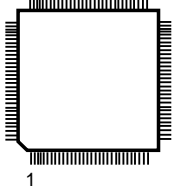
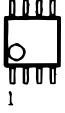
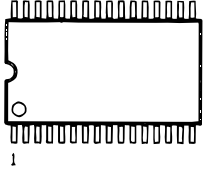
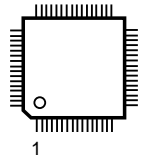
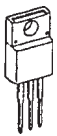
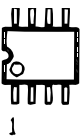
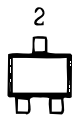
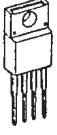
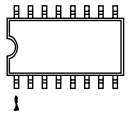
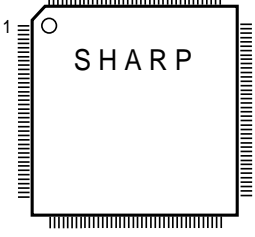
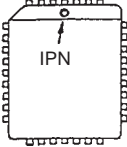

11-23. IC8201 IX1610GE

Pin Name	Input/Output	Functions
R43 to R40	I/O	4-bit I/O port with latch. When used as input port, the latch must be set to "1".
R53 to R50		Every bit data is possible to be set cleared and tested by the bit manipulation instruction of the L-register indirect addressing.
R81 (T2)	I/O(Input)	2-bit I/O port with latch. When used as input port, external interrupt input pin, or timer/counter external input pin, the latch must be set to "1".
R80 ($\overline{\text{INT2}}$)		Timer/Counter 2 external input External interrupt 2 input
XIN	Input	Resonator connecting pins.
XOUT	Output	For inputting external clock, XIN is used and XOUT is opened.
RESET	Input	Reset signal input
HOLD($\overline{\text{INT1}}$)	I/O(Input)	Hold request/release signal input
VDD	Power Supply	+5V
Vss		0V (GND)

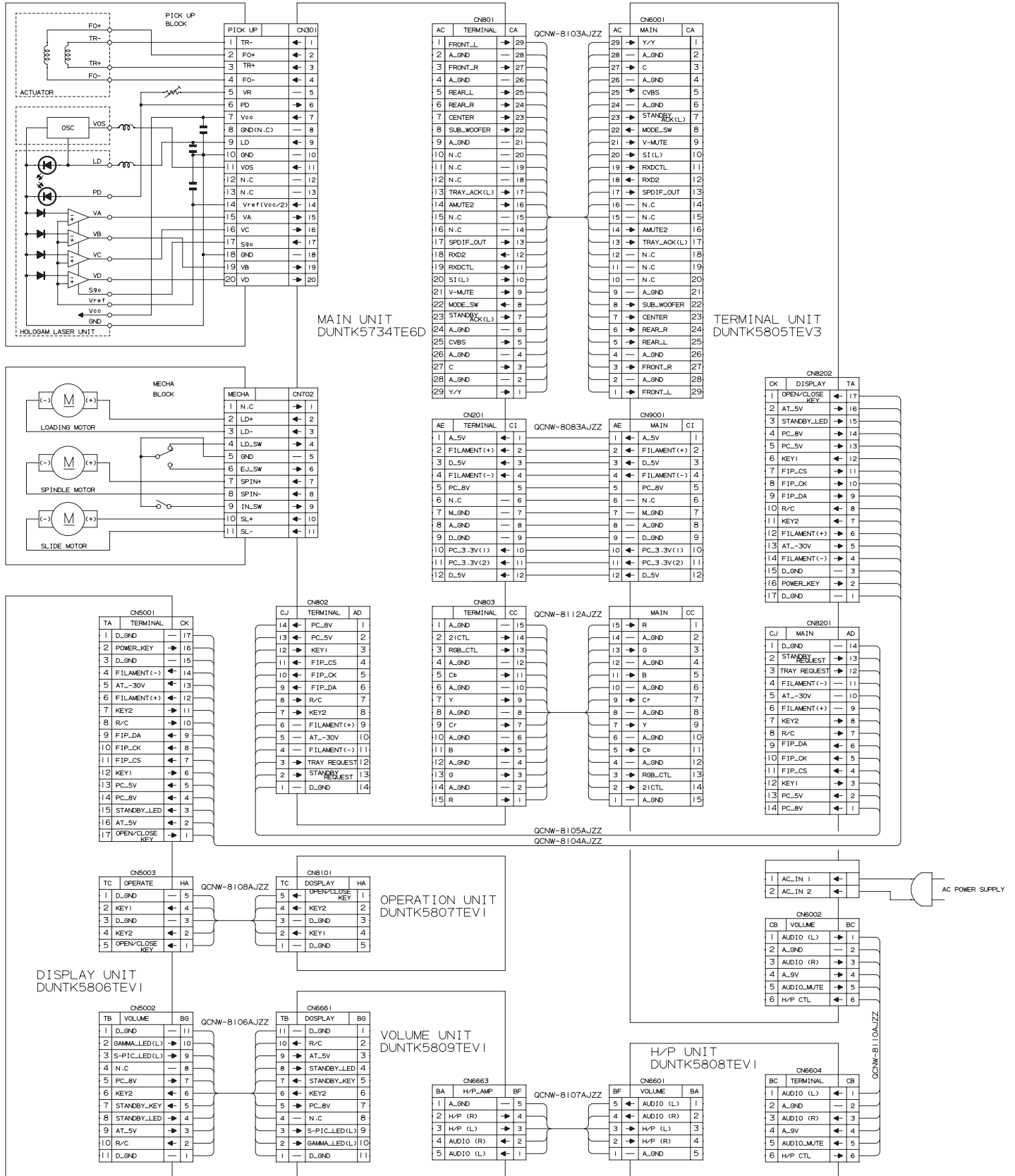
• Block Diagram



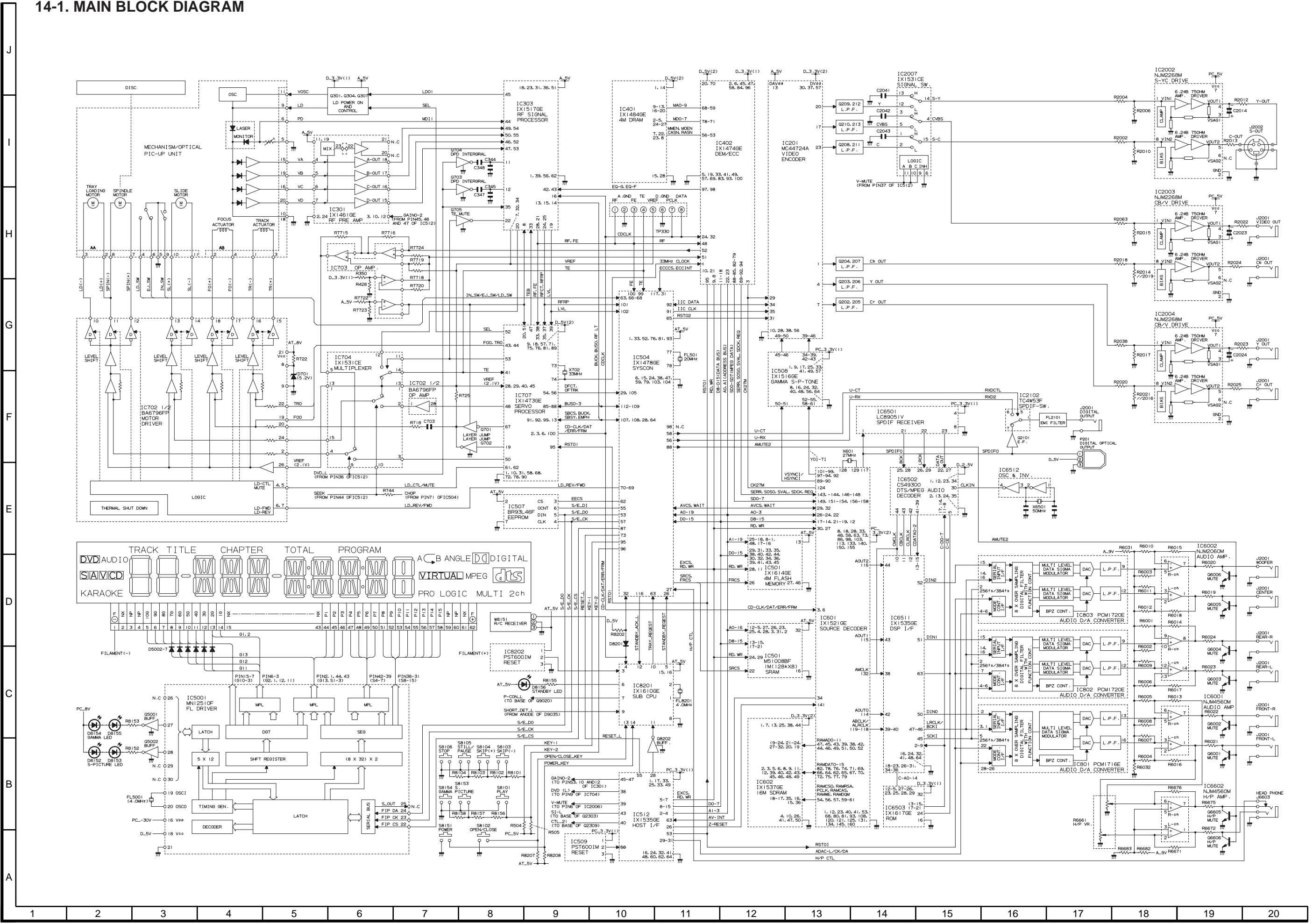
12. SEMICONDUCTOR LEAD IDENTIFICATION

	IC301 RH-iX1461GEZZ IC6501 VHiLC89051V-1		IC602 RH-iX0750TAZZ		IC707 RH-iX1473GEZZ
	IC801 VHiPCM1716E-1		IC702 VHiBA6796FP-1		X601 RCRSC0031GEZZ
	IC401 RH-iX1484GEZZ		IC802 IC803 VHiPCM1720E-1		X702 RCRSC0035GEZZ X6501 RCRSC0038GEZZ
	IC501 RH-iX1614GEZZ		IC201 VHiMC44724A-1		IC704 IC2007 RH-iX1531CEZZ
	IC6002 VHiNJM2060M-1 IC6504 VHiLVX125FT-1		IC303 RH-iX1517GEZZ		IC2002 IC2003 IC2004 VHiHJM2268M-1
	IC6512 VHiTVHCU04F-1		IC402 RH-iX1474GEZZ		IC2102 VHiTC4W53F/-1
	IC703 VHi10324AFV-1		IC504 RH-iX1478GEZZ		IC6001 IC6602 VHiNJM4560M-1
	IC506 RH-iX1618GEZZ		IC508 RH-iX1516GEZZ IC512 IC6511 RH-iX1535GEZZ		IC9001 VHiT78DL09S-1 IC9002 VHiKA7808Pi-1
	IC507 VHiBR93L46F-1		IC509 IC8202 VHiPST600iM-1		IC9003 IC9004 VHiPQ30RV11-1
	IC8201 RH-iX1610GEZZ		IC601 RH-iX1521GEZZ		IC6503 RH-iX1617GEZZ
					IC6502 VHiCS49300/-1

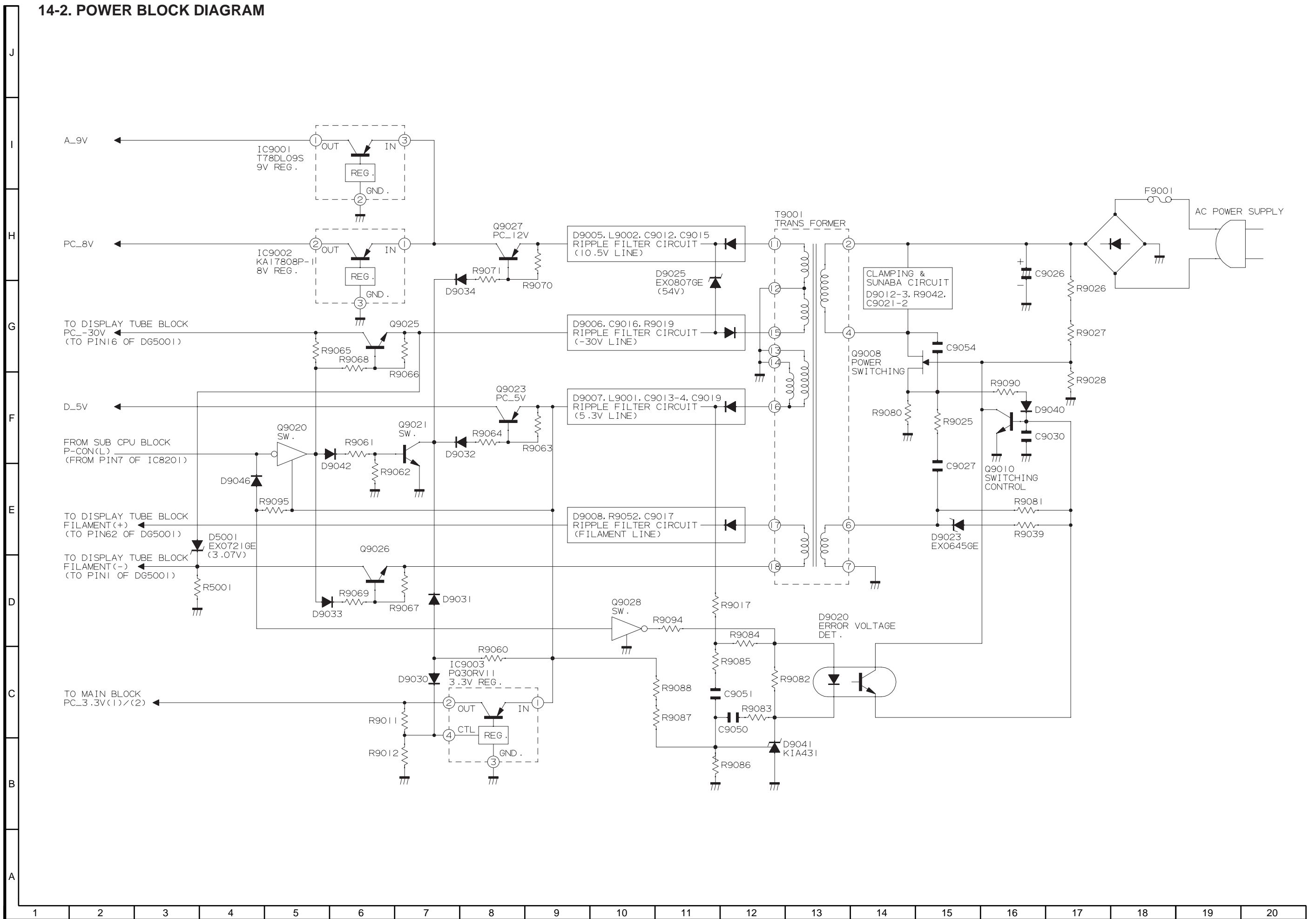
13. WIRING DIAGRAM



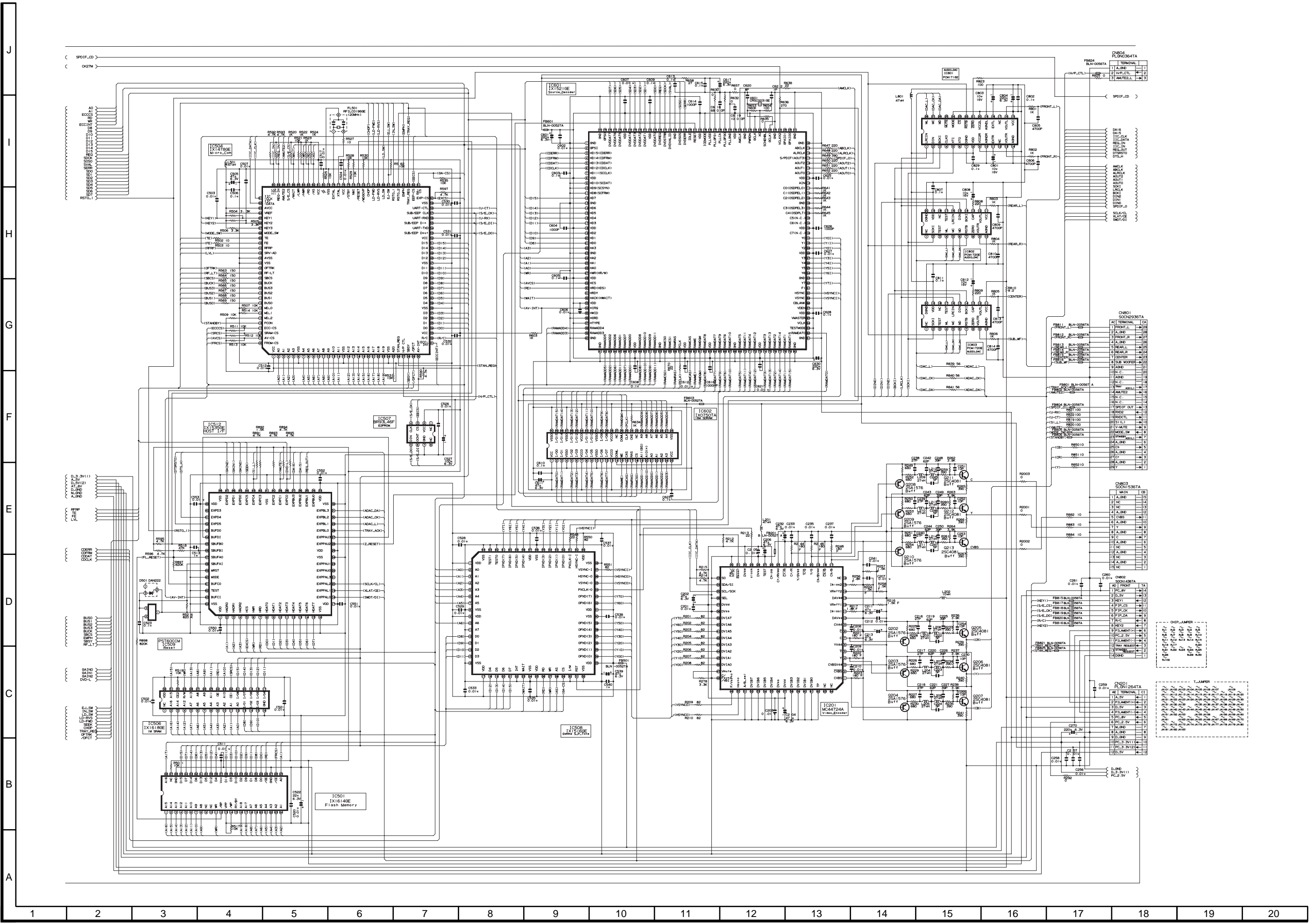
14. BLOCK DIAGRAMS
14-1. MAIN BLOCK DIAGRAM



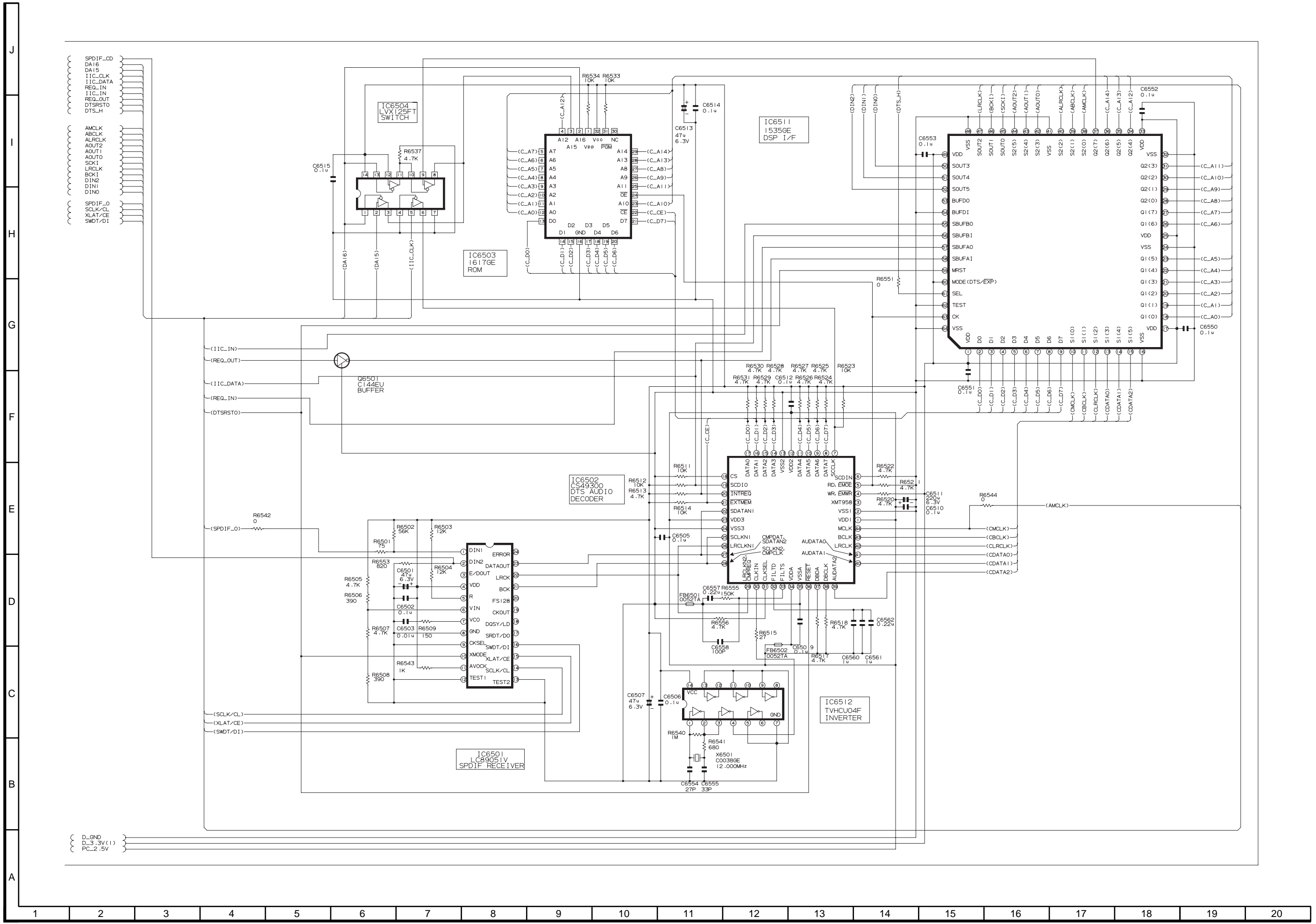
14-2. POWER BLOCK DIAGRAM



15-2. MAIN (2) CIRCUIT SCHEMATIC DIAGRAM

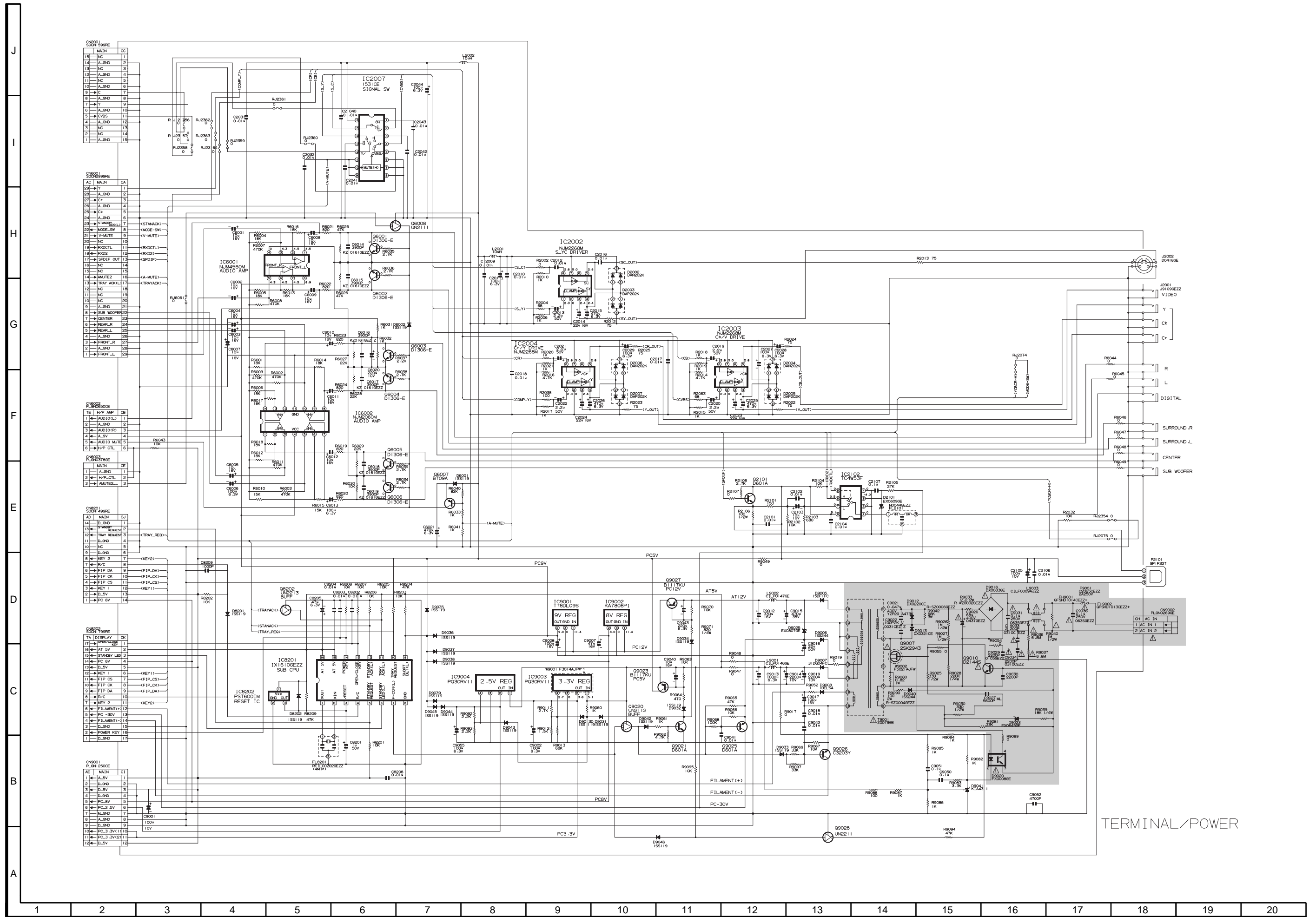


15-3. MAIN (3) CIRCUIT SCHEMATIC DIAGRAM

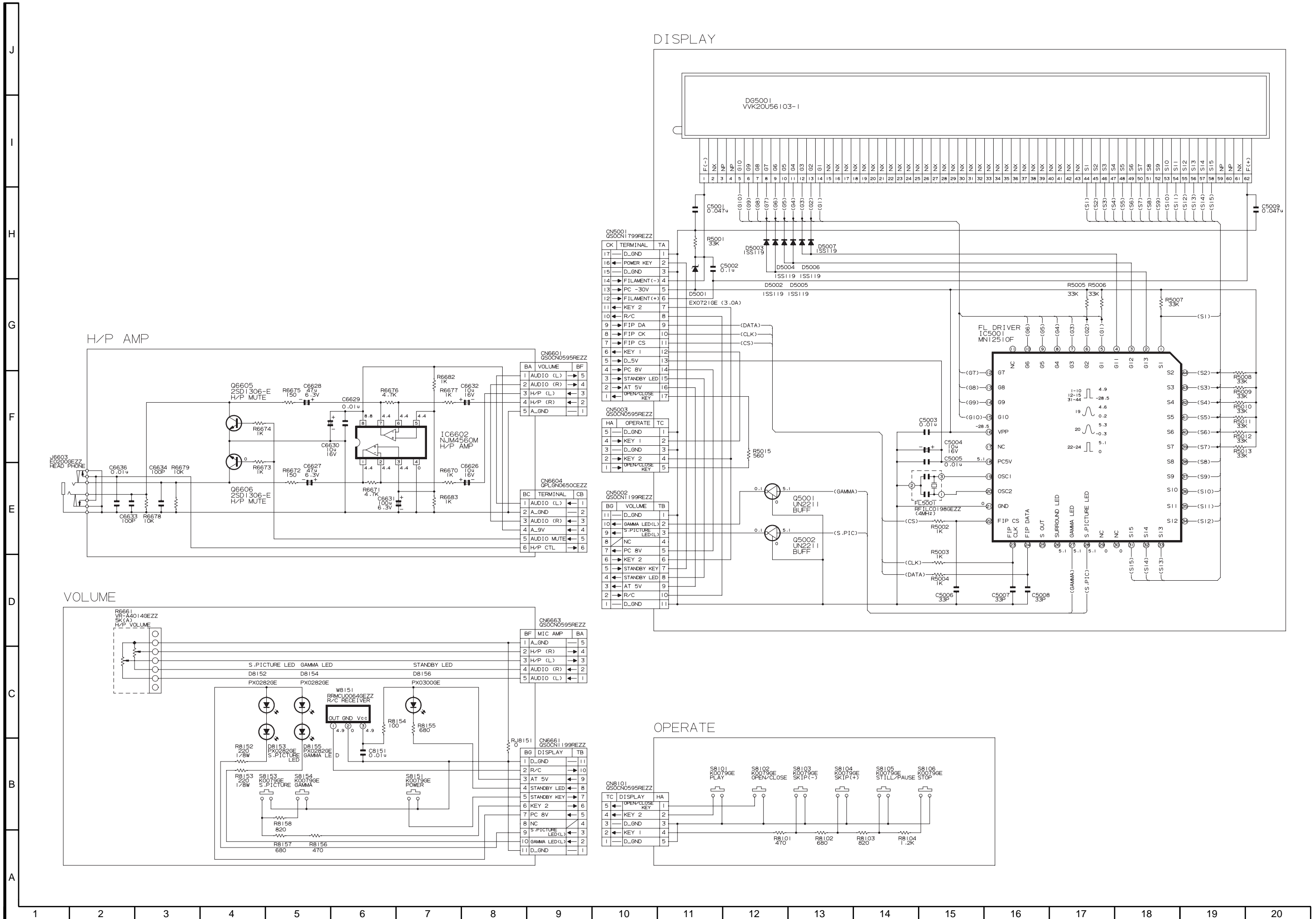


15-4. TERMINAL CIRCUIT SCHEMATIC DIAGRAM

⚠ AND SHADED COMPONENTS=SAFETY RELATED PARTS

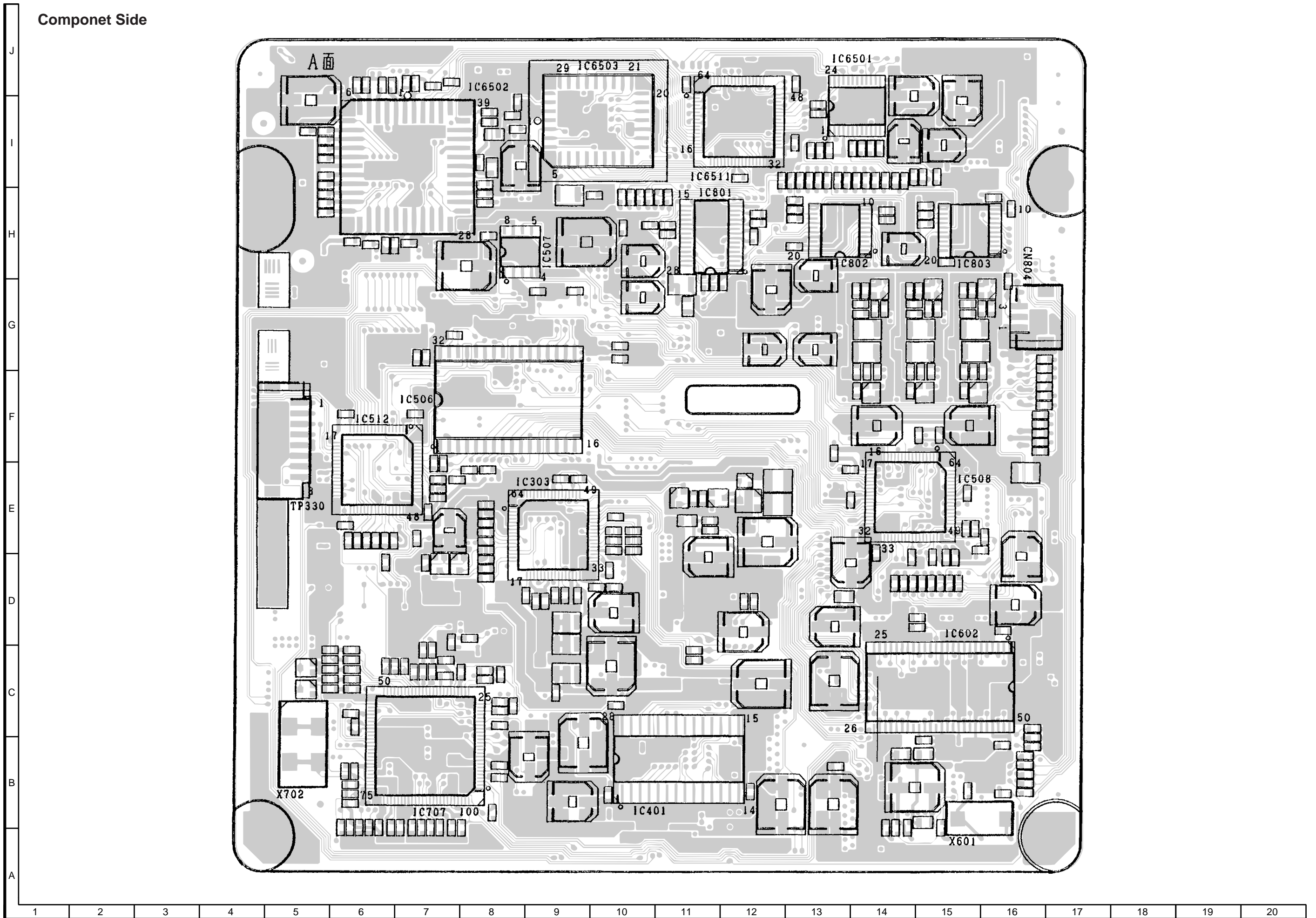


15-5. DISPLAY/OPERATE/VOLUME/H/P AMP CIRCUIT SCHEMATIC DIAGRAM



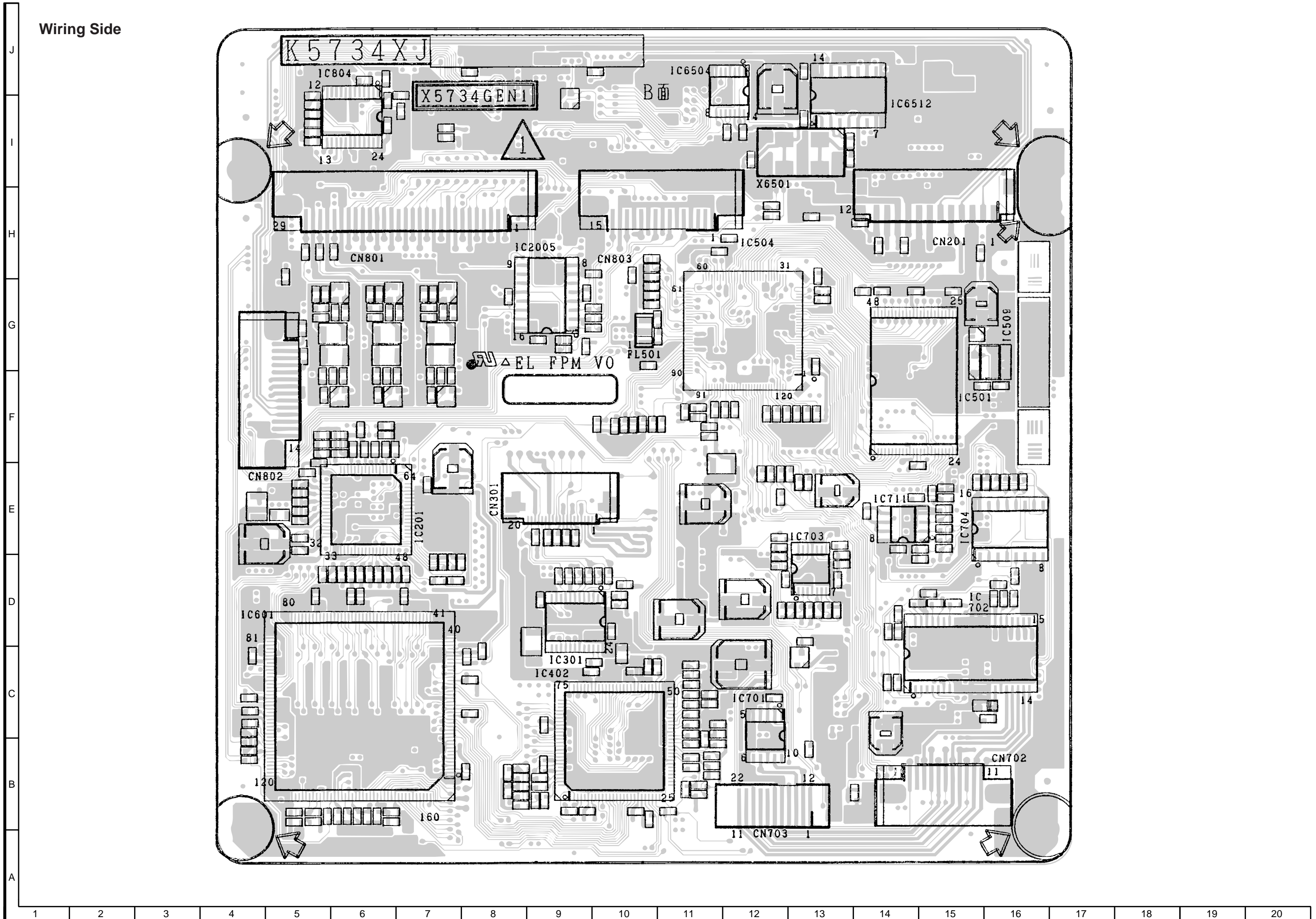
16. PRINTED WIRING BOARD ASSEMBLIES 16-1. MAIN PWB

Component Side



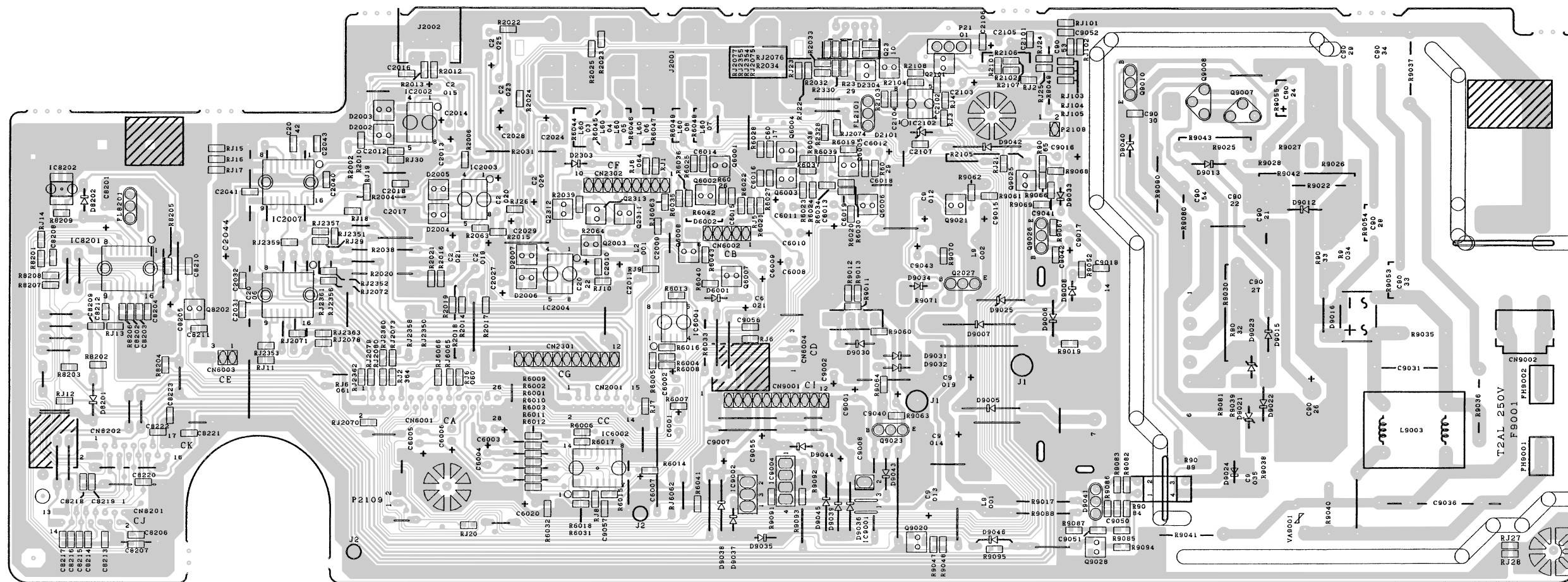
16-2. MAIN PWB

Wiring Side

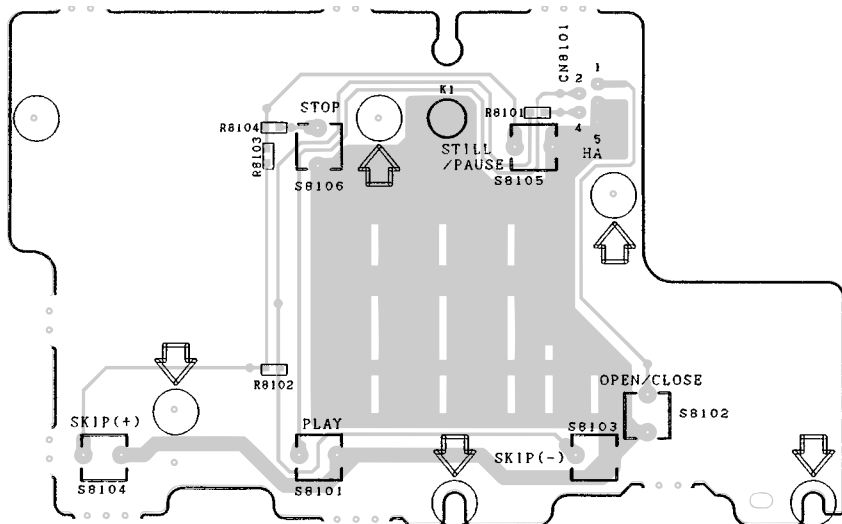


16-3. TERMINAL/OPERATE/VOLUME PWB

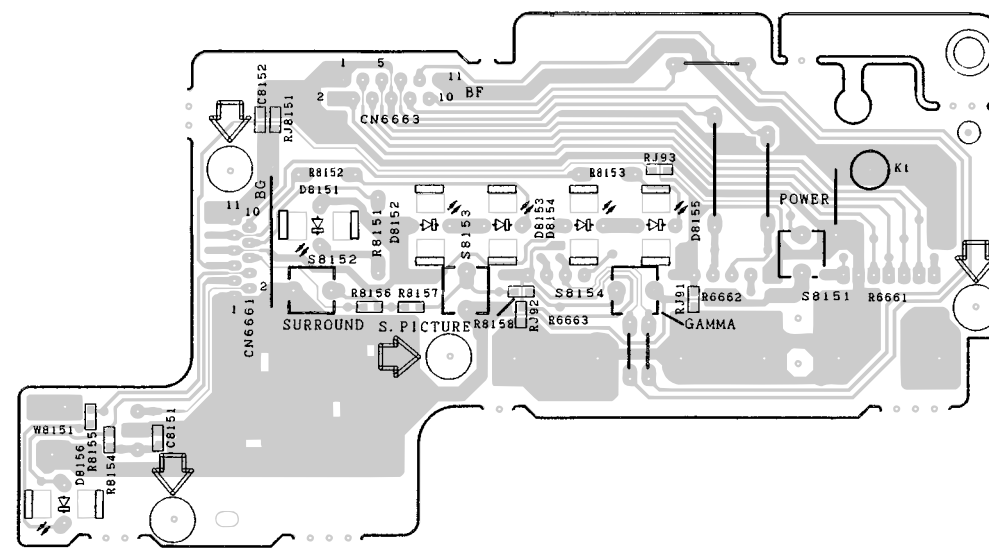
TERMINAL



OPERATE



VOLUME

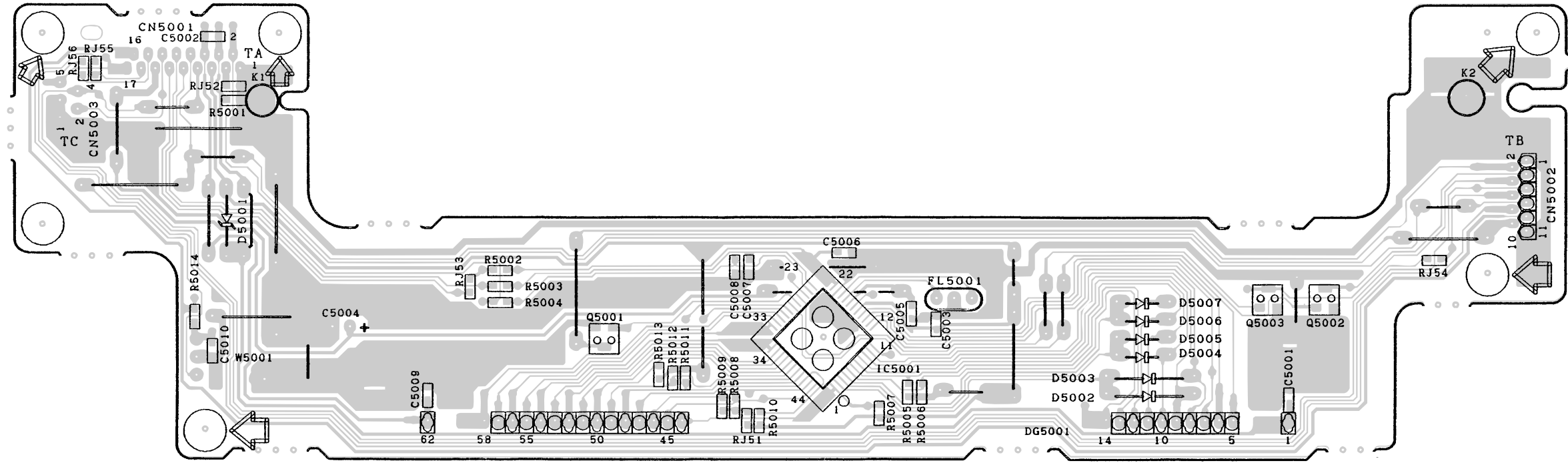


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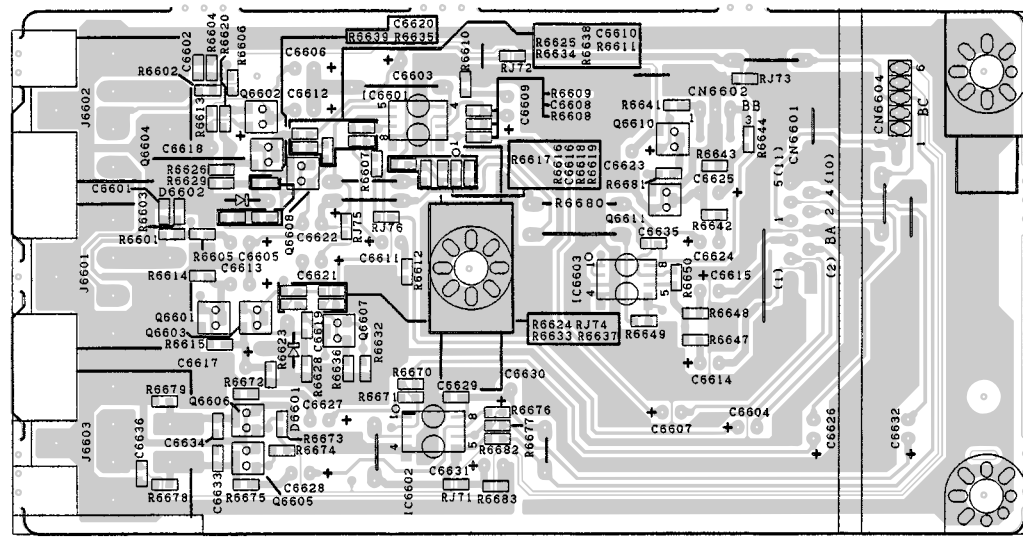
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

16-4. DISPLAY/H/P AMP PWB

DISPLAY



H/P AMP



J
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F
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D
C
B
A

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

17. REPLACEMENT PARTS LIST/ EXPLODED VIEWS

ELECTRICAL PARTS LIST

Parts marked with "△" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

" HOW TO ORDER REPLACEMENT PARTS "

★MARK : SPARE PARTS-DELIVERY SECTION : ALL JAPAN

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER	2. REF. NO.
3. PART NO.	4. DESCRIPTION
5. PRICE CODE	

△ MARK: SAFETY RELATED PARTS

PWB ASSEMBLY IS NOT REPLACEMENT ITEM

Ref. No.	Part No.	★	Description	Code
PRINTED WIRING BOARD ASSEMBLIES (NOT REPLACEMENT ITEM)				

DUNTK5734TE6D	Main PWB Unit	—
DUNTK5805TEV3	Terminal PWB Unit	—
DUNTK5806TEV1	Display PWB Unit	—
DUNTK5807TEV1	Operate PWB Unit	—
DUNTK5808TEV1	H/P Amp PWB Unit	—
DUNTK5809TEV1	Volume PWB Unit	—

DUNTK5734TE6D MAIN PWB UNIT

INTEGRATED CIRCUITS

IC201	VHiMC44724A-1	MC44724A, Video Encoder	AY
IC301	RH-iX1461GEZZ	IX1461GE, RF Pre Amp	AP
IC303	RH-iX1517GEZZ	IX1517GE, RF Processor	AX
IC401	RH-iX1484GEZZ	IX1484GE, 4M DRAM	AU
IC402	RH-iX1474GEZZ	IX1474GE, DEM/ECC	BG
IC501	RH-iX1614GEZZ	IX1614GE, Flash Memory	AX
IC504	RH-iX1478GEZZ	IX1478GE, Micro Com.	BA
IC506	RH-iX1618GEZZ	IX1618GE, 1M SRAM	AR
IC507	VHiBR93L46F-1	BR93L46F, E ² PROM	AG
IC508	RH-iX1516GEZZ	IX1516GE, Gamma S-P Tone	AV
IC509	VHiPST600iM-1	PST600iM, Reset	AE
IC512	RH-iX1535GEZZ	IX1535GE, Host I/F	AN
IC601	RH-iX1521GEZZ	IX1521GE, Source Decoder	BQ
IC602	RH-iX0750TAZZ	IX0750TA, 16M SDRAM	AX
IC702	VHiBA6796FP-1	BA6796FP, Motor Driver	AN
IC703	VHi10324AFV-1	10324AFV, OP Amp	AF
IC704	RH-iX1531CEZZ	IX1531CE, Multiplexer	AF
IC707	RH-iX1473GEZZ	IX1473GE, Servo Processor	BA
IC801	VHiPCM1716E-1	PCM1716E, Audio DAC	AV
IC802	VHiPCM1720E-1	PCM1720E, Audio DAC	AP
IC803	VHiPCM1720E-1	PCM1720E, Audio DAC	AP
IC6501	VHiLC89051V-1	LC89051V, Spdif Receiver	AQ
IC6502	VHiCS49300/-1	CS49300, DTS Audio Decoder	BH
IC6503	RH-iX1617GEZZ	IX1617GE, ROM	AS
IC6504	VHiLVX125FT-1	LVX125FT, Switch	AG
IC6511	RH-iX1535GEZZ	IX1535GE, DSP I/F	AN
IC6512	VHiTVHCU04F-1	TVHCU04F, Inverter	AE

TRANSISTORS

Q202	VS2SA1576//-1	2SA1576	AB
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Ref. No.	Part No.	★	Description	Code
Q203	VS2SA1576//-1		2SA1576	AB
Q204	VS2SA1576//-1		2SA1576	AB
Q205	VS2SC4081//-1		2SC4081	AB
Q206	VS2SC4081//-1		2SC4081	AB
Q207	VS2SC4081//-1		2SC4081	AB
Q208	VS2SA1576//-1		2SA1576	AB
Q209	VS2SA1576//-1		2SA1576	AB
Q210	VS2SA1576//-1		2SA1576	AB
Q211	VS2SC4081//-1		2SC4081	AB
Q212	VS2SC4081//-1		2SC4081	AB
Q213	VS2SC4081//-1		2SC4081	AB
Q301	VS2SA1576//-1		2SA1576	AB
Q304	VSDTC144EU/-1		DTC144EU	AB
Q307	VS2SA1298Y/-1		2SA1298Y	AB
Q701	VSDTA144EU/-1		DTA144EU	AC
Q702	VSDTC144EU/-1		DTC144EU	AB
Q703	VSDTC144EU/-1		DTC144EU	AB
Q704	VSDTC144EU/-1		DTC144EU	AB
Q705	VSDTC144EU/-1		DTC144EU	AB
Q6501	VSDTC144EU/-1		DTC144EU	AB

DIODES

D301	VHDDAN222//-1	DAN222	AA
D501	VHDDAN222//-1	DAN222	AA
D701	RH-EX0852CEZZ	Zener, EX0852CE	AC

PACKAGED CIRCUITS

X601	RCRSC0031GEZZ	Crystal, CRSC0031GE	AK
X702	RCRSC0035GEZZ	Crystal, CRSC0035GE	AG
X6501	RCRSC0038GEZZ	Crystal, CRSC0038GE	AK

FILTER

FL501	RFiLC0196GEZZ	Filter, FiLC0196GE	AE
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COILS

L201	VP-NM470K2R0N	Peaking, 47μH	AB
L202	VP-NM100KR42N	Peaking, 10μH	AB
L203	VP-1M270K3R8N	Peaking, 27μH	AC
L204	VP-1M270K3R8N	Peaking, 27μH	AC
L205	VP-1M270K3R8N	Peaking, 27μH	AC
L206	VP-1M270K3R8N	Peaking, 27μH	AC
L207	VP-1M270K3R8N	Peaking, 27μH	AC
L208	VP-1M270K3R8N	Peaking, 27μH	AC
L209	VP-1M270K3R8N	Peaking, 27μH	AC
L210	VP-1M270K3R8N	Peaking, 27μH	AC
L211	VP-1M270K3R8N	Peaking, 27μH	AC
L212	VP-1M270K3R8N	Peaking, 27μH	AC
L213	VP-1M270K3R8N	Peaking, 27μH	AC
L214	VP-1M270K3R8N	Peaking, 27μH	AC
L301	VP-NM100KR42N	Peaking, 10μH	AB
L302	VP-NM100KR42N	Peaking, 10μH	AB
L303	VP-NM100KR42N	Peaking, 10μH	AB
L401	VP-NM470K2R0N	Peaking, 47μH	AB
L501	VP-NM470K2R0N	Peaking, 47μH	AB
L801	VP-NM470K2R0N	Peaking, 47μH	AB

CAPACITORS

C201	VCKYCY1HB103K	0.01 50V Ceramic	AA
C202	VCEAPF0JW476M	47 6.3V Electrolytic	AB
C203	VCKYCY1HB103K	0.01 50V Ceramic	AA
C204	VCEAPF0JW476M	47 6.3V Electrolytic	AB
C205	VCKYCY1HB103K	0.01 50V Ceramic	AA
C206	VCEAPF0JW476M	47 6.3V Electrolytic	AB
C207	VCKYCY1HB103K	0.01 50V Ceramic	AA
C208	VCKYCY1HB103K	0.01 50V Ceramic	AA
C209	VCKYCY1HB103K	0.01 50V Ceramic	AA
C210	VCKYCY1HB103K	0.01 50V Ceramic	AA
C211	VCEAPF0JW476M	47 6.3V Electrolytic	AB
C212	VCKYCY1HB103K	0.01 50V Ceramic	AA
C213	VCEAPF0JW476M	47 6.3V Electrolytic	AB
C216	VCCCCY1HH270J	27p 50V Ceramic	AA
C217	VCCCCY1HH270J	27p 50V Ceramic	AA
C218	VCCCCY1HH270J	27p 50V Ceramic	AA
C219	VCCCCY1HH620J	62p 50V Ceramic	AA

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
DUNTK5734TE6D									
MAIN PWB UNIT(Continued)									
C220	VCCCCY1HH620J	62p	50V Ceramic	AA	C346	VCKYCY1AF105Z	1	10V Ceramic	AC
C221	VCCCCY1HH620J	62p	50V Ceramic	AA	C347	VCKYCY1HB222K	2200p	50V Ceramic	AA
C222	VCCCCY1HH5R0C	5p	50V Ceramic	AA	C348	VCKYCY1HB222K	2200p	50V Ceramic	AA
C223	VCCCCY1HH5R0C	5p	50V Ceramic	AA	C349	VCKYCY1HB102K	1000p	50V Ceramic	AA
C224	VCCCCY1HH5R0C	5p	50V Ceramic	AA	C353	VCEAPF0JW476M	47	6.3V Electrolytic	AB
C225	VCCCCY1HH390J	39p	50V Ceramic	AA	C354	VCKYCY1CB104K	0.1	16V Ceramic	AB
C226	VCCCCY1HH390J	39p	50V Ceramic	AA	C355	VCEAPF0JW476M	47	6.3V Electrolytic	AB
C227	VCCCCY1HH390J	39p	50V Ceramic	AA	C356	VCEAPF0JW107M	100	6.3V Electrolytic	AC
C230	VCCCCY1HH100D	10p	50V Ceramic	AA	C401	VCKYCY1HB471K	470p	50V Ceramic	AA
C232	VCEAPF0JW476M	47	6.3V Electrolytic	AB	C402	VCEAPF0JW476M	47	6.3V Electrolytic	AB
C233	VCKYCY1HB103K	0.01	50V Ceramic	AA	C404	VCKYCY1CB104K	0.1	16V Ceramic	AB
C235	VCKYCY1HB103K	0.01	50V Ceramic	AA	C405	RC-EZ0475GEZZ	220	6.3V Electrolytic	AD
C237	VCKYCY1HB103K	0.01	50V Ceramic	AA	C406	VCCCCY1HH331J	330p	50V Ceramic	AA
C238	VCCCCY1HH270J	27p	50V Ceramic	AA	C407	VCCCCY1HH331J	330p	50V Ceramic	AA
C239	VCCCCY1HH270J	27p	50V Ceramic	AA	C408	VCKYCY1CB333K	0.033	16V Ceramic	AA
C240	VCCCCY1HH270J	27p	50V Ceramic	AA	C409	VCKYCY1HB103K	0.01	50V Ceramic	AA
C241	VCKYCY1HB103K	0.01	50V Ceramic	AA	C410	VCCCCY1HH220J	22p	50V Ceramic	AA
C242	VCCCCY1HH620J	62p	50V Ceramic	AA	C411	VCKYCY1AF105Z	1	10V Ceramic	AC
C243	VCCCCY1HH620J	62p	50V Ceramic	AA	C412	VCKYCY1HB103K	0.01	50V Ceramic	AA
C244	VCCCCY1HH620J	62p	50V Ceramic	AA	C413	VCKYCY1AF105Z	1	10V Ceramic	AC
C245	VCCCCY1HH5R0C	5p	50V Ceramic	AA	C414	VCKYCY1HB103K	0.01	50V Ceramic	AA
C246	VCCCCY1HH5R0C	5p	50V Ceramic	AA	C415	VCKYCY1HB471K	470p	50V Ceramic	AA
C247	VCCCCY1HH5R0C	5p	50V Ceramic	AA	C416	VCKYCY1HB103K	0.01	50V Ceramic	AA
C248	VCCCCY1HH390J	39p	50V Ceramic	AA	C417	VCKYCY1CB104K	0.1	16V Ceramic	AB
C249	VCCCCY1HH390J	39p	50V Ceramic	AA	C418	VCKYCY1AF105Z	1	10V Ceramic	AC
C250	VCCCCY1HH390J	39p	50V Ceramic	AA	C419	VCKYCY1AF105Z	1	10V Ceramic	AC
C251	VCCCCY1HH100D	10p	50V Ceramic	AA	C420	VCKYCY1AF105Z	1	10V Ceramic	AC
C252	VCCCCY1HH100D	10p	50V Ceramic	AA	C421	VCKYCY1AF105Z	1	10V Ceramic	AC
C253	VCCCCY1HH100D	10p	50V Ceramic	AA	C424	VCCCCY1HH101J	100p	50V Ceramic	AA
C254	VCCCCY1HH100D	10p	50V Ceramic	AA	C426	VCKYCY1CB104K	0.1	16V Ceramic	AB
C255	VCCCCY1HH100D	10p	50V Ceramic	AA	C427	VCKYCY1AF105Z	1	10V Ceramic	AC
C256	VCKYCY1HB103K	0.01	50V Ceramic	AA	C428	VCKYCY1AF105Z	1	10V Ceramic	AC
C257	VCKYCY1HB103K	0.01	50V Ceramic	AA	C429	RC-EZ0475GEZZ	220	6.3V Electrolytic	AD
C258	VCKYCY1HB103K	0.01	50V Ceramic	AA	C430	VCKYCY1HB103K	0.01	50V Ceramic	AA
C259	VCKYCY1HB103K	0.01	50V Ceramic	AA	C431	VCKYCY1HB103K	0.01	50V Ceramic	AA
C260	VCKYCY1HB103K	0.01	50V Ceramic	AA	C432	VCKYCY1HB103K	0.01	50V Ceramic	AA
C261	VCKYCY1HB103K	0.01	50V Ceramic	AA	C440	VCKYCY1CB104K	0.1	16V Ceramic	AB
C270	RC-EZ0475GEZZ	220	6.3V Electrolytic	AD	C441	VCKYCY1CB104K	0.1	16V Ceramic	AB
C271	VCEAE0JW107M	100	6.3V Electrolytic	AB	C442	RC-EZ0475GEZZ	220	6.3V Electrolytic	AD
C301	VCKYCY1AF105Z	1	10V Ceramic	AC	C443	RC-EZ0475GEZZ	220	6.3V Electrolytic	AD
C302	VCKYCY1AF105Z	1	10V Ceramic	AC	C502	VCKYCY1HB103K	0.01	50V Ceramic	AA
C304	VCKYCY1AF105Z	1	10V Ceramic	AC	C503	VCKYCY1HB103K	0.01	50V Ceramic	AA
C305	VCKYCY1CB104K	0.1	16V Ceramic	AB	C505	VCEAPF0JW476M	47	6.3V Electrolytic	AB
C306	VCKYCY1CB104K	0.1	16V Ceramic	AB	C506	VCKYCY1CB104K	0.1	16V Ceramic	AB
C307	VCEAPF0JW476M	47	6.3V Electrolytic	AB	C507	VCKYCY1HB103K	0.01	50V Ceramic	AA
C308	VCKYCY1HB103K	0.01	50V Ceramic	AA	C511	VCKYCY1HB103K	0.01	50V Ceramic	AA
C309	VCKYCY1HB103K	0.01	50V Ceramic	AA	C512	VCKYCY1HB103K	0.01	50V Ceramic	AA
C313	VCKYCY1AF105Z	1	10V Ceramic	AC	C513	VCKYCY1AF105Z	1	10V Ceramic	AC
C315	VCEAPF0JW107M	100	6.3V Electrolytic	AC	C517	VCKYCY1HB103K	0.01	50V Ceramic	AA
C318	VCKYCY1CB104K	0.1	16V Ceramic	AB	C520	VCKYCY1HB103K	0.01	50V Ceramic	AA
C321	VCKYCY1CB104K	0.1	16V Ceramic	AB	C521	VCKYCY1HB103K	0.01	50V Ceramic	AA
C322	VCKYCY1CB104K	0.1	16V Ceramic	AB	C522	VCEAPF0JW226M	22	6.3V Electrolytic	AB
C324	VCKYCY1CB104K	0.1	16V Ceramic	AB	C523	VCKYCY1CB104K	0.1	16V Ceramic	AB
C325	VCKYCY1CB104K	0.1	16V Ceramic	AB	C524	VCKYCY1HB103K	0.01	50V Ceramic	AA
C327	VCEAPF0JW476M	47	6.3V Electrolytic	AB	C526	VCKYCY1HB103K	0.01	50V Ceramic	AA
C328	VCKYCY1HB103K	0.01	50V Ceramic	AA	C527	VCEAPF0JW107M	100	6.3V Electrolytic	AC
C330	VCKYCY1CB104K	0.1	16V Ceramic	AB	C528	VCKYCY1HB103K	0.01	50V Ceramic	AA
C331	VCKYCY1HB103K	0.01	50V Ceramic	AA	C529	VCKYCY1HB103K	0.01	50V Ceramic	AA
C332	VCKYCY1AF105Z	1	10V Ceramic	AC	C530	VCKYCY1HB103K	0.01	50V Ceramic	AA
C333	VCKYCY1CB104K	0.1	16V Ceramic	AB	C531	VCKYCY1HB103K	0.01	50V Ceramic	AA
C334	VCKYCY1CB104K	0.1	16V Ceramic	AB	C532	VCKYCY1HB103K	0.01	50V Ceramic	AA
C335	VCKYCY1HB472K	4700p	50V Ceramic	AA	C533	VCKYCY1HB103K	0.01	50V Ceramic	AA
C336	VCKYCY1HB472K	4700p	50V Ceramic	AA	C535	VCKYCY1HB103K	0.01	50V Ceramic	AA
C337	VCKYCY1CB104K	0.1	16V Ceramic	AB	C536	VCKYCY1HB103K	0.01	50V Ceramic	AA
C338	VCEAPF1HW225M	2.2	50V Electrolytic	AB	C537	VCKYCY1HB103K	0.01	50V Ceramic	AA
C339	VCKYCY1CB104K	0.1	16V Ceramic	AB	C538	VCKYCY1HB103K	0.01	50V Ceramic	AA
C340	VCEAPF0JW226M	22	6.3V Electrolytic	AB	C539	VCEAPF0JW476M	47	6.3V Electrolytic	AB
C341	VCKYCY1CB104K	0.1	16V Ceramic	AB	C540	VCKYCY1AF105Z	1	10V Ceramic	AC
C342	VCKYCY1HB102K	1000p	50V Ceramic	AA	C550	VCKYCY1HB103K	0.01	50V Ceramic	AA
C343	VCKYCY1HB102K	1000p	50V Ceramic	AA	C551	VCKYCY1HB103K	0.01	50V Ceramic	AA
C344	VCKYCY1HB102K	1000p	50V Ceramic	AA	C552	VCKYCY1HB103K	0.01	50V Ceramic	AA
C345	VCKYCY1HB102K	1000p	50V Ceramic	AA	C553	VCKYCY1HB103K	0.01	50V Ceramic	AA
					C601	RC-EZ0475GEZZ	220	6.3V Electrolytic	AD
					C602	VCKYCY1HB103K	0.01	50V Ceramic	AA
					C603	VCKYCY1CB104K	0.1	16V Ceramic	AB

Ref. No.	Part No.	★	Description	Code
DUNTK5734TE6D				
MAIN PWB UNIT(Continued)				
C604	VCKYCY1HB102K	1000p	50V Ceramic	AA
C605	VCKYCY1CB104K	0.1	16V Ceramic	AB
C606	VCKYCY1HB103K	0.01	50V Ceramic	AA
C607	VCKYCY1HB103K	0.01	50V Ceramic	AA
C608	VCKYCY1CB104K	0.1	16V Ceramic	AB
C609	VCKYCY1CB104K	0.1	16V Ceramic	AB
C610	VCKYCY1CB104K	0.1	16V Ceramic	AB
C611	VCEAPF0JW476M	47	6.3V Electrolytic	AB
C612	VCKYCY1HB103K	0.01	50V Ceramic	AA
C613	VCKYCY1CB104K	0.1	16V Ceramic	AB
C614	VCKYCY1HB102K	1000p	50V Ceramic	AA
C615	VCKYCY1CB104K	0.1	16V Ceramic	AB
C616	VCKYCY1HB102K	1000p	50V Ceramic	AA
C617	RC-EZ0475GEZZ	220	6.3V Electrolytic	AD
C618	VCKYCY1HB682K	6800p	50V Ceramic	AA
C619	VCKYCY1HB102K	1000p	50V Ceramic	AA
C620	VCCCCY1HH8R0D	8p	50V Ceramic	AA
C621	VCKYCY1HB103K	0.01	50V Ceramic	AA
C622	VCCCCY1HH1R0C	1p	50V Ceramic	AA
C623	VCKYCY1CB104K	0.1	16V Ceramic	AB
C625	VCKYCY1HB103K	0.01	50V Ceramic	AA
C626	VCKYCY1HB102K	1000p	50V Ceramic	AA
C627	VCKYCY1HB103K	0.01	50V Ceramic	AA
C628	VCKYCY1CB104K	0.1	16V Ceramic	AB
C630	RC-EZ0475GEZZ	220	6.3V Electrolytic	AD
C702	VCKYCY1HB103K	0.01	50V Ceramic	AA
C703	VCKYCY1HB103K	0.01	50V Ceramic	AA
C704	VCKYCY1HB103K	0.01	50V Ceramic	AA
C713	VCKYCY1HB332K	3300p	50V Ceramic	AA
C716	VCKYCY1HB103K	0.01	50V Ceramic	AA
C718	VCKYCY1HB222K	2200p	50V Ceramic	AA
C719	VCKYCY1HB332K	3300p	50V Ceramic	AA
C720	VCKYCY1HB103K	0.01	50V Ceramic	AA
C721	VCKYCY1CB473K	0.047	16V Ceramic	AA
C724	VCCCCY1HH100D	10p	50V Ceramic	AA
C725	VCCCCY1HH9R0D	9p	50V Ceramic	AA
C727	VCKYCY1HB103K	0.01	50V Ceramic	AA
C729	VCCCCY1HH101J	100p	50V Ceramic	AA
C730	VCKYCY1HB103K	0.01	50V Ceramic	AA
C731	VCKYCY1HB472K	4700p	50V Ceramic	AA
C732	VCKYCY1HB103K	0.01	50V Ceramic	AA
C733	VCKYCY1HB472K	4700p	50V Ceramic	AA
C734	VCKYCY1HB103K	0.01	50V Ceramic	AA
C735	VCKYCY1CB473K	0.047	16V Ceramic	AA
C736	VCKYCY1HB103K	0.01	50V Ceramic	AA
C737	VCCCCY1HH221J	220p	50V Ceramic	AA
C738	VCKYCY1HB103K	0.01	50V Ceramic	AA
C739	VCKYCY1HB471K	470p	50V Ceramic	AA
C740	VCCCCY1HH221J	220p	50V Ceramic	AA
C741	VCKYCY1HB103K	0.01	50V Ceramic	AA
C742	VCKYCY1HB103K	0.01	50V Ceramic	AA
C743	VCKYCY1HB272K	2700p	50V Ceramic	AA
C744	VCKYCY1HB103K	0.01	50V Ceramic	AA
C745	VCKYCY1HB103K	0.01	50V Ceramic	AA
C747	VCKYCY1EB153K	0.015	25V Ceramic	AA
C748	VCKYCY1HB103K	0.01	50V Ceramic	AA
C749	VCCCCY1HH470J	47p	50V Ceramic	AA
C752	VCKYCY1HB103K	0.01	50V Ceramic	AA
C753	VCEAPF0JW476M	47	6.3V Electrolytic	AB
C754	VCEAPF1CW106M	10	16V Electrolytic	AB
C755	VCKYCY1HB103K	0.01	50V Ceramic	AA
C801	VCEAPF1CW106M	10	16V Electrolytic	AB
C802	VCKYCY1CB104K	0.1	16V Ceramic	AB
C803	VCEAPF1CW106M	10	16V Electrolytic	AB
C804	RC-EZ0475GEZZ	220	6.3V Electrolytic	AD
C805	RC-KZ0162GEZZ	4700p		AB
C806	RC-KZ0162GEZZ	4700p		AB
C807	VCKYCY1CB104K	0.1	16V Ceramic	AB
C808	VCEAPF1CW106M	10	16V Electrolytic	AB
C809	RC-KZ0162GEZZ	4700p		AB
C810	RC-KZ0162GEZZ	4700p		AB
C811	VCKYCY1CB104K	0.1	16V Ceramic	AB

Ref. No.	Part No.	★	Description	Code
C812	VCEAPF1CW106M	10	16V Electrolytic	AB
C813	RC-KZ0162GEZZ	4700p		AB
C814	RC-KZ0162GEZZ	4700p		AB
C829	VCKYCY1CB104K	0.1	16V Ceramic	AB
C6501	VCEAPF0JW476M	47	6.3V Electrolytic	AB
C6502	VCKYCY1CB104K	0.1	16V Ceramic	AB
C6503	VCKYCY1HB103K	0.01	50V Ceramic	AA
C6505	VCKYCY1CB104K	0.1	16V Ceramic	AB
C6506	VCKYCY1CB104K	0.1	16V Ceramic	AB
C6507	VCEAPF0JW476M	47	6.3V Electrolytic	AB
C6509	VCKYCY1CB104K	0.1	16V Ceramic	AB
C6510	VCKYCY1CB104K	0.1	16V Ceramic	AB
C6511	RC-EZ0475GEZZ	220	6.3V Electrolytic	AD
C6512	VCKYCY1CB104K	0.1	16V Ceramic	AB
C6513	VCEAPF0JW476M	47	6.3V Electrolytic	AB
C6514	VCKYCY1CB104K	0.1	16V Ceramic	AB
C6515	VCKYCY1CB104K	0.1	16V Ceramic	AB
C6550	VCKYCY1CB104K	0.1	16V Ceramic	AB
C6551	VCKYCY1CB104K	0.1	16V Ceramic	AB
C6552	VCKYCY1CB104K	0.1	16V Ceramic	AB
C6553	VCKYCY1CB104K	0.1	16V Ceramic	AB
C6554	VCCCCY1HH270J	27p	50V Ceramic	AA
C6555	VCCCCY1HH330J	33p	50V Ceramic	AA
C6557	VCKYCY1CF224Z	0.22	16V Ceramic	AA
C6558	VCCCCY1HH101J	100p	50V Ceramic	AA
C6560	VCKYCY1AF105Z	1	10V Ceramic	AC
C6561	VCKYCY1AF105Z	1	10V Ceramic	AC
C6562	VCKYCY1CF224Z	0.22	16V Ceramic	AA
C7001	VCKYCY1HB102K	1000p	50V Ceramic	AA
C7002	VCKYCY1HB103K	0.01	50V Ceramic	AA
C7003	VCKYCY1CB104K	0.1	16V Ceramic	AB
C7005	VCKYCY1HB103K	0.01	50V Ceramic	AA

RESISTORS

R201	VRS-CY1JF820J	82	1/16W Metal Oxide	AA
R202	VRS-CY1JF820J	82	1/16W Metal Oxide	AA
R203	VRS-CY1JF820J	82	1/16W Metal Oxide	AA
R204	VRS-CY1JF820J	82	1/16W Metal Oxide	AA
R205	VRS-CY1JF820J	82	1/16W Metal Oxide	AA
R206	VRS-CY1JF820J	82	1/16W Metal Oxide	AA
R207	VRS-CY1JF820J	82	1/16W Metal Oxide	AA
R208	VRS-CY1JF820J	82	1/16W Metal Oxide	AA
R209	VRS-CY1JF820J	82	1/16W Metal Oxide	AA
R210	VRS-CY1JF820J	82	1/16W Metal Oxide	AA
R212	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R213	VRS-CY1JF220J	22	1/16W Metal Oxide	AA
R214	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R215	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R216	VRS-CY1JF152F	1.5k	1/16W Metal Oxide	AA
R217	VRS-CY1JF182F	1.8k	1/16W Metal Oxide	AA
R221	VRS-CY1JF181F	180	1/16W Metal Oxide	AA
R222	VRS-CY1JF181F	180	1/16W Metal Oxide	AA
R223	VRS-CY1JF181F	180	1/16W Metal Oxide	AA
R224	VRS-CY1JF152F	1.5k	1/16W Metal Oxide	AA
R225	VRS-CY1JF681J	680	1/16W Metal Oxide	AA
R226	VRS-CY1JF681J	680	1/16W Metal Oxide	AA
R227	VRS-CY1JF681J	680	1/16W Metal Oxide	AA
R228	VRS-CY1JF681J	680	1/16W Metal Oxide	AA
R229	VRS-CY1JF681J	680	1/16W Metal Oxide	AA
R230	VRS-CY1JF681J	680	1/16W Metal Oxide	AA
R233	VRS-CY1JF391J	390	1/16W Metal Oxide	AA
R234	VRS-CY1JF391J	390	1/16W Metal Oxide	AA
R235	VRS-CY1JF391J	390	1/16W Metal Oxide	AA
R236	VRS-CY1JF392J	3.9k	1/16W Metal Oxide	AA
R237	VRS-CY1JF392J	3.9k	1/16W Metal Oxide	AA
R238	VRS-CY1JF392J	3.9k	1/16W Metal Oxide	AA
R239	VRS-CY1JF391J	390	1/16W Metal Oxide	AA
R240	VRS-CY1JF391J	390	1/16W Metal Oxide	AA
R241	VRS-CY1JF391J	390	1/16W Metal Oxide	AA
R244	VRS-CY1JF181F	180	1/16W Metal Oxide	AA
R246	VRS-CY1JF181F	180	1/16W Metal Oxide	AA
R248	VRS-CY1JF181F	180	1/16W Metal Oxide	AA
R249	VRS-CY1JF681J	680	1/16W Metal Oxide	AA
R250	VRS-CY1JF681J	680	1/16W Metal Oxide	AA
R251	VRS-CY1JF681J	680	1/16W Metal Oxide	AA

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
DUNTK5734TE6D MAIN PWB UNIT(Continued)									
R252	VRS-CY1JF681J	680	1/16W Metal Oxide	AA	R518	VRS-CY1JF473J	47k	1/16W Metal Oxide	AA
R253	VRS-CY1JF681J	680	1/16W Metal Oxide	AA	R519	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R254	VRS-CY1JF681J	680	1/16W Metal Oxide	AA	R520	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R256	VRS-CY1JF182F	1.8k	1/16W Metal Oxide	AA	R521	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R257	VRS-CY1JF152F	1.5k	1/16W Metal Oxide	AA	R522	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R258	VRS-CY1JF152F	1.5k	1/16W Metal Oxide	AA	R523	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R259	VRS-CY1JF391J	390	1/16W Metal Oxide	AA	R524	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R260	VRS-CY1JF391J	390	1/16W Metal Oxide	AA	R525	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R261	VRS-CY1JF391J	390	1/16W Metal Oxide	AA	R526	VRS-CY1JF824J	820k	1/16W Metal Oxide	AA
R262	VRS-CY1JF392J	3.9k	1/16W Metal Oxide	AA	R527	VRS-CY1JF100J	10	1/16W Metal Oxide	AA
R263	VRS-CY1JF392J	3.9k	1/16W Metal Oxide	AA	R528	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R264	VRS-CY1JF392J	3.9k	1/16W Metal Oxide	AA	R529	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R265	VRS-CY1JF391J	390	1/16W Metal Oxide	AA	R530	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R266	VRS-CY1JF391J	390	1/16W Metal Oxide	AA	R531	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R267	VRS-CY1JF391J	390	1/16W Metal Oxide	AA	R535	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R278	VRS-CY1JF332J	3.3k	1/16W Metal Oxide	AA	R548	VRS-CY1JF220J	22	1/16W Metal Oxide	AA
R292	VRS-CY1JF000J	0	1/16W Metal Oxide	AA	R550	VRS-CY1JF820J	82	1/16W Metal Oxide	AA
R302	VRS-CY1JF222J	2.2k	1/16W Metal Oxide	AA	R551	VRS-CY1JF820J	82	1/16W Metal Oxide	AA
R303	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R562	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R304	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	R563	VRS-CY1JF151J	150	1/16W Metal Oxide	AA
R307	VRS-TW2ED470J	47	1/4W Metal Oxide	AA	R564	VRS-CY1JF151J	150	1/16W Metal Oxide	AA
R308	VRS-TW2ED470J	47	1/4W Metal Oxide	AA	R565	VRS-CY1JF151J	150	1/16W Metal Oxide	AA
R309	VRS-CY1JF562J	5.6k	1/16W Metal Oxide	AA	R566	VRS-CY1JF151J	150	1/16W Metal Oxide	AA
R310	VRS-CY1JF562J	5.6k	1/16W Metal Oxide	AA	R567	VRS-CY1JF151J	150	1/16W Metal Oxide	AA
R311	VRS-CY1JF562J	5.6k	1/16W Metal Oxide	AA	R568	VRS-CY1JF151J	150	1/16W Metal Oxide	AA
R312	VRS-CY1JF471J	470	1/16W Metal Oxide	AA	R569	VRS-CY1JF151J	150	1/16W Metal Oxide	AA
R314	VRS-CY1JF104J	100k	1/16W Metal Oxide	AA	R590	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R315	VRS-CY1JF393J	39k	1/16W Metal Oxide	AA	R592	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R316	VRS-CY1JF393J	39k	1/16W Metal Oxide	AA	R593	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R317	VRS-CY1JF393J	39k	1/16W Metal Oxide	AA	R595	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R318	VRS-CY1JF104J	100k	1/16W Metal Oxide	AA	R596	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R319	VRS-CY1JF393J	39k	1/16W Metal Oxide	AA	R597	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R329	VRS-CY1JF123J	12k	1/16W Metal Oxide	AA	R603	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R330	VRS-CY1JF822J	8.2k	1/16W Metal Oxide	AA	R630	VRS-CY1JF000J	0	1/16W Metal Oxide	AA
R331	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R632	VRS-CY1JF000J	0	1/16W Metal Oxide	AA
R332	VRS-CY1JF391J	390	1/16W Metal Oxide	AA	R634	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R341	VRS-CY1JF000J	0	1/16W Metal Oxide	AA	R635	VRS-CY1JF000J	0	1/16W Metal Oxide	AA
R342	VRS-CY1JF000J	0	1/16W Metal Oxide	AA	R636	VRS-CY1JF271J	270	1/16W Metal Oxide	AA
R350	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R638	VRS-CY1JF220J	22	1/16W Metal Oxide	AA
R352	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R641	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R353	VRS-CY1JF151J	150	1/16W Metal Oxide	AA	R642	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R366	VRS-CY1JF000J	0	1/16W Metal Oxide	AA	R643	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R369	VRS-CY1JF335J	3.3M	1/16W Metal Oxide	AA	R644	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R401	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R645	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R402	VRS-CY1JF562J	5.6k	1/16W Metal Oxide	AA	R647	VRS-CY1JF221J	220	1/16W Metal Oxide	AA
R403	VRS-CY1JF103F	10k	1/16W Metal Oxide	AA	R648	VRS-CY1JF221J	220	1/16W Metal Oxide	AA
R404	VRS-CY1JF153F	15k	1/16W Metal Oxide	AA	R649	VRS-CY1JF391J	390	1/16W Metal Oxide	AA
R405	VRS-CY1JF471J	470	1/16W Metal Oxide	AA	R650	VRS-CY1JF221J	220	1/16W Metal Oxide	AA
R406	VRS-CY1JF471J	470	1/16W Metal Oxide	AA	R651	VRS-CY1JF221J	220	1/16W Metal Oxide	AA
R409	VRS-CY1JF562J	5.6k	1/16W Metal Oxide	AA	R652	VRS-CY1JF221J	220	1/16W Metal Oxide	AA
R417	VRS-CY1JF224J	220k	1/16W Metal Oxide	AA	R653	VRS-CY1JF564J	560k	1/16W Metal Oxide	AA
R418	VRS-CY1JF274J	270k	1/16W Metal Oxide	AA	R654	VRS-CY1JF101J	100	1/16W Metal Oxide	AA
R422	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R657	VRS-CY1JF000J	0	1/16W Metal Oxide	AA
R423	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R658	VRS-TV1JD270J	27	1/16W Metal Oxide	AA
R424	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R670	VRS-CY1JF220J	22	1/16W Metal Oxide	AA
R426	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R717	VRS-CY1JF101J	100	1/16W Metal Oxide	AA
R428	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R718	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R440	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R722	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R441	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R725	VRS-CY1JF222J	2.2k	1/16W Metal Oxide	AA
R501	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R728	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R502	VRS-CY1JF100J	10	1/16W Metal Oxide	AA	R729	VRS-CY1JF273J	27k	1/16W Metal Oxide	AA
R503	VRS-CY1JF100J	10	1/16W Metal Oxide	AA	R733	VRS-CY1JF222J	2.2k	1/16W Metal Oxide	AA
R504	VRS-CY1JF332J	3.3k	1/16W Metal Oxide	AA	R734	VRS-CY1JF101J	100	1/16W Metal Oxide	AA
R505	VRS-CY1JF332J	3.3k	1/16W Metal Oxide	AA	R735	VRS-CY1JF101J	100	1/16W Metal Oxide	AA
R506	VRS-CY1JF332J	3.3k	1/16W Metal Oxide	AA	R737	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R507	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R738	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R509	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R740	VRS-CY1JF473J	47k	1/16W Metal Oxide	AA
R511	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R744	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R512	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R756	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R513	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R758	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R514	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R761	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R517	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R768	VRS-CY1JF331J	330	1/16W Metal Oxide	AA
					R769	VRS-CY1JF331J	330	1/16W Metal Oxide	AA
					R771	VRS-CY1JF123J	12k	1/16W Metal Oxide	AA
					R772	VRS-CY1JF123J	12k	1/16W Metal Oxide	AA

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
DUNTK5734TE6D MAIN PWB UNIT(Continued)									
R774	VRS-CY1JF123J	12k	1/16W Metal Oxide	AA	R6529	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R778	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R6530	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R779	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R6531	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R781	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R6533	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R782	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R6534	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R786	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	R6537	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R789	VRS-CY1JF335J	3.3M	1/16W Metal Oxide	AA	R6540	VRS-CY1JF105J	1M	1/16W Metal Oxide	AA
R790	VRS-CY1JF333J	33k	1/16W Metal Oxide	AA	R6541	VRS-CY1JF681J	680	1/16W Metal Oxide	AA
R791	VRS-CY1JF124J	120k	1/16W Metal Oxide	AA	R6542	VRS-CY1JF000J	0	1/16W Metal Oxide	AA
R795	VRS-CY1JF473J	47k	1/16W Metal Oxide	AA	R6543	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R796	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	R6544	VRS-CY1JF000J	0	1/16W Metal Oxide	AA
R797	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R6551	VRS-CY1JF000J	0	1/16W Metal Oxide	AA
R798	VRS-CY1JF391J	390	1/16W Metal Oxide	AA	R6553	VRS-CY1JF821J	820	1/16W Metal Oxide	AA
R801	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R6555	VRS-CY1JF154J	150k	1/16W Metal Oxide	AA
R802	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R6556	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R803	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R7003	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R804	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R7004	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R805	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R7005	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R806	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R7007	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R808	VRS-CY1JF221J	220	1/16W Metal Oxide	AA	R7042	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R809	VRS-CY1JF221J	220	1/16W Metal Oxide	AA	R7701	VRS-CY1JF224J	220k	1/16W Metal Oxide	AA
R810	VRS-TV1JD8R2J	8.2	1/16W Metal Oxide	AA	R7702	VRS-CY1JF224J	220k	1/16W Metal Oxide	AA
R819	VRS-CY1JF101J	100	1/16W Metal Oxide	AA	R7703	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R820	VRS-CY1JF101J	100	1/16W Metal Oxide	AA	R7704	VRS-CY1JF000J	0	1/16W Metal Oxide	AA
R821	VRS-CY1JF101J	100	1/16W Metal Oxide	AA	R7705	VRS-CY1JF000J	0	1/16W Metal Oxide	AA
R822	VRS-CY1JF101J	100	1/16W Metal Oxide	AA	R7706	VRS-CY1JF000J	0	1/16W Metal Oxide	AA
R823	VRS-CY1JF101J	100	1/16W Metal Oxide	AA	R7712	VRS-CY1JF222J	2.2k	1/16W Metal Oxide	AA
R825	VRS-CY1JF000J	0	1/16W Metal Oxide	AA	R7714	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R839	VRS-CY1JF560J	56	1/16W Metal Oxide	AA	R7715	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R840	VRS-CY1JF560J	56	1/16W Metal Oxide	AA	R7716	VRS-CY1JF473J	47k	1/16W Metal Oxide	AA
R841	VRS-CY1JF560J	56	1/16W Metal Oxide	AA	R7717	VRS-CY1JF562J	5.6k	1/16W Metal Oxide	AA
R850	VRS-CY1JF100J	10	1/16W Metal Oxide	AA	R7718	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R851	VRS-CY1JF100J	10	1/16W Metal Oxide	AA	R7719	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R852	VRS-CY1JF100J	10	1/16W Metal Oxide	AA	R7720	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R882	VRS-CY1JF100J	10	1/16W Metal Oxide	AA	R7721	VRS-CY1JF101J	100	1/16W Metal Oxide	AA
R883	VRS-CY1JF100J	10	1/16W Metal Oxide	AA	R7722	VRS-CY1JF103F	10k	1/16W Metal Oxide	AA
R884	VRS-CY1JF100J	10	1/16W Metal Oxide	AA	R7723	VRS-CY1JF563F	56k	1/16W Metal Oxide	AA
R891	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	R7724	VRS-CY1JF223J	22k	1/16W Metal Oxide	AA
R892	VRS-CY1JF152J	1.5k	1/16W Metal Oxide	AA	R7728	VRS-CY1JF000J	0	1/16W Metal Oxide	AA
R893	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	R7729	VRS-CY1JF000J	0	1/16W Metal Oxide	AA
R894	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	R7730	VRS-CY1JF000J	0	1/16W Metal Oxide	AA
R895	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	R7732	VRS-CY1JF000J	0	1/16W Metal Oxide	AA
R897	VRS-CY1JF824J	820k	1/16W Metal Oxide	AA					
R898	VRS-CY1JF824J	820k	1/16W Metal Oxide	AA	MISCELLANEOUS PARTS				
R2001	VRS-CY1JF000J	0	1/16W Metal Oxide	AA	CN201	QPLGN1264TAZZ		Plug, 12Pin	AE
R2002	VRS-CY1JF000J	0	1/16W Metal Oxide	AA	CN301	QSOCN2086TAZZ		Socket, 20Pin	AD
R2003	VRS-CY1JF000J	0	1/16W Metal Oxide	AA	CN702	QSOCN1136TAZZ		Socket, 11Pin	AD
R6501	VRS-CY1JF750J	75	1/16W Metal Oxide	AA	CN801	QSOCN2936TAZZ		Socket, 29Pin	AF
R6502	VRS-CY1JF563J	56k	1/16W Metal Oxide	AA	CN802	QSOCN1436TAZZ		Socket, 14Pin	AE
R6503	VRS-CY1JF123J	12k	1/16W Metal Oxide	AA	CN803	QSOCN1536TAZZ		Socket, 15Pin	AE
R6504	VRS-CY1JF123J	12k	1/16W Metal Oxide	AA	CN804	QPLGN0364TAZZ		Plug, 3Pin	AC
R6505	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	FB201	RBLN-0052TAZZ		Balun, BLN-0052TA	AC
R6506	VRS-CY1JF391J	390	1/16W Metal Oxide	AA	FB301	RBLN-0052TAZZ		Balun, BLN-0052TA	AC
R6507	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	FB501	RBLN-0052TAZZ		Balun, BLN-0052TA	AC
R6508	VRS-CY1JF391J	390	1/16W Metal Oxide	AA	FB601	RBLN-0052TAZZ		Balun, BLN-0052TA	AC
R6509	VRS-CY1JF151J	150	1/16W Metal Oxide	AA	FB603	RBLN-0052TAZZ		Balun, BLN-0052TA	AC
R6511	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	FB801	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
R6512	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	FB802	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
R6513	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	FB804	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
R6514	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	FB805	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
R6515	VRS-CY1JF270J	27	1/16W Metal Oxide	AA	FB806	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
R6517	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	FB811	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
R6518	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	FB812	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
R6520	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	FB813	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
R6521	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	FB814	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
R6522	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	FB815	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
R6523	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	FB816	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
R6524	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	FB817	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
R6525	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	FB818	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
R6526	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	FB819	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
R6527	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	FB820	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
R6528	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	FB821	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
					FB822	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
					FB824	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
					FB825	RBLN-0056TAZZ		Balun, BLN-0056TA	AC
					FB6501	RBLN-0052TAZZ		Balun, BLN-0052TA	AC

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
DUNTK5734TE6D MAIN PWB UNIT(Continued)									
FB6502	RBLN-0052TAZZ		Balun, BLN-0052TA	AC	D9035	VHD1SS119//-1		1SS119	AB
TP330	QLPGLN0864TAZZ		Plug, 8Pin	AD	D9036	VHD1SS119//-1		1SS119	AB
DUNTK5805TEV3 TERMINAL PWB UNIT									
INTEGRATED CIRCUITS									
IC2002	VHiNJM2268M-1		NJM2268M, S-Yc Driver	AF	D9037	VHD1SS119//-1		1SS119	AB
IC2003	VHiNJM2268M-1		NJM2268M	AF	D9038	VHD1SS119//-1		1SS119	AB
IC2004	VHiNJM2268M-1		NJM2268M, Cr/Y Drive	AF	D9039	VHD1SS119//-1		1SS119	AB
IC2007	RH-iX1531CEZZ		IX1531CE, Signal SW	AF	D9040	VHD1SS244//-1		1SS244	AB
IC2102	VHiTC4W53F/-1		TC4W53F, Cb/V Drive	AE	D9041	VHiKiA431//-1		KiA431	AE
IC6001	VHiNJM4560M-1		NJM4560M, Audio Amp	AG	D9042	VHD1SS119//-1		1SS119	AB
IC6002	VHiNJM2060M-1		NJM2060M, Audio Amp	AE	D9043	VHD1SS119//-1		1SS119	AB
IC8201	RH-iX1610GEZZ		IX1610GE, Sub CPU	AL	D9044	VHD1SS119//-1		1SS119	AB
IC8202	VHiPST600IM-1		PST600IM, Reset IC	AE	D9045	VHD1SS119//-1		1SS119	AB
IC9001	VHiT78DL09S-1		T78DL09S, 9V REG	AG	D9046	VHD1SS119//-1		1SS119	AB
IC9002	VHiKA7808PI-1		KIA7808PI, 8V REG	AF	P2101	VHPGP1F32T/-1		PhotoDiode	AK
IC9003	VHiPQ30RV11-1		PQ30RV11, 3.3V REG	AF	FILTERS				
IC9004	VHiPQ30RV11-1		PQ30RV11, 2.5V REG	AF	FL2101	RFILN0044GEZZ		Filter, FiLN0044GE	AB
					FL8201	RFiLC0202GEZZ		Filter, FiLC0202GE	AD
TRANSISTORS					COILS AND TRANSFORMER				
Q2101	VS2SD601A//-1		2SD601A	AC	L2001	VP-MK100K0000		Peaking, 10μH	AB
Q6001	VS2SD1306-E1E		2SD1306-E	AD	L2002	VP-DF100K0000		Peaking, 10μH	AB
Q6002	VS2SD1306-E1E		2SD1306-E	AD	L9001	RCiLP0146GEZZ		Coil, CiLP0146GE	AC
Q6003	VS2SD1306-E1E		2SD1306-E	AD	L9002	RCiLP0147GEZZ		Coil, CiLP0147GE	AC
Q6004	VS2SD1306-E1E		2SD1306-E	AD	L9003	RCiLF0009AJZZ		Coil, CiLF0009AJ	AK
Q6005	VS2SD1306-E1E		2SD1306-E	AD	T9001	RTRNZ0079GEZZ		Transformer	AN
Q6006	VS2SD1306-E1E		2SD1306-E	AD	CAPACITORS				
Q6007	VS2SB709A//-1		2SB709A	AA	C2009	VCKYCY1EB103K	0.01	25V Ceramic	AA
Q6008	VSUN2111///-1		UN2111	AA	C2010	VCKYCY1EB103K	0.01	25V Ceramic	AA
Q8202	VSUN2213///-1		UN2213	AA	C2011	VCEAEM0JW107M	100	6.3V Electrolytic	AB
Q9007	VS2SK2943//-1		2SK2943	AL	C2012	VCKYCY1EB103K	0.01	25V Ceramic	AA
Q9010	VS2SD2144S/-1		2SD2144S	AC	C2013	VCEAEM1HW225M	2.2	50V Electrolytic	AB
Q9020	VSUN2112///-1		UN2112	AA	C2014	VCEAEM1CW226M	22	16V Electrolytic	AB
Q9021	VS2SD601A//-1		2SD601A	AC	C2015	VCEA2A0JW477M	470	6.3V Electrolytic	AB
Q9023	VS2SB1117KU1E		2SB1117KU	AE	C2016	VCKYCY1EB103K	0.01	25V Ceramic	AA
Q9025	VS2SD601A//-1		2SD601A	AC	C2017	VCKYD41CY103N	0.01	16V Ceramic	AA
Q9026	VS2SC3203Y/-1		2SC3203Y	AB	C2018	VCKYCY1EB103K	0.01	25V Ceramic	AA
Q9027	VS2SB1117KU1E		2SB1117KU	AE	C2019	VCEAEA1HW225M	2.2	50V Electrolytic	AB
Q9028	VSUN2211///-1		UN2211	AA	C2020	VCEAEA1HW225M	2.2	50V Electrolytic	AB
DIODES					C2021	VCEAEA1HW225M	2.2	50V Electrolytic	AB
D2002	VHDDAN202K/-1		DAN202K	AB	C2022	VCEAEA1HW225M	2.2	50V Electrolytic	AB
D2003	VHDDAP202K/-1		DAP202K	AB	C2023	VCEAEA1CW226M	22	16V Electrolytic	AB
D2004	VHDDAN202K/-1		DAN202K	AB	C2024	VCEAEM1CW226M	22	16V Electrolytic	AB
D2005	VHDDAP202K/-1		DAP202K	AB	C2025	VCEA2A0JW477M	470	6.3V Electrolytic	AB
D2006	VHDDAN202K/-1		DAN202K	AB	C2026	VCEA2A0JW477M	470	6.3V Electrolytic	AB
D2007	VHDDAP202K/-1		DAP202K	AB	C2027	VCEAEM0JW107M	100	6.3V Electrolytic	AB
D2101	RH-EX0609GEZZ		Zener, EX0609GE	AA	C2028	VCEAEM0JW107M	100	6.3V Electrolytic	AB
D6001	VHD1SS119//-1		1SS119	AB	C2029	VCEAEM0JW107M	100	6.3V Electrolytic	AB
D6002	VHD1SS119//-1		1SS119	AB	C2031	VCKYCY1EB103K	0.01	25V Ceramic	AA
D8201	VHD1SS119//-1		1SS119	AB	C2032	VCKYCY1EB103K	0.01	25V Ceramic	AA
D8202	VHD1SS119//-1		1SS119	AB	C2040	VCKYCY1EB103K	0.01	25V Ceramic	AA
D9005	VHD15DF1FC/1E		15DF1FC	AD	C2041	VCKYCY1EB103K	0.01	25V Ceramic	AA
D9006	VHD1SS244//-1		1SS244	AB	C2042	VCKYCY1EB103K	0.01	25V Ceramic	AA
D9007	VHD31DQ04FC1E		31DQ04FC	AC	C2043	VCKYCY1EB103K	0.01	25V Ceramic	AA
D9008	VHD10ELS4//-1		10ELS4	AD	C2044	VCEAGA0JW107M	100	6.3V Electrolytic	AB
D9012	RH-DX0220CEZZ		DX0220CE	AB	C2101	VCKYCY1EB103K	0.01	25V Ceramic	AA
D9013	RH-DX0321CEZZ		DX0321CE	AC	C2102	VCKYCY1EB103K	0.01	25V Ceramic	AA
D9016	RH-DX0083GEZZ		DX0083GE	AC	C2103	VCEAEM1CW106M	10	16V Electrolytic	AB
D9020	RH-FX0008GEZZ		FX0008GE	AE	C2104	VCKYCY1EB103K	0.01	25V Ceramic	AA
D9023	RH-EX0645GEZZ		Zener, EX0645GE	AB	C2105	VCEAEM1AW107M	100	10V Electrolytic	AB
D9025	RH-EX0807GEZZ		Zener, EX0807GE	AC	C2106	VCKYCY1EB103K	0.01	25V Ceramic	AA
D9030	VHD1SS119//-1		1SS119	AB	C2107	VCKYCY1CB104K	0.1	16V Ceramic	AB
D9031	VHD1SS119//-1		1SS119	AB	C6001	VCEAEM1CW106M	10	16V Electrolytic	AB
D9032	VHD1SS119//-1		1SS119	AB	C6002	VCEAEM1CW106M	10	16V Electrolytic	AB
D9033	VHD1SS119//-1		1SS119	AB	C6003	VCEAEM1CW106M	10	16V Electrolytic	AB
D9034	VHD1SS119//-1		1SS119	AB	C6004	VCEAEM1CW106M	10	16V Electrolytic	AB
					C6005	VCEAEM1CW106M	10	16V Electrolytic	AB
					C6006	VCEAEM0JW107M	100	6.3V Electrolytic	AB
					C6007	VCEAEM1CW106M	10	16V Electrolytic	AB
					C6008	VCEAEM1CW106M	10	16V Electrolytic	AB
					C6009	VCEAEM1CW106M	10	16V Electrolytic	AB
					C6010	VCEAEM1CW106M	10	16V Electrolytic	AB
					C6011	VCEAEM1CW106M	10	16V Electrolytic	AB
					C6012	VCEAEM1CW106M	10	16V Electrolytic	AB

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
DUNTK5805TEV3 TERMINAL PWB UNIT(Continued)									
C6013	VCEAEM0JW107M	100	6.3V Electrolytic	AB	R2105	VRD-RA2BE273J	27k	1/8W Carbon	AA
C6014	RC-KZ0161GEZZ	3900p		AB	R2106	VRD-RM2HD101J	100	1/2W Carbon	AA
C6015	RC-KZ0161GEZZ	3900p		AB	R2107	VRS-CY1JF000J	0	1/16W Metal Oxide	AA
C6016	RC-KZ0161GEZZ	3900p		AB	R2108	VRS-CY1JF272J	2.7k	1/16W Metal Oxide	AA
C6017	RC-KZ0161GEZZ	3900p		AB	R6001	VRS-CY1JF183J	18k	1/16W Metal Oxide	AA
C6018	RC-KZ0161GEZZ	3900p		AB	R6002	VRS-CY1JF474J	470k	1/16W Metal Oxide	AA
C6019	RC-KZ0161GEZZ	3900p		AB	R6003	VRS-CY1JF474J	470k	1/16W Metal Oxide	AA
C6020	VCEA2A1AW227M	220	10V Electrolytic	AB	R6004	VRS-CY1JF183J	18k	1/16W Metal Oxide	AA
C6021	VCEA2A0JW477M	470	6.3V Electrolytic	AB	R6005	VRS-CY1JF183J	18k	1/16W Metal Oxide	AA
C8201	VCEAEM1HW105M	1	50V Electrolytic	AB	R6006	VRS-CY1JF183J	18k	1/16W Metal Oxide	AA
C8202	VCKYCY1HF103Z	0.01	50V Ceramic	AA	R6007	VRS-CY1JF474J	470k	1/16W Metal Oxide	AA
C8203	VCKYCY1HF103Z	0.01	50V Ceramic	AA	R6008	VRS-CY1JF474J	470k	1/16W Metal Oxide	AA
C8204	VCKYCY1HF103Z	0.01	50V Ceramic	AA	R6009	VRS-CY1JF474J	470k	1/16W Metal Oxide	AA
C8205	VCEAEM0JW476M	47	6.3V Electrolytic	AB	R6010	VRS-CY1JF153J	15k	1/16W Metal Oxide	AA
C8208	VCKYCY1HF103Z	0.01	50V Ceramic	AA	R6011	VRS-CY1JF474J	470k	1/16W Metal Oxide	AA
C8209	VCKYCY1HB102K	1000p	50V Ceramic	AA	R6012	VRS-CY1JF183J	18k	1/16W Metal Oxide	AA
C9001	VCEAEM1AW107M	100	10V Electrolytic	AB	R6013	VRS-CY1JF183J	18k	1/16W Metal Oxide	AA
C9002	VCEAEM0JW107M	100	6.3V Electrolytic	AB	R6014	VRS-CY1JF183J	18k	1/16W Metal Oxide	AA
C9007	VCEAEM1CW476M	47	16V Electrolytic	AB	R6015	VRS-CY1JF153J	15k	1/16W Metal Oxide	AA
C9008	RC-EZ0476GEZZ	100	16V Electrolytic	AD	R6016	VRS-CY1JF183J	18k	1/16W Metal Oxide	AA
C9012	RC-EZ0477GEZZ	330	16V Electrolytic	AD	R6017	VRS-CY1JF183J	18k	1/16W Metal Oxide	AA
C9013	VCEA2A0JW108M	1000	6.3V Electrolytic	AB	R6018	VRS-CY1JF183J	18k	1/16W Metal Oxide	AA
C9014	VCEA0A1AW228M	2200	10V Electrolytic	AD	R6019	VRS-CY1JF821J	820	1/16W Metal Oxide	AA
C9015	RC-EZ0478GEZZ	470	35V Electrolytic	AE	R6020	VRS-CY1JF821J	820	1/16W Metal Oxide	AA
C9016	VCEAEM1HW226M	22	50V Electrolytic	AB	R6021	VRS-CY1JF821J	820	1/16W Metal Oxide	AA
C9017	VCEAEM1CW107M	100	16V Electrolytic	AB	R6022	VRS-CY1JF821J	820	1/16W Metal Oxide	AA
C9018	VCKYCY1HF103Z	0.01	50V Ceramic	AA	R6023	VRS-CY1JF821J	820	1/16W Metal Oxide	AA
C9019	VCEA0A1AW228M	2200	10V Electrolytic	AD	R6024	VRS-CY1JF821J	820	1/16W Metal Oxide	AA
▲ C9021	VCYFZP2GA473K	0.047	400V	AC	R6025	VRS-CY1JF473J	47k	1/16W Metal Oxide	AA
▲ C9022	RC-KZ0031CEZZ	100p	2kV	AC	R6026	VRS-CY1JF473J	47k	1/16W Metal Oxide	AA
▲ C9026	RC-EZ0437GEZZ	68	400V	AK	R6027	VRS-CY1JF223J	22k	1/16W Metal Oxide	AA
▲ C9027	VCQYTA1HM562J	5600p	50V Mylar	AA	R6028	VRS-CY1JF223J	22k	1/16W Metal Oxide	AA
▲ C9029	RC-KZ0105GEZZ	2200p		AD	R6029	VRS-CY1JF223J	22k	1/16W Metal Oxide	AA
▲ C9030	VCKYCY1HB222K	2200p	50V Ceramic	AA	R6030	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
▲ C9031	RC-FZ063SGEZZ	0.1	250V	AE	R6031	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
▲ C9033	RC-KZ0310CEZZ	2200p		AC	R6032	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
▲ C9034	RC-KZ0310CEZZ	2200p		AC	R6033	VRD-RA2BE102J	1k	1/8W Carbon	AA
▲ C9036	RC-FZ063SGEZZ	0.1	250V	AE	R6034	VRS-CY1JF272J	2.7k	1/16W Metal Oxide	AA
C9040	VCEAEM1CW106M	10	16V Electrolytic	AB	R6035	VRS-CY1JF272J	2.7k	1/16W Metal Oxide	AA
C9041	VCKYCY1HF103Z	0.01	50V Ceramic	AA	R6036	VRS-CY1JF272J	2.7k	1/16W Metal Oxide	AA
C9042	VCKYCY1HF103Z	0.01	50V Ceramic	AA	R6037	VRS-CY1JF222J	2.2k	1/16W Metal Oxide	AA
C9043	VCEAEM0JW227M	220	6.3V Electrolytic	AB	R6038	VRS-CY1JF272J	2.7k	1/16W Metal Oxide	AA
C9050	VCKYCY1CF104Z	0.1	16V Ceramic	AA	R6039	VRS-CY1JF272J	2.7k	1/16W Metal Oxide	AA
C9051	VCKYCY1CF104Z	0.1	16V Ceramic	AA	R6040	VRS-CY1JF823J	82k	1/16W Metal Oxide	AA
C9052	VCKYCY1HB472K	4700p	50V Ceramic	AA	R6041	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
C9055	VCEAEM0JW107M	100	6.3V Electrolytic	AB	R6043	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
RESISTORS									
R2004	VRD-RA2BE680J	68	1/8W Carbon	AA	R8201	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R2006	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R8202	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R2010	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R8203	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R2012	VRS-CY1JF750J	75	1/16W Metal Oxide	AA	R8204	VRS-CY1JF473J	47k	1/16W Metal Oxide	AA
R2013	VRS-CY1JF750J	75	1/16W Metal Oxide	AA	R8205	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R2014	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	R8206	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R2015	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R8207	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R2016	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA	R8208	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R2017	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R8209	VRS-CY1JF473J	47k	1/16W Metal Oxide	AA
R2018	VRD-RA2BE102J	1k	1/8W Carbon	AA	R9011	VRS-CY1JF272J	2.7k	1/16W Metal Oxide	AA
R2019	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R9012	VRS-CY1JF152J	1.5k	1/16W Metal Oxide	AA
R2020	VRD-RA2BE102J	1k	1/8W Carbon	AA	R9013	VRS-CY1JF683J	68k	1/16W Metal Oxide	AA
R2021	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA	R9019	VRS-CY1JF000J	0	1/16W Metal Oxide	AA
R2022	VRS-CY1JF750J	75	1/16W Metal Oxide	AA	▲ R9025	VRD-RM2HD331J	330	1/2W Carbon	AA
R2023	VRS-CY1JF750J	75	1/16W Metal Oxide	AA	▲ R9026	VRD-RM2HD105J	1M	1/2W Carbon	AA
R2024	VRS-CY1JF750J	75	1/16W Metal Oxide	AA	▲ R9027	VRD-RM2HD105J	1M	1/2W Carbon	AA
R2025	VRS-CY1JF750J	75	1/16W Metal Oxide	AA	▲ R9028	VRD-RA2EE224J	220k	1/4W Carbon	AA
R2032	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	▲ R9030	VRD-RM2HD331J	330	1/2W Carbon	AA
R2038	VRD-RA2BE101J	100	1/8W Carbon	AB	▲ R9033	RR-WZ0002GEZZ	2.2	2W	AD
R2063	VRS-CY1JF680J	68	1/16W Metal Oxide	AA	▲ R9036	VRC-UA2HG685K	6.8M	1/2W Solid	AA
R2101	VRS-CY1JF151J	150	1/16W Metal Oxide	AA	▲ R9037	VRC-UA2HG685K	6.8M	1/2W Solid	AA
R2102	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	▲ R9039	VRD-RA2EE183J	18k	1/4W Carbon	AA
R2103	VRS-CY1JF681J	680	1/16W Metal Oxide	AA	▲ R9040	VRD-RM2HD105J	1M	1/2W Carbon	AA
R2104	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA	▲ R9042	RR-SZ0006GEZZ	68k	3W	AD
					▲ R9047	VRS-CY1JF000J	0	1/16W Metal Oxide	AA
					R9048	VRS-CY1JF000J	0	1/16W Metal Oxide	AA
					R9052	VRS-CY1JF1R0J	1	1/16W Metal Oxide	AA
					R9060	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
					R9061	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA

Ref. No.	Part No.	★	Description	Code
DUNTK5805TEV3 TERMINAL PWB UNIT(Continued)				
R9062	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R9063	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R9064	VRS-CY1JF471J	470	1/16W Metal Oxide	AA
R9065	VRS-CY1JF473J	47k	1/16W Metal Oxide	AA
R9066	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R9067	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R9068	VRS-CY1JF104J	100k	1/16W Metal Oxide	AA
R9069	VRS-CY1JF333J	33k	1/16W Metal Oxide	AA
R9070	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R9071	VRD-RA2EE821J	820	1/4W Carbon	AA
⚠ R9080	VRN-VV3ABR82J	0.82	1W Metal Film	AA
⚠ R9081	VRD-RA2BE333J	33k	1/8W Carbon	AA
R9082	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R9083	VRS-CY1JF332J	3.3k	1/16W Metal Oxide	AA
R9084	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R9085	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R9086	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R9087	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R9088	VRD-RA2BE101J	100	1/8W Carbon	AB
⚠ R9090	RR-SZ0004GEZZ	100	2W	AB
R9092	VRD-RA2BE222J	2.2k	1/8W Carbon	AA
R9093	VRS-CY1JF222J	2.2k	1/16W Metal Oxide	AA
R9094	VRS-CY1JF473J	47k	1/16W Metal Oxide	AA
R9095	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R9097	VRS-CY1JF333J	33k	1/16W Metal Oxide	AA

MISCELLANEOUS PARTS

CN2001	QSOCN1599REZZ	Socket, 15Pin	AD
CN6001	QSOCN2999REZZ	Socket, 29Pin	AE
CN6002	QPLGN0650CEZZ	Plug, 6Pin	AB
CN6003	QPLGN0378GEZZ	Plug, 3Pin	AB
CN8201	QSOCN1499REZZ	Socket, 14Pin	AD
CN8202	QSOCN1799REZZ	Socket, 17Pin	AD
CN9001	QPLGN1250CEZZ	Plug, 12Pin	AE
⚠ CN9002	QPLGN0269GEZZ	Plug, 2Pin	AB
⚠ FH9001	QFSDH1014CEZZ	Fuse Holder	AC
⚠ FH9002	QFSDH1013CEZZ	Fuse Holder	AC
⚠ F9001	QFS-C2025CEZZ	Fuse, 2A 250V	AD
J2001	QTANJ9109GEZZ	Terminal	AP
J2002	QSOCN0418GEZZ	Socket	AF
W9001	PRDAF3014AJFW	Heat Sink	AE
⚠ W9002	PRDAF5021AJFW	Heat Sink	AE

**DUNTK5806TEV1
DISPLAY PWB UNIT**

INTEGRATED CIRCUIT			
IC5001	VHiMN12510F-1	MN12510F, FL Driver	AM

TRANSISTORS

Q5001	VSUN2211///-1	UN2211	AA
Q5002	VSUN2211///-1	UN2211	AA

DIODES

DG5001	VVK20U56103-1	Display	AY
D5001	RH-EX0721GEZZ	Zener, EX0721GE	AA
D5002	VHD1SS119//-1	1SS119	AB
D5003	VHD1SS119//-1	1SS119	AB
D5004	VHD1SS119//-1	1SS119	AB
D5005	VHD1SS119//-1	1SS119	AB
D5006	VHD1SS119//-1	1SS119	AB
D5007	VHD1SS119//-1	1SS119	AB

FILTER

FL5001	RFILC0198GEZZ	Filter, FILC0198GE	AE
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CAPACITORS

C5001	VCKYCY1HF473Z	0.047 50V Ceramic	AA
C5002	VCKYCY1CF104Z	0.1 16V Ceramic	AA

Ref. No.	Part No.	★	Description	Code
C5003	VCKYCY1HF103Z	0.01	50V Ceramic	AA
C5004	VCEAEM1CW106M	10	16V Electrolytic	AB
C5005	VCKYCY1HF103Z	0.01	50V Ceramic	AA
C5006	VCCCCY1HH330J	33p	50V Ceramic	AA
C5007	VCCCCY1HH330J	33p	50V Ceramic	AA
C5008	VCCCCY1HH330J	33p	50V Ceramic	AA
C5009	VCKYCY1HF473Z	0.047	50V Ceramic	AA

RESISTORS

R5001	VRS-CY1JF333J	33k	1/16W Metal Oxide	AA
R5002	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R5003	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R5004	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R5005	VRS-CY1JF333J	33k	1/16W Metal Oxide	AA
R5006	VRS-CY1JF333J	33k	1/16W Metal Oxide	AA
R5007	VRS-CY1JF333J	33k	1/16W Metal Oxide	AA
R5008	VRS-CY1JF333J	33k	1/16W Metal Oxide	AA
R5009	VRS-CY1JF333J	33k	1/16W Metal Oxide	AA
R5010	VRS-CY1JF333J	33k	1/16W Metal Oxide	AA
R5011	VRS-CY1JF333J	33k	1/16W Metal Oxide	AA
R5012	VRS-CY1JF333J	33k	1/16W Metal Oxide	AA
R5013	VRS-CY1JF333J	33k	1/16W Metal Oxide	AA
R5015	VRS-CY1JF561J	560	1/16W Metal Oxide	AA

MISCELLANEOUS PARTS

CN5001	QSOCN1799REZZ	Socket, 17Pin	AD
CN5002	QSOCN1199REZZ	Socket, 11Pin	AD
CN5003	QSOCN0595REZZ	Socket, 5Pin	AB

**DUNTK5807TEV1
OPERATE PWB UNIT**

RESISTORS

R8101	VRS-CY1JF471J	470	1/16W Metal Oxide	AA
R8102	VRS-CY1JF681J	680	1/16W Metal Oxide	AA
R8103	VRS-CY1JF821J	820	1/16W Metal Oxide	AA
R8104	VRS-CY1JF122J	1.2k	1/16W Metal Oxide	AA

MISCELLANEOUS PARTS

CN8101	QSOCN0595REZZ	Socket, 5Pin	AB
S8101	QSW-K0079GEZZ	Switch, Play	AB
S8102	QSW-K0079GEZZ	Switch, Open/Close	AB
S8103	QSW-K0079GEZZ	Switch, Skip (-)	AB
S8104	QSW-K0079GEZZ	Switch, Skip (+)	AB
S8105	QSW-K0079GEZZ	Switch, Still/Pause	AB
S8106	QSW-K0079GEZZ	Switch, Stop	AB

**DUNTK5808TEV1
H/P AMP PWB UNIT**

INTEGRATED CIRCUIT

IC6602	VHiNJM4560M-1	NJM4560M, H/P Amp	AG
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TRANSISTORS

Q6605	VS2SD1306-E1E	2SD1306-E	AD
Q6606	VS2SD1306-E1E	2SD1306-E	AD

CAPACITORS

C6626	VCEAEM1CW106M	10 16V Electrolytic	AB
C6627	VCEAEM0JW476M	47 6.3V Electrolytic	AB
C6628	VCEAEM0JW476M	47 6.3V Electrolytic	AB
C6629	VCKYCY1HF103Z	0.01 50V Ceramic	AA
C6630	VCEAEM1CW106M	10 16V Electrolytic	AB
C6631	VCEAEM0JW107M	100 6.3V Electrolytic	AB
C6632	VCEAEM1CW106M	10 16V Electrolytic	AB
C6633	VCCCCY1HH101J	100p 50V Ceramic	AA
C6634	VCCCCY1HH101J	100p 50V Ceramic	AA
C6636	VCKYCY1HF103Z	0.01 50V Ceramic	AA

Ref. No.	Part No.	★	Description	Code
DUNTK5808TEV1 H/P AMP PWB UNIT(Continued)				

RESISTORS

R6670	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R6671	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R6672	VRS-CY1JF151J	150	1/16W Metal Oxide	AA
R6673	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R6674	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R6675	VRS-CY1JF151J	150	1/16W Metal Oxide	AA
R6676	VRS-CY1JF472J	4.7k	1/16W Metal Oxide	AA
R6677	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R6678	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R6679	VRS-CY1JF103J	10k	1/16W Metal Oxide	AA
R6682	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA
R6683	VRS-CY1JF102J	1k	1/16W Metal Oxide	AA

MISCELLANEOUS PARTS

CN6601	QSOCN0595REZZ	Socket, 5Pin	AB
CN6604	QPLGN0650CEZZ	Plug, 6Pin	AB
J6603	QJAKE0200GEZZ	Jack	AF

DUNTK5809TEV1
VOLUME PWB UNIT**DIODES**

D8152	RH-PX0282GEZZ	LED, S Picture	AC
D8153	RH-PX0282GEZZ	LED, S Picture	AC
D8154	RH-PX0282GEZZ	LED, Gamma	AC
D8155	RH-PX0282GEZZ	LED, Gamma	AC
D8156	RH-PX0300GEZZ	LED, Standby	AD

CONTROL

R6661	RVR-A4014GEZZ	Variable Resistor	AF
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CAPACITOR

C8151	VCKYCY1HF103Z	0.01 50V Ceramic	AA
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RESISTORS

R8152	VRD-RA2BE221J	220 1/8W Carbon	AA
R8153	VRD-RA2BE221J	220 1/8W Carbon	AA
R8154	VRS-CY1JF101J	100 1/16W Metal Oxide	AA
R8155	VRS-CY1JF681J	680 1/16W Metal Oxide	AA
R8156	VRS-CY1JF471J	470 1/16W Metal Oxide	AA
R8157	VRS-CY1JF681J	680 1/16W Metal Oxide	AA
R8158	VRS-CY1JF821J	820 1/16W Metal Oxide	AA

MISCELLANEOUS PARTS

CN6661	QSOCN1199REZZ	Socket, 11Pin	AD
CN6663	QSOCN0595REZZ	Socket, 5Pin	AB
S8151	QSW-K0079GEZZ	Switch, Power	AB
S8153	QSW-K0079GEZZ	Switch, S Picture	AB
S8154	QSW-K0079GEZZ	Switch, Gamma	AB
W8151	RRMCU0064GEZZ	Remote Receiver	AG

Ref. No.	Part No.	★	Description	Code
OTHER PARTS				

QCNW-8083AJZZ	Connecting Cord, 12 Pin	AH
QCNW-8103AJZZ	CN201-CN9001	AE
QCNW-8104AJZZ	Connecting Cord, 29 Pin	AE
QCNW-8105AJZZ	CN801-CN6001	AF
QCNW-8106AJZZ	Connecting Cord, 17 Pin	AF
QCNW-8107AJZZ	CN5001-CN8202	AE
QCNW-8108AJZZ	Connecting Cord, 14 Pin	AE
QCNW-8110AJZZ	CN802-CN8201	AD
QCNW-8112AJZZ	Connecting Cord, 11 pin	AD
QCNW-8112AJZZ	CN5002-CN6661	AD
QCNW-8112AJZZ	Connecting Cord, 5 Pin	AD
QCNW-8112AJZZ	CN6663-CN6601	AD
QCNW-8112AJZZ	Connecting Cord, 5 Pin	AD
QCNW-8112AJZZ	CN5003-CN8101	AF
QCNW-8112AJZZ	Connecting Cord, 6 Pin	AF
QCNW-8112AJZZ	CN6604-CN6002	AD
QCNW-8112AJZZ	Connecting Cord, 15 Pin	AD
QCNW-8112AJZZ	CN803-CN2001	

SUPPLIED ACCESSORIES

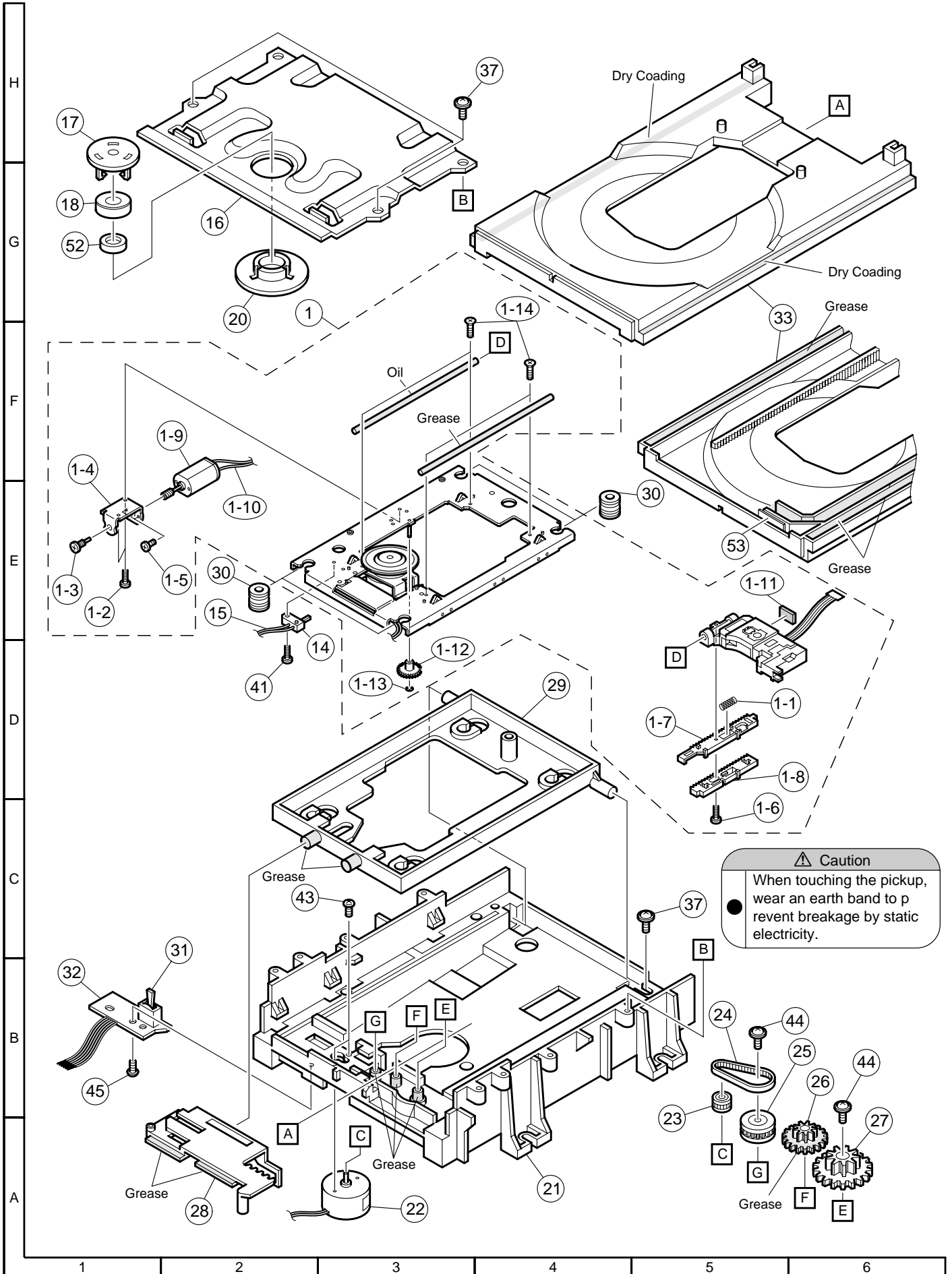
⚠	QACCL3051AJZZ	AC Power Cord	AQ
	RRMCG1203AJSA	Remote Control Unit	AZ
	TiNS-3647AJZZ	Operation Manual	AL
	QCNW-8012AJZZ	S-Video Cord	AM
	QCNW-7581GEZZ	Video/Audio Cord	AM

PACKING PARTS
(NOT REPLACEMENT ITEM)

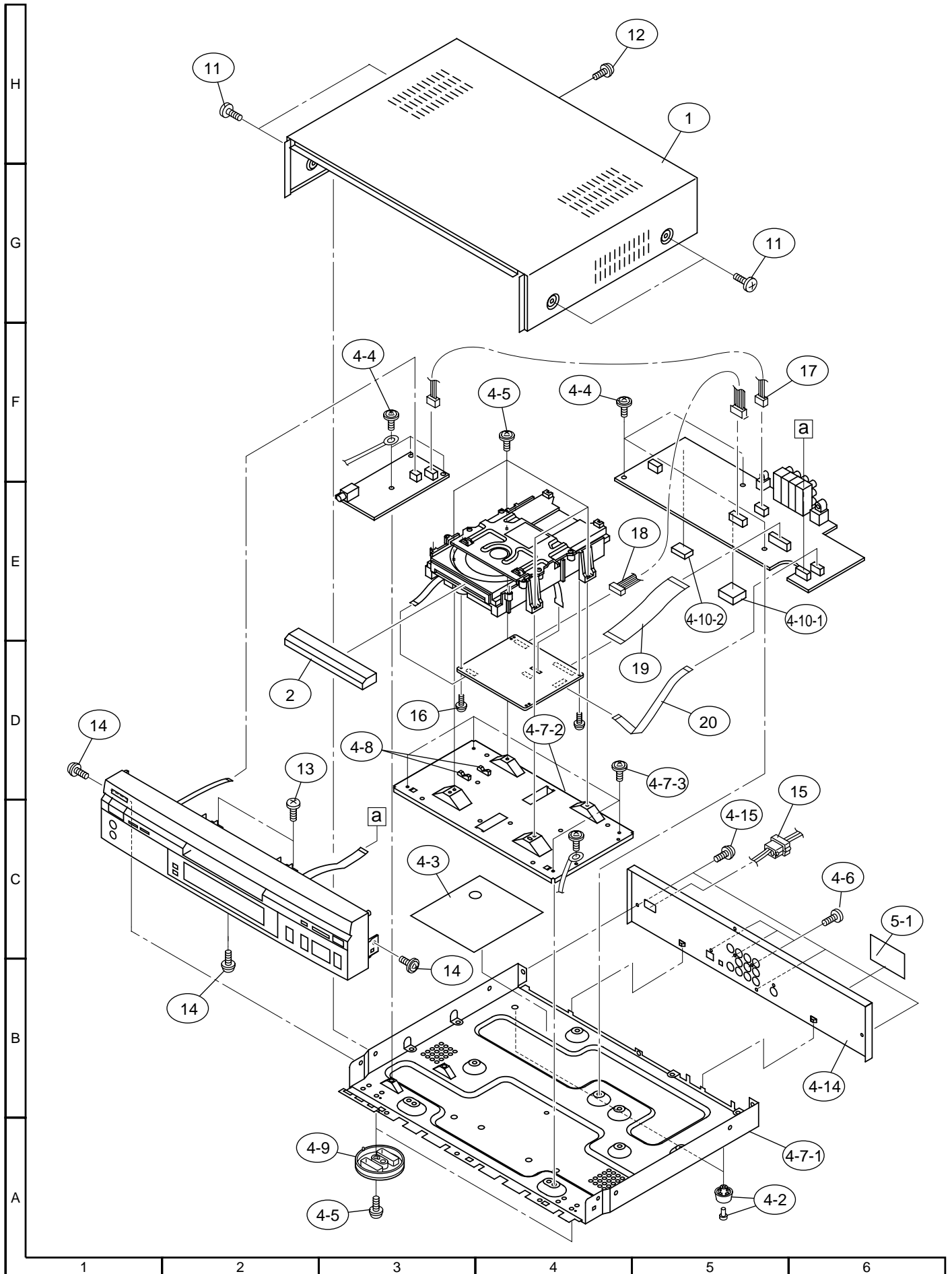
SPAKC4181AJZZ	Packing Case	—
SPAKF0162AJZZ	Packing Meterial	—
SPAKF0164AJZZ	Air-Cap	—
SPAKP0187AJZZ	For Set Polyethylene Sack	—
SPAKX1059AJZZ	Packing Add	—
SSAKA0001AJZZ	Polyethylene Bag,	—
	Accessories	—
SSAKA0158AJZZ	Polyethylene Bag	—

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
MECHANISM PARTS					CABINET PARTS LIST				
1	CCHSS0164GE02		Chassis Ass'y	BU	1	CCABA3140TEV2		Top Cabinet	AX
1-1	MSPRC0216GEZZ		Rack Spring	AB	2	HDECQ2093AJSA		Tray DEC Plate	AK
1-2	LX-BZ3163GEFN		Screw(M1.7+2.5S)	AC	4-2	GLEGP9135AJZZ		Rear Foot	AD
1-3	LX-BZ1003GEZZ		Thrust Holding Screw	AC	4-3	PSHEP0011AJZZ		Sheet	AK
1-4	LANGT9174GEFW		Sled Motor Angle	AD	4-4	LX-HZ3099GEFD		Screw	AB
1-5	LX-BZ3185GEFN		Screw(M1.4+2.5S)	AB	4-5	XHPSF30P10WS0		Screw	AA
1-6	LX-BZ3192GEZZ		Screw(M1.4+3.5S)	AA	4-6	LX-HZ3100GEFF		Screw	AA
1-7	NGERR1009GEZZ		Rack	AD	4-7-1	GBDYU3109AJFW		Chassis	AU
1-8	NGERR1010GEZZ		Double-acting Rack	AC	4-7-2	LANGF9646AJFW		Mecha Angle	AF
1-9	CMOTV1022GE03		Sled Motor	AP	4-7-3	XHPSF30P06WS0		Screw	AA
1-10	QCNW-7914GEZZ		Sled Motor Read Wire	AC	4-8	LHLDW1072GEZZ		WH	AA
1-11	PCUSU0001GEZZ		Sled Cushion	AB	4-9	CLEGP9133TEV1		F-Foot Ass'y	AK
1-12	NGERP1003GEZZ		Sled Pinion	AC	4-10-1	PSPAZ0353AJZZ		PWB Spacer	AC
1-13	LX-WZ1076GE02		Washer	AA	4-10-2	PSPAZ0478AJZZ		PWB Spacer	AA
1-14	LX-BZ3189GEZZ		Guide Axis Pressing Biss	AB	4-14	GCOVA3047AJZZ		Rear Plate	AQ
14	QSW-M0045GEZZ		In Switch	AD	4-15	XHPSF30P06WS0		Screw	AA
15	QCNW-7936GEZZ		In Switch Read Wire	AD	5-1	TLABM4122AJZZ		Model Label	AC
16	LANGG9105GEZZ		Clamper Angle	AF	11	LX-HZ3096GEZZ		Screw	AB
17	LHLDM1001GEZZ		Clamper Hunger	AC	12	XHPSD30P06WS0		Screw	AA
18	LX-WZ0102GEFD		Yoke Plate	AB	13	XEBSF30P08000		Screw	AA
20	LCRA-0001GEZZ		Disc Clamper	AC	14	XHPSF30P06WS0		Screw	AA
21	LHLDZ2051GEZZ		Base Chassis	AM	15	LHLDK1012AJZZ		Holder	AC
22	RMOTM1077GEZZ		Loading Motor	AL	16	XEPSD26P08000		Screw	AA
23	NPLYD0001GEZZ		L Motor Pulley	AD	17	QCNW-8110AJZZ		Connector	AF
24	NBLTT0012GEZZ		Timing Belt S	AE	18	QCNW-8083AJZZ		Connector	AH
25	NGERH1291GEZZ		Idler Gear 1	AD	19	QCNW-8103AJZZ		FFC	AE
26	NGERH1292GEZZ		Idler Gear 2	AC	20	QCNW-8105AJZZ		FFC	AE
27	NGERP1001GEZZ		Tray Pinion	AC					
28	MSLiP0009GEZZ		Slide Rack	AF					
29	LCHSS0046GEZZ		Moving Chassis	AG					
30	PCUSG0001GEZZ		Insulator	AC					
31	QSW-B0007GEZZ		Loading Switch	AD					
32	CPWBF5437GE01		L Idler PWB Ass'y	AH					
33	GCOVA2120GESB		Tray	AH					
37	LX-BZ3186GEZZ		Screw(M2.6+8S P TAI)	AB					
41	XAPSF20P06000		Screw(M2+6S)	AA					
43	LX-BZ3163GEFN		Screw(M1.7+2.5S)	AC					
44	LX-HZ3037GEFD		Screw(M2.6S P TAI)	AA					
45	XEPSD26P06000		Screw(M2.6+6S P TAI)	AA					
52	PMAGS1001GEZZ		Clamper Magnet	AF					
53	PCUSU0002GEZZ		Tray Cussion	AC					
					FRONT PANEL PARTS LIST				
					3-1	JKNBK1128AJSA		VR Knob	AG
					3-2	XEPSD26P08000		Screw	AA
					3-3	CPNLC2670TEV1		KS Front Panel	BA
					3-3-2	JBTN-3004AJSA		Operate Button	AG
					3-3-3	JBTN-2996AJSA		Gamma Button	AD
					3-3-4	PSPAZ0551AJZZ		Spacer	AC
					3-3-5	HDECQ2075AJSA		Window DEC	AH
					3-3-6	HiNDP2110AJSA		Window IND-P	AG
					3-3-7	HDECQ2079AJZZ		R/C DEC	AC
					3-3-8	HDECQ2094AJZZ		Standby LED DEC	AC
					3-3-9	JBTN-2997AJSA		Mode Button	AG
					3-3-10	HBDGB3032AJSC		SHARP Badge	AL
					3-3-11	HBDGS9000AJSA		DVD Badge	AG
					3-3-12	PSPAZ0549AJZZ		Display Spacer	AB
					3-3-13	LHLDP1089AJ00		LED Holder	AC
					3-4	QCNW-8104AJZZ		FFC	AF
					3-5	QCNW-8106AJZZ		FFC	AD
					3-6	QCNW-8107AJZZ		FFC	AD
					3-7	QCNW-8108AJZZ		FFC	AD

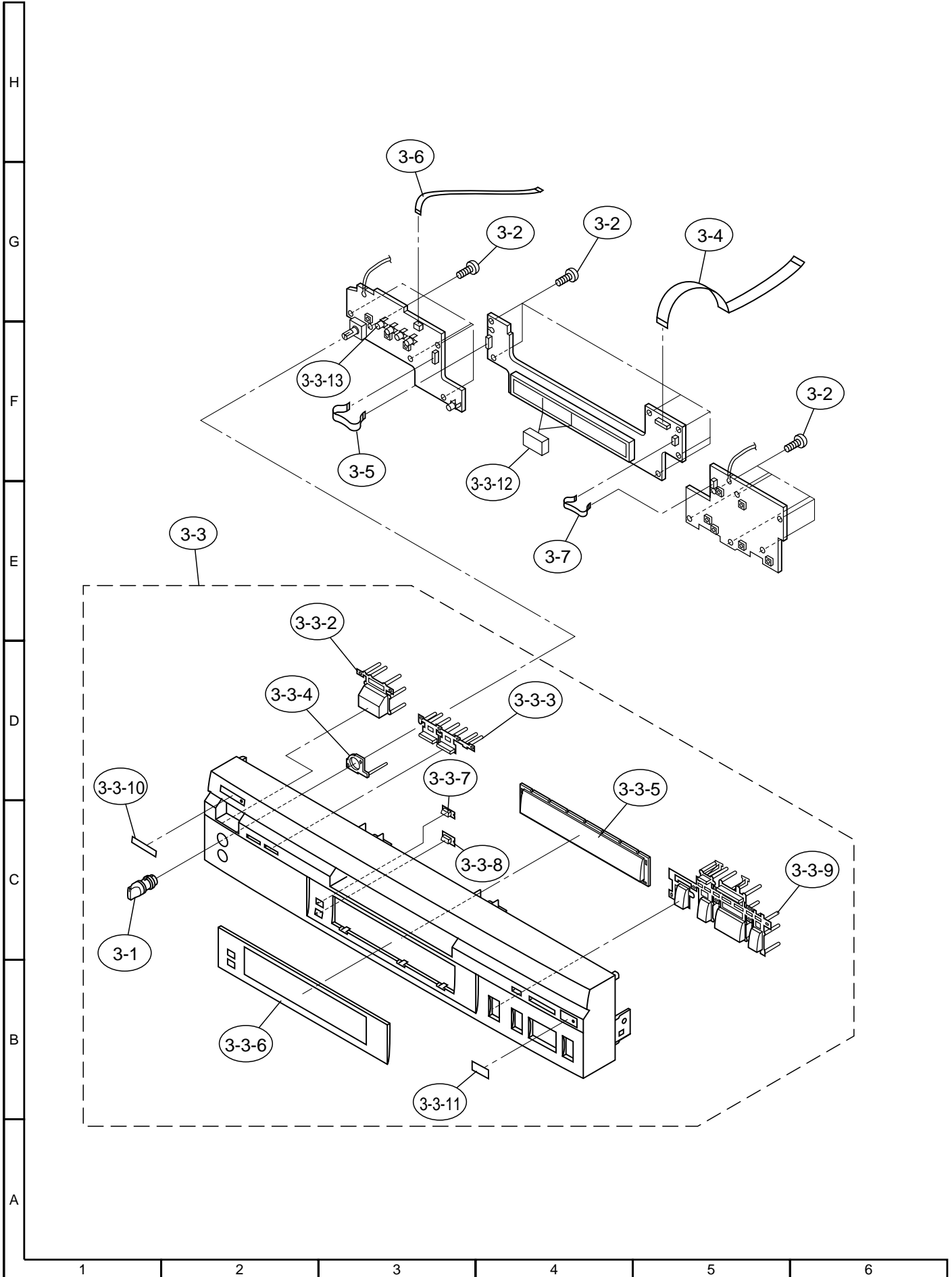
MECHANISM EXPLODED VIEW



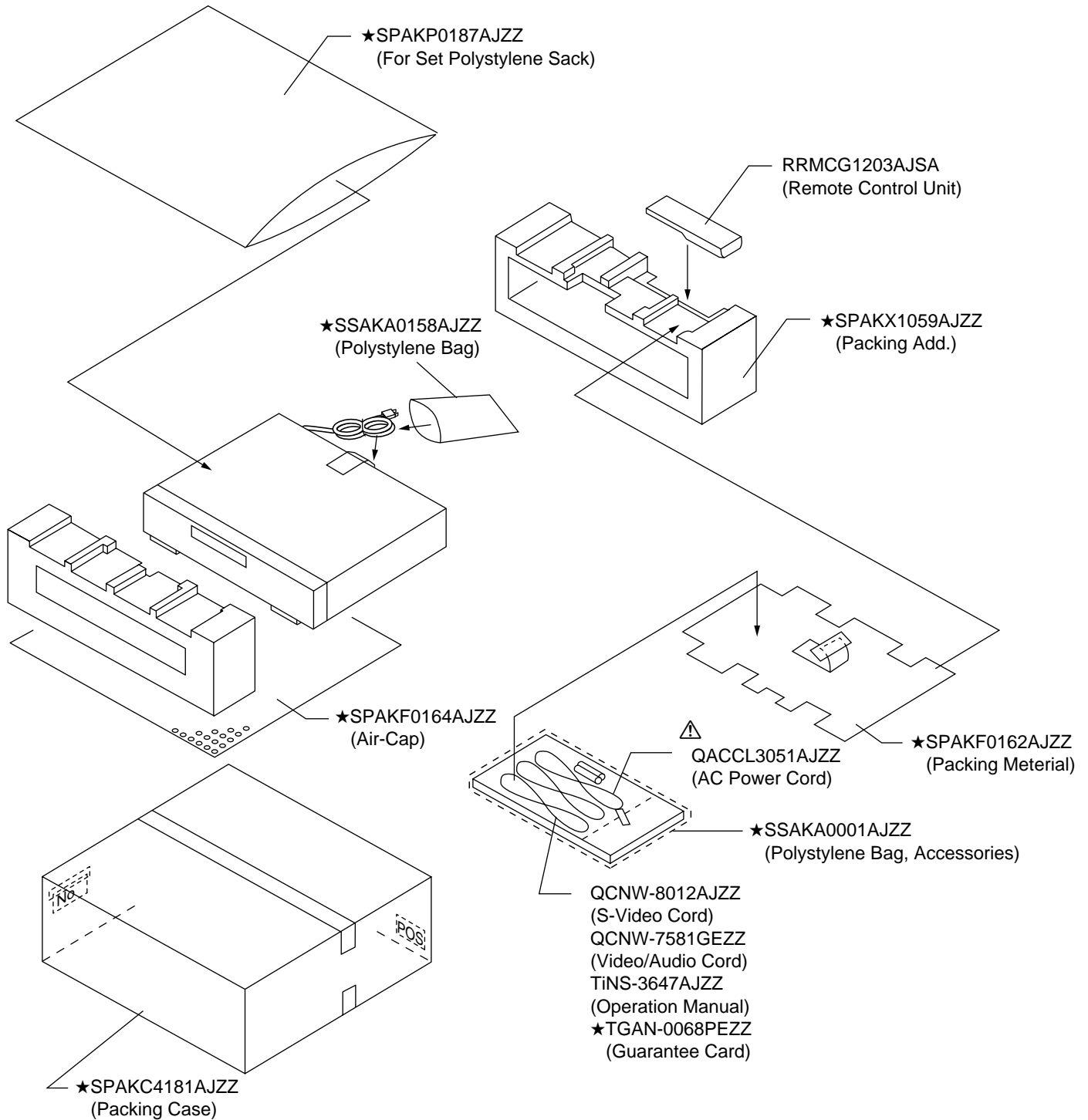
CABINET EXPLODED VIEW



FRONT PANEL PARTS EXPLODED VIEW



18. PACKING OF THE SET



★ Not Replacement Items

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