

HCD-GN88D

SERVICE MANUAL

Ver 1.3 2004.06

*E Model
Australian Model*



HCD-GN88D is the amplifier, DVD player, tape deck and tuner section in MHC-GN88D.

DVD Section	Model Name Using Similar Mechanism	NEW
	DVD Mechanism Type	CDM74D-DVBU23
	Base Unit Name	DVBU23
	Optical Pick-up Name	TDP022W
TAPE Section	Model Name Using Similar Mechanism	HCD-GN800
	Tape Transport Mechanism Type	CWM43RR23

SPECIFICATIONS

Amplifier section

The following are measured at AC 120, 127, 220, 240V 50/60 Hz

DIN power output (rated)

Front speaker:	185 + 185 watts (6 ohms at 1 kHz, DIN)
Center speaker:	50 watts (8 ohms at 1 kHz, DIN)
Surround speaker:	50 + 50 watts (8 ohms at 1 kHz, DIN)

Continuous RMS power output (reference)

Front speaker:	235 + 235 watts (6 ohms at 1 kHz, 10% THD)
Center speaker:	70 watts (8 ohms at 1 kHz, 10% THD)
Surround speaker:	70 + 70 watts (8 ohms at 1 kHz, 10% THD)

Inputs

GAME (VIDEO): (phono jack)	1 Vp-p, 75 ohms
GAME (AUDIO): (phono jacks)	Voltage 250 mV, impedance 47 kilohms
MD/VIDEO (AUDIO) IN: (phono jacks)	voltage 450 mV/250 mV, impedance 47 kilohms
MIC: (phone jack)	sensitivity 1 mV, impedance 10 kilohms

Outputs

AUDIO OUT:

(phono jacks)

VIDEO OUT:

(phono jack)

Voltage 250 mV

impedance 1 kilohms

max. output level 1 Vp-p,

unbalanced, Sync.

negative load impedance

75 ohms

COMPONENT VIDEO

OUT:

Y: 1 Vp-p, 75 ohms

PB/CB: 0.7 Vp-p, 75 ohms

PB/CR: 0.7 Vp-p, 75 ohms

S VIDEO OUT

(4-pin/mini-DIN jack):

Y: 1 Vp-p, unbalanced,

Sync negative

C: 0.286 Vp-p load

impedance 75 ohms

accepts headphones of

8 ohms or more

accepts impedance of 6 to 16 ohms

SUBWOOFER OUT:

(phono jack)

SURROUND SPEAKER:

Voltage 250 mV

impedance 1 kilohms

accepts impedance of

8 ohms to 16 ohms

CENTER SPEAKER:

accept impedance of

8 ohms to 16 ohms

– Continued on next page –

Mini Hi-Fi COMPONENT SYSTEM

9-877-457-04

2004F02-1

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Sony Corporation

Home Audio Company

Published by Sony Engineering Corporation

SONY®

HCD-GN88D

Disc player section

Laser	Semiconductor laser (DVD: λ = 650 nm, CD: λ = 780 nm) Emission duration: continuous
Frequency response	DVD (PCM 48 kHz): 2 Hz – 22 kHz = (±1dB) CD: 2 Hz – 20 kHz (±0.5 dB)
Video color system format	NTSC, PAL (except Latin American models) DVD DIGITAL OUT (OPTICAL) (Square optical connector jack, rear panel)
Wave length	660 nm

Tape player section

Recording system	4-track 2-channel stereo
Frequency response	50 – 13,000 Hz (±3 dB), using Sony TYPE I cassette

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range	87.5 – 108.0 MHz
Antenna	FM lead antenna
Antenna terminals	75 ohm unbalanced
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range	530 – 1,710 kHz (with the interval set at 10 kHz)
Saudi Arabian models:	531 – 1,710 kHz (with the interval set at 9 kHz)
Other models:	531 – 1,602 kHz (with the interval set at 9 kHz)
	531 – 1,710 kHz (with the interval set at 9 kHz)
	530 – 1,710 kHz (with the interval set at 10 kHz)
Antenna	AM loop antenna
Antenna terminals	External antenna terminal
Intermediate frequency	450 kHz

General

Power requirements	
Mexican models:	127 V AC, 60 Hz
Argentina models:	220 V AC, 50/60 Hz
Australia models:	230 - 240 V AC, 50/60 Hz
Saudi Arabian Models:	120 - 127 V, 220 V or 230 - 240 V AC, 50/60 Hz Adjustable with voltage selector
Thai models:	220 V AC, 50/60 Hz
Other models:	120 V, 220 V or 230 - 240 V AC, 50/60 Hz Adjustable with voltage selector
Power consumption	320 watts
Dimensions (w/h/d)	Approx. 280 x 360 x 386.5 mm
Mass :	Approx. 15.2 kg

Design and specifications are subject to change without notice.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.



This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.



Unleaded solder

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead. (Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)



- Unleaded solder has the following characteristics.
- Unleaded solder melts at a temperature about 40°C higher than ordinary solder.
Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time. Soldering irons using a temperature regulator should be set to about 350°C.
Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
 - Strong viscosity
Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
 - Usable with ordinary solder
It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

TABLE OF CONTENTS

1. SERVICING NOTES	4	7-7. Printed Wiring Board – DMB03 Board (Side A)–	36
2. GENERAL		Printed Wiring Board – DMB03 Board (Side B)–	37
Location of Controls	5	7-8. Schematic Diagram – DMB03 Board (1/8) –	38
3. DISASSEMBLY		7-9. Schematic Diagram – DMB03 Board (2/8) –	39
3-1. Case	8	7-10. Schematic Diagram – DMB03 Board (3/8) –	40
3-2. Loading (Panel)	8	7-11. Schematic Diagram – DMB03 Board (4/8) –	41
3-3. Front Panel Assy	9	7-12. Schematic Diagram – DMB03 Board (5/8) –	42
3-4. Tuner Pack, Sub Trans Board	9	7-13. Schematic Diagram – DMB03 Board (6/8) –	43
3-5. DVD Mechanism Deck	10	7-14. Schematic Diagram – DMB03 Board (7/8) –	44
3-6. Game In Board, Tape Mechanism Deck	10	7-15. Schematic Diagram – DMB03 Board (8/8) –	45
3-7. CD Switch Board, Display Board	11	7-16. Printed Wiring Board – Video, Regulator Board –	46
3-8. Volume Board	11	7-17. Schematic Diagram – Video, Regulator Board –	47
3-9. Back Panel, Subwoofer Board	12	7-18. Printed Wiring Boards – Main Board –	48
3-10. Main Board	12	7-19. Schematic Diagram – Main Board (1/4) –	49
3-11. Power Amp Board	13	7-20. Schematic Diagram – Main Board (2/4) –	50
3-12. Video Board, DMB03 Board, Regulator Board	13	7-21. Schematic Diagram – Main Board (3/4) –	51
3-13. SW Board, Driver Board	14	7-22. Schematic Diagram – Main Board (4/4) –	52
3-14. RF Board, Pick-up Unit	14	7-23. Printed Wiring Boards	
3-15. Sensor Board	15	– Game In, CD Switch Board –	53
3-16. Motor (TB) Board	15	7-24. Schematic Diagram	
3-17. Motor (LD) Board	16	– Game In, CD Switch Board –	54
4. TEST MODE	17	7-25. Printed Wiring Board – Display Board –	55
5. MECHANICAL ADJUSTMENTS	19	7-26. Schematic Diagram – Display Board –	56
6. ELECTRICAL ADJUSTMENTS		7-27. Printed Wiring Board – Power Amp Board –	57
Deck section	19	7-28. Schematic Diagram – Power Amp Board –	58
Video Section	22	7-29. Printed Wiring Board – Surround Board –	59
7. DIAGRAMS		7-30. Schematic Diagram – Surround Board –	60
7-1. Circuit Board Location	24	7-31. Printed Wiring Boards – Trans Board –	61
7-2. Block Diagram – DVD DSP (1/2) Section –	26	7-32. Schematic Diagram – Trans Board –	62
Block Diagram – DVD DSP (2/2) Section –	27	7-33. IC Block Diagram	63
Block Diagram – Tuner/Tape Deck Section –	28	7-34. IC Pin Function Description	68
Block Diagram – Main Section –	29	8. EXPLODED VIEWS	
Block Diagram – Amp Section –	30	8-1. Case, Back Panel DMB03 Board Section	79
Block Diagram – Display Section –	31	8-2. Front Panel Section	80
7-3. Printed Wiring Board – RF Board –	32	8-3. Chassis Section	81
7-4. Schematic Diagram – RF Board –	33	8-4. DVD Mechanism Deck Section-1	
7-5. Printed Wiring Board – DVD Mechanism Board –	34	(CDM74D-DVBU43)	82
7-6. Schematic Diagram – DVD Mechanism Board –	35	8-5. DVD Mechanism Deck Section-2	
		(CDM74D-DVBU43)	83
		9. ELECTRICAL PARTS LIST	84

SECTION 1
SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP
BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION
CHECK

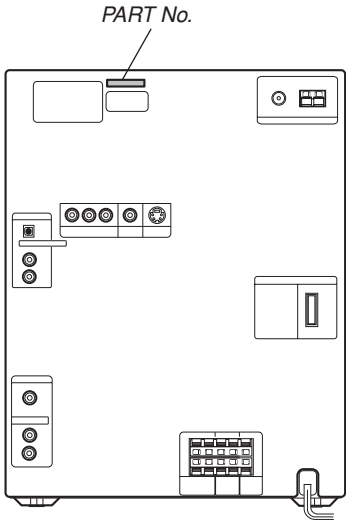
Carry out the “S curve check” in “CD section adjustment” and check that the S curve waveforms is output three times.

NOTES ON DMB03 BOARD EXCHANGE

If a DMB03 board is exchanged, “DRIVE AUTO ADJUSTMENT” may be unable to be performed. In this case, initialize a memory in the following procedure.

- 1. Starting Test Mode (see Supplement-1 page 2).
- 2. Press the [2] button of remote commander to set the Drive Manual Operation (see Supplement-1 page 4).
- 3. Press the [6] button of remote commander to set the Memory Check (see Supplement-1 page 6).
- 4. Press the [CLEAR] button of remote commander to initialize a memory.

• MODEL IDENTIFICATION
– Back Panel –



MODEL	PART No.
E3, E15 models	4-246-186-0□
SP model	4-246-186-1□
MY model	4-246-186-2□
EA model	4-246-186-3□
E51 model	4-246-186-4□
MX model	4-246-186-5□
TH model	4-246-186-6□
AUS model	4-246-186-7□
PH model	4-246-186-8□

- Abbreviation
 - AUS : Australian model
 - E3 : 240 V AC Area in E model
 - EA : Saudi Arabia model
 - E15 : Iran model
 - E51 : Chilean and Peruvian model
 - MX : Mexican model
 - PH : Philippines model
 - SP : Singapore model
 - MY : Malaysia model
 - TH : Thai model

DVD TRAY LOCK MODE

- This mode let you lock the disc trays. When this mode is activated, the disc tray will not open when [OPEN/CLOSE] button or [DISC SKIP/EX-CHANGE] button is pressed. The message “LOCKED” will be displayed in the will be displayed on the fluorescent indicator tube.

Procedure:

- 1. Press [I/ON] button to turn the set ON.
- 2. Select DVD function.
- 3. Press [STOP] button and [OPEN/CLOSE] button simultaneously and hold down until “LOCKED” or “UNLOCKED” displayed on the fluorescent indicator tube (around 5 seconds).

SECTION 2 GENERAL

This section is extracted from instruction manual.

Main unit

ALPHABETICAL ORDER

A - D

ALBUM +/- [15]
AMP MENU [46]
CD SYNC [18]
DECK A [30]
DECK B [24]
DIRECTION [9]
DISC 1~3 [3]
DISC SKIP EX-CHANGE [4]
Disc tray [6]
DISPLAY [44]
Display [2]
DVD [43]
DVD MENU [17]
DVD TOP MENU [9]

E - G

ECHO LEVEL [26]
EFFECT ON/OFF [47]
FM MODE [8]
GAME [39]
GAME EQ [33]
GAME INPUT (jacks) [29]
GAME MIXING [37]
GROOVE [35]

H - M

ILLUMINATION [31]
IR (receptor) [45]
KARAOKE/MPX [36]
MD (VIDEO) [40]
MIC (jack) [28]
MIC LEVEL [27]
MOVIE EQ [16]
MULTI CHANNEL DECODING (indicator) [48]
MUSIC EQ [38]

O - R

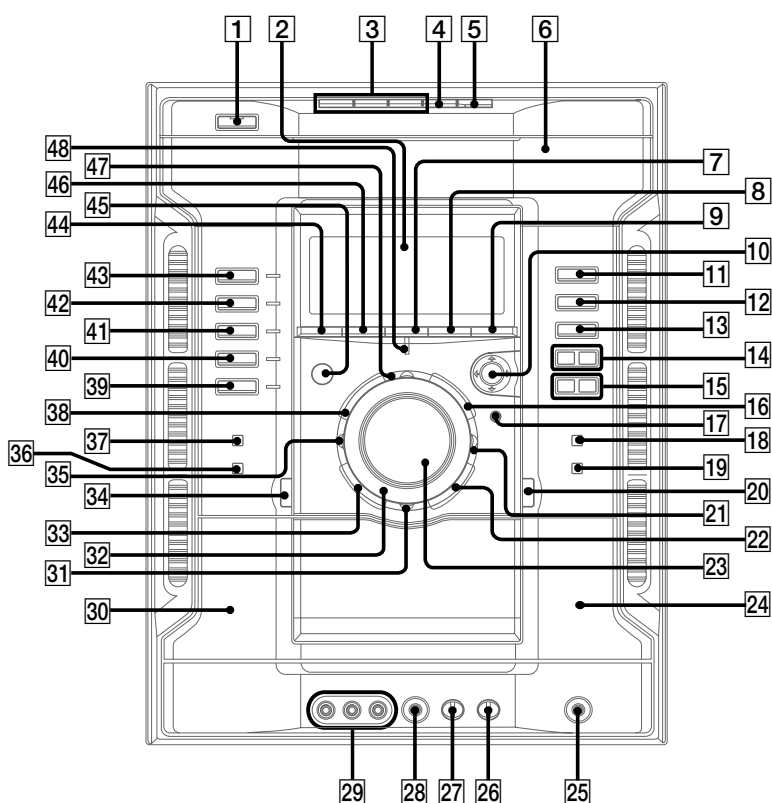
OPEN/CLOSE ▲ [5]
P FILE [22]
PHONES (jack) [25]
PLAY MODE [7]
Power illuminator [32]
PUSH ENTER [10]
REC PAUSE/START [19]
REPEAT [8]

S - Z

SOUND FIELD [21]
TAPE A/B [41]
TUNER/BAND [42]
TUNER MEMORY [7]
VOLUME [23]

SYMBOLS

I/⏻ (power) [1]
◀▶ (play) [11]
■ (stop) [12]
⏸ (pause) [13]
- ⏮ (go backward) [14]
▶▶ + (go forward) [14]
◀◀ (rewind) [15]
▶▶ (fast forward) [15]
⏮/⏪/⏩/⏭ [10]
⊎ A (Deck A) [34]
⊎ B (Deck B) [20]



Remote Control

ALPHABETICAL ORDER

A - D

ALBUM +/- [35]
 AMP MENU [43]
 ANGLE [23]
 AUDIO [24]
 CLEAR [13]
 CLOCK/TIMER SELECT [2]
 CLOCK/TIMER SET [3]
 D.SKIP [11]
 DISPLAY [44]
 DVD [48]
 DVD DISPLAY [42]
 DVD MENU [33]
 DVD SETUP [40]
 DVD TOP MENU [34]

E - N

EFFECT ON/OFF [21]
 ENTER [31]
 GAME [47]
 GAME EQ [30]
 GAME MIXING [46]
 GROOVE [19]
 KEY CONTROL #/b [27]
 MD (VIDEO) [45]
 MUSIC EQ [32]
 MOVIE EQ [25]
 NEXT [37]
 Numeric button [10]

O - S

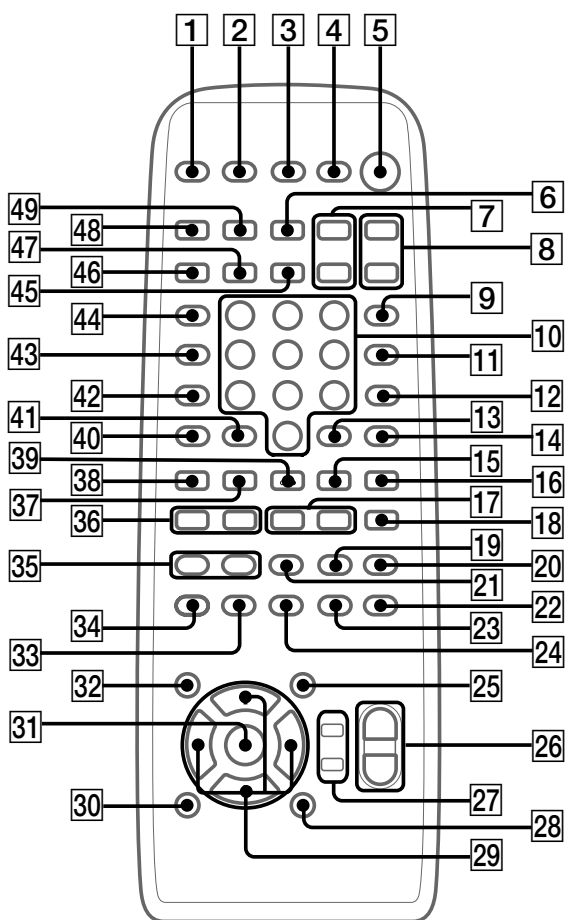
P FILE [28]
 PLAY MODE [14]
 PRESET + [37]
 PRESET - [38]
 PREV [38]
 REPEAT [12]
 RETURN ↺ [39]
 SELECT [15]
 SOUND FIELD [20]
 SUBTITLE [22]
 SLOW ◀/▶ [17]
 SLEEP [1]

T - Z

TAPE A/B [6]
 TUNER BAND [49]
 TUNING +/- [36]
 TV CH +/- [8]
 TV VOL +/- [7]
 TV/VIDEO [9]
 TV I/⏻ [4]
 VOL +/- [26]

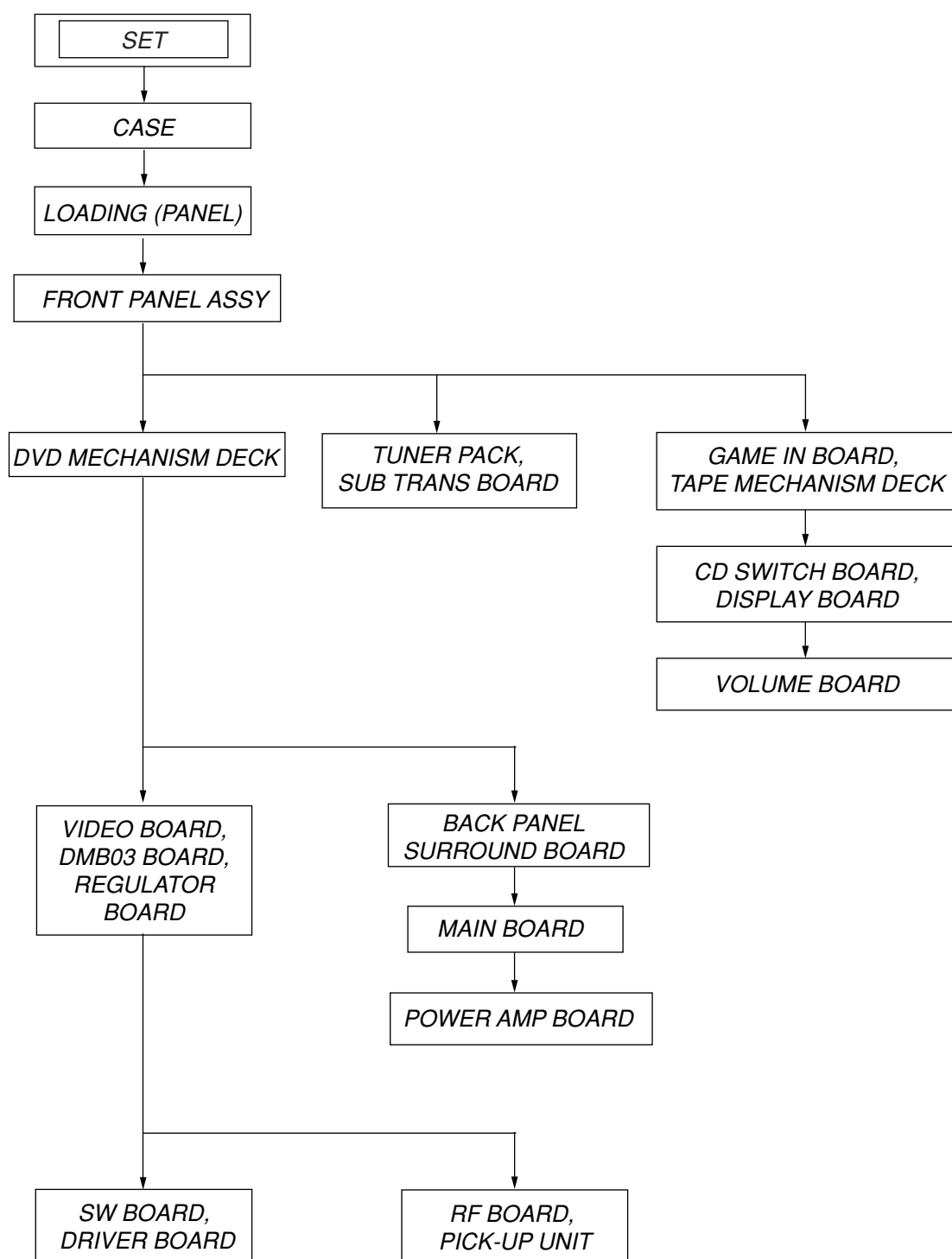
SYMBOLS

I/⏻ (power) [5]
 ■ (stop) [18]
 || (pause) [16]
 ◀▶ (play) [15]
 ▶▶ (go backward) [37]
 ◀◀ (go forward) [38]
 ▶▶/◀◀ (fast forward/rewind) [36]
 ↑/↓/↔ [29]
 >10 [41]



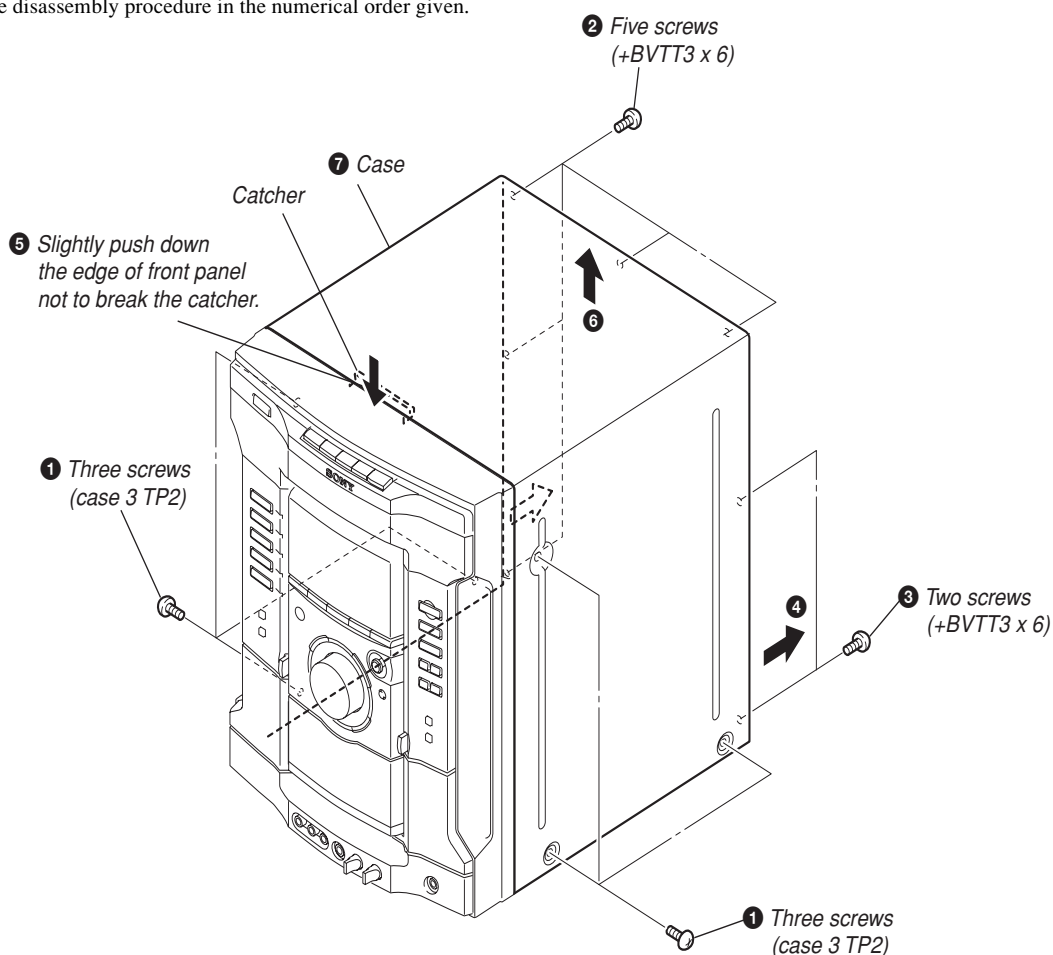
SECTION 3 DISASSEMBLY

- This set can be disassembled in the order shown below.

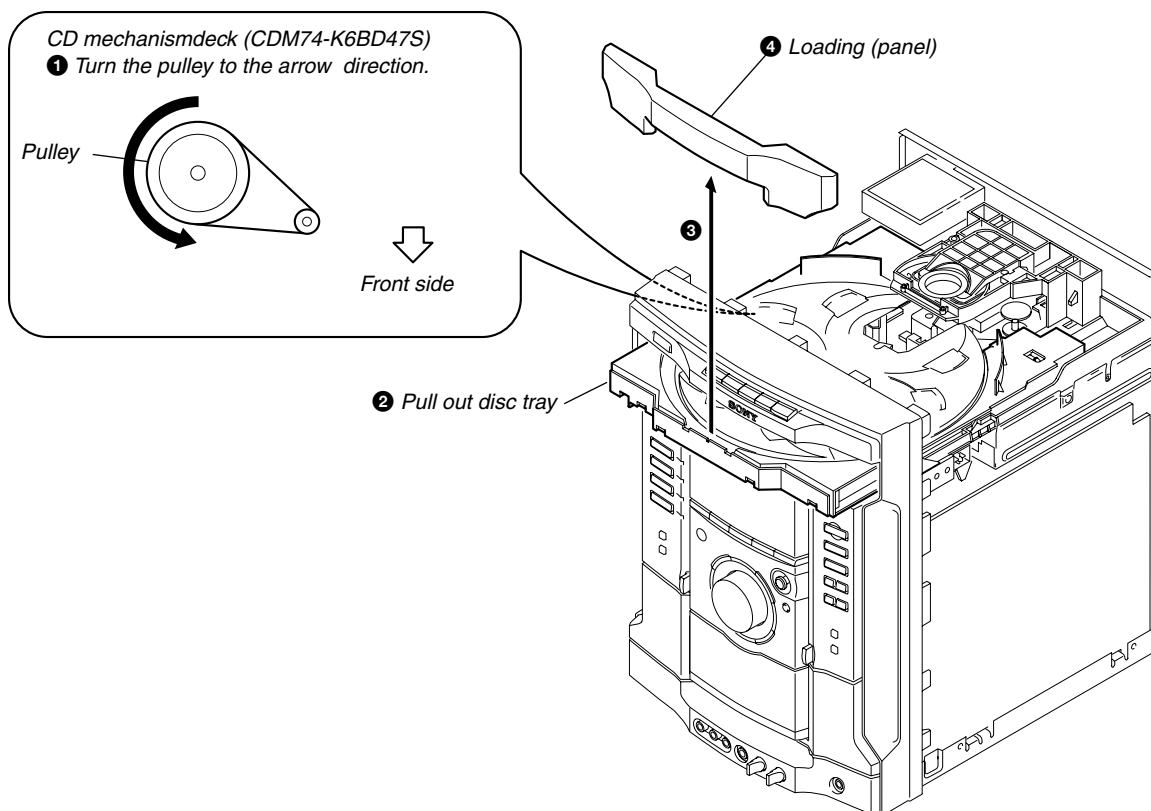


Note: Follow the disassembly procedure in the numerical order given.

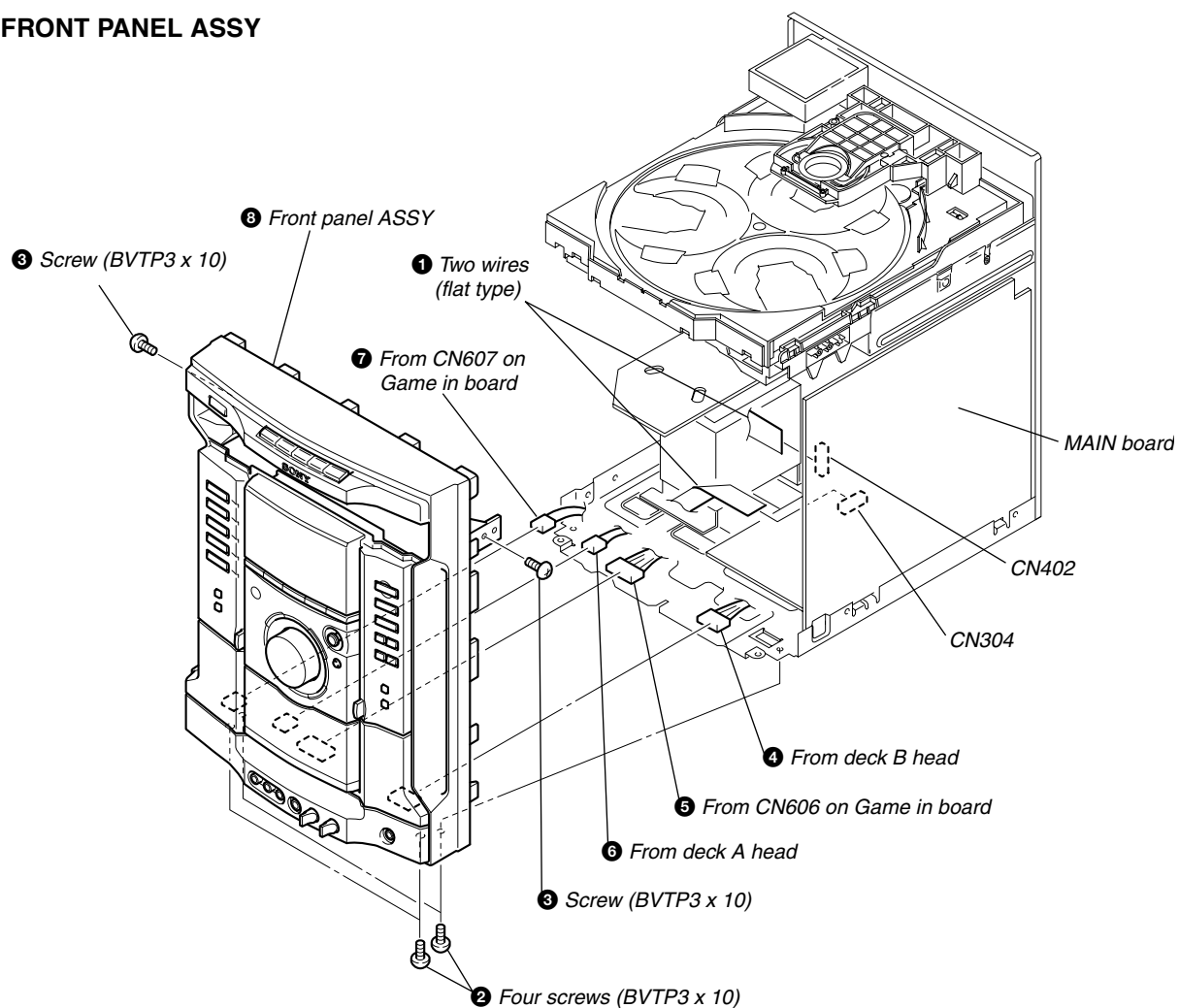
3-1. CASE



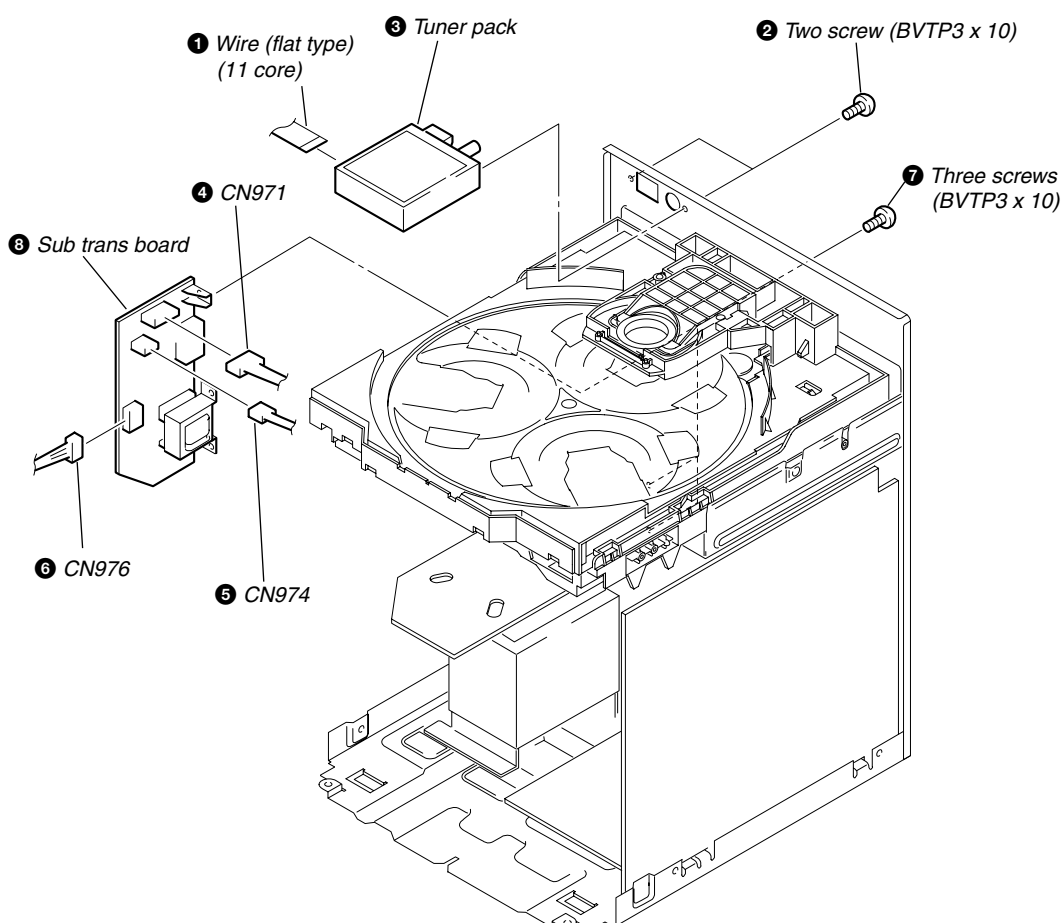
3-2. LOADING (PANEL)



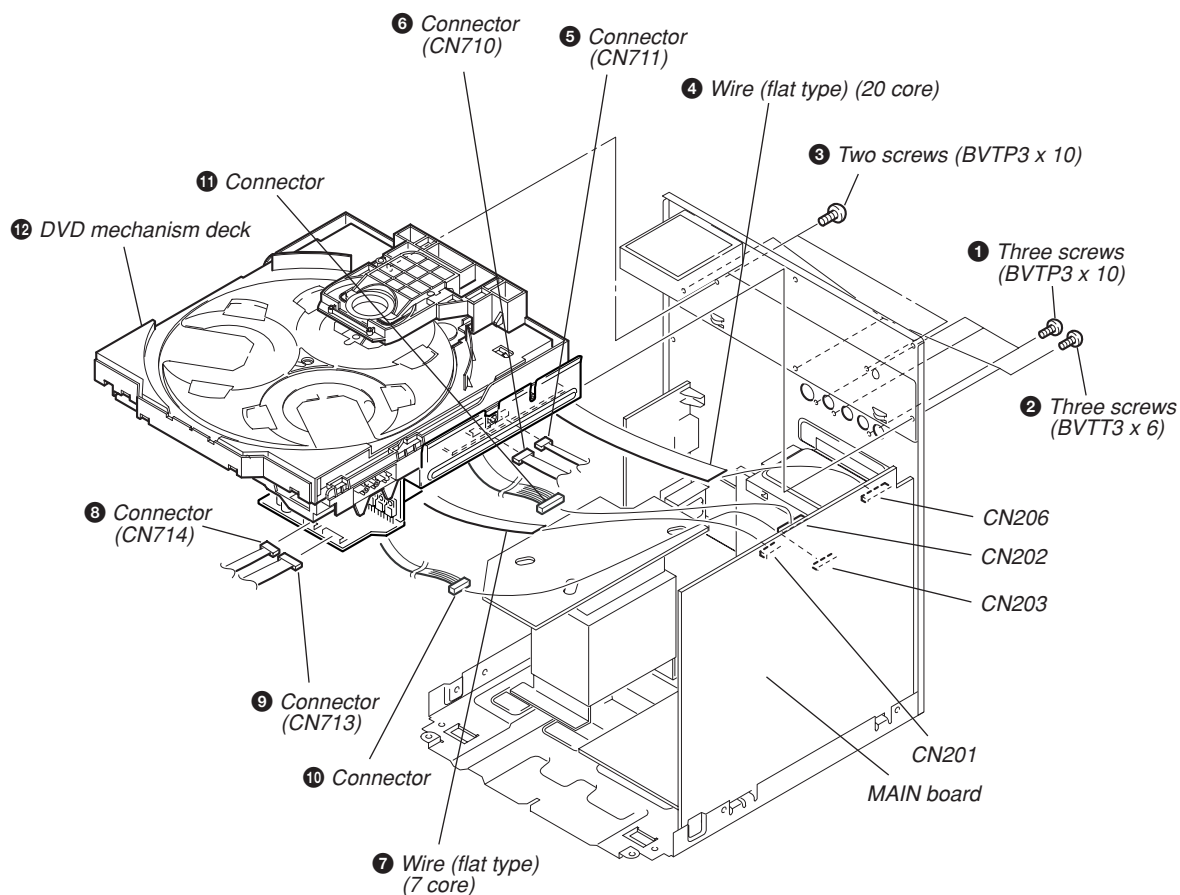
3-3. FRONT PANEL ASSY



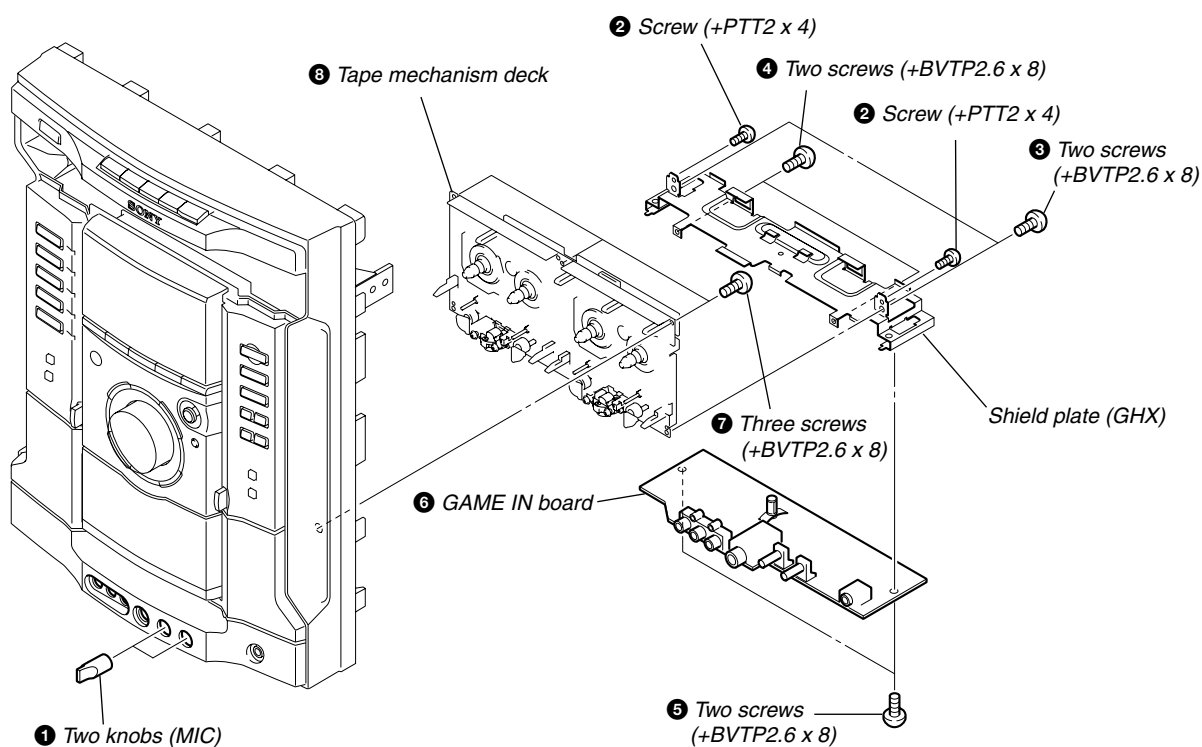
3-4. TUNER PACK, SUB TRANS BOARD



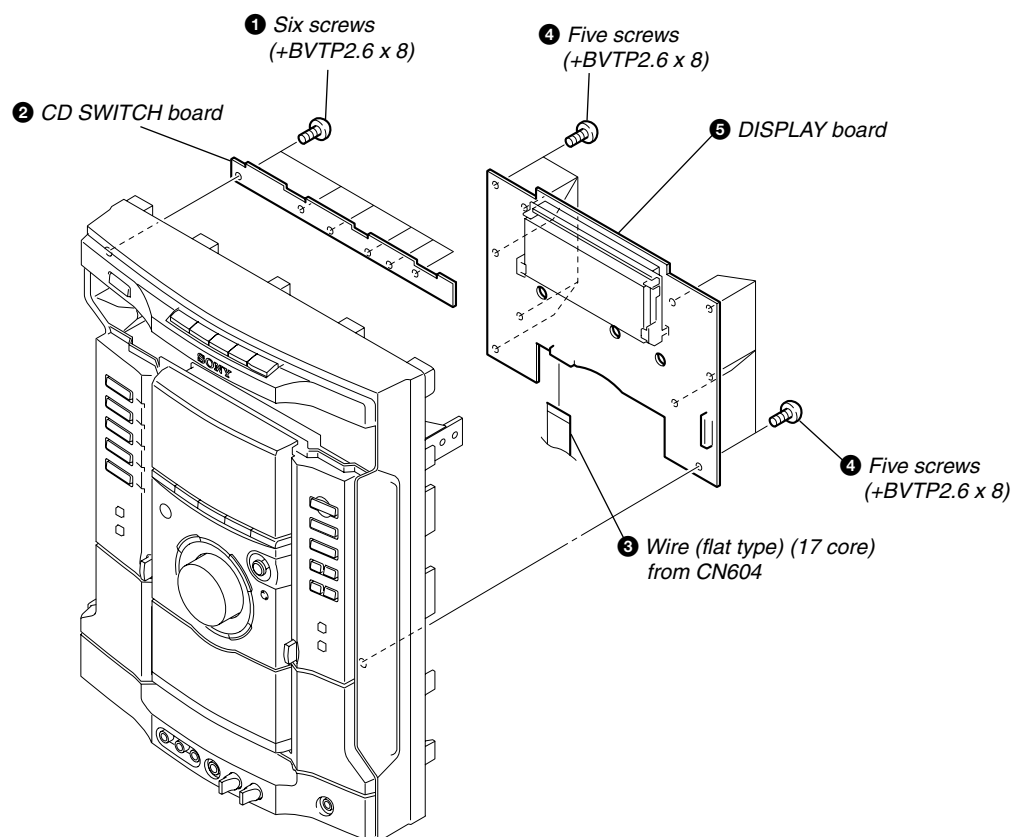
3-5. DVD MECHANISM DECK



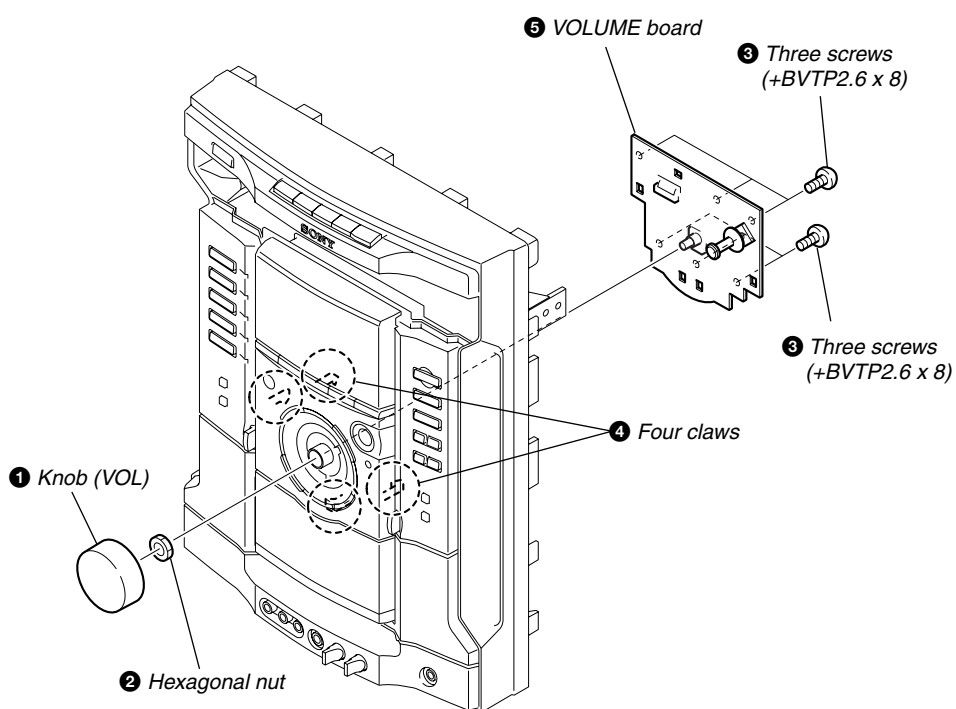
3-6. GAME IN BOARD, TAPE MECHANISM DECK



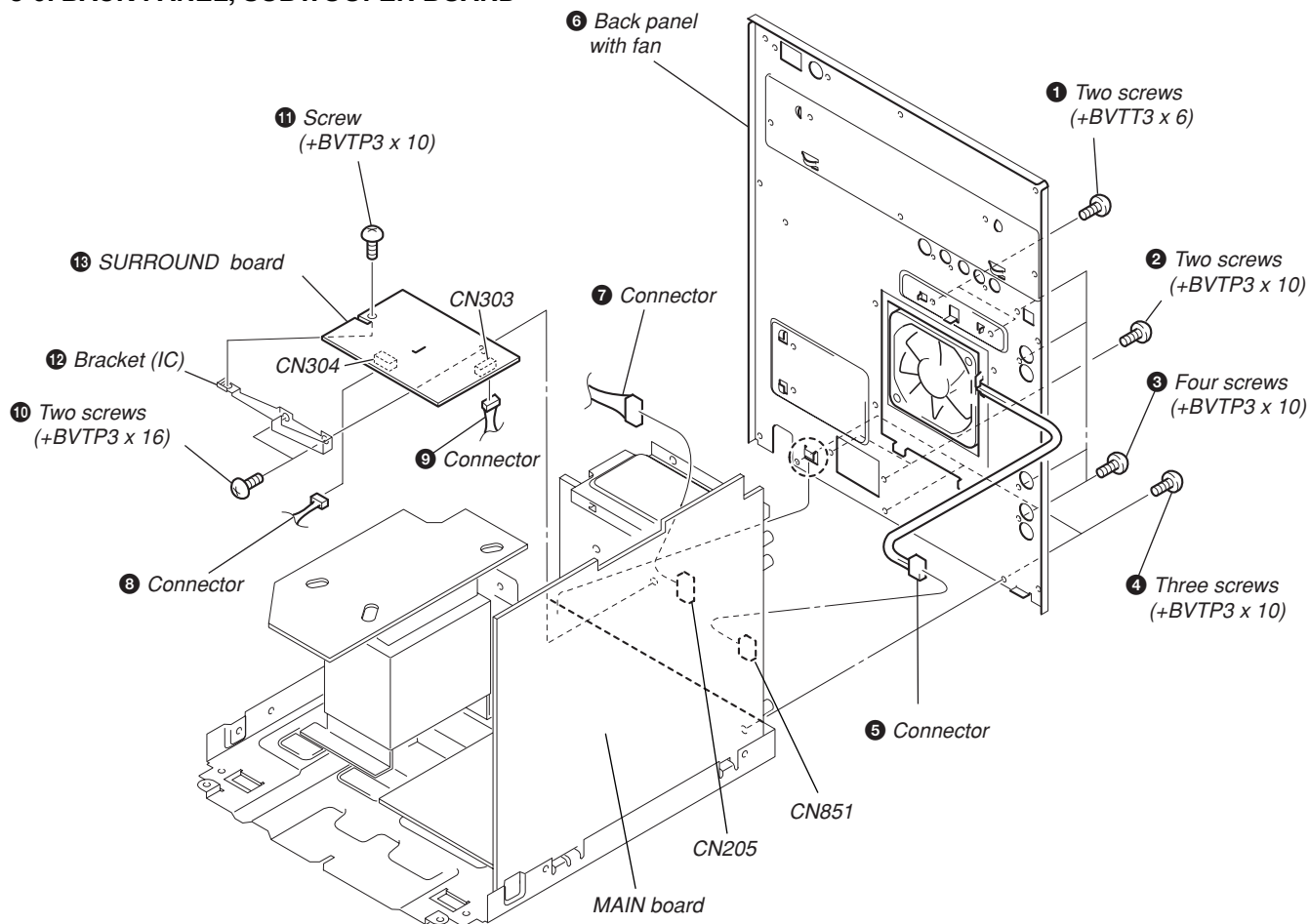
3-7. CD SWITCH BOARD, DISPLAY BOARD



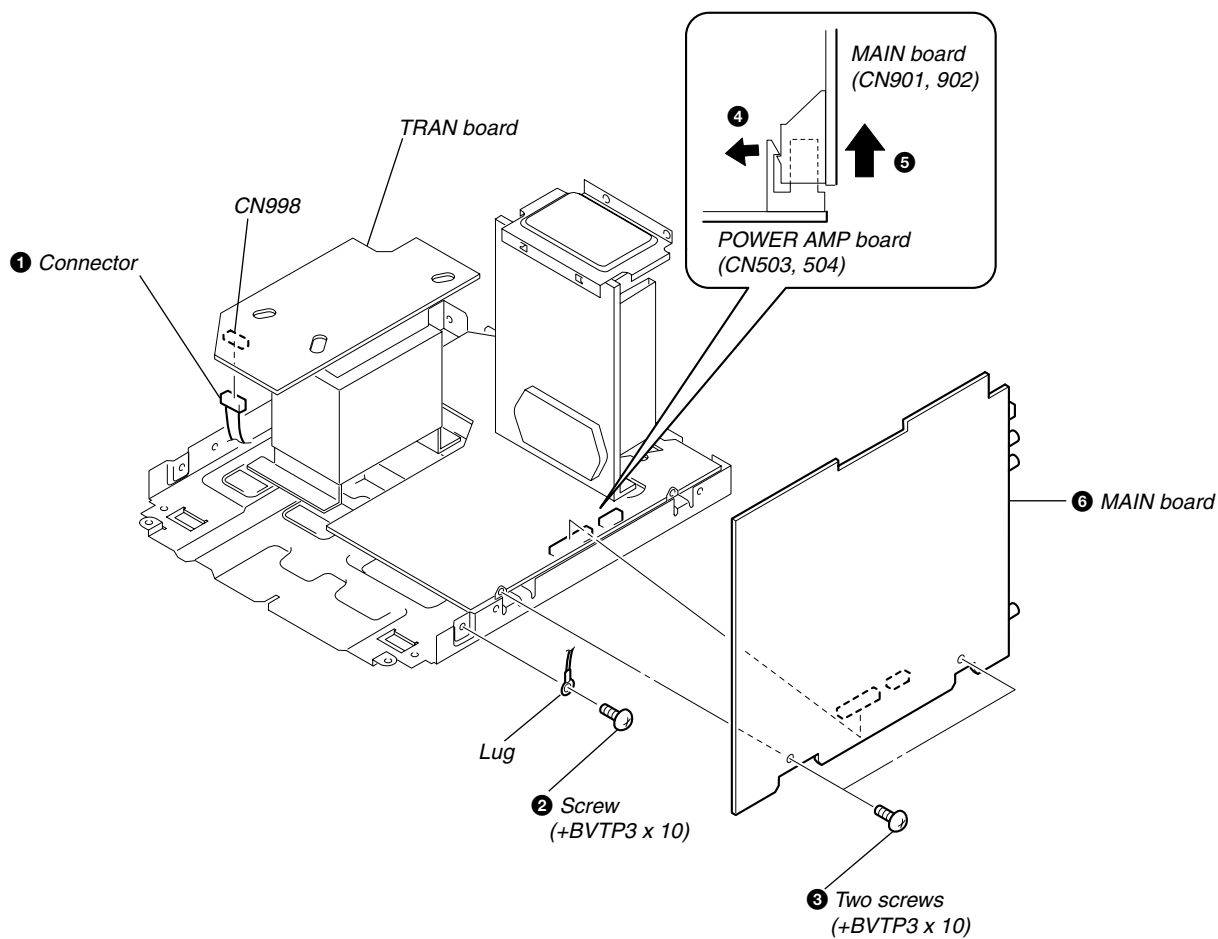
3-8. VOLUME BOARD



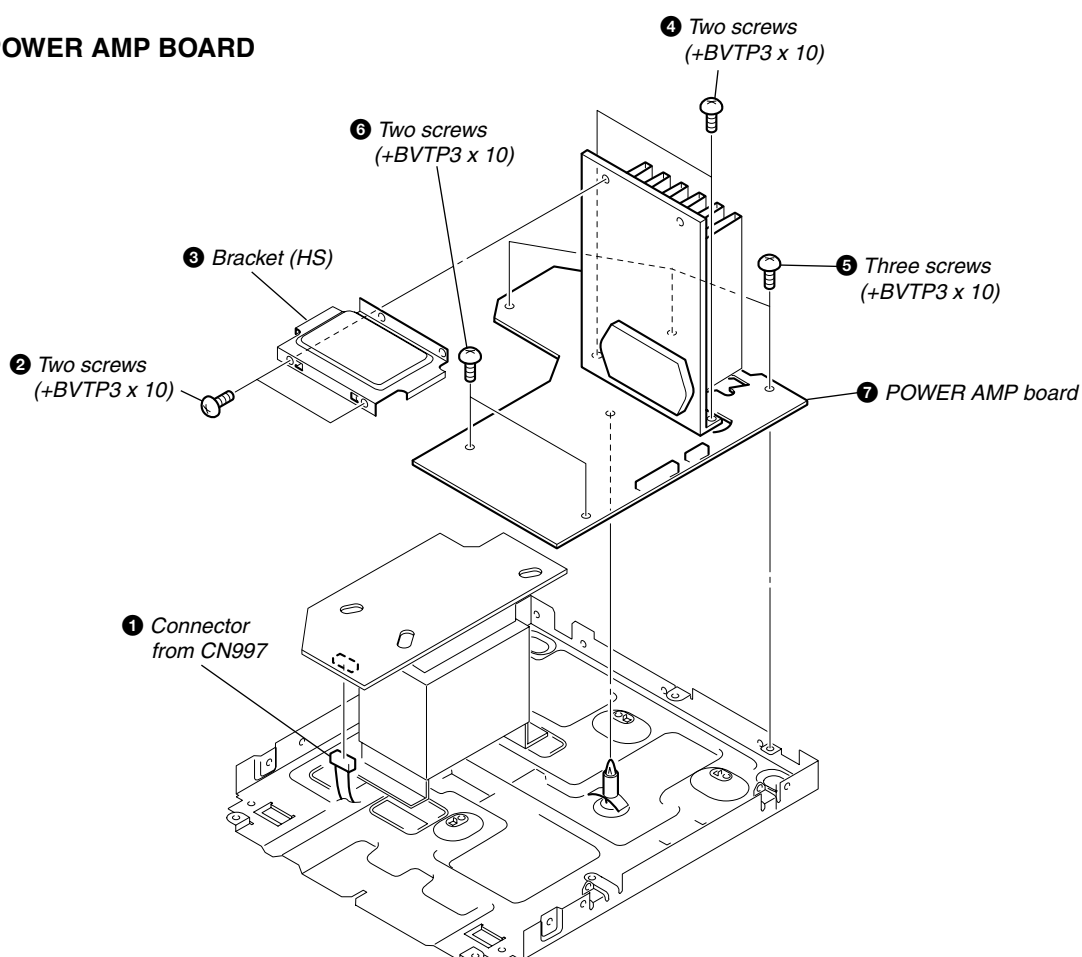
3-9. BACK PANEL, SUBWOOFER BOARD



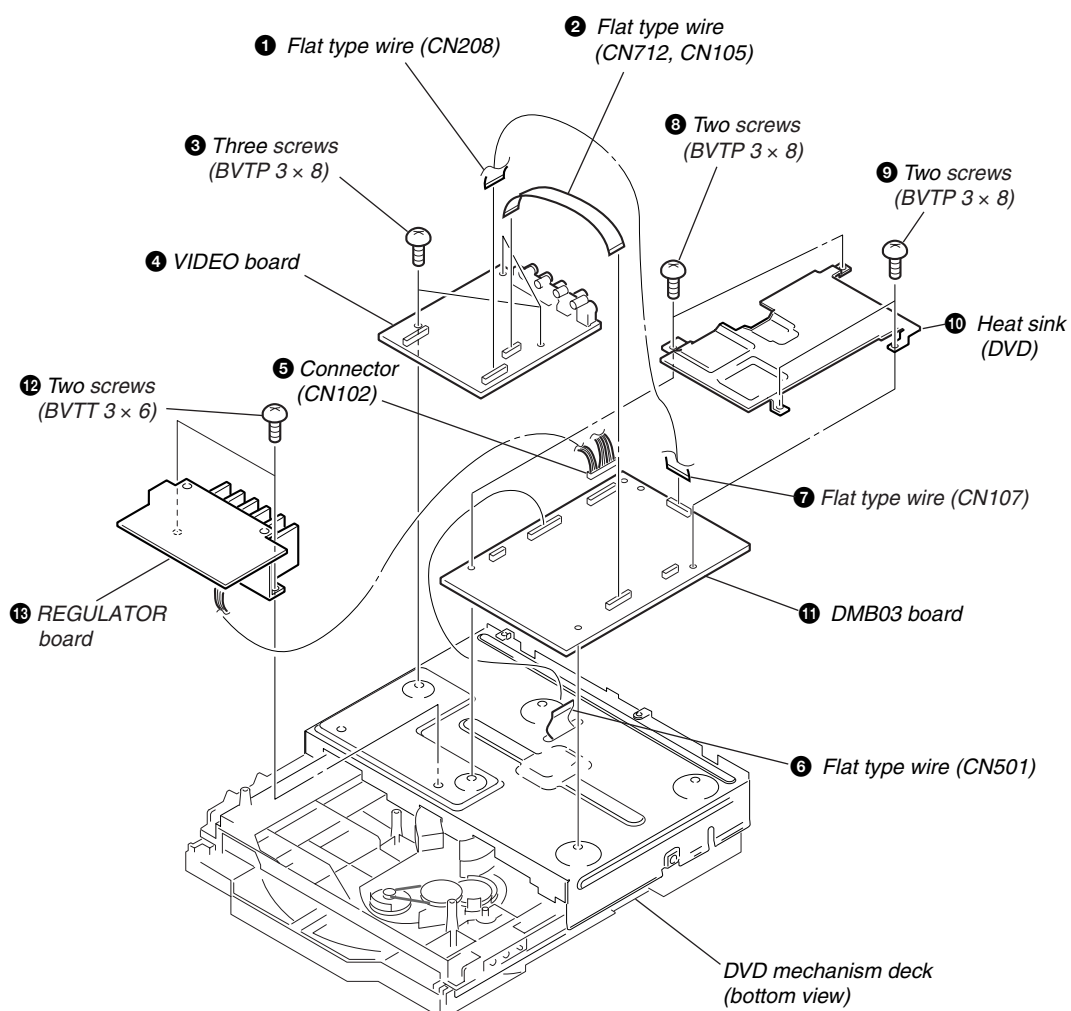
3-10. MAIN BOARD



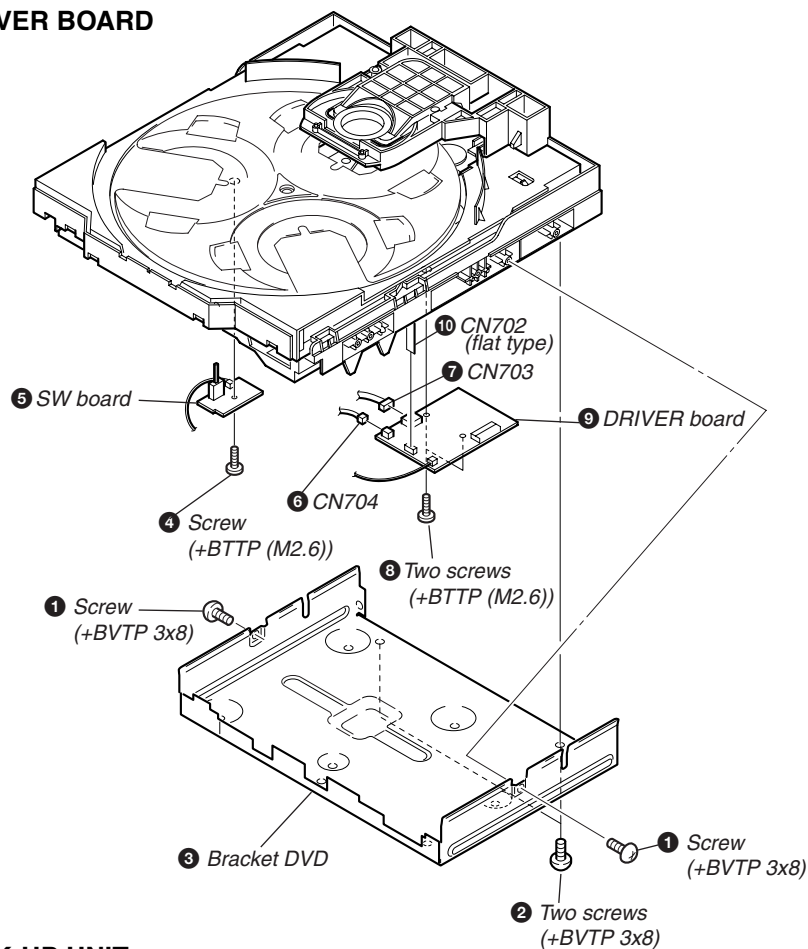
3-11. POWER AMP BOARD



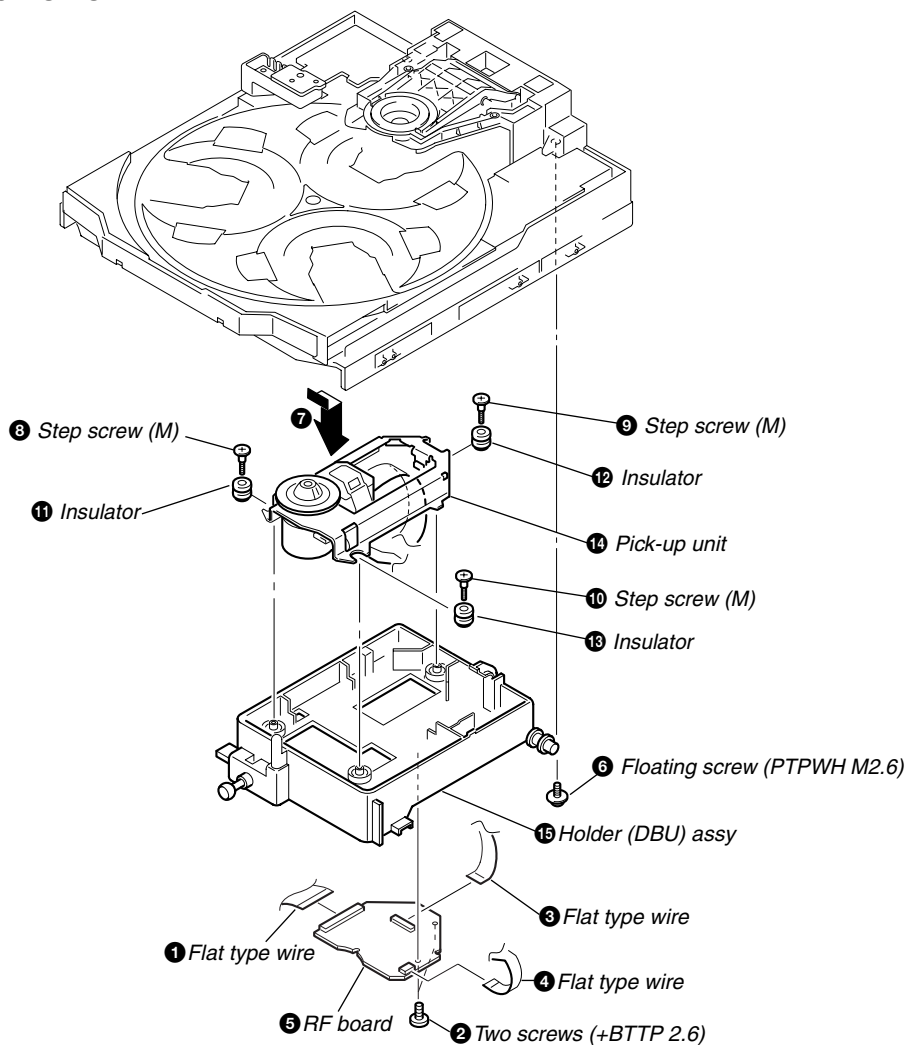
3-12. VIDEO BOARD, DMB03 BOARD, REGULATOR BOARD



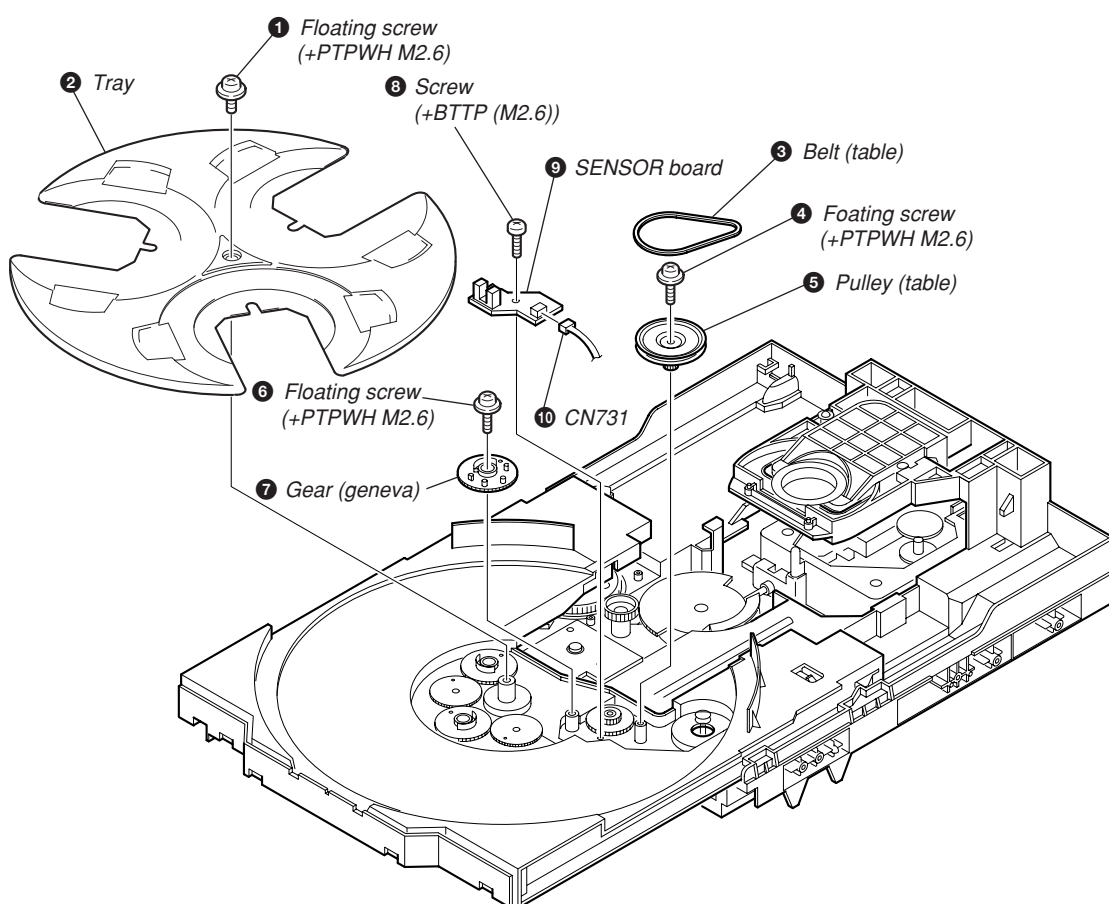
3-13. SW BOARD, DRIVER BOARD



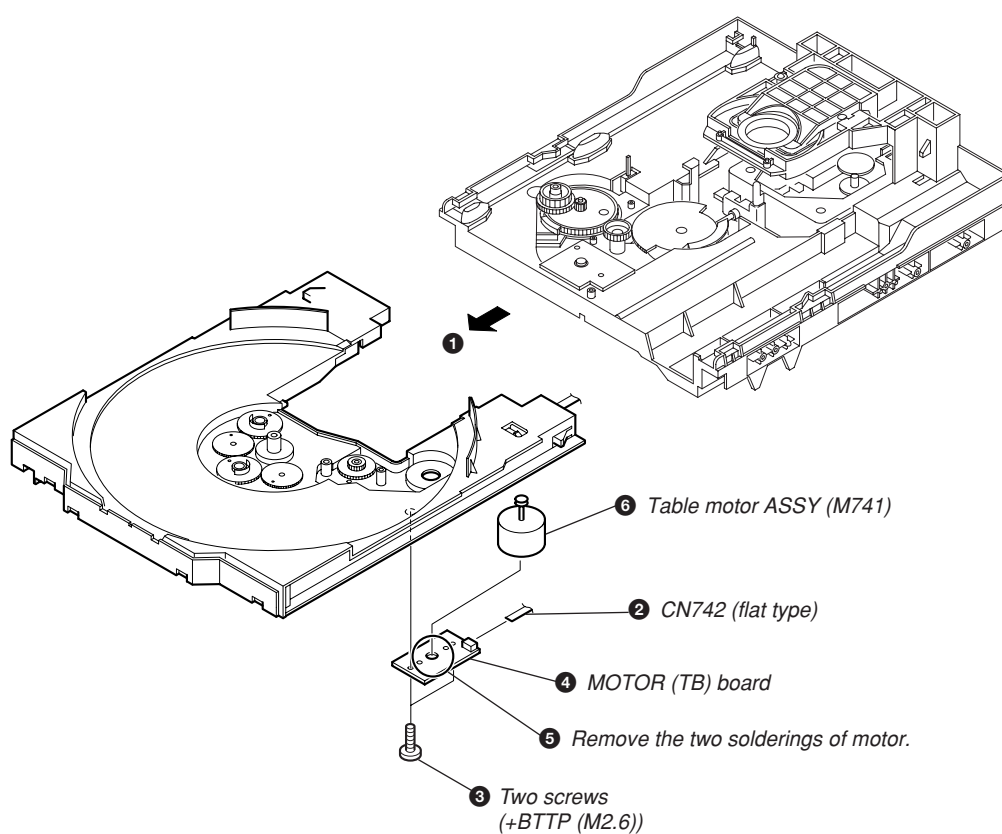
3-14. RF BOARD, PICK-UP UNIT



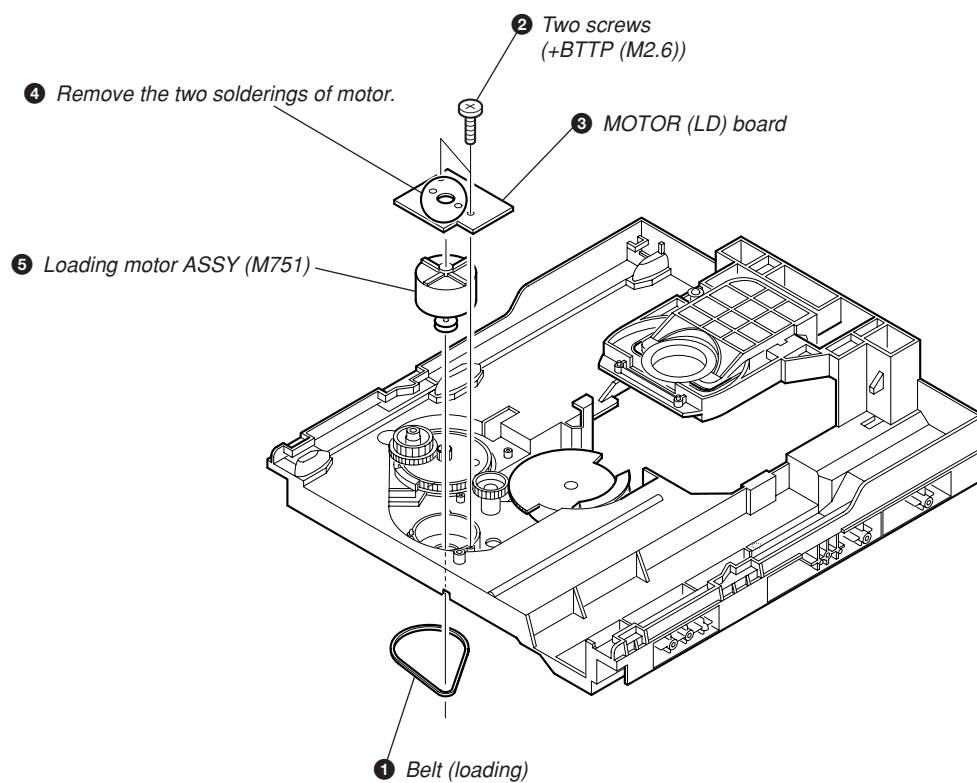
3-15. SENSOR BOARD



3-16. MOTOR (TB) BOARD



3-17. MOTOR (LD) BOARD



SECTION 4 TEST MODE

[GC TEST MODE]

- This mode is used to check the fluorescent indicator tube, LED, model, destination, software version, volume, key and VACS level.

Procedure:

- Press button, button and button simultaneously.
- All LEDs and segments in fluorescent indicator tube are lighted up.
- When you want to enter the software version display mode, press button. The model and destination are displayed.
- Each time button is pressed, the display changes from MC version, GC version, CD version, ST version, TA version, TM version and TC version in this order, and returns to the MC version display.
- When button is pressed while the version numbers are being displayed except model and destination, the date of the software creation appear. When button is pressed again, the display returns to the software version display. When button is pressed while the date of the software creation is being displayed, the date of the software creation is displayed in the same order of software version display.
- Press button, the key check mode is activated.
- In the key check mode, the fluorescent indicator tube displays "K 0 V 0".
Each time a button is pressed, "K" value increases. However, once a button has been pressed, it is no longer taken into account. "V" value increases in the manner of 0,1, 2, 3 ... if knob is turned clockwise, or it decreases in the manner of 0, 9, 8,7 ... if knob is turned counter-clockwise.
- When button is pressed after all LEDs and segments in fluorescent indicator tube light up, the fluorescent indicator tube displays "VACS A + B". A is VACS level which is trigger by signal level while B is VACS level which is trigger by thermal. Total VACS value would be the sum of A and B.
- When button is pressed after all LEDs and segments in fluorescent indicator tube light up, alternate segments in fluorescent indicator tube would light up. If you press button again, another half of alternate segments in fluorescent indicator tube would light up. Pressing button again would case all segments lights up.
- To release this mode, press three buttons in the same manner as step 1, or disconnect the power cord.

[MC TEST MODE]

- This mode is used to check operations of the respective sections of Amplifier, Tuner, and Tape.

Procedure:

- To enter MC Test Mode

- Press button, button and button simultaneously.
- The TAPE A and TAPE B segments flash on the fluorescent indicator tube. The function is changed to VIDEO.

* Check of Amplifier

- When button is pressed, GEQ increases to its maximum and a message "GEQ MAX" appears on the fluorescent indicator tube.
- When button is pressed, GEQ decreases to its minimum and a message "GEQ MIN" appears on the fluorescent indicator tube.
- When button or button is pressed, GEQ is set to flat and a message "GEQ FLAT" appears on the fluorescent indicator tube.
- When the knob is turned clockwise even slightly, the sound volume increases to its maximum and a message "VOLUME MAX" appears for two seconds, then the display returns to the original display.
- When the knob is turned counter-clockwise even slightly, the sound volume decreases to its minimum and a message "VOLUME MIN" appears for two seconds, then the display returns to the original display.

* Check of clock frequency

- To check the frequency of clock used to run the clock of the system, the clock output is available at IC501 pin ③ (CLOCK-OUT) on the MAIN board during MC test mode.
- The frequency is 32.768 kHz.

* Tape function

- When a tape is inserted in Deck B and recording is started, the function is changed to VIDEO automatically. When button is pressed during recording in function, ALC (Automatic Logic Control) is turned on.
- After recording is stopped by pressing button, press button will change the function to TAPE B and rewind Tape B until the recording start position and playback of Tape B is started. If the button is pressed for a pause and pressed again to resume recording during recording time, when tape deck B is rewind, tape deck B will be rewind until the position where the pause is applied.

* AMS Test Mode

- Select the function "TAPE A" or "TAPE B".
- Select Loop or Relay direction mode by pressing the button. Insert a test tape AMS-110A or AMS-120 to selected tape deck.
- Press the button to enter the AMS test mode.
- After the test tape is rewind to the beginning of the tape, the AMS+ is checked, and the mechanism is shut off after detecting the AMS signal twice.
- Then the AMS- is checked and the mechanism is shut off after detecting the AMS signal twice.
- When the check is complete, a message of either OK or NG appears.

* To release MC Test mode.

- To release this mode, press button.
- The cold reset is enforced at the same time.

[COLD RESET]

- The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

Procedure:

1. Press button, button, and button simultaneously.
2. The fluorescent indicator tube becomes blank for a while, and the set is reset.

[VACS ON/OFF]

- This mode is used to switch ON and OFF the VACS (Variable Attenuation Control System).

Procedure:

1. Press button to turn the set ON.
2. Press button and button simultaneously. The message "VACS OFF" or "VACS ON" appears.

[TUNER STEP CHANGE]

- The step interval of AM channels can be toggled between 9 kHz and 10 kHz.

Procedure:

1. Press button to turn the set ON.
2. Press button to select the "AM".
3. Press button to turn the set OFF.
4. Press button and button simultaneously. The system will turn ON automatically. The message "AM 9k STEP" or "AM 10k STEP" appears and thus the channel step is changed.

[DVD REPEAT 5 LIMIT OFF MODE]

- The number of repeat for DVD playback is 5 times when the repeat mode is "REPEAT ALL". This mode enables DVD to repeat playback for limitless times.

Procedure:

1. Press button to turn the set ON.
2. Select CD function.
3. Press button, button and button simultaneously to enter the DVD repeat 5 limit off mode.
4. To release this mode, operate the cold reset. (Refer to the "MC COLD RESET")

[DVD SHIP MODE (WITH MEMORY CLEAR)]

- This mode moves the optical pick-up to the position durable to vibration and clears all data including preset data stored in the RAM to initial conditions. Use this mode when returning the set to the customer after repair.

Procedure:

1. Press button to turn the set ON.
2. Select DVD function.
3. Press button, button and button simultaneously. The set will power off automatically.
4. After the "STANDBY" blinking display finish, a message "LOCK" is displayed on the fluorescent indicator tube and the DVD ship mode is set.

[DVD SHIP MODE (WITHOUT MEMORY CLEAR)]

- This mode moves the optical pick-up to the position durable to vibration. Use this mode when returning the set to the customer after repair.

Procedure:

1. Press button to turn the set ON.
2. Select DVD function.
3. Press button and button simultaneously. The set will power off automatically.
4. After the "STANDBY" blinking display finish, a message "LOCK" is displayed on the fluorescent indicator tube and the DVD ship mode is set.

[DVD POWER MANAGE]

- This mode let you switch on or off power supply to the BU during TUNER function.
- When DVD POWER is set to OFF, the power supply to the BU is cut off during TUNER function. It will increase the time taken to access DVD when function change from TUNER to DVD but it will improve tuner reception.
- When DVD POWER is set to ON, the power supply to the BU is not cut off during TUNER function. It will reduce the time taken to access DVD when function change from TUNER to DVD but it will decrease tuner reception performance.

Procedure:

1. Press button to turn the set ON.
2. Select DVD function.
3. Press button to turn the set OFF.
4. Press button and button simultaneously. The set will power on automatically.
5. The message "DVD POWER ON" or "DVD POWER OFF" will be displayed on the fluorescent indicator tube.

[DVD TRAY LOCK MODE]

- This mode let you lock the disc trays. When this mode is activated, the disc tray will not open when button or button is pressed. The message "LOCKED" will be displayed on the fluorescent indicator tube.

Procedure:

1. Press button to turn the set ON.
2. Select DVD function.
3. Press button and button simultaneously and hold down until "LOCKED" or "UNLOCKED" displayed on the fluorescent indicator tube (around 5 seconds).

[MD/VIDEO SWITCHING]

- This mode let you switch from MD to VIDEO and vice-versa.

Procedure:

1. Press button to turn the set ON.
2. Select MD function.
3. Press button and button simultaneously. The function will change to VIDEO. Press the same buttons again to change from VIDEO to MD.

SECTION 5 MECHANICAL ADJUSTMENTS

Precaution

1. Clean the following parts with a denatured alcohol-moistened swab:
record/playback heads pinch rollers
erase head rubber belts
capstan idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	3.06 N • m to 6.96 N • m 31 to 71 g • cm (0.43 – 0.98 oz • inch)
FWD back tension	CQ-102C	0.19 N • m to 0.58 N • m 2 to 6 g • cm (0.02 – 0.08 oz • inch)
REV	CQ-102RC	3.06 N • m to 6.96 N • m 31 to 71 g • cm (0.43 – 0.98 oz • inch)
REV back tension	CQ-102RC	0.19 N • m to 0.58 N • m 2 to 6 g • cm (0.02 – 0.08 oz • inch)
FF/REW	CQ-201B	6.96 N • m to 14.02 N • m 71 to 143 g • cm (0.98 – 1.99 oz • inch)
FWD tension	CQ-403A	9.80 N • m 100 g or more (3.53 oz or more)
REV tension	CQ-403R	9.80 N • m 100 g or more (3.53 oz or more)

SECTION 6 ELECTRICAL ADJUSTMENTS

DECK SECTION

0 dB=0.775 V

1. Demagnetize the record/playback head with a head demagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjust.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.
7. Switches and controls should be set as follows unless otherwise specified.

• Test Tape

Tape	Signal	Used for
P-4-A100	10 kHz, -10 dB	Azimuth Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

RECORD/PLAYBACK HEAD AZIMUTH ADJUSTMENT

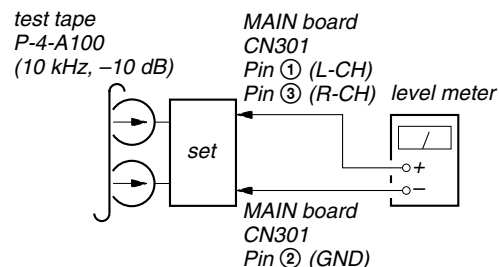
DECK A

DECK B

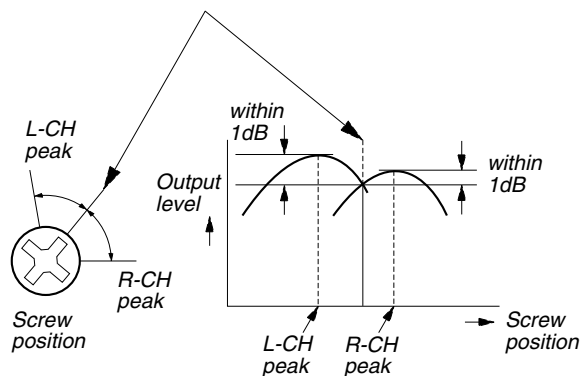
Note: Perform this adjustments for both decks

Procedure:

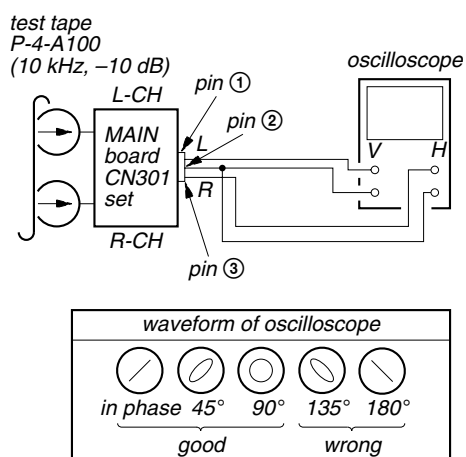
1. Mode: Playback



- Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1dB of peak.

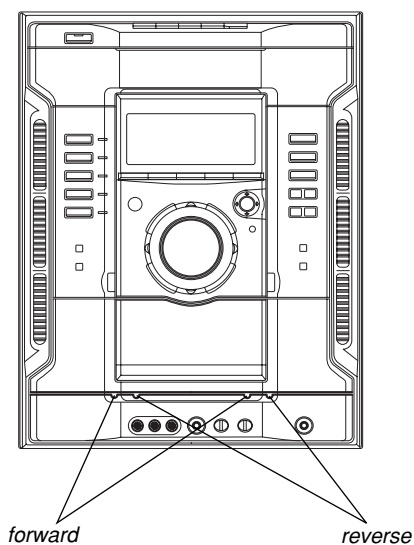


- Mode: Playback



- After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location: Playback Head (Deck A).
Record/Playback/Erase Head (Deck B).

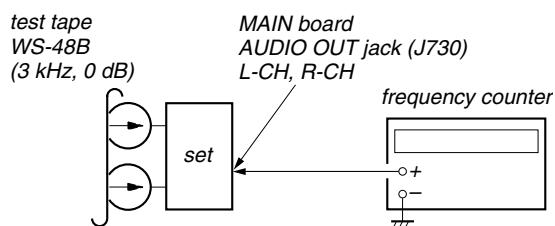


Tape Speed Adjustment

DECK B

Procedure:

Mode: Playback

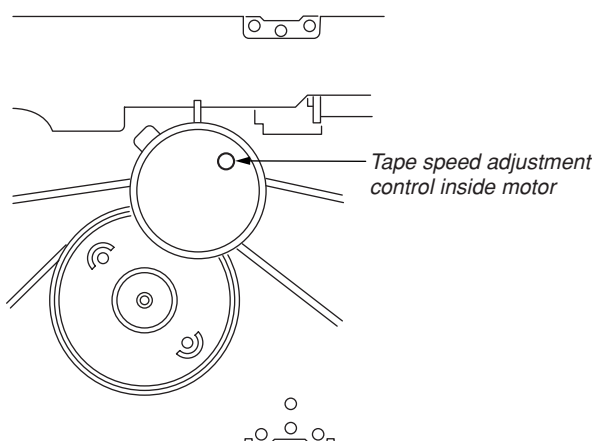


- Insert the WS-48B into the deck B.
- Press the button on the deck B.
- Adjust the tape speed adjustment control inside motor so that frequency counter reads $3,000 \pm 90\text{Hz}$.

Sample value of wow and flutter W.RMS (JIS) less than 0.3%
WS-48B

Adjustment Location:

Tape speed Adjustment

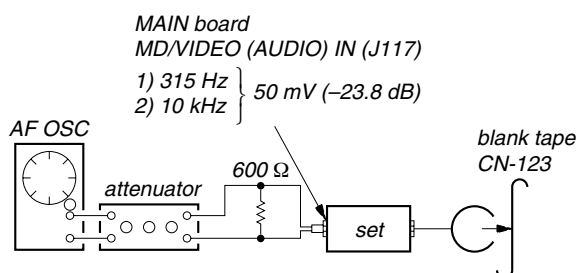


REC BIAS ADJUSTMENT DECK B

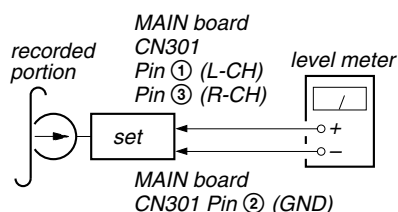
Procedure:

In the MC test mode, the "REC memory mode" is convenient for this adjustment. In the "REC memory mode", when the REC starts the input signal FUNCTION is switched to VIDEO automatically. When the REC stops, the tape returns near to the recording start position.

1. Press MD (VIDEO) button to select VIDEO. (This step is not necessary if the above test mode has already been set)
2. Insert a tape into deck B.
3. After press REC PAUSE/START button, press REC PAUSE/START button, then recording start.
4. Mode: Record



5. Mode: Playback



6. Confirm the playback signal recorded in step 3 becomes adjustable level as follows.
If these levels are not adjustable level, adjust the RV304 (L-CH) and RV354 (R-CH) on the MAIN board to repeat steps 4 and 5.

Adjustable level: Playback output of 315 Hz to playback output of 10 kHz: ± 1.0 dB

Adjustment Location: MAIN board

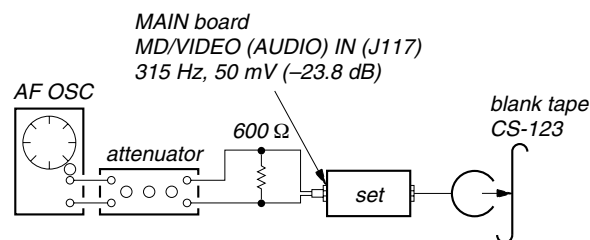
REC LEVEL ADJUSTMENT DECK B

Procedure:

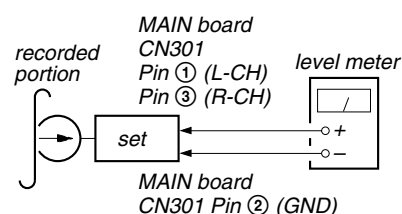
In the MC test mode, the "REC memory mode" is convenient for this adjustment. In the "REC memory mode", when the REC starts the input signal FUNCTION is switched to VIDEO automatically. When the REC stops, the tape returns near to the recording start position.

1. Press MD (VIDEO) button to select VIDEO. (This step is not necessary if the above test mode has already been set)
2. Insert a tape into deck B.
3. After press REC PAUSE/START button, press REC PAUSE/START button, then recording start.

4. Mode: Record



5. Mode: Playback



6. Confirm the play back signal recorded in step 3 becomes adjustable level as follows.

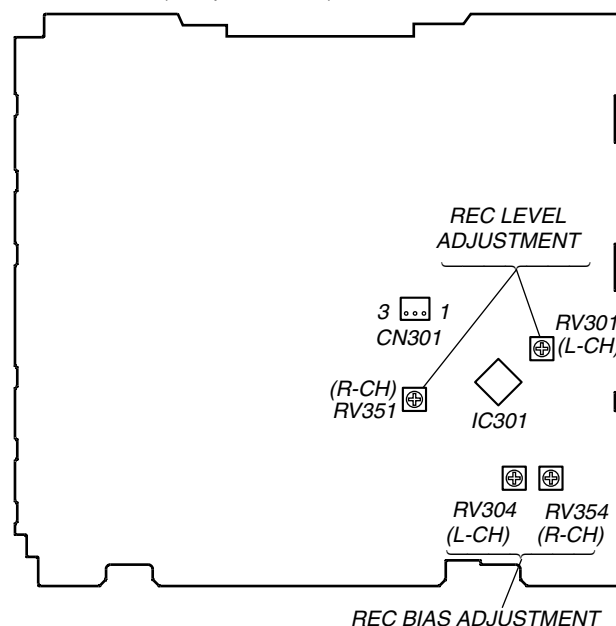
If these levels are not adjustable level, adjust the RV301 (L-CH) and RV351 (R-CH) on the MAIN board to repeat steps 4 and 5.

Adjustable level:

CN301 PB level: 47.2 to 53.0 mV (-24.3 to -23.3 dB)

Adjustment Location: MAIN board

– MAIN BOARD (Component Side) –



VIDEO SECTION

RE-ADJUSTMENT OF THE SERVO CIRCUIT

The re-adjustment of the servo circuit is necessary when the part which relates to the servo circuit is replaced. Referring to [SUPPLEMENT-1 "1. DRIVE AUTO ADJUSTMENT"](#) (see page 3).

Choose ALL and do the re-adjustment of each item of DVD-SL, CD and DVD-DL.

THE PART THAT THE RE-ADJUSTMENT OF THE SERVO CIRCUIT IS NECESSARY.

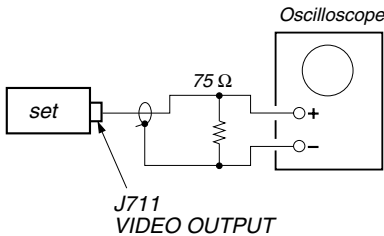
- 1. Optical pick-up
- 2. RF AMP (IC001)
- 3. DSP IC (IC509)
- 4. Motor driver IC (IC501)
- 5. EEPROM (IC204)

- Note :
- 1. VIDEO board is basically designed to operate without adjustment. Therefore, check each item in order given.
 - 2. Use DVD reference disc unless otherwise indicated.
[DVD reference disc]
 - LUV-P01 (4-999-032-01) (CD)
 - TDV-540C (J-2501-235-A) (DVD-DL)
 - TDV-520CSO (J-2501-236-A) (DVD-SL)
 - 3. Use an oscilloscope with more than 10MΩ impedance.
 - 4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

Video Level Check (VIDEO BOARD)

Purpose

This adjustment is made to satisfy the NTSC standard, and if not adjusted correctly, the brightness will be too large or small.



Procedure:

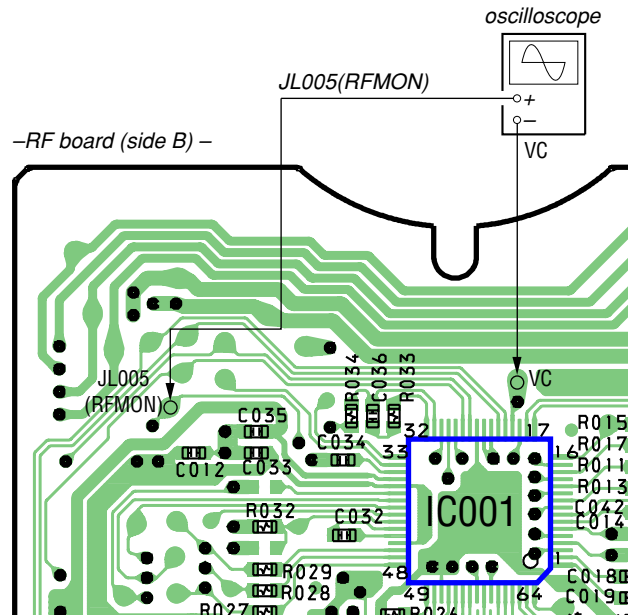
- 1. Connect oscilloscope to VIDEO output.
- 2. Load a DVD reference disc playback.
- 3. Check the video signal level is $1.00 \pm 0.05 V_{p-p}$.



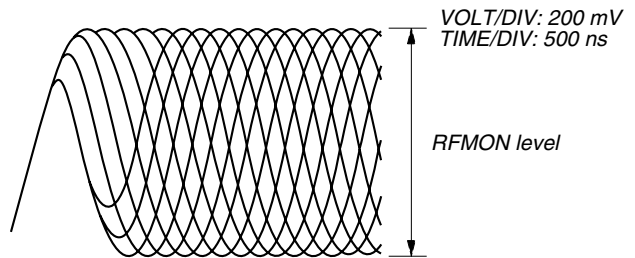
RFMON Level Check

Perform a RFMON level check before exchanging optical pick-up.

Connection:



RFMON signal waveform



- Standard value

	Test Disc	RFMON level Standard Value
DVD	TDV-520CSO (J-2501-236-A)	$1.09 \pm 0.2 V_{p-p}$
CD	LUV-P01 (4-999-032-01)	$1.05 \pm 0.2 V_{p-p}$

SECTION 7 DIAGRAMS

Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
-  : internal component.
-  : nonflammable resistor.
-  : fusible resistor.

Note:

The components identified by mark $\triangle$ or dotted line with mark $\triangle$ are critical for safety.
Replace only with part number specified.

-  : panel designation.
-  : B+ Line.
-  : B- Line.
-  : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
RF, DMB03, VIDEO, REGULATOR boards section
no mark: DVD PLAY
Other board section
no mark: TUNER (FM/AM)
(): DVD PLAY
< >: TAPE PLAY
[]: TAPE REC
- Voltages are taken with a VOM (Input impedance 10 M Ω).
Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
-  : TUNER (FM/AM)
-  : TAPE PLAY (DECK A)
-  : TAPE PLAY (DECK B)
-  : RECORD
-  : DVD PLAY
-  : DVD PLAY (DIGITAL OUT)
-  : MD/VIDEO (AUDIO) IN
-  : GAME IN (AUDIO)
-  : GAME IN (VIDEO)
-  : MIC INPUT

Abbreviation

- AUS : Australian model
- E3 : 240 V AC Area in E model
- EA : Saudi Arabia model
- E15 : Iran model
- E51 : Chilean and Peruvian model
- MX : Mexican model
- PH : Philippines model
- SP : Singapore model
- MY : Malaysia model
- TH : Thai model

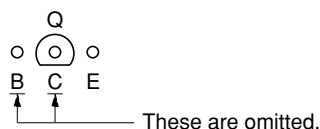
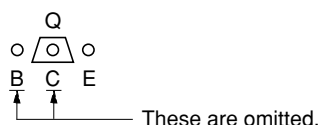
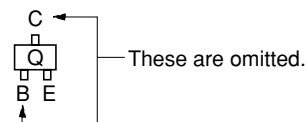
Note on Printed Wiring Boards:

-  : parts extracted from the component side.
-  : Pattern from the side which enables seeing.
(The other layers' Patterns are not indicated.)

Caution:

Pattern face side: Parts on the pattern face side seen from the (Side B) pattern face are indicated.
Parts face side: Parts on the parts face side seen from the (Side A) parts face are indicated.

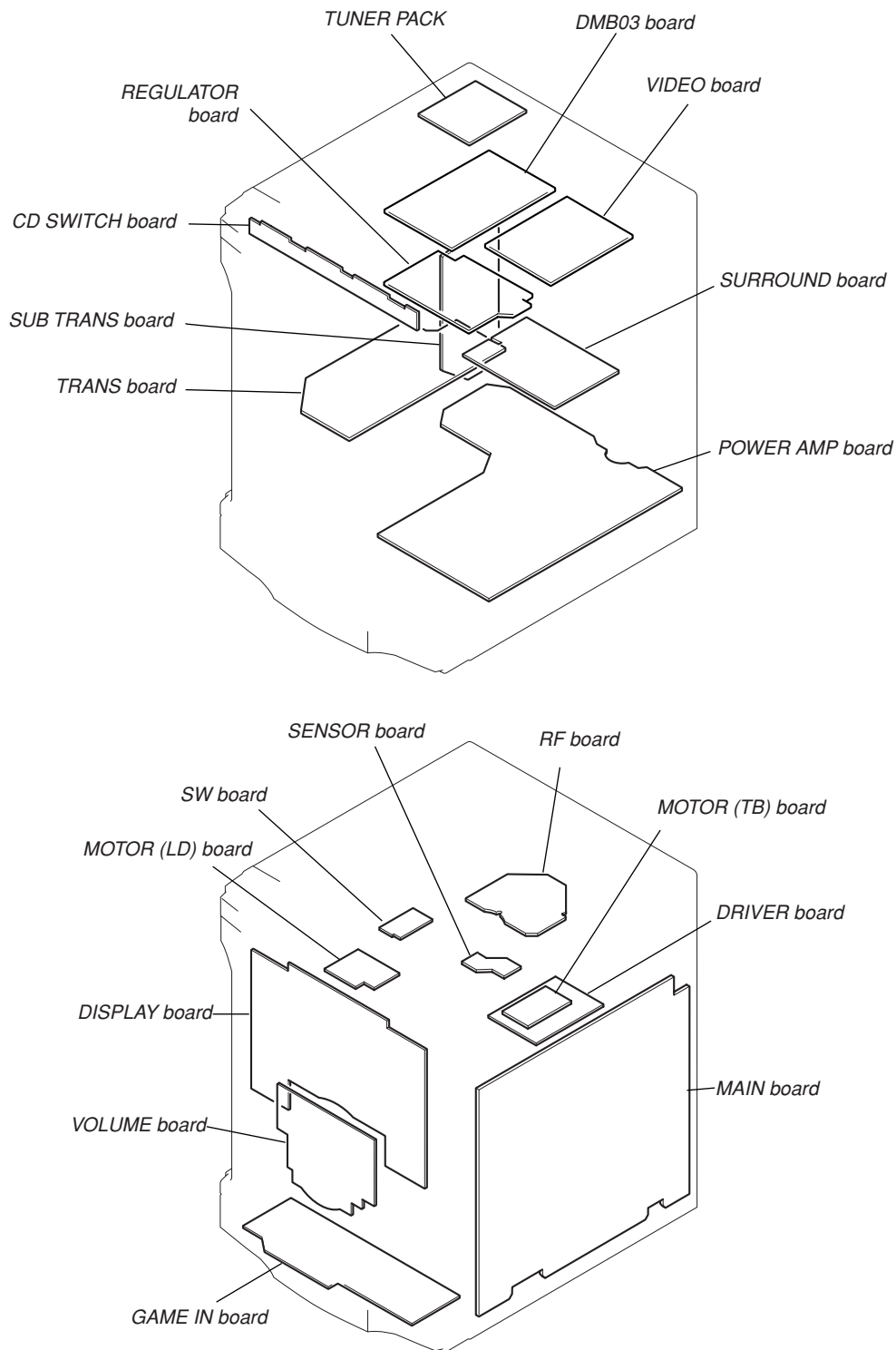
- Indication of transistor.



Abbreviation

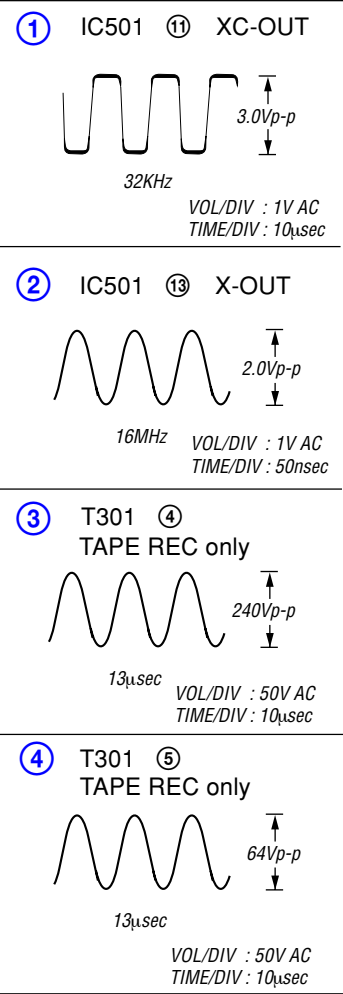
- AUS : Australian model
- E3 : 240 V AC Area in E model
- EA : Saudi Arabia model
- E15 : Iran model
- E51 : Chilean and Peruvian model
- MX : Mexican model
- PH : Philippines model
- SP : Singapore model
- MY : Malaysia model
- TH : Thai model

7-1. CIRCUIT BOARD LOCATION

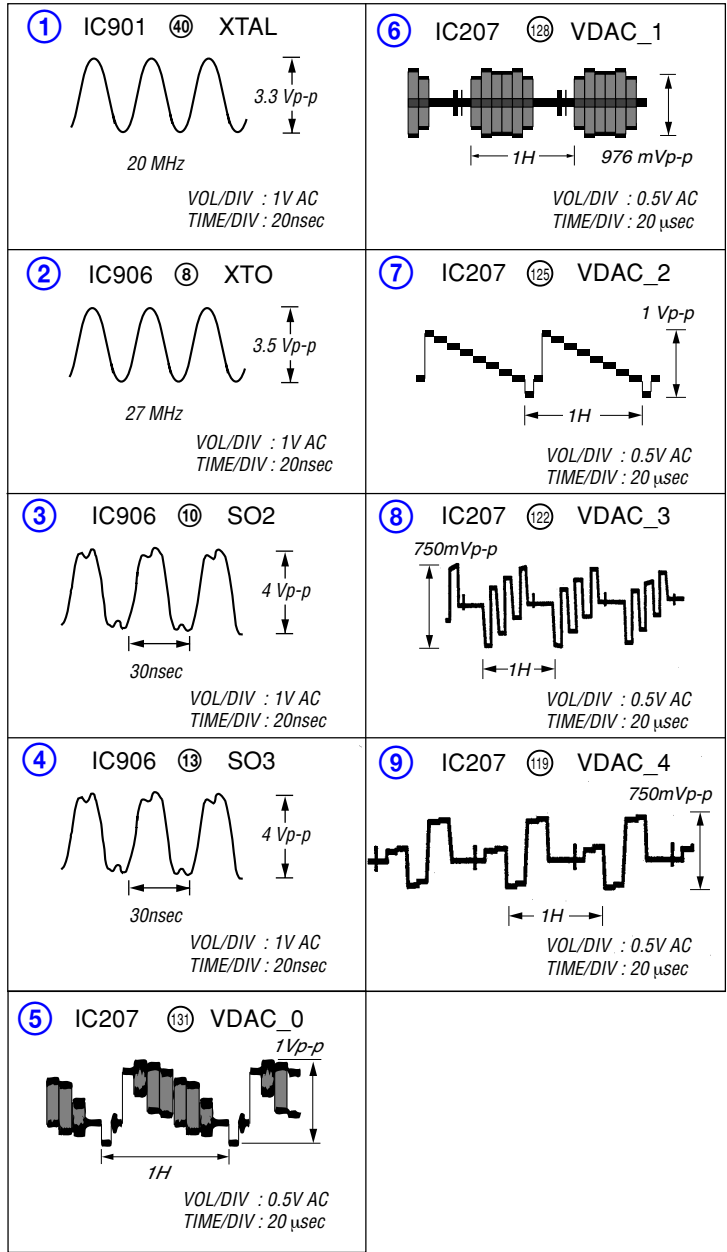


● WAVEFORMS

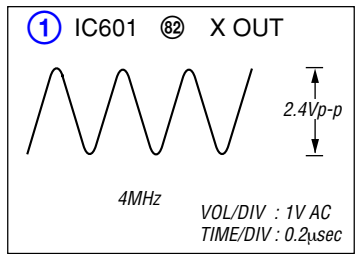
– MAIN BOARD –



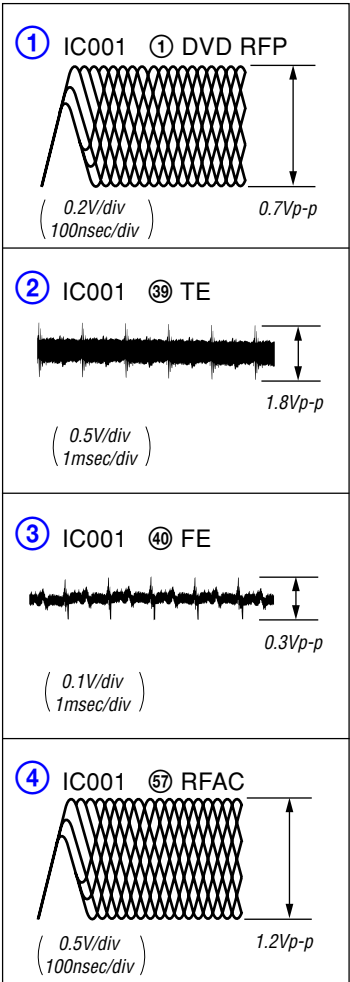
– DMB03 BOARD –



– DISPLAY BOARD –

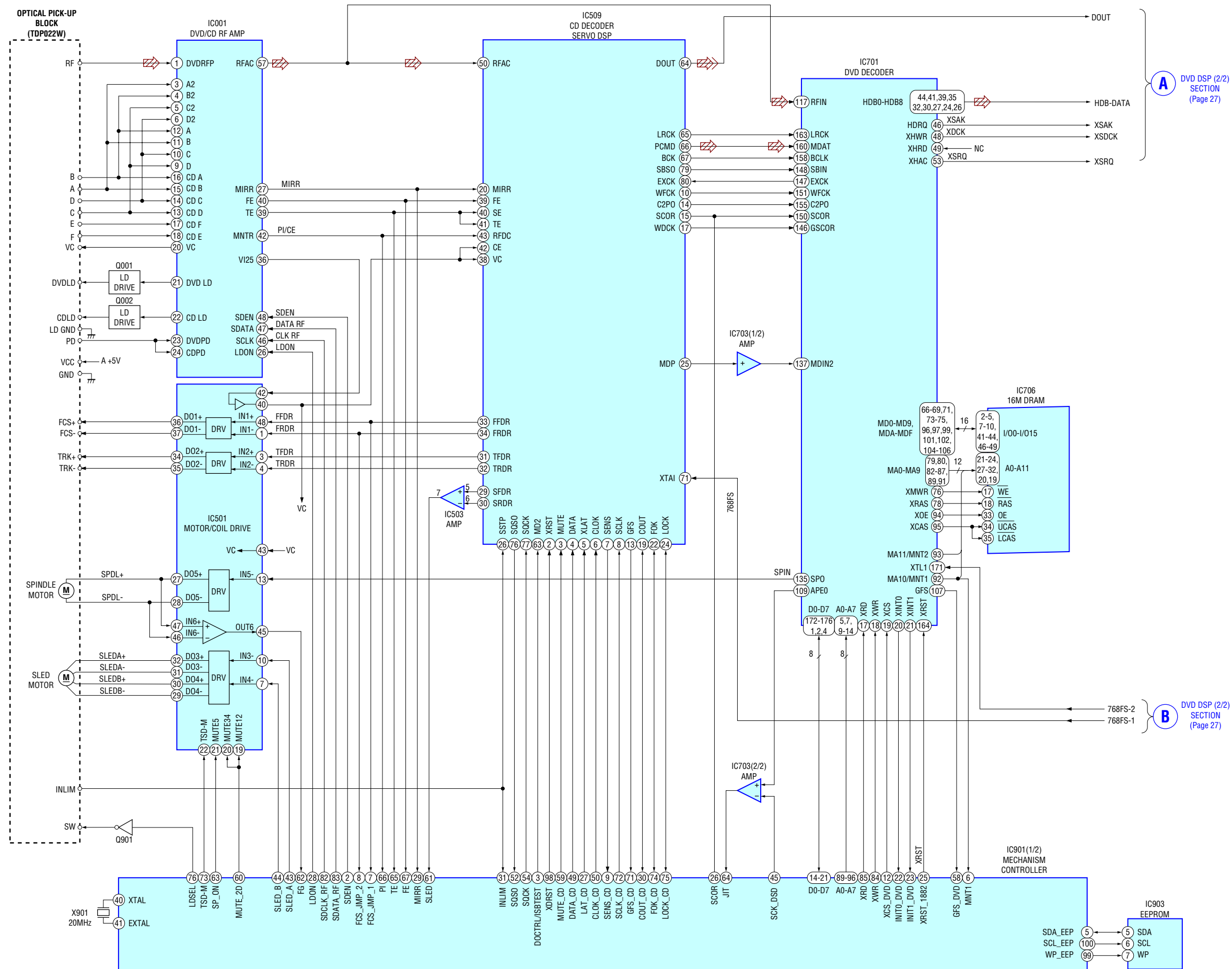


– RF Board –



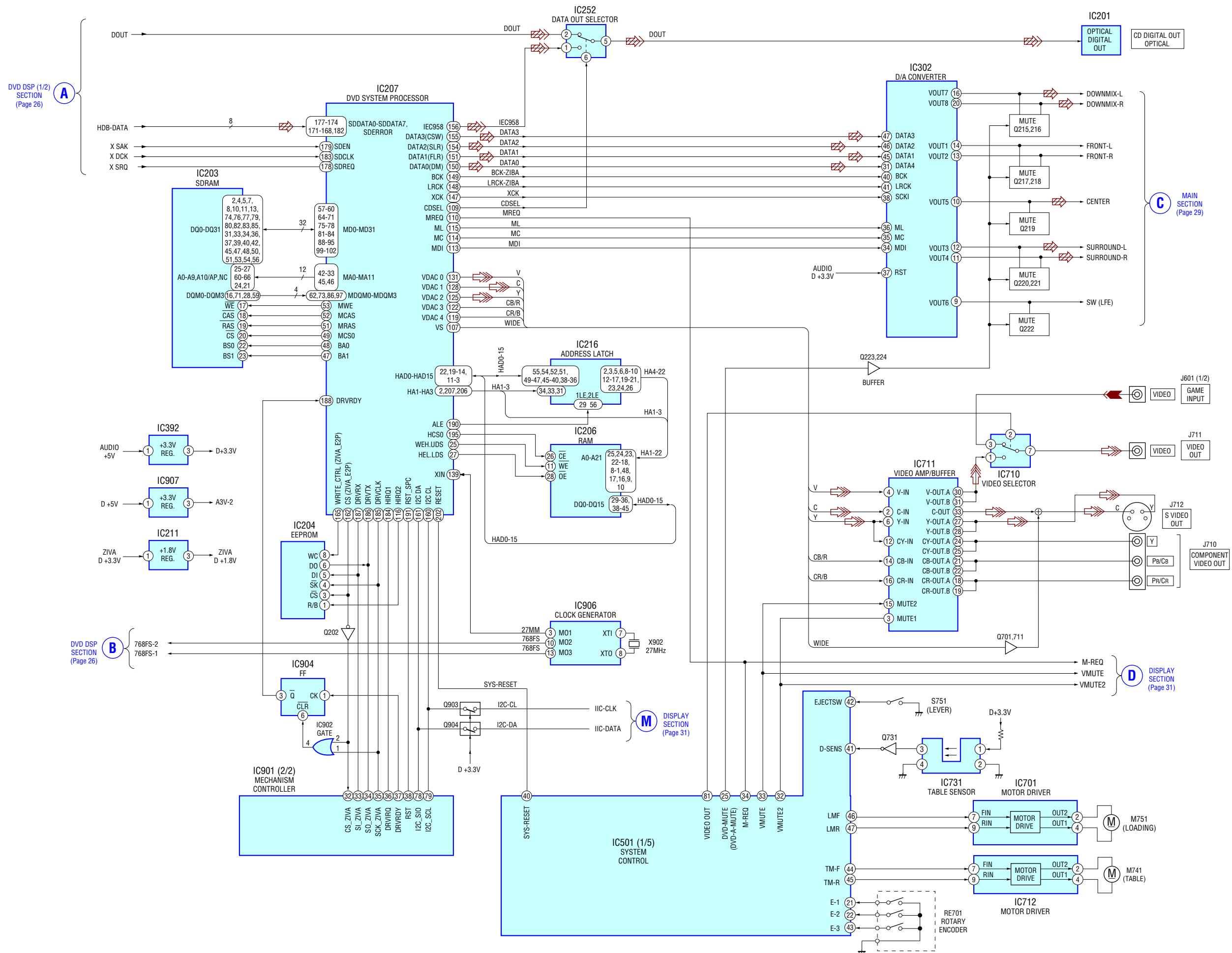
HCD-GN88D

7-2. BLOCK DIAGRAM – DVD DSP (1/2) Section –



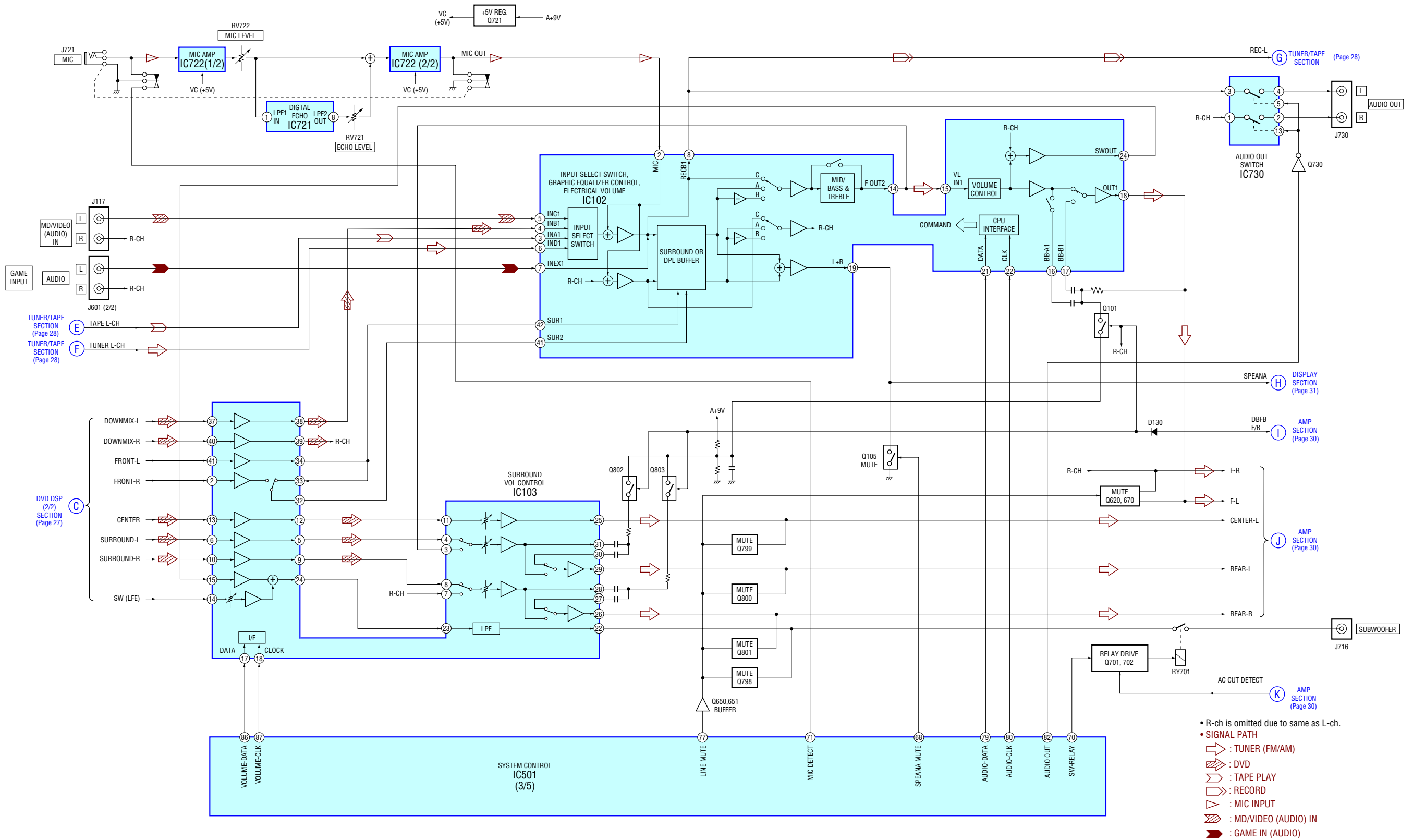
- Signal Path
 - ➡ : DVD
 - ➡➡ : DIGITAL OUT

– DVD DSP (2/2) Section–





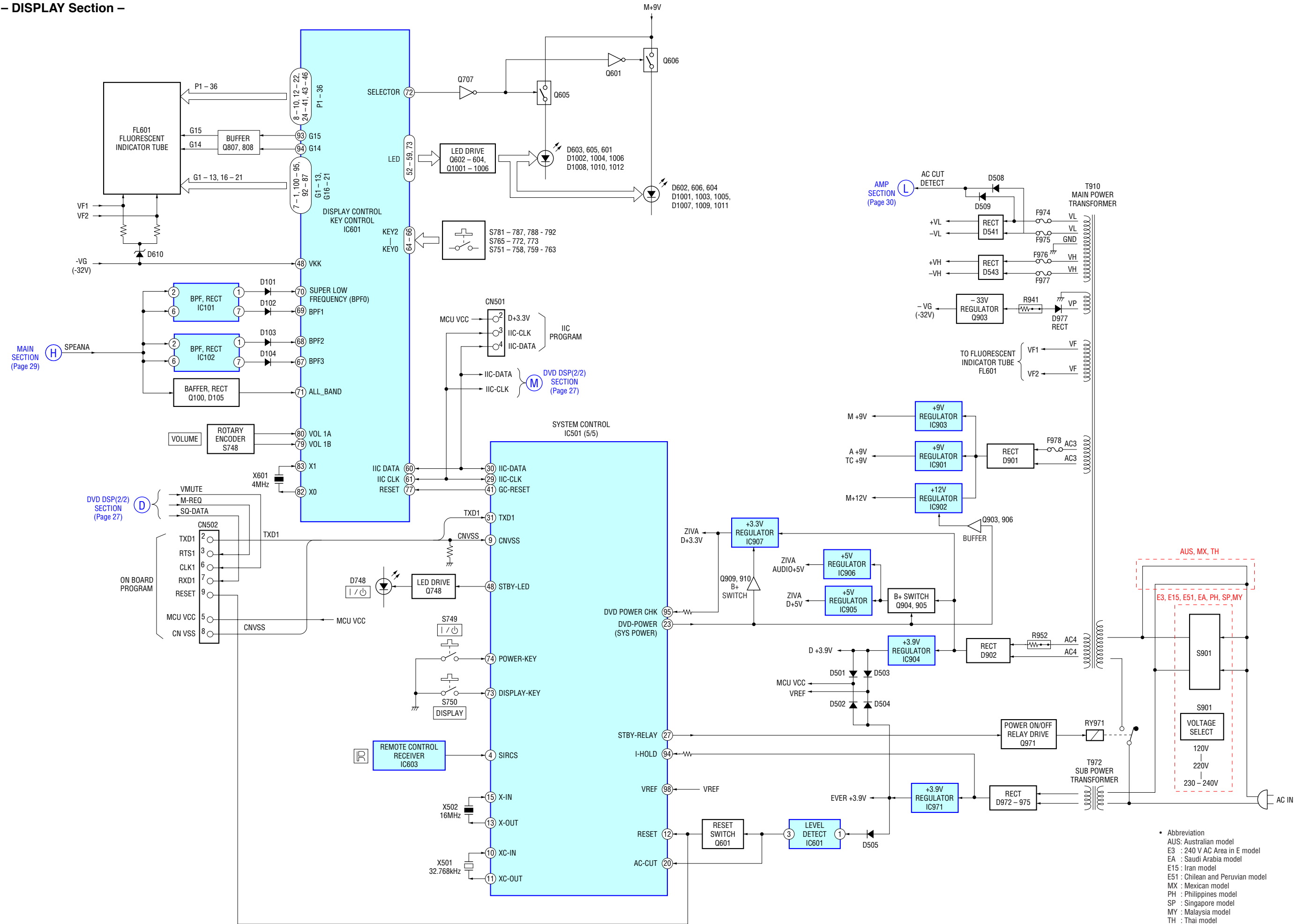
– MAIN Section –



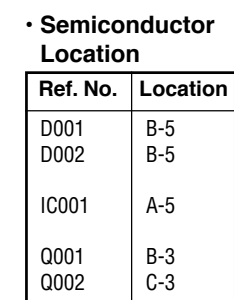
- R-ch is omitted due to same as L-ch.
- SIGNAL PATH
- ➡ : TUNER (FM/AM)
- ➡ : DVD
- ➡ : TAPE PLAY
- ➡ : RECORD
- ➡ : MIC INPUT
- ➡ : MD/VIDEO (AUDIO) IN
- ➡ : GAME IN (AUDIO)

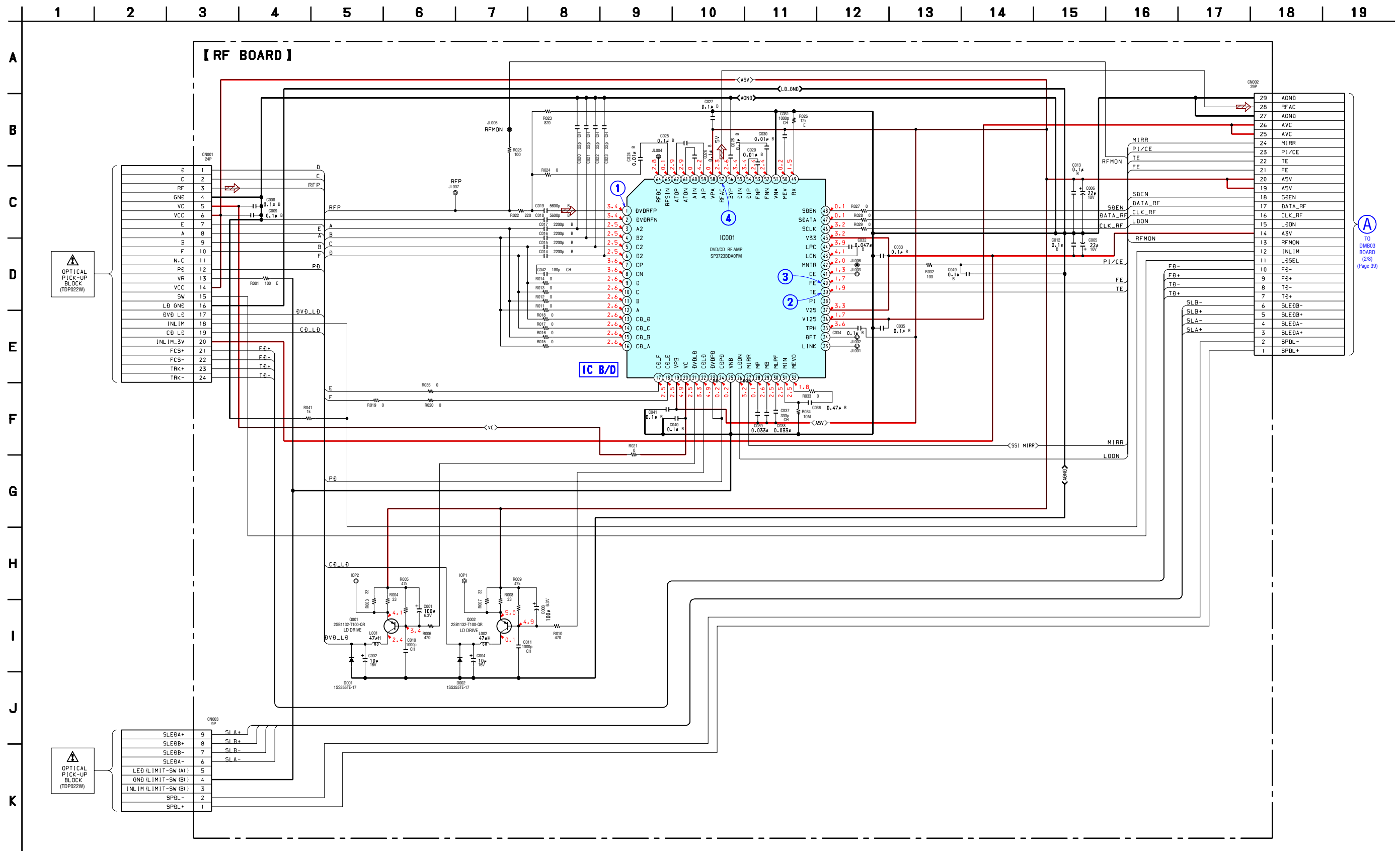


- DISPLAY Section -

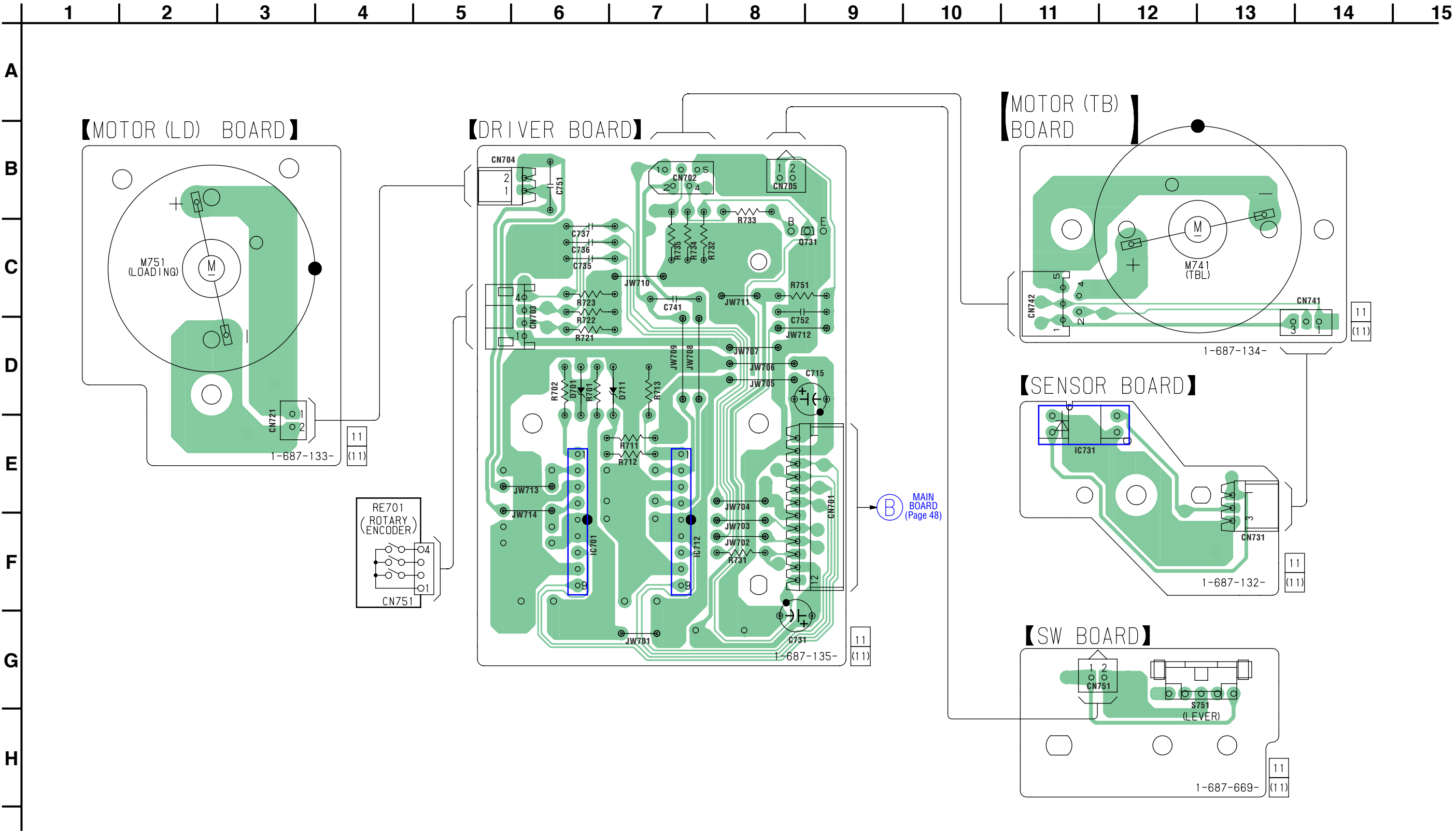


- Abbreviation
- AUS: Australian model
- E3 : 240 V AC Area in E model
- EA : Saudi Arabia model
- E15 : Iran model
- E51 : Chilean and Peruvian model
- MX : Mexican model
- PH : Philippines model
- SP : Singapore model
- MY : Malaysia model
- TH : Thai model





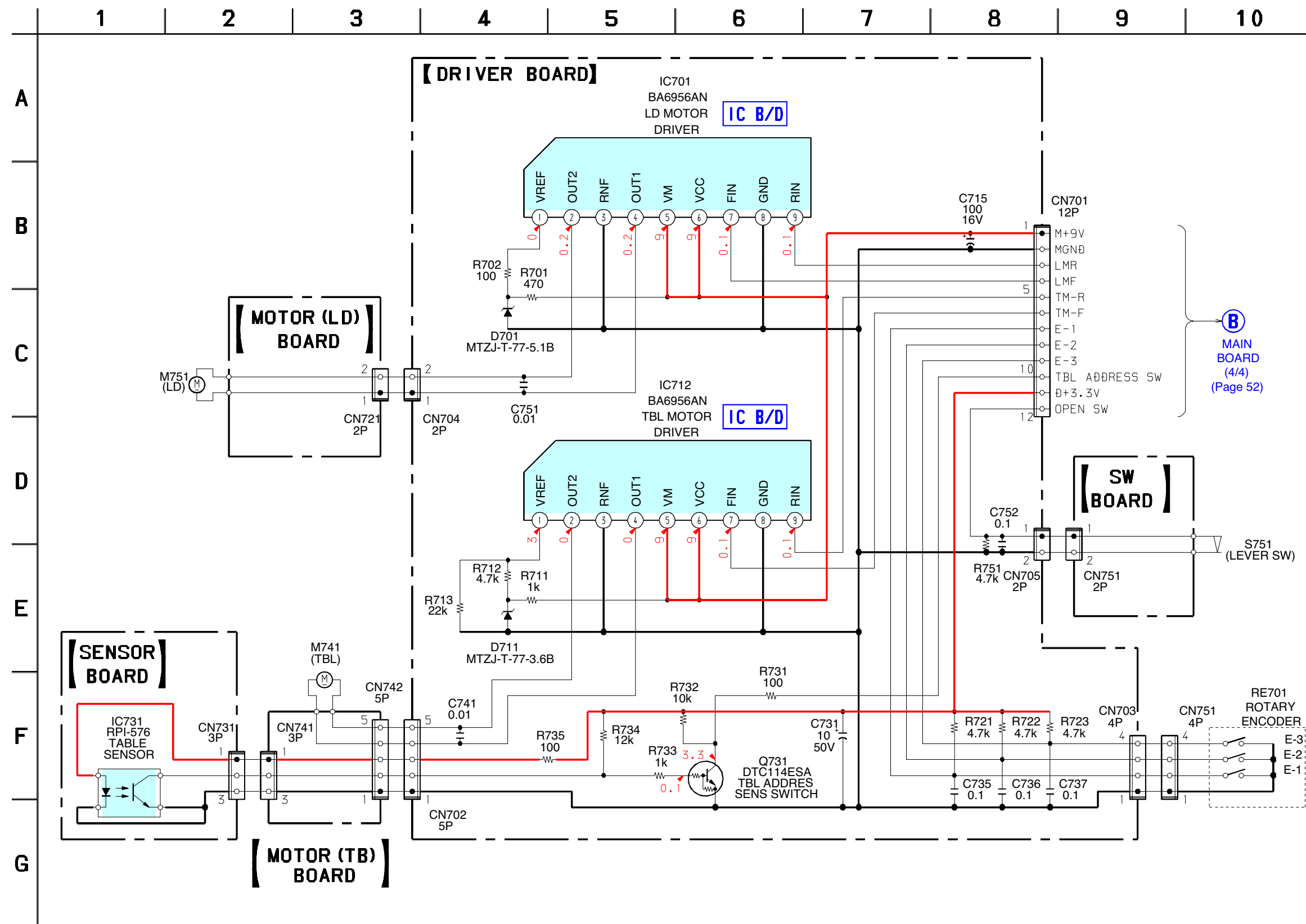
7-5. PRINTED WIRING BOARDS — DVD MECHANISM Board — • Refer to page 24 for Circuit Boards Location.

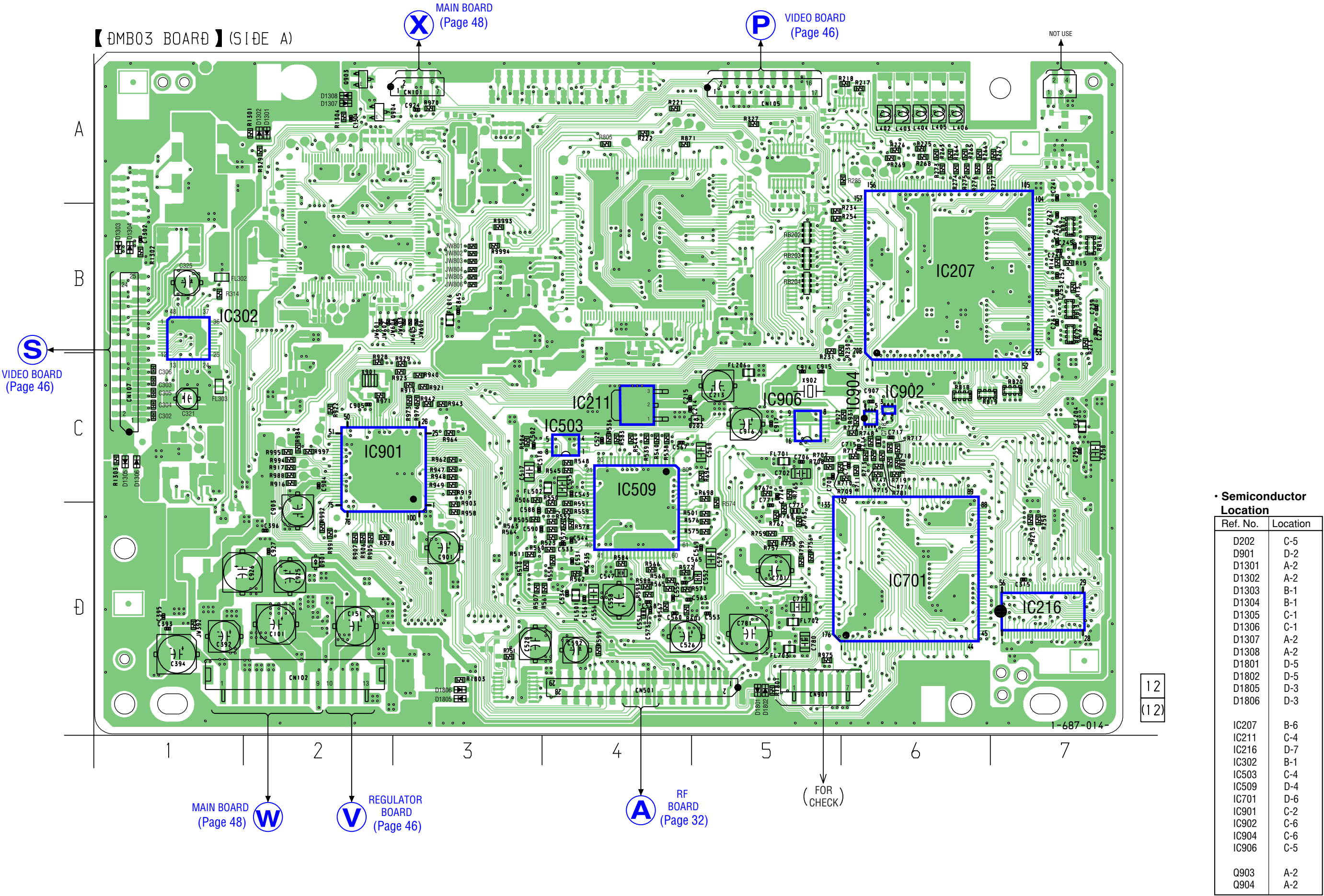


• Semiconductor Location

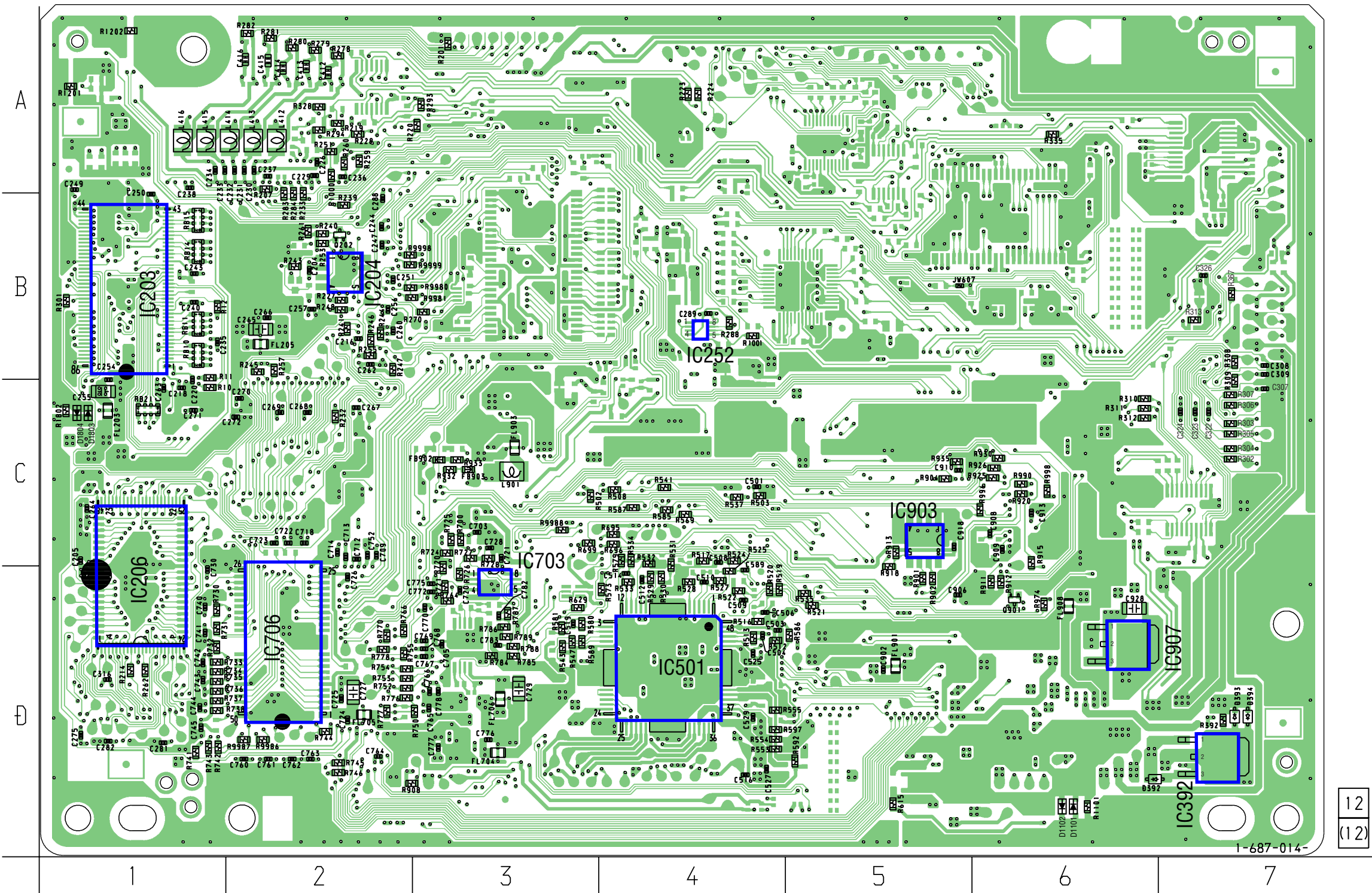
Ref. No.	Location
D701	D-6
D711	D-7
IC701	F-6
IC712	F-7
IC731	E-11
Q731	C-9

7-6. SCHEMATIC DIAGRAM – DVD MECHANISM Board –





【 DMB03 BOARD 】 (SIDE B)

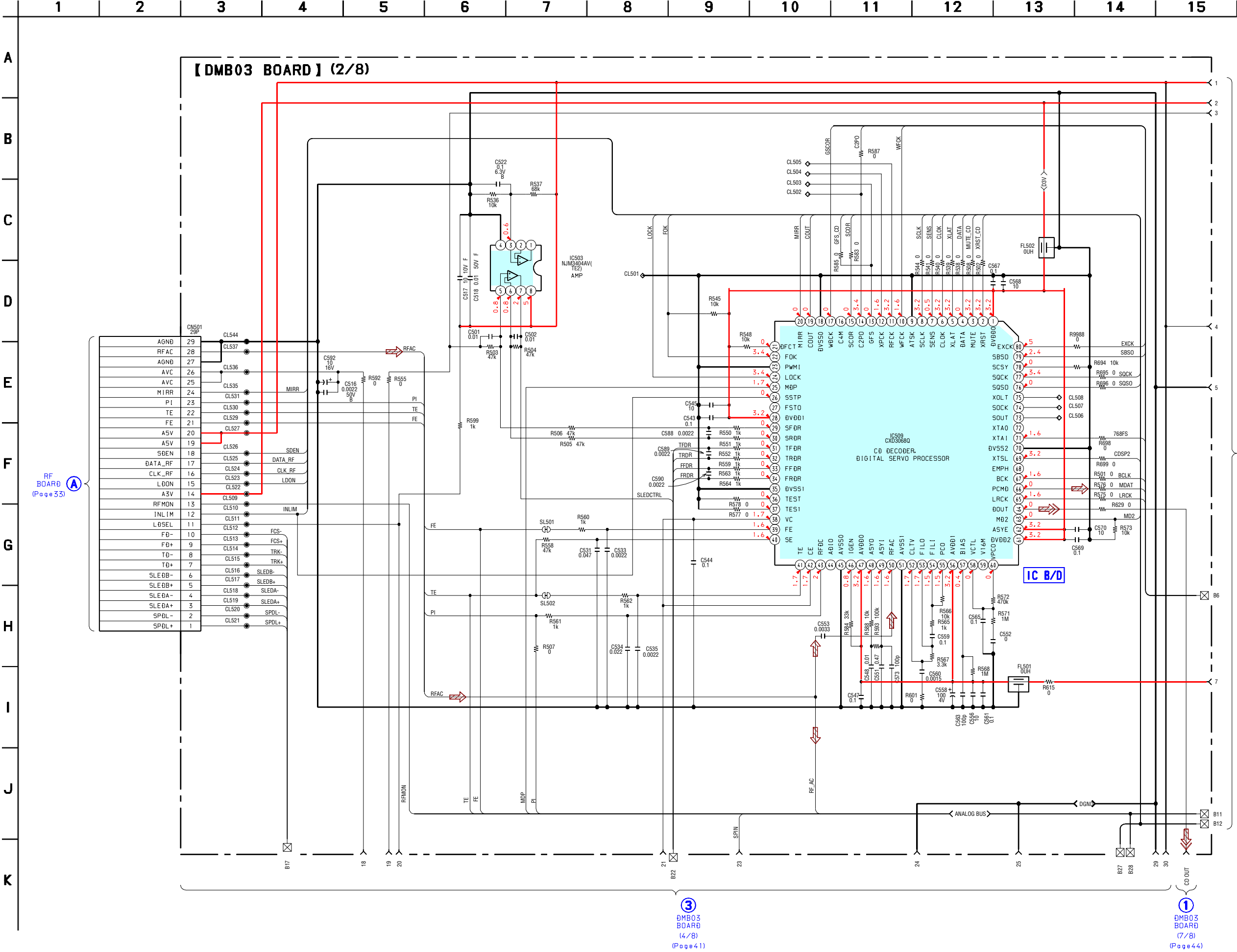


• Semiconductor Location

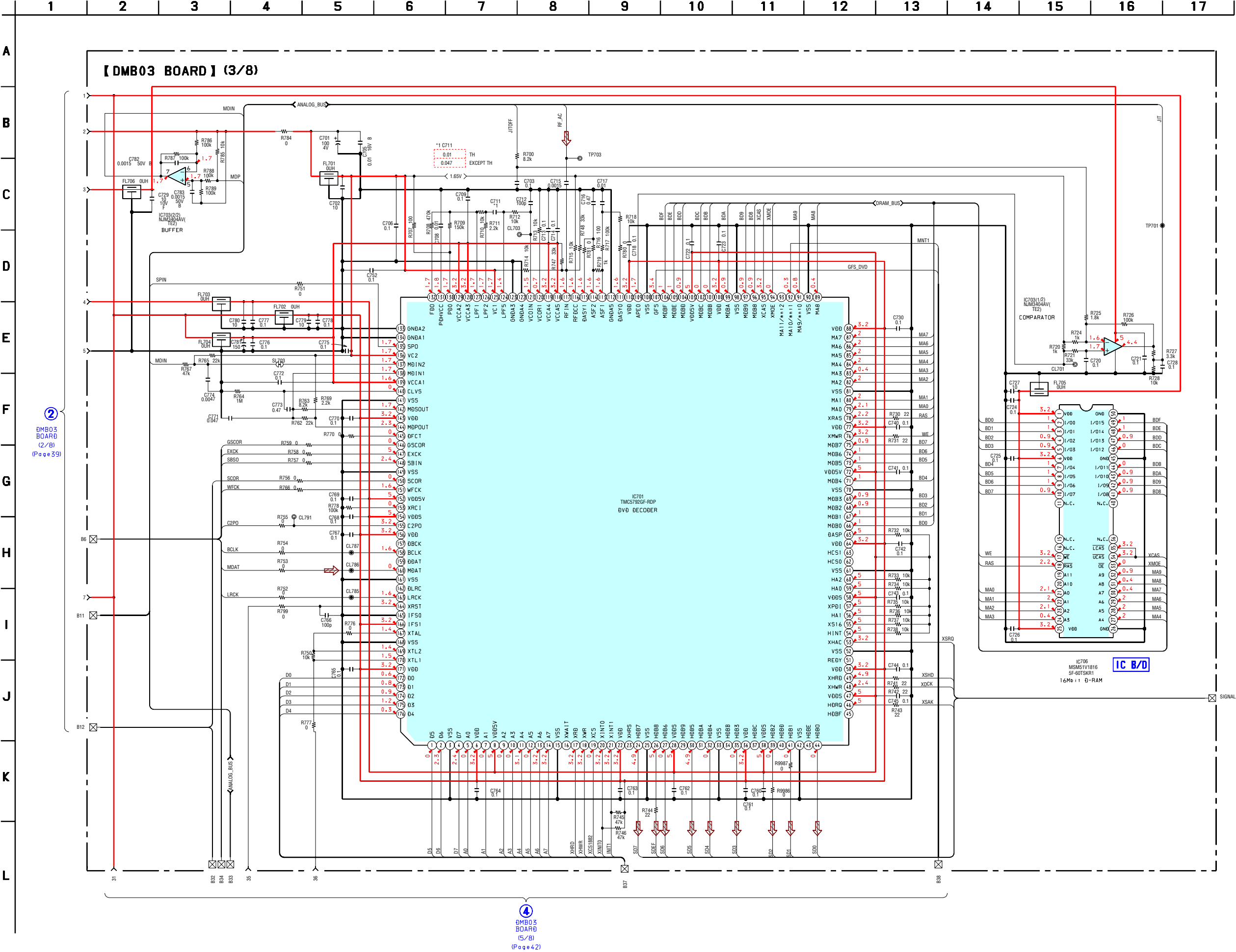
Ref. No.	Location
D392	D-6
D393	D-7
D394	D-7
D1101	D-6
D1102	D-6
D1803	C-1
D1804	C-1
IC203	B-1
IC204	B-2
IC206	D-1
IC252	B-4
IC392	D-7
IC501	D-4
IC703	D-3
IC706	D-2
IC903	C-5
IC907	D-6
Q202	B-2
Q901	D-6



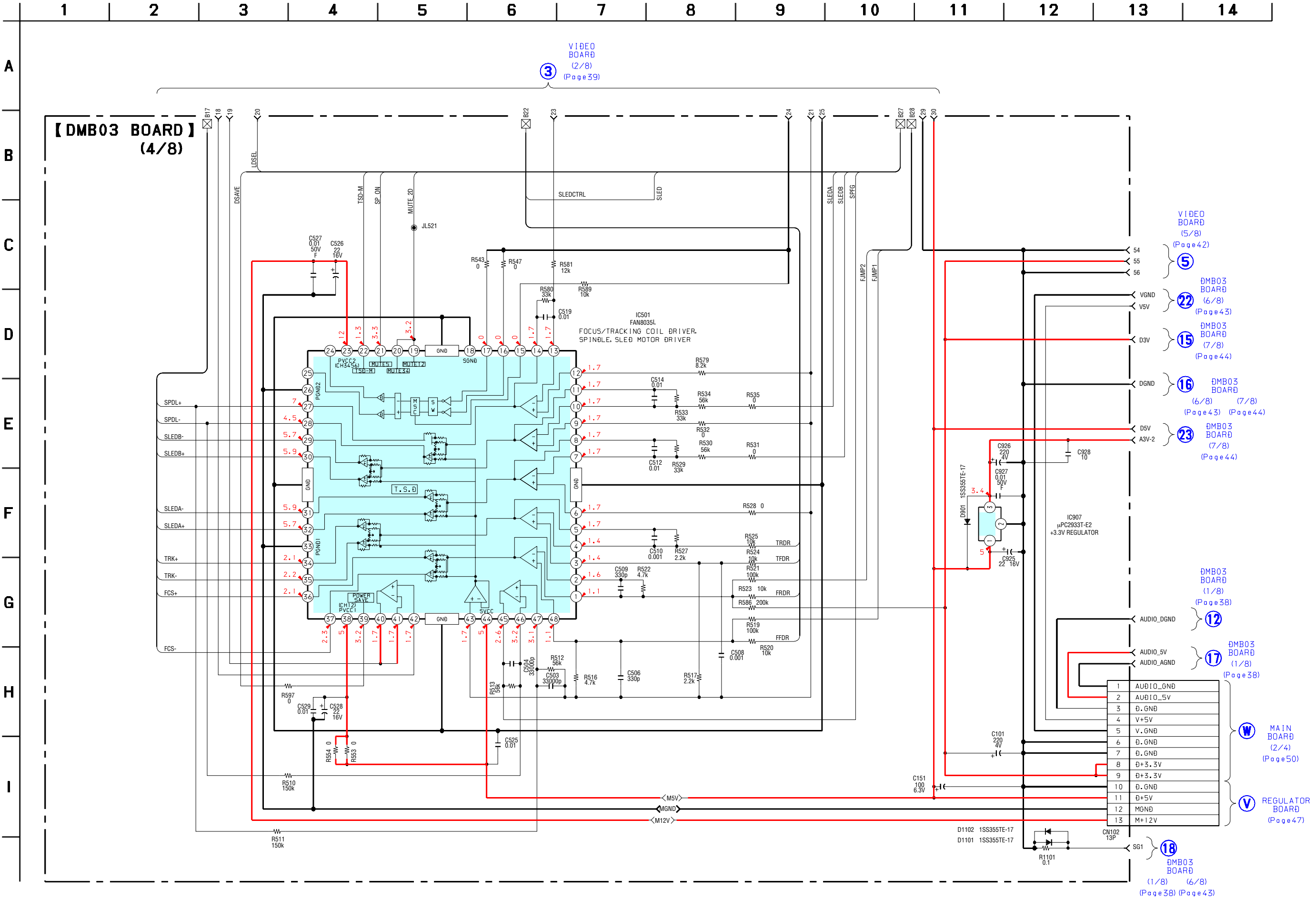
7-9. SCHEMATIC DIAGRAM – DMB03 Board (2/8) –



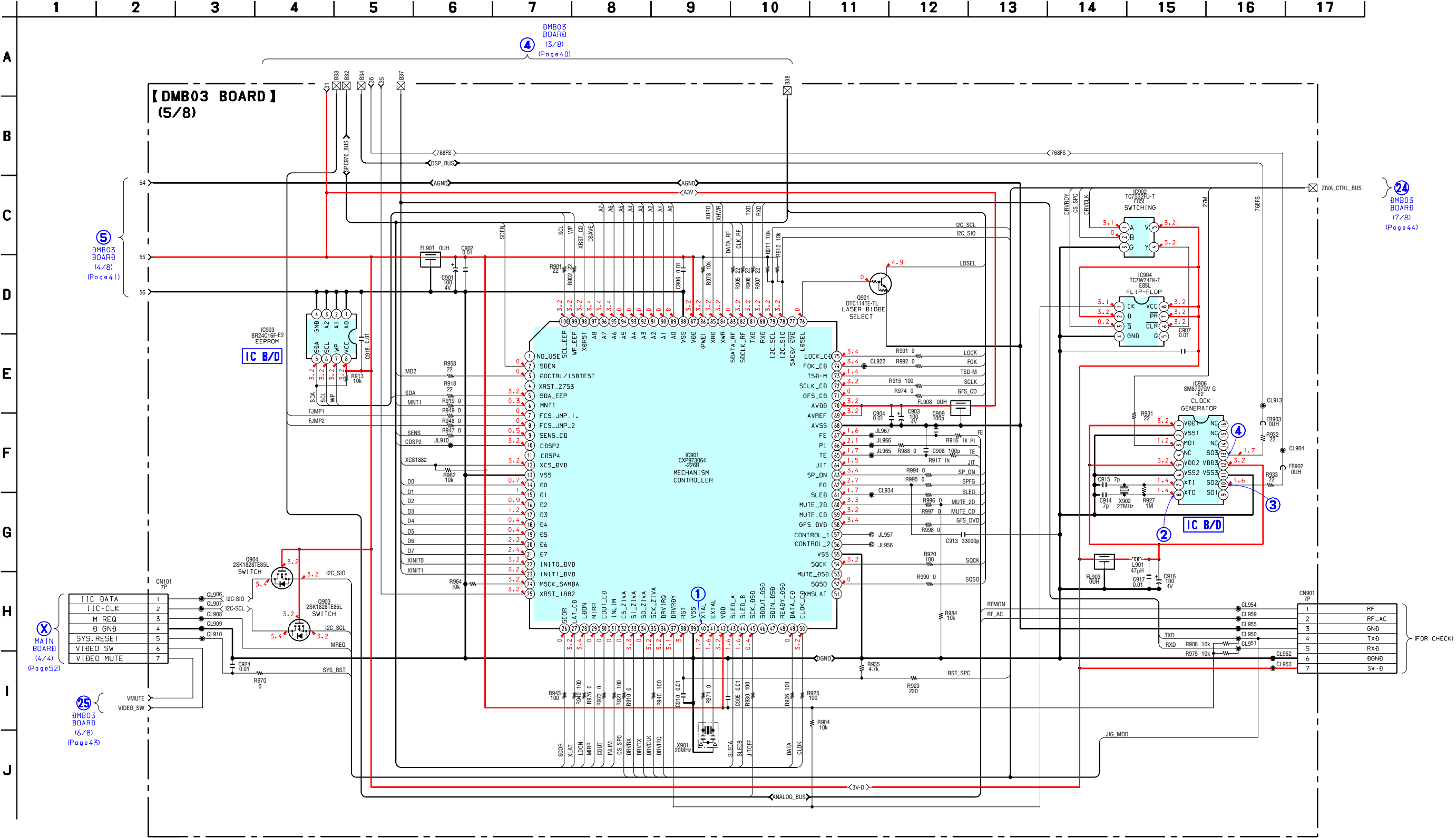
7-10. SCHEMATIC DIAGRAM – DMB03 (3/8) Boards – • See page 71 for Pin Function Description.



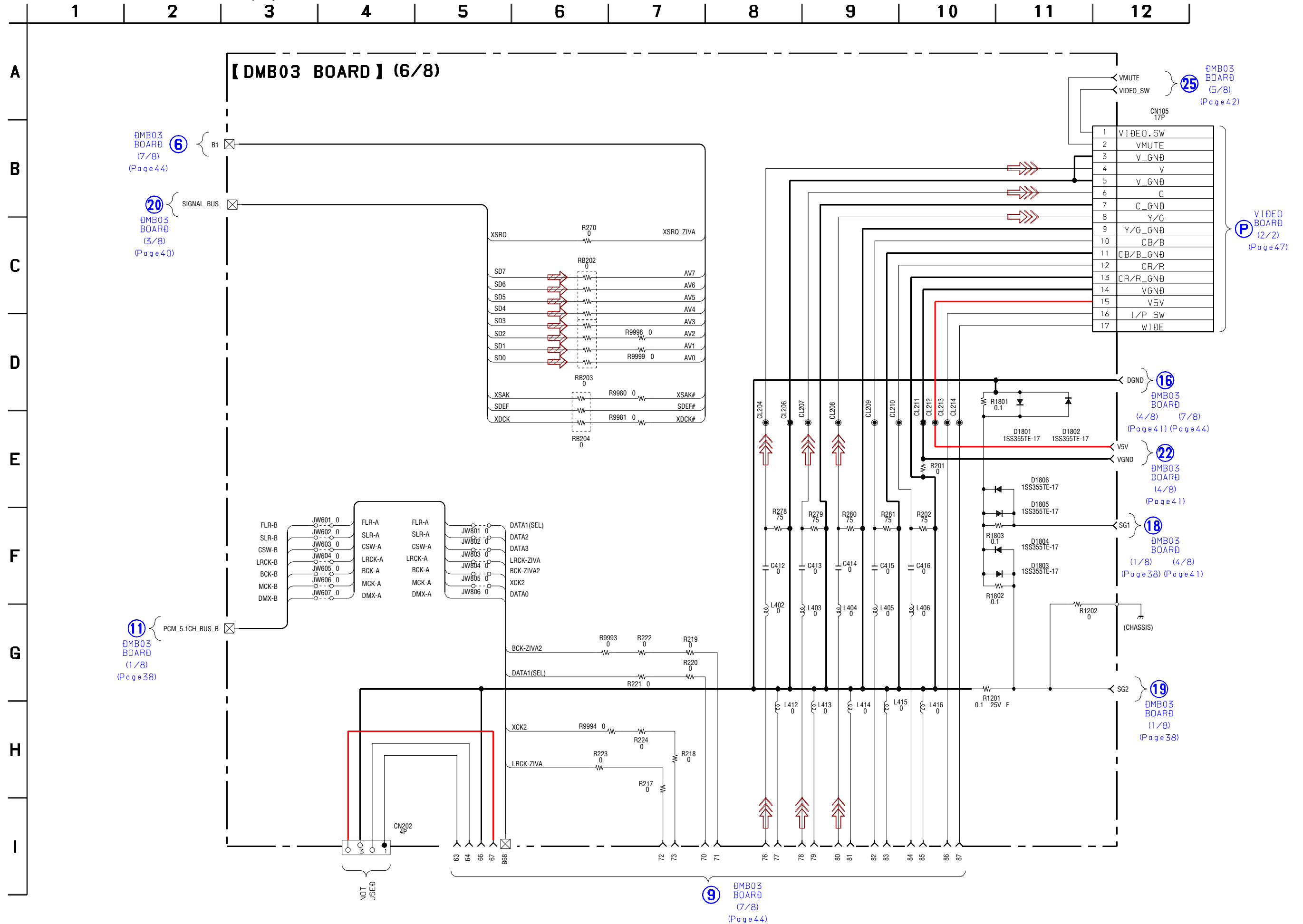
7-11. SCHEMATIC DIAGRAM – DMB03 (4/8) Boards –



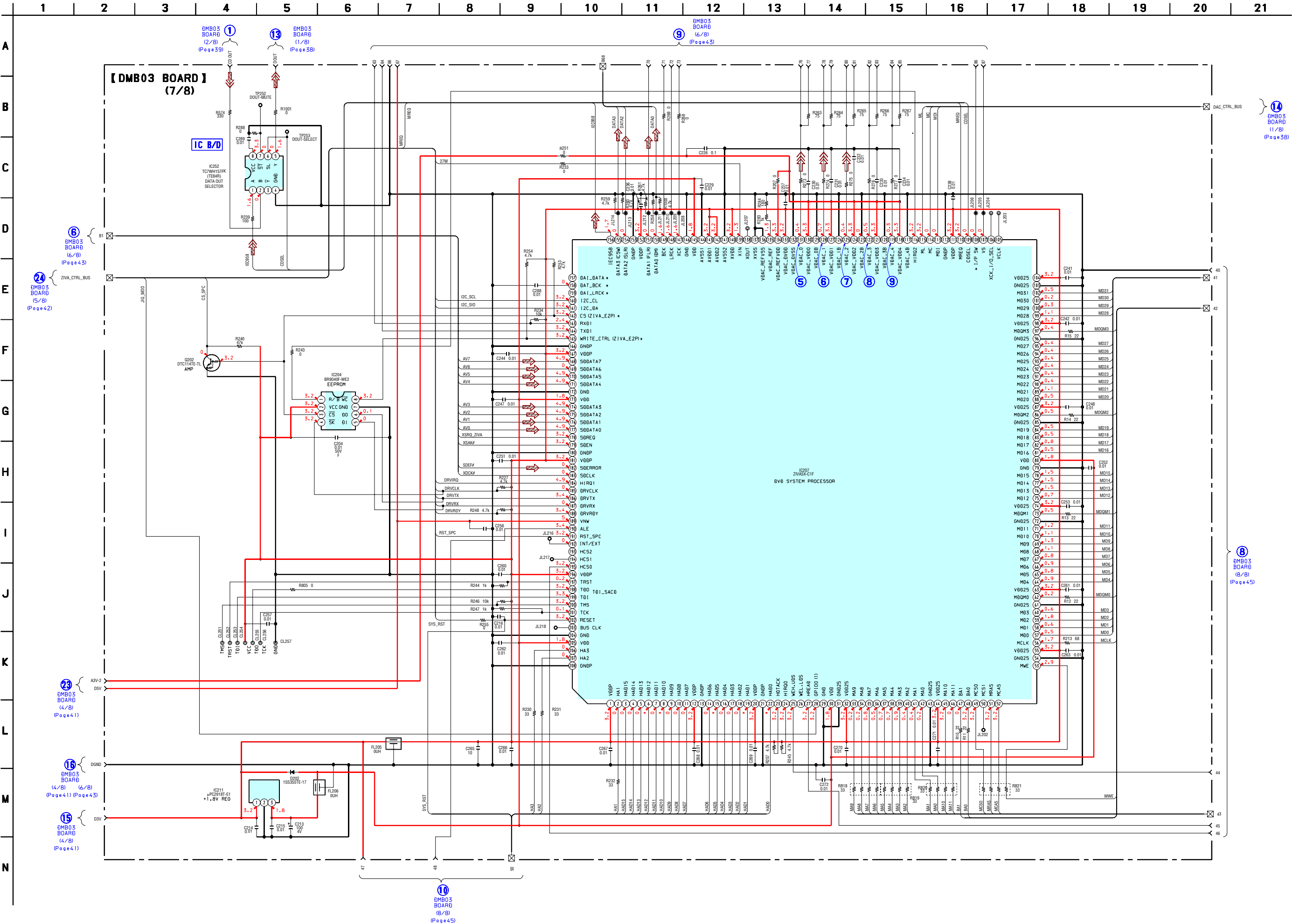
7-12. SCHEMATIC DIAGRAM – DMB03 (5/8) Boards – • See page 74 for Pin Function Description.



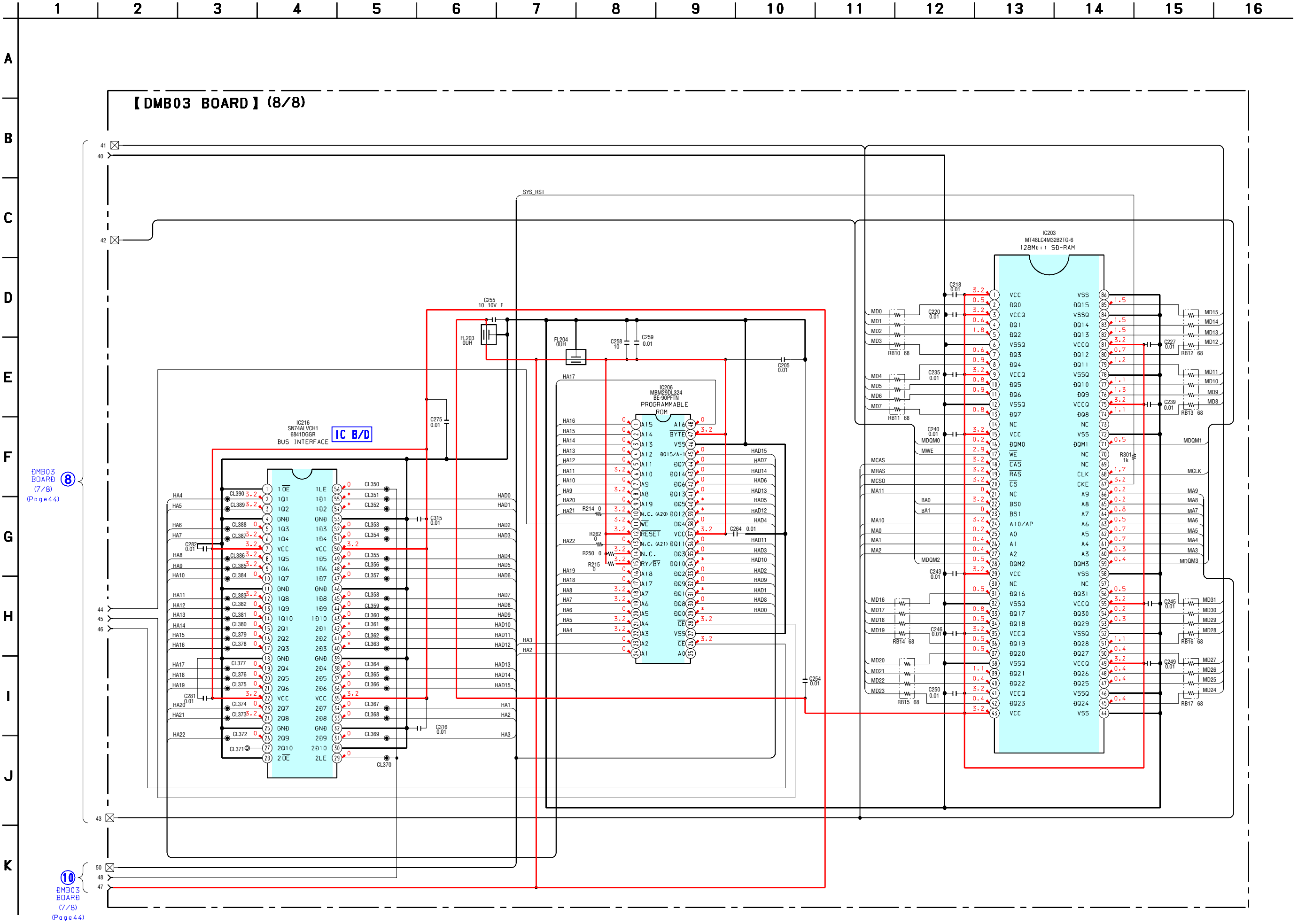
7-13. SCHEMATIC DIAGRAM – DMB03 (6/8) Boards –



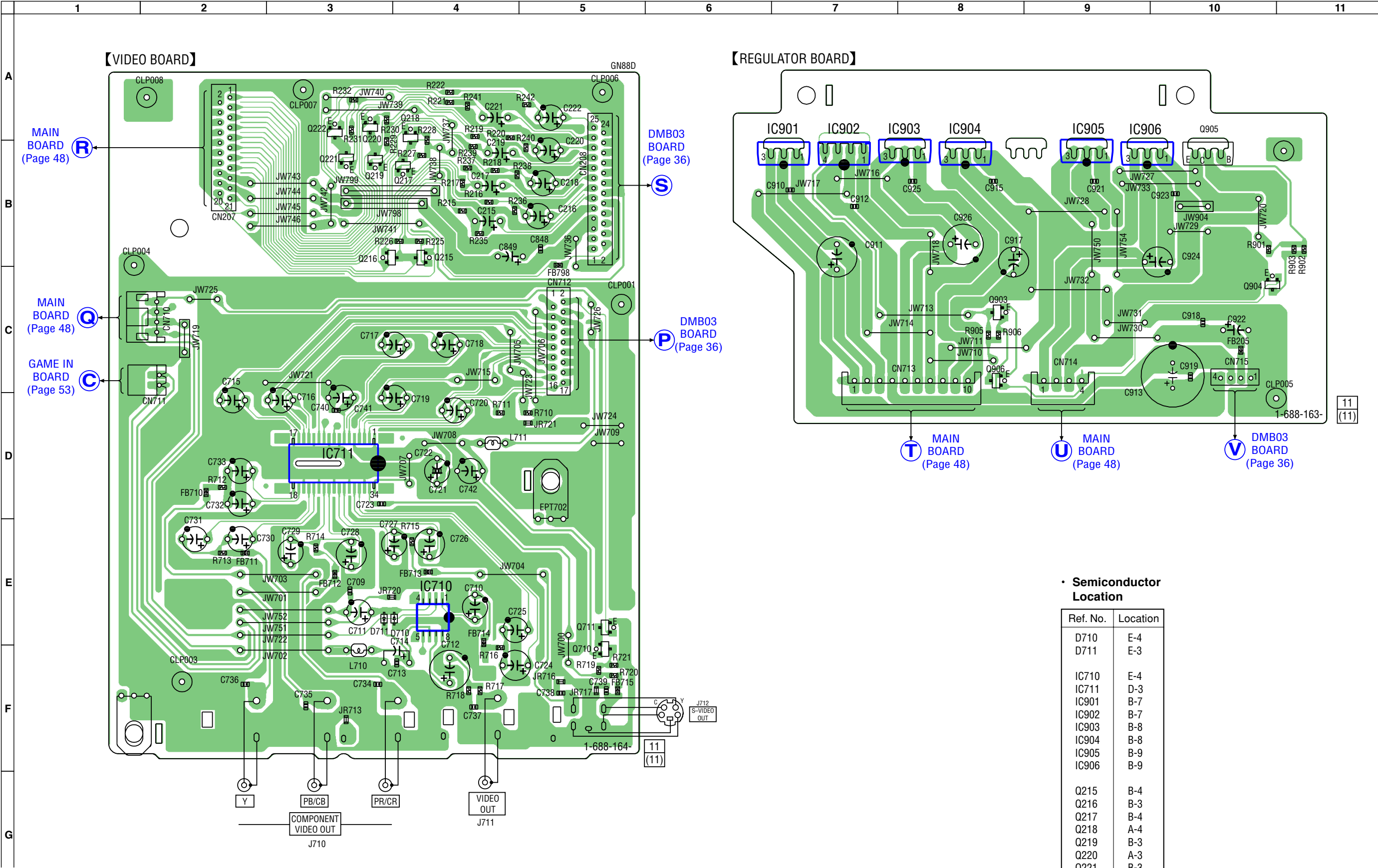
7-14. SCHEMATIC DIAGRAM – DMB03 (7/8) Boards – • See page 68 for Pin Function Description.



7-15. SCHEMATIC DIAGRAM – DMB03 (8/8) Boards –



7-16. PRINTED WIRING BOARD – VIDEO, REGULATOR Boards – • See page 24 for Circuit Boards Location.

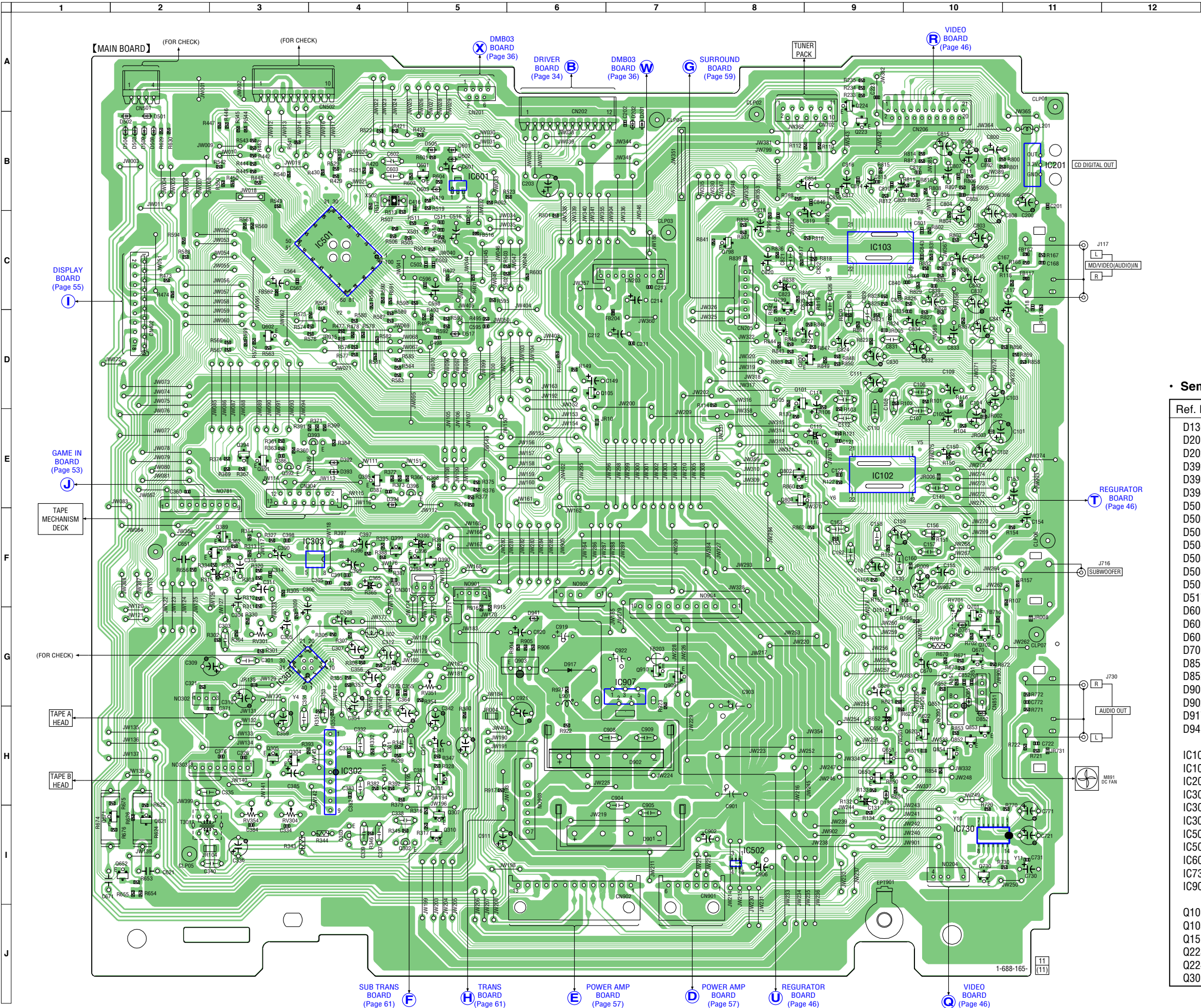


• Semiconductor Location

Ref. No.	Location
D710	E-4
D711	E-3
IC710	E-4
IC711	D-3
IC901	B-7
IC902	B-7
IC903	B-8
IC904	B-8
IC905	B-9
IC906	B-9
Q215	B-4
Q216	B-3
Q217	B-4
Q218	A-4
Q219	B-3
Q220	A-3
Q221	B-3
Q222	A-3
Q710	F-5
Q711	E-5
Q903	C-8
Q904	C-10
Q905	B-10
Q906	C-8



7-18.PRINTED WIRING BOARD – MAIN Board – • See page 24 for Circuit Boards Location.

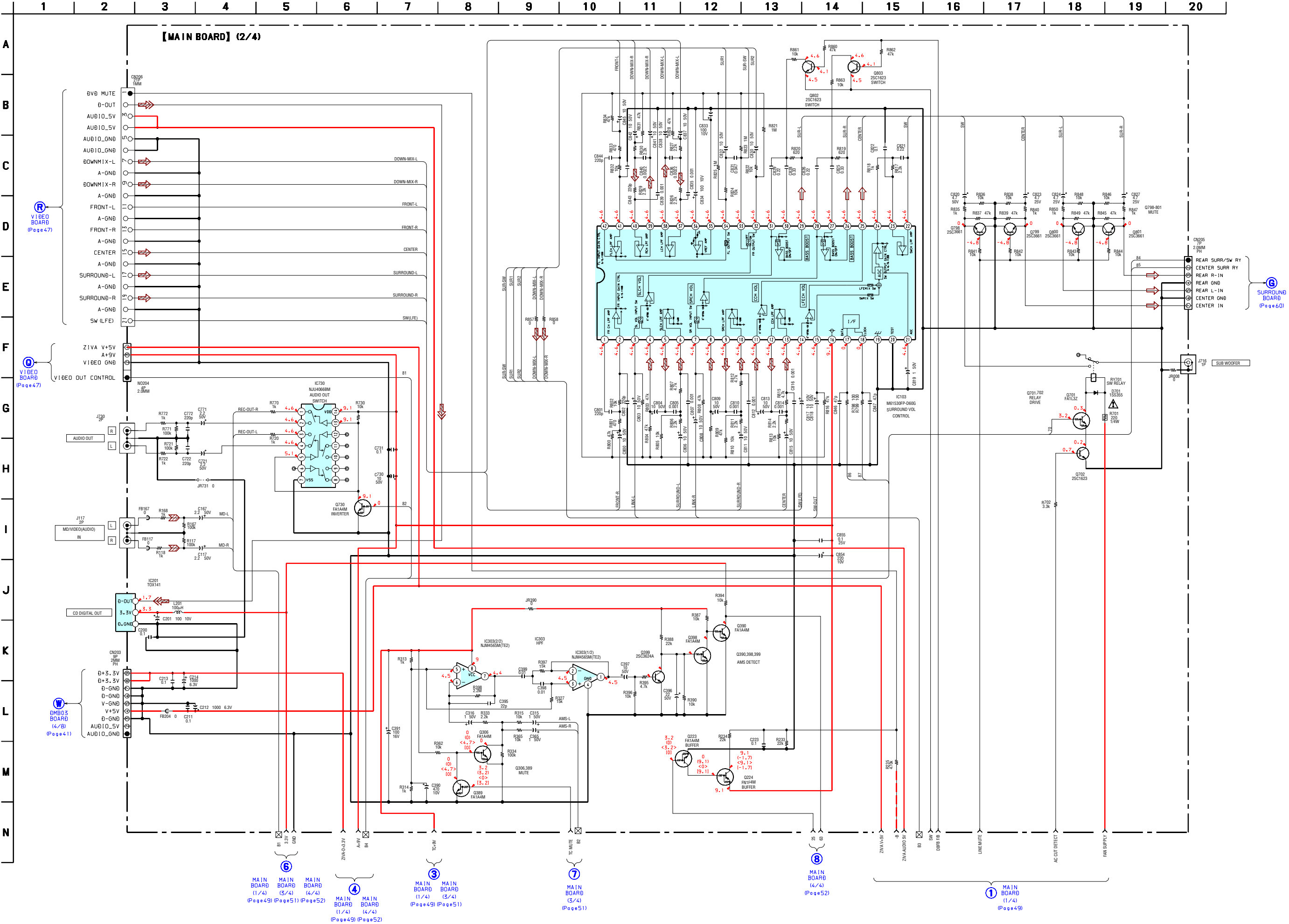


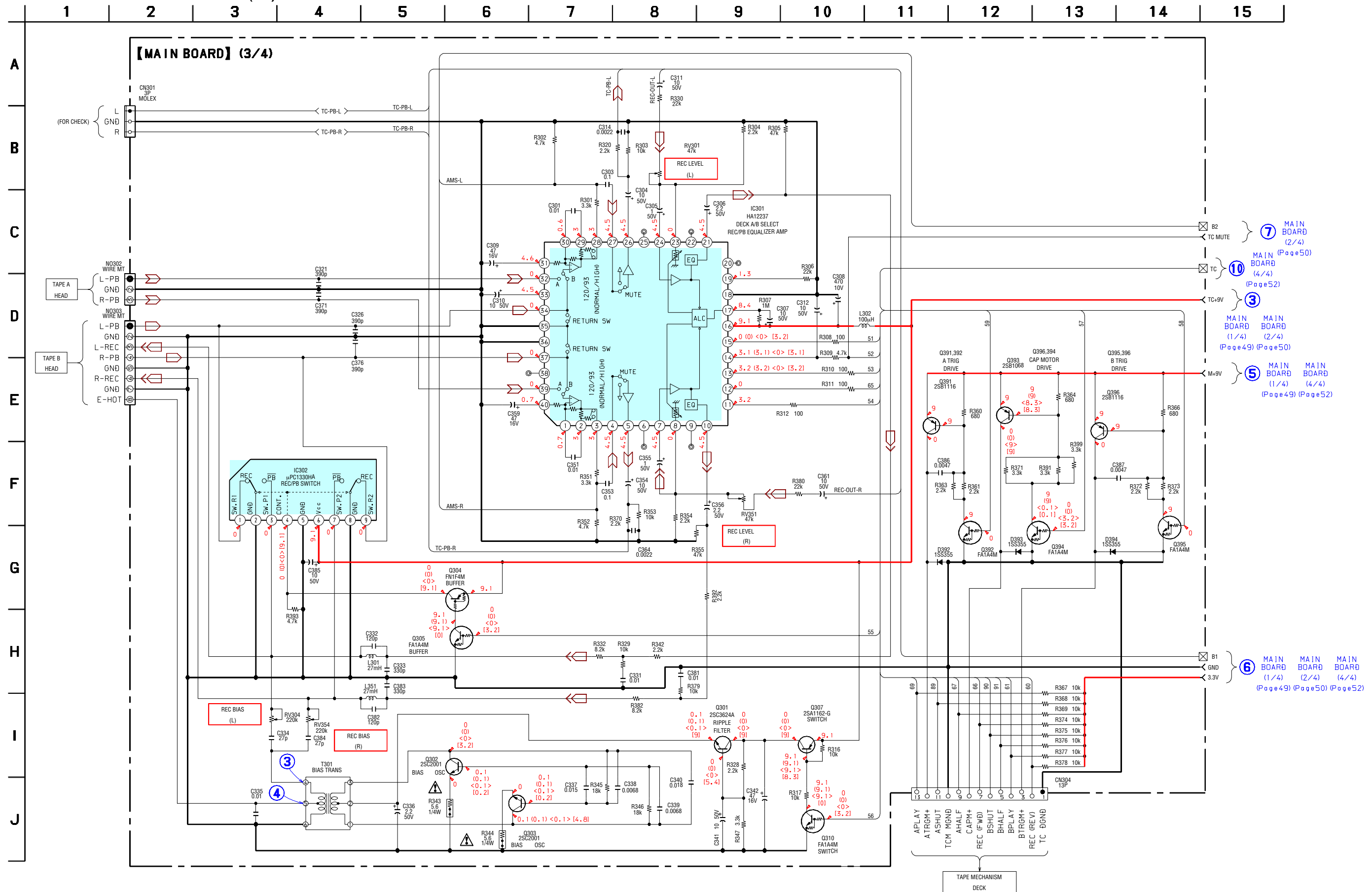
• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D130	H-9	Q302	I-4
D201	B-7	Q303	I-4
D202	B-7	Q304	H-3
D392	E-4	Q305	H-3
D393	E-4	Q306	F-3
D394	E-4	Q307	I-5
D501	B-2	Q310	I-5
D502	B-2	Q389	F-3
D503	B-2	Q390	F-5
D504	B-2	Q391	E-3
D505	B-2	Q392	E-3
D508	B-2	Q393	E-4
D509	B-2	Q394	E-3
D517	D-5	Q395	E-4
D601	B-5	Q396	E-5
D602	B-5	Q398	F-5
D603	B-5	Q399	F-4
D701	G-10	Q601	B-5
D851	G-10	Q602	D-3
D852	H-10	Q620	H-10
D901	I-7	Q621	I-2
D902	H-7	Q650	H-9
D917	G-6	Q651	H-9
D941	G-6	Q652	I-2
		Q670	G-10
IC102	E-9	Q671	I-2
IC103	C-9	Q701	G-10
IC201	B-11	Q702	G-10
IC301	G-3	Q730	I-10
IC302	H-4	Q798	C-8
IC303	F-4	Q799	C-8
IC501	C-4	Q800	D-9
IC502	I-8	Q801	D-8
IC601	B-5	Q802	E-8
IC730	I-10	Q803	E-8
IC907	G-7	Q851	G-10
		Q852	H-10
		Q853	H-10
		Q854	H-10
Q101	D-8	Q903	G-6
Q105	D-6	Q909	G-7
Q223	B-9	Q910	G-7
Q224	A-9		
Q301	H-5		



7-20. SCHEMATIC DIAGRAM – MAIN (2/4) Board –





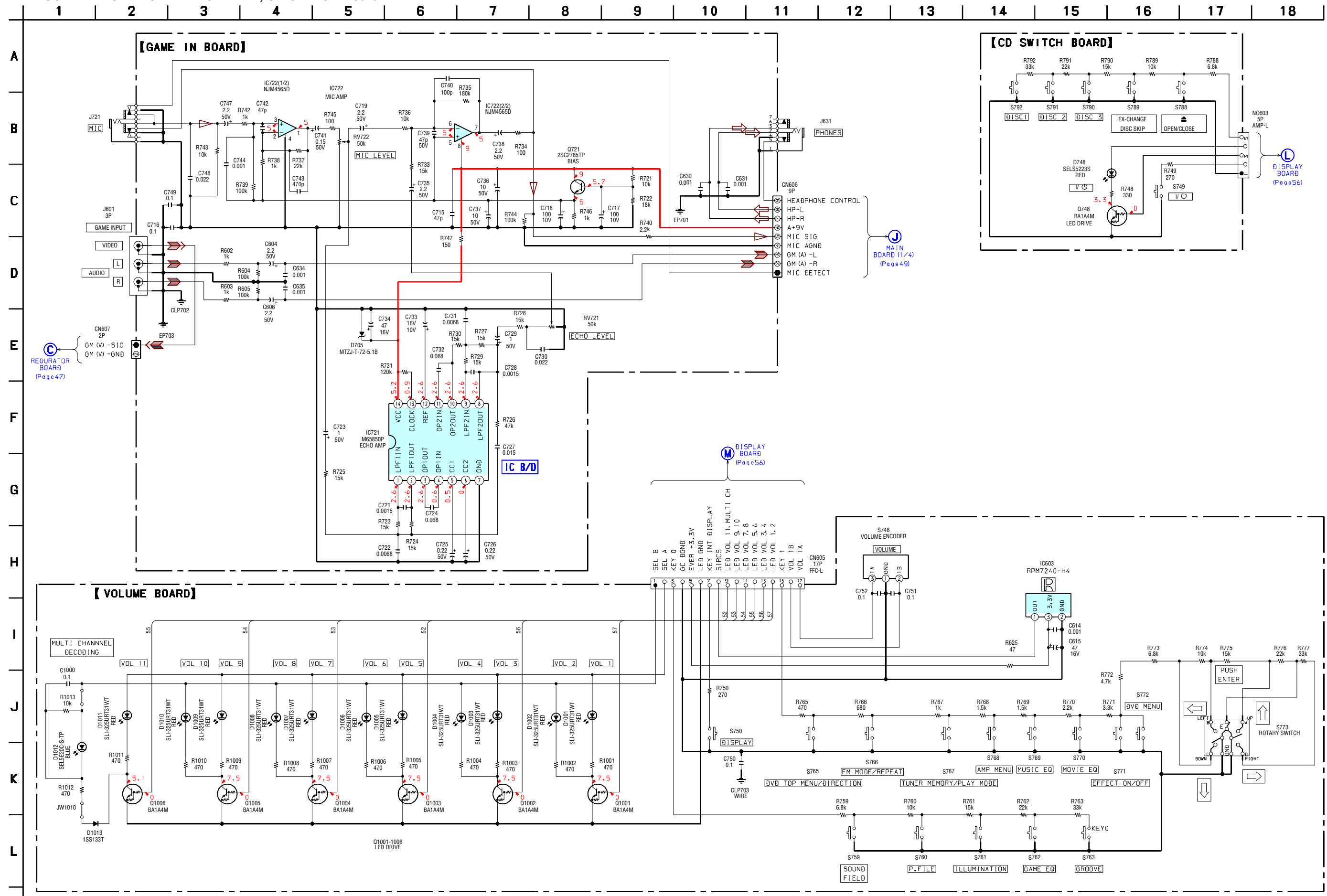


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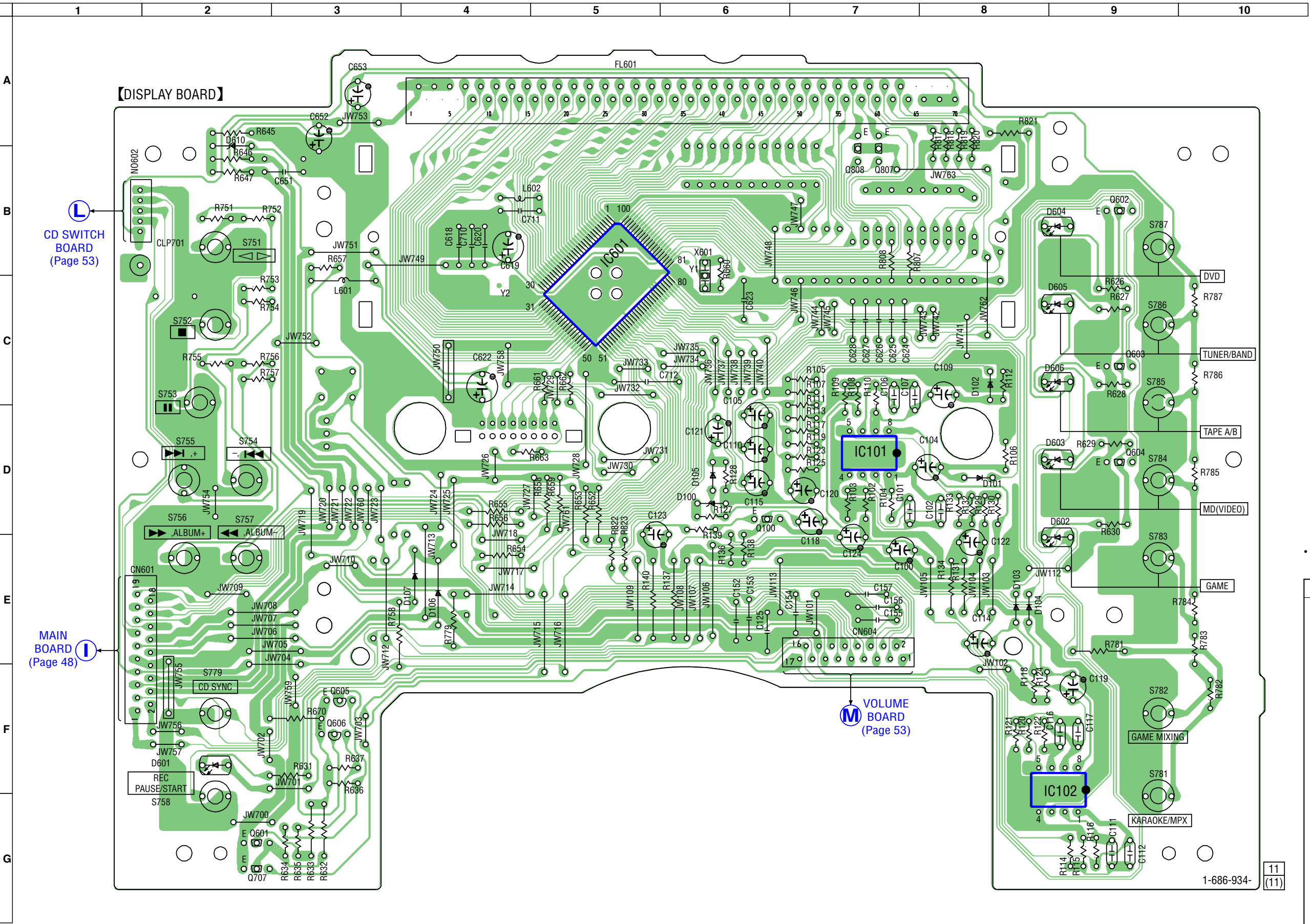


Ref. No.	Location
D748	H-12
D1001	E-9
D1002	D-10
D1003	D-10
D1004	C-10
D1005	C-9
D1006	B-9
D1007	C-8
D1008	C-8
D1009	D-8
D1010	D-8
D1011	E-8
D1012	B-9
D1013	C-9
IC603	B-11
IC722	D-2
Q721	E-3
Q748	H-11
Q1001	D-9
Q1002	D-10
Q1003	C-9
Q1004	C-8
Q1005	D-8
Q1006	D-8

7-24. SCHEMATIC DIAGRAM – GAME IN, CD SWITCH Board –



7-25.PRINTED WIRING BOARD – DISPLAY Board – • See page 24 for Circuit Boards Location.

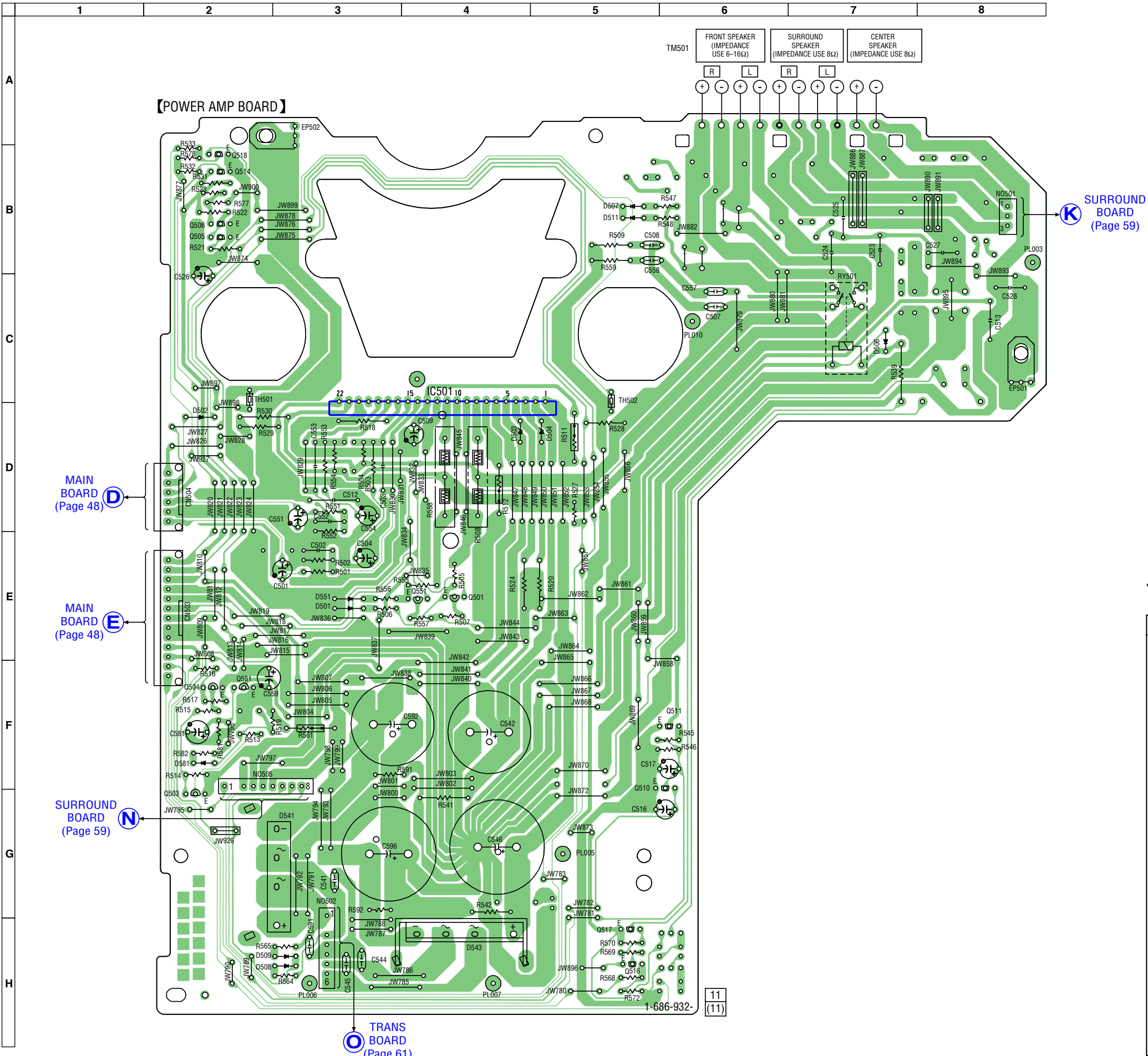


• Semiconductor Location

Ref. No.	Location
D100	D-6
D101	D-8
D102	C-8
D103	E-8
D104	E-8
D105	D-6
D106	E-4
D107	E-4
D601	F-2
D602	E-9
D603	D-9
D604	B-9
D605	C-9
D606	C-9
D610	A-2
IC101	D-7
IC102	F-9
IC601	B-5
Q100	D-6
Q601	G-2
Q602	B-9
Q603	C-9
Q604	D-9
Q605	F-2
Q606	F-2
Q707	G-2
Q807	B-7
Q808	B-7



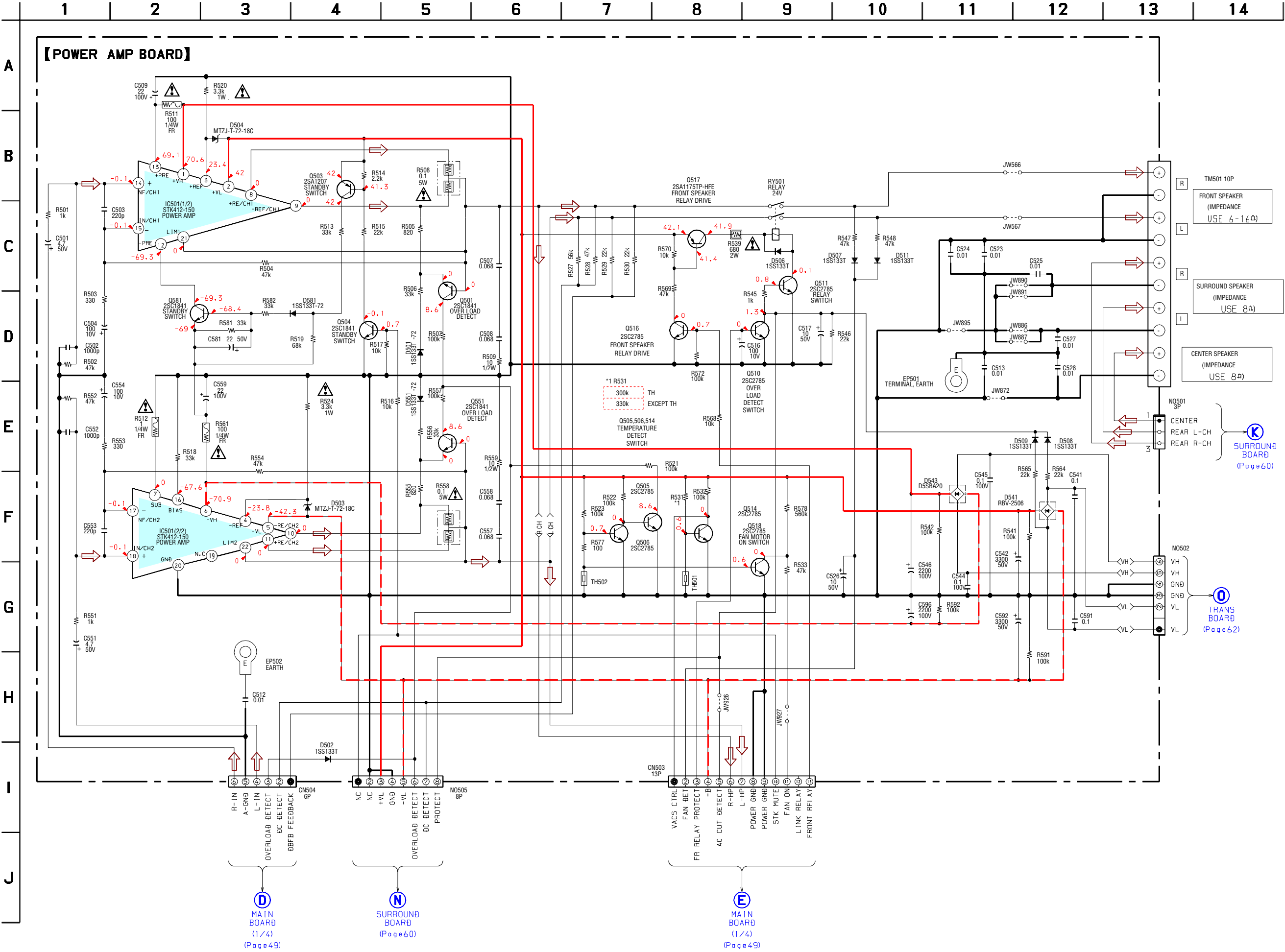
7-27.PRINTED WIRING BOARDS – POWER AMP Board – • See page 24 for Circuit Boards Location.



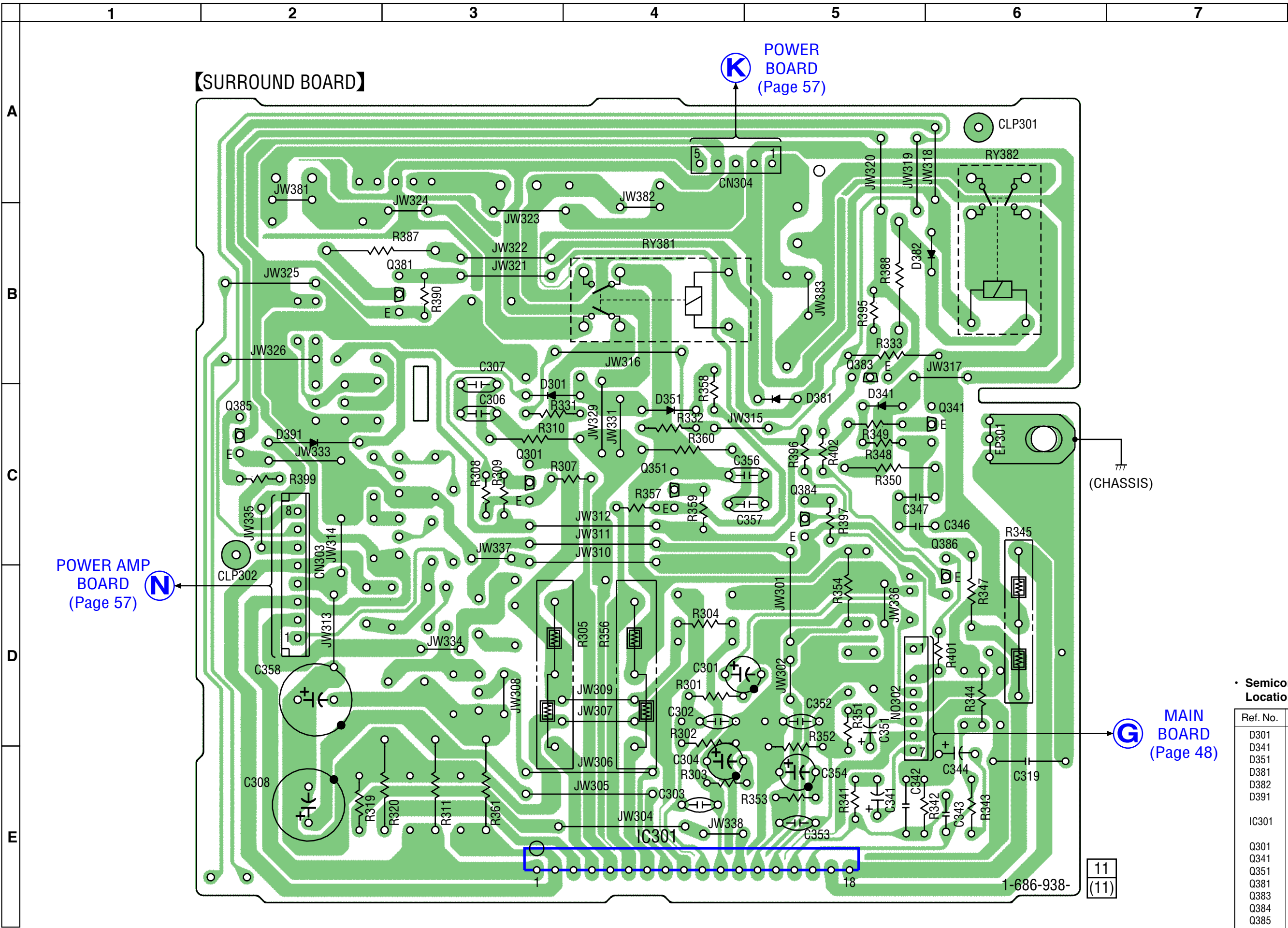
• Semiconductor Location

Ref. No.	Location
D501	E-3
D502	D-2
D503	D-4
D504	D-5
D506	C-7
D507	B-5
D508	H-2
D509	H-2
D511	B-5
D541	G-3
D543	H-4
D551	E-3
D581	F-2
IC501	D-4
Q501	E-4
Q503	G-2
Q504	F-2
Q505	B-2
Q506	B-2
Q510	F-6
Q511	F-6
Q514	B-2
Q516	H-5
Q517	H-5
Q518	B-2
Q551	E-4
Q581	F-2

7-28. SCHEMATIC DIAGRAM – POWER AMP Board –



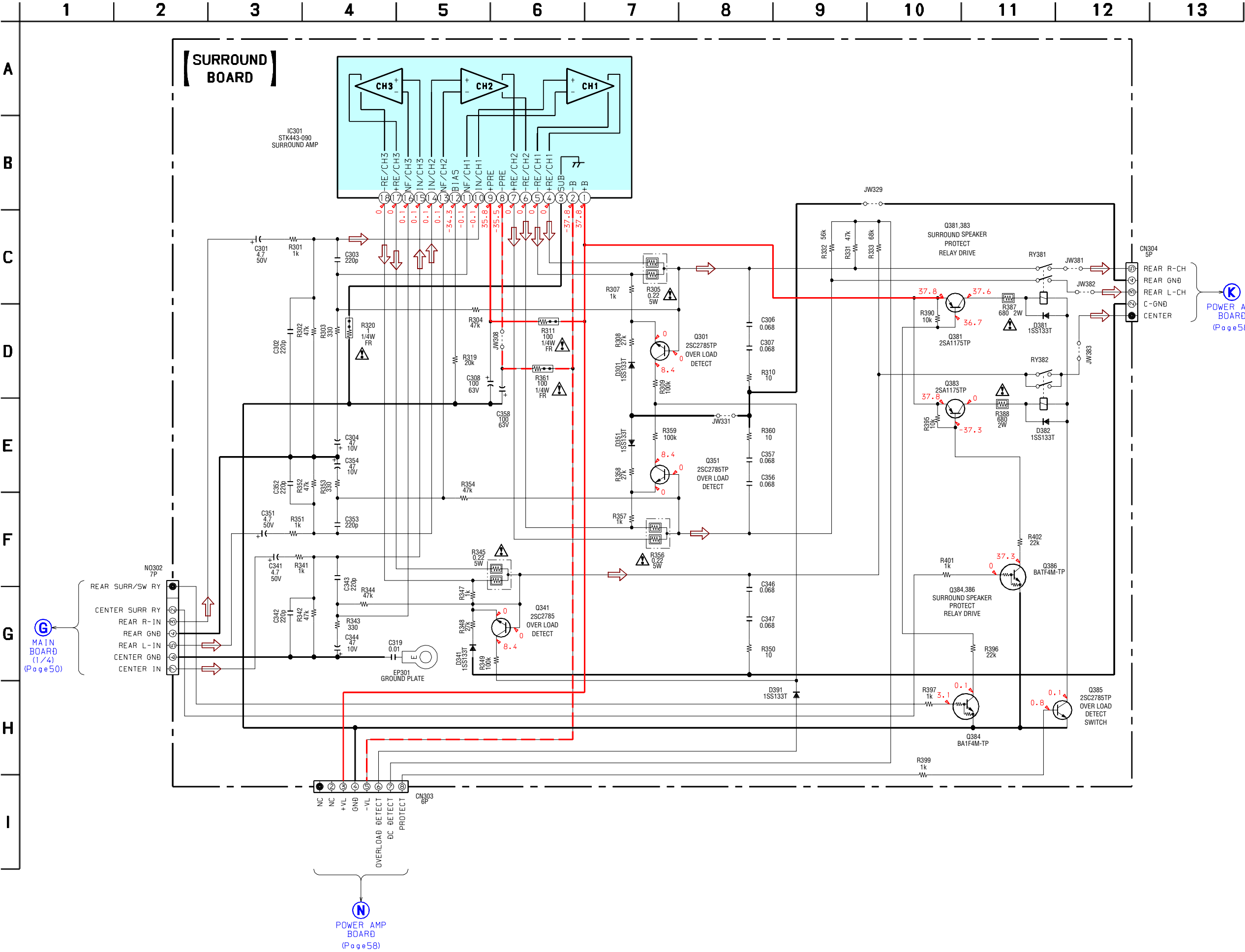
7-29. PRINTED WIRING BOARDS – SURROUND Board – • See page 24 for Circuit Boards Location.



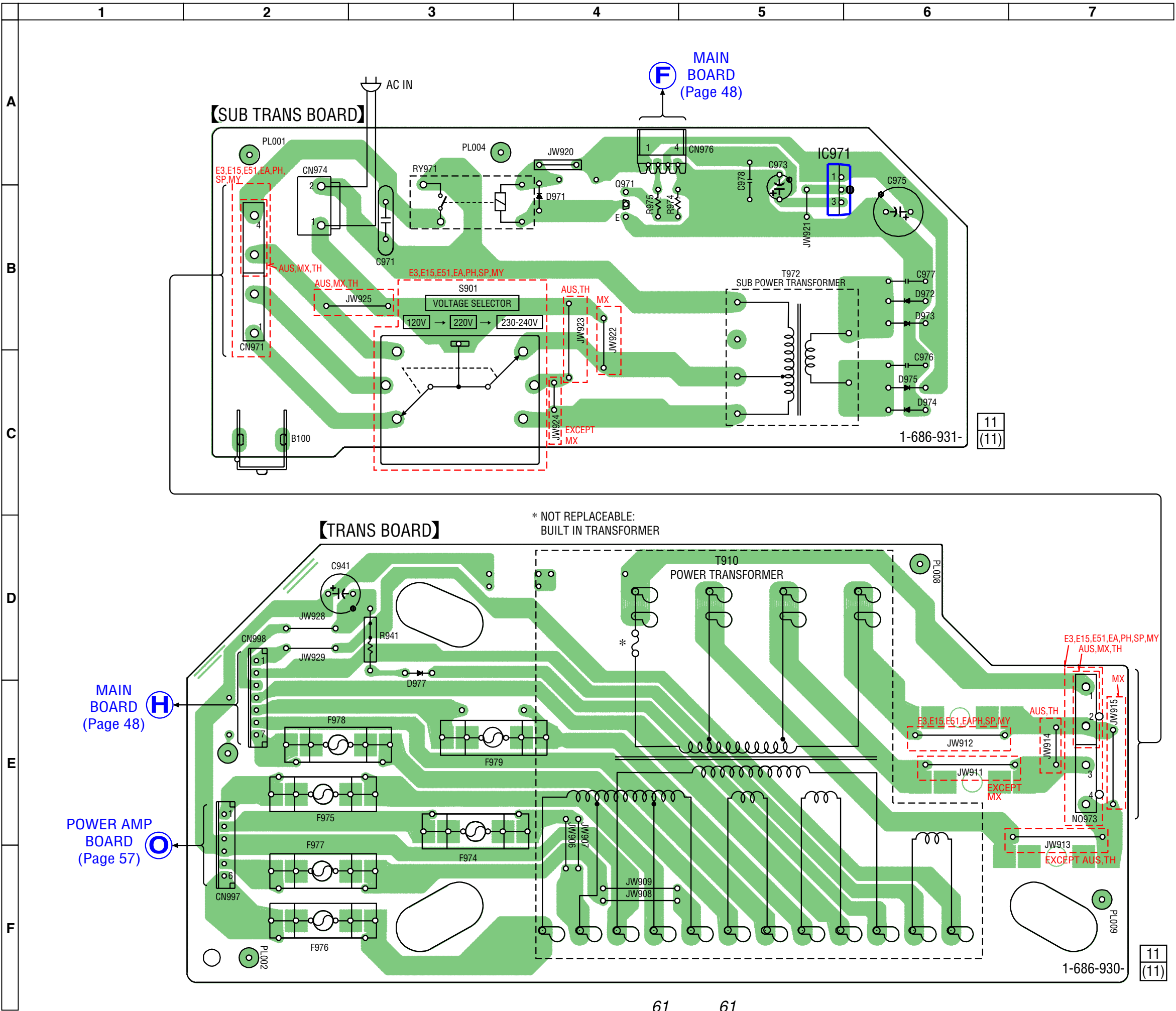
• Semiconductor Location

Ref. No.	Location
D301	C-3
D341	C-5
D351	C-4
D381	C-5
D382	B-6
D391	C-2
IC301	E-4
Q301	C-3
Q341	C-6
Q351	C-4
Q381	B-2
Q383	B-5
Q384	C-5
Q385	C-2
Q386	D-6

7-30. SCHEMATIC DIAGRAM – SURROUND Board –



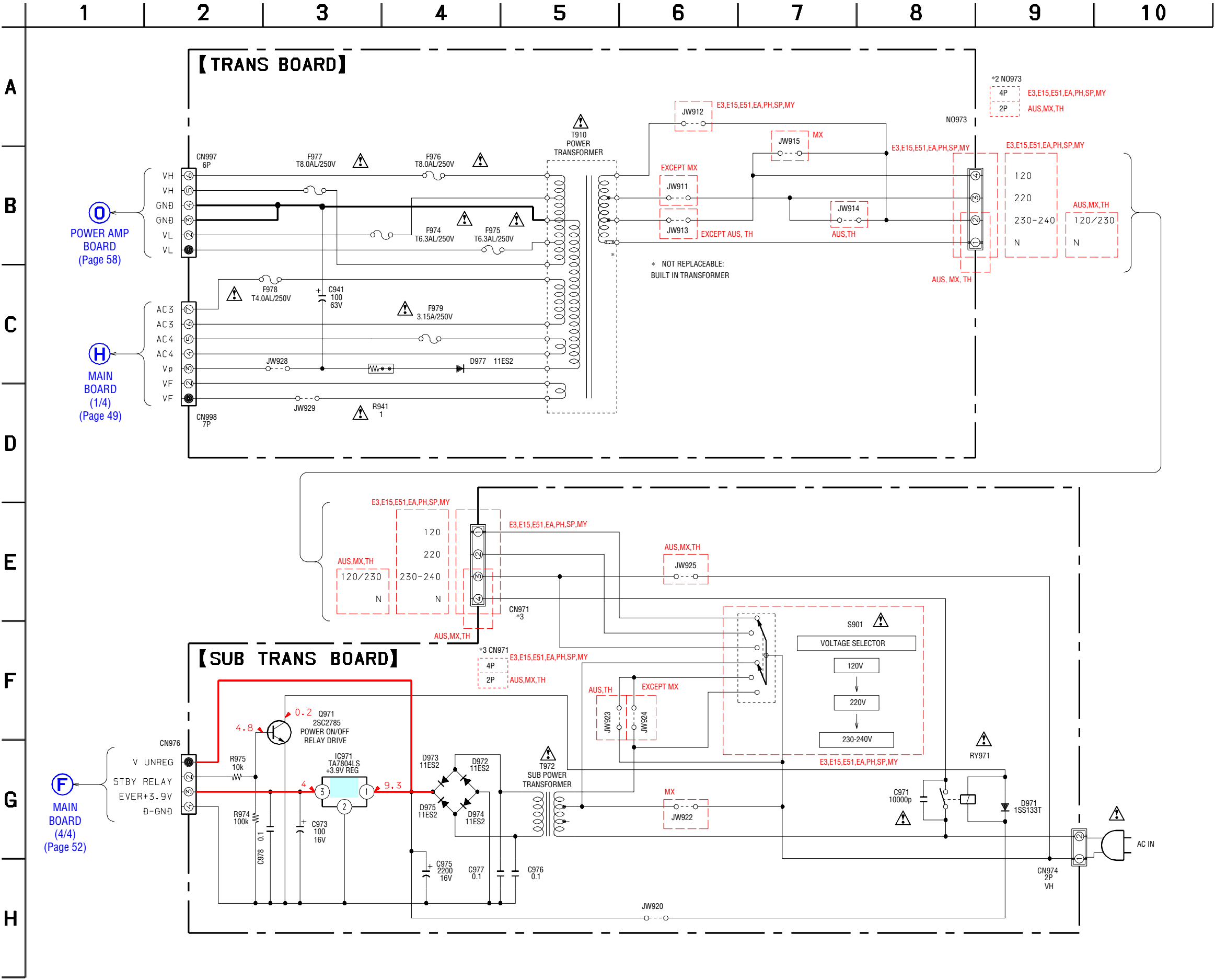
7-31.PRINTED WIRING BOARDS –TRANS Board – • See page 24 for Circuit Boards Location.



• Semiconductor Location

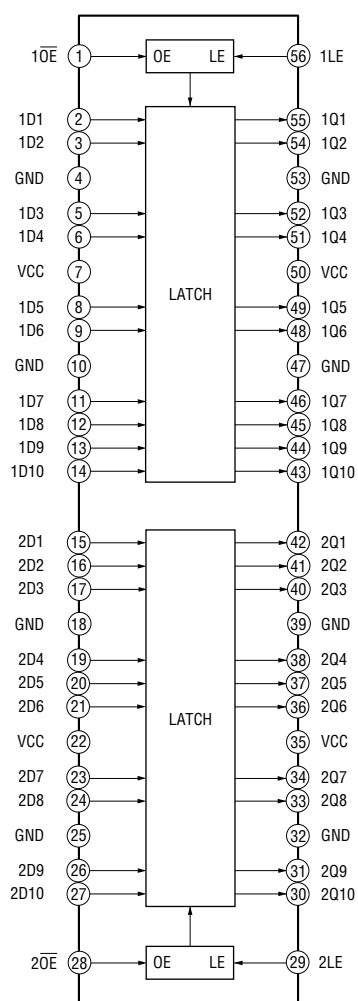
Ref. No.	Location
D971	B-4
D972	B-6
D973	B-6
D974	C-6
D975	C-6
D977	D-3
IC971	A-5
Q971	B-4

7-32. SCHEMATIC DIAGRAM –TRANS Board –

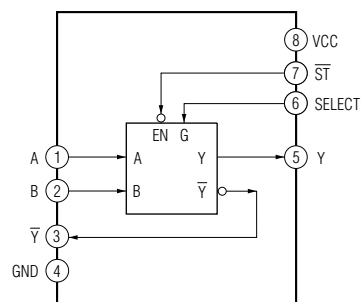


7-33. IC Block Diagrams

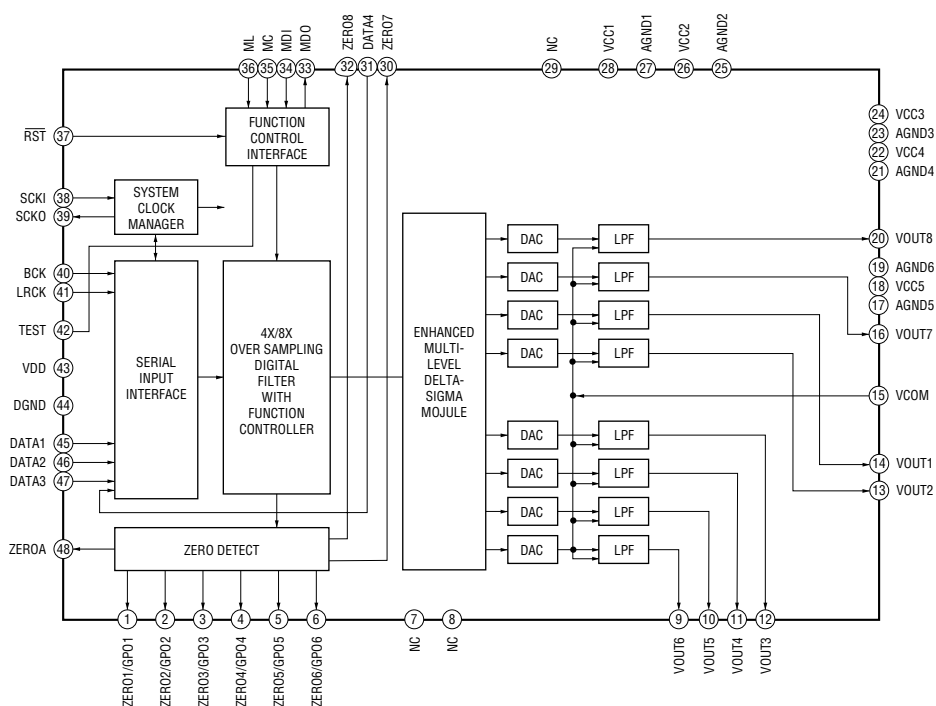
IC216 SN74ALVCH16841DGGR (DMB03 BOARD)



IC252 TC7WH157FK (TE85R) (DMB03 BOARD)

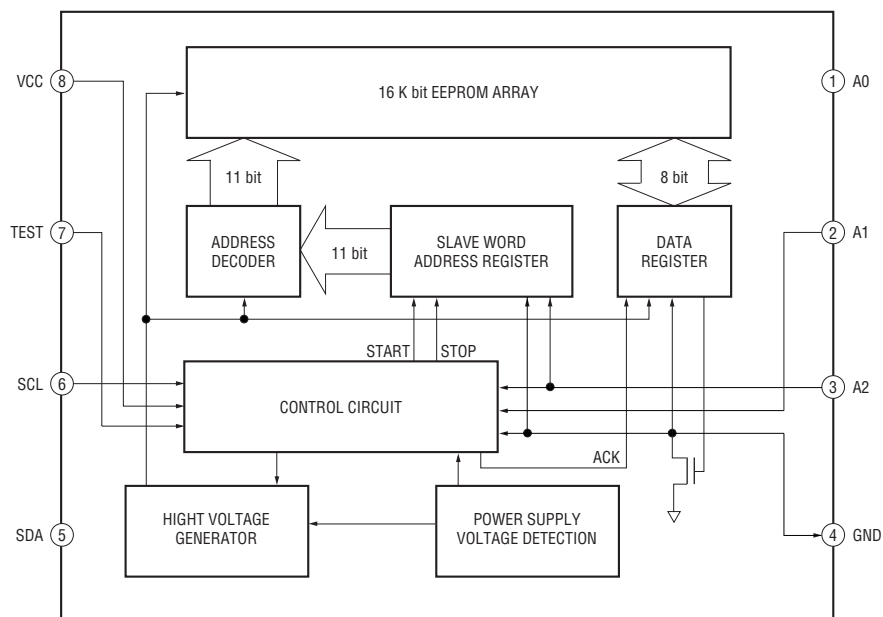
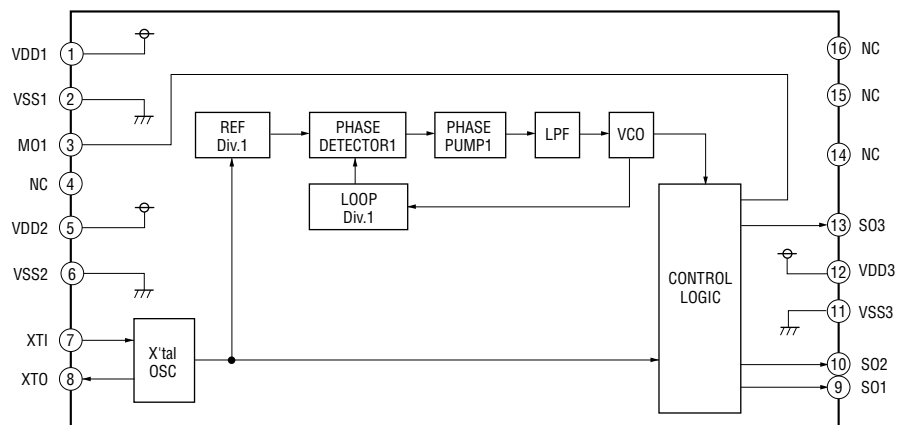


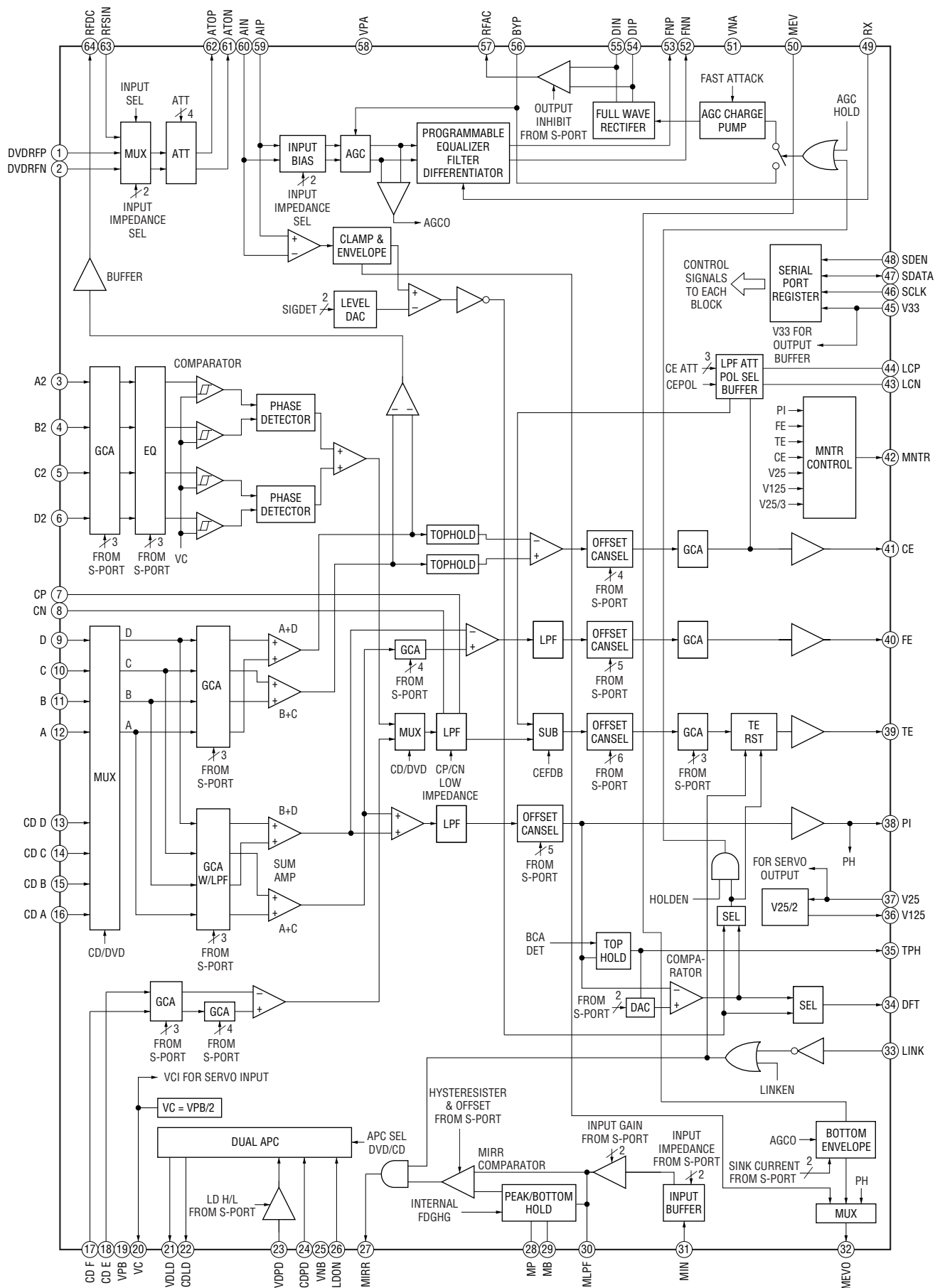
IC302 PCM1609KPTR (DMB03 BOARD)

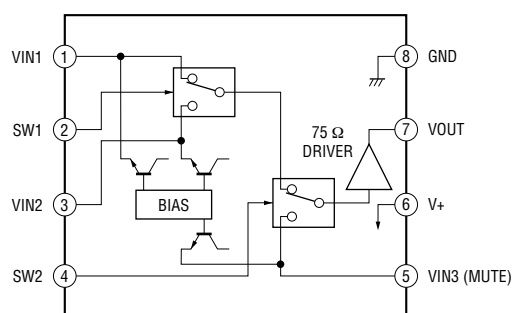
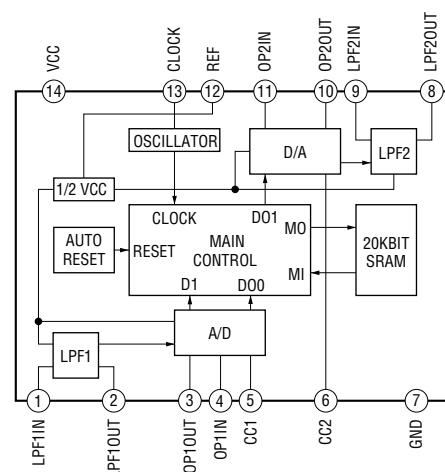
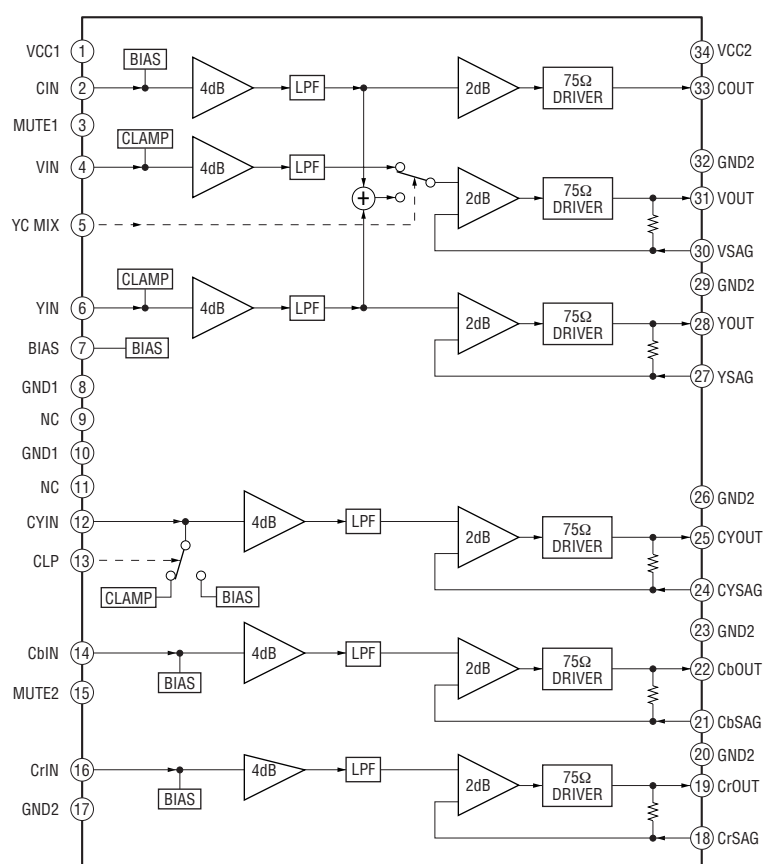
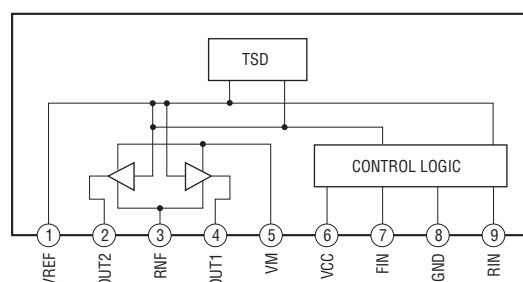


IC509 CXD3068Q (DMB03 BOARD)



IC903 BR24C16F-E2 (DMB03 BOARD)**IC906 SM8707GV-G-E2 (DMB03 BOARD)**



IC710 NJM2244M-TE2 (VIDEO BOARD)**IC721 M65850P (GAME IN BOARD)****IC711 MM1568AJBE (VIDEO BOARD)****IC701, 712 BA6956AN (DRIVER BOARD)**

7-34. IC Pin Function Description

• IC207 ZIVA5X-C1F (DVD SYSTEM PROCESSOR)(DMB03 BOARD)

Pin No.	Pin Name	I/O	Description
1	VDDP	—	Power supply terminal (+3.3V) (I/O signal)
2	HA1	I/O	Address bus
3 to 11	HD15 to HD7	I/O	Data bus (address signal multiplexed)
12	VDDP	—	Power supply terminal (+3.3V) (I/O signal)
13	GNDP	—	Ground terminal (I/O signal)
14 to 19	HD6 to HD1	I/O	Data bus (address signal multiplexed)
20	VDDP	—	Power supply terminal (+3.3V) (I/O signal)
21	GNDP	—	Ground terminal (I/O signal)
22	HD0	I/O	Data bus (address signal multiplexed)
23	HDTACK	I/O	Acknowledge signal input/output for host data transfer (not used)
24	HIRQ0	I	Interrupt signal input for Medusa (not used)
25	WEH.UDS	I/O	Host upper data strobe signal output (not used)
26	WEL.LDS	I/O	Host lower data strobe signal output (not used)
27	HREAD	I/O	Read/write strobe signal output
28	GPIO0	I/O	Jig detection port (pull-up)
29	GND	—	Ground terminal (inside core)
30	VDD	—	Power supply terminal (+1.8V) (inside core)
31	GND25	—	Ground terminal (SDRAM I/O signal)
32	VDD25	—	Power supply terminal (+3.3V) (SDRAM I/O signal)
33 to 42	MA9 to MA0	O	SDRAM address bus
43	GND25	—	Ground terminal (SDRAM I/O signal)
44	VDD25	—	Power supply terminal (+3.3V) (SDRAM I/O signal)
45, 46	MA10,MA11	O	SDRAM address bus
47	BA1	O	SDRAM bank select 1 signal output
48	BA0	O	SDRAM bank select 0 signal output
49	MCS0	O	SDRAM chip select 0 signal output
50	MCS1	O	Not used
51	MRAS	O	SDRAM row address strobe signal output
52	MCAS	O	SDRAM column address strobe signal output
53	MWE	O	SDRAM write enable signal output (“H” : read, “L” : write)
54	GND25	—	Ground terminal (SDRAM I/O signal)
55	VDD25	—	Power supply terminal (+3.3V) (SDRAM I/O signal)
56	MCLK	O	SDRAM Clock output
57 to 60	MD0 to MD3	I/O	SDRAM data
61	GND25	—	Ground terminal (SDRAM I/O signal)
62	MDQM0	O	Byte read /write mask signal 0 output
63	VDD25	—	Power supply terminal (+3.3V) (SDRAM I/O signal)
64 to 71	MD6 to MD11	I/O	SDRAM data
72	GND25	—	Ground terminal (SDRAM I/O signal)
73	MDQM1	O	Byte read /write mask signal 1 output
74	VDD25	—	Power supply terminal (+3.3V) (SDRAM I/O signal)
75 to 78	MD12 to MD15	I/O	SDRAM data
79	GND	—	Ground terminal (inside core)
80	VDD	—	Power supply terminal (+1.8V) (inside core)
81 to 84	MD16 to MD19	I/O	SDRAM data
85	GND25	—	Ground terminal (SDRAM I/O signal)
86	MDQM2	O	Byte read /write mask signal 2 output
87	VDD25	—	Power supply terminal (+3.3V) (SDRAM I/O signal)
88 to 95	MD20 to MD27	I/O	SDRAM data
96	GND25	—	Ground terminal (SDRAM I/O signal)
97	MDQM3	O	Byte read /write mask signal 3 output
98	VDD25	—	Power supply terminal (+3.3V) (SDRAM I/O signal)
99 to 102	MD28 to MD31	I/O	SDRAM data

Pin No.	Pin Name	I/O	Discription
103	GND25	—	Ground terminal (SDRAM I/O signal)
104	VDD25	—	Power supply terminal (+3.3V) (SDRAM I/O signal)
105	VCLK	I/O	System clock (not used)
106	XCK_I/O_SEL	I/O	5.1ch/downmix switch signal output
107	VS	O	S1 signal output
108	I/P SW	O	Progressive/interlace switch signal output
109	CDSEL	O	CD-DA selection signal output
110	MREQ	O	Audio muting request signal output
111	VDDP	—	Power supply terminal (+3.3V) (I/O signal)
112	GNDP	—	Ground terminal (I/O signal)
113	MDI	O	Serial data output to the D/A converter
114	MC	O	Serial data clock output to the D/A converter
115	ML	O	Latch enable signal output to the D/A converter
116	HIRQ2_	I	Busy signal input from the EEPROM
117	VDAC_4B	—	Video DAC bias bit 4 (connected to the ground)
118	VDAC_VDD4	—	Power supply terminal (+3.3V) (Video DAC 4)
119	VDAC_4	O	VDAC output 4
120	VDAC_3B	—	Video DAC bias bit 3 (connected to the ground)
121	VDAC_VDD3	—	Power supply terminal (+3.3V) (Video DAC 3)
122	VDAC_3	O	VDAC output 3
123	VDAC_2B	—	Video DAC bias bit 2 (connected to the ground)
124	VDAC_VDD2	—	Power supply terminal (+3.3V) (Video DAC 2)
125	VDAC_2	O	VDAC output 2
126	VDAC_1B	—	Video DAC bias bit 1 (connected to the ground)
127	VDAC_VDD1	—	Power supply terminal (+3.3V) (Video DAC 1)
128	VDAC_1	O	VDAC output 1
129	VDAC_0B	—	Video DAC bias bit 0 (connected to the ground)
130	VDAC_VDD0	—	Power supply terminal (+3.3V) (Video DAC 0)
131	VDAC_0	O	VDAC output 0
132	VDAC_DVSS	—	Ground terminal (Video DAC digital system)
133	VDAC_DVDD	—	Power supply terminal (+3.3V) (Video DAC digital system)
134	VDAC_REFVDD	—	Power supply terminal (Video DAC reference)
135	VDAC_REF	I	Reference voltage input terminal(for Video DAC)
136	VDAC_REFVSS	—	Ground terminal (Video DAC reference)
137	XVSS	—	Ground terminal (crystal oscillator)
138	XOUT	O	Crystal oscillation signal output
139	XIN	I	Crystal oscillation signal input
140	XVDD	—	Power supply terminal (crystal oscillator)
141	AVSS2	—	Ground terminal (analog PLL)
142	AVDD2	—	Power supply terminal (+3.3V) (analog PLL)
143	AVDD1	—	Power supply terminal (+3.3V) (analog PLL)
144	AVSS1	—	Ground terminal (analog PLL)
145	VDD	—	Power supply terminal (+1.8V) (inside core)
146	GND	—	Ground terminal (inside core)
147	XCK	O	Audio system clock output
148	LRCK	O	LRCK signal output for audio
149	BCK	O	BCK signal output for audio
150	DATA0(DM)	O	Audio data(Down Mix signal) output
151	DATA1(FLR)	O	Audio data(Front L/R signal) output
152	VDDP	—	Power supply terminal (+3.3V) (I/O signal)
153	GNDP	—	Ground terminal (I/O signal)
154	DATA2(SLR)	O	Audio data(Rear L/R signal) output
155	DATA3(CSW)	O	Audio data(Center/Subwoofer signal) output
156	IEC958	O	S/PDIF signal (not used)
157	DAI_DATA	I	Data input from ADC (not used)

Pin No.	Pin Name	I/O	Description
158	DAI_BCK	I	BCK signal input from ADC (not used)
159	DAI_LRCK	I	LRCK signal input from ADC (not used)
160	I2C_CL	I/O	I2C clock bus
161	I2C_DA	I/O	I2C data bus
162	CS(ZIVA_E2P)	O	Chip select signal output to the EEPROM (IC204)
163	RXD1	I	Serial data input for check jig
164	TXD1	O	Serial data output for check jig
165	WRITE_CTRL(ZIVA_E2P)	O	Write control signal output to the EEPROM (IC204)
166	GNDP	—	Ground terminal (I/O signal)
167	VDDP	—	Power supply terminal (+3.3V) (I/O signal)
168	SDDATA7	I	SDBus data7 input
169	SDDATA6	I	SDBus data6 input
170	SDDATA5	I	SDBus data5 input
171	SDDATA4	I	SDBus data4 input
172	GND	—	Ground terminal (inside core)
173	VDD	—	Power supply terminal (+1.8V) (inside core)
174	SDDATA3	I	SDBus data3 input
175	SDDATA2	I	SDBus data2 input
176	SDDATA1	I	SDBus data1 input
177	SDDATA0	I	SDBus data0 input
178	SDREQ	O	SDBus data request signal output
179	SDEN	I	SDBus data enable signal input
180	GNDP	—	Ground terminal (I/O signal)
181	VDDP	—	Power supply terminal (+3.3V) (I/O signal)
182	SDERROR	I	SDBus data error signal input
183	SDCLK	I	SDBus data clock input
184	HIRQ1	I	Interrupt signal input from the mechanism controller (IC901)
185	DRVCLK	I	Serial data clock input from the mechanism controller (IC901)
186	DRVTX	I	Serial data input from the mechanism controller (IC901) and the EEPROM (IC204)
187	DRVRX	I	Serial data output to the mechanism controller (IC901) and the EEPROM (IC204)
188	DRVRDY	O	Ready signal input from the mechanism controller (IC901)
189	VNW	—	Power supply for 5V tolerance voltage input
190	ALE	O	Latch enable signal output for address data demux
191	RST_SPC	O	Reset signal output to the mechanism controller (IC901)
192	INT/EXT	O	Input selection signal output for SDBus or ADC (not used)
193	HCS2	O	Chip select signal output for Medusa (not used)
194	HCS1	I/O	Not used
195	HCS0	O	Chip select signal output to the external ROM (IC206)
196	VDDP	—	Power supply terminal (+3.3V) (I/O signal)
197	TRST	I	Reset signal input
198	TDO	O	Data output
199	TDI	I	Data input
200	TMS	I	TMS signal input
201	TCK	I	TCK signal input
202	RESET	I	ZIVA reset input
203	BUS CLK	I/O	Not used
204	GND	—	Ground terminal (inside core)
205	VDD	—	Power supply terminal (+1.8V) (inside core)
206	HA3	I/O	Address bus 3
207	HA2	I/O	Address bus 2
208	GNDP	—	Ground terminal (I/O signal)

• IC701 TMC57929PGF-RDP (DVD DECODER) (DBM03 Board)

Pin No.	Pin Name	I/O	Description
1, 2	D5, D6	I/O	Two-way data bus with CXP973064-226R
3	VSS	—	Ground
4	D7	I/O	Two-way data bus with CXP973064-226R
5	A0	I	Address signal input from CXP973064-226R
6	VDD	—	Power supply (+3.3V)
7	A1	I	Address signal input from CXP973064-226R
8	VDD5V	—	Power supply (+5V)
9 to 14	A2 to A7	I	Address signal input from CXP973064-226R
15	VSS	—	Ground
16	XWAIT	O	Not used
17	XRD	I	Read strobe signal input from CXP973064-226R
18	XWR	I	Write strobe signal input from CXP973064-226R
19	XCS	I	Chip select signal input from CXP973064-226R
20, 21	XINT0, XINT1	O	Interrupt signal output to CXP973064-226R
22	VDD	—	Power supply (+3.3V)
23	XHRS	I	Not used
24	HDB7	O	Stream data signal output to ZIVA5X-C1F
25	VSS	—	Ground
26	HDB8	O	Error flag signal output to ZIVA5X-C1F
27	HDB6	O	Stream data signal output to ZIVA5X-C1F
28	VDDS	—	Power supply (+5V)
29	HDB9	O	Not used
30	HDB5	O	Stream data signal output to ZIVA5X-C1F
31	HDBA	O	Not used
32	HDB4	O	Stream data signal output to ZIVA5X-C1F
33	VSS	—	Ground
34	HDBB	O	Not used
35	HDB3	O	Stream data signal output to ZIVA5X-C1F
36	VDD	—	Power supply (+3.3V)
37	HDBC	O	Not used
38	VDDS	—	Power supply (+5V)
39	HDB2	O	Stream data signal output to ZIVA5X-C1F
40	HDBD	O	Not used
41	HDB1	O	Stream data signal output to ZIVA5X-C1F
42	VSS	—	Ground
43	HDBE	O	Not used
44	HDB0	O	Stream data signal output to ZIVA5X-C1F
45	HDBF	O	Not used
46	XSAK	O	Serial data effect flag signal output to ZIVA5X-C1F
47	VDDS	—	Power supply terminal (+5V) (digital system)
48	XDCK	O	Serial data transfer clock signal output to ZIVA5X-C1F
49	XSHD	O	Header flag signal (Not used)
50	VDD	—	Power supply (+3.3V)
51	REDY	O	Not used
52	VSS	—	Ground
53	XHAC	I	DVD mode: Serial data request signal input from ZIVA5X-C1F
54	HINT	O	Not used (Pull up)
55	XS16	O	Not used (Pull up)
56	HA1	I	Not used (Pull up)

HCD-GN88D

Pin No.	Pin Name	I/O	Description
57	XPDI	I/O	Not used (Pull up)
58	VDDS	—	Power supply (+5V)
59, 60	HA0, HA2	I	Not used (Pull up)
61	VSS	—	Ground (open)
62, 63	HCS0, HCS1	I	Not used
64	VDD	—	Power supply (+3.3V)
65	DASP	I/O	Not used
66 to 69	MDB0 to MDB3	I/O	Two-way data bus with the D-RAM
70	VSS	—	Ground
71	MDB4	I/O	Two-way data bus with the D-RAM
72	VDD5V	—	Power supply (+5V)
73 to 75	MDB5 to MDB7	I/O	Two-way data bus with the D-RAM
76	XMWR	O	Write enable signal output to the D-RAM
77	VDD	—	Power supply (+3.3V)
78	XRAS	O	Row address strobe signal output to the D-RAM
79, 80	MA0, MA1	O	Address signal output to the D-RAM
81	VSS	—	Ground
82 to 87	MA2 to MA7	O	Address signal output to the D-RAM
88	VDD	—	Power supply (+3.3V)
89	MA8	O	Address signal output to the D-RAM
90	VSS	—	Ground
91	MA9/MNT0	O	Address signal output to the D-RAM
92	MNT1/MNT1	O	EEPROM ready signal output to CXP973064
93	MNT2/MNT2	O	Address signal output to the D-RAM
94	XMOE	O	Output enable signal output to the D-RAM
95	XCAS	O	Column address strobe signal output to the D-RAM
96, 97	MDB8, MDB9	I/O	Two-way data bus with the D-RAM
98	VSS	—	Ground
99	MDBA	I/O	Two-way data bus with the D-RAM
100	VDD	—	Power supply (+3.3V)
101, 102	MDBB, MDBC	I/O	Two-way data bus with the D-RAM
103	VDD5V	—	Power supply (+5V)
104 to 106	MDBD to MDBF	I/O	Two-way data bus with the D-RAM
107	GFS	O	Guard frame sync signal output to CXP973064-226R
108	VSS	—	Ground
109	APEO	O	Absolute phase error signal output
110	VDD	—	Power supply (+3.3V)
111	DASYO	O	RF binary signal output
112	GND A5	—	Ground
113, 114	ASF1, AFS2	—	Filter connected terminal for selection the constant asymmetry compensation
115	DASYI	I	Analog signal input after integrated from the RF binary signal
116	RFDCC	I	Input terminal for adjusting DC cut high-pass filter for RF signal
117	RFIN	I	RF signal input from the DVD/CD RF amplifier
118, 119	VCCA5, VCCA4	—	Power supply (+3.3V)
120	VCOR1	—	VCO oscillating range setting resistor connected
121	VCOIN	I	VCO input
122, 123	GND A4, GND A3	—	Ground
124	LPF5	O	Signal output from the operation amplifier from PLL loop filter
125	VC1	I	Middle point voltage (+1.65V) input
126, 127	LPF2, LPF1	I	Inverted signal input to the operation amplifier from PLL loop filter

Pin No.	Pin Name	I/O	Description
128, 129	VCCA3, VCCA2	—	Power supply (+3.3V)
130	PDO	O	Signal output from the charge pump for phase comparator
131	PDHVCC	I	Middle point voltage input terminal for RF PLL
132	FDO	O	Signal output from the charge pump for frequency comparator
133, 134	GNDA2, GNDA1	—	Ground
135	SPO	O	Spindle motor control signal output to FAN8035L
136	VC2	I	Middle point voltage (+1.65V) input
137	MDIN2	I	Spindle motor servo drive signal input
138	MDIN1	I	MDP input
139	VCCA1	—	Power supply (+3.3V)
140	CLVS	O	Control signal output for selection the spindle control filter constant at CLVS
141	VSS	—	Ground
142	MDSOUT	O	Frequency error output terminal of internal CLV circuit
143	VDD	—	Power supply (+3.3V)
144	MDPOUT	O	Phase error output of internal CLV circuit
145	DEFECT	I	Defect signal input (Not used)
146	GSCOR	I	Guard subcode sync (S0+S1) detection signal input from CXD3068Q
147	EXCK	O	Subcode serial data reading clock signal output to CXD3068Q
148	SBIN	I	Subcode serial data input from CXD3068Q
149	VSS	—	Ground
150	SCOR	I	Subcode sync (S0+S1) detection signal input from CXD3068Q
151	WFCK	I	Write frame clock signal input from CXD3068Q
152	VDD5V	—	Power supply (+5V)
153	XRCI	I	Not used (Pull down)
154	VDDS	—	Power supply (+5V)
155	C2PO	I	C2 pointer signal input from CXD3068Q
156	VDD	—	Power supply (+3.3V)
157	DBCK	O	Bit clock signal (2.8224 MHz) output (Not used)
158	BCLK	I	Bit clock signal (2.8224 MHz) input from CXD3068Q
159	DDAT	O	PCM data (Not used)
160	MDAT	I	Serial data input from CXD3068Q
161	VSS	—	Ground
162	DLRC	O	L/R sampling clock signal (Not used)
163	LRCK	I	L/R sampling clock signal (44.1 kHz) input from CXD3068Q
164	XRST	I	Reset signal input from CXP973064-226R “L”: reset
165	IFS0	I	Not used (connected to ground)
166	IFS1	I	Not used (connected to VDD)
167	XTAL	I	33.8688 MHz clock signal input from SM8707GV
168	VSS	—	Ground
169	XTA2	O	System clock output (33.8688 MHz)
170	XTA1	I	System clock input (33.8688 MHz)
171	VDD	—	Power supply (+3.3V)
172 to 176	D0 to D4	I/O	Two-way data bus with the CXP973064-226R

• IC901 CXP973064-226R (MECHANISM CONTROLLER) (DBM03 Board)

Pin No.	Pin Name	I/O	Description
1	NO_USE	O	Not used (open)
2	SDEN	O	Serial data enable signal output to CXD1881AR
3	DOCTRL/ ISBTTEST	O	Digital out on/off control signal output to CXD3068Q
4	XRST_2753	O	Not used
5	SDA_EEP	I/O	Data bus with the EEPROM
6	MNT1	I	EEPROM ready signal input from CXD1882R
7	FCS_JMP_1	O	Focus jump 1 signal output to the FAN8035L
8	FCS_JMP_2	O	Focus jump 2 signal output to the FAN8035L
9	SENS_CD	I	Internal status (SENSE) signal input from CXD3068Q
10	CDSP2	O	Not used
11	CDSP4	O	Not used
12	XCS_DVD	O	Chip select signal output to CXD1882R
13	VSS	—	Ground
14 to 21	D0 to D7	I/O	Two-way data bus with CXD1882R
22	INIT0_DVD	I	Interrupt signal input from CXD1882R
23	INIT1_DVD	I	Interrupt signal input from CXD1882R
24	MSCK_SAMBA	O	Not used
25	XRST_1882	O	Reset signal output to CXD1882R
26	SCOR	I	Subcode sync (S0+S1) detection signal input from CXD3068Q
27	LAT_CD	O	Serial data latch pulse signal output to CXD3068Q
28	LD ON	O	Laser diode on/off control signal output to CXD1881AR
29	MIRR	I	Mirror signal input from CXD1881AR
30	COUT_CD	I	Numbers of track counted signal input from CXD1881AR
31	INLIM	I	Detection signal input from limit in switch The optical pick-up is inner position when “H”
32	CS_ZIVA	O	Chip select signal output to ZIVA5X-C1F
33	SI_ZIVA	I	Serial data input from ZIVA5X-C1F
34	SO_ZIVA	O	Serial data output to ZIVA5X-C1F
35	SCK_ZIVA	O	Serial data transfer clock signal output to ZIVA5X-C1F
36	DRVIRQ	O	Interrupt request signal output to ZIVA5X-C1F
37	DRVRDY	O	Ready signal output to ZIVA5X-C1F
38	RST	I	System reset signal input from ZIVA5X-C1F
39	VSS	—	Ground
40	XTAL	I	System clock input terminal (20 MHz)
41	EXTAL	O	System clock output terminal (20 MHz)
42	VDD	—	Power supply (+3.3V)
43, 44	SLED_A, SLED_B	O	Sled motor drive signal output to FAN8035L
45	SCK_DSD	O	Clock output to CXD1882R
46	SDOUT_DSD	O	Serial data output (Not used)
47	SDIN_DSD	I	Serial data input (Not used)
48	READY_DSD	I	Ready signal input (Not used)
49	DATA_CD	O	Serial data output to CXD3068Q
50	CLOCK_CD	O	Serial data transfer clock signal output to CXD3068Q
51	XMSLAT	O	Serial data latch pulse signal (Not used)
52	SQSO	I	Subcode Q data input from CXD1882R
53	MUTE_DSD	O	Muting on/off control signal (Not used)
54	SQCK	O	Subcode Q data reading clock signal output to CXD1882R
55	VSS	—	Ground
56	CONTROL_2	I	Not used

Pin No.	Pin Name	I/O	Description
57	CONTROL_1	I	Not used (open)
58	GFS_DVD	I	Guard frame sync signal input from CXD1882R
59	MUTE_CD	O	Muting on/off control signal output to CXD3068Q
60	MUTE_2D	O	Muting on/off control signal output to FAN8035L
61	SLED	I	Sled motor servo drive PWM signal input from CXD3068Q
62	FG	I	Spindle motor control signal input from CXD1881AR
63	SP_ON	O	Muting on/off control signal output to FAN 8035L
64	JIT	I	Jitter signal input
65	TE	I	Tracking error signal input from CXD1881AR
66	PI	I	Pull in signal input from CXD1881AR
67	FE	I	Focus error signal input from CXD1881AR
68	AVSS	—	Ground
69	AVREF	I	Reference voltage input (for A/D converter)
70	AVDD	—	Power supply (+3.3V) (for A/D converter)
71	GFS_CD	I	Guard frame sync signal input from CXD3068Q
72	SCLK_CD	O	SENSE serial data reading clock signal output to CXD3068Q
73	TSD-M	O	Thermal shut down signal output to FAN8035L
74	FOK_CD	I	Focus OK signal input from CXD3068Q
75	LOCK_CD	I	GFS is sampled by 460 Hz “H” input when GFS is “H”
76	LDSEL	O	Laser diode selection signal output
77	SACD/DVD	O	SACD/DVD selection signal output
78	I2C_SIO	I/O	Communication data bus input/output
79	I2C-SCL	I/O	Communication data reading clock signal input/output
80	RXD	I	Serial data input from the RS-232C (for check)
81	TXD	O	Serial data output to the RS-232C (for check)
82	SDCLK_RF	O	Serial data transfer clock signal output to CXD1881AR
83	SDATA_RF	I/O	Two-way data bus with CXD1881AR
84	XWR	O	Write strobe signal output to CXD1882R
85	XRD	O	Read strobe signal output to CXD1882R
86	(PWE)	—	Not used
87	VDD	—	Power supply (+3.3V)
88	VSS	—	Ground
89 to 96	A0 to A7	O	Address signal output to CXD1882R
97	A8	O	Motor/coil driver power save control signal (Not used)
98	XDRST	O	Reset signal output
99	WP_EEP	O	Write protect signal output to the EEPROM
100	CLK_EEP	O	Clock signal output to the EEPROM

• IC501 M30620MCN-A27FP (SYSTEM CONTOL) (MAIN Board)

Pin No.	Pin Name	I/O	Description
1	STEREO	I	Stereo signal input from tuner
2	TUNED	I	Tuned signal input from tuner
3	ST-CE	O	Tuner chip enable signal output
4	SIRCS	I	SIRCS input
5	ST-DOUT	O	Tuner data output
6	ST-DIN	I	Tuner data input
7	ST-CLK	O	Tuner clock signal output
8	BYTE	—	Not used (connected to ground)
9	CNVSS	—	Not used (Connected to ground with resistor)
10	XC-IN	I	Sub clock input (32.768KHz)
11	XC-OUT	O	Sub clock output (32.768KHz)
12	RESET	I	System reset input
13	X-OUT	O	Main system clock output (16MHz)
14	VSS	—	Ground
15	X-IN	I	Main system clock input (16MHz)
16	VCC	—	Power supply (+3.3V)
17	NMI	I	Not used (Pull up with resistor)
18	SOFT-TEST	O	Not used (open)
19	NO USE	—	Not used (open)
20	AC-CUT	I	AC cut check signal input
21	E-1	I	DVD/CD turn table encoder signal input
22	E-2	I	DVD/CD turn table encoder signal input
23	DVD-POWER (SYSPWR)	O	DVD power ON signal
24	NO USE	—	Not used (open)
25	DVD-MUTE (SYSPWR)	O	DVD mute signal output
26	NO USE	—	Not used (open)
27	STBY-RELAY	O	Standby relay driver signal output
28	NO USE	I	Not used (Connected to ground)
29	IIC-CLK	I	IIC serial clock input
30	IIC-DATA	I	IIC serial data input
31	TXD1	O	Test TX data signal output (Not used)
32	VMUTE2	O	Video mute 2 signal output
33	VMUTE	O	Video mute signal output
34	M-REQ	I	M request signal input
35	NO USE	O	Not used (open)
36	NO USE	O	Not used (open)
37	NO USE	I	Not used (Connected to ground)
38	NO USE	I	Not used (Connected to ground)
39	CLOCK-OUT	O	Not used (open)
40	SYS-RESET	O	DVD system reset signal
41	TBL-SENS	I	Table sensor signal input
42	OPEN SW	I	CDM eject switch signal input
43	E-3	I	DVD/CD turn table encoder signal input
44	TM-F	O	DVD/CD turn table motor-F signal output
45	MT-R	O	DVD/CD turn table motor-R signal output
46	LMF	O	LD motor-F signal output
47	LMR	O	LD motor-R signal output
48	STBY-LED	O	Standby LED driver signal output
49	GC-RESET	O	Display control system reset signal output
50	HP DETECT	I	Headphone detect input

Pin No.	Pin Name	I/O	Discription
51	REC-MUTE	O	REC mute signal output
52	TC-MUTE	O	TC line mute signal output
53	PB-A/B	O	TC A/B select signal output
54	ALC	O	ALC signal output
55	TC-RELAY	O	TC relay control signal output
56	REC BIAS	O	TC REC bias on/off signal output
57	CAPM-CONT	O	Capstan motor REV/FWD/STOP control signal output
58	B-TRG	O	TCM-B Trigger output
59	A-TRG	O	TCM-A trigger output
60	B-REC-REV	I	Record tab switch for SIDE-B signal input
61	B-PLAY	I	TCM-B play switch input
62	VCC	—	Power supply (+3.3V)
63	AMS-IN	I	AMS signal input
64	VSS	—	Ground
65	EQ-H/N	O	EQ high/Normal signal output
66	A-REC-FWD	I	Record tab switch for SIDE-A signal input
67	A-HALF	I	A deck half detection signal input
68	SPEANA ATTN	O	Speana audio level control signal output
69	A-PLAY	I	TCM-A play switch input
70	SW RELAY	O	SW relay drive signal output
71	MIC DETECT	I	MIC detect signal input
72	VACE IN	I	VACE control signal input
73	DISPLAY-KEY	I	Display key signal input
74	POWER-KEY	I	Power key signal input
75	STK-MUTE	O	Mute signal output to power IC
76	HP-MUTE	O	Headphone mute signal output
77	LINE-MUTE	O	TA LINE mute signal output
78	PROTECTOR	I	Speaker protection signal input
79	AUDIO-DATA	O	Audio input select data output
80	AUDIO-CLK	O	Audio input select clock output
81	VIDEO OUT	O	Video out select signal output
82	AUDIO-OUT	O	Audio out select signal output
83	FRONT-RELAY	O	Front speaker relay driver signal output
84	LINK-RELAY (REAR L/R SURR RLY)	O	Rear speaker relay driver signal output
85	CENTER-RELAY	O	Center speaker relay driver signal output
86	VOLUME-DATA	O	Volume level control data output
87	VOLUME-CLK	O	Volume level control clock output
88	FAN KICK	O	Fan motor control signal output
89	A-SHUT	I	TCM-A reel pulse input
90	B-SHUT	I	TCM-B reel pulse input
91	B-HALF	I	B deck half detection input
92	MODEL-IN	I	Model input
93	DEST-IN	I	Destination input
94	I-HOLD	I	Sub trans over valtage detect
95	DVD-POWER-CHK	I	DVD power D+3.3V voltage detect signal input
96	AVSS	—	Ground
97	NO USE	—	Not used (open)
98	VREF	I	Reference voltage input
99	AVCC	—	Power supply (+3.3V)
100	ST-MUTE	O	Tuner mute signal output

• IC601 MB90M407PF-G-130-BND (DISPLAY CONTROL) (DISPLAY Board)

Pin No.	Pin Name	I/O	Description
1 to 7	G7 to G1	O	FLD grid output
8 to 10	P1 to P3	O	FLD segment output
11	VSS-IO	—	Ground
12 to 22	P4 to P14	O	FLD segment output
23	VDD-FIP	—	Power supply (+3.3V)
24 to 41	P15 to P32	O	FLD segment output
42	VSS-IO	—	Ground
43 to 46	P33 to P36	O	FLD segment output
47	NO USED	O	Not used (connected to ground)
48	VKK	—	Power supply (-35V)
49	MD0	I	Not used (pull up with resistor)
50	MD1/VDD-VFT	I	Not used (pull up with resistor)
51	MD2	I	Not used (pull down with resistor)
52	VOLUME 5,6 LED	O	Volume level indicator LED drive signal output
53	VOLUME 7,8 LED	O	Volume level indicator LED drive signal output
54	VOLUME 9,10 LED	O	Volume level indicator LED drive signal output
55	VOLUME 11,MULT1 CH LED	I	Volume level indicator LED drive signal output
56	VOLUME 3,4 LED	I	Volume level indicator LED drive signal output
57	VOLUME 1,2 LED	O	Volume level indicator LED drive signal output
58	TAPE A/B, TUNER LED	O	TAPE A/B indicator LED drive signal output
59	GAME, MD/VIDEO LED	O	GAME, MD/VIDEO indicator LED drive signal output
60	I2C-DATA	O	IIC serial data output
61	I2C-CLOCK	O	IIC clock signal output
62	AVCC	—	Power supply (+3.3V)
63	AVSS	—	Ground
64 to 66	KEY0 to KEY2	I	Key input (A/D port)
67	BPF3	I	Spectrum analyzer BPF signal input
68	BPF2	I	Spectrum analyzer BPF signal input
69	BPF1	I	Spectrum analyzer BPF signal input
70	SUPER LOW FQUENCY (BPF0)	I	Spectrum analyzer BPF signal input
71	ALL BAND	I	L+R signal input
72	SELECTOR	O	LED group A/B select signal output
73	CD/DVD, REC/PAUSE LED	O	CD/DVD, REC/PAUSE indicator LED drive signal output
74 to 76	NO USE	O	Not used (connected to ground)
77	RESET	I	Reset input
78	SOFT TEST	O	Not used (open)
79	VOL 1B	I	Volume encoder signal B input
80	VOL 1A	I	Volume encoder signal A input
81	VSS-CPU	—	Ground
82	XOUT	O	Crystal oscillator output (4MHz)
83	XIN	I	Crystal oscillator input (4MHz)
84	VCC-CPU	—	Power supply (+3.3V)
85 to 86	NO USED	O	Not used (open)
87 to 100	G21 to G8	O	FLD grid output

SECTION 8 EXPLODED VIEWS

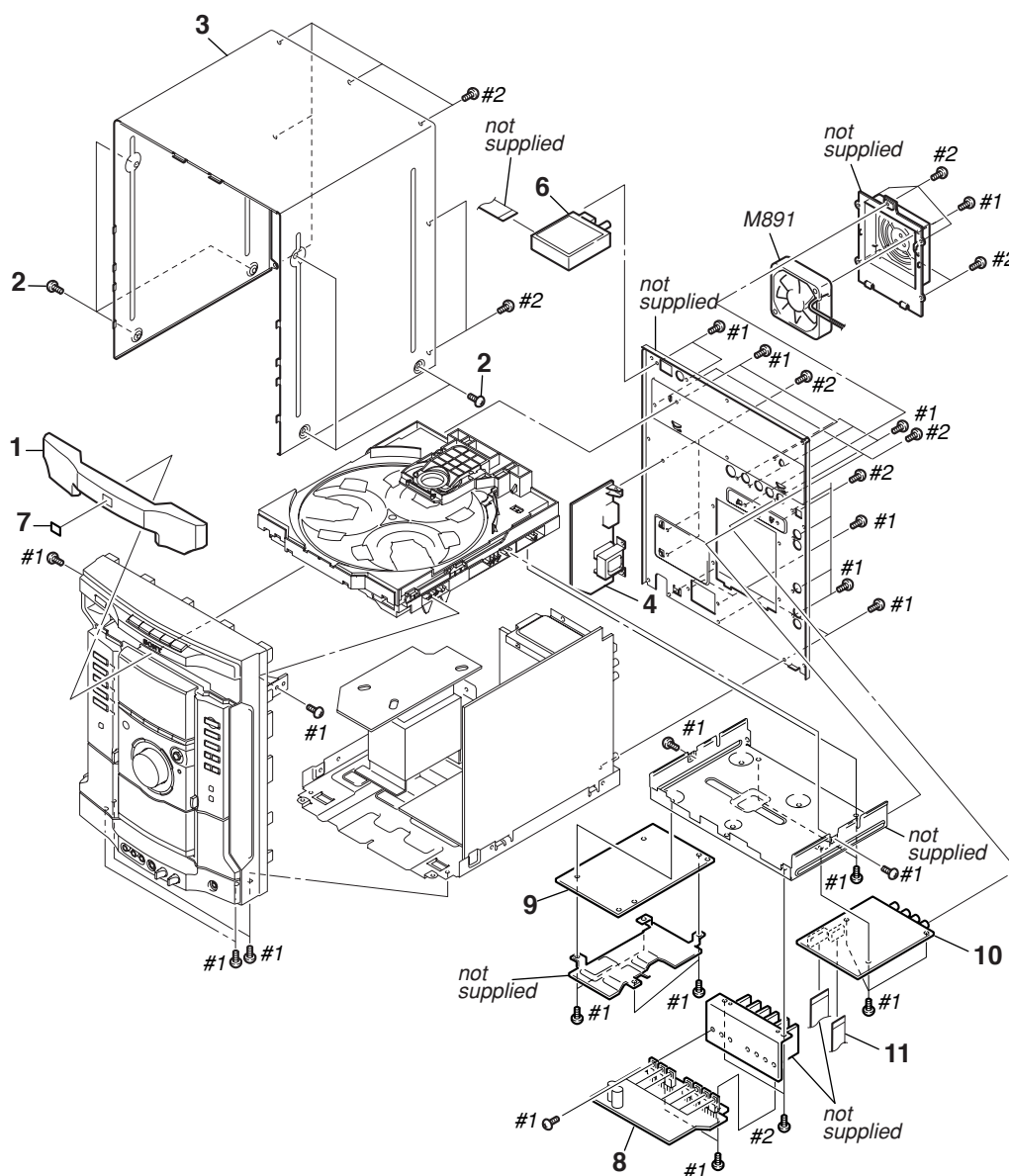
NOTE:

- XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Accessories are given in the last of the electrical parts list.

Abbreviation	
AUS	: Australian model
E3	: 240 V AC Area in E model
EA	: Saudi Arabia model
E15	: Iran model
E51	: Chilean and Peruvian model
MX	: Mexican model
PH	: Philippines model
SP	: Singapore model
MY	: Malaysia model
TH	: Thai model

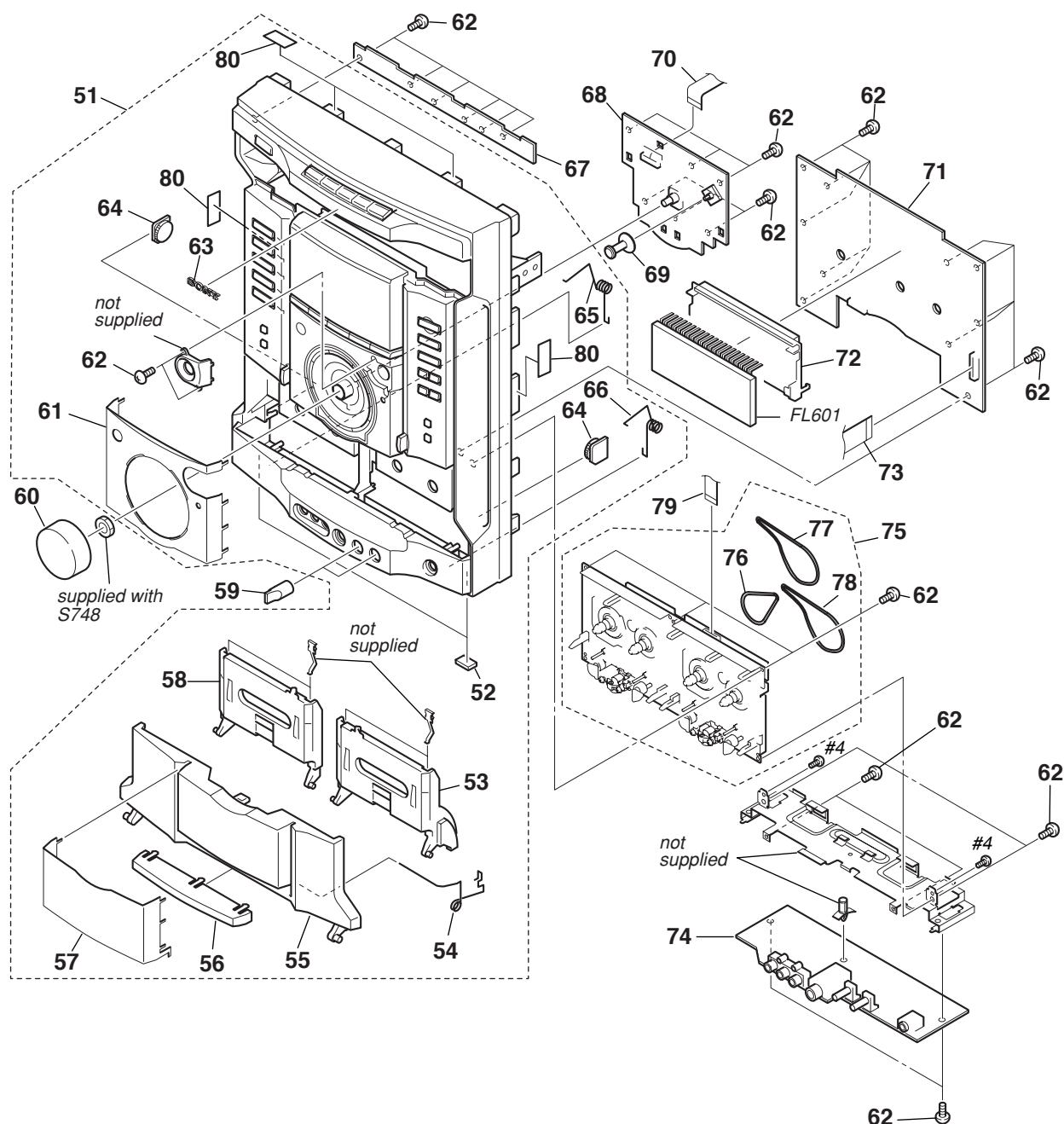
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

8-1. CASE, BACK PANEL, DMB03 BOARD SECTION



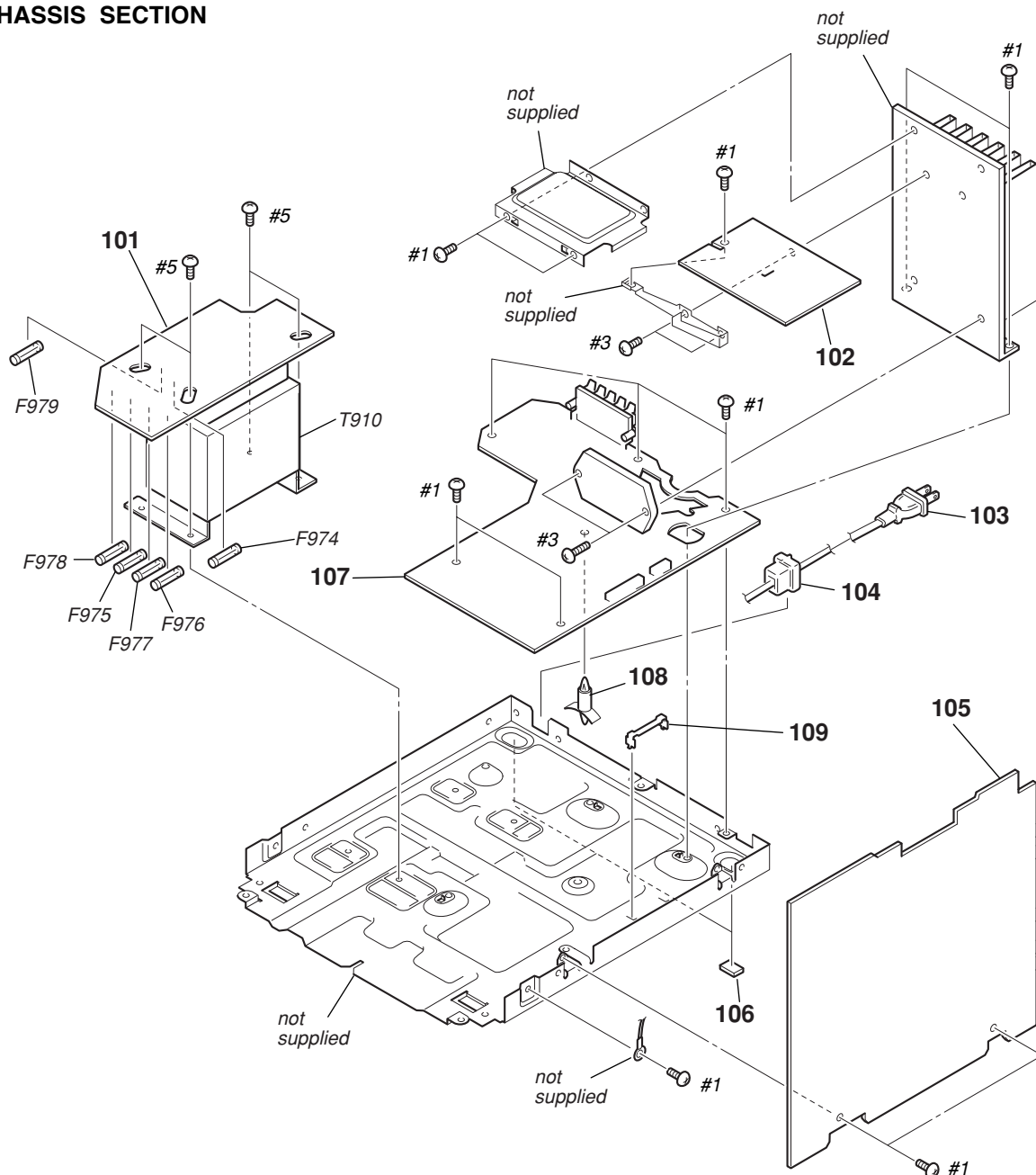
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	4-244-102-61	LOADING PANEL		8	A-4732-884-A	REGULATOR BOARD, COMPLETE (EXCEPT TH)	
2	3-363-099-41	SCREW (CASE 3 TP2)		8	A-4734-506-A	REGULATOR BOARD, COMPLETE (TH)	
3	4-231-828-51	CASE		9	A-4732-903-A	DMB03 BOARD, COMPLETE	
4	A-4731-346-A	SUB-TRANS BOARD, COMPLETE (E15,E3,E51,PH,SP,MY)		10	A-4732-883-A	VIDEO BOARD, COMPLETE (EXCEPT TH)	
4	A-4734-889-A	SUB-TRANS BOARD, COMPLETE (MX)		10	A-4734-505-A	VIDEO BOARD, COMPLETE (TH)	
4	A-4734-967-A	SUB-TRANS BOARD, COMPLETE (AUS)		11	1-775-165-11	WIRE (FLAT TYPE) (17 CORE) (220mm)	
4	A-4747-641-A	SUB TRANS BOARD, COMPLETE (EA)		M891	1-763-072-11	FAN, DC	
4	A-4749-091-A	SUB TRANS BOARD, COMPLETE (TH)		#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
6	1-693-603-31	TUNER (FM/AM)		#2	7-685-871-01	SCREW +BVTT 3X6 (S)	
7	3-067-237-11	EMBLEM (V), DVD					

8-2. FRONT PANEL SECTION



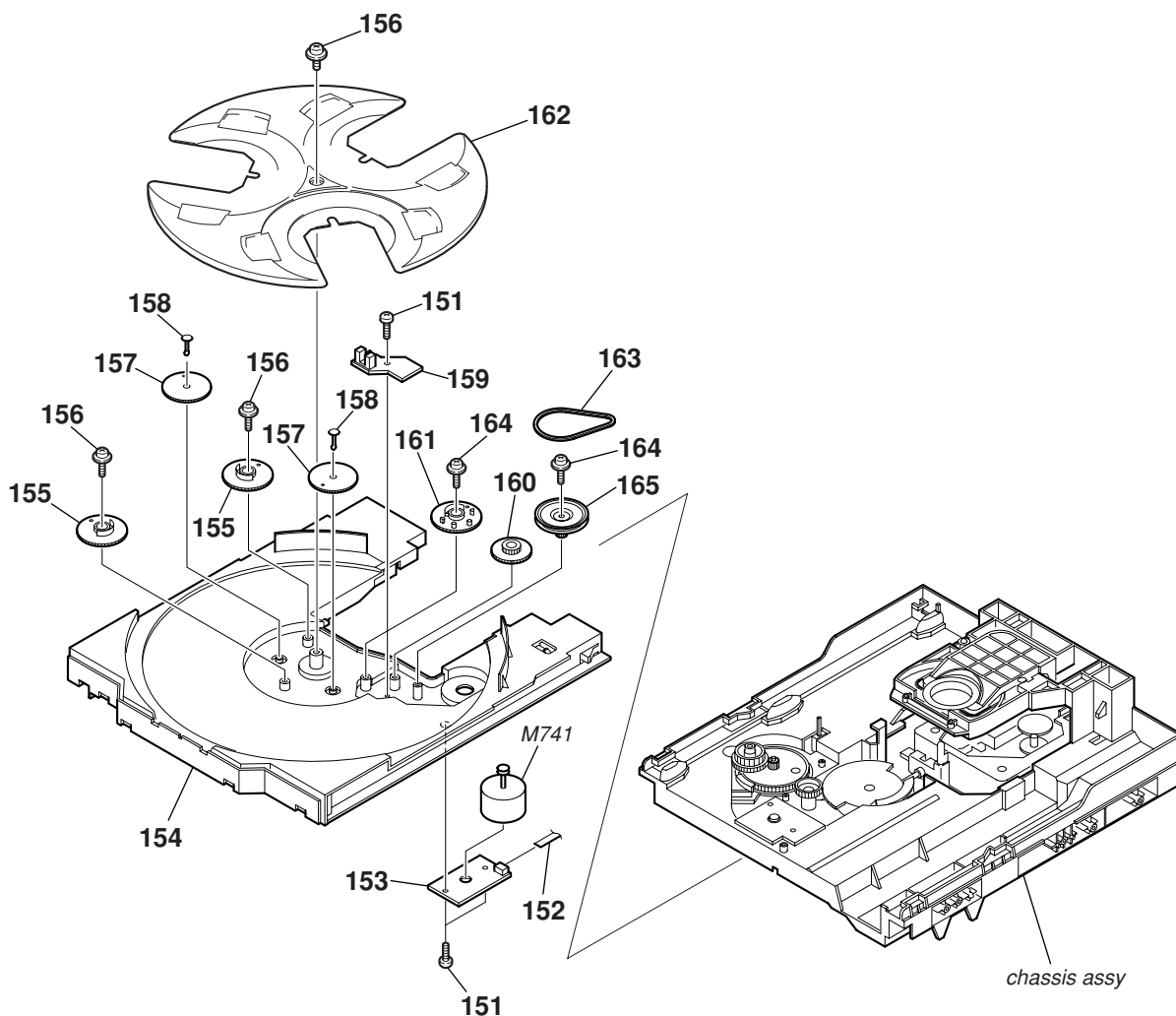
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	X-4955-539-1	FRONT PANEL ASSY		68	A-4732-868-A	VOLUME BOARD, COMPLETE (EXCEPT TH)	
52	4-225-252-01	CUSHION (FOOT)		68	A-4734-534-A	VOLUME BOARD, COMPLETE (TH)	
53	4-244-075-01	HOLDER (TC-R)		69	4-244-096-01	KNOB CURSOR	
54	4-244-093-01	SPRING LID		70	1-773-040-11	WIRE (FLAT TYPE) (17 CORE) (120mm)	
55	4-244-072-01	LID TC		71	A-4732-870-A	DISPLAY BOARD, COMPLETE (EXCEPT TH)	
56	4-244-073-01	WINDOW TC		71	A-4734-535-A	DISPLAY BOARD, COMPLETE (TH)	
57	4-244-090-01	COVER (AL-TC)		72	4-231-581-01	HOLDER (FL)	
58	4-244-074-01	HOLDER (TC-L)		73	1-773-110-11	WIRE (FLAT TYPE) (19 CORE)	
59	4-224-578-21	KNOB (MIC)		74	A-4732-871-A	GAME IN BOARD, COMPLETE(EXCEPT TH)	
60	4-244-097-01	KNOB (VOLUME)		74	A-4734-533-A	GAME IN BOARD, COMPLETE(TH)	
61	4-244-089-21	COVER (AL-STR)		75	1-796-487-31	DECK, MECHANICAL (CDM43RR23)	
62	4-951-620-01	SCREW (2.6X8), +BVTP		76	4-243-609-01	BELT (AF)	
63	4-963-404-21	EMBLEM (5-A), SONY		77	4-243-610-01	BELT (AL)	
64	4-224-104-11	DAMPER		78	4-243-608-01	BELT (BR)	
65	4-244-094-01	SPRING (L)		79	1-751-688-11	WIRE (FLAT TYPE) (13 CORE)	
66	4-244-095-01	SPRING R		80	3-378-434-01	CUSHION, SARANET	
67	1-686-936-11	CD SWITCH BOARD		FL601	1-518-862-11	INDICATOR TUBE, FLUORESCENT	
				#4	7-685-781-09	SCREW +PTT 2X4 (S)	

8-3. CHASSIS SECTION



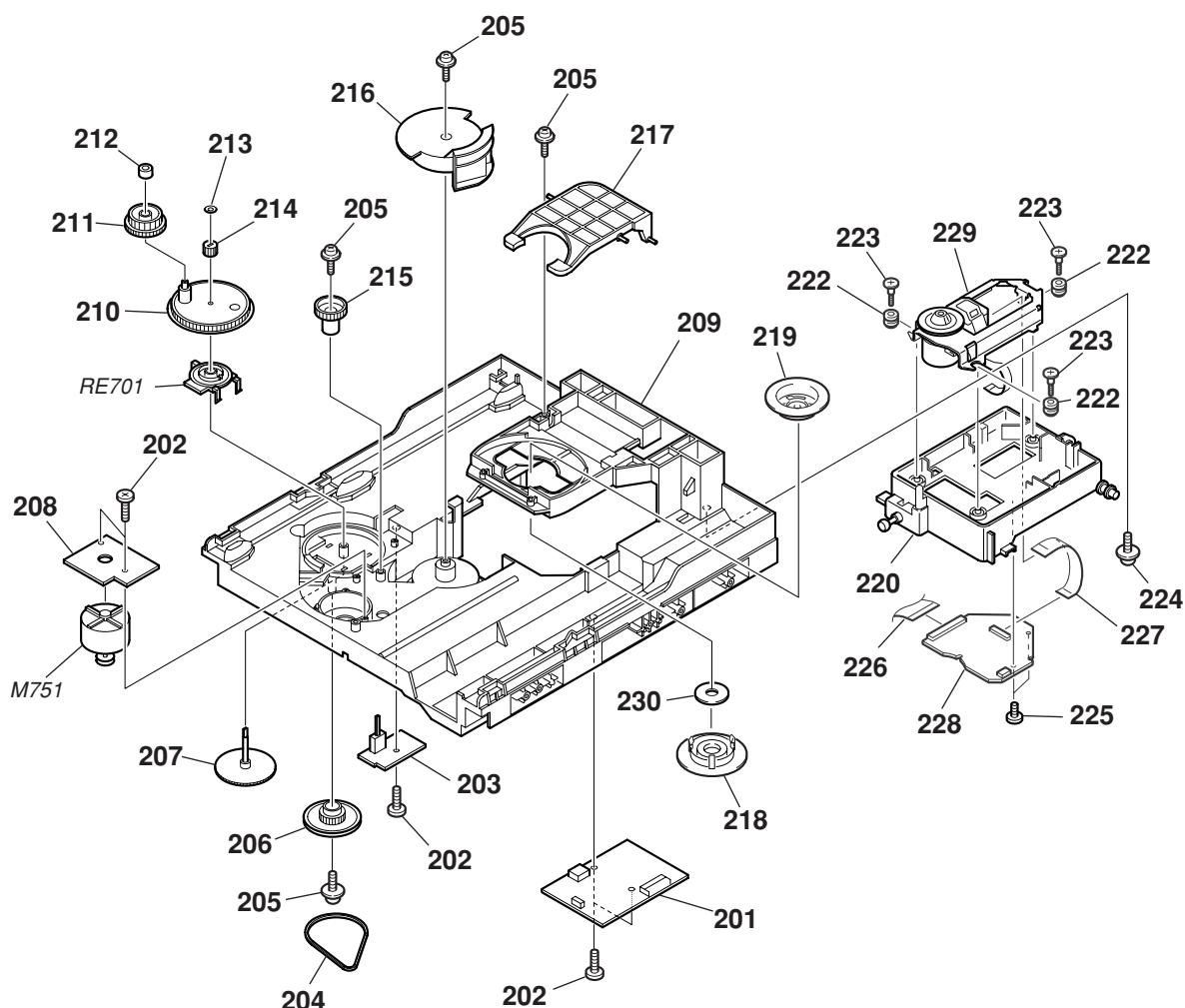
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	1-686-930-11	TRANS BOARD		108	4-943-687-01	HOLDER, PC BOARD	
102	A-4732-892-A	SURROUND BOARD, COMPLETE (EXCEPT TH)		* 109	4-988-533-01	HOLDER, PWB	
102	A-4734-262-A	SURROUND BOARD, COMPLETE (TH)		Δ F974	1-533-473-11	FUSE, GLASS TUBE (DIA. 5) (T6.3AL 250V)	
Δ 103	1-696-847-21	CORD, POWER (AUS)		Δ F975	1-533-473-11	FUSE, GLASS TUBE (DIA. 5) (T6.3AL 250V)	
Δ 103	1-777-071-53	CORD, POWER (E51,EA,PH,SP,MY)		Δ F976	1-576-655-11	FUSE, GLASS TUBE (DIA. 5) (T8AL 250V)	
Δ 103	1-824-818-11	CORD, POWER (TH)		Δ F977	1-576-655-11	FUSE, GLASS TUBE (DIA. 5) (T8AL 250V)	
Δ 103	1-827-226-11	CORD, POWER (E15,E3,MX)		Δ F978	1-533-471-11	FUSE, GLASS TUBE (DIA. 5) (T4AL 250V)	
* 104	3-703-244-00	BUSHING (2104), CORD (AUS,E51,EA,PH,SP,MY,TH)		Δ F979	1-533-470-11	FUSE, GLASS TUBE (DIA. 5) (T3.15AL 250V)	
104	3-703-571-11	BUSHING (S) (4516), CORD (E15,E3,MX)		Δ T910	1-439-741-11	TRANSFORMER, POWER (AUS,E15,E3,E51,PH,SP,MY,TH)	
105	A-4732-888-A	MAIN BOARD, COMPLETE(E15,E3,E51,EA,MX)		Δ T910	1-439-842-11	POWER TRANSFORMER (EA,MX)	
105	A-4733-170-A	MAIN BOARD, COMPLETE (AUS,PH,SP,MY)		#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
105	A-4734-508-A	MAIN BOARD, COMPLETE (TH)		#3	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3	
106	4-225-252-01	CUSHION (FOOT)		#5	7-685-881-09	SCREW +BVTT 4X8 (S)	
107	A-4732-900-A	POWER BOARD, COMPLETE (EXCEPT TH)					
107	A-4734-623-A	POWER BOARD, COMPLETE (TH)					

8-4. DVD MECHANISM DECK SECTION-1 (CDM74D-DVBU23)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	4-218-253-21	SCREW (M2.6), +BTTP		160	4-243-820-01	GEAR (TABLE)	
152	1-776-182-11	WIRE (FLAT TYPE) (5 CORE)		161	4-243-819-01	GEAR (GENEVA)	
153	1-687-134-11	MOTOR (TB) BOARD		162	4-243-816-01	TRAY	
154	4-243-815-01	TABLE (LOADING)		163	4-243-823-01	BELT (TABLE)	
155	4-245-571-01	GEAR (STOPPER)		164	4-985-672-01	SCREW (+PTPWH M2.6), FLOATING	
156	4-218-252-61	SCREW (+PTPWH M2.6), FLOATING		165	4-243-821-01	PULLEY (TABLE)	
157	4-245-570-01	GEAR (JOINT)					
158	4-245-572-01	BUSHING (GEAR)		M741	A-4723-963-A	MOTOR ASSY, TABLE	
159	1-687-132-11	SENSOR BOARD					

8-5. DVD MECHANISM DECK SECTION-2 (CDM74D-DVBU23)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
201	1-687-135-11	DRIVER BOARD		217	4-243-822-01	LEVER (LIFTER)	
202	4-218-253-31	SCREW (M2.6), +BTTP		218	X-4954-450-1	PULLEY (240) ASSY	
203	1-687-669-11	SW BOARD		219	4-233-594-01	PULLEY (B) (DVD), CHUCKING	
204	4-244-034-01	BELT (LOADING)		220	X-4955-538-1	HOLDER (DBU) ASSY	
205	4-218-252-61	SCREW (+PTPWH M2.6), FLOATING		222	3-053-847-31	INSULATOR	
206	4-225-844-01	GEAR (LOADING A)		223	4-981-923-01	SCREW (M), STEP	
207	4-224-613-01	GEAR (SHAFT)		224	4-218-252-51	SCREW (+PTPWH M2.6), FLOATING	
208	1-687-133-11	MOTOR (LD) BOARD		225	4-218-253-11	SCREW (M2.6), +BTTP	
209	4-243-817-11	CHASSIS		226	1-775-265-11	WIRE (FLAT TYPE) (29 CORE)	
210	4-244-108-01	GEAR, SWING		227	1-824-106-12	CABLE, FLEXIBLE FLAT (24 CORE)	
211	4-224-609-01	GEAR (LOADING C)		228	A-4728-690-A	RF BOARD, COMPLETE	
212	4-224-608-01	COLLAR, SWING		Δ229	1-477-263-11	OPTICAL PICK-UP (TDPO22W)	
213	3-016-533-01	WASHER (FR), STOPPER		230	3-053-844-01	YOKE	
214	4-224-611-01	GEAR (LOADING B)		M751	A-4737-553-A	MOTOR ASSY, LOADING	
215	4-224-606-01	GEAR (RV)		RE701	1-477-680-11	ENCODER, ROTARY	
216	4-243-818-01	GEAR (U/D)					

SECTION 9 ELECTRICAL PARTS LIST

CD SWITCH**DISPLAY****NOTE:**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable
- Items marked “*” are not stocked since they are seldom required for routine service.
Some delay should be anticipated when ordering these items.

• SEMICONDUCTORS

In each case, u: μ , for example:uA. . . : μ A. . . uPA. . . : μ PA. . .uPB. . . : μ PB. . . uPC. . . : μ PC. . .uPD. . . : μ PD. . .

• CAPACITORS

uF: μ F

• COILS

uH: μ H

• Abbreviation

AUS : Australian model

E3 : 240 V AC Area in E model

EA : Saudi Arabia model

E15 : Iran model

E51 : Chilean and Peruvian model

MX : Mexican model

PH : Philippines model

SP : Singapore model

MY : Malaysia model

TH : Thai model

The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remarks
	1-686-936-11	CD SWITCH BOARD *****	
		< DIODE >	
D748	8-719-058-04	DIODE SEL5223S-TP15 (I/⏻)	
		< TRANSISTOR >	
Q748	8-729-116-02	TRANSISTOR BA1A4M-TP	
		< RESISTOR >	
R748	1-249-411-11	CARBON 330 5% 1/4W	
R749	1-249-410-11	CARBON 270 5% 1/4W F	
R788	1-249-427-11	CARBON 6.8K 5% 1/4W F	
R789	1-249-429-11	CARBON 10K 5% 1/4W	
R790	1-249-431-11	CARBON 15K 5% 1/4W	
R791	1-249-433-11	CARBON 22K 5% 1/4W	
R792	1-249-435-11	CARBON 33K 5% 1/4W	
		< SWITCH >	
S749	1-762-875-21	SWITCH, KEYBOARD (I/⏻)	
S788	1-762-875-21	SWITCH, KEYBOARD (▲OPEN/CLOSE)	
S789	1-762-875-21	SWITCH, KEYBOARD (EX-CHANGE/DISK SKIP)	
S790	1-762-875-21	SWITCH, KEYBOARD (DISC 3)	
S791	1-762-875-21	SWITCH, KEYBOARD (DISC 2)	
S792	1-762-875-21	SWITCH, KEYBOARD (DISC 1)	

	A-4732-870-A	DISPLAY BOARD, COMPLETE (EXCEPT TH)	
	A-4734-535-A	DISPLAY BOARD, COMPLETE (TH) *****	
	4-231-581-01	HOLDER (FL)	
		< CAPACITOR >	
C100	1-126-964-11	ELECT 10uF 20% 50V	
C101	1-137-194-81	FILM 0.47uF 5% 50V	
C102	1-137-194-81	FILM 0.47uF 5% 50V	
C104	1-126-964-11	ELECT 10uF 20% 50V	
C105	1-126-957-11	ELECT 0.22uF 20% 50V	
C106	1-136-165-00	FILM 0.1uF 5% 50V	
C107	1-136-165-00	FILM 0.1uF 5% 50V	
C109	1-124-261-00	ELECT 10uF 20% 50V	
C110	1-126-957-11	ELECT 0.22uF 20% 50V	
C111	1-136-157-00	FILM 0.022uF 5% 50V	
C112	1-136-157-00	FILM 0.022uF 5% 50V	
C114	1-126-964-11	ELECT 10uF 20% 50V	

Ref. No.	Part No.	Description	Remarks
C115	1-126-957-11	ELECT 0.22uF 20% 50V	
C116	1-130-475-00	MYLAR 0.0022uF 5% 50V	
C117	1-130-475-00	MYLAR 0.0022uF 5% 50V	
C118	1-126-964-11	ELECT 10uF 20% 50V	
C119	1-124-261-00	ELECT 10uF 20% 50V	
C120	1-126-957-11	ELECT 0.22uF 20% 50V	
C121	1-126-963-11	ELECT 4.7uF 20% 50V	
C122	1-124-584-00	ELECT 100uF 20% 10V	
C123	1-104-665-11	ELECT 100uF 20% 10V	
C124	1-126-964-11	ELECT 10uF 20% 50V	
C125	1-164-159-21	CERAMIC 0.1uF 50V(TH)	
C125	1-164-159-11	CERAMIC 0.1uF 50V	(EXCEPT TH)
C152	1-162-286-21	CERAMIC 220PF 10% 50V(TH)	
C152	1-162-286-31	CERAMIC 220PF 10% 50V	(EXCEPT TH)
C153	1-162-286-21	CERAMIC 220PF 10% 50V(TH)	
C153	1-162-286-31	CERAMIC 220PF 10% 50V	(EXCEPT TH)
C154	1-162-286-21	CERAMIC 220PF 10% 50V(TH)	
C154	1-162-286-31	CERAMIC 220PF 10% 50V	(EXCEPT TH)
C155	1-162-286-21	CERAMIC 220PF 10% 50V(TH)	
C155	1-162-286-31	CERAMIC 220PF 10% 50V	(EXCEPT TH)
C156	1-162-286-21	CERAMIC 220PF 10% 50V(TH)	
C156	1-162-286-31	CERAMIC 220PF 10% 50V	(EXCEPT TH)
C157	1-162-286-21	CERAMIC 220PF 10% 50V(TH)	
C157	1-162-286-31	CERAMIC 220PF 10% 50V	(EXCEPT TH)
C618	1-162-306-11	CERAMIC 0.01uF 30% 16V	
C619	1-124-589-11	ELECT 47uF 20% 16V	
C620	1-162-306-11	CERAMIC 0.01uF 30% 16V	
C622	1-126-163-11	ELECT 4.7uF 20% 50V	
C623	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C624	1-162-306-11	CERAMIC 0.01uF 30% 16V	
C625	1-162-306-11	CERAMIC 0.01uF 30% 16V	
C626	1-162-306-11	CERAMIC 0.01uF 30% 16V	
C627	1-162-306-11	CERAMIC 0.01uF 30% 16V	
C628	1-162-306-11	CERAMIC 0.01uF 30% 16V	
C651	1-164-159-21	CERAMIC 0.1uF 50V(TH)	
C651	1-164-159-11	CERAMIC 0.1uF 50V	(EXCEPT TH)
C652	1-124-261-00	ELECT 10uF 20% 50V	
C653	1-124-261-00	ELECT 10uF 20% 50V	
C710	1-162-306-11	CERAMIC 0.01uF 30% 16V	

Ref. No.	Part No.	Description				Remarks	Ref. No.	Part No.	Description				Remarks
C711	1-162-306-11	CERAMIC	0.01uF	30%	16V		R114	1-249-419-11	CARBON	1.5K	5%	1/4W	F
C712	1-162-306-11	CERAMIC	0.01uF	30%	16V		R115	1-249-419-11	CARBON	1.5K	5%	1/4W	F
		< CONNECTOR >					R116	1-249-440-11	CARBON	82K	5%	1/4W	
* CN601 CN604	1-569-935-11	SOCKET, CONNECTOR 19P					R117	1-249-415-11	CARBON	680	5%	1/4W	F
	1-568-860-11	SOCKET, CONNECTOR 17P					R118	1-249-441-11	CARBON	100K	5%	1/4W	
							R119	1-249-441-11	CARBON	100K	5%	1/4W	
							R120	1-249-419-11	CARBON	1.5K	5%	1/4W	F
		< DIODE >					R121	1-249-419-11	CARBON	1.5K	5%	1/4W	F
D100	8-719-109-66	DIODE	MTZJ-T-77-3.3B (TH)				R122	1-249-440-11	CARBON	82K	5%	1/4W	
D100	8-719-983-63	DIODE	MTZJ-T-72-3.3B (EXCEPT TH)				R123	1-249-415-11	CARBON	680	5%	1/4W	F
D101	8-719-991-33	DIODE	1SS133T-72				R124	1-249-441-11	CARBON	100K	5%	1/4W	
D102	8-719-991-33	DIODE	1SS133T-72				R125	1-249-441-11	CARBON	100K	5%	1/4W	
D103	8-719-991-33	DIODE	1SS133T-72				R127	1-249-409-11	CARBON	220	5%	1/4W	F
D104	8-719-991-33	DIODE	1SS133T-72				R128	1-247-895-91	CARBON	470K	5%	1/4W	
D105	8-719-991-33	DIODE	1SS133T-72									(TH)	
D106	6-500-522-01	DIODE	10EDB40-TA1B2 (TH)				R128	1-247-895-00	CARBON	470K	5%	1/4W	
D106	6-500-522-11	DIODE	10EDB40-TA2B5 (EXCEPT TH)									(EXCEPT TH)	
D107	6-500-522-01	DIODE	10EDB40-TA1B2 (TH)				R129	1-249-425-11	CARBON	4.7K	5%	1/4W	F
							R130	1-249-425-11	CARBON	4.7K	5%	1/4W	F
D107	6-500-522-11	DIODE	10EDB40-TA2B5 (EXCEPT TH)				R131	1-249-441-11	CARBON	100K	5%	1/4W	
D601	8-719-063-93	DIODE	SLR325VC-N-T32 (REC PAUSE/START)										
D602	8-719-057-97	DIODE	SEL5923A-TP15 (GAME)				R132	1-249-441-11	CARBON	100K	5%	1/4W	
D603	8-719-057-97	DIODE	SEL5923A-TP15 (MD(VIDEO))				R133	1-249-441-11	CARBON	100K	5%	1/4W	
D604	8-719-057-97	DIODE	SEL5923A-TP15 (DVD)				R134	1-249-441-11	CARBON	100K	5%	1/4W	
							R136	1-249-439-11	CARBON	68K	5%	1/4W	
D605	8-719-057-97	DIODE	SEL5923A-TP15 (TUNER/BAND)				R137	1-249-433-11	CARBON	22K	5%	1/4W	
D606	8-719-057-97	DIODE	SEL5923A-TP15 (TAPE A/B)										
D610	8-719-109-85	DIODE	MTZJ-T-72-5.1B				R138	1-249-420-11	CARBON	1.8K	5%	1/4W	F
		< FLUORESCENT INDICATOR TUBE >					R139	1-249-411-11	CARBON	330	5%	1/4W	
							R140	1-247-807-31	CARBON	100	5%	1/4W	
FL601	1-518-862-11	INDICATOR TUBE, FLUORESCENT					R626	1-249-411-11	CARBON	330	5%	1/4W	
		< IC >					R627	1-249-411-11	CARBON	330	5%	1/4W	
							R628	1-249-411-11	CARBON	330	5%	1/4W	
IC101	8-759-167-88	IC	NJM4565D				R629	1-249-411-11	CARBON	330	5%	1/4W	
IC102	8-759-167-88	IC	NJM4565D				R630	1-249-411-11	CARBON	330	5%	1/4W	
IC601	6-802-903-01	IC	MB90M407PF-G-130-BND				R631	1-249-415-11	CARBON	680	5%	1/4W	F
							R632	1-249-415-11	CARBON	680	5%	1/4W	F
		< TRANSISTOR >					R633	1-249-415-11	CARBON	680	5%	1/4W	F
							R634	1-249-429-11	CARBON	10K	5%	1/4W	
Q100	8-729-141-30	TRANSISTOR	2SC3623ATP-LK				R635	1-249-429-11	CARBON	10K	5%	1/4W	
Q601	8-729-116-02	TRANSISTOR	BA1A4M-TP				R636	1-249-429-11	CARBON	10K	5%	1/4W	
Q602	8-729-116-02	TRANSISTOR	BA1A4M-TP				R637	1-249-429-11	CARBON	10K	5%	1/4W	
Q603	8-729-116-02	TRANSISTOR	BA1A4M-TP										
Q604	8-729-116-02	TRANSISTOR	BA1A4M-TP				R645	1-249-429-11	CARBON	10K	5%	1/4W	
							R646	1-247-807-31	CARBON	100	5%	1/4W	
Q605	8-729-140-04	TRANSISTOR	2SB1116-TP-LK				R647	1-247-807-31	CARBON	100	5%	1/4W	
Q606	8-729-140-04	TRANSISTOR	2SB1116-TP-LK				R652	1-249-429-11	CARBON	10K	5%	1/4W	
Q707	8-729-116-02	TRANSISTOR	BA1A4M-TP				R653	1-249-429-11	CARBON	10K	5%	1/4W	
Q807	8-729-029-94	TRANSISTOR	BA1L3Z-TP										
Q808	8-729-029-94	TRANSISTOR	BA1L3Z-TP				R654	1-247-807-31	CARBON	100	5%	1/4W	
							R655	1-247-807-31	CARBON	100	5%	1/4W	
		< RESISTOR >					R656	1-247-807-31	CARBON	100	5%	1/4W	
							R657	1-249-431-11	CARBON	15K	5%	1/4W	
R102	1-249-419-11	CARBON	1.5K	5%	1/4W	F	R658	1-249-431-11	CARBON	15K	5%	1/4W	
R103	1-249-419-11	CARBON	1.5K	5%	1/4W	F							
R104	1-249-440-11	CARBON	82K	5%	1/4W		R659	1-249-431-11	CARBON	15K	5%	1/4W	
R105	1-249-415-11	CARBON	680	5%	1/4W	F	R660	1-247-903-00	CARBON	1M	5%	1/4W	
R106	1-249-441-11	CARBON	100K	5%	1/4W		R661	1-249-429-11	CARBON	10K	5%	1/4W	
							R662	1-249-429-11	CARBON	10K	5%	1/4W	
R107	1-249-441-11	CARBON	100K	5%	1/4W		R663	1-249-429-11	CARBON	10K	5%	1/4W	
R108	1-249-419-11	CARBON	1.5K	5%	1/4W	F							
R109	1-249-419-11	CARBON	1.5K	5%	1/4W	F	R751	1-249-413-11	CARBON	470	5%	1/4W	F
R110	1-249-440-11	CARBON	82K	5%	1/4W		R752	1-249-415-11	CARBON	680	5%	1/4W	F
R111	1-249-415-11	CARBON	680	5%	1/4W	F	R753	1-249-417-11	CARBON	1K	5%	1/4W	F
							R754	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R112	1-249-441-11	CARBON	100K	5%	1/4W		R755	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R113	1-249-441-11	CARBON	100K	5%	1/4W								

HCD-GN88D

DISPLAY

DMB03

Ref. No.	Part No.	Description	Remarks		
R756	1-249-421-11	CARBON	2.2K	5%	1/4W F
R757	1-247-843-11	CARBON	3.3K	5%	1/4W
R758	1-249-425-11	CARBON	4.7K	5%	1/4W F
R779	1-249-413-11	CARBON	470	5%	1/4W F
R781	1-249-415-11	CARBON	680	5%	1/4W F
R782	1-249-417-11	CARBON	1K	5%	1/4W F
R783	1-249-419-11	CARBON	1.5K	5%	1/4W F
R784	1-249-419-11	CARBON	1.5K	5%	1/4W F
R785	1-249-421-11	CARBON	2.2K	5%	1/4W F
R786	1-247-843-11	CARBON	3.3K	5%	1/4W
R787	1-249-425-11	CARBON	4.7K	5%	1/4W F
R807	1-249-441-11	CARBON	100K	5%	1/4W
R808	1-249-441-11	CARBON	100K	5%	1/4W
R817	1-249-406-11	CARBON	120	5%	1/4W F
R818	1-249-408-11	CARBON	180	5%	1/4W F
R819	1-249-408-11	CARBON	180	5%	1/4W F
R820	1-249-408-11	CARBON	180	5%	1/4W F
R821	1-249-406-11	CARBON	120	5%	1/4W F
R822	1-249-417-11	CARBON	1K	5%	1/4W F
R823	1-249-417-11	CARBON	1K	5%	1/4W F
< SWITCH >					
S751	1-762-875-21	SWITCH, KEYBOARD (<D>)			
S752	1-762-875-21	SWITCH, KEYBOARD (■)			
S753	1-762-875-21	SWITCH, KEYBOARD (II)			
S754	1-762-875-21	SWITCH, KEYBOARD (-,I,◀◀)			
S755	1-762-875-21	SWITCH, KEYBOARD (▶▶I,+)			
S756	1-762-875-21	SWITCH, KEYBOARD (▶▶ALBUM +)			
S757	1-762-875-21	SWITCH, KEYBOARD (◀◀,ALBUM -)			
S758	1-762-875-21	SWITCH, KEYBOARD (REC PAUSE/START)			
S779	1-762-875-21	SWITCH, KEYBOARD (CD SYNC)			
S781	1-762-875-21	SWITCH, KEYBOARD (KARAOKE/MPX)			
S782	1-762-875-21	SWITCH, KEYBOARD (GAME MIXING)			
S783	1-762-875-21	SWITCH, KEYBOARD (GAME)			
S784	1-762-875-21	SWITCH, KEYBOARD (MD(VIDEO))			
S785	1-762-875-21	SWITCH, KEYBOARD (TAPE A/B)			
S786	1-762-875-21	SWITCH, KEYBOARD (TUNER/BAND)			
S787	1-762-875-21	SWITCH, KEYBOARD (DVD)			
< VIBRATOR >					
X601	1-577-358-21	VIBRATOR, CERAMIC (4MHz)			

	A-4732-903-A	DMB03 BOARD, COMPLETE (EXCEPT TH)			
	A-4734-638-A	DMB03 BOARD, COMPLETE (TH)			

< CAPACITOR >					
C101	1-126-246-11	ELECT CHIP	220uF	20%	4V
C151	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C204	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C205	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C213	1-126-209-11	ELECT CHIP	100uF	20%	4V
C214	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C215	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C216	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C218	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C220	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C226	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C227	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C229	1-164-947-11	CERAMIC CHIP	0.01uF		50V

Ref. No.	Part No.	Description	Remarks		
C230	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C231	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C232	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C233	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C234	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C235	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C236	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C237	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C238	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C239	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C240	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C241	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C242	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C243	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C244	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C245	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C246	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C247	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C248	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C249	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C250	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C251	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C252	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C253	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C254	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C255	1-117-370-11	CERAMIC CHIP	10uF		10V
C256	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C257	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C258	1-117-370-11	CERAMIC CHIP	10uF		10V
C259	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C260	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C261	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C262	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C263	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C264	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C265	1-117-370-11	CERAMIC CHIP	10uF		10V
C266	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C267	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C268	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C269	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C270	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C271	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C272	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C275	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C281	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C282	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C288	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C289	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C302	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C303	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C304	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C305	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C306	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C307	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C308	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C309	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C315	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C316	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C321	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C322	1-107-820-11	CERAMIC CHIP	0.1uF		16V

Ref. No.	Part No.	Description	Remarks			Ref. No.	Part No.	Description	Remarks		
C323	1-107-820-11	CERAMIC CHIP	0.1uF		16V	C701	1-126-209-11	ELECT CHIP	100uF	20%	4V
C324	1-107-820-11	CERAMIC CHIP	0.1uF		16V	C702	1-117-370-11	CERAMIC CHIP	10uF		10V
C325	1-126-209-11	ELECT CHIP	100uF	20%	4V	C703	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V
C326	1-164-947-11	CERAMIC CHIP	0.01uF		50V	C705	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C392	1-126-395-11	ELECT	22uF	20%	16V	C706	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C393	1-164-947-11	CERAMIC CHIP	0.01uF		50V	C708	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C394	1-126-246-11	ELECT CHIP	220uF	20%	4V	C709	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C412	1-216-864-11	METAL CHIP	0	5%	1/10W	C711	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V(TH)
C413	1-216-864-11	METAL CHIP	0	5%	1/10W	C711	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C414	1-216-864-11	METAL CHIP	0	5%	1/10W						(EXCEPT TH)
C415	1-216-864-11	METAL CHIP	0	5%	1/10W	C712	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C416	1-216-864-11	METAL CHIP	0	5%	1/10W	C713	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C501	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C714	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C502	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C715	1-164-938-11	CERAMIC CHIP	0.0015uF	10%	50V
C503	1-127-772-81	CERAMIC CHIP	33000PF	10%	10V	C716	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C504	1-127-772-81	CERAMIC CHIP	33000PF	10%	10V	C717	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C506	1-164-934-11	CERAMIC CHIP	330PF	10%	50V	C718	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C508	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V	C720	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C509	1-164-934-11	CERAMIC CHIP	330PF	10%	50V	C721	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C510	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V	C722	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C512	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C723	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C514	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C724	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C516	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V	C725	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C517	1-117-370-11	CERAMIC CHIP	10uF		10V	C726	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C518	1-164-947-11	CERAMIC CHIP	0.01uF		50V	C727	1-117-370-11	CERAMIC CHIP	10uF		10V
C519	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C728	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C522	1-125-777-11	CERAMIC CHIP	0.1uF	10%	6.3V	C729	1-117-370-11	CERAMIC CHIP	10uF		10V
C525	1-164-947-11	CERAMIC CHIP	0.01uF		50V	C730	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C526	1-126-395-11	ELECT	22uF	20%	16V	C740	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C527	1-164-947-11	CERAMIC CHIP	0.01uF		50V	C741	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C528	1-126-395-11	ELECT	22uF	20%	16V	C742	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C529	1-164-947-11	CERAMIC CHIP	0.01uF		50V	C743	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C531	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V	C744	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C533	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V	C745	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C534	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V	C752	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C535	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V	C760	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C543	1-107-820-11	CERAMIC CHIP	0.1uF		16V	C761	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C544	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C762	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C545	1-117-370-11	CERAMIC CHIP	10uF		10V	C763	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C547	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V	C764	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C548	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C765	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C551	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V	C766	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C552	1-216-295-91	SHORT CHIP	0			C767	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C553	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V	C768	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C556	1-117-370-11	CERAMIC CHIP	10uF		10V	C769	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C558	1-126-209-11	ELECT CHIP	100uF	20%	4V	C770	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C559	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C771	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C560	1-164-938-11	CERAMIC CHIP	0.0015uF	10%	50V	C772	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C561	1-107-820-11	CERAMIC CHIP	0.1uF		16V	C773	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C563	1-164-874-11	CERAMIC CHIP	100PF	5%	50V	C774	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C565	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C775	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C567	1-107-820-11	CERAMIC CHIP	0.1uF		16V	C776	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C568	1-117-370-11	CERAMIC CHIP	10uF		10V	C777	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C569	1-107-820-11	CERAMIC CHIP	0.1uF		16V	C778	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C570	1-117-370-11	CERAMIC CHIP	10uF		10V	C779	1-117-370-11	CERAMIC CHIP	10uF		10V
C573	1-164-874-11	CERAMIC CHIP	100PF	5%	50V	C780	1-117-370-11	CERAMIC CHIP	10uF		10V
C588	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V	C781	1-165-643-21	ELECT CHIP	150uF	20%	4V
C589	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V	C782	1-164-938-11	CERAMIC CHIP	0.0015uF	10%	50V
C590	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V	C783	1-164-938-11	CERAMIC CHIP	0.0015uF	10%	50V
C592	1-124-779-00	ELECT CHIP	10uF	20%	16V						

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
C901	1-126-209-11	ELECT CHIP 100uF	20% 4V	< FILTER >			
C902	1-164-947-11	CERAMIC CHIP 0.01uF	50V	FL203	1-234-177-21	FERRITE	0uH
C903	1-126-209-11	ELECT CHIP 100uF	20% 4V	FL204	1-234-177-21	FERRITE	0uH
C904	1-164-947-11	CERAMIC CHIP 0.01uF	50V	FL205	1-234-177-21	FERRITE	0uH
C905	1-164-947-11	CERAMIC CHIP 0.01uF	50V	FL206	1-234-177-21	FERRITE	0uH
C906	1-164-947-11	CERAMIC CHIP 0.01uF	50V	FL302	1-234-177-21	FERRITE	0uH
C907	1-164-947-11	CERAMIC CHIP 0.01uF	50V	FL303	1-234-177-21	FERRITE	0uH
C908	1-164-874-11	CERAMIC CHIP 100PF	5% 50V	FL501	1-234-177-21	FERRITE	0uH
C909	1-164-874-11	CERAMIC CHIP 100PF	5% 50V	FL502	1-234-177-21	FERRITE	0uH
C910	1-164-947-11	CERAMIC CHIP 0.01uF	50V	FL701	1-234-177-21	FERRITE	0uH
C913	1-127-772-81	CERAMIC CHIP 33000PF	10% 10V	FL702	1-234-177-21	FERRITE	0uH
C914	1-164-847-11	CERAMIC CHIP 7PF	0.50PF 50V	FL703	1-234-177-21	FERRITE	0uH
C915	1-164-847-11	CERAMIC CHIP 7PF	0.50PF 50V	FL704	1-234-177-21	FERRITE	0uH
C916	1-126-209-11	ELECT CHIP 100uF	20% 4V	FL705	1-234-177-21	FERRITE	0uH
C917	1-164-947-11	CERAMIC CHIP 0.01uF	50V	FL706	1-234-177-21	FERRITE	0uH
C918	1-164-947-11	CERAMIC CHIP 0.01uF	50V	FL901	1-234-177-21	FERRITE	0uH
C924	1-164-947-11	CERAMIC CHIP 0.01uF	50V	FL903	1-234-177-21	FERRITE	0uH
C925	1-126-395-11	ELECT 22uF	20% 16V	FL908	1-234-177-21	FERRITE	0uH
C926	1-126-246-11	ELECT CHIP 220uF	20% 4V	< IC >			
C927	1-164-947-11	CERAMIC CHIP 0.01uF	50V	IC203	6-704-069-01	IC MT48LC4M32B2TG-6	
C928	1-117-370-11	CERAMIC CHIP 10uF	10V	IC204	8-759-668-01	IC BR9040F-D-E2	
< CONNECTOR >				IC206	6-803-640-01	IC MBM29PL32BM90TN-GYX0305	
CN101	1-784-366-21	CONNECTOR, FFC/FPC 7P		IC207	6-703-540-01	IC ZIVA5X-C1F	
CN102	1-815-954-21	PIN, CONNECTOR (PC BOARD) 13P		IC211	6-700-398-01	IC uPC2918T-E1	
CN105	1-784-376-11	CONNECTOR, FFC/FPC 17P		IC216	6-700-437-01	IC SN74ALVCH16841DGGR	
CN107	1-784-382-21	CONNECTOR, FFC/FPC 25P		IC252	8-759-680-48	IC TC7WH157FK(TE85R)	
CN202	1-784-364-21	CONNECTOR, FFC/FPC 4P		IC302	6-703-787-01	IC PCM1609KPTR	
CN501	1-778-957-11	CONNECTOR, FFC/FPC 29P		IC392	8-759-583-47	IC uPC2933T-E2	
CN901	1-764-177-11	PIN, CONNECTOR (SMD)(1.5mm) 7P		IC501	6-702-157-01	IC FAN8035L	
< DIODE >				IC503	8-759-058-43	IC NJM3404AV(TE2)	
D202	8-719-988-61	DIODE 1SS355TE-17		IC509	8-752-408-73	IC CXD3068Q	
D392	8-719-988-61	DIODE 1SS355TE-17		IC701	6-703-552-01	IC TMC57929PGF-RDP	
D393	8-719-988-61	DIODE 1SS355TE-17		IC703	8-759-058-43	IC NJM3404AV(TE2)	
D394	8-719-988-61	DIODE 1SS355TE-17		IC706	8-759-564-30	IC MSM51V18165F-60TSKR1	
D901	8-719-988-61	DIODE 1SS355TE-17		IC901	8-752-937-30	IC CXP973064-226R	
D1101	8-719-988-61	DIODE 1SS355TE-17		IC902	8-759-058-64	IC TC7S32FU-TE85L	
D1102	8-719-988-61	DIODE 1SS355TE-17		IC903	8-759-641-86	IC BR24C16F-E2	
D1301	8-719-988-61	DIODE 1SS355TE-17		IC904	6-702-563-01	IC TC7W74FK-TE85L	
D1302	8-719-988-61	DIODE 1SS355TE-17		IC906	6-700-407-01	IC SM8707GV-G-E2	
D1303	8-719-988-61	DIODE 1SS355TE-17		IC907	8-759-583-47	IC uPC2933T-E2	
D1304	8-719-988-61	DIODE 1SS355TE-17		< WIRE JUMPER >			
D1305	8-719-988-61	DIODE 1SS355TE-17		JW392	1-216-864-11	METAL CHIP	0 5% 1/10W
D1306	8-719-988-61	DIODE 1SS355TE-17		JW601	1-218-990-11	SHORT CHIP	0
D1307	8-719-988-61	DIODE 1SS355TE-17		JW602	1-218-990-11	SHORT CHIP	0
D1308	8-719-988-61	DIODE 1SS355TE-17		JW603	1-218-990-11	SHORT CHIP	0
D1801	8-719-988-61	DIODE 1SS355TE-17		JW604	1-218-990-11	SHORT CHIP	0
D1802	8-719-988-61	DIODE 1SS355TE-17		JW605	1-218-990-11	SHORT CHIP	0
D1803	8-719-988-61	DIODE 1SS355TE-17		JW606	1-218-990-11	SHORT CHIP	0
D1804	8-719-988-61	DIODE 1SS355TE-17		JW607	1-218-990-11	SHORT CHIP	0
D1805	8-719-988-61	DIODE 1SS355TE-17		JW801	1-218-990-11	SHORT CHIP	0
D1806	8-719-988-61	DIODE 1SS355TE-17		JW802	1-218-990-11	SHORT CHIP	0
< FERRITE BEAD >				JW803	1-218-990-11	SHORT CHIP	0
FB902	1-500-284-21	FERRITE	0uH	JW804	1-218-990-11	SHORT CHIP	0
FB903	1-500-284-21	FERRITE	0uH	JW805	1-218-990-11	SHORT CHIP	0
				JW806	1-218-990-11	SHORT CHIP	0

Ref. No.	Part No.	Description				Remarks	Ref. No.	Part No.	Description				Remarks
< COIL >							R260	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	
							R261	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	
L402	1-216-296-11	SHORT CHIP	0				R262	1-216-864-11	METAL CHIP	0	5%	1/10W	
L403	1-216-296-11	SHORT CHIP	0				R263	1-218-285-11	METAL CHIP	75	5%	1/10W	
L404	1-216-296-11	SHORT CHIP	0				R264	1-218-285-11	METAL CHIP	75	5%	1/10W	
L405	1-216-296-11	SHORT CHIP	0										
L406	1-216-296-11	SHORT CHIP	0				R265	1-218-285-11	METAL CHIP	75	5%	1/10W	
							R266	1-218-285-11	METAL CHIP	75	5%	1/10W	
L412	1-216-296-11	SHORT CHIP	0				R267	1-218-285-11	METAL CHIP	75	5%	1/10W	
L413	1-216-296-11	SHORT CHIP	0				R268	1-216-864-11	METAL CHIP	0	5%	1/10W	
L414	1-216-296-11	SHORT CHIP	0				R269	1-216-864-11	METAL CHIP	0	5%	1/10W	
L415	1-216-296-11	SHORT CHIP	0										
L416	1-216-296-11	SHORT CHIP	0				R270	1-216-864-11	METAL CHIP	0	5%	1/10W	
							R273	1-216-864-11	METAL CHIP	0	5%	1/10W	
L901	1-412-031-11	INDUCTOR CHIP	47uH				R274	1-216-864-11	METAL CHIP	0	5%	1/10W	
< TRANSISTOR >							R275	1-216-864-11	METAL CHIP	0	5%	1/10W	
							R276	1-216-864-11	METAL CHIP	0	5%	1/10W	
Q202	8-729-929-26	TRANSISTOR	DTC114TE-TL				R277	1-216-864-11	METAL CHIP	0	5%	1/10W	
Q901	8-729-929-26	TRANSISTOR	DTC114TE-TL				R278	1-218-285-11	METAL CHIP	75	5%	1/10W	
Q903	8-729-025-28	TRANSISTOR	2SK1828TE85L				R279	1-218-285-11	METAL CHIP	75	5%	1/10W	
Q904	8-729-025-28	TRANSISTOR	2SK1828TE85L				R280	1-218-285-11	METAL CHIP	75	5%	1/10W	
< RESISTOR >							R281	1-218-285-11	METAL CHIP	75	5%	1/10W	
							R282	1-218-285-11	METAL CHIP	75	5%	1/10W	
R10	1-216-801-11	METAL CHIP	22	5%	1/10W		R283	1-218-847-11	METAL CHIP	1K	0.5%	1/10W	
R11	1-216-801-11	METAL CHIP	22	5%	1/10W		R284	1-218-829-11	METAL CHIP	180	0.5%	1/10W	
R12	1-216-801-11	METAL CHIP	22	5%	1/10W		R288	1-216-864-11	METAL CHIP	0	5%	1/10W	
R13	1-216-801-11	METAL CHIP	22	5%	1/10W		R301	1-216-821-11	METAL CHIP	1K	5%	1/10W	
R14	1-216-801-11	METAL CHIP	22	5%	1/10W								
							R302	1-216-813-11	METAL CHIP	220	5%	1/10W	
R15	1-216-801-11	METAL CHIP	22	5%	1/10W		R303	1-216-813-11	METAL CHIP	220	5%	1/10W	
R201	1-216-833-11	METAL CHIP	10K	5%	1/10W		R304	1-216-813-11	METAL CHIP	220	5%	1/10W	
R207	1-216-864-11	METAL CHIP	0	5%	1/10W		R305	1-216-813-11	METAL CHIP	220	5%	1/10W	
R213	1-216-807-11	METAL CHIP	68	5%	1/10W		R306	1-216-813-11	METAL CHIP	220	5%	1/10W	
R214	1-216-864-11	METAL CHIP	0	5%	1/10W								
							R307	1-216-813-11	METAL CHIP	220	5%	1/10W	
R215	1-216-864-11	METAL CHIP	0	5%	1/10W		R308	1-216-813-11	METAL CHIP	220	5%	1/10W	
R217	1-216-864-11	METAL CHIP	0	5%	1/10W		R309	1-216-813-11	METAL CHIP	220	5%	1/10W	
R218	1-216-864-11	METAL CHIP	0	5%	1/10W		R310	1-216-809-11	METAL CHIP	100	5%	1/10W	
R219	1-216-864-11	METAL CHIP	0	5%	1/10W		R311	1-216-809-11	METAL CHIP	100	5%	1/10W	
R220	1-216-864-11	METAL CHIP	0	5%	1/10W								
							R312	1-216-809-11	METAL CHIP	100	5%	1/10W	
R221	1-216-864-11	METAL CHIP	0	5%	1/10W		R313	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R222	1-216-864-11	METAL CHIP	0	5%	1/10W		R314	1-216-801-11	METAL CHIP	22	5%	1/10W	
R223	1-216-864-11	METAL CHIP	0	5%	1/10W		R392	1-216-797-11	METAL CHIP	10	5%	1/10W	
R224	1-216-864-11	METAL CHIP	0	5%	1/10W		R501	1-216-864-11	METAL CHIP	0	5%	1/10W	
R227	1-216-829-11	METAL CHIP	4.7K	5%	1/10W								
							R502	1-216-864-11	METAL CHIP	0	5%	1/10W	
R230	1-216-803-11	METAL CHIP	33	5%	1/10W		R503	1-216-841-11	METAL CHIP	47K	5%	1/10W	
R231	1-216-803-11	METAL CHIP	33	5%	1/10W		R504	1-216-841-11	METAL CHIP	47K	5%	1/10W	
R232	1-216-803-11	METAL CHIP	33	5%	1/10W		R505	1-216-841-11	METAL CHIP	47K	5%	1/10W	
R233	1-216-864-11	METAL CHIP	0	5%	1/10W		R506	1-216-841-11	METAL CHIP	47K	5%	1/10W	
R234	1-216-833-11	METAL CHIP	10K	5%	1/10W								
							R507	1-216-864-11	METAL CHIP	0	5%	1/10W	
R239	1-216-809-11	METAL CHIP	100	5%	1/10W		R508	1-216-864-11	METAL CHIP	0	5%	1/10W	
R240	1-216-841-11	METAL CHIP	47K	5%	1/10W		R510	1-216-847-11	METAL CHIP	150K	5%	1/10W	
R243	1-216-864-11	METAL CHIP	0	5%	1/10W		R511	1-216-847-11	METAL CHIP	150K	5%	1/10W	
R244	1-216-821-11	METAL CHIP	1K	5%	1/10W		R512	1-216-842-11	METAL CHIP	56K	5%	1/10W	
R245	1-216-829-11	METAL CHIP	4.7K	5%	1/10W								
							R513	1-216-842-11	METAL CHIP	56K	5%	1/10W	
R246	1-216-833-11	METAL CHIP	10K	5%	1/10W		R516	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	
R247	1-216-821-11	METAL CHIP	1K	5%	1/10W		R517	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	
R248	1-216-829-11	METAL CHIP	4.7K	5%	1/10W		R519	1-216-845-11	METAL CHIP	100K	5%	1/10W	
R250	1-216-864-11	METAL CHIP	0	5%	1/10W		R520	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R251	1-216-864-11	METAL CHIP	0	5%	1/10W								
							R521	1-216-845-11	METAL CHIP	100K	5%	1/10W	
R253	1-216-829-11	METAL CHIP	4.7K	5%	1/10W		R522	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	
R254	1-216-829-11	METAL CHIP	4.7K	5%	1/10W		R523	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R255	1-216-864-11	METAL CHIP	0	5%	1/10W		R524	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R257	1-216-829-11	METAL CHIP	4.7K	5%	1/10W		R525	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R259	1-216-829-11	METAL CHIP	4.7K	5%	1/10W								

HCD-GN88D

DMB03

Ref. No.	Part No.	Description				Remarks	Ref. No.	Part No.	Description				Remarks
R527	1-216-825-11	METAL CHIP	2.2K	5%	1/10W		R615	1-216-864-11	METAL CHIP	0	5%	1/10W	
R528	1-216-864-11	METAL CHIP	0	5%	1/10W		R629	1-216-864-11	METAL CHIP	0	5%	1/10W	
R529	1-216-839-11	METAL CHIP	33K	5%	1/10W		R694	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R530	1-216-842-11	METAL CHIP	56K	5%	1/10W		R695	1-216-864-11	METAL CHIP	0	5%	1/10W	
R531	1-216-864-11	METAL CHIP	0	5%	1/10W		R696	1-216-864-11	METAL CHIP	0	5%	1/10W	
R532	1-216-864-11	METAL CHIP	0	5%	1/10W		R698	1-216-864-11	METAL CHIP	0	5%	1/10W	
R533	1-216-839-11	METAL CHIP	33K	5%	1/10W		R699	1-216-864-11	METAL CHIP	0	5%	1/10W	
R534	1-216-842-11	METAL CHIP	56K	5%	1/10W		R700	1-216-832-11	METAL CHIP	8.2K	5%	1/10W	
R535	1-216-864-11	METAL CHIP	0	5%	1/10W		R707	1-216-809-11	METAL CHIP	100	5%	1/10W	
R536	1-216-833-11	METAL CHIP	10K	5%	1/10W		R708	1-216-853-11	METAL CHIP	470K	5%	1/10W	
R537	1-216-843-11	METAL CHIP	68K	5%	1/10W		R709	1-216-847-11	METAL CHIP	150K	5%	1/10W	
R538	1-216-864-11	METAL CHIP	0	5%	1/10W		R710	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R539	1-216-864-11	METAL CHIP	0	5%	1/10W		R711	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	
R540	1-216-864-11	METAL CHIP	0	5%	1/10W		R712	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R541	1-216-864-11	METAL CHIP	0	5%	1/10W		R713	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R543	1-216-864-11	METAL CHIP	0	5%	1/10W		R714	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R544	1-216-864-11	METAL CHIP	0	5%	1/10W		R715	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R545	1-216-833-11	METAL CHIP	10K	5%	1/10W		R716	1-216-809-11	METAL CHIP	100	5%	1/10W	
R547	1-216-864-11	METAL CHIP	0	5%	1/10W		R717	1-216-845-11	METAL CHIP	100K	5%	1/10W	
R548	1-216-833-11	METAL CHIP	10K	5%	1/10W		R718	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R550	1-216-821-11	METAL CHIP	1K	5%	1/10W		R719	1-216-821-11	METAL CHIP	1K	5%	1/10W	
R551	1-216-821-11	METAL CHIP	1K	5%	1/10W		R720	1-216-821-11	METAL CHIP	1K	5%	1/10W	
R552	1-216-821-11	METAL CHIP	1K	5%	1/10W		R721	1-216-839-11	METAL CHIP	33K	5%	1/10W	
R553	1-216-864-11	METAL CHIP	0	5%	1/10W		R724	1-216-821-11	METAL CHIP	1K	5%	1/10W	
R554	1-216-864-11	METAL CHIP	0	5%	1/10W		R725	1-216-824-11	METAL CHIP	1.8K	5%	1/10W	
R555	1-216-864-11	METAL CHIP	0	5%	1/10W		R726	1-216-845-11	METAL CHIP	100K	5%	1/10W	
R558	1-216-841-11	METAL CHIP	47K	5%	1/10W		R727	1-216-827-11	METAL CHIP	3.3K	5%	1/10W	
R559	1-216-821-11	METAL CHIP	1K	5%	1/10W		R728	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R560	1-216-821-11	METAL CHIP	1K	5%	1/10W		R730	1-216-801-11	METAL CHIP	22	5%	1/10W	
R561	1-216-821-11	METAL CHIP	1K	5%	1/10W		R731	1-216-801-11	METAL CHIP	22	5%	1/10W	
R562	1-216-821-11	METAL CHIP	1K	5%	1/10W		R732	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R563	1-216-821-11	METAL CHIP	1K	5%	1/10W		R733	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R564	1-216-821-11	METAL CHIP	1K	5%	1/10W		R734	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R565	1-216-821-11	METAL CHIP	1K	5%	1/10W		R735	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R566	1-216-833-11	METAL CHIP	10K	5%	1/10W		R736	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R567	1-216-827-11	METAL CHIP	3.3K	5%	1/10W		R737	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R568	1-216-857-11	METAL CHIP	1M	5%	1/10W		R738	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R571	1-216-857-11	METAL CHIP	1M	5%	1/10W		R742	1-216-801-11	METAL CHIP	22	5%	1/10W	
R572	1-216-853-11	METAL CHIP	470K	5%	1/10W		R743	1-216-801-11	METAL CHIP	22	5%	1/10W	
R573	1-216-833-11	METAL CHIP	10K	5%	1/10W		R744	1-216-801-11	METAL CHIP	22	5%	1/10W	
R574	1-216-815-11	METAL CHIP	330	5%	1/10W		R745	1-216-841-11	METAL CHIP	47K	5%	1/10W	
R575	1-216-864-11	METAL CHIP	0	5%	1/10W		R746	1-216-841-11	METAL CHIP	47K	5%	1/10W	
R576	1-216-864-11	METAL CHIP	0	5%	1/10W		R747	1-216-839-11	METAL CHIP	33K	5%	1/10W	
R577	1-216-864-11	METAL CHIP	0	5%	1/10W		R748	1-216-839-11	METAL CHIP	33K	5%	1/10W	
R578	1-216-864-11	METAL CHIP	0	5%	1/10W		R750	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R579	1-216-832-11	METAL CHIP	8.2K	5%	1/10W		R751	1-216-864-11	METAL CHIP	0	5%	1/10W	
R580	1-216-839-11	METAL CHIP	33K	5%	1/10W		R752	1-216-864-11	METAL CHIP	0	5%	1/10W	
R581	1-216-834-11	METAL CHIP	12K	5%	1/10W		R753	1-216-864-11	METAL CHIP	0	5%	1/10W	
R583	1-216-864-11	METAL CHIP	0	5%	1/10W		R754	1-216-864-11	METAL CHIP	0	5%	1/10W	
R584	1-216-839-11	METAL CHIP	33K	5%	1/10W		R755	1-216-864-11	METAL CHIP	0	5%	1/10W	
R585	1-216-864-11	METAL CHIP	0	5%	1/10W		R756	1-216-864-11	METAL CHIP	0	5%	1/10W	
R586	1-218-747-11	METAL CHIP	200K	5%	1/10W		R757	1-216-864-11	METAL CHIP	0	5%	1/10W	
R587	1-216-864-11	METAL CHIP	0	5%	1/10W		R758	1-216-864-11	METAL CHIP	0	5%	1/10W	
R588	1-216-833-11	METAL CHIP	10K	5%	1/10W		R759	1-216-864-11	METAL CHIP	0	5%	1/10W	
R589	1-216-833-11	METAL CHIP	10K	5%	1/10W		R762	1-216-837-11	METAL CHIP	22K	5%	1/10W	
R592	1-216-864-11	METAL CHIP	0	5%	1/10W		R763	1-216-832-11	METAL CHIP	8.2K	5%	1/10W	
R593	1-216-845-11	METAL CHIP	100K	5%	1/10W		R764	1-216-857-11	METAL CHIP	1M	5%	1/10W	
R597	1-216-864-11	METAL CHIP	0	5%	1/10W		R765	1-216-837-11	METAL CHIP	22K	5%	1/10W	
R599	1-216-821-11	METAL CHIP	1K	5%	1/10W		R766	1-216-864-11	METAL CHIP	0	5%	1/10W	
R601	1-216-864-11	METAL CHIP	0	5%	1/10W		R767	1-216-841-11	METAL CHIP	47K	5%	1/10W	

DMB03

DRIVER

Ref. No.	Part No.	Description			Remarks	Ref. No.	Part No.	Description			Remarks
R769	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R990	1-216-864-11	METAL CHIP	0	5%	1/10W
R770	1-216-864-11	METAL CHIP	0	5%	1/10W	R991	1-216-864-11	METAL CHIP	0	5%	1/10W
R776	1-216-864-11	METAL CHIP	0	5%	1/10W	R992	1-216-864-11	METAL CHIP	0	5%	1/10W
R777	1-216-864-11	METAL CHIP	0	5%	1/10W	R994	1-216-864-11	METAL CHIP	0	5%	1/10W
R778	1-216-845-11	METAL CHIP	100K	5%	1/10W	R995	1-216-864-11	METAL CHIP	0	5%	1/10W
R780	1-216-864-11	METAL CHIP	0	5%	1/10W	R996	1-216-864-11	METAL CHIP	0	5%	1/10W
R781	1-216-864-11	METAL CHIP	0	5%	1/10W	R997	1-216-864-11	METAL CHIP	0	5%	1/10W
R784	1-216-864-11	METAL CHIP	0	5%	1/10W	R998	1-216-864-11	METAL CHIP	0	5%	1/10W
R785	1-216-833-11	METAL CHIP	10K	5%	1/10W	R1000	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R786	1-216-845-11	METAL CHIP	100K	5%	1/10W	R1001	1-216-864-11	METAL CHIP	0	5%	1/10W
R787	1-216-845-11	METAL CHIP	100K	5%	1/10W	R1101	1-164-156-11	CERAMIC CHIP	0.1uF		25V
R788	1-216-845-11	METAL CHIP	100K	5%	1/10W	R1201	1-216-864-11	METAL CHIP	0		
R789	1-216-845-11	METAL CHIP	100K	5%	1/10W	R1202	1-216-864-11	METAL CHIP	0		
R799	1-216-864-11	METAL CHIP	0	5%	1/10W	R1301	1-164-156-11	CERAMIC CHIP	0.1uF		25V
R805	1-216-864-11	METAL CHIP	0	5%	1/10W	R1303	1-164-156-11	CERAMIC CHIP	0.1uF		25V
R901	1-216-801-11	METAL CHIP	22	5%	1/10W	R1801	1-164-156-11	CERAMIC CHIP	0.1uF		25V
R902	1-216-801-11	METAL CHIP	22	5%	1/10W	R1802	1-164-156-11	CERAMIC CHIP	0.1uF		25V
R904	1-216-833-11	METAL CHIP	10K	5%	1/10W	R1803	1-164-156-11	CERAMIC CHIP	0.1uF		25V
R905	1-216-801-11	METAL CHIP	22	5%	1/10W	R9980	1-216-864-11	METAL CHIP	0	5%	1/10W
R906	1-216-801-11	METAL CHIP	22	5%	1/10W	R9981	1-216-864-11	METAL CHIP	0	5%	1/10W
R907	1-216-801-11	METAL CHIP	22	5%	1/10W	R9986	1-216-864-11	METAL CHIP	0	5%	1/10W
R908	1-216-833-11	METAL CHIP	10K	5%	1/10W	R9987	1-216-864-11	METAL CHIP	0	5%	1/10W
R910	1-216-864-11	METAL CHIP	0	5%	1/10W	R9988	1-216-864-11	METAL CHIP	0	5%	1/10W
R911	1-216-833-11	METAL CHIP	10K	5%	1/10W	R9993	1-216-864-11	METAL CHIP	0	5%	1/10W
R912	1-216-833-11	METAL CHIP	10K	5%	1/10W	R9994	1-216-864-11	METAL CHIP	0	5%	1/10W
R913	1-216-833-11	METAL CHIP	10K	5%	1/10W	R9998	1-216-864-11	METAL CHIP	0	5%	1/10W
R915	1-216-809-11	METAL CHIP	100	5%	1/10W	R9999	1-216-864-11	METAL CHIP	0	5%	1/10W
R916	1-216-821-11	METAL CHIP	1K	5%	1/10W	< NETWORK RESISTOR >					
R917	1-216-821-11	METAL CHIP	1K	5%	1/10W	RB10	1-233-388-11	RES, NETWORK 68 (3216)			
R918	1-216-801-11	METAL CHIP	22	5%	1/10W	RB11	1-233-388-11	RES, NETWORK 68 (3216)			
R919	1-216-864-11	METAL CHIP	0	5%	1/10W	RB12	1-233-388-11	RES, NETWORK 68 (3216)			
R920	1-216-809-11	METAL CHIP	100	5%	1/10W	RB13	1-233-388-11	RES, NETWORK 68 (3216)			
R921	1-216-809-11	METAL CHIP	100	5%	1/10W	RB14	1-233-388-11	RES, NETWORK 68 (3216)			
R923	1-216-813-11	METAL CHIP	220	5%	1/10W	RB15	1-233-388-11	RES, NETWORK 68 (3216)			
R925	1-216-809-11	METAL CHIP	100	5%	1/10W	RB16	1-233-388-11	RES, NETWORK 68 (3216)			
R926	1-216-809-11	METAL CHIP	100	5%	1/10W	RB17	1-233-388-11	RES, NETWORK 68 (3216)			
R927	1-216-857-11	METAL CHIP	1M	5%	1/10W	RB18	1-234-524-21	RES, CHIP NETWORK 33			
R930	1-216-809-11	METAL CHIP	100	5%	1/10W	RB19	1-234-524-21	RES, CHIP NETWORK 33			
R931	1-216-801-11	METAL CHIP	22	5%	1/10W	RB20	1-234-524-21	RES, CHIP NETWORK 33			
R932	1-216-801-11	METAL CHIP	22	5%	1/10W	RB21	1-234-524-21	RES, CHIP NETWORK 33			
R933	1-216-801-11	METAL CHIP	22	5%	1/10W	RB202	1-234-523-21	RES, CHIP NETWORK 0 (3216)			
R935	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	RB203	1-234-523-21	RES, CHIP NETWORK 0 (3216)			
R940	1-216-809-11	METAL CHIP	100	5%	1/10W	RB204	1-234-523-21	RES, CHIP NETWORK 0 (3216)			
R942	1-216-809-11	METAL CHIP	100	5%	1/10W	< VIBRATOR >					
R943	1-216-809-11	METAL CHIP	100	5%	1/10W	X901	1-781-945-21	VIBRATOR, CERAMIC (20MHz)			
R947	1-216-864-11	METAL CHIP	0	5%	1/10W	X902	1-795-630-11	VIBRATOR, CRYSTAL (27MHz)			
R948	1-216-864-11	METAL CHIP	0	5%	1/10W	*****					
R949	1-216-864-11	METAL CHIP	0	5%	1/10W	1-687-135-11	DRIVER BOARD				
R958	1-216-801-11	METAL CHIP	22	5%	1/10W	*****					
R962	1-216-833-11	METAL CHIP	10K	5%	1/10W	< CAPACITOR >					
R964	1-216-833-11	METAL CHIP	10K	5%	1/10W	C715	1-126-933-11	ELECT	100uF	20%	16V
R970	1-216-864-11	METAL CHIP	0	5%	1/10W	C731	1-126-964-11	ELECT	10uF	20%	50V
R971	1-216-864-11	METAL CHIP	0	5%	1/10W	C735	1-164-159-11	CERAMIC	0.1uF		50V
R973	1-216-864-11	METAL CHIP	0	5%	1/10W	C736	1-164-159-11	CERAMIC	0.1uF		50V
R974	1-216-864-11	METAL CHIP	0	5%	1/10W	C737	1-164-159-11	CERAMIC	0.1uF		50V
R975	1-216-833-11	METAL CHIP	10K	5%	1/10W	C741	1-162-306-11	CERAMIC	0.01uF	30%	16V
R976	1-216-864-11	METAL CHIP	0	5%	1/10W						
R978	1-216-833-11	METAL CHIP	10K	5%	1/10W						
R984	1-216-833-11	METAL CHIP	10K	5%	1/10W						
R988	1-216-864-11	METAL CHIP	0	5%	1/10W						

HCD-GN88D

DRIVER

GAME IN

Ref. No.	Part No.	Description			Remarks
C751	1-162-306-11	CERAMIC	0.01uF	30%	16V
C752	1-164-159-11	CERAMIC	0.1uF		50V
< CONNECTOR >					
CN701	1-785-338-11	PIN, CONNECTOR(LIGHT ANGLE)12P			
CN702	1-784-766-11	CONNECTOR, FFC 5P			
* CN703	1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P			
CN704	1-785-328-11	PIN, CONNECTOR (LIGHT ANGRE)2P			
< DIODE >					
D701	8-719-947-16	DIODE	MTZJ-T-72-5.1A		
D711	8-719-983-66	DIODE	MTZJ-T-72-3.6B		
< IC >					
IC701	8-759-598-69	IC	BA6956AN		
IC712	8-759-598-69	IC	BA6956AN		
< TRANSISTOR >					
Q731	8-729-029-66	TRANSISTOR	DTC114ESA		
< RESISTOR >					
R701	1-249-413-11	CARBON	470	5%	1/4W F
R702	1-247-807-31	CARBON	100	5%	1/4W
R711	1-249-417-11	CARBON	1K	5%	1/4W F
R712	1-249-425-11	CARBON	4.7K	5%	1/4W F
R713	1-249-433-11	CARBON	22K	5%	1/4W
R721	1-249-425-11	CARBON	4.7K	5%	1/4W F
R722	1-249-425-11	CARBON	4.7K	5%	1/4W F
R723	1-249-425-11	CARBON	4.7K	5%	1/4W F
R731	1-247-807-31	CARBON	100	5%	1/4W
R732	1-249-429-11	CARBON	10K	5%	1/4W
R733	1-249-417-11	CARBON	1K	5%	1/4W F
R734	1-249-430-11	CARBON	12K	5%	1/4W
R735	1-247-807-31	CARBON	100	5%	1/4W
R751	1-249-425-11	CARBON	4.7K	5%	1/4W F

A-4732-871-A		GAME IN BOARD, COMPLETE (EXCEPT TH)			
A-4734-533-A		GAME IN BOARD, COMPLETE (TH)			

< CAPACITOR >					
C604	1-124-257-00	ELECT	2.2uF	20%	50V
C606	1-124-257-00	ELECT	2.2uF	20%	50V
C630	1-162-294-31	CERAMIC	0.001uF	10%	50V
C631	1-162-294-31	CERAMIC	0.001uF	10%	50V
C634	1-162-294-31	CERAMIC	0.001uF	10%	50V
C635	1-162-294-31	CERAMIC	0.001uF	10%	50V
C715	1-162-215-31	CERAMIC	47PF	5%	50V
C716	1-164-159-21	CERAMIC	0.1uF		50V(TH)
C716	1-164-159-11	CERAMIC	0.1uF		50V
(EXCEPT TH)					
C717	1-124-584-00	ELECT	100uF	20%	10V
C718	1-124-584-00	ELECT	100uF	20%	10V
C719	1-124-257-00	ELECT	2.2uF	20%	50V
C721	1-162-301-11	CERAMIC	0.0015uF	20%	16V
C722	1-162-305-11	CERAMIC	0.0068uF	30%	16V
C723	1-126-160-11	ELECT	1uF	20%	50V
C724	1-136-495-11	FILM	0.068uF	5%	50V
C725	1-124-464-11	ELECT	0.22uF	20%	50V

Ref. No.	Part No.	Description	Remarks		
C726	1-124-464-11	ELECT	0.22uF	20%	50V
C727	1-136-155-00	FILM	0.015uF	5%	50V
C728	1-162-301-11	CERAMIC	0.0015uF	20%	16V
C729	1-126-160-11	ELECT	1uF	20%	50V
C730	1-161-494-00	CERAMIC	0.022uF		25V
C731	1-162-305-11	CERAMIC	0.0068uF	30%	16V
C732	1-136-495-11	FILM	0.068uF	5%	50V
C733	1-124-589-11	ELECT	47uF	20%	16V
C734	1-124-589-11	ELECT	47uF	20%	16V
C735	1-124-257-00	ELECT	2.2uF	20%	50V
C736	1-124-261-00	ELECT	10uF	20%	50V
C737	1-124-261-00	ELECT	10uF	20%	50V
C738	1-124-257-00	ELECT	2.2uF	20%	50V
C739	1-162-215-31	CERAMIC	47PF	5%	50V
C740	1-162-282-31	CERAMIC	100PF	10%	50V
C741	1-124-250-11	ELECT	0.15uF	20%	50V
C742	1-162-215-31	CERAMIC	47PF	5%	50V
C743	1-162-290-31	CERAMIC	470PF	10%	50V
C744	1-162-294-31	CERAMIC	0.001uF	10%	50V
C747	1-124-257-00	ELECT	2.2uF	20%	50V
C748	1-161-494-00	CERAMIC	0.022uF		25V
C749	1-164-159-21	CERAMIC	0.1uF		50V(TH)
C749	1-164-159-11	CERAMIC	0.1uF		50V
(EXCEPT TH)					
< CONNECTOR >					
* CN606	1-564-725-11	PIN, CONNECTOR (SMALL TYPE) 9P			
< DIODE >					
D705	8-719-109-85	DIODE MTZJ-T-72-5.1B			
< GROUND TERMINAL >					
EP701	1-537-738-21	TERMINAL, GROUND			
EP703	1-537-738-21	TERMINAL, GROUND			
< IC >					
IC721	8-759-450-96	IC M65850P			
IC722	8-759-167-88	IC NJM4565D			
< JACK >					
J601	1-764-592-11	JACK 3P (GAME INPUT)			
J631	1-794-702-11	JACK, HEADPHONE (PHONES)			
J721	1-817-630-11	JACK (LARGE TYPE) (MIC)			
< TRANSISTOR >					
Q721	8-729-119-79	TRANSISTOR 2SC2785TP-FEK			
< RESISTOR >					
R602	1-249-417-11	CARBON	1K	5%	1/4W F
R603	1-249-417-11	CARBON	1K	5%	1/4W F
R604	1-249-441-11	CARBON	100K	5%	1/4W
R605	1-249-441-11	CARBON	100K	5%	1/4W
R721	1-249-429-11	CARBON	10K	5%	1/4W
R722	1-249-432-11	CARBON	18K	5%	1/4W
R723	1-249-431-11	CARBON	15K	5%	1/4W
R724	1-249-431-11	CARBON	15K	5%	1/4W
R725	1-249-431-11	CARBON	15K	5%	1/4W
R726	1-249-437-11	CARBON	47K	5%	1/4W

Ref. No.	Part No.	Description			Remarks	Ref. No.	Part No.	Description			Remarks
R727	1-249-431-11	CARBON	15K	5%	1/4W	C158	1-136-159-00	FILM	0.033uF	5%	50V
R728	1-249-431-11	CARBON	15K	5%	1/4W	C159	1-126-960-11	ELECT	1uF	20%	50V
R729	1-249-431-11	CARBON	15K	5%	1/4W	C160	1-130-481-00	MYLAR	0.0068uF	5%	50V
R730	1-249-431-11	CARBON	15K	5%	1/4W	C161	1-126-964-11	ELECT	10uF	20%	50V
R731	1-247-881-00	CARBON	120K	5%	1/4W	C162	1-136-169-00	FILM	0.22uF	5%	50V
R733	1-249-431-11	CARBON	15K	5%	1/4W	C163	1-136-171-00	FILM	0.33uF	5%	50V
R734	1-247-807-31	CARBON	100	5%	1/4W	C167	1-126-961-11	ELECT	2.2uF	20%	50V
R735	1-247-885-00	CARBON	180K	5%	1/4W	C200	1-164-156-11	CERAMIC CHIP	0.1uF		25V
R736	1-249-429-11	CARBON	10K	5%	1/4W	C201	1-104-665-11	ELECT	100uF	20%	10V
R737	1-249-433-11	CARBON	22K	5%	1/4W	C202	1-164-156-11	CERAMIC CHIP	0.1uF		25V
R738	1-249-417-11	CARBON	1K	5%	1/4W F	C203	1-126-934-11	ELECT	220uF	20%	10V
R739	1-249-441-11	CARBON	100K	5%	1/4W	C211	1-164-156-11	CERAMIC CHIP	0.1uF		25V
R740	1-249-421-11	CARBON	2.2K	5%	1/4W F	C212	1-126-916-11	ELECT	1000uF	20%	6.3V
R742	1-249-417-11	CARBON	1K	5%	1/4W F	C213	1-164-156-11	CERAMIC CHIP	0.1uF		25V
R743	1-249-429-11	CARBON	10K	5%	1/4W	C214	1-126-916-11	ELECT	1000uF	20%	6.3V
R744	1-249-441-11	CARBON	100K	5%	1/4W	C223	1-164-156-11	CERAMIC CHIP	0.1uF		25V
R745	1-247-807-31	CARBON	100	5%	1/4W	C301	1-130-483-00	MYLAR	0.01uF	5%	50V
R746	1-249-417-11	CARBON	1K	5%	1/4W F	C303	1-136-165-00	FILM	0.1uF	5%	50V
R747	1-249-407-11	CARBON	150	5%	1/4W F	C304	1-126-964-11	ELECT	10uF	20%	50V
< VARIABLE RESISTOR >						C305	1-126-960-11	ELECT	1uF	20%	50V
RV721	1-227-452-11	RES, VAR, CARBON 50K (ECHO LEVEL)				C306	1-126-961-11	ELECT	2.2uF	20%	50V
RV722	1-227-452-11	RES, VAR, CARBON 50K (MIC LEVEL)				C307	1-126-964-11	ELECT	10uF	20%	50V
*****						C308	1-126-935-11	ELECT	470uF	20%	10V
A-4732-888-A MAIN BOARD, COMPLETE (E3,E15,E51,EA,MX)						C309	1-126-947-11	ELECT	47uF	20%	16V
A-4733-170-A MAIN BOARD, COMPLETE (AUS,SP,MY,PH)						C310	1-126-964-11	ELECT	10uF	20%	50V
A-4734-508-A MAIN BOARD, COMPLETE (TH)						C311	1-126-964-11	ELECT	10uF	20%	50V
*****						C312	1-126-964-11	ELECT	10uF	20%	50V
< CAPACITOR >						C314	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
						C315	1-126-960-11	ELECT	1uF	20%	50V
						C316	1-126-960-11	ELECT	1uF	20%	50V
C101	1-104-665-11	ELECT	100uF	20%	10V	C321	1-164-392-11	CERAMIC CHIP	390PF	10%	50V
C102	1-126-964-11	ELECT	10uF	20%	50V	C326	1-164-392-11	CERAMIC CHIP	390PF	10%	50V
C103	1-126-964-11	ELECT	10uF	20%	50V	C331	1-130-483-00	MYLAR	0.01uF	5%	50V
C104	1-126-964-11	ELECT	10uF	20%	50V	C332	1-137-427-11	MYLAR	120PF	5%	50V
C105	1-126-964-11	ELECT	10uF	20%	50V	C333	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C106	1-136-157-00	FILM	0.022uF	5%	50V	C334	1-162-946-11	CERAMIC CHIP	27PF	5%	50V
C107	1-136-157-00	FILM	0.022uF	5%	50V	C335	1-137-150-11	MYLAR	0.01uF	5%	100V
C108	1-136-159-00	FILM	0.033uF	5%	50V	C336	1-126-961-11	ELECT	2.2uF	20%	50V
C109	1-126-960-11	ELECT	1uF	20%	50V	C337	1-130-485-00	MYLAR	0.015uF	5%	50V
C110	1-130-481-00	MYLAR	0.0068uF	5%	50V	C338	1-130-481-00	MYLAR	0.0068uF	5%	50V
C111	1-126-964-11	ELECT	10uF	20%	50V	C339	1-130-481-00	MYLAR	0.0068uF	5%	50V
C112	1-136-169-00	FILM	0.22uF	5%	50V	C340	1-130-486-00	MYLAR	0.018uF	10%	50V
C113	1-136-171-00	FILM	0.33uF	5%	50V	C341	1-126-964-11	ELECT	10uF	20%	50V
C114	1-126-791-11	ELECT	10uF	20%	16V	C342	1-126-947-11	ELECT	47uF	20%	16V
C115	1-164-156-11	CERAMIC CHIP	0.1uF		25V	C351	1-130-483-00	MYLAR	0.01uF	5%	50V
C116	1-126-934-11	ELECT	220uF	20%	10V	C353	1-136-165-00	FILM	0.1uF	5%	50V
C117	1-126-961-11	ELECT	2.2uF	20%	50V	C354	1-126-964-11	ELECT	10uF	20%	50V
C121	1-162-923-11	CERAMIC CHIP	47PF	5%	50V	C355	1-126-960-11	ELECT	1uF	20%	50V
C122	1-162-923-11	CERAMIC CHIP	47PF	5%	50V	C356	1-126-961-11	ELECT	2.2uF	20%	50V
C130	1-126-964-11	ELECT	10uF	20%	50V	C359	1-126-947-11	ELECT	47uF	20%	16V
C131	1-126-959-11	ELECT	0.47uF	20%	50V	C360	1-216-864-11	METAL CHIP	0	5%	1/10W
C140	1-136-495-11	FILM	0.068uF	5%	50V	C361	1-126-964-11	ELECT	10uF	20%	50V
C149	1-126-964-11	ELECT	10uF	20%	50V	C364	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C150	1-126-964-11	ELECT	10uF	20%	50V	C365	1-126-960-11	ELECT	1uF	20%	50V
C152	1-126-964-11	ELECT	10uF	20%	50V	C371	1-164-392-11	CERAMIC CHIP	390PF	10%	50V
C153	1-126-964-11	ELECT	10uF	20%	50V	C376	1-164-392-11	CERAMIC CHIP	390PF	10%	50V
C154	1-126-964-11	ELECT	10uF	20%	50V	C381	1-130-483-00	MYLAR	0.01uF	5%	50V
C155	1-126-964-11	ELECT	10uF	20%	50V	C382	1-137-427-11	MYLAR	120PF	5%	50V
C156	1-136-157-00	FILM	0.022uF	5%	50V	C383	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C157	1-136-157-00	FILM	0.022uF	5%	50V	C384	1-162-946-11	CERAMIC CHIP	27PF	5%	50V

MAIN

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
C385	1-126-964-11	ELECT	10uF 20% 50V	C823	1-126-963-11	ELECT	4.7uF 20% 50V
C386	1-162-968-11	CERAMIC CHIP	0.0047uF 10% 50V	C824	1-126-963-11	ELECT	4.7uF 20% 50V
C387	1-162-968-11	CERAMIC CHIP	0.0047uF 10% 50V	C825	1-136-171-00	FILM	0.33uF 5% 50V
C390	1-126-935-11	ELECT	470uF 20% 10V	C826	1-136-169-00	FILM	0.22uF 5% 50V
C391	1-126-933-11	ELECT	100uF 20% 16V	C827	1-126-963-11	ELECT	4.7uF 20% 50V
C395	1-162-919-11	CERAMIC CHIP	22PF 5% 50V	C828	1-136-171-00	FILM	0.33uF 5% 50V
C396	1-126-965-91	ELECT	22uF 20% 50V	C829	1-136-169-00	FILM	0.22uF 5% 50V
C397	1-126-964-11	ELECT	10uF 20% 50V	C830	1-126-964-11	ELECT	10uF 20% 50V
C398	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	C831	1-136-161-00	FILM	0.047uF 5% 50V
C399	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	C832	1-126-964-11	ELECT	10uF 20% 50V
C416	1-164-156-11	CERAMIC CHIP	0.1uF 25V	C833	1-104-665-11	ELECT	100uF 20% 10V
C498	1-164-156-11	CERAMIC CHIP	0.1uF 25V	C834	1-104-665-11	ELECT	100uF 20% 10V
C502	1-164-227-11	CERAMIC CHIP	0.022uF 10% 25V	C835	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V
C503	1-164-227-11	CERAMIC CHIP	0.022uF 10% 25V	C836	1-162-966-11	CERAMIC CHIP	0.0022uF 10% 50V
C510	1-162-919-11	CERAMIC CHIP	22PF 5% 50V	C837	1-126-964-11	ELECT	10uF 20% 50V
C511	1-162-917-11	CERAMIC CHIP	15PF 5% 50V	C838	1-126-964-11	ELECT	10uF 20% 50V
C512	1-164-156-11	CERAMIC CHIP	0.1uF 25V	C839	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V
C516	1-126-926-11	ELECT	1000uF 20% 10V	C840	1-162-966-11	CERAMIC CHIP	0.0022uF 10% 50V
C562	1-104-665-11	ELECT	100uF 20% 10V	C841	1-126-964-11	ELECT	10uF 20% 50V
C564	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	C842	1-126-964-11	ELECT	10uF 20% 50V
C596	1-164-156-11	CERAMIC CHIP	0.1uF 25V	C843	1-162-960-11	CERAMIC CHIP	220PF 10% 50V
C598	1-126-926-11	ELECT	1000uF 20% 10V	C844	1-162-960-11	CERAMIC CHIP	220PF 10% 50V
C601	1-126-964-11	ELECT	10uF 20% 50V	C845	1-126-964-11	ELECT	10uF 20% 50V
C602	1-136-165-00	FILM	0.1uF 5% 50V	C846	1-162-923-11	CERAMIC CHIP	47PF 5% 50V
C603	1-136-165-00	FILM	0.1uF 5% 50V	C847	1-162-923-11	CERAMIC CHIP	47PF 5% 50V
C620	1-126-963-11	ELECT	4.7uF 20% 50V	C851	1-164-156-11	CERAMIC CHIP	0.1uF 25V
C621	1-107-721-11	ELECT	4.7uF 20% 100V	C852	1-164-156-11	CERAMIC CHIP	0.1uF 25V
C650	1-109-889-11	ELECT	1uF 20% 50V	C854	1-126-934-11	ELECT	220uF 20% 10V
C651	1-107-717-11	ELECT	47uF 20% 50V	C855	1-164-156-11	CERAMIC CHIP	0.1uF 25V
C670	1-126-963-11	ELECT	4.7uF 20% 50V	C901	1-126-944-11	ELECT	3300uF 20% 25V
C671	1-107-721-11	ELECT	4.7uF 20% 100V	C902	1-126-961-11	ELECT	2.2uF 20% 50V
C721	1-126-961-11	ELECT	2.2uF 20% 50V	C904	1-130-483-00	MYLAR	0.01uF 5% 50V
C722	1-162-960-11	CERAMIC CHIP	220PF 10% 50V	C905	1-130-483-00	MYLAR	0.01uF 5% 50V
C730	1-126-964-11	ELECT	10uF 20% 50V	C906	1-126-933-11	ELECT	100uF 20% 16V
C731	1-164-156-11	CERAMIC CHIP	0.1uF 25V	C908	1-136-165-00	FILM	0.1uF 5% 50V
C771	1-126-961-11	ELECT	2.2uF 20% 50V	C909	1-136-165-00	FILM	0.1uF 5% 50V
C772	1-162-960-11	CERAMIC CHIP	220PF 10% 50V	C911	1-126-961-11	ELECT	2.2uF 20% 50V
C800	1-126-964-11	ELECT	10uF 20% 50V	C919	1-117-251-51	ELECT	3300uF 20% 6.3V
C801	1-162-960-11	CERAMIC CHIP	220PF 10% 50V	C920	1-126-964-11	ELECT	10uF 20% 50V
C802	1-162-960-11	CERAMIC CHIP	220PF 10% 50V	C921	1-126-968-11	ELECT	100uF 20% 50V
C803	1-126-964-11	ELECT	10uF 20% 50V	C922	1-126-941-11	ELECT	470uF 20% 25V
C804	1-126-964-11	ELECT	10uF 20% 50V	< CONNECTOR >			
C805	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	CN201	1-779-544-21	CONNECTOR, FFC(LIF(NON-ZIF))7P	
C806	1-126-964-11	ELECT	10uF 20% 50V	CN202	1-785-338-11	PIN, CONNECTOR(LIGHT ANGLE)12P	
C807	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	* CN203	1-564-711-11	PIN, CONNECTOR (SMALL TYPE) 9P	
C808	1-126-964-11	ELECT	10uF 20% 50V	* CN205	1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P	
C809	1-126-964-11	ELECT	10uF 20% 50V	CN206	1-779-558-21	CONNECTOR,FFC(LIF(NON-ZIF))21P	
C810	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	* CN301	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P	
C811	1-126-964-11	ELECT	10uF 20% 50V	* CN304	1-569-930-11	SOCKET, CONNECTOR 13P	
C812	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	* CN402	1-569-935-11	SOCKET, CONNECTOR 19P	
C813	1-126-964-11	ELECT	10uF 20% 50V	CN501	1-785-330-11	PIN, CONNECTOR (LIGHT ANGLE)4P	
C814	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	CN502	1-785-336-11	PIN, CONNECTOR(LIGHT ANGLE)10P	
C815	1-126-964-11	ELECT	10uF 20% 50V	CN702	1-569-906-11	SOCKET, CONNECTOR 11P	
C816	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	CN851	1-564-506-11	PLUG, CONNECTOR 3P	
C817	1-126-964-11	ELECT	10uF 20% 50V	CN901	1-770-726-11	CONNECTOR, BOARD TO BOARD 6P	
C818	1-126-964-11	ELECT	10uF 20% 50V	CN902	1-778-982-11	CONNECTOR, BOARD TO BOARD 13P	
C819	1-126-960-11	ELECT	1uF 20% 50V	< DIODE >			
C820	1-126-963-11	ELECT	4.7uF 20% 50V	D130	8-719-988-61	DIODE 1SS355TE-17	
C821	1-136-169-00	FILM	0.22uF 5% 50V				
C822	1-136-165-00	FILM	0.1uF 5% 50V				

Ref. No.	Part No.	Description	Remarks			Ref. No.	Part No.	Description	Remarks		
D201	8-719-988-61	DIODE 1SS355TE-17				JR138	1-216-864-11	METAL CHIP	0	5%	1/10W
D202	8-719-988-61	DIODE 1SS355TE-17				JR390	1-216-864-11	METAL CHIP	0	5%	1/10W
D392	8-719-988-61	DIODE 1SS355TE-17									
D393	8-719-988-61	DIODE 1SS355TE-17						< COIL >			
D394	8-719-988-61	DIODE 1SS355TE-17				L201	1-414-189-31	INDUCTOR	100uH		
D501	8-719-988-61	DIODE 1SS355TE-17				L301	1-410-780-11	INDUCTOR	27mH		
D502	8-719-988-61	DIODE 1SS355TE-17				L302	1-414-189-31	INDUCTOR	100uH		
D503	8-719-988-61	DIODE 1SS355TE-17				L351	1-410-780-11	INDUCTOR	27mH		
D504	8-719-988-61	DIODE 1SS355TE-17				L901	1-456-468-11	INDUCTOR	100uH		
D505	8-719-988-61	DIODE 1SS355TE-17						< TRANSISTOR >			
D508	8-719-988-61	DIODE 1SS355TE-17				Q101	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6		
D509	8-719-988-61	DIODE 1SS355TE-17				Q105	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6		
D517	8-719-988-61	DIODE 1SS355TE-17				Q151	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6		
D601	8-719-988-61	DIODE 1SS355TE-17				Q223	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
D602	8-719-988-61	DIODE 1SS355TE-17				Q224	8-729-113-69	TRANSISTOR	FN1F4M-T1M32		
D603	8-719-988-61	DIODE 1SS355TE-17									
D701	8-719-988-61	DIODE 1SS355TE-17				Q301	8-729-141-73	TRANSISTOR	2SC3624A-T1L15L16		
D851	8-719-056-82	DIODE UDZ-TE-17-6.2B				Q302	8-729-142-46	TRANSISTOR	2SC2001TP-LK		
D852	8-719-056-84	DIODE UDZ-TE-17-7.5B				Q303	8-729-142-46	TRANSISTOR	2SC2001TP-LK		
D901	8-719-028-23	DIODE D3SBA20-4101				Q304	8-729-113-69	TRANSISTOR	FN1F4M-T1M32		
D902	8-719-500-60	DIODE D5SBA20				Q305	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
D917	8-719-080-53	DIODE RK36LF-B3									
D941	8-719-977-81	DIODE UDZ-TE-17-33B				Q306	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
		< FERRITE BEAD >				Q307	8-729-216-22	TRANSISTOR	2SA812-T1-M5M6		
FB117	1-216-864-11	METAL CHIP	0	5%	1/10W	Q310	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
FB167	1-216-864-11	METAL CHIP	0	5%	1/10W	Q389	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
FB204	1-216-864-11	METAL CHIP	0	5%	1/10W	Q390	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
FB516	1-414-772-11	FERRITE	0uH								
FB562	1-414-772-11	FERRITE	0uH			Q391	8-729-140-04	TRANSISTOR	2SB1116-TP-LK		
		< IC >				Q392	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
IC102	6-703-650-11	IC M61529FP-D60G				Q393	8-729-116-57	TRANSISTOR	2SB1068TP-K		
IC103	6-703-651-11	IC M61530FP-D60G				Q394	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
IC201	8-749-019-25	IC TOTX141 (CD DIGITAL OUT)				Q395	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
IC301	6-702-130-01	IC HA12237F									
IC302	8-759-143-54	IC uPC1330HA				Q396	8-729-140-04	TRANSISTOR	2SB1116-TP-LK		
IC303	8-759-710-97	IC NJM4565M(Te2)				Q398	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
IC501	6-802-866-01	IC M30620MCN-A27FP				Q399	8-729-141-73	TRANSISTOR	2SC3624A-T1L15L16		
IC502	6-703-610-01	IC RT8H015C-T112-1				Q601	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6		
IC601	8-759-533-04	IC M62703ML-E1				Q602	8-729-014-97	TRANSISTOR	FA1L3Z-T1B		
IC730	8-759-711-10	IC NJU4066BM-T2									
IC907	6-700-813-01	IC SI-8033JF				Q620	8-729-802-80	TRANSISTOR	2SC3661-TB		
		< JACK >				Q621	8-729-802-80	TRANSISTOR	2SC3661-TB		
J117	1-764-593-21	JACK 2P (MD/VIDEO(AUDIO) IN)				Q650	8-729-113-69	TRANSISTOR	FN1F4M-T1M32		
J716	1-770-377-31	JACK, PIN 1P (SUBWOOFER)				Q651	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
J730	1-764-593-21	JACK 2P (AUDIO OUT)				Q652	8-729-113-69	TRANSISTOR	FN1F4M-T1M32		
		< JUMPER RESISTOR >									
JR10	1-216-864-11	METAL CHIP	0	5%	1/10W	Q670	8-729-802-80	TRANSISTOR	2SC3661-TB		
JR002	1-216-864-11	METAL CHIP	0	5%	1/10W	Q671	8-729-802-80	TRANSISTOR	2SC3661-TB		
JR003	1-216-864-11	METAL CHIP	0	5%	1/10W	Q701	8-729-014-97	TRANSISTOR	FA1L3Z-T1B		
JR004	1-216-296-11	SHORT CHIP	0			Q702	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6		
JR005	1-216-864-11	METAL CHIP	0	5%	1/10W	Q730	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
JR006	1-216-864-11	METAL CHIP	0	5%	1/10W						
JR008	1-216-864-11	METAL CHIP	0	5%	1/10W	Q798	8-729-802-80	TRANSISTOR	2SC3661-TB		
JR009	1-216-864-11	METAL CHIP	0	5%	1/10W	Q799	8-729-802-80	TRANSISTOR	2SC3661-TB		
JR015	1-216-864-11	METAL CHIP	0	5%	1/10W	Q800	8-729-802-80	TRANSISTOR	2SC3661-TB		
JR104	1-216-296-11	SHORT CHIP	0			Q801	8-729-802-80	TRANSISTOR	2SC3661-TB		
						Q802	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6		
						Q803	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6		
						Q851	8-729-026-68	TRANSISTOR	2SD2525(TP)		
						Q852	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6		
						Q853	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6		
						Q854	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
						Q903	8-729-209-60	TRANSISTOR	2SB1375		
						Q909	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
						Q910	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		

HCD-GN88D

MAIN

Ref. No.	Part No.	Description				Remarks	Ref. No.	Part No.	Description				Remarks
< RESISTOR >							R329	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R101	1-216-825-11	METAL CHIP	2.2K	5%	1/10W		R330	1-216-837-11	METAL CHIP	22K	5%	1/10W	
R102	1-216-833-11	METAL CHIP	10K	5%	1/10W		R332	1-216-832-11	METAL CHIP	8.2K	5%	1/10W	
R103	1-220-373-11	METAL CHIP	620	5%	1/10W		R333	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	
R104	1-216-821-11	METAL CHIP	1K	5%	1/10W		R334	1-216-845-11	METAL CHIP	100K	5%	1/10W	
R105	1-216-841-11	METAL CHIP	47K	5%	1/10W		R342	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	
							△ R343	1-219-787-17	FUSIBLE	5.6	5%	1/4W	
R106	1-216-833-11	METAL CHIP	10K	5%	1/10W		△ R344	1-219-787-17	FUSIBLE	5.6	5%	1/4W	
R107	1-216-809-11	METAL CHIP	100	5%	1/10W		R345	1-216-836-11	METAL CHIP	18K	5%	1/10W	
R110	1-216-864-11	METAL CHIP	0	5%	1/10W								
R112	1-216-864-11	METAL CHIP	0	5%	1/10W		R346	1-216-836-11	METAL CHIP	18K	5%	1/10W	
R114	1-216-864-11	METAL CHIP	0	5%	1/10W		R347	1-216-827-11	METAL CHIP	3.3K	5%	1/10W	
							R351	1-216-827-11	METAL CHIP	3.3K	5%	1/10W	
R116	1-216-809-11	METAL CHIP	100	5%	1/10W		R352	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	
R117	1-216-845-11	METAL CHIP	100K	5%	1/10W		R353	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R118	1-216-821-11	METAL CHIP	1K	5%	1/10W								
R121	1-216-809-11	METAL CHIP	100	5%	1/10W		R354	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	
R122	1-216-809-11	METAL CHIP	100	5%	1/10W		R355	1-216-841-11	METAL CHIP	47K	5%	1/10W	
							R360	1-216-819-11	METAL CHIP	680	5%	1/10W	
R130	1-216-825-11	METAL CHIP	2.2K	5%	1/10W		R361	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	
R131	1-216-825-11	METAL CHIP	2.2K	5%	1/10W		R362	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R132	1-216-857-11	METAL CHIP	1M	5%	1/10W								
R133	1-216-845-11	METAL CHIP	100K	5%	1/10W		R363	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	
R134	1-216-827-11	METAL CHIP	3.3K	5%	1/10W		R364	1-216-819-11	METAL CHIP	680	5%	1/10W	
					(TH)		R365	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R134	1-216-826-11	METAL CHIP	2.7K	5%	1/10W		R366	1-216-819-11	METAL CHIP	680	5%	1/10W	
					(EXCEPT TH)		R367	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R149	1-216-829-11	METAL CHIP	4.7K	5%	1/10W		R368	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R150	1-216-825-11	METAL CHIP	2.2K	5%	1/10W		R369	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R151	1-216-825-11	METAL CHIP	2.2K	5%	1/10W		R370	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	
R152	1-216-833-11	METAL CHIP	10K	5%	1/10W		R371	1-216-827-11	METAL CHIP	3.3K	5%	1/10W	
							R372	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	
R153	1-220-373-11	METAL CHIP	620	5%	1/10W								
R154	1-216-821-11	METAL CHIP	1K	5%	1/10W		R373	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	
R155	1-216-841-11	METAL CHIP	47K	5%	1/10W		R374	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R156	1-216-833-11	METAL CHIP	10K	5%	1/10W		R375	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R157	1-216-809-11	METAL CHIP	100	5%	1/10W		R376	1-216-833-11	METAL CHIP	10K	5%	1/10W	
							R377	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R166	1-216-809-11	METAL CHIP	100	5%	1/10W								
R167	1-216-845-11	METAL CHIP	100K	5%	1/10W		R378	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R168	1-216-821-11	METAL CHIP	1K	5%	1/10W		R379	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R233	1-216-837-11	METAL CHIP	22K	5%	1/10W		R380	1-216-837-11	METAL CHIP	22K	5%	1/10W	
R234	1-216-837-11	METAL CHIP	22K	5%	1/10W		R382	1-216-832-11	METAL CHIP	8.2K	5%	1/10W	
							R387	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R235	1-216-853-11	METAL CHIP	470K	5%	1/10W								
R301	1-216-827-11	METAL CHIP	3.3K	5%	1/10W		R388	1-216-837-11	METAL CHIP	22K	5%	1/10W	
R302	1-216-829-11	METAL CHIP	4.7K	5%	1/10W		R390	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R303	1-216-833-11	METAL CHIP	10K	5%	1/10W		R391	1-216-827-11	METAL CHIP	3.3K	5%	1/10W	
R304	1-216-825-11	METAL CHIP	2.2K	5%	1/10W		R392	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	
							R393	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	
R305	1-216-841-11	METAL CHIP	47K	5%	1/10W								
R306	1-216-837-11	METAL CHIP	22K	5%	1/10W		R394	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R307	1-216-857-11	METAL CHIP	1M	5%	1/10W		R395	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	
R308	1-216-809-11	METAL CHIP	100	5%	1/10W		R396	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R309	1-216-829-11	METAL CHIP	4.7K	5%	1/10W		R397	1-216-835-11	METAL CHIP	15K	5%	1/10W	
							R398	1-216-861-11	METAL CHIP	2.2M	5%	1/10W	
R310	1-216-809-11	METAL CHIP	100	5%	1/10W								
R311	1-216-809-11	METAL CHIP	100	5%	1/10W		R399	1-216-827-11	METAL CHIP	3.3K	5%	1/10W	
R312	1-216-809-11	METAL CHIP	100	5%	1/10W		R401	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R313	1-216-821-11	METAL CHIP	1K	5%	1/10W		R402	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R314	1-216-821-11	METAL CHIP	1K	5%	1/10W		R419	1-216-809-11	METAL CHIP	100	5%	1/10W	
							R420	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	
R315	1-216-833-11	METAL CHIP	10K	5%	1/10W								
R316	1-216-833-11	METAL CHIP	10K	5%	1/10W		R421	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R317	1-216-833-11	METAL CHIP	10K	5%	1/10W		R422	1-216-833-11	METAL CHIP	10K	5%	1/10W	
R320	1-216-825-11	METAL CHIP	2.2K	5%	1/10W		R429	1-216-809-11	METAL CHIP	100	5%	1/10W	
R327	1-216-835-11	METAL CHIP	15K	5%	1/10W		The components identified by mark △ or dotted line with mark △ are critical for safety.						
R328	1-216-825-11	METAL CHIP	2.2K	5%	1/10W								

Ref. No.	Part No.	Description	Remarks			Ref. No.	Part No.	Description	Remarks		
R430	1-216-809-11	METAL CHIP	100	5%	1/10W	R581	1-216-809-11	METAL CHIP	100	5%	1/10W
R442	1-216-809-11	METAL CHIP	100	5%	1/10W	R582	1-216-809-11	METAL CHIP	100	5%	1/10W
R443	1-216-809-11	METAL CHIP	100	5%	1/10W	R583	1-216-809-11	METAL CHIP	100	5%	1/10W
R444	1-216-809-11	METAL CHIP	100	5%	1/10W	R584	1-216-809-11	METAL CHIP	100	5%	1/10W
R445	1-216-809-11	METAL CHIP	100	5%	1/10W	R585	1-216-809-11	METAL CHIP	100	5%	1/10W
R446	1-216-809-11	METAL CHIP	100	5%	1/10W	R586	1-216-809-11	METAL CHIP	100	5%	1/10W
R447	1-216-809-11	METAL CHIP	100	5%	1/10W	R587	1-216-809-11	METAL CHIP	100	5%	1/10W
R448	1-216-809-11	METAL CHIP	100	5%	1/10W	R588	1-216-809-11	METAL CHIP	100	5%	1/10W
R450	1-216-809-11	METAL CHIP	100	5%	1/10W	R589	1-216-809-11	METAL CHIP	100	5%	1/10W
R473	1-216-809-11	METAL CHIP	100	5%	1/10W	R590	1-216-809-11	METAL CHIP	100	5%	1/10W
R474	1-216-809-11	METAL CHIP	100	5%	1/10W	R591	1-216-809-11	METAL CHIP	100	5%	1/10W
R477	1-216-833-11	METAL CHIP	10K	5%	1/10W	R592	1-216-811-11	METAL CHIP	150	5%	1/10W
R478	1-216-833-11	METAL CHIP	10K	5%	1/10W	R593	1-216-821-11	METAL CHIP	1K	5%	1/10W
R488	1-216-809-11	METAL CHIP	100	5%	1/10W	R593	1-216-829-11	METAL CHIP	4.7K	(E3,E15,E51,EA,MX)	
R492	1-216-829-11	METAL CHIP	4.7K	5%	1/10W					5%	1/10W
R493	1-216-829-11	METAL CHIP	4.7K	5%	1/10W					(AUS,SP,MY,PH)	
R493	1-216-864-11	METAL CHIP	0	5%	1/10W	R594	1-216-809-11	METAL CHIP	100	5%	1/10W
(E3,E15,E51,EA,MX)						R595	1-216-821-11	METAL CHIP	1K	5%	1/10W
(AUS,SP,MY,PH,TH)						R597	1-216-864-11	METAL CHIP	0	5%	1/10W
R495	1-216-839-11	METAL CHIP	33K	5%	1/10W	R598	1-216-809-11	METAL CHIP	100	5%	1/10W
R501	1-216-809-11	METAL CHIP	100	5%	1/10W	R600	1-216-809-11	METAL CHIP	100	5%	1/10W
R502	1-216-809-11	METAL CHIP	100	5%	1/10W	R601	1-216-813-11	METAL CHIP	220	5%	1/10W
R503	1-216-809-11	METAL CHIP	100	5%	1/10W	R602	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R504	1-216-809-11	METAL CHIP	100	5%	1/10W	R603	1-216-841-11	METAL CHIP	47K	5%	1/10W
R505	1-216-809-11	METAL CHIP	100	5%	1/10W	R604	1-216-841-11	METAL CHIP	47K	5%	1/10W
R506	1-216-809-11	METAL CHIP	100	5%	1/10W	R620	1-216-833-11	METAL CHIP	10K	5%	1/10W
R507	1-216-809-11	METAL CHIP	100	5%	1/10W	R621	1-216-821-11	METAL CHIP	1K	5%	1/10W
R509	1-216-833-11	METAL CHIP	10K	5%	1/10W	R622	1-216-841-11	METAL CHIP	47K	5%	1/10W
R511	1-216-851-11	METAL CHIP	330K	5%	1/10W	R623	1-216-833-11	METAL CHIP	10K	5%	1/10W
R513	1-216-864-11	METAL CHIP	0	5%	1/10W	R624	1-215-891-11	METAL OXIDE	680	5%	2W
R517	1-216-833-11	METAL CHIP	10K	5%	1/10W	R625	1-216-821-11	METAL CHIP	1K	5%	1/10W
R519	1-216-833-11	METAL CHIP	10K	5%	1/10W	R626	1-216-806-11	METAL CHIP	56	5%	1/10W
R521	1-216-809-11	METAL CHIP	100	5%	1/10W	R629	1-216-817-11	METAL CHIP	470	5%	1/10W
R522	1-216-809-11	METAL CHIP	100	5%	1/10W	R630	1-216-817-11	METAL CHIP	470	5%	1/10W
R523	1-216-833-11	METAL CHIP	10K	5%	1/10W	R650	1-216-835-11	METAL CHIP	15K	5%	1/10W
R529	1-216-833-11	METAL CHIP	10K	5%	1/10W	R651	1-216-853-11	METAL CHIP	470K	5%	1/10W
R530	1-216-833-11	METAL CHIP	10K	5%	1/10W	R652	1-216-843-11	METAL CHIP	68K	5%	1/10W
R540	1-216-809-11	METAL CHIP	100	5%	1/10W	R653	1-216-821-11	METAL CHIP	1K	5%	1/10W
R541	1-216-809-11	METAL CHIP	100	5%	1/10W	R654	1-216-845-11	METAL CHIP	100K	5%	1/10W
R542	1-216-833-11	METAL CHIP	10K	5%	1/10W	R655	1-216-845-11	METAL CHIP	100K	5%	1/10W
R543	1-216-833-11	METAL CHIP	10K	5%	1/10W	R656	1-216-833-11	METAL CHIP	10K	5%	1/10W
R544	1-216-833-11	METAL CHIP	10K	5%	1/10W	R670	1-216-833-11	METAL CHIP	10K	5%	1/10W
R545	1-216-833-11	METAL CHIP	10K	5%	1/10W	R671	1-216-821-11	METAL CHIP	1K	5%	1/10W
R549	1-216-833-11	METAL CHIP	10K	5%	1/10W	R672	1-216-841-11	METAL CHIP	47K	5%	1/10W
R550	1-216-833-11	METAL CHIP	10K	5%	1/10W	R673	1-216-833-11	METAL CHIP	10K	5%	1/10W
R560	1-216-809-11	METAL CHIP	100	5%	1/10W	R674	1-215-891-11	METAL OXIDE	680	5%	2W
R561	1-216-809-11	METAL CHIP	100	5%	1/10W	R675	1-216-821-11	METAL CHIP	1K	5%	1/10W
R563	1-216-833-11	METAL CHIP	10K	5%	1/10W	R676	1-216-806-11	METAL CHIP	56	5%	1/10W
R566	1-216-809-11	METAL CHIP	100	5%	1/10W	△ R701	1-249-409-11	CARBON	220	5%	1/4W F
R567	1-216-809-11	METAL CHIP	100	5%	1/10W	R702	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R569	1-216-809-11	METAL CHIP	100	5%	1/10W	R720	1-216-821-11	METAL CHIP	1K	5%	1/10W
R572	1-216-809-11	METAL CHIP	100	5%	1/10W	R721	1-216-845-11	METAL CHIP	100K	5%	1/10W
R573	1-216-833-11	METAL CHIP	10K	5%	1/10W	R722	1-216-821-11	METAL CHIP	1K	5%	1/10W
R574	1-216-833-11	METAL CHIP	10K	5%	1/10W	R730	1-216-833-11	METAL CHIP	10K	5%	1/10W
R575	1-216-809-11	METAL CHIP	100	5%	1/10W	R770	1-216-821-11	METAL CHIP	1K	5%	1/10W
R576	1-216-813-11	METAL CHIP	220	5%	1/10W	R771	1-216-845-11	METAL CHIP	100K	5%	1/10W
R577	1-216-809-11	METAL CHIP	100	5%	1/10W	R772	1-216-821-11	METAL CHIP	1K	5%	1/10W
R578	1-216-809-11	METAL CHIP	100	5%	1/10W	The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.					
R579	1-216-809-11	METAL CHIP	100	5%	1/10W						
R580	1-216-809-11	METAL CHIP	100	5%	1/10W						

HCD-GN88D

MAIN	MOTOR (LD)	MOTOR (TB)	POWER AMP
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Ref. No.	Part No.	Description	Remarks
R798	1-216-809-11	METAL CHIP 100 5%	1/10W
R799	1-216-809-11	METAL CHIP 100 5%	1/10W
R800	1-216-841-11	METAL CHIP 47K 5%	1/10W
R801	1-216-817-11	METAL CHIP 470 5%	1/10W
R802	1-216-833-11	METAL CHIP 10K 5%	1/10W
R803	1-216-841-11	METAL CHIP 47K 5%	1/10W
R804	1-216-841-11	METAL CHIP 47K 5%	1/10W
R805	1-216-833-11	METAL CHIP 10K 5%	1/10W
R806	1-216-825-11	METAL CHIP 2.2K 5%	1/10W
R807	1-216-829-11	METAL CHIP 4.7K 5%	1/10W
R808	1-216-841-11	METAL CHIP 47K 5%	1/10W
R809	1-216-841-11	METAL CHIP 47K 5%	1/10W
R810	1-216-833-11	METAL CHIP 10K 5%	1/10W
R811	1-216-825-11	METAL CHIP 2.2K 5%	1/10W
R812	1-216-829-11	METAL CHIP 4.7K 5%	1/10W
R813	1-216-833-11	METAL CHIP 10K 5%	1/10W
R814	1-216-825-11	METAL CHIP 2.2K 5%	1/10W
R815	1-216-829-11	METAL CHIP 4.7K 5%	1/10W
R816	1-216-841-11	METAL CHIP 47K 5%	1/10W
R817	1-216-825-11	METAL CHIP 2.2K 5%	1/10W
R818	1-216-821-11	METAL CHIP 1K 5%	1/10W
R819	1-220-373-11	METAL CHIP 620 5%	1/10W
R820	1-220-373-11	METAL CHIP 620 5%	1/10W
R821	1-216-857-11	METAL CHIP 1M 5%	1/10W
R822	1-216-833-11	METAL CHIP 10K 5%	1/10W
R823	1-216-857-11	METAL CHIP 1M 5%	1/10W
R824	1-216-833-11	METAL CHIP 10K 5%	1/10W
R825	1-216-857-11	METAL CHIP 1M 5%	1/10W
R826	1-216-825-11	METAL CHIP 2.2K 5%	1/10W
R827	1-216-825-11	METAL CHIP 2.2K 5%	1/10W
R828	1-216-841-11	METAL CHIP 47K 5%	1/10W
R829	1-216-825-11	METAL CHIP 2.2K 5%	1/10W
R830	1-216-825-11	METAL CHIP 2.2K 5%	1/10W
R831	1-216-841-11	METAL CHIP 47K 5%	1/10W
R832	1-216-833-11	METAL CHIP 10K 5%	1/10W
R833	1-216-817-11	METAL CHIP 470 5%	1/10W
R834	1-216-841-11	METAL CHIP 47K 5%	1/10W
R835	1-216-821-11	METAL CHIP 1K 5%	1/10W
R836	1-216-833-11	METAL CHIP 10K 5%	1/10W
R837	1-216-841-11	METAL CHIP 47K 5%	1/10W
R838	1-216-833-11	METAL CHIP 10K 5%	1/10W
R839	1-216-841-11	METAL CHIP 47K 5%	1/10W
R840	1-216-821-11	METAL CHIP 1K 5%	1/10W
R841	1-216-833-11	METAL CHIP 10K 5%	1/10W
R842	1-216-833-11	METAL CHIP 10K 5%	1/10W
R843	1-216-833-11	METAL CHIP 10K 5%	1/10W
R844	1-216-833-11	METAL CHIP 10K 5%	1/10W
R845	1-216-841-11	METAL CHIP 47K 5%	1/10W
R846	1-216-833-11	METAL CHIP 10K 5%	1/10W
R847	1-216-821-11	METAL CHIP 1K 5%	1/10W
R848	1-216-833-11	METAL CHIP 10K 5%	1/10W
R849	1-216-841-11	METAL CHIP 47K 5%	1/10W
R850	1-216-821-11	METAL CHIP 1K 5%	1/10W
R851	1-216-837-11	METAL CHIP 22K 5%	1/10W
R852	1-216-837-11	METAL CHIP 22K 5%	1/10W
R853	1-216-845-11	METAL CHIP 100K 5%	1/10W
R854	1-216-829-11	METAL CHIP 4.7K 5%	1/10W
R857	1-216-864-11	METAL CHIP 0 5%	1/10W
R858	1-216-864-11	METAL CHIP 0 5%	1/10W

Ref. No.	Part No.	Description	Remarks
R860	1-216-841-11	METAL CHIP 47K 5%	1/10W
R861	1-216-833-11	METAL CHIP 10K 5%	1/10W
R862	1-216-841-11	METAL CHIP 47K 5%	1/10W
R863	1-216-833-11	METAL CHIP 10K 5%	1/10W
R904	1-216-832-11	METAL CHIP 8.2K 5%	1/10W
R905	1-216-832-11	METAL CHIP 8.2K 5%	1/10W
R906	1-216-821-11	METAL CHIP 1K 5%	1/10W
R915	1-216-845-11	METAL CHIP 100K 5%	1/10W
R916	1-216-845-11	METAL CHIP 100K 5%	1/10W
R917	1-216-833-11	METAL CHIP 10K 5%	1/10W
R921	1-216-820-11	METAL CHIP 820 5%	1/10W
R922	1-216-805-11	METAL CHIP 47 5%	1/10W
R923	1-216-833-11	METAL CHIP 10K 5%	1/10W
< VARIABLE RESISTOR >			
RV301	1-238-019-11	RES, ADJ, CARBON 47K (REC LEVEL(L))	
RV304	1-241-768-11	RES, ADJ, CARBON 220K (REC BIAS(L))	
RV351	1-238-019-11	RES, ADJ, CARBON 47K (REC LEVEL(R))	
RV354	1-241-768-11	RES, ADJ, CARBON 220K (REC BIAS(R))	
RY701	1-755-267-11	RELAY	
< TRANSFORMER >			
T301	1-423-980-11	TRANSFORMER, BIAS OSCILLATION	
< VIBRATOR >			
X501	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)	
X502	1-781-107-21	VIBRATOR, SERAMIC (16MHz)	

1-687-133-11 MOTOR (LD) BOARD			

1-687-134-11 MOTOR (TB) BOARD			

< CONNECTOR >			
CN742	1-784-727-11	CONNECTOR, FFC 5P	

A-4732-900-A POWER AMP BOARD, COMPLETE (EXCEPT TH)			
A-4734-623-A POWER AMP BOARD, COMPLETE (TH)			

7-685-647-79 SCREW +BVTP 3X10 TYPE2 N-S			
< CAPACITOR >			
C501	1-126-963-11	ELECT 4.7uF 20%	50V
C502	1-162-294-31	CERAMIC 0.001uF 10%	50V
C503	1-162-286-31	CERAMIC 220PF 10%	50V
C504	1-104-665-11	ELECT 100uF 20%	10V
C507	1-136-495-11	FILM 0.068uF 5%	50V
C508	1-136-495-11	FILM 0.068uF 5%	50V
C509	1-128-560-11	ELECT 22uF 20%	100V
C512	1-162-306-11	CERAMIC 0.01uF 20%	16V
C513	1-162-306-11	CERAMIC 0.01uF 20%	16V
C516	1-104-665-11	ELECT 100uF 20%	10V
C517	1-126-964-11	ELECT 10uF 20%	50V
C523	1-162-306-11	CERAMIC 0.01uF 30%	16V
C524	1-162-306-11	CERAMIC 0.01uF 30%	16V

POWER AMP

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
C525	1-162-306-11	CERAMIC	0.01uF 20% 16V	Q518	8-729-119-79	TRANSISTOR 2SC2785TP-FEK	
C526	1-126-964-11	ELECT	10uF 20% 50V	Q551	8-729-140-84	TRANSISTOR 2SC1841TP-PAFAEA	
				Q581	8-729-140-84	TRANSISTOR 2SC1841TP-PAFAEA	
C527	1-162-306-11	CERAMIC	0.01uF 20% 16V	< RESISTOR >			
C528	1-162-306-11	CERAMIC	0.01uF 20% 16V				
C541	1-136-165-00	FILM	0.1uF 5% 50V	R501	1-249-417-11	CARBON 1K 5% 1/4W F	
C542	1-127-811-11	ELECT	3300uF 20% 50V	R502	1-249-437-11	CARBON 47K 5% 1/4W	
C544	1-130-777-00	MYLAR	0.1uF 5% 100V	R503	1-249-409-11	CARBON 220 5% 1/4W F	
				R504	1-249-437-11	CARBON 47K 5% 1/4W	
C545	1-130-777-00	MYLAR	0.1uF 5% 100V	R505	1-249-416-11	CARBON 820 5% 1/4W F	
C546	1-137-843-11	ELECT	2200uF 20% 100V				
C551	1-126-963-11	ELECT	4.7uF 20% 50V	R506	1-249-435-11	CARBON 33K 5% 1/4W	
C552	1-162-294-31	CERAMIC	0.001uF 10% 50V	R507	1-249-441-11	CARBON 100K 5% 1/4W	
C553	1-162-286-31	CERAMIC	220PF 10% 50V	△ R508	1-234-798-11	ENCAPSULATED COMPONENT	
				R509	1-260-076-11	CARBON 10 5% 1/2W	
C554	1-104-665-11	ELECT	100uF 20% 10V	△ R511	1-212-881-11	FUSIBLE 100 5% 1/4W	
C557	1-136-495-11	FILM	0.068uF 5% 50V				
C558	1-136-495-11	FILM	0.068uF 5% 50V	△ R512	1-202-972-61	FUSIBLE 1 5% 1/4W	
C559	1-128-560-11	ELECT	22uF 20% 100V	R513	1-249-435-11	CARBON 33K 5% 1/4W	
C581	1-126-965-91	ELECT	22uF 20% 50V	R514	1-249-421-11	CARBON 2.2K 5% 1/4W F	
				R515	1-249-433-11	CARBON 22K 5% 1/4W	
C591	1-136-165-00	FILM	0.1uF 5% 50V	R516	1-249-429-11	CARBON 10K 5% 1/4W	
C592	1-127-811-11	ELECT	3300uF 20% 50V				
C596	1-137-843-11	ELECT	2200uF 20% 100V	R517	1-249-429-11	CARBON 10K 5% 1/4W	
				R518	1-249-435-11	CARBON 33K 5% 1/4W	
< CONNECTOR >				R519	1-249-439-11	CARBON 68K 5% 1/4W	
CN502	1-564-509-11	PLUG, CONNECTOR 6P (TH)		△ R520	1-215-872-11	METAL OXIDE 3.3K 5% 1W	
CN503	1-778-981-21	CONNECTOR, BOARD TO BOARD 13P		R521	1-249-441-11	CARBON 100K 5% 1/4W	
CN504	1-770-722-11	CONNECTOR, BOARD TO BOARD 6P					
				R522	1-249-441-11	CARBON 100K 5% 1/4W	
< DIODE >				R523	1-249-441-11	CARBON 100K 5% 1/4W	
D501	8-719-991-33	DIODE 1SS133T-72		△ R524	1-215-872-11	METAL OXIDE 3.3K 5% 1W	
D502	8-719-991-33	DIODE 1SS133T-72		R527	1-249-438-11	CARBON 56K 5% 1/4W	
D503	8-719-947-70	DIODE MTZJ-T-72-18C		R528	1-249-437-11	CARBON 47K 5% 1/4W	
D504	8-719-947-70	DIODE MTZJ-T-72-18C					
D506	8-719-991-33	DIODE 1SS133T-72		R529	1-249-433-11	CARBON 22K 5% 1/4W	
				R530	1-249-433-11	CARBON 22K 5% 1/4W	
D507	8-719-991-33	DIODE 1SS133T-72		R531	1-247-890-11	CARBON 300K 5% 1/4W	
D508	8-719-991-33	DIODE 1SS133T-72					
D509	8-719-991-33	DIODE 1SS133T-72		R531	1-247-891-00	CARBON 330K 5% 1/4W (TH)	
D511	8-719-991-33	DIODE 1SS133T-72					(EXCEPT TH)
D541	8-719-060-53	DIODE RBV-2506		R532	1-249-441-11	CARBON 100K 5% 1/4W	
D543	8-719-500-60	DIODE D5SBA20		R533	1-249-437-11	CARBON 47K 5% 1/4W	
D551	8-719-991-33	DIODE 1SS133T-72		△ R539	1-215-891-11	METAL OXIDE 680 5% 2W	
D581	8-719-991-33	DIODE 1SS133T-72		R541	1-249-441-11	CARBON 100K 5% 1/4W	
				R542	1-249-441-11	CARBON 100K 5% 1/4W	
< EARTH TERMINAL >				R545	1-249-417-11	CARBON 1K 5% 1/4W F	
* EP501	1-537-738-21	TERMINAL, EARTH					
* EP502	1-537-738-21	TERMINAL, EARTH		R546	1-249-433-11	CARBON 22K 5% 1/4W	
				R547	1-249-437-11	CARBON 47K 5% 1/4W	
< IC >				R548	1-249-437-11	CARBON 47K 5% 1/4W	
				R551	1-249-417-11	CARBON 1K 5% 1/4W F	
				R552	1-249-437-11	CARBON 47K 5% 1/4W	
IC501	8-749-017-06	IC STK412-150					
				R553	1-249-409-11	CARBON 220 5% 1/4W F	
< TRANSISTOR >				R554	1-249-437-11	CARBON 47K 5% 1/4W	
Q501	8-729-140-84	TRANSISTOR 2SC1841TP-PAFAEA		R555	1-249-416-11	CARBON 820 5% 1/4W F	
Q503	8-729-821-00	TRANSISTOR 2SA1207-AA		R556	1-249-435-11	CARBON 33K 5% 1/4W	
Q504	8-729-140-84	TRANSISTOR 2SC1841TP-PAFAEA		R557	1-249-441-11	CARBON 100K 5% 1/4W	
Q505	8-729-119-79	TRANSISTOR 2SC2785TP-FEK		△ R558	1-234-798-11	ENCAPSULATED COMPONENT	
Q506	8-729-119-79	TRANSISTOR 2SC2785TP-FEK		R559	1-260-076-11	CARBON 10 5% 1/2W	
				△ R561	1-212-881-11	FUSIBLE 100 5% 1/4W	
Q510	8-729-119-79	TRANSISTOR 2SC2785TP-FEK		R564	1-249-433-11	CARBON 22K 5% 1/4W	
Q511	8-729-119-79	TRANSISTOR 2SC2785TP-FEK		R565	1-249-433-11	CARBON 22K 5% 1/4W	
Q514	8-729-119-79	TRANSISTOR 2SC2785TP-FEK		The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.			
Q516	8-729-119-79	TRANSISTOR 2SC2785TP-FEK					
Q517	8-729-119-76	TRANSISTOR 2SA1175TP-HFE					

HCD-GN88D

POWER AMP	REGULATOR	RF
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Ref. No.	Part No.	Description			Remarks
R568	1-249-429-11	CARBON	10K	5%	1/4W
R569	1-249-437-11	CARBON	47K	5%	1/4W
R570	1-249-429-11	CARBON	10K	5%	1/4W
R572	1-249-441-11	CARBON	100K	5%	1/4W
R577	1-247-807-31	CARBON	100	5%	1/4W
< RELAY >					
RY501	1-515-920-11	RELAY			
< THERMISTOR >					
TH501	1-807-796-11	THERMISTOR			
TH502	1-807-796-11	THERMISTOR			
< TERMINAL >					
TM501	1-694-991-11	PUSH TERMINAL (10P)			
(FRONT/SURROUND/CENTER SPEAKER)					

	A-4732-884-A	REGULATOR BOARD, COMPLETE (EXCEPT TH)			
	A-4734-506-A	REGULATOR BOARD, COMPLETE (TH)			

< CAPACITOR >					
C910	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C911	1-126-935-11	ELECT	470uF	20%	10V
C912	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C913	1-126-768-11	ELECT	2200uF	20%	16V
C915	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C917	1-126-935-11	ELECT	470uF	20%	6.3V
C918	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C919	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C921	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C922	1-104-656-11	ELECT	2200uF	20%	6.3V
C923	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C924	1-126-935-11	ELECT	470uF	20%	6.3V
C925	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C926	1-126-935-11	ELECT	470uF	20%	10V
< CONNECTOR >					
* CN713	1-564-525-11	PLUG, CONNECTOR 10P			
* CN714	1-564-519-11	PLUG, CONNECTOR 4P			
< FERRITE BEAD >					
FB205	1-216-864-11	METAL CHIP	0	5%	1/10W
< IC >					
IC901	6-703-550-01	IC TA7809LS			
IC902	8-759-518-68	IC PQ12RF21			
IC903	6-703-550-01	IC TA7809LS			
IC904	6-703-546-01	IC TA7804LS			
IC905	6-703-547-01	IC TA7805LS			
IC906	6-703-547-01	IC TA7805LS			
< TRANSISTOR >					
Q903	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		

Ref. No.	Part No.	Description	Remarks		
Q904	8-729-113-13	TRANSISTOR FA1A4M-T1L33			
Q905	8-729-209-60	TRANSISTOR 2SB1375			
Q906	8-729-113-13	TRANSISTOR FA1A4M-T1L33			
< RESISTOR >					
R901	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R902	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R903	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R905	1-216-833-11	METAL CHIP	10K	5%	1/10W
R906	1-216-833-11	METAL CHIP	10K	5%	1/10W

A-4728-690-A		RF BOARD, COMPLETE			

< CAPACITOR >					
C001	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C002	1-124-779-00	ELECT CHIP	10uF	20%	16V
C003	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C004	1-124-779-00	ELECT CHIP	10uF	20%	16V
C005	1-128-993-21	ELECT CHIP	22uF	20%	10V
C006	1-128-993-21	ELECT CHIP	22uF	20%	10V
C008	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C009	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C010	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C011	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C012	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C013	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C014	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C015	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C016	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C017	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C018	1-164-172-11	CERAMIC CHIP	0.0056uF	10%	25V
C019	1-164-172-11	CERAMIC CHIP	0.0056uF	10%	25V
C020	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C021	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C022	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C023	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C024	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C025	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C026	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C027	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C028	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C029	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C030	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C031	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C032	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C033	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C034	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C035	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C036	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C037	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C038	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C039	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C040	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C041	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C042	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C049	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
< CONNECTOR >					
CN001	1-815-031-11	CONNECTOR, FFC/FPC (ZIF) 24P			

RF

SENSOR

SUB TRANS

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
CN002	1-784-836-21	CONNECTOR,FFC(LIF(NON-ZIF))29P		A-4734-889-A	SUB TRANS BOARD, COMPLETE (MX)		
CN003	1-784-861-21	CONNECTOR, FFC(LIF(NON-ZIF))9P		A-4734-967-A	SUB TRANS BOARD, COMPLETE (AUS)		
		< DIODE >		A-4749-088-A	SUB TRANS BOARD, COMPLETE		(E15,E3,E51,PH,SP,MY)
D001	8-719-988-61	DIODE 1SS355TE-17		A-4749-091-A	SUB TRANS BOARD, COMPLETE (TH)		
D002	8-719-988-61	DIODE 1SS355TE-17		A-4749-093-A	SUB TRANS BOARD, COMPLETE (EA)		*****
		< IC >			< CAPACITOR >		
IC001	6-703-551-01	IC SP3723BDAOPM		△C971	1-113-925-11	CERAMIC	0.01uF 20% 250V
		< COIL >		C973	1-126-933-11	ELECT	100uF 20% 16V
L001	1-412-031-11	INDUCTOR CHIP 47uH		C975	1-126-767-11	ELECT	1000uF 20% 16V
L002	1-412-031-11	INDUCTOR CHIP 47uH		C976	1-164-159-21	CERAMIC	0.1uF 50V(TH)
		< TRANSISTOR >		C976	1-164-159-11	CERAMIC	0.1uF 50V (EXCEPT TH)
Q001	8-729-903-46	TRANSISTOR 2SB1132-P		C977	1-164-159-21	CERAMIC	0.1uF 50V(TH)
Q002	8-729-903-46	TRANSISTOR 2SB1132-P		C977	1-164-159-11	CERAMIC	0.1uF 50V (EXCEPT TH)
		< RESISTOR >		C978	1-164-159-21	CERAMIC	0.1uF 50V(TH)
R001	1-218-668-11	METAL CHIP 100 0.5% 1/10W		C978	1-164-159-11	CERAMIC	0.1uF 50V (EXCEPT TH)
R003	1-216-803-11	METAL CHIP 33 5% 1/10W			< CONNECTOR >		
R004	1-216-803-11	METAL CHIP 33 5% 1/10W		CN971	1-568-106-11	PIN, CONNECTOR(3.96mm PITCH)4P	
R005	1-216-841-11	METAL CHIP 47K 5% 1/10W					(E15,E3,E51,EA,PH,SP,MY)
R006	1-216-817-11	METAL CHIP 470 5% 1/10W		CN971	1-564-321-00	PIN, CONNECTOR(3.96mm PITCH)2P	
R007	1-216-803-11	METAL CHIP 33 5% 1/10W					(AUS,MX,TH)
R008	1-216-803-11	METAL CHIP 33 5% 1/10W		CN974	1-564-321-00	PIN, CONNECTOR(3.96mm PITCH)2P	
R009	1-216-841-11	METAL CHIP 47K 5% 1/10W		CN976	1-785-330-11	PIN, CONNECTOR (LIGHT ANGLE)4P	
R010	1-216-817-11	METAL CHIP 470 5% 1/10W			< DIODE >		
R011	1-216-864-11	METAL CHIP 0 5% 1/10W		D971	8-719-991-33	DIODE 1SS133T-72	
R012	1-216-864-11	METAL CHIP 0 5% 1/10W		D972	8-719-200-82	DIODE 11ES2-NTA1B (TH)	
R013	1-216-864-11	METAL CHIP 0 5% 1/10W		D972	8-719-024-99	DIODE 11ES2-NTA2B (EXCEPT TH)	
R014	1-216-864-11	METAL CHIP 0 5% 1/10W		D973	8-719-200-82	DIODE 11ES2-NTA1B (TH)	
R015	1-216-864-11	METAL CHIP 0 5% 1/10W		D973	8-719-024-99	DIODE 11ES2-NTA2B (EXCEPT TH)	
R016	1-216-864-11	METAL CHIP 0 5% 1/10W					
R017	1-216-864-11	METAL CHIP 0 5% 1/10W		D974	8-719-200-82	DIODE 11ES2-NTA1B (TH)	
R018	1-216-864-11	METAL CHIP 0 5% 1/10W		D974	8-719-024-99	DIODE 11ES2-NTA2B (EXCEPT TH)	
R019	1-216-864-11	METAL CHIP 0 5% 1/10W		D975	8-719-200-82	DIODE 11ES2-NTA1B (TH)	
R020	1-216-864-11	METAL CHIP 0 5% 1/10W		D975	8-719-024-99	DIODE 11ES2-NTA2B (EXCEPT TH)	
R021	1-216-864-11	METAL CHIP 0 5% 1/10W			< IC >		
R022	1-216-813-11	METAL CHIP 220 5% 1/10W		IC971	6-703-546-01	IC TA7804LS	
R023	1-216-820-11	METAL CHIP 820 5% 1/10W			< TRANSISTOR >		
R024	1-216-864-11	METAL CHIP 0 5% 1/10W					
R025	1-216-809-11	METAL CHIP 100 5% 1/10W		Q971	8-729-119-79	TRANSISTOR 2SC2785TP-FEK	
R026	1-218-718-11	METAL CHIP 12K 0.5% 1/10W			< RESISTOR >		
R027	1-216-864-11	METAL CHIP 0 5% 1/10W					
R028	1-216-864-11	METAL CHIP 0 5% 1/10W		R974	1-249-441-11	CARBON 100K 5% 1/4W	
R029	1-216-864-11	METAL CHIP 0 5% 1/10W		R975	1-249-429-11	CARBON 10K 5% 1/4W	
R032	1-216-809-11	METAL CHIP 100 5% 1/10W			< RELAY >		
R033	1-216-864-11	METAL CHIP 0 5% 1/10W		△RY971	1-755-276-11	RELAY, POWER	
R034	1-219-570-11	METAL CHIP 10M 5% 1/10W			< SWITCH >		
R035	1-216-864-11	METAL CHIP 0 5% 1/10W		△S901	1-786-055-21	SELECTOR, VOLTAGE (VOLTAGE SELECTOR)	
R041	1-216-821-11	METAL CHIP 1K 5% 1/10W					(EXCEPT AUS,MX,TH)

	1-687-132-11	SENSOR BOARD					

		< CONNECTOR >					
CN731	1-785-329-21	PIN, CONNECTOR (LIGHT ANGLE)3P					

The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.

HCD-GN88D

SUB TRANS

SURROUND

Ref. No.	Part No.	Description	Remarks
< TRANSFORMER >			
△ T972	1-437-775-21	TRANSFORMER, POWER (EA,MX)	
△ T972	1-437-751-12	TRANSFORMER, POWER (EXCEPT EA,MX)	

	A-4732-892-A	SURROUND BOARD, COMPLETE (EXCEPT TH)	
	A-4734-262-A	SURROUND BOARD, COMPLETE (TH)	

< CAPACITOR >			
C301	1-126-963-11	ELECT 4.7uF 20% 50V	
C302	1-162-286-21	CERAMIC 220PF 10% 50V(TH)	
C302	1-162-286-31	CERAMIC 220PF 10% 50V	
(EXCEPT TH)			
C303	1-107-473-11	CERAMIC 220PF 5% 50V	
C304	1-126-947-11	ELECT 47uF 20% 10V	
C306	1-136-495-11	FILM 0.068uF 5% 50V	
C307	1-136-495-11	FILM 0.068uF 5% 50V	
C308	1-128-576-11	ELECT 100uF 20% 63V	
C319	1-162-306-11	CERAMIC 0.01uF 30% 16V	
C341	1-126-963-11	ELECT 4.7uF 20% 50V	
C342	1-162-286-21	CERAMIC 220PF 10% 50V(TH)	
C342	1-162-286-31	CERAMIC 220PF 10% 50V	
(EXCEPT TH)			
C343	1-107-473-11	CERAMIC 220PF 5% 50V	
C344	1-126-947-11	ELECT 47uF 20% 10V	
C346	1-136-495-11	FILM 0.068uF 5% 50V	
C347	1-136-495-11	FILM 0.068uF 5% 50V	
C351	1-126-963-11	ELECT 4.7uF 20% 50V	
C352	1-162-286-21	CERAMIC 220PF 10% 50V(TH)	
C352	1-162-286-31	CERAMIC 220PF 10% 50V	
(EXCEPT TH)			
C353	1-107-473-11	CERAMIC 220PF 5% 50V	
C354	1-126-947-11	ELECT 47uF 20% 10V	
C356	1-136-495-11	FILM 0.068uF 5% 50V	
C357	1-136-495-11	FILM 0.068uF 5% 50V	
C358	1-128-576-11	ELECT 100uF 20% 63V	
< CONNECTOR >			
CN303	1-564-509-11	PLUG, CONNECTOR 6P	
* CN304	1-564-520-11	PLUG, CONNECTOR 5P	
< DIODE >			
D301	8-719-991-33	DIODE 1SS133T-72	
D341	8-719-991-33	DIODE 1SS133T-72	
D351	8-719-991-33	DIODE 1SS133T-72	
D381	8-719-991-33	DIODE 1SS133T-72	
D382	8-719-991-33	DIODE 1SS133T-72	
D391	8-719-991-33	DIODE 1SS133T-72	
< GROUND TERMINAL >			
EP301	1-537-738-21	TERMINAL, GROUND	
< IC >			
IC301	6-600-168-01	IC STK443-090	
< TRANSISTOR >			
Q301	8-729-119-79	TRANSISTOR 2SC2785TP-FEK	
Q341	8-729-119-79	TRANSISTOR 2SC2785TP-FEK	
Q351	8-729-119-79	TRANSISTOR 2SC2785TP-FEK	

Ref. No.	Part No.	Description	Remarks
Q381	8-729-119-76	TRANSISTOR 2SA1175TP-HFE	
Q383	8-729-119-76	TRANSISTOR 2SA1175TP-HFE	
Q384	8-729-900-36	TRANSISTOR BA1F4M-TP	
Q385	8-729-119-79	TRANSISTOR 2SC2785TP-FEK	
Q386	8-729-900-36	TRANSISTOR BA1F4M-TP	
< RESISTOR >			
R301	1-249-417-11	CARBON 1K 5% 1/4W	F
R302	1-249-437-11	CARBON 47K 5% 1/4W	
R303	1-249-411-11	CARBON 330 5% 1/4W	
R304	1-249-437-11	CARBON 47K 5% 1/4W	
△ R305	1-234-499-21	ENCAPSULATED COMPONENT	
R307	1-249-417-11	CARBON 1K 5% 1/4W	F
R308	1-249-434-11	CARBON 27K 5% 1/4W	
R309	1-249-441-11	CARBON 100K 5% 1/4W	
R310	1-260-076-11	CARBON 10 5% 1/2W	
△ R311	1-212-881-11	FUSIBLE 100 5% 1/4W	
R319	1-247-862-11	CARBON 20K 5% 1/4W	
△ R320	1-202-972-61	FUSIBLE 1 5% 1/4W	
R331	1-249-437-11	CARBON 47K 5% 1/4W	
R332	1-249-438-11	CARBON 56K 5% 1/4W	
R333	1-249-439-11	CARBON 68K 5% 1/4W	
R341	1-249-417-11	CARBON 1K 5% 1/4W	F
R342	1-249-437-11	CARBON 47K 5% 1/4W	
R343	1-249-411-11	CARBON 330 5% 1/4W	
R344	1-249-437-11	CARBON 47K 5% 1/4W	
△ R345	1-234-499-21	ENCAPSULATED COMPONENT	
R347	1-249-417-11	CARBON 1K 5% 1/4W	F
R348	1-249-434-11	CARBON 27K 5% 1/4W	
R349	1-249-441-11	CARBON 100K 5% 1/4W	
R350	1-260-076-11	CARBON 10 5% 1/2W	
R351	1-249-417-11	CARBON 1K 5% 1/4W	F
R352	1-249-437-11	CARBON 47K 5% 1/4W	
R353	1-249-411-11	CARBON 330 5% 1/4W	
R354	1-249-437-11	CARBON 47K 5% 1/4W	
△ R356	1-234-499-21	ENCAPSULATED COMPONENT	
R357	1-249-417-11	CARBON 1K 5% 1/4W	F
R358	1-249-434-11	CARBON 27K 5% 1/4W	
R359	1-249-441-11	CARBON 100K 5% 1/4W	
R360	1-260-076-11	CARBON 10 5% 1/2W	
△ R361	1-212-881-11	FUSIBLE 100 5% 1/4W	
△ R387	1-215-891-11	METAL OXIDE 680 5% 2W	
△ R388	1-215-891-11	METAL OXIDE 680 5% 2W	
R390	1-249-429-11	CARBON 10K 5% 1/4W	
R395	1-249-429-11	CARBON 10K 5% 1/4W	
R396	1-249-433-11	CARBON 22K 5% 1/4W	
R397	1-249-417-11	CARBON 1K 5% 1/4W	F
R399	1-249-417-11	CARBON 1K 5% 1/4W	F
R401	1-249-417-11	CARBON 1K 5% 1/4W	F
R402	1-249-433-11	CARBON 22K 5% 1/4W	
< RELAY >			
RY381	1-755-417-12	RELAY	
RY382	1-755-417-12	RELAY	

The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.

SW

TRANS

VIDEO

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
	1-687-669-11	SW BOARD *****		C720	1-126-960-11	ELECT 1uF 20% 50V	
S751	1-786-514-11	SWITCH, LEVER (SLIDE) (LEVER)		C721	1-126-933-11	ELECT 100uF 20% 16V	
*****				C722	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
	1-686-930-11	TRANS BOARD *****		C723	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
		< CAPACITOR >		C724	1-126-935-11	ELECT 470uF 20% 6.3V	
C941	1-128-576-11	ELECT 100uF 20% 63V		C725	1-128-551-11	ELECT 22uF 20% 25V	
		< CONNECTOR >		C726	1-126-935-11	ELECT 470uF 20% 6.3V	
CN997	1-564-509-11	PLUG, CONNECTOR 6P		C727	1-128-551-11	ELECT 22uF 20% 25V	
* CN998	1-564-510-11	PLUG, CONNECTOR 7P		C728	1-126-935-11	ELECT 470uF 20% 6.3V	
		< DIODE >		C729	1-128-551-11	ELECT 22uF 20% 25V	
D977	8-719-024-99	DIODE 11ES2-NTA2B		C730	1-126-933-11	ELECT 100uF 20% 16V	
		< FUSE HOLDER >		C731	1-126-965-91	ELECT 22uF 20% 50V	
FH9741	1-533-233-11	FUSE HOLDER		C732	1-126-933-11	ELECT 100uF 20% 16V	
FH9742	1-533-233-11	FUSE HOLDER		C733	1-126-965-91	ELECT 22uF 20% 50V	
FH9751	1-533-233-11	FUSE HOLDER		C734	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	
FH9752	1-533-233-11	FUSE HOLDER		C735	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	
FH9761	1-533-233-11	FUSE HOLDER		C736	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	
FH9762	1-533-233-11	FUSE HOLDER		C737	1-162-957-11	CERAMIC CHIP 220PF 5% 50V	
FH9771	1-533-233-11	FUSE HOLDER		C738	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	
FH9772	1-533-233-11	FUSE HOLDER		C739	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	
FH9781	1-533-233-11	FUSE HOLDER		C740	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
FH9782	1-533-233-11	FUSE HOLDER		C741	1-126-965-91	ELECT 22uF 20% 50V	
FH9791	1-533-233-11	FUSE HOLDER		C742	1-126-947-11	ELECT 47uF 20% 16V	
FH9792	1-533-233-11	FUSE HOLDER		C848	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
		< RESISTOR >		C849	1-126-916-11	ELECT 1000uF 20% 6.3V	
△ R941	1-217-637-00	FUSIBLE 1 5% 1/4W				< CONNECTOR >	
*****				CN207	1-779-289-11	CONNECTOR,FFC(LIF(NON-ZIF))21P	
A-4732-883-A		VIDEO BOARD, COMPLETE (EXCEPT TH)		CN208	1-779-293-11	CONNECTOR,FFC(LIF(NON-ZIF))25P	
A-4734-505-A		VIDEO BOARD, COMPLETE (TH) *****		* CN710	1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P	
		< CAPACITOR >		CN711	1-785-328-11	PIN, CONNECTOR (LIGHT ANGRE)2P	
C215	1-126-964-11	ELECT 10uF 20% 50V		CN712	1-779-285-11	CONNECTOR,FFC(LIF(NON-ZIF))17P	
C216	1-126-964-11	ELECT 10uF 20% 50V				< DIODE >	
C217	1-126-964-11	ELECT 10uF 20% 50V		D710	8-719-988-61	DIODE 1SS355TE-17	
C218	1-126-964-11	ELECT 10uF 20% 50V		D711	8-719-988-61	DIODE 1SS355TE-17	
C219	1-126-964-11	ELECT 10uF 20% 50V				< FERRITE BEAD >	
C220	1-126-964-11	ELECT 10uF 20% 50V		FB710	1-216-864-11	METAL CHIP 0 5% 1/10W	
C221	1-126-964-11	ELECT 10uF 20% 50V		FB711	1-216-864-11	METAL CHIP 0 5% 1/10W	
C222	1-126-964-11	ELECT 10uF 20% 50V		FB712	1-216-864-11	METAL CHIP 0 5% 1/10W	
C709	1-162-953-11	CERAMIC CHIP 100PF 5% 50V		FB713	1-216-864-11	METAL CHIP 0 5% 1/10W	
C710	1-126-964-11	ELECT 10uF 20% 50V		FB714	1-216-864-11	METAL CHIP 0 5% 1/10W	
C711	1-126-964-11	ELECT 10uF 20% 50V				< IC >	
C712	1-126-926-11	ELECT 1000uF 20% 10V		IC710	8-759-295-90	IC NJM2244M-TE2	
C713	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		IC711	6-702-335-01	IC MM1568AJBE	
C714	1-126-933-11	ELECT 100uF 20% 16V				< JACK >	
C715	1-126-960-11	ELECT 1uF 20% 50V		J710	1-793-483-11	JACK, PIN 3P (COMPONENT VIDEO OUT)	
C716	1-126-960-11	ELECT 1uF 20% 50V		J711	1-774-227-11	JACK, PIN 1P (VIDEO OUT)	
C717	1-126-960-11	ELECT 1uF 20% 50V		J712	1-537-943-11	TERMINAL, S (S-VIDEO OUT)	
C718	1-126-960-11	ELECT 1uF 20% 50V				< JUMPER RESISTOR >	
C719	1-126-960-11	ELECT 1uF 20% 50V		JR713	1-216-864-11	METAL CHIP 0 5% 1/10W	

The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.

HCD-GN88D

VIDEO

VOLUME

Ref. No.	Part No.	Description	Remarks		
JR716	1-216-864-11	METAL CHIP	0	5%	1/10W
JR717	1-216-864-11	METAL CHIP	0	5%	1/10W
JR720	1-216-864-11	METAL CHIP	0	5%	1/10W
JR721	1-216-864-11	METAL CHIP	0	5%	1/10W
< COIL >					
L710	1-414-189-31	INDUCTOR	100uH		
L711	1-414-183-41	INDUCTOR	10uH		
< TRANSISTOR >					
Q215	8-729-802-80	TRANSISTOR	2SC3661-TB		
Q216	8-729-802-80	TRANSISTOR	2SC3661-TB		
Q217	8-729-802-80	TRANSISTOR	2SC3661-TB		
Q218	8-729-802-80	TRANSISTOR	2SC3661-TB		
Q219	8-729-802-80	TRANSISTOR	2SC3661-TB		
Q220	8-729-802-80	TRANSISTOR	2SC3661-TB		
Q221	8-729-802-80	TRANSISTOR	2SC3661-TB		
Q222	8-729-802-80	TRANSISTOR	2SC3661-TB		
Q710	8-729-113-69	TRANSISTOR	FN1F4M-T1M32		
Q711	8-729-113-13	TRANSISTOR	FA1A4M-T1L33		
< RESISTOR >					
R215	1-216-821-11	METAL CHIP	1K	5%	1/10W
R216	1-216-821-11	METAL CHIP	1K	5%	1/10W
R217	1-216-821-11	METAL CHIP	1K	5%	1/10W
R218	1-216-821-11	METAL CHIP	1K	5%	1/10W
R219	1-216-821-11	METAL CHIP	1K	5%	1/10W
R220	1-216-821-11	METAL CHIP	1K	5%	1/10W
R221	1-216-821-11	METAL CHIP	1K	5%	1/10W
R222	1-216-821-11	METAL CHIP	1K	5%	1/10W
R225	1-216-833-11	METAL CHIP	10K	5%	1/10W
R226	1-216-833-11	METAL CHIP	10K	5%	1/10W
R227	1-216-833-11	METAL CHIP	10K	5%	1/10W
R228	1-216-833-11	METAL CHIP	10K	5%	1/10W
R229	1-216-833-11	METAL CHIP	10K	5%	1/10W
R230	1-216-833-11	METAL CHIP	10K	5%	1/10W
R231	1-216-833-11	METAL CHIP	10K	5%	1/10W
R232	1-216-833-11	METAL CHIP	10K	5%	1/10W
R235	1-216-833-11	METAL CHIP	10K	5%	1/10W
R236	1-216-833-11	METAL CHIP	10K	5%	1/10W
R237	1-216-833-11	METAL CHIP	10K	5%	1/10W
R238	1-216-833-11	METAL CHIP	10K	5%	1/10W
R239	1-216-833-11	METAL CHIP	10K	5%	1/10W
R240	1-216-833-11	METAL CHIP	10K	5%	1/10W
R241	1-216-833-11	METAL CHIP	10K	5%	1/10W
R242	1-216-833-11	METAL CHIP	10K	5%	1/10W
R710	1-216-833-11	METAL CHIP	10K	5%	1/10W
R711	1-216-833-11	METAL CHIP	10K	5%	1/10W
R712	1-218-285-11	METAL CHIP	75	5%	1/10W
R713	1-218-285-11	METAL CHIP	75	5%	1/10W
R714	1-218-285-11	METAL CHIP	75	5%	1/10W
R715	1-218-285-11	METAL CHIP	75	5%	1/10W
R716	1-218-285-11	METAL CHIP	75	5%	1/10W
R717	1-218-285-11	METAL CHIP	75	5%	1/10W
R718	1-216-845-11	METAL CHIP	100K	5%	1/10W
R719	1-216-833-11	METAL CHIP	10K	5%	1/10W
R720	1-218-285-11	METAL CHIP	75	5%	1/10W
R721	1-216-833-11	METAL CHIP	10K	5%	1/10W

Ref. No.	Part No.	Description	Remarks		
	A-4732-868-A	VOLUME BOARD, COMPLETE (EXCEPT TH)			
	A-4734-534-A	VOLUME BOARD, COMPLETE (TH)			

< CAPACITOR >					
C614	1-162-294-31	CERAMIC	0.001uF	10%	50V
C615	1-124-589-11	ELECT	47uF	20%	16V
C750	1-164-159-21	CERAMIC	0.1uF		50V(TH)
C750	1-164-159-11	CERAMIC	0.1uF		50V
					(EXCEPT TH)
C751	1-164-159-21	CERAMIC	0.1uF		50V(TH)
C751	1-164-159-11	CERAMIC	0.1uF		50V
					(EXCEPT TH)
C752	1-164-159-21	CERAMIC	0.1uF		50V(TH)
C752	1-164-159-11	CERAMIC	0.1uF		50V
					(EXCEPT TH)
C1000	1-164-159-21	CERAMIC	0.1uF		50V(TH)
C1000	1-164-159-11	CERAMIC	0.1uF		50V
					(EXCEPT TH)
< CONNECTOR >					
CN605	1-568-860-11	SOCKET, CONNECTOR 17P			
< DIODE >					
D1001	6-500-529-01	DIODE	SLI-325URT31W (VOL 1)		
D1002	6-500-529-01	DIODE	SLI-325URT31W (VOL 2)		
D1003	6-500-529-01	DIODE	SLI-325URT31W (VOL 3)		
D1004	6-500-529-01	DIODE	SLI-325URT31W (VOL 4)		
D1005	6-500-529-01	DIODE	SLI-325URT31W (VOL 5)		
D1006	6-500-529-01	DIODE	SLI-325URT31W (VOL 6)		
D1007	6-500-529-01	DIODE	SLI-325URT31W (VOL 7)		
D1008	6-500-529-01	DIODE	SLI-325URT31W (VOL 8)		
D1009	6-500-529-01	DIODE	SLI-325URT31W (VOL 9)		
D1010	6-500-529-01	DIODE	SLI-325URT31W (VOL 10)		
D1011	6-500-529-01	DIODE	SLI-325URT31W (VOL 11)		
D1012	6-500-647-01	DIODE	SEL5E20C-S-TP		
			(MULTI CHANNEL DECODING)		
D1013	8-719-991-33	DIODE	1SS133T-72		
< IC >					
IC603	6-600-174-01	IC	RPM7240-H4		
< TRANSISTOR >					
Q1001	8-729-116-02	TRANSISTOR	BA1A4M-TP		
Q1002	8-729-116-02	TRANSISTOR	BA1A4M-TP		
Q1003	8-729-116-02	TRANSISTOR	BA1A4M-TP		
Q1004	8-729-116-02	TRANSISTOR	BA1A4M-TP		
Q1005	8-729-116-02	TRANSISTOR	BA1A4M-TP		
Q1006	8-729-116-02	TRANSISTOR	BA1A4M-TP		
< RESISTOR >					
R625	1-249-401-11	CARBON	47	5%	1/4W F
R750	1-249-410-11	CARBON	270	5%	1/4W F
R759	1-249-427-11	CARBON	6.8K	5%	1/4W F
R760	1-249-429-11	CARBON	10K	5%	1/4W
R761	1-249-431-11	CARBON	15K	5%	1/4W
R762	1-249-433-11	CARBON	22K	5%	1/4W
R763	1-249-435-11	CARBON	33K	5%	1/4W
R765	1-249-413-11	CARBON	470	5%	1/4W F
R766	1-249-415-11	CARBON	680	5%	1/4W F
R767	1-249-417-11	CARBON	1K	5%	1/4W F

Ref. No.	Part No.	Description				Remarks	Ref. No.	Part No.	Description	Remarks
R768	1-249-419-11	CARBON	1.5K	5%	1/4W	F	226	1-775-265-11	WIRE (FLAT TYPE) (29 CORE)	
R769	1-249-419-11	CARBON	1.5K	5%	1/4W	F				
R770	1-249-421-11	CARBON	2.2K	5%	1/4W	F	227	1-824-106-12	CABLE, FLEXIBLE FLAT (24 CORE)	
R771	1-247-843-11	CARBON	3.3K	5%	1/4W		△229	1-477-263-11	OPTICAL PICK-UP (TDP022W)	
R772	1-249-425-11	CARBON	4.7K	5%	1/4W	F	△F974	1-533-473-11	FUSE, GLASS TUBE (DIA. 5) (T6.3AL 250V)	
							△F975	1-533-473-11	FUSE, GLASS TUBE (DIA. 5) (T6.3AL 250V)	
R773	1-249-427-11	CARBON	6.8K	5%	1/4W	F	△F976	1-576-655-11	FUSE, GLASS TUBE (DIA. 5) (8A 250V)	
R774	1-249-429-11	CARBON	10K	5%	1/4W					
R775	1-249-431-11	CARBON	15K	5%	1/4W		△F977	1-576-655-11	FUSE, GLASS TUBE (DIA. 5) (8A 250V)	
R776	1-249-433-11	CARBON	22K	5%	1/4W		△F978	1-533-471-11	FUSE, GLASS TUBE (DIA. 5) (4A 250V)	
R777	1-249-435-11	CARBON	33K	5%	1/4W		△F979	1-533-470-11	FUSE, GLASS TUBE (DIA. 5) (3.15A 250V)	
							M741	A-4723-963-A	MOTOR ASSY, TABLE	
R1001	1-249-413-11	CARBON	470	5%	1/4W	F	M751	A-4737-553-A	MOTOR ASSY, LOADING	
R1002	1-249-413-11	CARBON	470	5%	1/4W	F				
R1003	1-249-413-11	CARBON	470	5%	1/4W	F	M891	1-763-072-11	FAN, DC	
R1004	1-249-413-11	CARBON	470	5%	1/4W	F	RE701	1-477-680-11	ENCODER, ROTARY	
R1005	1-249-413-11	CARBON	470	5%	1/4W	F	△T910	1-439-741-11	TRANSFORMER, POWER (AUS,E15,E3,E51,PH,SP,MY,TH)	
							△T910	1-439-842-11	POWER TRANSFORMER (EA,MX)	
R1006	1-249-413-11	CARBON	470	5%	1/4W	F	The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.			
R1007	1-249-413-11	CARBON	470	5%	1/4W	F				
R1008	1-249-413-11	CARBON	470	5%	1/4W	F				
R1009	1-249-413-11	CARBON	470	5%	1/4W	F				
R1010	1-249-413-11	CARBON	470	5%	1/4W	F				
R1011	1-249-413-11	CARBON	470	5%	1/4W	F				
R1012	1-249-407-11	CARBON	150	5%	1/4W	F				
R1013	1-249-429-11	CARBON	10K	5%	1/4W					
< SWITCH >										
S748	1-476-504-11	ENCODER, ROTARY (VOLUME)								
S750	1-771-410-21	SWITCH, TACTILE (DISPLAY)								
S759	1-771-410-21	SWITCH, TACTILE (SOUND FIELD)								
S760	1-771-410-21	SWITCH, TACTILE (P.FILE)								
S761	1-771-410-21	SWITCH, TACTILE (ILLUMINATION)								
S762	1-771-410-21	SWITCH, TACTILE (GAME EQ)								
S763	1-771-410-21	SWITCH, TACTILE (GROOVE)								
S765	1-771-410-21	SWITCH, TACTILE (DVD TOP MENU/DIRECTION)								
S766	1-771-410-21	SWITCH, TACTILE (FM MODE/REPEAT)								
S767	1-771-410-21	SWITCH, TACTILE (TUNER MEMORY/PLAY MODE)								
S768	1-771-410-21	SWITCH, TACTILE (AMP MENU)								
S769	1-771-410-21	SWITCH, TACTILE (MUSIC EQ)								
S770	1-771-410-21	SWITCH, TACTILE (MOVIE EQ)								
S771	1-771-410-21	SWITCH, TACTILE (EFFECT ON/OFF)								
S772	1-771-410-21	SWITCH, TACTILE (DVD MENU)								
S773	1-786-528-11	SWITCH, ROTARY (←,→,↑,↓,PUSH ENTER)								

MISCELLANEOUS										

△	1-569-007-11	ADAPTOR, CONVERSION (E3,E15)								
△	1-569-008-21	ADAPTOR, CONVERSION (E51,EA,PH,SP,MY)								
△	1-770-019-51	ADAPTOR, CONVERSION PLUG (TH)								
6	1-693-603-31	TUNER (FM/AM)								
11	1-775-165-11	WIRE (FLAT TYPE) (17 CORE) (220mm)								
70	1-773-040-11	WIRE (FLAT TYPE) (17 CORE) (120mm)								
73	1-773-110-11	WIRE (FLAT TYPE) (19 CORE)								
75	1-796-487-31	DECK, MECHANICAL (CDM43RR23)								
79	1-751-688-11	WIRE (FLAT TYPE) (13 CORE)								
△ 103	1-696-847-21	CORD, POWER (AUS)								
△ 103	1-777-071-53	CORD, POWER (E51,EA,PH,SP,MY)								
△ 103	1-824-818-11	CORD, POWER (TH)								
△ 103	1-827-226-11	CORD, POWER (E15,E3,MX)								
152	1-776-182-11	WIRE (FLAT TYPE) (5 CORE)								

HCD-GN88D

SONY®

SERVICE MANUAL

Ver 1.1 2003.08

*E Model
Australian Model*

SUPPLEMENT-1

File this supplement with the service manual.

Subject: DVD OSD Test Mode

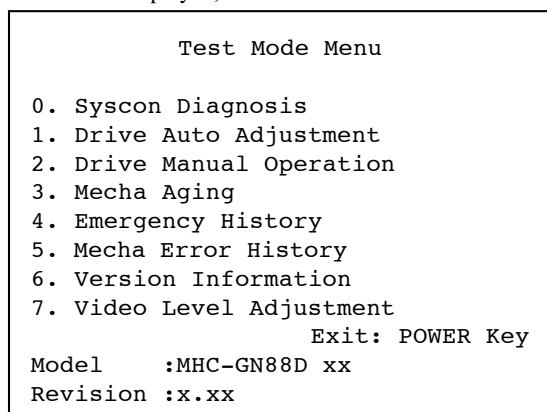
DVD OSD Test Mode

[GENERAL DESCRIPTION]

The Test Mode allows you to make diagnosis and adjustment easily using the remote commander and monitor TV. The instructions, diagnostic results, etc. are given on the on-screen display (OSD).

[STARTING TEST MODE]

1. Press the  button to turn the power on, and set the function to DVD.
2. While pressing the  and  button, turn the **[VOLUME]** knob clockwise to enter the test mode.
3. It displays “SERVICE IN” on the liquid crystal display, and displays the Test Mode Menu on the monitor screen as follows. (At the bottom of the menu screen, the model name and revision number are displayed)



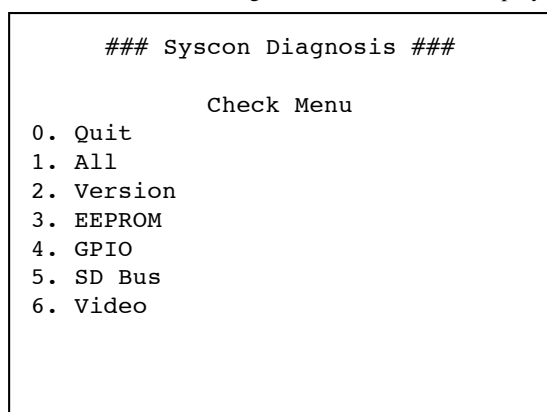
4. To execute each function, select the desired menu and press its number on the remote commander RM-SR246D.
5. To release from test mode, press the  button and turn the power off.

[OPERATING TEST MODE]

0. SYSCON DIAGNOSIS

The same contents as board detail check by serial interface can be checked from the remote commander operation.

On the Test Mode Menu screen, press **[10/0]** key on the remote commander, and the following Check Menu will be displayed.



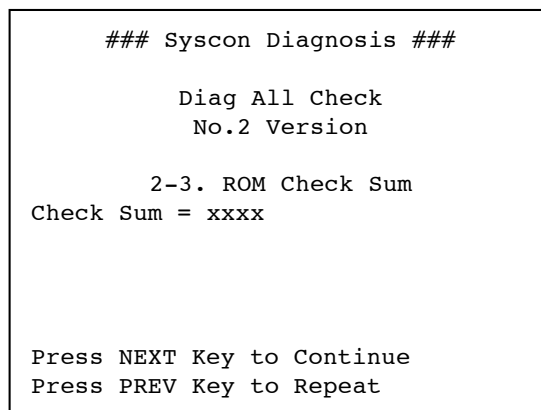
0-0. Quit

Quit the Syscon Diagnosis and return to the Test Mode Menu.

0-1. All (All items continuous check)

This menu checks all diagnostic items continuously. Normally, all items are checked successively one after another automatically unless an error is found, but at a certain item that requires judgment through a visual check to the result, the following screen is displayed for the key entry.

• Example display



For the ROM Check, the check sum calculated by the Syscon is output, and therefore you must compare it with the specified value for confirmation.

Following the message, press the **[NEXT▶▶]** button to go to the next item, or press the **[◀◀ PREV]** button to repeat the same operation again.

To quit the diagnosis and return to Check Menu screen, press the **[RETURN]** key on the remote commander to display Check Menu.

• Error occurred

If an error occurred, the diagnosis is suspended and error is displayed.

Press the **[RETURN]** key on the remote commander to quit the diagnosis, or press the **[◀◀ PREV]** button to repeat the same check where an error occurred, or press the **[NEXT▶▶]** button to continue the check from the item next to faulty item.

General Description of Checking Method

Selecting 2 and subsequent items calls the submenu screen of each item. And selecting 2 and subsequent items executes respective menus and outputs the results.

For the contents of each submenu, see “Check Items List” as below.

Check Items List:

- 0-2. Version
 - 0-2-1. All
 - 0-2-2. Revision
 - 0-2-3. ROM Check Sum
 - 0-2-4. Model Type
 - 0-2-5. Region
- 0-3. EEPROM Check
 - 0-3-1. Sampling Check
 - 0-3-2. Detail Check
- 0-4. GP I/O Check
- 0-5. SD Bus Check
- 0-6. Video Check

0-2. Version

0-2-2. Revision

The revision number of ROM (IC206) that the program for the DVD system processor (IC207) is stored.

0-2-3. ROM Check Sum

Check sum is calculated.
(4 digits hexadecimal number)

0-2-4. Model Type

Model name is displayed. (MHC-GN88D)

0-2-5. Region

Model destination code is displayed. (2 digits number)

0-3. EEPROM Check

0-3-1. Sampling Check

EEPROM check at every 64 words.

It compares read data with write data of each address. When there are discrepancies between two data, it displays error.

0-3-2. Detail Check

EEPROM check at every 1 word.

It compares read data with write data of each address. When there are discrepancies between two data, it displays error.

0-4. GP I/O Check

Pull up/down setting check of the DVD system processor (IC207) pin 150, 151 and 154 (for clock setting port).

0-5. SD Bus Check

SD bus data check between DVD decoder (IC701) and D-RAM (IC706).

0-6. Video Check

Output the color bars for video level adjustment.

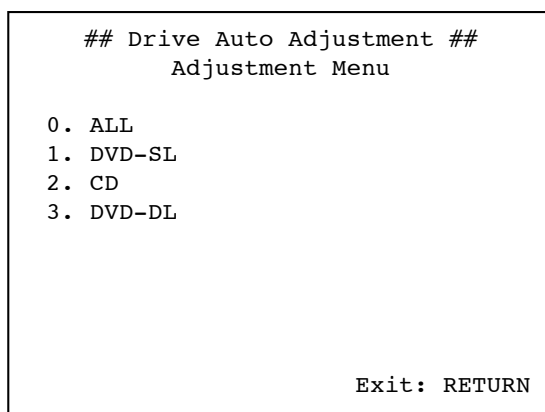
1. DRIVE AUTO ADJUSTMENT

On the Test Mode Menu screen, press the **[1]** key on the remote commander, and the Adjustment Menu will be displayed.

- Use DVD reference disc unless otherwise indicated.

[DVD reference disc]

- LUV-P01 (4-999-032-01) (CD)
- TDV-540C (J-2501-235-A) (DVD-DL)
- TDV-520CSO (J-2501-236-A) (DVD-SL)



Normally, **[10/0]** is selected to adjust DVD (single layer), CD and DVD (dual layer) in this order. But, individual items can be adjusted for the case where adjustment is suspended due to an error. In this mode, the adjustment can be made easily through the operation following the message displayed on the screen. The disc used for adjustment must be the one specified for adjustment.

1-0. ALL

Press the **[10/0]** key on the remote commander, and the servo set data in EEPROM will be initialized. Then, 1. DVD-SL disc, 2. CD disc and 3. DVD-DL disc are adjusted in this order. Each time one disc was adjusted, it is ejected. Replace it with the specified disc following the message. You can finish the adjustment by pressing the **[RETURN]** button on the remote commander.

Note: During adjustment of each disc, the measurement for disc type judgment is made. As automatic adjustment does not judge the disc type unlike conventional models, take care not to insert wrong type discs. Also, do not give a shock during adjustment.

1-1. DVD-SL (single layer)

Press the **[1]** key on the remote commander and insert a DVD single layer disc following the message. Then the adjustment will be made through the steps below, then adjusted values will be written to the EEPROM.

DVD Single Layer Disc Adjustment Steps:

1. Sled reset
2. Disc check memory SL
3. Wait 300 msec
4. Set disc type SL
5. LD on
6. Spindle start
7. Wait 1 sec
8. Focus servo on 0
9. Auto track offset adjust
10. CLVA on
11. Wait 500 msec
12. Tracking on
13. Wait 1 sec
14. Sled on
15. Check CLV on
16. Auto focus offset adjust
17. Auto focus gain adjust
18. Auto focus offset adjust
19. EQ boost adjust
20. Auto track gain adjust
21. All servo stop
22. EEP copy loop filter offset

1-2. CD

Press the **[2]** key on the remote commander and insert a CD disc following the message. Then the adjustment will be made through the steps below, then adjusted values will be written to the EEPROM.

CD Adjustment Steps

1. Sled tilt rest
2. Disc check memory CD
3. Wait 500 msec
4. Set disc type CD
5. LD on
6. Spindle start
7. Wait 500 msec
8. Focus servo on 0
9. Auto track offset adjust
10. CLVA on
11. Wait 500 msec
12. Tracking on
13. (TC display start)
14. Wait 1 sec
15. Sled ON
16. Check CLV on
17. Auto focus offset adjust
18. Auto focus gain adjust
19. Auto focus offset adjust
20. EQ boost adjust
21. Auto track gain adjust
22. All servo stop

1-3. DVD-DL (dual layer)

Press the [3] key on the remote commander and insert a DVD dual layer disc following the message. Then the adjustment will be made through the steps below, then adjusted values will be written to the EEPROM.

DVD Dual Layer Disc Adjustment Steps:

1. Sled tilt reset
2. Disc check memory DL
3. Wait 500 msec
4. Set disc type DL
5. LD on
6. Spindle start
7. Wait 1 sec

Layer 1 Adjust

8. Focus servo on 0
9. Auto track offset adjust
10. CLVA on
11. Wait 500 msec
12. Tracking on
13. Wait 500 msec
14. Sled on
15. Check CLV lock
16. Auto loop filter offset adjust, Auto focus adjust
17. Auto focus gain adjust
18. Auto focus offset adjust
19. EQ boost adjust
20. Auto loop filter offset adjust
21. Auto Track Gain Adjust

Layer 0 Adjust

22. Focus jump (L1 → L0)
23. Auto track offset adjust L0
24. CLVA on
25. Wait 500 msec
26. Tracking on
27. Wait 500 msec
28. Sled on
29. Check CLV lock
30. Auto Focus Adjust
31. Auto focus gain adjust
32. Auto focus offset adjust
33. EQ boost adjust
34. Auto track gain adjust
35. All servo stop

2. DRIVE MANUAL OPERATION

Note: This mode is used for design, and not used in service fundamentally.

On the Test Mode Menu screen, press the [2] key on the remote commander, and the Operation Menu will be displayed. For the manual operation, each servo on/off control and adjustment can be executed manually.

Drive Manual Operation ##
Operation Menu

1. Disc Type
2. Servo Control
3. Track/Layer Jump
4. Non EEPROM Write Adjust
5. EEPROM Write Adjust
6. Memory Check
7. Disc Check Memory
8. Error Rate Display
9. SACD Water Mark

Exit: RETURN

In using the manual operation menu, take care of the following points. These commands do not provide protection, thus requiring correct operation. The sector address or time code field is displayed when a disc is loaded.

Note:

1. Set correctly the disc type to be used on the Disc Type screen.
2. In case of an alarm, immediately press the [■] button to stop the servo operation, and press the [I/O] button to turn the power off.

Basic operation:

(controllable from front panel or remote commander)

- [I/O] : Power OFF (release the Test Mode)
 [■] : Servo stop
 [▲] : Stop and eject/Loading
 [RETURN] : Return to Operation Menu or Test Mode Menu
 [◀◀ PREV], [NEXT ▶▶] : Transition between sub modes of menu
 [1] to [9], [10/0] : Selection of menu items
 Cursor [↓] / [↑] : Increase/Decrease in manually adjusted value

2-1. Disc Type

Disc Type

Disc Type Select

1. Disc Type Auto Check
2. Set Disc Type DVD
3. Set Disc Type CD
4. Set Disc Type Hybrid

Exit: RETURN

2-1-1. Disc Type Auto Check

- 1) Press the [1] key on the remote commander to display the Disc Type Auto Check screen.
- 2) Insert a disc and press the [ENTER] key on the remote commander.
- 3) It judges the type of inserted disc automatically and displays the disc type and so on as below.

Disc Type Auto Check

Disc Type	xx
Layer	xx
Mirr Time	xx
Mirr Count	xx
FZC Count	xx
PI Reference	xx
PI Peak	xx

ENTER.Execute

Exit: RETURN

- Disc Type : CD, DVD or Hybrid (SACD)
 Layer : SINGLE, DUAL or HYBRID
 Mirr Time : Mirror time of between disc surface and record surface when disc type judgment. (hexadecimal number)

Mirr Count : The number of times which mirror counts between disc surface and record surface when disc type judging.

FZC Count : The number of times which focus zero cross points of each layer when lens down.

PI Reference: The average of PI reference voltage. (hexadecimal number)

PI Peak : PI peak level voltage. It performs only when disc type judgment is successful. (hexadecimal number)

2-1-2. Disc Type DVD

It sets up so that it may judge as a disc type of specification of the disc with which the set was inserted.

- [1]: DVD single layer disc (12 cm)
- [2]: DVD dual layer disc (0 layer, 12 cm)
- [3]: DVD dual layer disc (1 layer, 12 cm)
- [4]: DVD-RW disc (12 cm)
- [5]: DVD single layer disc (8 cm)
- [6]: DVD dual layer disc (0 layer, 8 cm)
- [7]: DVD dual layer disc (1 layer, 8 cm)
- [8]: DVD-RW disc (8 cm)

2-1-3. Disc Type CD

It sets up so that it may judge as a disc type of specification of the disc with which the set was inserted.

- [1]: CD disc (normal speed, 12 cm)
- [2]: CD disc (double speed, 12 cm)
- [3]: CD disc (normal speed, 8 cm)
- [4]: CD disc (double speed, 8 cm)
- [5]: CD-RW disc (normal speed, 12 cm)
- [6]: CD-RW disc (double speed, 12 cm)
- [7]: CD-RW disc (normal speed, 8 cm)
- [8]: CD-RW disc (double speed, 8 cm)

2-1-4. Disc Type Hybrid

It sets up so that it may judge as a disc type of specification of the disc with which the set was inserted.

- [1]: SACD Hybrid disc (SACD layer, 12 cm)
- [2]: SACD Hybrid disc (CD layer, normal speed, 12 cm)
- [3]: SACD Hybrid disc (CD layer, double speed, 12 cm)
- [4]: SACD Hybrid disc (SACD layer, 8 cm)
- [5]: SACD Hybrid disc (CD layer, normal speed, 8 cm)
- [6]: SACD Hybrid disc (CD layer, double speed, 8 cm)

2-2. Servo Control

Note: Be sure to perform the disc type setup before performing this item.

Servo Control		
1.LD	off	R.Sled FWD
2.Focus	off	L.Sled REV
3.SPDL	off	U.Sled Reset
4.CLVA	off	D.Sled Limit
5.Trk.	off	
6.Sled	off	
7.Fcs.Srch	off	
0.All Servo Off		
Exit: RETURN		

On this screen, the servo on/off control necessary for replay is executed. Normally, turn on each servo from 1 sequentially and when CLVA is turned on, the usual trace mode becomes active. In the trace mode, DVD sector address or CD time code is displayed. This is not displayed where the spindle is not locked. The spindle could run overriding the control if the spindle system is faulty or RF is not present. In such a case, do not operate CLVA.

- [1] LD : Turn on/off the laser.
- [2] Focus : Search the focus and turn on the focus.
- [3] SPDL : Turn on/off the spindle.
- [4] CLVA : Turn on/off normal servo of spindle servo.
- [5] Trk. : Turn on/off the tracking servo.
- [6] Sled : Turn on/off the sled servo.
- [7] FCS. Srch : Turn on/off the focus search.
- [10/0] : All servo off.
- [R] Sled FWD (right cursor) : Move the sled forward.
- [L] Sled REV (left cursor) : Move the sled reverse.
- [U] Sled FWD (up cursor) : Reset the sled.
- [D] Sled REV (down cursor) : Limit in the sled.

2-3. Track/Layer Jump

Track/Layer Jump		
1.	1Tj	FWD
2.	1Tj	REV
3.	500Tj Fine	FWD
4.	500Tj Fine	REV
5.	10kTj Dirc	FWD
6.	10kTj Dirc	REV
7.	20kTj Dirc	FWD
8.	20kTj Dirc	REV
0. All Servo Off		
Exit: RETURN		

On this screen, track jump, etc. can be performed. Only for the DVD dual layer disc, the focus jump and layer jump are displayed in the right field

- [1] 1Tj FWD : 1 track jump forward.
- [2] 1Tj REV : 1 track jump reverse.
- [3] 500Tj FWD: 500 track jump (fine search)forward.
- [4] 500Tj REV : 500 track jump (fine search) reverse.
- [5] 10kTj FWD: 10k track jump (direct search) forward.
- [6] 10kTj REV : 10k track jump (direct search) reverse.
- [7] 20kTj FWD: 20k track jump (direct search) forward.
- [8] 20kTj REV : 20k track jump (direct search) reverse.
- [10/0] : All servo off.

2-4. Non EEPROM Write Adjust

Non EEPROM Write Adjust	
1.	Focus Offset
2.	Focus Gain
3.	Trk. Offset Coarse
4.	Trk. Offset Fine
5.	Trk. Gain
6.	EQ Boost
0.All Servo Off	
Exit: RETURN	

On this screen, each item can be adjusted manually. Select the desired number [1] to [10/0] from the remote commander, and current setting for the selected item will be displayed, then increase or decrease numeric value with the [↑] key or [↓] key. If CLV has been applied, the jitter is displayed for reference for the adjustment.

- [1] Focus Offset : Adjusts focus offset.
- [2] Focus Gain : Adjusts focus gain.
- [3] TRK. Offset coarses :
Adjusts tracking offset of the RF amp
(IC001) side.
- [4] TRK. Offset fine :
Adjusts tracking offset of the DSP (IC401)
side.
- [5] TRK. Gain : Adjusts track gain.
- [6] EQ Boost : Adjusts amount of boost of equalizer.
- [10/0] : All servo off.

2-5. EEPROM Write Adjust

EEPROM Write Adjust

- 1. Focus Offset
- 2. Focus Gain
- 3. Trk. Offset Coarse
- 4. _____
- 5. Trk. Gain
- 6. EQ Boost
- 0.All Servo Off

Exit: RETURN

On this screen, each item can be adjusted automatically. Select the desired number [1] to [10/0] from the remote commander, and selected item is adjusted automatically.

- [1] Focus Offset : Adjusts focus offset.
- [2] Focus Gain : Adjusts focus gain.
- [3] TRK. Offset coarse :
Adjusts tracking offset of the RF amp
(IC001) side.
- [5] TRK. Gain : Adjusts track gain.
- [6] EQ Boost : Adjusts amount of boost of equalizer.
- [10/0] : All servo off.

2-6. Memory Check

Display images are shown as follows, and all two screens are able to switch by the [↑] key (UP) or [↓] key (DW).

EEPROM Data 1/2	CD	SL	L0	L1
Focus Gain	xx	xx	xx	xx
Trk. Gain	xx	xx	xx	xx
Focus Offset	xx	xx	xx	xx
Trk. Offset	xx	xx	xx	xx
EQ. Boost	xx	xx	xx	xx
PI Level	xx	xx	--	--
Fcs. Balance	--	xx	--	--
Jitter	xx	xx	xx	xx
Mirror Time	xx	xx	xx	--
FE Level	--	xx	--	--
Traverse Lvl.	--	xx	--	--
Next:DW	Default:CLR	Exit:RET		

EEPROM Data 2/2	CDRW	DVDRW
Focus Gain	xx	xx
Trk. Gain	xx	xx
Focus Offset	xx	xx
Trk. Offset	xx	xx
EQ. Boost	xx	xx
Prev:UP	Default:CLR	Exit:RET

On this screen, current servo adjusted data stored in the EEPROM are displayed. The adjusted data are initialized by pressing the [CLEAR] key, but be careful that they are not recoverable after initialization.

Before clearing the adjusted data, make a note of the set data. This screen will also appear if [0]-All is selected in the Drive Auto Adjustment. In this case, default setting cannot be made.

2-7. Disc Check Memory

Disc Check Memory

- 1. SL Disc check
- 2. CD Disc check
- 3. DL Disc check

Exit: RETURN

On this screen, measure the mirror time of chucked disc, and write to the EEPROM.

2-8. Error Rate Display

Error Rate Display

		UC	CR	Address
PI1 Err	Now	xx	xxxx	xxxxxxxxxx
	Max	xx	xxxx	xxxxxxxxxx
	Avg	xx	xxxx	
PI2 Err	Now	xx	xxxx	xxxxxxxxxx
	Max	xx	xxxx	xxxxxxxxxx
	Avg	xx	xxxx	
PO Err	Now	xx	xxxx	xxxxxxxxxx
	Max	xx	xxxx	xxxxxxxxxx
	Avg	xx	xxxx	

Exit: RETURN

On this screen, measure and display the error rate.

UC : Incorrect value
 CR : Correct value
 Add : Address

2-9. SACD Water Mark Check (Not used)

```

SACD Water Mark Check

PSP AMP
PSN

Start: ENTER          Stop: RETURN

```

On this screen, measure the PSP AMP value and PSN value of SACD water mark.

3. MECHA AGING

On the Test Mode Menu screen, selecting [3] executes the aging of the mechanism deck.

```

### Aging Test MENU ###
** Pls use over 40min. CD **
Operation Menu

1. Open/Close Test

Exit: RETURN

```

- 1) On the Aging Test MENU screen, press the [1] key on the remote commander to display the Open/Close Test screen.
- 2) Insert discs and press the [ENTER] key on the remote commander.
- 3) Is starts the aging.
During aging, the disc number, operating status and repeat cycle are displayed. Aging can be aborted at any time by pressing the [RETURN] key. After the operation is stopped, press the [RETURN] key to return to the Aging Test MENU.

4. EMERGENCY HISTORY

On the Test Mode Menu screen, selecting [4] displays the information such as servo emergency history.
The history information from last 1 up to 10 can be scrolled with the [↑] key or [↓] key. Also, specific information can be displayed by directly entering that number with ten keys.

```

### EMG. History ###

Laser Hours      CD   xxxhxxm
                  DVD  xxxhxxm

a.  bb xx xx xx  xx xx xx xx
    xx xx xx xx  xx xx xx xx

a.  bb xx xx xx  xx xx xx xx
    xx xx xx xx  xx xx xx xx

Select:1-9      Scroll:UP/DOWN
(1.Latest EMG.) Exit: RETURN

```

xxxxhxxm: The laser on total hours. Data below minutes are omitted.

a. : Error number.
bb : Error code.
xx : Not used.

• Clearing History Information

Clearing laser hours:

Press the [DVD DISPLAY] and [CLEAR] keys in this order.
Then both CD and DVD data are cleared.

Clearing emergency history:

Press the [DVD TOP MENU] and [CLEAR] keys in this order.

Initializing set up data:

Press [DVD MENU] and [CLEAR] keys in this order.

The data have been initialized when "EEPROM Initialize Finished" message is displayed.

• Code list of Emergency History

- 10: Communication to RF AMP (IC001) failed.
- 11: Each servo for focus, tracking, and spindle is unlocked.
- 12: Check sum error of EEPROM (IC204).
- 14: Communication to servo DSP (IC509) failed, or servo DSP (IC509) is faulty.
- 15: Communication to DVD decoder (IC701) failed, or DVD decoder (IC701) is faulty.
- 16: Communication to DSD decoder (IC801) failed, or DSD decoder (IC801) is faulty. (Not used)
- 20: Initialization of sled servo failed. It is not placed in the initial position.
- 23: Sled servo operation error.
- 24: Made a request to move the sled servo to wrong position.
- 30: Tracking balance adjustment error.
- 31: Tracking gain adjustment error.
- 33: Focus bias adjustment error.
- 34: Focus gain adjustment error.
- 35: Equalizer adjustment error.
- 40: Focus servo does not operate.
- 41: With a DVD dual layer disc, focus jump failed.
- 50: CLV (spindle) servo does not operate.
- 51: Spindle does not stop.
- 60: Made a request to seek nonexistent address.
- 61: Seek error of retry more than regulated times.
- 70: Control data could not be read.
- 80: Disc reading failed.

5. MECHA ERROR HISTORY

On the Test Mode Menu screen, selecting [5] displays the information of mechanism deck error history.

The history information from last 1 up to 8 can be scrolled with the [↑] key or [↓] key.

```

### Mecha Error History ###

1. aa bb cc dd ee xx xx xx
2. aa bb cc dd ee xx xx xx
3. aa bb cc dd ee xx xx xx
4. aa bb cc dd ee xx xx xx
5. aa bb cc dd ee xx xx xx
6. aa bb cc dd ee xx xx xx
7. aa bb cc dd ee xx xx xx
8. aa bb cc dd ee xx xx xx

Scroll:UP/DOWN
(1.Latest Err.) Exit: RETURN

```

aa: Initialization is completed or not.

FF : Complete.

other number: Not complete.

bb: Operating status of mechanism deck at an error occurred.

(lod sq jcp)

00 : Initializing.

10 to 15 : Open operating.

16 to 19 : Kicking cause open failed.

1A to 1F : Open operating.

20 to 27 : Complete the open operation.

28 : No disc and complete the open operation.

29 to 2F : Complete the open operation.

30 to 3F : Close requesting.

40 to 4F : Open requesting.

50 to 5F : Close operating.

60 to 6F : Complete the chucking operation.

80 to 8F : Complete the release operation.

(BU is home position)

90 to 9F : BU down operating.

A0 to AF : Opening/closing the shutter. Or stationary state in open/close the shutter is enablement.

B0 to BF : BU up requesting.

C0 to CF : BU down requesting.

D0 to DF : BU upping.

E0 to EF : No disc checking in disc loading.

cc : Operating status of table at an error occurred.

(tbl sq jcp)

13 : The rotation stop position determination error of a table

11 to 12 : The loading position determination error of a table

dd: Operating status of mechanism deck at an error occurred.

(lod OP jcp)

00 : Complete the operation.

10 to 1F : Open operating.

20 to 2F : Close operating.

30 to 3F : Release operating.

60 to 6F : Chucking operating.

70 to 7F : Kicking operating.

80 to 8F : Returning the BU to home position. (after kicking)

ee : The status of table operation. ("n" is unfixed)

(tbl op jcp)

1n : Rotating in the direction of a forward.

2n : Rotating in the direction of a reverse.

6. VERSION INFORMATION

On the Test Mode Menu screen, selecting **[6]** displays the ROM version and region code.

The parenthesized hexadecimal number in version field is checksum value of ROM.

```

## Version Information ##

IF con.   Ver.x. xx

SYScon.   Ver.x. xx (xxxx)
          Model      MHC-GN88D
          Region     0x
          Config      xxxxxxxx

Front End Ver.x.xx

                               Exit: RETURN

```

IF con. : The version of system controller (IC501).

SYScon. : The version of DVD system processor (IC207).

Front End : The version of mechanism controller (IC901).

7. VIDEO LEVEL ADJUSTMENT

On the Test Mode Menu screen, selecting **[7]** displays color bars for video level adjustment. During display of color bars, OSD disappears but the menu screen will be restored if pressing the **[RETURN]** key.

REVISION HISTORY

Clicking the version allows you to jump to the revised page.

Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

[illegible]