

HCD-GTR88

SERVICE MANUAL

Ver. 1.0 2010.04

*E Model
Australian Model*



Photo: HCD-GTR88 (E4 Model)

- HCD-GTR88 is the amplifier, USB, CD player, tuner and tape deck (only E4 Model) section in MHC-GTR88.

CD Section	Model Name Using Similar Mechanism	HCD-GT24/GT24i/GT25
	CD Mechanism Type	CDM88BL-DVBU101
	Optical Pick-up Name	KHM-313CAB/C2NP
Tape Deck Section (only for E4 Model)	Model Name Using Similar Mechanism	HCD-GT111/GT222/GT444/GT555
	Tape Mechanism Type	CS-21SC-900TP

SPECIFICATIONS

Amplifier section

The following are measured at

Mexican model:

AC 127 V, 60 Hz

Other models:

AC 120 V, 220 V, 240 V, 50/60 Hz

Front/Satellite Speaker

Power Output (rated):

200 W + 200 W (at 6 Ω, 1 kHz,
1% THD)

Front Speaker

RMS output power (reference):

345 W + 345 W (per channel at 8 Ω,
1 kHz)

Satellite Speaker

RMS output power (reference):

140 W + 140 W (per channel at 24 Ω,
1 kHz)

Subwoofer

RMS output power (reference):

200 W + 200 W (per channel at 6 Ω,
100 Hz)

Inputs

PC (AUDIO IN) L/R

Voltage 700 mV, impedance 47 kilohms

MIC

Sensitivity 1 mV, impedance 10 kilohms

⚡ (USB) port: Type A

Outputs

PHONES

Accepts headphones of 8 Ω or more

USB section

Supported bit rate

MP3 (MPEG 1 Audio Layer-3):

32 kbps – 320 kbps, VBR

WMA: 48 kbps – 192 kbps

AAC: 48 kbps – 320 kbps

Sampling frequencies

MP3 (MPEG 1 Audio Layer-3):

32 kHz/44.1 kHz/48 kHz

WMA: 44.1 kHz

AAC: 44.1 kHz

Transfer speed

Full-Speed

Supported USB device

Mass Storage Class

Maximum current

500 mA

Disc player section

System

Compact disc and digital audio system

Laser Diode Properties

Emission Duration: Continuous

Laser Output*: Less than 44.6 μW

* This output is the value measurement
at a distance of 200 mm from the
objective lens surface on the Optical
Pick-up Block with 7 mm aperture.

Frequency response

20 Hz – 20 kHz

Signal-to-noise ratio

More than 90 dB

Dynamic range

More than 88 dB

Tape deck section

(For African model only)

Recording system

4-track 2 channel, stereo

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range

North American and Brazilian models:

87.5 MHz – 108.0 MHz (100 kHz step)

Other models:

87.5 MHz – 108.0 MHz (50 kHz step)

Antenna

FM lead antenna

Antenna terminals

75 ohms unbalanced

Intermediate frequency

10.7 MHz

AM tuner section

Tuning range

Pan American and Oceanian models:

530 kHz – 1,710 kHz (with 10 kHz tun-
ing interval)

531 kHz – 1,710 kHz (with 9 kHz tuning
interval)

Other models:

530 kHz – 1,610 kHz (with 10 kHz tun-
ing interval)

531 kHz – 1,602 kHz (with 9 kHz tuning
interval)

Antenna

AM loop antenna, external antenna

terminal

Intermediate frequency

450 kHz

General

Power requirements

Oceanian model: AC 230 V – 240 V,
50/60 Hz

Mexican model: AC 127 V, 60 Hz

Argentina model: AC 220 V, 50/60 Hz

Other models: AC 120 V, 220 V or
230 V – 240 V, 50/60 Hz, Adjustable
with voltage selector

Power consumption: 460 W

Dimensions (w/h/d) (excl. speakers)

(Approx.)

231 mm × 361 mm × 518 mm

Mass (excl. speakers) (Approx.)

African and Pan Asian models: 16.2 kg

Other models: 15.7 kg

Design and specifications are subject to
change without notice.

- Abbreviation
E4 : African model

COMPACT DISC DECK RECEIVER

9-890-544-01

2010D08-1

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Sony Corporation

Audio & Video Business Group

Published by Sony EMCS (Malaysia) PG Tec

SONY®

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 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.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

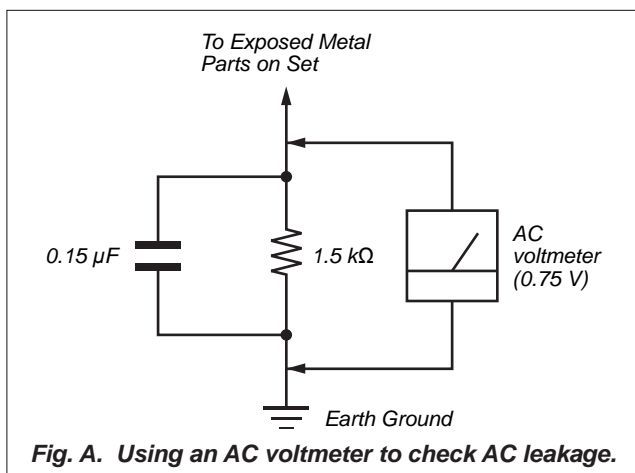
Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage.

Check leakage as described below.

LEAKAGE TEST

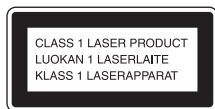
The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes.). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers’ instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The “limit” indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)



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. This marking is located on the rear exterior.

SAFETY-RELATED COMPONENT WARNING!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle 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.

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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 pickup block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

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)



LF : LEAD FREE MARK

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.

NOTE OF REPLACING THE IC102 ON THE DMB19 BOARD

IC102 on the DMB19 board cannot exchange with single. When this part is damaged, exchange the entire mounted board.

RELEASING THE DISC TRAY LOCK

The disc tray lock function for the antitheft of an demonstration disc in the store is equipped.

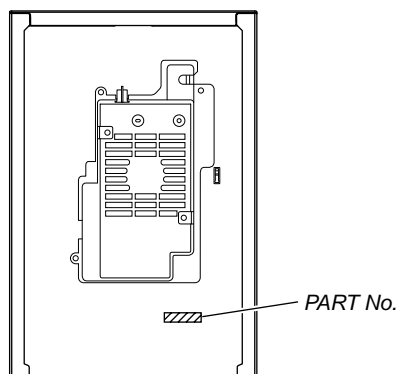
Releasing Procedure:

1. Press [I/⏻ STANDBY] button to turn the power on.
2. Press the [CD] button to select CD function.
3. While pressing the [■] button, press the [▲ OPEN/CLOSE] button for more 5 seconds).
4. The message "UNLOCKED" is displayed and the disc tray is unlocked.

Note: When "LOCKED" is displayed, the slot lock is not released by turning power on/off with the [I/⏻ STANDBY] button.

MODEL IDENTIFICATION

– Back Panel –



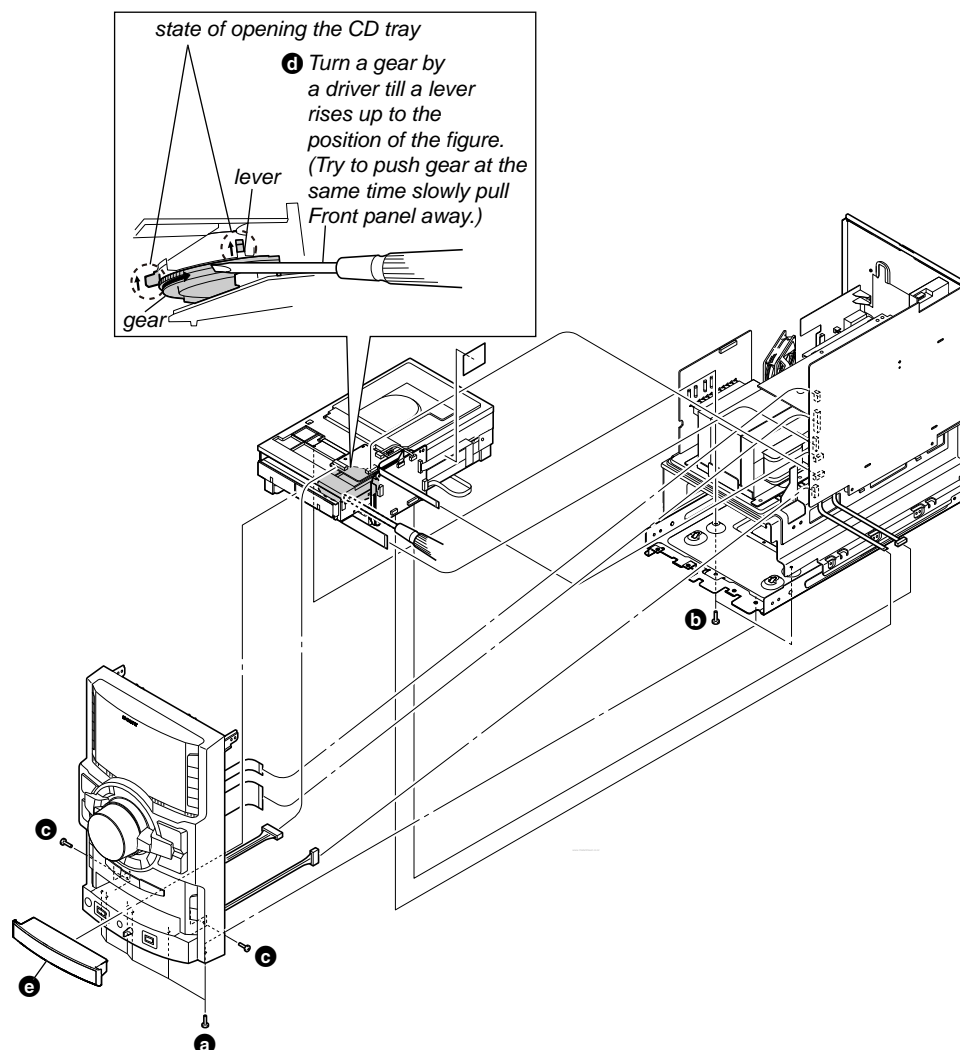
Model	Part No.
HCD-GTR88: E2, E51	4-164-385-0□
HCD-GTR88: AR	4-164-385-1□
HCD-GTR88: MX	4-164-385-2□
HCD-GTR88: E4	4-164-385-4□
HCD-GTR88: AUS	4-164-385-5□

• Abbreviation

- AR : Argentina model
- AUS : Australian model
- E2 : 120V AC area in E model
- E4 : African model
- E51 : Chilean and Peruvian models
- MX : Mexican model

HOW TO OPEN THE TRAY WHEN POWER SWITCH TURN OFF

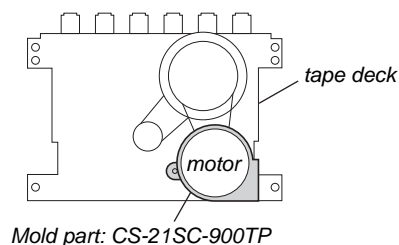
- Step: 1) Work after removing the case (side-R and side-L) referring to "2.2. CASE (SIDE-L/R)" on disassembly (page 6).
 2) Work after removing the top case referring to "2-3. TOP CASE" on disassembly (page 6).



HOW TO DISTINGUISH TAPE MECHANISM DECK

Two kinds of tape mechanism decks installed by this set exist.

Please do the repair exchange after confirming which tape mechanism deck set of the repair according to how to distinguish the figure below.

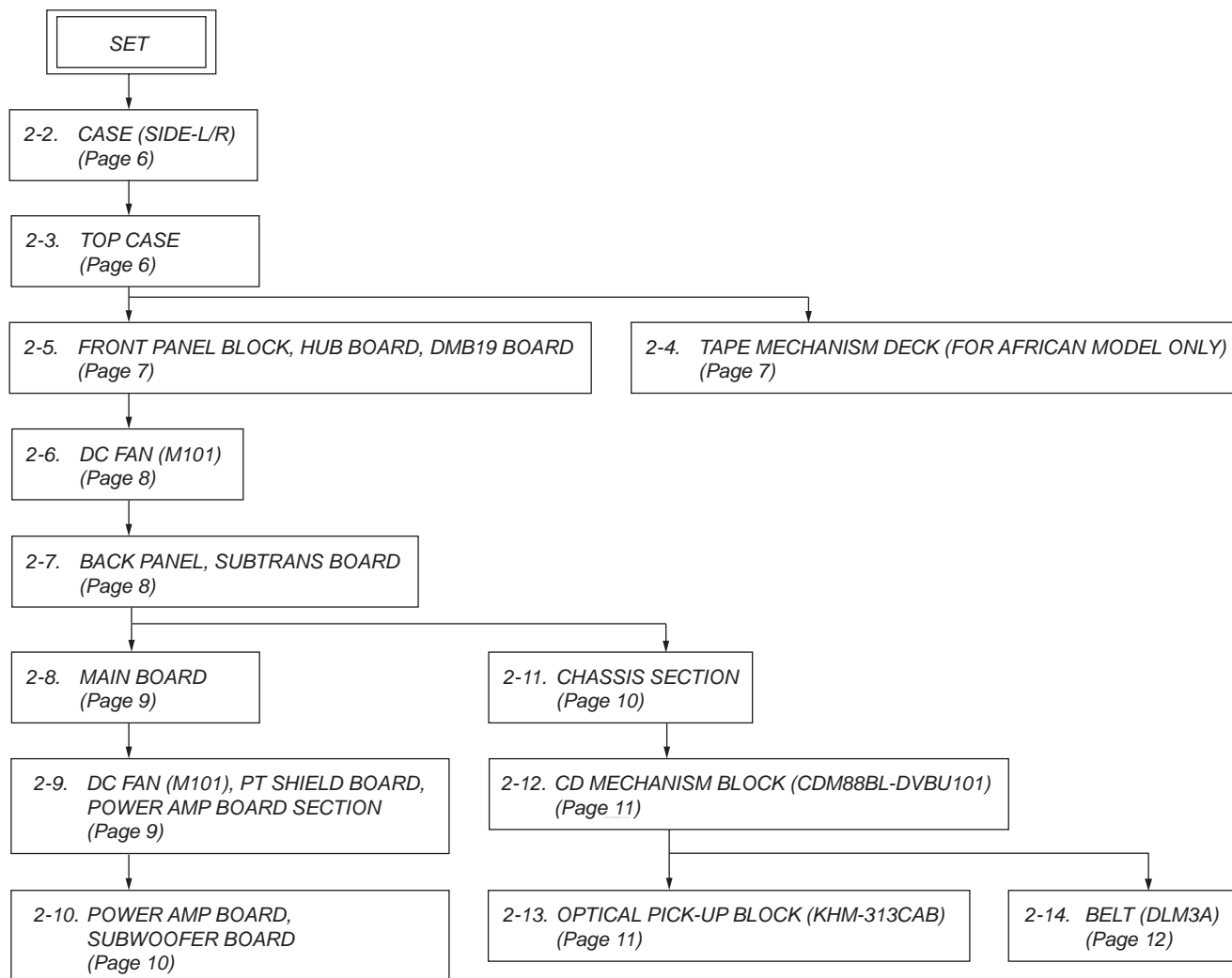


Tape Deck Name	Tape Deck Part No.	Belt Part No.
CS-21SC-900TP	1-797-575-11	2-688-621-01 BELT (R/F)
		2-688-622-01 BELT (MAIN)

SECTION 2 DISASSEMBLY

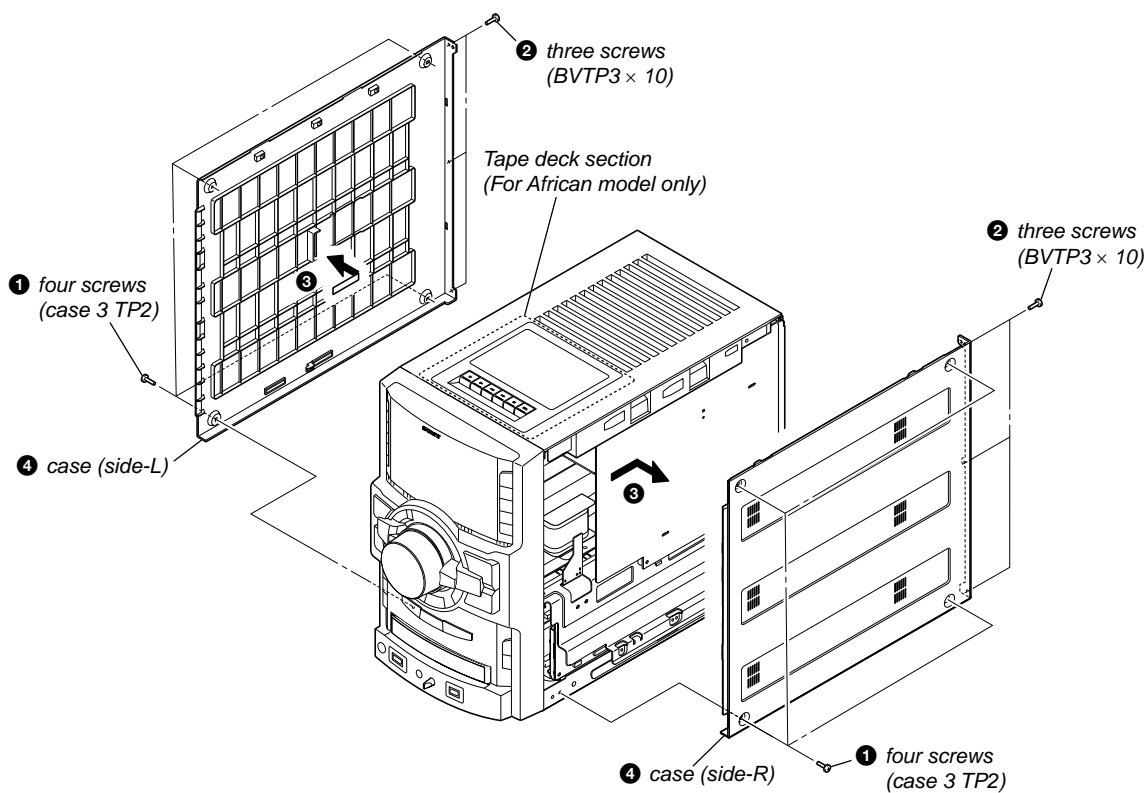
- This set can be disassembled in the order shown below.

2-1. DISASSEMBLY FLOW

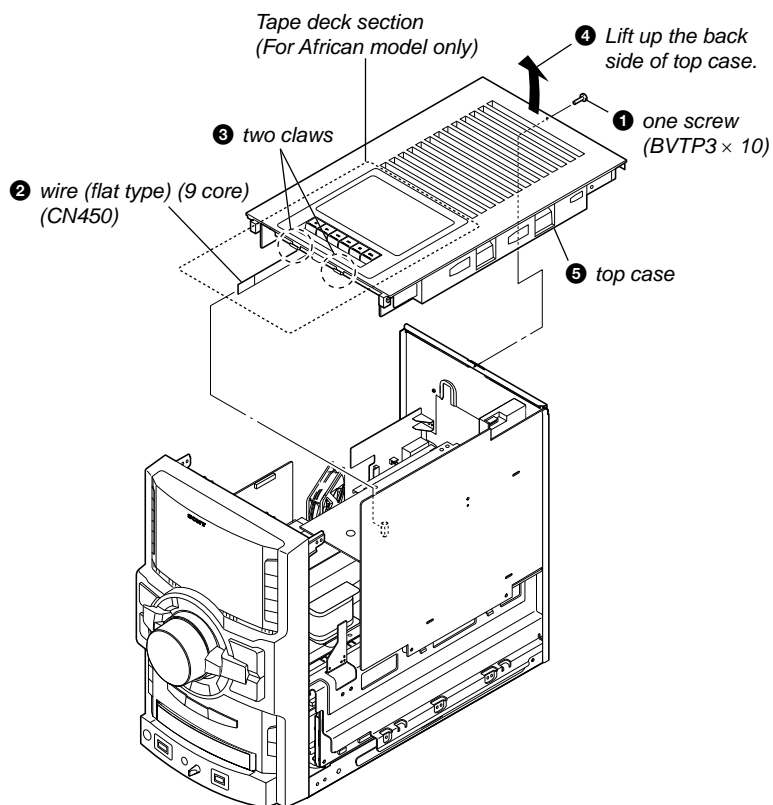


Note: Follow the disassembly procedure in the numerical order given.

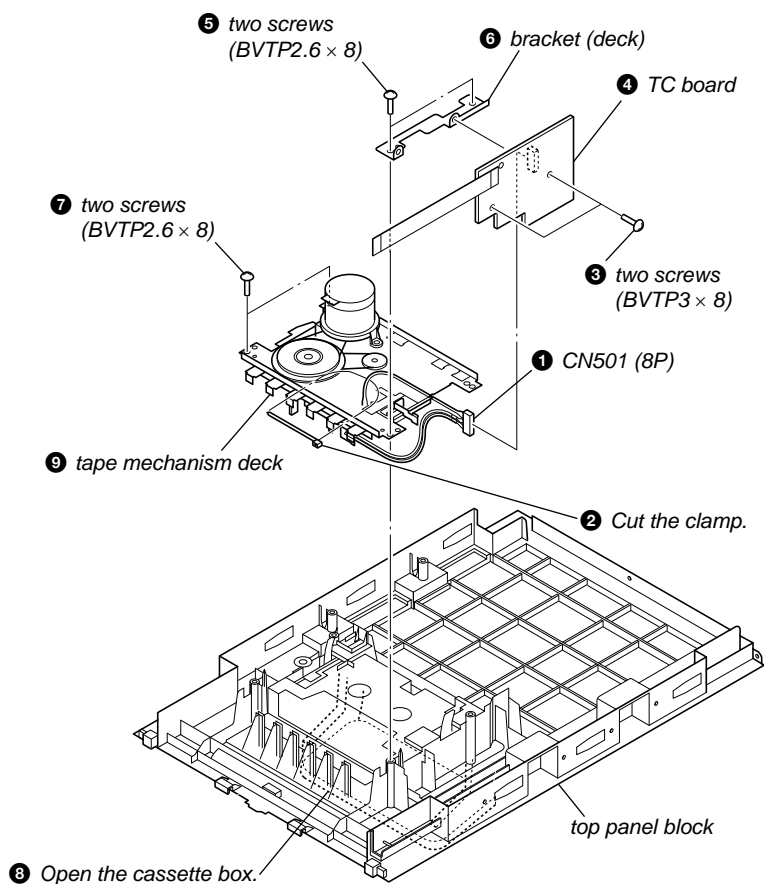
2-2. CASE (SIDE-L/R)



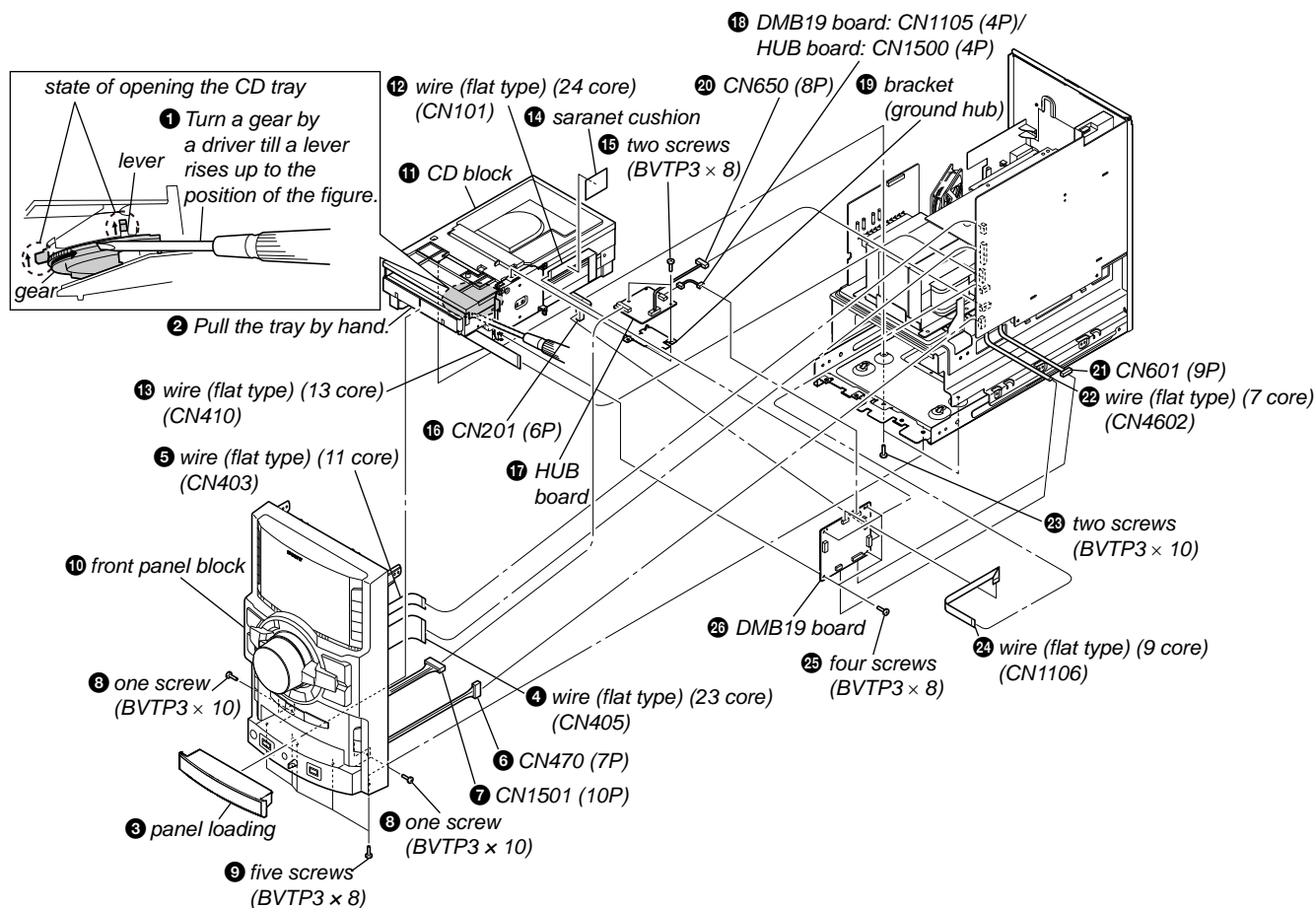
2-3. TOP CASE



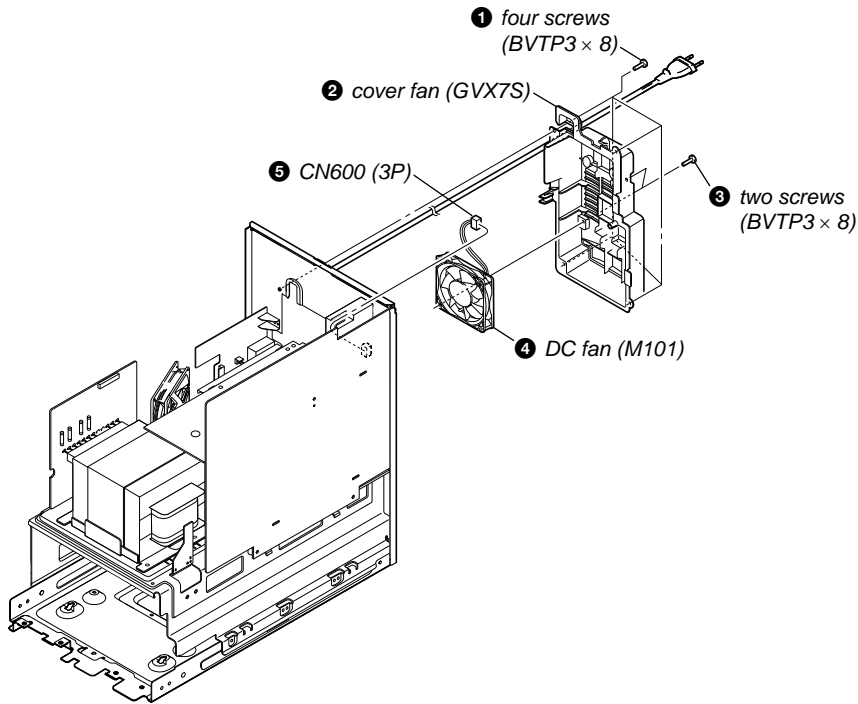
2-4. TAPE MECHANISM DECK (FOR AFRICAN MODEL ONLY)



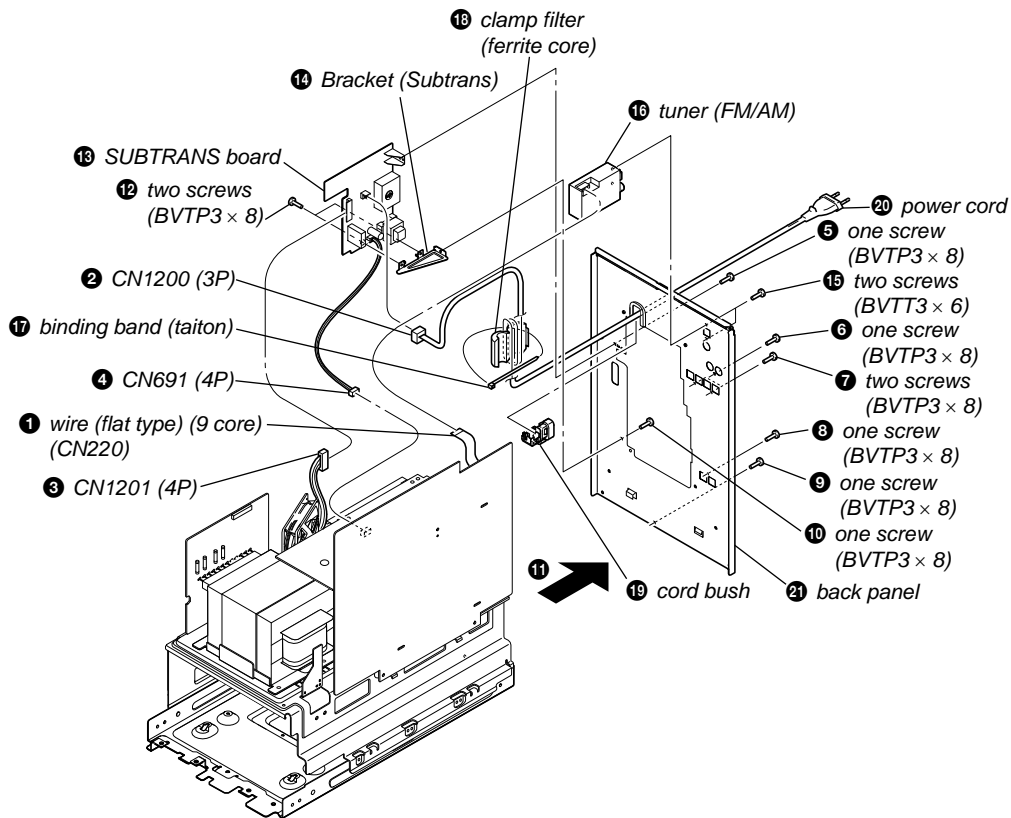
2-5. FRONT PANEL BLOCK, HUB BOARD, DMB19 BOARD



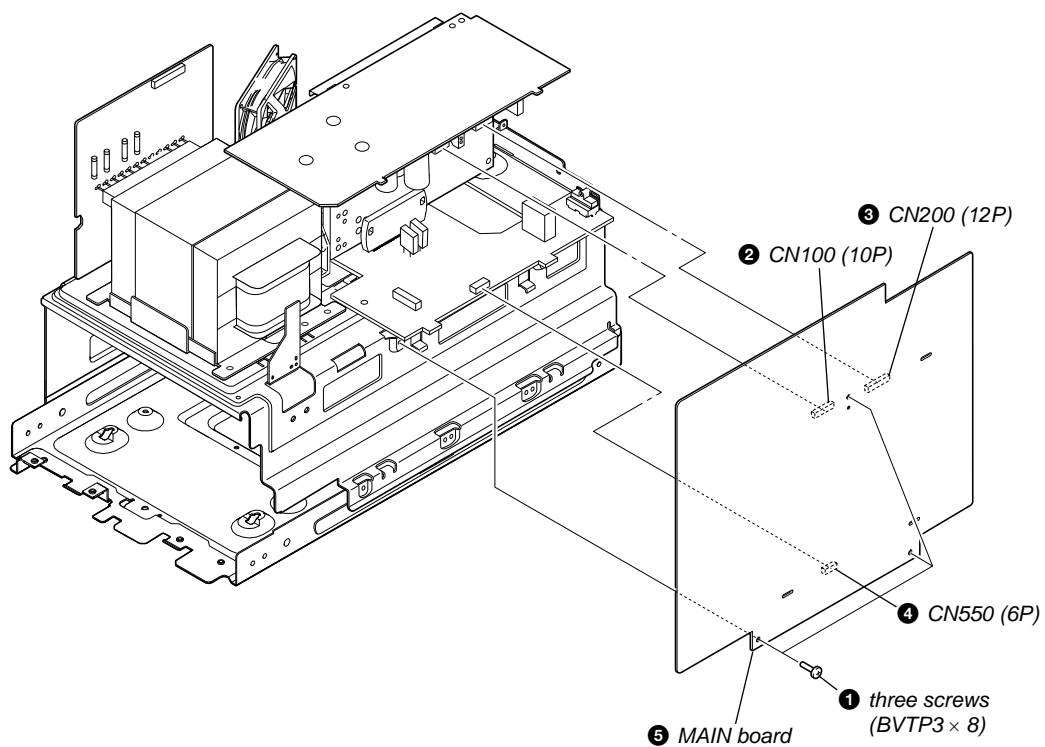
2-6. DC FAN (M101)



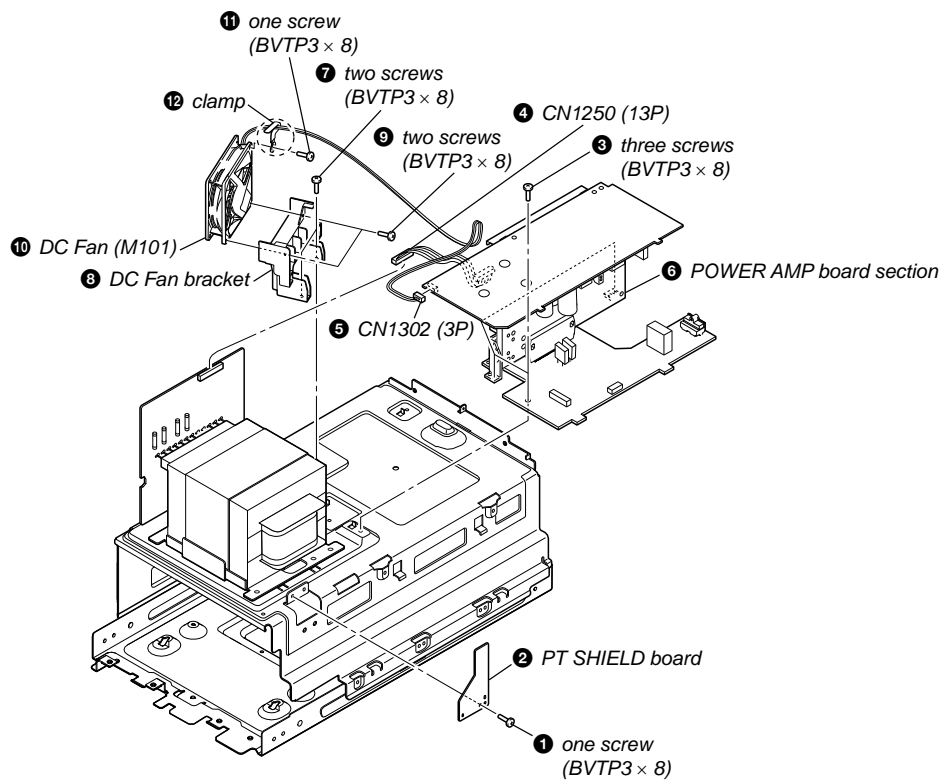
2-7. BACK PANEL, SUBTRANS BOARD



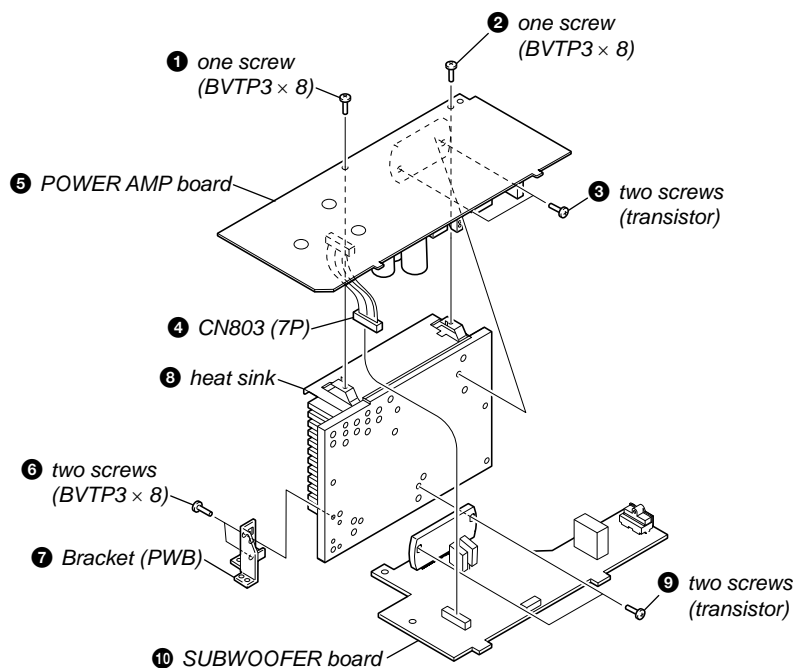
2-8. MAIN BOARD



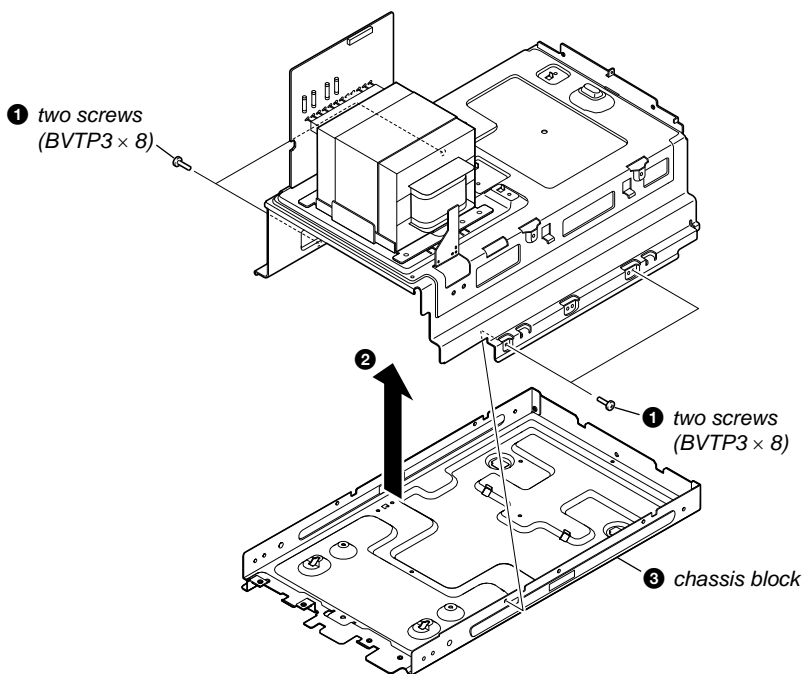
2-9. DC FAN (M101), PT SHIELD BOARD, POWER AMP BOARD SECTION



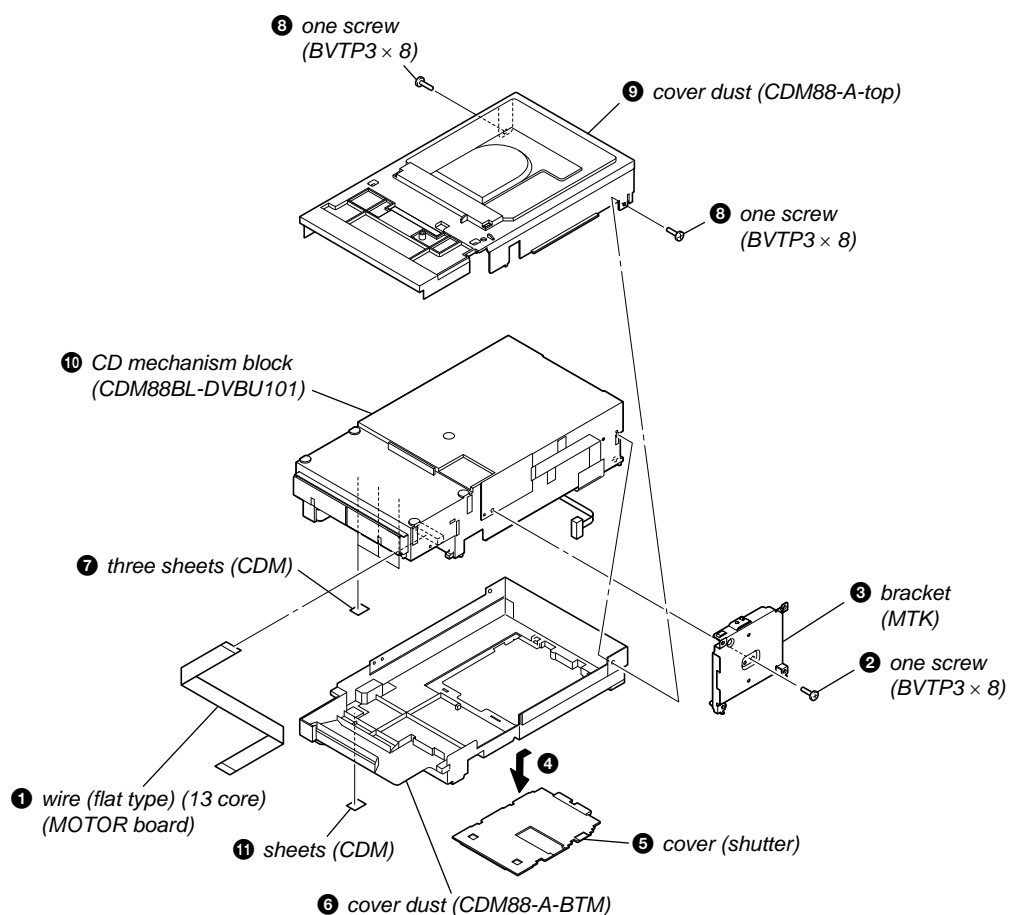
2-10. POWER AMP BOARD, SUBWOOFER BOARD



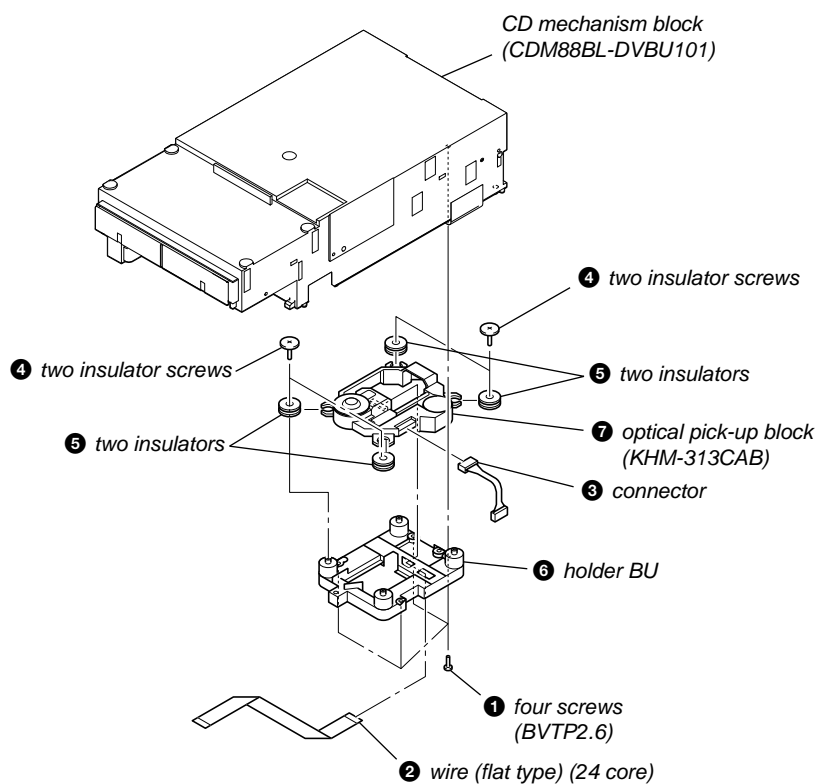
2-11. CHASSIS SECTION



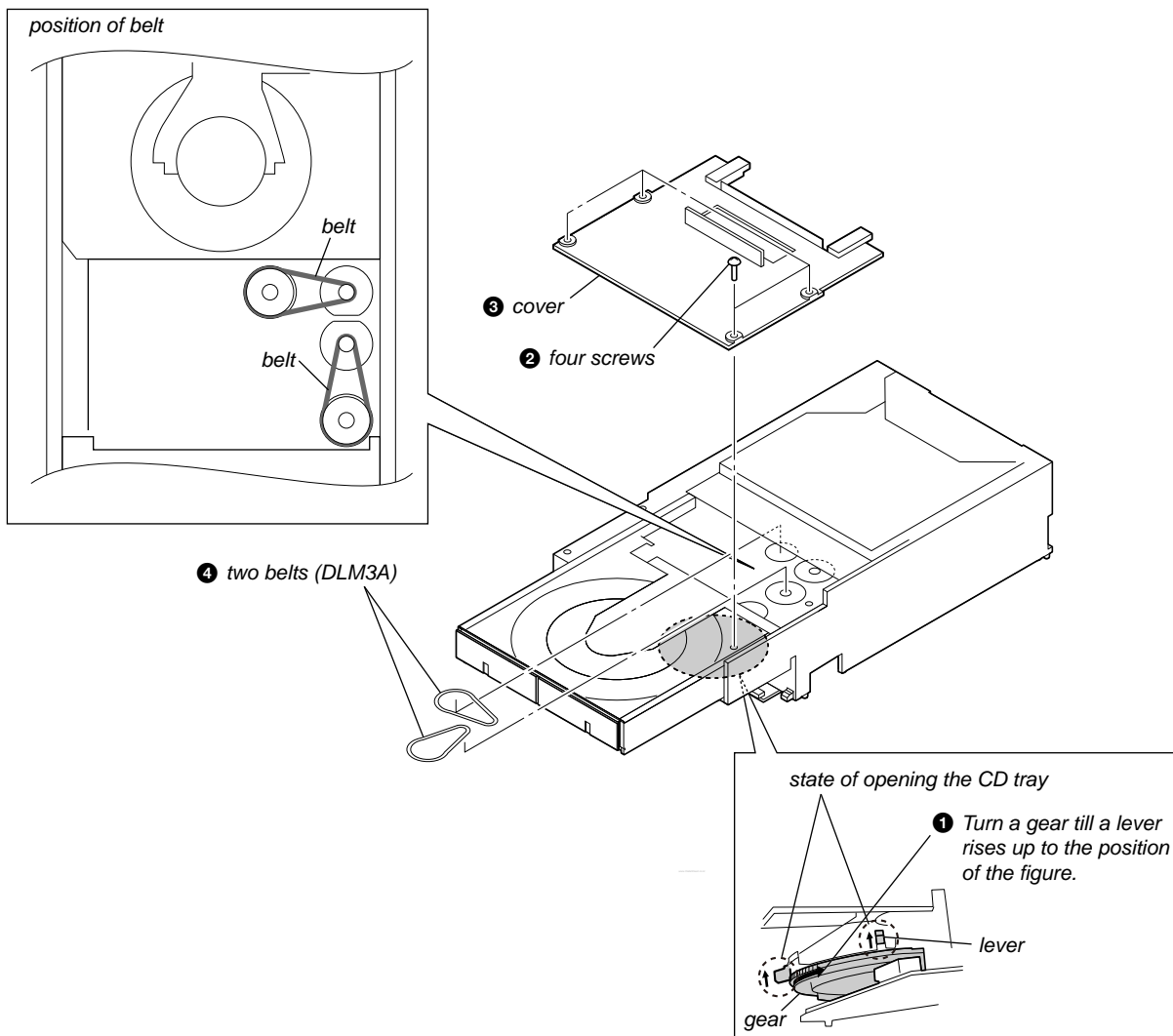
2-12. CD MECHANISM BLOCK (CDM88BL-DVBU101)



2-13. OPTICAL PICK-UP BLOCK (KHM-313CAB)



2-14. BELT (DLM3A)



SECTION 3 TEST MODE

PANEL TEST MODE

This mode is used to check the fluorescent indicator tube, LEDs, keys, [MASTER VOLUME] jog, [OPERATION DIAL] jog, model, destination and software version.

Procedure:

1. Press [■], button, [METER MODE] button and [DISC SKIP/EX-CHANGE] button simultaneously.
2. All LEDs and segments in fluorescent indicator tube are lighted up.
3. When you want to enter to the software version display mode, press [DISC 1] button. The model information appears on the fluorescent indicator tube.
 - “GVX 7S” is shown for MHC-GTR88.
4. During the destination information display, press [DISC 1] button. Each time [DISC 1] button is pressed, the fluorescent indicator tube shows the version of each category software in the following sequence: SC, MTK (DMB Board firmware version), GC, SYS, CD, CDMA, CDMA, ST, TC TA, TM, MTR (METER) and return back to model information display.
5. When [DISC 3] button is pressed while the version numbers are being displayed except model and destination, the date of the software creation appears. When [DISC 3] button is pressed again, the display returns to the software version display. When [DISC 1] 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.
6. Press [DISC 2] button, the key check mode is activated.
7. In the key check mode, the fluorescent indicator tube displays “K0 V0”.

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 [MASTER VOLUME] knob is turned clockwise, or it decreases in the manner of 0, 9, 8, 7 ... if [MASTER VOLUME] knob is turned counterclockwise.

8. When [DISC SKIP/EX-CHANGE] button is pressed after all LEDs and segments in fluorescent indicator tube light up, alternate segments in fluorescent indicator tube and LEDs would light up. If you press [DISC SKIP/EX-CHANGE] button again, another half of alternate segments in fluorescent indicator tube and LEDs would light up. Pressing [DISC SKIP/EX-CHANGE] button again would cause all segments in fluorescent indicator tube and LEDs light up.
9. To release from this mode, press three buttons in the same manner as step 1, or disconnect the power cord.

COMMON TEST MODE

This mode is used to check operations of the Amplifier section.

To enter Common Test Mode

Procedure:

1. Press [■], button, [METER MODE] button and [OPEN/CLOSE] button simultaneously.
2. The CD ring indicators flash on the fluorescent indicator tube. The function is changed to AUDIO and the volume is changed to VOLUME MIN.

Check of Amplifier

Procedure:

1. Press [EQ BAND/SURROUND] button repeatedly until a message “GEQ MAX” appears on the fluorescent indicator tube. GEQ increases to its maximum.

2. Press [EQ BAND/SURROUND] button repeatedly until a message “GEQ MIN” appears on the fluorescent indicator tube. GEQ decreases to its minimum.
3. Press [EQ BAND/SURROUND] button repeatedly until a message “GEQ FLAT” appears on the fluorescent indicator tube. GEQ is set to flat.
4. When the [MASTER VOLUME] knob is turned clockwise even slightly, the sound volume increases to its maximum and a message “VOLUME MAX” appears on the fluorescent indicator tube.
5. When the [MASTER VOLUME] knob is turned counterclockwise even slightly, the sound volume decreases to its minimum and a message “VOLUME MIN” appears on the fluorescent indicator tube.

To release from Common Test mode

1. To release from this mode, press [I/⏻ STANDBY] button.
2. The cold reset is enforced at the same time.

COLD RESET

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

Procedure:

1. Press [I/⏻ STANDBY] button to turn on the system.
2. Press [■] button, [ENTER] button, and [I/⏻ STANDBY] button simultaneously.
3. “COLD RESET” appears on the fluorescent indicator tube. After that, the fluorescent indicator tube becomes blank for a while, and the system is reset.

VACS ON/OFF

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

Procedure:

1. Press [I/⏻ STANDBY] to turn on the system.
2. Press [■] button, [RETURN], and [DISPLAY] button simultaneously. The message “VACS OFF” or “VACS ON” appears on the fluorescent indicator tube.

TUNER STEP CHANGE

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

Procedure:

1. Press [I/⏻ STANDBY] button to turn on the system.
2. Press [TUNER/BAND] button repeatedly to select the “AM”.
3. Press [I/⏻ STANDBY] button to turn off the system.
4. Press [ENTER] button and [I/⏻ STANDBY] button simultaneously. The system turns on automatically. The message “AM 9K STEP” or “AM 10K STEP” appears on the fluorescent indicator tube and thus the channel step is changed.

CD 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 EEPROM to initial conditions during the next AC-In. Use this mode when returning the set to the customer after repair.

Procedure:

1. Press [I/⏻ STANDBY] button to turn on the system.
2. Select CD function.
3. Press [■] button, [OPEN/CLOSE] button and [I/⏻ STANDBY] button simultaneously. The system turns off automatically.
4. After the “STANDBY” blinking display finishes, a message “MECHA LOCK” is displayed on the fluorescent indicator tube and the CD ship mode is set.

CD 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 [I/⏻ STANDBY] button to turn on the system.
2. Select CD function.
3. Press [DISC SKIP/EX-CHANGE] button and [I/⏻ STANDBY] button simultaneously. The system turns off automatically.
4. After the "STANDBY" blinking display finishes, a message "MECHA LOCK" is displayed on the fluorescent indicator tube and the CD ship mode is set.

CD TRAY LOCK MODE

This mode let you lock the disc tray. 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 on the fluorescent indicator tube. This mode only applied when there is disc(s) on the tray.

Procedure:

1. Press [I/⏻ STANDBY] button to turn on the system.
2. Select CD function.
3. Press [■] button and [▲ OPEN/CLOSE] button simultaneously and hold down until "LOCKED" or "UNLOCKED" displayed on the fluorescent indicator tube (around 5 seconds).

FACTORY PRESET

This mode is use to load all the factory use preset frequencies into FM 1-FM 20 and AM 1-AM 10. Originally, frequency of FM 1-FM 20 and AM 1-AM10 are set to the minimum frequency.

Procedure:

1. Press [I/⏻ STANDBY] button to turn on the system.
2. Press [EQ BAND/SURROUND], [■] button, and [DISC 1] button simultaneously and the message "FACTORY" appears on the fluorescent indicator tube. The function is changed to TUNER automatically.

VACS DISPLAY

This mode is used to check the VACS level.

Procedure:

1. Press [I/⏻ STANDBY] button to turn on the system.
2. Press [ERASE], [■] button and [ENTER] button simultaneously.
3. The fluorescent indicator tube displays "V0AP0".
"V" represents Conventional VACS (Triggered by signal level)
"AP" represents AP VACS (Abuse Protection Variable Attenuation Control System)
• To release from VACS display mode
To release from this mode, do the step (2) again.

METER SWITCH TOUCH COUNT DISPLAY

This mode is used to display the total count of meter pointer touch initial switch and max switch.

Procedure:

1. Press [I/⏻ STANDBY] button to turn on the system.
2. Press [■] button, [ENTER] button and [DISPLAY] button simultaneously.
3. The fluorescent indicator tube displays "IxxxxxMyyyyy".
"I" represents the Initial Switch touch.
"xxxxx" represents the total count of Initial Switch touch. (Maximum Value of "xxxxx" = 65535)
"M" represents the Max Switch touch.
"yyyyy" represents the total count of Max Switch touch. (Maximum Value of "yyyyy" = 65535)
• To release from Meter Switch Touch Count Display Mode.
To release from this mode, do the step (2) again.
The fluorescent indicator tube displays "MODE OUT".

METER TEST MODE

This mode is used to check the meter device.

Procedure:

1. Press [I/⏻ STANDBY] button to turn on the system.
2. Press [■] button, [ENTER] button and [METER MODE] button simultaneously.
3. Meter Backlight LEDs, Meter Pointer LEDs, Power Illuminator LEDs and fluorescent indicator tube are lighted up.
4. When you want to perform count total step from Initial Switch to Max Switch operation mode, press [▶▶/▶▶▶/ TUNING +] button. The meter pointer will move from Initial Switch to Max Switch and finally move back to the middle position. The total step count information appears on the fluorescent indicator tube. "xxx STP yy" is shown.
"xxx" represents the total step.
(Value of "xxx" should between 430 steps to 470 steps)
"yy" represents the status of total step count.
(If total step between 430 steps to 470 steps, "yy" is OK, Else "yy" is NG)
5. When you want to perform count total step from Max Switch to Initial Switch operation mode, press [◀◀/◀◀◀/ TUNING -] button. The meter pointer will move from Max Switch to Initial Switch and finally move back to the middle position. The total step count information appears on the fluorescent indicator tube. "xxx STP yy" is shown.
"xxx" represents the total step.
(Value of "xxx" should between 430 steps to 470 steps)
"yy" represents the status of total step count.
(If total step between 430 steps to 470 steps, "yy" is OK, else "yy" is NG)
• To release from Meter Test Mode.
To release from this mode, do the step (2) again.
The fluorescent indicator tube displays "TST MODE OUT".

CDM AGING MODE

This mode is used to display the total count of all disc playing.

Procedure:

1. Press [I/⏻ STANDBY] button to turn on the system.
2. Select CD function and All DISC play mode.
3. Put discs on all trays and close the tray.
4. Press [GROOVE] button, [■] button and [RETURN] button simultaneously.
5. The fluorescent indicator tube displays Aging Display "AG xxxx/yyyy".
"xxxx" represents the error counter
(Maximum Value of "xxxx" = 9999)
"yyyyy" represents the cycle counter
(Maximum Value of "yyyyy" = 9999)
6. Press [◀◀/◀◀◀/ TUNING -] or [▶▶/▶▶▶/ TUNING +] to search for Aging History Error Display
The fluorescent indicator tube displays "Mx E1E2E3E4".
x: error history number
E1: Loading sequence JCP high
E2: Loading sequence JCP low
E3: Loading operation JCP
E4: Cam position operation JCP
7. Press [RETURN] to Aging Display
• To release from CDM Aging Mode.
To release from this mode, press [I/⏻ STANDBY] button or perform COLD RESET operation.

SECTION 4 MECHANICAL ADJUSTMENTS

(For African model only)

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :

record/playback head	pinch roller
erase head rubber	belts
capstan	idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head magnetizer close to the erase head.)
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-102AS	2.0 – 8.0 mN • m (20 to 80 g • cm) (0.28 – 1.12 oz • inch)
FWD Back Tension	CQ-102C	0.15 – 0.6 mN • m (1.5 to 6 g • cm) (0.021 – 0.083 oz • inch)
FF	CQ-201AS	5 – 17.7 mN • m (50 to 177 g • cm) (0.7 – 2.48 oz • inch)
REV	CQ-201B	5 – 17.7 mN • m (50 to 177 g • cm) (0.7 – 2.48 oz • inch)

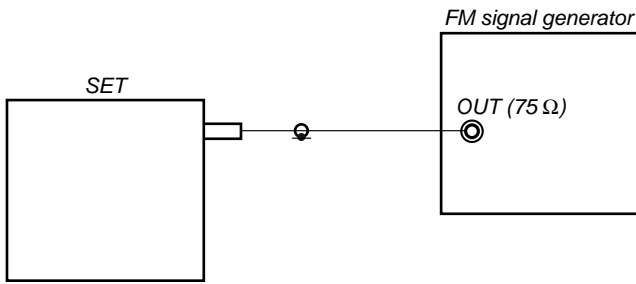
• Tape Tension Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-403A	more than 80 g (more than 2.82 oz)

SECTION 5 ELECTRICAL ADJUSTMENTS

TUNER SECTION

FM TUNE LEVEL CHECK



Procedure:

1. Turn the power on.
2. Input the following signal from signal generator to FM antenna input directly.

* Carrier frequency : A = 87.5 MHz, B = 98 MHz, C = 108 MHz
 Deviation : 75 kHz
 Modulation : 1 kHz
 ANT input : 35 dBu (EMF)

Note: Use 75 ohm coaxial cable to connect signal generator and the set.
 You cannot use video cable for checking.
 Use signal generator whose output impedance is 75 ohm.

3. Set to FM tuner function and tune A, B and C signals.
4. Confirm "TUNED" is lit on the display for A, B and C signals.

When mark of "TUNED" means "The selected station signal is received in good condition."

DECK SECTION

0dB = 0.775V

(For African model only)

1. Demagnetize the record/playback head with a head demagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.

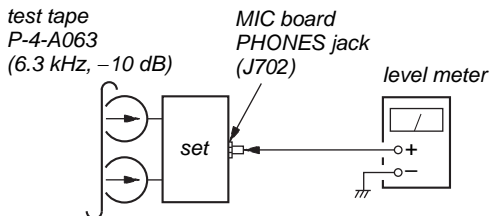
TEST TAPE

Tape	Signal	Used for
P-4-A063	6.3 kHz, -10 dB	Azimuth Adjustment

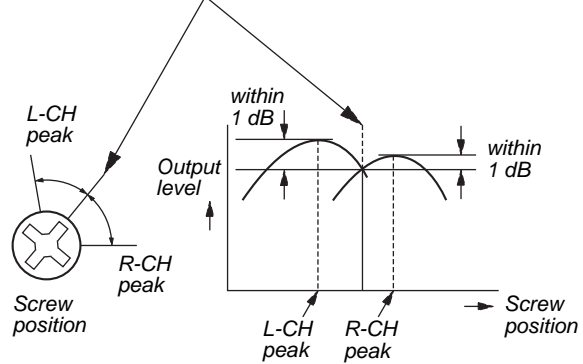
RECORD/PLAYBACK HEAD AZIMUTH ADJUSTMENT

Procedure:

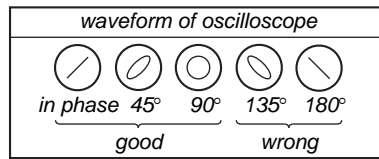
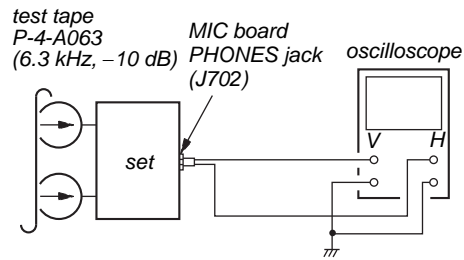
1. Mode: Playback



2. 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.

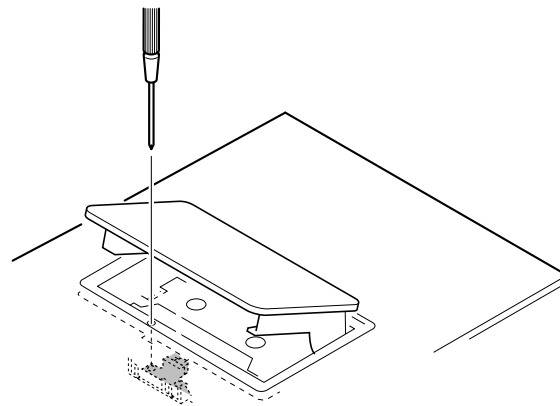


3. Mode: Playback



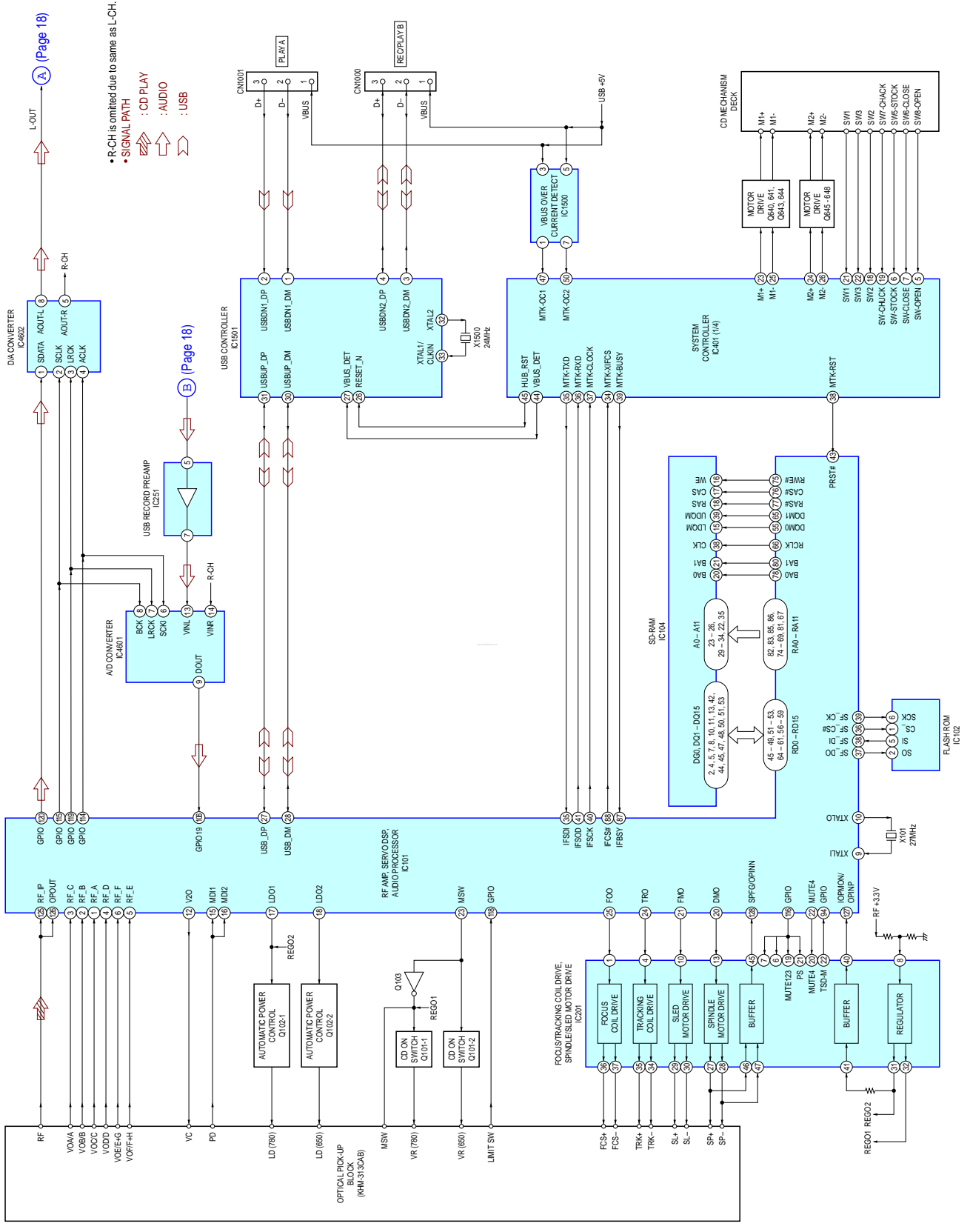
4. After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location: Record/Playback/Erase Head

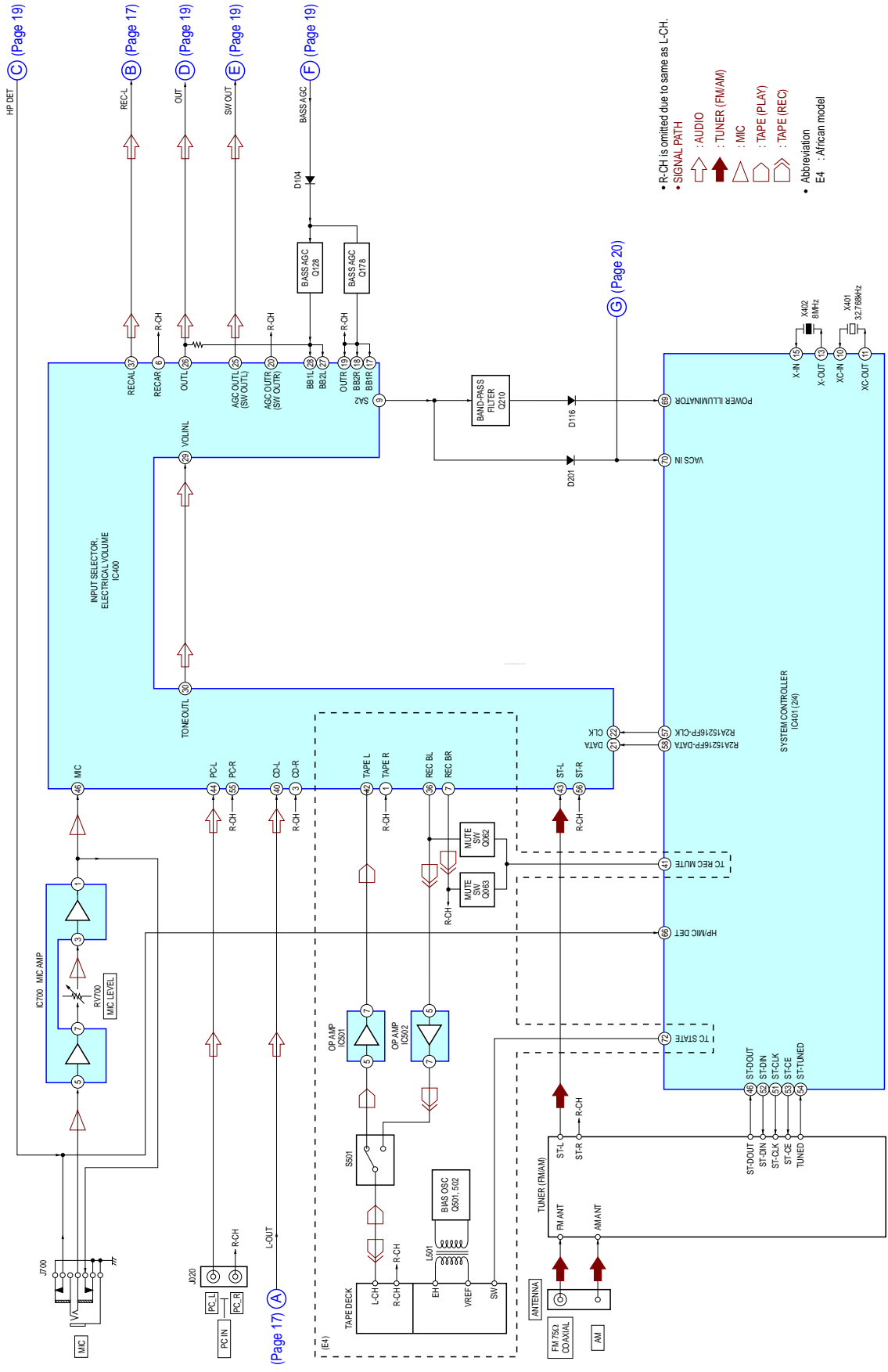


SECTION 6
DIAGRAMS

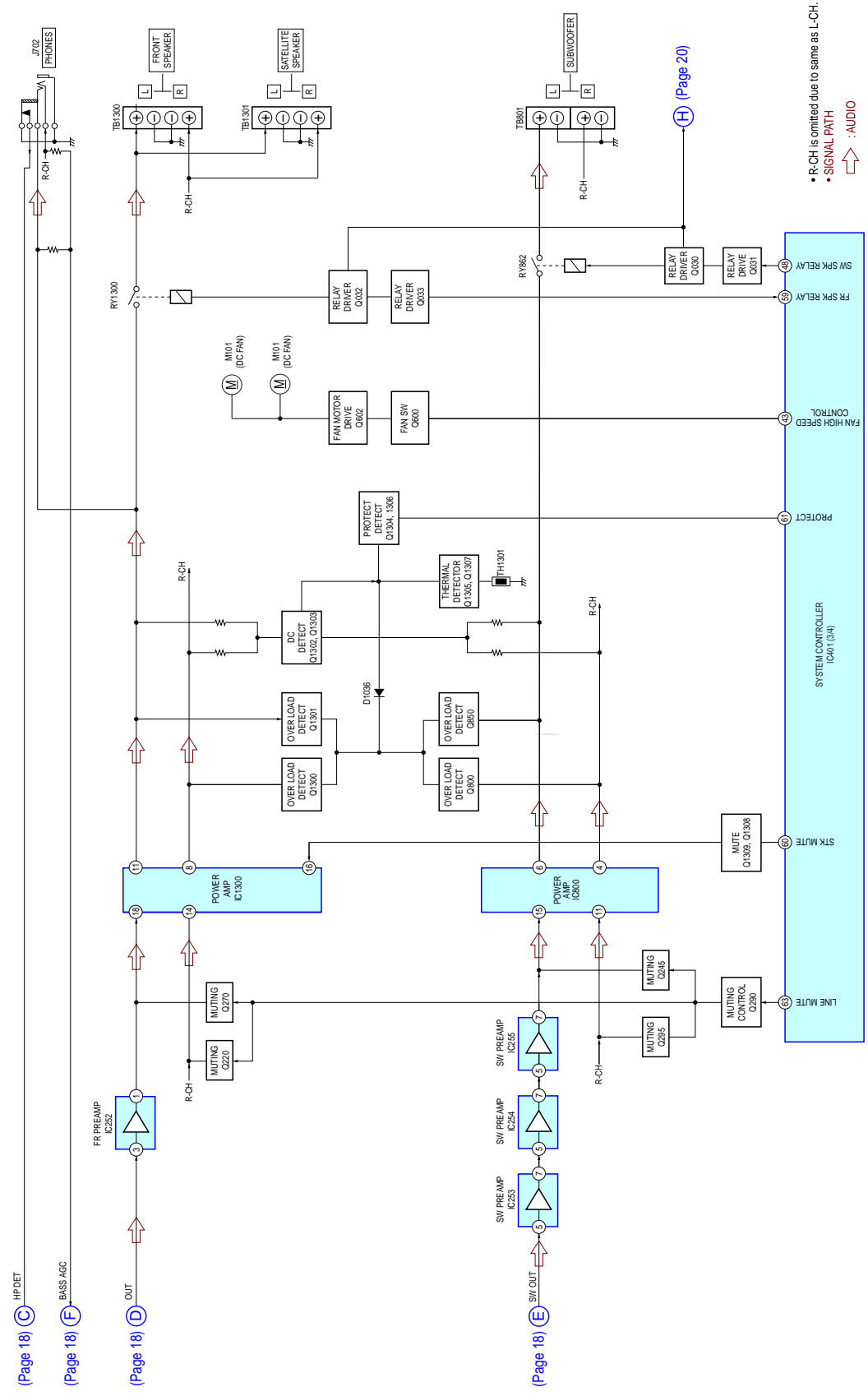
6-1. BLOCK DIAGRAM - RF SERVO, USB Section -



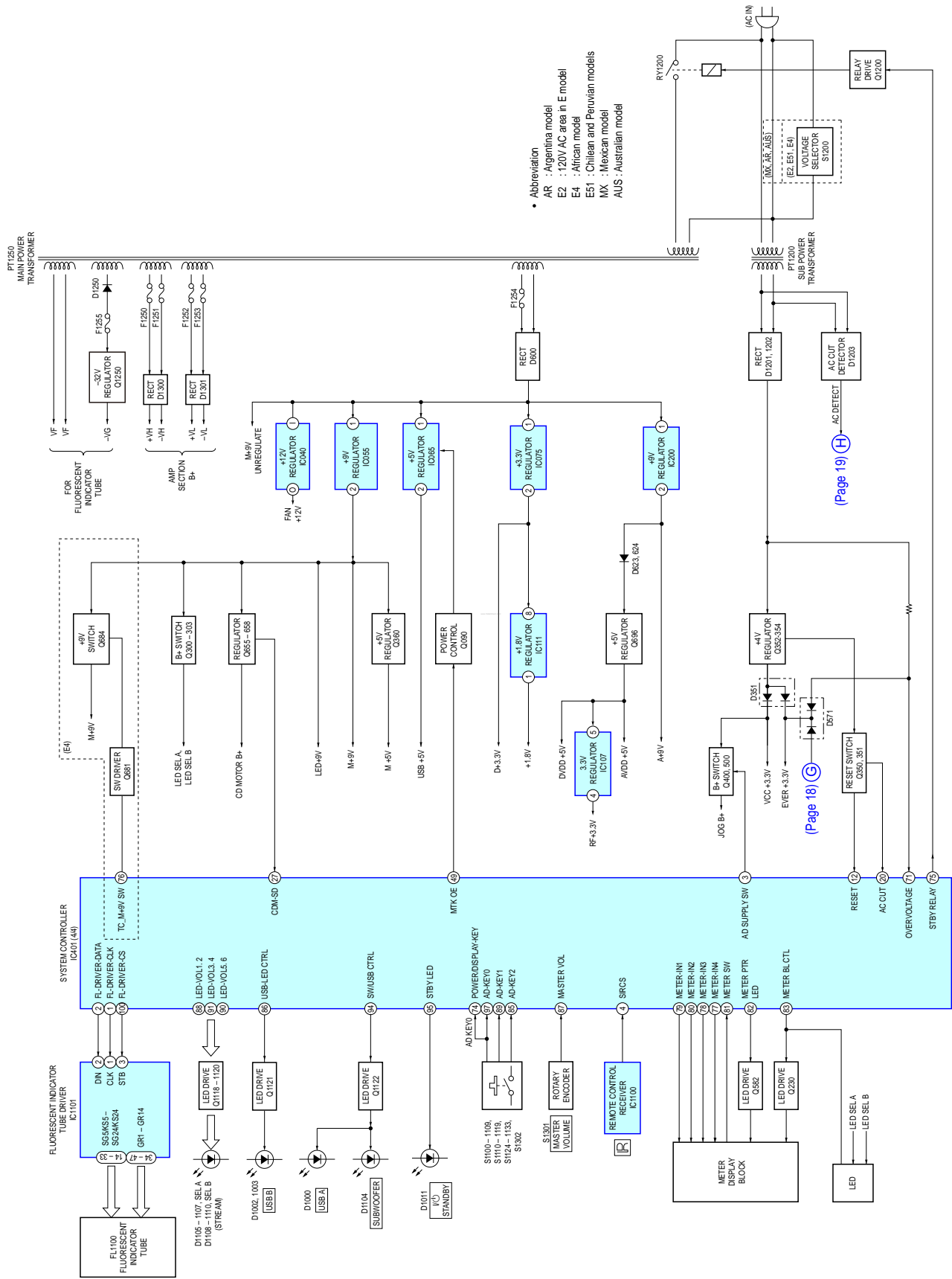
6-2. BLOCK DIAGRAM - MAIN Section -



6-3. BLOCK DIAGRAM - AMP Section -



6-4. BLOCK DIAGRAM - DISPLAY, POWER SUPPLY Section -



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

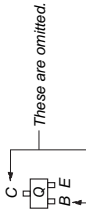
For Printed Wiring Boards.

- : Parts extracted from the component side.
- : Parts extracted from the conductor side.
- △ : Internal component.
- : 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 (Conductor Side) from the pattern face are indicated.
Parts face side: Parts on the parts face side seen from (Component Side) the parts face are indicated.

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

- DMB19 board is multi-layer printed board. However, the patterns of intermediate layers have not been included in diagrams.
- Indication of transistor.



- Abbreviation
AR : Argentine model
AUS : Australian model
E2 : 120V AC area in E model
E4 : African model
E51 : Chilean and Peruvian models
MX : Mexican model

For Schematic Diagrams.

- Note: All capacitors are in μF unless otherwise noted. (p: pF) 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4 \text{ W}$ or less unless otherwise specified.
- △ : Internal component.
- : Nonflammable resistor.
- : Fusible resistor.
- : Panel designation.

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

- B+ Line.
- - - B- Line.
- ⋯ : Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.

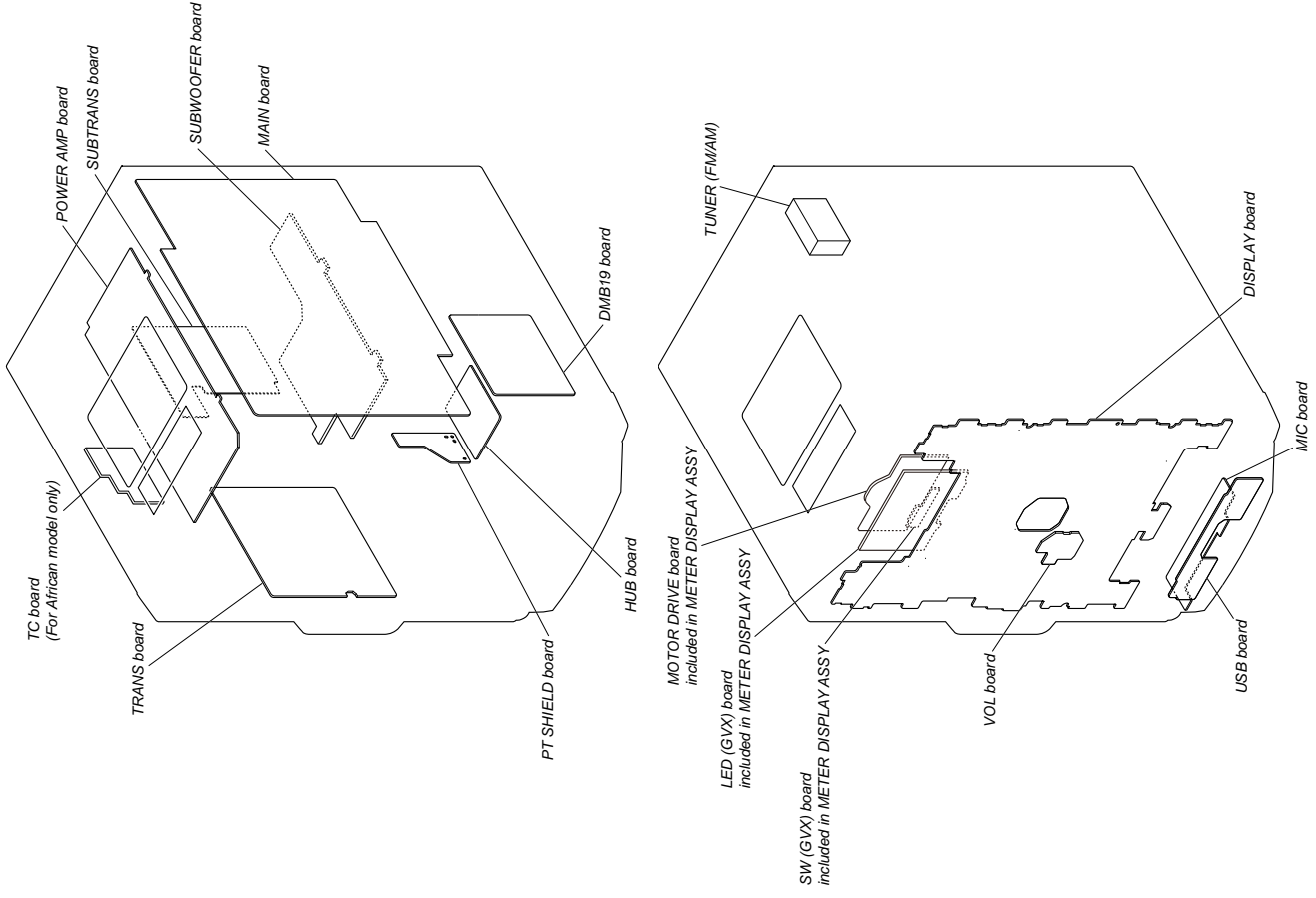
- TC Board -
no mark : TAPE PLAY
() : TAPE REC
- Other Boards -
no mark : TUNER (FM/AM)
() : CD PLAY
<< >> : TAPE PLAY
[] : TAPE REC
< > : USB
{ } : PC
* : Impossible to measure

- Voltages are taken with VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.

- : AUDIO
- ↗ : TUNER (FM/AM)
- ↘ : TAPE PLAY
- ↖ : TAPE REC
- ⬆ : MIC
- ⬇ : CD PLAY
- ⬅ : DIGITAL
- ⬅ : USB

- Abbreviation
AR : Argentine model
AUS : Australian model
E2 : 120V AC area in E model
E4 : African model
E51 : Chilean and Peruvian models
MX : Mexican model

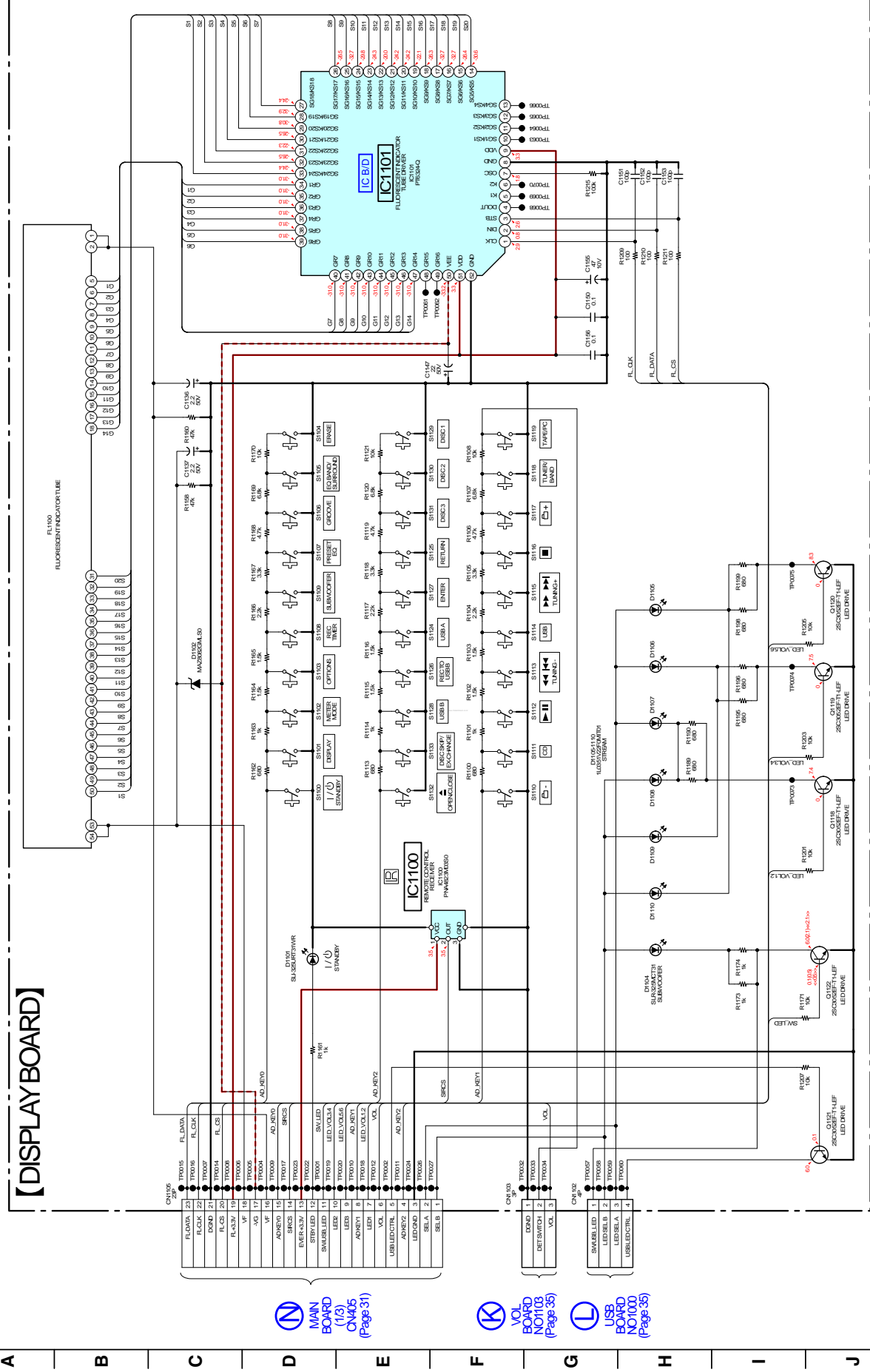
• Circuit Boards Location



6-6. SCHEMATIC DIAGRAM - DISPLAY Board - • See page 43 for Waveforms. • See page 44 for IC Block Diagrams. • See page 48 for IC Pin Function Description.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

[DISPLAY BOARD]

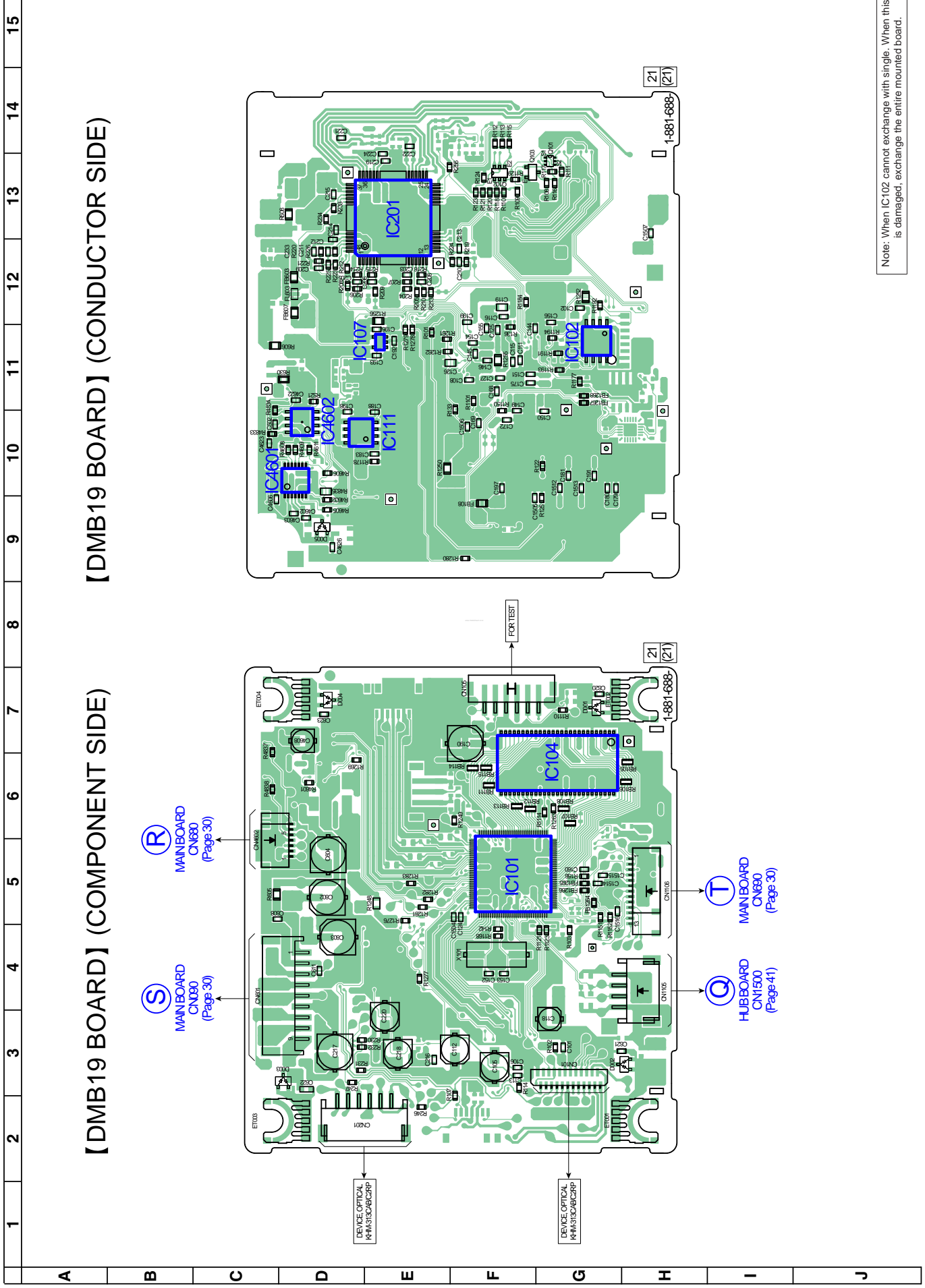


MAIN BOARD (1/3) CN100 (Page 31)

VOL BOARD NOT08 (Page 35)

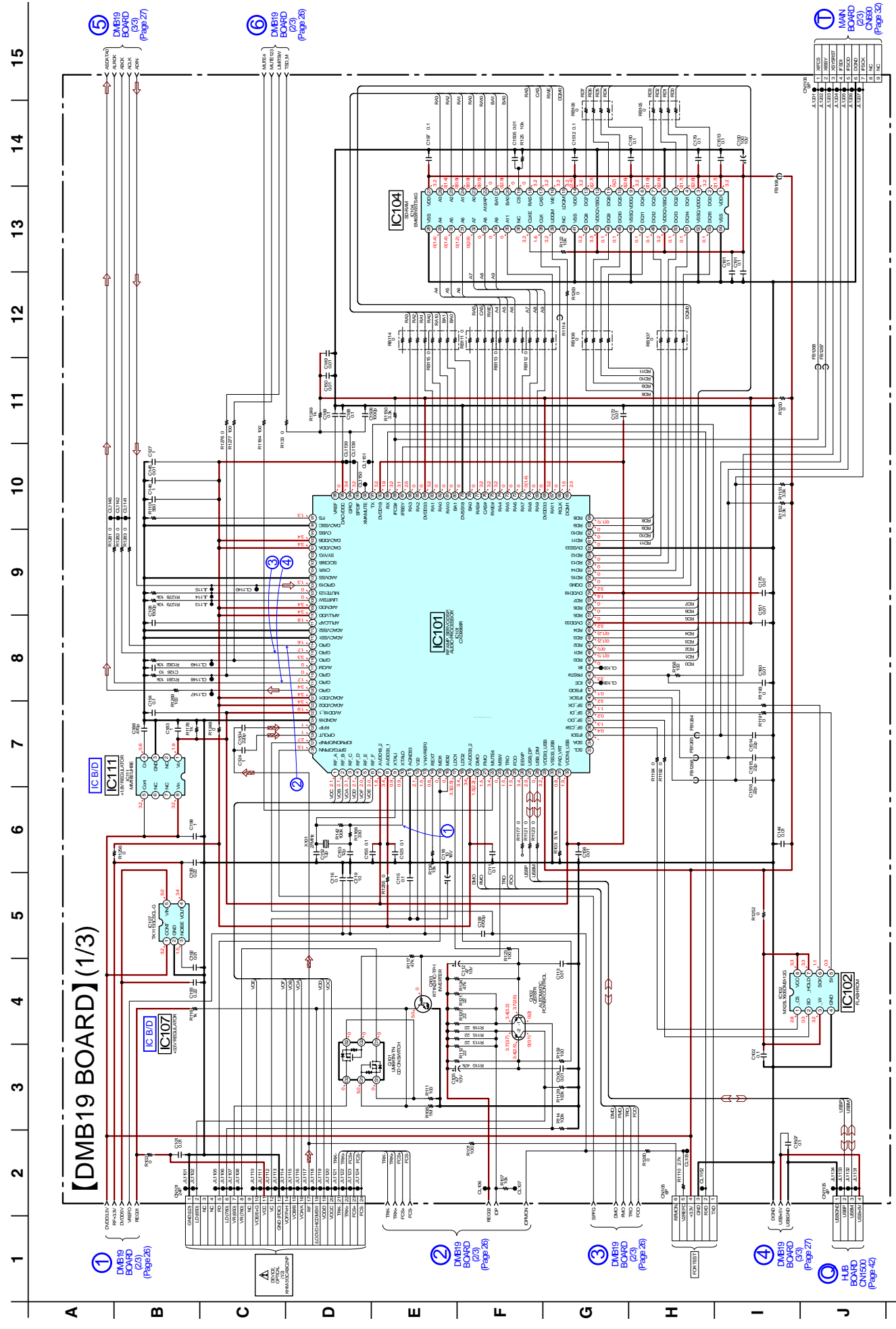
USB BOARD NO1000 (Page 35)

6-7. PRINTED WIRING BOARD - DMB19 Board - • See page 21 for Circuit Boards Location. •  : Uses unleaded solder.



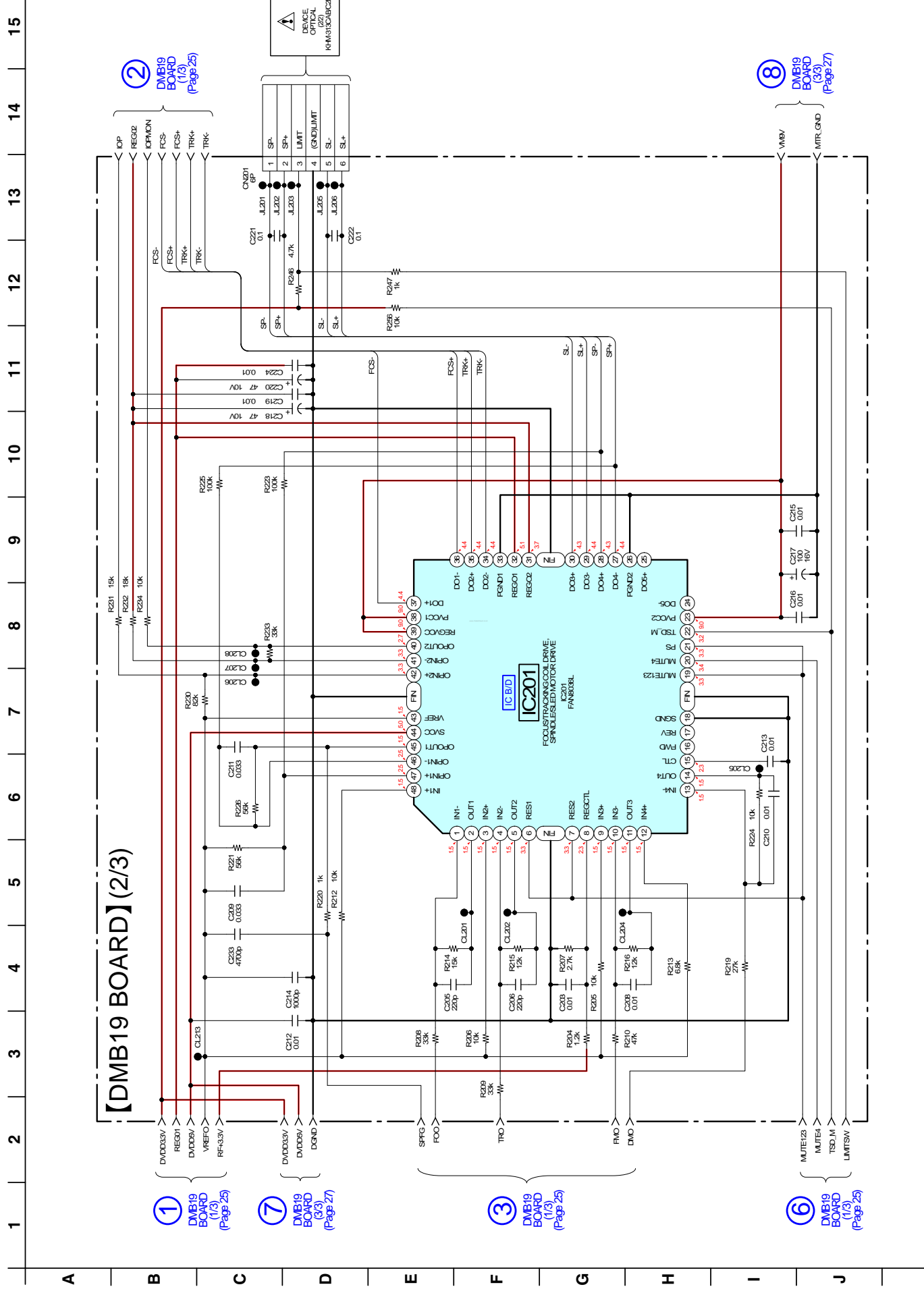
Note: When IC102 cannot exchange with single. When this part is damaged, exchange the entire mounted board.


6-8. SCHEMATIC DIAGRAM - DMB19 Board (1/3) - • See page 43 for Waveforms. • See page 44 for IC Block Diagrams. • See page 48 for IC Pin Function Description.

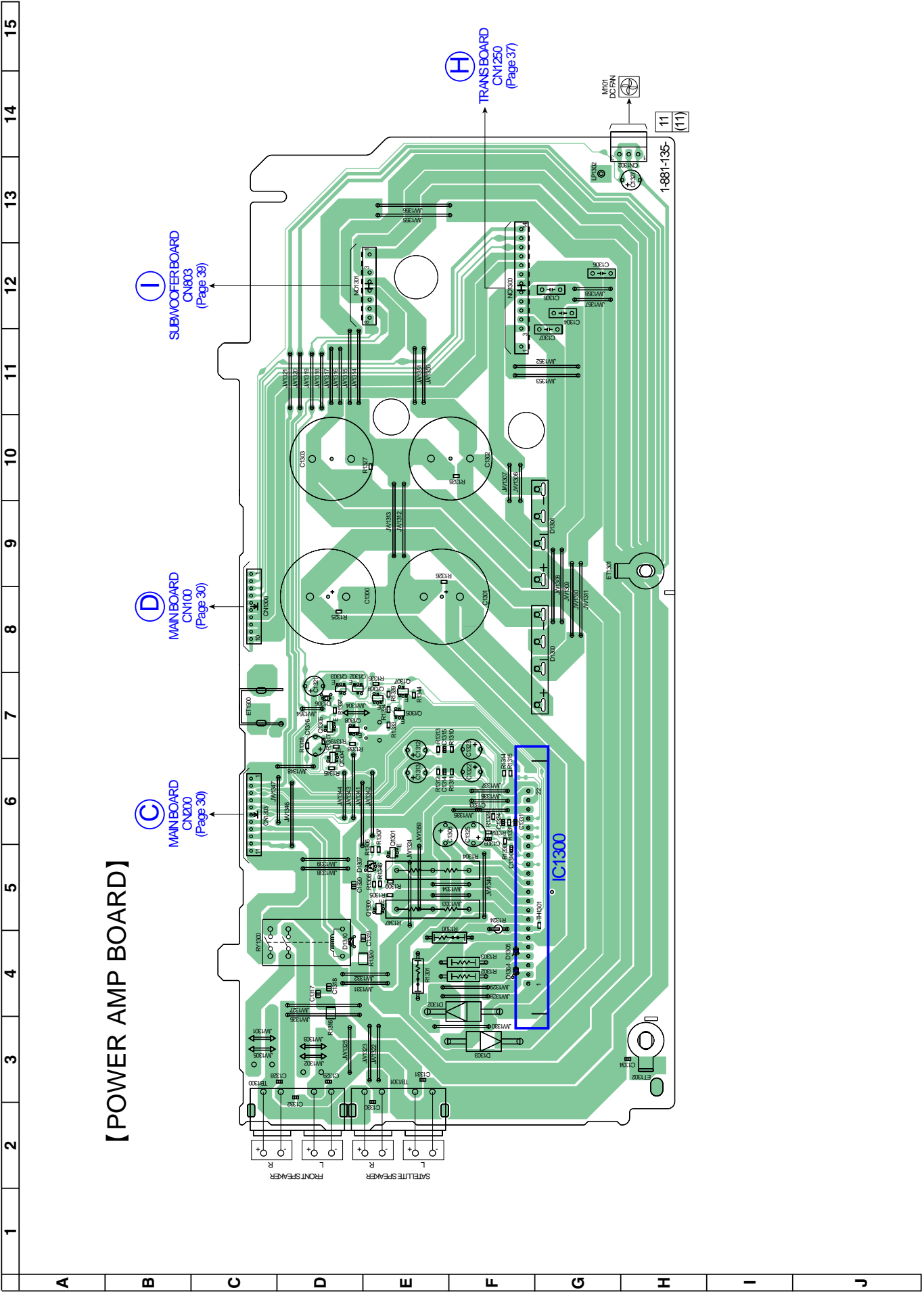


Note: When IC102 cannot exchange with single. When this part is damaged, exchange the entire mounted board.

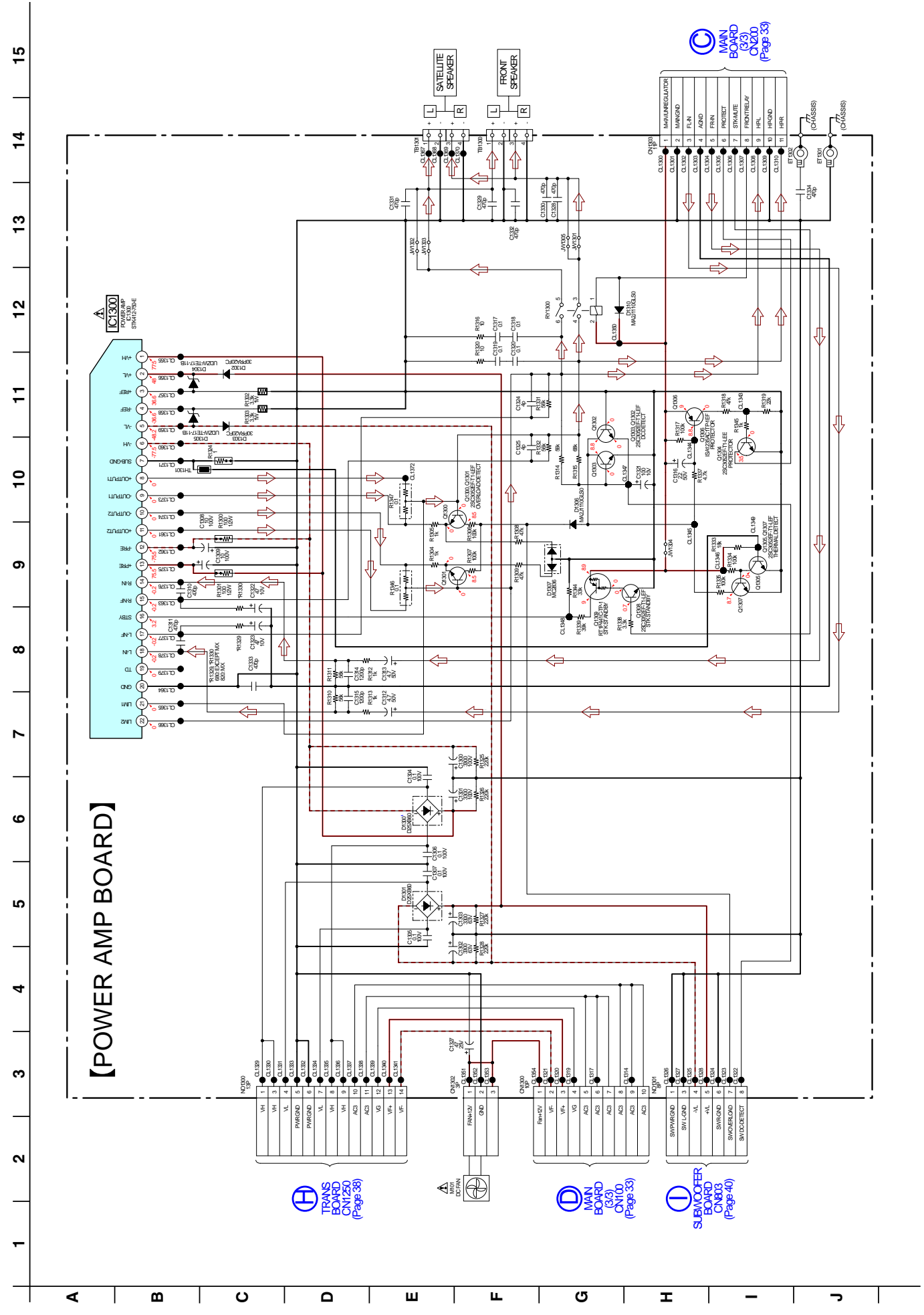
6-9. SCHEMATIC DIAGRAM - DMB19 Board (2/3) - • See page 43 for Waveforms. • See page 44 for IC Block Diagrams. • See page 48 for IC Pin Function Description.



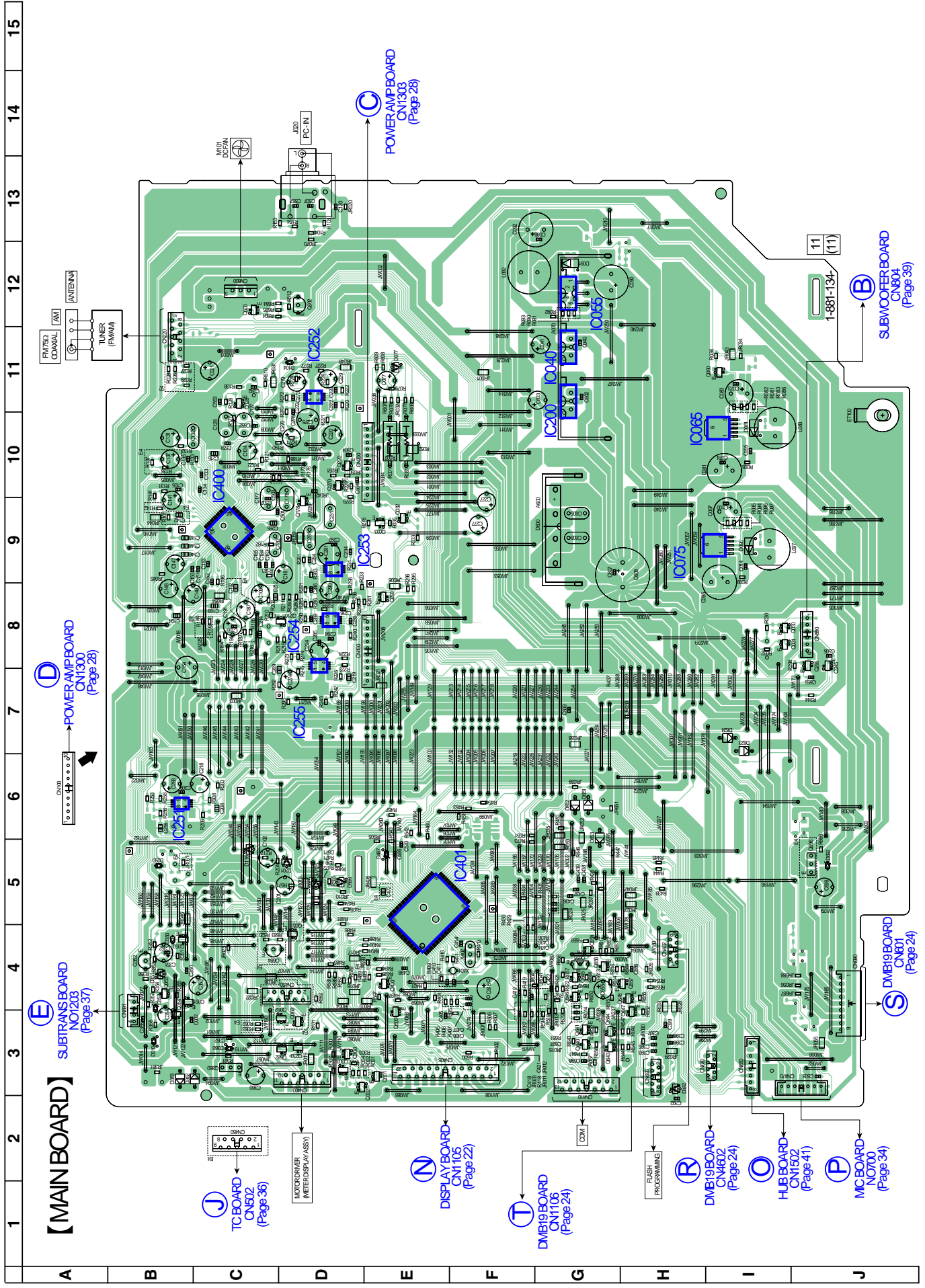
6-11. PRINTED WIRING BOARD - POWER AMP BOARD - • See page 21 for Circuit Boards Location. •  : Uses unleaded solder.



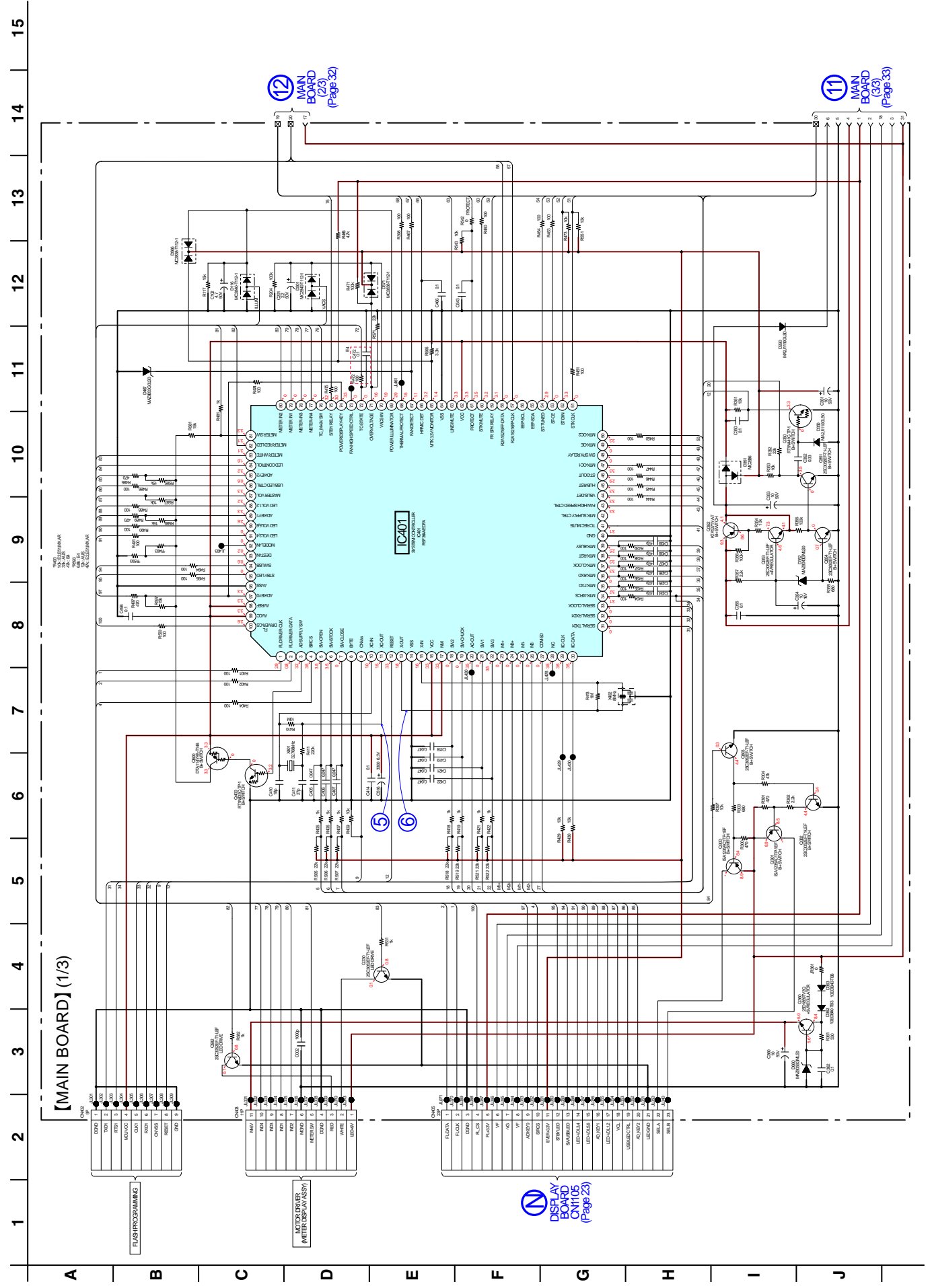
6-12. SCHEMATIC DIAGRAM - POWER AMP BOARD - • See page 43 for Waveforms. • See page 44 for IC Block Diagrams. • See page 48 for IC Pin Function Description.



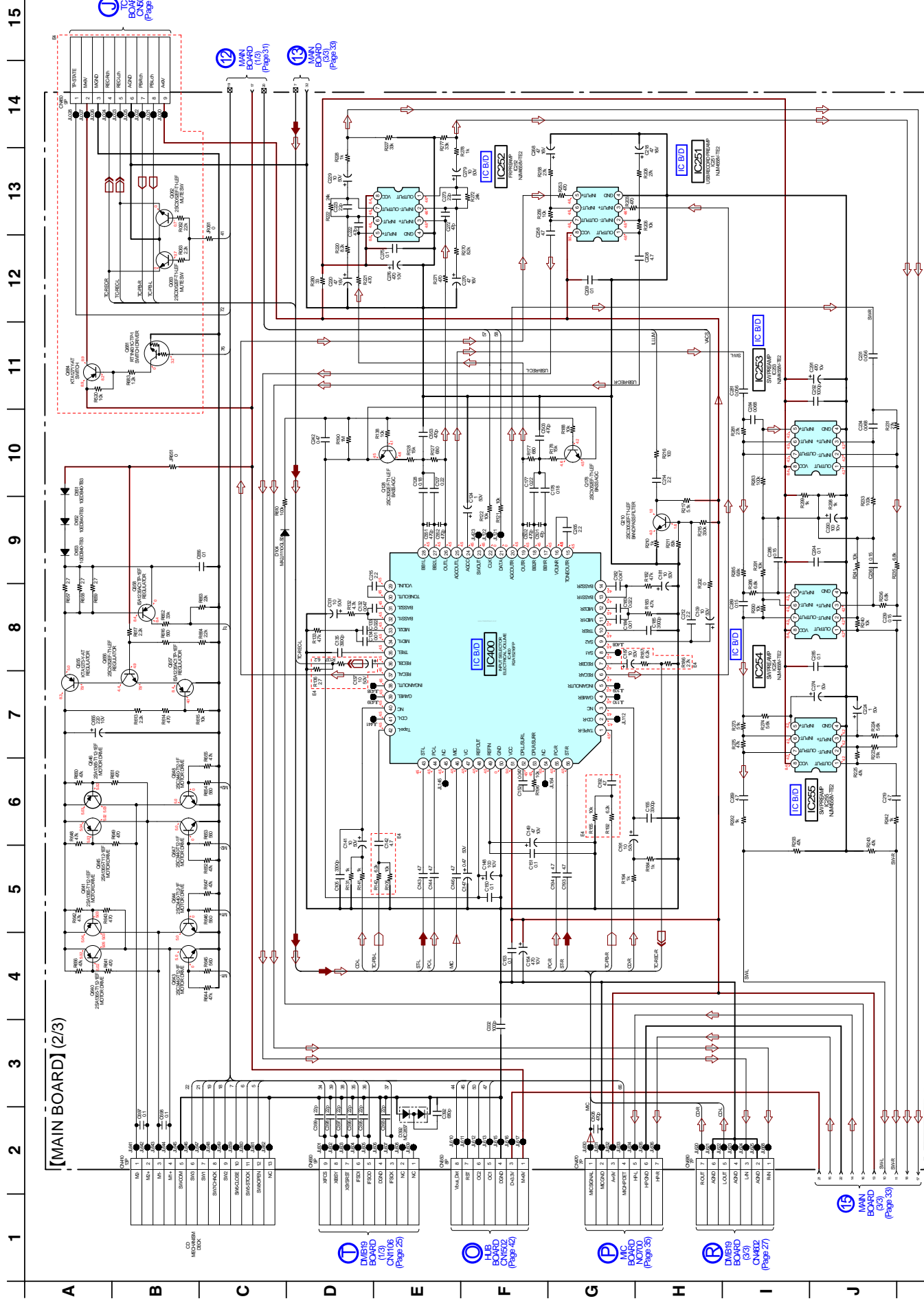
6-13. PRINTED WIRING BOARD - MAIN Board - • See page 21 for Circuit Boards Location. • **LF** : Uses unleaded solder.



6-14. SCHEMATIC DIAGRAM - MAIN Board (1/3) - • See page 43 for Waveforms. • See page 44 for IC Block Diagrams. • See page 48 for IC Pin Function Description.



6-15. SCHEMATIC DIAGRAM - MAIN Board (2/3) - • See page 43 for Waveforms. • See page 44 for IC Block Diagrams. • See page 48 for IC Pin Function Description.



[MAIN BOARD] (2/3)

① BOARD CN602 (Page 36)

⑫ MAIN BOARD (1/3) (Page 51)

⑬ MAIN BOARD (3/3) (Page 33)

① BOARD CN106 (Page 25)

② HLB BOARD N0700 (Page 42)

③ BOARD N0700 (Page 35)

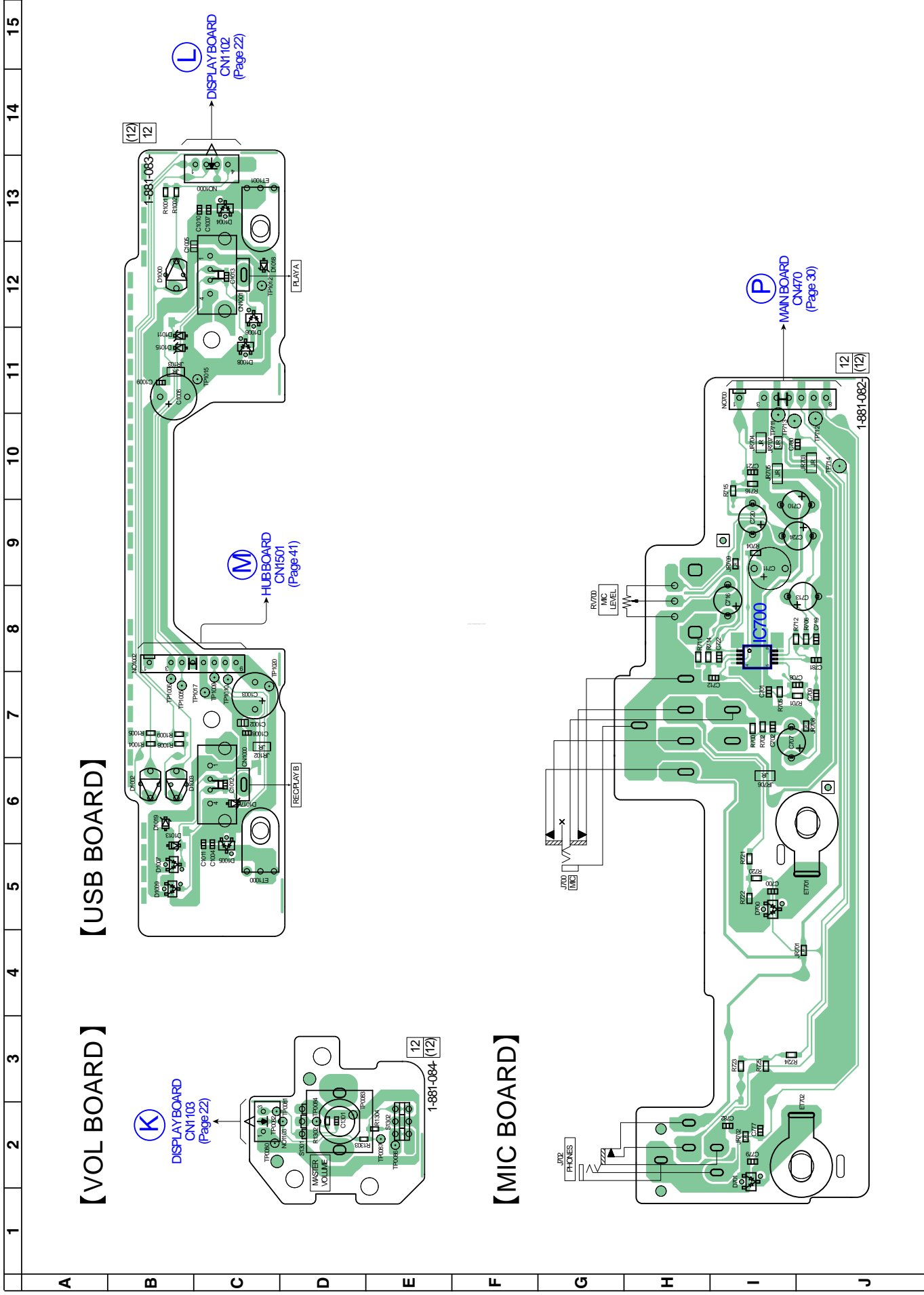
④ BOARD CN602 (Page 27)

⑮ MAIN BOARD (3/3) (Page 33)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

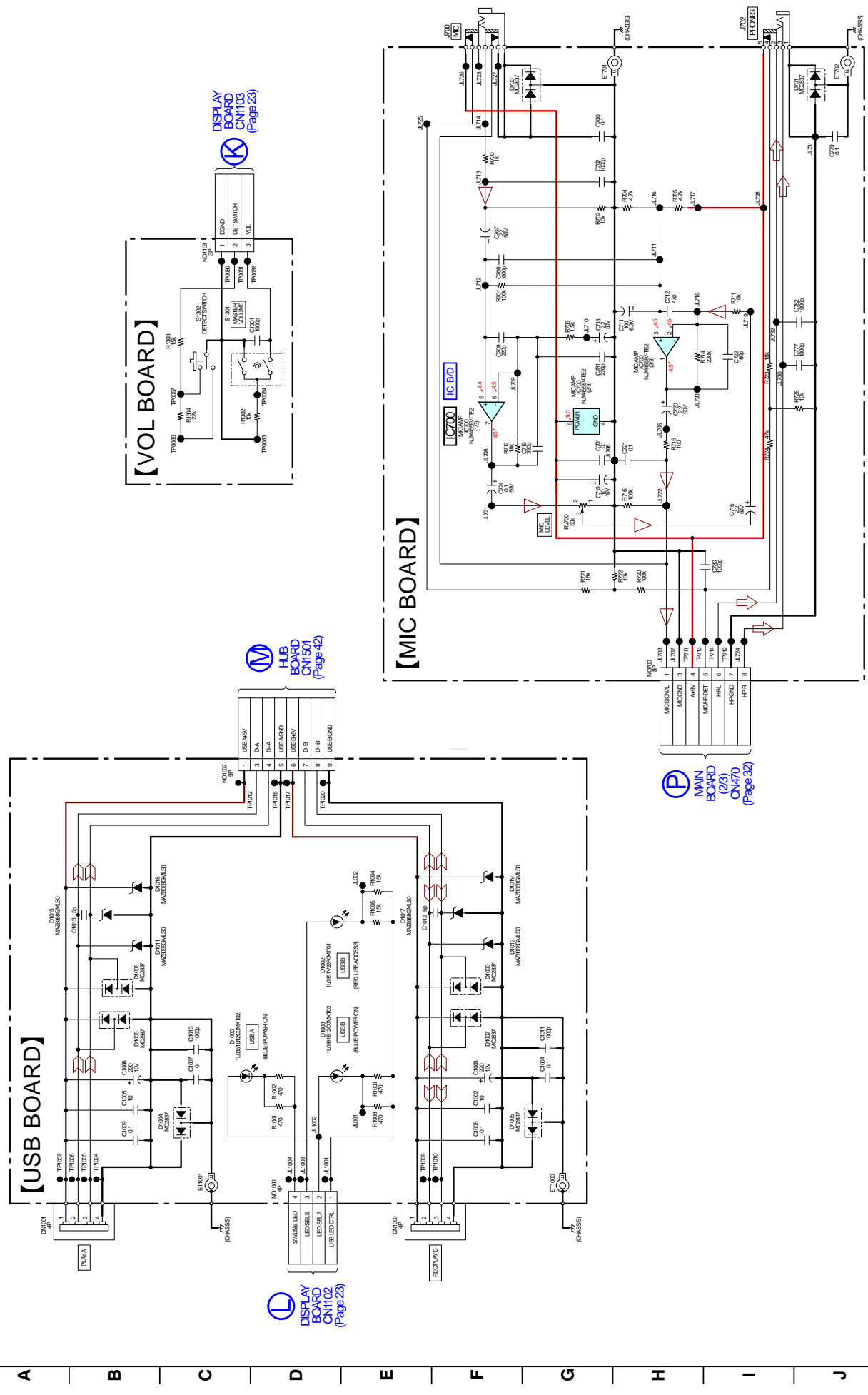
A B C D E F G H I J

6-17. PRINTED WIRING BOARD - MIC, VOL and USB Board - • **MF** : Uses unleaded solder.



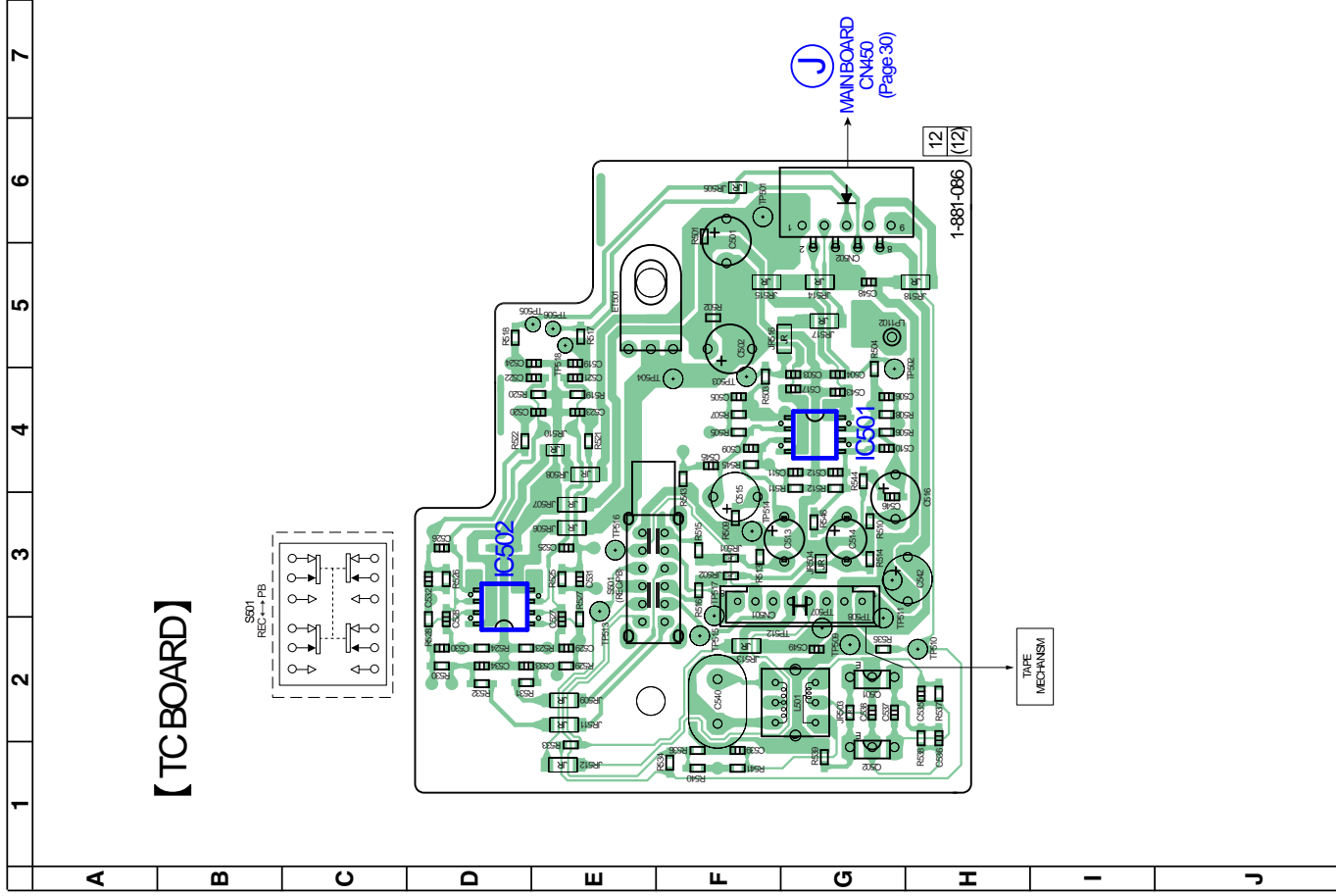
6-18. SCHEMATIC DIAGRAM - MIC, VOL and USB Board - • See page 43 for Waveforms. • See page 44 for IC Block Diagrams. • See page 48 for IC Pin Function Description.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15



6-19. PRINTED WIRING BOARD - TC Board - (For African model only)

• See page 21 for Circuit Boards Location. • **F** : Uses unleaded solder.

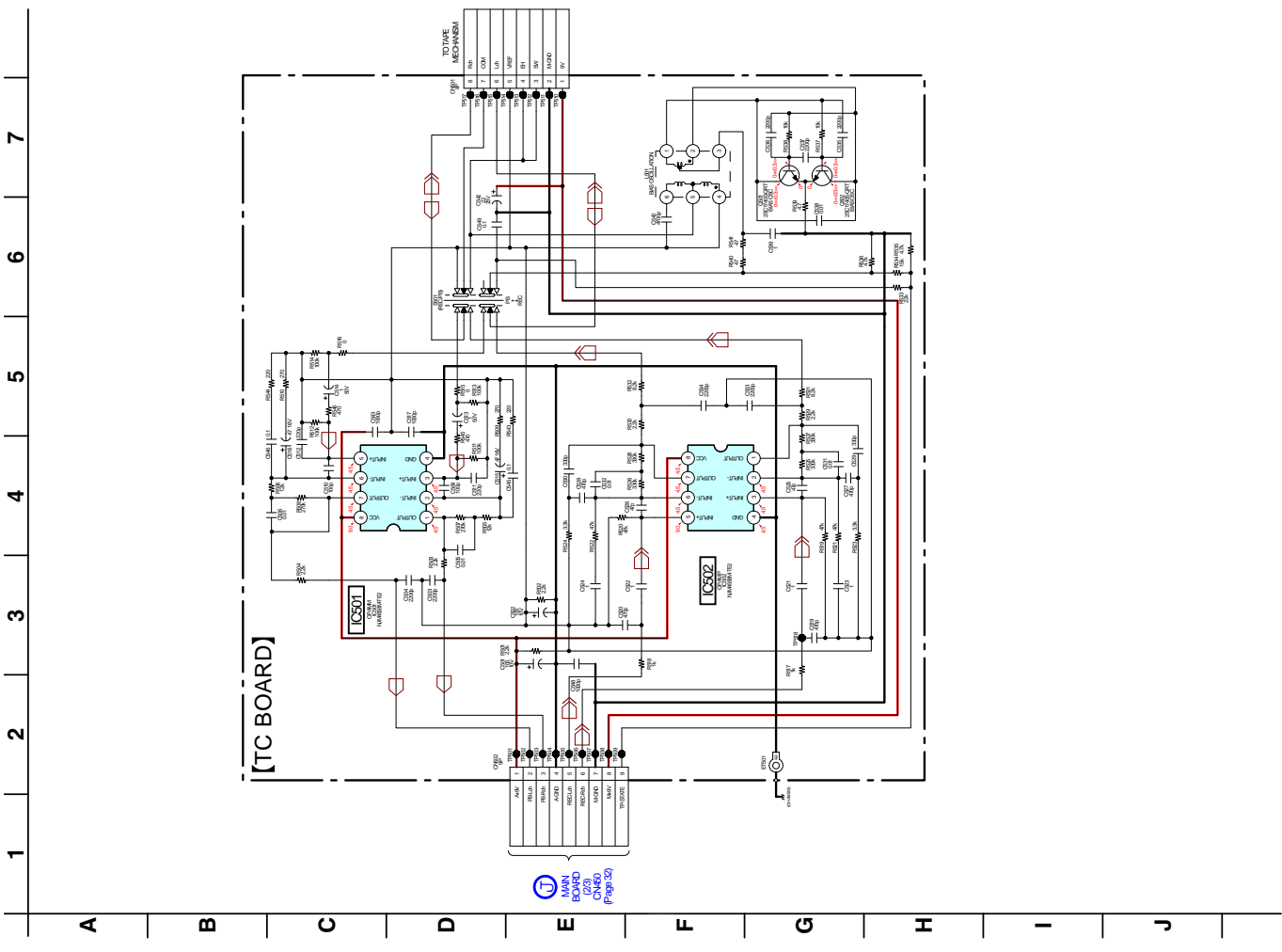


【TCBOARD】

1 2 3 4 5 6 7

A B C D E F G H I J

6-20. SCHEMATIC DIAGRAM - TC Board - (For African model only)

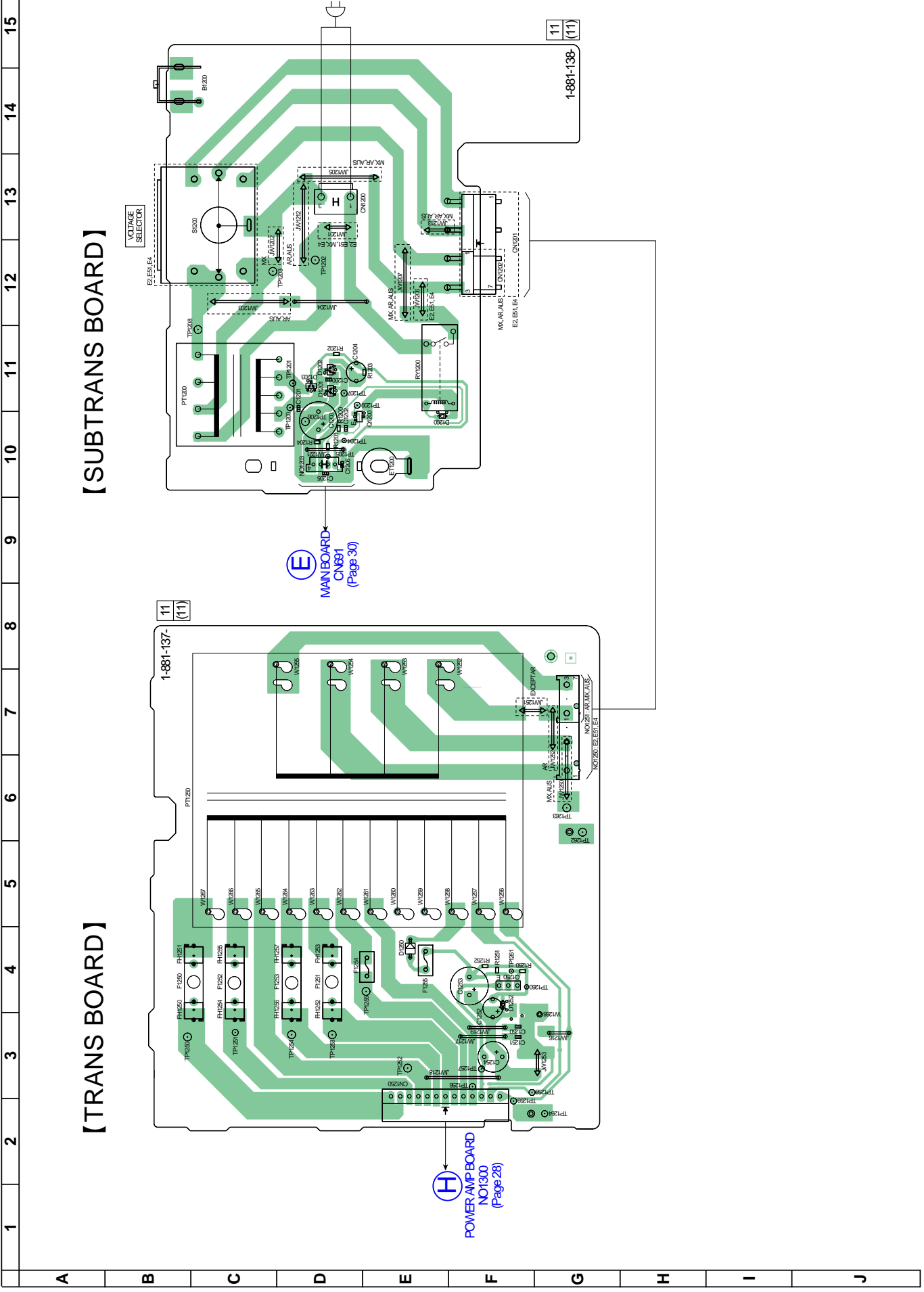


【TC BOARD】

1 2 3 4 5 6 7

A B C D E F G H I J

6-21. PRINTED WIRING BOARD - TRANS and SUBTRANS Board - • See page 21 for Circuit Boards Location. • **FR** : Uses unleaded solder.



[TRANS BOARD]

[SUBTRANS BOARD]

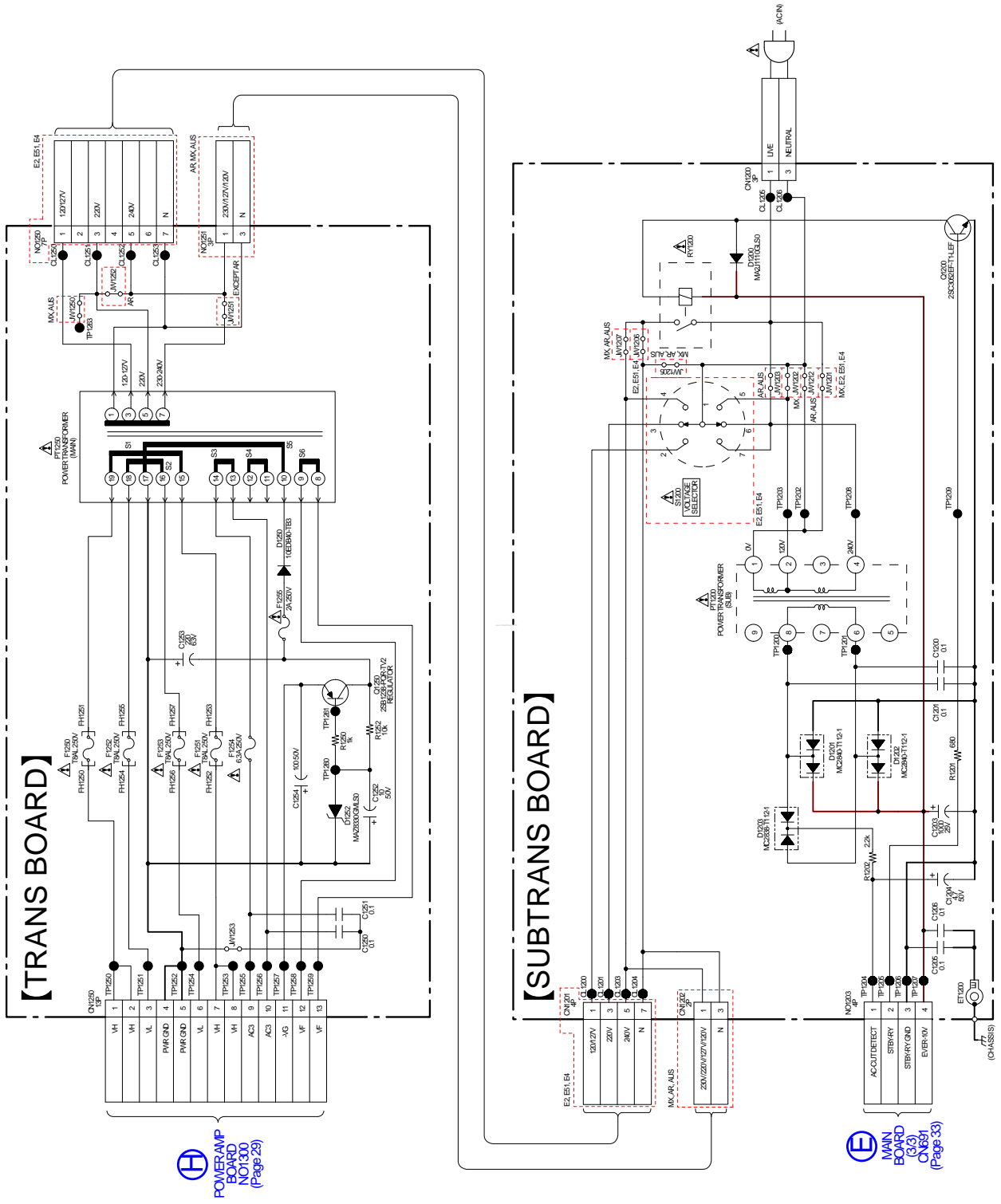
(E)

MAIN BOARD
CN891
(Page 30)

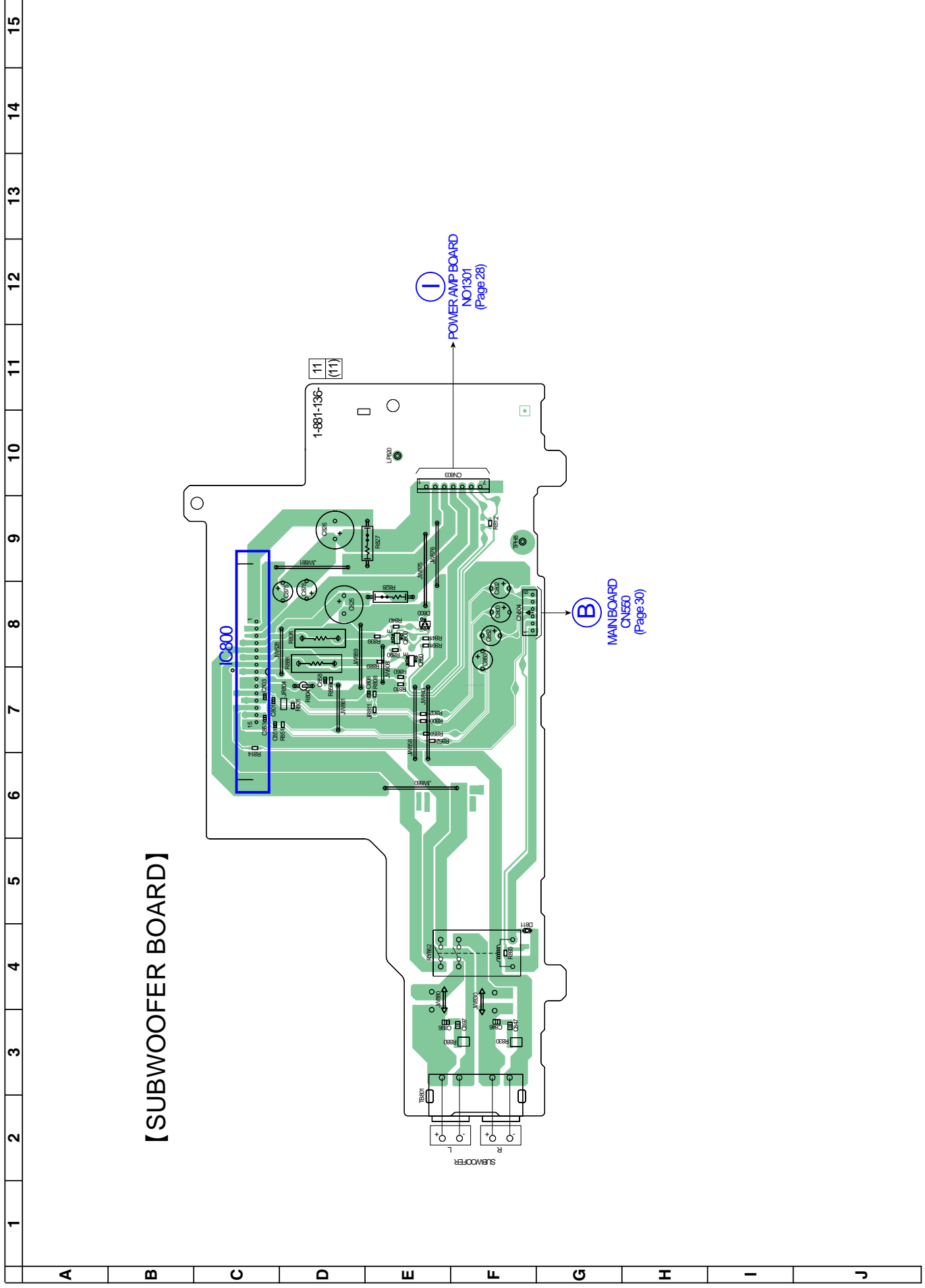
(H)

POWER AMP BOARD
NO1300
(Page 28)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

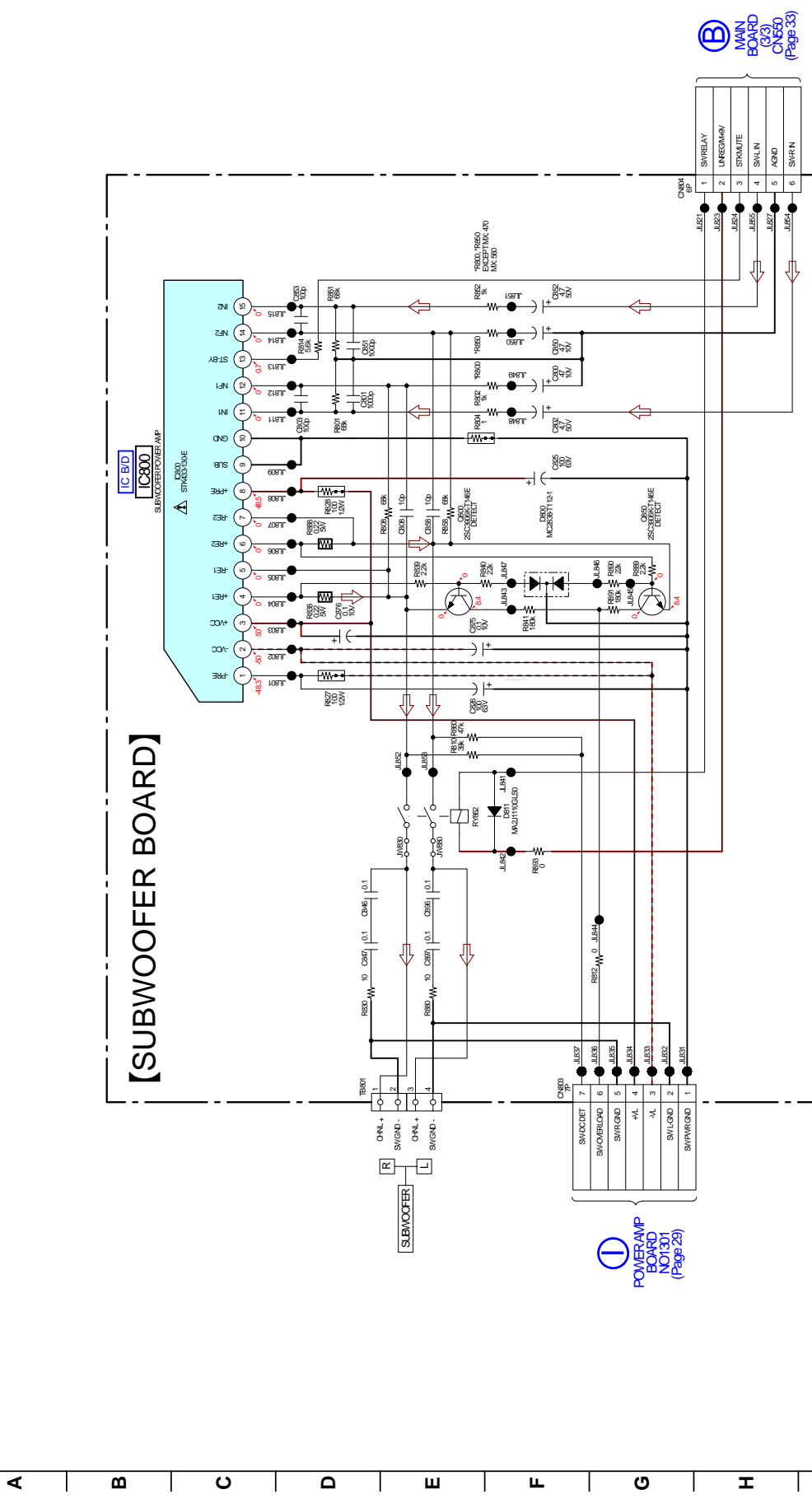


6-23. PRINTED WIRING BOARD - SUBWOOFER Board - • See page 21 for Circuit Boards Location. • **LF** : Uses unleaded solder.

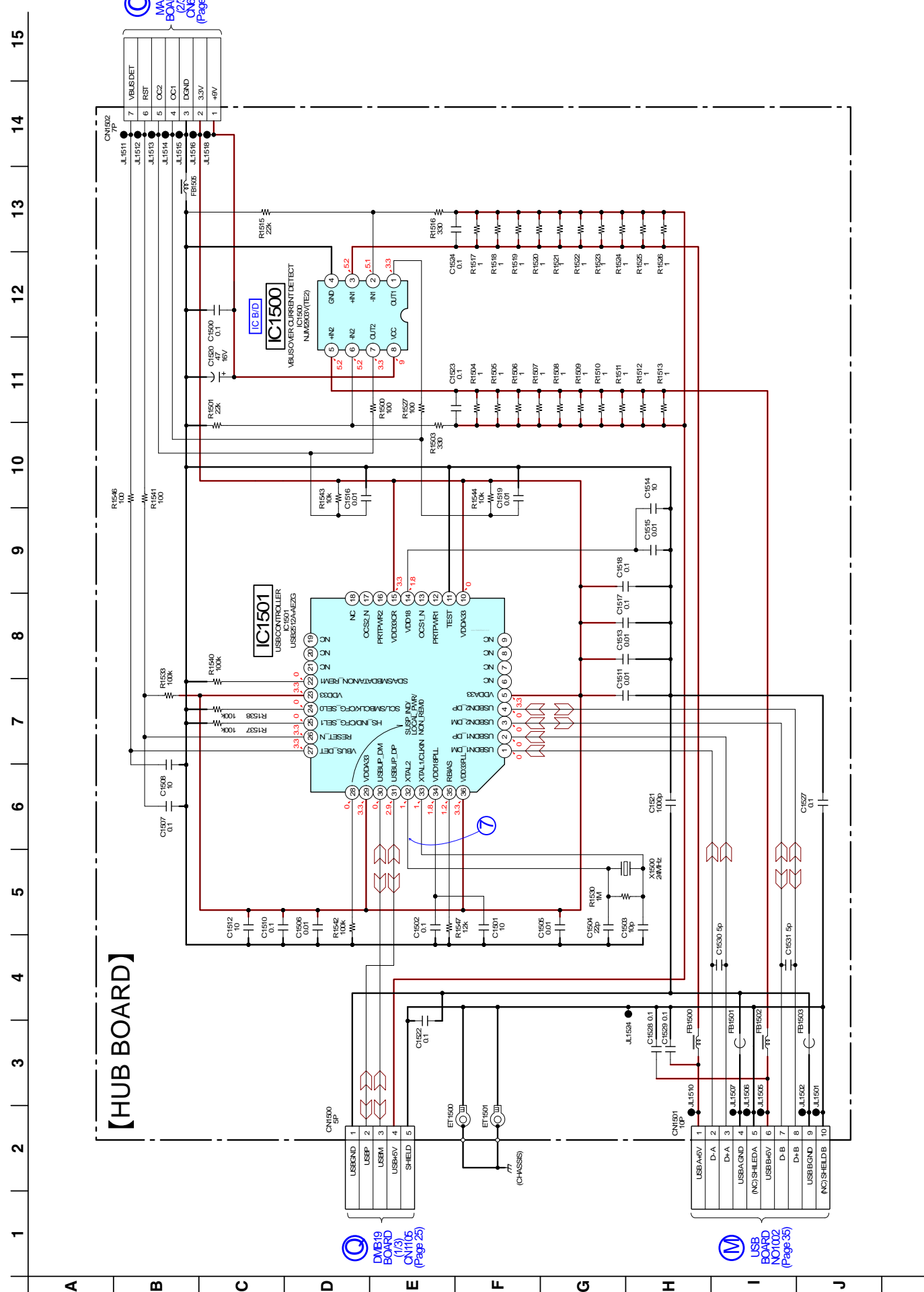


6-24. SCHEMATIC DIAGRAM - SUBWOOFER BOARD - • See page 43 for Waveforms. • See page 44 for IC Block Diagrams. • See page 48 for IC Pin Function Description.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15



6-26. SCHEMATIC DIAGRAM - HUB Board - • See page 43 for Waveforms. • See page 44 for IC Block Diagrams. • See page 48 for IC Pin Function Description.



【HUB BOARD】

DMB19

 BOARD

 (1/3)

 CN1106

 (Page 25)

USB

 BOARD

 (NOTICE)

 (Page 35)

MAIN

 BOARD

 (2/3)

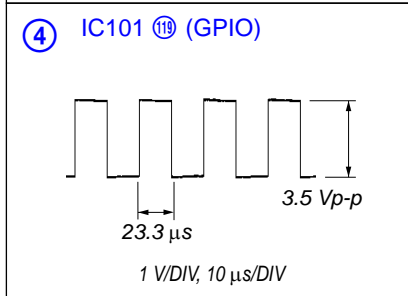
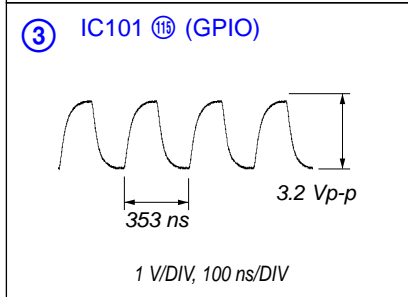
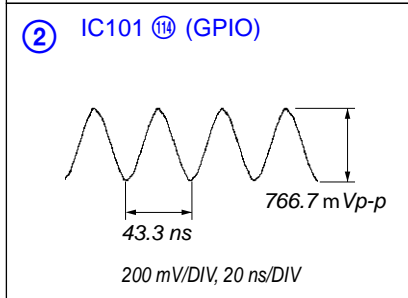
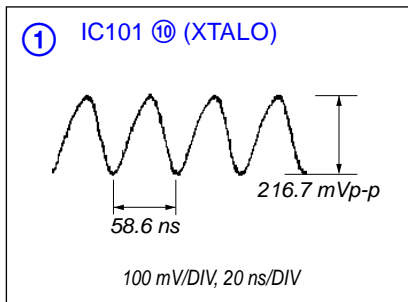
 CN1500

 (Page 32)

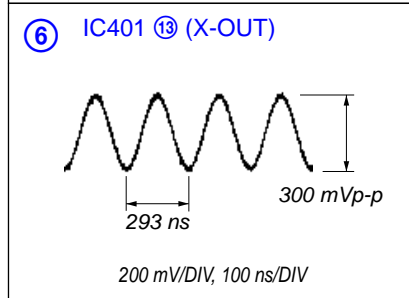
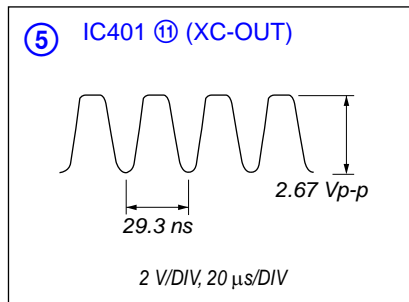
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
 A B C D E F G H I J

• Waveforms

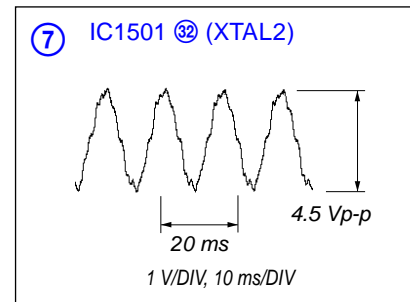
— DMB19 BOARD —



— MAIN BOARD —

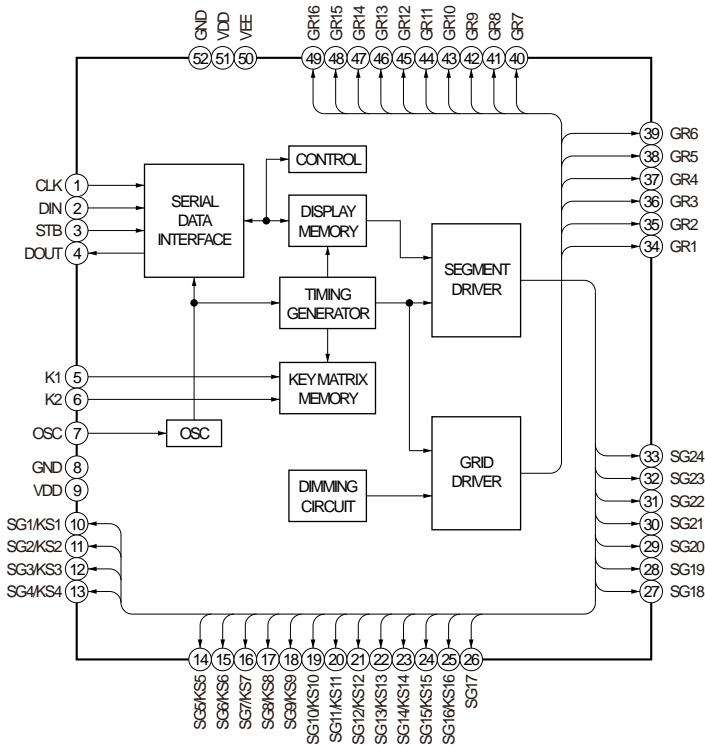


— HUB BOARD —

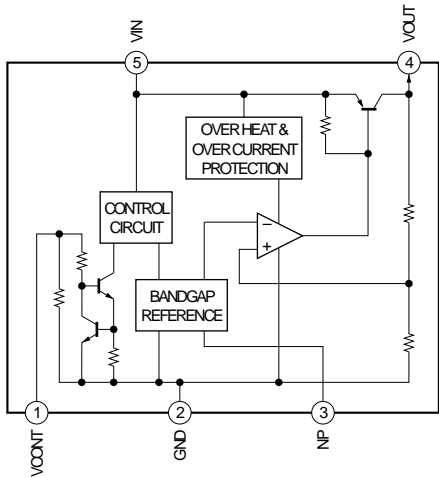


• IC Block Diagrams

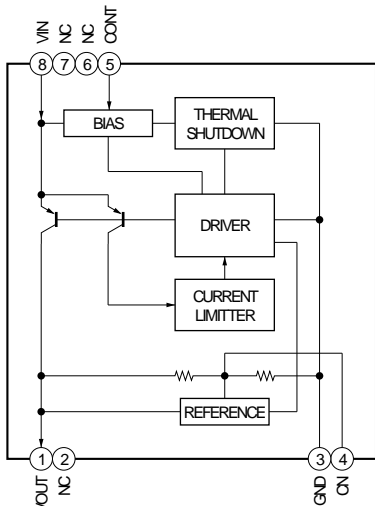
IC1101 PT6324-Q (DISPLAY Board)



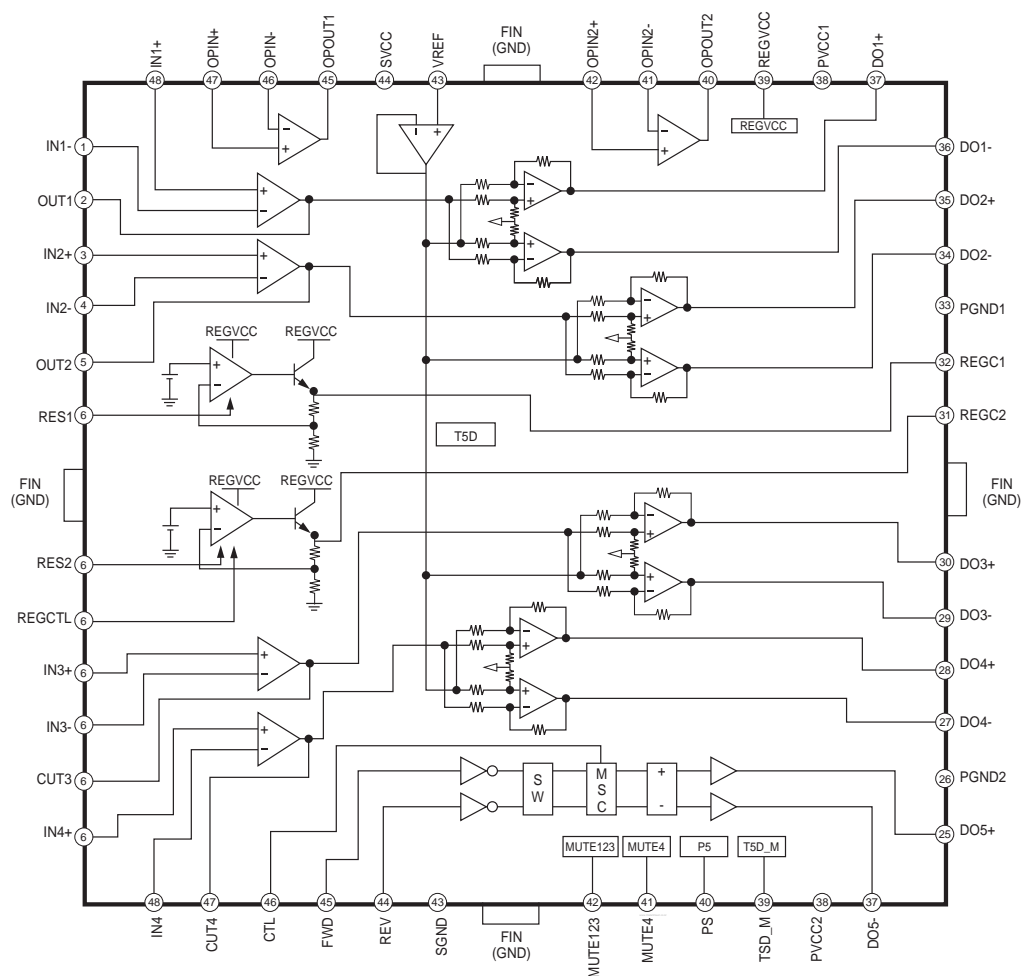
IC107 TK11133CSCL-G (DMB19 Board (1/3))



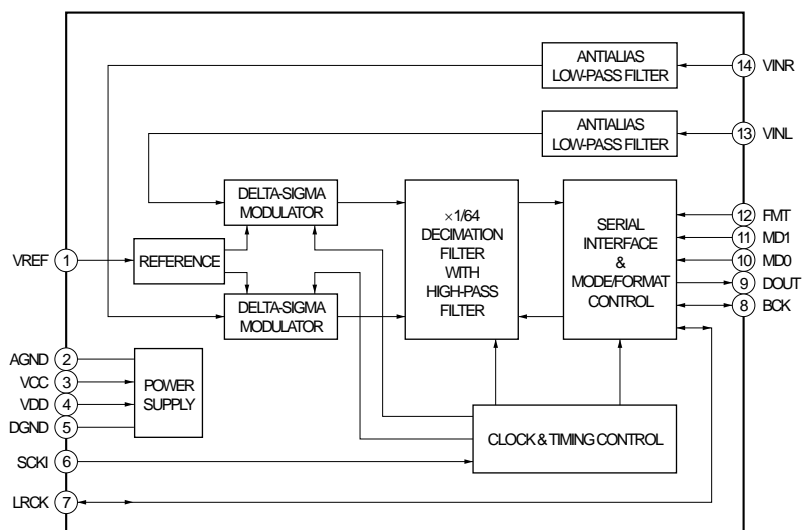
IC111 MM1661JHBE (DMB19 Board (1/3))



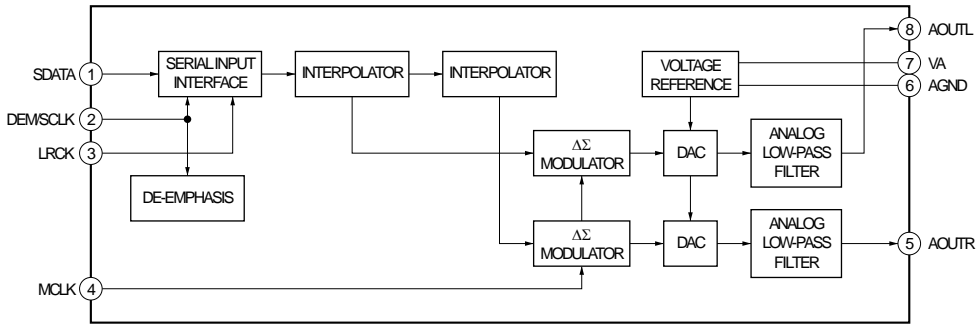
IC201 FAN8036L (DMB19 Board (2/3))



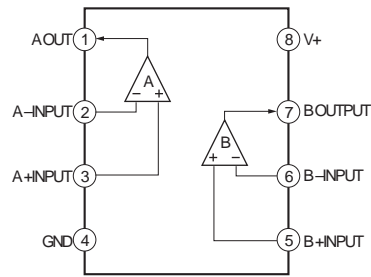
IC4601 PCM1808PWR (DMB19 Board (3/3))



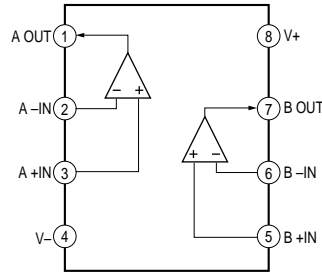
IC4602 CS4335-KSZR (DMB19 Board (3/3))



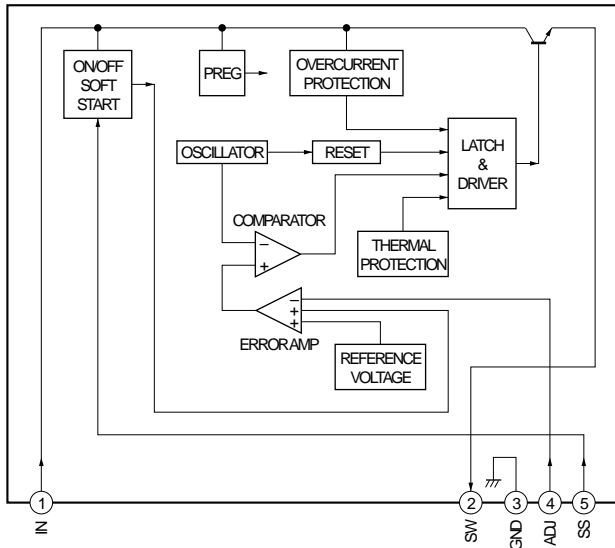
IC1500 NJM2903V (TE2) (HUB Board)



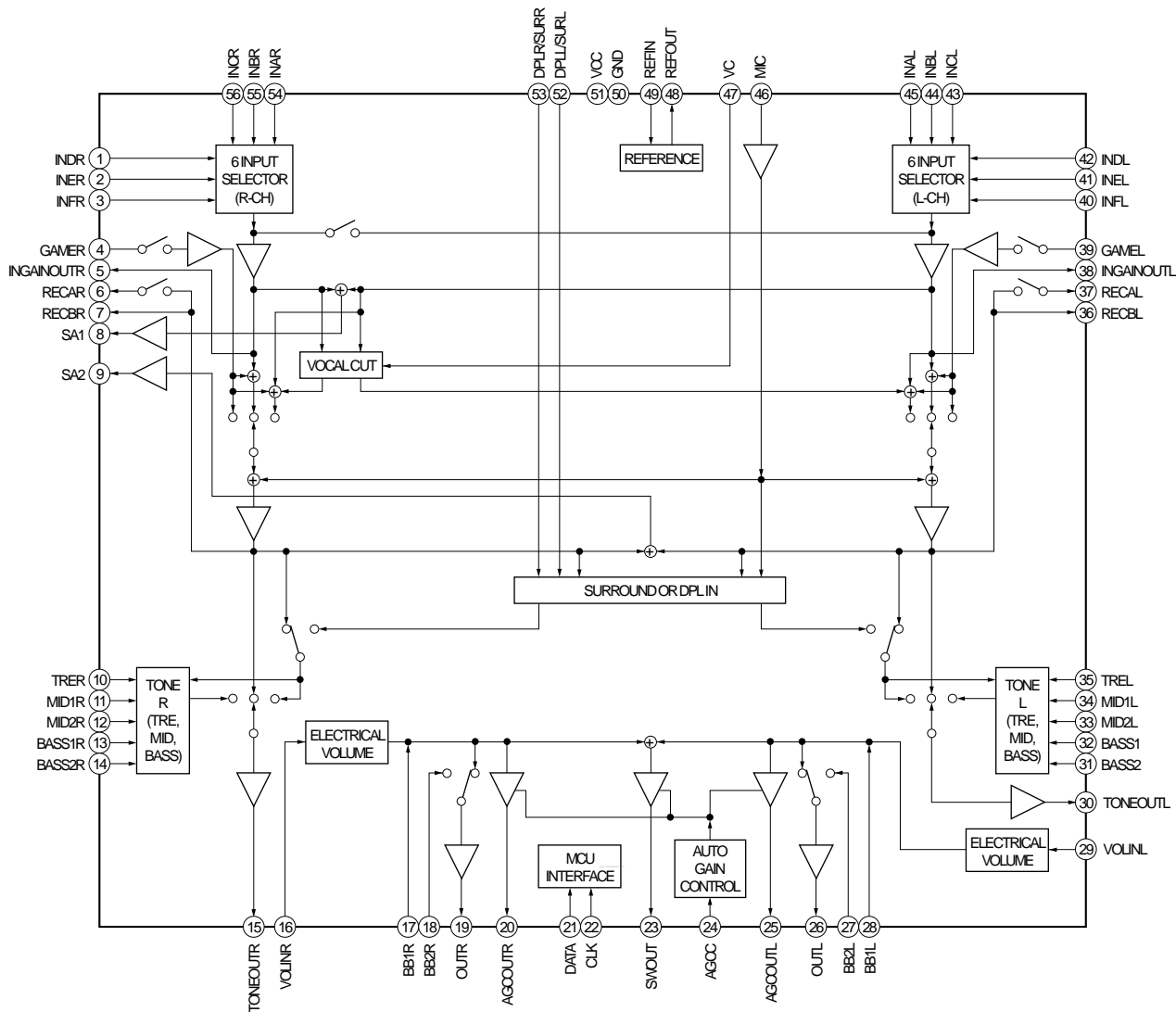
- IC251 NJM4558V-TE2 (MAIN Board (2/3))
- IC252 NJM4558V-TE2 (MAIN Board (2/3))
- IC253 NJM4558V-TE2 (MAIN Board (2/3))
- IC254 NJM4558V-TE2 (MAIN Board (2/3))
- IC255 NJM4558V-TE2 (MAIN Board (2/3))
- IC700 NJM4558V-TE2 (MIC Board)



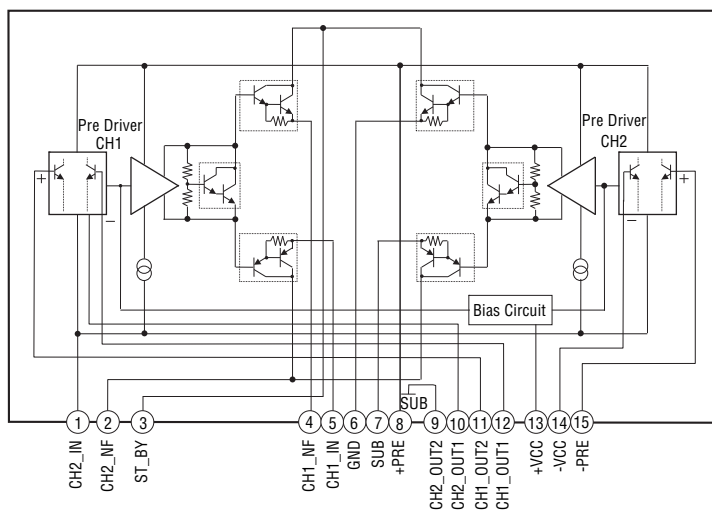
IC065 SI-8008TM-TLS (MAIN Board (3/3))
 IC075 SI-8008TM-TLS (MAIN Board (3/3))



IC400 R2A15216FP (MAIN Board (2/3))



IC800 STK433-130-E (SUBWOOFER Board)



• IC Pin Function Description

DMB19 BOARD (1/3) IC101 CXD9968R (LE) (RF AMP, SERVO DSP, AUDIO PROCESSOR)

Pin No.	Pin Name	I/O	Description
1	RF_A	I	RF main beam (C) input from the optical pick-up block
2	RF_B	I	RF main beam (B) input from the optical pick-up block
3	RF_C	I	RF main beam (A) input from the optical pick-up block
4	RF_D	I	RF main beam (D) input from the optical pick-up block
5	RF_E	I	RF sub beam (F) input from the optical pick-up block
6	RF_F	I	RF sub beam (E) input from the optical pick-up block
7	AVDD18_2	-	Power supply terminal (+1.8V)
8	AVDD33_1	-	Power supply terminal (+3.3V)
9	XTALI	I	System clock input terminal (27 MHz)
10	XTALO	O	System clock output terminal (27 MHz)
11	AGND33	-	Ground terminal
12	V2O	O	Reference voltage (+2V) output to the optical pick-up block
13	V14/VREFO	O	Reference voltage (+1.4V) output terminal
14	REXT	I	Current reference input terminal Fixed at "L" in this set
15, 16	MDI1, MDI2	I	Laser power monitor input from the optical pick-up block
17, 18	LDO1, LDO2	O	Laser diode drive signal output to the optical pick-up block
19	AVDD33_2	-	Power supply terminal (+3.3V)
20	DMO	O	Spindle motor control signal output to the motor driver
21	FMO	O	Sled motor control signal output to the motor driver
22	MUTE4	O	Muting signal output to the coil/motor driver (for spindle motor)
23	MSW	O	CD/DVD selection signal output terminal "L": CD, "H": DVD
24	TRO	O	Tracking coil control signal output to the coil driver
25	FOO	O	Focus coil control signal output to the coil driver
26	EEWP	-	Not used
27, 28	USB_DP, USB_DM	I/O	Two-way audio serial data with the USB controller
29	VDD33_USB	-	Power supply terminal (+3.3V)
30	VSS33_USB	-	Ground terminal
31	PAD_VRT	I/O	USB generating reference current terminal
32	VDD18_USB	-	Power supply terminal (+1.8V)
33	SCL	O	Serial clock signal output to the EEPROM (GTZ4i)
34	SDA	I/O	Two-way serial data with the EEPROM (GTZ4i)
35	IFSDI	I	Serial data input from the system controller
36	FS_CS#	O	Chip select signal output to the flash ROM
37	SF_DO	O	Serial data output to the flash ROM
38	SF_DI	I	Serial data input from the flash ROM
39	SF_CK	O	Serial clock signal output to the flash ROM
40	IFSCK	O	Serial data transfer clock signal output to the system controller
41	IFSOD	O	Serial data output to the system controller
42	ICE	I	ICE mode enable setting terminal Not used
43	PRST#	I	Reset signal input from the system controller "L": reset
44	IR	I	IR control signal input terminal Not used
45 to 49	RD0 to RD4	I/O	Two-way data bus with the SD-RAM
50	DVDD33	-	Power supply terminal (+3.3V)
51 to 53	RD5 to RD7	I/O	Two-way data bus with the SD-RAM
54	DVDD18	-	Power supply terminal (+1.8V)
55	DQM0	O	Data mask signal output to the SD-RAM
56 to 59	RD15 to RD 12	I/O	Two-way data bus with the SD-RAM
60	DVSS33	-	Ground terminal
61 to 64	RD11 to RD8	I/O	Two-way data bus with the SD-RAM
65	DQM1	O	Data mask signal output to the SD-RAM
66	RCLK	O	Clock signal output to the SD-RAM
67	RA11	O	Address signal output to the SD-RAM
68	DVDD33	-	Power supply terminal (+3.3V)
69 to 74	RA9 to RA4	O	Address signal output to the SD-RAM
75	RWE#	O	Write enable signal output to the SD-RAM
76	CAS#	O	Column address strobe signal output to the SD-RAM
77	RAS#	O	Row address strobe signal output to the SD-RAM

Pin No.	Pin Name	I/O	Description
78	BA0	O	Bank address signal output to the SD-RAM
79	DVSS18	-	Ground terminal
80	BA1	O	Bank address signal output to the SD-RAM
81 to 83	RA10, RA0, RA1	O	Address signal output to the SD-RAM
84	DVDD33	-	Power supply terminal (+3.3V)
85, 86	RA2, RA3	O	Address signal output to the SD-RAM
87	IFBSY	I	Communication initialization request signal input from the system controller
88	IFCS#	O	Communication initialization request acknowledge signal output to the system controller
89	RX	-	Not used
90	DVDD18	-	Power supply terminal (+1.8V)
91	TX	-	Not used
92	XMAMUTE	-	Not used
93	SPDIF	O	SPDIF signal output terminal Not used
94	GPIO	I	Thermal shut down signal input from the coil/motor driver
95	DACVDDC	-	Power supply terminal (+3.3V)
96	VREF	I	Band gap reference voltage terminal
97	FS	I	Full scale adjustment terminal
98	DACVSSC	-	Ground terminal
99	CVBS	O	Composite video signal output terminal Not used
100, 101	DACVDDB, DACVDDA	-	Power supply terminal (+3.3V)
102	SY/Y/G	O	Component video (Y) signal output terminal Not used
103	SC/CB/B	O	Component video (Pb/Cb) signal output terminal Not used
104	CR/R	O	Component video (Pr/Cr) signal output terminal Not used
105	AADVSS	-	Ground terminal
106	GPIO19	I	Audio data input from the A/D converter (for USB)
107	MUTE123	-	Not used
108	LIMITSW	-	Not used
109, 110	AADVDD, APLLVDD	-	Power supply terminal (+3.3V)
111	APLLCAP	I	External capacitor connecting terminal
112, 113	ADACVSS2, ADACVSS1	-	Ground terminal
114	GPIO	O	Master clock signal output to the A/D converter and D/A converter
115	GPIO	O	Bit clock signal output to the A/D converter and D/A converter
116	GPIO	O	Muting signal output to the coil/motor driver (for focus/tracking coil and sled motor)
117	AVCM	-	Audio D/A converter reference voltage terminal
118	GPIO	I	Limit detection switch input terminal
119	GPIO	O	L/R sampling clock signal output to the A/D converter and D/A converter
120	GPIO	O	Audio data output to the D/A converter
121, 122	ADACVDD1, ADACVDD2	-	Power supply terminal (+3.3V)
123	AVDD18_1	-	Power supply terminal (+1.8V)
124	AGND18	-	Ground terminal
125, 126	RF_IP, OPOUT	I	AC coupled RF signal input from the optical pick-up block
127	IOPMON/OPINP	I	Power monitor terminal
128	SPFG/OPINN	I	Spindle motor hall sensor input from the motor driver

HUB BOARD IC1501 USB2512A-AEZG (USB CONTROLLER)

Pin No.	Pin Name	I/O	Description
1, 2	USBDN1_DM, USBDN1_DP	I	Audio serial data input from the USB A connector
3, 4	USBDN2_DM, USBDN2_DP	I/O	Two-way audio serial data with the USB B connector
5	VDDA33	-	Power supply terminal (+3.3V)
6 to 9	NC	-	Not used
10	VDDA33	-	Power supply terminal (+3.3V)
11	TEST	-	Not used
12	PRTPOWER1	O	Not used
13	OCS1_N	I	Over current sense signal input from the USB interface
14	VDD18	-	Power supply terminal (+1.8V)
15	VDD33CR	-	Power supply terminal (+3.3V)
16	PRTPOWER2	O	Not used
17	OCS2_N	I	Over current sense signal input terminal
18 to 21	NC	-	Not used
22	SDA/SMBDATA/ NON/REM1	-	Not used
23	VDD33	-	Power supply terminal (+3.3V)
24	SCL/SMBCLK/ CFG_SEL0	-	Not used
25	HS_IND/CFG_SEL1	-	Not used
26	RESET_N	I	Reset signal input from the system controller "L": reset
27	VBUS_DET	I	VBUS voltage detect signal input from the system controller
28	SUSP_IND/LOCAL_ PWR/NON_PEM0	-	Not used
29	VDDA33	-	Power supply terminal (+3.3V)
30, 31	USBUP_DM, USBUP_DP	I/O	Two-way audio serial data with the audio processor
32	XTAL2	O	System clock (24 MHz) output terminal
33	XTAL1/CLKIN	I	System clock (24 MHz) input terminal
34	VDD18PLL	-	Power supply terminal (+1.8V)
35	RBIAS	-	Not used
36	VDD33PLL	-	Power supply terminal (+3.3V)

MAIN BOARD (1/3) IC401 R5F3640DDFA (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	FL-DRIVER-CLK	O	Serial data clock signal to FL Driver, PT6324
2	FL-DRIVER-DATA	O	Serial data output signal to FL Driver, PT6324
3	AD SUPPLY SWITCH	O	AD Power Control pin
4	SIRCS	I	Remote control signal input
5	SW-OPEN	I	Drawer open position detection signal input from CDM
6	SW-STOCK	I	Tray stock position detection signal from CDM
7	SW-CLOSE	I	Drawer close position detection signal input from CDM
8	BYTE	-	Ground terminal
9	CNVss	-	Ground terminal
10	XC-IN	I	Sub system clock input terminal (32.768kHz)
11	XC-OUT	O	Sub system clock output terminal (32.768kHz)
12	RESET	I	System reset signal input from the reset signal IC "L": reset After the power supply rises, "L" is input for several hundreds msec and then change to "H".
13	X-OUT	O	Main system clock output terminal (8MHz)
14	VSS	-	Ground terminal
15	X-IN	I	Main system clock input terminal (8MHz)
16	VCC	-	Power supply terminal (+3.3V)
17	NMI	I	Non-maskable interrupt input terminal
18	SW2	I	Disc change and mode change detection signal input from CDM
19	SW-CHUCK	I	Tray chuck position detection signal from CDM
20	AC-CUT	I	AC off detection signal input from the reset signal IC "L": AC Cut detected
21	SW1	I	Disc change and mode change detection signal input from CDM
22	SW3	I	Disc change and mode change detection signal input from CDM
23	M1+	O	Tray/drawer transportation motor control signal output
24	M2+	O	Disc change and mode change motor control signal output
25	M1-	O	Tray/drawer transportation motor control signal output
26	M2-	O	Disc change and mode change motor control signal output
27	CDM-SD	I	CDM protector detection input signal "H": protector on
28	NO-USE	-	Unused
29	IIC-CLK	I/O	Serial data transfer clock signal output terminal
30	IIC-DATA	I/O	Serial data output terminal
31	NO-USE	-	Unused
32	NO-USE	-	Unused
33	NO-USE	-	Unused
34	MTK-XIFCS	I	Chip Select Signal from MTK DMB Board
35	MTK-SOD	O	Data Out Signal to MTK DMB Board
36	MTK-SIO	I	Data In Signal from MTK DMB Board
37	MTK-CLK	I	Clock Signal from MTK DMB Board
38	MTK-RESET	O	MTK DMB Board reset pin
39	MTK-BSY	O	BUSY Signal communication between MTK Board
40	NO-USE	-	Unused
41	TC REC MUTE	O	TAPE muting control. "H": muting on (Only for African model)
42	MTK PWR CTL	O	Power Control pin for MTK DMB board
43	FAN CTRL ON/OFF	O	Fan Control Switch "H": fan on
44	MTK-VBUS-DET	O	Hub Power (V-DET) Control Port
45	MTK HUB RST	O	MTK Hub Board reset pin
46	ST-DOUT	I	PLL serial data input from the tuner unit
47	MTK-OC1	I	USB Overcurrent Detection input port 1
48	SW SPK RELAY	O	Relay drive signal output for the subwoofer "H":relay on
49	MTK-OE	O	MTK Output enable control pin
50	MTK-OC2	O	USB Overcurrent Detection input port 2
51	ST-CLK	I	PLL serial data transfer clock signal output to the tuner unit
52	ST-DIN	O	PLL serial data output to the tuner unit
53	ST-CE	O	PLL chip enable signal output to the tuner unit
54	ST-TUNED	I	Tuned detection input from the tuner unit
55	NO-USE	-	Unused
56	NO-USE	-	Unused
57	R2A15216FP-CLK	O	Serial data transfer clock signal output to audio signal processor, R2A15216FP

Pin No.	Pin Name	I/O	Description
58	R2A15216FP-DATA	O	Serial data output to audio signal processor, R2A15216FP
59	FR SPK RELAY	O	Relay drive signal output for the front speakers "H":relay on
60	STK MUTE	O	Power amplifier on/off control signal output "H": amplifier on
61	PROTECT	I	Speaker protect detection signal input from speaker protect circuit "H":protector on
62	VCC	-	Power supply terminal (+3.3V)
63	LINE-MUTE	O	Line muting on/off control signal "L":muting on
64	VSS	-	Ground terminal
65	MTK PWR MON	I	MTK DMB Board power monitor input pin (A/D input)
66	MIC/HP_DET	I	Headphone & microphone connection detection signal input (A/D input)
67	OUTPUT LEVEL DETECT	I	Speaker Output Level Detection
68	NO-USE	-	Unused
69	ILLUMINATOR-INPUT	I	Power illuminator & METER input signal detection (A/D input)
70	VACS-IN	I	VACS level detection signal (A/D input)
71	OVERVOLTAGE	I	Over-voltage protection detection input terminal "L": over-voltage detected
72	TC-STATE	I	Tape playback/recording/stop status detection input signal (A/D input) (Only for African model)
73	NO-USE	-	Unused
74	POWER/DISPLAY- KEY	I	POWER & DISPLAY key press detection signal (Interrupt input)
75	STBY RELAY	O	Main power on/off control signal output "H":power on
76	TC_M+9V SW	O	TCM power supply control signal output "H":power on (Only for African model)
77	METER-IN4	O	Meter motor control signal output 4
78	METER-IN3	O	Meter motor control signal output 3
79	METER-IN1	O	Meter motor control signal output 1
80	METER-IN2	O	Meter motor control signal output 2
81	METER SW	I	Min and Max switch input signal from METER (A/D input)
82	METER PTR LED	O	Meter Pointer LED control signal. "H" LED ON
83	METER BL CTL	O	Meter Backlight LED control signal. "H" LED ON
84	LED CTRL	O	Dynamic LED drive select signal output
85	AD-KEY2	I	Key input terminal (A/D input)
86	USB-B LED	O	Dynamic LED drive signal output to the USB B Blue & Red LED "H":LED on
87	MASTER VOL	I	Jog dial pulse input from the MASTER VOLUME encoder (A/D input)
88	LED-VOL1,2	O	Dynamic LED drive signal output to the ILLUMINATION 1st indicator and 2nd indicator "H":LED on
89	AD-KEY1	I	Key input terminal (A/D input)
90	LED-VOL5,6	O	Dynamic LED drive signal output to the ILLUMINATION 5th indicator and 6h indicator "H":LED on
91	LED-VOL3,4	O	Dynamic LED drive signal output to the ILLUMINATION 3rd indicator and 4th indicator "H":LED on
92	NO-USE	-	Unused
93	DEST-IN	I	Destination setting terminal (A/D input)
94	SW LED/USB A LED	O	Dynamic LED drive signal output to the Subwoofer LED and USB A LED indicator "H":LED on
95	STBY LED	O	LED drive signal output of POWER indicator "H":LED on
96	AVSS	-	Ground terminal (for A/D conversion)
97	AD-KEY0	I	Key input terminal (A/D input)
98	AREF	I	A/D Converter reference voltage input terminal (+3.3V)
99	AVCC	-	Power supply terminal (+3.3V) (for A/D conversion)
100	FL-DRIVER-CS	O	Serial data chip select signal to FL Driver, PT6324

SECTION 7 EXPLODED VIEWS

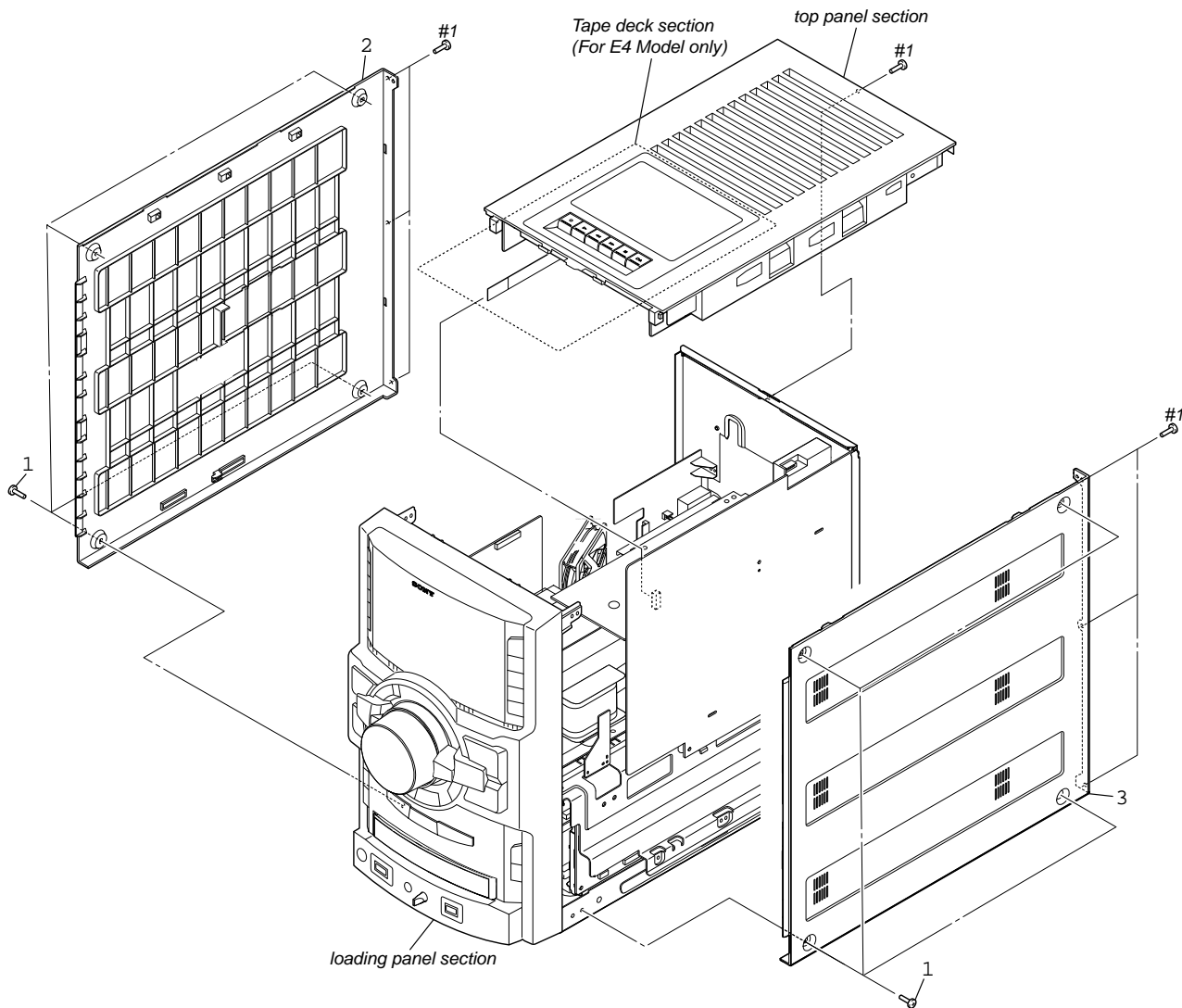
Note:

- -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.
- The mechanical parts with no reference number in the exploded views are not supplied.

- Color Indication of Appearance Parts Example:
 KNOB, BALANCE (WHITE) . . . (RED)
☒ ☒
 Parts Color Cabinet's Color
- Abbreviation
 AR : Argentine model
 AUS : Australian model
 E2 : 120V AC area in E model
 E4 : African model
 E51 : Chilean and Peruvian models
 MX : Mexican model

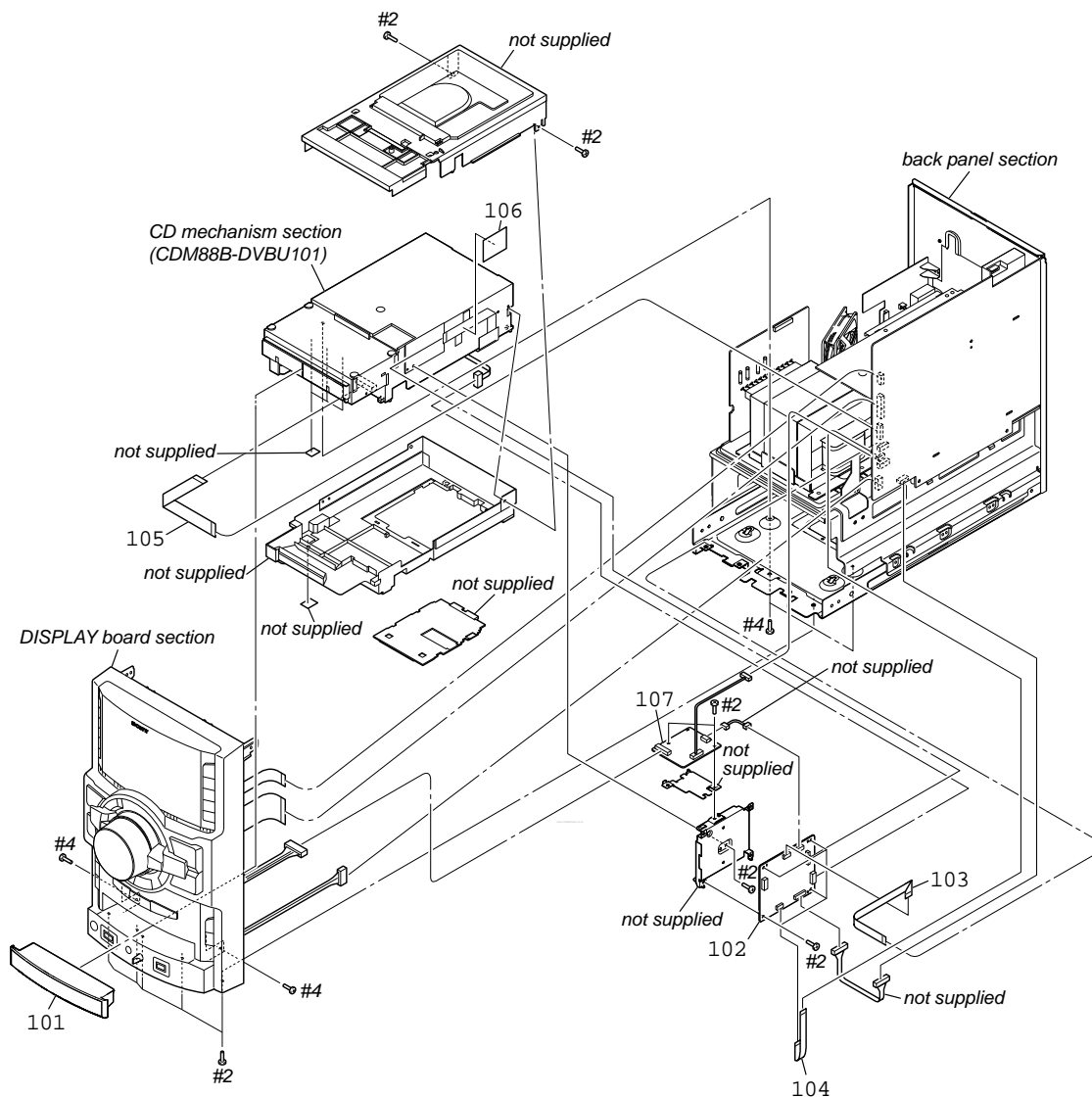
The components identified by mark \triangle or dotted line with mark \triangle are critical for safety.
 Replace only with part number specified.

7-1. CASE SECTION



Ref. No.	Part No.	Description	Remark
1	3-363-099-32	SCREW (CASE 3 TP2)	
2	4-164-374-01	CASE, SIDE-L (GVX7S)	
3	4-164-375-01	CASE, SIDE-R (GVX7S)	
#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3	

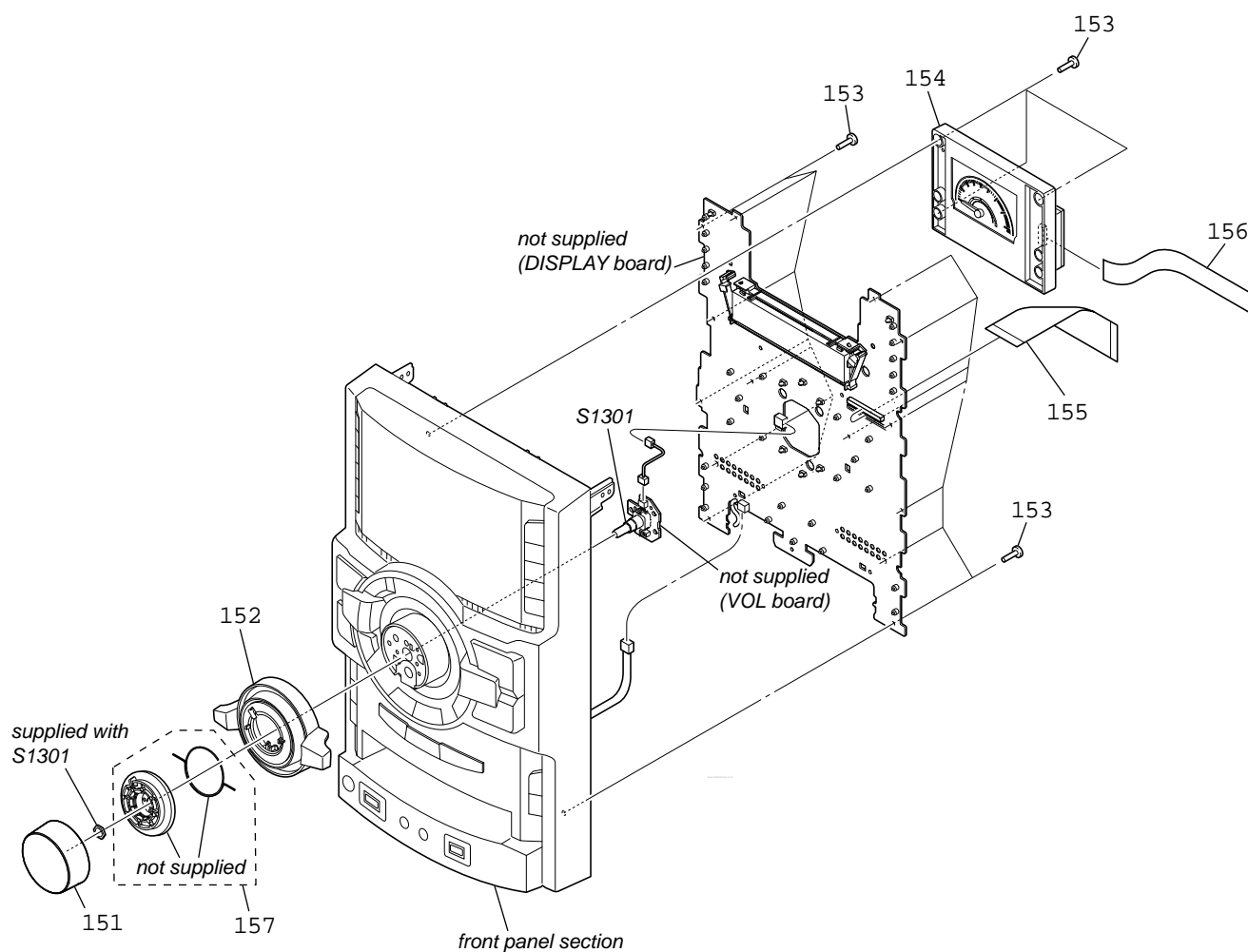
7-3. LOADING PANEL SECTION, HUB BOARD SECTION, DMB19 BOARD SECTION



Note: If wire (flat type) is replaced, install it after bending it in the same form as that before replacement.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	4-164-371-31	PANEL, LOADING		106	3-831-441-11	CUSHION, SARANET	
102	A-1745-142-A	DMB19 BOARD, COMPLETE		107	A-1750-170-A	HUB BOARD, COMPLETE	
103	1-824-954-11	FLAT FLEXIBLE CABLE FM0-8		#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
104	1-838-099-11	FLEXIBLE FLAT CABLE (7 CORE)		#4	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3	
105	1-828-976-11	WIRE (FLAT TYPE) (13 CORE)					

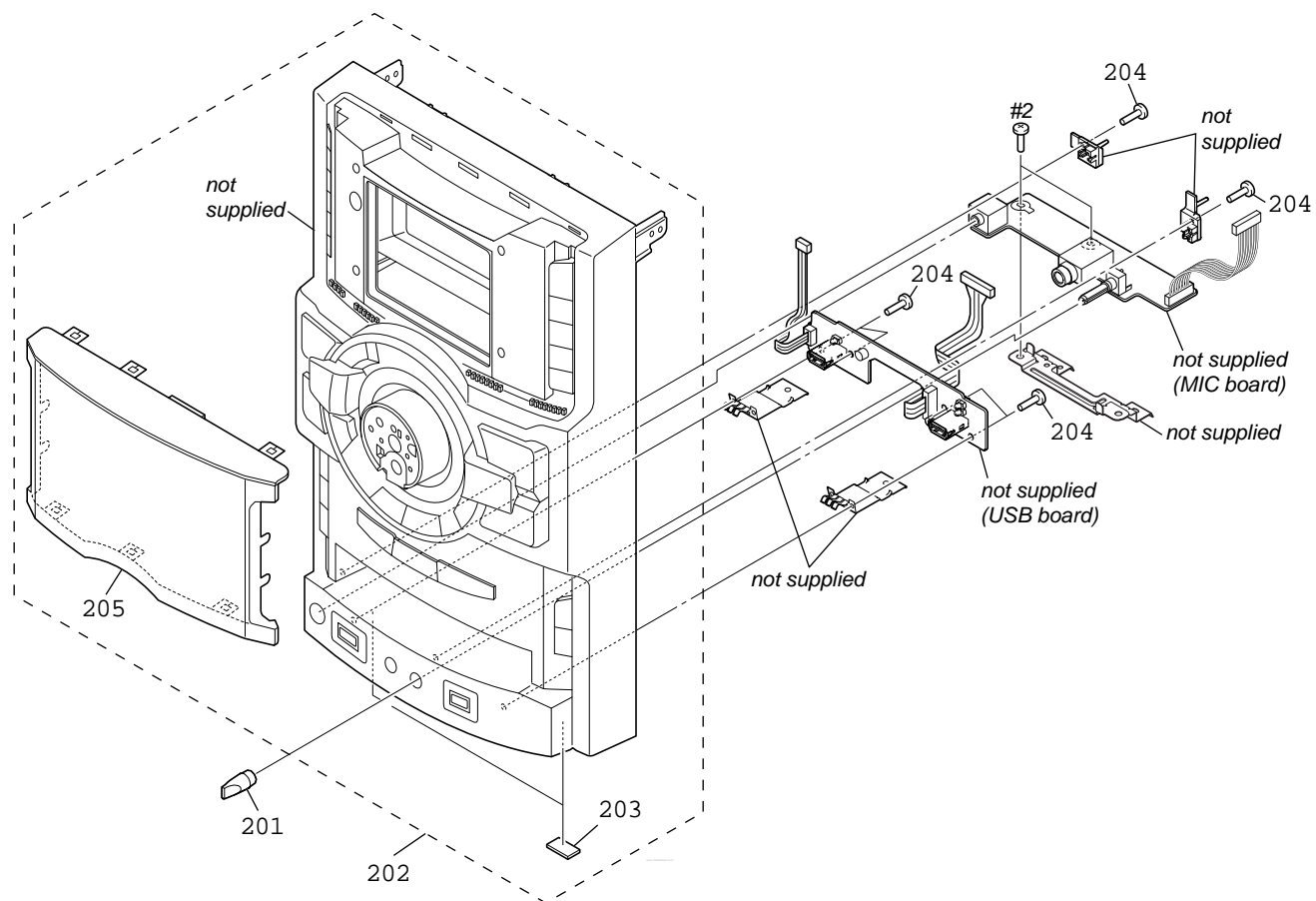
7-4. DISPLAY BOARD SECTION



Note: If wire (flat type) is replaced, install it after bending it in the same form as that before replacement.

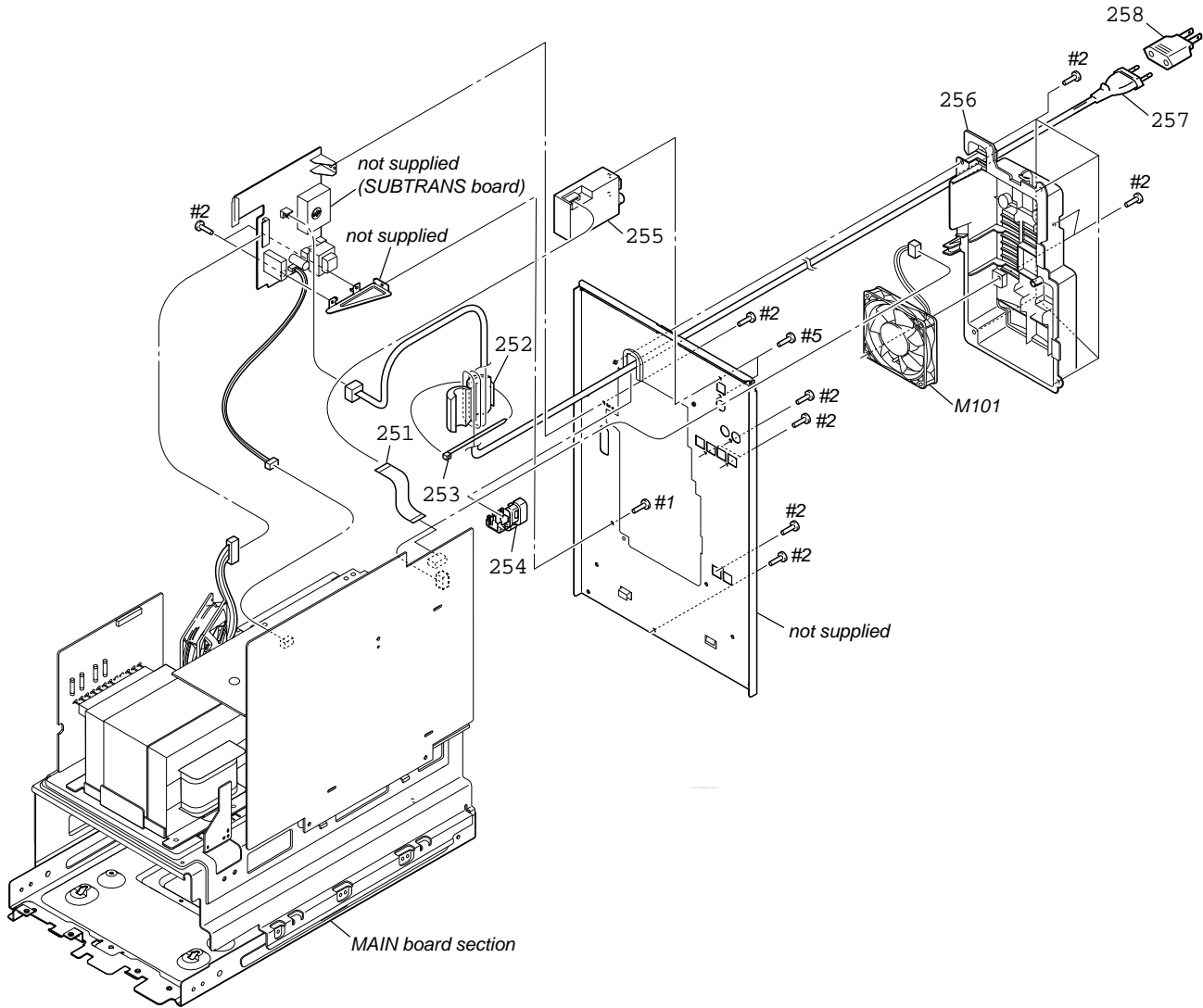
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	4-164-361-11	KNOB (VOLUME)		156	1-823-669-11	WIRE (FLAT TYPE) (11 CORE)	
152	4-164-363-11	KNOB (JOG)		157	X-2541-975-2	HOLDER (JOG) ASSY	
153	3-087-053-01	+BVTP 2.6 (3CR)		S1301	1-487-171-11	ROTARY ENCODER	
154	A-1745-602-A	METER DISPLAY ASSY (GVX)					
155	1-829-023-11	WIRE (FLAT TYPE) (23 CORE)					

7-5. FRONT PANEL SECTION



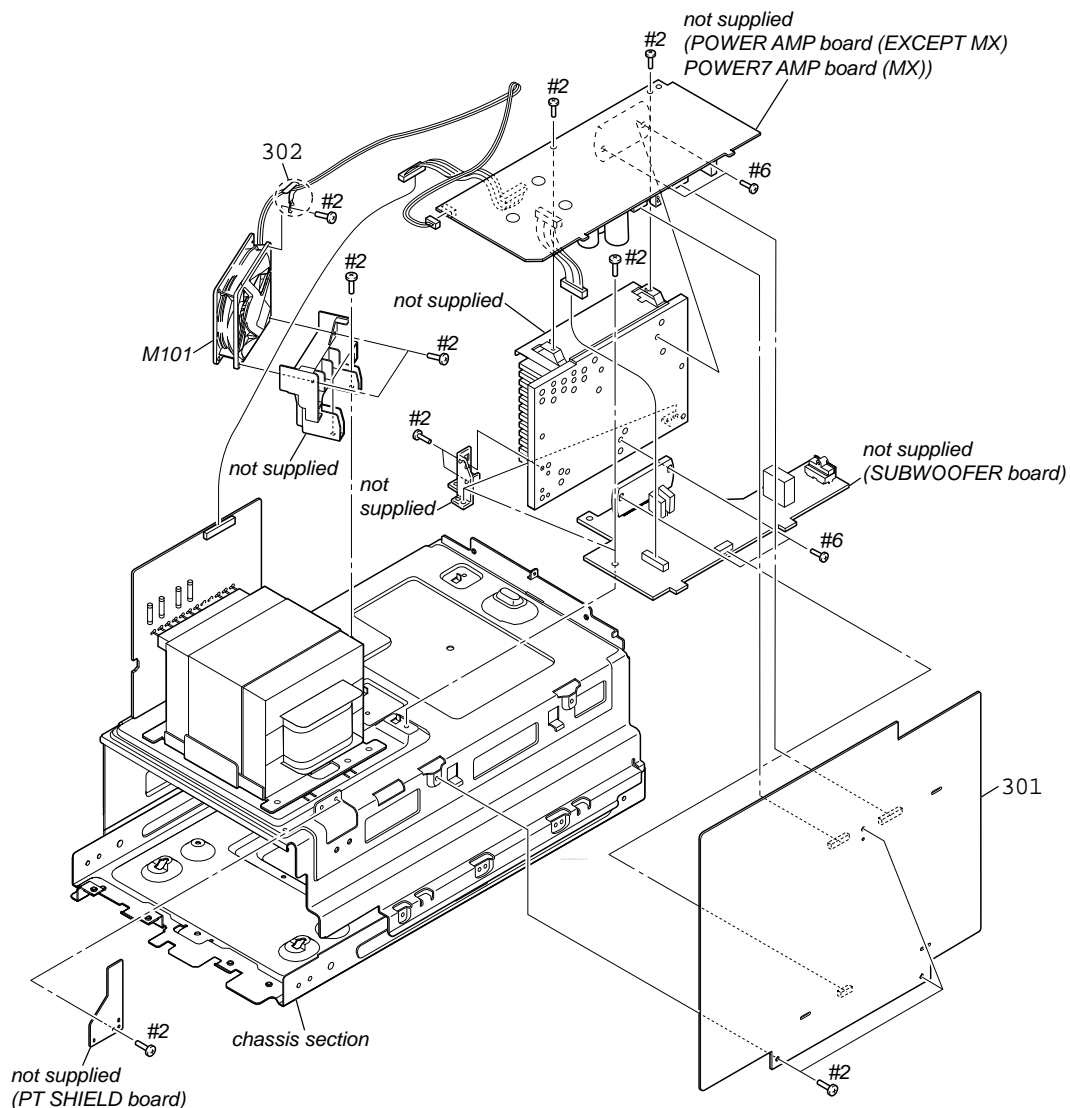
Ref. No.	Part No.	Description	Remark
201	2-895-507-01	KNOB (MIC)	
202	X-2541-955-1	FRONT PANEL ASSY (GVX-COM) (EXCEPT E4)	
202	X-2546-463-1	FRONT PANEL ASSY (GVX-E4) (E4)	
203	4-225-252-01	CUSHION (FOOT)	
204	3-087-053-01	+BVTP 2.6 (3CR)	
205	4-164-351-01	WINDOW (FL)	
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	

7-6. BACK PANEL SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
251	1-828-952-11	WIRE (FLAT TYPE) (9 CORE)		△ 257	1-835-068-21	CORD, POWER (AUS)	
252	1-457-369-12	CORE, FERRITE		△ 257	1-837-312-11	CORD, POWER-SUPPLY (AR)	
253	3-655-653-11	BAND (TAITON), BINDING		△ 257	1-837-344-11	CORD, POWER-SUPPLY (MX)	
254	4-966-267-12	BUSHING (FBS 001), CORD		△ 258	1-569-008-21	ADAPTOR, CONVERSION (E2, E51, E4)	
255	1-693-778-31	TUNER (FM/AM) (EXCEPT AUS)		△ M101	1-787-344-11	FAN, DC	
255	1-693-778-22	TUNER (FM/AM) (AUS)		#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
256	4-164-376-01	COVER FAN (GVX7S)		#5	7-685-871-01	SCREW +BVTT 3X6 (S)	
△ 257	1-777-071-83	CORD, POWER (E2, E51, E4)					

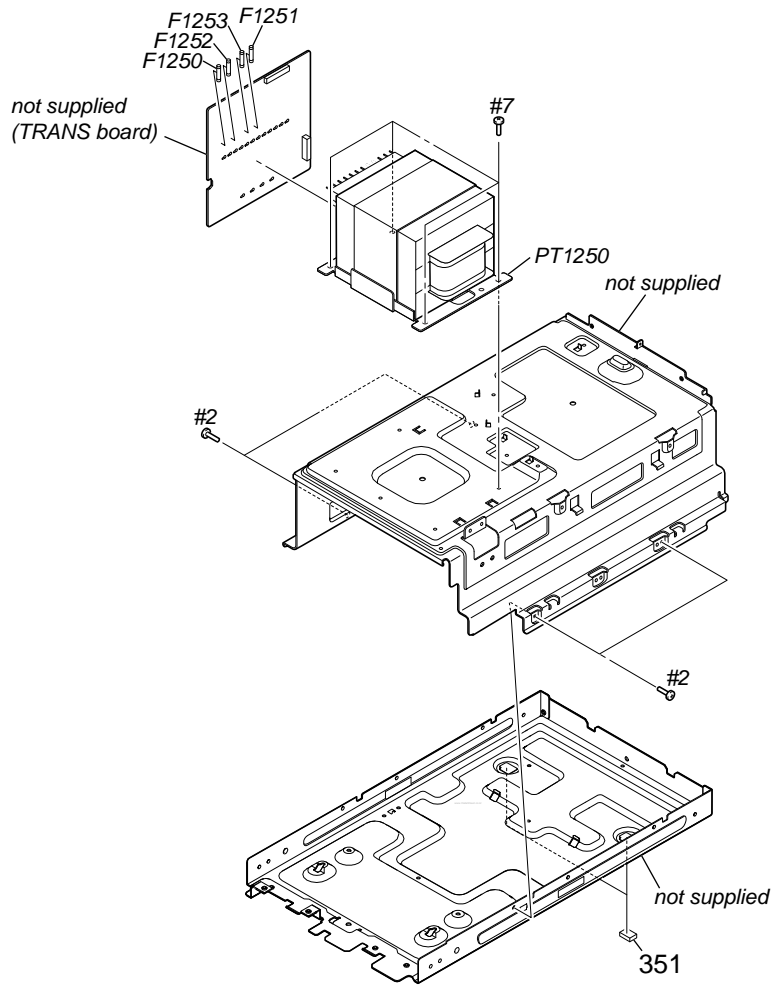
7-7. MAIN BOARD SECTION



Note: If wire (flat type) is replaced, install it after bending it in the same form as that before replacement.

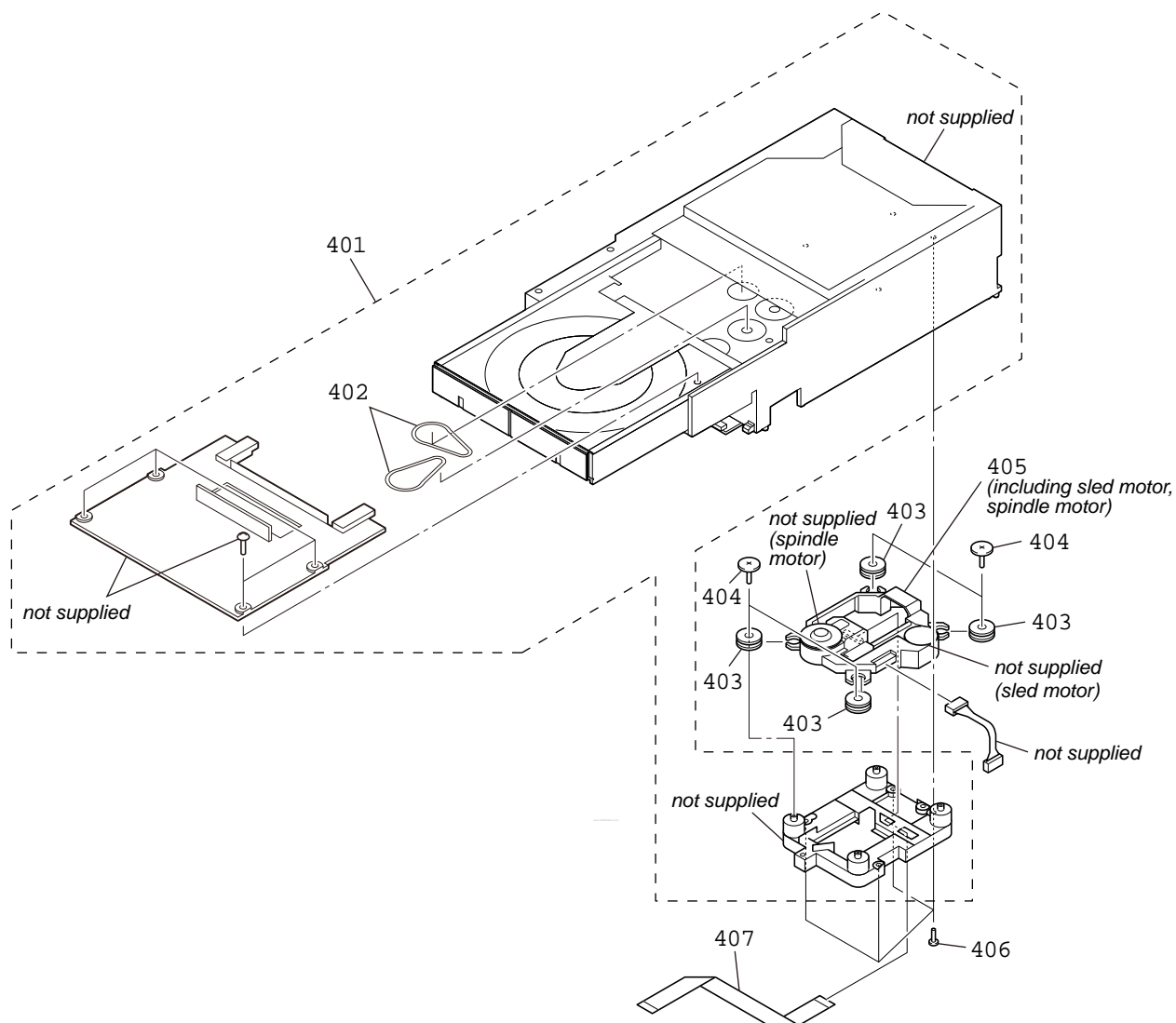
Ref. No.	Part No.	Description	Remark
301	A-1749-832-A	MAIN BOARD, COMPLETE (E2, E51, MX, AR)	
301	A-1753-801-A	MAIN BOARD, COMPLETE (E4)	
301	A-1769-607-A	MAIN BOARD, COMPLETE (AUS)	
* 302	3-703-150-11	CLAMP	
△ M101	1-787-344-11	FAN, DC	
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
#6	3-905-609-31	SCREW (TRANSISTOR)	

7-8. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
351	4-225-252-01	CUSHION (FOOT)		△ PT1250	1-445-825-11	POWER TRANSFORMER (MX)	
△ F1250	1-533-949-33	FUSE, T8AL 250V		△ PT1250	1-445-826-11	POWER TRANSFORMER (EXCEPT MX)	
△ F1251	1-533-949-33	FUSE, T8AL 250V		#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
△ F1252	1-533-949-33	FUSE, T8AL 250V		#7	7-685-880-09	SCREW +BVTT 4X6 (S)	
△ F1253	1-533-949-33	FUSE, T8AL 250V					

7-9. CD MECHANISM SECTION (CDM88BL-DVBU101)



Note: If wire (flat type) is replaced, install it after bending it in the same form as that before replacement.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
401	1-840-387-31	MECHANICAL, CD		406	3-087-053-01	+BVTP 2.6 (3CR)	
402	2-632-062-11	BELT (DLM3A)		407	1-828-773-51	WIRE (FLAT TYPE) (24 CORE)	
403	2-634-618-21	INSULATOR					
404	3-087-599-01	INSULATOR SCREW					
△ 405	8-820-322-04	DEVICE, OPTICAL KHM-313CAB/C2NP (including sled motor, spindle motor)					

SECTION 8 ELECTRICAL PARTS LIST

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.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- CAPACITORS
uF: μF
uH: μH
- COILS
uH: μH
- SEMICONDUCTORS
In each case, u: μ, for example:
uA. . . : μA. . . , uPA. . . , μPA. . . ,
uPB. . . : μPB. . . , uPC. . . , μPC. . . ,
uPD. . . : μPD. . .
- Abbreviation
AR : Argentine model
AUS : Australian model
E2 : 120V AC area in E model
E4 : African model
E51 : Chilean and Peruvian models
MX : Mexican model

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

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		DISPLAY BOARD *****		JR1008	1-216-295-91	SHORT CHIP	0
				JR1009	1-216-296-11	SHORT CHIP	0
				JR1010	1-216-296-11	SHORT CHIP	0
		< CAPACITOR >		JR1011	1-216-296-11	SHORT CHIP	0
C1136	1-124-257-00	ELECT 2.2uF	20% 50V	JR1012	1-216-296-11	SHORT CHIP	0
C1137	1-124-257-00	ELECT 2.2uF	20% 50V	JR1013	1-216-296-11	SHORT CHIP	0
C1147	1-128-131-11	ELECT 22uF	20% 50V	JR1014	1-216-864-11	SHORT CHIP	0
C1150	1-164-156-11	CERAMIC CHIP 0.1uF	25V	JR1015	1-216-296-11	SHORT CHIP	0
C1151	1-162-927-11	CERAMIC CHIP 100PF	5% 50V	JR1016	1-216-296-11	SHORT CHIP	0
C1152	1-162-927-11	CERAMIC CHIP 100PF	5% 50V	JR1017	1-216-296-11	SHORT CHIP	0
C1153	1-162-927-11	CERAMIC CHIP 100PF	5% 50V	JR1018	1-216-296-11	SHORT CHIP	0
C1155	1-126-947-11	ELECT 47uF	20% 35V	JR1019	1-216-296-11	SHORT CHIP	0
C1156	1-164-156-11	CERAMIC CHIP 0.1uF	25V	JR1020	1-216-296-11	SHORT CHIP	0
		< CONNECTOR >		JR1021	1-216-296-11	SHORT CHIP	0
CN1102	1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P		JR1022	1-216-296-11	SHORT CHIP	0
CN1103	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P		JR1023	1-216-864-11	SHORT CHIP	0
CN1105	1-784-784-11	CONNECTOR, FFC 23P		JR1024	1-216-296-11	SHORT CHIP	0
		< DIODE >		JR1025	1-216-296-11	SHORT CHIP	0
D1101	6-502-469-01	DI SLI-325URT31WR		JR1026	1-216-296-11	SHORT CHIP	0
D1102	6-501-752-01	DIODE MAZ8082GMLS0		JR1027	1-216-296-11	SHORT CHIP	0
D1104	8-719-060-27	DIODE SLR-325MCT31		JR1028	1-216-296-11	SHORT CHIP	0
D1105	6-503-224-01	DI 1L0351V22F0MIT01		JR1029	1-216-296-11	SHORT CHIP	0
D1106	6-503-224-01	DI 1L0351V22F0MIT01		JR1030	1-216-296-11	SHORT CHIP	0
D1107	6-503-224-01	DI 1L0351V22F0MIT01		JR1031	1-216-296-11	SHORT CHIP	0
D1108	6-503-224-01	DI 1L0351V22F0MIT01		JR1032	1-216-296-11	SHORT CHIP	0
D1109	6-503-224-01	DI 1L0351V22F0MIT01		JR1033	1-216-296-11	SHORT CHIP	0
D1110	6-503-224-01	DI 1L0351V22F0MIT01		JR1034	1-216-296-11	SHORT CHIP	0
		< FLUORESCENT INDICATOR TUBE >		JR1035	1-216-864-11	SHORT CHIP	0
FL1100	1-483-077-11	VACUUM FLUORESCENT DISPLAYS		JR1036	1-216-864-11	SHORT CHIP	0
		< IC >				< TRANSISTOR >	
IC1100	6-600-768-01	IC PNA4823M03S0		Q1118	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF
IC1101	6-713-680-01	IC PT6324-Q		Q1119	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF
		< JUMPER RESISTOR >		Q1120	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF
JR1001	1-216-295-91	SHORT CHIP	0	Q1121	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF
JR1002	1-216-864-11	SHORT CHIP	0	Q1122	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF
JR1003	1-216-295-91	SHORT CHIP	0			< RESISTOR >	
JR1004	1-216-296-11	SHORT CHIP	0	R1100	1-216-819-11	METAL CHIP	680 5% 1/10W
JR1005	1-216-296-11	SHORT CHIP	0	R1101	1-216-821-11	METAL CHIP	1K 5% 1/10W
JR1006	1-216-296-11	SHORT CHIP	0	R1102	1-216-823-11	METAL CHIP	1.5K 5% 1/10W
JR1007	1-216-296-11	SHORT CHIP	0	R1103	1-216-823-11	METAL CHIP	1.5K 5% 1/10W
				R1104	1-216-825-11	METAL CHIP	2.2K 5% 1/10W
				R1105	1-216-827-11	METAL CHIP	3.3K 5% 1/10W
				R1106	1-216-829-11	METAL CHIP	4.7K 5% 1/10W

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R1107	1-218-867-11	METAL CHIP	6.8K 0.5% 1/10W	S1118	1-771-410-21	SWITCH, TACTILE (TUNER/BAND)	
R1108	1-216-833-11	METAL CHIP	10K 5% 1/10W	S1119	1-771-410-21	SWITCH, TACTILE (TAPE /PC)	
R1113	1-216-819-11	METAL CHIP	680 5% 1/10W	S1124	1-771-410-21	SWITCH, TACTILE (USB A)	
R1114	1-216-821-11	METAL CHIP	1K 5% 1/10W	S1125	1-771-410-21	SWITCH, TACTILE (RETURN)	
R1115	1-216-823-11	METAL CHIP	1.5K 5% 1/10W	S1126	1-771-410-21	SWITCH, TACTILE (REC TO USB B)	
R1116	1-216-823-11	METAL CHIP	1.5K 5% 1/10W	S1127	1-771-410-21	SWITCH, TACTILE (ENTER)	
R1117	1-216-825-11	METAL CHIP	2.2K 5% 1/10W	S1128	1-771-410-21	SWITCH, TACTILE (USB B)	
R1118	1-216-827-11	METAL CHIP	3.3K 5% 1/10W	S1129	1-771-410-21	SWITCH, TACTILE (DISC 1)	
R1119	1-216-829-11	METAL CHIP	4.7K 5% 1/10W	S1130	1-771-410-21	SWITCH, TACTILE (DISC 2)	
R1120	1-218-867-11	METAL CHIP	6.8K 0.5% 1/10W	S1131	1-771-410-21	SWITCH, TACTILE (DISC 3)	
R1121	1-216-833-11	METAL CHIP	10K 5% 1/10W	S1132	1-771-410-21	SWITCH, TACTILE (▲ OPEN/CLOSE)	
R1158	1-216-841-11	METAL CHIP	47K 5% 1/10W	S1133	1-771-410-21	SWITCH, TACTILE (DISC SKIP/EX-CHANGE)	
R1160	1-216-841-11	METAL CHIP	47K 5% 1/10W	*****			
R1161	1-216-821-11	METAL CHIP	1K 5% 1/10W	A-1745-142-A	DMB19 BOARD, COMPLETE		
R1162	1-216-819-11	METAL CHIP	680 5% 1/10W	*****			
R1163	1-216-821-11	METAL CHIP	1K 5% 1/10W	< CAPACITOR >			
R1164	1-216-823-11	METAL CHIP	1.5K 5% 1/10W	C101	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
R1165	1-216-823-11	METAL CHIP	1.5K 5% 1/10W	C102	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
R1166	1-216-825-11	METAL CHIP	2.2K 5% 1/10W	C105	1-128-994-21	ELECT CHIP	47uF 20% 10V
R1167	1-216-827-11	METAL CHIP	3.3K 5% 1/10W	C106	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
R1168	1-216-829-11	METAL CHIP	4.7K 5% 1/10W	C108	1-162-965-11	CERAMIC CHIP	0.0015uF 10% 50V
R1169	1-218-867-11	METAL CHIP	6.8K 0.5% 1/10W	C111	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
R1170	1-216-833-11	METAL CHIP	10K 5% 1/10W	C112	1-128-994-21	ELECT CHIP	47uF 20% 10V
R1171	1-216-833-11	METAL CHIP	10K 5% 1/10W	C113	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
R1173	1-216-821-11	METAL CHIP	1K 5% 1/10W	C115	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
R1174	1-216-821-11	METAL CHIP	1K 5% 1/10W	C116	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
R1189	1-216-819-11	METAL CHIP	680 5% 1/10W	C118	1-124-779-00	ELECT CHIP	10uF 20% 16V
R1190	1-216-819-11	METAL CHIP	680 5% 1/10W	C119	1-137-710-91	CERAMIC CHIP	10uF 20% 6.3V
R1195	1-216-819-11	METAL CHIP	680 5% 1/10W	C124	1-165-908-11	CERAMIC CHIP	1uF 10% 10V
R1196	1-216-819-11	METAL CHIP	680 5% 1/10W	C125	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
R1198	1-216-819-11	METAL CHIP	680 5% 1/10W	C126	1-137-710-91	CERAMIC CHIP	10uF 20% 6.3V
R1199	1-216-819-11	METAL CHIP	680 5% 1/10W	C127	1-165-908-11	CERAMIC CHIP	1uF 10% 10V
R1201	1-216-833-11	METAL CHIP	10K 5% 1/10W	C144	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
R1203	1-216-833-11	METAL CHIP	10K 5% 1/10W	C145	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
R1205	1-216-833-11	METAL CHIP	10K 5% 1/10W	C146	1-165-908-11	CERAMIC CHIP	1uF 10% 10V
R1207	1-216-833-11	METAL CHIP	10K 5% 1/10W	C149	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
R1209	1-216-809-11	METAL CHIP	100 5% 1/10W	C150	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
R1210	1-216-809-11	METAL CHIP	100 5% 1/10W	C151	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
R1211	1-216-809-11	METAL CHIP	100 5% 1/10W	C152	1-162-916-11	CERAMIC CHIP	12PF 5% 50V
R1215	1-216-845-11	METAL CHIP	100K 5% 1/10W	C153	1-162-916-11	CERAMIC CHIP	12PF 5% 50V
		< SWITCH >		C154	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
S1100	1-771-410-21	SWITCH, TACTILE (I/⏻) STANDBY)		C155	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
S1101	1-771-410-21	SWITCH, TACTILE (DISPLAY)		C156	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
S1102	1-771-410-21	SWITCH, TACTILE (METER MODE)		C160	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
S1103	1-771-410-21	SWITCH, TACTILE (OPTIONS)		C168	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
S1104	1-771-410-21	SWITCH, TACTILE (ERASE)		C169	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
S1105	1-771-410-21	SWITCH, TACTILE (EQ BAND/SURROUND)		C172	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
S1106	1-771-410-21	SWITCH, TACTILE (GROOVE)		C175	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
S1107	1-771-410-21	SWITCH, TACTILE (PRESET EQ)		C179	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
S1108	1-771-410-21	SWITCH, TACTILE (REC TIMER)		C180	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
S1109	1-771-410-21	SWITCH, TACTILE (SUBWOOFER)		C181	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
S1110	1-771-410-21	SWITCH, TACTILE (⏮ -)		C183	1-165-908-11	CERAMIC CHIP	1uF 10% 10V
S1111	1-771-410-21	SWITCH, TACTILE (CD)		C188	1-164-315-11	CERAMIC CHIP	470PF 5% 50V
S1112	1-771-410-21	SWITCH, TACTILE (▶▶▶)		C190	1-128-995-21	ELECT CHIP	100uF 20% 10V
S1113	1-771-410-21	SWITCH, TACTILE (◀◀◀ ◀◀◀ TUNING -)		C191	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
S1114	1-771-410-21	SWITCH, TACTILE (USB)		C192	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
S1115	1-771-410-21	SWITCH, TACTILE (▶▶▶ ▶▶▶ TUNING +)		C193	1-127-715-11	CERAMIC CHIP	0.22uF 10% 16V
S1116	1-771-410-21	SWITCH, TACTILE (■)		C195	1-127-715-11	CERAMIC CHIP	0.22uF 10% 16V
S1117	1-771-410-21	SWITCH, TACTILE (⏭ +)		C197	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V

DMB19

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C198	1-165-908-11	CERAMIC CHIP 1uF	10%	10V		< DIODE >	
C199	1-162-968-11	CERAMIC CHIP 0.0047uF	10%	50V			
C203	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V	D001	6-500-848-01	DIODE MC2840-T112-1
C205	1-164-230-11	CERAMIC CHIP 220PF	5%	50V	D002	6-500-848-01	DIODE MC2840-T112-1
C206	1-164-230-11	CERAMIC CHIP 220PF	5%	50V	D003	6-500-848-01	DIODE MC2840-T112-1
C208	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V	D004	6-500-848-01	DIODE MC2840-T112-1
C209	1-164-677-11	CERAMIC CHIP 0.033uF	10%	16V	D005	6-500-848-01	DIODE MC2840-T112-1
C210	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V		< EARTH TERMINAL >	
C211	1-164-677-11	CERAMIC CHIP 0.033uF	10%	16V	ET001	1-780-482-11	EARTH TERMINAL
C212	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V	ET002	1-780-482-11	EARTH TERMINAL
C213	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V	ET003	1-780-482-11	EARTH TERMINAL
C214	1-162-964-11	CERAMIC CHIP 0.001uF	10%	50V	ET004	1-780-482-11	EARTH TERMINAL
C215	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V		< FERRITE BEAD >	
C216	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V	FB108	1-469-324-21	FERRITE, EMI (SMD) (2012)
C217	1-117-681-11	ELECT CHIP 100uF	20%	16V	FB603	1-469-324-21	FERRITE, EMI (SMD) (2012)
C218	1-128-994-21	ELECT CHIP 47uF	20%	10V	FB607	1-469-324-21	FERRITE, EMI (SMD) (2012)
C219	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V	FB1264	1-469-118-21	FERRITE, EMI (SMD) (1608)
C220	1-128-994-21	ELECT CHIP 47uF	20%	10V	FB1265	1-469-118-21	FERRITE, EMI (SMD) (1608)
C221	1-164-360-11	CERAMIC CHIP 0.1uF		16V			
C222	1-164-360-11	CERAMIC CHIP 0.1uF		16V	FB1266	1-469-118-21	FERRITE, EMI (SMD) (1608)
C224	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V	FB1267	1-469-118-21	FERRITE, EMI (SMD) (1608)
C233	1-162-968-11	CERAMIC CHIP 0.0047uF	10%	50V	FB1268	1-469-118-21	FERRITE, EMI (SMD) (1608)
C502	1-125-891-11	CERAMIC CHIP 0.47uF	10%	10V		< FLUORESCENT INDICATOR TUBE >	
C602	1-128-995-21	ELECT CHIP 100uF	20%	10V	FL603	1-234-494-21	FILTER, EMI REMOVAL (SMD)
C603	1-128-995-21	ELECT CHIP 100uF	20%	10V		< IC >	
C604	1-128-995-21	ELECT CHIP 100uF	20%	10V	IC101	6-714-821-01	IC CXD9968R (LE)
C608	1-107-826-11	CERAMIC CHIP 0.1uF	10%	16V	IC102	(Not supplied)	IC MX25L1605DM2I-12G
C611	1-100-566-91	CERAMIC CHIP 0.1uF	10%	25V	IC104	6-714-642-01	IC EM638165 TSA-6G
C620	1-164-360-11	CERAMIC CHIP 0.1uF		16V			
C621	1-164-360-11	CERAMIC CHIP 0.1uF		16V	IC107	6-702-302-01	IC TK11133CSCL-G
C622	1-164-360-11	CERAMIC CHIP 0.1uF		16V	IC111	6-706-838-01	IC MM1661JHBE
C623	1-164-360-11	CERAMIC CHIP 0.1uF		16V	IC201	6-704-524-01	IC FAN8036L
C1504	1-162-960-11	CERAMIC CHIP 220PF	10%	50V	IC4601	6-710-554-01	IC PCM1808PWR
C1505	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V	IC4602	6-704-819-01	IC CS4335-KSZR
C1506	1-162-964-11	CERAMIC CHIP 0.001uF	10%	50V		< TRANSISTOR >	
C1507	1-107-826-11	CERAMIC CHIP 0.1uF	10%	16V	Q101	6-550-008-01	TRANSISTOR UM6K1N-TN
C1512	1-107-826-11	CERAMIC CHIP 0.1uF	10%	16V	Q102	6-550-653-01	TRANSISTOR QST8TR
C1513	1-107-826-11	CERAMIC CHIP 0.1uF	10%	16V	Q103	8-729-027-52	TRANSISTOR DTC124EKA-T146
C1514	1-162-919-11	CERAMIC CHIP 22PF	5%	50V		< RESISTOR >	
C1515	1-162-919-11	CERAMIC CHIP 22PF	5%	50V	R101	1-216-809-11	METAL CHIP 100 5% 1/10W
C1516	1-162-919-11	CERAMIC CHIP 22PF	5%	50V	R102	1-216-864-11	SHORT CHIP 0
C4602	1-164-360-11	CERAMIC CHIP 0.1uF		16V	R103	1-218-864-11	METAL CHIP 5.1K 0.5% 1/10W
C4603	1-164-360-11	CERAMIC CHIP 0.1uF		16V	R107	1-216-833-11	METAL CHIP 10K 5% 1/10W
C4606	1-164-360-11	CERAMIC CHIP 0.1uF		16V	R108	1-216-857-11	METAL CHIP 1M 5% 1/10W
C4608	1-124-779-00	ELECT CHIP 10uF	20%	16V	R109	1-216-809-11	METAL CHIP 100 5% 1/10W
C4622	1-162-927-11	CERAMIC CHIP 100PF	5%	50V	R110	1-216-841-11	METAL CHIP 47K 5% 1/10W
C4623	1-162-927-11	CERAMIC CHIP 100PF	5%	50V	R111	1-216-809-11	METAL CHIP 100 5% 1/10W
C4626	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V	R112	1-211-977-11	METAL CHIP 22 0.5% 1/10W
		< CONNECTOR >			R113	1-211-977-11	METAL CHIP 22 0.5% 1/10W
CN101	1-815-763-32	CONNECTOR, FFC/FPC 24P			R114	1-216-845-11	METAL CHIP 100K 5% 1/10W
CN105	1-770-470-21	PIN, CONNECTOR (PC BOARD) 6P			R115	1-211-977-11	METAL CHIP 22 0.5% 1/10W
CN201	1-770-161-21	PIN, CONNECTOR (PC BOARD) 6P			R116	1-216-821-11	METAL CHIP 1K 5% 1/10W
CN601	1-778-795-21	PIN, CONNECTOR (PC BOARD) 9P			R117	1-216-841-11	METAL CHIP 47K 5% 1/10W
* CN1105	1-750-005-11	PIN, CONNECTOR (PC BOARD) 4P			R118	1-216-801-11	METAL CHIP 22 5% 1/10W
CN1106	1-784-861-51	CONNECTOR, FFC (LIF (NON-ZIF)) 9P			R120	1-216-801-11	METAL CHIP 22 5% 1/10W
CN4602	1-784-859-51	CONNECTOR, FFC (LIF (NON-ZIF)) 7P			R121	1-216-801-11	METAL CHIP 22 5% 1/10W
					R122	1-216-833-11	METAL CHIP 10K 5% 1/10W

Note: When IC102 cannot exchange with single. When this part is damaged, exchange the entire mounted board.

HCD-GTR88

HUB **MAIN**

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C1516	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V	R1527	1-216-809-11	METAL CHIP 100	5% 1/10W
C1517	1-100-597-91	CERAMIC CHIP 0.1uF	10% 25V	R1530	1-216-857-11	METAL CHIP 1M	5% 1/10W
C1518	1-100-597-91	CERAMIC CHIP 0.1uF	10% 25V	R1533	1-216-845-11	METAL CHIP 100K	5% 1/10W
C1519	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V	R1537	1-216-845-11	METAL CHIP 100K	5% 1/10W
C1520	1-137-765-21	ELECT CHIP 47uF	20% 16V	R1538	1-216-845-11	METAL CHIP 100K	5% 1/10W
C1521	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V	R1540	1-216-845-11	METAL CHIP 100K	5% 1/10W
C1522	1-100-597-91	CERAMIC CHIP 0.1uF	10% 25V	R1541	1-216-809-11	METAL CHIP 100	5% 1/10W
C1523	1-100-597-91	CERAMIC CHIP 0.1uF	10% 25V	R1542	1-216-845-11	METAL CHIP 100K	5% 1/10W
C1524	1-100-597-91	CERAMIC CHIP 0.1uF	10% 25V	R1543	1-216-833-11	METAL CHIP 10K	5% 1/10W
C1527	1-100-597-91	CERAMIC CHIP 0.1uF	10% 25V	R1544	1-216-833-11	METAL CHIP 10K	5% 1/10W
C1528	1-100-597-91	CERAMIC CHIP 0.1uF	10% 25V	R1546	1-216-809-11	METAL CHIP 100	5% 1/10W
C1529	1-100-597-91	CERAMIC CHIP 0.1uF	10% 25V	R1547	1-216-834-11	METAL CHIP 12K	5% 1/10W
C1530	1-162-910-11	CERAMIC CHIP 5PF	0.25PF 50V			< VIBRATOR >	
C1531	1-162-910-11	CERAMIC CHIP 5PF	0.25PF 50V				
		< CONNECTOR >		X1500	1-760-613-21	VIBRATOR, CRYSTAL (24MHZ)	
CN1500	1-774-731-21	PIN, CONNECTOR (PC BOARD) 5P		*****			
CN1501	1-774-729-21	PIN, CONNECTOR (PC BOARD) 10P		A-1749-832-A	MAIN BOARD, COMPLETE (E2, E51, MX, AR)		
CN1502	1-785-728-21	PIN (PC BOARD), CONNECTOR 7P		A-1753-801-A	MAIN BOARD, COMPLETE (E4)		
		< EARTH TERMINAL >		A-1769-607-A	MAIN BOARD, COMPLETE (AUS)		

* ET1500	1-780-408-11	TERMINAL, LUG		7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3		
* ET1501	1-780-408-11	TERMINAL, LUG				< CAPACITOR >	
		< FERRITE BEAD >		C002	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
* FB1500	1-400-973-21	INDUCTOR (EMI FERRITE)		C005	1-162-966-11	CERAMIC CHIP 0.0022uF	10% 50V
FB1501	1-216-295-91	SHORT CHIP 0		C014	1-162-966-11	CERAMIC CHIP 0.0022uF	10% 50V
* FB1502	1-400-973-21	INDUCTOR (EMI FERRITE)		C021	1-104-658-91	ELECT 100uF	20% 10V
FB1503	1-216-295-91	SHORT CHIP 0		C040	1-100-597-91	CERAMIC CHIP 0.1uF	10% 25V
* FB1505	1-400-973-21	INDUCTOR (EMI FERRITE)		C041	1-126-933-11	ELECT 100uF	20% 16V
		< IC >		C073	1-100-597-91	CERAMIC CHIP 0.1uF	10% 25V
IC1500	8-759-338-95	IC NJM2903V (TE2)		C074	1-100-597-91	CERAMIC CHIP 0.1uF	10% 25V
IC1501	6-714-034-01	IC USB2512A-AEZG		C077	1-126-961-11	ELECT 2.2uF	20% 50V
		< RESISTOR >		C081	1-128-953-31	ELECT 470uF	20% 25V
R1500	1-216-809-11	METAL CHIP 100	5% 1/10W	C083	1-135-372-31	ELECT 470uF	20% 10V
R1501	1-216-837-11	METAL CHIP 22K	5% 1/10W	C086	1-100-597-91	CERAMIC CHIP 0.1uF	10% 25V
R1503	1-216-815-11	METAL CHIP 330	5% 1/10W	C090	1-126-951-11	ELECT 470uF	20% 35V
R1504	1-218-446-11	METAL CHIP 1	5% 1/10W	C092	1-128-949-31	ELECT 470uF	20% 16V
R1505	1-218-446-11	METAL CHIP 1	5% 1/10W	C095	1-126-951-11	ELECT 470uF	20% 35V
R1506	1-218-446-11	METAL CHIP 1	5% 1/10W	C097	1-135-372-31	ELECT 470uF	20% 10V
R1507	1-218-446-11	METAL CHIP 1	5% 1/10W	C100	1-100-597-91	CERAMIC CHIP 0.1uF	10% 25V
R1508	1-218-446-11	METAL CHIP 1	5% 1/10W	C102	1-126-963-11	ELECT 4.7uF	20% 50V
R1509	1-218-446-11	METAL CHIP 1	5% 1/10W	C105	1-162-967-11	CERAMIC CHIP 0.0033uF	10% 50V
R1510	1-218-446-11	METAL CHIP 1	5% 1/10W	C109	1-126-964-11	ELECT 10uF	20% 50V
R1511	1-218-446-11	METAL CHIP 1	5% 1/10W	C120	1-100-385-91	CERAMIC CHIP 0.47uF	25V
R1512	1-218-446-11	METAL CHIP 1	5% 1/10W	C124	1-126-960-11	ELECT 1uF	20% 50V
R1513	1-218-446-11	METAL CHIP 1	5% 1/10W	C127	1-137-190-91	FILM 0.22uF	5% 50V
R1515	1-216-837-11	METAL CHIP 22K	5% 1/10W	C128	1-137-189-11	FILM 0.18uF	5% 50V
R1516	1-216-815-11	METAL CHIP 330	5% 1/10W	C131	1-126-964-11	ELECT 10uF	20% 50V
R1517	1-218-446-11	METAL CHIP 1	5% 1/10W	C132	1-136-161-00	FILM 0.047uF	5% 50V
R1518	1-218-446-11	METAL CHIP 1	5% 1/10W	C133	1-164-227-11	CERAMIC CHIP 0.022uF	10% 25V
R1519	1-218-446-11	METAL CHIP 1	5% 1/10W	C134	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
R1520	1-218-446-11	METAL CHIP 1	5% 1/10W	C135	1-164-173-11	CERAMIC CHIP 0.0039uF	10% 50V
R1521	1-218-446-11	METAL CHIP 1	5% 1/10W	C137	1-126-964-11	ELECT 10uF	20% 50V
R1522	1-218-446-11	METAL CHIP 1	5% 1/10W	C141	1-126-964-11	ELECT 10uF	20% 50V
R1523	1-218-446-11	METAL CHIP 1	5% 1/10W	C142	1-117-720-11	CERAMIC CHIP 4.7uF	10V
R1524	1-218-446-11	METAL CHIP 1	5% 1/10W	C143	1-117-720-11	CERAMIC CHIP 4.7uF	10V
R1525	1-218-446-11	METAL CHIP 1	5% 1/10W	C144	1-117-720-11	CERAMIC CHIP 4.7uF	10V
R1526	1-218-446-11	METAL CHIP 1	5% 1/10W	C146	1-117-720-11	CERAMIC CHIP 4.7uF	10V

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark	
C147	1-126-959-11	ELECT	0.47uF	20%	50V	C292	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C148	1-104-658-91	ELECT	100uF	20%	10V	C294	1-100-597-91	CERAMIC CHIP	0.1uF	10%	25V	
C149	1-126-947-11	ELECT	47uF	20%	35V	C350	1-100-597-91	CERAMIC CHIP	0.1uF	10%	25V	
C150	1-100-597-91	CERAMIC CHIP	0.1uF	10%	25V	C351	1-126-964-11	ELECT	10uF	20%	50V	
C151	1-100-597-91	CERAMIC CHIP	0.1uF	10%	25V	C352	1-128-934-11	CERAMIC CHIP	0.33uF	20%	10V	
C152	1-100-756-91	CERAMIC CHIP	0.047uF	10%	50V	C353	1-126-964-11	ELECT	10uF	20%	50V	
C153	1-100-597-91	CERAMIC CHIP	0.1uF	10%	25V	C354	1-126-157-11	ELECT	10uF	20%	16V	
C154	1-126-925-91	ELECT	470uF	20%	10V	C355	1-100-597-91	CERAMIC CHIP	0.1uF	10%	25V	
C155	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V	C360	1-126-964-11	ELECT	10uF	20%	50V	
C177	1-137-190-91	FILM	0.22uF	5%	50V	C362	1-100-597-91	CERAMIC CHIP	0.1uF	10%	25V	
C178	1-137-189-11	FILM	0.18uF	5%	50V	C392	1-162-963-11	CERAMIC CHIP	680PF	10%	50V	
C181	1-126-964-11	ELECT	10uF	20%	50V	C393	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	
C182	1-136-161-00	FILM	0.047uF	5%	50V	C395	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	
C183	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	C396	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	
C184	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C397	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	
C185	1-164-173-11	CERAMIC CHIP	0.0039uF	10%	50V	C398	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	
C187	1-126-964-11	ELECT	10uF	20%	50V	(E4)	C399	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C191	1-126-964-11	ELECT	10uF	20%	50V	C405	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	
C192	1-117-720-11	CERAMIC CHIP	4.7uF	10V	(E4)	C406	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	
C193	1-117-720-11	CERAMIC CHIP	4.7uF	10V	(E4)	C407	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	
C194	1-117-720-11	CERAMIC CHIP	4.7uF	10V	(E4)	C410	1-162-918-11	CERAMIC CHIP	18PF	5%	50V	
C201	1-126-961-11	ELECT	2.2uF	20%	50V	C411	1-162-920-11	CERAMIC CHIP	27PF	5%	50V	
C208	1-117-720-11	CERAMIC CHIP	4.7uF	10V	(E4)	C414	1-100-597-91	CERAMIC CHIP	0.1uF	10%	25V	
C209	1-100-597-91	CERAMIC CHIP	0.1uF	10%	25V	C418	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	
C212	1-164-505-11	CERAMIC CHIP	2.2uF	16V	(E4)	C419	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	
C214	1-164-505-11	CERAMIC CHIP	2.2uF	16V	(E4)	C421	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	
C215	1-164-505-11	CERAMIC CHIP	2.2uF	16V	(E4)	C422	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	
C218	1-126-947-11	ELECT	47uF	20%	35V	C434	1-162-923-11	CERAMIC CHIP	47PF	5%	50V	
C219	1-117-720-11	CERAMIC CHIP	4.7uF	10V	(E4)	C435	1-162-923-11	CERAMIC CHIP	47PF	5%	50V	
C220	1-126-947-11	ELECT	47uF	20%	35V	C436	1-162-923-11	CERAMIC CHIP	47PF	5%	50V	
C222	1-162-923-11	CERAMIC CHIP	47PF	5%	50V	C437	1-162-923-11	CERAMIC CHIP	47PF	5%	50V	
C223	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	C438	1-162-923-11	CERAMIC CHIP	47PF	5%	50V	
C224	1-126-960-11	ELECT	1uF	20%	50V	C439	1-162-923-11	CERAMIC CHIP	47PF	5%	50V	
C227	1-126-964-11	ELECT	10uF	20%	50V	C466	1-100-597-91	CERAMIC CHIP	0.1uF	10%	25V	
C229	1-126-964-11	ELECT	10uF	20%	50V	C472	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V	
C231	1-136-162-00	FILM	0.056uF	5%	50V	C498	1-100-597-91	CERAMIC CHIP	0.1uF	10%	25V	
C234	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V	C501	1-162-923-11	CERAMIC CHIP	47PF	5%	50V	
C236	1-131-664-91	CERAMIC CHIP	0.15uF	10%	10V	C502	1-162-962-11	CERAMIC CHIP	470PF	10%	50V	
C239	1-131-664-91	CERAMIC CHIP	0.15uF	10%	10V	C503	1-162-962-11	CERAMIC CHIP	470PF	10%	50V	
C242	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V	C504	1-162-962-11	CERAMIC CHIP	470PF	10%	50V	
C258	1-117-720-11	CERAMIC CHIP	4.7uF	10V	(E4)	C505	1-162-962-11	CERAMIC CHIP	470PF	10%	50V	
C265	1-164-505-11	CERAMIC CHIP	2.2uF	16V	(E4)	C507	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	
C268	1-126-947-11	ELECT	47uF	20%	35V	C508	1-162-962-11	CERAMIC CHIP	470PF	10%	50V	
C269	1-117-720-11	CERAMIC CHIP	4.7uF	10V	(E4)	C509	1-162-962-11	CERAMIC CHIP	470PF	10%	50V	
C270	1-126-947-11	ELECT	47uF	20%	35V	C516	1-126-917-11	ELECT	3300uF	20%	6.3V	
C272	1-162-923-11	CERAMIC CHIP	47PF	5%	50V	C543	1-100-597-91	CERAMIC CHIP	0.1uF	10%	25V	
C273	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	C551	1-162-923-11	CERAMIC CHIP	47PF	5%	50V	
C274	1-126-960-11	ELECT	1uF	20%	50V	C552	1-162-962-11	CERAMIC CHIP	470PF	10%	50V	
C275	1-100-597-91	CERAMIC CHIP	0.1uF	10%	25V	C553	1-162-962-11	CERAMIC CHIP	470PF	10%	50V	
C276	1-126-925-91	ELECT	470uF	20%	10V	C554	1-162-962-11	CERAMIC CHIP	470PF	10%	50V	
C277	1-126-964-11	ELECT	10uF	20%	50V	C555	1-162-962-11	CERAMIC CHIP	470PF	10%	50V	
C279	1-126-964-11	ELECT	10uF	20%	50V	C557	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	
C281	1-136-162-00	FILM	0.056uF	5%	50V	C602	1-100-597-91	CERAMIC CHIP	0.1uF	10%	25V	
C284	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V	C603	1-104-658-91	ELECT	100uF	20%	10V	
C285	1-100-597-91	CERAMIC CHIP	0.1uF	10%	25V	C605	1-136-153-00	FILM	0.01uF	5%	50V	
C286	1-131-664-91	CERAMIC CHIP	0.15uF	10%	10V	C606	1-136-153-00	FILM	0.01uF	5%	50V	
C289	1-131-664-91	CERAMIC CHIP	0.15uF	10%	10V	C607	1-100-597-91	CERAMIC CHIP	0.1uF	10%	25V	
C290	1-104-658-91	ELECT	100uF	20%	10V	C608	1-126-944-11	ELECT	3300uF	20%	25V	
C291	1-126-925-91	ELECT	470uF	20%	10V	C655	1-126-923-91	ELECT	220uF	20%	10V	

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MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C656	1-100-597-91	CERAMIC CHIP 0.1uF 10%	25V	IC253	8-759-278-58	IC NJM4558V-TE2	
C697	1-100-597-91	CERAMIC CHIP 0.1uF 10%	25V	IC254	8-759-278-58	IC NJM4558V-TE2	
C698	1-100-597-91	CERAMIC CHIP 0.1uF 10%	25V	IC255	8-759-278-58	IC NJM4558V-TE2	
C699	1-126-964-11	ELECT 10uF 20%	50V	IC400	6-712-027-01	IC R2A15216FP	
		< CONNECTOR >		IC401	A-1779-246-A	IC R5F364AEDFA (for SERVICE)	
* CN090	1-564-725-11	PIN, CONNECTOR (SMALL TYPE) 9P				< JACK >	
CN100	1-766-715-21	CONNECTOR, BOARD TO BOARD 10P		J020	1-822-758-11	JACK, PIN 2P (PC IN)	
CN200	1-573-843-11	CONNECTOR, BOARD TO BOARD 11P				< JUMPER RESISTOR >	
CN220	1-784-770-11	CONNECTOR, FFC 9P		JR001	1-216-864-11	SHORT CHIP 0	
CN402	1-779-277-11	CONNECTOR, FFC (LIF (NON-ZIF)) 9P		JR003	1-216-296-11	SHORT CHIP 0	
CN403	1-568-830-11	CONNECTOR, FFC 11P		JR004	1-216-296-11	SHORT CHIP 0	
CN405	1-784-784-11	CONNECTOR, FFC 23P		JR005	1-216-864-11	SHORT CHIP 0	
CN410	1-784-774-11	CONNECTOR, FFC 13P		JR006	1-216-296-11	SHORT CHIP 0	
CN450	1-784-770-11	CONNECTOR, FFC 9P (E4)		JR007	1-216-296-11	SHORT CHIP 0	
CN470	1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P		JR008	1-216-864-11	SHORT CHIP 0	
CN550	1-778-226-21	CONNECTOR, BOARD TO BOARD 6P		JR009	1-216-296-11	SHORT CHIP 0	
* CN600	1-564-506-11	PLUG, CONNECTOR 3P		JR010	1-216-864-11	SHORT CHIP 0	
CN650	1-784-923-11	PIN, CONNECTOR 7P		JR011	1-216-864-11	SHORT CHIP 0	
CN680	1-779-275-11	CONNECTOR, FFC (LIF (NON-ZIF)) 7P		JR012	1-216-864-11	SHORT CHIP 0	
CN690	1-779-277-11	CONNECTOR, FFC (LIF (NON-ZIF)) 9P		JR013	1-216-864-11	SHORT CHIP 0	
CN691	1-785-316-11	PIN, CONNECTOR (STRAIGHT) 4P		JR014	1-216-296-11	SHORT CHIP 0	
		< DIODE >		JR015	1-216-864-11	SHORT CHIP 0	
D010	6-501-817-01	DIODE MA2J1110GLS0		JR016	1-216-296-11	SHORT CHIP 0	
D077	6-500-335-01	DIODE MC2838-T112-1		JR017	1-216-296-11	SHORT CHIP 0	
D081	6-502-272-01	DI RB055L-40TE25		JR018	1-216-296-11	SHORT CHIP 0	
D091	6-502-272-01	DI RB055L-40TE25		JR019	1-216-296-11	SHORT CHIP 0	
D096	6-502-272-01	DI RB055L-40TE25		JR020	1-216-864-11	SHORT CHIP 0	
D104	6-501-817-01	DIODE MA2J1110GLS0		JR021	1-216-296-11	SHORT CHIP 0	
D116	6-500-848-01	DIODE MC2840-T112-1		JR022	1-216-296-11	SHORT CHIP 0	
D201	6-500-848-01	DIODE MC2840-T112-1		JR023	1-216-864-11	SHORT CHIP 0	
D290	6-501-817-01	DIODE MA2J1110GLS0		JR024	1-216-296-11	SHORT CHIP 0	
D350	6-501-817-01	DIODE MA2J1110GLS0		JR025	1-216-296-11	SHORT CHIP 0	
D351	6-500-334-01	DIODE MC2836-T112-1		JR026	1-216-864-11	SHORT CHIP 0	
D352	6-501-722-01	DIODE MAZ8043GMLS0		JR027	1-216-296-11	SHORT CHIP 0	
D360	6-501-734-01	DIODE MAZ8056GMLS0		JR028	1-216-296-11	SHORT CHIP 0	
D362	6-500-522-21	DIODE 10EDB40-TB3		JR029	1-216-296-11	SHORT CHIP 0	
D363	6-500-522-21	DIODE 10EDB40-TB3		JR030	1-216-864-11	SHORT CHIP 0	
D392	6-501-579-01	DIODE MC2837		JR031	1-216-296-11	SHORT CHIP 0	
D467	6-501-713-01	DIODE MAZ8033G0LS0		JR032	1-216-864-11	SHORT CHIP 0	
D566	6-500-335-01	DIODE MC2838-T112-1		JR033	1-216-296-11	SHORT CHIP 0	
D571	6-500-335-01	DIODE MC2838-T112-1		JR034	1-216-864-11	SHORT CHIP 0	
D600	6-502-994-01	DI D10XB60 F		JR035	1-216-296-11	SHORT CHIP 0	
D623	6-500-522-21	DIODE 10EDB40-TB3		JR036	1-216-296-11	SHORT CHIP 0	
D624	6-500-522-21	DIODE 10EDB40-TB3		JR037	1-216-864-11	SHORT CHIP 0	
D651	6-500-522-21	DIODE 10EDB40-TB3		JR038	1-216-296-11	SHORT CHIP 0	
D652	6-500-522-21	DIODE 10EDB40-TB3		JR039	1-216-864-11	SHORT CHIP 0	
D653	6-500-522-21	DIODE 10EDB40-TB3		JR040	1-216-864-11	SHORT CHIP 0	
D692	6-501-734-01	DIODE MAZ8056GMLS0		JR041	1-216-864-11	SHORT CHIP 0	
		< IC >		JR042	1-216-864-11	SHORT CHIP 0	
IC040	6-713-034-01	IC KIA7812API-U/PF		JR043	1-216-296-11	SHORT CHIP 0	
IC055	6-713-826-01	IC SI-8001FFFK		JR044	1-216-296-11	SHORT CHIP 0	
IC065	6-712-617-01	IC SI-8008TM-TLS		JR045	1-216-864-11	SHORT CHIP 0	
IC075	6-712-617-01	IC SI-8008TM-TLS		JR046	1-216-296-11	SHORT CHIP 0	
IC200	6-713-032-01	IC KIA7809API-U/PF		JR047	1-216-296-11	SHORT CHIP 0	
IC251	8-759-278-58	IC NJM4558V-TE2		JR048	1-216-296-11	SHORT CHIP 0	
IC252	8-759-278-58	IC NJM4558V-TE2		JR050	1-216-864-11	SHORT CHIP 0	
				JR051	1-216-864-11	SHORT CHIP 0	
				JR052	1-216-296-11	SHORT CHIP 0	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
JR053	1-216-296-11	SHORT CHIP	0	Q655	8-729-040-76	TRANSISTOR	KTA1273-Y-AT
JR054	1-216-296-11	SHORT CHIP	0	Q656	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF
JR055	1-216-296-11	SHORT CHIP	0	Q657	6-551-696-01	TRANSISTOR	ISA1235AC1TP-1EF
JR056	1-216-864-11	SHORT CHIP	0	Q658	6-551-696-01	TRANSISTOR	ISA1235AC1TP-1EF
JR057	1-216-864-11	SHORT CHIP	0	Q681	6-551-276-01	TRANSISTOR	RT1N431C-TP-1 (E4)
JR058	1-216-864-11	SHORT CHIP	0	Q684	8-729-037-13	TRANSISTOR	KTA1271Y (E4)
JR059	1-216-296-11	SHORT CHIP	0	Q696	8-729-032-94	TRANSISTOR	2SD1859TV2Q
JR060	1-216-864-11	SHORT CHIP	0			< RESISTOR >	
JR061	1-216-864-11	SHORT CHIP	0 (E4)	R001	1-215-892-11	METAL OXIDE	1K 5% 2W
JR070	1-216-864-11	SHORT CHIP	0	R002	1-246-024-21	METAL CHIP	150 5% 1/2W
JR361	1-216-864-11	SHORT CHIP	0	R005	1-216-801-11	METAL CHIP	22 5% 1/10W
JR406	1-216-296-11	SHORT CHIP	0	R026	1-216-827-11	METAL CHIP	3.3K 5% 1/10W
JR651	1-216-864-11	SHORT CHIP	0			(AUS)	
JR687	1-216-864-11	SHORT CHIP	0	R026	1-216-830-11	METAL CHIP	5.6K 5% 1/10W
JR688	1-216-864-11	SHORT CHIP	0			(E2, E51, MX, AR)	
		< COIL >		R026	1-216-827-11	METAL CHIP	3.3K 5% 1/10W
L083	1-400-424-21	INDUCTOR	47uH			(E4)	
L092	1-457-822-11	INDUCTOR	47uH	R027	1-216-830-11	METAL CHIP	5.6K 5% 1/10W
L097	1-400-424-21	INDUCTOR	47uH			(AUS)	
		< TRANSISTOR >		R027	1-216-829-11	METAL CHIP	4.7K 5% 1/10W
Q030	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF			(E2, E51, MX, AR)	
Q031	8-729-924-99	TRANSISTOR	2SC3722K-E	R027	1-216-830-11	METAL CHIP	5.6K 5% 1/10W
Q032	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF			(E4)	
Q033	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF	R028	1-216-827-11	METAL CHIP	3.3K 5% 1/10W
Q062	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF (E4)			(AUS)	
Q063	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF (E4)	R028	1-216-830-11	METAL CHIP	5.6K 5% 1/10W
Q090	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF			(E2, E51, MX, AR)	
Q128	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF	R028	1-216-827-11	METAL CHIP	3.3K 5% 1/10W
Q178	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF			(E4)	
Q210	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF	R029	1-216-830-11	METAL CHIP	5.6K 5% 1/10W
Q220	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF			(AUS)	
Q230	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF	R029	1-216-829-11	METAL CHIP	4.7K 5% 1/10W
Q245	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF			(E2, E51, MX, AR)	
Q270	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF	R029	1-216-830-11	METAL CHIP	5.6K 5% 1/10W
Q290	8-729-027-23	TRANSISTOR	DTA114EKA-T146			(E4)	
Q295	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF	R030	1-216-821-11	METAL CHIP	1K 5% 1/10W
Q300	6-551-696-01	TRANSISTOR	ISA1235AC1TP-1EF	R032	1-216-821-11	METAL CHIP	1K 5% 1/10W
Q301	6-551-696-01	TRANSISTOR	ISA1235AC1TP-1EF	R033	1-216-821-11	METAL CHIP	1K 5% 1/10W
Q302	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF	R035	1-216-821-11	METAL CHIP	1K 5% 1/10W
Q303	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF	R036	1-216-821-11	METAL CHIP	1K 5% 1/10W
Q350	8-729-038-28	TRANSISTOR	RT1N441C-TP-1	R051	1-215-892-11	METAL OXIDE	1K 5% 2W
Q351	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF	R052	1-246-024-21	METAL CHIP	150 5% 1/2W
Q352	8-729-037-13	TRANSISTOR	KTA1271Y	R062	1-216-825-11	METAL CHIP	2.2K 5% 1/10W
Q353	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF			(E4)	
Q354	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF	R063	1-216-825-11	METAL CHIP	2.2K 5% 1/10W
Q360	8-729-032-94	TRANSISTOR	2SD1859TV2Q			(E4)	
Q400	6-551-276-01	TRANSISTOR	RT1N431C-TP-1	R077	1-216-829-11	METAL CHIP	4.7K 5% 1/10W
Q500	8-729-027-26	TRANSISTOR	DTA114YKA-T146			(E4)	
Q582	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF	R078	1-216-829-11	METAL CHIP	4.7K 5% 1/10W
Q600	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF	R079	1-216-834-11	METAL CHIP	12K 5% 1/10W
Q602	8-729-037-13	TRANSISTOR	KTA1271Y	R081	1-218-835-11	METAL CHIP	330 0.5% 1/10W
Q640	8-729-024-43	TRANSISTOR	2SA1365-T112-1EF	R082	1-218-839-11	METAL CHIP	470 0.5% 1/10W
Q641	8-729-024-43	TRANSISTOR	2SA1365-T112-1EF	R083	1-218-855-11	METAL CHIP	2.2K 0.5% 1/10W
Q643	8-729-047-62	TRANSISTOR	2SC3440-T12-1F	R086	1-218-855-11	METAL CHIP	2.2K 0.5% 1/10W
Q644	8-729-047-62	TRANSISTOR	2SC3440-T12-1F	R090	1-218-835-11	METAL CHIP	330 0.5% 1/10W
Q645	8-729-024-43	TRANSISTOR	2SA1365-T112-1EF	R091	1-218-839-11	METAL CHIP	470 0.5% 1/10W
Q646	8-729-024-43	TRANSISTOR	2SA1365-T112-1EF	R092	1-218-869-11	METAL CHIP	8.2K 0.5% 1/10W
Q647	8-729-047-62	TRANSISTOR	2SC3440-T12-1F	R093	1-216-864-11	SHORT CHIP	0
Q648	8-729-047-62	TRANSISTOR	2SC3440-T12-1F	R094	1-218-835-11	METAL CHIP	330 0.5% 1/10W
				R095	1-218-839-11	METAL CHIP	470 0.5% 1/10W
				R096	1-218-847-11	METAL CHIP	1K 0.5% 1/10W
				R097	1-218-851-11	METAL CHIP	1.5K 0.5% 1/10W

HCD-GTR88

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R099	1-216-801-11	METAL CHIP	22 5% 1/10W	R235	1-218-867-11	METAL CHIP	6.8K 0.5% 1/10W
R103	1-216-838-11	METAL CHIP	27K 5% 1/10W	R236	1-218-867-11	METAL CHIP	6.8K 0.5% 1/10W
R104	1-216-849-11	METAL CHIP	220K 5% 1/10W	R240	1-216-833-11	METAL CHIP	10K 5% 1/10W
R105	1-216-833-11	METAL CHIP	10K 5% 1/10W	R241	1-216-833-11	METAL CHIP	10K 5% 1/10W
R117	1-216-835-11	METAL CHIP	15K 5% 1/10W	R242	1-216-821-11	METAL CHIP	1K 5% 1/10W
R121	1-216-833-11	METAL CHIP	10K 5% 1/10W	R243	1-216-841-11	METAL CHIP	47K 5% 1/10W
R122	1-216-833-11	METAL CHIP	10K 5% 1/10W	R244	1-216-821-11	METAL CHIP	1K 5% 1/10W
R127	1-216-819-11	METAL CHIP	680 5% 1/10W	R253	1-216-817-11	METAL CHIP	470 5% 1/10W
R128	1-216-835-11	METAL CHIP	15K 5% 1/10W	R256	1-216-833-11	METAL CHIP	10K 5% 1/10W
R131	1-216-821-11	METAL CHIP	1K 5% 1/10W	R258	1-216-838-11	METAL CHIP	27K 5% 1/10W
R132	1-216-829-11	METAL CHIP	4.7K 5% 1/10W	R270	1-216-832-11	METAL CHIP	8.2K 5% 1/10W
R133	1-216-829-11	METAL CHIP	4.7K 5% 1/10W	R271	1-216-817-11	METAL CHIP	470 5% 1/10W
R136	1-216-826-11	METAL CHIP	2.7K 5% 1/10W	R272	1-218-725-11	METAL CHIP	24K 0.5% 1/10W
R137	1-218-866-11	METAL CHIP	6.2K 0.5% 1/10W	R273	1-218-331-11	METAL CHIP	51K 5% 1/10W
R138	1-216-833-11	METAL CHIP	10K 5% 1/10W	R274	1-216-830-11	METAL CHIP	5.6K 5% 1/10W
R141	1-216-821-11	METAL CHIP	1K 5% 1/10W	R275	1-216-841-11	METAL CHIP	47K 5% 1/10W
R142	1-218-866-11	METAL CHIP	6.2K 0.5% 1/10W	R276	1-216-841-11	METAL CHIP	47K 5% 1/10W
R153	1-216-838-11	METAL CHIP	27K 5% 1/10W	R277	1-216-839-11	METAL CHIP	33K 5% 1/10W
R154	1-216-849-11	METAL CHIP	220K 5% 1/10W	R278	1-216-821-11	METAL CHIP	1K 5% 1/10W
R155	1-216-833-11	METAL CHIP	10K 5% 1/10W	R279	1-216-821-11	METAL CHIP	1K 5% 1/10W
R177	1-216-819-11	METAL CHIP	680 5% 1/10W	R280	1-216-803-11	METAL CHIP	33 5% 1/10W
R178	1-216-835-11	METAL CHIP	15K 5% 1/10W	R281	1-216-838-11	METAL CHIP	27K 5% 1/10W
R182	1-216-829-11	METAL CHIP	4.7K 5% 1/10W	R283	1-216-845-11	METAL CHIP	100K 5% 1/10W
R183	1-216-829-11	METAL CHIP	4.7K 5% 1/10W	R285	1-218-867-11	METAL CHIP	6.8K 0.5% 1/10W
R184	1-216-821-11	METAL CHIP	1K 5% 1/10W	R286	1-218-867-11	METAL CHIP	6.8K 0.5% 1/10W
R186	1-216-826-11	METAL CHIP	2.7K 5% 1/10W	R290	1-216-833-11	METAL CHIP	10K 5% 1/10W
R187	1-218-866-11	METAL CHIP	6.2K 0.5% 1/10W	R291	1-216-833-11	METAL CHIP	10K 5% 1/10W
R188	1-216-833-11	METAL CHIP	10K 5% 1/10W	R292	1-216-821-11	METAL CHIP	1K 5% 1/10W
R190	1-216-857-11	METAL CHIP	1M 5% 1/10W	R293	1-216-841-11	METAL CHIP	47K 5% 1/10W
R192	1-218-866-11	METAL CHIP	6.2K 0.5% 1/10W	R294	1-216-821-11	METAL CHIP	1K 5% 1/10W
R194	1-216-821-11	METAL CHIP	1K 5% 1/10W	R295	1-216-853-11	METAL CHIP	470K 5% 1/10W
R196	1-216-833-11	METAL CHIP	10K 5% 1/10W	R296	1-216-825-11	METAL CHIP	2.2K 5% 1/10W
R202	1-216-864-11	SHORT CHIP	0	R298	1-216-821-11	METAL CHIP	1K 5% 1/10W
R203	1-216-817-11	METAL CHIP	470 5% 1/10W	R299	1-216-821-11	METAL CHIP	1K 5% 1/10W
R204	1-216-845-11	METAL CHIP	100K 5% 1/10W	R300	1-216-817-11	METAL CHIP	470 5% 1/10W
R206	1-216-833-11	METAL CHIP	10K 5% 1/10W	R301	1-216-817-11	METAL CHIP	470 5% 1/10W
R208	1-216-838-11	METAL CHIP	27K 5% 1/10W	R302	1-216-825-11	METAL CHIP	2.2K 5% 1/10W
R210	1-216-821-11	METAL CHIP	1K 5% 1/10W	R303	1-216-819-11	METAL CHIP	680 5% 1/10W
R211	1-216-844-11	METAL CHIP	82K 5% 1/10W	R304	1-216-841-11	METAL CHIP	47K 5% 1/10W
R215	1-216-851-11	METAL CHIP	330K 5% 1/10W	R307	1-216-833-11	METAL CHIP	10K 5% 1/10W
R216	1-216-809-11	METAL CHIP	100 5% 1/10W	R351	1-216-833-11	METAL CHIP	10K 5% 1/10W
R217	1-218-272-11	METAL CHIP	5.1K 5% 1/10W	R352	1-216-837-11	METAL CHIP	22K 5% 1/10W
R220	1-216-832-11	METAL CHIP	8.2K 5% 1/10W	R353	1-216-833-11	METAL CHIP	10K 5% 1/10W
R221	1-216-817-11	METAL CHIP	470 5% 1/10W	R354	1-216-833-11	METAL CHIP	10K 5% 1/10W
R222	1-218-725-11	METAL CHIP	24K 0.5% 1/10W	R355	1-216-845-11	METAL CHIP	100K 5% 1/10W
R223	1-218-331-11	METAL CHIP	51K 5% 1/10W	R356	1-216-845-11	METAL CHIP	100K 5% 1/10W
R224	1-216-830-11	METAL CHIP	5.6K 5% 1/10W	R357	1-216-825-11	METAL CHIP	2.2K 5% 1/10W
R225	1-216-841-11	METAL CHIP	47K 5% 1/10W	R358	1-216-819-11	METAL CHIP	680 5% 1/10W
R227	1-216-839-11	METAL CHIP	33K 5% 1/10W	R361	1-216-815-11	METAL CHIP	330 5% 1/10W
R228	1-216-821-11	METAL CHIP	1K 5% 1/10W	R401	1-216-809-11	METAL CHIP	100 5% 1/10W
R229	1-216-821-11	METAL CHIP	1K 5% 1/10W	R402	1-216-809-11	METAL CHIP	100 5% 1/10W
R231	1-216-838-11	METAL CHIP	27K 5% 1/10W	R404	1-216-809-11	METAL CHIP	100 5% 1/10W
R233	1-216-845-11	METAL CHIP	100K 5% 1/10W	R405	1-216-821-11	METAL CHIP	1K 5% 1/10W
				R406	1-216-821-11	METAL CHIP	1K 5% 1/10W
				R407	1-216-821-11	METAL CHIP	1K 5% 1/10W
				R409	1-216-833-11	METAL CHIP	10K 5% 1/10W
				R410	1-219-570-11	METAL CHIP	10M 5% 1/10W
				R411	1-216-849-11	METAL CHIP	220K 5% 1/10W
				R413	1-216-857-11	METAL CHIP	1M 5% 1/10W
				R418	1-216-821-11	METAL CHIP	1K 5% 1/10W

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R419	1-216-821-11	METAL CHIP	1K 5% 1/10W	R582	1-216-821-11	METAL CHIP	1K 5% 1/10W
R421	1-216-821-11	METAL CHIP	1K 5% 1/10W	R585	1-216-835-11	METAL CHIP	15K 5% 1/10W
R422	1-216-821-11	METAL CHIP	1K 5% 1/10W				
R429	1-216-833-11	METAL CHIP	10K 5% 1/10W	R587	1-216-833-11	METAL CHIP	10K 5% 1/10W
R430	1-216-833-11	METAL CHIP	10K 5% 1/10W	R589	1-216-835-11	METAL CHIP	15K 5% 1/10W
R434	1-216-809-11	METAL CHIP	100 5% 1/10W	R593	1-216-834-11	METAL CHIP	12K 5% 1/10W
R435	1-216-809-11	METAL CHIP	100 5% 1/10W				(AUS)
R436	1-216-809-11	METAL CHIP	100 5% 1/10W	R593	1-216-841-11	METAL CHIP	47K 5% 1/10W
							(E2, E51, MX, AR)
R437	1-216-809-11	METAL CHIP	100 5% 1/10W	R593	1-218-867-11	METAL CHIP	6.8K 0.5% 1/10W
R438	1-216-809-11	METAL CHIP	100 5% 1/10W				(E4)
R439	1-216-809-11	METAL CHIP	100 5% 1/10W	R597	1-216-835-11	METAL CHIP	15K 5% 1/10W
R444	1-216-809-11	METAL CHIP	100 5% 1/10W	R604	1-216-821-11	METAL CHIP	1K 5% 1/10W
R445	1-216-809-11	METAL CHIP	100 5% 1/10W	R606	1-216-837-11	METAL CHIP	22K 5% 1/10W
				R607	1-216-837-11	METAL CHIP	22K 5% 1/10W
R446	1-216-809-11	METAL CHIP	100 5% 1/10W	R608	1-216-828-11	METAL CHIP	3.9K 5% 1/10W
R447	1-216-809-11	METAL CHIP	100 5% 1/10W				
R450	1-216-809-11	METAL CHIP	100 5% 1/10W	R609	1-216-864-11	SHORT CHIP	0
R451	1-216-809-11	METAL CHIP	100 5% 1/10W	R610	1-216-845-11	METAL CHIP	100K 5% 1/10W
R453	1-216-809-11	METAL CHIP	100 5% 1/10W	R612	1-216-833-11	METAL CHIP	10K 5% 1/10W
				R613	1-216-825-11	METAL CHIP	2.2K 5% 1/10W
R454	1-216-809-11	METAL CHIP	100 5% 1/10W	R614	1-216-817-11	METAL CHIP	470 5% 1/10W
R460	1-216-809-11	METAL CHIP	100 5% 1/10W				
R465	1-216-829-11	METAL CHIP	4.7K 5% 1/10W	R615	1-216-833-11	METAL CHIP	10K 5% 1/10W
R467	1-216-809-11	METAL CHIP	100 5% 1/10W	R616	1-216-818-11	METAL CHIP	560 5% 1/10W
R471	1-216-845-11	METAL CHIP	100K 5% 1/10W	R617	1-216-825-11	METAL CHIP	2.2K 5% 1/10W
				R641	1-216-817-11	METAL CHIP	470 5% 1/10W
R472	1-216-809-11	METAL CHIP	100 5% 1/10W	R642	1-216-841-11	METAL CHIP	47K 5% 1/10W
			(E4)				
R473	1-216-833-11	METAL CHIP	10K 5% 1/10W	R643	1-216-817-11	METAL CHIP	470 5% 1/10W
R474	1-216-809-11	METAL CHIP	100 5% 1/10W	R644	1-216-841-11	METAL CHIP	47K 5% 1/10W
R475	1-216-809-11	METAL CHIP	100 5% 1/10W	R645	1-216-818-11	METAL CHIP	560 5% 1/10W
R481	1-216-821-11	METAL CHIP	1K 5% 1/10W	R646	1-216-818-11	METAL CHIP	560 5% 1/10W
				R647	1-216-841-11	METAL CHIP	47K 5% 1/10W
R485	1-216-817-11	METAL CHIP	470 5% 1/10W				
R486	1-216-809-11	METAL CHIP	100 5% 1/10W	R648	1-216-841-11	METAL CHIP	47K 5% 1/10W
R488	1-216-809-11	METAL CHIP	100 5% 1/10W	R649	1-216-817-11	METAL CHIP	470 5% 1/10W
R489	1-216-817-11	METAL CHIP	470 5% 1/10W	R650	1-216-841-11	METAL CHIP	47K 5% 1/10W
R490	1-216-809-11	METAL CHIP	100 5% 1/10W	R651	1-216-817-11	METAL CHIP	470 5% 1/10W
				R652	1-216-841-11	METAL CHIP	47K 5% 1/10W
R491	1-216-809-11	METAL CHIP	100 5% 1/10W				
R493	1-216-839-11	METAL CHIP	33K 5% 1/10W	R653	1-216-818-11	METAL CHIP	560 5% 1/10W
			(AUS)	R654	1-216-818-11	METAL CHIP	560 5% 1/10W
R493	1-216-833-11	METAL CHIP	10K 5% 1/10W	R655	1-216-841-11	METAL CHIP	47K 5% 1/10W
			(E2, E51, MX, AR)	R656	1-216-841-11	METAL CHIP	47K 5% 1/10W
R493	1-216-841-11	METAL CHIP	47K 5% 1/10W	R657	1-216-790-11	METAL CHIP	2.7 5% 1/10W
			(E4)				
R494	1-216-809-11	METAL CHIP	100 5% 1/10W	R658	1-216-790-11	METAL CHIP	2.7 5% 1/10W
				R659	1-216-790-11	METAL CHIP	2.7 5% 1/10W
R495	1-216-809-11	METAL CHIP	100 5% 1/10W	R662	1-216-839-11	METAL CHIP	33K 5% 1/10W
R497	1-216-817-11	METAL CHIP	470 5% 1/10W	R663	1-216-837-11	METAL CHIP	22K 5% 1/10W
R500	1-216-809-11	METAL CHIP	100 5% 1/10W	R664	1-216-825-11	METAL CHIP	2.2K 5% 1/10W
R505	1-216-837-11	METAL CHIP	22K 5% 1/10W				
R506	1-216-837-11	METAL CHIP	22K 5% 1/10W	R666	1-216-815-11	METAL CHIP	330 5% 1/10W
				R683	1-216-822-11	METAL CHIP	1.2K 5% 1/10W
R507	1-216-837-11	METAL CHIP	22K 5% 1/10W				(E4)
R518	1-216-837-11	METAL CHIP	22K 5% 1/10W	R684	1-216-826-11	METAL CHIP	2.7K 5% 1/10W
R519	1-216-837-11	METAL CHIP	22K 5% 1/10W	R685	1-216-826-11	METAL CHIP	2.7K 5% 1/10W
R520	1-216-833-11	METAL CHIP	10K 5% 1/10W				
			(E4)				
R521	1-216-837-11	METAL CHIP	22K 5% 1/10W				
R522	1-216-837-11	METAL CHIP	22K 5% 1/10W				
R531	1-216-821-11	METAL CHIP	1K 5% 1/10W				
R542	1-216-864-11	SHORT CHIP	0				
R543	1-216-833-11	METAL CHIP	10K 5% 1/10W				
R551	1-216-833-11	METAL CHIP	10K 5% 1/10W				
R565	1-216-827-11	METAL CHIP	3.3K 5% 1/10W				
R571	1-216-837-11	METAL CHIP	22K 5% 1/10W				
R581	1-216-835-11	METAL CHIP	15K 5% 1/10W				

< VIBRATOR >
X401 1-760-252-12 VIBRATOR, CRYSTAL (32.768kHz)
X402 1-781-472-21 VIBRATOR, CERAMIC (8MHz)

HCD-GTR88

MIC POWER AMP

Ref. No.	Part No.	Description	Remark
		MIC BOARD *****	
		< CAPACITOR >	
C700	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C701	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C702	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C707	1-124-257-00	ELECT 2.2uF	20% 50V
C708	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C709	1-162-960-11	CERAMIC CHIP 220PF	10% 50V
C710	1-126-157-11	ELECT 10uF	20% 16V
C711	1-124-584-00	ELECT 100uF	20% 6.3V
C712	1-162-923-11	CERAMIC CHIP 47PF	5% 50V
C713	1-124-257-00	ELECT 2.2uF	20% 50V
C716	1-124-257-00	ELECT 2.2uF	20% 50V
C719	1-162-961-11	CERAMIC CHIP 330PF	10% 50V
C720	1-124-257-00	ELECT 2.2uF	20% 50V
C721	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C722	1-164-218-11	CERAMIC CHIP 180PF	5% 50V
C724	1-124-463-00	ELECT 0.1uF	20% 50V
C777	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C779	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C780	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C781	1-162-960-11	CERAMIC CHIP 220PF	10% 50V
C782	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
		< DIODE >	
D700	6-501-579-01	DIODE MC2837	
D701	6-501-579-01	DIODE MC2837	
		< IC >	
IC700	8-759-278-58	IC NJM4558V-TE2	
		< JACK >	
J700	1-822-757-11	JACK (LARGE TYPE) (MIC)	
J702	1-794-702-11	JACK, HEADPHONE (PHONES)	
		< JUMPER RESISTOR >	
JR701	1-216-864-11	SHORT CHIP 0	
JR702	1-216-864-11	SHORT CHIP 0	
JR703	1-216-296-11	SHORT CHIP 0	
JR704	1-216-296-11	SHORT CHIP 0	
JR705	1-216-296-11	SHORT CHIP 0	
JR706	1-216-296-11	SHORT CHIP 0	
JR707	1-216-295-91	SHORT CHIP 0	
JR708	1-216-864-11	SHORT CHIP 0	
JR709	1-216-864-11	SHORT CHIP 0	
		< RESISTOR >	
R700	1-216-821-11	METAL CHIP 1K	5% 1/10W
R701	1-216-845-11	METAL CHIP 100K	5% 1/10W
R702	1-216-833-11	METAL CHIP 10K	5% 1/10W
R704	1-216-829-11	METAL CHIP 4.7K	5% 1/10W
R705	1-216-829-11	METAL CHIP 4.7K	5% 1/10W
R706	1-216-823-11	METAL CHIP 1.5K	5% 1/10W
R711	1-216-833-11	METAL CHIP 10K	5% 1/10W
R712	1-216-836-11	METAL CHIP 18K	5% 1/10W
R714	1-216-849-11	METAL CHIP 220K	5% 1/10W
R715	1-216-809-11	METAL CHIP 100	5% 1/10W

Ref. No.	Part No.	Description	Remark
R716	1-216-845-11	METAL CHIP 100K	5% 1/10W
R720	1-216-845-11	METAL CHIP 100K	5% 1/10W
R721	1-216-836-11	METAL CHIP 18K	5% 1/10W
R722	1-216-833-11	METAL CHIP 10K	5% 1/10W
R723	1-216-836-11	METAL CHIP 18K	5% 1/10W
R724	1-216-841-11	METAL CHIP 47K	5% 1/10W
R725	1-216-833-11	METAL CHIP 10K	5% 1/10W
		< VARIABLE RESISTOR >	
RV700	1-227-452-11	RES, VAR, CARBON 50K (MIC LEVEL)	

		POWER AMP BOARD *****	
		< CAPACITOR >	
C1300	1-127-815-11	ELECT (BLOCK) 3300uF	20% 100V
C1301	1-127-815-11	ELECT (BLOCK) 3300uF	20% 100V
C1302	1-127-812-11	ELECT (BLOCK) 3300uF	20% 63V
C1303	1-127-812-11	ELECT (BLOCK) 3300uF	20% 63V
C1304	1-130-777-00	MYLAR 0.1uF	5% 100V
C1305	1-130-777-00	MYLAR 0.1uF	5% 100V
C1306	1-130-777-00	MYLAR 0.1uF	5% 100V
C1307	1-130-777-00	MYLAR 0.1uF	5% 100V
C1308	1-128-582-11	ELECT 10uF	20% 100V
C1309	1-128-582-11	ELECT 10uF	20% 100V
C1310	1-164-315-11	CERAMIC CHIP 470PF	5% 50V
C1311	1-164-315-11	CERAMIC CHIP 470PF	5% 50V
C1312	1-126-963-11	ELECT 4.7uF	20% 50V
C1313	1-126-963-11	ELECT 4.7uF	20% 50V
C1314	1-164-730-11	CERAMIC CHIP 0.0012uF	10% 50V
C1315	1-164-730-11	CERAMIC CHIP 0.0012uF	10% 50V
C1316	1-107-903-11	ELECT 2.2uF	20% 50V
C1317	1-115-339-11	CERAMIC CHIP 0.1uF	10% 50V
C1318	1-115-339-11	CERAMIC CHIP 0.1uF	10% 50V
C1319	1-115-339-11	CERAMIC CHIP 0.1uF	10% 50V
C1320	1-115-339-11	CERAMIC CHIP 0.1uF	10% 50V
C1321	1-104-658-91	ELECT 100uF	20% 10V
C1322	1-126-947-11	ELECT 47uF	20% 35V
C1323	1-126-947-11	ELECT 47uF	20% 35V
C1324	1-162-909-11	CERAMIC CHIP 4PF	0.25PF 50V
C1325	1-162-909-11	CERAMIC CHIP 4PF	0.25PF 50V
C1327	1-126-947-11	ELECT 47uF	20% 35V
C1328	1-162-962-11	CERAMIC CHIP 470PF	10% 50V
C1329	1-162-962-11	CERAMIC CHIP 470PF	10% 50V
C1330	1-162-962-11	CERAMIC CHIP 470PF	10% 50V
C1331	1-162-962-11	CERAMIC CHIP 470PF	10% 50V
C1332	1-162-962-11	CERAMIC CHIP 470PF	10% 50V
C1333	1-162-962-11	CERAMIC CHIP 470PF	10% 50V
C1334	1-162-962-11	CERAMIC CHIP 470PF	10% 50V
		< CONNECTOR >	
CN1300	1-766-719-41	CONNECTOR, BOARD TO BOARD 10P	
* CN1302	1-564-518-11	PLUG, CONNECTOR 3P	
CN1303	1-573-825-11	CONNECTOR, BOARD TO BOARD 11P	
		< DIODE >	
D1302	6-500-968-21	DIODE 30PRA20FC	
D1303	6-500-968-21	DIODE 30PRA20FC	
D1304	6-501-175-01	DIODE UDZW-TE17-11B	
D1305	6-501-175-01	DIODE UDZW-TE17-11B	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
D1306	6-501-817-01	DIODE MA2J1110GLSO				< RELAY >	
D1307	6-500-334-01	DIODE MC2836-T112-1		RY1300	1-755-653-11	RELAY	
D1310	6-501-817-01	DIODE MA2J1110GLSO				< TERMINAL >	
		< IC >		TB1300	1-820-067-21	TERMINAL BOARD (SPEAKER)	(FRONT SPEAKER)
△ IC1300	6-713-787-01	IC STK412-750-E		TB1301	1-820-067-21	TERMINAL BOARD (SPEAKER)	(SATELLITE SPEAKER)
		< TRANSISTOR >				< THERMISTOR >	
Q1300	8-729-620-07	TRANSISTOR 2SC3052EF-T1-LEF		TH1301	1-804-045-11	THERMISTOR	
Q1301	8-729-620-07	TRANSISTOR 2SC3052EF-T1-LEF		*****			
Q1302	8-729-620-07	TRANSISTOR 2SC3052EF-T1-LEF				SUBTRANS BOARD	
Q1303	8-729-620-07	TRANSISTOR 2SC3052EF-T1-LEF				*****	
Q1304	8-729-620-07	TRANSISTOR 2SC3052EF-T1-LEF				< CAPACITOR >	
Q1305	8-729-620-07	TRANSISTOR 2SC3052EF-T1-LEF		C1200	1-164-156-11	CERAMIC CHIP 0.1uF	25V
Q1306	6-551-696-01	TRANSISTOR ISA1235AC1TP-1EF		C1201	1-164-156-11	CERAMIC CHIP 0.1uF	25V
Q1307	8-729-620-07	TRANSISTOR 2SC3052EF-T1-LEF		C1203	1-126-942-61	ELECT 1000uF	20% 25V
Q1308	8-729-620-07	TRANSISTOR 2SC3052EF-T1-LEF		C1204	1-126-963-11	ELECT 4.7uF	20% 50V
Q1309	8-729-027-38	TRANSISTOR DTA144EKA-T146		C1205	1-164-156-11	CERAMIC CHIP 0.1uF	25V
		< RESISTOR >		C1206	1-164-156-11	CERAMIC CHIP 0.1uF	25V
R1300	1-250-336-11	FUSIBLE 100 5%	1/2W			< CONNECTOR >	
R1301	1-250-336-11	FUSIBLE 100 5%	1/2W	* CN1200	1-793-660-11	PIN, CONNECTOR (PC BOARD) 3P	
R1302	1-215-872-11	METAL OXIDE 3.3K 5%	1W	* CN1201	1-566-664-11	PIN, CONNECTOR (3.96mm PITCH) 4P	(E2, E51, E4)
R1303	1-215-872-11	METAL OXIDE 3.3K 5%	1W	* CN1202	1-568-226-11	PIN, CONNECTOR (3.96mm PITCH) 2P	(MX, AR, AUS)
R1304	1-216-821-11	METAL CHIP 1K 5%	1/10W			< DIODE >	
R1305	1-216-821-11	METAL CHIP 1K 5%	1/10W	D1200	6-501-817-01	DIODE MA2J1110GLSO	
R1306	1-216-845-11	METAL CHIP 100K 5%	1/10W	D1201	6-500-848-01	DIODE MC2840-T112-1	
R1307	1-216-845-11	METAL CHIP 100K 5%	1/10W	D1202	6-500-848-01	DIODE MC2840-T112-1	
R1308	1-216-841-11	METAL CHIP 47K 5%	1/10W	D1203	6-500-335-01	DIODE MC2838-T112-1	
R1309	1-216-841-11	METAL CHIP 47K 5%	1/10W			< TRANSFORMER >	
R1310	1-216-842-11	METAL CHIP 56K 5%	1/10W	△ PT1200	1-443-927-21	TRANSFORMER, POWER (SUB) (MX)	
R1311	1-216-842-11	METAL CHIP 56K 5%	1/10W	△ PT1200	1-445-875-11	POWER TRANSFORMER (SUB) (EXCEPT MX)	
R1312	1-216-821-11	METAL CHIP 1K 5%	1/10W			< TRANSISTOR >	
R1313	1-216-821-11	METAL CHIP 1K 5%	1/10W	Q1200	8-729-620-07	TRANSISTOR 2SC3052EF-T1-LEF	
R1314	1-216-842-11	METAL CHIP 56K 5%	1/10W			< RESISTOR >	
R1315	1-216-843-11	METAL CHIP 68K 5%	1/10W	R1201	1-216-819-11	METAL CHIP 680 5%	1/10W
R1316	1-250-312-21	METAL CHIP 10 5%	1/2W	R1202	1-216-825-11	METAL CHIP 2.2K 5%	1/10W
R1317	1-216-845-11	METAL CHIP 100K 5%	1/10W			< RELAY >	
R1318	1-216-841-11	METAL CHIP 47K 5%	1/10W	△ RY1200	1-755-334-11	RELAY, AC POWER	
R1319	1-216-837-11	METAL CHIP 22K 5%	1/10W			< SWITCH >	
R1320	1-250-312-21	METAL CHIP 10 5%	1/2W	△ S1200	1-786-055-31	SELECTOR, VOLTAGE (E2, E51, E4)	
R1324	1-217-637-55	FUSIBLE 1 5%	1/4W	*****			
R1325	1-216-849-11	METAL CHIP 220K 5%	1/10W				
R1326	1-216-849-11	METAL CHIP 220K 5%	1/10W				
R1327	1-216-849-11	METAL CHIP 220K 5%	1/10W				
R1328	1-216-849-11	METAL CHIP 220K 5%	1/10W				
R1329	1-216-820-11	METAL CHIP 820 5%	1/10W				
R1330	1-216-820-11	METAL CHIP 820 5%	1/10W				
R1331	1-216-842-11	METAL CHIP 56K 5%	1/10W				
R1332	1-216-842-11	METAL CHIP 56K 5%	1/10W				
R1333	1-216-836-11	METAL CHIP 18K 5%	1/10W				
R1334	1-216-845-11	METAL CHIP 100K 5%	1/10W				
R1335	1-216-845-11	METAL CHIP 100K 5%	1/10W				
R1337	1-216-829-11	METAL CHIP 4.7K 5%	1/10W				
R1338	1-216-827-11	METAL CHIP 3.3K 5%	1/10W				
R1339	1-216-840-11	METAL CHIP 39K 5%	1/10W				
R1344	1-216-839-11	METAL CHIP 33K 5%	1/10W				
R1345	1-216-821-11	METAL CHIP 1K 5%	1/10W				
R1346	1-234-798-11	ENCAPSULATED COMPONENT					
R1347	1-234-798-11	ENCAPSULATED COMPONENT					

HCD-GTR88

SUBWOOFER TC

Ref. No.	Part No.	Description	Remark
SUBWOOFER BOARD *****			
< CAPACITOR >			
C800	1-126-947-11	ELECT 47uF 20% 35V	
C801	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C802	1-126-963-11	ELECT 4.7uF 20% 50V	
C803	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
C808	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	
C825	1-128-576-11	ELECT 100uF 20% 63V	
C826	1-128-576-11	ELECT 100uF 20% 63V	
C846	1-115-339-11	CERAMIC CHIP 0.1uF 10% 50V	
C847	1-115-339-11	CERAMIC CHIP 0.1uF 10% 50V	
C850	1-126-947-11	ELECT 47uF 20% 35V	
C851	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C852	1-126-963-11	ELECT 4.7uF 20% 50V	
C853	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
C858	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	
C875	1-128-557-11	ELECT 0.1uF 20% 100V	
C876	1-128-557-11	ELECT 0.1uF 20% 100V	
C896	1-115-339-11	CERAMIC CHIP 0.1uF 10% 50V	
C897	1-115-339-11	CERAMIC CHIP 0.1uF 10% 50V	
< CONNECTOR >			
* CN803	1-564-510-11	PLUG, CONNECTOR 7P	
CN804	1-778-227-41	CONNECTOR, BOARD TO BOARD 6P	
< DIODE >			
D800	6-500-335-01	DIODE MC2838-T112-1	
D811	6-501-817-01	DIODE MA2J11110GLS0	
< IC >			
△ IC800	6-710-842-01	IC STK433-130-E	
< JUMPER RESISTOR >			
JR804	1-216-296-11	SHORT CHIP 0	
JR811	1-216-864-11	SHORT CHIP 0	
< TRANSISTOR >			
Q800	8-729-924-99	TRANSISTOR 2SC3722K-E	
Q850	8-729-924-99	TRANSISTOR 2SC3722K-E	
< RESISTOR >			
R800	1-216-817-11	METAL CHIP 470 5%	1/10W (EXCEPT MX)
R800	1-216-818-11	METAL CHIP 560 5%	1/10W (MX)
R801	1-216-843-11	METAL CHIP 68K 5%	1/10W
R802	1-216-821-11	METAL CHIP 1K 5%	1/10W
R804	1-217-637-55	FUSIBLE 1 5%	1/4W
R808	1-216-843-11	METAL CHIP 68K 5%	1/10W
R810	1-216-840-11	METAL CHIP 39K 5%	1/10W
R812	1-216-864-11	SHORT CHIP 0	
R814	1-216-830-11	METAL CHIP 5.6K 5%	1/10W
R827	1-250-336-11	FUSIBLE 100 5%	1/2W
R828	1-250-336-11	FUSIBLE 100 5%	1/2W
R830	1-250-312-21	METAL CHIP 10 5%	1/2W
R838	1-220-893-11	METAL 0.22 10%	5W
R839	1-216-825-11	METAL CHIP 2.2K 5%	1/10W
R840	1-216-837-11	METAL CHIP 22K 5%	1/10W

Ref. No.	Part No.	Description	Remark
R841	1-216-848-11	METAL CHIP 180K 5%	1/10W
R850	1-216-817-11	METAL CHIP 470 5%	1/10W (EXCEPT MX)
R850	1-216-818-11	METAL CHIP 560 5%	1/10W (MX)
R851	1-216-843-11	METAL CHIP 68K 5%	1/10W
R852	1-216-821-11	METAL CHIP 1K 5%	1/10W
R858	1-216-843-11	METAL CHIP 68K 5%	1/10W
R860	1-216-841-11	METAL CHIP 47K 5%	1/10W
R880	1-250-312-21	METAL CHIP 10 5%	1/2W
R888	1-220-893-11	METAL 0.22 10%	5W
R889	1-216-825-11	METAL CHIP 2.2K 5%	1/10W
R890	1-216-837-11	METAL CHIP 22K 5%	1/10W
R891	1-216-848-11	METAL CHIP 180K 5%	1/10W
R893	1-216-864-11	SHORT CHIP 0	
< RELAY >			
RY862	1-755-653-11	RELAY	
< TERMINAL >			
TB801	1-820-067-21	TERMINAL BOARD (SPEAKER) (SUBWOOFER)	

TC BOARD (E4) *****			
< CAPACITOR >			
C501	1-104-658-91	ELECT 100uF 20% 10V	
C502	1-104-658-91	ELECT 100uF 20% 10V	
C503	1-162-966-11	CERAMIC CHIP 0.0022uF 10% 50V	
C504	1-162-966-11	CERAMIC CHIP 0.0022uF 10% 50V	
C505	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C506	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C509	1-127-804-91	CERAMIC CHIP 100PF 1% 50V	
C510	1-127-804-91	CERAMIC CHIP 100PF 1% 50V	
C511	1-162-960-11	CERAMIC CHIP 220PF 10% 50V	
C512	1-162-960-11	CERAMIC CHIP 220PF 10% 50V	
C513	1-126-160-11	ELECT 1uF 20% 50V	
C514	1-126-160-11	ELECT 1uF 20% 50V	
C515	1-126-786-11	ELECT 47uF 20% 16V	
C516	1-126-947-11	ELECT 47uF 20% 35V	
C517	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C519	1-162-962-11	CERAMIC CHIP 470PF 10% 50V	
C520	1-162-962-11	CERAMIC CHIP 470PF 10% 50V	
C521	1-125-837-91	CERAMIC CHIP 1uF 10% 6.3V	
C522	1-125-837-91	CERAMIC CHIP 1uF 10% 6.3V	
C523	1-125-837-91	CERAMIC CHIP 1uF 10% 6.3V	
C524	1-125-837-91	CERAMIC CHIP 1uF 10% 6.3V	
C525	1-162-923-11	CERAMIC CHIP 47PF 5% 50V	
C526	1-162-923-11	CERAMIC CHIP 47PF 5% 50V	
C527	1-162-962-11	CERAMIC CHIP 470PF 10% 50V	
C528	1-162-962-11	CERAMIC CHIP 470PF 10% 50V	
C529	1-162-961-11	CERAMIC CHIP 330PF 10% 50V	
C530	1-162-961-11	CERAMIC CHIP 330PF 10% 50V	
C531	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C532	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C533	1-162-966-11	CERAMIC CHIP 0.0022uF 10% 50V	
C534	1-162-966-11	CERAMIC CHIP 0.0022uF 10% 50V	
C535	1-162-966-11	CERAMIC CHIP 0.0022uF 10% 50V	
C536	1-162-966-11	CERAMIC CHIP 0.0022uF 10% 50V	

Ref. No.	Part No.	Description	Remark
C537	1-162-966-11	CERAMIC CHIP 0.0022uF 10%	50V
C538	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C539	1-115-156-11	CERAMIC CHIP 1uF	10V
C540	1-130-479-91	MYLAR 0.0047uF 5%	50V
C542	1-126-796-11	ELECT 22uF 20%	50V
C543	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C545	1-100-597-91	CERAMIC CHIP 0.1uF 10%	25V
C546	1-100-597-91	CERAMIC CHIP 0.1uF 10%	25V
C548	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C549	1-164-156-11	CERAMIC CHIP 0.1uF	25V
< CONNECTOR >			
* CN501	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P	
CN502	1-784-731-11	CONNECTOR, FFC 9P	
< IC >			
IC501	8-759-100-96	IC uPC4558G2	
IC502	8-759-100-96	IC uPC4558G2	
< JUMPER RESISTOR >			
JR501	1-216-864-11	SHORT CHIP 0	
JR502	1-216-864-11	SHORT CHIP 0	
JR503	1-216-864-11	SHORT CHIP 0	
JR504	1-216-295-91	SHORT CHIP 0	
JR505	1-216-295-91	SHORT CHIP 0	
JR506	1-216-296-11	SHORT CHIP 0	
JR507	1-216-296-11	SHORT CHIP 0	
JR508	1-216-296-11	SHORT CHIP 0	
JR509	1-216-296-11	SHORT CHIP 0	
JR510	1-216-295-91	SHORT CHIP 0	
JR511	1-216-296-11	SHORT CHIP 0	
JR512	1-216-296-11	SHORT CHIP 0	
JR513	1-216-296-11	SHORT CHIP 0	
JR514	1-216-296-11	SHORT CHIP 0	
JR515	1-216-296-11	SHORT CHIP 0	
JR516	1-216-296-11	SHORT CHIP 0	
JR517	1-216-296-11	SHORT CHIP 0	
JR518	1-216-296-11	SHORT CHIP 0	
< COIL >			
L501	1-456-094-11	TRANSFORMER, BIAS OSCILLATION	
< TRANSISTOR >			
Q501	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q502	8-729-119-78	TRANSISTOR 2SC2785-HFE	
< RESISTOR >			
R501	1-216-825-11	METAL CHIP 2.2K 5%	1/10W
R502	1-216-825-11	METAL CHIP 2.2K 5%	1/10W
R503	1-216-825-11	METAL CHIP 2.2K 5%	1/10W
R504	1-216-825-11	METAL CHIP 2.2K 5%	1/10W
R505	1-216-834-11	METAL CHIP 12K 5%	1/10W
R506	1-216-834-11	METAL CHIP 12K 5%	1/10W
R507	1-216-850-11	METAL CHIP 270K 5%	1/10W
R508	1-216-850-11	METAL CHIP 270K 5%	1/10W
R509	1-216-814-11	METAL CHIP 270 5%	1/10W
R510	1-216-814-11	METAL CHIP 270 5%	1/10W
R511	1-216-845-11	METAL CHIP 100K 5%	1/10W
R512	1-216-845-11	METAL CHIP 100K 5%	1/10W

Ref. No.	Part No.	Description	Remark
R513	1-216-845-11	METAL CHIP 100K 5%	1/10W
R514	1-216-845-11	METAL CHIP 100K 5%	1/10W
R515	1-216-864-11	SHORT CHIP 0	
R516	1-216-864-11	SHORT CHIP 0	
R517	1-216-821-11	METAL CHIP 1K 5%	1/10W
R518	1-216-821-11	METAL CHIP 1K 5%	1/10W
R519	1-216-841-11	METAL CHIP 47K 5%	1/10W
R520	1-216-841-11	METAL CHIP 47K 5%	1/10W
R521	1-216-841-11	METAL CHIP 47K 5%	1/10W
R522	1-216-841-11	METAL CHIP 47K 5%	1/10W
R523	1-216-827-11	METAL CHIP 3.3K 5%	1/10W
R524	1-216-827-11	METAL CHIP 3.3K 5%	1/10W
R525	1-216-851-11	METAL CHIP 330K 5%	1/10W
R526	1-216-851-11	METAL CHIP 330K 5%	1/10W
R527	1-216-851-11	METAL CHIP 330K 5%	1/10W
R528	1-216-851-11	METAL CHIP 330K 5%	1/10W
R529	1-216-825-11	METAL CHIP 2.2K 5%	1/10W
R530	1-216-825-11	METAL CHIP 2.2K 5%	1/10W
R531	1-216-832-11	METAL CHIP 8.2K 5%	1/10W
R532	1-216-832-11	METAL CHIP 8.2K 5%	1/10W
R533	1-216-837-11	METAL CHIP 22K 5%	1/10W
R534	1-216-835-11	METAL CHIP 15K 5%	1/10W
R535	1-216-829-11	METAL CHIP 4.7K 5%	1/10W
R536	1-216-829-11	METAL CHIP 4.7K 5%	1/10W
R537	1-216-833-11	METAL CHIP 10K 5%	1/10W
R538	1-216-833-11	METAL CHIP 10K 5%	1/10W
R539	1-216-793-11	METAL CHIP 4.7 5%	1/10W
R540	1-216-805-11	METAL CHIP 47 5%	1/10W
R541	1-216-805-11	METAL CHIP 47 5%	1/10W
R543	1-216-813-11	METAL CHIP 220 5%	1/10W
R544	1-216-813-11	METAL CHIP 220 5%	1/10W
R545	1-216-817-11	METAL CHIP 470 5%	1/10W
R546	1-216-817-11	METAL CHIP 470 5%	1/10W
< SWITCH >			
S501	1-762-369-11	SWITCH, SLIDE (REC/PB)	

TRANS BOARD			

< CAPACITOR >			
C1250	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C1251	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C1252	1-126-964-11	ELECT 10uF 20%	50V
C1253	1-128-553-11	ELECT 220uF 20%	63V
C1254	1-126-968-11	ELECT 100uF 20%	50V
< CONNECTOR >			
CN1250	1-564-528-11	PLUG, CONNECTOR 13P	
< DIODE >			
D1250	6-500-522-21	DIODE 10EDB40-TB3	
D1252	6-501-796-01	DIODE MAZ8330GMLS0	
< FUSE >			
△ F1254	1-523-080-11	FUSE 6.3A 250V	
△ F1255	1-523-084-11	FUSE 2A 250V	

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TRANS USB VOL

Ref. No.	Part No.	Description	Remark
< HOLDER, FUSE >			
FH1250	1-533-217-41	HOLDER, FUSE	
FH1251	1-533-217-41	HOLDER, FUSE	
FH1252	1-533-217-41	HOLDER, FUSE	
FH1253	1-533-217-41	HOLDER, FUSE	
FH1254	1-533-217-41	HOLDER, FUSE	
FH1255	1-533-217-41	HOLDER, FUSE	
FH1256	1-533-217-41	HOLDER, FUSE	
FH1257	1-533-217-41	HOLDER, FUSE	
< TRANSISTOR >			
Q1250	8-729-048-66	TRANSISTOR 2SB1238-PQR-TV2	
< RESISTOR >			
R1250	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R1252	1-216-833-11	METAL CHIP 10K 5% 1/10W	

USB BOARD *****			
< CAPACITOR >			
C1002	1-165-989-11	CERAMIC CHIP 10uF 10% 6.3V	
C1003	1-126-176-11	ELECT 220uF 20% 10V	
C1004	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1005	1-165-989-11	CERAMIC CHIP 10uF 10% 6.3V	
C1006	1-126-176-11	ELECT 220uF 20% 10V	
C1007	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1008	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1009	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1010	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C1011	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C1012	1-162-910-11	CERAMIC CHIP 5PF 0.25PF 50V	
C1013	1-162-910-11	CERAMIC CHIP 5PF 0.25PF 50V	
< CONNECTOR >			
CN1000	1-819-866-11	CONNECTOR, USB (A)	
CN1001	1-819-866-11	CONNECTOR, USB (A)	
< DIODE >			
D1000	6-502-795-01	DI 1L0351B12C0MXT02	
D1002	6-503-224-01	DI 1L0351V22F0MIT01	
D1003	6-502-795-01	DI 1L0351B12C0MXT02	
D1004	6-501-579-01	DIODE MC2837	
D1005	6-501-579-01	DIODE MC2837	
D1006	6-501-579-01	DIODE MC2837	
D1007	6-501-579-01	DIODE MC2837	
D1008	6-501-579-01	DIODE MC2837	
D1009	6-501-579-01	DIODE MC2837	
D1011	6-501-743-01	DIODE MAZ8068GMLS0	
D1013	6-501-743-01	DIODE MAZ8068GMLS0	
D1015	6-501-743-01	DIODE MAZ8068GMLS0	
D1017	6-501-743-01	DIODE MAZ8068GMLS0	
D1018	6-501-743-01	DIODE MAZ8068GMLS0	
D1019	6-501-743-01	DIODE MAZ8068GMLS0	
< JUMPER RESISTOR >			
JR102	1-216-296-11	SHORT CHIP 0	
JR103	1-216-296-11	SHORT CHIP 0	

Ref. No.	Part No.	Description	Remark
< RESISTOR >			
R1001	1-216-817-11	METAL CHIP 470 5% 1/10W	
R1002	1-216-817-11	METAL CHIP 470 5% 1/10W	
R1004	1-216-823-11	METAL CHIP 1.5K 5% 1/10W	
R1005	1-216-823-11	METAL CHIP 1.5K 5% 1/10W	
R1008	1-216-817-11	METAL CHIP 470 5% 1/10W	
R1009	1-216-817-11	METAL CHIP 470 5% 1/10W	

VOL BOARD *****			
< CAPACITOR >			
C1301	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
< RESISTOR >			
R1302	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R1303	1-216-835-11	METAL CHIP 15K 5% 1/10W	
R1304	1-216-837-11	METAL CHIP 22K 5% 1/10W	
< SWITCH >			
S1301	1-487-171-11	ROTARY ENCODER (MASTER VOLUME)	
S1302	1-786-289-31	SWITCH, DETECTION (DETECTION SWITCH)	

MISCELLANEOUS *****			
59	1-797-575-11	DECK, MECHANICAL (E4)	
103	1-824-954-11	FLAT FLEXIBLE CABLE FM0-8	
104	1-838-099-11	FLEXIBLE FLAT CABLE (7 CORE)	
105	1-828-976-11	WIRE (FLAT TYPE) (13 CORE)	
155	1-829-023-11	WIRE (FLAT TYPE) (23 CORE)	
156	1-823-669-11	WIRE (FLAT TYPE) (11 CORE)	
251	1-828-952-11	WIRE (FLAT TYPE) (9 CORE)	
252	1-457-369-12	CORE, FERRITE	
255	1-693-778-31	TUNER (FM/AM) (EXCEPT AUS)	
255	1-693-778-22	TUNER (FM/AM) (AUS)	
△ 257	1-777-071-83	CORD, POWER (E2, E51, E4)	
△ 257	1-835-068-21	CORD, POWER (AUS)	
△ 257	1-837-312-11	CORD, POWER-SUPPLY (AR)	
△ 257	1-837-344-11	CORD, POWER-SUPPLY (MX)	
△ 258	1-569-008-21	ADAPTOR, CONVERSION (E2, E51, E4)	
401	1-840-387-31	MECHANICAL, CD	
△ 405	8-820-322-04	DEVICE, OPTICAL KHM-313CAB/C2NP (including sled motor, spindle motor)	
407	1-828-773-51	WIRE (FLAT TYPE) (24 CORE)	
△ F1250	1-533-949-33	FUSE, T8AL 250V	
△ F1251	1-533-949-33	FUSE, T8AL 250V	
△ F1252	1-533-949-33	FUSE, T8AL 250V	
△ F1253	1-533-949-33	FUSE, T8AL 250V	
△ M101	1-787-344-11	FAN, DC	
△ PT1250	1-445-825-11	POWER TRANSFORMER (MX)	
△ PT1250	1-445-826-11	POWER TRANSFORMER (EXCEPT MX)	
S1301	1-487-171-11	ROTARY ENCODER	

