HCD-HX50BTR/HX70BTR/ HX80R/HX90BTR

SERVICE MANUAL

Ver. 1.1 2008.06

Canadian Model
E Model
HCD-HX50BTR
AEP Model
HCD-HX50BTR/HX70BTR
UK Model
HCD-HX80R/HX90BTR

- HCD-HX50BTR is the amplifier, bluetooth, USB, CD player and tuner section in CMT-HX50BTR.
- HCD-HX70BTR is the amplifier, bluetooth, USB, CD player and tuner section in CMT-HX70BTR.
- HCD-HX80R is the amplifier, USB, CD player and tuner section in CMT-HX80R.
- HCD-HX90BTR is the amplifier, bluetooth, USB, CD player and tuner section in CMT-HX90BTR.

Photo: HCD-HX50BTR

Model Name Using Similar Mechanism	NEW
CD Mechanism Deck	BU-K6BD91UR2-WOD
Optical Pick-up Block Name	KSM-213DCP

SPECIFICATIONS

Amplifier section

HCD-HX80R/HX90BTR
DIN power output (rated):
40 + 40 watts (6 ohms at 1 kHz, DIN)
Continuous RMS power output (reference): 50 + 50 watts (6 ohms at 1 kHz, 10% THD)
Music power output (reference): 50 + 50 watts (6 ohms at 1 kHz, 10% THD)

HCD-HX70BTR
DIN power output (rated):
60 + 60 watts (4 ohms at 1 kHz, DIN)
Continuous RMS power output (reference): 75 + 75 watts (4 ohms at 1 kHz, 10% THD)
Music power output (reference): 75 + 75 watts (4 ohms at 1 kHz, 10% THD)

HCD-HX50BTR
European and Russian models:
DIN power output (rated):
40 + 40 watts (6 ohms at 1 kHz, DIN)
Continuous RMS power output (reference): 50 + 50 watts (6 ohms at 1 kHz, 10% THD)
Music power output (reference): 50 + 50 watts (6 ohms at 1 kHz, 10% THD)
Other models:
DIN power output (rated):
40 + 40 watts (6 ohms at 1 kHz, DIN)
Continuous RMS power output (reference): 50 + 50 watts (6 ohms at 1 kHz, 10% THD)

Inputs:
AUDIO IN (stereo mini jack): voltage 250 mV, impedance 22 kilohms
(USB) port: Type A, maximum current 500 mA
Outputs:
PHONES (stereo mini jack): accepts headphones of 8 ohms or more
SPEAKER: accepts impedance of 4 ohms (CMT-HX70BTR) or 6 ohms (CMT-HX50BTR)

Bluetooth section (HCD-HX50BTR/HX70BTR/HX90BTR)

Communication system:
Bluetooth Standard version 2.0
Output:
Bluetooth Standard Power Class 2
Maximum communication range:
Line of sight approx. 10 m[1)]
Frequency band:
2.4 GHz band (2.4000 GHz – 2.4835 GHz)
Modulation method:
FHSS
Compatible Bluetooth profiles[2)]:
A2DP (Advanced Audio Distribution Profile)
AVRCP (Audio Video Remote Control Profile)
Supported codecs:
Receive: SBC (Sub Band Codec), MP3
Transmit: SBC (Sub Band Codec)

1) The actual range will vary depending on factors such as obstacles between devices, magnetic fields around a microwave oven, static electricity, reception sensitivity, antenna's performance, operating system, software application, etc.
2) Bluetooth standard profiles indicate the purpose of Bluetooth communication between devices.

USB section

Supported bit rate
MP3 (MPEG 1 Audio Layer-3): 32 – 320 kbps, VBR
WMA: 32 – 192 kbps, VBR
AAC: 48 – 320 kbps
Sampling frequencies
MP3 (MPEG 1 Audio Layer-3): 32/44.1/48 kHz
WMA: 44.1 kHz
AAC: 44.1 kHz

CD player section

System: Compact disc and digital audio system
Laser Diode Properties
Emission duration: Continuous
Laser Output*: Less than 44.6μW
* This output is the value measurement at a distance of 200mm from the objective lens surface on the Optical Pick-up Block with 7mm aperture.
Frequency response: 20 Hz – 20 kHz
Signal-to-noise ratio: More than 90 dB
Dynamic range: More than 90 dB

Tuner section

DAB tuner section (HCD-HX80R/HX90BTR) :
Frequency range*
Band-III: 174.928 (5A) – 239.200 (13F) MHz
* For details, see "DAB frequency table".
Antenna: FM/DAB lead antenna
Antenna terminal: 75 ohms, F female
FM stereo, FM/AM superheterodyne tuner

FM tuner section:
Tuning range
Canadian and Brazilian models: 87.5 – 108.0 MHz (100 kHz step)
Other models: 87.5 – 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
European and Russian models: 531 – 1,602 kHz (with 9 kHz tuning interval)
Canadian and Latin American models: 530 – 1,710 kHz (with 10 kHz tuning interval)
531 – 1,710 kHz (with 9 kHz tuning interval)
Other models: 531 – 1,602 kHz (with 9 kHz tuning interval)
530 – 1,610 kHz (with 10 kHz tuning interval)
Antenna: AM loop antenna, external antenna terminal
Intermediate frequency: 450 kHz

– Continued on next page –

COMPACT DISC RECEIVER

9-889-091-02
2008F05-1

Sony Corporation
Audio Business Group
Published by Sony Techno Create Corporation

SONY®

DAB frequency table (Band-III)

Frequency	Label	Frequency	Label
174.928 MHz	5A	209.936 MHz	10A
176.640 MHz	5B	211.648 MHz	10B
178.352 MHz	5C	213.360 MHz	10C
180.064 MHz	5D	215.072 MHz	10D
181.936 MHz	6A	216.928 MHz	11A
183.648 MHz	6B	218.640 MHz	11B
185.360 MHz	6C	220.352 MHz	11C
187.072 MHz	6D	222.064 MHz	11D
188.928 MHz	7A	223.936 MHz	12A
190.640 MHz	7B	225.648 MHz	12B
192.352 MHz	7C	227.360 MHz	12C
194.064 MHz	7D	229.072 MHz	12D
195.936 MHz	8A	230.784 MHz	13A
197.648 MHz	8B	232.496 MHz	13B
199.360 MHz	8C	234.208 MHz	13C
201.072 MHz	8D	235.776 MHz	13D
202.928 MHz	9A	237.488 MHz	13E
204.640 MHz	9B	239.200 MHz	13F
206.352 MHz	9C		
208.064 MHz	9D		

General

Power requirements
- European and Russian models: 220 – 240 V AC, 50/60 Hz
- Canadian model: 120 V AC, 60 Hz
- Mexican model: 127 V AC, 60 Hz
- Argentina model: 220 – 240 V AC, 50/60 Hz
- Korean model: 220 – 240 V AC, 50/60 Hz
- Latin American models (except for Mexican and Argentina models): 120 – 127, 220 – 240 V AC, 50/60 Hz, adjustable with voltage selector
- Other models: 220 – 240 V AC, 50/60 Hz

Power consumption
- HCD-HX90BRT: 40 watts
- HCD-HX80R: 40 watts
- HCD-HX70BTR: 50 watts
- HCD-HX50BTR: 40 watts

Dimensions (w/h/d) (excl. speakers):
- Approx. 305 × 116 × 226 mm (HCD-HX80R/HX90BTR)
- Approx. 305 × 116 × 225 mm (HCD-HX50BTR/HC70BTR)

Design and specifications are subject to change without notice.

Notes on chip component replacement

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

Flexible Circuit Board Repairing

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

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

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

SAFETY-RELATED COMPONET WARNING!

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

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COM- POSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR 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)

: 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.

RELEASING THE ANTITHEFT LOCK

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

Releasing Procedure:

1. Press the [I/⏻] button to turn the power on.
2. While pressing the [■/CANCEL] button, press the [⏏] button unit “UNLOCKED” displayed on the fluorescent indicator tube (around 5 seconds) .

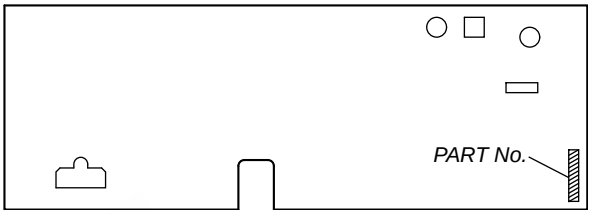
Note: When “LOCKED” is displayed, the tray lock is not released by turning power on/off with the [I/⏻] button.

NOTE THE IC904 ON THE BT BOARD REPLACING

When IC904 cannot exchange with single. When IC904 is damaged, exchange the entire mounted board.

MODEL IDENTIFICATION

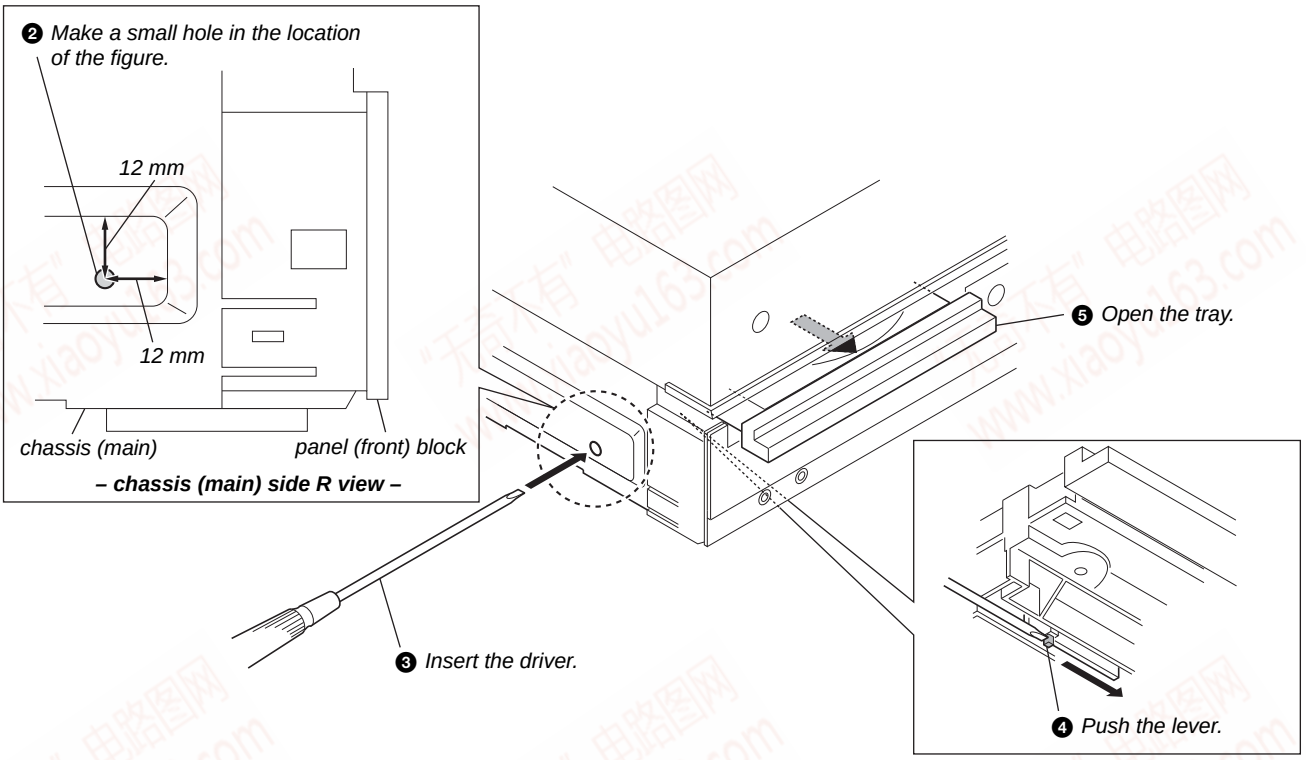
– Back Panel –



Model	Part No.
HX50BTR: AEP model	3-284-497-0□
HX50BTR: Canadian model	3-284-497-1□
HX50BTR: Russian model	3-284-497-2□
HX50BTR: Singapore model	3-284-497-3□
HX50BTR: Korean model	3-284-497-5□
HX50BTR: Mexican model	3-284-497-7□
HX50BTR: Chilean and Peruvian models	3-284-497-8□
HX50BTR: Argentina model	3-284-497-9□
HX50BTR: Brazilian model	3-290-773-0□
HX70BTR	3-290-773-1□
HX90BTR	3-290-773-2□
HX80R	3-290-773-3□

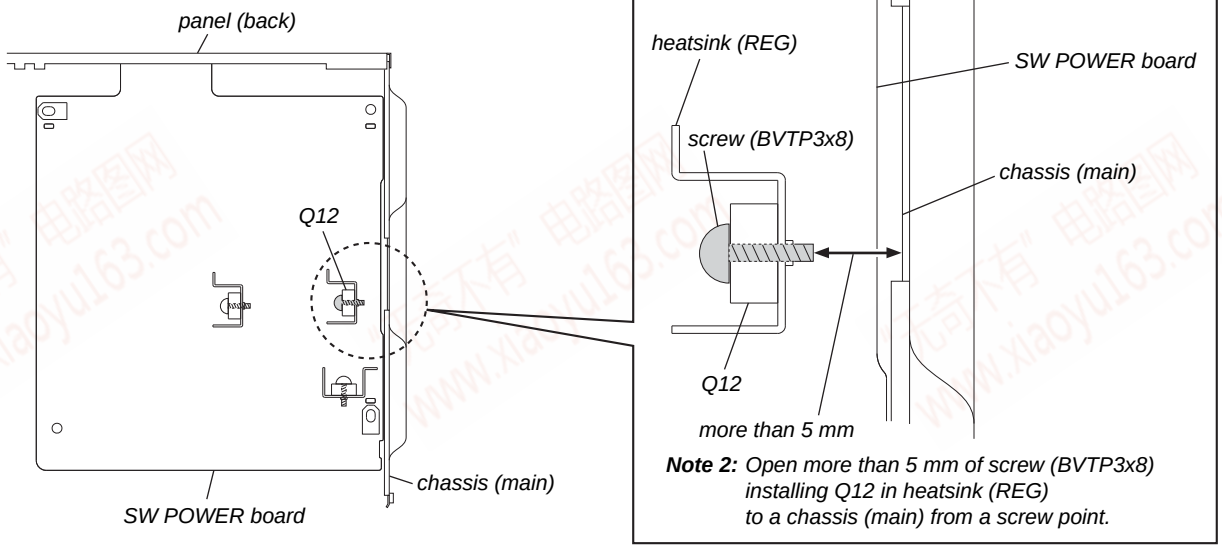
HOW TO OPEN THE TRAY WHEN POWER SWITCH TURN OFF

❶ *Remove the panel (side R).*
(Illustration of disaaaembly is omitted.)



ATTENTION WHEN INSTALLING Q12

Note 1: *Be sure to use an original screw (Part. No. 7-685-646-79 SCREW +BVTP 3X8 TYPE2 IT-3), never use a screw longer than an original screw.*



Note 2: *Open more than 5 mm of screw (BVTP3x8) installing Q12 in heatsink (REG) to a chassis (main) from a screw point.*

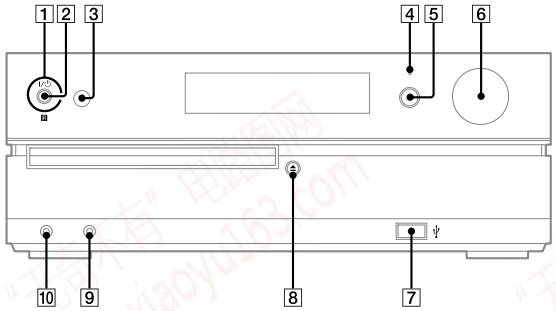
This section is extracted from instruction manual.

Guide to parts and controls

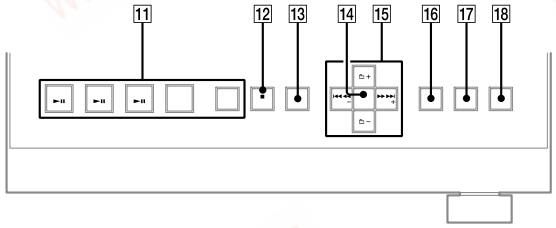
This manual mainly explains operations using the remote, but the same operations can also be performed using the buttons on the unit having the same or similar names.

Unit

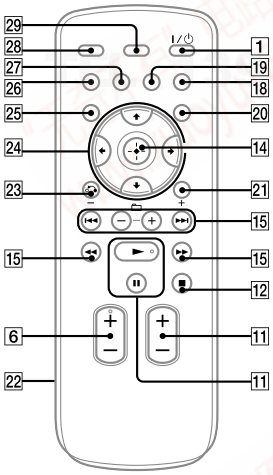
Front panel



Top panel



Remote (RM-AMU009)



1
I/⏻ (power) button
Press to turn on the system.

2
STANDBY indicator
Lights up when the system is turned off.

3
Remote sensor

4
BLUETOOTH indicator (HX50BTR/HX70BTR/HX90BTR only)
Lights up when the Bluetooth function is active.

5
BLUETOOTH button (HX50BTR/HX70BTR/HX90BTR only)
Press to make a connection, disconnection, or pairing with a Bluetooth device.

6
Unit: VOLUME control
Remote: VOLUME +/– button
Turn or press to adjust the volume.

7
(USB) port
Connect to an optional USB device.

8
⏏ (open/close) button
Press to open or close the disc tray.

9
AUDIO IN jack
Connect to an optional audio component.

10
PHONES jack
Connect the headphones.

11
Playback buttons and function buttons
Unit: BLUETOOTH ►II (play/pause) button (HX50BTR/HX70BTR/HX90BTR only)
Press to select the Bluetooth function.
Press to start or pause playback of the music on the Bluetooth device (Bluetooth mobile phone, etc.).

Unit: USB ►II (play/pause) button
Press to select the USB function.
Press to start or pause playback of an optional USB device.

Unit: CD ►II (play/pause) button
Press to select the CD function.
Press to start or pause playback of a disc.

Remote: ► (play) button, II (pause) button
Press to start or pause playback.

Unit: TUNER/BAND button
Press to select the TUNER function.
Press to select FM or AM reception mode.

Unit: DMPORT ►II (play/pause) button (HX80R only)
Press to select the DMPORT function.
Press to start or pause playback of the audio device connected to the DIGITAL MEDIA PORT adapter.

Unit: FUNCTION button
Remote: FUNCTION +/– button
Press to select the function.

12
Unit: ■/CANCEL (stop/cancel) button
Remote: ■ (stop) button
Press to stop playback.
Press to cancel search.

13
SEARCH button (HX50BTR/HX70BTR)
Press to enter or exit search mode.

SEARCH/DAB AUTO SCAN button (HX80R/HX90BTR)
Press to enter or exit search mode.
Press to run the DAB Automatic Scan.

14
Unit: ENTER button
Remote: ⊕ (enter) button
Press to enter the settings.

15
I◄◄ /►►I (go back/go forward) button
Press to select a track or file.

Unit: TUNE +/– (tuning) button
Remote: +/– (tuning) button
Press to tune in the desired station.

+/– (select folder) button
Press to select a folder.

◄◄/►► (rewind/fast forward) button
Press to find a point in a track or file.

16
CD-USB SYNC/REC1 button
Press to record from a disc onto the connected optional USB device.

17
USB MENU button
Press to erase audio files and folders from the connected optional USB device.
Press to select which memory to read to if the USB device has more than one memory.

18
Sound buttons
Unit: DSGX button
Remote: EQ button
Press to select the sound effect.

19
CLEAR button
Press to delete a pre-programmed track or file.
Press to erase the pairing registration information of the Bluetooth device.

20
TIMER MENU button
Press to set the clock and the Play Timer.

21
TOOL MENU button
Press to select a menu when using the DIGITAL MEDIA PORT adapter.

22
Battery compartment lid

23
RETURN button
Press to return to the previous menu when using the DIGITAL MEDIA PORT adapter.

24
↑/↓/←/→ button
Press to select the menu items.

25
TUNER MEMORY button
Press to preset the radio station.

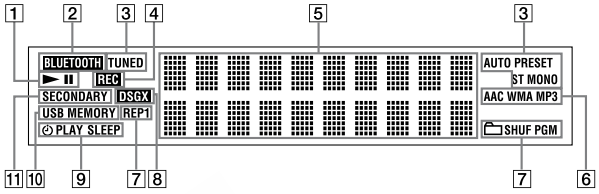
26
PLAY MODE/TUNING MODE button
Press to select the play mode of a CD, MP3 disc or an optional USB device.
Press to select the tuning mode.

27
REPEAT/FM MODE button
Press to listen to a disc, a single track or file repeatedly.
Press to select the FM reception mode (monaural or stereo).

28
SLEEP button
Press to set the Sleep Timer.

29
DISPLAY button
Press to change the information on the display.

Information on the display



1
Play/Pause

2
BLUETOOTH (HX50BTR/HX70BTR/HX90BTR only)
Lights up when the Bluetooth function is selected.

3
Tuner reception mode
Tuner reception

4
REC

5
Text information

6
Audio format

7
Play mode

8
DSGX

9
Timer

10
USB MEMORY
Lights up when an optional USB device is connected.

11
DAB service reception (HX80R/HX90BTR only)
Lights up when secondary service is received.

Setting the clock

Use buttons on the remote to set the clock.

1 Press I/⏻ 1 to turn on the system.

2 Press TIMER MENU 20.
The hour indication flashes in the display.
If "PLAY SET?" flashes in the display, press ↑/↓ 24 repeatedly to select "CLOCK SET?" and then press ⊕ 14.

3 Press ↑/↓ 24 repeatedly to set the hour, and then press ⊕ 14.

4 Use the same procedure to set the minutes.
The clock settings are lost when you disconnect the power cord or if a power failure occurs.

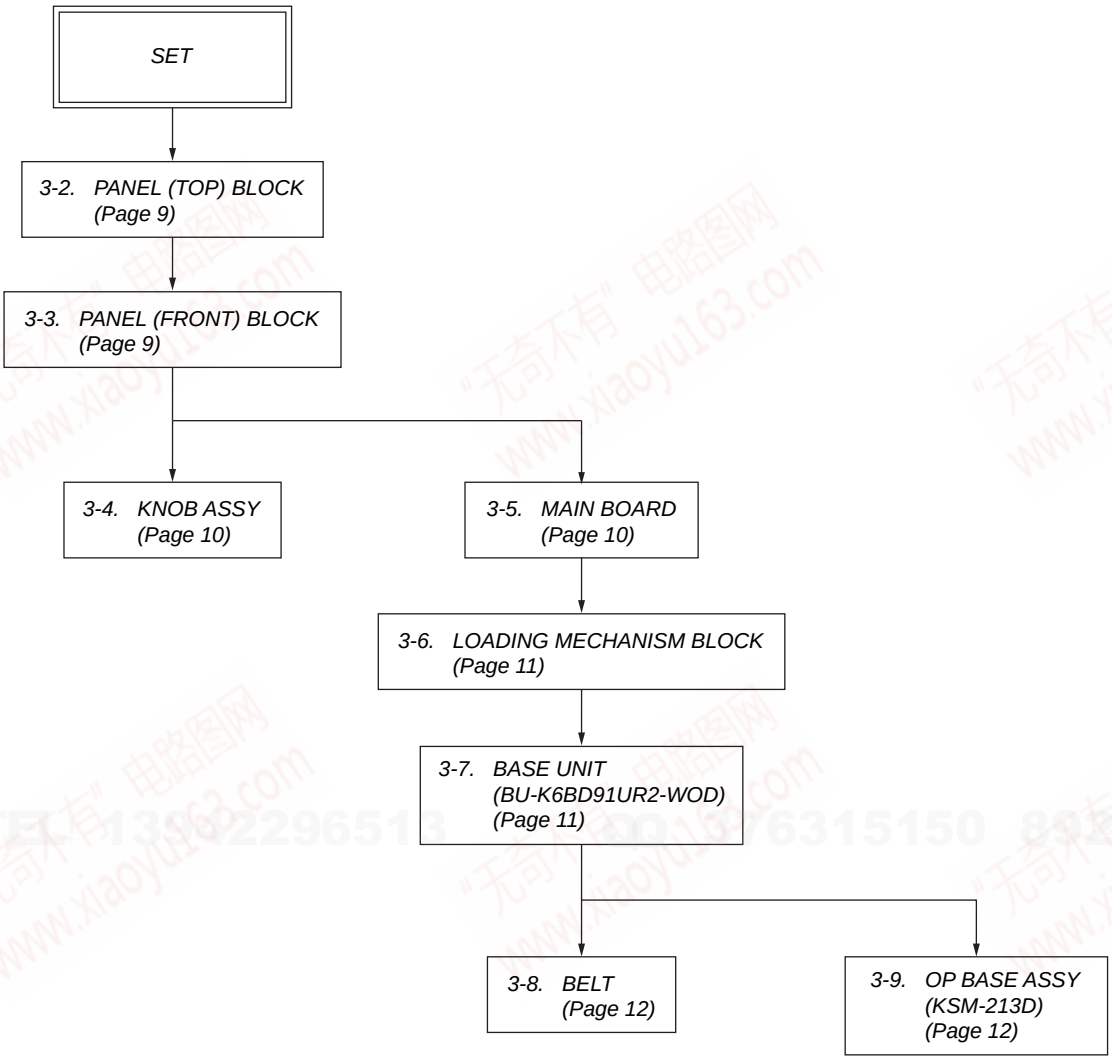
To display the clock when the system is off

Press DISPLAY 29. The clock is displayed for about 8 seconds.

SECTION 3
DISASSEMBLY

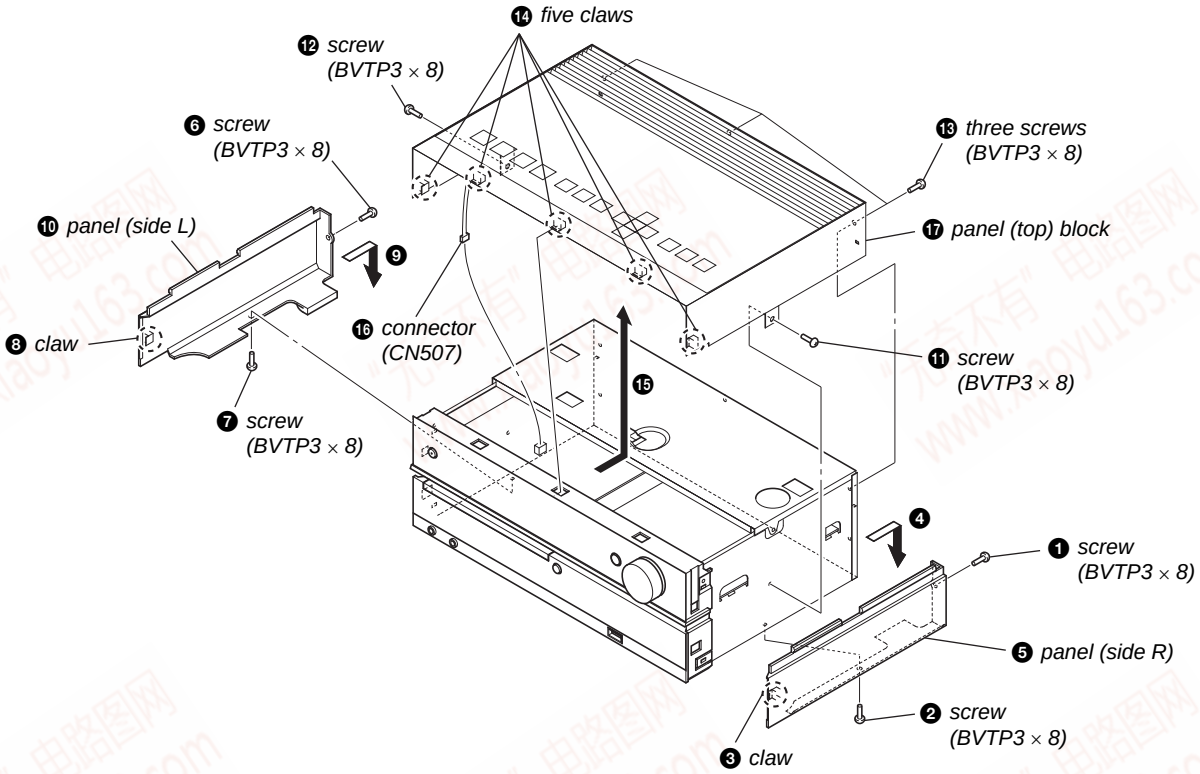
- This set can be disassembled in the order shown below.

3-1. DISASSEMBLY FLOW

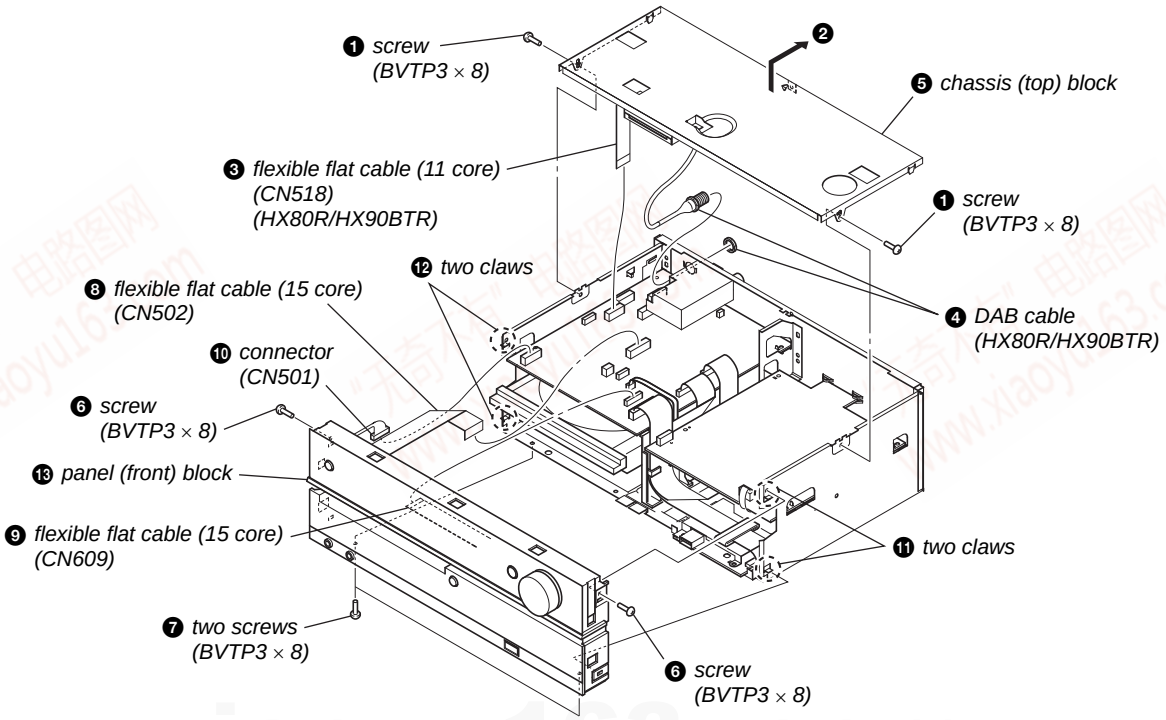


Note: Follow the disassembly procedure in the numerical order given.

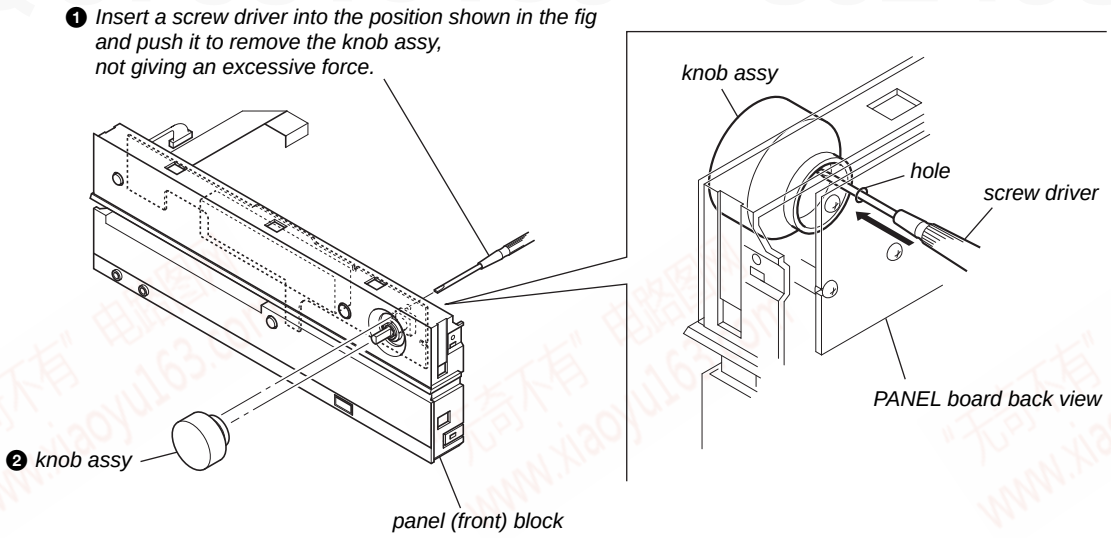
3-2. PANEL (TOP) BLOCK



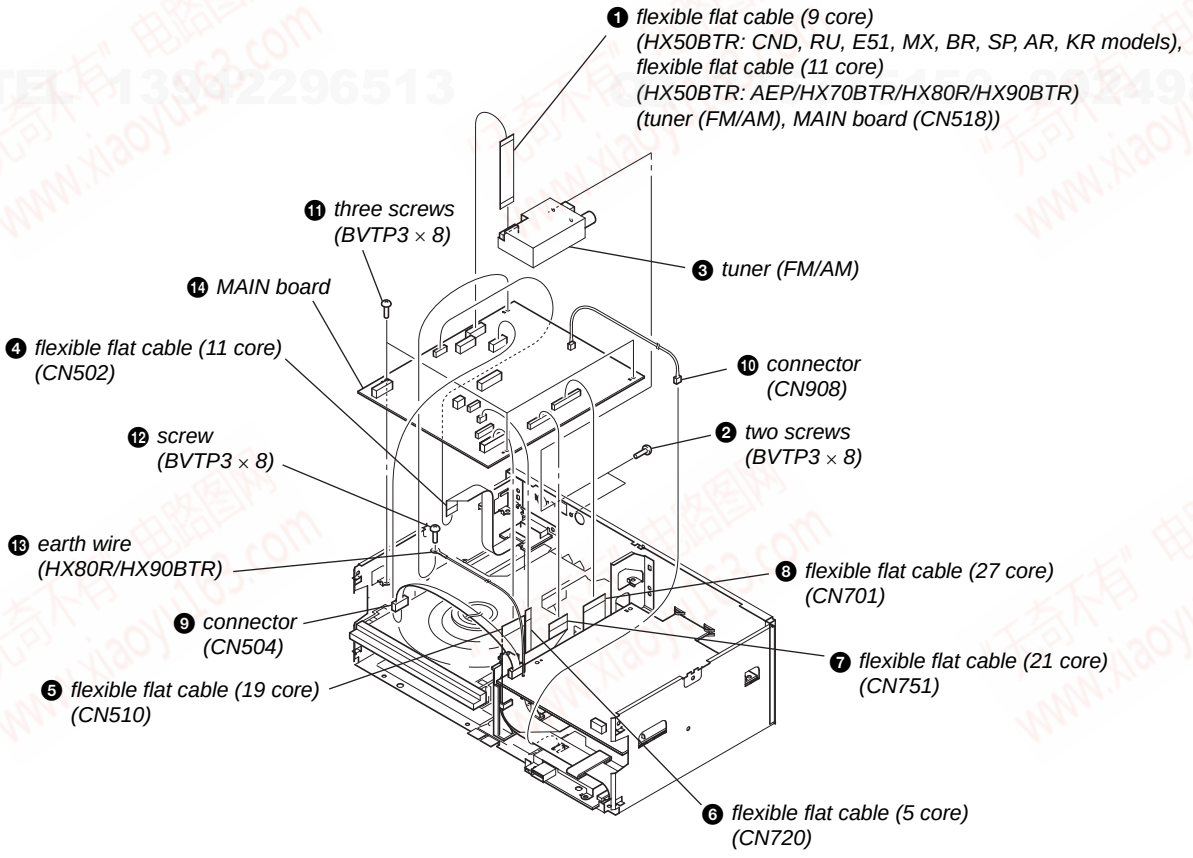
3-3. PANEL (FRONT) BLOCK



3-4. KNOB ASSY

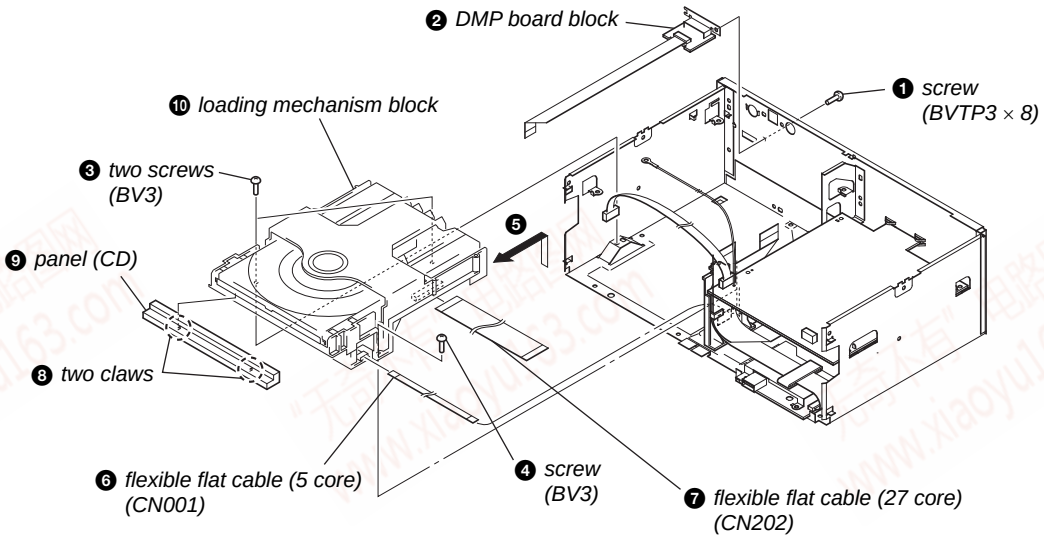


3-5. MAIN BOARD

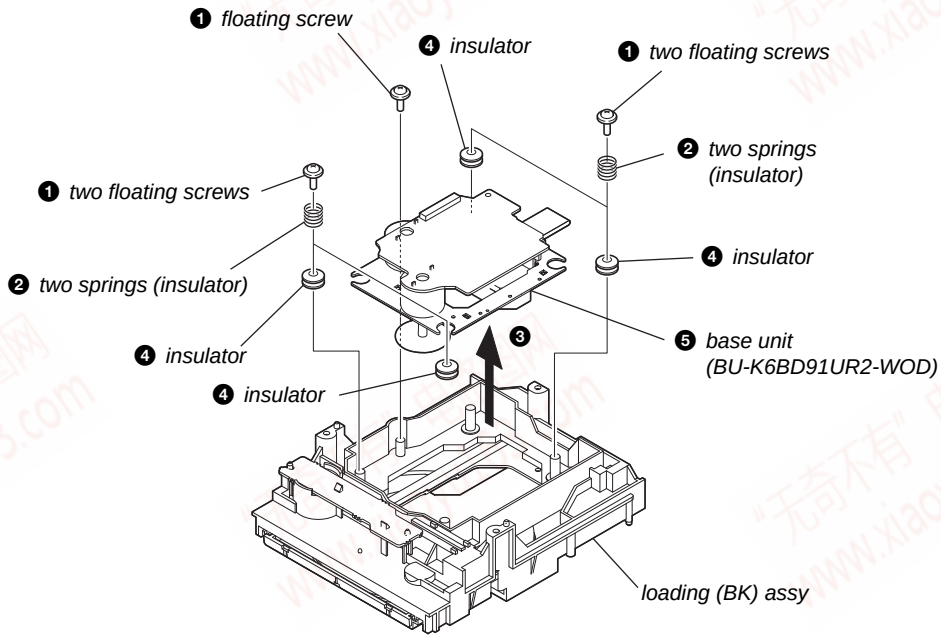


- Abbreviation
  AR : Argentina model
  BR : Brazilian model
  CND : Canadian model
  E51 : Chilean and Peruvian model
  KR : Korean model
  MX : Mexican model
  RU : Russian model
  SP : Singapore model

3-6. LOADING MECHANISM BLOCK

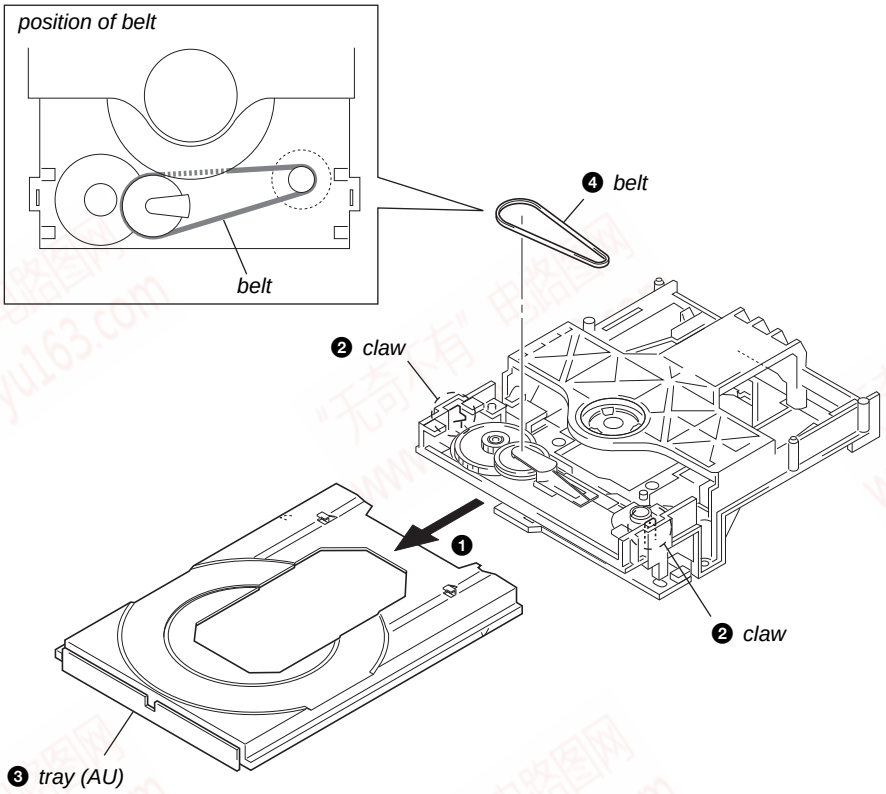


3-7. BASE UNIT (BU-K6BD91UR2-WOD)

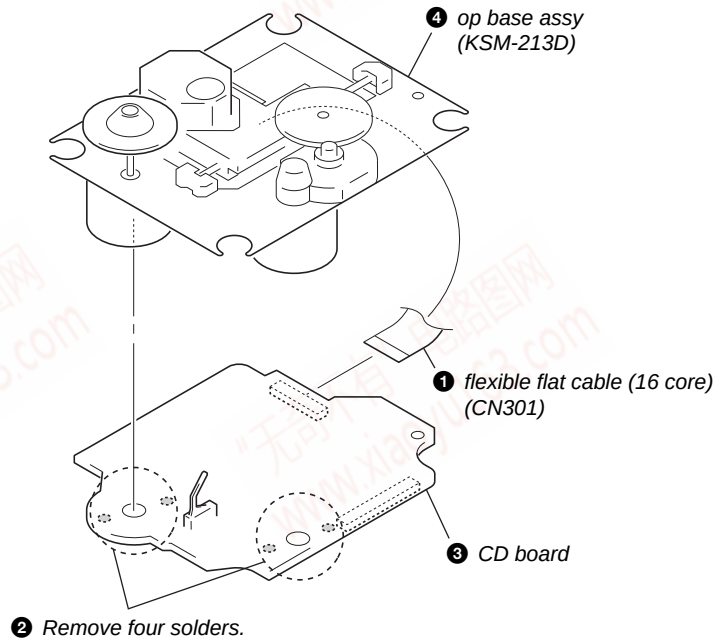


– Bottom view –

3-8. BELT



3-9. OPTICAL PICK-UP BLOCK (KSM-213D)



SECTION 4
TEST MODE

COLD RESET

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

Procedure:

1. Press three buttons of [■/CANCEL], [DSGX] and [I/⏻] simultaneously.
2. The system is reset and becomes standby states.

COMMON TEST MODE

This mode is used to check operations of amplifier.

Procedure:

1. Press the [I/⏻] button to turn the power on.
2. Press three buttons of [■/CANCEL], [ENTER] and [⏏] simultaneously.
3. When the COMMON test mode is activated, “AUDIO IN” is displayed on the fluorescent indicator tube and “🕘 PLAY SLEEP” blink on the fluorescent indicator tube.
4. Each time [EQ] button on the remote commander is pressed, the display changes starting “TONE MAX”, “TONE MIN” and “TONE FLAT” this order.
5. Turn the [VOLUME] knob counterclockwise, “VOLUME MIN” is displayed on the fluorescent indicator tube. Turn the [VOLUME] knob clockwise, “VOLUME MAX” is displayed on the fluorescent indicator tube.
6. To release this mode, press the [I/⏻] button.

PANEL TEST MODE

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

Procedure:

1. Press the [I/⏻] button to turn the power on.
2. Press three buttons of [■/CANCEL], [DSGX] and [⏏] simultaneously.
3. All segments on the fluorescent indicator tube, [STANDBY] LED and [BLUETOOTH OPR] LED (HX50BTR/HX70BTR/HX90BTR only) light up.
4. Press the [DSGX] button, the model and destination are displayed on the fluorescent indicator tube.
5. Press the [DSGX] button again, MC version is displayed on the fluorescent indicator tube.
6. Each time [DSGX] button is pressed, the display changes starting from MC version, GC version, USBL version , USBM version, BT version (HX50BTR/HX70BTR/HX90BTR only), CLA version, CD version, CDD version, CDMA version, CDMB version, BDA version, BDB version, ST version, TA version and TM version this order, and returns to the MC version display.
7. When [SEARCH] button is pressed while the MC version is displayed, year, month and day of the software creation is displayed. When [SEARCH] button is pressed again, the display returns to the MC version display.
8. Press the [ENTER] button, the key test mode is activated and “K 0 V0” is displayed on the fluorescent indicator tube.
9. Each time a button is pressed, “K” value increases. However, once a button is pressed, it is no longer taken into account.
   All keys are pressed, display becomes “K17” (HX80R) or “K18” (HX50BTR/HX70BTR/HX90BTR).
10. “V” value increases 2, 4, 6 ... if turn the [VOLUME] knob clockwise, or it decreases 8, 6, 4 ... if turn the knob counterclockwise
11. To release this mode, press three buttons in the same manner as step 2, or disconnect the power cord.

TUNER STEP CHANGE
(HX50BTR: Canadian, Chilean, Peruvian, Mexican, Brazilian, Singapore, Argentina and Korean models)

A step of AM tuning interval can be changed over between 9 kHz or 10 kHz.

Procedure:

1. Press the [I/⏻] button to turn the power on.
2. Press the [TUNER/BAND] button to select “AM”.
3. Press the [I/⏻] button again to turn the power off.
4. Press two buttons of [TUNER/BAND] and [I/⏻] simultaneously.
5. The message “AM 9kHz Step” or “AM 10kHz Step” is displayed on the fluorescent indicator tube and thus the tuning interval is changed over.

CD SHIP MODE

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 the [I/⏻] button to turn the power on.
2. Press the [FUNCTION] button to select “CD”.
3. Press two buttons of [SEARCH] and [I/⏻] simultaneously.
4. After the “STANDBY” display blinks, “LOCK” is displayed on the fluorescent indicator tube, the ship mode is set.

CD SHIP MODE & MEMORY CLEAR

This mode is used to perform CD ship mode and cold reset simultaneously.

Procedure:

1. Press the [I/⏻] button to turn the power on.
2. Press three buttons of [SEARCH], [DSGX] and [I/⏻] simultaneously.
3. After the “STANDBY” display blinks, “LOCK” is displayed on the fluorescent indicator tube the ship mode is set and the system is reset.

ANTITHEFT LOCK MODE

This mode is used to unable to take sample disc out of disc tray in the shop.

Procedure:

1. Press the [I/⏻] button to turn the power on.
2. Press the [⏏] button to open the disc tray and set the CD disc.
3. Press the [⏏] button to close the disc tray.
4. Press two buttons of [■/CANCEL] and [⏏] for 5 seconds.
5. The message “LOCKED” is displayed on the fluorescent indicator tube and the disc tray is locked. (Even if pressing the [⏏] button, the message “LOCKED” is displayed on the fluorescent indicator tube and the disc tray is locked)
6. To release from this mode, press two buttons of [■/CANCEL] and [⏏] for 5 seconds.
7. The message “UNLOCKED” is displayed on the fluorescent indicator tube and the disc tray is unlocked.

CD POWER MANAGE

This mode is used to changed over CD power on/off for decreasing of reception noise in the tuner mode.

Procedure:

1. Press the [I/⏻] button to turn the power on.
2. Press the [FUNCTION] button to select “CD”.
3. Press the [I/⏻] button again to turn the power off.
4. Press two buttons of [■/CANCEL] and [I/⏻] simultaneously.
5. The message “CD POWER ON” or “CD POWER OFF” is displayed on the fluorescent indicator tube, and CD power on/off is changed over in the tuner mode.

CD SERVICE MODE

This mode can run the CD sled motor freely. Use this mode, for instance, when cleaning the optical pick-up.

Procedure:

1. Press the [**I**/⏻] button to turn the power on.
2. Press the [FUNCTION] button to select “CD”.
3. Press three buttons of [SEARCH], [🗀 +] and [⏏] simultaneously, the message “SERVICE MODE” is displayed on the fluorescent indicator tube.
4. Press the [🗀 –] button to move the optical pick-up to inside track and the message “SLED IN” is displayed on the fluorescent indicator tube, or press the [🗀 +] button to outside track and the message “SLED OUT” is displayed on the fluorescent indicator tube.
5. Press the [DSGX] button, “LD ON” or “LD OFF” is displayed on the fluorescent indicator tube. Each time [DSGX] button is pressed, laser diode on/off is changed over.
6. To release this mode, press the [**I**/⏻] button.

BT TEST MODE (XH50BTR/HX70BTR/HX90BTR)

This mode is used to check the firmware version and address of bluetooth module.

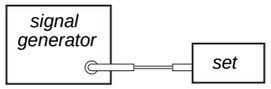
Procedure:

1. Press the [**I**/⏻] button to turn the power on.
2. Press the [FUNCTION] button to select “BLUETOOTH”.
3. Press three buttons of [SEARCH], [FUNCTION] and [BLUTOOTH OPR] simultaneously, the message “BT Test” is displayed on the fluorescent indicator tube. Then, the display is automatically changed to the firmware version of bluetooth module.
4. Press the [DISPLAY] button on the remote commaner, address of bluetooth module is displayed on the fluorescent indicator tube.
5. To release this mode, press the [**I**/⏻] button.

SECTION 5
ELECTRICAL CHECKS

TUNER SECTION

FM TUNE LEVEL CHECK



Procedure:

1. Turn on the set.
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.

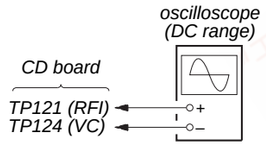
When the selected station signal is received in good condition, "TUNED" is displayed.

CD SECTION

Note:

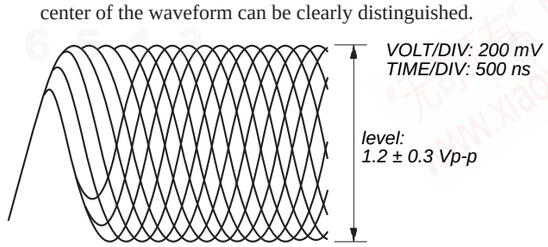
1. CD Block is basically constructed to operate without adjustment.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10 MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.
5. Check the focus bias check when optical pick-up block is replaced.

FOCUS BIAS CHECK



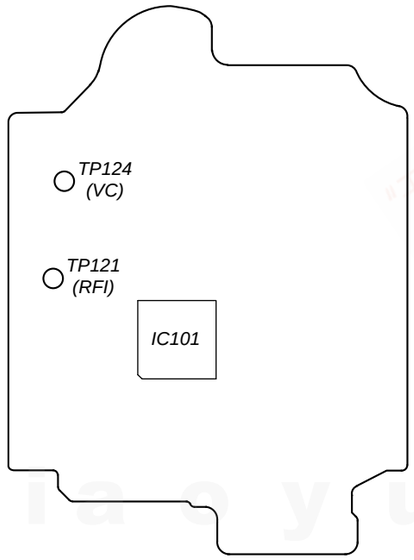
Procedure:

1. Connect oscilloscope to TP121 (RFI) and TP124 (VC) on the CD board.
2. Press the [I/⏻] button to turn the power on.
3. Set disc (YEDS-18) on the disc tray and press the [CD ▶II] button to playback.
4. Confirm that oscilloscope waveform is as shown in the figure below. (eye pattern)
   A good eye pattern means that the diamond shape (◊) in the center of the waveform can be clearly distinguished.



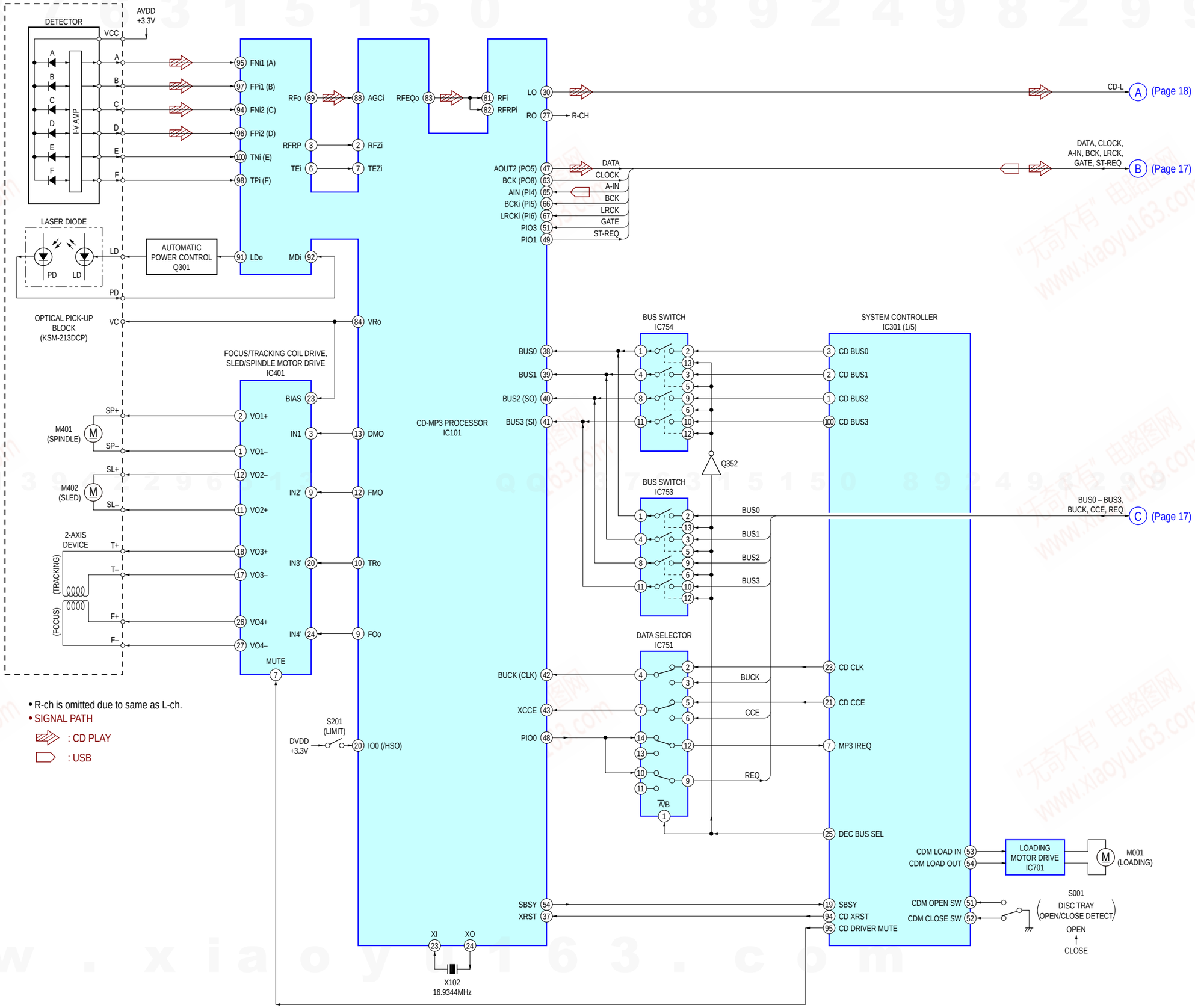
Checking Location:

– CD Board (Conductor Side) –

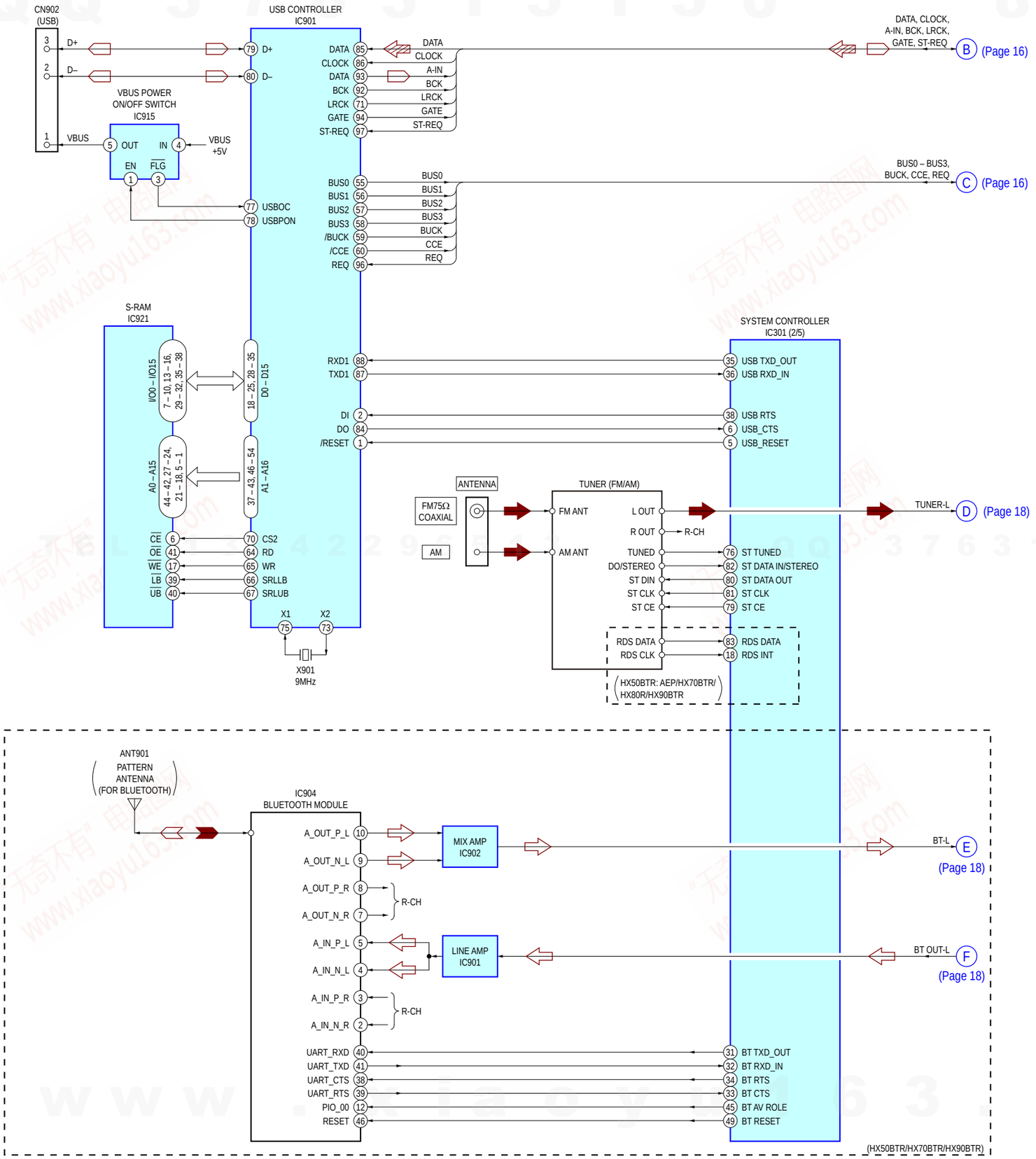


SECTION 6
DIAGRAMS

6-1. BLOCK DIAGRAM - CD SERVO Section -

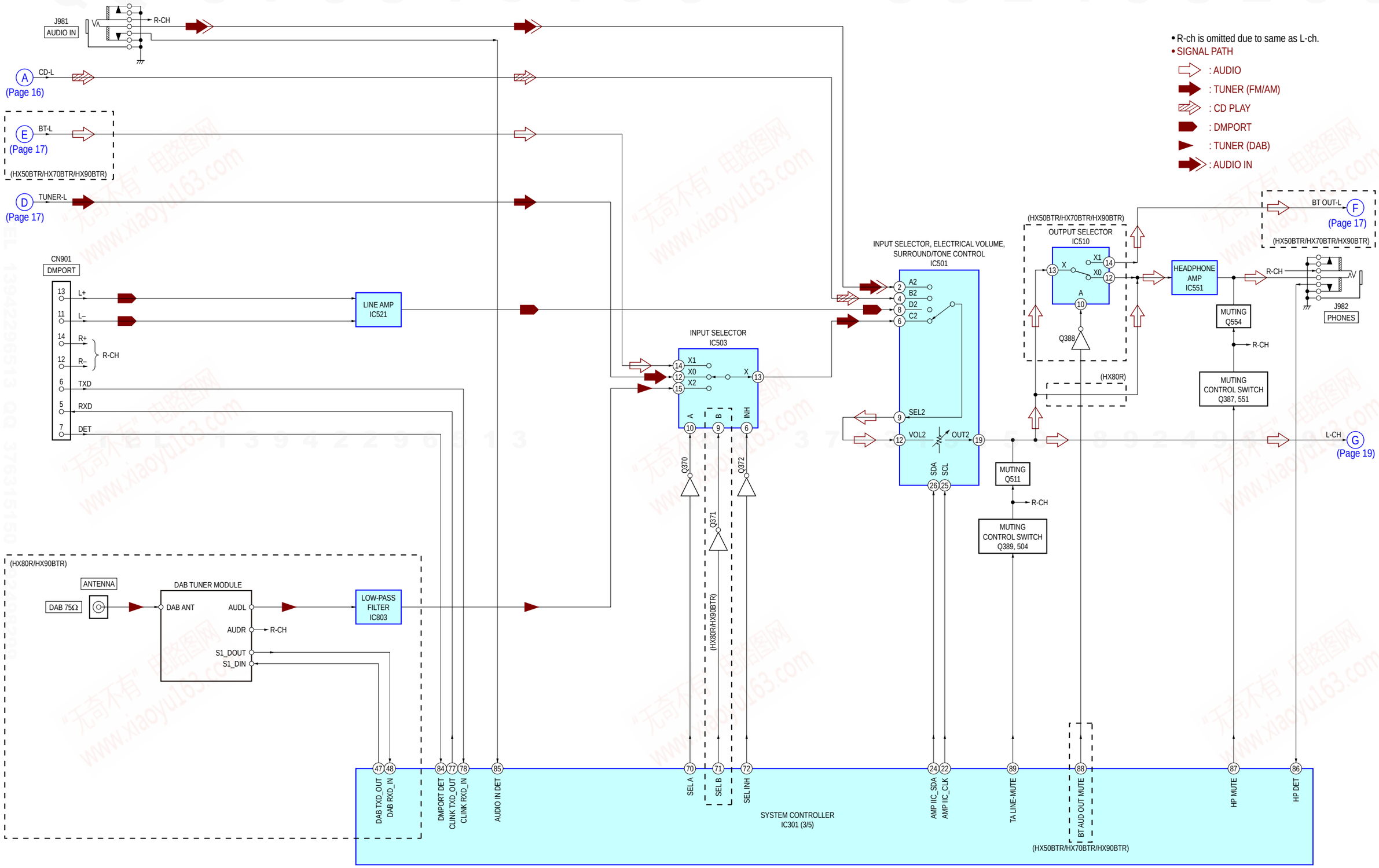


6-2. BLOCK DIAGRAM - TUNER/USB/BLUETOOTH Section -

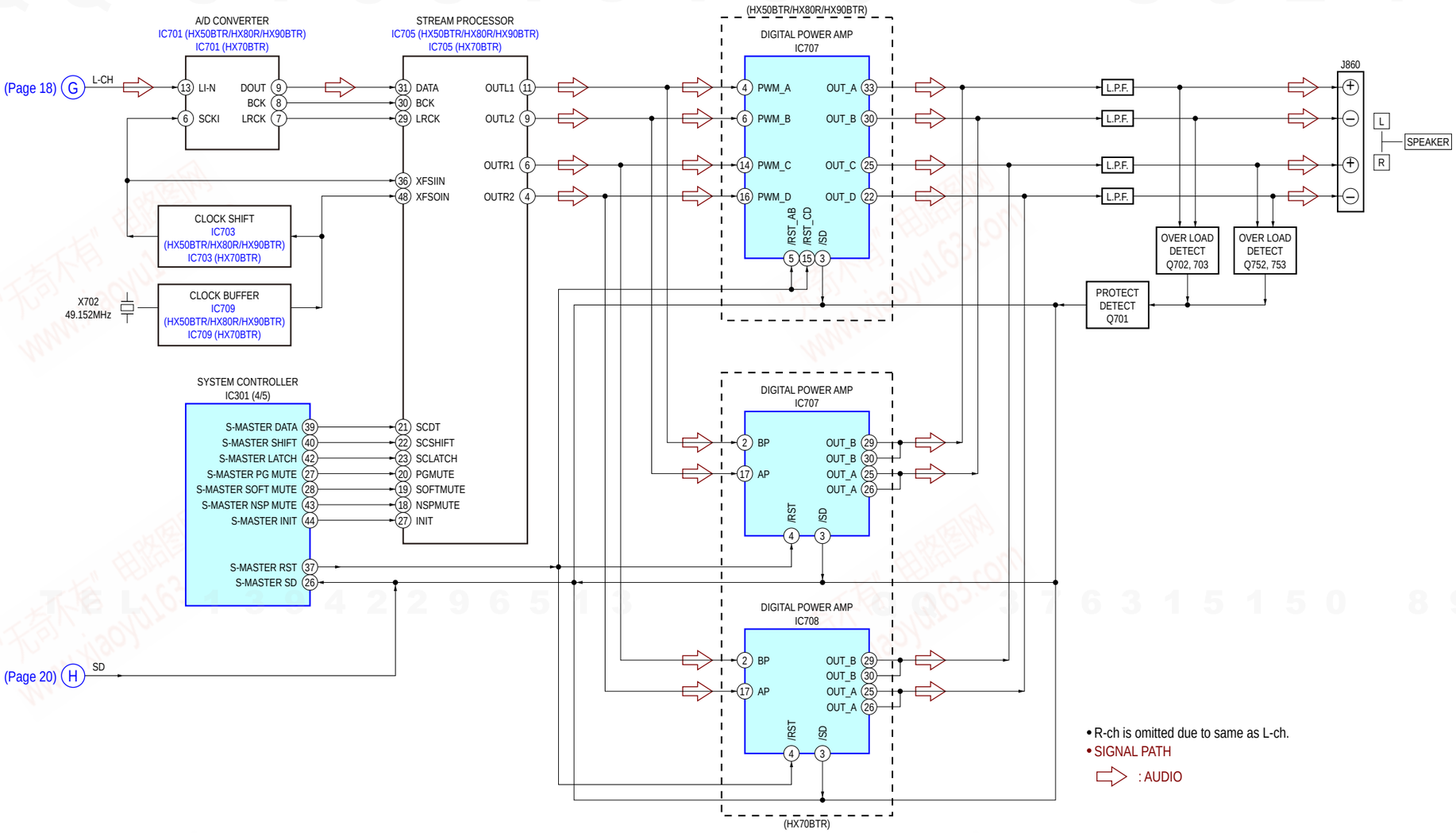


- R-ch is omitted due to same as L-ch.
- SIGNAL PATH
  - : AUDIO
  - : TUNER (FM/AM)
  - : CD PLAY
  - : USB
  - : BLUETOOTH IN
  - : BLUETOOTH OUT

6-3. BLOCK DIAGRAM - MAIN Section -

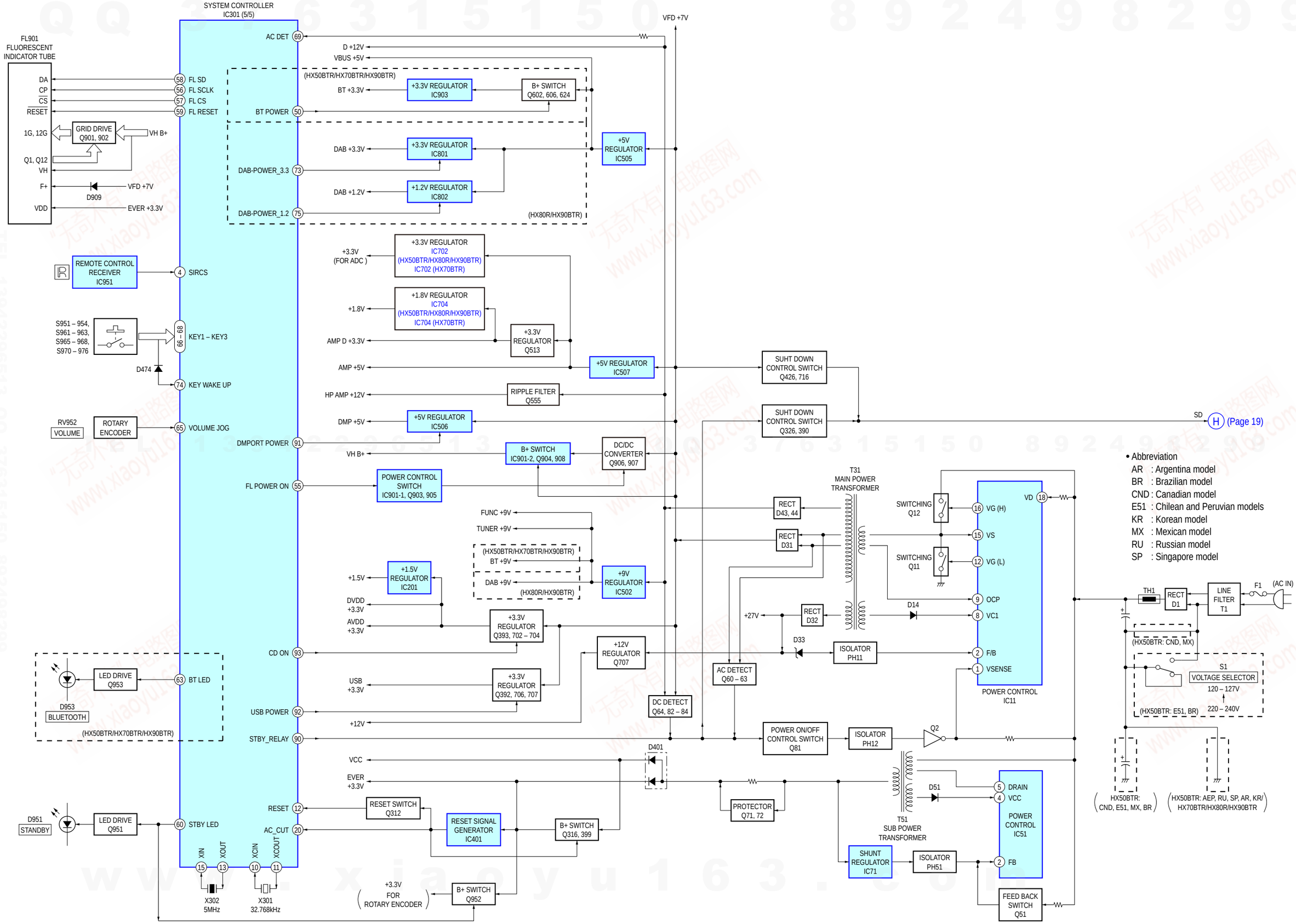


6-4. BLOCK DIAGRAM - AMP Section -



- R-ch is omitted due to same as L-ch.
- SIGNAL PATH
  : AUDIO

6-5. BLOCK DIAGRAM - PANEL/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.

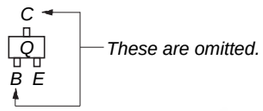
Note:

- ○——: 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: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

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

- Indication of transistor.



For Schematic Diagrams.

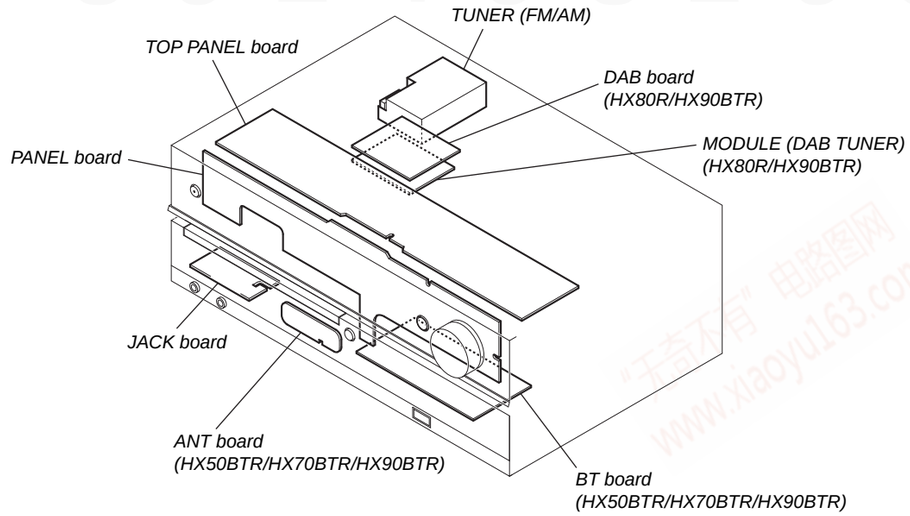
Note:

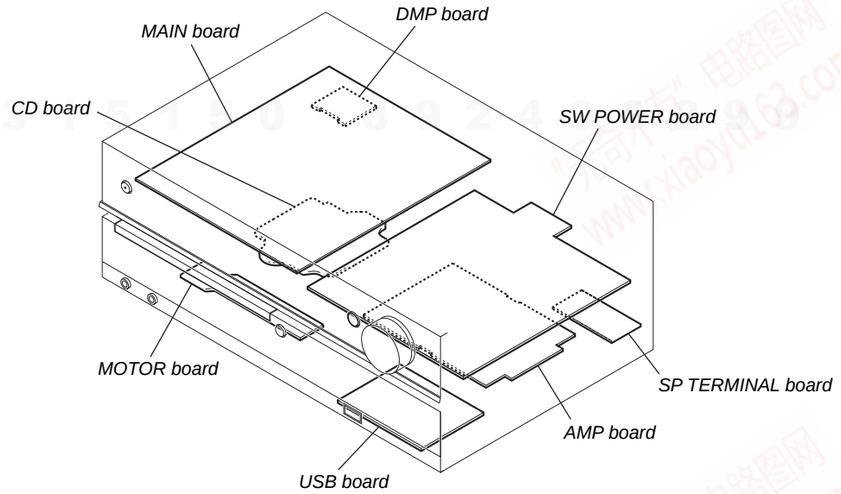
- All capacitors are in µF unless otherwise noted. (p: pF) 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- ▭ : panel designation.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

- ——: B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  – CD Board –
  no mark: CD PLAY
  [ ]: USB
  – USB and USB POWER Boards –
  no mark: USB
  – BT Board –
  no mark: BLUETOOTH
  – DAB Board –
  no mark: TUNER (DAB)
  – Other Boards –
  no mark: TUNER (FM/AM)
  ( ): CD PLAY
  [ ]: USB
  { }: BLUETOOTH
  * : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.Voltage variations may be noted due to normal produc-tion tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : AUDIO
  : TUNER (FM/AM)
  : CD PLAY
  : USB
  : BLUETOOTH IN
  : BLUETOOTH OUT
  : DMPORT
  : TUNER (DUB)
  : AUDIO IN
- Abbreviation
  AR : Argentina model
  BR : Brazilian model
  CND : Canadian model
  E51 : Chilean and Peruvian models
  KR : Korean model
  MX : Mexican model
  RU : Russian model
  SP : Singapore model

- **Circuit Boards Location**

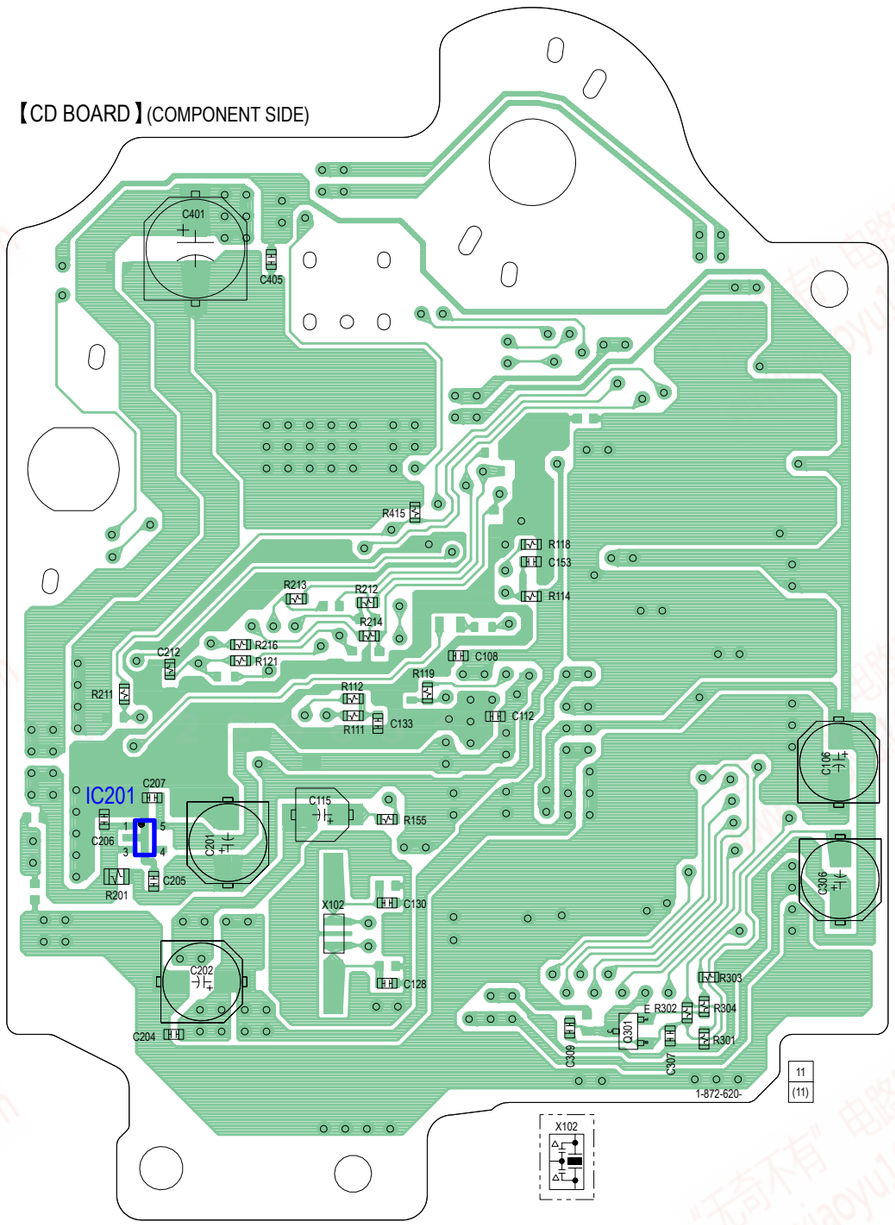




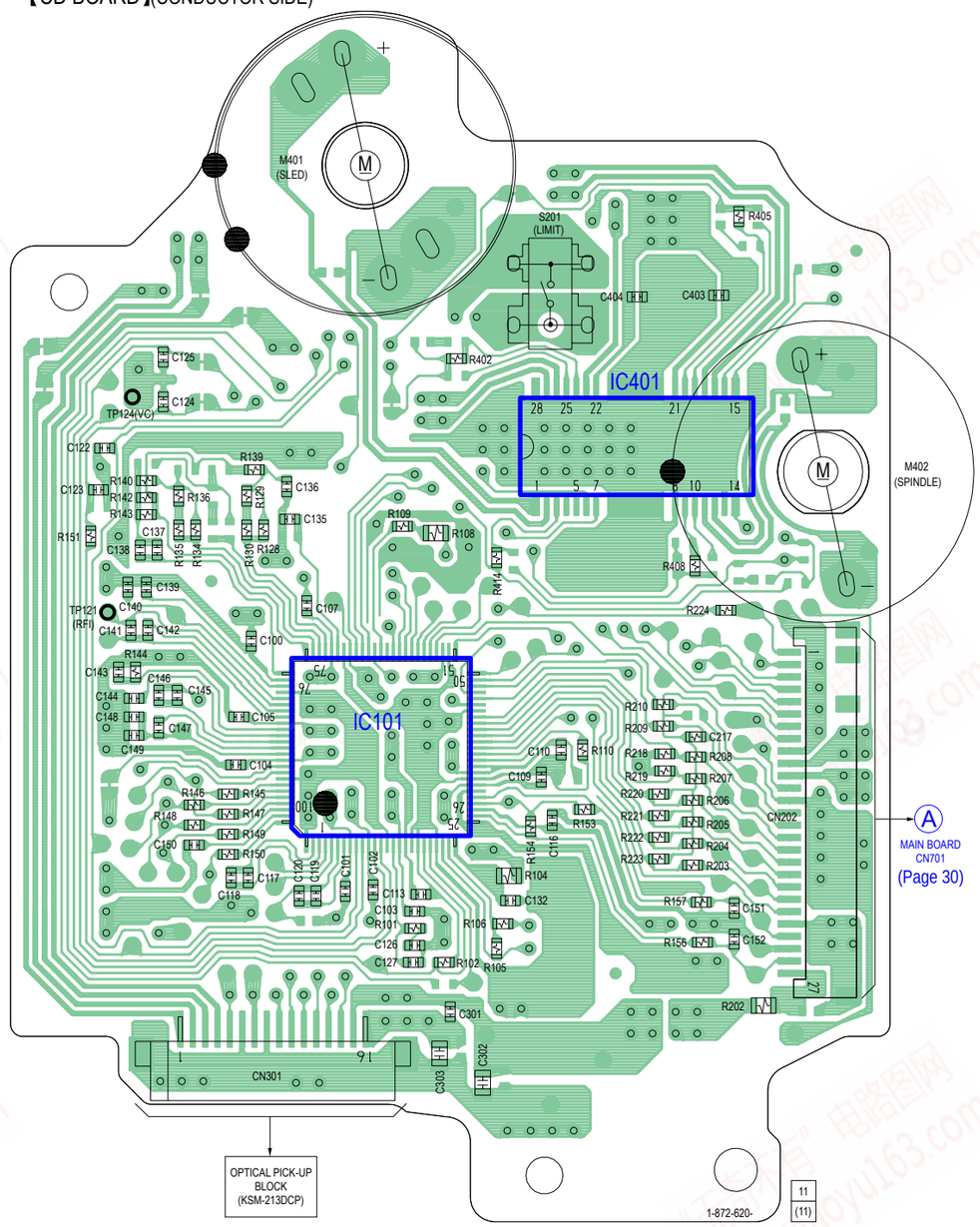
6-6. PRINTED WIRING BOARDS - CD Section -

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

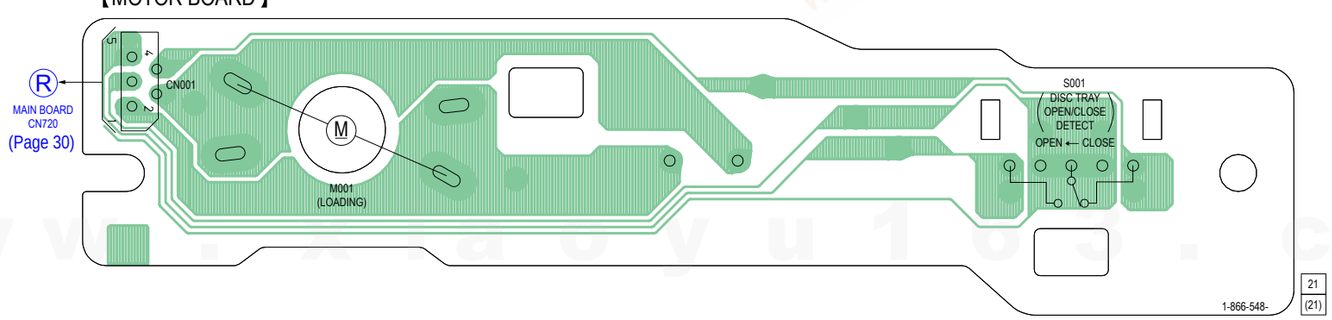
【CD BOARD】(COMPONENT SIDE)



【CD BOARD】(CONDUCTOR SIDE)

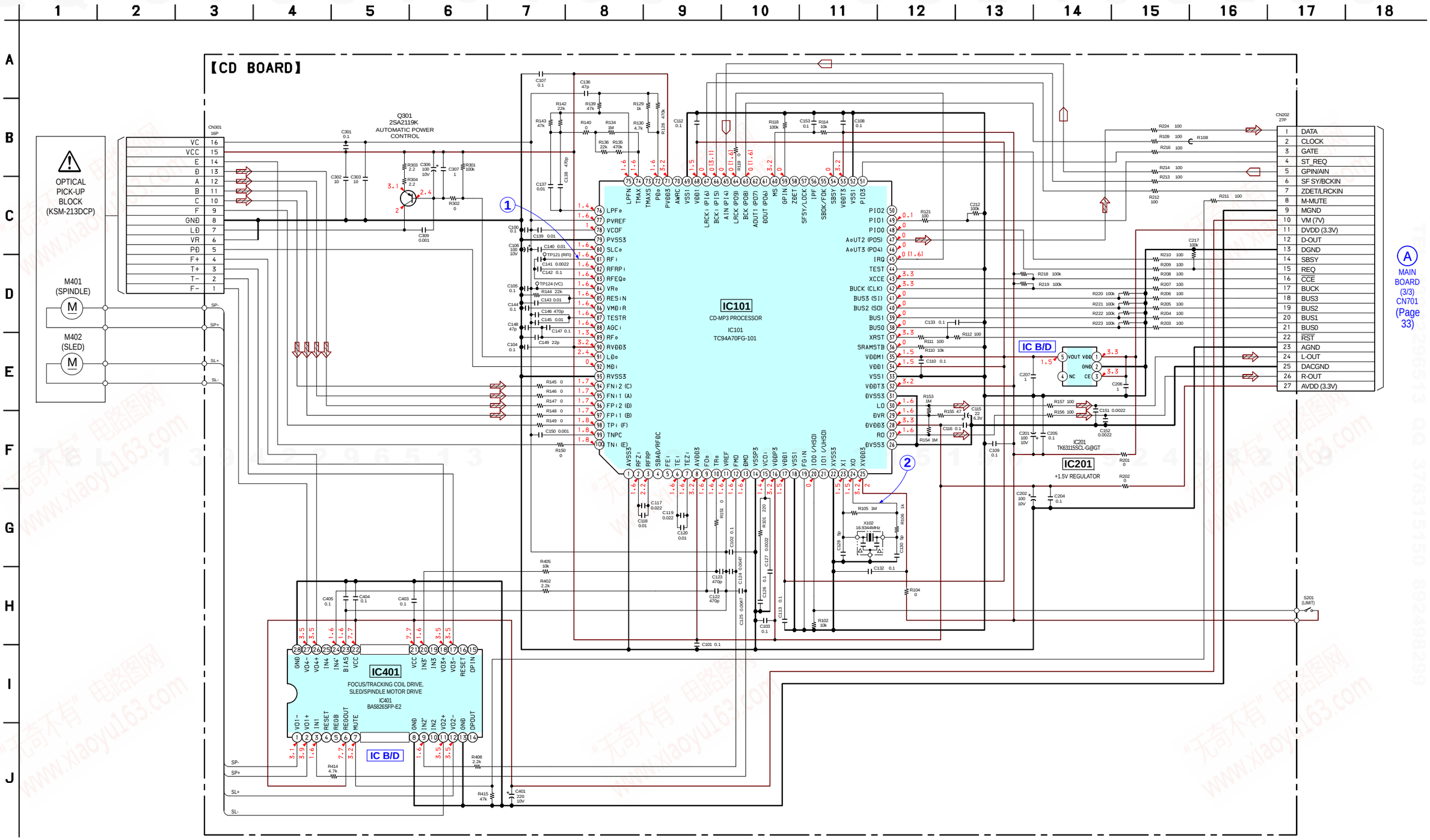


【MOTOR BOARD】



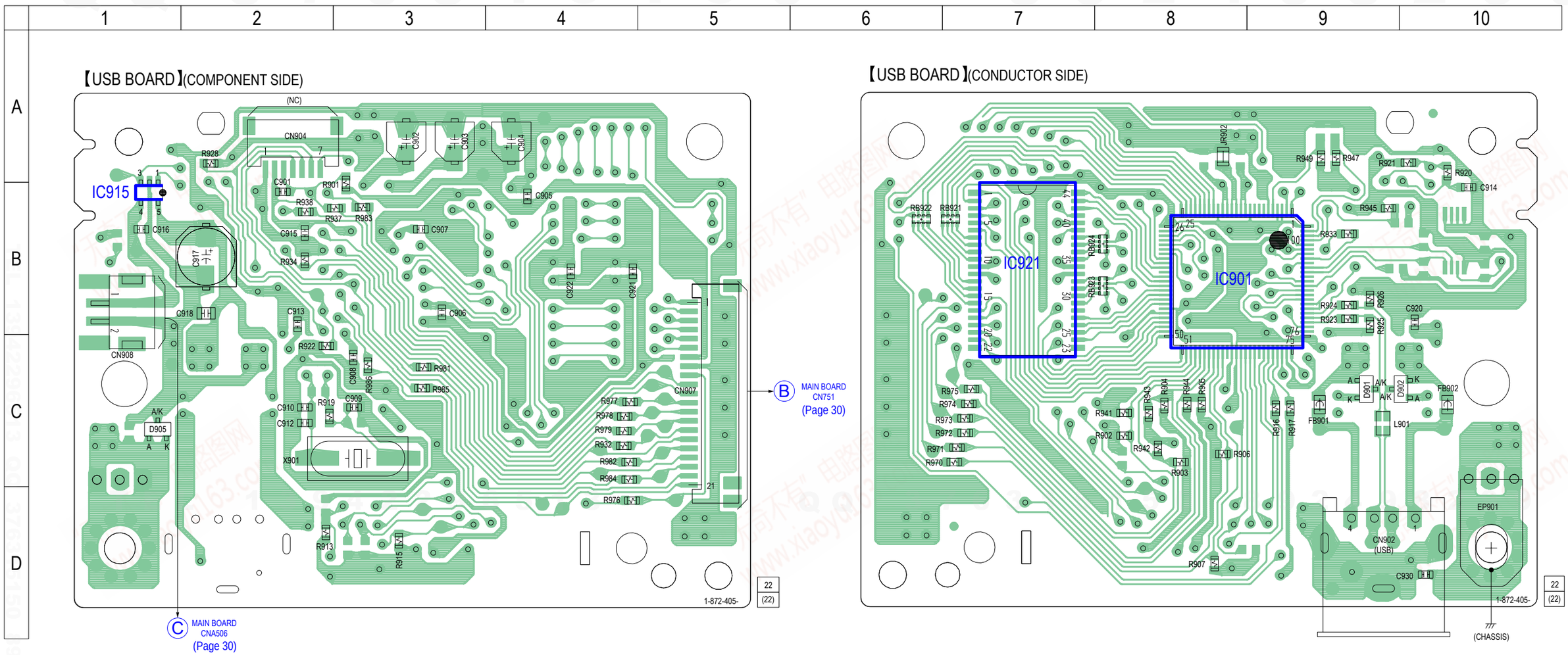
6-7. SCHEMATIC DIAGRAM - CD Board -

• See page 28 for Waveforms. • See page 44 for IC Block Diagrams. • See page 50 for IC Pin Function Description.



6-8. PRINTED WIRING BOARD - USB Board -

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

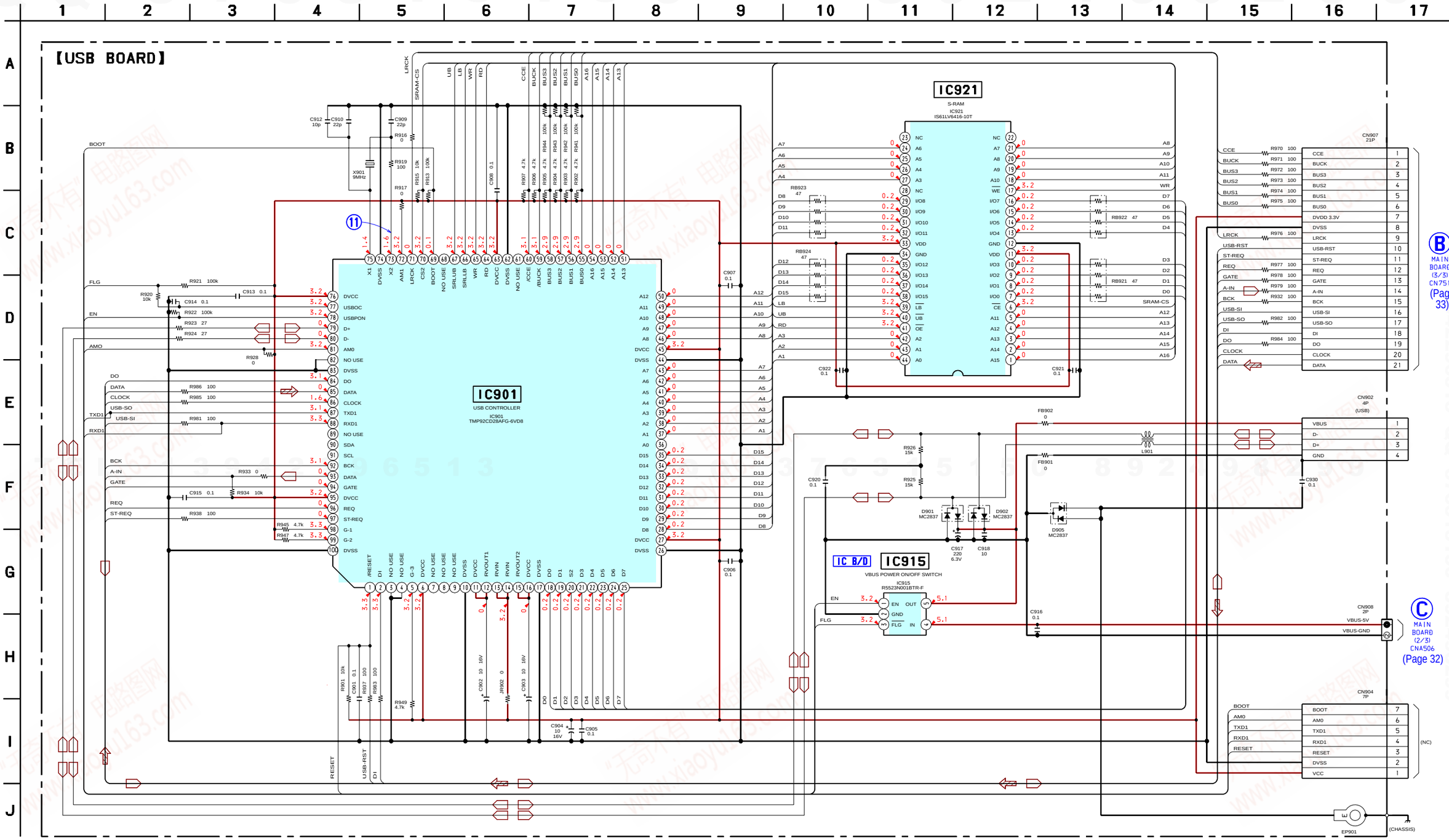


- **Semiconductor Location**

Ref. No.	Location
D901	C-9
D902	C-10
D905	C-1
IC901	B-8
IC915	B-1
IC921	B-7

6-9. SCHEMATIC DIAGRAM - USB Board -

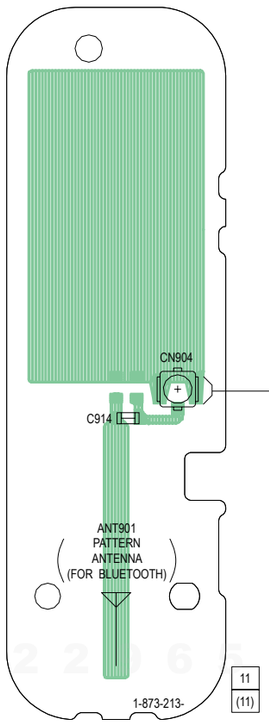
• See page 28 for Waveforms. • See page 44 for IC Block Diagrams. • See page 50 for IC Pin Function Description.



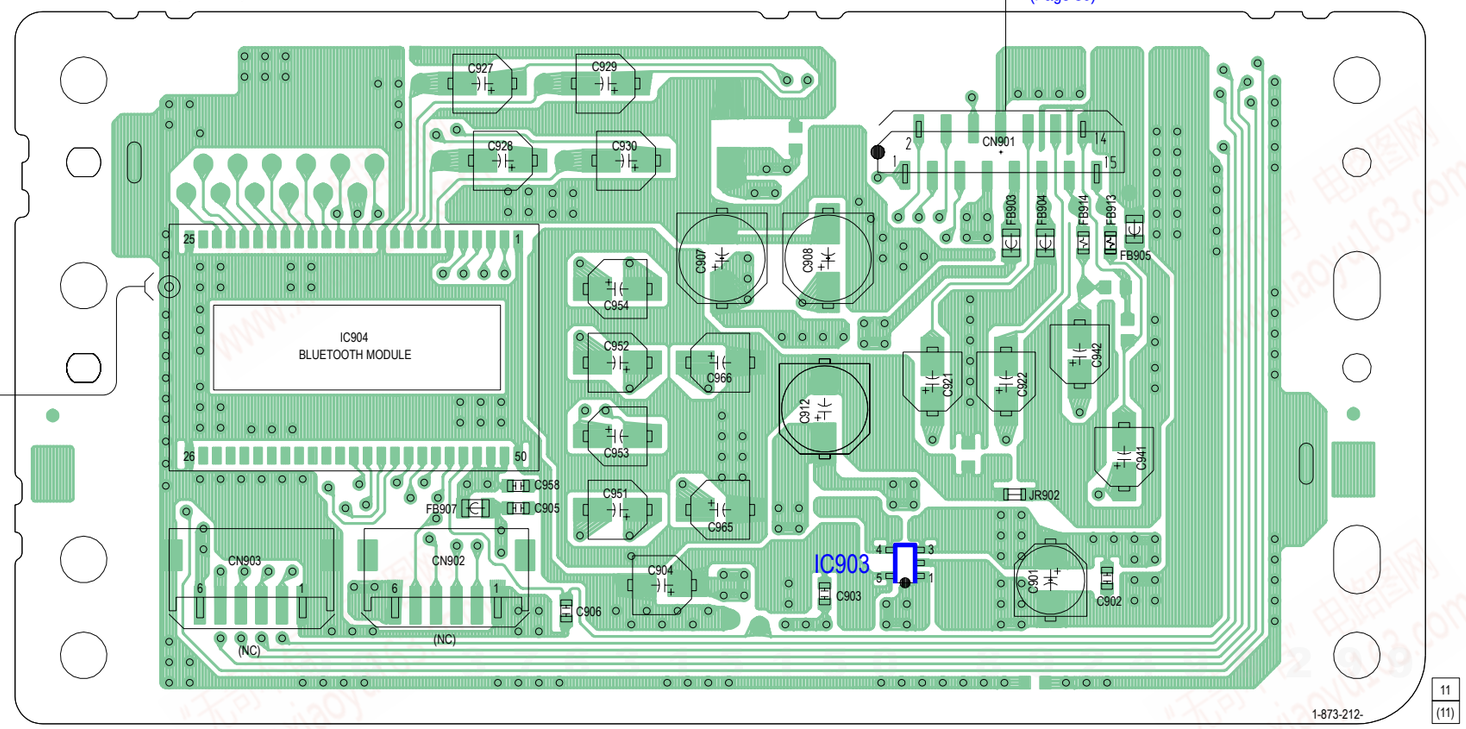
6-10. PRINTED WIRING BOARDS - BLUETOOTH Section (HX50BTR/HX70BTR/HX90BTR) -

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

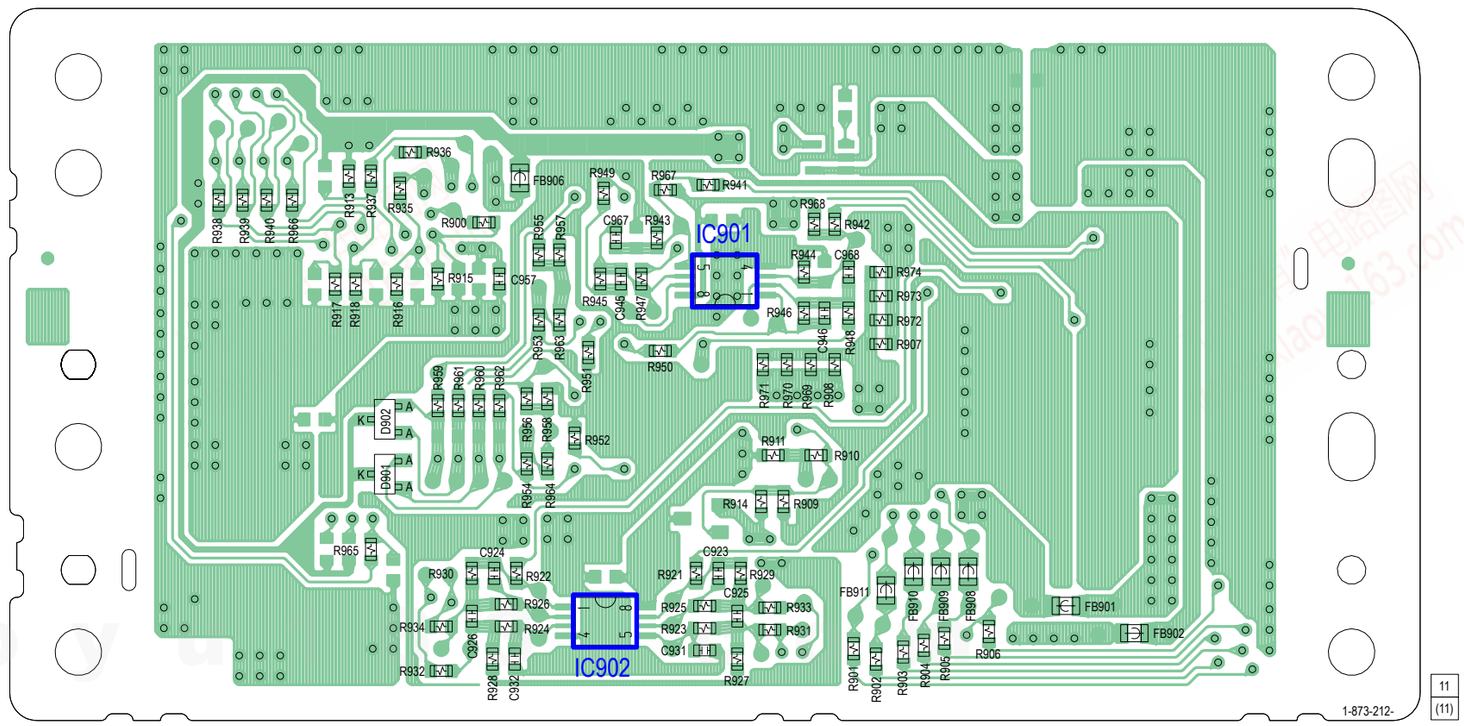
【ANT BOARD】



【BT BOARD】(SIDE A)



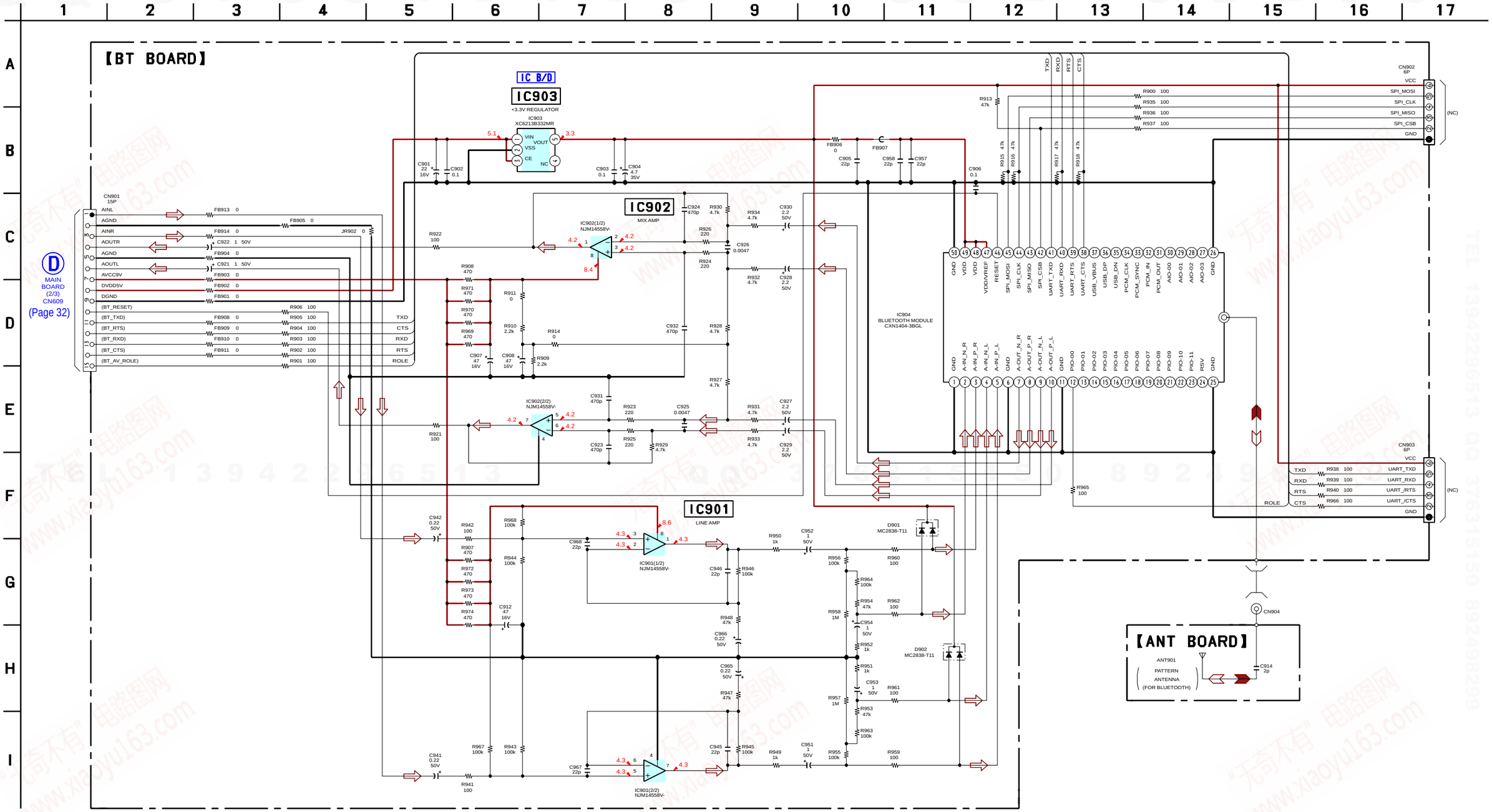
【BT BOARD】(SIDE B)



Note: When IC904 cannot exchange with single. When IC904 is damaged, exchange the entire mounted board.

6-11. SCHEMATIC DIAGRAM - BLUETOOTH Section (HX50BTR/HX70BTR/HX90BTR) -

• See page 44 for IC Block Diagrams.

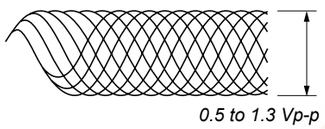


Note: When IC904 cannot exchange with single. When IC904 is damaged, exchange the entire mounted board.

• **Waveforms**

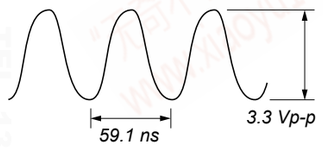
– CD Board –

① **IC101 ㊽ (RFi) (CD play mode)**



200 mV/DIV, 500 ns/DIV

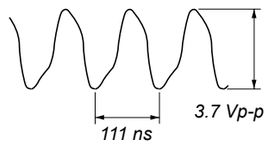
② **IC101 ㉔ (XO) (CD play mode)**



1 V/DIV, 20 ns/DIV

– USB Board –

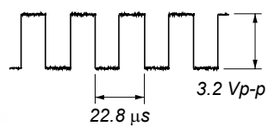
⑪ **IC901 ㉝ (X2)**



1 V/DIV, 50 ns/DIV

– AMP Board –

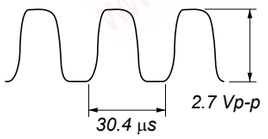
㉛ **IC701 ⑦ (LRCK)**



1 V/DIV, 10 µs/DIV

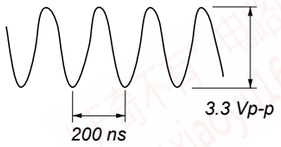
– MAIN Board –

㉑ **IC301 ⑪ (XCOUT)**



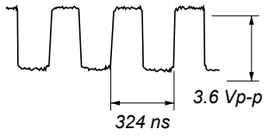
2 V/DIV, 20 µs/DIV

㉒ **IC301 ⑬ (XOUT)**



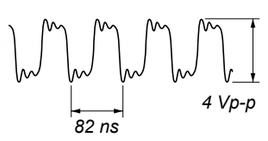
1 V/DIV, 100 ns/DIV

㉜ **IC701 ⑧ (BCK)**



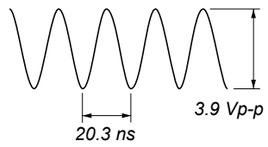
1 V/DIV, 100 ns/DIV

㉝ **IC703 ⑧ ($\overline{Q2}$)**



1 V/DIV, 50 ns/DIV

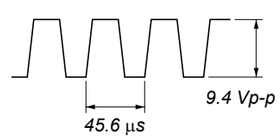
㉞ **IC709 ④**



1 V/DIV, 10 ns/DIV

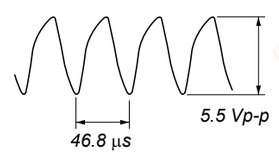
– PANEL Board –

㊶ **IC901 ①**



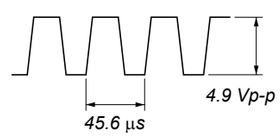
5 V/DIV, 20 µs/DIV

㊷ **IC901 ②**



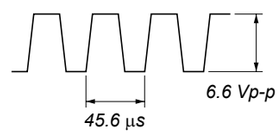
2 V/DIV, 20 µs/DIV

㊸ **IC901 ③**



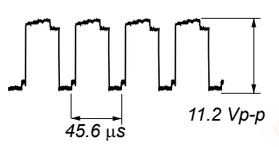
2 V/DIV, 20 µs/DIV

㊹ **Q906, 907 (Base)**



5 V/DIV, 20 µs/DIV

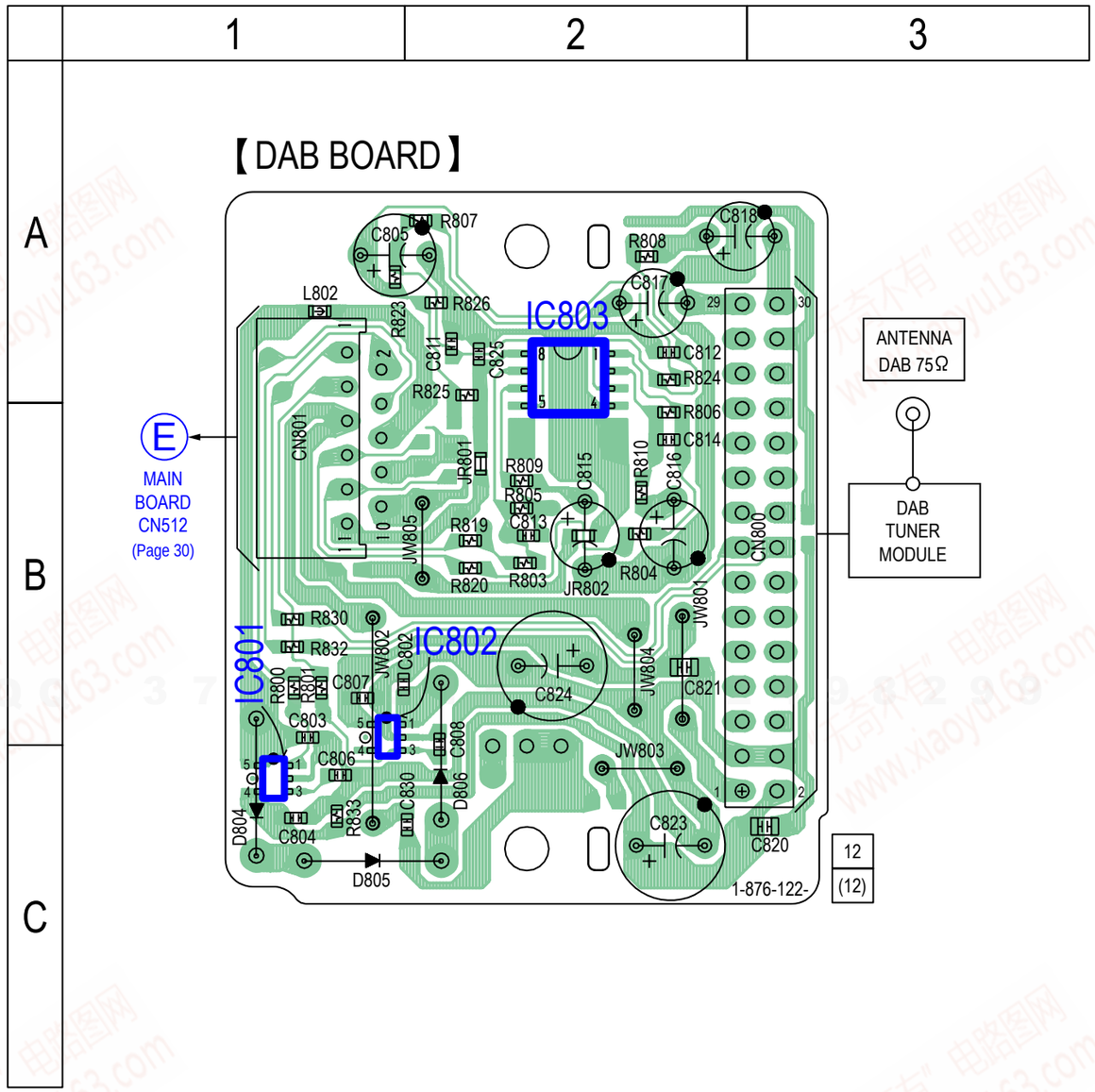
㊺ **Q906, 907 (Collector)**



5 V/DIV, 20 µs/DIV

6-12. PRINTED WIRING BOARD - DAB Board (HX80R/HX90BTR) -

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

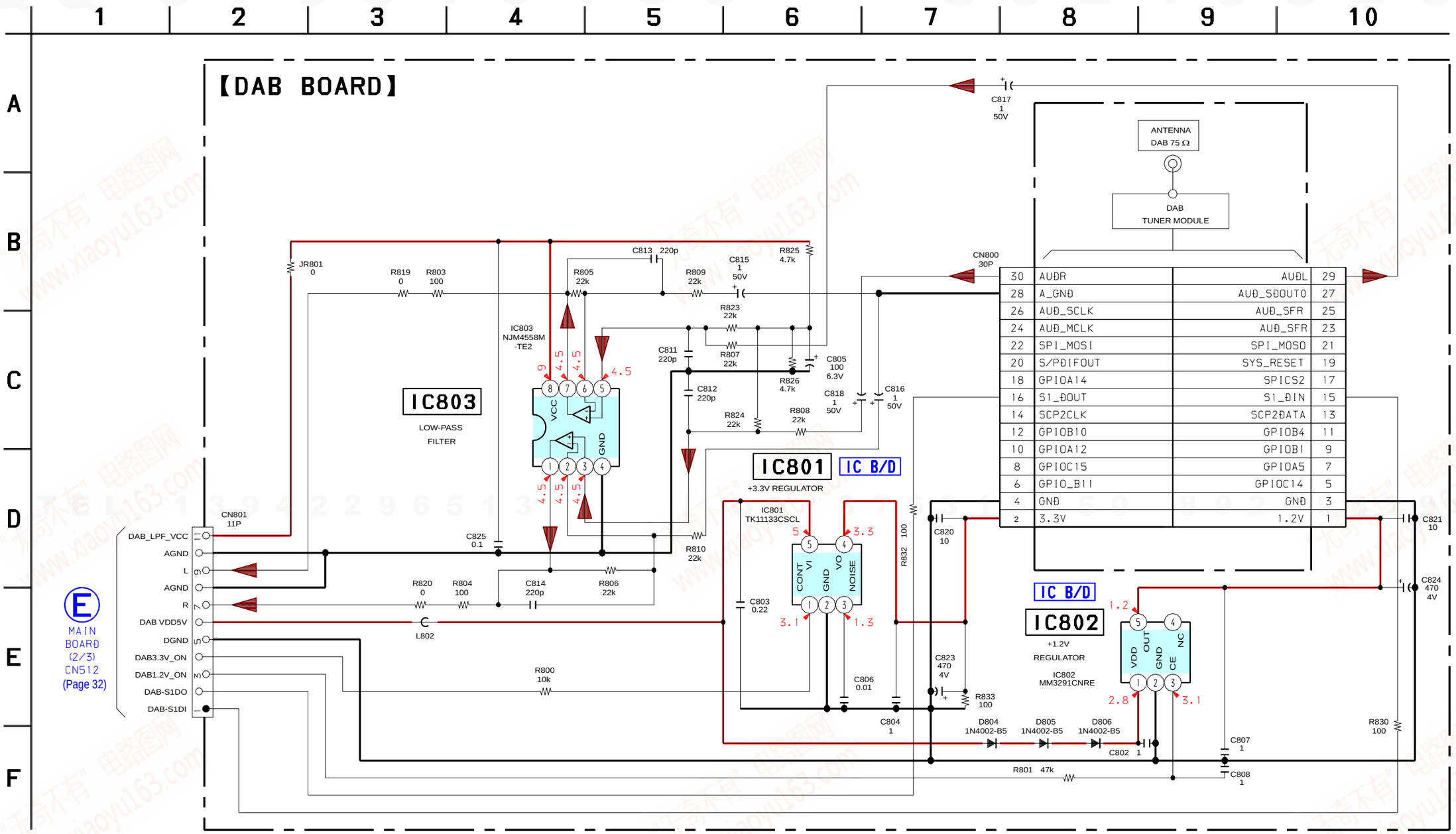


• **Semiconductor Location**

Ref. No.	Location
D804	C-1
D805	C-1
D806	C-2
IC801	C-1
IC802	B-1
IC803	A-2

6-13. SCHEMATIC DIAGRAM - DAB Board (HX80R/HX90BTR) -

• See page 44 for IC Block Diagrams.

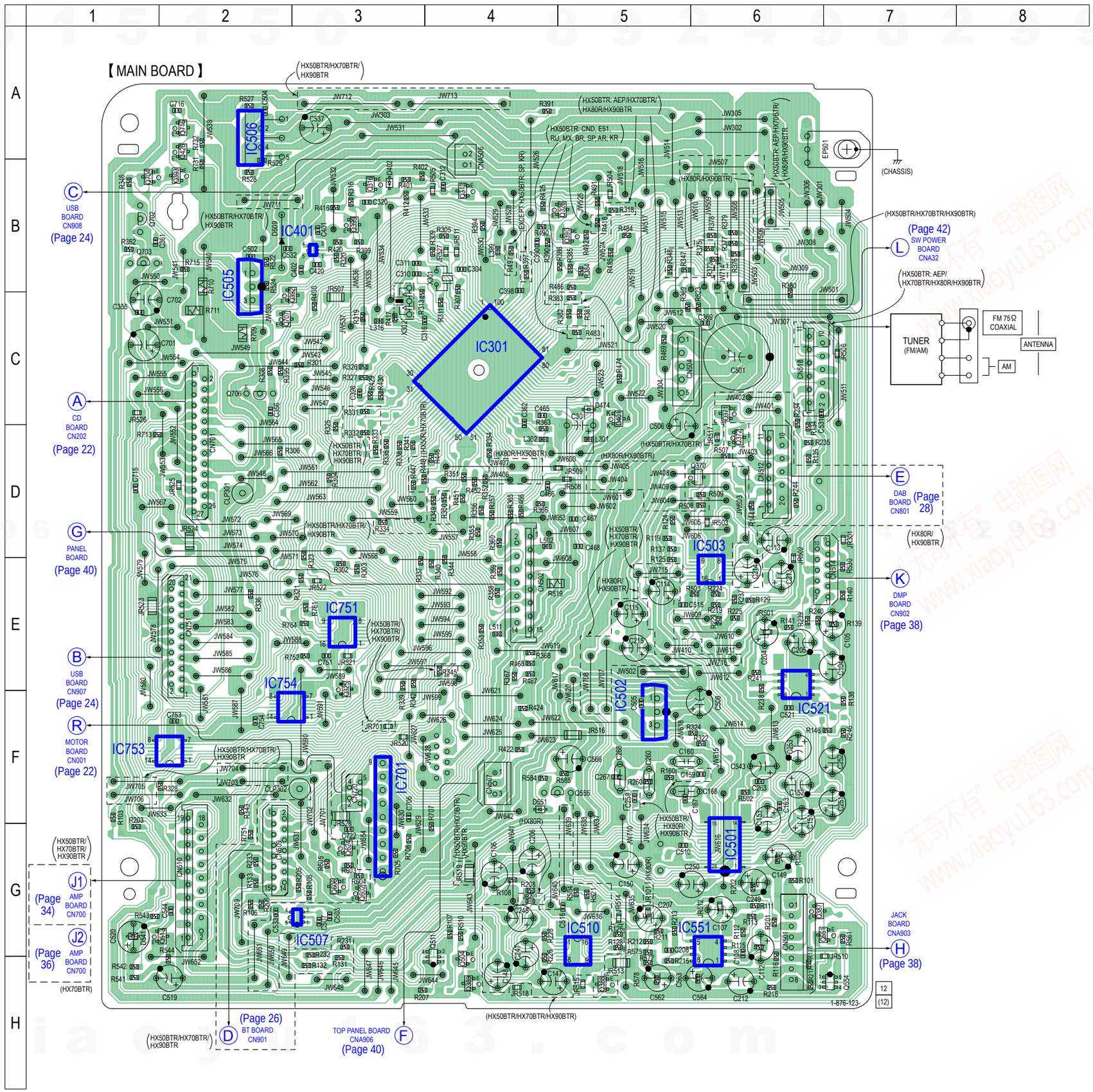


6-14. PRINTED WIRING BOARD - MAIN Board -

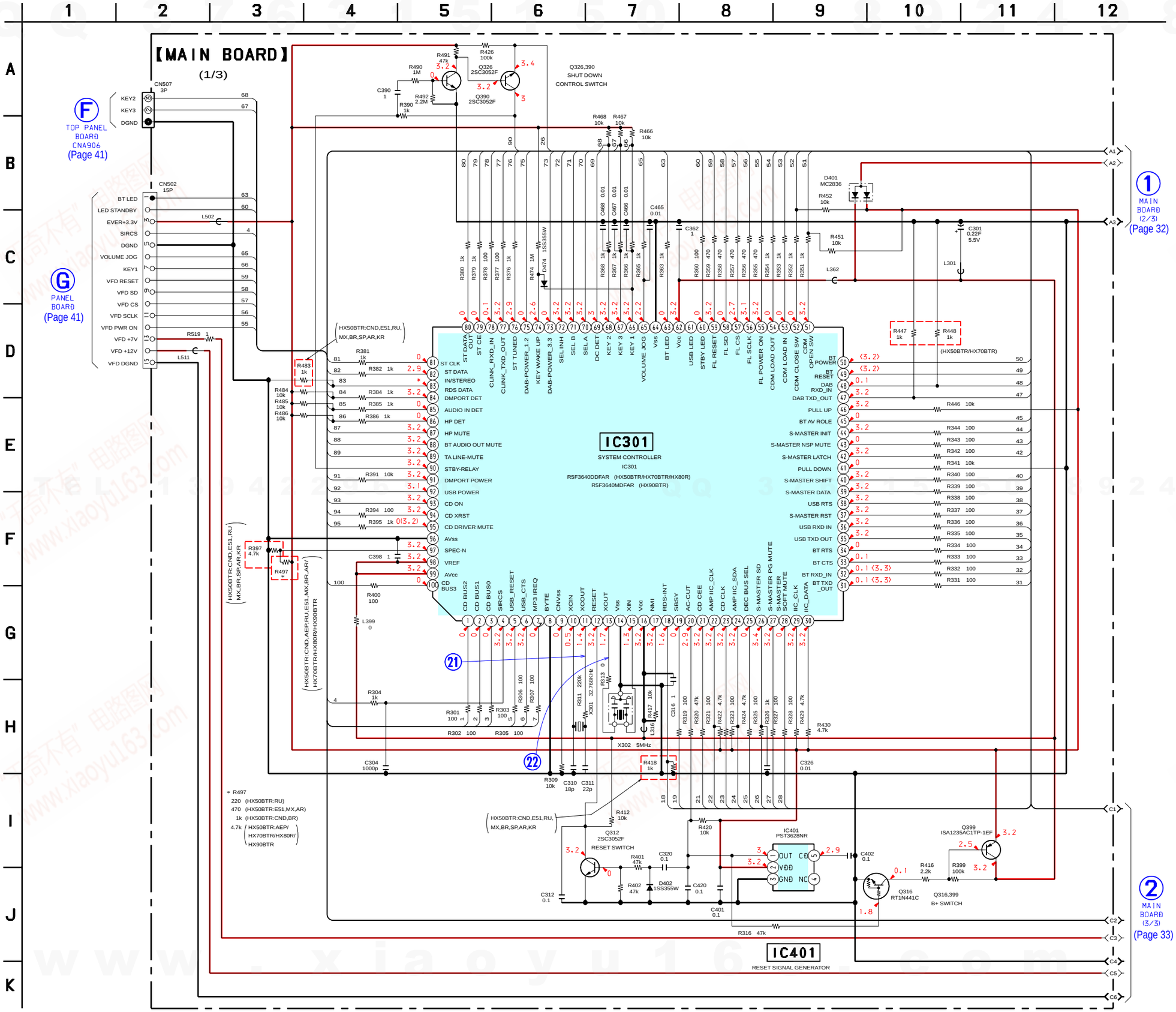
• See page 21 for Circuit Boards Location. • : Uses unleaded solder.

• **Semiconductor Location**

Ref. No.	Location
D401	C-5
D402	B-3
D474	C-5
D509	B-2
D541	G-1
D551	F-4
IC301	C-4
IC401	B-3
IC501	G-6
IC502	F-5
IC503	E-6
IC505	B-2
IC506	A-2
IC507	G-3
IC510	G-5
IC521	E-6
IC551	G-6
IC701	F-3
IC751	E-3
IC753	F-2
IC754	F-2
Q312	B-4
Q316	B-3
Q325	E-3
Q326	B-5
Q370	D-6
Q371	C-6
Q372	D-6
Q387	G-6
Q388	H-5
Q389	H-4
Q390	B-5
Q392	C-3
Q393	B-2
Q399	B-3
Q426	A-2
Q504	H-4
Q511	G-4
Q513	G-2
Q551	G-7
Q554	H-7
Q555	F-5
Q602	G-3
Q606	G-3
Q624	G-3
Q702	B-1
Q703	B-1
Q704	B-1
Q706	C-2
Q707	C-2
Q716	A-2

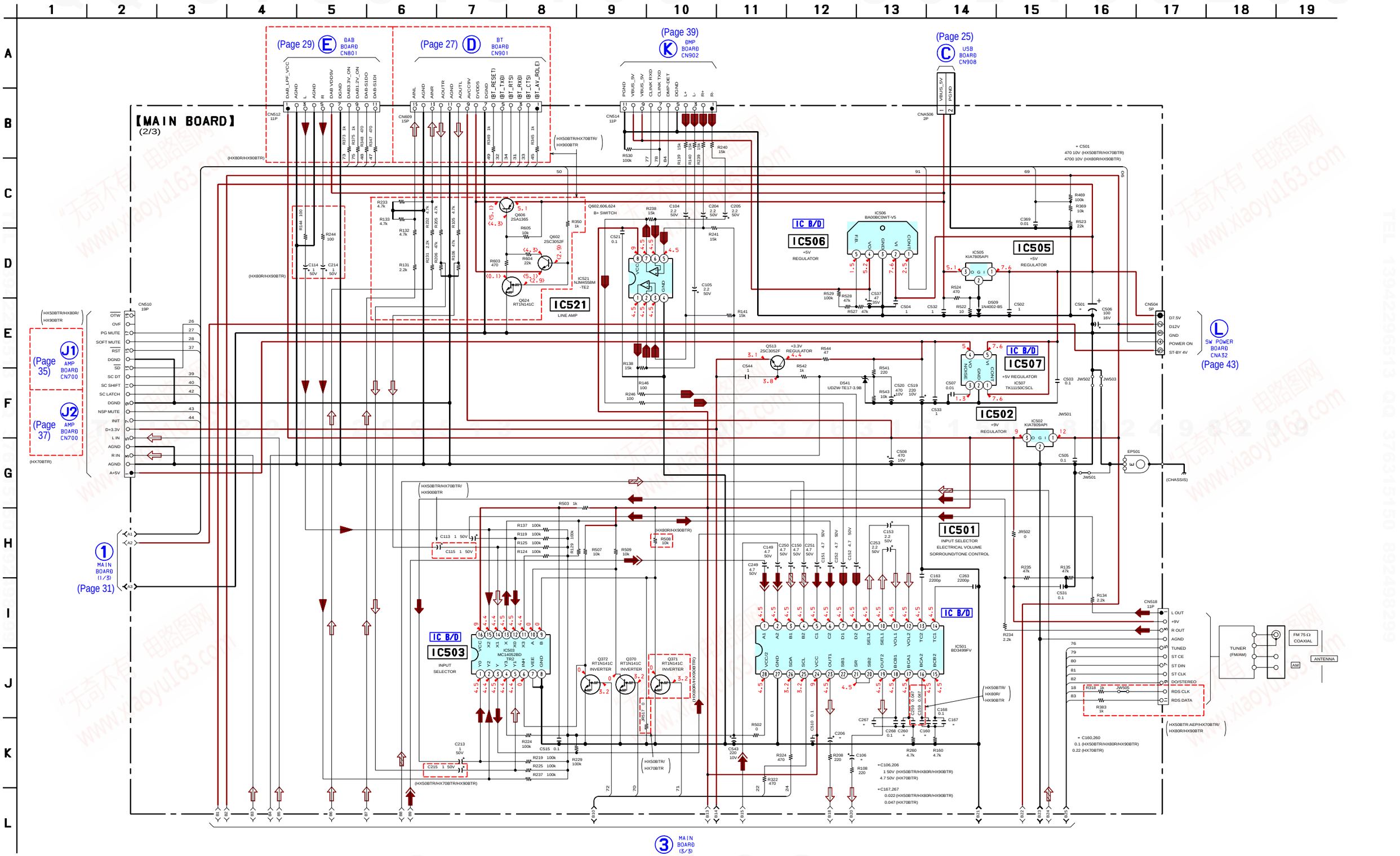


6-15. SCHEMATIC DIAGRAM - MAIN Section (1/3) - • See page 28 for Waveforms. • See page 50 for IC Pin Function Description.

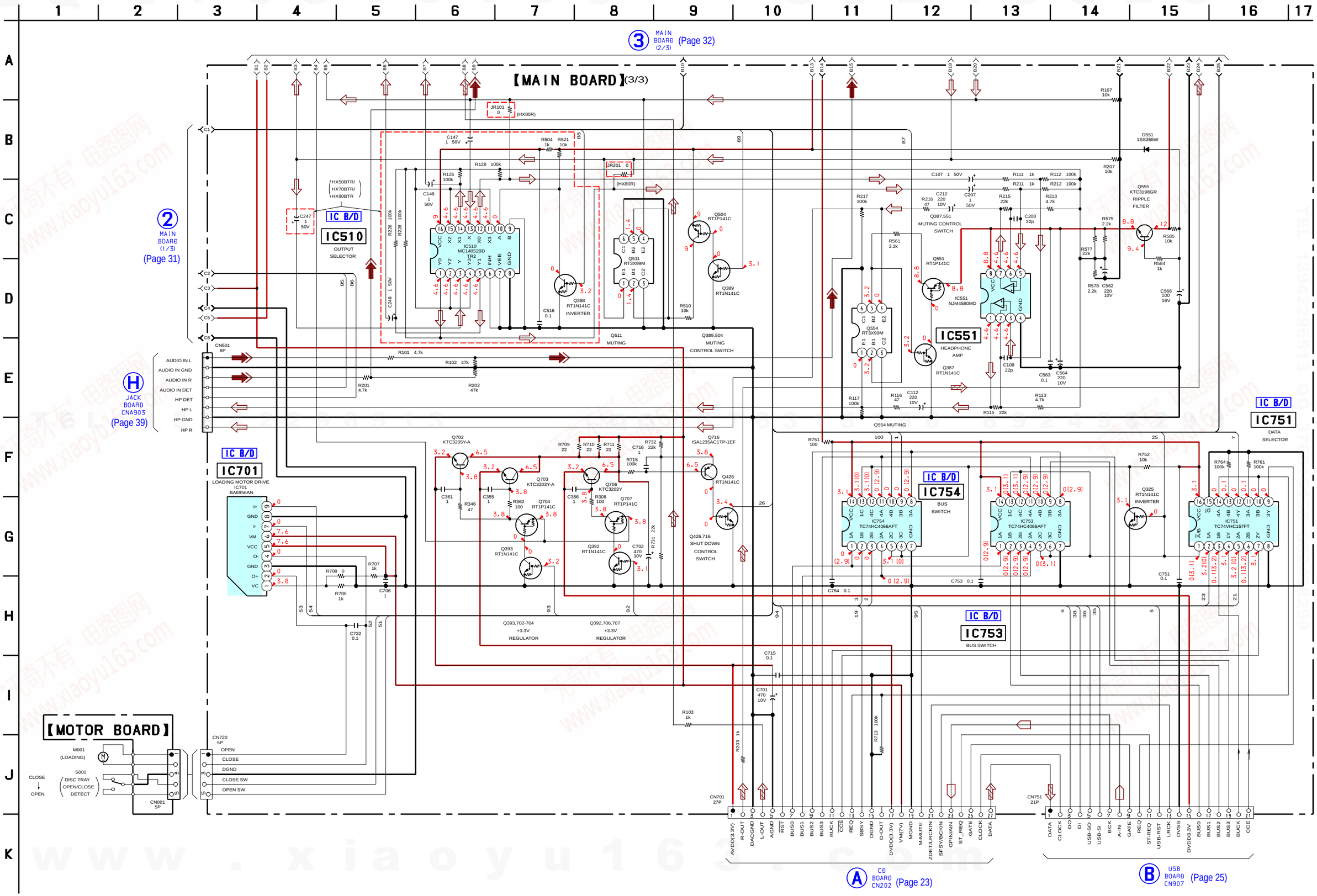


6-16. SCHEMATIC DIAGRAM - MAIN Section (2/3) -

• See page 44 for IC Block Diagrams.

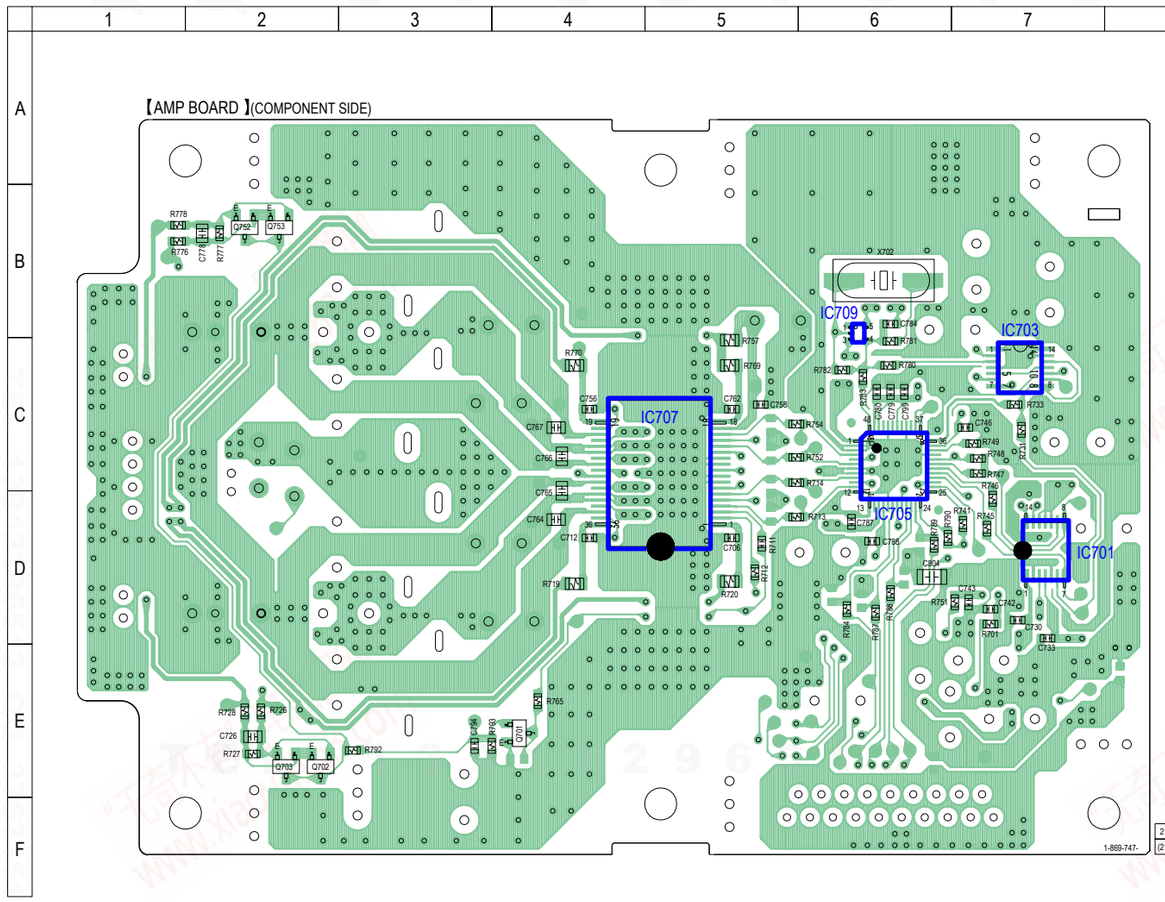


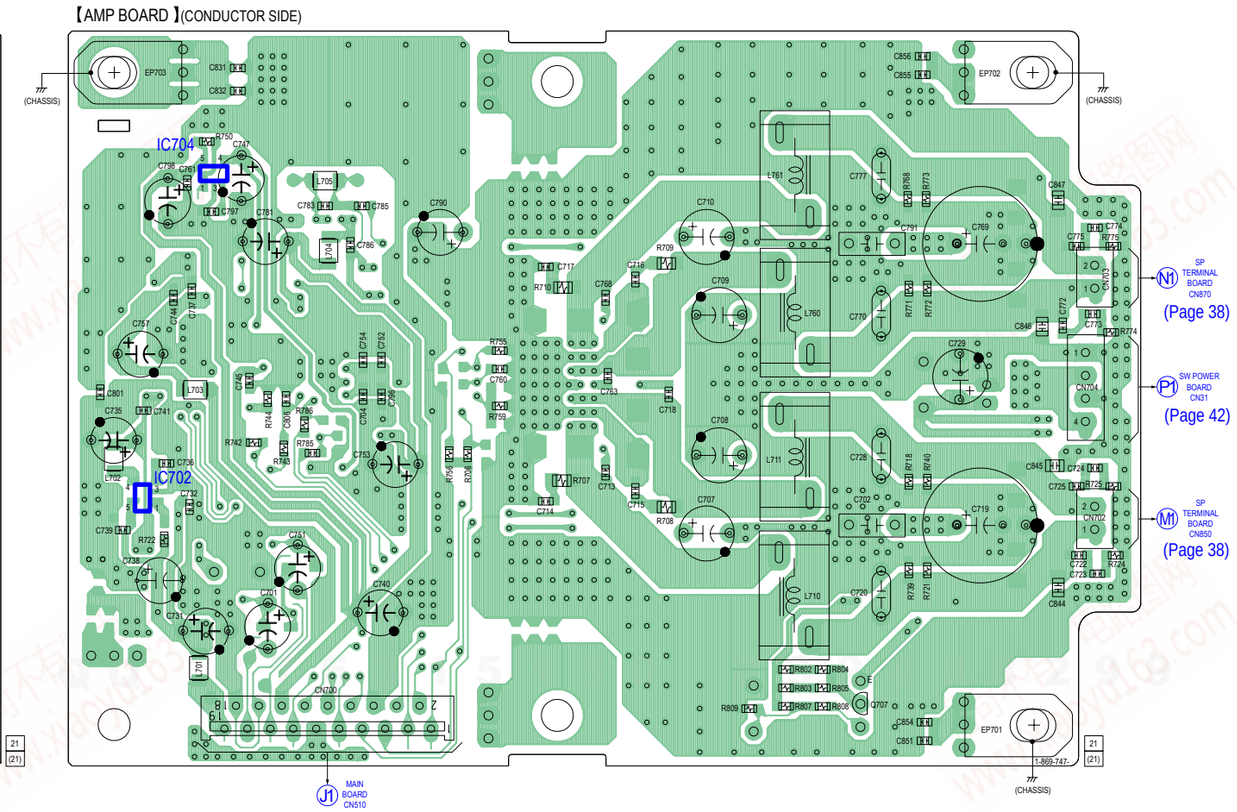
6-17. SCHEMATIC DIAGRAM - MAIN Section (3/3) - • See page 44 for IC Block Diagrams.



6-18. PRINTED WIRING BOARD - AMP Board (HX50BTR/HX80R/HX90BTR) -

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



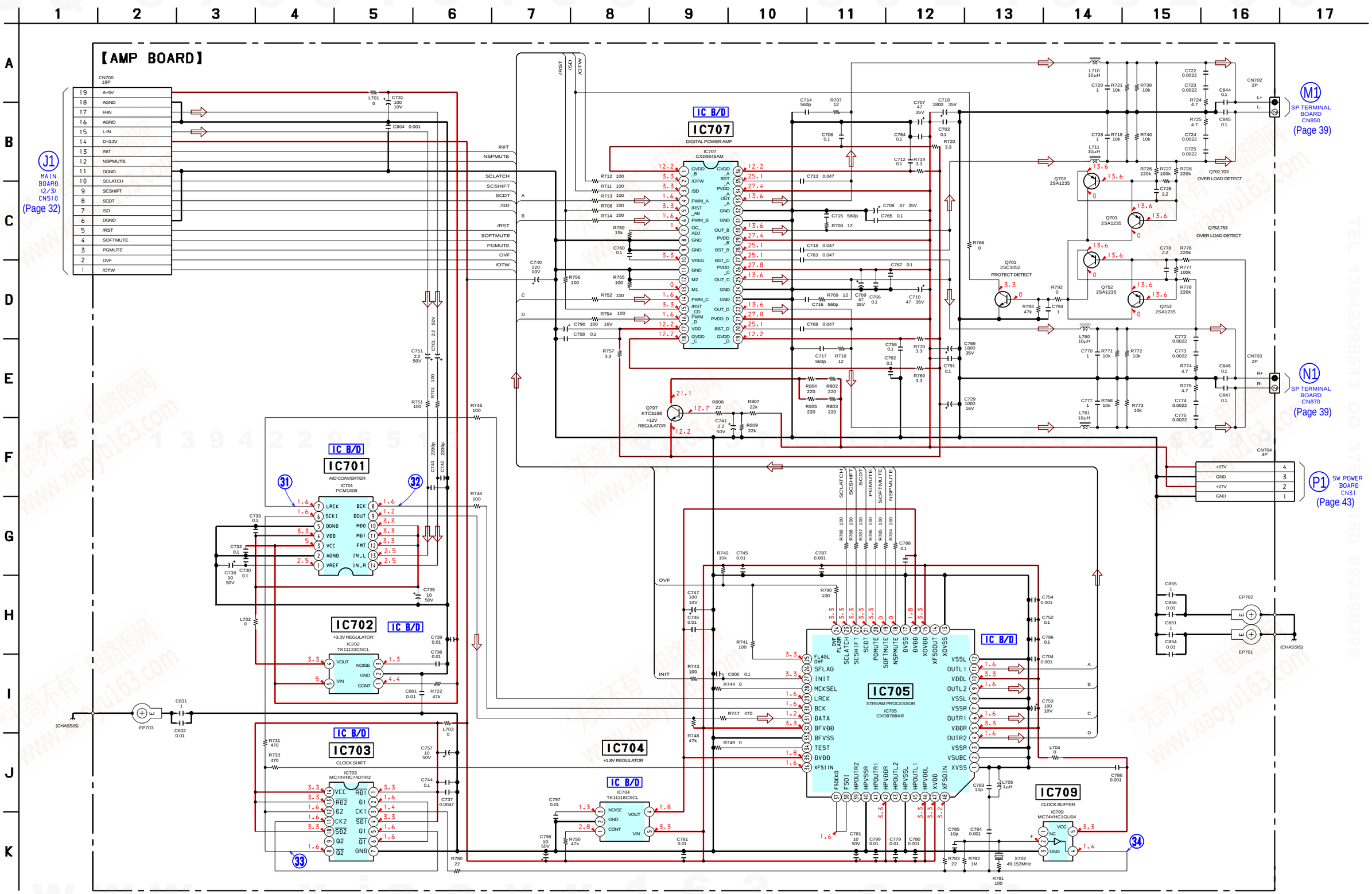


- **Semiconductor Location**

Ref. No.	Location
IC701	D-7
IC702	D-9
IC703	C-7
IC704	B-9
IC705	C-6
IC707	C-5
IC709	B-6
Q701	E-4
Q702	E-2
Q703	E-2
Q707	E-13
Q752	B-2
Q753	B-2

6-19. SCHEMATIC DIAGRAM - AMP Board (HX50BTR/HX80R/HX90BTR) -

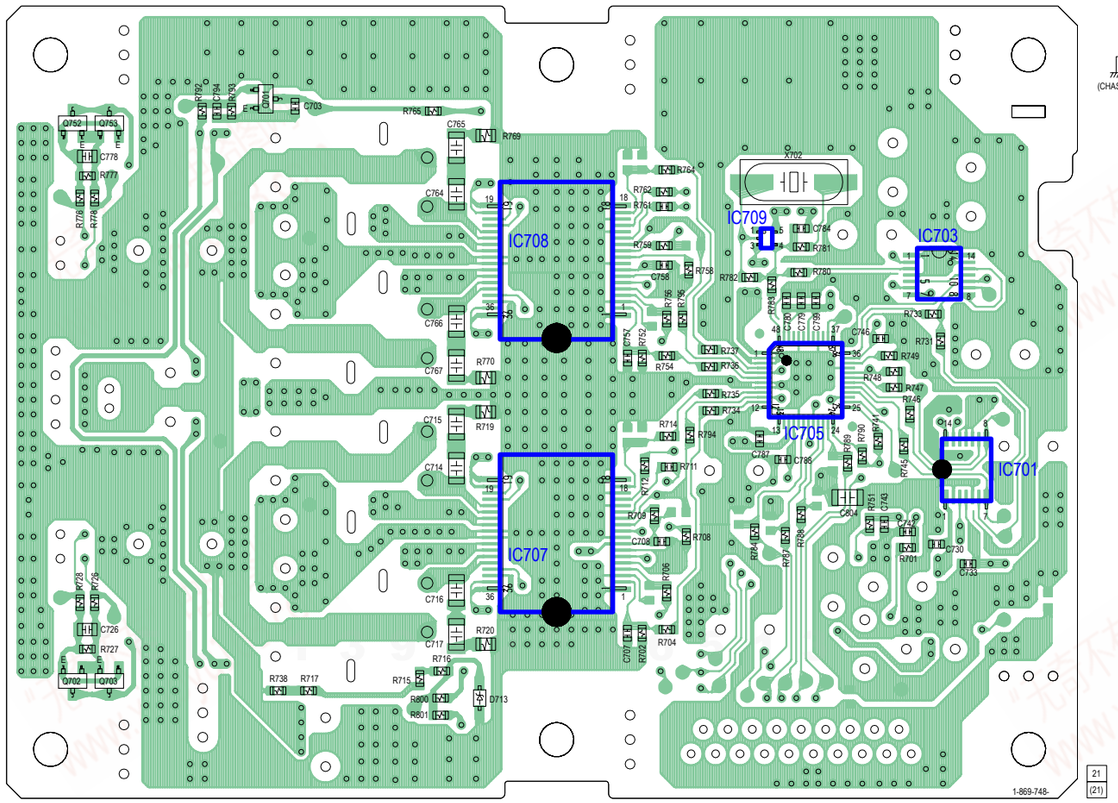
• See page 28 for Waveforms. • See page 44 for IC Block Diagrams.



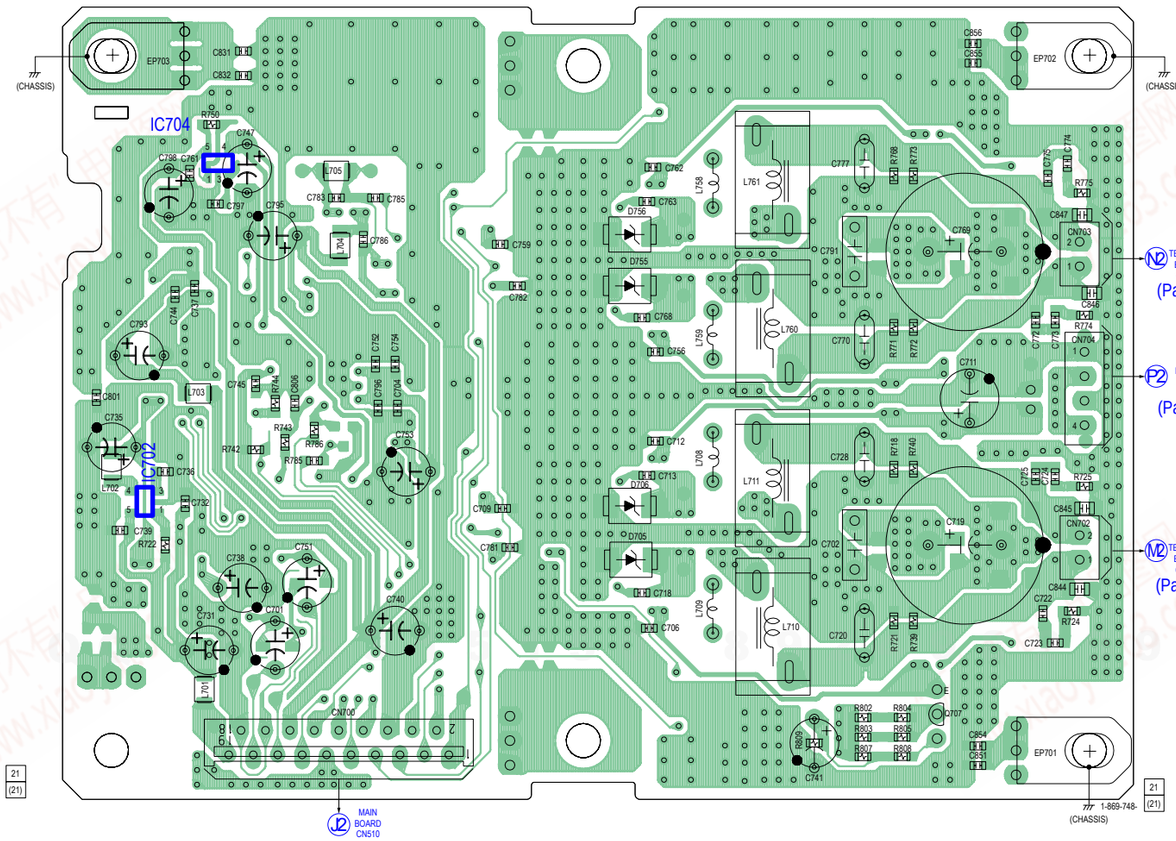
6-20. PRINTED WIRING BOARD - AMP Board (HX70BTR) -

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

【AMP BOARD 】(COMPONENT SIDE)



【AMP BOARD 】(CONDUCTOR SIDE)



- **Semiconductor Location**

Ref. No.	Location
D705	D-11
D706	D-11
D713	E-4
D755	C-11
D756	B-11
IC701	D-7
IC702	D-8
IC703	C-6
IC704	B-9
IC705	C-6
IC707	D-4
IC708	C-4
IC709	B-5
Q701	B-2
Q702	E-1
Q703	E-1
Q707	E-13
Q752	B-1
Q753	B-1

6-21. SCHEMATIC DIAGRAM - AMP Board (HX70BTR) -

• See page 28 for Waveforms. • See page 44 for IC Block Diagrams.

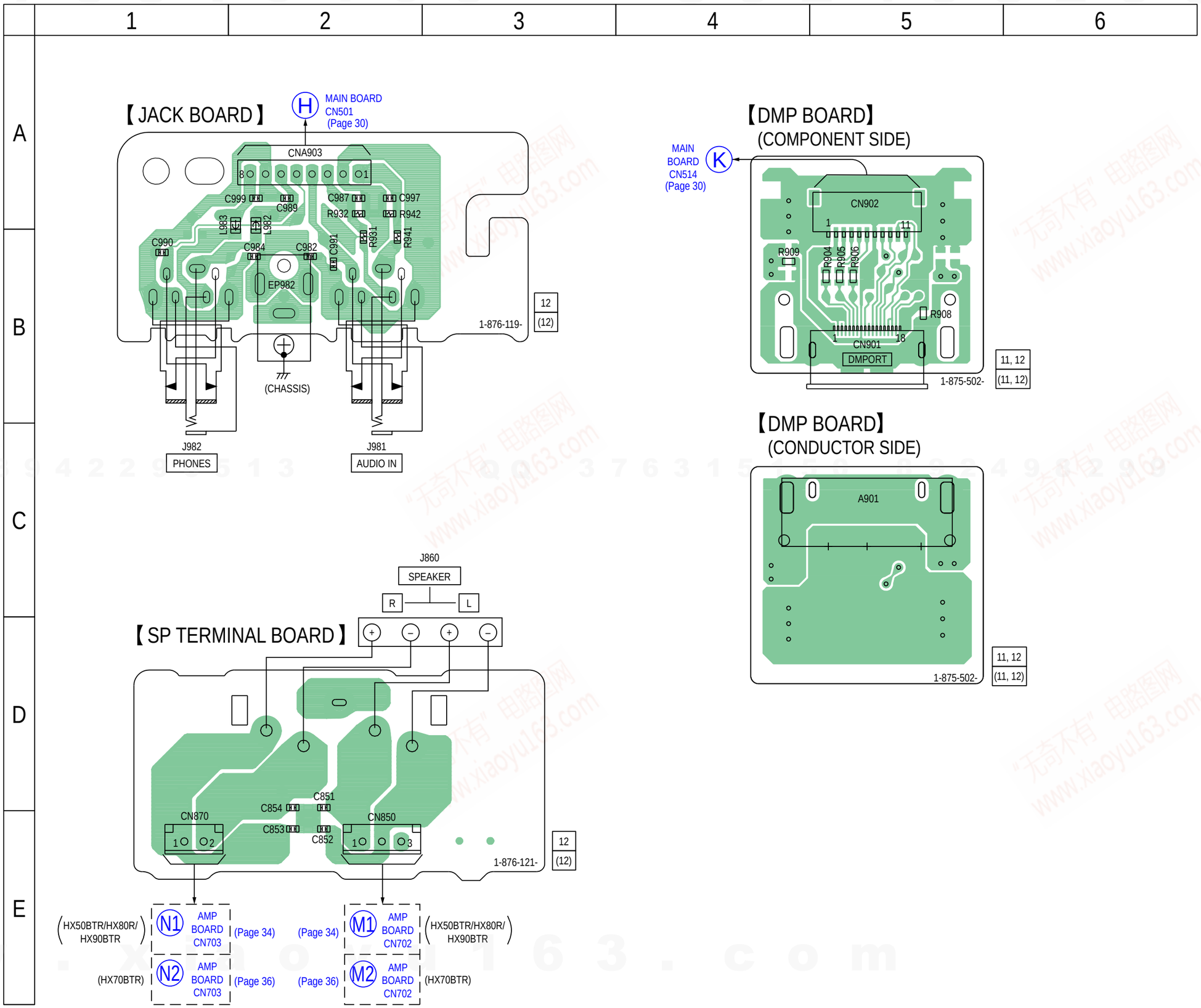
【AMP BOARD】

IC707 DIGITAL POWER AMP (IC B/D)
IC708 DIGITAL POWER AMP (IC B/D)
IC705 STREAM PROCESSOR (IC B/D)
IC704 +1.8V REGULATOR (IC B/D)
IC709 CLOCK BUFFER
IC701 A/D CONVERTER (IC B/D)
IC702 +3.3V REGULATOR (IC B/D)
IC703 CLOCK SHIFT (IC B/D)

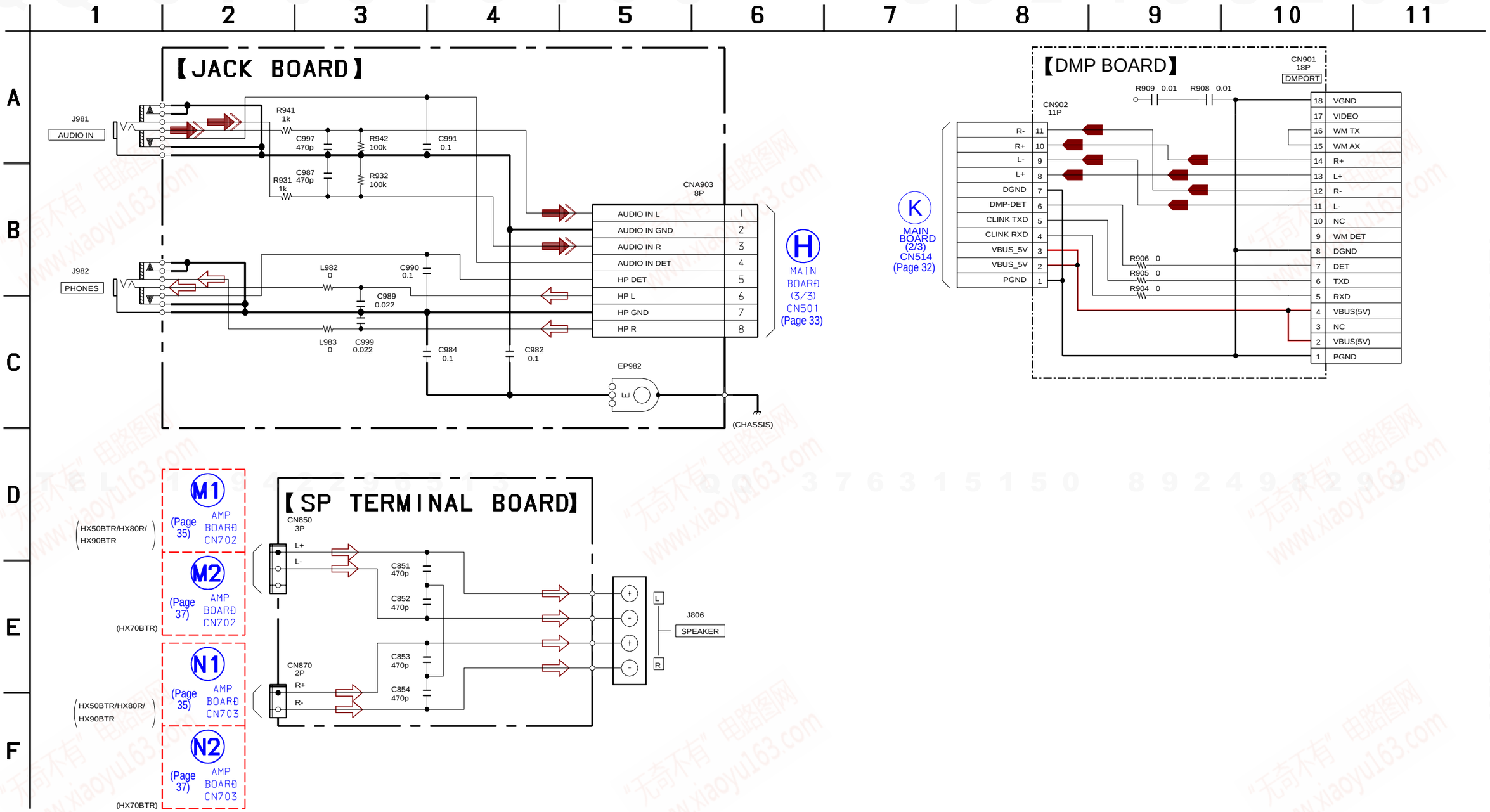
J2 MAIN BOARD (2/5) CN510 (Page 32)
M2 SP TERMINAL BOARD CN850 (Page 39)
N2 SP TERMINAL BOARD CN870 (Page 39)
P2 SW POWER BOARD CN51 (Page 43)

6-22. PRINTED WIRING BOARDS - INPUT/OUTPUT Section -

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



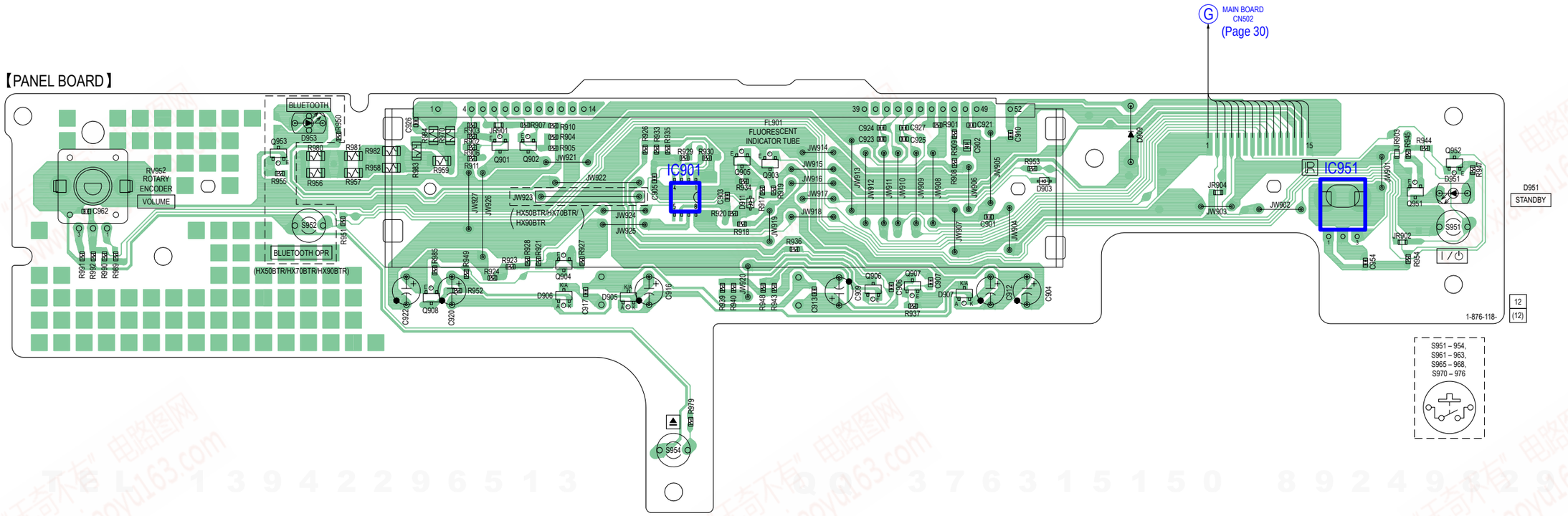
6-23. SCHEMATIC DIAGRAM - INPUT/OUTPUT Section -



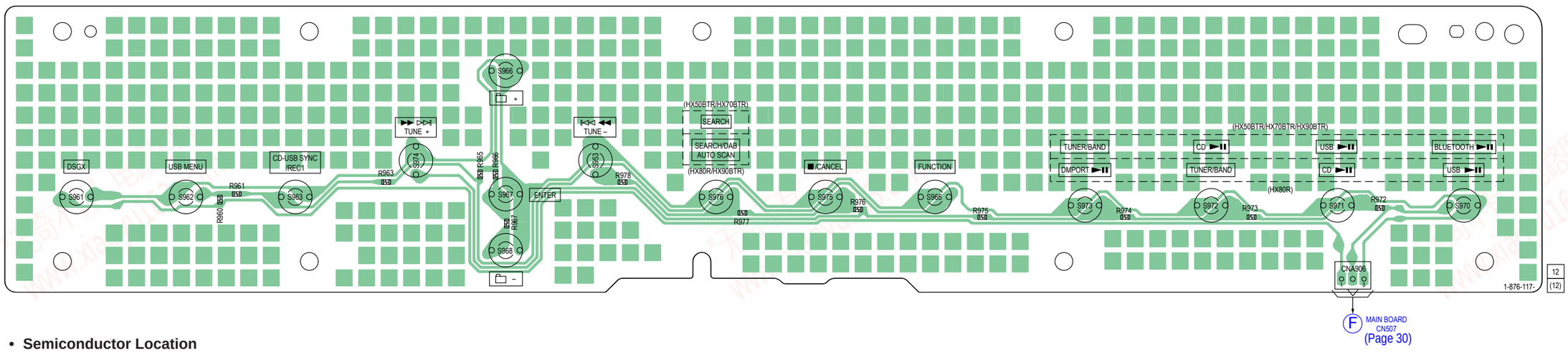
6-24. PRINTED WIRING BOARDS - PANEL Section -

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

【PANEL BOARD】



【TOP PANEL BOARD 】

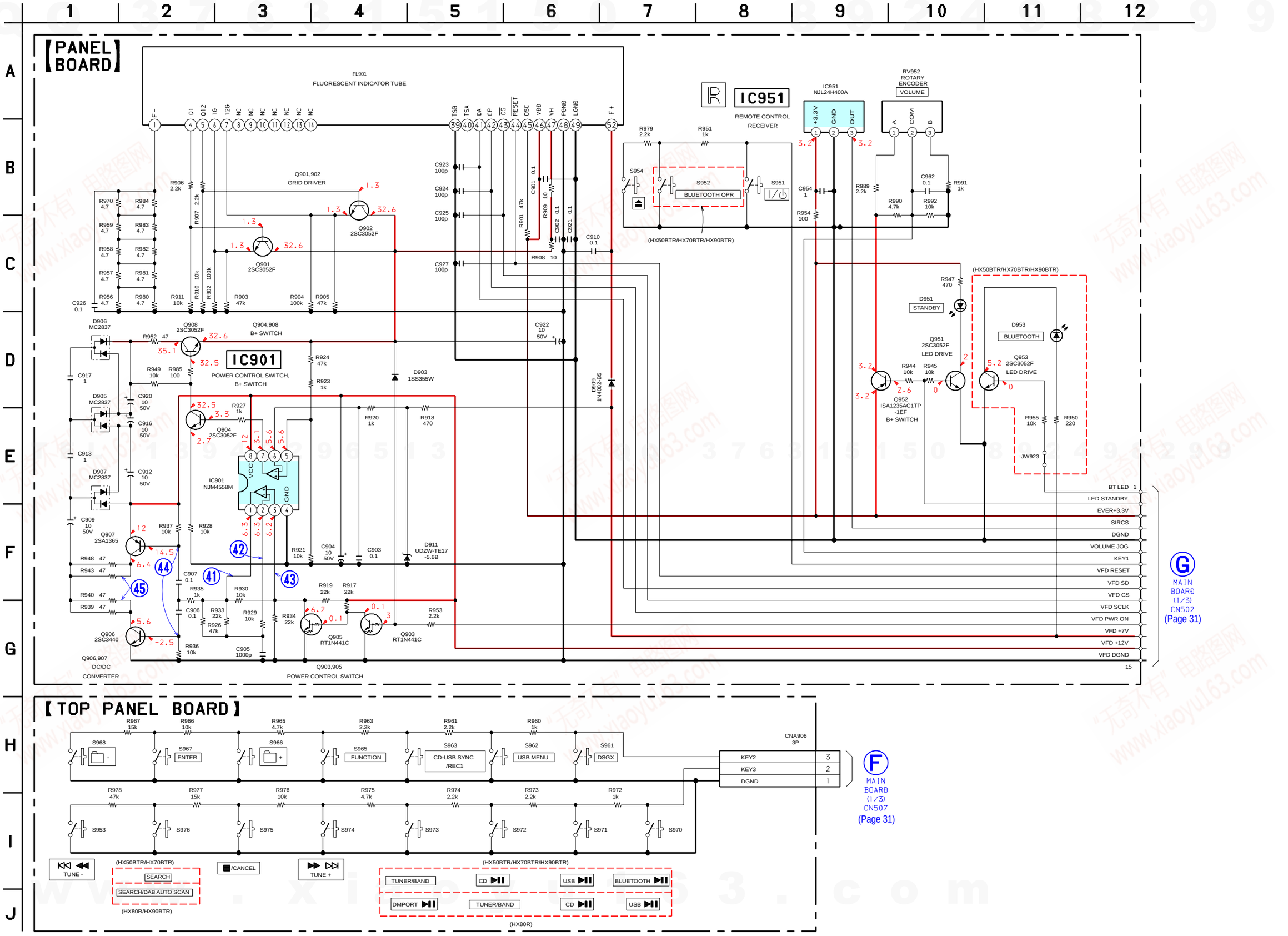


• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D903	B-8			Q905	B-6
D905	C-5	IC901	B-6	Q906	C-7
D906	C-5	IC951	B-10	Q907	C-7
D907	C-8			Q908	C-4
D909	B-9	Q901	B-4	Q951	B-11
D911	B-6	Q902	B-5	Q952	B-11
D951	B-11	Q903	B-6	Q953	B-3
D953	B-3	Q904	C-5		

6-25. SCHEMATIC DIAGRAM - PANEL Section -

• See page 28 for Waveforms.

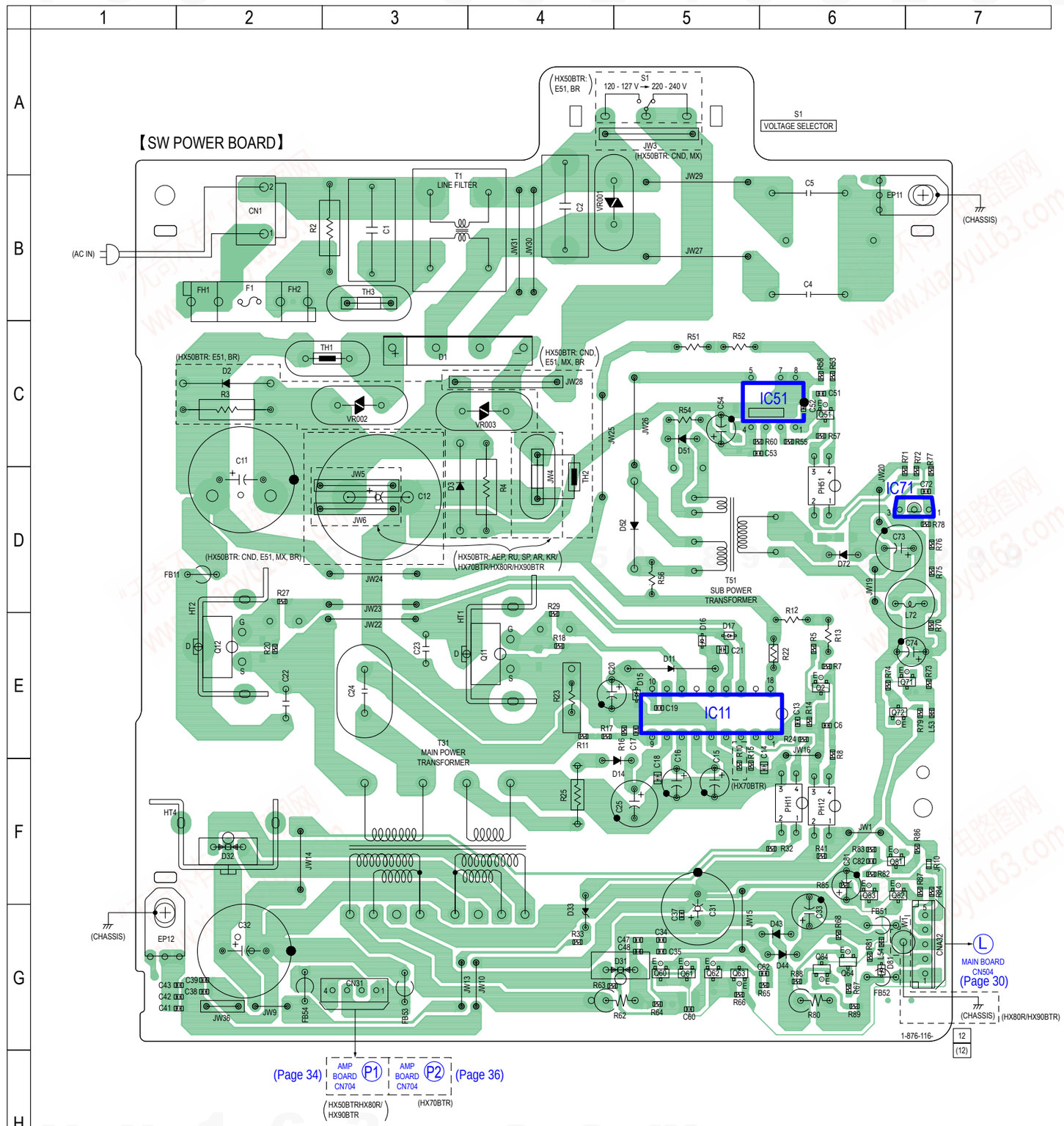


6-26. PRINTED WIRING BOARD - SW POWER Board -

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

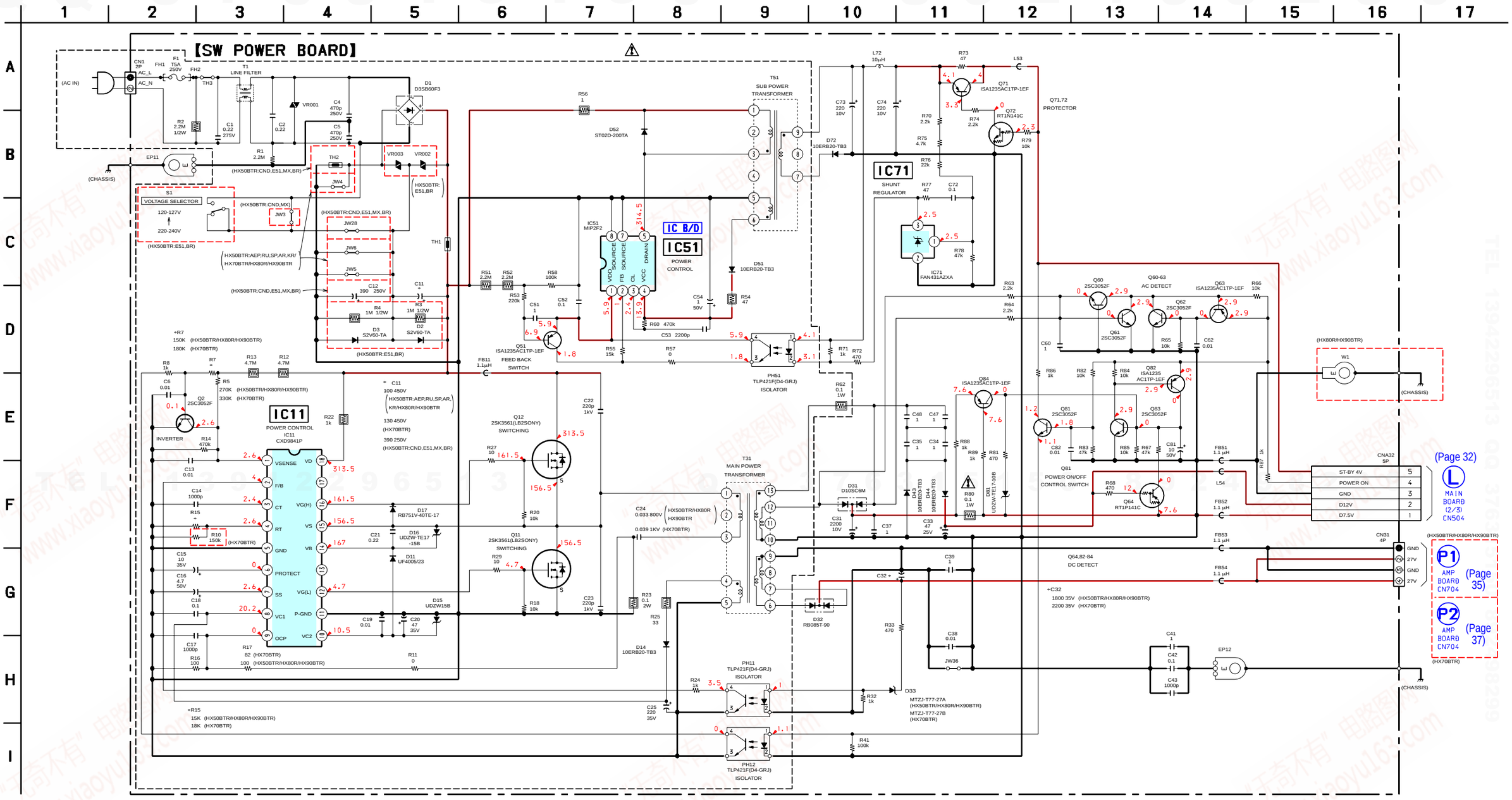
• **Semiconductor Location**

Ref. No.	Location
D1	C-3
D2	C-2
D3	D-3
D11	E-5
D14	F-5
D15	E-5
D16	E-5
D17	E-5
D31	G-5
D32	F-2
D33	G-4
D43	G-6
D44	G-6
D51	C-5
D52	D-5
D72	D-6
D81	G-6
IC11	E-5
IC51	C-6
IC71	D-7
PH11	F-6
PH12	F-6
PH51	D-6
Q2	E-6
Q11	E-4
Q12	E-2
Q51	C-6
Q60	G-5
Q61	G-5
Q62	G-5
Q63	G-5
Q64	G-6
Q71	E-7
Q72	E-6
Q81	F-6
Q82	F-6
Q83	F-6
Q84	G-6



6-27. SCHEMATIC DIAGRAM - SW POWER Board -

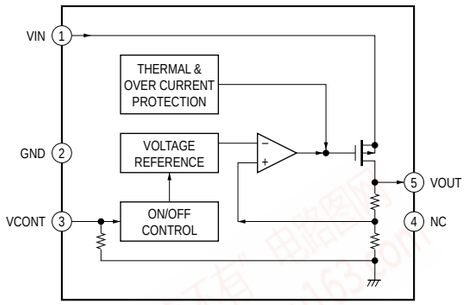
• See page 44 for IC Block Diagrams. • See page 50 for IC Pin Function Description.



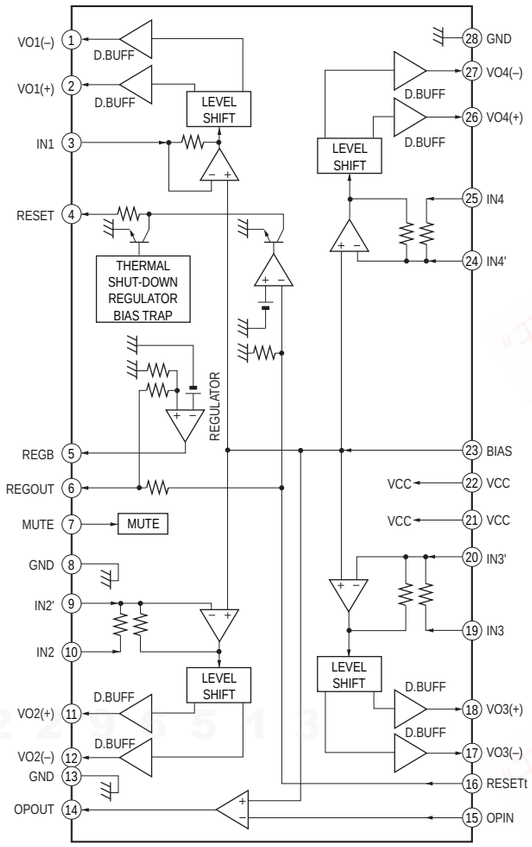
• **IC Block Diagrams**

– CD Board –

IC201 TK63115SCL-G@GT

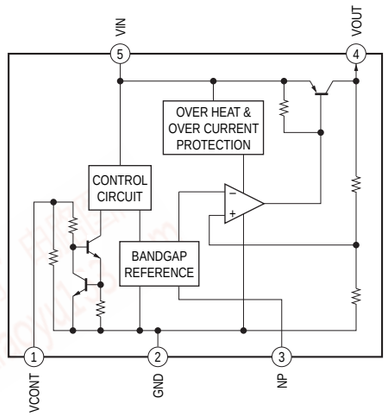


IC401 BA5826SFP-E2

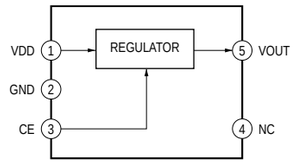


– DAB Board –

IC801 TK11133CSCL-G

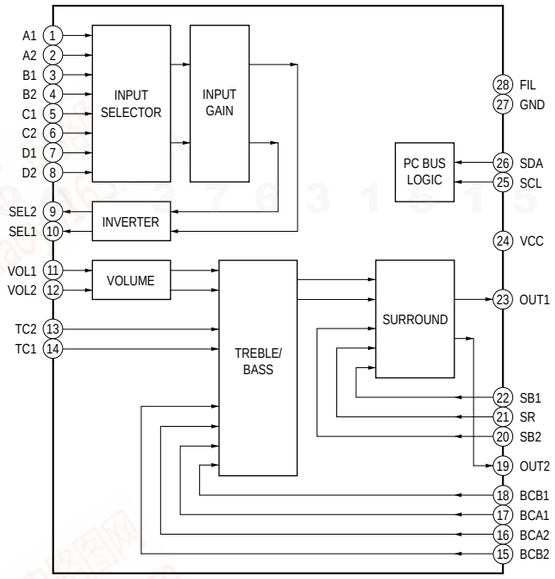


IC802 MM3291CNRE



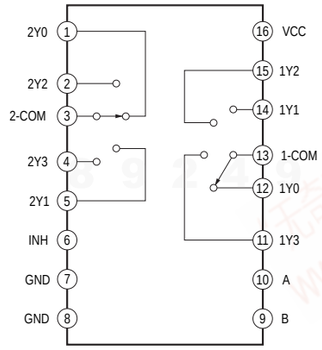
– MAIN Board –

IC501 BD3499FV-E2



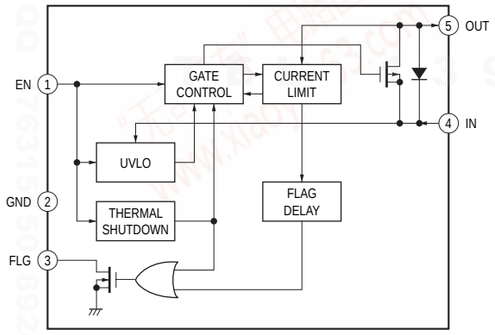
IC503 MC14052BDTR2

IC510 MC14052BDTR2



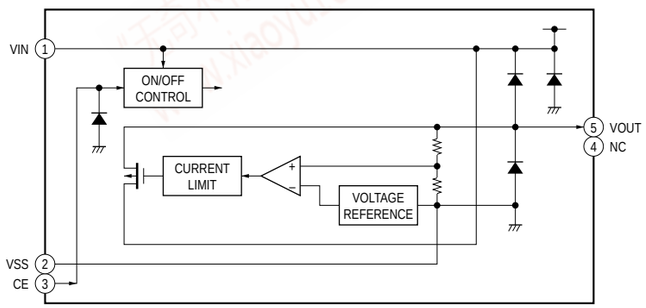
– USB Board –

IC915 R5523N001B-TR-F

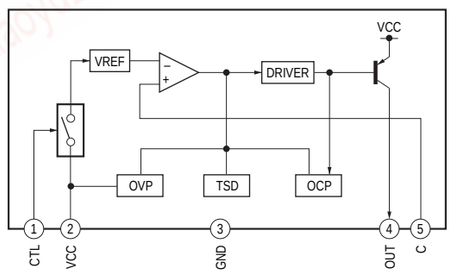


– BT Board –

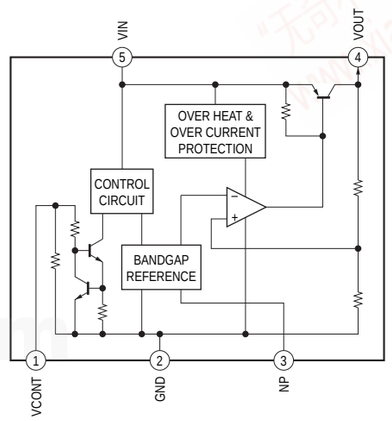
IC903 XC6213B332MR



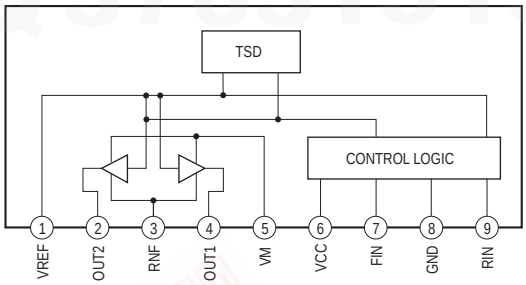
IC506 BA00BC0WT-V5



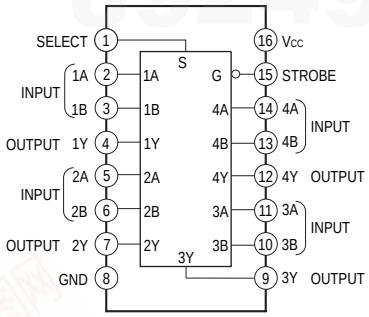
IC507 TK11150CSCL-G



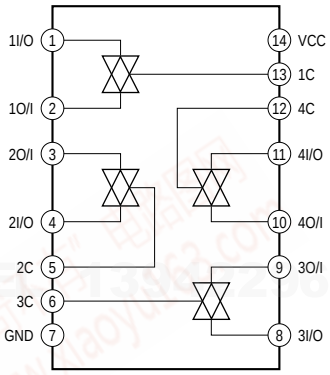
IC701 BA6956AN



IC751 TC74VHC157FT (EKJ)

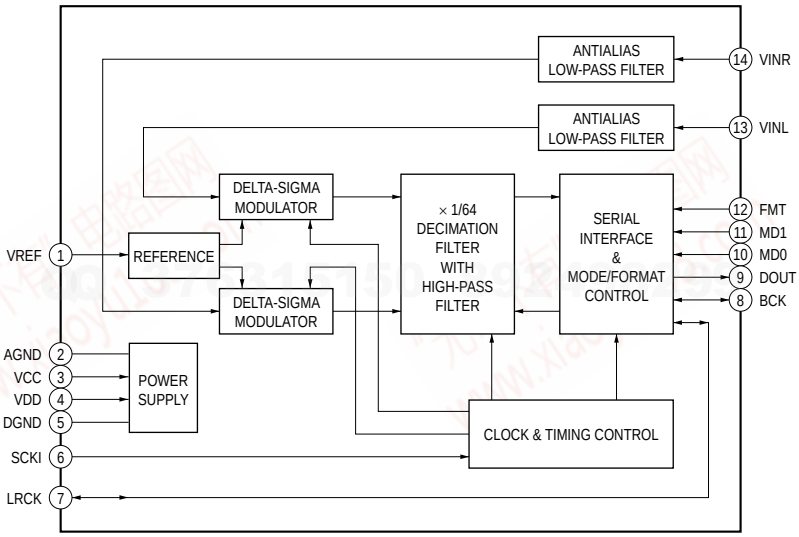


IC753, 754 TC74HC4066AFT (EL)

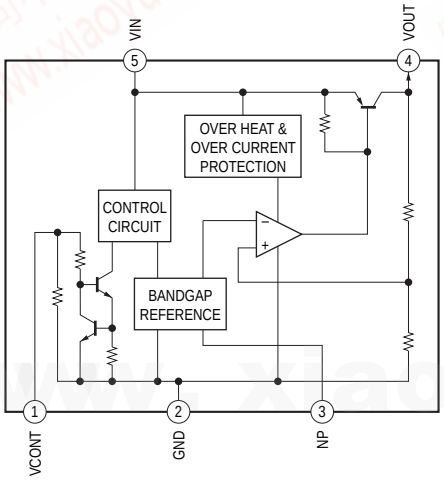


– AMP Board –

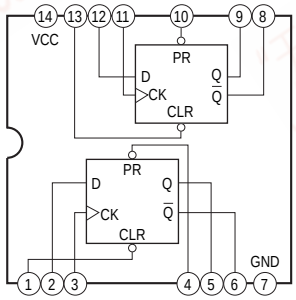
IC701 PCM1808PWR



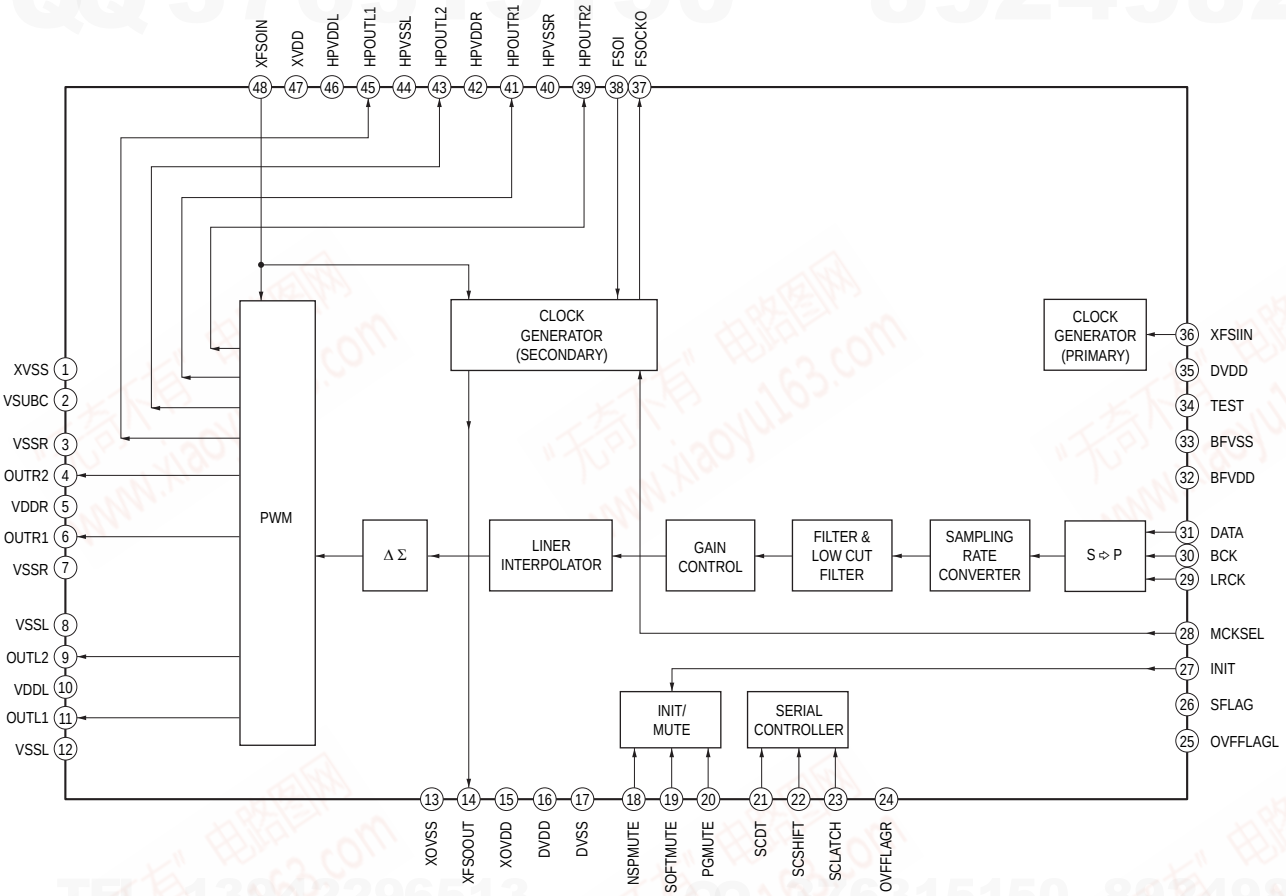
IC702 TK11133CSCL-G
IC704 TK11118CSCL-G



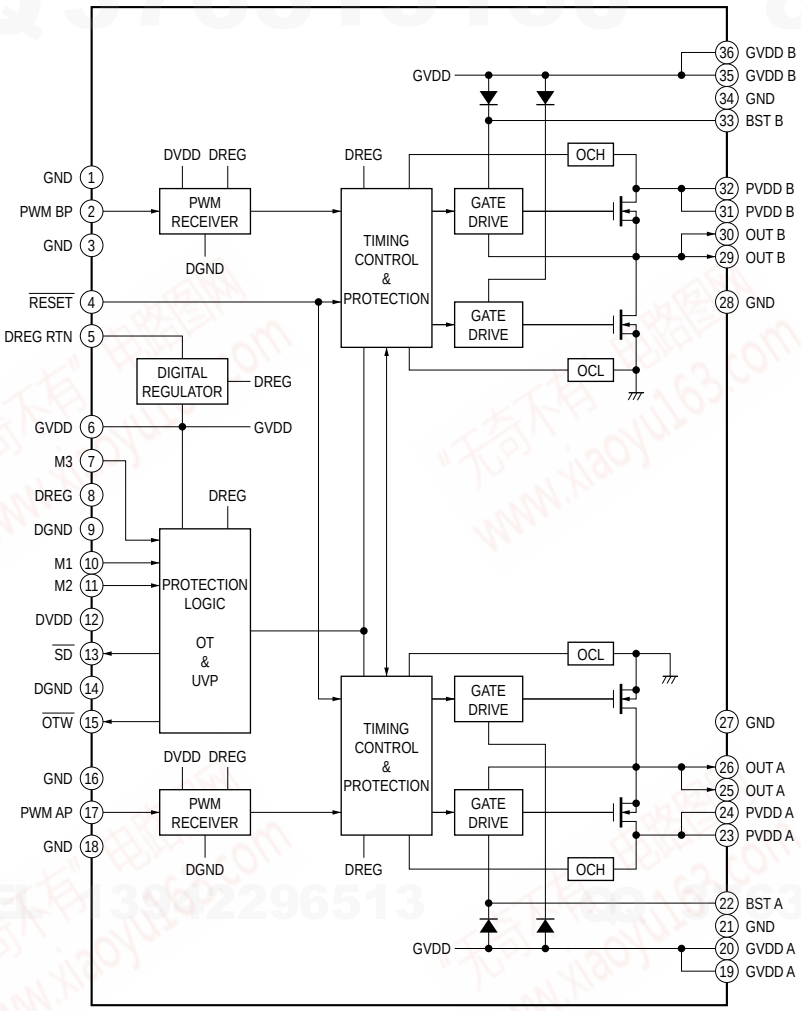
IC703 MC74VHC74DTR2



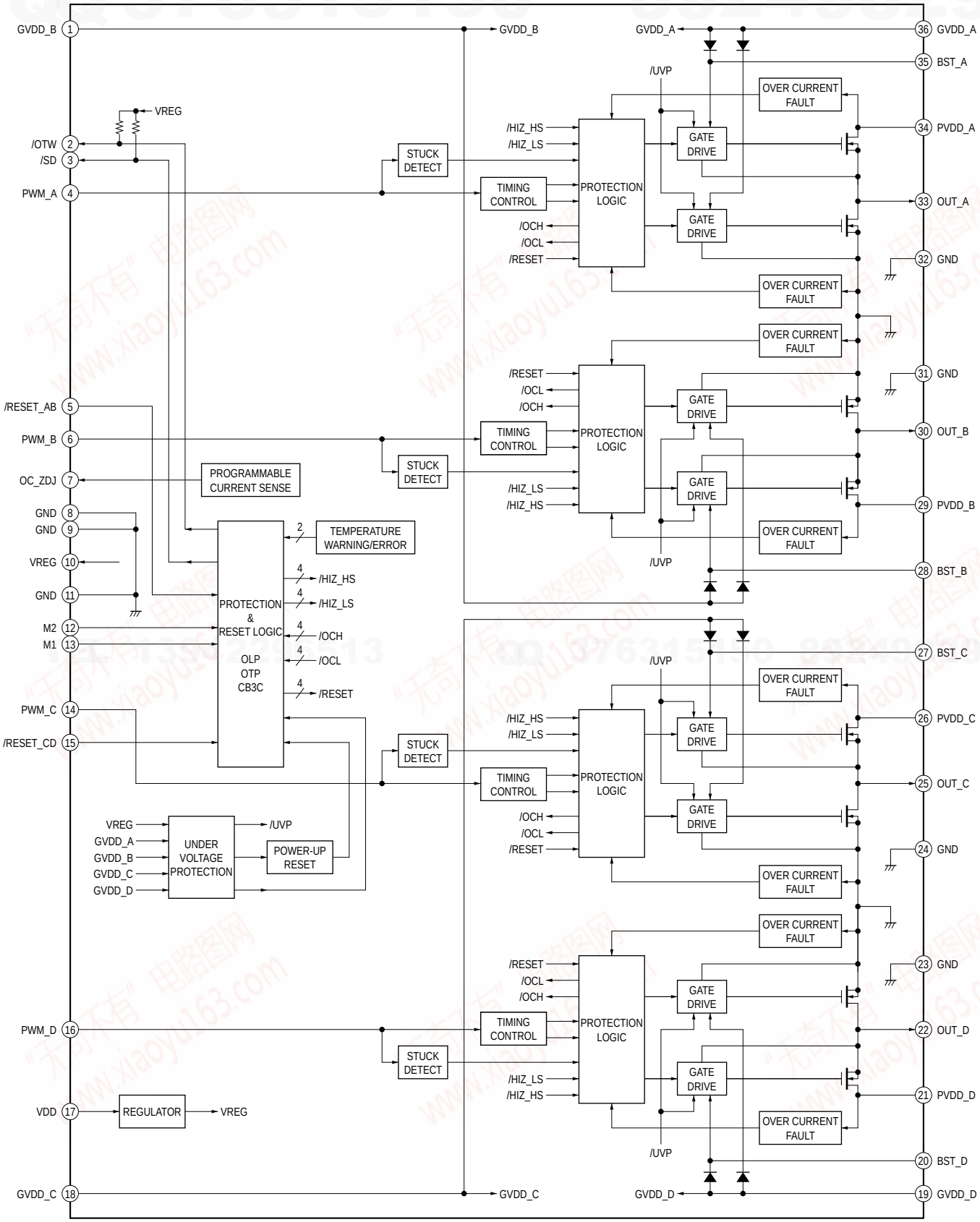
IC705 CXD9788AR



IC707, 708 CXD9774M (HX70BTR)

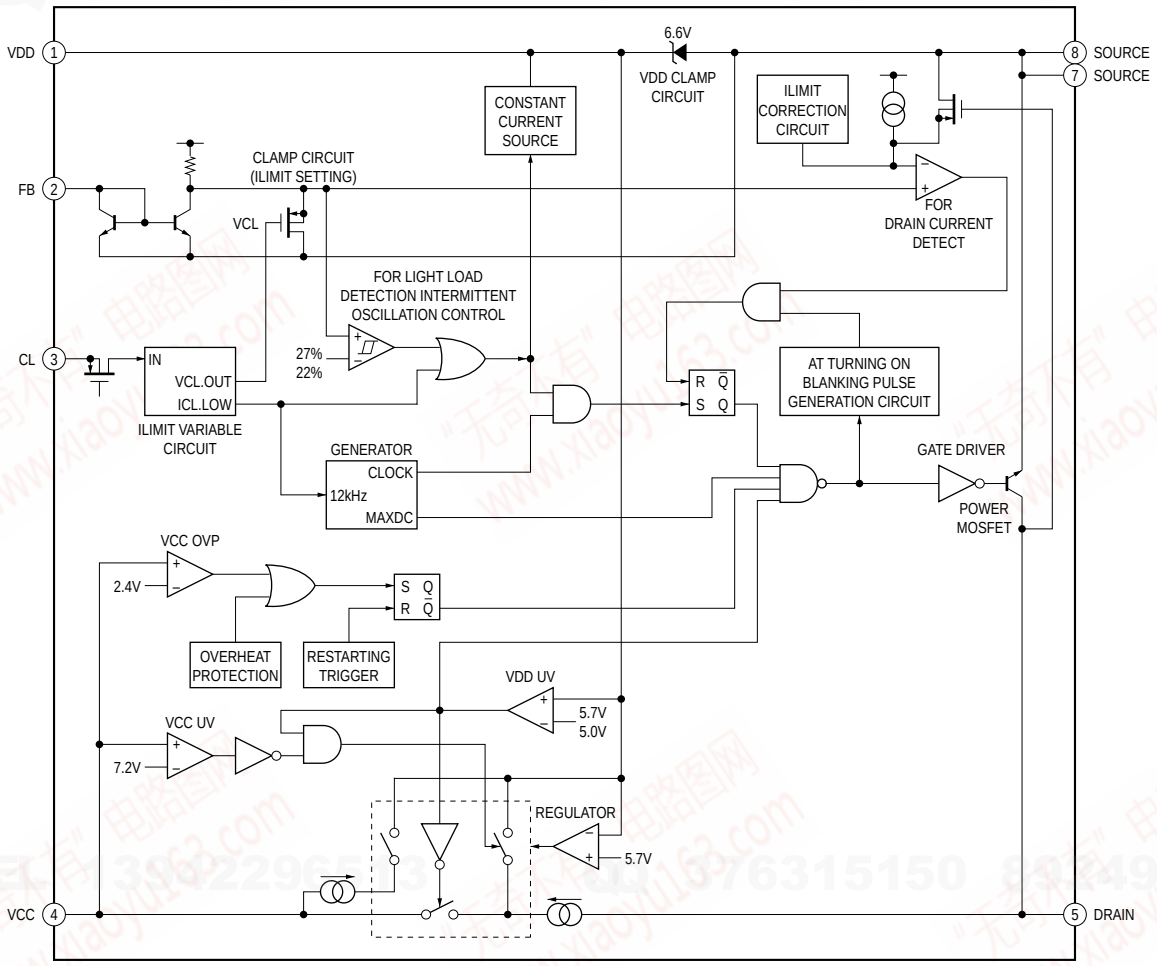


IC707 CXD9845AM (HX50BTR/HX80R/HX90BTR)



– SW POWER Board –

IC51 MIP2F20MS1SO



• **IC Pin Function Description**

CD BOARD IC101 TC94A70FG-101 (CD-MP3 PROCESSOR)

Pin No.	Pin Name	I/O	Description
1	AVSS3	-	Ground terminal
2	RFZi	I	RF ripple zero crossing signal input terminal
3	RFRP	O	RF ripple signal output terminal
4	SBAD/RFDC	O	Sub beam addition signal or RF peak detection signal output terminal Not used
5	FEi	O	Focus error signal output terminal Not used
6	TEi	O	Tracking error signal output terminal
7	TEZi	I	Tracking error zero crossing signal input terminal
8	AVDD3	-	Power supply terminal (+3.3 V)
9	FOo	O	Focus coil drive signal output terminal
10	TRo	O	Tracking coil drive signal output terminal
11	VREF	I	Reference voltage (+1.65V) input terminal
12	FMO	O	Sled motor drive signal output terminal
13	DMO	O	Spindle motor drive signal output terminal
14	VSSP3	-	Ground terminal
15	VCOi	I	VCO control voltage input terminal
16	VDDP3	-	Power supply terminal (+3.3 V)
17	VDD1	-	Power supply terminal (+1.5 V)
18	VSS1	-	Ground terminal
19	FGiN	I	FG signal input terminal Not used
20	IO0 (/HSO)	I	Disc inner position detection signal input terminal
21	IO1 (/UHSO)	O	Not used
22	XVSS3	-	Ground terminal
23	XI	I	System clock input terminal (16.9344 MHz)
24	XO	O	System clock output terminal (16.9344 MHz)
25	XVDD3	-	Power supply terminal (+3.3 V)
26	DVSS3	-	Ground terminal
27	RO	O	Analog audio (R-ch) signal output terminal
28	DVDD3	-	Power supply terminal (+3.3 V)
29	DVR	O	Reference voltage (+1.65V) output terminal
30	LO	O	Analog audio (L-ch) signal output terminal
31	DVSS3	-	Ground terminal
32	VDDT3	-	Power supply terminal (+3.3 V)
33	VSS1	-	Ground terminal
34	VDD1	-	Power supply terminal (+1.5 V)
35	VDDM1	-	Power supply terminal (+1.5 V)
36	SRAMSTB	I	S-RAM standby mode control signal input terminal Fixed at "L" in this set
37	XRST	I	Reset signal input from the system controller "L": reset
38, 39	BUS0, BUS1	I	Serial data input from the system controller or USB controller
40	BUS2 (SO)	I	Serial data input from the system controller or USB controller
41	BUS3 (SI)	I	Serial data input from the system controller or USB controller
42	BUCK (CLK)	I	Serial data transfer clock signal input from the system controller or USB controller
43	XCCE	I	Chip enable signal input from the system controller or USB controller
44	TEST	I	Setting terminal for test mode Normally fixed at "L"
45	IRQ	I	Interrupt request signal input terminal
46	AoUT3 (PO4)	O	Not used
47	AoUT2 (PO5)	O	Audio data output to the USB controller
48	PIO0	O	Request signal output to the system controller or USB controller
49	PIO1	O	Request signal output to the USB controller
50	PIO2	O	Not used
51	PIO3	I	Gate signal input from the USB controller
52	VSS1	-	Ground terminal
53	VDDT3	-	Power supply terminal (+3.3 V)
54	SBSY	O	Subcode block sync signal output to the system controller
55	SBOK/FOK	O	Not used

Pin No.	Pin Name	I/O	Description
56	IPF	O	Not used
57	SFSY/LOCK	O	Not used
58	ZDET	O	Zero detection signal output terminal Not used
59	GPIN	I	Not used
60	MS	I	Microcomputer interface mode selection signal input terminal Fixed at "H" in this set
61	DOUT (PO6)	O	Digital audio data output terminal Not used
62	AOUT (PO7)	O	Audio data output terminal Not used
63	BCK (PO8)	O	Bit clock signal output to the USB controller
64	LRCK (PO9)	O	L/R sampling clock signal output terminal
65	AIN (PI4)	I	Digital audio data input from USB controller
66	BCKi (PI5)	I	Bit clock signal input from the USB controller
67	LRCKi (PI6)	I	L/R sampling clock signal input from the USB controller
68	VDD1	-	Power supply terminal (+1.5 V)
69	VSS1	-	Ground terminal
70	AWRC	-	Not used
71	PVDD3	-	Power supply terminal (+3.3 V)
72	PDo	O	Phase error margin signal between EFM signal and PLCK signal output terminal
73	TMAXS	O	TMAX detection signal output terminal Not used
74	TMAX	O	TMAX detection signal output terminal
75	LPFN	I	Inverted signal input from the operation amplifier for PLL loop filter
76	LPFo	O	Signal output from the operation amplifier for PLL loop filter
77	PVREF	I	Reference voltage (+1.65V) input terminal
78	VCOF	O	VCO filter output terminal
79	PVSS3	-	Ground terminal
80	SLCo	O	EFM slice level output terminal
81	RFi	I	RF signal input terminal
82	RFRPi	I	RF ripple signal input terminal
83	RFEQo	O	EFM slice level output terminal
84	VRo	O	Reference voltage (+1.65V) output terminal
85	RESiN	O	External resistor connection terminal
86	VMDiR	O	Reference voltage (+1.65V) output terminal for automatic power control circuit
87	TESTR	O	Low-pass filter terminal for RFEQO offset correction
88	AGCi	I	RF signal amplitude adjustment amplification input terminal
89	RFo	O	RF signal generation amplification output terminal
90	RVDD3	-	Power supply terminal (+3.3 V)
91	LDo	O	Laser diode on/off control signal output to the automatic power control circuit "H": laser diode on
92	MDi	I	Light amount monitor input from the laser diode of optical pick-up block
93	RVSS3	-	Ground terminal
94	FNi2 (C)	I	Main beam (C) input from the optical pick-up block
95	FNi1 (A)	I	Main beam (A) input from the optical pick-up block
96	FPi2 (D)	I	Main beam (D) input from the optical pick-up block
97	FPi1 (B)	I	Main beam (B) input from the optical pick-up block
98	TPi (F)	I	Sub beam (F) input from the optical pick-up block
99	TNPC	O	External capacitor connection terminal
100	TNi (E)	I	Sub beam (E) input from the optical pick-up block

USB BOARD IC901 TMP92CD28AFG-6VD8 (USB CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	/RESET	I	Reset signal input from the system controller "L": reset
2	DI	I	Ready to send signal input from the system controller
3, 4	NO USE	O	Not used
5	G-3	I	Function selection signal input terminal Fixed at "L" in this set
6	DVCC	-	Power supply terminal (+3.3 V)
7 to 9	NO USE	O	Not used
10	DVSS	-	Ground terminal
11	DVCC	-	Power supply terminal (+3.3 V)
12	RVOUT1	O	Reference voltage (+3.3 V) output terminal
13, 14	RVIN	I	Reference voltage (+3.3 V) input terminal
15	RVOUT2	O	Reference voltage (+3.3 V) output terminal
16	DVCC	-	Power supply terminal (+3.3 V)
17	DVSS	-	Ground terminal
18 to 25	D0 to D7	I/O	Two-way data bus with the S-RAM
26	DVSS	-	Ground terminal
27	DVCC	-	Power supply terminal (+3.3 V)
28 to 35	D8 to D15	I/O	Two-way data bus with the S-RAM
36	A0	O	Address signal output terminal Not used
37 to 43	A1 to A7	O	Address signal output to the S-RAM
44	DVSS	-	Ground terminal
45	DVCC	-	Power supply terminal (+3.3 V)
46 to 54	A8 to A16	O	Address signal output to the S-RAM
55 to 58	BUS0 to BUS3	O	Serial data output to the CD-MP3 processor
59	/BUCK	O	Serial data transfer clock signal output to the CD-MP3 processor
60	/CCE	O	Chip enable signal output to the CD-MP3 processor
61	NO USE	O	Not used
62	DVSS	-	Ground terminal
63	DVCC	-	Power supply terminal (+3.3 V)
64	RD	O	Output enable signal output to the S-RAM
65	WR	O	Write enable signal output to the S-RAM
66	SRLLB	O	Lower-byte control signal output to the S-RAM
67	SRLUB	O	Upper-byte control signal output to the S-RAM
68	NO USE	O	Not used
69	BOOT	I	Boot mode selection signal input terminal "L": boot mode
70	CS2	O	Chip select signal output to the S-RAM
71	LRCK	O	L/R sampling clock signal output to the CD-MP3 processor
72	AM1	I	Function mode selection signal input terminal Fixed at "H" in this set
73	X2	O	System clock output terminal (9 MHz)
74	DVSS	-	Ground terminal
75	X1	I	System clock input terminal (9 MHz)
76	DVCC	-	Power supply terminal (+3.3 V)
77	USBOC	I	Over current detection signal input terminal
78	USBPON	O	USB VBUS power on/off control signal output terminal "H": power on
79	D+	I/O	Two-way data (positive) bus with the USB connector
80	D-	I/O	Two-way data (negative) bus with the USB connector
81	AM0	I	Function mode selection signal input terminal Fixed at "H" in this set
82	NO USE	O	Not used
83	DVSS	-	Ground terminal
84	DO	O	Clear to send signal output to the system controller
85	DATA	I	Audio data input from the CD-MP3 processor
86	CLOCK	I	Audio data transfer clock signal input from CD-MP3 processor
87	TXD1	O	Serial data output to the system controller
88	RXD1	I	Serial data input from the system controller
89	NO USE	O	Not used

Pin No.	Pin Name	I/O	Description
90	SDA	I/O	Two-way EEPROM IIC data bus terminal Not used
91	SCL	I/O	Two-way EEPROM IIC clock bus terminal Not used
92	BCK	O	Bit clock signal output to the CD-MP3 processor
93	DATA	O	Audio data output to the CD-MP3 processor
94	GATE	O	Gate signal output to the CD-MP3 processor
95	DVCC	-	Power supply terminal (+3.3 V)
96	REQ	I	Request signal input from the CD-MP3 processor
97	ST-REQ	I	Request signal input from the CD-MP3 processor
98, 99	G-1, G-2	I	Function selection signal input terminal Fixed at "L" in this set
100	DVSS	-	Ground terminal

MAIN BOARD IC301 (SYSTEM CONTROLLER) R5F3640DDFAR (HX50BTR/HX70BTR/HX80R)
R5F3640MDFAR (HX90BTR)

Pin No.	Pin Name	I/O	Description
1 to 3	CD BUS2 to CD BUS0	O	Serial data output to the CD-MP3 processor
4	SIRCS	I	SIRCS signal input from the remote control receiver
5	USB_RESET	O	Reset signal output to the USB controller "L": reset
6	USB_CST	I	Clear to send signal input from the USB controller
7	MP3 IREQ	I	Request signal input from the CD-MP3 processor
8	BYTE	I	External data bus width selection signal input terminal Fixed at "L" in this set
9	CNVss	I	Processor mode switch input terminal (for test) Fixed at "L" in this set
10	XCIN	I	Sub system clock input terminal (32.768 kHz)
11	XCOUT	O	Sub system clock output terminal (32.768 kHz)
12	RESET	I	System reset signal input from the reset signal generator "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
13	XOUT	O	Main system clock output terminal (5 MHz)
14	Vss	-	Ground terminal
15	XIN	I	Main system clock input terminal (5 MHz)
16	Vcc	-	Power supply terminal (+3.3 V)
17	NMI	I	Non-maskable interrupt signal input terminal Not used
18	RDS-INT	I	RDS data transfer clock signal input the tuner (FM/AM) (HX50BTR: AEP/HX70BTR/HX80R/HX90BTR)
19	SBSY	I	Subcode block sync signal input from the CD-MP3 processor
20	AC-CUT	I	AC cut on/off detection signal input terminal "L": AC cut on
21	CD CCE	O	Chip enable signal output to the CD-MP3 processor
22	AMP IIC_CLK	O	Serial data transfer clock signal output to the electrical volume
23	CD CLK	O	Serial data transfer clock signal output to the CD-MP3 processor
24	AMP IIC_SDA	O	Serial data output to the electrical volume
25	DEC BUS SEL	O	Bus selection signal output terminal
26	S-MASTER SD	I	Shut down signal input terminal "L": shut down
27	S-MASTER PG MUTE	O	PG muting control signal output to the stream processor
28	S-MASTER SOFT MUTE	O	Soft muting control signal output to the stream processor
29	IIC_CLK	I/O	Two-way IIC clock bus terminal Fixed at "H" in this set
30	IIC_DATA	I/O	Two-way IIC data bus terminal Fixed at "H" in this set
31	BT TXD_OUT	O	Serial data output to the bluetooth module (HX50BTR/HX70BTR/HX90BTR)
32	BT RXD_IN	I	Serial data input from the bluetooth module (HX50BTR/HX70BTR/HX90BTR)
33	BT CTS	I	Clear to send signal input from the bluetooth module (HX50BTR/HX70BTR/HX90BTR)
34	BT RTS	O	Ready to send signal output to the bluetooth module (HX50BTR/HX70BTR/HX90BTR)
35	USB TXD_OUT	O	Serial data output to the USB controller
36	USB RXD_IN	I	Serial data input from the USB controller
37	S-MASTER RST	O	Reset signal output to the digital power amplifier "L": reset
38	USB RTS	O	Ready to send signal output to the USB controller
39	S-MASTER DATA	O	Serial data output to the stream processor
40	S-MASTER SHIFT	O	Serial data transfer clock signal output to the stream processor
41	PULL DOWN	I	Connected to the ground
42	S-MASTER LATCH	O	Serial data latch pulse signal output to the stream processor
43	S-MASTER NSP MUTE	O	NSP muting control signal output to the stream processor
44	S-MASTER INIT	O	Initialize signal output to the stream processor
45	BT AV ROLE	O	Transmission/reception mode notification signal output to the bluetooth module (HX50BTR/HX70BTR/HX90BTR)
46	PULL UP	I	Connected to the power supply
47	DAB TXD_OUT	O	Serial data output to the DAB tuner module (HX80R/HX90BTR)
48	DAB RXD_IN	I	Serial data input from the DAB tuner module (HX80R/HX90BTR)
49	BT RESET	O	Reset signal output to the bluetooth module "L": reset (HX50BTR/HX70BTR/HX90BTR)
50	BT POWER	O	Power on/off control signal output terminal for bluetooth section "H": power on (HX50BTR/HX70BTR/HX90BTR)
51	CDM OPEN SW	I	Disc tray open position detection signal input terminal "L": disc tray is opened
52	CDM CLOSE SW	I	Disc tray close position detection signal input terminal "L": disc tray is closed

Pin No.	Pin Name	I/O	Description
53	CDM LOAD IN	O	Loading motor control signal output terminal (for loading in)
54	CDM LOAD OUT	O	Loading motor control signal output terminal (for loading out)
55	FL POWER ON	O	Power on/off control signal output terminal for fluorescent indicator tube "H": power on
56	FL SCLK	O	Shift clock signal output to the fluorescent indicator tube
57	FL CS	O	Chip select signal output to the fluorescent indicator tube
58	FL SD	O	Serial data output to the fluorescent indicator tube
59	FL RESET	O	Reset signal output to the fluorescent indicator tube "L": reset
60	STANDBY LED	O	LED drive signal output terminal for STANDBY indicator "H": LED on
61	USB LED	O	Not used
62	Vcc	-	Power supply terminal (+3.3 V)
63	BT LED	O	LED drive signal output terminal for BLUETOOTH indicator "H": LED on (HX50BTR/HX70BTR/HX90BTR)
64	Vss	-	Ground terminal
65	VOLUME JOG	I	Jog dial pulse input from the rotary encoder (VOLUME)
66 to 68	KEY 1 to KEY 3	I	Top and front panel key input terminal
69	AC DET	I	AC power detection signal input terminal
70	SEL A	O	Input selection control signal output terminal
71	SEL B	O	Input selection control signal output terminal (HX80R/HX90BTR)
72	SEL INH	O	Input selection control signal output terminal
73	DAB-POWER_3.3	O	DAB power supply (+3.3V) on/off control signal output terminal "H": power on (HX80R/HX90BTR)
74	KEY WAKE UP	I	Wake up signal input terminal
75	DAB-POWER_1.2	O	DAB power supply (+1.2V) on/off control signal output terminal "H": power on (HX80R/HX90BTR)
76	ST TUNDE	I	Tuning detection signal input from the tuner (FM/AM)
77	CLINK_TXD_ OUT	O	Serial data output to the DMPORT connector
78	CLINK_RXD_IN	I	Serial data input from the DMPORT connector
79	ST CE	O	Chip enable signal output to the tuner (FM/AM)
80	ST DATA OUT	O	Serial data output to the tuner (FM/AM)
81	ST CLK	O	Serial data transfer clock signal output to the tuner (FM/AM)
82	ST DATA IN/STEREO	I	Serial data and stereo detection signal input from the tuner (FM/AM)
83	RDS DATA	I	RDS data input from the tuner (FM/AM) (HX50BTR: AEP/HX70BTR/HX80R/HX90BTR)
84	DMPORT DET	I	Plug insert detection signal input terminal for DMPOT connector "L": plug insert
85	AUDIO IN DET	I	Plug insert detection signal input terminal for AUDIO IN jack "L": plug insert
86	HP DET	I	Plug insert detection signal input terminal for PHONES jack "L": plug insert
87	HP MUTE	O	Headphone muting on/off control signal output terminal "H": muting on
88	BT AUDIO OUT MUTE	O	Blutetooth muting on/off control signal output terminal "H": muting on (HX50BTR/HX70BTR/HX90BTR)
89	TA-LINE MUTE	O	Line muting on/off control signal output terminal "H": muting on
90	STBY-RELAY	O	Sub power on/off control signal output terminal "H": power on
91	DMPORT POWER	O	DMPORT power supply (+5V) on/off control signal output terminal "H": power on (HX80R/HX90BTR)
92	USB POWER	O	Power on/off control signal output terminal for USB section "H": power on
93	CD ON	O	Power on/off control signal output terminal for CD section "H": power on
94	CD XRST	O	Reset signal output to the CD-MP3 processor "L": reset
95	CD DRIVER MUTE	O	Muting signal output to the coil/motor driver
96	AVss	-	Ground terminal
97	SPEC-IN	I	Setting terminal for the destination
98	VREF	I	Reference voltage (+3.3V) input terminal
99	AVcc	-	Power supply terminal (+3.3 V)
100	CD BUS3	O	Serial data output to the CD-MP3 processor

SW POWER BOARD IC11 CXD9841P (POWER CONTROL)

Pin No.	Pin Name	I/O	Description
1	VSENSE	I	AC line voltage detection signal input terminal
2	F/B	I	Feed back signal input terminal for frequency modulation of oscillator
3	CT	I	Connected to the external capacitor for oscillator duty/frequency setting
4	RT	I	Connected to the external resistor for oscillator frequency setting
5	GND	-	Ground terminal
6	PROTECT	I	Connected to the external capacitor for determines intermittent operation period when abnormal detection state
7	SS	I	Connected to the external capacitor for soft start timing
8	VC1	I	Power supply terminal for control circuit "L": stop
9	OCP	I	Over current detection signal and didt protection signal input terminal
10	VC2	O	Power supply output terminal for driver
11	P-GND	-	Ground terminal for low voltage side driver
12	VG (L)	O	Low voltage side driver drive signal output terminal
13	-	-	Not used
14	VB	O	Power supply output terminal for high voltage side driver
15	VS	I	High voltage side driver reference voltage input terminal
16	VG (H)	O	High voltage side driver drive signal output terminal
17	-	-	Not used
18	VD	I	Terminal for drain-kick starting When starting, current is supplied directly from the rectification diode to VC1

SECTION 7
EXPLODED VIEWS

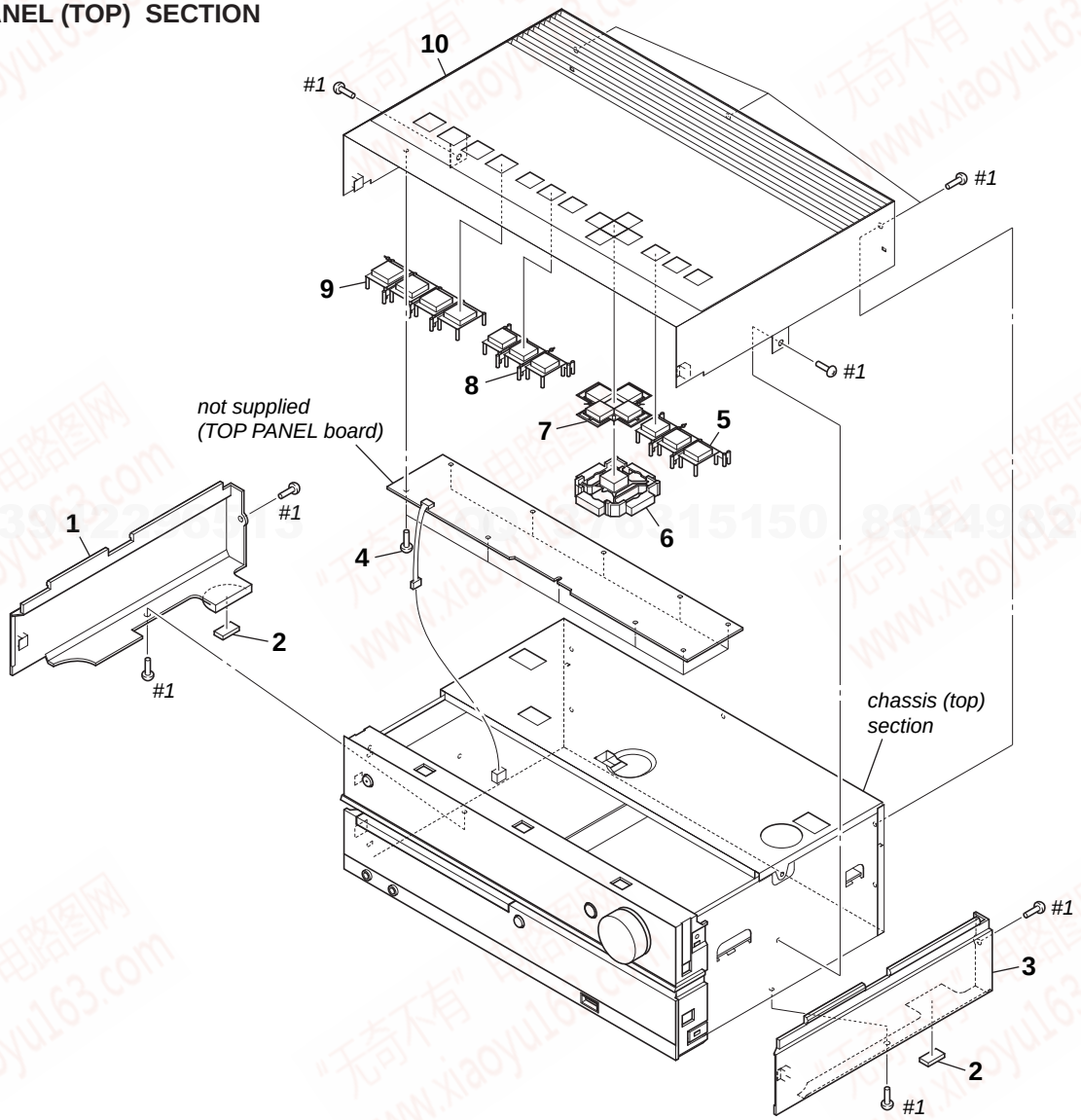
Note:

- -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.
- Accessories are given in the last of the electrical parts list.
- 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 : Argentina model
  BR : Brazilian model
  CND : Canadian model
  E51 : Chilean and Peruvian model
  KR : Korean model
  MX : Mexican model
  RU : Russian model
  SP : Singapore model

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

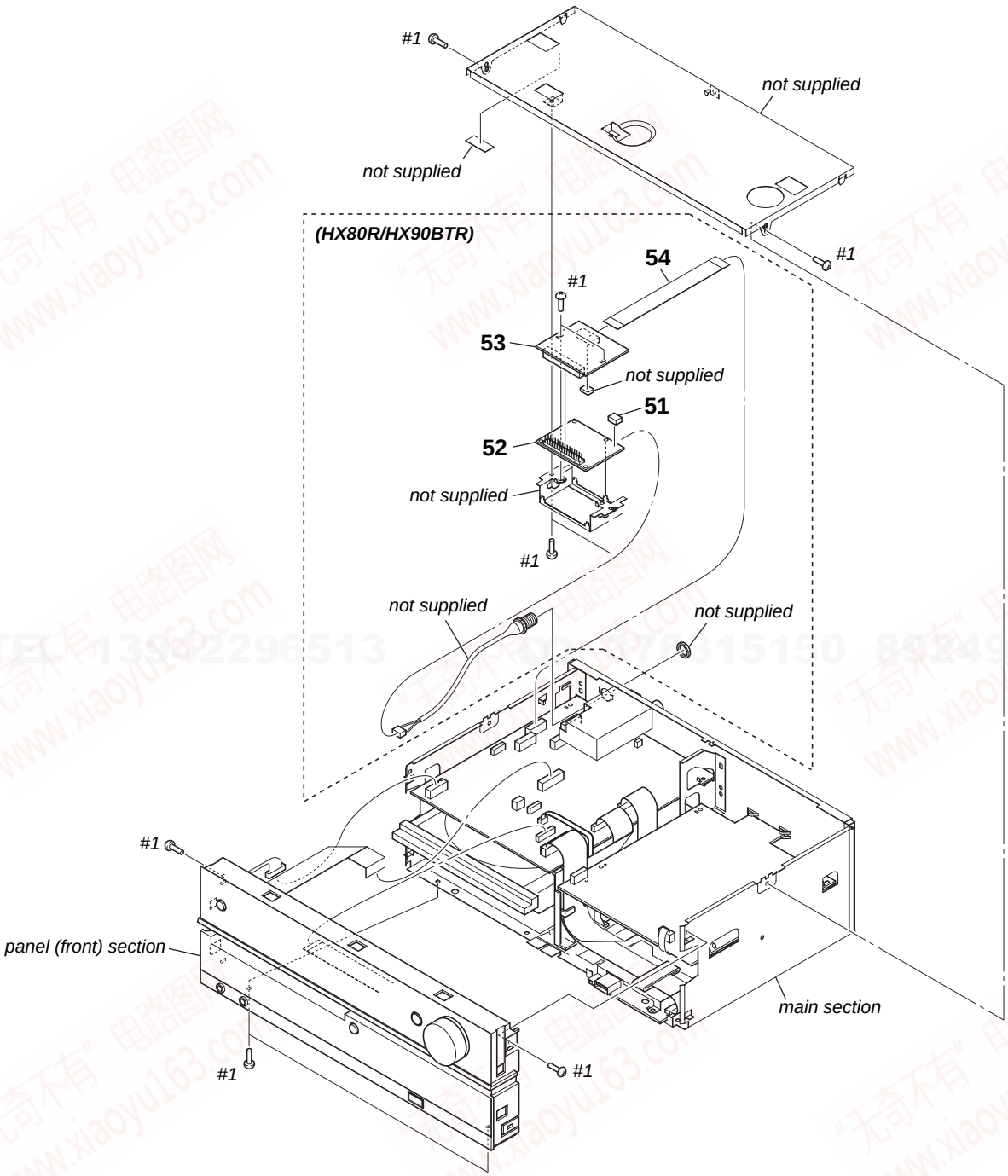
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

7-1. PANEL (TOP) SECTION



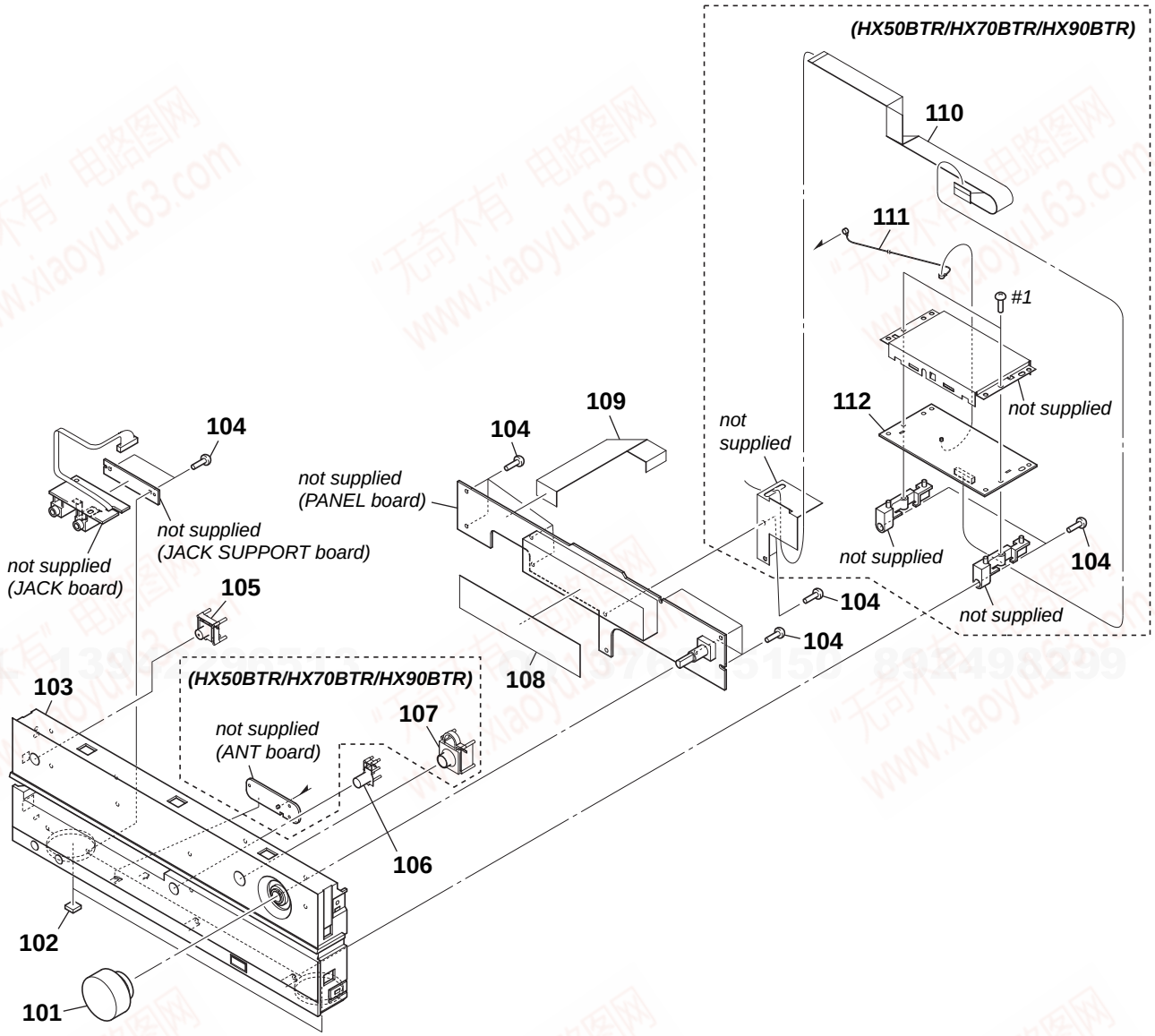
Ref. No.	Part No.	Description	Remark
1	3-284-477-01	PANEL (SIDE L)	
2	3-198-753-11	FOOT (FELT)	
3	3-284-478-01	PANEL (SIDE R)	
4	3-087-053-01	+BVTP2.6 (3CR)	
5	3-284-491-01	BUTTON (FUNCTION R) (CD-USB SYNC/REC1, USB MENU, DSGX)	
6	3-282-738-01	BUTTON (ENTER)	
7	3-282-739-01	BUTTON (TUNE) (🗀+, ▶▶ ▷▷Ⅱ TUNE +, 🗀–, Ⅱ◁◁ ◀◀ TUNE –)	
8	3-284-490-01	BUTTON (FUNCTION L) (FUNCTION, ■ CANCEL, SEARCH) (HX50BTR/HX70BTR)	
8	3-284-490-11	BUTTON (FUNCTION L) (FUNCTION, ■ CANCEL, SEARCH/DAB AUTO SCAN) (HX80R/HX90BTR)	
9	3-284-489-01	BUTTON (PLAY) (BLUETOOTH ▶II, USB ▶II, CD ▶II, TUNER/BAND) (HX50BTR/HX70BTR/HX90BTR)	
9	3-284-489-11	BUTTON (PLAY) (DMPORT ▶II, USB ▶II, CD ▶II TUNE/BAND) (HX80R)	
10	X-2190-799-1	PANEL (TOP) ASSY (HX50BTR: AEP/HX70BTR/HX80R/HX90BTR)	
10	X-2190-800-1	PANEL (TOP) ASSY (HX50BTR: CND, RU, E51, MX, BR, SP, AR, KR)	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	

7-2. CHASSIS (TOP) SECTION



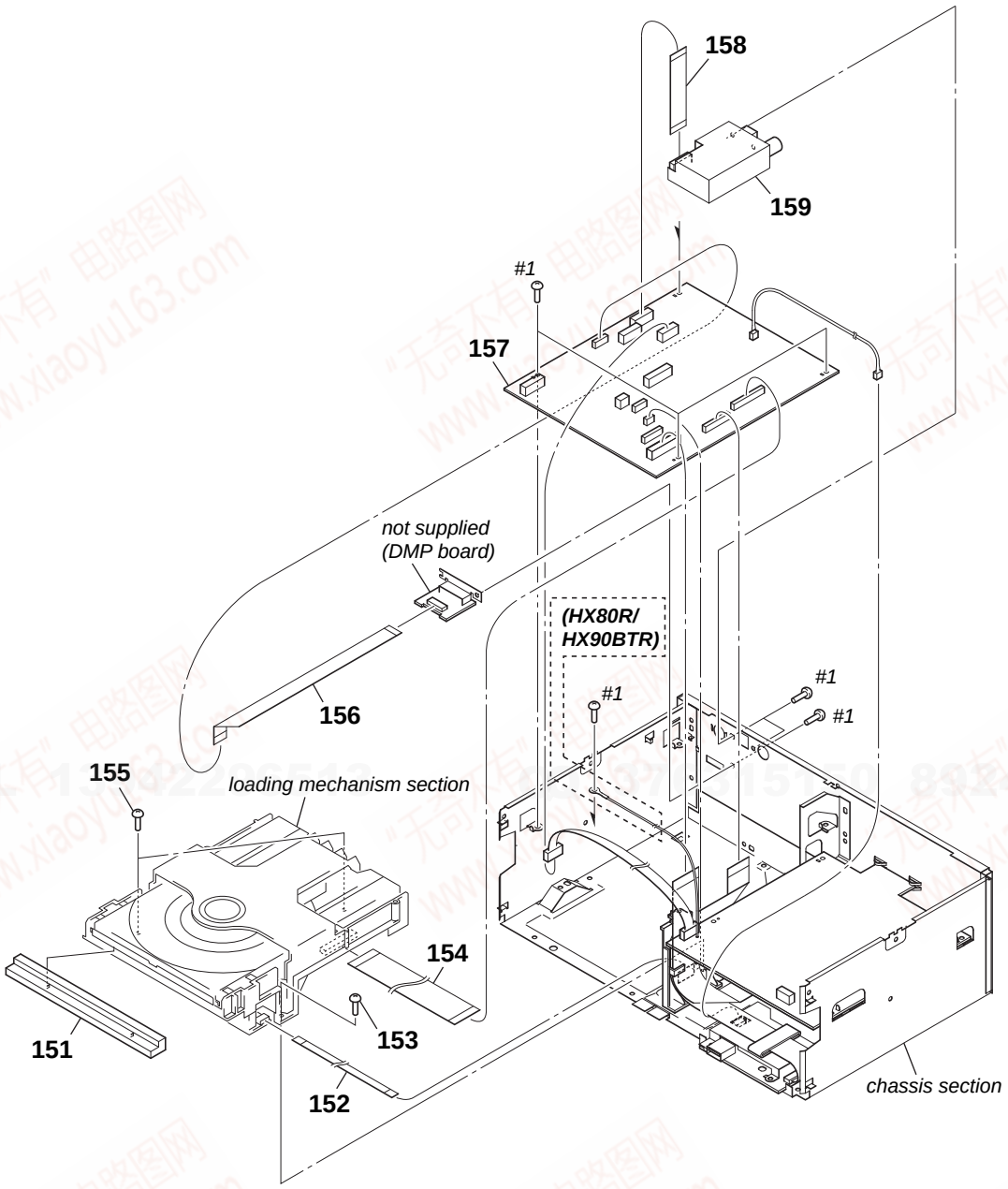
Ref. No.	Part No.	Description	Remark
51	1-821-551-11	PIN, CONNECTOR 2P (HX80R/HX90BTR)	
52	1-480-340-41	MODULE (DAB TUNER) (HX80R/HX90BTR)	
53	A-1471-470-A	DAB BOARD, COMPLETE (HX80R/HX90BTR)	
54	1-832-825-21	CABLE, FLEXIBLE FLAT (11 CORE) (HX80R/HX90BTR)	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	

7-3. PANEL (FRONT) SECTION



Ref. No.	Part No.	Description	Remark
101	X-2190-798-1	KNOB ASSY	
102	3-198-753-01	FOOT (FELT)	
103	X-2190-792-1	PANEL (FRONT) ASSY (HX50BTR)	
103	X-2190-793-1	PANEL (FRONT) ASSY (HX70BTR)	
103	X-2190-794-1	PANEL (FRONT) ASSY (HX90BTR)	
103	X-2190-795-1	PANEL (FRONT) ASSY (HX80R)	
104	3-087-053-01	+BVTP2.6 (3CR)	
105	X-2190-796-1	BUTTON (POWER) ASSY	
106	3-284-487-01	BUTTON (EJECT) (⏏)	
107	X-2190-797-1	BUTTON (BT) ASSY (HX50BTR/HX70BTR/HX90BTR)	
108	3-284-506-01	SHEET (FL)	
109	1-835-397-21	CABLE, FLEXIBLE FLAT (15 CORE)	
110	1-835-400-21	CABLE, FLEXIBLE FLAT (15 CORE) (HX50BTR/HX70BTR/HX90BTR)	
111	1-964-881-11	CABLE, COAXIAL (WITH U.F.L CONNECTOR) (HX50BTR/HX70BTR/HX90BTR)	
112	A-1518-779-A	BT BOARD, COMPLETE (HX50BTR/HX70BTR/HX90BTR)	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	

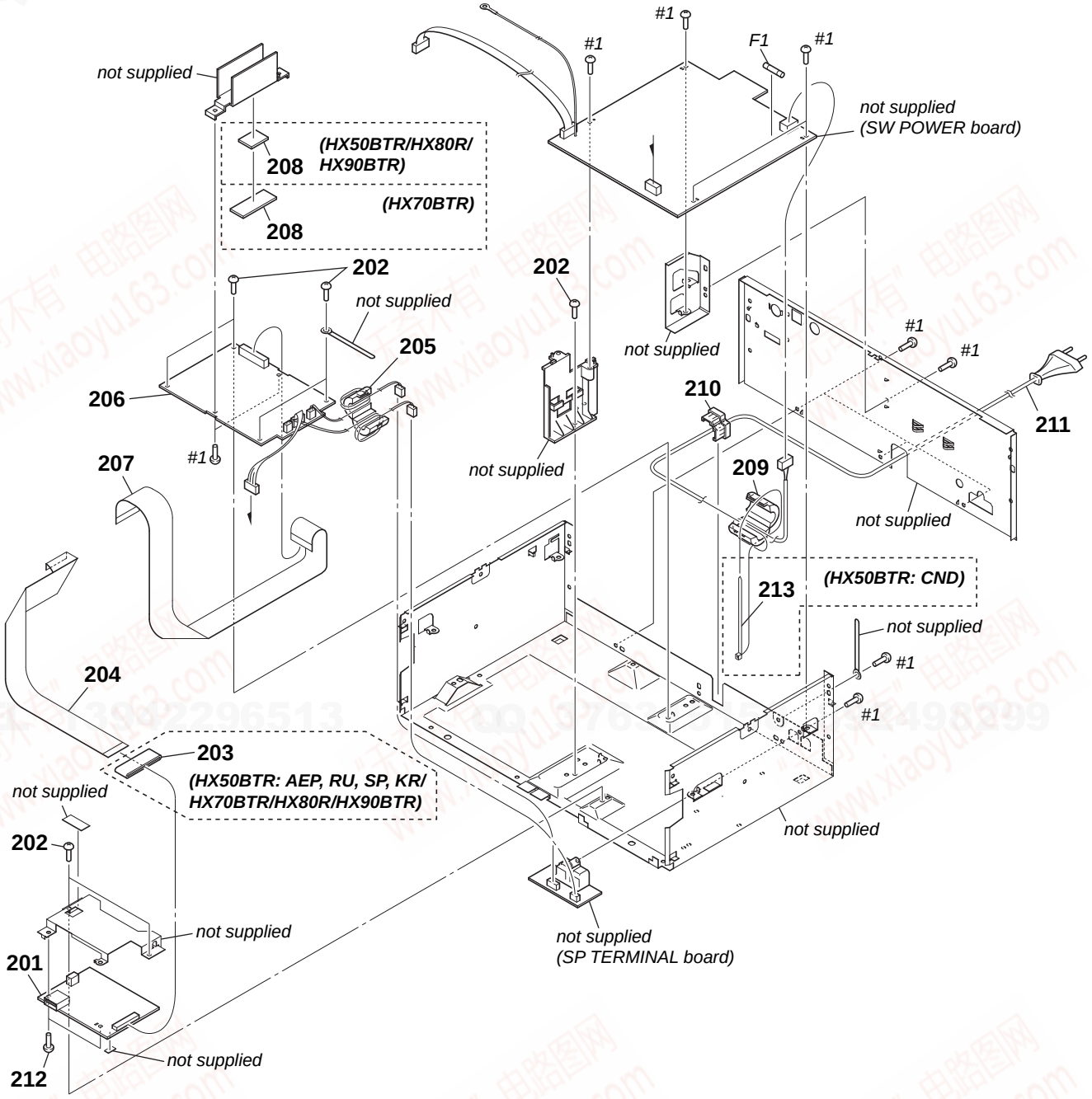
7-4. MAIN SECTION



Ref. No.	Part No.	Description	Remark
151	3-284-479-01	PANEL (CD)	
152	1-832-535-21	CABLE, FLEXIBLE FLAT (5 CORE)	
153	3-077-331-31	+BV3 (3-CR)	
154	1-832-645-21	CABLE, FLEXIBLE FLAT (27 CORE)	
155	3-077-331-21	+BV3 (3-CR)	
156	1-835-401-21	CABLE, FLEXIBLE FLAT (11 CORE)	
157	A-1471-264-A	MAIN BOARD, COMPLETE (HX50BTR: CND)	
157	A-1471-266-A	MAIN BOARD, COMPLETE (HX50BTR: AEP)	
157	A-1471-268-A	MAIN BOARD, COMPLETE (HX50BTR: RU)	
157	A-1471-270-A	MAIN BOARD, COMPLETE (HX50BTR: SP, KR)	
157	A-1471-272-A	MAIN BOARD, COMPLETE (HX50BTR: E51, MX, AR)	
157	A-1471-276-A	MAIN BOARD, COMPLETE (HX50BTR: BR)	

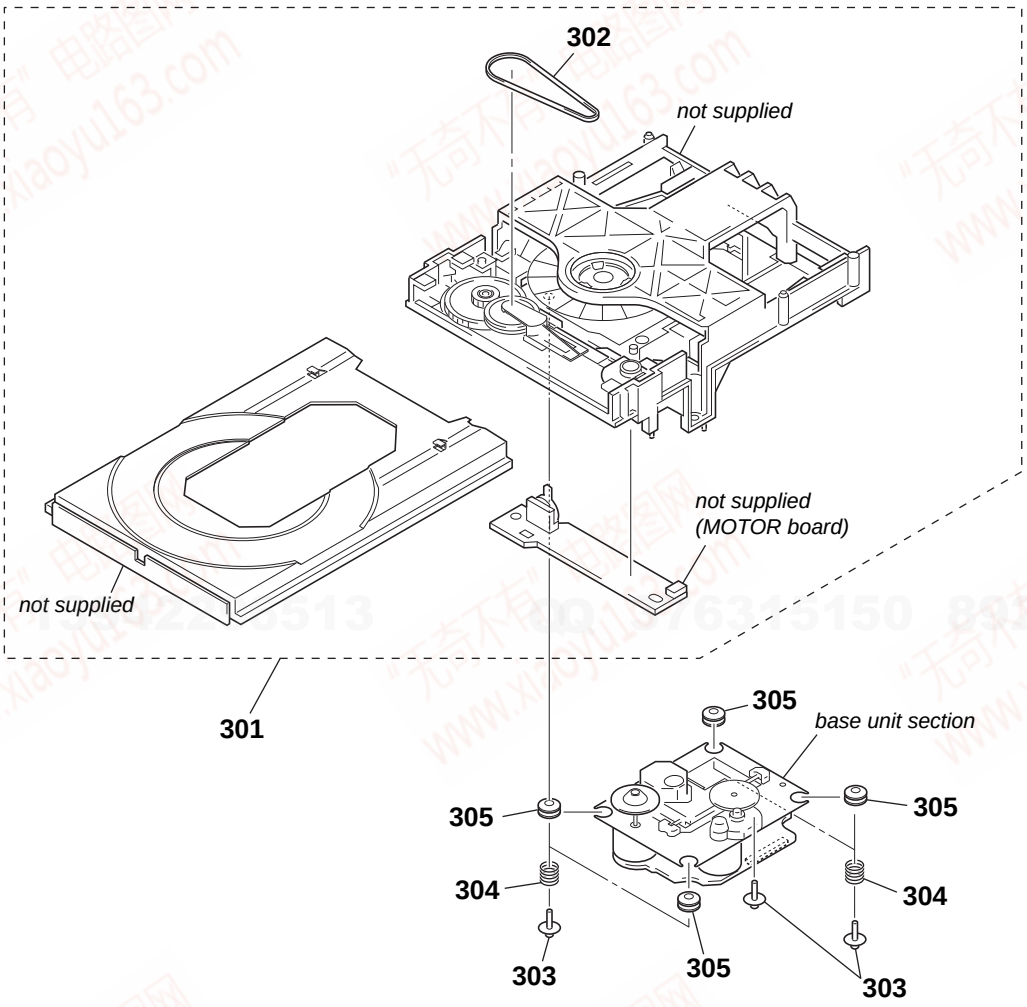
Ref. No.	Part No.	Description	Remark
157	A-1471-278-A	MAIN BOARD, COMPLETE (HX70BTR)	
157	A-1471-280-A	MAIN BOARD, COMPLETE (HX90BTR)	
157	A-1539-382-A	MAIN BOARD, COMPLETE (HX80R)	
158	1-831-706-21	CABLE, FLEXIBLE FLAT (11 CORE) (HX50BTR: AEP/HX70BTR/HX80R/HX90BTR)	
158	1-835-398-21	CABLE, FLEXIBLE FLAT (9 CORE) (HX50BTR: CND, RU, E51, MX, BR, SP, AR, KR)	
159	1-693-759-11	TUNER (FM/AM) (HX50BTR: AEP/HX70BTR/HX80R/HX90BTR)	
159	1-693-760-11	TUNER (FM/AM) (HX50BTR: RU, KR)	
159	1-693-762-21	TUNER (FM/AM) (HX50BTR: CND, BR)	
159	1-693-764-21	TUNER (FM/AM) (HX50BTR: E51, MX, SP, AR)	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	

7-5. CHASSIS SECTION



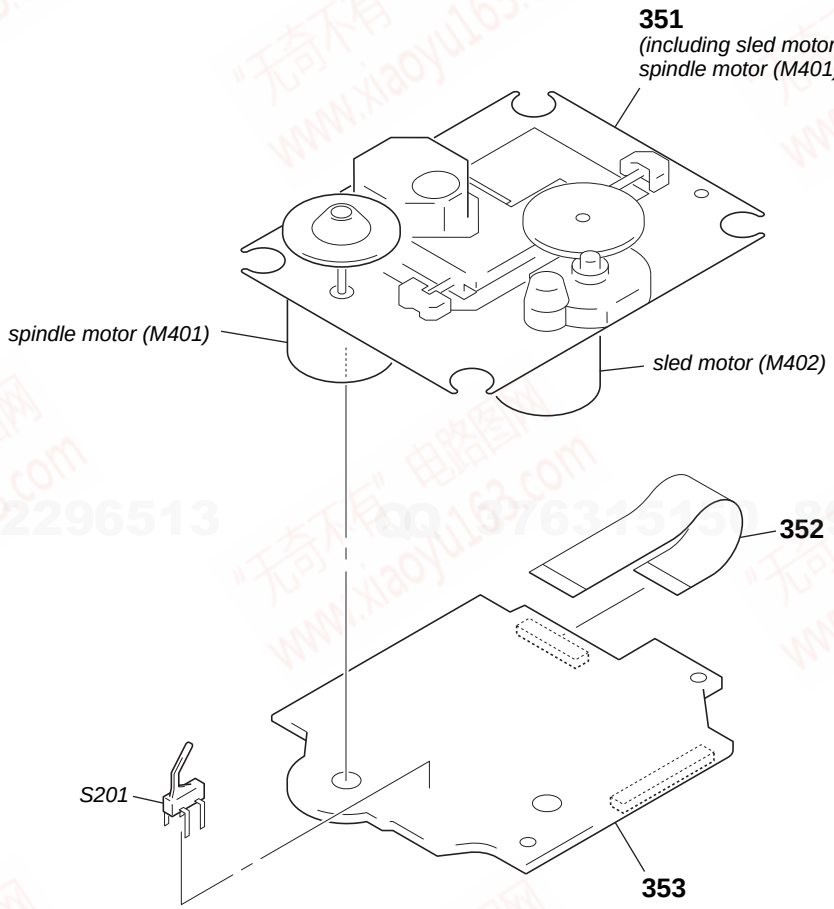
Ref. No.	Part No.	Description	Remark
201	A-1444-800-A	USB BOARD, COMPLETE	
202	3-077-331-21	+BV3 (3-CR)	
203	1-457-413-11	CORE, FERRITE (HX50BTR: AEP, RU, SP, KR/ HX70BTR/HX80R/HX90BTR)	
204	1-835-399-21	CABLE, FLEXIBLE FLAT (21 CORE)	
205	1-400-932-11	FILTER, CLAMP	
206	A-1243-637-A	AMP BOARD, COMPLETE (HX50BTR/HX80R/ HX90BTR)	
206	A-1486-589-A	AMP BOARD, COMPLETE (HX70BTR)	
207	1-835-396-21	CABLE, FLEXIBLE FLAT (19 CORE)	
208	2-514-691-01	SHEET, RADIATION (HX70BTR)	
208	2-597-972-91	SHEET, RADIATION (HX50BTR/HX80R/HX90BTR)	
209	1-457-368-11	CORE, FERRITE	
210	3-703-244-00	BUSHING (2104), CORD (EXCEPT HX50BTR: MX)	
* 210	3-703-571-12	BUSHING (S) (4516), CORD (HX50BTR: MX)	
⚠ 211	1-769-079-41	CORD, POWER (HX50BTR: KR)	
⚠ 211	1-827-226-31	CORD, POWER (HX50BTR: MX)	
⚠ 211	1-832-227-11	CORD, POWER (HX50BTR: AR)	
⚠ 211	1-833-218-11	CORD, POWER (HX50BTR: BR)	
⚠ 211	1-834-965-11	CORD, POWER (HX50BTR: CND)	
⚠ 211	1-834-966-21	CORD, POWER (HX50BTR: AEP, RU, E51, SP/ HX70BTR/HX80R)	
⚠ 211	1-835-078-21	CORD, POWER (HX90BTR)	
212	3-087-053-01	+BVTP2.6 (3CR)	
213	3-701-748-00	CLAMP (HX50BTR: CND)	
⚠ F1	1-576-232-51	FUSE (H.B.C) (5A/250V)	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	

7-6. LOADING MECHANISM SECTION



Ref. No.	Part No.	Description	Remark
301	A-1242-967-A	LOADING (BK) ASSY	
302	3-080-478-01	BELT	
303	4-985-672-01	SCREW, FLOATING (+PTPWHM2.6)	
304	4-227-045-41	SPRING (INSULATOR)	
305	4-229-005-41	INSULATOR	

7-7. BASE UNIT SECTION (BU-K6BD91UR2-WOD)



Ref. No.	Part No.	Description	Remark
⚠ 351	A-4735-357-A	BASE ASSY, OP (KSM-213D)	
352	1-834-268-21	WIRE (FLAT TYPE) (16 CORE)	
353	A-1439-296-A	CD BOARD, COMPLETE	
S201	1-771-853-11	SWITCH, DETECTION (LIMIT)	

HCD-HX50BTR/HX70BTR/HX80R/HX90BTR

Ver. 1.1

AMP

SECTION 8
ELECTRICAL PARTS LIST

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.
- CAPACITORS
  uF: µF
- COILS
  uH: µH
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . , uPA. . , µPA. . ,
  uPB. . : µPB. . , uPC. . , µPC. . ,
  uPD. . : µPD. .
- Abbreviation
  AR : Argentina model
  BR : Brazilian model
  CND : Canadian model
  E51 : Chilean and Peruvian model
  KR : Korean model
  MX : Mexican model
  RU : Russian model
  SP : Singapore model

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

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

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
	A-1243-637-A	AMP BOARD, COMPLETE			(HX50BTR/HX80R/HX90BTR)
	A-1486-589-A	AMP BOARD, COMPLETE (HX70BTR)			
		**********			
		< CAPACITOR >			
C701	1-126-961-11	ELECT	2.2uF	20%	50V
C702	1-136-497-81	FILM	0.1uF	5%	50V
C703	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V (HX70BTR)
C704	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C706	1-100-717-91	CERAMIC CHIP	1uF		16V (HX70BTR)
C706	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (HX50BTR/HX80R/HX90BTR)
C707	1-112-245-21	ELECT	47uF	20%	35V (HX50BTR/HX80R/HX90BTR)
C707	1-162-923-11	CERAMIC CHIP	47PF	5%	50V (HX70BTR)
C708	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (HX70BTR)
C708	1-112-245-21	ELECT	47uF	20%	35V (HX50BTR/HX80R/HX90BTR)
C709	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (HX70BTR)
C709	1-112-245-21	ELECT	47uF	20%	35V (HX50BTR/HX80R/HX90BTR)
C710	1-112-245-21	ELECT	47uF	20%	35V (HX50BTR/HX80R/HX90BTR)
C711	1-126-767-11	ELECT	1000uF	20%	16V (HX70BTR)
C712	1-100-717-91	CERAMIC CHIP	1uF		16V (HX70BTR)
C712	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (HX50BTR/HX80R/HX90BTR)
C713	1-100-756-91	CERAMIC CHIP	0.047uF		50V
C714	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V (HX70BTR)
C714	1-164-739-11	CERAMIC CHIP	560PF	5%	50V (HX50BTR/HX80R/HX90BTR)
C715	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V (HX70BTR)
C715	1-164-739-11	CERAMIC CHIP	560PF	5%	50V (HX50BTR/HX80R/HX90BTR)
C716	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V (HX70BTR)
C716	1-164-739-11	CERAMIC CHIP	560PF	5%	50V (HX50BTR/HX80R/HX90BTR)
C717	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V (HX70BTR)
C717	1-164-739-11	CERAMIC CHIP	560PF	5%	50V (HX50BTR/HX80R/HX90BTR)
C718	1-100-756-91	CERAMIC CHIP	0.047uF		50V
C719	1-100-924-21	ELECT	2200uF	20%	35V (HX70BTR)
C719	1-137-806-21	ELECT	1800uF	20%	35V (HX50BTR/HX80R/HX90BTR)
C720	1-131-704-11	FILM	1uF	5%	50V
C722	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C723	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C724	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C725	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C726	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C728	1-131-704-11	FILM	1uF	5%	50V
C729	1-126-767-11	ELECT	1000uF	20%	16V (HX50BTR/HX80R/HX90BTR)
C730	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C731	1-104-658-91	ELECT	100uF	20%	10V
C732	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C733	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C735	1-126-964-11	ELECT	10uF	20%	50V
C736	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C737	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C738	1-126-964-11	ELECT	10uF	20%	50V
C739	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C740	1-126-923-91	ELECT	220uF	20%	10V
C741	1-126-961-11	ELECT	2.2uF	20%	50V
C742	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C743	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C744	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C745	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C746	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C747	1-104-658-91	ELECT	100uF	20%	10V
C751	1-126-961-11	ELECT	2.2uF	20%	50V
C752	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C753	1-104-658-91	ELECT	100uF	20%	10V
C754	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C756	1-100-717-91	CERAMIC CHIP	1uF		16V (HX70BTR)
C756	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (HX50BTR/HX80R/HX90BTR)
C757	1-126-964-11	ELECT	10uF	20%	50V (HX50BTR/HX80R/HX90BTR)

AMP

Ref. No.	Part No.	Description			Remark
C757	1-162-923-11	CERAMIC CHIP	47PF	5%	50V (HX70BTR)
C758	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C759	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (HX70BTR)
C760	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (HX50BTR/HX80R/HX90BTR)
C761	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C762	1-100-717-91	CERAMIC CHIP	1uF		16V (HX70BTR)
C762	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (HX50BTR/HX80R/HX90BTR)
C763	1-100-756-91	CERAMIC CHIP	0.047uF		50V
C764	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V (HX50BTR/HX80R/HX90BTR)
C764	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V (HX70BTR)
C765	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V (HX50BTR/HX80R/HX90BTR)
C765	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V (HX70BTR)
C766	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V (HX50BTR/HX80R/HX90BTR)
C766	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V (HX70BTR)
C767	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V (HX50BTR/HX80R/HX90BTR)
C767	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V (HX70BTR)
C768	1-100-756-91	CERAMIC CHIP	0.047uF		50V
C769	1-100-924-21	ELECT	2200uF	20%	35V (HX70BTR)
C769	1-137-806-21	ELECT	1800uF	20%	35V (HX50BTR/HX80R/HX90BTR)
C770	1-131-704-11	FILM	1uF	5%	50V
C772	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C773	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C774	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C775	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C777	1-131-704-11	FILM	1uF	5%	50V
C778	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C779	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C780	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C781	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (HX70BTR)
C781	1-126-964-11	ELECT	10uF	20%	50V (HX50BTR/HX80R/HX90BTR)
C782	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (HX70BTR)
C783	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C784	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C785	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C786	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C787	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C788	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C790	1-126-933-11	ELECT	100uF	20%	16V (HX50BTR/HX80R/HX90BTR)
C791	1-136-497-81	FILM	0.1uF	5%	50V
C793	1-126-964-11	ELECT	10uF	20%	50V (HX70BTR)
C794	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C795	1-126-964-11	ELECT	10uF	20%	50V (HX70BTR)
C796	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C797	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C798	1-126-964-11	ELECT	10uF	20%	50V
C799	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C801	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C804	1-163-205-00	CERAMIC CHIP	0.001uF	10%	50V
C806	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C831	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C832	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C844	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C845	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C846	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C847	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C851	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C854	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C855	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C856	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		< CONNECTOR >			
CN700	1-784-780-11	CONNECTOR, FFC 19P			
		< DIODE >			
D705	6-500-260-01	DIODE P6SMB39AT3 (HX70BTR)			
D706	6-500-260-01	DIODE P6SMB39AT3 (HX70BTR)			
D713	6-501-159-01	DIODE UDZW-TE17-2.4B (HX70BTR)			
D755	6-500-260-01	DIODE P6SMB39AT3 (HX70BTR)			
D756	6-500-260-01	DIODE P6SMB39AT3 (HX70BTR)			
		< EARTH TERMINAL >			
EP701	1-537-771-21	TERMINAL BOARD, GROUND			
EP702	1-537-771-21	TERMINAL BOARD, GROUND			
EP703	1-537-771-21	TERMINAL BOARD, GROUND			
		< IC >			
IC701	6-710-554-01	IC PCM1808PWR			
IC702	6-702-302-01	IC TK11133CSCL-G			
IC703	6-701-261-01	IC MC74VHC74DTR2			
IC704	6-702-300-01	IC TK11118CSCL-G			
IC705	6-705-979-01	IC CXD9788AR			
IC707	6-704-802-01	IC CXD9774M (HX70BTR)			
IC707	6-710-134-01	IC CXD9845AM (HX50BTR/HX80R/HX90BTR)			
IC708	6-704-802-01	IC CXD9774M (HX70BTR)			
IC709	6-701-189-01	IC MC74VHC1GU04DFT1			
		< COIL/JUMPER RESISTOR >			
L701	1-216-295-91	SHORT CHIP	0		
L702	1-216-295-91	SHORT CHIP	0		
L703	1-216-295-91	SHORT CHIP	0		
L704	1-216-295-91	SHORT CHIP	0		
L705	1-412-939-11	INDUCTOR	1uH		
L708	1-456-813-11	COIL, AIR-CORE (HX70BTR)			
L709	1-456-813-11	COIL, AIR-CORE (HX70BTR)			
L710	1-457-235-11	CHOKE, COIL	10uH		
L711	1-457-235-11	CHOKE, COIL	10uH		
L758	1-456-813-11	COIL, AIR-CORE (HX70BTR)			
L759	1-456-813-11	COIL, AIR-CORE (HX70BTR)			
L760	1-457-235-11	CHOKE, COIL	10uH		
L761	1-457-235-11	CHOKE, COIL	10uH		
		< TRANSISTOR >			
Q701	8-729-620-07	TRANSISTOR	2SC3052EF-T1-LEF		

AMP

Ref. No.	Part No.	Description	Remark
Q702	6-551-696-01	TRANSISTOR ISA1235AC1TP-1EF	(HX70BTR)
Q702	8-729-600-22	TRANSISTOR 2SA1235-F	(HX50BTR/HX80R/HX90BTR)
Q703	6-551-696-01	TRANSISTOR ISA1235AC1TP-1EF	(HX70BTR)
Q703	8-729-600-22	TRANSISTOR 2SA1235-F	(HX50BTR/HX80R/HX90BTR)
Q707	8-729-036-89	TRANSISTOR KTC3198GR-AT	
Q752	6-551-696-01	TRANSISTOR ISA1235AC1TP-1EF	(HX70BTR)
Q752	8-729-600-22	TRANSISTOR 2SA1235-F	(HX50BTR/HX80R/HX90BTR)
Q753	6-551-696-01	TRANSISTOR ISA1235AC1TP-1EF	(HX70BTR)
Q753	8-729-600-22	TRANSISTOR 2SA1235-F	(HX50BTR/HX80R/HX90BTR)
		< RESISTOR >	
R701	1-216-809-11	METAL CHIP 100 5%	1/10W
R702	1-216-837-11	METAL CHIP 22K 5%	1/10W (HX70BTR)
R704	1-216-816-11	METAL CHIP 390 5%	1/10W (HX70BTR)
R706	1-216-809-11	METAL CHIP 100 5%	1/10W
R707	1-216-798-11	METAL CHIP 12 5%	1/10W (HX50BTR/HX80R/HX90BTR)
R708	1-216-798-11	METAL CHIP 12 5%	1/10W (HX50BTR/HX80R/HX90BTR)
R708	1-216-809-11	METAL CHIP 100 5%	1/10W (HX70BTR)
R709	1-216-798-11	METAL CHIP 12 5%	1/10W (HX50BTR/HX80R/HX90BTR)
R709	1-216-809-11	METAL CHIP 100 5%	1/10W (HX70BTR)
R710	1-216-798-11	METAL CHIP 12 5%	1/10W (HX50BTR/HX80R/HX90BTR)
R711	1-216-809-11	METAL CHIP 100 5%	1/10W
R712	1-216-809-11	METAL CHIP 100 5%	1/10W
R713	1-216-809-11	METAL CHIP 100 5%	1/10W (HX50BTR/HX80R/HX90BTR)
R714	1-216-809-11	METAL CHIP 100 5%	1/10W (HX50BTR/HX80R/HX90BTR)
R714	1-216-817-11	METAL CHIP 470 5%	1/10W (HX70BTR)
R715	1-216-821-11	METAL CHIP 1K 5%	1/10W (HX70BTR)
R716	1-216-821-11	METAL CHIP 1K 5%	1/10W (HX70BTR)
R717	1-216-821-11	METAL CHIP 1K 5%	1/10W (HX70BTR)
R718	1-216-833-11	METAL CHIP 10K 5%	1/10W
R719	1-220-942-11	METAL CHIP 3.3 1%	1/4W
R720	1-220-942-11	METAL CHIP 3.3 1%	1/4W
R721	1-216-833-11	METAL CHIP 10K 5%	1/10W
R722	1-216-841-11	METAL CHIP 47K 5%	1/10W
R724	1-216-793-11	METAL CHIP 4.7 5%	1/10W
R725	1-216-793-11	METAL CHIP 4.7 5%	1/10W
R726	1-216-849-11	METAL CHIP 220K 5%	1/10W
R727	1-216-845-11	METAL CHIP 100K 5%	1/10W
R728	1-216-849-11	METAL CHIP 220K 5%	1/10W
R731	1-216-817-11	METAL CHIP 470 5%	1/10W
R733	1-216-817-11	METAL CHIP 470 5%	1/10W
R734	1-216-797-11	METAL CHIP 10 5%	1/10W (HX70BTR)
R735	1-216-797-11	METAL CHIP 10 5%	1/10W (HX70BTR)
R736	1-216-797-11	METAL CHIP 10 5%	1/10W (HX70BTR)
R737	1-216-797-11	METAL CHIP 10 5%	1/10W (HX70BTR)
R738	1-216-821-11	METAL CHIP 1K 5%	1/10W (HX70BTR)
R739	1-216-833-11	METAL CHIP 10K 5%	1/10W
R740	1-216-833-11	METAL CHIP 10K 5%	1/10W
R741	1-216-809-11	METAL CHIP 100 5%	1/10W
R742	1-216-833-11	METAL CHIP 10K 5%	1/10W
R743	1-216-809-11	METAL CHIP 100 5%	1/10W
R744	1-216-864-11	SHORT CHIP 0	
R745	1-216-809-11	METAL CHIP 100 5%	1/10W
R746	1-216-809-11	METAL CHIP 100 5%	1/10W
R747	1-216-817-11	METAL CHIP 470 5%	1/10W
R748	1-216-841-11	METAL CHIP 47K 5%	1/10W
R749	1-216-864-11	SHORT CHIP 0	
R750	1-216-841-11	METAL CHIP 47K 5%	1/10W
R751	1-216-809-11	METAL CHIP 100 5%	1/10W
R752	1-216-809-11	METAL CHIP 100 5%	1/10W (HX50BTR/HX80R/HX90BTR)
R752	1-216-837-11	METAL CHIP 22K 5%	1/10W (HX70BTR)
R754	1-216-809-11	METAL CHIP 100 5%	1/10W (HX50BTR/HX80R/HX90BTR)
R754	1-216-816-11	METAL CHIP 390 5%	1/10W (HX70BTR)
R755	1-216-809-11	METAL CHIP 100 5%	1/10W (HX50BTR/HX80R/HX90BTR)
R756	1-216-809-11	METAL CHIP 100 5%	1/10W
R757	1-220-942-11	METAL CHIP 3.3 1%	1/4W (HX50BTR/HX80R/HX90BTR)
R758	1-216-809-11	METAL CHIP 100 5%	1/10W (HX70BTR)
R759	1-216-809-11	METAL CHIP 100 5%	1/10W (HX70BTR)
R759	1-216-835-11	METAL CHIP 15K 5%	1/10W (HX50BTR/HX80R/HX90BTR)
R761	1-216-809-11	METAL CHIP 100 5%	1/10W (HX70BTR)
R762	1-216-809-11	METAL CHIP 100 5%	1/10W (HX70BTR)
R764	1-216-817-11	METAL CHIP 470 5%	1/10W (HX70BTR)
R765	1-216-864-11	SHORT CHIP 0	
R768	1-216-833-11	METAL CHIP 10K 5%	1/10W
R769	1-220-942-11	METAL CHIP 3.3 1%	1/4W
R770	1-220-942-11	METAL CHIP 3.3 1%	1/4W
R771	1-216-833-11	METAL CHIP 10K 5%	1/10W
R772	1-216-833-11	METAL CHIP 10K 5%	1/10W
R773	1-216-833-11	METAL CHIP 10K 5%	1/10W
R774	1-216-793-11	METAL CHIP 4.7 5%	1/10W
R775	1-216-793-11	METAL CHIP 4.7 5%	1/10W
R776	1-216-849-11	METAL CHIP 220K 5%	1/10W
R777	1-216-845-11	METAL CHIP 100K 5%	1/10W
R778	1-216-849-11	METAL CHIP 220K 5%	1/10W
R780	1-216-801-11	METAL CHIP 22 5%	1/10W
R781	1-216-809-11	METAL CHIP 100 5%	1/10W
R782	1-216-857-11	METAL CHIP 1M 5%	1/10W
R783	1-216-801-11	METAL CHIP 22 5%	1/10W

Ref. No.	Part No.	Description			Remark
R784	1-216-809-11	METAL CHIP	100	5%	1/10W
R785	1-216-809-11	METAL CHIP	100	5%	1/10W
R786	1-216-809-11	METAL CHIP	100	5%	1/10W
R787	1-216-809-11	METAL CHIP	100	5%	1/10W
R788	1-216-809-11	METAL CHIP	100	5%	1/10W
R789	1-216-809-11	METAL CHIP	100	5%	1/10W
R790	1-216-809-11	METAL CHIP	100	5%	1/10W
R792	1-216-864-11	SHORT CHIP	0		
R793	1-216-841-11	METAL CHIP	47K	5%	1/10W
R794	1-216-864-11	SHORT CHIP	0 (HX70BTR)		
R795	1-216-864-11	SHORT CHIP	0 (HX70BTR)		
R800	1-216-821-11	METAL CHIP	1K	5%	1/10W (HX70BTR)
R801	1-216-821-11	METAL CHIP	1K	5%	1/10W (HX70BTR)
R802	1-216-813-11	METAL CHIP	220	5%	1/10W
R803	1-216-813-11	METAL CHIP	220	5%	1/10W
R804	1-216-813-11	METAL CHIP	220	5%	1/10W
R805	1-216-813-11	METAL CHIP	220	5%	1/10W
R807	1-216-837-11	METAL CHIP	22K	5%	1/10W
R808	1-216-801-11	METAL CHIP	22	5%	1/10W
R809	1-216-837-11	METAL CHIP	22K	5%	1/10W
		< VIBRATOR >			
X702	1-795-660-21	QUARTZ CRYSTAL UNIT (49.152MHz)			
**********					
		ANT BOARD (HX50BTR/HX70BTR/HX90BTR)			
		**********			
		< CAPACITOR >			
C914	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V
		< CONNECTOR >			
CN904	1-818-381-11	CONNECTOR, COAXIAL			
**********					
	A-1518-779-A	BT BOARD, COMPLETE (HX50BTR/HX70BTR/HX90BTR)			
		**********			
		< CAPACITOR >			
C901	1-126-395-11	ELECT CHIP	22uF	20%	16V
C902	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C903	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C904	1-126-398-11	ELECT CHIP	4.7uF	20%	35V
C905	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C906	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C907	1-126-204-11	ELECT CHIP	47uF	20%	16V
C908	1-126-204-11	ELECT CHIP	47uF	20%	16V
C912	1-126-204-11	ELECT CHIP	47uF	20%	16V
C921	1-126-193-11	ELECT CHIP	1uF	20%	50V
C922	1-126-193-11	ELECT CHIP	1uF	20%	50V
C923	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C924	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C925	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C926	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C927	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C928	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C929	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C930	1-126-601-11	ELECT CHIP	2.2uF	20%	50V

Ref. No.	Part No.	Description			Remark
C931	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C932	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C941	1-126-189-11	ELECT CHIP	0.22uF	20%	50V
C942	1-126-189-11	ELECT CHIP	0.22uF	20%	50V
C945	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C946	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C951	1-126-193-11	ELECT CHIP	1uF	20%	50V
C952	1-126-193-11	ELECT CHIP	1uF	20%	50V
C953	1-126-193-11	ELECT CHIP	1uF	20%	50V
C954	1-126-193-11	ELECT CHIP	1uF	20%	50V
C957	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C958	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C965	1-126-189-11	ELECT CHIP	0.22uF	20%	50V
C966	1-126-189-11	ELECT CHIP	0.22uF	20%	50V
C967	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C968	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
		< CONNECTOR >			
CN901	1-784-374-51	CONNECTOR, FFC/FPC 15P			
CN902	1-573-806-21	PIN, CONNECTOR (1.5MM) (SMD) 6P			
CN903	1-573-806-21	PIN, CONNECTOR (1.5MM) (SMD) 6P			
		< DIODE >			
D901	6-500-335-01	DIODE MC2838-T112-1			
D902	6-500-335-01	DIODE MC2838-T112-1			
		< FERRITE BEAD/JUMPER RESISTOR >			
FB901	1-216-864-11	SHORT CHIP	0		
FB902	1-216-864-11	SHORT CHIP	0		
FB903	1-216-864-11	SHORT CHIP	0		
FB904	1-216-864-11	SHORT CHIP	0		
FB905	1-216-864-11	SHORT CHIP	0		
FB906	1-216-864-11	SHORT CHIP	0		
FB907	1-400-684-21	INDUCTOR, FERRITE BEAD			
FB908	1-216-864-11	SHORT CHIP	0		
FB909	1-216-864-11	SHORT CHIP	0		
FB910	1-216-864-11	SHORT CHIP	0		
FB911	1-216-864-11	SHORT CHIP	0		
FB913	1-216-864-11	SHORT CHIP	0		
FB914	1-216-864-11	SHORT CHIP	0		
		< IC >			
IC901	6-702-945-01	IC NJM14558V-TE2			
IC902	6-702-945-01	IC NJM14558V-TE2			
IC903	6-710-962-01	IC XC6213B332MR			
IC904	(Not supplied)	CXN1404-3BGL (BLUETOOTH MODULE)			
		< JUMPER RESISTOR >			
JR902	1-216-864-11	SHORT CHIP	0		
		< RESISTOR >			
R900	1-216-809-11	METAL CHIP	100	5%	1/10W
R901	1-216-809-11	METAL CHIP	100	5%	1/10W
R902	1-216-809-11	METAL CHIP	100	5%	1/10W
R903	1-216-809-11	METAL CHIP	100	5%	1/10W
R904	1-216-809-11	METAL CHIP	100	5%	1/10W
R905	1-216-809-11	METAL CHIP	100	5%	1/10W
R906	1-216-809-11	METAL CHIP	100	5%	1/10W
R907	1-216-817-11	METAL CHIP	470	5%	1/10W
R908	1-216-817-11	METAL CHIP	470	5%	1/10W

Note: When IC904 cannot exchange with single. When IC904 is damaged, exchange the entire mounted board.

BT CD

Ref. No.	Part No.	Description			Remark
R909	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R910	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R911	1-216-864-11	SHORT CHIP	0		
R913	1-216-841-11	METAL CHIP	47K	5%	1/10W
R914	1-216-864-11	SHORT CHIP	0		
R915	1-216-841-11	METAL CHIP	47K	5%	1/10W
R916	1-216-841-11	METAL CHIP	47K	5%	1/10W
R917	1-216-841-11	METAL CHIP	47K	5%	1/10W
R918	1-216-841-11	METAL CHIP	47K	5%	1/10W
R921	1-216-809-11	METAL CHIP	100	5%	1/10W
R922	1-216-809-11	METAL CHIP	100	5%	1/10W
R923	1-216-813-11	METAL CHIP	220	5%	1/10W
R924	1-216-813-11	METAL CHIP	220	5%	1/10W
R925	1-216-813-11	METAL CHIP	220	5%	1/10W
R926	1-216-813-11	METAL CHIP	220	5%	1/10W
R927	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R928	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R929	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R930	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R931	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R932	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R933	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R934	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R935	1-216-809-11	METAL CHIP	100	5%	1/10W
R936	1-216-809-11	METAL CHIP	100	5%	1/10W
R937	1-216-809-11	METAL CHIP	100	5%	1/10W
R938	1-216-809-11	METAL CHIP	100	5%	1/10W
R939	1-216-809-11	METAL CHIP	100	5%	1/10W
R940	1-216-809-11	METAL CHIP	100	5%	1/10W
R941	1-216-809-11	METAL CHIP	100	5%	1/10W
R942	1-216-809-11	METAL CHIP	100	5%	1/10W
R943	1-216-845-11	METAL CHIP	100K	5%	1/10W
R944	1-216-845-11	METAL CHIP	100K	5%	1/10W
R945	1-216-845-11	METAL CHIP	100K	5%	1/10W
R946	1-216-845-11	METAL CHIP	100K	5%	1/10W
R947	1-216-841-11	METAL CHIP	47K	5%	1/10W
R948	1-216-841-11	METAL CHIP	47K	5%	1/10W
R949	1-216-821-11	METAL CHIP	1K	5%	1/10W
R950	1-216-821-11	METAL CHIP	1K	5%	1/10W
R951	1-216-821-11	METAL CHIP	1K	5%	1/10W
R952	1-216-821-11	METAL CHIP	1K	5%	1/10W
R953	1-216-841-11	METAL CHIP	47K	5%	1/10W
R954	1-216-841-11	METAL CHIP	47K	5%	1/10W
R955	1-216-845-11	METAL CHIP	100K	5%	1/10W
R956	1-216-845-11	METAL CHIP	100K	5%	1/10W
R957	1-216-857-11	METAL CHIP	1M	5%	1/10W
R958	1-216-857-11	METAL CHIP	1M	5%	1/10W
R959	1-216-809-11	METAL CHIP	100	5%	1/10W
R960	1-216-809-11	METAL CHIP	100	5%	1/10W
R961	1-216-809-11	METAL CHIP	100	5%	1/10W
R962	1-216-809-11	METAL CHIP	100	5%	1/10W
R963	1-216-845-11	METAL CHIP	100K	5%	1/10W
R964	1-216-845-11	METAL CHIP	100K	5%	1/10W
R965	1-216-809-11	METAL CHIP	100	5%	1/10W
R966	1-216-809-11	METAL CHIP	100	5%	1/10W
R967	1-216-845-11	METAL CHIP	100K	5%	1/10W
R968	1-216-845-11	METAL CHIP	100K	5%	1/10W
R969	1-216-817-11	METAL CHIP	470	5%	1/10W
R970	1-216-817-11	METAL CHIP	470	5%	1/10W
R971	1-216-817-11	METAL CHIP	470	5%	1/10W
R972	1-216-817-11	METAL CHIP	470	5%	1/10W
R973	1-216-817-11	METAL CHIP	470	5%	1/10W
R974	1-216-817-11	METAL CHIP	470	5%	1/10W

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	A-1439-296-A	CD BOARD, COMPLETE			
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		< CAPACITOR/RESISTOR >			
C100	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C101	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C102	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C103	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C104	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C105	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C106	1-128-995-21	ELECT CHIP	100uF	20%	10V
C107	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C108	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C109	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C110	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C112	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C113	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C115	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C116	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C117	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C118	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C119	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C120	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C122	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C123	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C124	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C125	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C126	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C127	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C128	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C130	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C132	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C133	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C136	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C137	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C138	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C139	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C140	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C141	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C142	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C143	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C144	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C145	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C146	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C147	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C148	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C149	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C150	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C151	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C152	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C153	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C201	1-128-995-21	ELECT CHIP	100uF	20%	10V
C202	1-128-995-21	ELECT CHIP	100uF	20%	10V
C204	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C205	1-164-360-11	CERAMIC CHIP	0.1uF		16V

Ref. No.	Part No.	Description			Remark
C206	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C207	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C212	1-216-845-11	METAL CHIP	100K	5%	1/10W
C217	1-216-845-11	METAL CHIP	100K	5%	1/10W
C301	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C302	1-137-710-91	CERAMIC CHIP	10uF	20%	6.3V
C303	1-137-710-91	CERAMIC CHIP	10uF	20%	6.3V
C306	1-128-995-21	ELECT CHIP	100uF	20%	10V
C307	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C309	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C401	1-128-394-11	ELECT CHIP	220uF	20%	10V
C403	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C404	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C405	1-164-360-11	CERAMIC CHIP	0.1uF		16V
		< CONNECTOR >			
CN202	1-784-835-51	CONNECTOR, FFC (LIF (NON-ZIF)) 27P			
CN301	1-770-425-51	CONNECTOR, FFC/FPC 16P			
		< IC >			
IC101	6-712-082-01	IC TC94A70FG-101			
IC201	6-710-808-01	IC TK63115SCL-G@GT			
IC401	6-710-637-01	IC BA5826SFP-E2			
		< TRANSISTOR >			
Q301	6-551-120-01	TRANSISTOR	2SA2119K		
		< RESISTOR/FERRITE BEAD >			
R101	1-216-813-11	METAL CHIP	220	5%	1/10W
R102	1-216-833-11	METAL CHIP	10K	5%	1/10W
R104	1-216-295-91	SHORT CHIP	0		
R105	1-216-857-11	METAL CHIP	1M	5%	1/10W
R106	1-216-821-11	METAL CHIP	1K	5%	1/10W
R108	1-500-445-21	FERRITE, EMI (SMD) (2012)			
R109	1-216-809-11	METAL CHIP	100	5%	1/10W
R110	1-216-833-11	METAL CHIP	10K	5%	1/10W
R111	1-216-809-11	METAL CHIP	100	5%	1/10W
R112	1-216-809-11	METAL CHIP	100	5%	1/10W
R114	1-216-833-11	METAL CHIP	10K	5%	1/10W
R118	1-216-845-11	METAL CHIP	100K	5%	1/10W
R119	1-216-864-11	SHORT CHIP	0		
R121	1-216-809-11	METAL CHIP	100	5%	1/10W
R128	1-216-853-11	METAL CHIP	470K	5%	1/10W
R129	1-216-821-11	METAL CHIP	1K	5%	1/10W
R130	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R134	1-216-857-11	METAL CHIP	1M	5%	1/10W
R135	1-216-853-11	METAL CHIP	470K	5%	1/10W
R136	1-216-837-11	METAL CHIP	22K	5%	1/10W
R139	1-216-841-11	METAL CHIP	47K	5%	1/10W
R140	1-216-864-11	SHORT CHIP	0		
R142	1-216-837-11	METAL CHIP	22K	5%	1/10W
R143	1-216-841-11	METAL CHIP	47K	5%	1/10W
R144	1-216-837-11	METAL CHIP	22K	5%	1/10W
R145	1-216-864-11	SHORT CHIP	0		
R146	1-216-864-11	SHORT CHIP	0		
R147	1-216-864-11	SHORT CHIP	0		
R148	1-216-864-11	SHORT CHIP	0		
R149	1-216-864-11	SHORT CHIP	0		
R150	1-216-864-11	SHORT CHIP	0		
R151	1-216-864-11	SHORT CHIP	0		

Ref. No.	Part No.	Description			Remark
R153	1-216-857-11	METAL CHIP	1M	5%	1/10W
R154	1-216-857-11	METAL CHIP	1M	5%	1/10W
R155	1-216-805-11	METAL CHIP	47	5%	1/10W
R156	1-216-809-11	METAL CHIP	100	5%	1/10W
R157	1-216-809-11	METAL CHIP	100	5%	1/10W
R201	1-216-295-91	SHORT CHIP	0		
R202	1-216-295-91	SHORT CHIP	0		
R203	1-216-809-11	METAL CHIP	100	5%	1/10W
R204	1-216-809-11	METAL CHIP	100	5%	1/10W
R205	1-216-809-11	METAL CHIP	100	5%	1/10W
R206	1-216-809-11	METAL CHIP	100	5%	1/10W
R207	1-216-809-11	METAL CHIP	100	5%	1/10W
R208	1-216-809-11	METAL CHIP	100	5%	1/10W
R209	1-216-809-11	METAL CHIP	100	5%	1/10W
R210	1-216-809-11	METAL CHIP	100	5%	1/10W
R211	1-216-809-11	METAL CHIP	100	5%	1/10W
R212	1-216-809-11	METAL CHIP	100	5%	1/10W
R213	1-216-809-11	METAL CHIP	100	5%	1/10W
R214	1-216-809-11	METAL CHIP	100	5%	1/10W
R216	1-216-809-11	METAL CHIP	100	5%	1/10W
R218	1-216-845-11	METAL CHIP	100K	5%	1/10W
R219	1-216-845-11	METAL CHIP	100K	5%	1/10W
R220	1-216-845-11	METAL CHIP	100K	5%	1/10W
R221	1-216-845-11	METAL CHIP	100K	5%	1/10W
R222	1-216-845-11	METAL CHIP	100K	5%	1/10W
R223	1-216-845-11	METAL CHIP	100K	5%	1/10W
R224	1-216-809-11	METAL CHIP	100	5%	1/10W
R301	1-216-845-11	METAL CHIP	100K	5%	1/10W
R302	1-216-864-11	SHORT CHIP	0		
R303	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R304	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R402	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R405	1-216-833-11	METAL CHIP	10K	5%	1/10W
R408	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R414	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R415	1-216-841-11	METAL CHIP	47K	5%	1/10W
		< VIBRATOR >			
X102	1-795-101-21	VIBRATOR, CERAMIC (16.9344MHz)			
**********					
	A-1471-470-A	DAB BOARD, COMPLETE (HX80R/HX90BTR)			
		**********			
		< CAPACITOR >			
C802	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C803	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C804	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C805	1-124-584-00	ELECT	100uF	20%	6.3V
C806	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C807	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C808	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C811	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C812	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C813	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C814	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C815	1-126-160-11	ELECT	1uF	20%	50V
C816	1-126-160-11	ELECT	1uF	20%	50V
C817	1-126-160-11	ELECT	1uF	20%	50V
C818	1-126-160-11	ELECT	1uF	20%	50V

HCD-HX50BTR/HX70BTR/HX80R/HX90BTR

Ver. 1.1

DAB **DMP** **JACK** **MAIN**

Ref. No.	Part No.	Description			Remark
C820	1-137-710-91	CERAMIC CHIP	10uF	20%	6.3V
C821	1-137-710-91	CERAMIC CHIP	10uF	20%	6.3V
C823	1-126-518-11	ELECT	470uF	20%	4V
C824	1-126-518-11	ELECT	470uF	20%	4V
C825	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN800	1-821-719-11	P.W.B CONNECTOR 30P			
CN801	1-568-854-11	CONNECTOR, FFC 11P			
		< DIODE >			
D804	6-501-582-01	DIODE 1N4002-B5			
D805	6-501-582-01	DIODE 1N4002-B5			
D806	6-501-582-01	DIODE 1N4002-B5			
		< IC >			
IC801	6-702-302-01	IC TK11133CSCL-G			
IC802	6-711-132-01	IC MM3291CNRE			
IC803	8-759-100-96	IC uPC4558G2			
		< JUMPER RESISTOR >			
JR801	1-216-864-11	SHORT CHIP	0		
JR802	1-216-864-11	SHORT CHIP	0		
		< FERRITE BEAD >			
L802	1-469-981-21	INDUCTOR, FERRITE BEAD			
		< RESISTOR >			
R800	1-216-833-11	METAL CHIP	10K	5%	1/10W
R801	1-216-841-11	METAL CHIP	47K	5%	1/10W
R803	1-216-809-11	METAL CHIP	100	5%	1/10W
R804	1-216-809-11	METAL CHIP	100	5%	1/10W
R805	1-216-837-11	METAL CHIP	22K	5%	1/10W
R806	1-216-837-11	METAL CHIP	22K	5%	1/10W
R807	1-216-837-11	METAL CHIP	22K	5%	1/10W
R808	1-216-837-11	METAL CHIP	22K	5%	1/10W
R809	1-216-837-11	METAL CHIP	22K	5%	1/10W
R810	1-216-837-11	METAL CHIP	22K	5%	1/10W
R819	1-216-864-11	SHORT CHIP	0		
R820	1-216-864-11	SHORT CHIP	0		
R823	1-216-837-11	METAL CHIP	22K	5%	1/10W
R824	1-216-837-11	METAL CHIP	22K	5%	1/10W
R825	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R826	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R830	1-216-809-11	METAL CHIP	100	5%	1/10W
R832	1-216-809-11	METAL CHIP	100	5%	1/10W
R833	1-216-809-11	METAL CHIP	100	5%	1/10W
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		DMP BOARD			
		**********			
		< CONNECTOR >			
CN901	1-817-615-21	CONNECTOR, SQUARE TYPE (RECE) (DMPORT)			
CN902	1-784-863-51	CONNECTOR, FFC (LIF (NON-ZIF)) 11P			
		< RESISTOR/CAPACITOR >			
R904	1-216-864-11	SHORT CHIP	0		
R905	1-216-864-11	SHORT CHIP	0		
R906	1-216-864-11	SHORT CHIP	0		
R908	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
R909	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
**********					
		JACK BOARD			
		**********			
		< CAPACITOR >			
C982	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C984	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C987	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C989	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C990	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C991	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C997	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C999	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
		< JACK >			
J981	1-815-629-21	JACK (AUDIO IN)			
J982	1-815-629-21	JACK (PHONES)			
		< JUMPER RESISTOR >			
L982	1-216-864-11	SHORT CHIP	0		
L983	1-216-864-11	SHORT CHIP	0		
		< RESISTOR >			
R931	1-216-821-11	METAL CHIP	1K	5%	1/10W
R932	1-216-845-11	METAL CHIP	100K	5%	1/10W
R941	1-216-821-11	METAL CHIP	1K	5%	1/10W
R942	1-216-845-11	METAL CHIP	100K	5%	1/10W
**********					
	A-1471-264-A	MAIN BOARD, COMPLETE (HX50BTR: CND)			
	A-1471-266-A	MAIN BOARD, COMPLETE (HX50BTR: AEP)			
	A-1471-268-A	MAIN BOARD, COMPLETE (HX50BTR: RU)			
	A-1471-270-A	MAIN BOARD, COMPLETE (HX50BTR: SP, KR)			
	A-1471-272-A	MAIN BOARD, COMPLETE (HX50BTR: E51, MX, AR)			
	A-1471-276-A	MAIN BOARD, COMPLETE (HX50BTR: BR)			
	A-1471-278-A	MAIN BOARD, COMPLETE (HX70BTR)			
	A-1471-280-A	MAIN BOARD, COMPLETE (HX90BTR)			
	A-1539-382-A	MAIN BOARD, COMPLETE (HX80R)			
		**********			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S			
		< CAPACITOR >			
C104	1-126-961-11	ELECT	2.2uF	20%	50V
C105	1-126-961-11	ELECT	2.2uF	20%	50V
C106	1-126-960-11	ELECT	1uF	20%	50V (HX50BTR/HX80R/HX90BTR)
C106	1-126-963-11	ELECT	4.7uF	20%	50V (HX70BTR)
C107	1-126-960-11	ELECT	1uF	20%	50V
C108	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C112	1-126-923-91	ELECT	220uF	20%	10V
C113	1-126-160-11	ELECT	1uF	20%	50V
C114	1-126-960-11	ELECT	1uF	20%	50V (HX80R/HX90BTR)
C115	1-126-960-11	ELECT	1uF	20%	50V (HX50BTR/HX70BTR/HX90BTR)
C147	1-126-960-11	ELECT	1uF	20%	50V (HX50BTR/HX70BTR/HX90BTR)

Ref. No.	Part No.	Description			Remark
C148	1-126-960-11	ELECT	1uF	20%	50V
			(HX50BTR/HX70BTR/HX90BTR)		
C149	1-126-963-11	ELECT	4.7uF	20%	50V
C150	1-126-963-11	ELECT	4.7uF	20%	50V
C151	1-126-963-11	ELECT	4.7uF	20%	50V
			(HX50BTR/HX80R/HX90BTR)		
C152	1-126-963-11	ELECT	4.7uF	20%	50V
C153	1-126-961-11	ELECT	2.2uF	20%	50V
C159	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
			(HX50BTR/HX80R/HX90BTR)		
C160	1-136-497-81	FILM	0.1uF	5%	50V
			(HX50BTR/HX80R/HX90BTR)		
C160	1-137-190-91	FILM	0.22uF	5%	50V
					(HX70BTR)
C163	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C167	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
			(HX50BTR/HX80R/HX90BTR)		
C167	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
					(HX70BTR)
C168	1-136-497-81	FILM	0.1uF	5%	50V
C204	1-126-961-11	ELECT	2.2uF	20%	50V
C205	1-126-961-11	ELECT	2.2uF	20%	50V
C206	1-126-960-11	ELECT	1uF	20%	50V
			(HX50BTR/HX80R/HX90BTR)		
C206	1-126-963-11	ELECT	4.7uF	20%	50V
					(HX70BTR)
C207	1-126-960-11	ELECT	1uF	20%	50V
C208	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C212	1-126-923-91	ELECT	220uF	20%	10V
C213	1-126-160-11	ELECT	1uF	20%	50V
C214	1-126-960-11	ELECT	1uF	20%	50V
					(HX80R/HX90BTR)
C215	1-126-960-11	ELECT	1uF	20%	50V
			(HX50BTR/HX70BTR/HX90BTR)		
C247	1-126-960-11	ELECT	1uF	20%	50V
			(HX50BTR/HX70BTR/HX90BTR)		
C248	1-126-960-11	ELECT	1uF	20%	50V
			(HX50BTR/HX70BTR/HX90BTR)		
C249	1-126-963-11	ELECT	4.7uF	20%	50V
C250	1-126-963-11	ELECT	4.7uF	20%	50V
C251	1-126-963-11	ELECT	4.7uF	20%	50V
C252	1-126-963-11	ELECT	4.7uF	20%	50V
C253	1-126-961-11	ELECT	2.2uF	20%	50V
C259	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
			(HX50BTR/HX80R/HX90BTR)		
C260	1-136-497-81	FILM	0.1uF	5%	50V
			(HX50BTR/HX80R/HX90BTR)		
C260	1-137-190-91	FILM	0.22uF	5%	50V
					(HX70BTR)
C263	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C267	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
			(HX50BTR/HX80R/HX90BTR)		
C267	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
					(HX70BTR)
C268	1-136-497-81	FILM	0.1uF	5%	50V
C301	1-115-456-21	DOUBLE LAYER	0.22F		5.5V
C304	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C310	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C311	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C312	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C316	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C320	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C326	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C355	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C356	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C361	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C362	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C369	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C390	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C398	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C401	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C402	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C420	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C465	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C466	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C467	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C468	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C501	1-126-925-91	ELECT	470uF	20%	10V
					(HX50BTR/HX70BTR)
C501	1-126-929-11	ELECT	4700uF	20%	10V
					(HX80R/HX90BTR)
C502	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C503	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C504	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C505	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C506	1-126-933-11	ELECT	100uF	20%	16V
C507	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C508	1-126-925-91	ELECT	470uF	20%	10V
C510	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C515	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C516	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
					(HX50BTR/HX70BTR/HX90BTR)
C519	1-126-923-91	ELECT	220uF	20%	10V
C520	1-126-925-91	ELECT	470uF	20%	10V
C521	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C531	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C532	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C533	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C537	1-126-947-11	ELECT	47uF	20%	35V
C543	1-126-923-91	ELECT	220uF	20%	10V
C544	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C562	1-126-923-91	ELECT	220uF	20%	10V
C563	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C564	1-126-923-91	ELECT	220uF	20%	10V
C566	1-126-933-11	ELECT	100uF	20%	16V
C701	1-126-925-91	ELECT	470uF	20%	10V
C702	1-126-925-91	ELECT	470uF	20%	10V
C706	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C715	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C716	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C722	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C751	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C753	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C754	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< LEAD PIN >			
CLP301	1-537-584-11	PIN, LEAD			
CLP302	1-537-584-11	PIN, LEAD			
		< CONNECTOR >			
CN501	1-815-449-11	PIN, CONNECTOR (PWB) 8P			
CN502	1-784-776-11	CONNECTOR, FFC 15P			
CN504	1-819-133-11	PIN, CONNECTOR			
CN507	1-815-444-11	PIN, CONNECTOR (PWB) 3P			
CN510	1-784-780-11	CONNECTOR, FFC 19P			

HCD-HX50BTR/HX70BTR/HX80R/HX90BTR

Ver. 1.1

MAIN

Ref. No.	Part No.	Description	Remark
CN512	1-568-830-11	CONNECTOR, FFC 11P (HX80R/HX90BTR)	
CN514	1-779-279-11	CONNECTOR, FFC (LIF (NON-ZIF)) 11P	
CN518	1-784-770-11	CONNECTOR, FFC 9P (HX50BTR: CND, RU, E51, MX, BR, SP, AR, KR)	
CN518	1-568-830-11	CONNECTOR, FFC 11P (HX50BTR: AEP/HX70BTR/HX80R/HX90BTR)	
CN609	1-779-283-11	CONNECTOR, FFC (LIF (NON-ZIF)) 15P (HX50BTR/HX70BTR/HX90BTR)	
CN701	1-779-295-11	CONNECTOR, FFC (LIF (NON-ZIF)) 27P	
CN720	1-779-273-11	CONNECTOR, FFC (LIF (NON-ZIF)) 5P	
CN751	1-779-289-11	CONNECTOR, FFC (LIF (NON-ZIF)) 21P	
		< DIODE >	
D401	6-500-334-01	DIODE MC2836-T112-1	
D402	6-501-193-01	DIODE 1SS355WTE-17	
D474	6-501-193-01	DIODE 1SS355WTE-17	
D509	6-501-582-01	DIODE 1N4002-B5	
D541	6-501-164-01	DIODE UDZW-TE17-3.9B	
D551	6-501-193-01	DIODE 1SS355WTE-17	
		< EARTH TERMINAL >	
EP501	1-537-771-21	TERMINAL BOARD, GROUND	
		< IC >	
IC301	A-1550-197-A	IC R5F3640DDFAR (for SERVICE) (HX50BTR)	
IC301	A-1550-198-A	IC R5F3640DDFAR (for SERVICE) (HX70BTR)	
IC301	A-1550-199-A	IC R5F3640MDFAR (for SERVICE) (HX90BTR)	
IC301	A-1550-200-A	IC R5F3640DDFAR (for SERVICE) (HX80R)	
IC401	6-702-038-11	IC PST3628NR	
IC501	6-712-055-01	IC BD3499FV-E2	
IC502	6-700-830-01	IC KIA7809API	
IC503	8-759-430-37	IC MC14052BDTR2	
IC505	8-759-646-52	IC KIA7805API	
IC506	6-708-659-01	IC BA00BC0WT-V5	
IC507	6-705-337-01	IC TK11150CSCL-G	
IC510	8-759-430-37	IC MC14052BDTR2 (HX50BTR/HX70BTR/HX90BTR)	
IC521	8-759-100-96	IC uPC4558G2	
IC551	8-759-656-83	IC NJM4580MD- (TE2)	
IC701	8-759-598-69	IC BA6956AN	
IC751	6-707-870-01	IC TC74VHC157FT (EKJ)	
IC753	8-759-523-03	IC TC74HC4066AFT (EL)	
IC754	8-759-523-03	IC TC74HC4066AFT (EL)	
		< JUMPER RESISTOR >	
JR101	1-216-864-11	SHORT CHIP 0 (HX80R)	
JR201	1-216-864-11	SHORT CHIP 0 (HX80R)	
JR301	1-216-864-11	SHORT CHIP 0	
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	1-216-864-11	SHORT CHIP 0	
JR505	1-216-864-11	SHORT CHIP 0	
JR506	1-216-864-11	SHORT CHIP 0	
JR507	1-216-296-11	SHORT CHIP 0	
JR508	1-216-864-11	SHORT CHIP 0	
JR509	1-216-864-11	SHORT CHIP 0	
JR510	1-216-864-11	SHORT CHIP 0	
JR511	1-216-864-11	SHORT CHIP 0	
JR512	1-216-864-11	SHORT CHIP 0	
JR513	1-216-296-11	SHORT CHIP 0	
JR514	1-216-864-11	SHORT CHIP 0	
JR515	1-216-864-11	SHORT CHIP 0	
JR516	1-216-296-11	SHORT CHIP 0	
JR517	1-216-864-11	SHORT CHIP 0 (HX50BTR/HX70BTR)	
JR518	1-216-864-11	SHORT CHIP 0	
JR519	1-216-296-11	SHORT CHIP 0 (HX50BTR/HX70BTR/HX90BTR)	
JR520	1-216-864-11	SHORT CHIP 0	
JR521	1-216-864-11	SHORT CHIP 0	
JR522	1-216-864-11	SHORT CHIP 0	
JR523	1-216-296-11	SHORT CHIP 0	
JR524	1-216-296-11	SHORT CHIP 0	
JR525	1-216-864-11	SHORT CHIP 0	
JR526	1-216-864-11	SHORT CHIP 0	
JR527	1-216-864-11	SHORT CHIP 0	
JR528	1-216-296-11	SHORT CHIP 0	
JR701	1-216-864-11	SHORT CHIP 0 (HX50BTR/HX70BTR/HX90BTR)	
		< FERRITE BEAD/JUMPER RESISTOR >	
L301	1-469-981-21	INDUCTOR, FERRITE BEAD	
L316	1-469-981-21	INDUCTOR, FERRITE BEAD	
L362	1-469-981-21	INDUCTOR, FERRITE BEAD	
L399	1-216-864-11	SHORT CHIP 0	
L502	1-469-981-21	INDUCTOR, FERRITE BEAD	
L511	1-469-981-21	INDUCTOR, FERRITE BEAD	
		< TRANSISTOR >	
Q312	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q316	8-729-038-28	TRANSISTOR RT1N441C-TP-1	
Q325	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q326	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q370	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q371	8-729-027-43	TRANSISTOR DTC114EKA-T146 (HX80R/HX90BTR)	
Q372	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q387	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q388	8-729-027-43	TRANSISTOR DTC114EKA-T146 (HX50BTR/HX70BTR/HX90BTR)	
Q389	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q390	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q392	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q393	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q399	6-551-696-01	TRANSISTOR ISA1235AC1TP-1EF	
Q426	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q504	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q511	6-551-960-01	TRANSISTOR RT3X99M	
Q513	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q551	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q554	6-551-960-01	TRANSISTOR RT3X99M	
Q555	8-729-036-89	TRANSISTOR KTC3198GR-AT	
Q602	8-729-120-28	TRANSISTOR 2SC1623-L5L6 (HX50BTR/HX70BTR/HX90BTR)	
Q606	8-729-024-43	TRANSISTOR 2SA1365-T112-1EF (HX50BTR/HX70BTR/HX90BTR)	
Q624	8-729-027-43	TRANSISTOR DTC114EKA-T146 (HX50BTR/HX70BTR/HX90BTR)	
Q702	8-729-028-54	TRANSISTOR KTC3205	
Q703	8-729-036-86	TRANSISTOR KTC3203Y-AT	

Ref. No.	Part No.	Description			Remark
Q704	8-729-027-23	TRANSISTOR	DTA114EKA-T146		
Q706	8-729-036-86	TRANSISTOR	KTC3203Y-AT		
Q707	8-729-027-23	TRANSISTOR	DTA114EKA-T146		
Q716	6-551-696-01	TRANSISTOR	ISA1235AC1TP-1EF		
		< RESISTOR >			
R101	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R102	1-216-841-11	METAL CHIP	47K	5%	1/10W
R103	1-216-821-11	METAL CHIP	1K	5%	1/10W
R105	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R106	1-216-841-11	METAL CHIP	47K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R107	1-216-833-11	METAL CHIP	10K	5%	1/10W
R108	1-216-813-11	METAL CHIP	220	5%	1/10W
R111	1-216-821-11	METAL CHIP	1K	5%	1/10W
R112	1-216-845-11	METAL CHIP	100K	5%	1/10W
R113	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R115	1-216-837-11	METAL CHIP	22K	5%	1/10W
R116	1-216-805-11	METAL CHIP	47	5%	1/10W
R117	1-216-845-11	METAL CHIP	100K	5%	1/10W
R119	1-216-845-11	METAL CHIP	100K	5%	1/10W
R124	1-216-845-11	METAL CHIP	100K	5%	1/10W
R125	1-216-845-11	METAL CHIP	100K	5%	1/10W
R126	1-216-845-11	METAL CHIP	100K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R128	1-216-845-11	METAL CHIP	100K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R129	1-216-845-11	METAL CHIP	100K	5%	1/10W
R131	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R132	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R133	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R134	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R135	1-216-841-11	METAL CHIP	47K	5%	1/10W
R137	1-216-845-11	METAL CHIP	100K	5%	1/10W
R138	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R139	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R140	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R141	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R144	1-216-809-11	METAL CHIP	100	5%	1/10W
					(HX80R/HX90BTR)
R146	1-216-809-11	METAL CHIP	100	5%	1/10W
R160	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R201	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R202	1-216-841-11	METAL CHIP	47K	5%	1/10W
R203	1-216-821-11	METAL CHIP	1K	5%	1/10W
R205	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R206	1-216-841-11	METAL CHIP	47K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R207	1-216-833-11	METAL CHIP	10K	5%	1/10W
R208	1-216-813-11	METAL CHIP	220	5%	1/10W
R211	1-216-821-11	METAL CHIP	1K	5%	1/10W
R212	1-216-845-11	METAL CHIP	100K	5%	1/10W
R213	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R215	1-216-837-11	METAL CHIP	22K	5%	1/10W
R216	1-216-805-11	METAL CHIP	47	5%	1/10W
R217	1-216-845-11	METAL CHIP	100K	5%	1/10W
R219	1-216-845-11	METAL CHIP	100K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R224	1-216-845-11	METAL CHIP	100K	5%	1/10W
R225	1-216-845-11	METAL CHIP	100K	5%	1/10W
R226	1-216-845-11	METAL CHIP	100K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R228	1-216-845-11	METAL CHIP	100K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R229	1-216-845-11	METAL CHIP	100K	5%	1/10W
R231	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R232	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R233	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R234	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R235	1-216-841-11	METAL CHIP	47K	5%	1/10W
R237	1-216-845-11	METAL CHIP	100K	5%	1/10W
R238	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R239	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R240	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R241	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R244	1-216-809-11	METAL CHIP	100	5%	1/10W
					(HX80R/HX90BTR)
R246	1-216-809-11	METAL CHIP	100	5%	1/10W
R260	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R301	1-216-809-11	METAL CHIP	100	5%	1/10W
R302	1-216-809-11	METAL CHIP	100	5%	1/10W
R303	1-216-809-11	METAL CHIP	100	5%	1/10W
R304	1-216-821-11	METAL CHIP	1K	5%	1/10W
R305	1-216-809-11	METAL CHIP	100	5%	1/10W
R306	1-216-809-11	METAL CHIP	100	5%	1/10W
R307	1-216-809-11	METAL CHIP	100	5%	1/10W
R308	1-216-809-11	METAL CHIP	100	5%	1/10W
R309	1-216-833-11	METAL CHIP	10K	5%	1/10W
R311	1-216-849-11	METAL CHIP	220K	5%	1/10W
R313	1-216-864-11	SHORT CHIP	0		
R316	1-216-841-11	METAL CHIP	47K	5%	1/10W
R318	1-216-821-11	METAL CHIP	1K	5%	1/10W
			(HX50BTR: AEP/HX70BTR/HX80R/HX90BTR)		
R319	1-216-809-11	METAL CHIP	100	5%	1/10W
R320	1-216-841-11	METAL CHIP	47K	5%	1/10W
R321	1-216-809-11	METAL CHIP	100	5%	1/10W
R322	1-216-817-11	METAL CHIP	470	5%	1/10W
R323	1-216-809-11	METAL CHIP	100	5%	1/10W
R324	1-216-817-11	METAL CHIP	470	5%	1/10W
R325	1-216-809-11	METAL CHIP	100	5%	1/10W
R326	1-216-821-11	METAL CHIP	1K	5%	1/10W
R327	1-216-809-11	METAL CHIP	100	5%	1/10W
R328	1-216-809-11	METAL CHIP	100	5%	1/10W
R331	1-216-809-11	METAL CHIP	100	5%	1/10W
R332	1-216-809-11	METAL CHIP	100	5%	1/10W
R333	1-216-809-11	METAL CHIP	100	5%	1/10W
R334	1-216-809-11	METAL CHIP	100	5%	1/10W
R335	1-216-809-11	METAL CHIP	100	5%	1/10W
R336	1-216-809-11	METAL CHIP	100	5%	1/10W
R337	1-216-809-11	METAL CHIP	100	5%	1/10W
R338	1-216-809-11	METAL CHIP	100	5%	1/10W
R339	1-216-809-11	METAL CHIP	100	5%	1/10W
R340	1-216-809-11	METAL CHIP	100	5%	1/10W
R341	1-216-833-11	METAL CHIP	10K	5%	1/10W
R342	1-216-809-11	METAL CHIP	100	5%	1/10W
R343	1-216-809-11	METAL CHIP	100	5%	1/10W

Ref. No.	Part No.	Description			Remark
R344	1-216-809-11	METAL CHIP	100	5%	1/10W
R345	1-216-821-11	METAL CHIP	1K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R346	1-216-805-11	METAL CHIP	47	5%	1/10W
R347	1-216-817-11	METAL CHIP	470	5%	1/10W
					(HX80R/HX90BTR)
R348	1-216-817-11	METAL CHIP	470	5%	1/10W
					(HX80R/HX90BTR)
R349	1-216-821-11	METAL CHIP	1K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R350	1-216-821-11	METAL CHIP	1K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R351	1-216-821-11	METAL CHIP	1K	5%	1/10W
R352	1-216-821-11	METAL CHIP	1K	5%	1/10W
R353	1-216-821-11	METAL CHIP	1K	5%	1/10W
R354	1-216-821-11	METAL CHIP	1K	5%	1/10W
R355	1-216-817-11	METAL CHIP	470	5%	1/10W
R356	1-216-817-11	METAL CHIP	470	5%	1/10W
R357	1-216-817-11	METAL CHIP	470	5%	1/10W
R358	1-216-817-11	METAL CHIP	470	5%	1/10W
R359	1-216-817-11	METAL CHIP	470	5%	1/10W
R360	1-216-809-11	METAL CHIP	100	5%	1/10W
R362	1-216-809-11	METAL CHIP	100	5%	1/10W
R363	1-216-821-11	METAL CHIP	1K	5%	1/10W
R365	1-216-821-11	METAL CHIP	1K	5%	1/10W
R366	1-216-821-11	METAL CHIP	1K	5%	1/10W
R367	1-216-821-11	METAL CHIP	1K	5%	1/10W
R368	1-216-821-11	METAL CHIP	1K	5%	1/10W
R369	1-216-833-11	METAL CHIP	10K	5%	1/10W
R373	1-216-821-11	METAL CHIP	1K	5%	1/10W
					(HX80R/HX90BTR)
R375	1-216-821-11	METAL CHIP	1K	5%	1/10W
					(HX80R/HX90BTR)
R376	1-216-821-11	METAL CHIP	1K	5%	1/10W
R377	1-216-809-11	METAL CHIP	100	5%	1/10W
R378	1-216-809-11	METAL CHIP	100	5%	1/10W
R379	1-216-821-11	METAL CHIP	1K	5%	1/10W
R380	1-216-821-11	METAL CHIP	1K	5%	1/10W
R381	1-216-821-11	METAL CHIP	1K	5%	1/10W
R382	1-216-821-11	METAL CHIP	1K	5%	1/10W
R383	1-216-821-11	METAL CHIP	1K	5%	1/10W
			(HX50BTR: AEP/HX70BTR/HX80R/HX90BTR)		
R384	1-216-821-11	METAL CHIP	1K	5%	1/10W
R385	1-216-821-11	METAL CHIP	1K	5%	1/10W
R386	1-216-821-11	METAL CHIP	1K	5%	1/10W
R390	1-216-821-11	METAL CHIP	1K	5%	1/10W
R391	1-216-833-11	METAL CHIP	10K	5%	1/10W
R394	1-216-809-11	METAL CHIP	100	5%	1/10W
R395	1-216-821-11	METAL CHIP	1K	5%	1/10W
R397	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
			(HX50BTR: CND, RU, E51, MX, BR, SP, AR, KR)		
R399	1-216-845-11	METAL CHIP	100K	5%	1/10W
R400	1-216-809-11	METAL CHIP	100	5%	1/10W
R401	1-216-841-11	METAL CHIP	47K	5%	1/10W
R402	1-216-841-11	METAL CHIP	47K	5%	1/10W
R412	1-216-833-11	METAL CHIP	10K	5%	1/10W
R416	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R417	1-216-833-11	METAL CHIP	10K	5%	1/10W
R418	1-216-821-11	METAL CHIP	1K	5%	1/10W
			(HX50BTR: CND, RU, E51, MX, BR, SP, AR, KR)		
R420	1-216-833-11	METAL CHIP	10K	5%	1/10W
R422	1-216-829-11	METAL CHIP	4.7K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R424	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R426	1-216-845-11	METAL CHIP	100K	5%	1/10W
R429	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R430	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R446	1-216-833-11	METAL CHIP	10K	5%	1/10W
R447	1-216-821-11	METAL CHIP	1K	5%	1/10W
					(HX50BTR/HX70BTR)
R448	1-216-821-11	METAL CHIP	1K	5%	1/10W
					(HX50BTR/HX70BTR)
R451	1-216-833-11	METAL CHIP	10K	5%	1/10W
R452	1-216-833-11	METAL CHIP	10K	5%	1/10W
R466	1-216-833-11	METAL CHIP	10K	5%	1/10W
R467	1-216-833-11	METAL CHIP	10K	5%	1/10W
R468	1-216-833-11	METAL CHIP	10K	5%	1/10W
R469	1-216-845-11	METAL CHIP	100K	5%	1/10W
R474	1-216-857-11	METAL CHIP	1M	5%	1/10W
R483	1-216-821-11	METAL CHIP	1K	5%	1/10W
			(HX50BTR: CND, RU, E51, MX, BR, SP, AR, KR)		
R484	1-216-833-11	METAL CHIP	10K	5%	1/10W
R485	1-216-833-11	METAL CHIP	10K	5%	1/10W
R486	1-216-833-11	METAL CHIP	10K	5%	1/10W
R490	1-216-857-11	METAL CHIP	1M	5%	1/10W
R491	1-216-841-11	METAL CHIP	47K	5%	1/10W
R492	1-216-861-11	METAL CHIP	2.2M	5%	1/10W
R497	1-216-813-11	METAL CHIP	220	5%	1/10W
					(HX50BTR: RU)
R497	1-216-817-11	METAL CHIP	470	5%	1/10W
					(HX50BTR: E51, MX, AR)
R497	1-216-821-11	METAL CHIP	1K	5%	1/10W
					(HX50BTR: CND, BR)
R497	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
			(HX50BTR: AEP/HX70BTR/HX80R/HX90BTR)		
R502	1-216-864-11	SHORT CHIP	0		
R503	1-216-821-11	METAL CHIP	1K	5%	1/10W
R504	1-216-821-11	METAL CHIP	1K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R507	1-216-833-11	METAL CHIP	10K	5%	1/10W
R508	1-216-833-11	METAL CHIP	10K	5%	1/10W
					(HX80R/HX90BTR)
R509	1-216-833-11	METAL CHIP	10K	5%	1/10W
R510	1-216-833-11	METAL CHIP	10K	5%	1/10W
R519	1-217-806-11	RES-CHIP	1	5%	1/8W
R521	1-216-833-11	METAL CHIP	10K	5%	1/10W
					(HX50BTR/HX70BTR/HX90BTR)
R522	1-216-797-11	METAL CHIP	10	5%	1/10W
R523	1-216-837-11	METAL CHIP	22K	5%	1/10W
R524	1-216-817-11	METAL CHIP	470	5%	1/10W
R527	1-216-841-11	METAL CHIP	47K	5%	1/10W
R528	1-216-841-11	METAL CHIP	47K	5%	1/10W
R529	1-216-845-11	METAL CHIP	100K	5%	1/10W
R530	1-216-845-11	METAL CHIP	100K	5%	1/10W
R541	1-216-813-11	METAL CHIP	220	5%	1/10W
R542	1-216-821-11	METAL CHIP	1K	5%	1/10W
R543	1-216-833-11	METAL CHIP	10K	5%	1/10W
R544	1-216-805-11	METAL CHIP	47	5%	1/10W
R561	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R575	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R577	1-216-837-11	METAL CHIP	22K	5%	1/10W
R578	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R584	1-216-821-11	METAL CHIP	1K	5%	1/10W
R585	1-216-833-11	METAL CHIP	10K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R603	1-216-817-11	METAL CHIP	470	5%	1/10W
		(HX50BTR/HX70BTR/HX90BTR)			
R604	1-216-837-11	METAL CHIP	22K	5%	1/10W
		(HX50BTR/HX70BTR/HX90BTR)			
R605	1-216-833-11	METAL CHIP	10K	5%	1/10W
		(HX50BTR/HX70BTR/HX90BTR)			
R705	1-216-821-11	METAL CHIP	1K	5%	1/10W
R707	1-216-821-11	METAL CHIP	1K	5%	1/10W
R708	1-216-864-11	SHORT CHIP	0		
R709	1-216-158-00	RES-CHIP	22	5%	1/8W
R710	1-216-158-00	RES-CHIP	22	5%	1/8W
R711	1-216-158-00	RES-CHIP	22	5%	1/8W
R713	1-216-845-11	METAL CHIP	100K	5%	1/10W
R715	1-216-845-11	METAL CHIP	100K	5%	1/10W
R731	1-216-837-11	METAL CHIP	22K	5%	1/10W
R732	1-216-837-11	METAL CHIP	22K	5%	1/10W
R751	1-216-809-11	METAL CHIP	100	5%	1/10W
R752	1-216-833-11	METAL CHIP	10K	5%	1/10W
R761	1-216-845-11	METAL CHIP	100K	5%	1/10W
R764	1-216-845-11	METAL CHIP	100K	5%	1/10W
		< VIBRATOR >			
X301	1-814-067-11	OSCILLATOR, CRYSTAL (32.768kHz)			
X302	1-814-062-21	VIBRATOR, CERAMIC (5MHz)			
**********					
		MOTOR BOARD			
		**********			
		< CONNECTOR >			
CN001	1-815-412-11	CONNECTOR, FFC/FPC 5P			
		< SWITCH >			
S001	1-786-509-11	SWITCH, ROTARY			
		(DISC TRAY OPEN/CLOSE DETECT)			
**********					
		PANEL BOARD			
		**********			
		< CAPACITOR >			
C901	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C902	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C903	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C904	1-126-964-11	ELECT	10uF	20%	50V
C905	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C906	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C907	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C909	1-126-964-11	ELECT	10uF	20%	50V
C910	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C912	1-126-964-11	ELECT	10uF	20%	50V
C913	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C916	1-126-964-11	ELECT	10uF	20%	50V
C917	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C920	1-126-964-11	ELECT	10uF	20%	50V
C921	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C922	1-126-964-11	ELECT	10uF	20%	50V
C923	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C924	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C925	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C926	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V

Ref. No.	Part No.	Description			Remark
C927	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C954	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C962	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< DIODE >			
D903	6-501-193-01	DIODE 1SS355WTE-17			
D905	6-501-579-01	DIODE MC2837			
D906	6-501-579-01	DIODE MC2837			
D907	6-501-579-01	DIODE MC2837			
D909	6-501-582-01	DIODE 1N4002-B5			
D911	6-501-168-01	DIODE UDZW-TE17-5.6B			
D951	6-501-483-01	LED SLR-325VCT31P (STANDBY)			
D953	6-501-539-01	LED SELK5E20C-DTP15 (BLUETOOTH)			
		(HX50BTR/HX70BTR/HX90BTR)			
		< FLUORESCENT INDICATOR TUBE >			
FL901	1-519-939-12	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC901	8-759-100-96	IC uPC4558G2			
IC951	6-600-349-31	IC NJL24H400A			
		< JUMPER RESISTOR >			
JR901	1-216-864-11	SHORT CHIP	0		
JR902	1-216-864-11	SHORT CHIP	0		
JR903	1-216-864-11	SHORT CHIP	0		
JR904	1-216-864-11	SHORT CHIP	0		
		< TRANSISTOR >			
Q901	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q902	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q903	8-729-038-28	TRANSISTOR	RT1N441C-TP-1		
Q904	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q905	8-729-038-28	TRANSISTOR	RT1N441C-TP-1		
Q906	8-729-047-62	TRANSISTOR	2SC3440-T12-1F		
Q907	8-729-024-43	TRANSISTOR	2SA1365-T112-1EF		
Q908	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q951	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q952	6-551-696-01	TRANSISTOR	ISA1235AC1TP-1EF		
Q953	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
		(HX50BTR/HX70BTR/HX90BTR)			
		< RESISTOR >			
R901	1-216-841-11	METAL CHIP	47K	5%	1/10W
R902	1-216-845-11	METAL CHIP	100K	5%	1/10W
R903	1-216-841-11	METAL CHIP	47K	5%	1/10W
R904	1-216-845-11	METAL CHIP	100K	5%	1/10W
R905	1-216-841-11	METAL CHIP	47K	5%	1/10W
R906	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R907	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R908	1-216-797-11	METAL CHIP	10	5%	1/10W
R909	1-216-797-11	METAL CHIP	10	5%	1/10W
R910	1-216-833-11	METAL CHIP	10K	5%	1/10W
R911	1-216-833-11	METAL CHIP	10K	5%	1/10W
R917	1-216-837-11	METAL CHIP	22K	5%	1/10W
R918	1-216-817-11	METAL CHIP	470	5%	1/10W
R919	1-216-837-11	METAL CHIP	22K	5%	1/10W
R920	1-216-821-11	METAL CHIP	1K	5%	1/10W
R921	1-216-833-11	METAL CHIP	10K	5%	1/10W
R923	1-216-821-11	METAL CHIP	1K	5%	1/10W

HCD-HX50BTR/HX70BTR/HX80R/HX90BTR

Ver. 1.1

PANEL | SP TERMINAL | SW POWER

Ref. No.	Part No.	Description			Remark
R924	1-216-841-11	METAL CHIP	47K	5%	1/10W
R926	1-216-841-11	METAL CHIP	47K	5%	1/10W
R927	1-216-821-11	METAL CHIP	1K	5%	1/10W
R928	1-216-833-11	METAL CHIP	10K	5%	1/10W
R929	1-216-833-11	METAL CHIP	10K	5%	1/10W
R930	1-216-833-11	METAL CHIP	10K	5%	1/10W
R933	1-216-837-11	METAL CHIP	22K	5%	1/10W
R934	1-216-837-11	METAL CHIP	22K	5%	1/10W
R935	1-216-821-11	METAL CHIP	1K	5%	1/10W
R936	1-216-833-11	METAL CHIP	10K	5%	1/10W
R937	1-216-833-11	METAL CHIP	10K	5%	1/10W
R939	1-216-805-11	METAL CHIP	47	5%	1/10W
R940	1-216-805-11	METAL CHIP	47	5%	1/10W
R943	1-216-805-11	METAL CHIP	47	5%	1/10W
R944	1-216-833-11	METAL CHIP	10K	5%	1/10W
R945	1-216-833-11	METAL CHIP	10K	5%	1/10W
R947	1-216-817-11	METAL CHIP	470	5%	1/10W
R948	1-216-805-11	METAL CHIP	47	5%	1/10W
R949	1-216-833-11	METAL CHIP	10K	5%	1/10W
R950	1-216-813-11	METAL CHIP	220	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R951	1-216-821-11	METAL CHIP	1K	5%	1/10W
R952	1-216-805-11	METAL CHIP	47	5%	1/10W
R953	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R954	1-216-809-11	METAL CHIP	100	5%	1/10W
R955	1-216-833-11	METAL CHIP	10K	5%	1/10W
			(HX50BTR/HX70BTR/HX90BTR)		
R956	1-216-142-00	RES-CHIP	4.7	5%	1/8W
R957	1-216-142-00	RES-CHIP	4.7	5%	1/8W
R958	1-216-142-00	RES-CHIP	4.7	5%	1/8W
R959	1-216-142-00	RES-CHIP	4.7	5%	1/8W
R970	1-216-142-00	RES-CHIP	4.7	5%	1/8W
R979	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R980	1-216-142-00	RES-CHIP	4.7	5%	1/8W
R981	1-216-142-00	RES-CHIP	4.7	5%	1/8W
R982	1-216-142-00	RES-CHIP	4.7	5%	1/8W
R983	1-216-142-00	RES-CHIP	4.7	5%	1/8W
R984	1-216-142-00	RES-CHIP	4.7	5%	1/8W
R985	1-216-809-11	METAL CHIP	100	5%	1/10W
R989	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R990	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R991	1-216-821-11	METAL CHIP	1K	5%	1/10W
R992	1-216-833-11	METAL CHIP	10K	5%	1/10W
		< ROTARY ENCODER >			
RV952	1-418-725-41	ENCODER, ROTARY (12 TYPE) (VOLUME)			
		< SWITCH >			
S951	1-762-875-21	SWITCH, KEYBOARD (I/⏻) (HX50BTR: CND, AEP, RU/HX70BTR/HX80R/HX90BTR)			
S951	1-771-410-21	SWITCH, TACTILE (I/⏻) (HX50BTR: E51, MX, BR, SP, AR, KR)			
S952	1-762-875-21	SWITCH, KEYBOARD (BLUETOOTH OPR) (HX50BTR: CND, AEP, RU/HX70BTR/HX90BTR)			
S952	1-771-410-21	SWITCH, TACTILE (BLUETOOTH OPR) (HX50BTR: E51, MX, BR, SP, AR, KR)			
S954	1-762-875-21	SWITCH, KEYBOARD (⏏) (HX50BTR: CND, AEP, RU/HX70BTR/HX80R/HX90BTR)			
S954	1-771-410-21	SWITCH, TACTILE (⏏) (HX50BTR: E51, MX, BR, SP, AR, KR)			

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Ref. No.	Part No.	Description			Remark
		SP TERMINAL BOARD			
		**********			
		< CAPACITOR >			
C851	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C852	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C853	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C854	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
		< CONNECTOR >			
CN850	1-819-131-11	PIN, CONNECTOR 3P			
CN870	1-819-130-11	PIN, CONNECTOR 2P			
		< TERMINAL BOARD >			
J860	1-780-634-11	TERMINAL BOARD (SPEAKER) 2P (SPEAKER)			

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		SW POWER BOARD			
		**********			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S			
		< CAPACITOR >			
⚠ C1	1-165-529-11	MYLAR	0.22uF	10	275V
⚠ C2	1-165-529-11	MYLAR	0.22uF	10	275V
⚠ C4	1-112-876-51	CERAMIC	470PF	10%	250V
				(HX50BTR: CND, MX)	
⚠ C4	1-119-886-51	CERAMIC	470PF	10%	250V
		(HX50BTR: AEP, RU, E51, BR, SP, AR, KR/HX70BTR/HX80R/HX90BTR)			
⚠ C5	1-112-876-51	CERAMIC	470PF	10%	250V
				(HX50BTR: CND, MX)	
⚠ C5	1-119-886-51	CERAMIC	470PF	10%	250V
		(HX50BTR: AEP, RU, E51, BR, SP, AR, KR/HX70BTR/HX80R/HX90BTR)			
⚠ C6	1-162-970-91	CERAMIC CHIP	0.01uF	10%	25V
⚠ C11	1-100-858-11	ELECT	390uF	20%	250V
				(HX50BTR: CND, E51, MX, BR)	
⚠ C11	1-100-923-21	ELECT	100uF	20%	450V
		(HX50BTR: AEP, RU, SP, AR, KR/HX80R/HX90BTR)			
⚠ C11	1-114-237-21	ELECT	130uF	20%	450V
					(HX70BTR)
⚠ C12	1-100-858-11	ELECT	390uF	20%	250V
				(HX50BTR: CND, E51, MX, BR)	
⚠ C13	1-162-970-91	CERAMIC CHIP	0.01uF	10%	25V
⚠ C14	1-163-275-91	CERAMIC CHIP	0.001uF	5%	50V
⚠ C15	1-124-247-91	ELECT	10uF	20%	35V
⚠ C16	1-126-963-91	ELECT	4.7uF	20%	50V
⚠ C17	1-162-964-91	CERAMIC CHIP	0.001uF	10%	50V
⚠ C18	1-115-339-91	CERAMIC CHIP	0.1uF	10%	50V
⚠ C19	1-162-970-91	CERAMIC CHIP	0.01uF	10%	25V
⚠ C20	1-126-947-91	ELECT	47uF	20%	35V
⚠ C21	1-115-340-91	CERAMIC CHIP	0.22uF	10%	25V
⚠ C22	1-107-824-81	CERAMIC	220PF	5%	1KV
⚠ C23	1-107-824-81	CERAMIC	220PF	5%	1KV
⚠ C24	1-100-400-11	FILM	39000PF	3%	1KV
					(HX70BTR)
⚠ C24	1-165-610-11	FILM	33000PF	3%	800V
				(HX50BTR/HX80R/HX90BTR)	
⚠ C25	1-126-949-91	ELECT	220uF	20%	35V
C31	1-128-946-31	ELECT	2200uF	20%	10V

Ref. No.	Part No.	Description	Remark
C32	1-100-924-21	ELECT 2200uF 20% 35V	(HX70BTR)
C32	1-137-806-21	ELECT 1800uF 20% 35V	(HX50BTR/HX80R/HX90BTR)
C33	1-165-732-31	ELECT 47uF 20% 25V	
C34	1-165-908-11	CERAMIC CHIP 1uF 10% 10V	
C35	1-165-908-11	CERAMIC CHIP 1uF 10% 10V	
C37	1-165-908-11	CERAMIC CHIP 1uF 10% 10V	
C38	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C39	1-165-908-11	CERAMIC CHIP 1uF 10% 10V	
C41	1-165-908-11	CERAMIC CHIP 1uF 10% 10V	
C42	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C43	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C47	1-165-908-11	CERAMIC CHIP 1uF 10% 10V	
C48	1-165-908-11	CERAMIC CHIP 1uF 10% 10V	
⚠ C51	1-165-908-91	CERAMIC CHIP 1uF 10% 10V	
⚠ C52	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V	
⚠ C53	1-162-966-91	CERAMIC CHIP 0.0022uF 10% 50V	
⚠ C54	1-126-960-91	ELECT 1uF 20% 50V	
C60	1-165-908-11	CERAMIC CHIP 1uF 10% 10V	
C62	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C72	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C73	1-137-649-31	ELECT 220uF 20% 10V	
C74	1-126-923-91	ELECT 220uF 20% 10V	
C81	1-126-964-11	ELECT 10uF 20% 50V	
C82	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
		< CONNECTOR >	
⚠ CN1	1-564-321-11	PIN, CONNECTOR (3.96mm PITCH) 2P	
CN31	1-819-132-11	PIN, CONNECTOR 4P	
		< DIODE >	
⚠ D1	8-719-077-77	DIODE D3SB60F3	
⚠ D2	8-719-081-58	DIODE S2V60-TA (HX50BTR: E51, BR)	
⚠ D3	8-719-081-58	DIODE S2V60-TA (HX50BTR: E51, BR)	
⚠ D11	8-719-979-64	DIODE UF4005/23	
⚠ D14	6-500-567-31	DIODE 10ERB20-TB3	
⚠ D15	6-501-178-01	DIODE UDZW-TE17-15B	
⚠ D16	6-501-178-01	DIODE UDZW-TE17-15B	
⚠ D17	8-719-060-48	DIODE RB751V-40TE-17	
D31	8-719-510-09	DIODE D10SC6M	
D32	6-501-518-01	DIODE RB085T-90	
D33	8-719-983-22	DIODE MTZJ-T-77-27A	(HX50BTR/HX80R/HX90BTR)
D33	8-719-982-15	DIODE MTZJ-27B (HX70BTR)	
D43	6-500-567-31	DIODE 10ERB20-TB3	
D44	6-500-567-31	DIODE 10ERB20-TB3	
⚠ D51	6-500-567-31	DIODE 10ERB20-TB3	
⚠ D52	8-719-073-23	DIODE ST02D-200TA	
D72	6-500-567-31	DIODE 10ERB20-TB3	
D81	6-501-174-01	DIODE UDZW-TE17-10B	
		< EARTH TERMINAL >	
EP11	1-537-771-21	TERMINAL BOARD, GROUND	
EP12	1-537-771-21	TERMINAL BOARD, GROUND	
		< FUSE >	
⚠ F1	1-576-232-51	FUSE (5A/250V)	

Ref. No.	Part No.	Description	Remark
		< FERRITE BEAD >	
⚠ FB11	1-410-397-31	FERRITE 1.1uH	
FB51	1-410-397-21	FERRITE 1.1uH	
FB52	1-410-397-21	FERRITE 1.1uH	
FB53	1-410-397-21	FERRITE 1.1uH	
FB54	1-410-397-21	FERRITE 1.1uH	
		< FUSE HOLDER >	
FH1	1-533-233-31	FUSE HOLDER	
FH2	1-533-233-31	FUSE HOLDER	
		< IC >	
⚠ IC11	6-707-749-01	IC CXD9841P	
⚠ IC51	6-708-726-01	IC MIP2F20MS1SO	
IC71	6-705-280-01	IC FAN431AZXA	
		< JUMPER RESISTOR >	
JR10	1-216-864-11	SHORT CHIP 0	
		< COIL/FERRITE BEAD >	
L53	1-469-981-21	INDUCTOR, FERRITE BEAD	
L54	1-469-981-21	INDUCTOR, FERRITE BEAD	
L72	1-412-525-31	INDUCTOR 10uH	
		< PHOTO COUPLER >	
⚠ PH11	6-600-438-01	PHOTO COUPLER TLP421F (D4-GRJ)	
⚠ PH12	6-600-438-01	PHOTO COUPLER TLP421F (D4-GRJ)	
⚠ PH51	6-600-438-01	PHOTO COUPLER TLP421F (D4-GRJ)	
		< TRANSISTOR >	
⚠ Q2	8-729-600-91	TRANSISTOR 2SC1623-L5L6	
⚠ Q11	6-551-302-11	FET 2SK3561	
⚠ Q12	6-551-302-11	FET 2SK3561	
⚠ Q51	6-551-696-01	TRANSISTOR ISA1235AC1TP-1EF	
Q60	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q61	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q62	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q63	6-551-696-01	TRANSISTOR ISA1235AC1TP-1EF	
Q64	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q71	6-551-696-01	TRANSISTOR ISA1235AC1TP-1EF	
Q72	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q81	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q82	6-551-696-01	TRANSISTOR ISA1235AC1TP-1EF	
Q83	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q84	6-551-696-01	TRANSISTOR ISA1235AC1TP-1EF	
		< RESISTOR >	
⚠ R2	1-219-512-91	METAL 2.2M 5% 1/2W F	
⚠ R3	1-219-759-91	METAL 1M 5% 1/2W F	(HX50BTR: E51, BR)
⚠ R4	1-219-759-91	METAL 1M 5% 1/2W F	(HX50BTR: E51, BR)
⚠ R5	1-218-905-91	METAL CHIP 270K 0.5% 1/10W	(HX50BTR/HX80R/HX90BTR)
⚠ R5	1-218-907-91	METAL CHIP 330K 0.5% 1/10W	(HX70BTR)
⚠ R7	1-218-899-91	METAL CHIP 150K 0.5% 1/16W	(HX50BTR/HX80R/HX90BTR)
⚠ R7	1-218-901-91	METAL CHIP 180K 0.5% 1/10W	(HX70BTR)
⚠ R8	1-216-821-91	METAL CHIP 1K 5% 1/10W	

HCD-HX50BTR/HX70BTR/HX80R/HX90BTR

Ver. 1.1

SW POWER **TOP PANEL**

Ref. No.	Part No.	Description			Remark
⚠ R10	1-218-899-91	METAL CHIP	150K	0.5%	1/16W (HX70BTR)
⚠ R11	1-216-864-91	SHORT CHIP	0		
⚠ R12	1-245-502-21	METAL	4.7M	2%	1/4W F
⚠ R13	1-245-502-21	METAL	4.7M	2%	1/4W F
⚠ R14	1-218-911-91	METAL CHIP	470K	0.5%	1/10W
⚠ R15	1-218-875-91	METAL CHIP	15K	0.5%	1/10W (HX50BTR/HX80R/HX90BTR)
⚠ R15	1-218-877-91	METAL CHIP	18K	0.5%	1/10W (HX70BTR)
⚠ R16	1-218-823-91	METAL CHIP	100	0.5%	1/10W
⚠ R17	1-211-991-91	METAL CHIP	82	0.5%	1/10W (HX70BTR)
⚠ R17	1-218-823-91	METAL CHIP	100	0.5%	1/10W (HX50BTR/HX80R/HX90BTR)
⚠ R18	1-216-833-91	METAL CHIP	10K	5%	1/10W
⚠ R20	1-216-833-91	METAL CHIP	10K	5%	1/10W
⚠ R22	1-249-417-91	CARBON	1K	5%	1/4W F
⚠ R23	1-243-661-71	METAL	0.1	2%	2W F
⚠ R24	1-216-821-91	METAL CHIP	1K	5%	1/10W
⚠ R25	1-247-694-91	CARBON	33	5%	1/4W F
⚠ R27	1-216-797-91	METAL CHIP	10	5%	1/10W
⚠ R29	1-216-797-91	METAL CHIP	10	5%	1/10W
R32	1-216-821-11	METAL CHIP	1K	5%	1/10W
R33	1-216-817-11	METAL CHIP	470	5%	1/10W
R41	1-216-845-11	METAL CHIP	100K	5%	1/10W
⚠ R51	1-245-494-21	METAL	2.2M	2%	1/4W F
⚠ R52	1-245-494-21	METAL	2.2M	2%	1/4W F
⚠ R53	1-216-849-91	METAL CHIP	220K	5%	1/10W
⚠ R54	1-249-401-61	CARBON	47	5%	1/4W F
⚠ R55	1-216-835-91	METAL CHIP	15K	5%	1/10W
⚠ R56	1-249-381-61	CARBON	1	5%	1/4W F
⚠ R57	1-216-864-91	SHORT CHIP	0		
⚠ R58	1-216-845-91	METAL CHIP	100K	5%	1/10W
⚠ R60	1-216-853-91	METAL CHIP	470K	5%	1/10W
⚠ R62	1-243-504-31	METAL OXIDE	0.1	5%	1W F
R63	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R64	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R65	1-216-833-11	METAL CHIP	10K	5%	1/10W
R66	1-216-833-11	METAL CHIP	10K	5%	1/10W
R67	1-216-841-11	METAL CHIP	47K	5%	1/10W
R68	1-216-817-11	METAL CHIP	470	5%	1/10W
R70	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R71	1-216-821-11	METAL CHIP	1K	5%	1/10W
R72	1-216-817-11	METAL CHIP	470	5%	1/10W
R73	1-216-805-11	METAL CHIP	47	5%	1/10W
R74	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R75	1-218-863-11	METAL CHIP	4.7K	0.5%	1/10W
R76	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R77	1-216-805-11	METAL CHIP	47	5%	1/10W
R78	1-218-887-11	METAL CHIP	47K	0.5%	1/10W
R79	1-216-833-11	METAL CHIP	10K	5%	1/10W
⚠ R80	1-243-504-31	METAL OXIDE	0.1	5%	1W F
R81	1-216-817-11	METAL CHIP	470	5%	1/10W
R82	1-216-833-11	METAL CHIP	10K	5%	1/10W
R83	1-216-841-11	METAL CHIP	47K	5%	1/10W
R84	1-216-833-11	METAL CHIP	10K	5%	1/10W
R85	1-216-833-11	METAL CHIP	10K	5%	1/10W
R86	1-216-821-11	METAL CHIP	1K	5%	1/10W
R87	1-216-821-11	METAL CHIP	1K	5%	1/10W
R88	1-216-821-11	METAL CHIP	1K	5%	1/10W
R89	1-216-821-11	METAL CHIP	1K	5%	1/10W
		< SWITCH >			
⚠ S1	1-762-753-11	SWITCH, VOLTAGE SELECTION (VOLTAGE SELECTOR) (HX50BTR: E51, BR)			
		< TRANSFORMER >			
⚠ T1	1-445-048-21	TRANSFORMER, LINE FILTER (HX50BTR: AEP, RU, SP, AR, KR/HX80R/HX90BTR)			
⚠ T1	1-457-326-21	COIL, LINE FILTER (HX50BTR: CND, E51, MX, BR/HX70BTR)			
⚠ T31	1-445-162-21	TRANSFORMER, CONVERTER (HX70BTR)			
⚠ T31	1-445-163-21	TRANSFORMER, CONVERTER (HX50BTR/HX80R/HX90BTR)			
⚠ T51	1-443-942-11	TRANSFORMER, DC-DC CONVERTER			
		< THERMISTOR >			
⚠ TH1	1-802-075-11	THERMISTOR, NTC (HX50BTR: AEP, RU, SP, AR, KR/HX70BTR/HX80R/HX90BTR)			
⚠ TH1	1-805-901-11	THERMISTOR, NTC (HX50BTR: CND, E51, MX, BR)			
⚠ TH2	1-805-901-11	THERMISTOR, NTC (HX50BTR: CND, E51, MX, BR)			
		< VARISTOR >			
⚠ VR001	1-805-481-21	VARISTOR (HX50BTR: CND, MX)			
⚠ VR001	1-805-482-11	VARISTOR (HX50BTR: AEP, RU, E51, BR, SP, AR, KR/HX70BTR/HX80R/HX90BTR)			
⚠ VR002	1-802-094-21	VARISTOR (HX50BTR: E51, BR)			
⚠ VR003	1-802-094-21	VARISTOR (HX50BTR: E51, BR)			
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		TOP PANEL BOARD			
		**********			
		< RESISTOR >			
R960	1-216-821-11	METAL CHIP	1K	5%	1/10W
R961	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R963	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R965	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R966	1-216-833-11	METAL CHIP	10K	5%	1/10W
R967	1-216-835-11	METAL CHIP	15K	5%	1/10W
R972	1-216-821-11	METAL CHIP	1K	5%	1/10W
R973	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R974	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R975	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R976	1-216-833-11	METAL CHIP	10K	5%	1/10W
R977	1-216-835-11	METAL CHIP	15K	5%	1/10W
R978	1-216-841-11	METAL CHIP	47K	5%	1/10W
		< SWITCH >			
S953	1-762-875-21	SWITCH, KEYBOARD (⏮◀◀, TUNE –) (HX50BTR: CND, AEP, RU/HX70BTR/HX80R/HX90BTR)			
S953	1-771-410-21	SWITCH, TACTILE (⏮◀◀, TUNE –) (HX50BTR: E51, MX, BR, SP, AR, KR)			
S961	1-762-875-21	SWITCH, KEYBOARD (DSGX) (HX50BTR: CND, AEP, RU/HX70BTR/HX80R/HX90BTR)			
S961	1-771-410-21	SWITCH, TACTILE (DSGX) (HX50BTR: E51, MX, BR, SP, AR, KR)			
S962	1-762-875-21	SWITCH, KEYBOARD (USB MENU) (HX50BTR: CND, AEP, RU/HX70BTR/HX80R/HX90BTR)			

Ref. No.	Part No.	Description	Remark
S962	1-771-410-21	SWITCH, TACTILE (USB MENU) (HX50BTR: E51, MX, BR, SP, AR, KR)	
S963	1-762-875-21	SWITCH, KEYBOARD (CD-USB SYNC/REC1) (HX50BTR: CND, AEP, RU/HX70BTR/HX80R/HX90BTR)	
S963	1-771-410-21	SWITCH, TACTILE (CD-USB SYNC/REC1) (HX50BTR: E51, MX, BR, SP, AR, KR)	
S965	1-762-875-21	SWITCH, KEYBOARD (FUNCTION) (HX50BTR: CND, AEP, RU/HX70BTR/HX80R/HX90BTR)	
S965	1-771-410-21	SWITCH, TACTILE (FUNCTION) (HX50BTR: E51, MX, BR, SP, AR, KR)	
S966	1-762-875-21	SWITCH, KEYBOARD (FOLDER +) (HX50BTR: CND, AEP, RU/HX70BTR/HX80R/HX90BTR)	
S966	1-771-410-21	SWITCH, TACTILE (FOLDER +) (HX50BTR: E51, MX, BR, SP, AR, KR)	
S967	1-762-875-21	SWITCH, KEYBOARD (ENTER) (HX50BTR: CND,AEP, RU/HX70BTR/HX80R/HX90BTR)	
S967	1-771-410-21	SWITCH, TACTILE (ENTER) (HX50BTR: E51, MX, BR, SP, AR, KR)	
S968	1-762-875-21	SWITCH, KEYBOARD (FOLDER –) (HX50BTR: CND, AEP, RU/HX70BTR/HX80R/HX90BTR)	
S968	1-771-410-21	SWITCH, TACTILE (FOLDER –) (HX50BTR: E51, MX, BR, SP, AR, KR)	
S970	1-762-875-21	SWITCH, KEYBOARD (BLUETOOTH ▶II) (HX50BTR: CND, AEP, RU/HX70BTR/HX90BTR)	
S970	1-762-875-21	SWITCH, KEYBOARD (USB ▶II) (HX80R)	
S970	1-771-410-21	SWITCH, TACTILE (BLUETOOTH ▶II) (HX50BTR: E51, MX, BR, SP, AR, KR)	
S971	1-762-875-21	SWITCH, KEYBOARD (USB ▶II) (HX50BTR: CND, AEP, RU/HX70BTR/HX90BTR)	
S971	1-762-875-21	SWITCH, KEYBOARD (CD ▶II) (HX80R)	
S971	1-771-410-21	SWITCH, TACTILE (USB ▶II) (HX50BTR: E51, MX, BR, SP, AR, KR)	
S972	1-762-875-21	SWITCH, KEYBOARD (CD ▶II) (HX50BTR: CND, AEP, RU/HX70BTR/HX90BTR)	
S972	1-762-875-21	SWITCH, KEYBOARD (TUNER/BAND) (HX80R)	
S972	1-771-410-21	SWITCH, TACTILE (CD ▶II) (HX50BTR: E51, MX, BR, SP, AR, KR)	
S973	1-762-875-21	SWITCH, KEYBOARD (TUNER/BAND) (HX50BTR: CND, AEP, RU/HX70BTR/HX90BTR)	
S973	1-762-875-21	SWITCH, KEYBOARD (DMPORT ▶II) (HX80R)	
S973	1-771-410-21	SWITCH, TACTILE (TUNER/BAND) (HX50BTR: E51, MX, BR, SP, AR, KR)	
S974	1-762-875-21	SWITCH, KEYBOARD (▶▶ ▷▷Ⅱ, TUNE +) (HX50BTR: CND, AEP, RU/HX70BTR/HX80R/HX90BTR)	
S974	1-771-410-21	SWITCH, TACTILE (▶▶ ▷▷Ⅱ, TUNE +) (HX50BTR: E51, MX, BR, SP, AR, KR)	
S975	1-762-875-21	SWITCH, KEYBOARD (■/CANCEL) (HX50BTR: CND, AEP, RU/HX70BTR/HX80R/HX90BTR)	
S975	1-771-410-21	SWITCH, TACTILE (■/CANCEL) (HX50BTR: E51, MX, BR, SP, AR, KR)	
S976	1-762-875-21	SWITCH, KEYBOARD (SEARCH) (HX50BTR: CND, AEP, RU/HX70BTR)	
S976	1-762-875-21	SWITCH, KEYBOARD (SEARCH/DAB AUTO SCAN) (HX80R/HX90BTR)	
S976	1-771-410-21	SWITCH, TACTILE (SEARCH) (HX50BTR: E51, MX, BR, SP, AR, KR)	
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	A-1444-800-A	USB BOARD, COMPLETE	
		**********	
		< CAPACITOR >	
C901	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C902	1-124-779-00	ELECT CHIP 10uF 20% 16V	
C903	1-124-779-00	ELECT CHIP 10uF 20% 16V	
C904	1-124-779-00	ELECT CHIP 10uF 20% 16V	
C905	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C906	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C907	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C908	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C909	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	
C910	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	
C912	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	
C913	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C914	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C915	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C916	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C917	1-100-354-21	ELECT CHIP 220uF 20% 6.3V	
C918	1-165-989-11	CERAMIC CHIP 10uF 10% 6.3V	
C920	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
C921	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C922	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C930	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
		< CONNECTOR >	
CN902	1-794-548-21	CONNECTOR, USB (A) (USB)	
CN904	1-784-859-51	CONNECTOR, FFC (LIF (NON-ZIF)) 7P	
CN907	1-784-833-51	CONNECTOR, FFC (LIF (NON-ZIF)) 21P	
CN908	1-770-469-21	PIN, CONNECTOR (PC BOARD) 2P	
		< DIODE >	
D901	6-501-579-01	DIODE MC2837	
D902	6-501-579-01	DIODE MC2837	
D905	6-501-579-01	DIODE MC2837	
		< EARTH TERMINAL >	
EP901	1-537-771-21	TERMINAL BOARD, GROUND	
		< JUMPER RESISTOR >	
FB901	1-216-295-91	SHORT CHIP 0	
FB902	1-216-295-91	SHORT CHIP 0	
		< IC >	
IC901	6-808-061-01	IC TMP92CD28AFG-6VD8	
IC915	6-710-887-01	IC R5523N001B-TR-F	
IC921	6-704-832-01	IC IS61LV6416-10TLT	
		< JUMPER RESISTOR >	
JR902	1-216-295-91	SHORT CHIP 0	
		< COIL >	
L901	1-456-799-11	COIL, COMMON MODE CHOKE	
		< RESISTOR >	
R901	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R902	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R903	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R904	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R905	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R906	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R907	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R913	1-216-845-11	METAL CHIP 100K 5% 1/10W	

Ref. No.	Part No.	Description			Remark
R915	1-216-833-11	METAL CHIP	10K	5%	1/10W
R916	1-216-864-11	SHORT CHIP	0		
R917	1-216-864-11	SHORT CHIP	0		
R919	1-216-809-11	METAL CHIP	100	5%	1/10W
R920	1-216-833-11	METAL CHIP	10K	5%	1/10W
R921	1-216-845-11	METAL CHIP	100K	5%	1/10W
R922	1-216-845-11	METAL CHIP	100K	5%	1/10W
R923	1-216-802-11	METAL CHIP	27	5%	1/10W
R924	1-216-802-11	METAL CHIP	27	5%	1/10W
R925	1-216-835-11	METAL CHIP	15K	5%	1/10W
R926	1-216-835-11	METAL CHIP	15K	5%	1/10W
R928	1-216-864-11	SHORT CHIP	0		
R932	1-216-809-11	METAL CHIP	100	5%	1/10W
R933	1-216-864-11	SHORT CHIP	0		
R934	1-216-833-11	METAL CHIP	10K	5%	1/10W
R937	1-216-809-11	METAL CHIP	100	5%	1/10W
R938	1-216-809-11	METAL CHIP	100	5%	1/10W
R941	1-216-845-11	METAL CHIP	100K	5%	1/10W
R942	1-216-845-11	METAL CHIP	100K	5%	1/10W
R943	1-216-845-11	METAL CHIP	100K	5%	1/10W
R944	1-216-845-11	METAL CHIP	100K	5%	1/10W
R945	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R947	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R949	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R970	1-216-809-11	METAL CHIP	100	5%	1/10W
R971	1-216-809-11	METAL CHIP	100	5%	1/10W
R972	1-216-809-11	METAL CHIP	100	5%	1/10W
R973	1-216-809-11	METAL CHIP	100	5%	1/10W
R974	1-216-809-11	METAL CHIP	100	5%	1/10W
R975	1-216-809-11	METAL CHIP	100	5%	1/10W
R976	1-216-809-11	METAL CHIP	100	5%	1/10W
R977	1-216-809-11	METAL CHIP	100	5%	1/10W
R978	1-216-809-11	METAL CHIP	100	5%	1/10W
R979	1-216-809-11	METAL CHIP	100	5%	1/10W
R981	1-216-809-11	METAL CHIP	100	5%	1/10W
R982	1-216-809-11	METAL CHIP	100	5%	1/10W
R983	1-216-809-11	METAL CHIP	100	5%	1/10W
R984	1-216-809-11	METAL CHIP	100	5%	1/10W
R985	1-216-809-11	METAL CHIP	100	5%	1/10W
R986	1-216-809-11	METAL CHIP	100	5%	1/10W
		< COMPOSITION CIRCUIT BLOCK >			
RB921	1-234-944-21	RES, NETWORK 47 (1005X4)			
RB922	1-234-944-21	RES, NETWORK 47 (1005X4)			
RB923	1-234-944-21	RES, NETWORK 47 (1005X4)			
RB924	1-234-944-21	RES, NETWORK 47 (1005X4)			
		< VIBRATOR >			
X901	1-813-931-21	VIBRATOR, CRYSTAL (9MHz)			
**********					
		MISCELLANEOUS			
		**********			
51	1-821-551-11	PIN, CONNECTOR 2P (HX80R/HX90BTR)			
52	1-480-340-41	MODULE (DAB TUNER) (HX80R/HX90BTR)			
54	1-832-825-21	CABLE, FLEXIBLE FLAT (11 CORE) (HX80R/HX90BTR)			
109	1-835-397-21	CABLE, FLEXIBLE FLAT (15 CORE)			
110	1-835-400-21	CABLE, FLEXIBLE FLAT (15 CORE) (HX50BTR/HX70BTR/HX90BTR)			

Ref. No.	Part No.	Description	Remark
111	1-964-881-11	CABLE, COAXIAL (WITH U.F.L CONNECTOR) (HX50BTR/HX70BTR/HX90BTR)	
152	1-832-535-21	CABLE, FLEXIBLE FLAT (5 CORE)	
154	1-832-645-21	CABLE, FLEXIBLE FLAT (27 CORE)	
156	1-835-401-21	CABLE, FLEXIBLE FLAT (11 CORE)	
158	1-831-706-21	CABLE, FLEXIBLE FLAT (11 CORE) (HX50BTR: AEP/HX70BTR/HX80R/HX90BTR)	
158	1-835-398-21	CABLE, FLEXIBLE FLAT (9 CORE) (HX50BTR: CND, RU, E51, BR, MX, SP, AR, KR)	
159	1-693-759-11	TUNER (FM/AM) (HX50BTR: AEP/HX70BTR/HX80R/HX90BTR)	
159	1-693-760-11	TUNER (FM/AM) (HX50BTR: RU, KR)	
159	1-693-762-21	TUNER (FM/AM) (HX50BTR: CND, BR)	
159	1-693-764-21	TUNER (FM/AM) (HX50BTR: E51, MX, SP, AR)	
203	1-457-413-11	CORE, FERRITE (HX50BTR: AEP, RU, SP, KR/HX70BTR/HX80R/HX90BTR)	
204	1-835-399-21	CABLE, FLEXIBLE FLAT (21 CORE)	
205	1-400-932-11	FILTER, CLAMP	
207	1-835-396-21	CABLE, FLEXIBLE FLAT (19 CORE)	
209	1-457-368-11	CORE, FERRITE	
⚠ 211	1-769-079-41	CORD, POWER (HX50BTR: KR)	
⚠ 211	1-827-226-31	CORD, POWER (HX50BTR: MX)	
⚠ 211	1-832-227-11	CORD, POWER (HX50BTR: AR)	
⚠ 211	1-833-218-11	CORD, POWER (HX50BTR: BR)	
⚠ 211	1-834-965-11	CORD, POWER (HX50BTR: CND)	
⚠ 211	1-834-966-21	CORD, POWER (HX50BTR: AEP, RU, E51, SP/HX70BTR/HX80R)	
⚠ 211	1-835-078-21	CORD, POWER (HX90BTR)	
301	A-1242-967-A	LOADING (BK) ASSY	
⚠ 351	A-4735-357-A	BASE ASSY, OP (KSM-213D)	
352	1-834-268-21	WIRE (FLAT TYPE) (16 CORE)	
S201	1-771-853-11	SWITCH, DETECTION (LIMIT)	
**********			
		ACCESSORIES	
		**********	
⚠	1-569-008-22	ADAPTOR, CONVERSION 2P (HX50BTR: E51, SP)	
⚠	1-770-019-61	ADAPTOR, CONVERSION PLUG (HX80R)	

MEMO

REVISION HISTORY

Checking the version allows you to jump to the revised page.
Also, clicking the version at the top of the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2008.03	New
1.1	2008.06	Addition of Brazilian and Argentina models (HCD-HX50BTR)