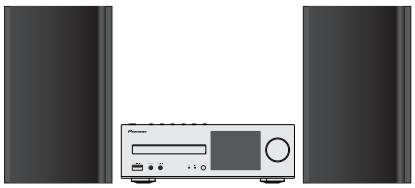
Pioneer

Service Manual



X-HM82-K

ORDER NO.
RRV4574

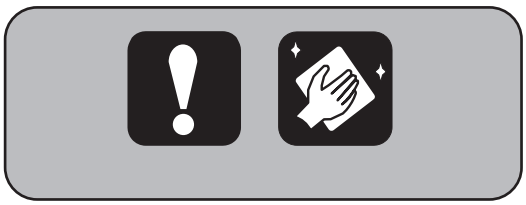
NETWORK CD RECEIVER SYSTEM

X-HM82-K

X-HM82-S X-HM82D-K
X-HM72-K,-S X-HM72D-K,-S

NETWORK CD RECEIVER

XC-HM82-K,-S
XC-HM82D-K



SPEAKER SECTION

S-HM82GB,S-HM82SA,S-HM72

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Serial No.	Remarks
X-HM82-K, -S	SYXEV8	AC 220 V to 230 V	&&&&######YY	YY:Europe
X-HM82-S	AXEV5	AC 220 V to 230 V	&&&&######CN	CN:China
X-HM82D-K	VXEV8	AC 220 V to 230 V	&&&&######GB	GB:U.K
XC-HM82-K, -S	SYXEV8	AC 220 V to 230 V	&&&&######YY	YY:Europe
XC-HM82-K	CXEV	AC 120 V	&&&&######UC	UC:North America
XC-HM82D-K	VXEV8	AC 220 V to 230 V	&&&&######GB	GB:U.K
X-HM72-K, -S	SYXEV8	AC 220 V to 230 V	&&&&######YY	YY:Europe
X-HM72D-K	VXEV8	AC 220 V to 230 V	&&&&######GB	GB:U.K
X-HM72D-S	YXEV8	AC 220 V to 230 V	&&&&######YY	YY:Europe
S-HM82GB	SYXEV8	——	——	——
S-HM82GB	VXEV8	——	——	——
S-HM82SA	AXEV5	——	——	——
S-HM72	SYXEV8	——	——	——
S-HM72	YXEV8	——	——	——
S-HM72	VXEV8	——	——	——

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ⓒPIONEER CORPORATION 2014

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SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product may contain a chemical known to the State of California to cause cancer, or birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

Laser Pickup specifications and Laser characteristics

For CD
Wave length (typ) : 790 nm
Operation output : 3 mW CW, Class 1
Maximum output : Class 1 (Under fault condition)

LABEL CHECK

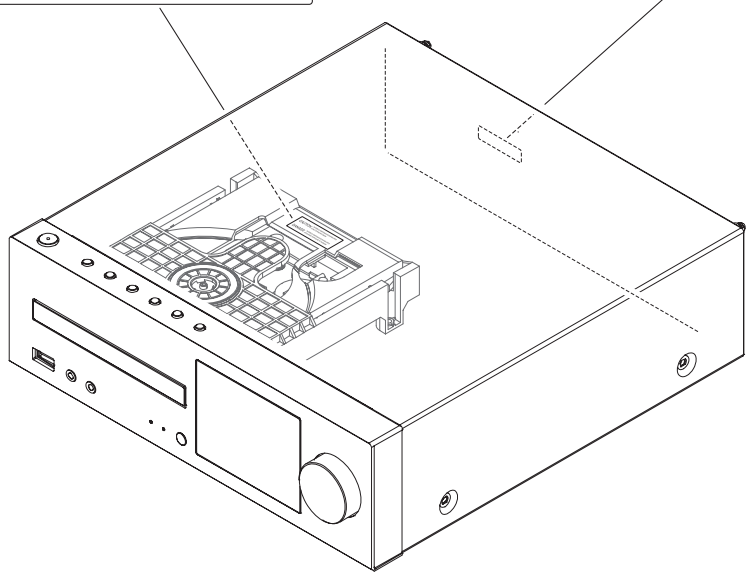
The following caution appears on your unit.
Location: inside of the unit

CAUTION: INVISIBLE LASER RADIATION WHEN OPEN
DO NOT STARE INTO BEAM

DANGER: INVISIBLE LASER RADIATION WHEN OPEN
AVOID DIRECT EXPOSURE TO THE BEAM

CLASS 1 LASER PRODUCT
APPAREIL Á LASER DE CLASSE 1

(Printed on the Chassis Back)



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1. SERVICE PRECAUTIONS

1.1 NOTES ON SOLDERING

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.
  Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.

- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 ℃.
  Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 ℃ in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Do NOT use a soldering iron whose tip temperature cannot be controlled.

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:

- Parts numbers of lead-free solder:
  GYP1006 1.0 mm dia.
  GYP1007 0.6 mm dia.
  GYP1008 0.3 mm dia.

1.2 NOTE ON REPLACING CD MECHA

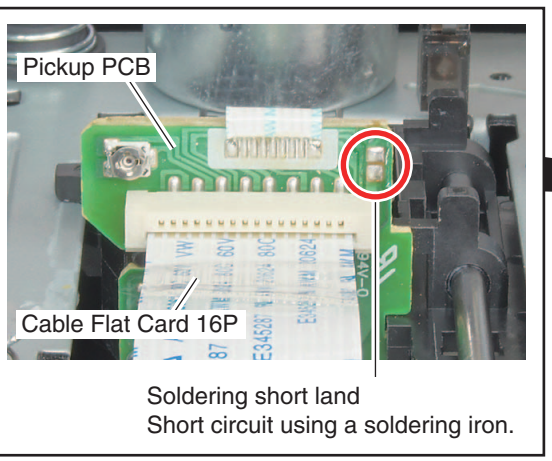
[Removing the CD Mecha]

Before removing the Pickup PCB and Cable Flat Card 16P, short circuit the position shown in Fig. 1 using a soldering iron.
" To remove the CD Mecha, remove simultaneously with the CD ASSY connected to Cable Flat Card 16P, and then disconnect the Cable Flat Card 16P after short circuit using a soldering iron. "
If you remove the Cable Flat Card 16P with no soldering, the Laser may be damaged.

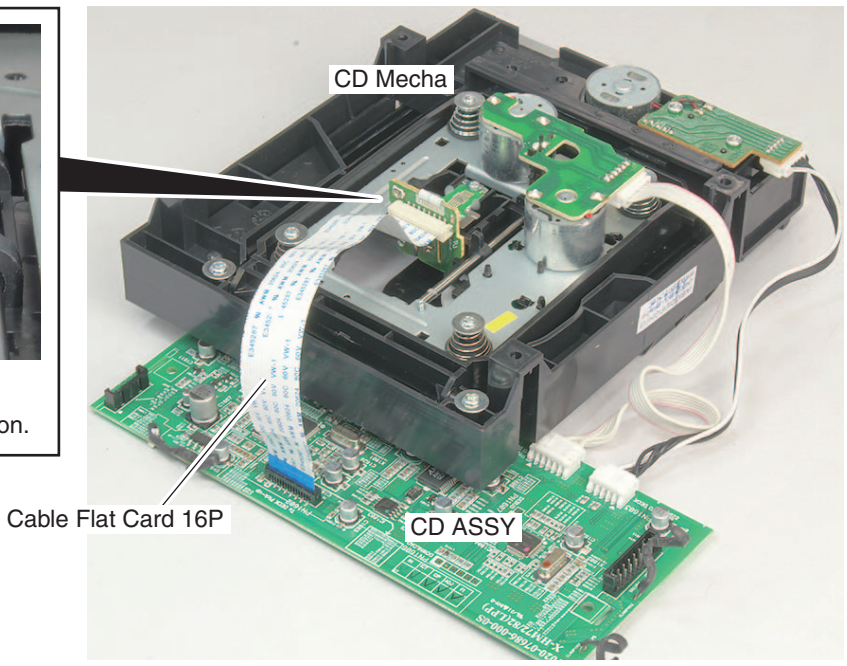
[Installing the CD Mecha]

Remove the solder on the short circuit position after connecting the Pickup PCB and CD ASSY with Cable Flat Card 16P.

Fig. 1

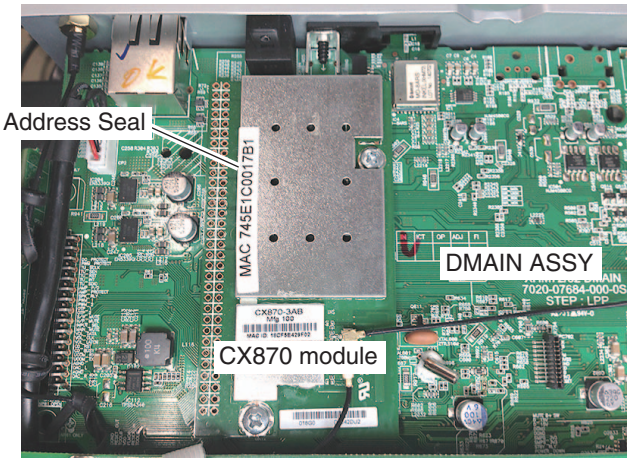


• Bottom side



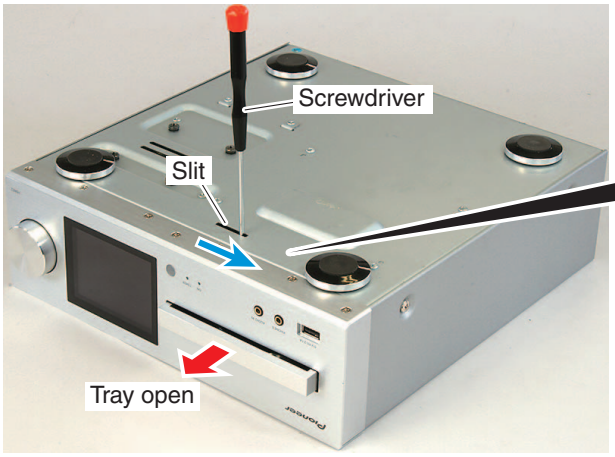
1.3 NOTES ON REPLACING CX870 MODULE

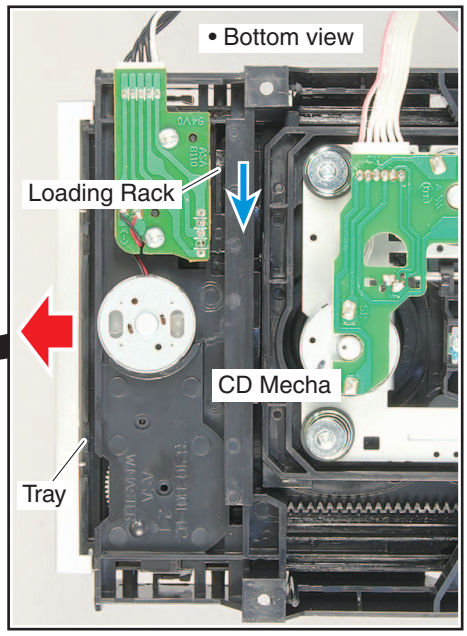
After the CX870 module is replaced, MAC address will be changed.
A new MAC address is shown on the MAC Address Seal affixed to the service part.



1.4 CD DISC EMERGENCY EJECT

When the Tray cannot be opened because the power cannot be turned on, open the Tray forcibly in the method shown below.
Insert a Screwdriver (thin and long) into the Slit located at the bottom of the unit, and slide the Loading Rack in the direction of blue arrow, as indicated in the photo.
If the Tray pops out a little, fully pull it out by hand.





1.5 NOTE ON REPLACING DMAIN ASSY OR USB ASSY

Precautions on repair of DMAIN ASSY and USB ASSY

The cord between DMAIN ASSY and USB ASSY was changed as shown below at the initial phase of production.
Please make sure to use correct combinations of pair replacement below.
The unit or external device connected to USB terminal may be damaged in case of wrong connection.

Description of change

The number of power supply cores of internal wire rod is increased by 1 Pin for the improvement of externally supplied power supply voltage (5V) of USB terminal and the number of total cores is changed from 6 Pins to 7 Pins.

(There is no actual harm even if the number of cores is 6 Pin)

* To prevent reverse insertion, the number of connectors is different between DMAIN ASSY side and USB ASSY side.

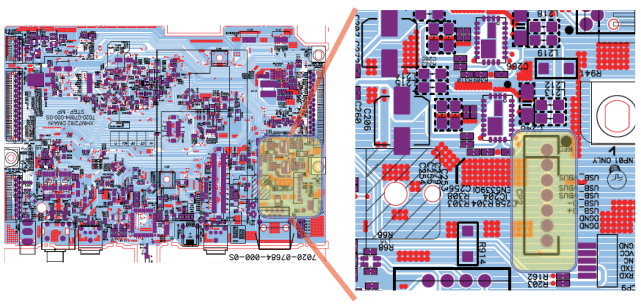
For approximately 6000 units at the initial phase, the number of cores is 6 Pins for the reason of production.
When the corresponding ASSY is replaced with a new one, the pair replacement is required as shown below.

(1) When ASSY is replaced with a new one without identifying the defective point within the independently registered part range at the failure of DMAIN ASSY
CN. Wire 2mm USB and USB ASSY need to be also replaced as a pair.

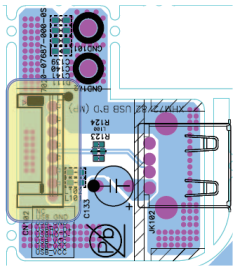
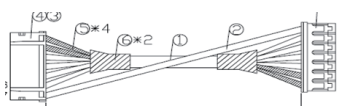
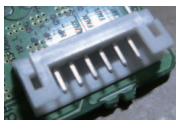
(2) When the ASSY is replaced with a new one without identifying the defective point within the independently registered part range at the failure of USB ASSY
DMAIN ASSY and CN. Wire 2mm USB need to be also replaced as a pair.

* The main component of USB ASSY is USB terminal, however, ASSY does not need to be replaced with a new one when the terminal is defective because the part is independently registered.

(3) When CN. Wire 2mm USB is replaced with a new one at the failure of CN. Wire 2mm USB.
DMAIN ASSY and USB ASSY need to be also replaced as a pair.

	DMAIN ASSY	
	PCB	CONNECTOR
Before change	 7pin cell (CP2)	6pin Connector (Mounted against 7pin cell)
After change		7pin Connector

Method of CN. Wire 2mm USB CONNECTION

	CN. Wire 2mm USB	USB ASSY	
		CONNECTOR	PCB
Before change	6pin HOUSING 6pin WIRE 7pin HOUSING	7pin Connector (Mounted against 8pin cell)	8pin cell (CN102) 
After change	7pin HOUSING 7pin WIRE 8pin HOUSING 	8pin Connector 	

2. SPECIFICATIONS

2.1 ACCESSORIES

Remote control unit		8300773200010S
AAA size IEC R03 dry cell batteries x2		G670001R50242S
AM loop antenna (X-HM82, XC-HM82 and X-HM72 only)		E601019000010-IL
FM wire antenna (X-HM82, XC-HM82 and X-HM72 only)		E605010140010-IL
DAB/FM wire antenna (X-HM82D, XC-HM82D and X-HM72D only)		E60501050020-IL
WLAN antenna x2		E600000010040S
Speaker x2 (X-HM82, X-HM82D, X-HM72 and X-HM72D only)	X-HM82-K/SYXEV8 : X-HM82-S/SYXEV8 : X-HM82D-K/VXEV8 : X-HM82-S/AXEV5 : X-HM72-K/SYXEV8 : X-HM72-S/SYXEV8 : X-HM72D-K/VXEV8 : X-HM72D-S/YXEV8 :	AZW8134 AZW8135 AZW8133
iPhone/iPad stand		4147210221000S
Warranty card	X-HM82-K/SYXEV8 : X-HM82-S/SYXEV8 : X-HM82D-K/VXEV8 : XC-HM82-K/SYXEV8 : XC-HM82-S/SYXEV8 : XC-HM82D-K/VXEV8 : X-HM72-K/SYXEV8 : X-HM72-S/SYXEV8 : X-HM72D-K/VXEV8 : X-HM72D-S/VXEV8 : X-HM82-S/AXEV5 :	5727000000161S 5727000000540S
Quick start guide	X-HM82-K/SYXEV8 : X-HM82-S/SYXEV8 : X-HM82D-K/VXEV8 : XC-HM82-K/SYXEV8 : XC-HM82-S/SYXEV8 : XC-HM82D-K/VXEV8 : X-HM72-K/SYXEV8 : X-HM72-S/SYXEV8 : X-HM72D-K/VXEV8 : X-HM72D-S/YXEV8 : X-HM82-S/AXEV5 : XC-HM82-K/CXEV :	5707000009580S 5707000009610S 5707000009600S
Power cord	X-HM82-K/SYXEV8 : X-HM82-S/SYXEV8 : XC-HM82-K/SYXEV8 : XC-HM82-S/SYXEV8 : X-HM72-K/SYXEV8 : X-HM72-S/SYXEV8 : X-HM72D-S/YXEV8 : X-HM82-S/AXEV5 : X-HM82D-K/VXEV8 : XC-HM82D-K/VXEV8 : X-HM72D-K/VXEV8 : XC-HM82-K/CXEV :	L068250251800-IL L068125100230S L068250030010-IL L068125071810S
Operating instructions (CD-ROM)	X-HM82-K/SYXEV8 : X-HM82-S/SYXEV8 : X-HM82D-K/VXEV8 : XC-HM82-K/SYXEV8 : XC-HM82-S/SYXEV8 : XC-HM82D-K/VXEV8 : X-HM72-K/SYXEV8 : X-HM72-S/SYXEV8 : X-HM72D-K/VXEV8 : X-HM72D-S/YXEV8 :	6517000002020S
Speaker wires x2 (X-HM82, X-HM82D, X-HM72 and X-HM72D only)		
Non skid pad x8 (X-HM82 and X-HM82D only)		

2.2 SPECIFICATIONS

Amplifier section
RMS Power Output. . . . . 50 W + 50 W
(1 kHz, 10 % T.H.D., 4 ohms)
Guaranteed speaker impedance . . . . . 4 ohms to 16 ohms
Headphones. . . . . recommended: 32 ohms

Tuner section (X-HM72, X-HM82 and XC-HM82 only)
Frequency Range (FM) . . . . . 87.5 MHz to 108 MHz
Frequency Range (AM). . . . . 522 kHz to 1620 kHz
Antenna Input (FM). . . . . 75 ohms unbalanced
Antenna (AM). . . . . Loop antenna

Tuner section (X-HM72D, X-HM82D and XC-HM82D only)
Frequency Range (FM) . . . . . 87.5 MHz to 108 MHz
Frequency Range (DAB)
. . . . . 174.928 MHz to 239.200 MHz (BAND III)
Antenna Input (FM/DAB) . . . . . 75 ohms unbalanced

***Bluetooth* section**
Version . . . . . *Bluetooth* Specification Ver. 3.0
Output . . . . . *Bluetooth* Specification Class 2
Estimated line-of-sight transmission distance*
. . . . . About 10 m
Frequency range . . . . . 2.4 GHz
Supported *Bluetooth* profiles . . . . . A2DP, AVRCP
Supported Codec. . . . . SBC (Subband Codec), AAC, APT-X

* The line-of-sight transmission distance is an estimate.

Actual transmission distances supported may differ depending on surrounding conditions.

Network section (Wired)
LAN terminal . . . . . Ethernet jack
10BASE-T/100BASE-TX

Network section (Wireless)
WLAN standards. . . . . IEEE 802.11b, IEEE 802.11g
Frequency band. . . . . 2.412 GHz to 2.472 GHz
(2.4 GHz ISM Band, 13 Channels)
Channel 1 to Channel 13
Modulation. . . . . 802.11b mode (DS-SS: IEEE 802.11b)
802.11g mode (OFDM: IEEE 802.11g)

Other connectors
Power supply
USB connector . . . . . 5 V, 2.1 A

Miscellaneous
Power source . . . . . .AC 220 V to 230 V, 50 Hz
Power consumption
Power on. . . . . 52 W
In standby . . . . . 0.5 W
In standby (BT Standby on). . . . . 0.5 W
In standby (Quick Start Mode on). . . . . 3.0 W
In standby (BT Standby on, Quick Start Mode on) . . . . 3.3 W
Auto Power Down. . . . . 15 min (default), 30 min, 60 min, off
Dimensions
Width. . . . . 290 mm
Height . . . . . 98 mm
Depth. . . . . 333 mm
Weight. . . . . 4.8 kg

Speaker (X-HM82 and X-HM82D only)
Type
2-way type speaker system
2.5 cm Dome-Tweeter
12 cm Woofer
Maximum input power. . . . . 50 W
Impedance. . . . . 4 ohms
Dimensions
Width. . . . . 156 mm
Height . . . . . 266 mm
Depth. . . . . 258 mm
Weight. . . . . 4.3 kg/each

Speaker (X-HM72 and X-HM72D only)
Type
2-way type speaker system
2.5 cm Dome-Tweeter
12 cm Woofer
Maximum input power. . . . . 50 W
Impedance. . . . . 4 ohms
Dimensions
Width. . . . . 148 mm
Height . . . . . 263 mm
Depth. . . . . 213 mm
Weight. . . . . 3.3 kg/each

Note

- The specifications are applicable when the power supply is 230 V.
- Specifications and the design are subject to possible modifications without notice, due to improvements.
- Corporation and product names mentioned herein are trademarks or registered trademarks of the respective corporations.
- This product is not designed for use in Japan.
- *This product includes FontAvenue® fonts licensed by NEC Corporation. FontAvenue is a registered trademark of NEC Corporation.*
- *iOS is a trademark on which Cisco holds the trademark right in the US and certain other countries.*
- *Android and Google Play are trademarks of Google Inc.*

3. BASIC ITEMS FOR SERVICE

3.1 CHECK POINTS AFTER SERVICING

Items to be checked after servicing

To keep the product quality after servicing, confirm recommended check points shown below.

No.	Procedure	Check points
1	Confirm whether the customer complain has been solved.	The customer complain must not be reappeared. Audio and operations must be normal.
2	Check the CD playback.	Audio and operations (search etc.) must be normal.
3	Check the USB playback.	Audio and operations must be normal.
4	Check the iPod playback.	Audio and operations must be normal.
5	Check the internet radio or Network audio playback.	Audio and operations must be normal.
6	Check the Wi-fi antenna.	Confirm whether you refer to "5.4 CHECKING TERMINALS" -"2. Checking the Wi-Fi Antenna", and the SSID of the wireless LAN router is displayed.
7	Check the tuner operations.	Audio and operations (station search etc.) must be normal.
8	Check the Line 1 input and Line 2 input playback.	Audio and operations must be normal.
9	Check the Digital In playback	Audio and operations must be normal.
10	Check the Audio In playback	Audio and operations must be normal.
11	Check the Bluethooth playback	Audio and operations must be normal.
12	Check the appearance of the product.	No scratches or dirt on its appearance after receiving it for service.

See the table below for the items to be checked regarding audio.

Item to be checked regarding audio
Distortion
Noise
Volume too low
Volume too high
Volume fluctuating
Sound interrupted

3.2 JIGS LIST

(1) Jigs List

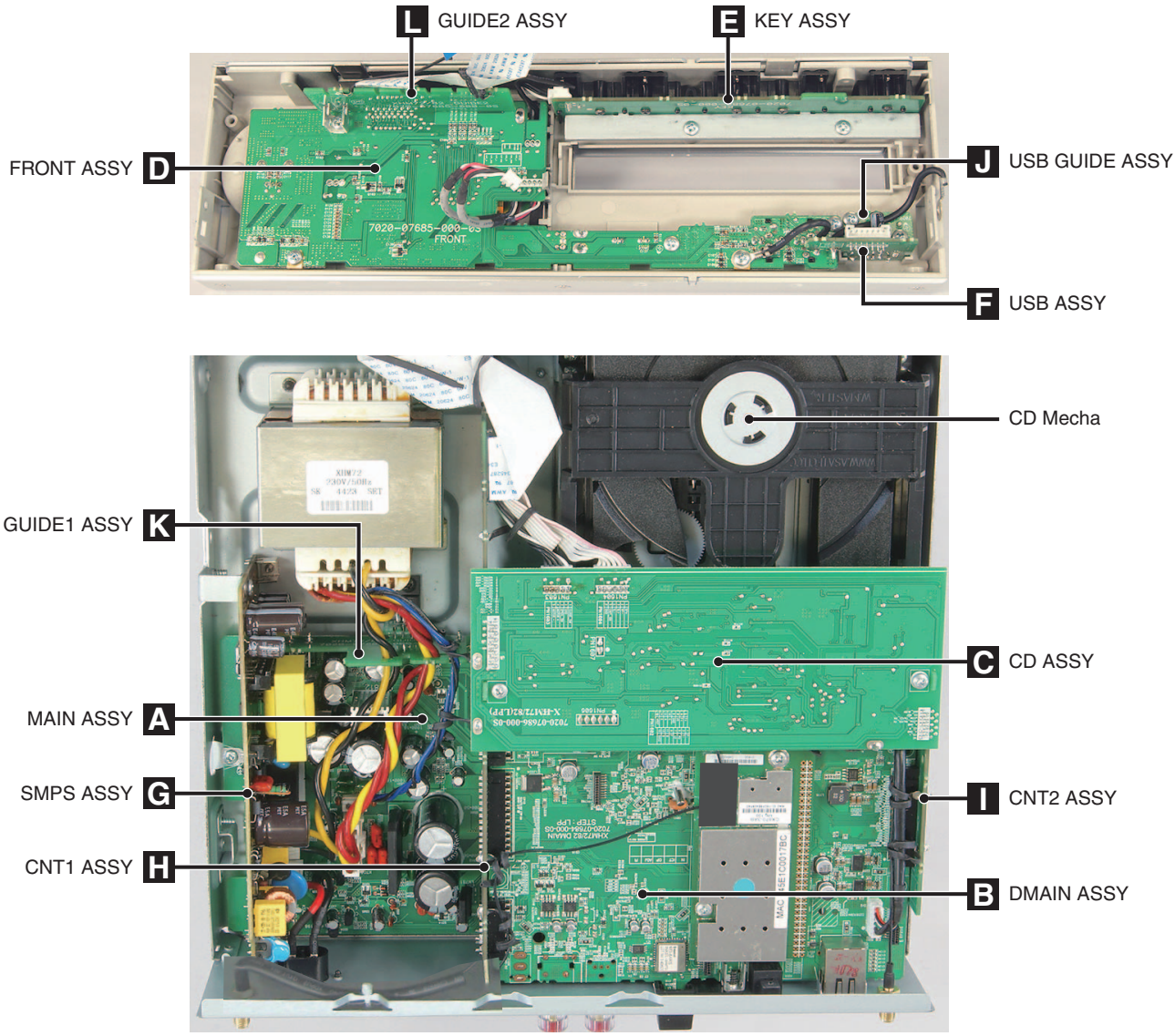
Name	Jig No.	Remarks
Service remote control unit	GGF1381	Service mode
RS-232C update jig	GGF1642	Firmware update
33P board to board extension jig cable	GGD1847	Diagnosis (MAIN ASSY <-> CNT1 ASSY)
29P board to board extension jig cable	GGD1856	Diagnosis (MAIN ASSY <-> CNT2 ASSY)
16P FFC extension jig cable	GGD1774	Diagnosis (CD Mecha <-> CD ASSY)

(2) Cleaning

Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools.

Position to be cleaned	Name	Part No.	Remarks
Pickup lens	Cleaning liquid	GEM1004	Refer to “7. DISASSEMBLY”.
	Cleaning paper	GED-008	

3.3 PCB LOCATIONS



NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

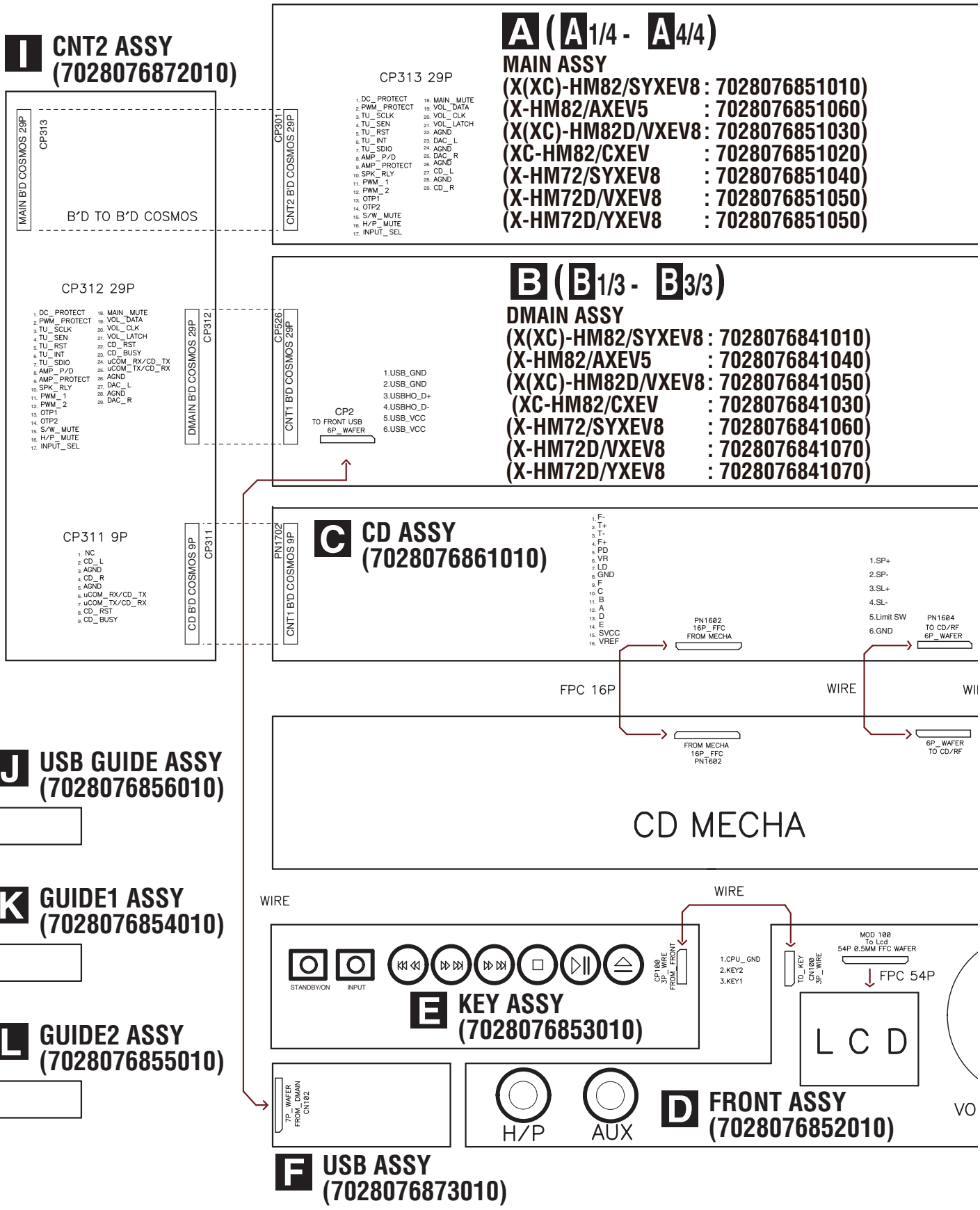
LIST OF ASSEMBLIES

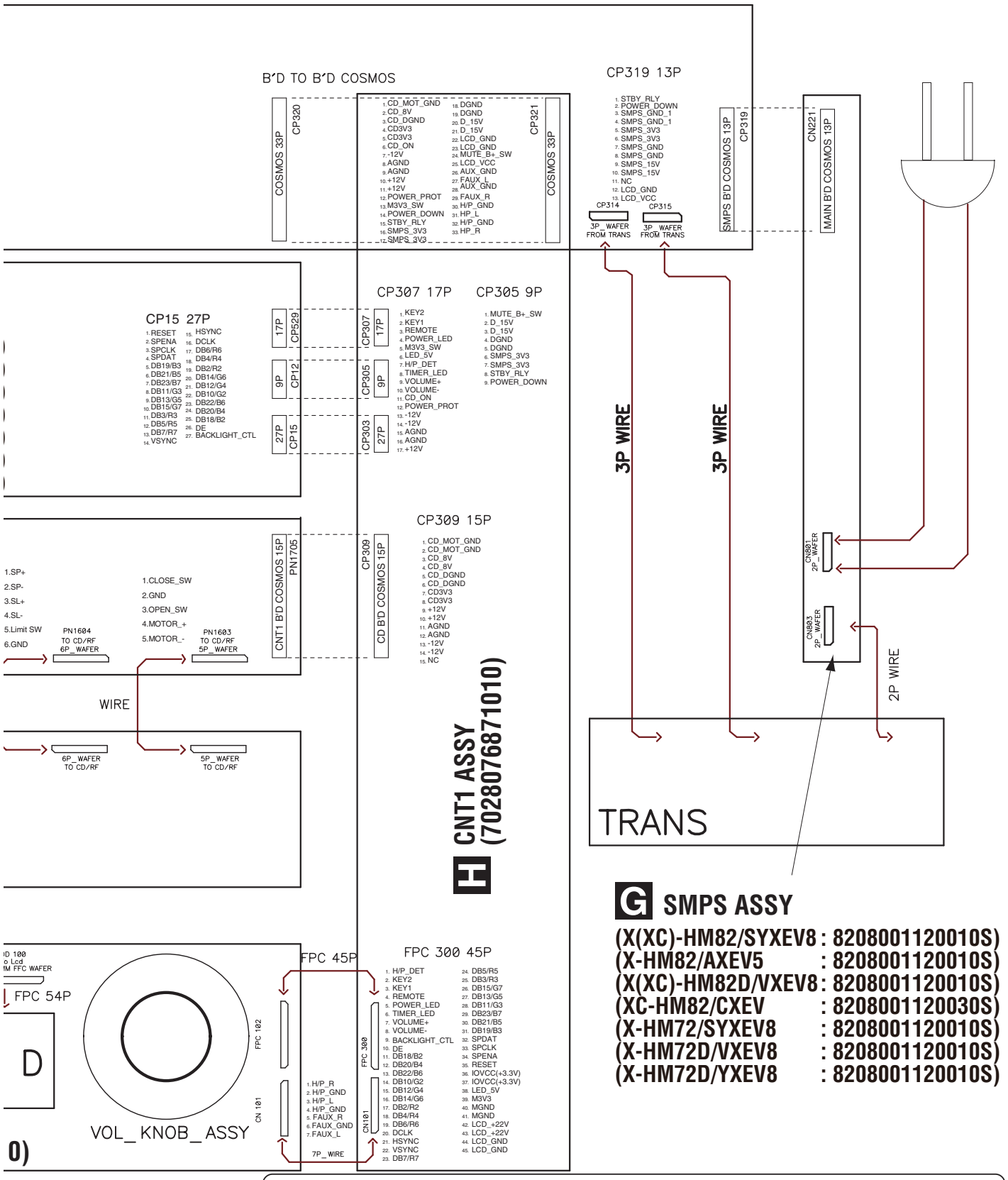
Mark	Symbol & Discription	X-HM82-K/ SYXEV8	X-HM82-S/ SYXEV8	XC-HM82-K/ SYXEV8	XC-HM82-S/ SYXEV8	XC-HM82-K/ CXEV	X-HM82-S/ AXEV5
NSP	1..P.C.B. TOTAL ASSY MAIN	7025MU1401010	7025MU1401020	7025MU1401030	7025MU1401040	7025MU1401070	7025MU1401080
	2..MAIN ASSY	7028076851010	7028076851010	7028076851010	7028076851010	7028076851020	7028076851060
	2..FRONT ASSY	7028076852010	7028076852010	7028076852010	7028076852010	7028076852010	7028076852010
	2..KEY ASSY	7028076853010	7028076853010	7028076853010	7028076853010	7028076853010	7028076853010
	2..GUIDE1 ASSY	7028076854010	7028076854010	7028076854010	7028076854010	7028076854010	7028076854010
	2..GUIDE2 ASSY	7028076855010	7028076855010	7028076855010	7028076855010	7028076855010	7028076855010
	2..USB GUIDE ASSY	7028076856010	7028076856010	7028076856010	7028076856010	7028076856010	7028076856010
NSP	1..P.C.B. TOTAL ASSY DMAIN	7025MU1401011	7025MU1401021	7025MU1401031	7025MU1401041	7025MU1401071	7025MU1401081
	2..DMAIN ASSY	7028076841010	7028076841010	7028076841010	7028076841010	7028076841030	7028076841040
NSP	1..P.C.B. TOTAL ASSY CD	7025MU1401012	7025MU1401022	7025MU1401032	7025MU1401042	7025MU1401072	7025MU1401082
	2..CD ASSY	7028076861010	7028076861010	7028076861010	7028076861010	7028076861010	7028076861010
NSP	1..P.C.B. TOTAL ASSY CNT	7025MU1401013	7025MU1401023	7025MU1401033	7025MU1401043	7025MU1401073	7025MU1401083
	2..CNT1 ASSY	7028076871010	7028076871010	7028076871010	7028076871010	7028076871010	7028076871010
	2..CNT2 ASSY	7028076872010	7028076872010	7028076872010	7028076872010	7028076872010	7028076872010
	2..USB ASSY	7028076873010	7028076873010	7028076873010	7028076873010	7028076873010	7028076873010
⚠	1..SMPS ASSY	8208001120010S	8208001120010S	8208001120010S	8208001120010S	8208001120030S	8208001120010S

Mark	Symbol & Discription	X-HM82D-K/ VXEV8	XC-HM82D-K/ VXEV8	X-HM72-K/ SYXEV8	X-HM72-S/ SYXEV8	X-HM72D-K/ VXEV8	X-HM72D-S/ YXEV8
NSP	1..P.C.B. TOTAL ASSY MAIN	7025MU1401090	7025MU1401100	7025MU1401110	7025MU1401120	7025MU1401130	7025MU1401140
	2..MAIN ASSY	7028076851030	7028076851030	7028076851040	7028076851040	7028076851050	7028076851050
	2..FRONT ASSY	7028076852010	7028076852010	7028076852010	7028076852010	7028076852010	7028076852010
	2..KEY ASSY	7028076853010	7028076853010	7028076853010	7028076853010	7028076853010	7028076853010
	2..GUIDE1 ASSY	7028076854010	7028076854010	7028076854010	7028076854010	7028076854010	7028076854010
	2..GUIDE2 ASSY	7028076855010	7028076855010	7028076855010	7028076855010	7028076855010	7028076855010
	2..USB GUIDE ASSY	7028076856010	7028076856010	7028076856010	7028076856010	7028076856010	7028076856010
NSP	1..P.C.B. TOTAL ASSY DMAIN	7025MU1401091	7025MU1401101	7025MU1401111	7025MU1401121	7025MU1401131	7025MU1401141
	2..DMAIN ASSY	7028076841050	7028076841050	7028076841060	7028076841060	7028076841070	7028076841070
NSP	1..P.C.B. TOTAL ASSY CD	7025MU1401092	7025MU1401102	7025MU1401112	7025MU1401122	7025MU1401132	7025MU1401142
	2..CD ASSY	7028076861010	7028076861010	7028076861010	7028076861010	7028076861010	7028076861010
NSP	1..P.C.B. TOTAL ASSY CNT	7025MU1401093	7025MU1401103	7025MU1401113	7025MU1401123	7025MU1401133	7025MU1401143
	2..CNT1 ASSY	7028076871010	7028076871010	7028076871010	7028076871010	7028076871010	7028076871010
	2..CNT2 ASSY	7028076872010	7028076872010	7028076872010	7028076872010	7028076872010	7028076872010
	2..USB ASSY	7028076873010	7028076873010	7028076873010	7028076873010	7028076873010	7028076873010
⚠	1..SMPS ASSY	8208001120010S	8208001120010S	8208001120010S	8208001120010S	8208001120010S	8208001120010S

4. BLOCK DIAGRAM

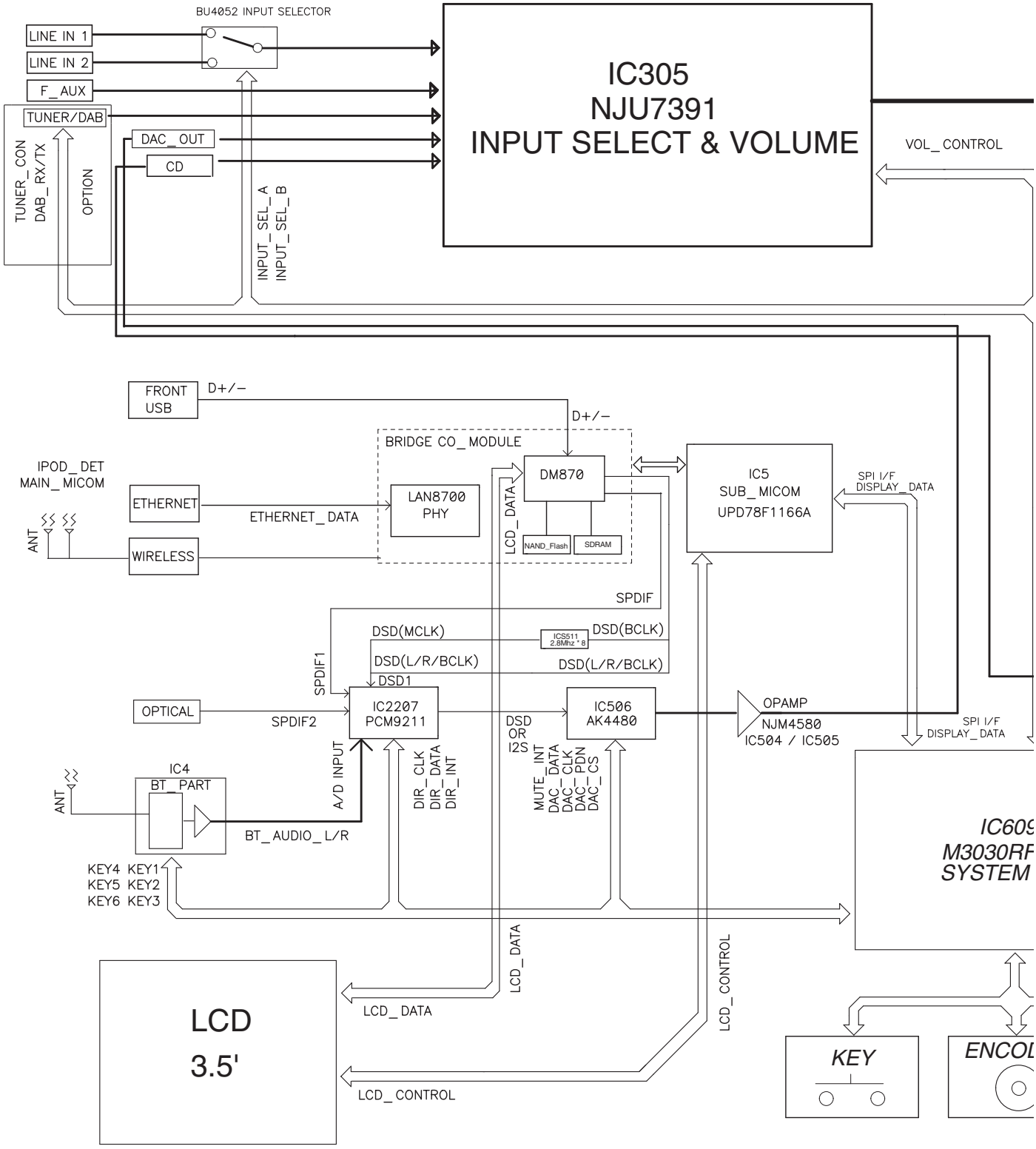
4.1 OVERALL CONNECTION DIAGRAM

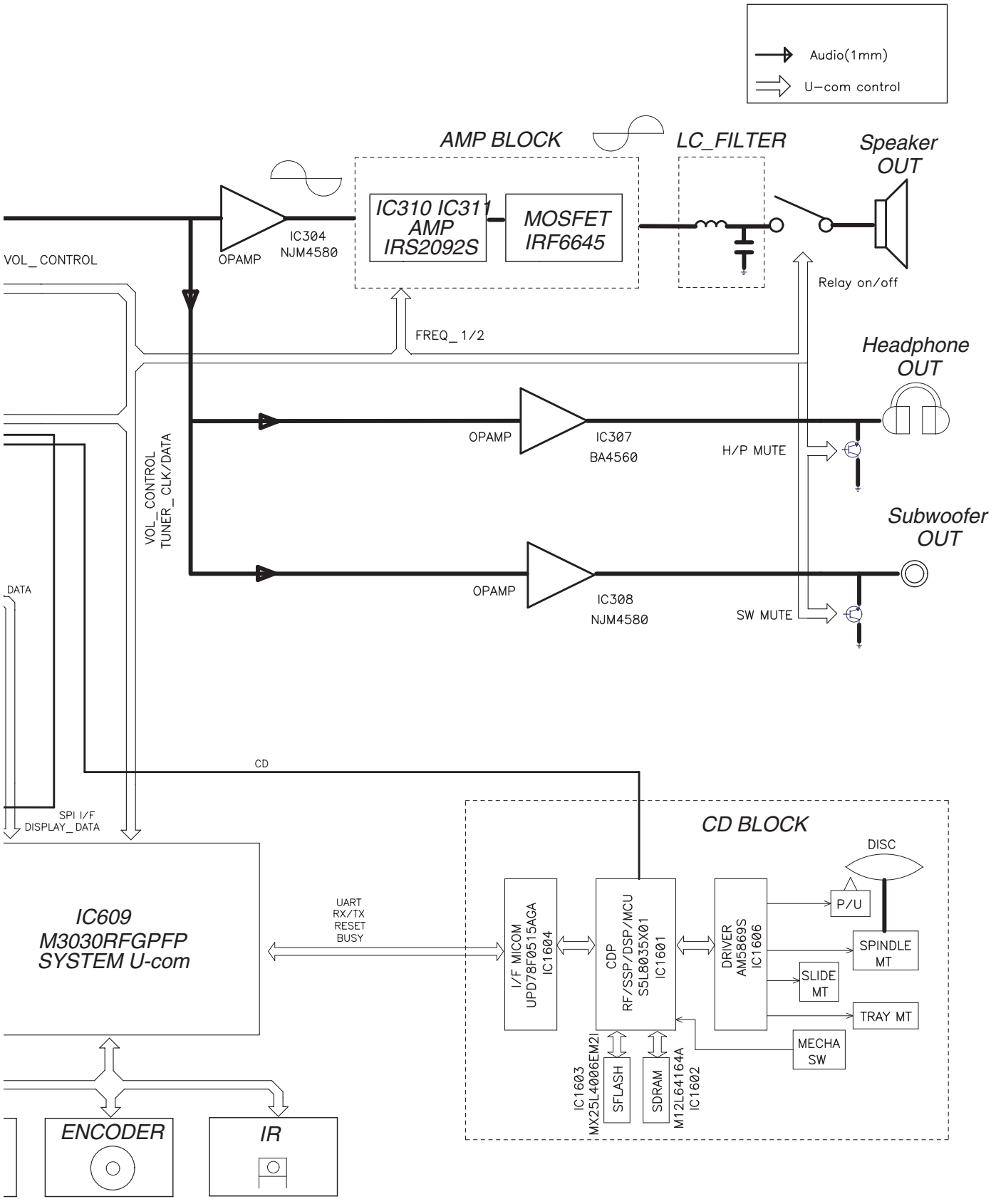




- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

4.2 BLOCK DIAGRAM

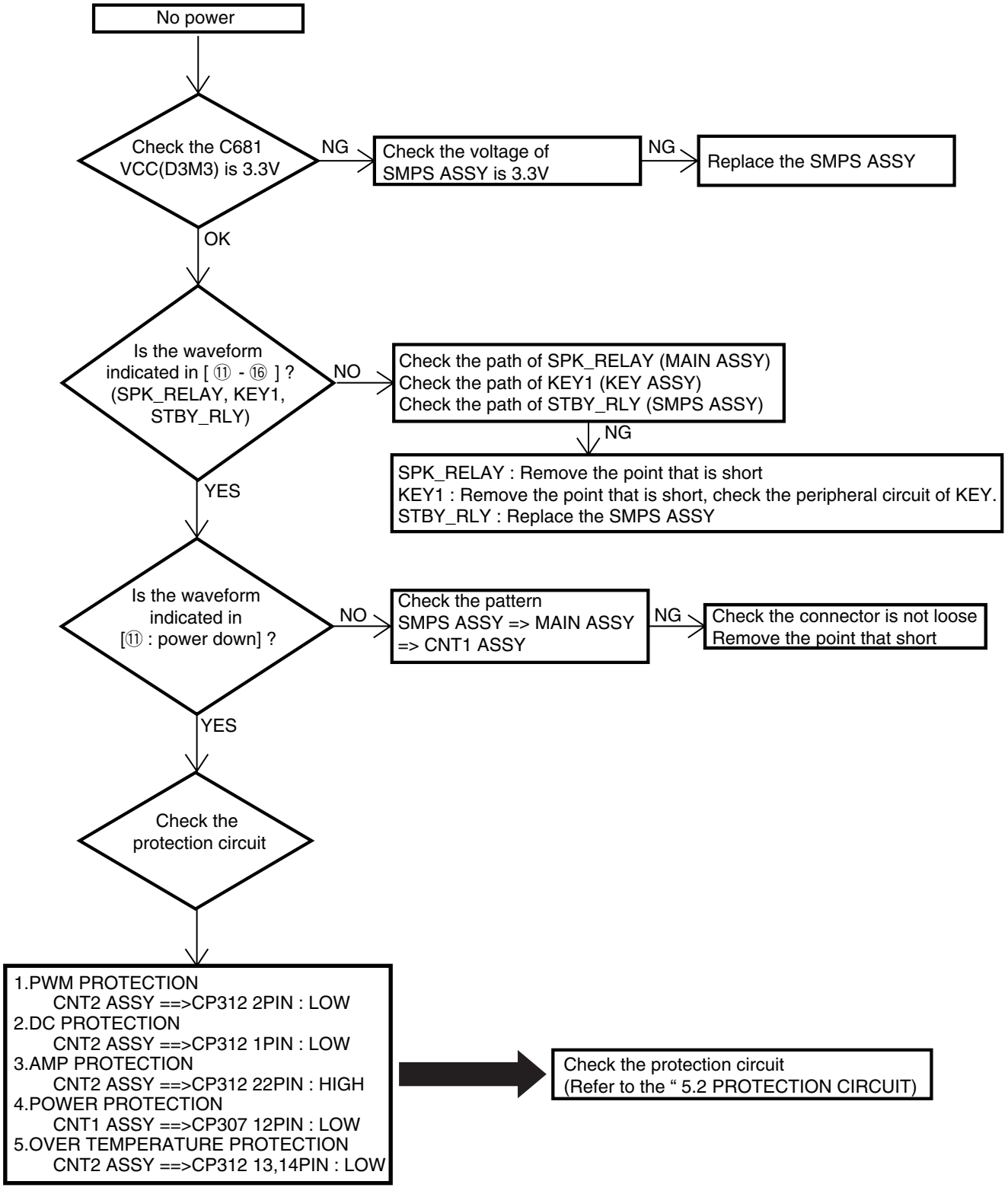



Audio(1mm)
U-com control
AMP BLOCK
LC_FILTER
Speaker OUT
IC310 IC311 AMP IRS2092S
MOSFET IRF6645
IC304 NJM4580
OPAMP
VOL_ CONTROL
Relay on/off
FREQ_ 1/2
Headphone OUT
OPAMP
IC307 BA4560
H/P MUTE
VOL_ CONTROL TUNER_ CLK/DATA
Subwoofer OUT
DATA
OPAMP
IC308 NJM4580
SW MUTE
CD
SPI I/F DISPLAY_ DATA
CD BLOCK
DISC
IC609 M3030RFGPFP SYSTEM U-com
UART RX/TX RESET BUSY
I/F MICOM UPD78F0515AGA IC1604
CDP RF/SSP/DSP/MCU S5L8035X01 IC1601
DRIVER AM5869S IC1606
P/U
SPINDLE MT
SLIDE MT
TRAY MT
MECHA SW
IC1603 MX25L4006EM2I
SFLASH
SDRAM M12L64164A IC1602
ENCODER
IR

5. DIAGNOSIS
5.1 TROUBLESHOOTING

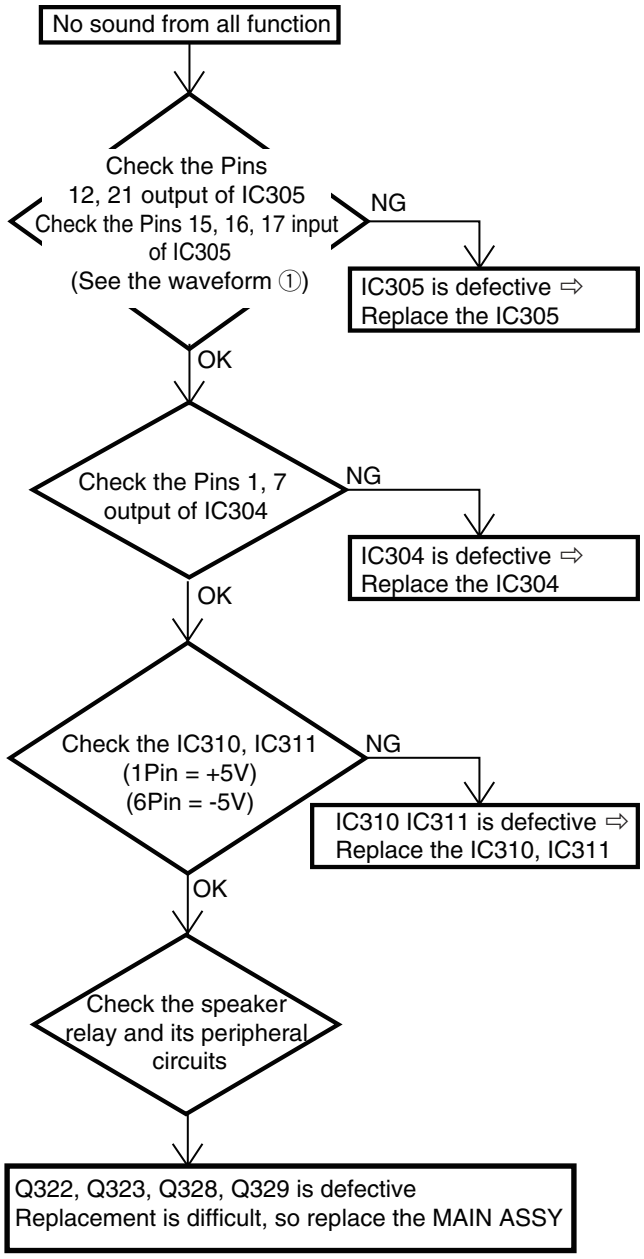
NO POWER

STEP 1 : DISCHARGE (Refer to the " Discharge of 7. DISASSEMBLY ")
STEP 2 : D3V3 CHECK

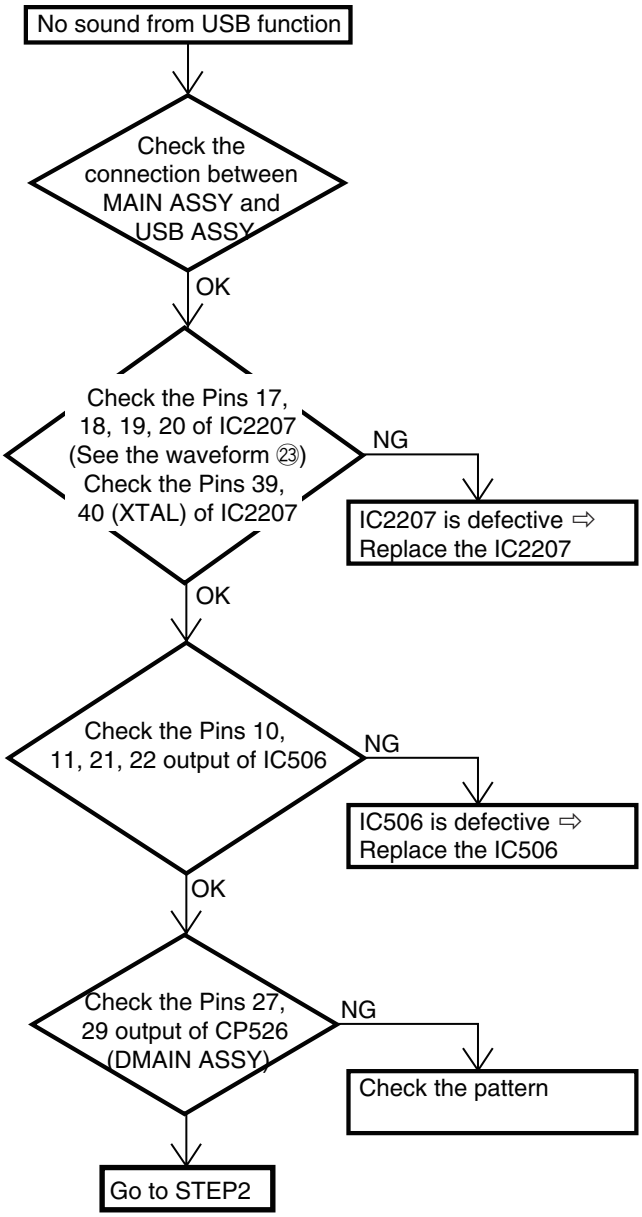


NO SOUND

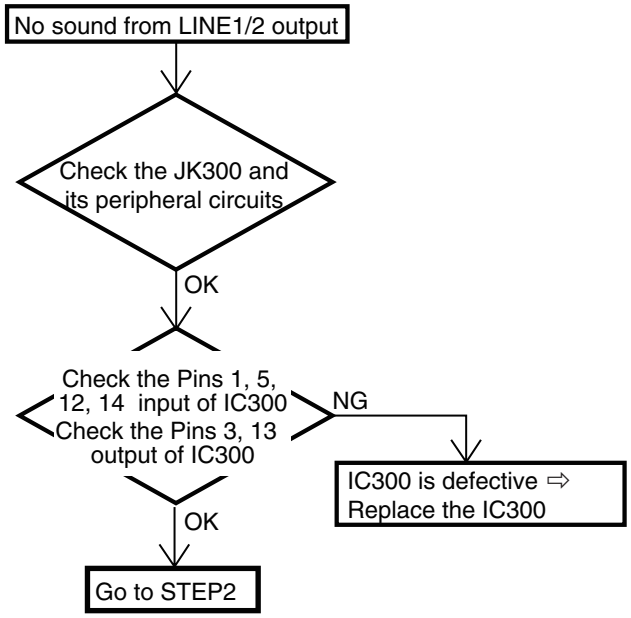
STEP1 : Find no sound function
STEP2 : No sound from all function
(USB, CD, LINE1/2, H/P, AUX)



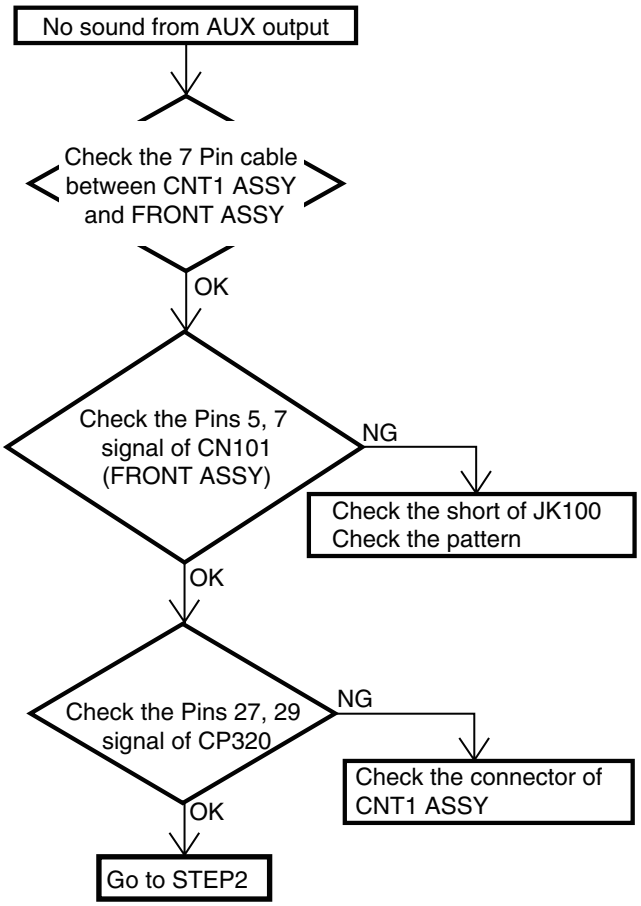
STEP 3 : No sound from USB function



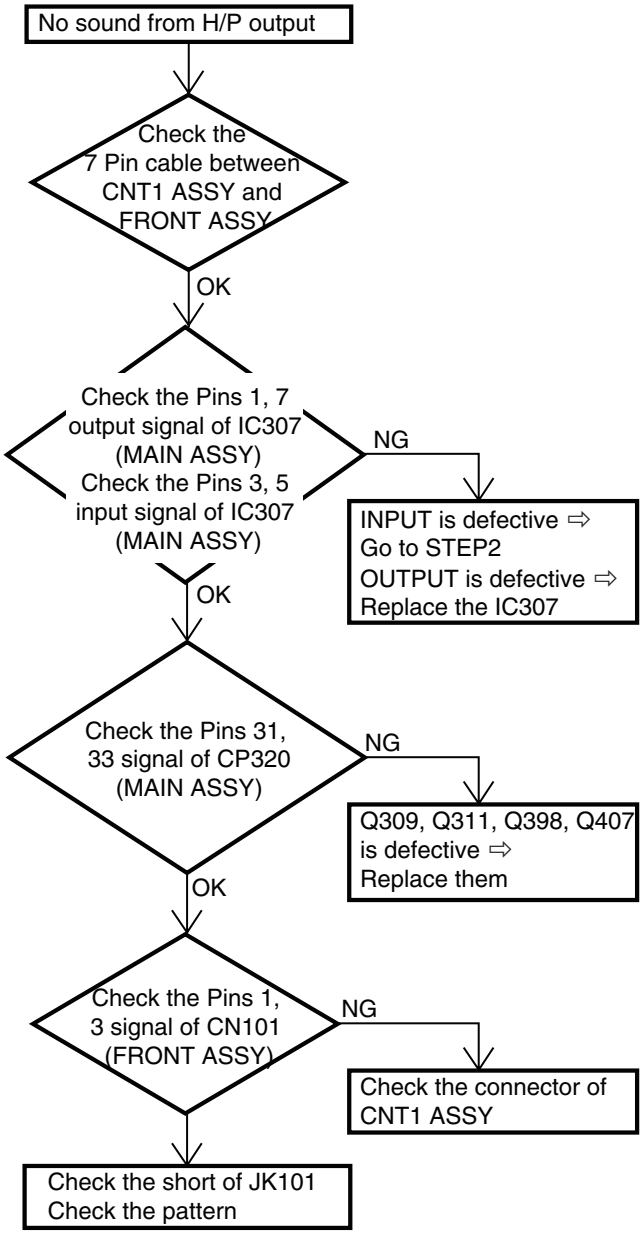
STEP4 : No sound from LINE1/2 output



STEP5 : No sound from AUX output



STEP 6 : No sound from H/P output



NO SOUND FROM CD

STEP1 : Preliminary check

Check preliminary

Are the connectors (CP309, CP311, PN1702, PN1705) securely inserted ?

YES

STEP2 : VCC , GND check

Check the Pins 1, 2, 5, 6, 11, 12 of CP309 (CNT1 ASSY) Check the short of CP320

NG → Go to STEP1 ⇨ Check the connector of CNT1 ASSY

OK

Check the vlotage of CP309
(3 Pin = +8V)
(7 Pin = 3.3V)
(9 Pin = +12V)
(13 Pin = -12V)

NG → 8V NG ⇨ Check the IC316
3.3V NG ⇨ Check the Q339 ⇨ Check the SMPS ASSY
+12V NG ⇨ Check the IC312
-12V NG ⇨ Check the IC313

OK

STEP3 : CD ASSY (RX, TX) check

Check the Pins 6, 7 of CP311 (See the waveform [⑭])

NG → Check the connector of CNT2 ASSY

NG → Check the IC1604

OK

STEP4 : CD MECHA check

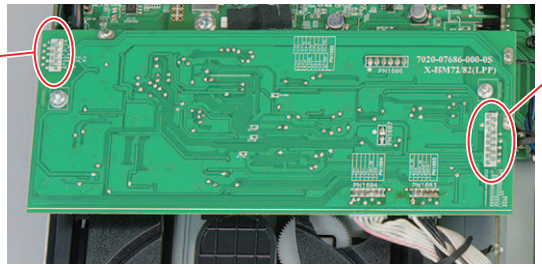
Check the solder that is short of CD MECHA

NG → Remove the solder that is short (Refer to the " 1.2 NOTE ON REPLACING CD MECHA")

Replace the CD MECHA

Terminal Description of PN1702 and PN1705

CP311 (CNT2 ASSY)	↔	PN1702 (CD ASSY)
1. NC		9. A_GND
2. CD_L		8. CD_L
3. A_GND		7. A_GND
4. CD_R		6. CD_R
5. A_GND		5. A_GND
6. uCOM_RX/CD_TX		4. uCOM_RX/CD_TX
7. uCOM_TX/CD_RX		3. uCOM_TX/CD_RX
8. CD_RST		2. CD_RST
9. CD_BUSY		1. CD_BUSY



PN1705 (CD ASSY)	↔	CP309 (CNT1 ASSY)
15. NC		15. NC
14. -12V		14. -12V
13. -12V		13. -12V
12. AGND		12. AGND
11. AGND		11. AGND
10. +12V		10. +12V
9. +12V		9. +12V
8. CD3V3		8. CD3V3
7. CD3V3		7. CD3V3
6. CD_DGND		6. CD_DGND
5. CD_DGND		5. CD_DGND
4. CD_8V		4. CD_8V
3. CD_8V		3. CD_8V
2. CD_MOT_GND		2. CD_MOT_GND
1. CD_MOT_GND		1. CD_MOT_GND

5.2 PROTECTION CIRCUIT

If a protection circuit is activated then the unit enters Standby mode, the LED flashes in accordance with the activated protection function, as shown in the table below.

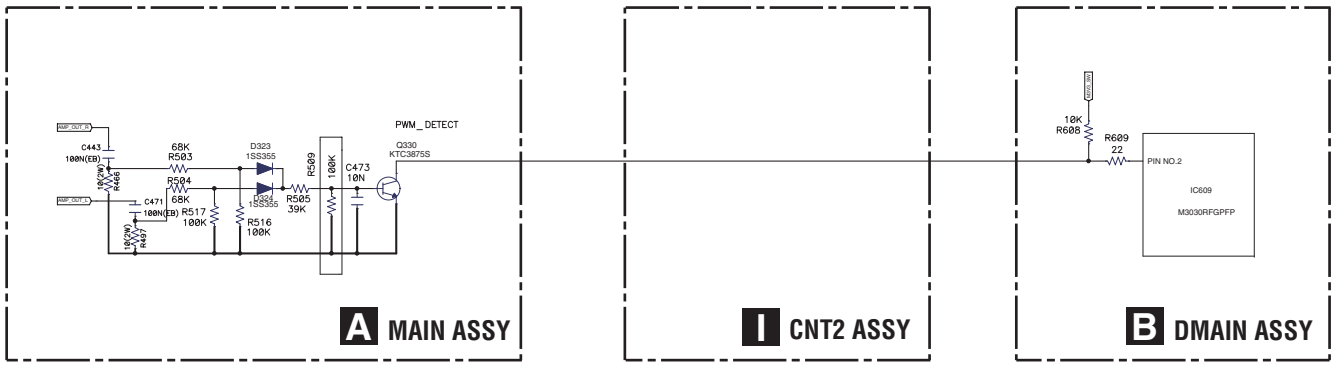
Protection	LED flashing time		Operation Lock
	LED ON	LED OFF	
PWM	900 msec	100 msec	Lock
DC	100 msec	900 msec	Lock
AMP	100 msec	100 msec	—
POWER	500 msec	500 msec	Lock
OVER TEMP1	100 msec	100 msec	—
OVER TEMP2	100 msec	100 msec	—

If the DC, POWER, or PWM protection circuit is activated, operation of the unit will be locked.
The buttons that can be used to release operation lock are as follows:
Simultaneously press the "INPUT" and "►►►►I" (Tune Up, Skip Up) buttons on the front panel, or simultaneously press the "STANDBY/ON" and "■" (STOP) buttons on the front panel.
After operation lock is released and the unit is then turned ON, the unit will perform the following:
• Count the number of activations of protection circuits
• Cancel flashing of the LED

Description of Each Function

• PWM PROTECTION

Detect abnormal PWM waveforms in the speaker outputs (AMP_OUT_L, AMP_OUT_R) that result from abnormality in the AMP Block, and apply protection.
Operable with IC609_2Pin "H" -> "L".



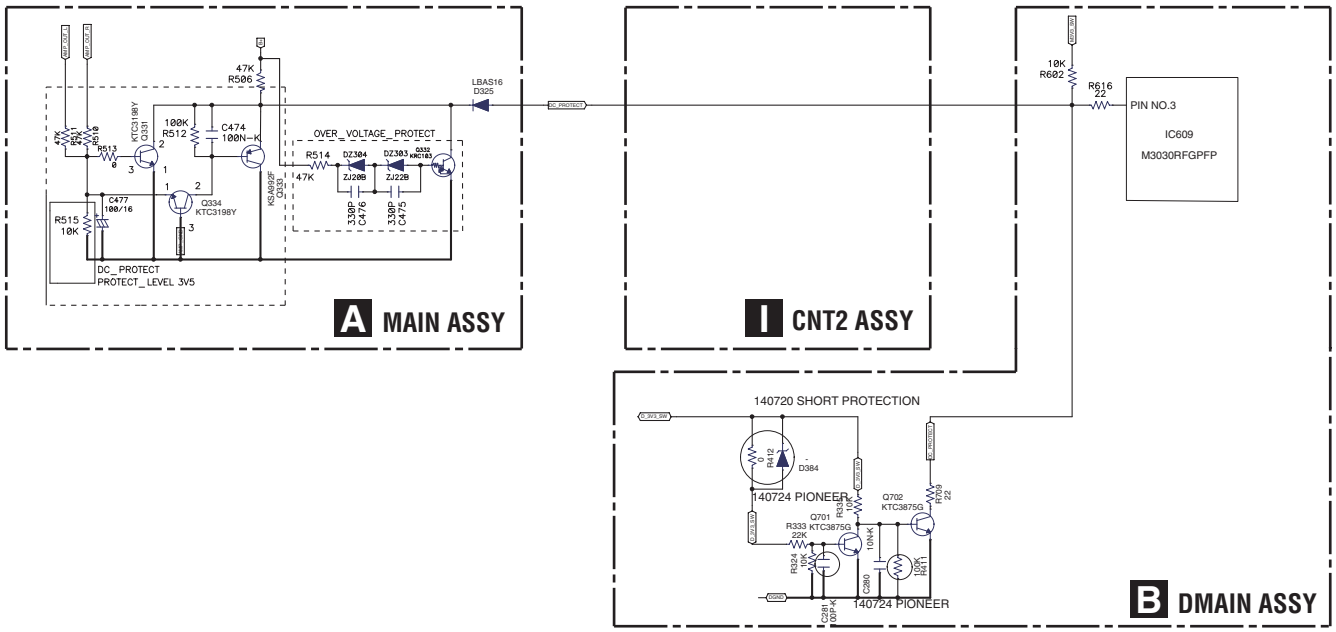
• DC PROTECTION

Detect the following two abnormalities and apply protection.

Operable with IC609_3Pin "H" -> "L".

Condition 1 : Detect an abnormal DC level in speaker outputs (AMP_OUT_L, AMP_OUT_R) that result from abnormality in the AMP block or AMP power supplies B+ (33 V) and B- (-33 V), and apply protection.

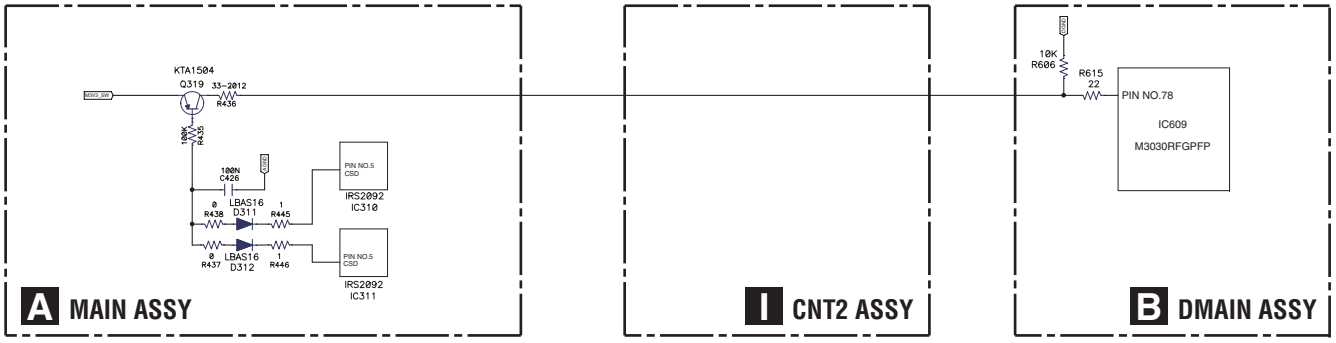
Condition 2 : Detect a reduction in the power supply D_3V3_SW, and apply protection.



• AMP PROTECTION

Detect abnormality in the AMP Block (mainly IC310 and IC311 as well as their power supplies and peripheral circuits), and apply protection.

Operable with IC609_78Pin "L" -> "H".

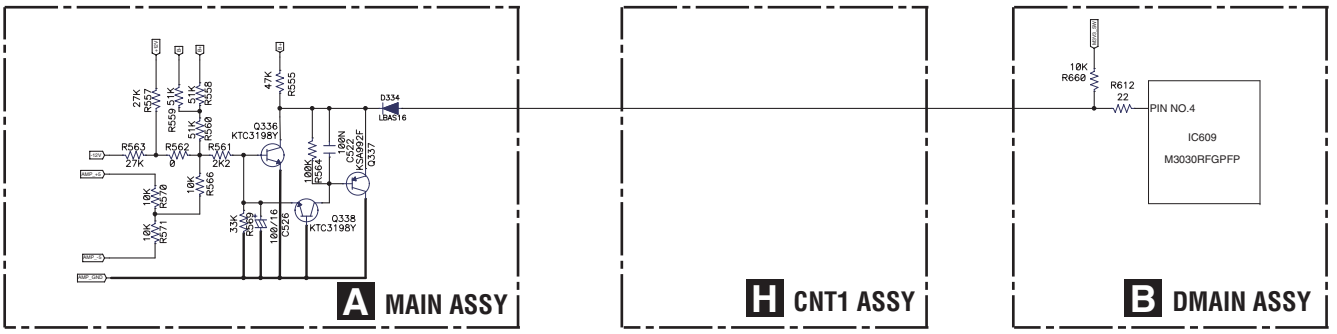


• POWER PROTECTION

Detect each power supply turns OFF as a result of abnormality in power circuits, and apply protection.

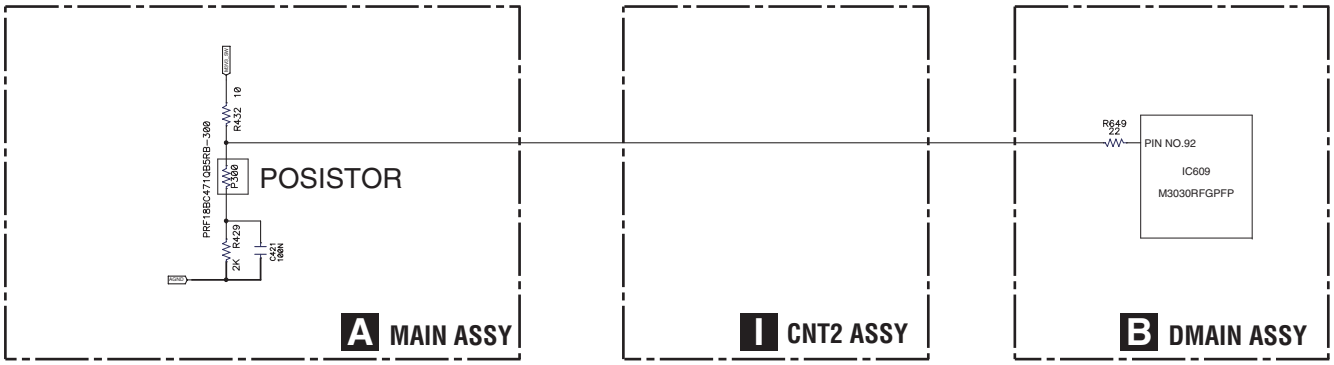
Power supply systems detected: B+, B-, -12, +12, AMP_+5, AMP_-5

Operable with IC609_4Pin "H" -> "L".



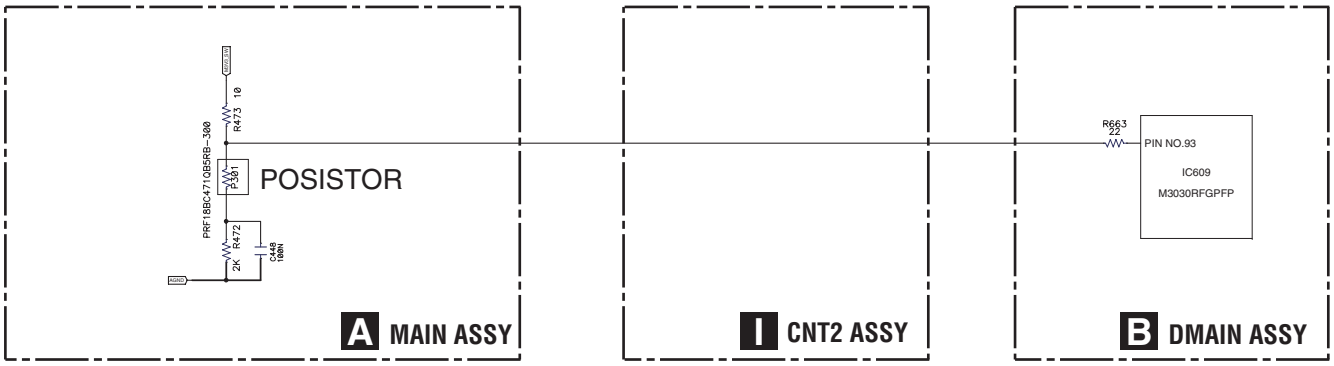
• OVER TEMPERATURE PROTECTION1

Detect abnormal heating of the AMP L channel circuits (mainly: IC310, Q322 and Q323) by means of the PTC thermistor (P300), and apply protection.
Operable with IC609_92Pin "H" -> "L".



• OVER TEMPERATURE PROTECTION2

Detect abnormal heating of the AMP R channel circuits (mainly: IC311, Q328 and Q329) by means of the PTC thermistor (P301), and apply protection.
Operable with IC609_93Pin "H" -> "L".

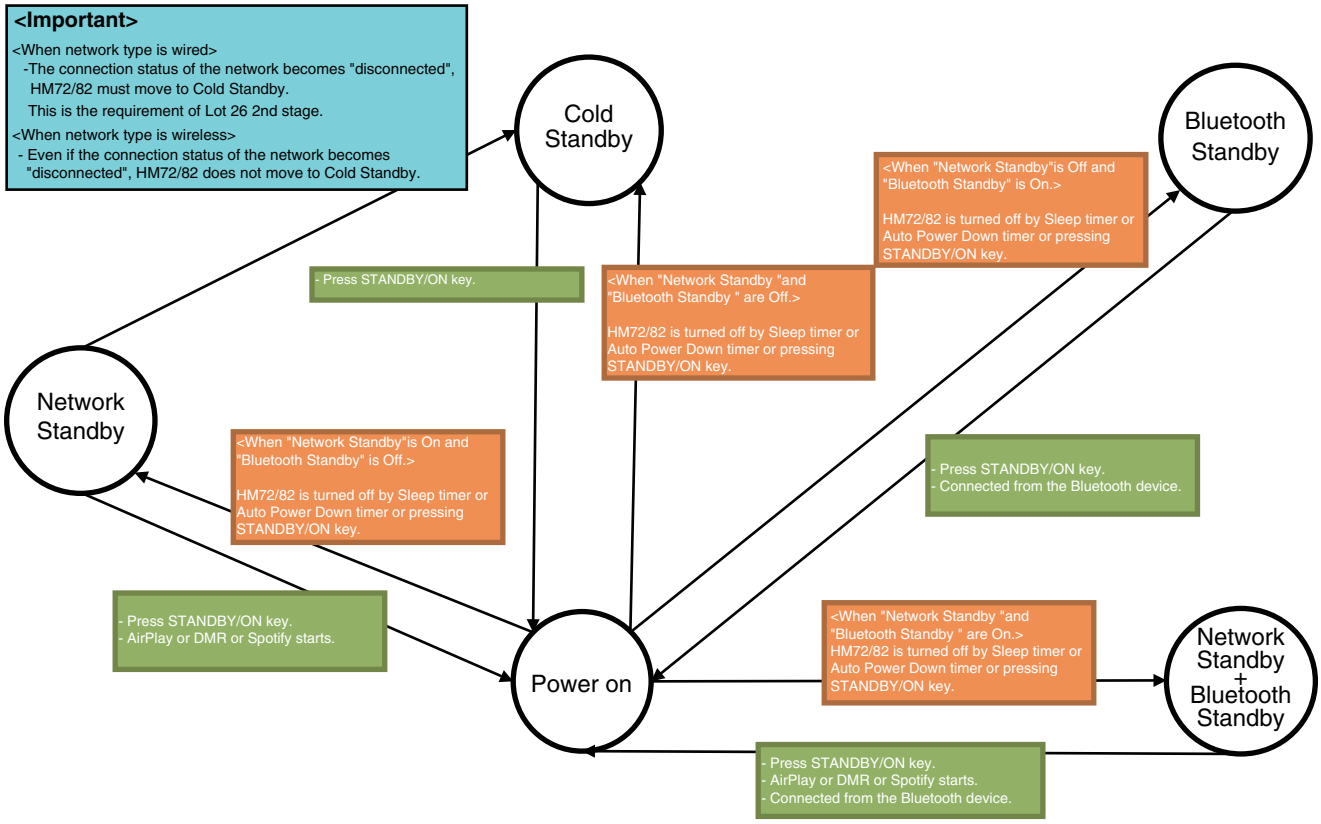


5.3 POWER MANAGEMENT

Status Transition Diagram of Network Standby Mode and Bluetooth Standby Mode

When Quick Start Mode in Initial Setup is On, Networkd Standby is enabled.

When Bluetooth Standby Mode in Initial Setup is On, Bluetooth Standby is enabled.



Status	Detail	Power status of CX870 and Sub Micom	Power status of BT Module
Cold Standby	- "Network Standby"and "Bluetooth Standby" are Off. - LCD is turned Off.	Off	Off
Network Standby	"Network Standby" is On. "Bluetooth Standby" is Off - LCD is turned Off.	On	Off
Bluetooth Standby	"Network Standby" is Off. "Bluetooth Standby" is On. - LCD is turned Off.	Off	On
Network Standby+Bluetooth Standby	- "Network Standby"and "Bluetooth Standby" are On. - LCD is turned Off.	On	On
Power On	- HM72/82 is turned On. - LCD is turned On.	On	In case that BT Audio is selected, On. In other case, Off.

5.4 CHECKING TERMINALS

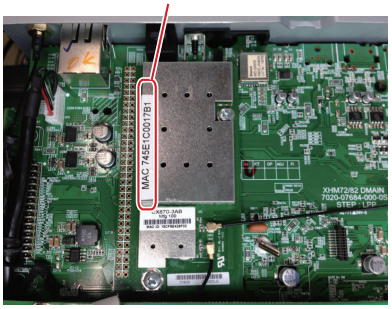
1. Checking the LAN terminal

Connect the PC and this unit directly then set them up as indicated below. Then, access this unit from the PC via a Web browser. If the indications shown in the figure below are displayed, the LAN terminal is normal.
If the LAN terminal is not normal, check the circuit between the LAN terminal and CX870 (Module on DMAIN ASSY).

Setup on this unit:

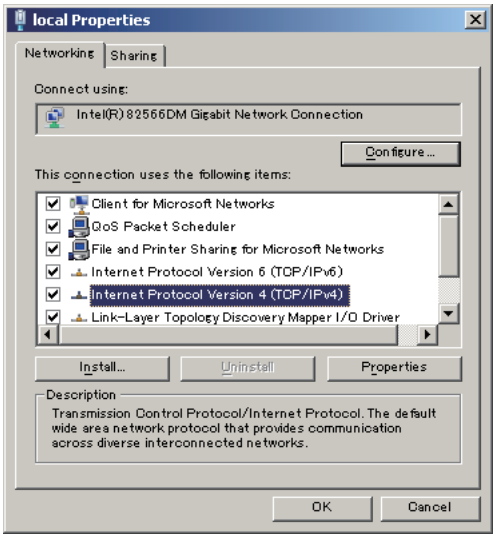
① Connect the PC and this unit then turn the unit on.
② Select the Music Server function then press SETUP.
③ Select Network Setting -> Network Configuration -> Wired -> DHCP OFF.
④ Set the following items as shown below:
IP address: 192.168.0.1
Subnet mask:255.255.255.0
Gateway address: 0.0.0.0
DNS (1st): 0.0.0.0
DNS (2nd): 0.0.0.0
Proxy setting: Not to be used
⑤ After setting is finished, reboot the unit.

MAC Address seal

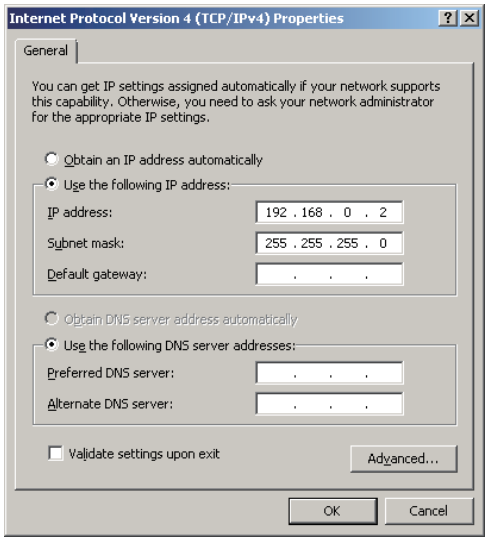


Setup on the PC:

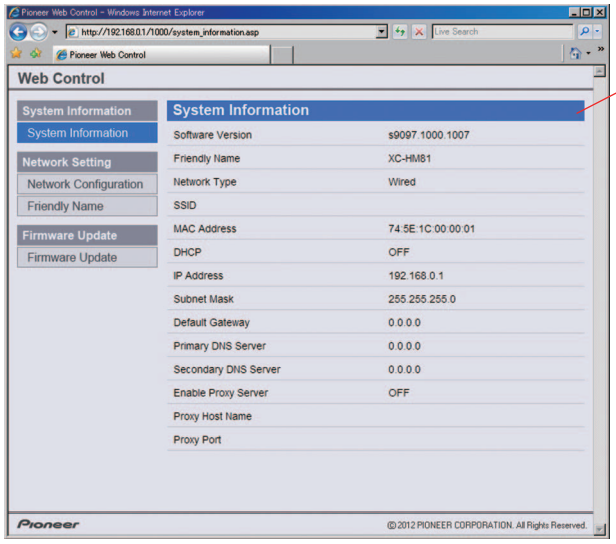
① Click on Start > Settings > Control Panel.
② Open Network Connections then Local Area Connection by double-clicking on its icon.
③ Click on Properties to open the Properties window for the local area connection.
④ Double-click on Internet Protocol.



⑤ Set the items as shown below.



Start the Web browser, input http://192.168.0.1 as a URL. If the screen as indicated below is displayed, the LAN terminal works properly.

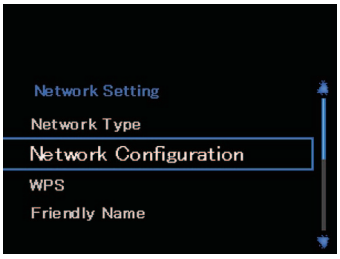


If this screen is displayed,
the LAN terminal works properly.

2. Checking the Wi-Fi Antenna

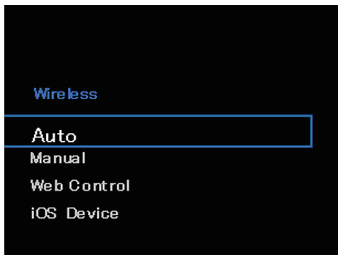
Make preparations on the wireless LAN router then check that the SSID for that router is displayed, following the procedure shown below. If the SSID is displayed on the LCD, the Wi-Fi antenna works properly.
If the SSID is not displayed, check the wireless LAN antenna, CX870 (Bco Module), and the cable that connects them.
(In the following LCD-display examples, the language setting is English.)

1. Select the Music Server function then press SETUP.
2. Select Network Setting → Network Configuration.



3. Select Wireless.

4. Select Auto.



5. SSID list is displayed.

If the SSID for the prepared router is displayed on the list, the Wi-Fi antenna works properly.

Note:
As the SSID name for a wireless LAN router supports only one-byte alphanumerics, if two-byte characters are used in an SSID name, rename it.

3. Checking the Built-in Bluetooth Module

You can determine that this unit works properly by connecting it to the Bluetooth enabled device according to the steps below:

1. Select BT AUDIO function, designate this unit (device name: XC-HM72/HM82) on the Bluetooth enabled device like the smartphone, and pair them. Then, check that the indication changes as shown in the figure below.

When this unit is connected to the Bluetooth enabled device, the indication will change as follows:
Waiting Device -> Connected .

If the indication does not change to “Connected”, possible causes are as follows :

- This unit cannot be detected on the Bluetooth enabled device:
  Power might not be supplied to Bluetooth Module. Check the BT_3V3_SW.

- Bluetooth enabled device is connected, but the indication does not turn “Connected” :
  Communication between the Bluetooth Module and main microcomputer is not established.
  Check the signal lines of BT_KEY4/BT_KEY5/BT_KEY6.

2. If the indication changes properly in Step 1, perform pairing with a player then check the audio output signals. If no audio signal is output, check ANALOG_L -/+ and ANALOG_R -/+.

4. Checking the USB Terminal

You can determine that this unit works properly by making connection according to the steps below.

1. Select the iPod/USB function then connect an Apple Device (iPod, etc.) to the USB terminal.
   If the Apple device is recognized, it is OK.
   If " Empty " on the LCD disappears, the device is recognized.
   If possible, with the device connected, play a track to check the audio signal for confirmation.

2. Select the iPod function then connect an Apple Device (iPod, etc.) to the USB terminal.
   If charging of the Apple device starts, it is OK.

If Apple device does not recognized, refer to the diagnosis flowchart for a case in which the No sound from USB function on "5.1 TROUBLESHOOTING".

5.5 IC INFORMATION

8952HM7100020-IL (UPD78F1166AGF-GAS)(DMAIN ASSY: IC5)

16-bit Single-chip Microcontrollers

• Pin Function

No.	Function Name of Chip	Pin Name	I/O	Pin Function
1	P60/SCL0		O	NC
2	P61/SDA0		O	NC
3	P62		O	NC
4	P63	XRST_NW	O	Network module communication reset
5	P31/TI03/TO03/INTP4	USB_DOCK_OVERLOAD	I	Detect that BridgeCo detected a USB overcurrent. Active: L
6	P64/RD		O	NC
7	P65/WR0		O	NC
8	P66/WR1		O	NC
9	P67/ASTB	USB_START	I	Detect that BridgeCo started USB control. H: Start Active: H
10	P77/EX23/KR7/INTP11		I	NC
11	P76/EX22/KR6/INTP10	MUTE_FLAG	I	USB connection switching request of BridgeCo Active: H
12	P75/EX21/KR5/INTP9	USB_SEL	I	USB connection switching request of BridgeCo Active: H
13	P74/EX20/KR4/INTP8	HSYNC	I	HSYNC monitor of LCD communication
14	P73/EX19/KR3		O	NC
15	P72/EX18/KR2		O	NC
16	P71/EX17/KR1		O	NC
17	P70/EX16/KR0		O	NC
18	P06/WAIT		O	NC
19	P05/CLKOUT		O	NC
20	EVSS1	EVSS1	-	Ground of port block (except P20-P27, P110, P111, P121-P124, P150-P157)
21	P80/EX0		O	NC
22	P81/EX1		O	NC
23	P82/EX2		O	NC
24	P83/EX3		O	NC
25	P84/EX4		O	NC
26	P85/EX5		O	NC
27	P86/EX6		O	NC
28	P87/EX7		O	NC
29	P30/INTP3/RTC1HZ	VFD_CE	I	FL CE
30	EVDD1	EVDD1	-	Positive power supply of port block (except P20-P27, P110, P111, P121-P124, P150-P157)
31	P50/EX8	MODEL	I	HM/CNAP model determining
32	P51/EX9		O	NC
33	P52/EX10		O	NC
34	P53/EX11		O	NC
35	P54/EX12		O	NC
36	P55/EX13		O	NC
37	P56/EX14		O	NC
38	P57/EX15		O	NC
39	P17/EX31/TI02/TO02		O	NC
40	P16/EX30/TI01/TO01/INTP5		O	NC
41	P15/EX29/RTCDIV/RTCCL		O	NC
42	P14/EX28/RxD3	DEBUG_RX	I	232C DEBUG RX
43	P13/EX27/TxD3	DEBUG_TX	O	232C DEBUG TX
44	P12/EX26/SO00/TxD0	TX0_DI_NW	O	Data output of network module communication (Sub->DM860)
45	P11/EX25/SI00/RxD0	RX0_DO_NW	I	Data input of network module communication (DM860->Sub)
46	P10/EX24/SCK00	CLK_NW	O	Clock output of network module communication
47	AVREF1	AVREF1	-	
48	P110/ANO0		O	NC
49	P111/ANO1	CS_NW	O	Chip select output of network module communication
50	AVREF0	AVREF0	-	

• Pin Function

No.	Function Name of Chip	Pin Name	I/O	Pin Function
51	AVSS	AVSS	-	
52	P157/ANI15		O	NC
53	P156/ANI14		O	NC
54	P155/ANI13		O	NC
55	P154/ANI12		O	NC
56	P153/ANI11		O	NC
57	P152/ANI10		O	NC
58	P151/ANI9		O	NC
59	P150/ANI8		O	NC
60	P27/ANI7	SUB_IRQ	O	SUB → MAIN REQUEST output
61	P26/ANI6		O	NC
62	P25/ANI5		O	NC
63	P24/ANI4		O	NC
64	P23/ANI3		O	NC
65	P22/ANI2		O	NC
66	P21/ANI1		O	NC
67	P20/ANI0		O	NC
68	P130		O	NC
69	P131/TI06/TO06		O	NC
70	P04/SCK10/SCL10	CSK_MAIN	I/O	Communication clock of MAIN ⇔ SUB
71	P03/SI10/RxD1/SDA10	SCDO_MAIN	I	Communication data of SUB ← MAIN
72	P02/SO10/TxD1	SCDI_MAIN	O	Communication data of SUB → MAIN
73	P01/TO00		O	NC
74	P00/TI00		O	NC
75	P145/TI07/TO07	PWM_LCD	O	Backlight control (PWM) of LCD communication
76	P144/SO20/TxD2		O	NC
77	P143/SI20/RxD2/SDA20		O	NC
78	P142/SCK20/SCL20		O	NC
79	P141/PCLBUZ1/INTP7		O	NC
80	P140/PCLBUZ0/INTP6		O	NC
81	P120/INTP0/EXLVI	MAIN_REQ	I	MAIN REQUEST input
82	P47/INTP2	REQ_NW	I	Request input of network module communication
83	P46/INTP1/TI05/TO05		O	NC
84	P45/SO01		O	NC
85	P44/SI01	VFD_DI	I	FL DATA input
86	P43/SCK01	VFD_CLK	I	FL CLOCK
87	P42/TI04/TO04	REMOKON_TX	O	Remote control signal output
88	P41/TOOL1	TOOL1	-	Clock output for debuggers
89	P40/TOOL0	TOOL0	-	Data input/output for flash memory programmer/debugger External pull-up for using on-chip debugger.
90	RESET	RESET	I	Reset input
91	P124/XT2		O	NC
92	P123/XT1		O	NC
93	FLMD0	FLMD0	-	Pin for flash memory programming mode pull-in (pull-down in open or more than 100kΩ)
94	P122/X2/EXCLK	X2	I	Oscillator connection for main system clock
95	P121/X1	X1	I	Oscillator connection for main system clock
96	REGC	REGC	-	Connect a stable capacitance of the regulator output (2.5V) for internal operation. Connected to VSS via a capacitor (0.47-1μF: a target).
97	VSS	VSS	-	Ground (except P121-P124 and port block)
98	EVSS0	EVSS0	-	Ground of port block (except P20-P27, P110, P111, P121-P124, P150-P157)
99	VDD	VDD	-	Positive power supply (except P121-P124 and port block)
100	EVDD0	EVDD0	-	Positive power supply of port block (except P20-P27, P110, P111, P121-P124, P150-P157)

6. SERVICE MODE
6.1 SERVICE MODE

1. About Service Mode

When the unit enters Service mode, the dedicated Service menu is started. In Service mode, the Service menu is open.
You can perform the following tasks on the Service menu:

- Confirmation of the versions of Bco CPU/Main microcomputer/CD IF microcomputer/CD DSP microcomputer /Submicrocomputer/DAB module
- Confirmation of the model information (whether the model name recognized by the software is HM82 or HM82D or HM72 or HM72D)
- Confirmation of the region information (The region recognized by the software will be displayed.)
- Confirmation of the network information
- Updating the Bco CPU or submicrocomputer via USB
- Resetting to factory default

In Service mode, the protection circuits operate in the same manner as in normal operation.

2. How to Enter Service Mode

Turn the unit on then select the Music Server function.
Press the ESC then +10 button on the service remote control unit (GGF1381) to activate Service mode.

* If you press any button between the ESC and +10 buttons on the service remote control unit, the unit will not enter Service mode.

Note: If you enter Service mode with the CD/TUNER function selected, you cannot use cursor operations.

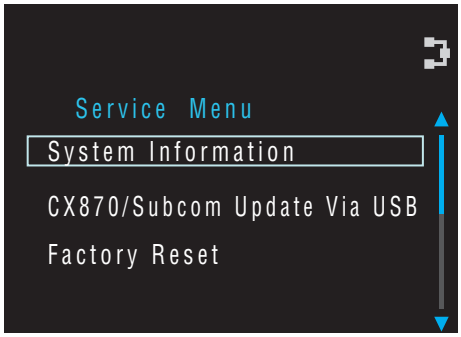
3. How to Quit Service Mode

You can quit Service mode in one of the following ways: (1) switching the function, (2) turning the unit off, or (3) pressing the ⬅ button while the top-layer screen of the Service menu is displayed.

4. Service Menu

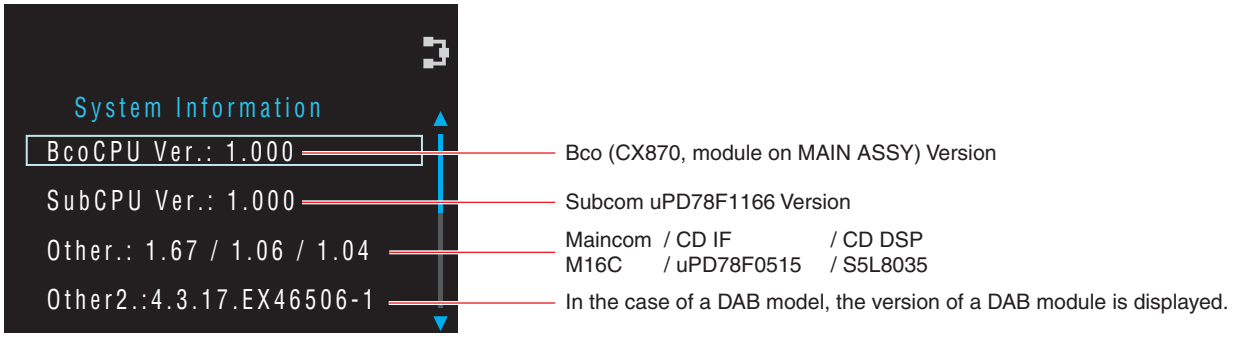
For menu operation, use the cursor (⬆/⬇/⬅/➡) and ENTER buttons on the remote control unit supplied with this unit.
To register a selection, use the ENTER button. To return to the previous layer, use the ⬅ button.
You can perform cursor operation using the buttons on the unit. The top layer of the Service menu is as shown below.

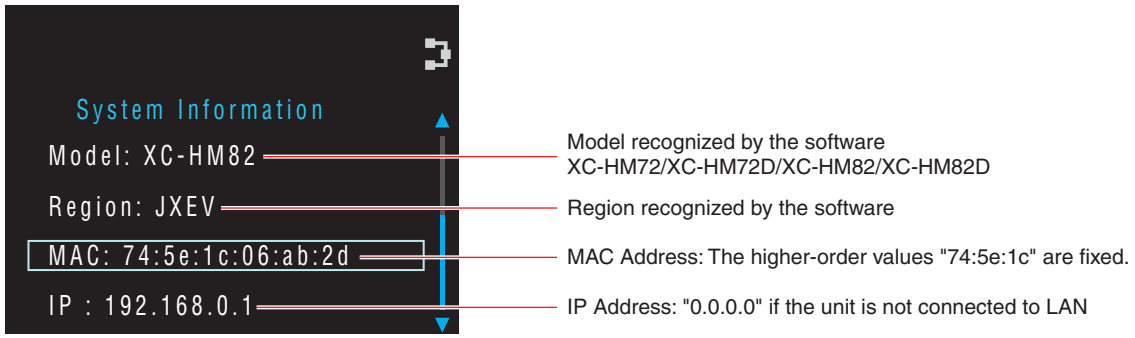
Buttons on the unit	Operation
►/II (PLAY/PAUSE)	Select
■ (STOP)	Undo
►►►►I (FWD SKIP)	Cursor down
I◄◄◄◄ (REV SKIP)	Cursor up



4.1 System Information

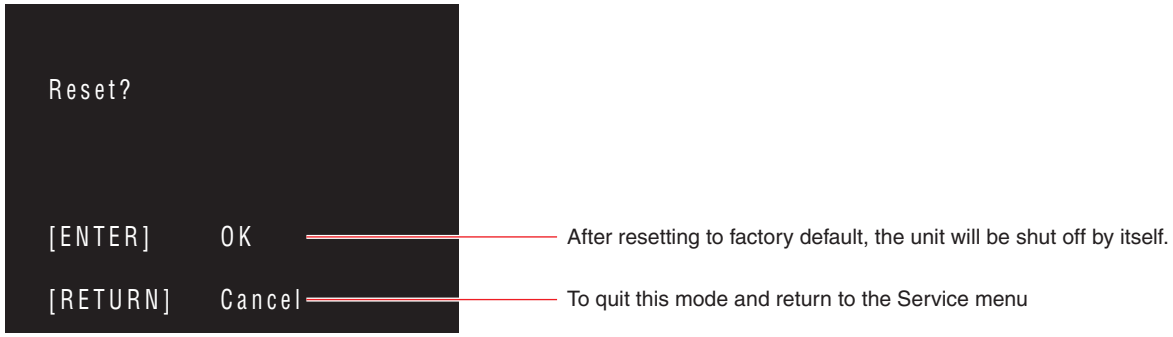
If System Information is selected, the screen shown below will be displayed.





4.2 Resetting to Factory Default

If you select Factory Reset then Start on the Service menu, the following screen will be displayed:



5. Canceling a Power-On Prohibition Status Caused by Activation of a Protection Circuit

The protection circuits indicated below are mounted in this unit. If operation of this unit is locked by activation of any protection circuit, you can cancel the lock by either of the two methods indicated below.
You can confirm the number of detected activations of protection circuits in Protect Check mode.
For details, see "6.2 PROTECT CHECK MODE" All LEDs are lit in Protect Check mode.

Note:
If any of the Music Server, Internet Radio, Spotify, or Favorites functions is selected before this unit is started in Protect Check mode, the selected function screen will be displayed until network connection is established (it may take up to dozens of seconds), then the Protect Check Mode screen will be displayed.
Example: Startup → Pioneer Logo → Music Server screen → Network established → Protection Check screen

Canceling Operation Lock

►►►►I and INPUT buttons of this unit: To cancel operation lock and turn on the unit
■ and ⏻ STANDBY/ON button of this unit: To cancel operation lock and enter Protect Check mode

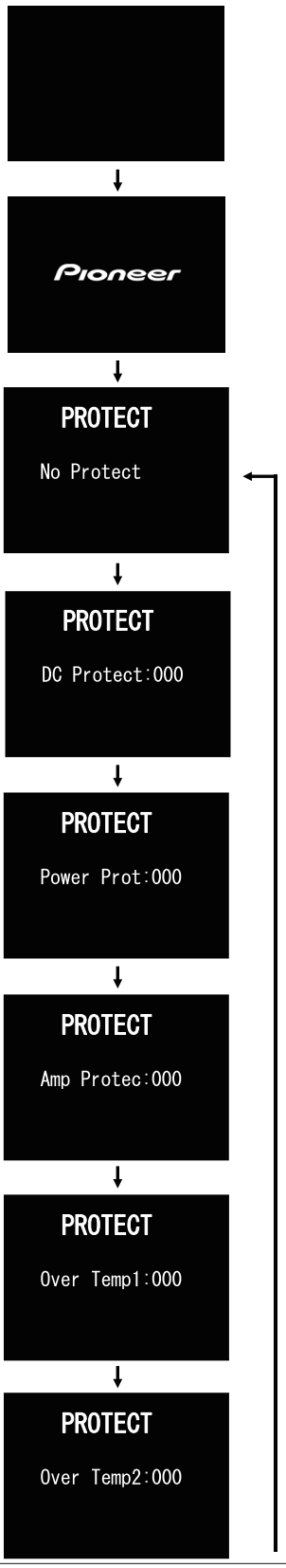
Protection	Clear Key	Timer LED blink timing		Operation
		ON	OFF	
PWM	Special	900 ms	100 ms	Lock
DC	Special	100 ms	900 ms	Lock
AMP	POWER	100 ms	100 ms	Clear
POWER	Special	500 ms	500 ms	Lock
OVER TEMP1	POWER	100 ms	100 ms	Clear
OVER TEMP2	POWER	100 ms	100 ms	Clear

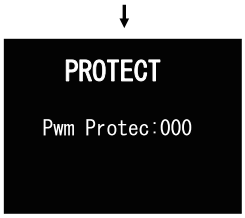
6.2 PROTECT CHECK MODE

Outline

In this mode, detected protection activations are displayed.

Basic Operation

Explanation	Key Sequence	LCD Display
To enter Protect Check mode, simultaneously press the "■ (STOP)" and "STANDBY/ON" buttons during Cold Standby.	Unit "■ (STOP)" + Unit "STANDBY/ON"	
The last protection activation that was detected before Protect Check mode is entered will be displayed.	Unit "►►►►I"	
	Unit "►►►►I"	
	Unit "►►►►I"	
	Unit "►►►►I"	
	Unit "►►►►I"	

Explanation	Key Sequence	LCD Display
	Unit "►►►►I"	
Not used	Unit "►►►►I"	
Not used	Unit "►►►►I"	
After the counts of detected protection activations for all protection circuits are displayed, the menu for resetting the counters will be displayed.	Unit "►►►►I"	
The counters will be reset when the "►/II (Play/Pause)" button on the unit is pressed.	Unit "►/II (Play/Pause)"	
	Auto	
To turn the unit off, press the "STANDBY/ON" button during Protect Check mode.	Unit "STANDBY/ON"	

Unit "►►►►I"

Remarks

During Protect Check mode, response to keys other than those described below is disabled.

- Unit "►►►►I" button
- Unit "►/II (Play/Pause)" button
- Unit "STANDBY/ON" button

6.3 CHECKING THE LCD

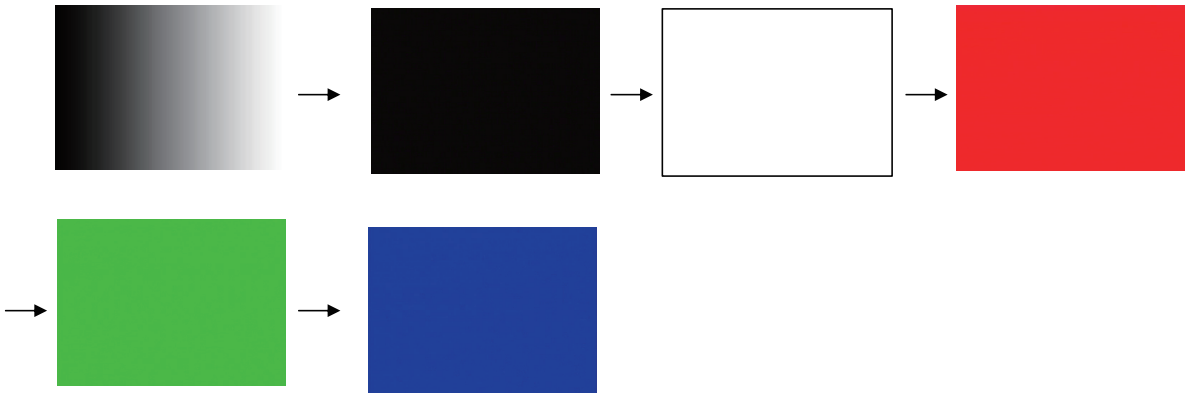
LCD checking is possible in Test mode for use on the production line.

To enter Test mode, select the Music Server function, then press the ESC then FRM/TIM keys on the service remote control unit.
TEST MODE will be displayed. (Although TEST MODE is displayed even if the CD or Tuner function is selected, LCD checking is not possible with those functions selected.)

To quit TEST MODE, perform one of the following operations:
1. Switch the input function.
2. Turn the unit off.
3. Perform factory setting.

How to perform LCD checking
Each time the **1 key on the remote control unit** with the product is pressed, the screen is changed as shown below:
Ramp > Black > White > Red > Green > Blue
If the **0 key** is pressed, the screen will return to that of Test Mode.

[Screens to be displayed]



6.4 RDS CHARACTERS

This unit can display all the characters that are indicated in the white cells in the table below properly but cannot display the characters in gray cells properly and will indicate such characters as "#." Those are the characters shown below in the RDS standard:

0x5E —
0x60 ‖
0x7E —

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL	DLE		0	@	P	#	p	á	â	ª	º	Á	Â	Ã	ã
	0	10	20	30	40	50	23	70	E1	E2	AA	BA	C1	C2	C3	E3
1	SOH	DC1	!	1	A	Q	a	q	à	ä	α	¹	À	Ä	Å	å
	1	11	21	31	41	51	61	71	E0	E4	3B1	B9	C0	C4	C5	E5
2	STX	DC2	"	2	B	R	b	r	é	ê	©	²	É	Ê	Æ	æ
	2	12	22	32	42	52	62	72	E9	EA	A9	B2	C9	CA	C6	E6
3	ETX	DC3	#	3	C	S	c	s	è	ë	‰	³	È	Ë	OE	oe
	3	13	23	33	43	53	63	73	E8	EB	2030	B3	C8	CB	152	153
4	EOT	DC4	¤	4	D	T	d	t	í	î	Ğ	±	Í	Î	ŷ	ŵ
	4	14	A4	34	44	54	64	74	ED	EE	11E	B1	CD	CE	177	175
5	ENQ	NAK	%	5	E	U	e	u	ì	ï	ě	İ	Ì	Ï	Ý	ý
	5	15	25	35	45	55	65	75	EC	EF	11B	130	CC	CF	DD	FD
6	ACK	SYN	&	6	F	V	f	v	ó	ô	ň	ń	Ó	Ô	Õ	õ
	6	16	26	36	46	56	66	76	F3	F4	148	144	D3	D4	D5	F5
7	BEL	ETB	'	7	G	W	g	w	ò	ö	ő	ű	Ò	Ö	Ø	ø
	7	17	27	37	47	57	67	77	F2	F6	151	171	D2	D6	D8	F8
8	BS	CAN	(	8	H	X	h	x	ú	û	π	µ	Ú	Û	Þ	þ
	8	18	28	38	48	58	68	78	FA	FB	3C0	B5	DA	DB	DE	FE
9	HT	EM	)	9	I	Y	i	y	ù	ü	₠	¿	Ù	Ü	Ŋ	ŋ
	9	19	29	39	49	59	69	79	F9	FC	20A0	BF	D9	DC	14A	14B
A	LF	SUB	*	:	J	Z	j	z	Ñ	ñ	£	÷	Ř	ř	Ŕ	ŕ
	A	1A	2A	3A	4A	5A	6A	7A	D1	F1	A3	F7	158	159	154	155
B	VT	ESC	+	;	K	[	k	{	Ç	ç	$	°	Č	č	Ć	ć
	B	1B	2B	3B	4B	5B	6B	7B	C7	E7	24	B0	10C	10D	106	107
C	FF	FS	,	<	L	\	l	|	Ş	ş	←	¼	Š	š	Ś	ś
	C	1C	2C	3C	4C	5C	6C	7C	15E	15F	2190	BC	160	161	15A	15B
D	CR	GS	–	=	M	]	m	}	ß	ğ	↑	½	Ž	ž	Ź	ź
	D	1D	2D	3D	4D	5D	6D	7D	3B2	11F	2191	BD	17D	17E	179	17A
E	SO	RS	.	>	N	#	n	#	¡	ı	→	¾	Đ	đ	Ŧ	ŧ
	E	1E	2E	3E	4E	23	6E	23	A1	131	2192	BE	110	111	166	167
F	SI	US	/	?	O	_	o	DEL	Ĳ	ij	↓	§	Ŀ	ŀ	ð	
	F	1F	2F	3F	4F	5F	6F	7F	132	133	2193	A7	13F	140	F0	

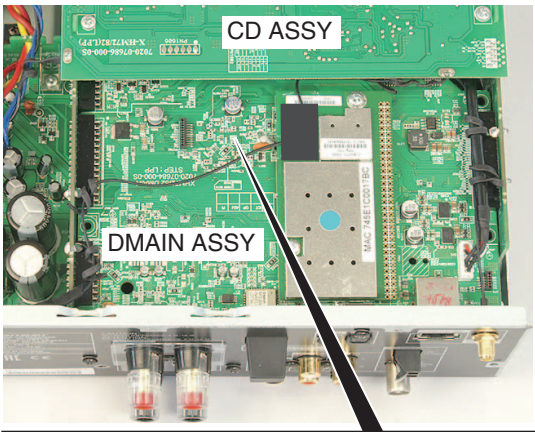
7. DISASSEMBLY

Note 1 : Do NOT look directly into the pickup lens. The laser beam may cause eye injury.
Note 2 : Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.
Note 3 : For performing the diagnosis shown below, the following jigs for service is required:
- 16P FFC extension jig cable (GGD1774)
- 33P board to board extension jig cable (GGD1847)
- 29P board to board extension jig cable (GGD1856)

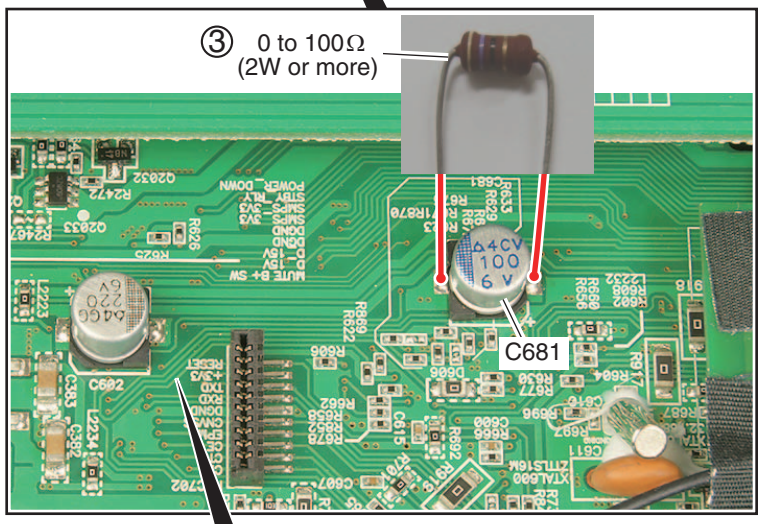
Note 4 : It is necessary to discharge DMAIN ASSY before starting the diagnosis. (Refer to the **"Discharge"**.)

Discharge

(1) Disconnect the Power Cord of the product from the power supply.
(2) Remove the Cabinet Top.
(Refer to the **"[1-1] Cabinet Top"** of **"Disassembly"**.)

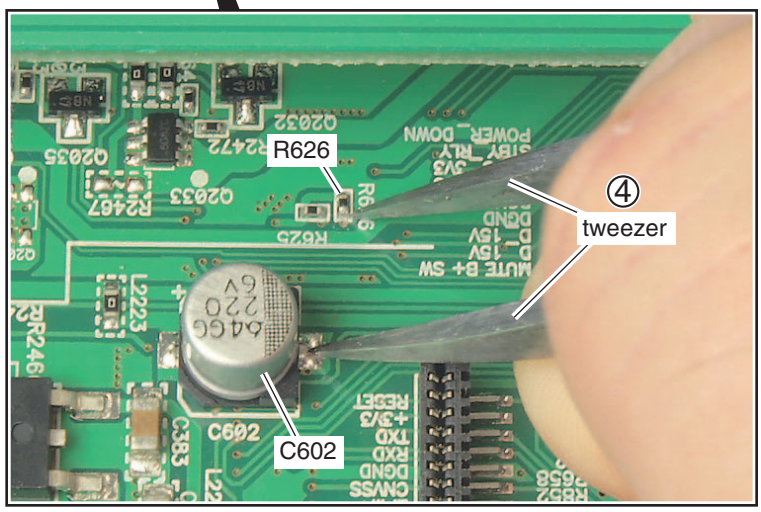


(3) Short-circuit +/- side of C681 (M3V3) using 0 to 100Ω (2W or more) resistance.



(4) Short-circuit R626 (rear side) and GND using the tweezer, and then insert the Power Cord in the power supply.

(5) After the electric charge of the product is discharged in Step (4), remove the tweezer that have short-circuited R626 and GND and then turn ON the power supply.



[1] Exterior

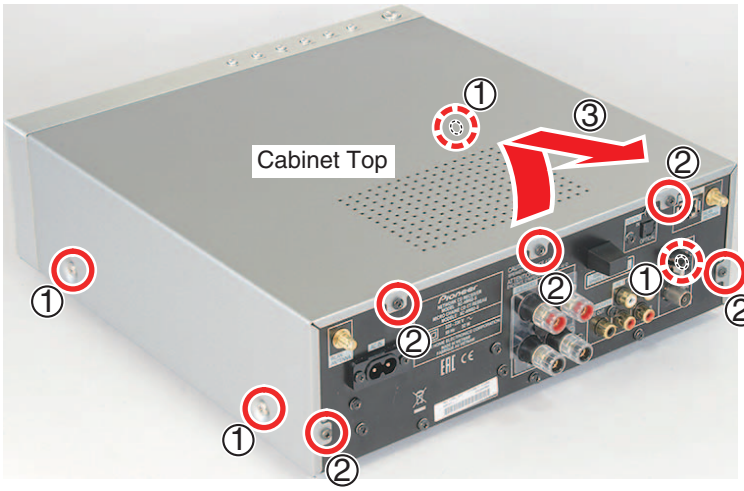
[1-1] Cabinet Top

(1) Remove the four screws.

X-HM82-K/SYXEV8:	BCZ40P060FTB
X-HM82D-K/VXEV8:	
XC-HM82-K/SYXEV8:	
XC-HM82-K/CXEV:	
XC-HM82D-K/VXEV8:	
X-HM72-K/SYXEV8:	
X-HM72D-K/VXEV8:	
X-HM82-S/SYXEV8:	BCZ40P060FNI
X-HM82-S/AXEV5:	
XC-HM82-S/SYXEV8:	
X-HM72-S/SYXEV8:	
X-HM72D-S/VXEV8:	

(2) Remove the five screws. (BBT30P100FTB)

(3) Remove the Cabinet Top while lifting the rear side of Cabinet Top.

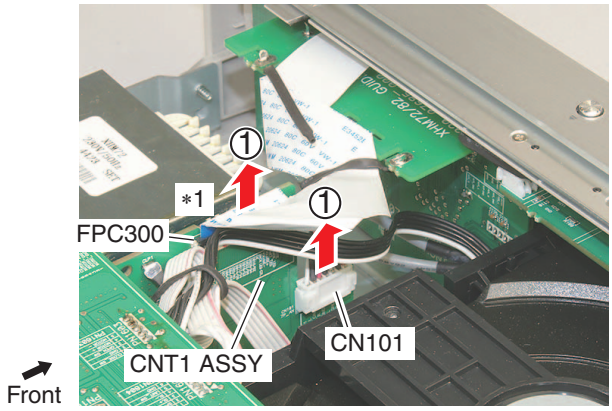


[1-2] Front Section

(1) Disconnect the two connectors.

Note:

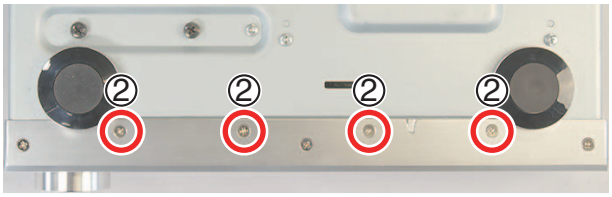
∗1: A lock mechanism exists in the connector (FPC300). You should remove it with care.



(2) Remove the four screws.

X-HM82-K/SYXEV8:	B020030083F10-IL
X-HM82D-K/VXEV8:	
XC-HM82-K/SYXEV8:	
XC-HM82-K/CXEV:	
XC-HM82D-K/VXEV8:	
X-HM72-K/SYXEV8:	
X-HM72D-K/VXEV8:	
X-HM82-S/SYXEV8:	B020030084F10-IL
X-HM82-S/AXEV5:	
XC-HM82-S/SYXEV8:	
X-HM72-S/SYXEV8:	
X-HM72D-S/VXEV8:	

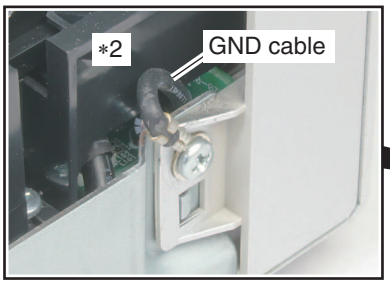
(3) Remove the two screws. (BBZ30P080FTC)

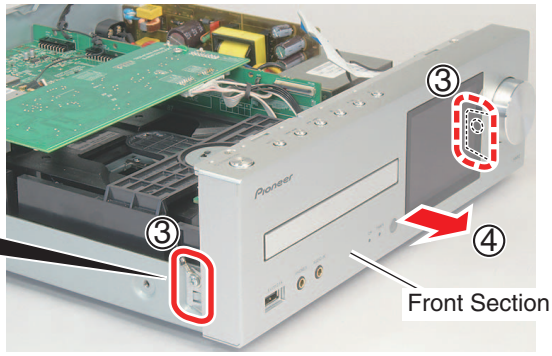


• Bottom view

Note on assembling

∗2: Joint the GND cable on left side only.

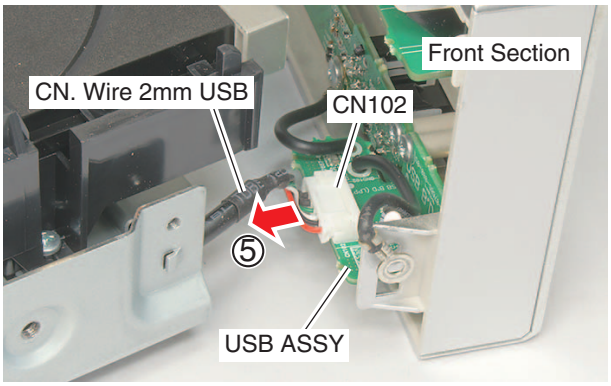




(4) Unhook the two hooks and then remove the Front Section.

(5) Disconnect the connector.

Note: If you carry out diagnosis, it is not necessary to disconnect.

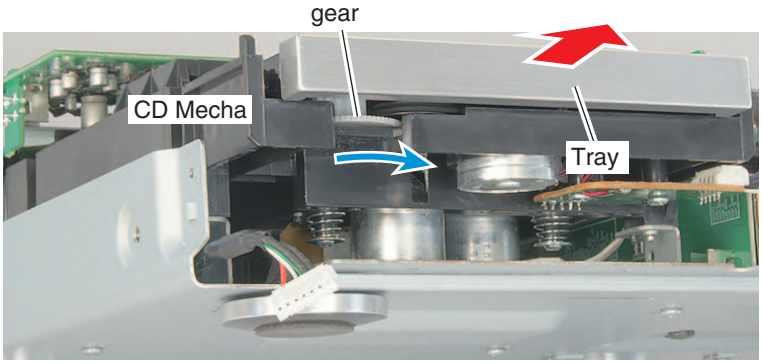


• How to open the Tray except ⏏OPEN/CLOSE button operation

If the Tray is not opened and disc cannot be pulled out by operating the ⏏OPEN/CLOSE button, open the Tray forcibly in the method shown below.

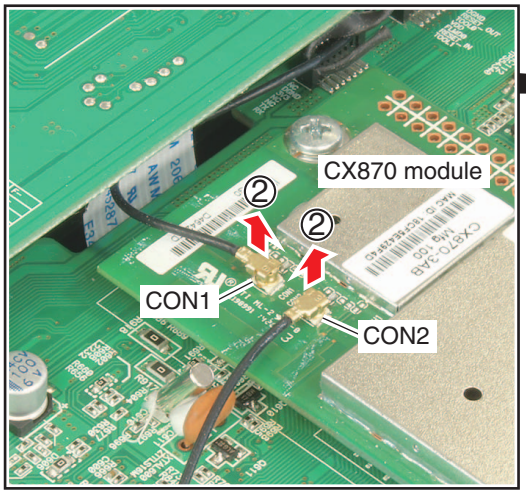
Remove the Front Section and rotate the gear on front side of CD Mecha in clockwise direction.

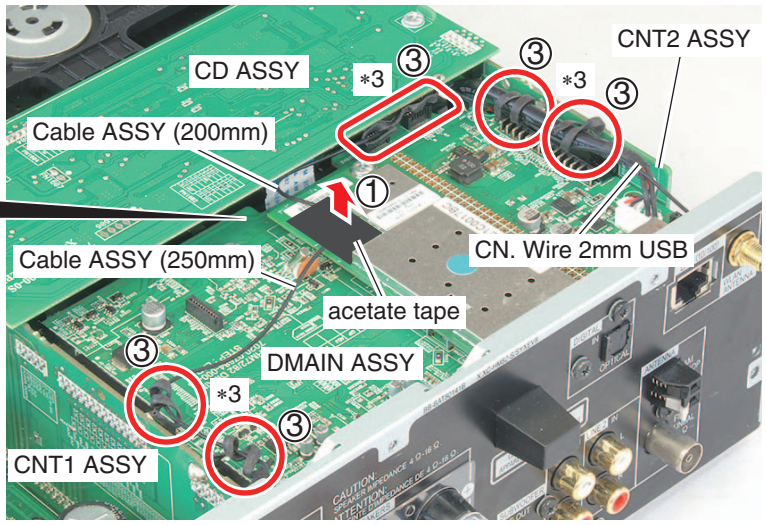
If the Tray is unlocked, slide it out by hand.

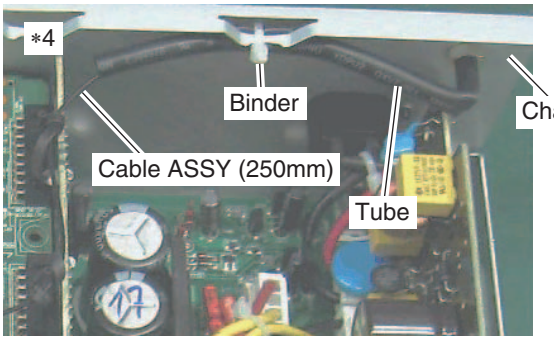


[1-3] Chassis Back

(1) Remove the acetate tape.
(2) Disconnect the two connectors.
(3) Release the cables from the five PCB binders.







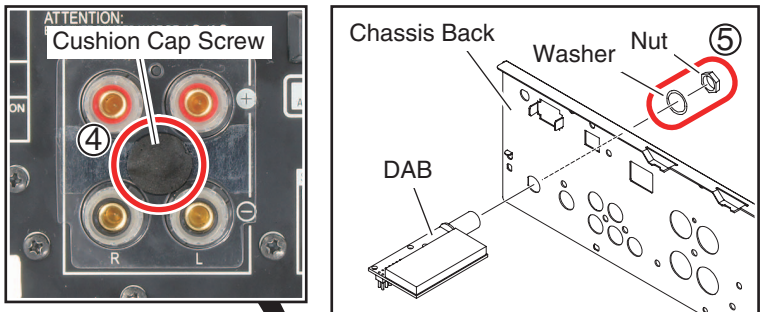
Note on assembling

*3: Don't touch the cables to the Cabinet Top.

*4: When replacing the Chassis Back or the Cable ASSY (250mm), don't forget to attach the Tube and bind it.

(4) Remove the Cushion Cap Screw.

(5) X-HM82D-K/VXEV8,
XC-HM82D-K/VXEV8,
X-HM72D-K/VXEV8,
X-HM72D-S/YXEV8 only:
Remove the Nut (1520210335000-IL) and Washer (1530210152000-IL).



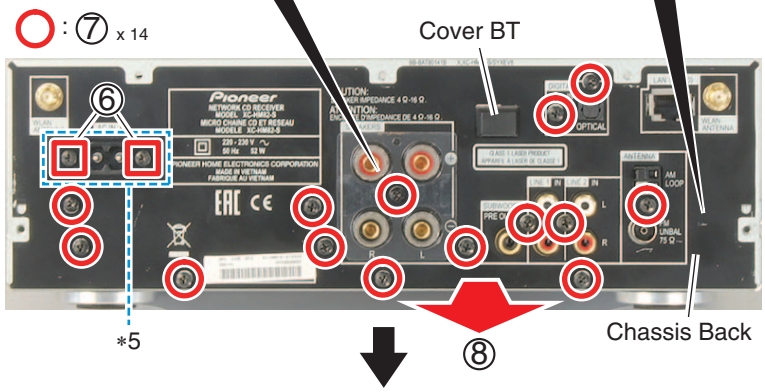
(6) Remove the two screws.
(B020230083B10-IL)

Note

*5: If you carry out diagnosis, it is not necessary to remove the two screws fixing the CN. Wire AC In.

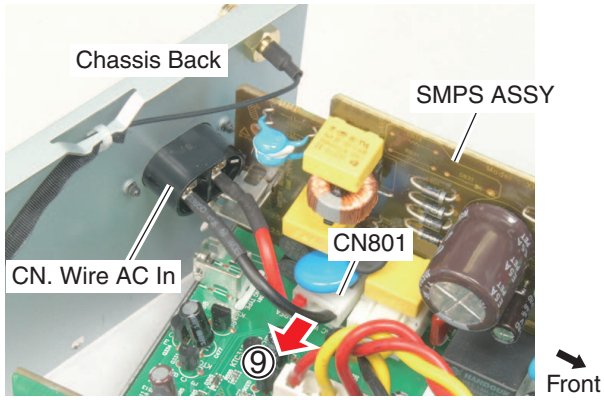
(7) Remove the 14 screws.
(BBT30P100FTB)

(8) Remove the Chassis Back and the Cover BT.



(9) Disconnect the connector and then remove the CN. Wire AC In from the Chassis Back.

Note: If you carry out diagnosis, it is not necessary to disconnect.



[2] CD ASSY, CD Mecha

Remove the Cabinet Top and the Front Section. (Refer to the **"[1-1] Cabinet Top"** and **"[1-2] Front Section"**.)

---

(1) Release the cables from the four PCB binders.

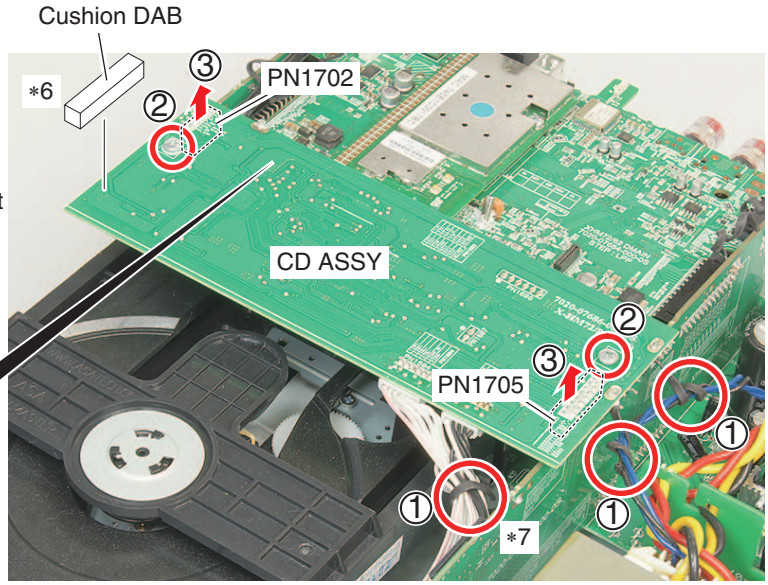
(2) Remove the two screws.
(BBZ30P080FTC)

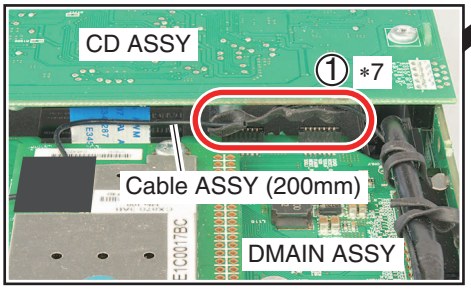
(3) Disconnect the two connectors and then remove the CD ASSY.

Note on assembling

*6: When replacing the CD ASSY, attach the Cushion DAB.

*7: Don't touch the cables to the Cabinet Top.





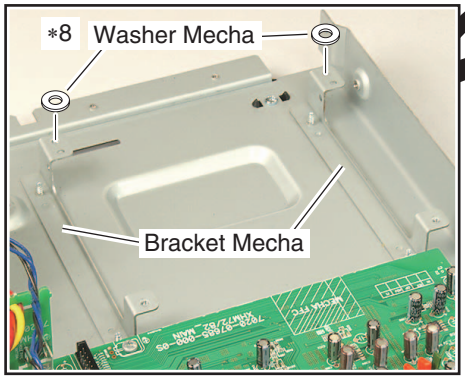
(4) Remove the four screws. (BBZ30P080FTC)

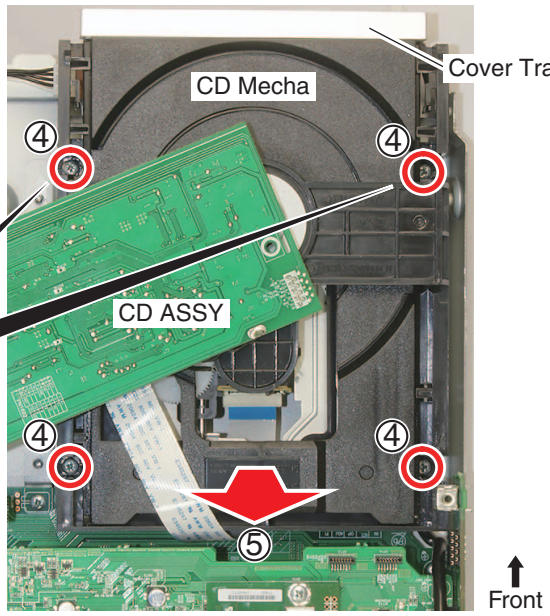
(5) Remove the CD Mecha (with the CD ASSY and Cover Tray).

Note: To remove the CD Mecha, remove simultaneously with the CD ASSY connected to Cable Flat Card 16P, and then disconnect the Cable Flat Card 16P after short circuit using a solder iron (refer to below).

Note on assembling

∗8: Don't forget to attach the two Washer Mechas.





(6) Disconnect the two connectors and then remove the Cable Flat Card 16P.

Note: If you carry out diagnosis, connect the 16P FFC extension jig cable (GGD1774).

[Removing the CD Mecha]

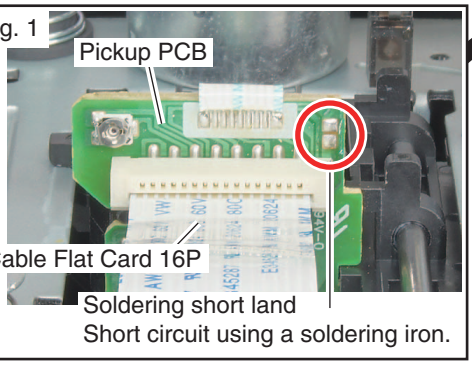
Before removing the Pickup PCB and the Cable Flat Card 16P, short circuit the position shown in Fig. 1 using a soldering iron.

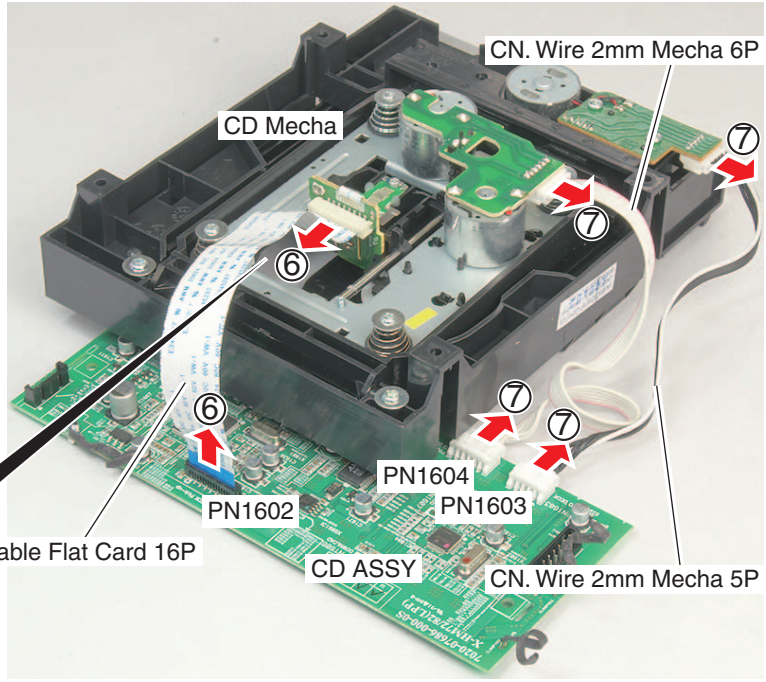
If you remove the Cable Flat Card 16P with no soldering, the Laser may be damaged.

[Installing the CD Mecha]

Remove the solder on the short circuit position after connecting the Cable Flat Card 16P and CD ASSY.

Fig. 1





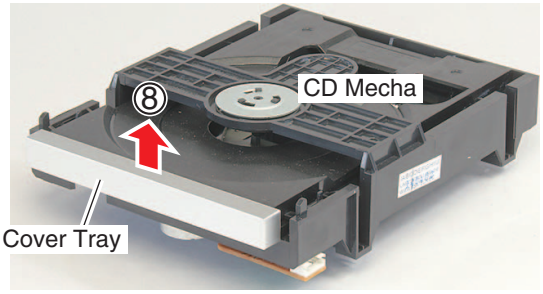
• Bottom side

(7) Disconnect the four connectors and then remove the CD ASSY and the two cables.

Note: If you carry out diagnosis, it is not necessary to disconnect.

(8) Remove the Cover Tray.

Note: If you carry out diagnosis, it is not necessary to remove.



[3] DMAIN ASSY, CNT1 ASSY, CNT2 ASSY and CX870 Module

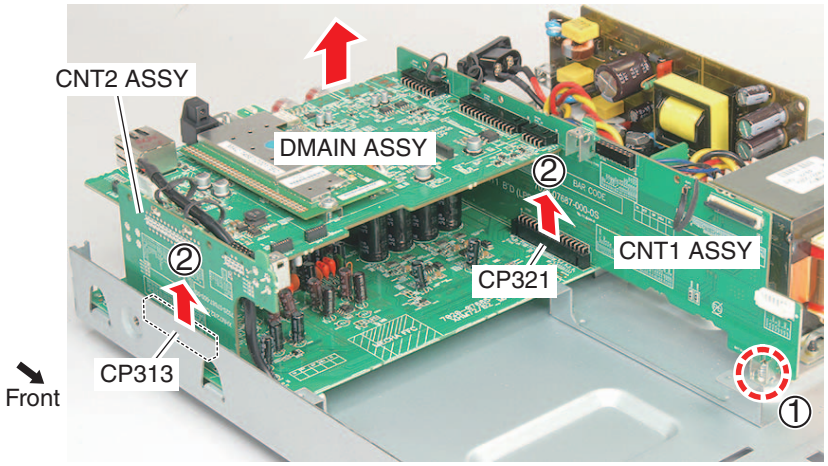
Remove the Cabinet Top, Front Section and Chassis Back.
(Refer to the **"[1] Exterior"**.)

Remove the CD ASSY.
(Refer to the **"[2] CD ASSY, CD Mecha"**.)
Not necessary to remove the CD Mecha.

---

(1) Remove the screw of bottom side. (BBZ30P080FTC)

(2) Disconnect the two connectors and then remove the DMAIN ASSY, CNT1 ASSY and CNT2 ASSY.



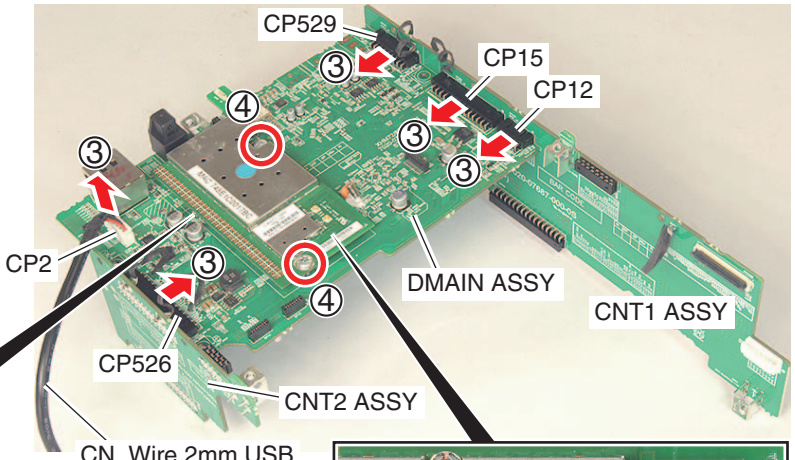
(3) Disconnect the five connectors and then remove the CNT1 ASSY, CNT2 ASSY and CN. Wire 2mm USB.

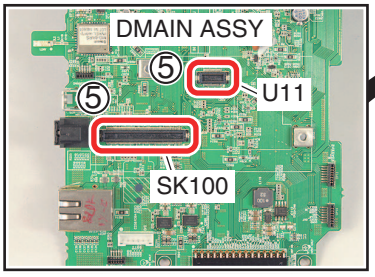
Note: If you carry out diagnosis, it is not necessary to disconnect.

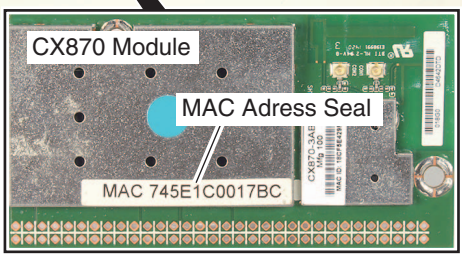
(4) Remove the two screws. (BBZ30P080FTC)

(5) Disconnect the two connectors and then remove the CX870 Module.

Note: If you carry out diagnosis, it is not necessary to remove.







Note on replacing CX870 Module

After the CX870 Module is replaced, MAC address will be changed.

A new MAC address is shown on the MAC Address Seal affixed to the service part.

[4] Diagnosis

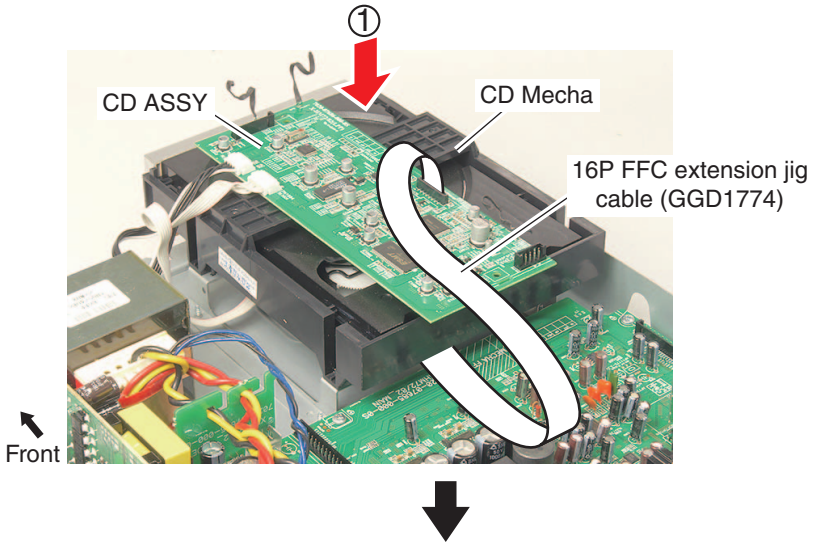
Remove the Cabinet Top, Front Section and Chassis Back.
(Refer to the **"[1] Exterior"**.)

Remove the CD ASSY, CD Mecha.
(Refer to the **"[2] CD ASSY, CD Mecha"**.)

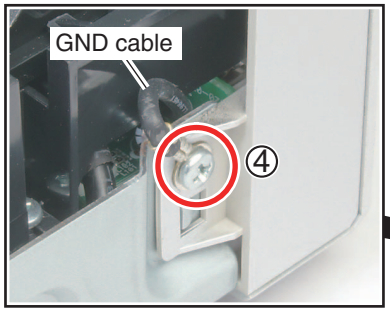
Remove the DMAIN ASSY, CNT1 ASSY and CNT2 ASSY.
(Refer to the **"[3] DMAIN ASSY, CNT1 ASSY and CNT2 ASSY"**.)

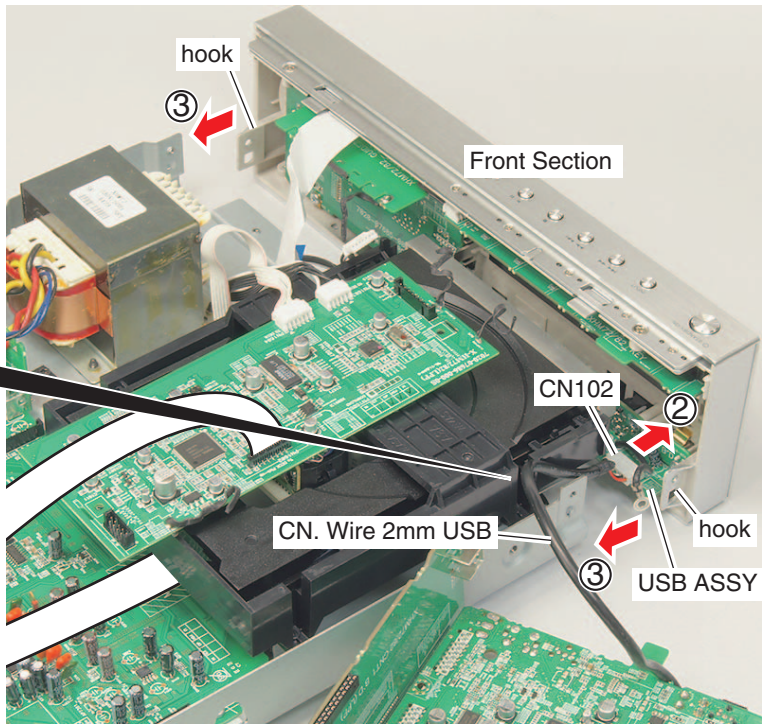
---

(1) Allocate the CD Mecha with the CD ASSY connected by 16P FFC extension jig cable (GGD1774).
Not necessary to fix it with screws.



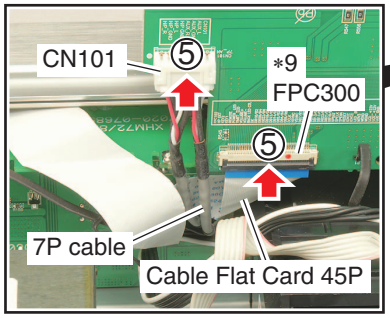
(2) Connect the connector.
(3) Attach the Front Section by two hooks.
(4) Attach the GND cable, using the screw. (BBZ30P080FTC)

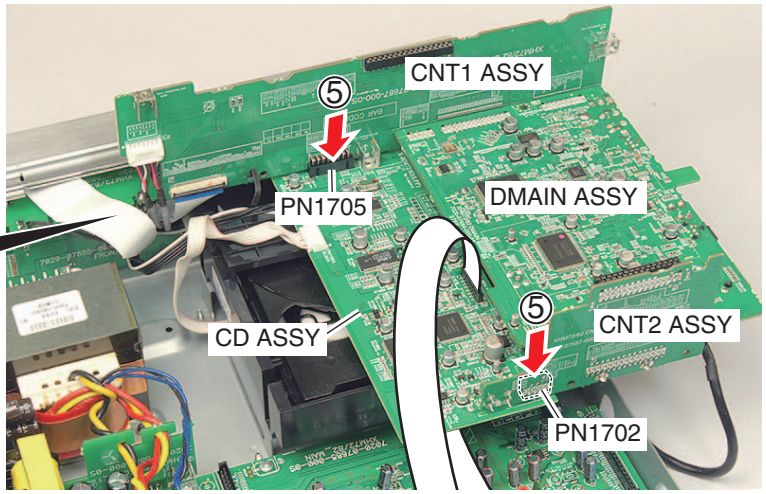




(5) Arrange the unit as shown in the photo and then connect the four connectors.

Note: Through the 7P cable (from FORNT ASSY) in the front side of the Cable Flat Card 45P for the allocation (rotation) in the next step.

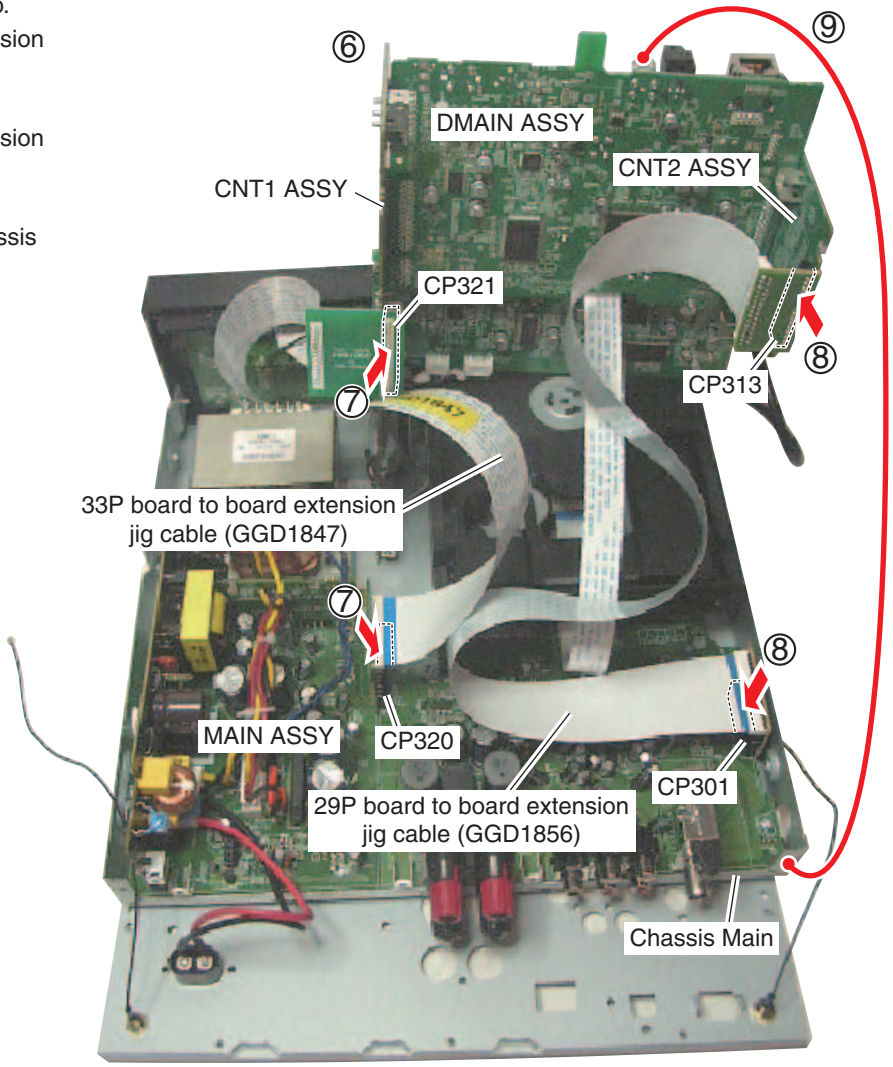




Note:

*9: A lock mechanism exists in the connector (FPC300). You should connect it with care.

(6) Arrange the unit as shown in the photo.
(7) Connect the 33P board to board extension jig cable. (GGD1847)
(MAIN CP320 <-> CNT1 CP321)
(8) Connect the 29P board to board extension jig cable. (GGD1856)
(MAIN CP301 <-> CNT2 CP313)
(9) Connect the DMAIN ASSY to the Chassis Main Ground.

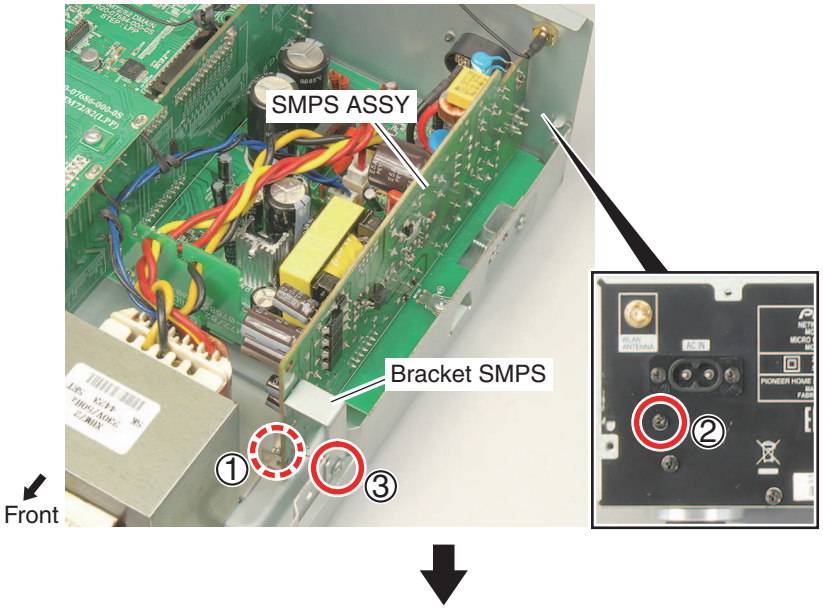


[5] SMPS ASSY

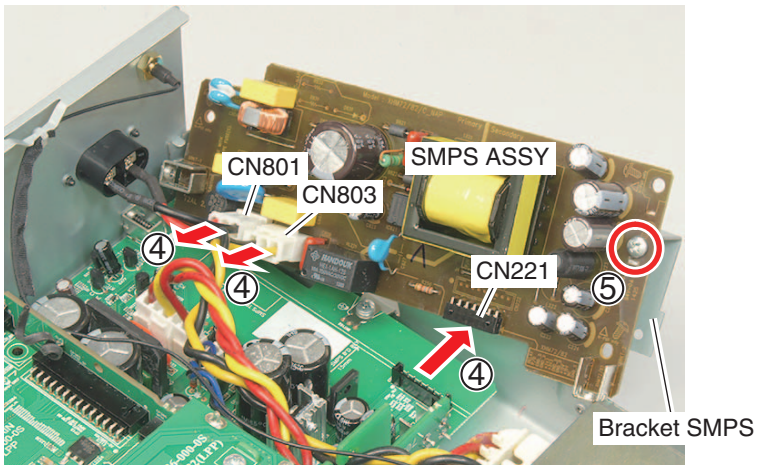
Remove the Cabinet Top.
(Refer to the "**[1-1] Cabinet Top**".)

---

(1) Remove the screw of bottom side. (BBZ30P080FTC)
(2) Remove the screw of rear side. (BBT30P100FTB)
(3) Remove the screw. (BBZ30P080FTC)



(4) Disconnect the three connectors and then remove the SMPS ASSY.
(5) Remove the screw (BBZ30P080FTC) and then remove the Bracket SMPS.

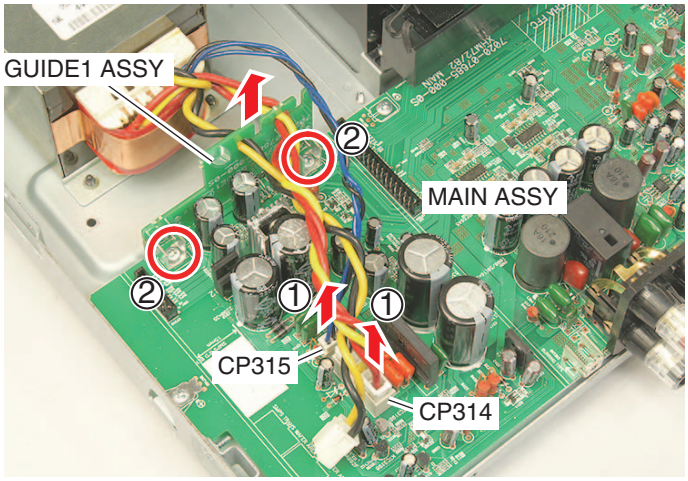


[6] MAIN ASSY

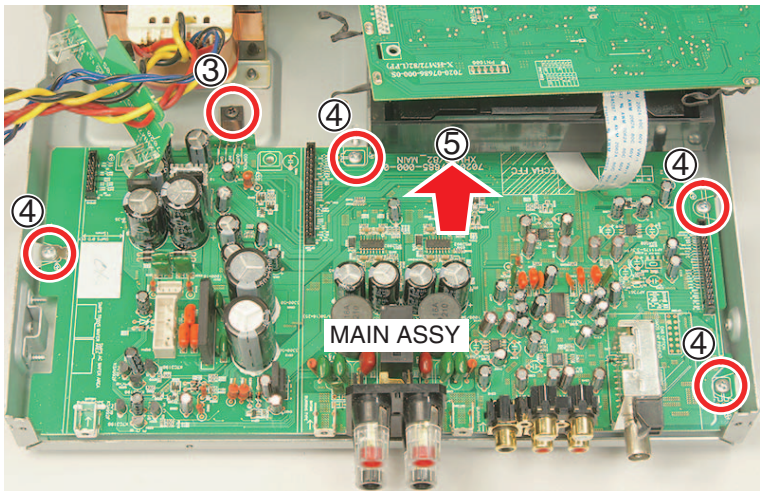
Remove the Cabinet Top and Chassis Back.
(Refer to the **"[1] Exterior"**.)
Remove the CD ASSY.
(Refer to the **"[2] CD ASSY, CD Mecha"**.)
Not necessary to remove the CD Mecha.
Remove the DMAIN ASSY, CNT1 ASSY and CNT2 ASSY.
(Refer to the **"[3] DMAIN ASSY, CNT1 ASSY and CNT2 ASSY"**.)

---

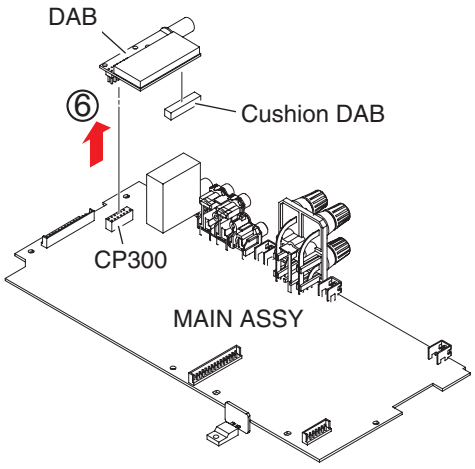
(1) Disconnect the two connectors.
(2) Remove the two screws (BBZ30P080FTC) and then remove the GUIDE1 ASSY.



(3) Remove the screw. (B020230063B10-IL)
(4) Remove the four screws. (BBZ30P080FTC)
(5) Remove the MAIN ASSY.



(6) X-HM82D-K/VXEV8,
XC-HM82D-K/VXEV8,
X-HM72D-K/VXEV8,
X-HM72D-S/YXEV8 only:
Remove the DAB and Cushion DAB.

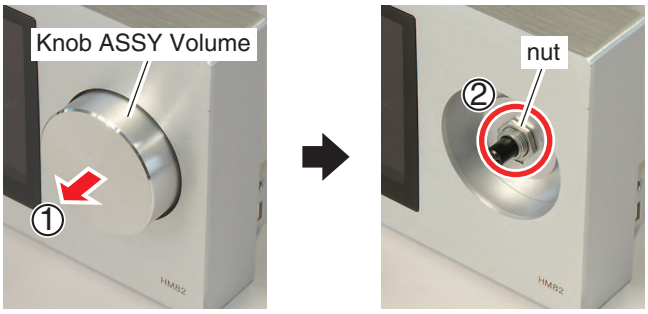


[7] FRONT ASSY, LCD Display

Remove the Cabinet Top and Front Section.
(Refer to the **"[1-1] Cabinet Top"** and **"[1-2] Front Section"**.)

---

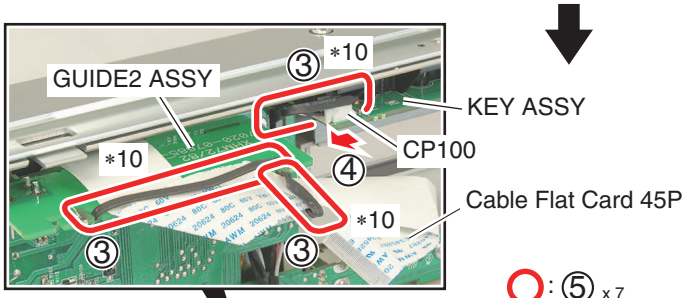
(1) Remove the Knob ASSY Volume.
(2) Remove the nut.



(3) Release the cables from the three PCB binders.

Note on assembling

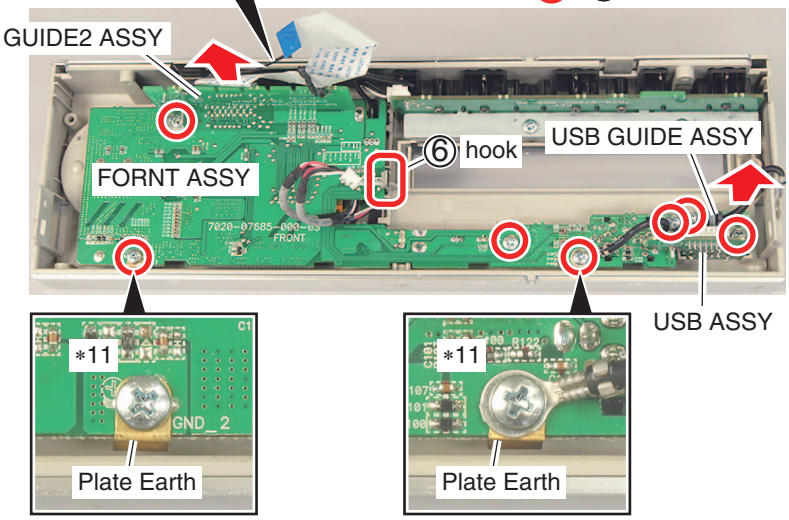
∗10:Don't touch the cables to the Cabinet Top.



(4) Disconnect the connector.

(5) Remove the seven screws (BBZ30P080FTC) and then remove the GUIDE2 ASSY, USB GUIDE ASSY, USB ASSY and two Plate Earths.

○: ⑤ x 7



Note on assembling

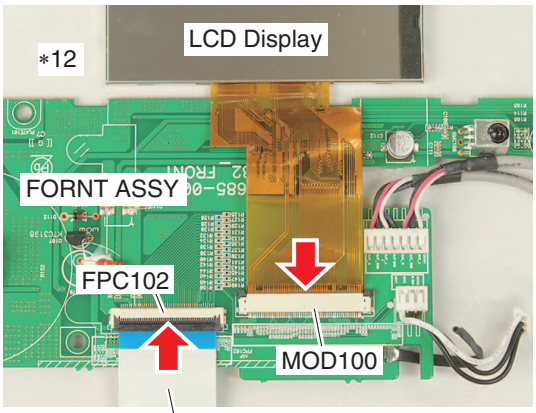
∗11:Don't forget to attach the two Plate Earths.

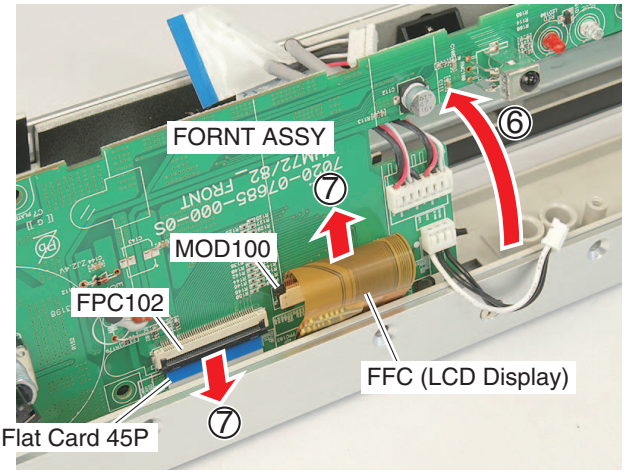
(6) Unhook the hook and pull up the lower side of FRONT ASSY.
(7) Disconnect the two connectors.

Note: A lock mechanism exists in the two connectors. You should remove it with care.

Note on assembling

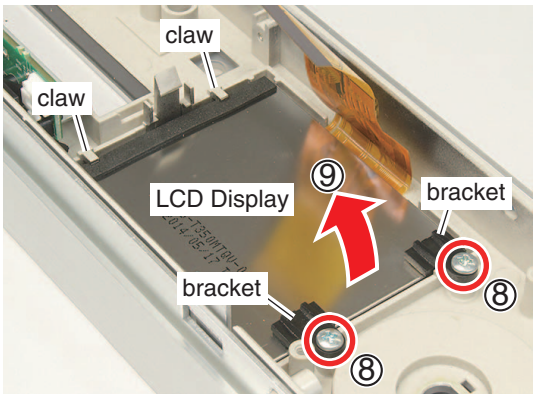
∗12:At the attachment, it is better to disconnect the LCD Display from the Panel Inner and place it on flat surface and connect the two FFC's. Lock it surely not to insert it at a tilt.





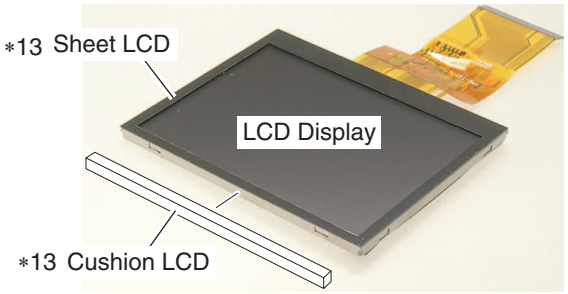
(8) Remove the two screws (BBZ30P080FTC) and then remove the two brackets (accessory of Panel Inner).

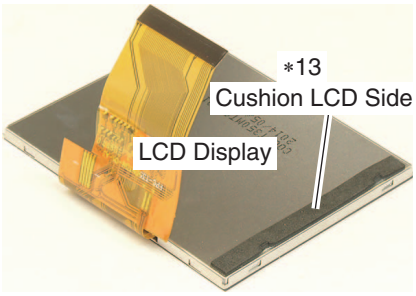
(9) Pull up the two claws from opposite side and remove the LCD Display.



Note on assembling

∗13:When replacing the LCD Display, attach the new Sheet LCD, new Cushion LCD and new Cushion LCD Side.



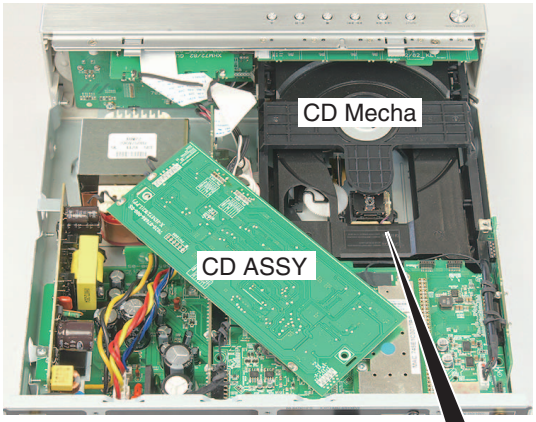


Cleaning the Pickup Lens

Remove the Cabinet Top.
(Refer to the **"[1-1] Cabinet Top"**.)

Remove the CD ASSY.
(Refer to the **"[2] CD ASSY, CD Mecha"**.)

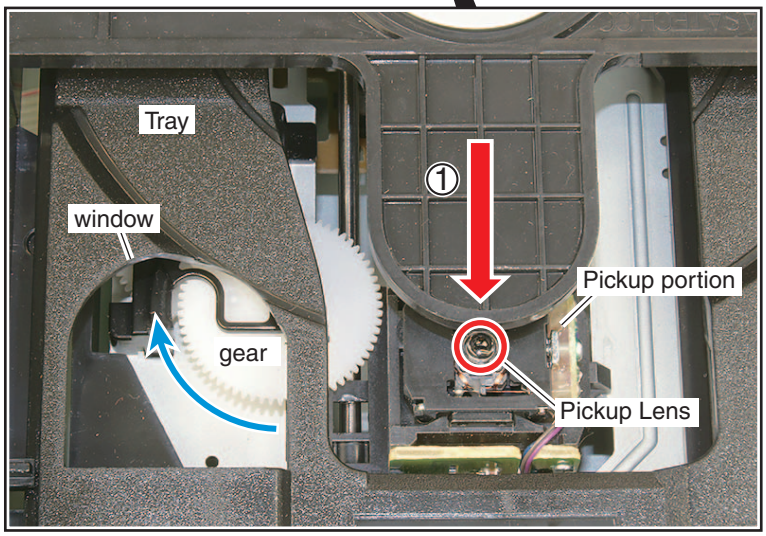
Note: Don't disconnect of the Cable Flat Card 16P from the CD ASSY.
If you disconnect the Cable Flat Card 16P, the Laser may be damaged.



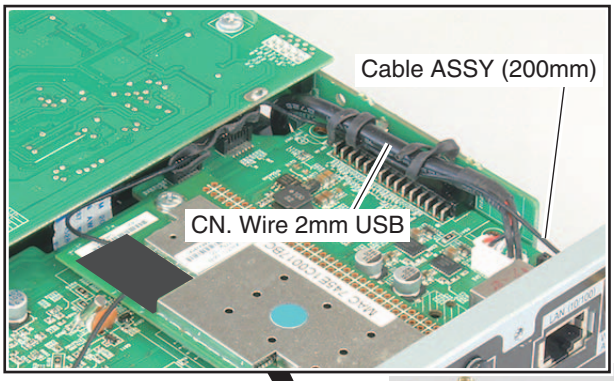
(1) Rotate the gear of window at Tray in clockwise directly manually and move the Pickup portion to outermost periphery, and then carry out the cleaning.

Clean the Pickup Lens when it is stained, using following cleaning materials:

Cleaning liquid : GEM1004
Cleaning paper : GED-008



Styling of cables between units



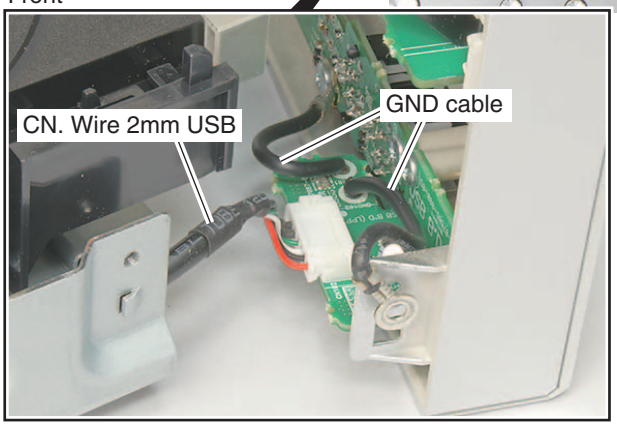
Front

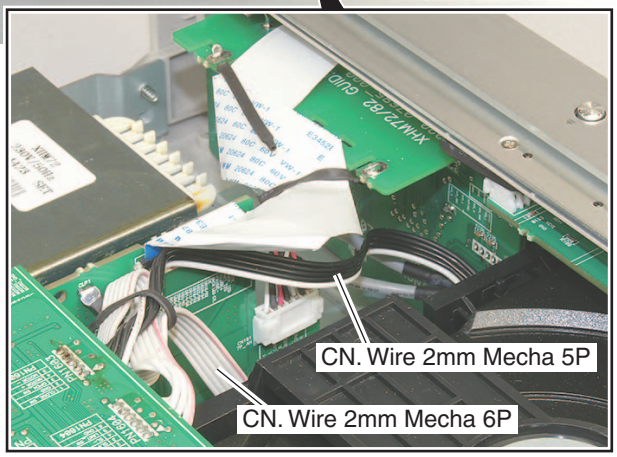
When you attach each unit, make a styling and connection of cables as shown in the photo.

Note: Keep the cables, PCB binders off the Cabinet Top.

When replacing the Cable ASSY (250mm), don't forget to attach the Tube and bind it.

Front





Front

8. EACH SETTING AND ADJUSTMENT

8.1 UPDATING OF THE FIRMWARE

■ Updating of the MAIN Microcomputer firmware

[Purpose]

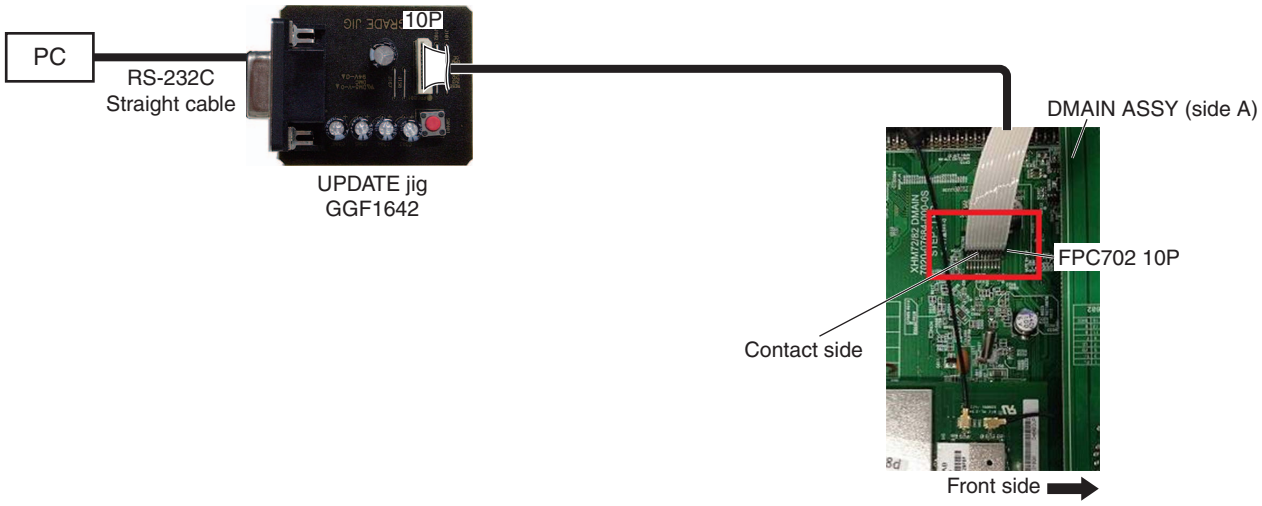
Refer to this section when updating the firmware of each microcomputer is required by the service information, etc.

[Necessary Tools]

- PC with a serial port
- Updating program: FlashSta.exe
- RS-232C straight cable (9pin female ↔ 9pin male)
- RS-232C update jig: GGF1642
- Firmware file: ".mot" file

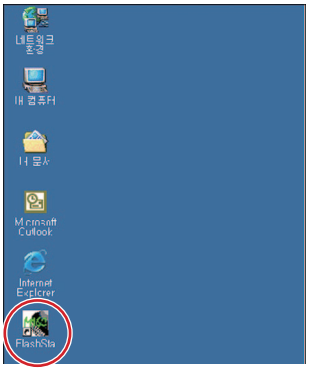
[Connections]

Remove the cabinet (bonnet) so that the DMAIN ASSY becomes accessible.
Connect as shown in the figure below.
For the contact side of the FFC, see the photo below.



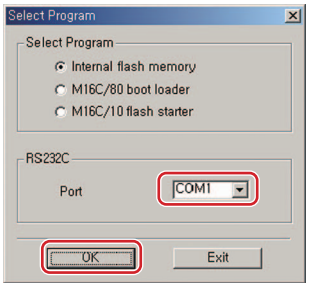
[Procedures]

1. Unplug the Power cord.
   Connect the FFC cable. (MAIN microcomputer)
   Start up application FlashSta on the PC.



2. Plug the Power cord. (STANDBY mode)
   For updating of the MAIN microcomputer, proceed with the following steps in STANDBY mode.

3. Press the OK button.

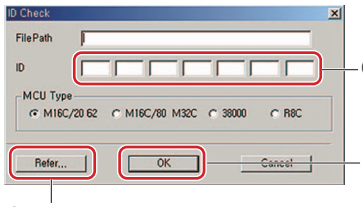


Select for COM port.

[if the following messages are displayed]

Please push the cancel button and press the JIG's RESET button.
And confirm a connection of FFC.
Please return to procedure 1.

4. Select the update file and enter ID.

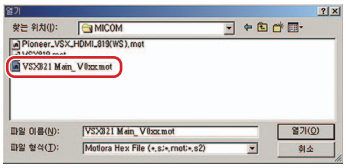


② Enter ID.
Enter "ff" in all field.

③ Press OK button to go to next step.

① Selection of upgrade file

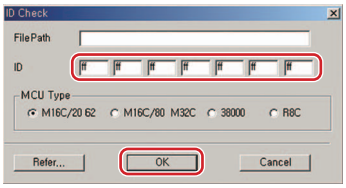
① Select the update file



Select "HM7282_Vxxx.mot" file to update the MAIN microcomputer.

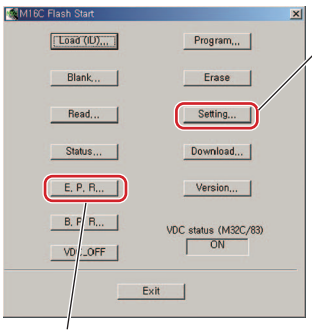
Press the OK button.

② Enter ID.



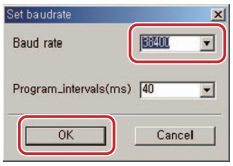
Press the OK button.

5. Set speed update and update the MAIN microcomputer.



① Set speed of update.

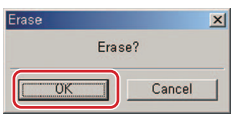
① Set speed of update.
Set Baud rate to 38400.
(Default Baud rate is 9600)



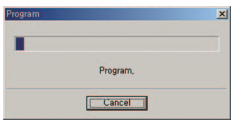
Press the OK button.

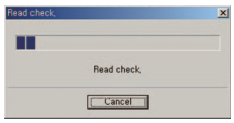
② Update the MAIN microcomputer.
E.P.R=>Erase+Program+Read

② Update the MAIN microcomputer.
Press the E.P.R … button

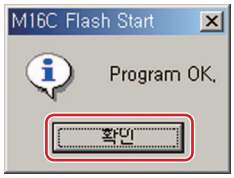


Press OK button.

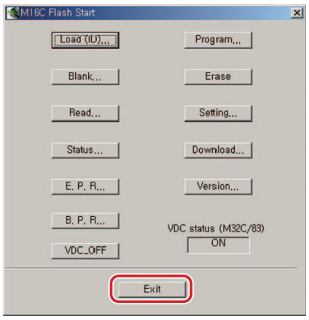




6. Update Finished MAIN microcomputer.



Press the OK button.



Press the Exit button.
Please wait for until this window disappears.

7. Turn the unit off. (STANDBY mode)
Disconnect the Power cord.
Disconnect the FFC cable.

■ Updating of the Subcom, BCO firmware

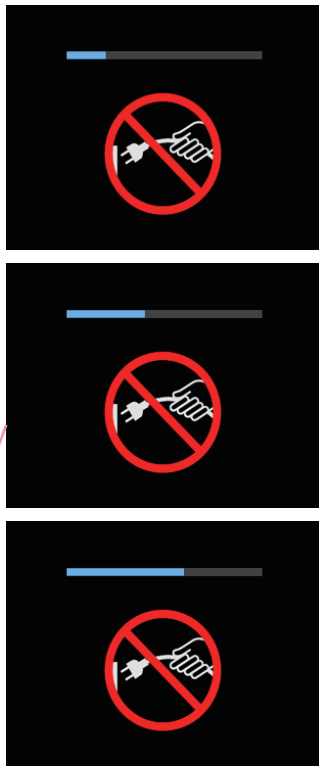
[Procedure]

① Copy either the integrated file (HMx2015APP****HST****.fw) for updating BCO and Subcom or the single file (HMx2015APP****.fw) for updating BCO to a root folder in the USB memory.
*Do not change the released file name when it was released.
② Plug the power cord into the receptacle and turn on the power.
③ Connect the USB memory in which the update file has been stored to the Product.
④ Press iPod/USB button on the remote control unit.
Press “ESC” → “+10” buttons from service remote control unit (GGF1381) and enter into the Service Mode.
⑤ Select “CX870/Subcom Update Via USB” on the Service Menu Screen.
⑥ Press on the “ENTER” button on the Update Screen, and the update starts.
⑦ When update is completed, the progress bar turns green.
- When the file name is HMx2015APP****.fw
  The Product automatically restarts after 10 seconds.
- When the file name is HMx2015APP****HST****.fw
  The Product does not automatically restart.
  Check that the progress bar turns green, and unplug the power cord.

⑧ Confirm that Subcom, BCO are revised by "System Information" of "6.1 SERVICE MODE" menu.

Note: Do not plug off the power cord during the update processing.

■ Subcom and BCO update screen

Explanation	Key operation	Display screen	Time
If you select ENTER on this screen, updating will start. To return to the previous screen, select RETURN.	[ENTER] [RETURN] [Start] [Cancel]	Updating in progress, don't unplug! [ENTER] [RETURN]	The following icons will be displayed, according to the actual status: Muting icon Sleep icon LAN icon
An alarm message will be displayed if no updater file is found in the USB memory. Select ENTER, return to Service Menu, then retry using the USB memory in which the updater file is stored. * The same message will be displayed if no USB memory is plugged in.	[ENTER] [RETURN]	File Not Found [ENTER] OK	The following icons will be displayed, according to the actual status: Muting icon Sleep icon LAN icon
CX870 will automatically restart. After restart of CX870 is completed, the background will be displayed. After restart is completed, the updating process will automatically start. The progress of updating will be displayed with the progress bar.	Key operation disabled In units of 20%		Approx. 20 sec.

Explanation	Key operation	Display screen	Time
The progress bar turns green following the successful updating. The time required for the blue progress bar to turn green varies by the format of the update file contained in the USB memory. The operation after updating also varies as follows: When the file name is HMx2015 APP****HST****.fw : The Product does not automatically restart. Check that the progress bar turns green, and unplug the power cord. When the file name is HMx2015 APP****.fw : The Product automatically restarts.	Key operation disabled		When the file name is HMx2015APP**** HST****.fw : Approx. 3 minutes When the file name is HMx2015APP****.fw : Approx. 1 minute
If update fails, the color of the progress bar changes to red. This screen remains displayed if updating fails. For recovery, unplug the power cord then plug it back in. The unit will start with the previous version of the program. Updating may fail if the updater file has erroneous data.			Unlimited

■ Updating of the CD I/F, CD DSP Microcomputers firmware

For updating firmware for the CD I/F and CD DSP microcomputers, create separate discs for updating each microcomputer then play the disc on the unit.

■ How to Update

1. Write a ***.UPG file onto a CD-R/RW to create the disc for updating.
   Examples of file names (File names vary, depending on the version of firmware.)
   For the CD I/F microcomputer: HM72_82CD_IFM_V1_00_110713.UPG
   For the CD DSP microcomputer: HM72_82CD_DSP_V102_(20110720_VT).UPG

   File writing can be performed, using the writing function of Windows XP.
   Note: Create separate discs for updating the CD I/F and CD DSP microcomputers.
   If two files for updating these microcomputers are written on one disc, a problem may occur.
   NEVER write files other than a .UPG file onto the CD-R/RW for updating.

2. Turn the unit ON.
3. Set the Function selection to CD.
4. Open the disc tray, load the created disc, then close the tray.
5. Updating starts automatically.
6. After updating is completed, the disc tray will be automatically opened.
7. Unload the disc then turn the unit OFF.

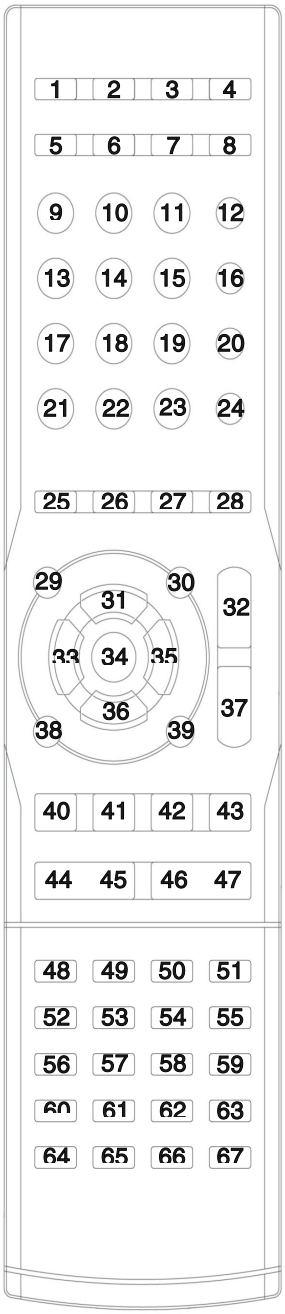
	Setting Name		Initial Setting	Setting Range	NetStandby	Cold	FactoryReset	Storage Place
SETUP system	Dimmer		LEVEL3	LEVEL3 / LEVEL2 /LEVEL1 / LCD Off	Memorized	Memorized	Clear	Maincom
	AutoPowerDown	Europe	15min	Off / 15min / 30min / 60min	Memorized	Memorized	Clear	Maincom
		Other countries	Off					
	Quick Start Mode		Off	Off / On	Memorized	Memorized	Clear	Maincom
	Bluetooth Standby		Off	Off / On	Memorized	Memorized	Clear	Maincom
	Language	Japan	Japanese	English,Japanese	Memorized	Memorized	Clear	Maincom
		China	Chinese	Chinese				
		Other countries	English	English, French, German, Dutch, Italian, Spanish, Russian				
SOUND system	SOUND		FLAT	FLAT, GAME, CLASSIC, POPS, VOCAL, JAZZ	Memorized	Memorized	Clear	Maincom
	P.BASS		Off	On / Off	Memorized	Memorized	Clear	Maincom
	BASS		0	-5 - +5	Memorized	Memorized	Clear	Maincom
	TREBLE		0	-5 - +5	Memorized	Memorized	Clear	Maincom
	Volume		0	0 - 50	Memorized	Memorized	Clear	Maincom
SYSTEM	FUNCTION		iPod/USB	All functions	Memorized	Memorized	Clear	Maincom
	12h/24h		24h	12h / 24h	Memorized	Memorized	Clear	Maincom
	CLOCK		0:00:00 Sun		Memorized	Memorized	Clear	Maincom
	TIMER		Off / CD / 0:00:00 / EVERYDAY / Vol.0		Memorized	Memorized	Clear	Maincom
TUNER	BAND		FM STEREO	FM STEREO / FM MONO / AM	Memorized	Memorized	Clear	Maincom
	PRESET		Minimum FM frequency	40Preset	Memorized	Memorized	Clear	Maincom
	PresetName		Null	8 characters (ASCII)	Memorized	Memorized	Clear	Maincom
	AM Frequency	Europe	522	522-1602 (9kStep)	Memorized	Memorized	Clear	Maincom
		Japan	522	522-1620 (9kStep)				
		Canada	530	530-1710 (10kStep)				
		China	522	522-1620 (9kStep)				
	FM Frequency	Europe	87.5	87.5-108.00 (50kStep)	Memorized	Memorized	Clear	Maincom
		Japan	76.0	76.0-95.00 (100kStep)				
		Canada	87.5	87.5-108.00 (100kStep)				
		China	87.5	87.5-108.00 (50kStep)				
NETWORK	Network Type		Auto	Wired / Wireless / Auto	Memorized	Memorized	Clear	DM870
	SSID		(Null)	32 characters	Memorized	Memorized	Clear	DM870
	Security		None	None / WEP /WPA2/WPA,AES+TKIP	Memorized	Memorized	Clear	DM870
	WPA Password / WEP Key		(Null)	100 characters	Memorized	Memorized	Clear	DM870
	DHCP		On	On / Off	Memorized	Memorized	Clear	DM870
	IP		0.0.0.0	0.0.0.0 - 255.255.255.255	Memorized	Memorized	Clear	DM870
	SubNetmask		255.0.0.0	0.0.0.0 - 255.255.255.255	Memorized	Memorized	Clear	DM870
	Gateway		0.0.0.0	0.0.0.0 - 255.255.255.255	Memorized	Memorized	Clear	DM870
	DNS1		0.0.0.0	0.0.0.0 - 255.255.255.255	Memorized	Memorized	Clear	DM870
	DNS2		0.0.0.0	0.0.0.0 - 255.255.255.255	Memorized	Memorized	Clear	DM870
	Proxy setting		Don't Use	Don't Use/Use	Memorized	Memorized	Clear	DM870
	Proxy Server		(Null)	128 characters	Memorized	Memorized	Clear	DM870
	Proxy Port		(Null)	0 - 65535	Memorized	Memorized	Clear	DM870
	Friendly Name		*1	63 characters	Memorized	Memorized	Clear	DM870
	AirPlay Password		(Null)	63 characters	Memorized	Memorized	Clear	DM870
	Favorite		0 broadcast station	64 broadcast station	Memorized	Memorized	Clear	DM870
	Internet Radio Last Play		(Null)	1 broadcast station	Memorized	Memorized	Clear	DM870
BT	PIN CODE		0000	0000	Memorized	Memorized	Clear	Maincom
	Paired Bluetooth Device		(Null)	8 unit	Memorized	Memorized	Clear	Maincom

If the AC power cable is unplugged before the settings that have been changed are registered, registration of the changed settings will not be guaranteed.
*1 The initial setting is the unit's model name; “XC-HM82 ****** ” if the unit is a high-end model, or “XC-HM72 ****** ” if the unit is a low-end model.
3 bytes (low rank) of a MAC Address is set as ******.

8.3 IR BUTTON LIST

■ IR Button List of Network Hi Micro

The remote control for HM72/82 could be a substitute for that for the past model HM71/81 or HM70.
See below for how to use.



Key No.	HM72/82	HM71/81		HM70
	Key name printing	Key name printing		Key name printing
	English (EU/UK/CA/CH/JP)	English	Japanese	English
		AXD7676 / AXD7680	AXD7677	
1	STANDBY/ON	STANDBY/ON	電源	STANDBY/ON
2				
3				
4	OPEN/CLOSE	OPEN/CLOSE	開 / 閉	OPEN/CLOSE
5	DIMMER	NET STANDBY	NET STANDBY	
6	TIMER	TIMER	ﾀｲﾏｰ	
7	SLEEP	SLEEP	ｽﾘｰﾌﾟ	
8	INPUT			
9	iPod/USB	iPod	iPod	iPod/iPhone
10	CD	USB	USB	USB
11	BT AUDIO	CD	CD	CD
12	SOUND	SOUND	ｻｳﾝﾄﾞ	SOUND
13	M.SERVER	NETWORK	NETWORK	NETWORK
14	NET RADIO	TUNER	TUNER	TUNER
15	FAVORITES	AUDIO IN	AUDIO IN	AUDIO IN
16	P.BASS	P.BASS	P.BASS	P.BASS
17	DIG IN	LINE	LINE	TIMER
18	AUDIO IN	BT Audio / OPTION	BT Audio	SLEEP
19	LINE 1/2	+Favorite	+Favorite	LINE
20	TREBLE	TREBLE	高音	TREBLE
21	TUNER	BAND	BAND	DISPLAY
22	BAND	CD DISP	CD DISP	CD DISP
23	CD DISP	DIMMER	ﾃﾞｨﾏｰ	DIMMER
24	BASS	BASS	低音	BASS
25				
26				
27				
28				
29	TOP MENU	TOP MENU	ﾄｯﾌﾟﾒﾆｭｰ	TOP MENU
30	iPod CONTROL	iPod CONTROL	iPod ｺﾝﾄﾛｰﾙ	iPod CONTROL
31	↑/TUNE(+)	/TUNE(+)	/TUNE(+)	↑/TUNE(+)
32	VOLUME +	VOLUME +	音量 +	VOLUME +
33	←/PRESET(-)	/PRESET(-)	/PRESET(-)	←/PRESET(-)
34	ENTER	ENTER	決定	ENTER
35	→/PRESET(+)	/PRESET(+)	/PRESET(+)	→/PRESET(+)
36	↓/TUNE(-)	/TUNE(-)	/TUNE(-)	↓/TUNE(-)
37	VOLUME -	VOLUME -	音量 -	VOLUME -
38	SETUP	SETUP	設定	SETUP
39	RETURN	RETURN	戻る	RETURN
40	/DAB SCAN	/AUTO TUNE /	/	/AUTO TUNE
41	/RDS DISP	/PTY /	/	/PTY
42	/PTY	/RDS DISP /	/	
43	MUTE	MUTE	消音	MUTE
44				
45				
46				
47				
48	1	1	1	1
49	2	2	2	2
50	3	3	3	3
51	TUNER EDIT	TUNER EDIT	TUNER EDIT	BAND
52	4	4	4	4
53	5	5	5	5
54	6	6	6	6
55	REPEAT	REPEAT	ﾘﾋﾟｰﾄ	TUNER EDIT
56	7	7	7	7
57	8	8	8	8
58	9	9	9	9
59	SHUFFLE	SHUFFLE	ｼｬｯﾌﾙ	REPEAT
60	+10	+10	+10	+10
61	0	0	0	0
62	+100	+100	+100	+100
63	PLAY MODE	PLAY MODE	PLAY MODE	SHUFFLE
64	OPTION	ENTER	ENTER	FOLDER -
65	CLEAR	CLEAR	CLEAR	FOLDER +
66	FOLDER - SORT	FOLDER -	ﾌｫﾙﾀﾞｰ -	CLEAR
67	FOLDER + +Favorites	FOLDER +	ﾌｫﾙﾀﾞｰ +	PLAY MODE

The keys with the same indication transmit the same code even if located in different positions.
The keys of the past models not found on the HM/72/82 remote control are shown in yellow cells.
The following shows the key indications that vary by model but transmit the same code:

HM72/82	HM71/81			HM70
	AXD7676	AXD7680	AXD7677	
iPod/USB	USB		USB	USB
BT Audio	BT Audio	OPTION		
LINE 1/2	LINE		LINE	LINE
❚❚/DAB SCAN	❚❚ /AUTO TUNE	❚❚	❚❚	❚❚/AUTO TUNE
▶/RDS DISP	▶ /RDS DISP	▶	▶	▸
■/PTY	■ /PTY	■	■	■/PTY
FOLDER - SORT	FOLDER -		ﾌｫﾙﾀﾞｰ -	FOLDER -
FOLDER + +Favorites	FOLDER +		ﾌｫﾙﾀﾞｰ +	FOLDER +

■ IR Button List which OPTION Key Supports

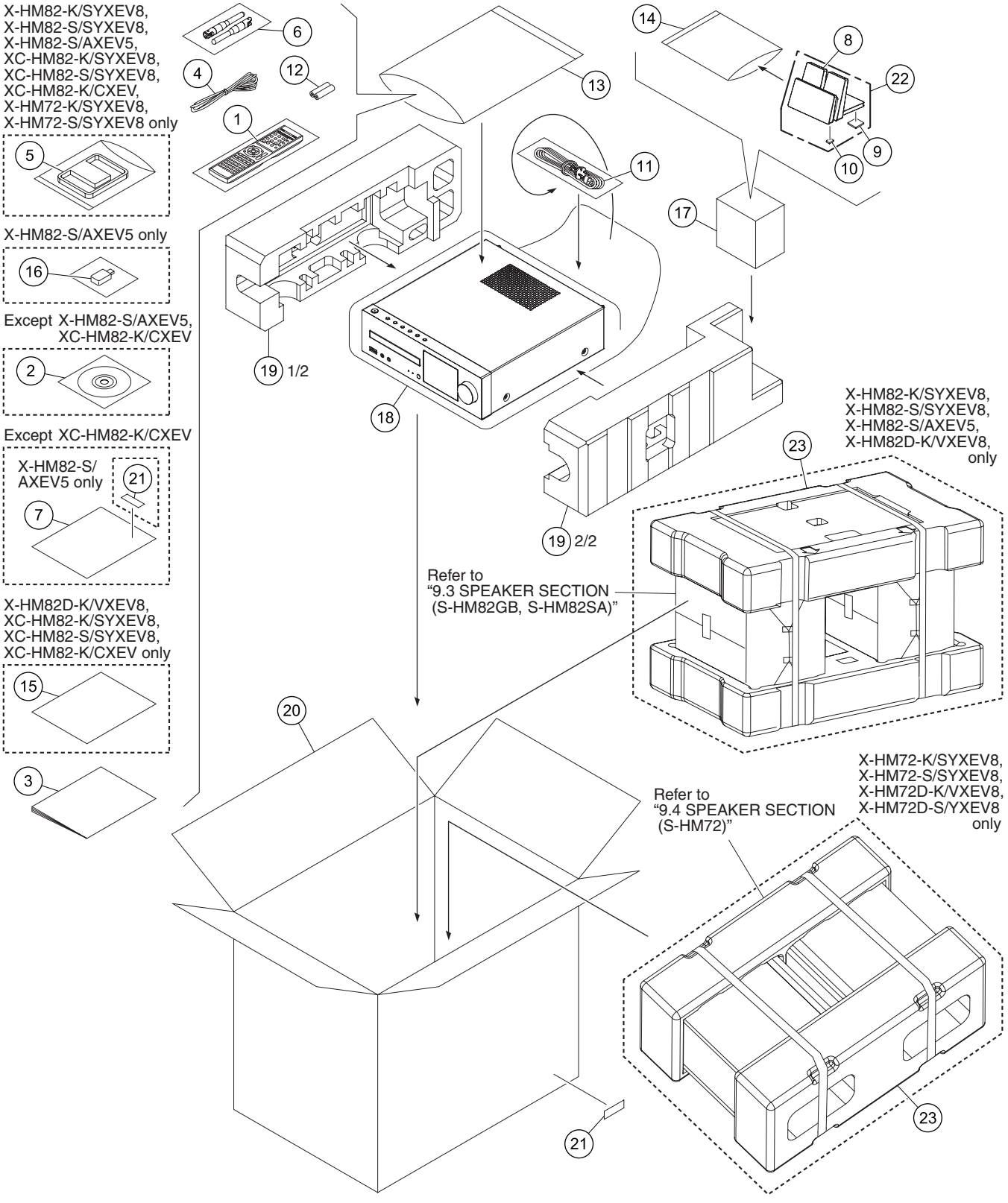
The remote control for HM72/82 has some indications or codes different from those for the past model HM71/81 or HM70 equipped with different functions, but it can still transmit the remote control codes of the past models HM71/81 and HM70 by means of the OPTION key on the HM/72/82 remote control.

Combination	Notes
OPTION + STANDBY/ON	This transmits the code of "NET STANDBY" key in HM71/81.
OPTION + iPod/USB	This transmits the code of "iPod" key in HM71/81 and "iPod/iPhone" in HM70.
OPTION + CD DISP	This transmits the code of "DISPLAY" key in HM70.
OPTION + M.SERVER	This transmits the code of "NETWORK" key in HM71/81.
OPTION + NET RADIO	This transmits the code of "NETWORK" key in HM71/81.
OPTION + FAVORITES	This transmits the code of "NETWORK" key in HM71/81.
OPTION + FOLDER+	This transmits the code of "+Favorite" key in HM71/81.

9. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

9.1 PACKING SECTION



(1) PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Remote Control Unit	8300773200010S
	2	Operating Instructions (CD-ROM)	See Contrast table (2)
	3	Quick Start Guide	See Contrast table (2)
	4	FM Wire Antenna	See Contrast table (2)
	5	AM Loop Antenna	See Contrast table (2)
	6	WLAN Antenna	E600000010040S
	7	Warranty Card	See Contrast table (2)
	8	iPhone/iPad Stand	4147210221000S
	9	Cushion iPad A	4050215235000S
	10	Cushion iPad B	4050215245000S
⚠	11	Power Cord	See Contrast table (2)
	12	AAA Size IEC R03 Dry Cell Batteries x2	G670001R50242S
	13	Polyethylene Bag	6337040062010-IL
	14	Polyethylene Bag Set (Stand)	6337210282000S
	15	Sheet SP Caution	See Contrast table (2)
	16	CN. CATV	See Contrast table (2)
	17	Box Gift Stand	6000212780000S
	18	Polyethylene Bag Set (Main Body)	6337210199000S
	19	Cushion Snow LR	6230213834000S
	20	Box Gift	See Contrast table (2)
NSP	21	Serial Label	•••••
	22	Stard ASSY	4148210221000V
	23	Speaker	See Contrast table (2)

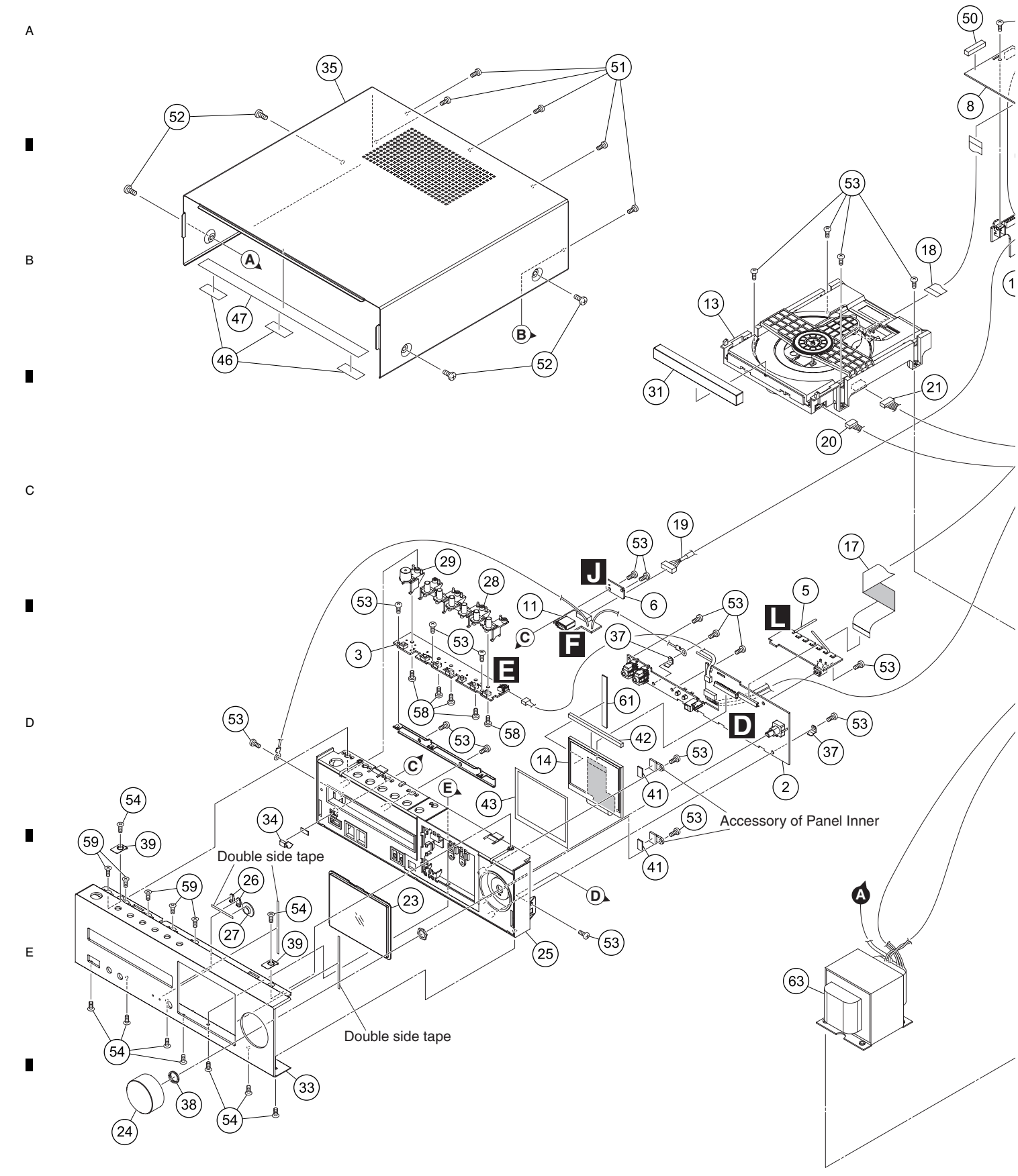
(2) CONTRAST TABLE

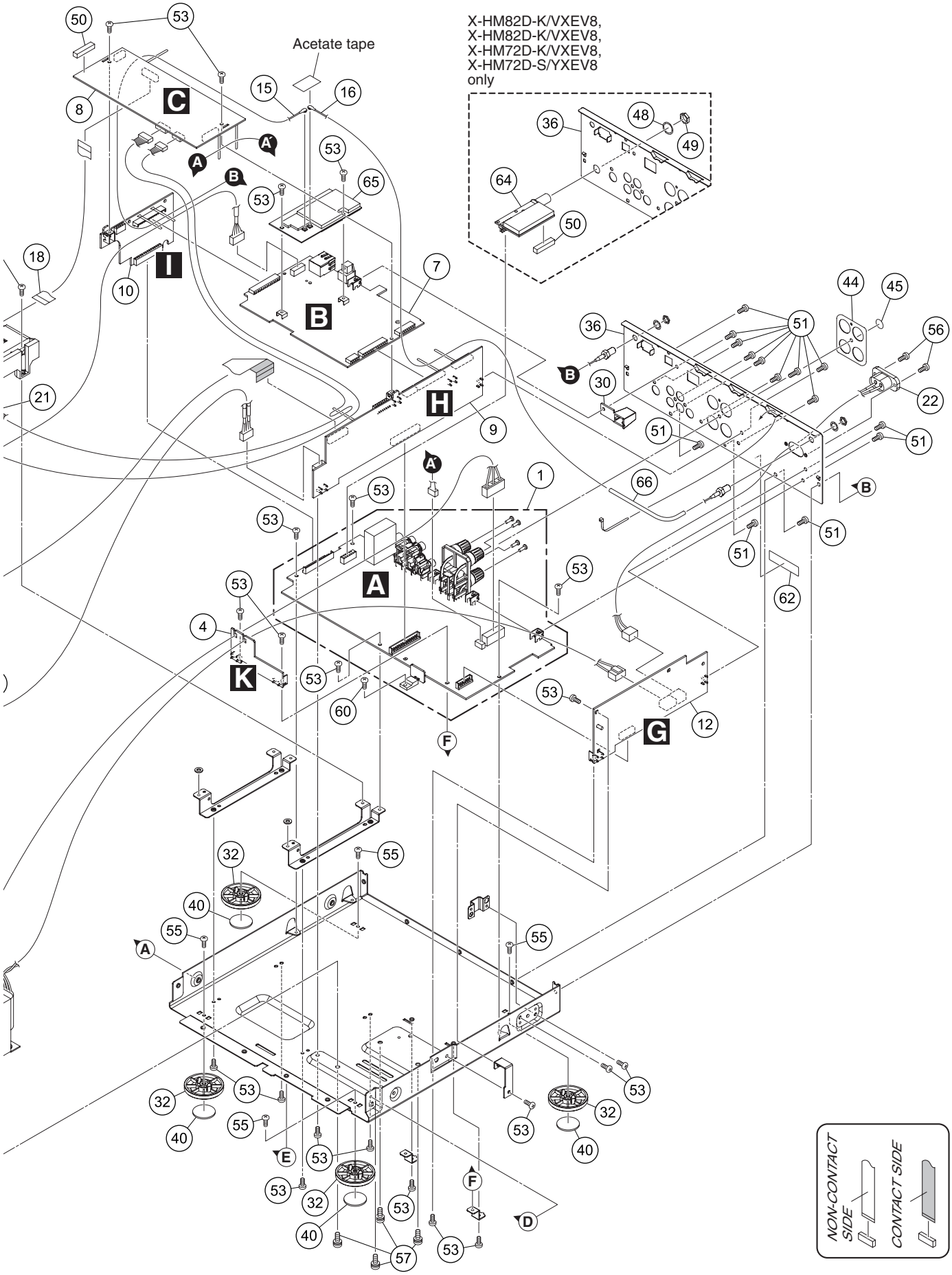
X-HM82-K/SYXEV8, X-HM82-S/SYXEV8, X-HM82-S/AXEV5, X-HM82D-K/VXEV8, XC-HM82-K/SYXEV8, XC-HM82-S/SYXEV8, XC-HM82-K/CXEV, XC-HM82D-K/VXEV8, X-HM72-K/SYXEV8, X-HM72-S/SYXEV8, X-HM72D-K/VXEV8 and X-HM72D-S/YXEV8 are constructed the same except for the following:

Mark	No.	Symbol and Discription	X-HM82-K/ SYXEV8	X-HM82-S/ SYXEV8	X-HM82-S/ AXEV5	X-HM82D-K/ VXEV8	XC-HM82-K/ SYXEV8	XC-HM82-S/ SYXEV8
	2	Operating Instructions (CD-ROM)	65170000020205	65170000020205	Not used	65170000020205	65170000020205	65170000020205
	3	Quick Start Guide	57070000095805	57070000095805	57070000096105	57070000095805	57070000095805	57070000095805
	4	FM Wire Antenna	E605010140010-IL	E605010140010-IL	E605010140010-IL	E60501050020-IL	E605010140010-IL	E605010140010-IL
	5	AM Loop Antenna	E601019000010-IL	E601019000010-IL	E601019000010-IL	Not used	E601019000010-IL	E601019000010-IL
	7	Warranty Card	57270000001615	57270000001615	57270000005405	57270000001615	57270000001615	57270000001615
⚠	11	Power Cord	L068250251800-IL	L068250251800-IL	L068125100230S	L068250030010-IL	L068250251800-IL	L068250251800-IL
	15	Sheet SP Caution	Not used	Not used	Not used	Not used	52270000029405	52270000029405
	16	CN. CATV	Not used	Not used	L170200060010-IL	Not used	Not used	Not used
	20	Box Gift	60072127600005	60072127600105	60072127600205	60072127600305	60072127400005	60072127400105
	23	Speaker	S-HM82GB	S-HM82GB	S-HM82SA	S-HM82GB	Not used	Not used

Mark	No.	Symbol and Discription	XC-HM82-K/ CXEV	XC-HM82D-K/ VXEV8	X-HM72-K/ SYXEV8	X-HM72-S/ SYXEV8	X-HM72D-K/ VXEV8	X-HM72D-S/ YXEV8
	2	Operating Instructions (CD-ROM)	Not used	65170000020205	65170000020205	65170000020205	65170000020205	65170000020205
	3	Quick Start Guide	57070000096005	57070000095805	57070000095805	57070000095805	57070000095805	57070000095805
	4	FM Wire Antenna	E605010140010-IL	E60501050020-IL	E605010140010-IL	E605010140010-IL	E60501050020-IL	E60501050020-IL
	5	AM Loop Antenna	E601019000010-IL	Not used	E601019000010-IL	E601019000010-IL	Not used	Not used
	7	Warranty Card	Not used	57270000001615	57270000001615	57270000001615	57270000001615	57270000001615
⚠	11	Power Cord	L068125071810S	L068250030010-IL	L068250251800-IL	L068250251800-IL	L068250030010-IL	L068250251800-IL
	15	Sheet SP Caution	52270000029405	52270000029405	Not used	Not used	Not used	Not used
	16	CN. CATV	Not used	Not used	Not used	Not used	Not used	Not used
	20	Box Gift	60072127400405	60072127400505	60072127500005	60072127500105	60072127500205	60072127500305
	23	Speaker	Not used	Not used	S-HM72	S-HM72	S-HM72	S-HM72

9.2 EXTERIOR SECTION




X-HM82D-K/VXEV8,
X-HM82D-K/VXEV8,
X-HM72D-K/VXEV8,
X-HM72D-S/YXEV8
only
Acetate tape
NON-CONTACT SIDE
CONTACT SIDE

(1) EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	MAIN ASSY	See Contrast table (2)
	2	FRONT ASSY	7028076852010
	3	KEY ASSY	7028076853010
	4	GUIDE1 ASSY	7028076854010
	5	GUIDE2 ASSY	7028076855010
	6	USB GUIDE ASSY	7028076856010
	7	DMAIN ASSY	See Contrast table (2)
	8	CD ASSY	7028076861010
	9	CNT1 ASSY	7028076871010
	10	CNT2 ASSY	7028076872010
	11	USB ASSY	7028076873010
⚠	12	SMPS ASSY	See Contrast table (2)
	13	CD Mecha	8030000010080-IL
	14	LCD Display	K550350600010S
	15	Cable ASSY (200mm)	L308201010040S
	16	Cable ASSY (250mm)	L308251010040S
	17	Cable Flat Card 45P	L301171450020S
	18	Cable Flat Card 16P	N711161622480S
	19	CN. Wire 2mm USB	L002331070060S
	20	CN. Wire 2mm Mecha 5P	L002151050230S
	21	CN. Wire 2mm Mecha 6P	L002181060070S
⚠	22	CN. Wire AC In	L000500020110S
	23	Window Display	5077213683000S
	24	Knob ASSY Volume	See Contrast table (2)
	25	Panel Inner	See Contrast table (2)
	26	Lens LED	3710211443000S
	27	Lens IR	See Contrast table (2)
	28	Button 6Key	See Contrast table (2)
	29	Button Power	See Contrast table (2)
	30	Cover BT	4310216061100S
	31	Cover Tray	See Contrast table (2)
	32	Foot	See Contrast table (2)
	33	Panel Front	See Contrast table (2)
	34	Shield USB Plate	3070210697000S
	35	Cabinet Top	See Contrast table (2)
	36	Chassis Back	See Contrast table (2)
	37	Plate Earth	4470212706000S
	38	Spring Knob	3720210276000-IL
	39	Plate EMC	4470212987000S
	40	Cushion Foot	4050215195000S
	41	Cushion LCD	4050213805000-IL
	42	Cushion LCD	4050215545000S
	43	Sheet LCD	1210212792000S
	44	Sheet Speaker	1210211573000-IL
	45	Cushion Cap Screw	4050211745100SV
	46	Sheet Top Cover	1210212749000S
	47	Tape Copper	1220211859000S
	48	Washer	See Contrast table (2)
	49	Nut	See Contrast table (2)
	50	Cushion DAB	4050214675000
	51	Screw 3x10 B-Type BK Dot	BBT30P100FTB
	52	Screw 4x6 C-Type	See Contrast table (2)
	53	Screw 3x8 B-Type ZNW	BBZ30P080FTC
	54	Screw 3x8 B-Type (Flat)	See Contrast table (2)
	55	Screw 3x6 C-Type ZNW	B020930061B10S
	56	Screw 3x8 B-Type BK	B020230083B10-IL
	57	Screw 4x10 B-Type BK	B028940101B11-IL
	58	Screw 2x8 B-Type BK	B020020083B10SV
	59	Screw 2x8 B-Type	See Contrast table (2)
	60	Screw 3x6 B-Type BK (Round)	B020230063B10-IL
	61	Cushion LCD Side	4050215805000SV
NSP	62	Serial Label	•••••
⚠	63	Power Transformer	See Contrast table (2)
	64	DAB	See Contrast table (2)
	65	CX870 Module	8952HM7200020
	66	Tube	A700101019010S

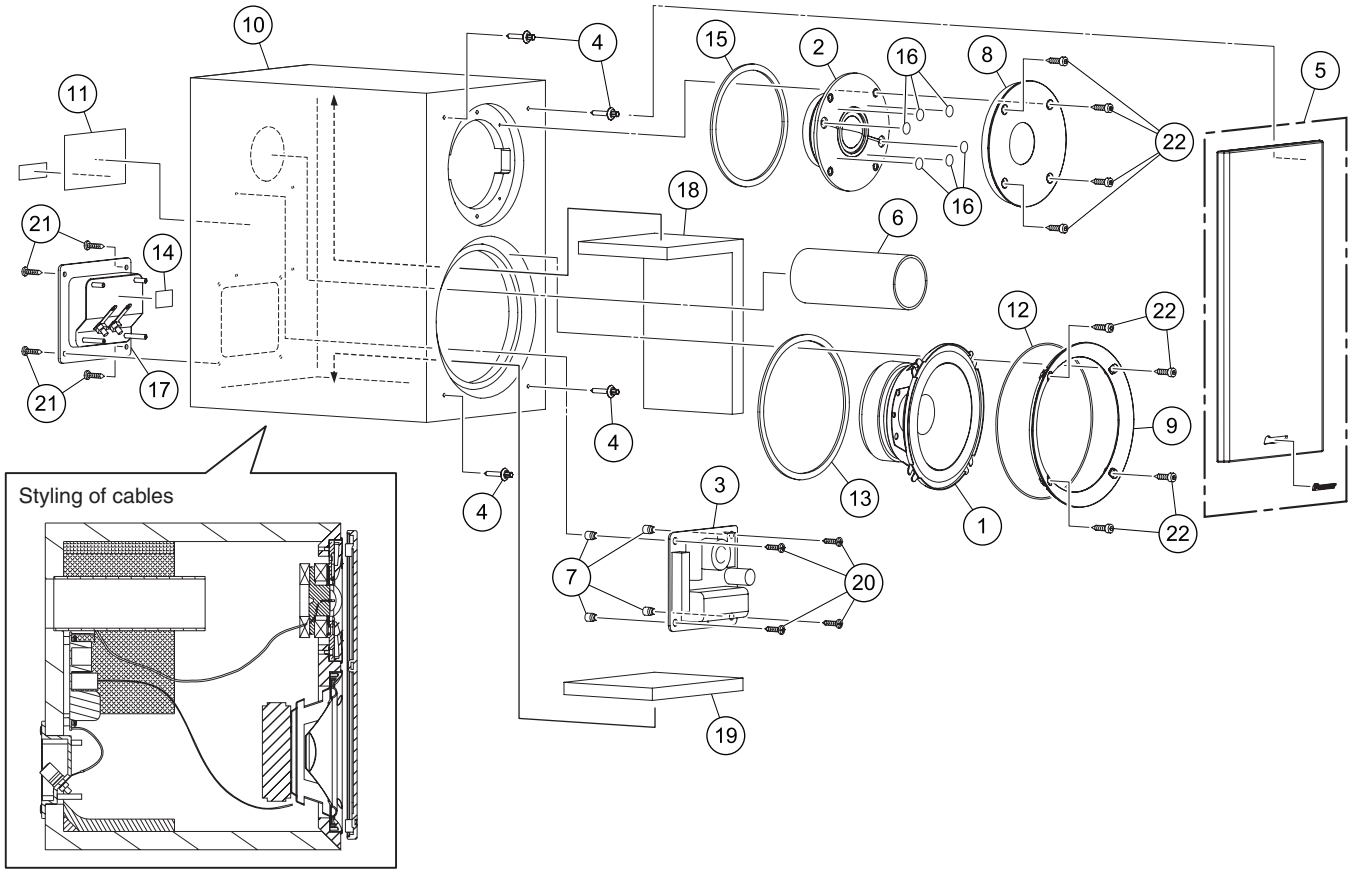
(2) CONTRAST TABLE

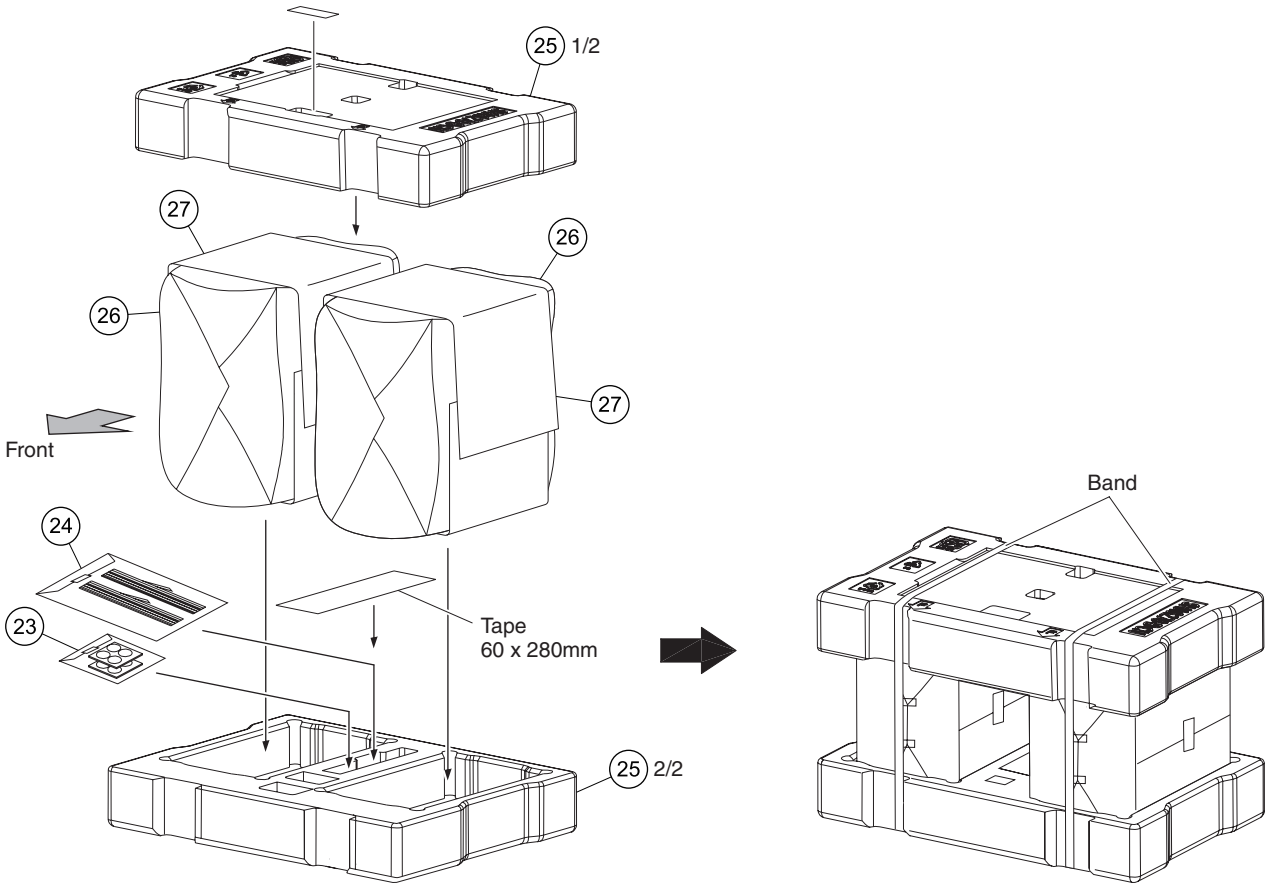
X-HM82-K/SYXEV8, X-HM82-S/SYXEV8, X-HM82-S/AXEV5, X-HM82D-K/VXEV8, XC-HM82-K/SYXEV8, XC-HM82-S/SYXEV8, XC-HM82-K/CXEV, XC-HM82D-K/VXEV8, X-HM72-K/SYXEV8, X-HM72-S/SYXEV8, X-HM72D-K/VXEV8 and X-HM72D-S/YXEV8 are constructed the same except for the following:

Mark	No.	Symbol & Discription	X-HM82-K/ SYXEV8	X-HM82-S/ SYXEV8	X-HM82-S/ AXEV5	X-HM82D-K/ VXEV8	XC-HM82-K/ SYXEV8	XC-HM82-S/ SYXEV8
	1	MAIN ASSY	7028076851010	7028076851010	7028076851060	7028076851030	7028076851010	7028076851010
	7	DMAIN ASSY	7028076841010	7028076841010	7028076841040	7028076841050	7028076841010	7028076841010
⚠	12	SMPS ASSY	8208001120010S	8208001120010S	8208001120010S	8208001120010S	8208001120010S	8208001120010S
	24	Knob ASSY Volume	5088212868000S	5088212868100S	5088212868100S	5088212868000S	5088212868000S	5088212868100S
	25	Panel Inner	3067216281000S	3067216281100S	3067216281100S	3067216281000S	3067216281000S	3067216281100S
	27	Lens IR	3710211453000S	3710211453100S	3710211453100S	3710211453000S	3710211453000S	3710211453100S
	28	Button 6Key	5090215451000S	5097215451100S	5097215451100S	5090215451000S	5090215451000S	5097215451100S
	29	Button Power	5090215461000S	5097215461100S	5097215461100S	5090215461000S	5090215461000S	5097215461100S
	31	Cover Tray	4317216101000S	4317216101100S	4317216101100S	4317216101000S	4317216101000S	4317216101100S
	32	Foot	4007210851000S	4007210851000S	4007210851000S	4007210851000S	4007210851000S	4007210851000S
	33	Panel Front	3067216248000S	3067216248010S	3067216248010S	3067216248000S	3067216248000S	3067216248010S
	35	Cabinet Top	3007212096000S	3007212096010S	3007212096010S	3007212096000S	3007212096000S	3007212096010S
	36	Chassis Back	3207215076000S	3207215076010S	3207215076060S	3207215076100S	3207215076000S	3207215076010S
	48	Washer	Not used	Not used	Not used	1530210152000S	Not used	Not used
	49	Nut	Not used	Not used	Not used	1520210335000S	Not used	Not used
	52	Screw 4x6 C-Type	BCZ40P060FTB	BCZ40P060FNI	BCZ40P060FNI	BCZ40P060FTB	BCZ40P060FTB	BCZ40P060FNI
	54	Screw 3x8 B-Type (Flat)	B020030083F10-IL	B020030084F10-IL	B020030084F10-IL	B020030083F10-IL	B020030083F10-IL	B020030084F10-IL
	59	Screw 2x8 B-Type	B020020083F10SV	B020020084F10SV	B020020084F10SV	B020020083F10SV	B020020083F10SV	B020020084F10SV
⚠	63	Power Transformer	8200660450100S	8200660450100S	8200660450100S	8200660450100S	8200660450100S	8200660450100S
	64	DAB	Not used	Not used	Not used	8952HM7200050	Not used	Not used

Mark	No.	Symbol & Discription	XC-HM82-K/ CXEV	XC-HM82D-K/ VXEV8	X-HM72-K/ SYXEV8	X-HM72-S/ SYXEV8	X-HM72D-K/ VXEV8	X-HM72D-S/ YXEV8
	1	MAIN ASSY	7028076851020	7028076851030	7028076851040	7028076851040	7028076851050	7028076851050
	7	DMAIN ASSY	7028076841030	7028076841050	7028076841060	7028076841060	7028076841070	7028076841070
⚠	12	SMPS ASSY	8208001120030S	8208001120010S	8208001120010S	8208001120010S	8208001120010S	8208001120010S
	24	Knob ASSY Volume	5088212868000S	5088212868000S	5088212868000S	5088212868100S	5088212868000S	5088212868100S
	25	Panel Inner	3067216281000S	3067216281000S	3067216281000S	3067216281100S	3067216281000S	3067216281100S
	27	Lens IR	3710211453000S	3710211453000S	3710211453000S	3710211453100S	3710211453000S	3710211453100S
	28	Button 6Key	5090215451000S	5090215451000S	5090215451000S	5097215451100S	5090215451000S	5097215451100S
	29	Button Power	5090215461000S	5090215461000S	5090215461000S	5097215461100S	5090215461000S	5097215461100S
	31	Cover Tray	4317216101000S	4317216101000S	4317216101000S	4317216101100S	4317216101000S	4317216101100S
	32	Foot	4007210851000S	4007210851000S	4000210851000S	4000210851000S	4000210851000S	4000210851000S
	33	Panel Front	3067216248000S	3067216248000S	3067216248020S	3067216248030S	3067216248020S	3067216248030S
	35	Cabinet Top	3007212096000S	3007212096000S	3007212096000S	3007212096010S	3007212096000S	3007212096010S
	36	Chassis Back	3207215076050S	3207215076100S	3207215076070S	3207215076080S	3207215076120S	3207215076130S
	48	Washer	Not used	1530210152000S	Not used	Not used	1530210152000-IL	1530210152000-IL
	49	Nut	Not used	1520210335000S	Not used	Not used	1520210335000-IL	1520210335000-IL
	52	Screw 4x6 C-Type	BCZ40P060FTB	BCZ40P060FTB	BCZ40P060FTB	BCZ40P060FNI	BCZ40P060FTB	BCZ40P060FNI
	54	Screw 3x8 B-Type (Flat)	B020030083F10-IL	B020030083F10-IL	B020030083F10-IL	B020030084F10-IL	B020030083F10-IL	B020030084F10-IL
	59	Screw 2x8 B-Type	B020020083F10SV	B020020083F10SV	B020020083F10SV	B020020084F10SV	B020020083F10SV	B020020084F10SV
⚠	63	Power Transformer	8200660450090S	8200660450100S	8200660450100S	8200660450100S	8200660450100S	8200660450100S
	64	DAB	Not used	8952HM7200050	Not used	Not used	8952HM7200050	8952HM7200050

9.3 SPEAKER SECTION (S-HM82GB, S-HM82SA)





(1) SPEAKER SECTION (S-HM82GB, S-HM82SA) PARTS LIST

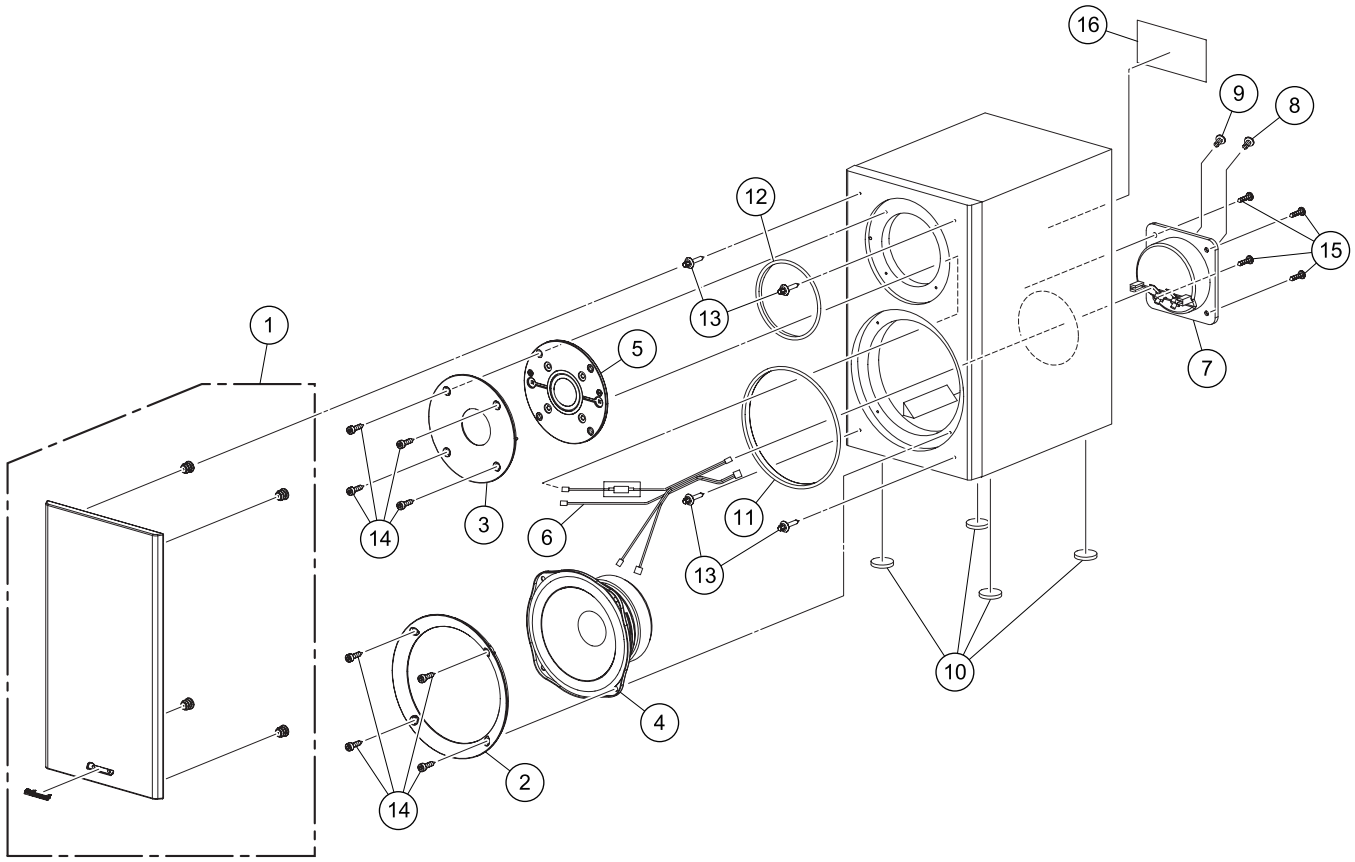
Mark	No.	Description	Part No.
	1	Speaker	F000210250000S
	2	Tweeter	F020210080000S
	3	N.W. ASSY	8178000820010S
NSP	4	Catch Pin	B400210019000S
	5	Grille ASSY	5008210499000S
NSP	6	Duct	See Contrast table (2)
	7	Foot	4000210949000S
	8	Cosmetic Plate (TW)	4470213059000S
	9	Cosmetic Ring (WF)	4700210219000S
NSP	10	Cabinet	See Contrast table (2)
NSP	11	Model Label	See Contrast table (2)
	12	Gasket	4400210979000S
	13	Gasket	4400210989000S
	14	Gasket	4400210999000S
	15	Packing	4050215889000S
	16	Non Skip Pad	6240215140000S
	17	Input Terminal	4470213069000S
NSP	18	Acoustic Absorbent	1200210195000S
NSP	19	ACC Absorbent	1200210205000S
	20	Screw	1500210766000S
	21	Screw	1500210776000S
	22	Screw	1500210786000S
	23	Packing ASSY	4008210949000S
	24	Accessories Set	8178000820020S
	25	Protector	6230214084000S
	26	Sheet	See Contrast table (2)
	27	Sheet	See Contrast table (2)

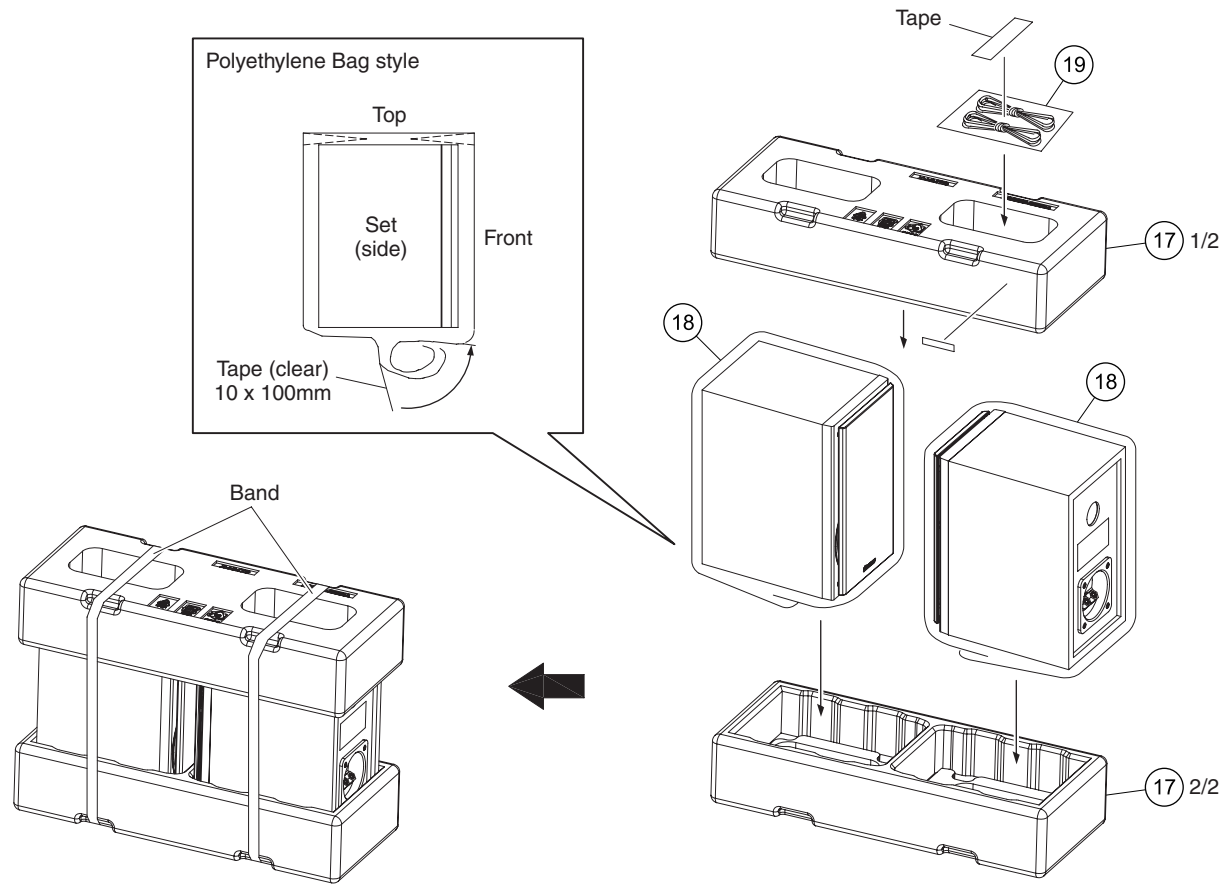
(2) CONTRAST TABLE

S-HM82GB and S-HM82SA are constructed the same except for the following:

Mark	No.	Symbol & Discription	S-HM82GB	S-HM82SA
NSP	6	Duct	1830210290000S	1830210300000S
NSP	10	Cabinet	1280210097000S	1280210107000S
NSP	11	Model Label	5507000018480S	5507000018450S
	26	Sheet	1210212909000S	1210212929000S
	27	Sheet	1210212919000S	Not used

9.4 SPEAKER SECTION (S-HM72)



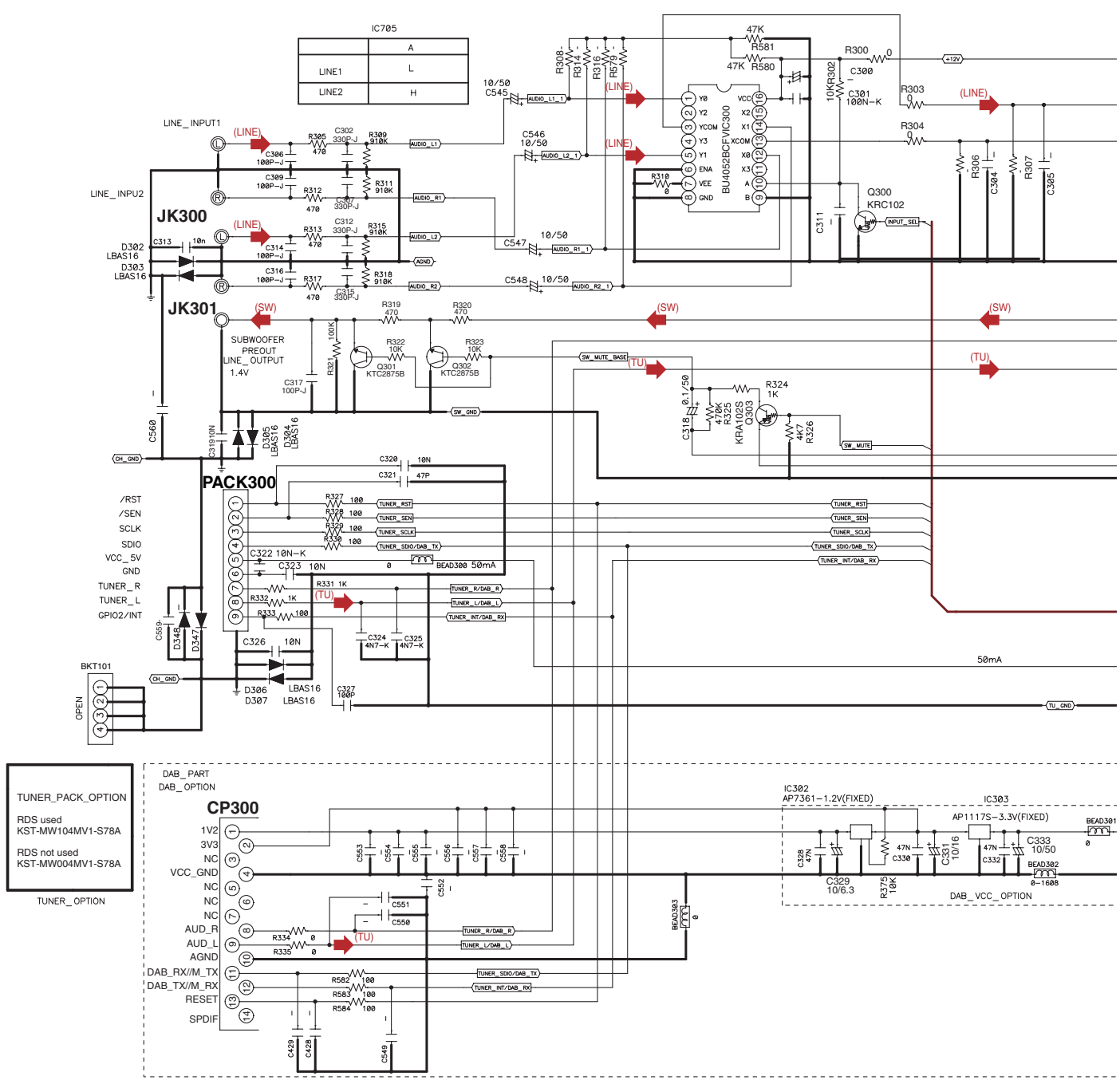


SPEAKER SECTION (S-HM72) PARTS LIST

Mark	No.	Description	Part No.
	1	Frame Net ASSY	8952SHM700019-IL
	2	Deco Unit	8952SHM810010-IL
	3	Deco Tweeter	8952SHM810011-IL
	4	Unit Woofer	8952SHM720001
	5	Tweeter	8952SHM720002
	6	Network ASSY	8952SHM720004
	7	Terminal Network ASSY	8952SHM700027-IL
	8	Cap Terminal BK	8952SHM700028-IL
	9	Cap Terminal RED	8952SHM700029-IL
	10	Foot Cushion	•••••
	11	Felt 1T	8952SHM700034-IL
	12	Felt 1.5T	8952SHM710016
	13	Screw Special	8952SHM700037-IL
	14	Screw Wrench	8952SHM700038-IL
	15	Screw (Bind Head)	8952SHM700039-IL
	16	Label Main	•••••
	17	Snow Cushion	8952SHM720005
	18	Polyethylene Bag	8952SHM700044-IL
	19	Wire SPK ASSY	8952SHM700042-IL

10. SCHEMATIC DIAGRAM

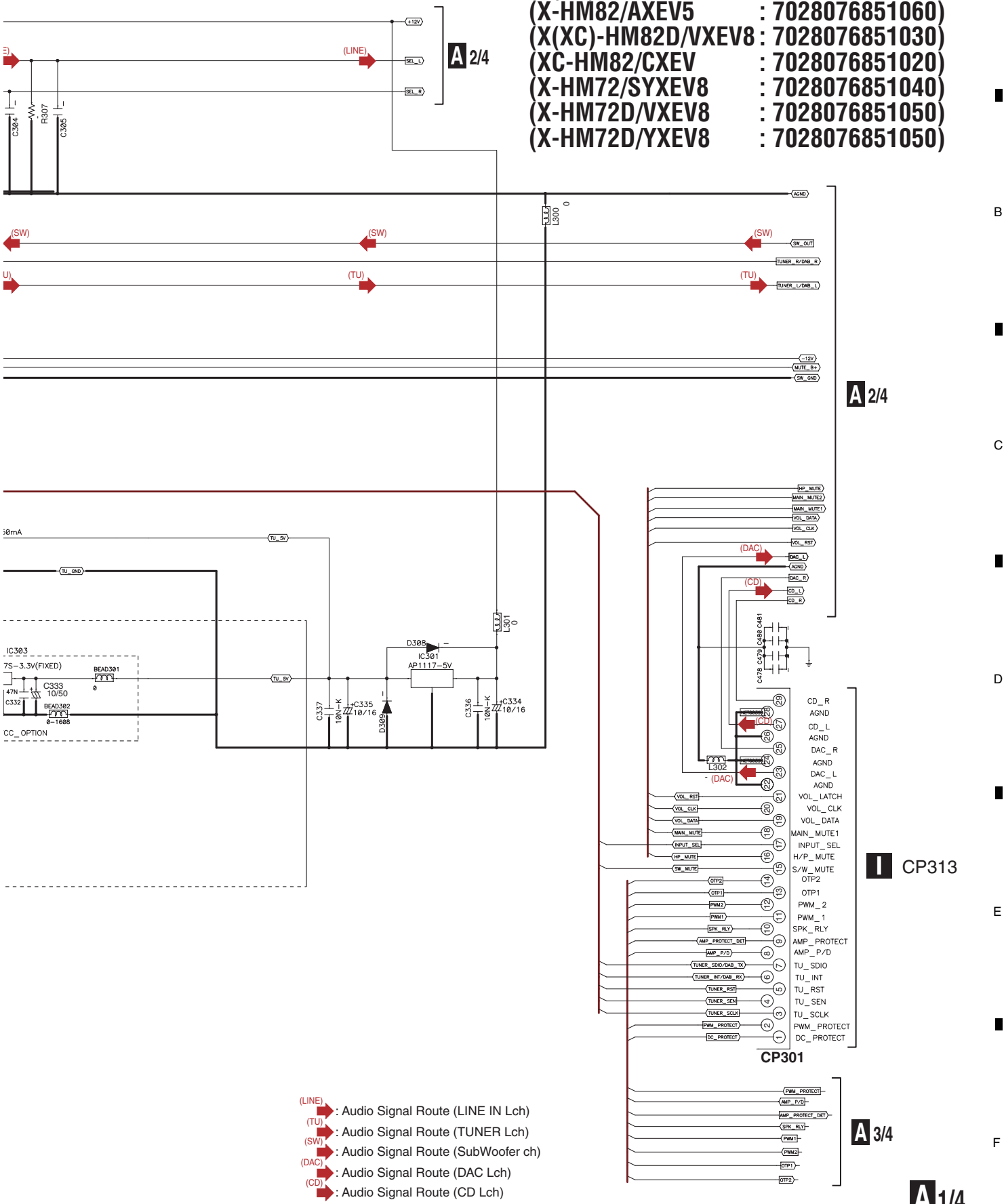
10.1 MAIN ASSY (1/4)



- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

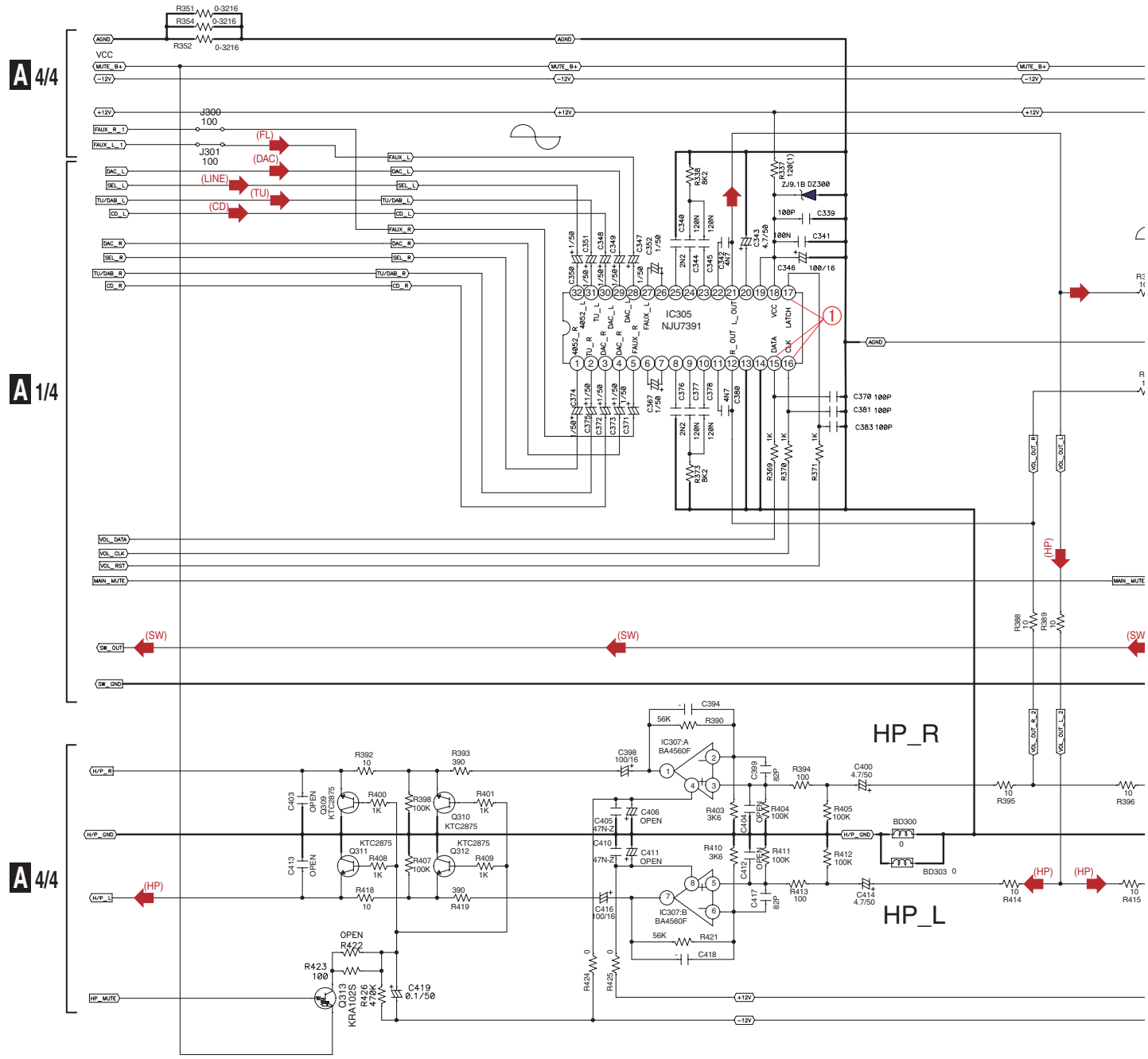
A 1/4 MAIN ASSY (1/4)

(X(XC)-HM82/SYXEV8 : 7028076851010)
(X-HM82/AXEV5 : 7028076851060)
(X(XC)-HM82D/VXEV8 : 7028076851030)
(XC-HM82/CXEV : 7028076851020)
(X-HM72/SYXEV8 : 7028076851040)
(X-HM72D/VXEV8 : 7028076851050)
(X-HM72D/YXEV8 : 7028076851050)



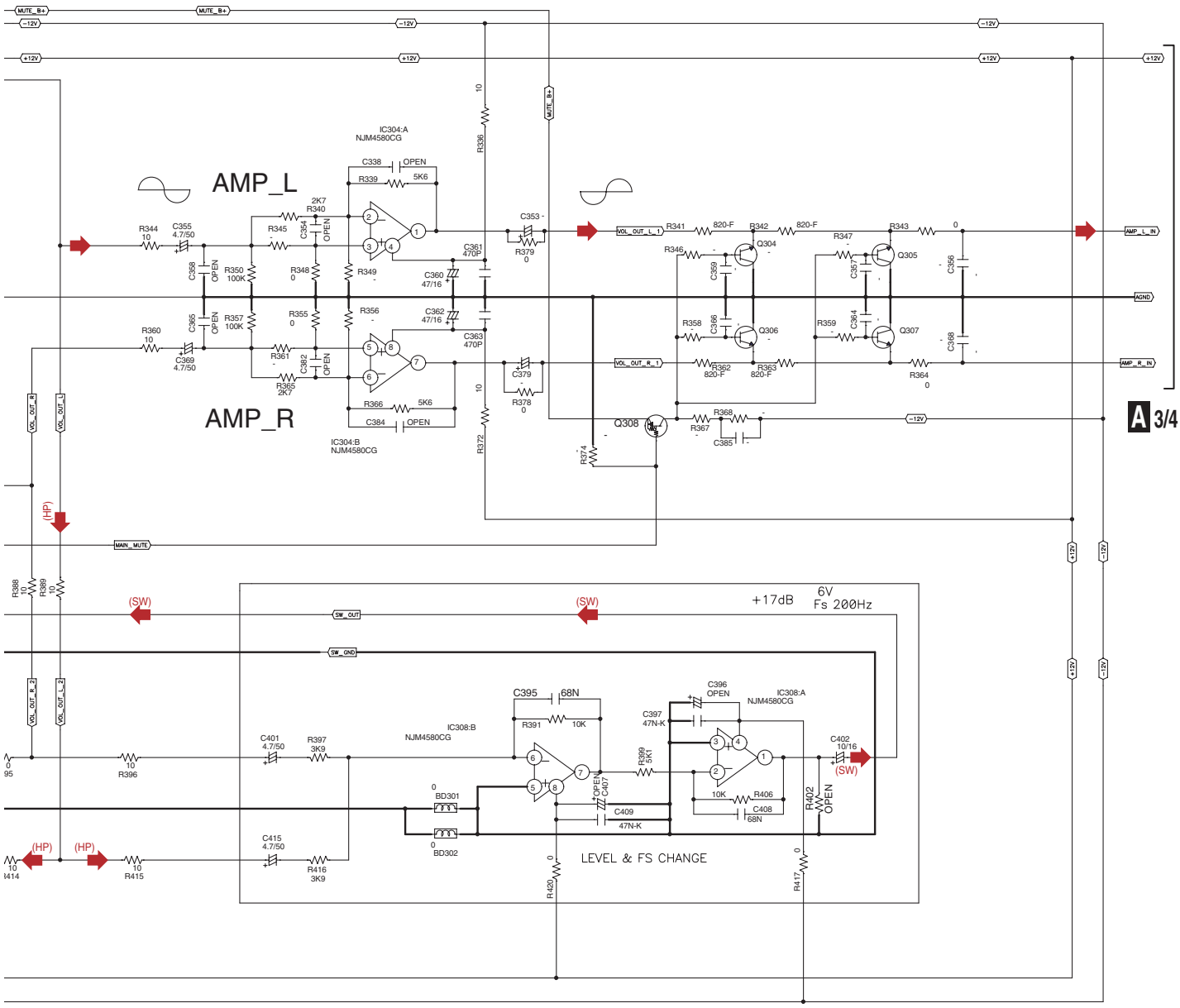
A 1/4

10.2 MAIN ASSY (2/4)



A 2/4 MAIN ASSY (2/4)

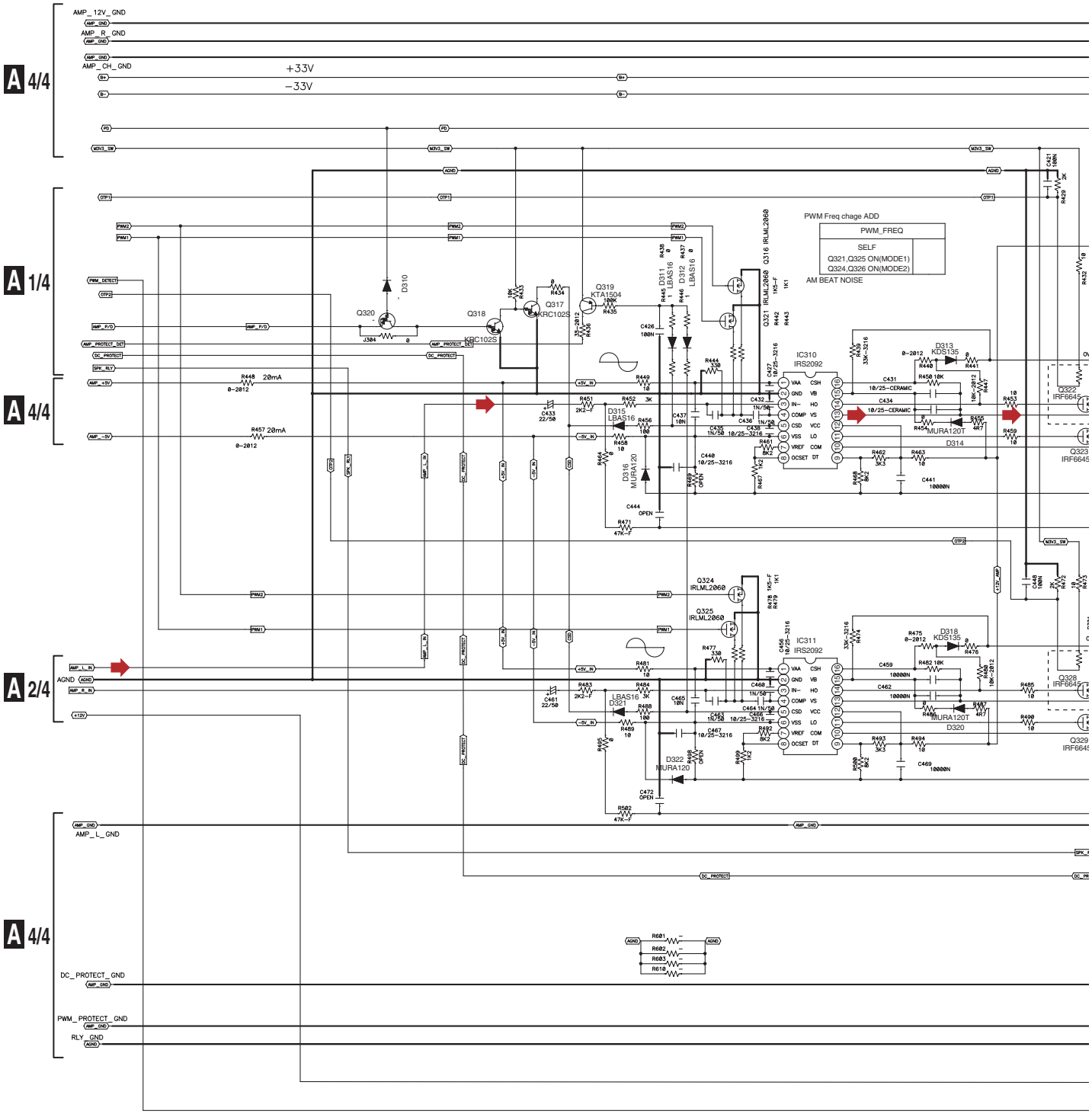
(X(XC)-HM82/SYXEV8 : 7028076851010)
(X-HM82/AXEV5 : 7028076851060)
(X(XC)-HM82D/VXEV8 : 7028076851030)
(XC-HM82/CXEV : 7028076851020)
(X-HM72/SYXEV8 : 7028076851040)
(X-HM72D/VXEV8 : 7028076851050)
(X-HM72D/YXEV8 : 7028076851050)



: Audio Signal Route
(LINE) : Audio Signal Route (LINE IN Lch)
(FL) : Audio Signal Route (FRONT IN Lch)
(HP) : Audio Signal Route (HEADPHONE Lch)
(TU) : Audio Signal Route (TUNER Lch)
(SW) : Audio Signal Route (SubWoofer ch)
(DAC) : Audio Signal Route (DAC Lch)
(CD) : Audio Signal Route (CD Lch)

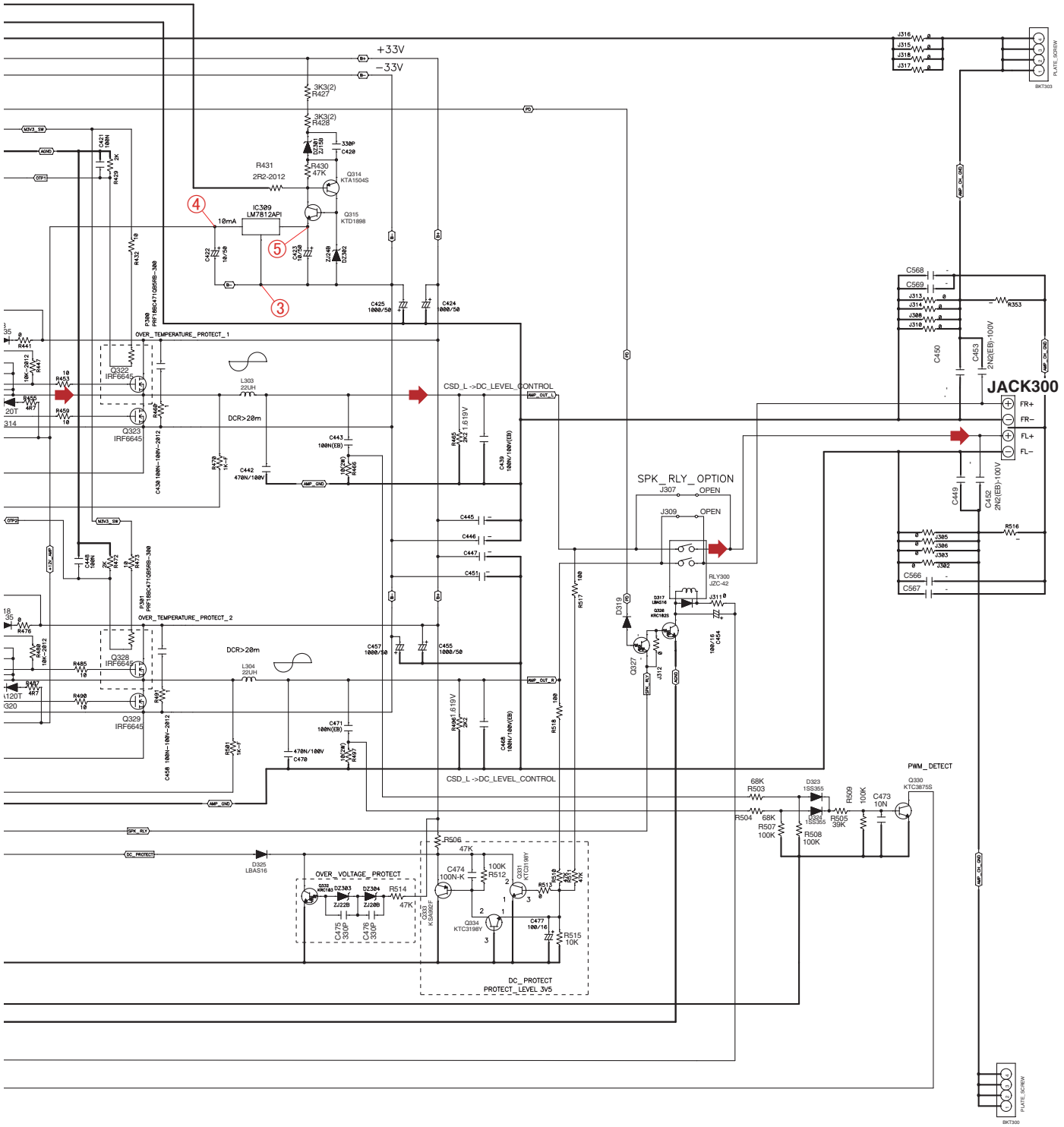
A 2/4

10.3 MAIN ASSY (3/4)



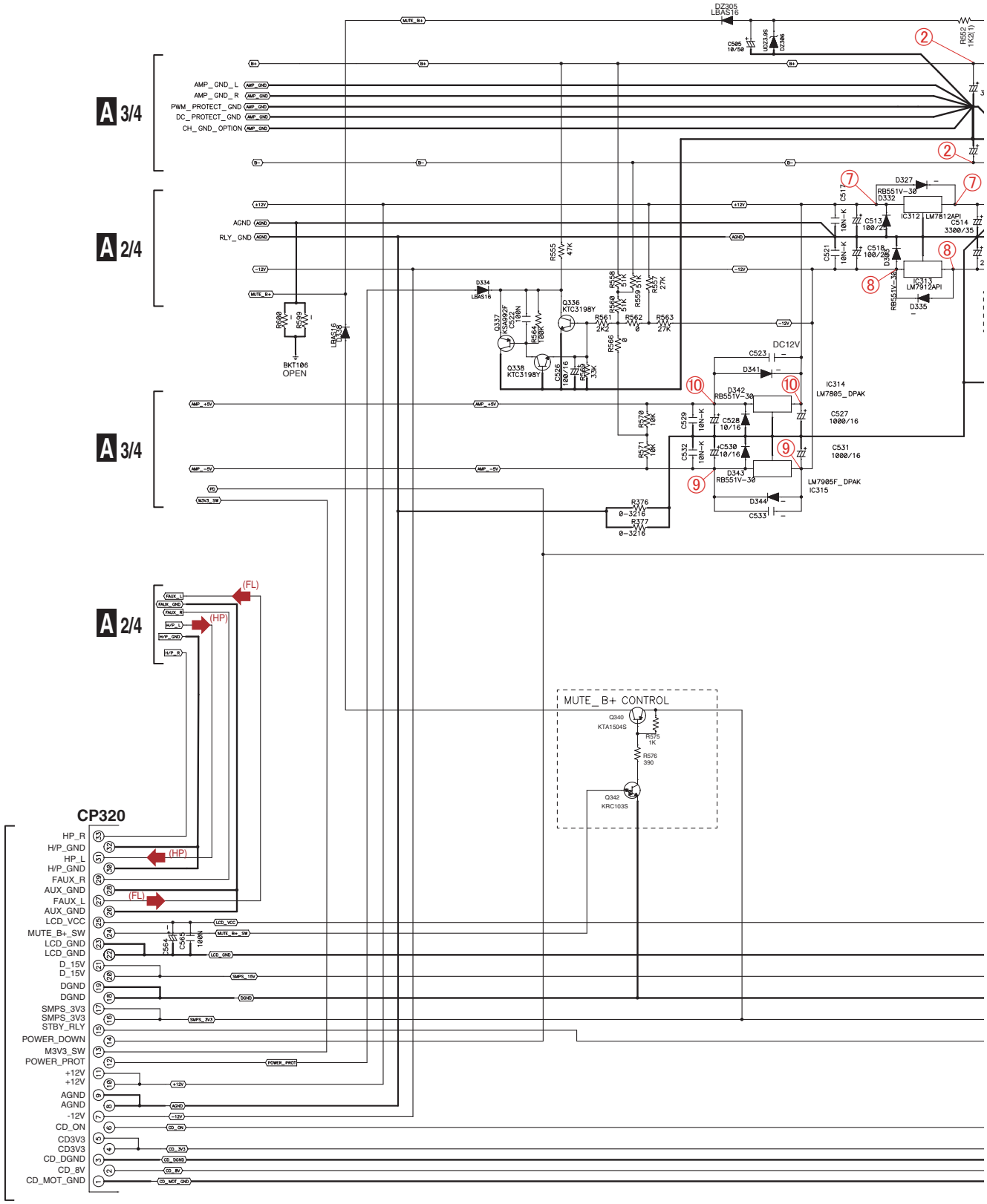
A 3/4 MAIN ASSY (3/4)

(X(XC)-HM82/SYXEV8 : 7028076851010)
(X-HM82/AXEV5 : 7028076851060)
(X(XC)-HM82D/VXEV8 : 7028076851030)
(XC-HM82/CXEV : 7028076851020)
(X-HM72/SYXEV8 : 7028076851040)
(X-HM72D/VXEV8 : 7028076851050)
(X-HM72D/YXEV8 : 7028076851050)



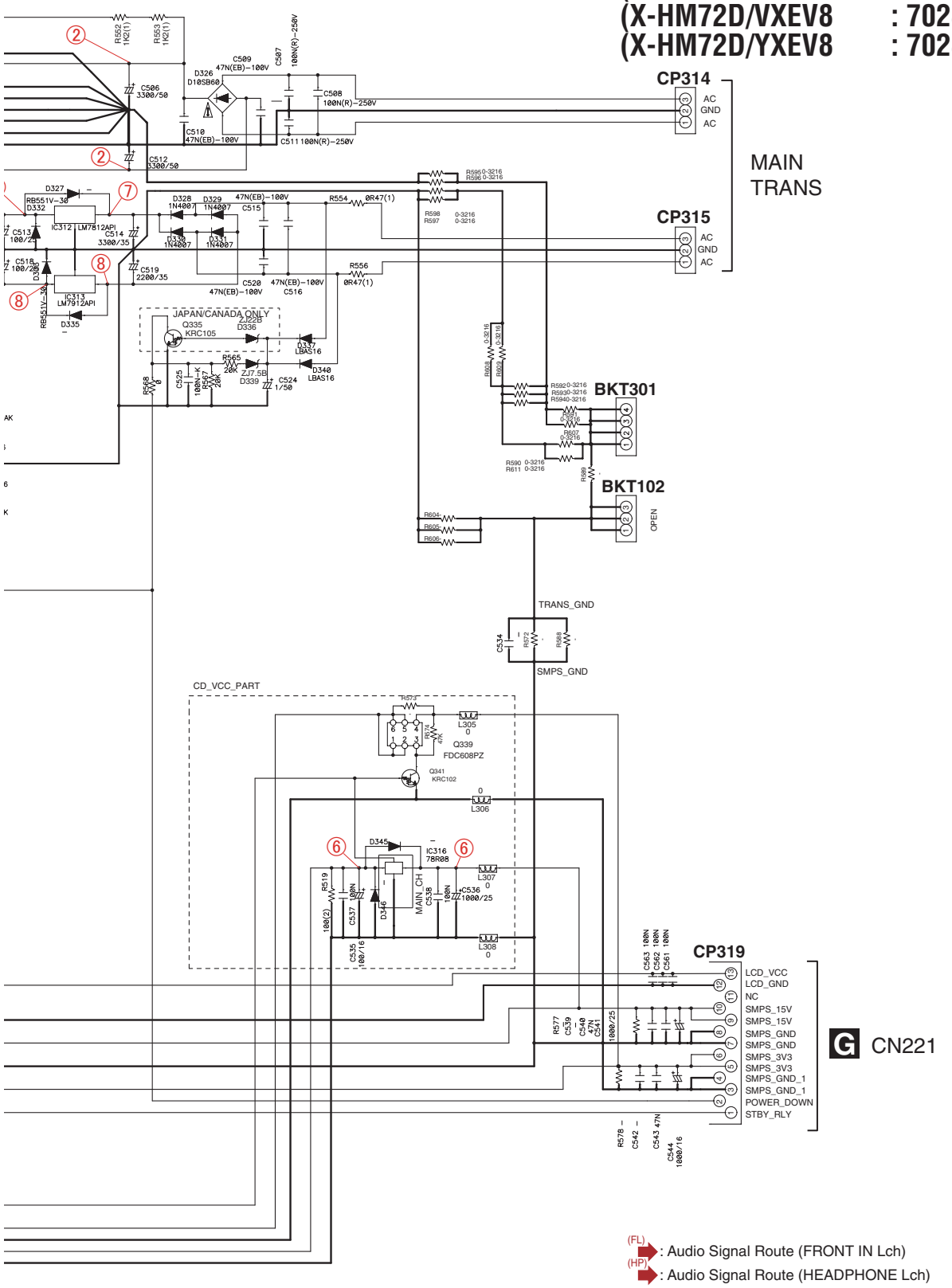
: Audio Signal Route

10.4 MAIN ASSY (4/4)



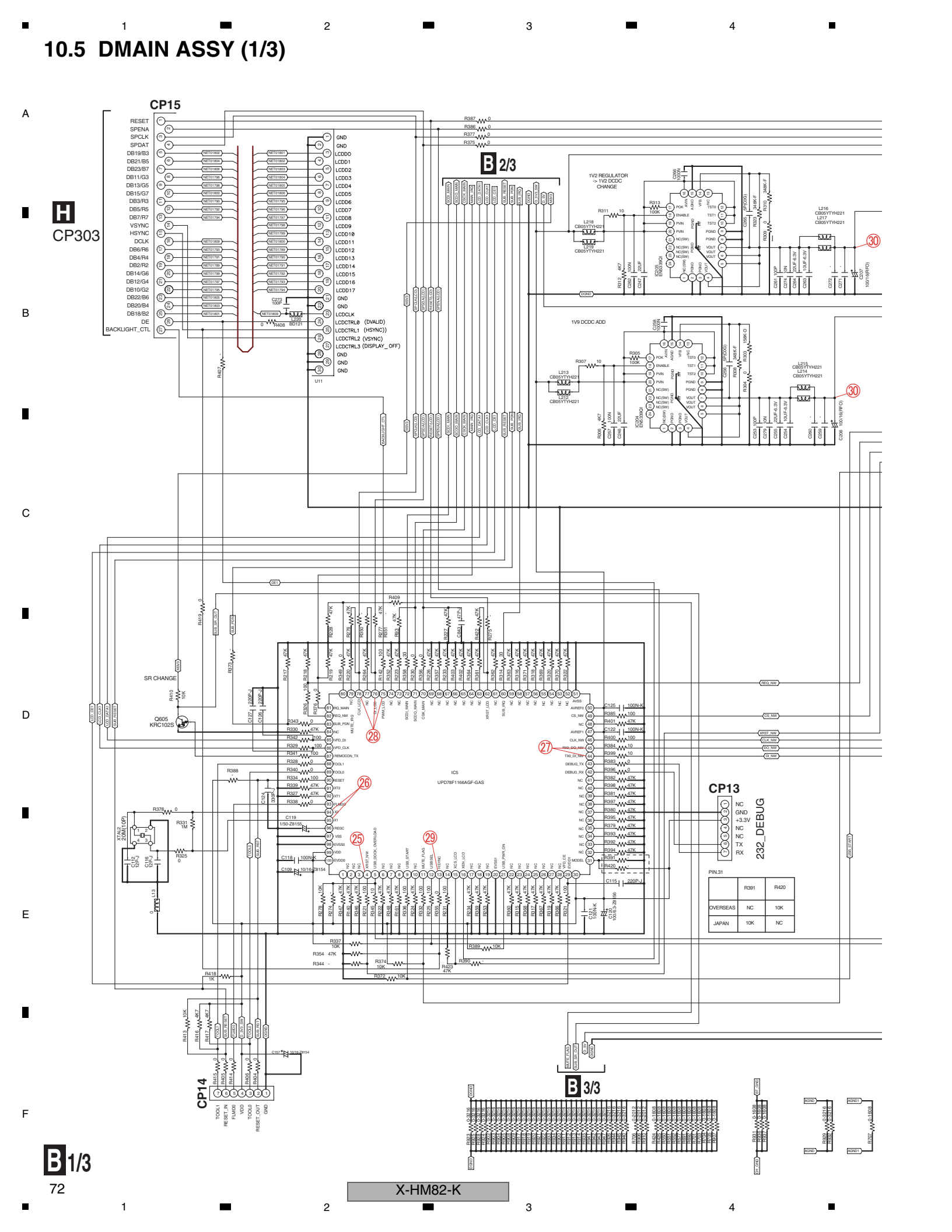
A 4/4 MAIN ASSY (4/4)

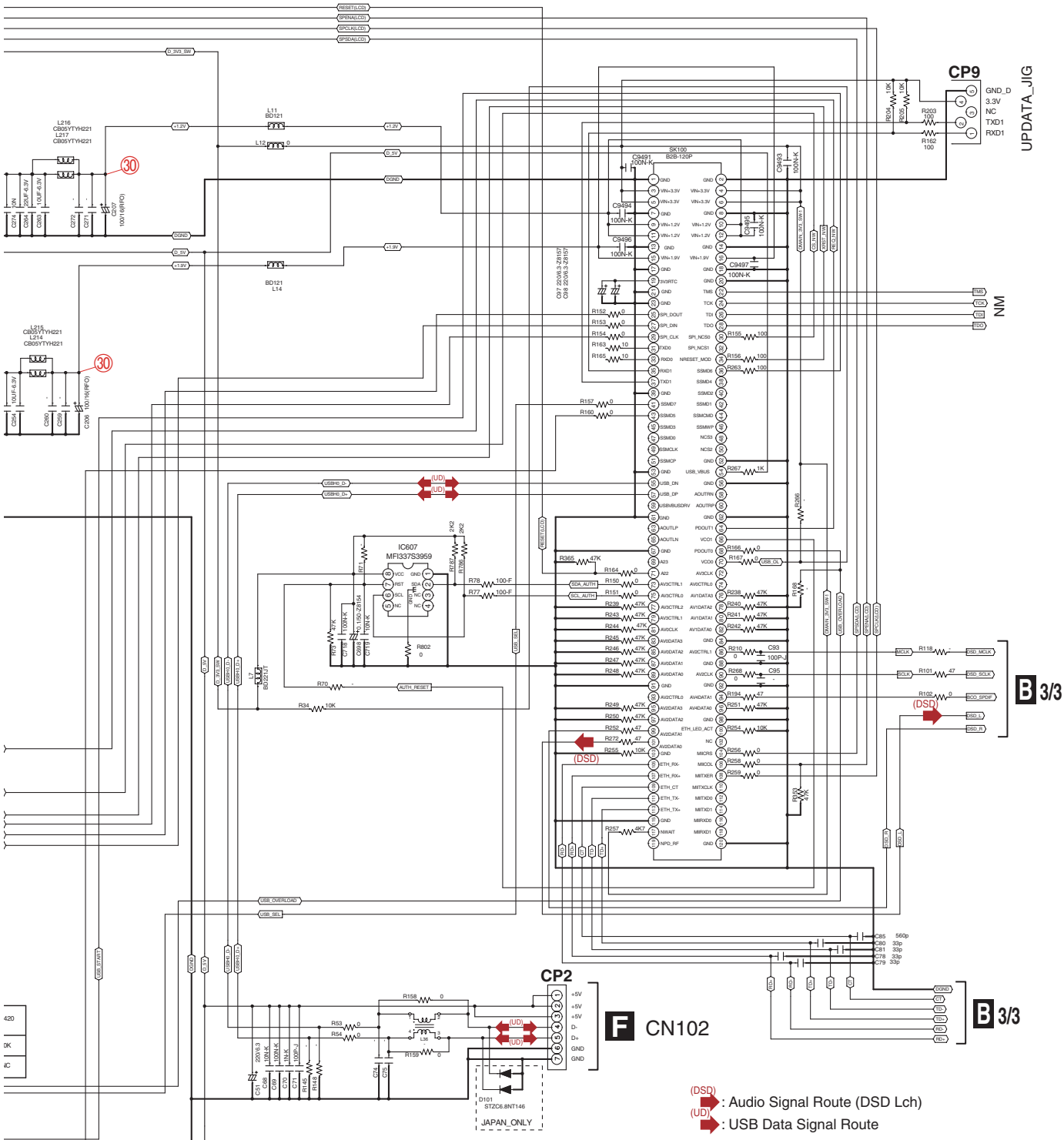
(X(XC)-HM82/SYXEV8 : 7028076851010)
(X-HM82/AXEV5 : 7028076851060)
(X(XC)-HM82D/VXEV8 : 7028076851030)
(XC-HM82/CXEV : 7028076851020)
(X-HM72/SYXEV8 : 7028076851040)
(X-HM72D/VXEV8 : 7028076851050)
(X-HM72D/YXEV8 : 7028076851050)



(FL) : Audio Signal Route (FRONT IN Lch)
(HP) : Audio Signal Route (HEADPHONE Lch)

10.5 DMAIN ASSY (1/3)



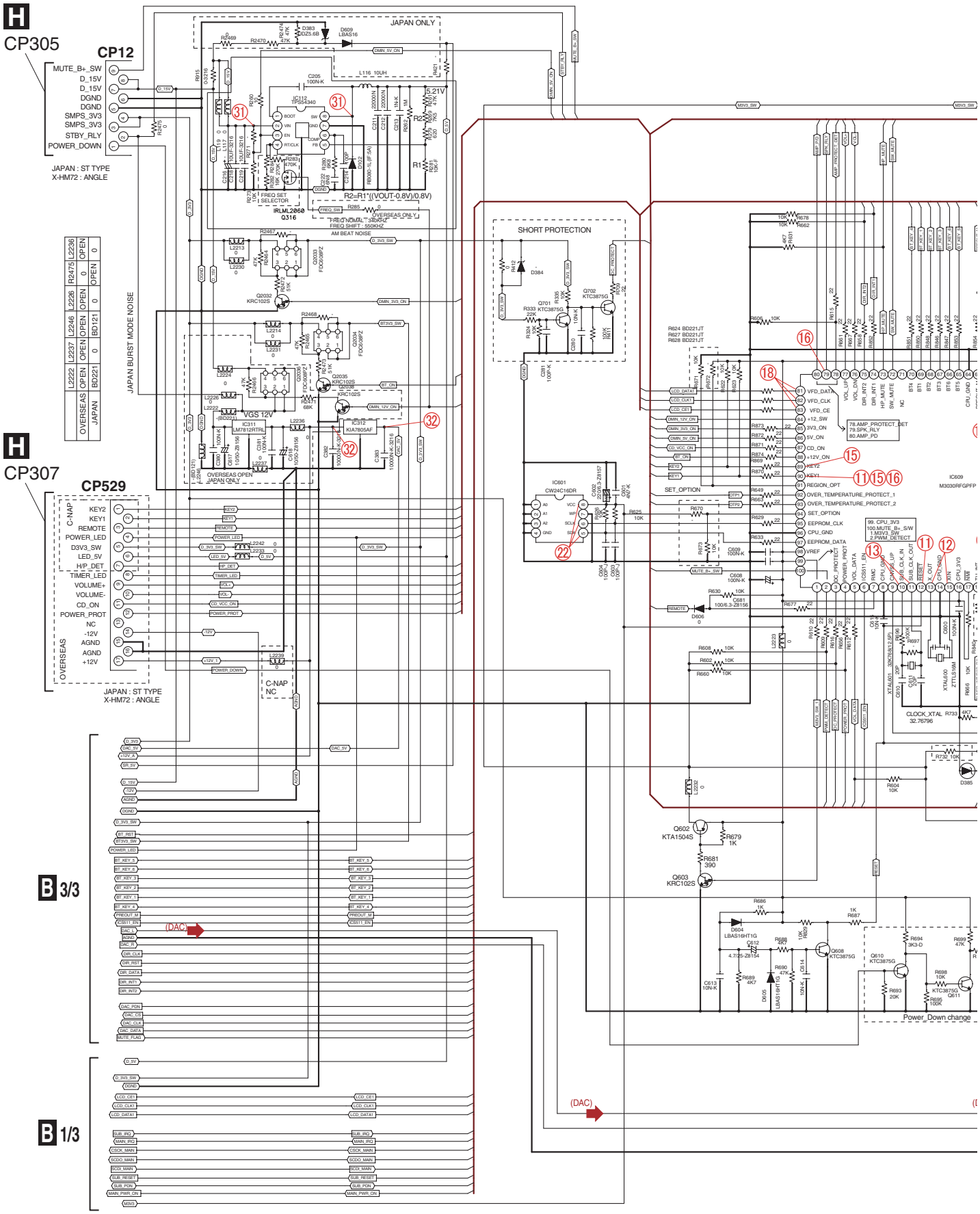


B 1/3 DMAIN ASSY (1/3)

(X(XC)-HM82/SYXEV8 : 7028076841010)
(X-HM82/AXEV5 : 7028076841040)
(X(XC)-HM82D/VXEV8 : 7028076841050)
(XC-HM82/CXEV : 7028076841030)
(X-HM72/SYXEV8 : 7028076841060)
(X-HM72D/VXEV8 : 7028076841070)
(X-HM72D/YXEV8 : 7028076841070)

B 1/3

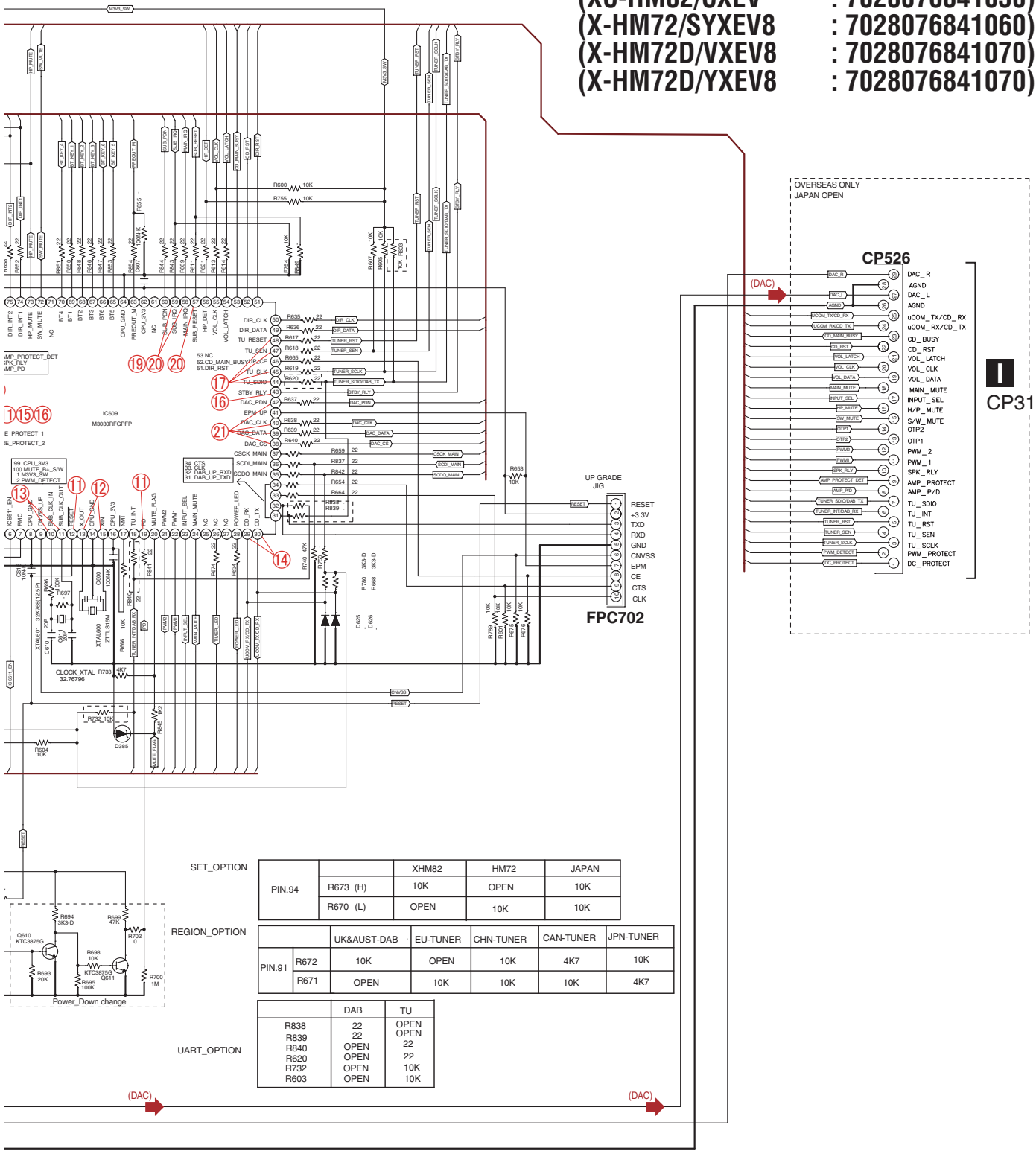
10.6 DMAIN ASSY (2/3)



	OVERSEAS	JAPAN
L2222	OPEN	BD221
L2237	OPEN	0
L2246	OPEN	BD121
L2226	OPEN	0
R2475	0	OPEN
L2236	OPEN	0

B2/3 DMAIN ASSY (2/3)

(X(XC)-HM82/SYXEV8 : 7028076841010)
(X-HM82/AXEV5 : 7028076841040)
(X(XC)-HM82D/VXEV8 : 7028076841050)
(XC-HM82/CXEV : 7028076841030)
(X-HM72/SYXEV8 : 7028076841060)
(X-HM72D/VXEV8 : 7028076841070)
(X-HM72D/YXEV8 : 7028076841070)



SET_OPTION

		XHM82	HM72	JAPAN
PIN.94	R673 (H)	10K	OPEN	10K
	R670 (L)	OPEN	10K	10K

REGION_OPTION

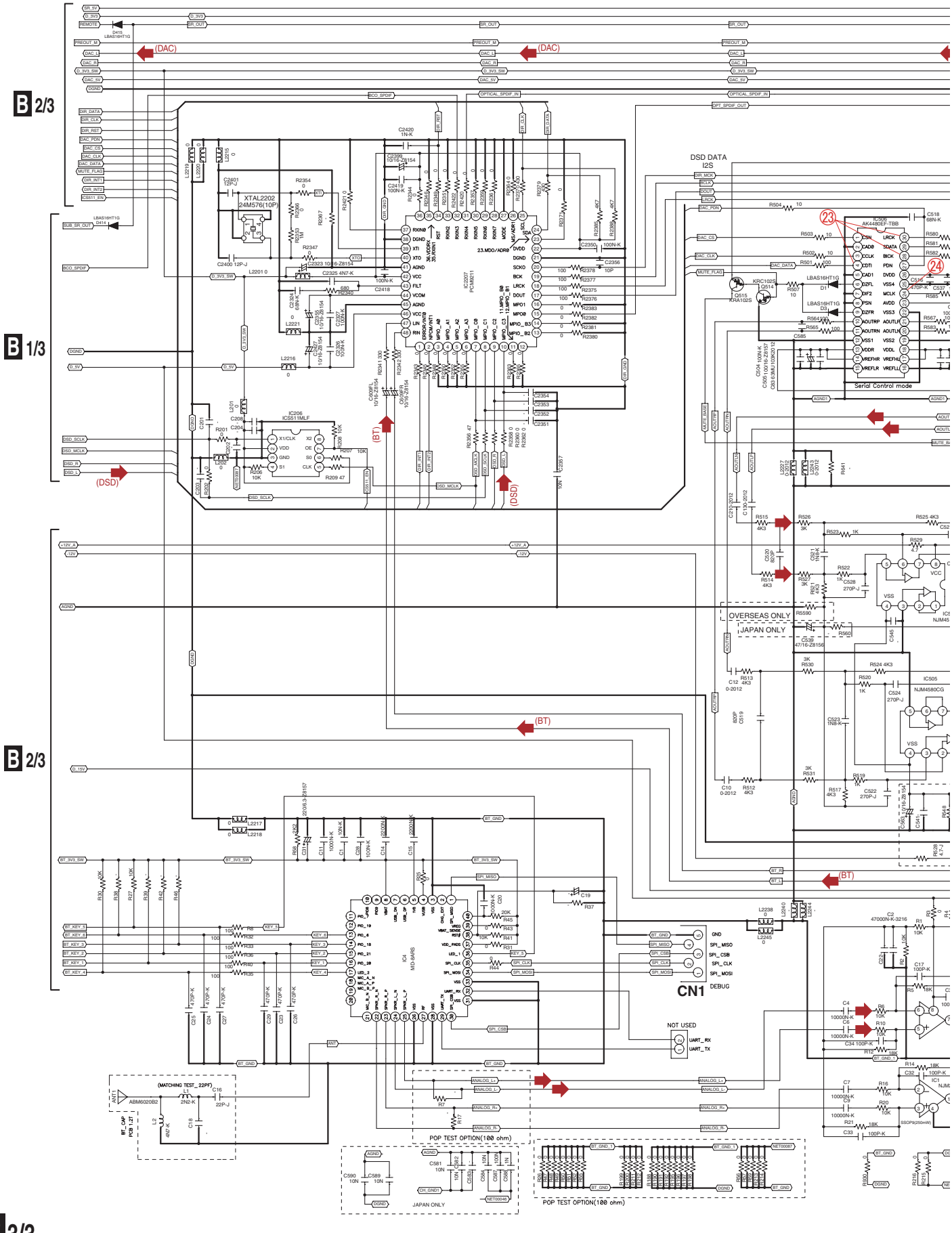
		UK&AUST-DAB	EU-TUNER	CHN-TUNER	CAN-TUNER	JPN-TUNER
PIN.91	R672	10K	OPEN	10K	4K7	10K
	R671	OPEN	10K	10K	10K	4K7

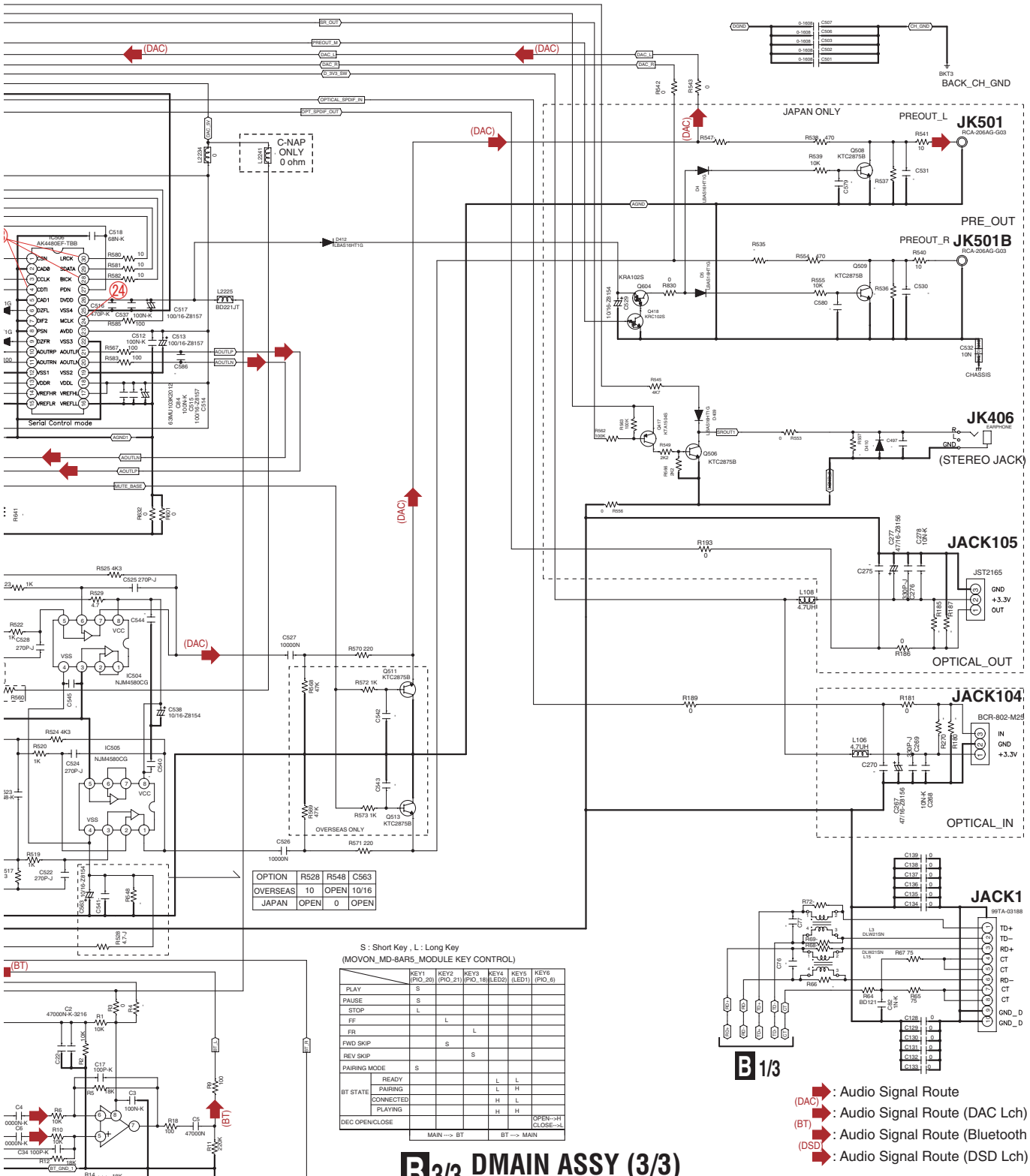
UART_OPTION

	DAB	TU
R838	22	OPEN
R839	22	OPEN
R840	OPEN	22
R620	OPEN	22
R732	OPEN	10K
R603	OPEN	10K

(DAC) : Audio Signal Route (DAC Lch)

10.7 DMAIN ASSY (3/3)





OPTION	R528	R548	C563
OVERSEAS	10	OPEN	10/16
JAPAN	OPEN	0	OPEN

S : Short Key , L : Long Key
(MOVON_MD-8AR5_MODULE KEY CONTROL)

		KEY1 (PIO_20)	KEY2 (PIO_21)	KEY3 (PIO_18)	KEY4 (LED2)	KEY5 (LED1)	KEY6 (PIO_6)
PLAY		S					
PAUSE		S					
STOP		L					
FF			L				
FR				L			
FWD SKIP			S				
REV SKIP				S			
PAIRING MODE		S					
BT STATE	READY				L	L	
	PAIRING				L	H	
	CONNECTED				H	L	
	PLAYING				H	H	
DEC OPEN/CLOSE							OPEN-->H CLOSE-->L
		MAIN ---> BT			BT ---> MAIN		

B 1/3

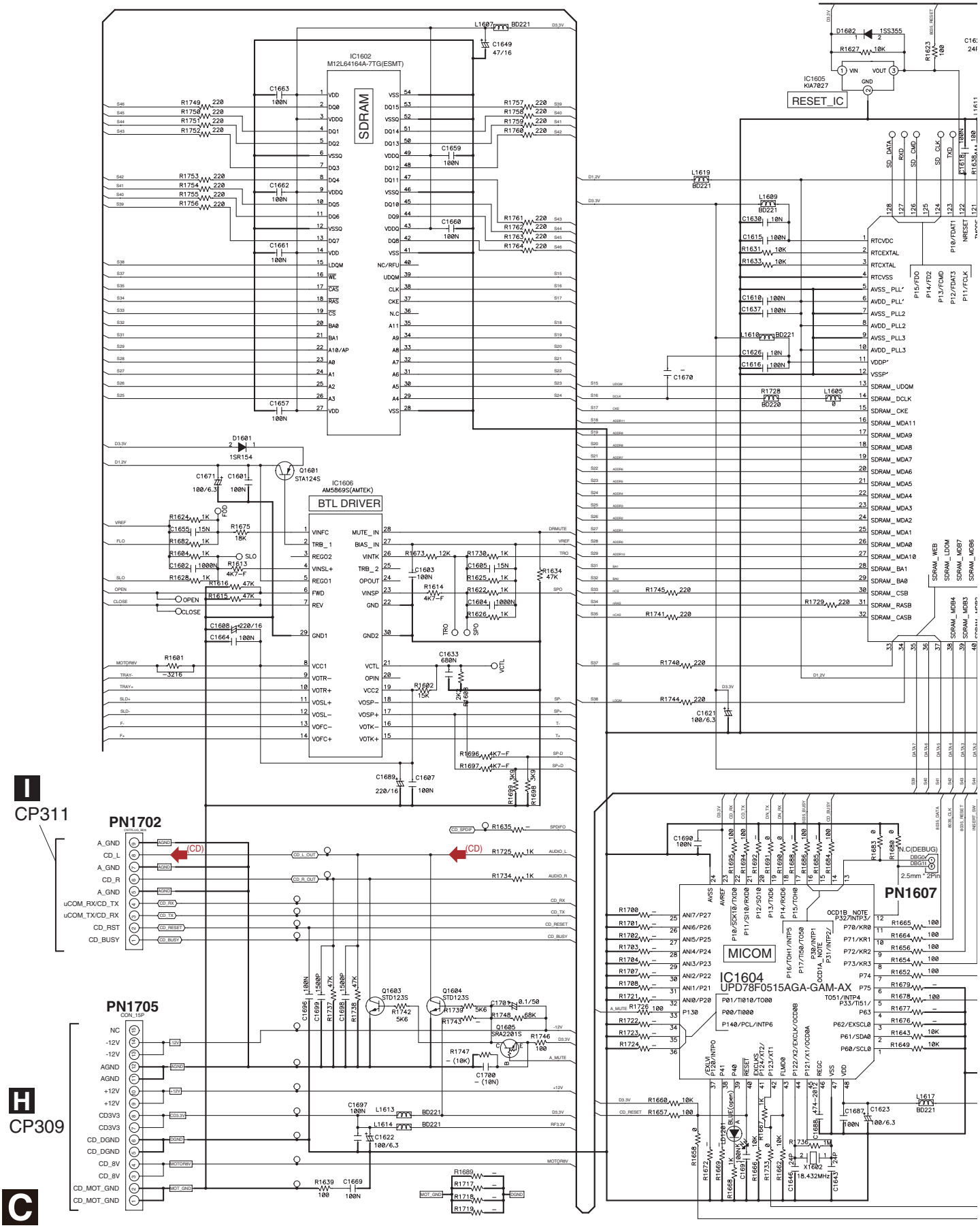
: Audio Signal Route
(DAC) : Audio Signal Route (DAC Lch)
(BT) : Audio Signal Route (Bluetooth Lch)
(DSD) : Audio Signal Route (DSD Lch)

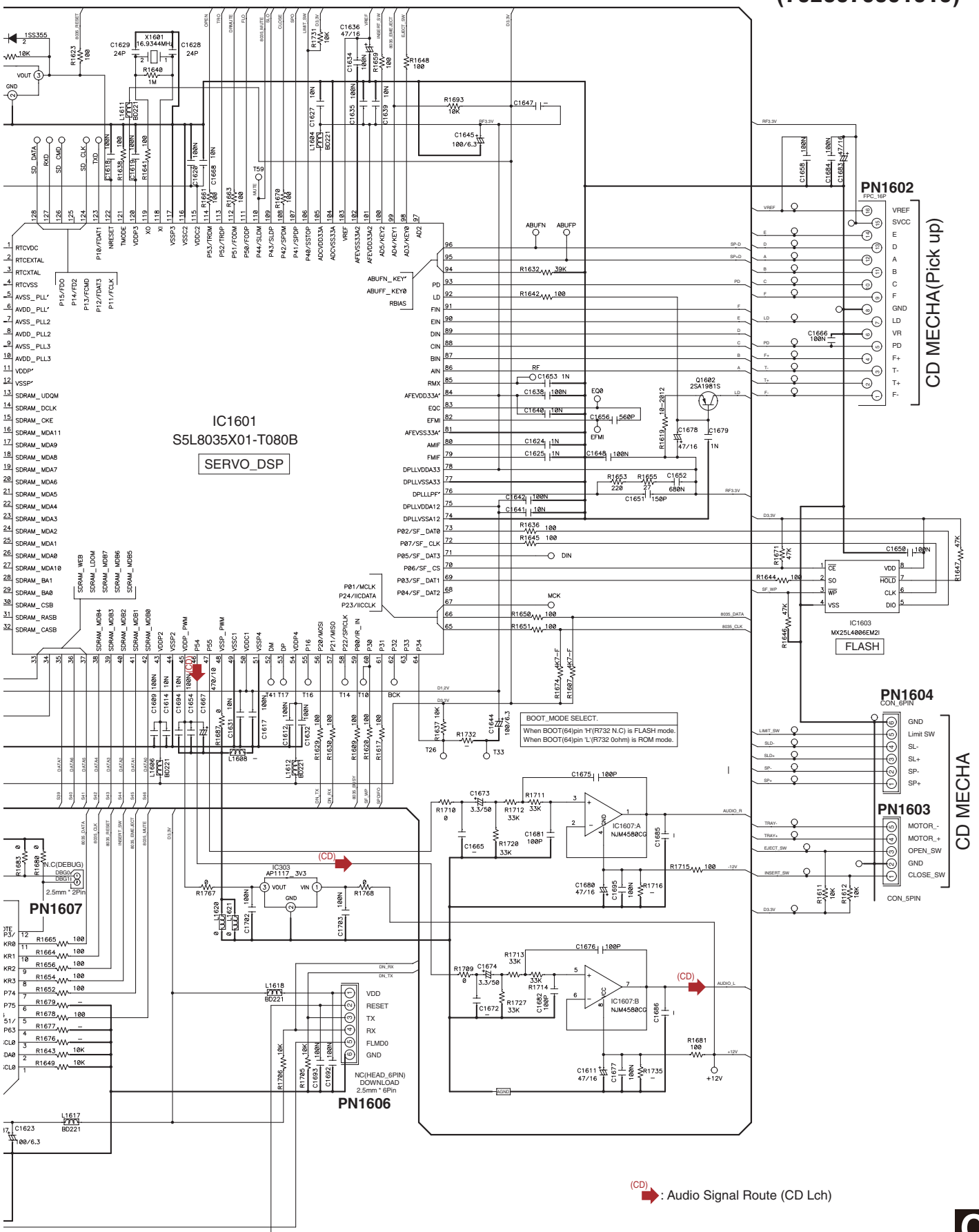
B 3/3 DMAIN ASSY (3/3)

(X(XC)-HM82/SYXEV8 : 7028076841010)
(X-HM82/AXEV5 : 7028076841040)
(X(XC)-HM82D/VXEV8 : 7028076841050)
(XC-HM82/CXEV : 7028076841030)
(X-HM72/SYXEV8 : 7028076841060)
(X-HM72D/VXEV8 : 7028076841070)
(X-HM72D/YXEV8 : 7028076841070)

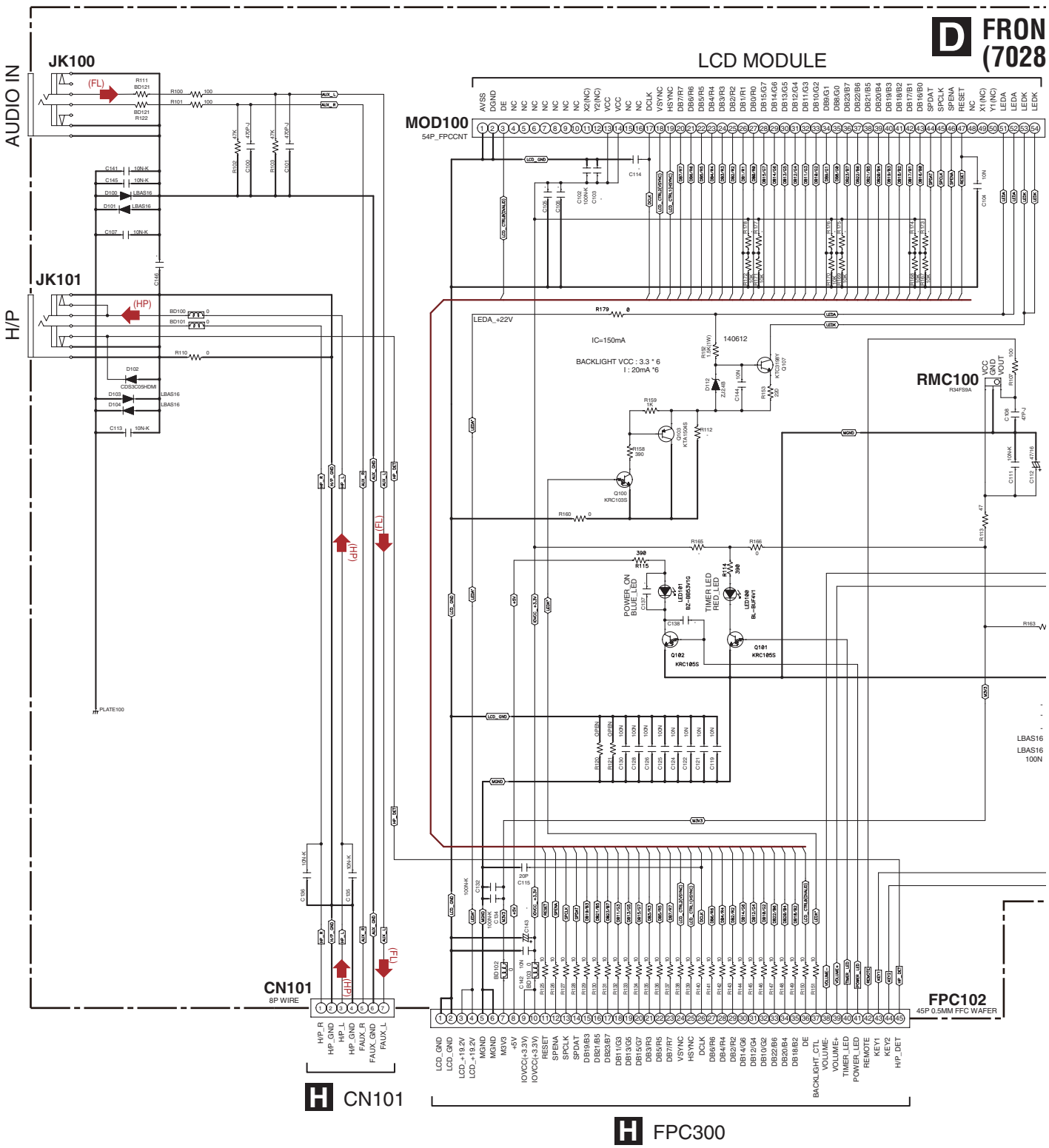
B 3/3

10.8 CD ASSY


IC1602
M12L64164A-7TG(ESMT)
SDRAM
IC1606
AM5869S(AMTEK)
BTL DRIVER
RESET_IC
IC1605
KIA7027
MICOM
IC1604
UPD78F0515AGA-GAM-AX
PN1702
PN1705
PN1607
CP311
CP309
(CD)
X-HM82-K


IC1601
S5L8035X01-T080B
SERVO_DSP
PN1602
FPC_16P
CD MECHA(Pick up)
PN1604
CON_6PIN
PN1603
CON_5PIN
CD MECHA
IC1603
MX25L4006EM2I
FLASH
PN1607
2.5mm * 2Pin
PN1606
NC(HEAD_6PIN)
DOWNLOAD
2.5mm * 6Pin
IC1607:A
NJM4580CG
IC1607:B
NJM4580CG
IC303
AP1117_3V3
BOOT_MODE SELECT.
When BOOT(64)pin 'H'(R732 N.C) is FLASH mode.
When BOOT(64)pin 'L'(R732 0ohm) is ROM mode.
(CD): Audio Signal Route (CD Lch)

10.9 FRONT ASSY, KEY ASSY and USB ASSY



(FL)
(HP)
(UD)

D FRONT ASSY (7028076852010)

E KEY ASSY (7028076853010)

F USB ASSY (7028076873010)

RMC100
R34FS9A

CP100

CN100

[DIP WIRE]

VOLUME BLOCK

FRONT USB JACK

FPC102
45P 0.5MM FFC WAFER

JK102

CN102

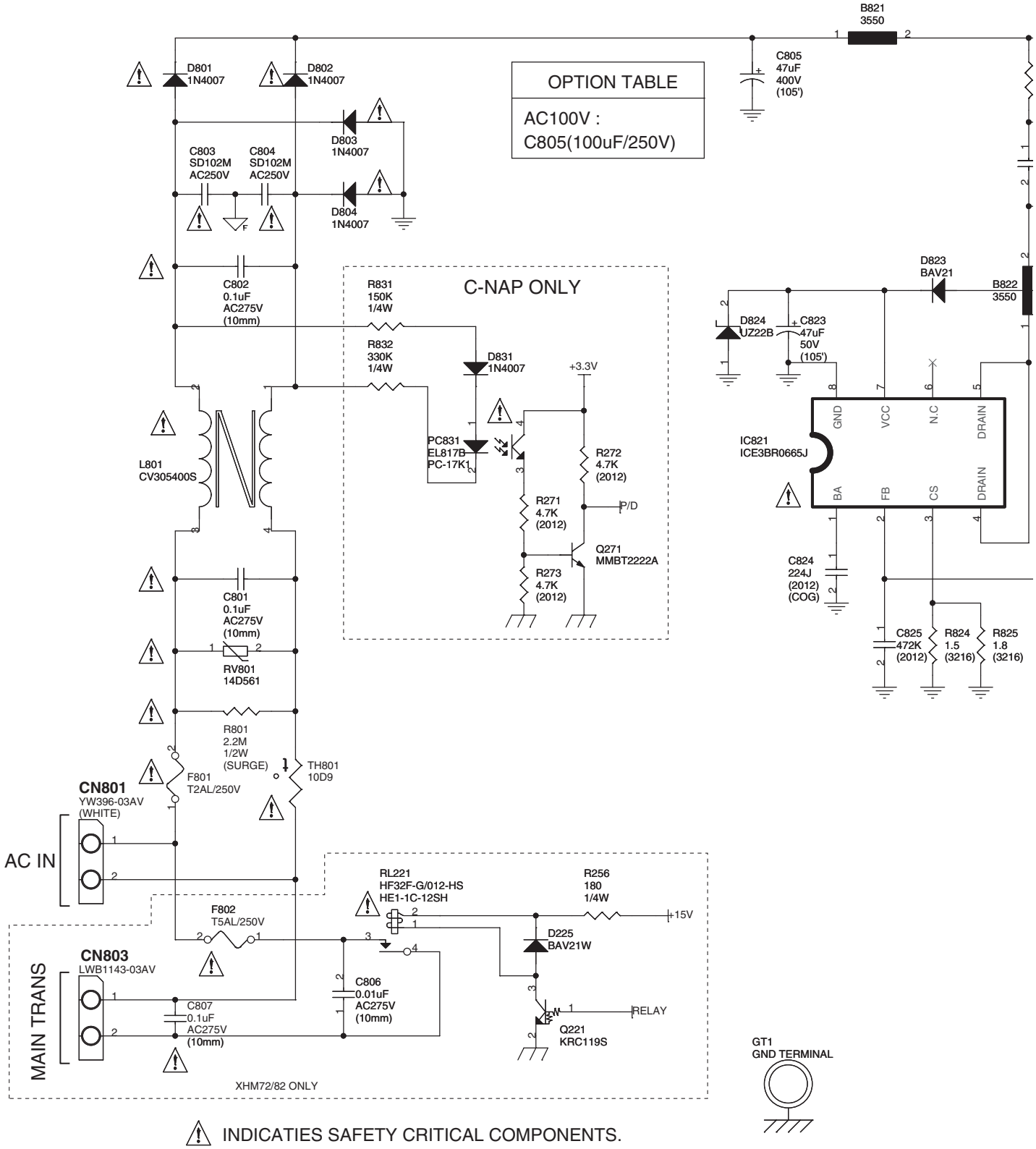
GND102
radiation step

GND101
NOISE

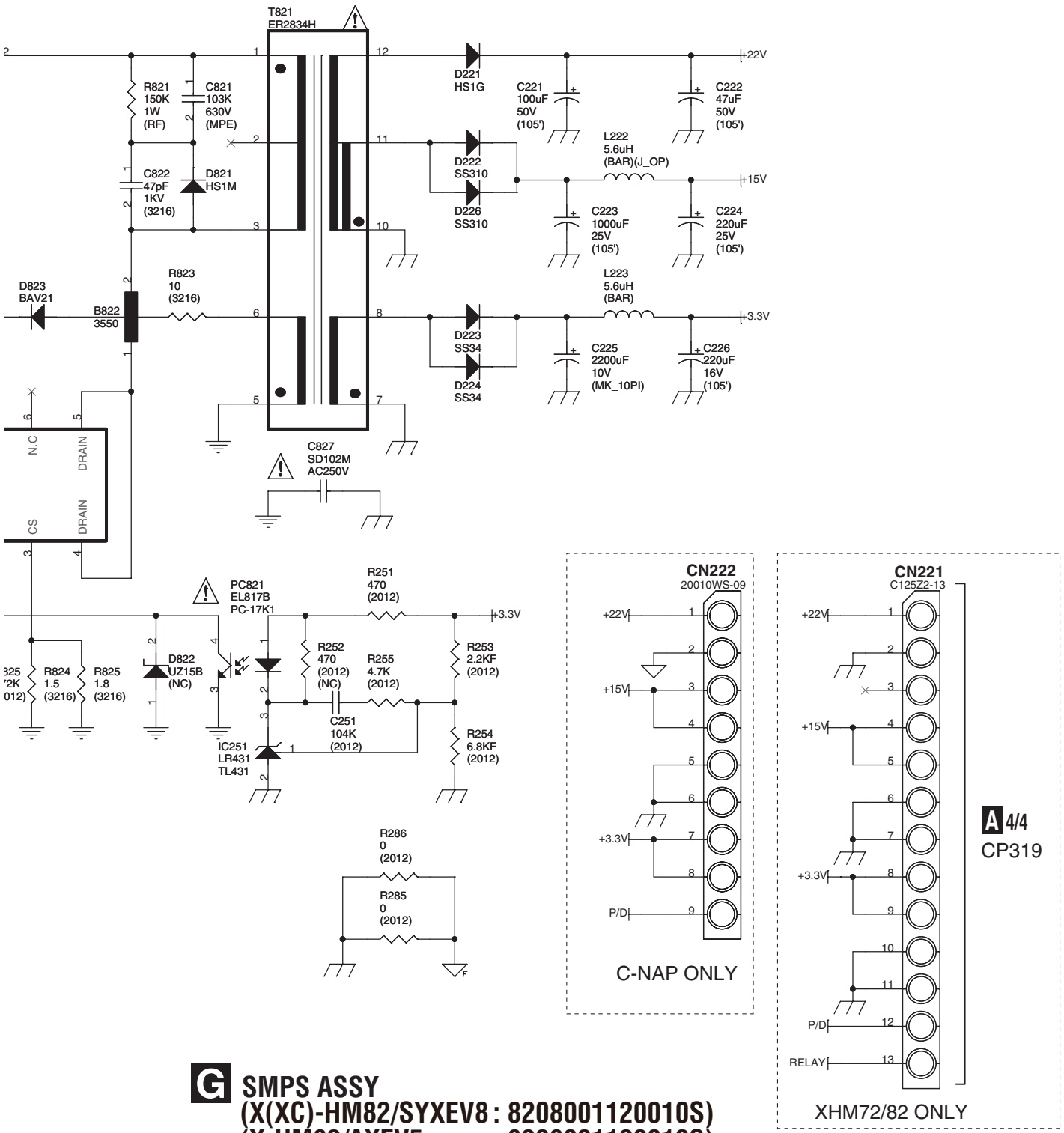
B 1/3
CP2

(FL) : Audio Signal Route (FRONT IN Lch)
(HP) : Audio Signal Route (HEADPHONE Lch)
(UD) : USB Data Signal Route

10.10 SMPS ASSY



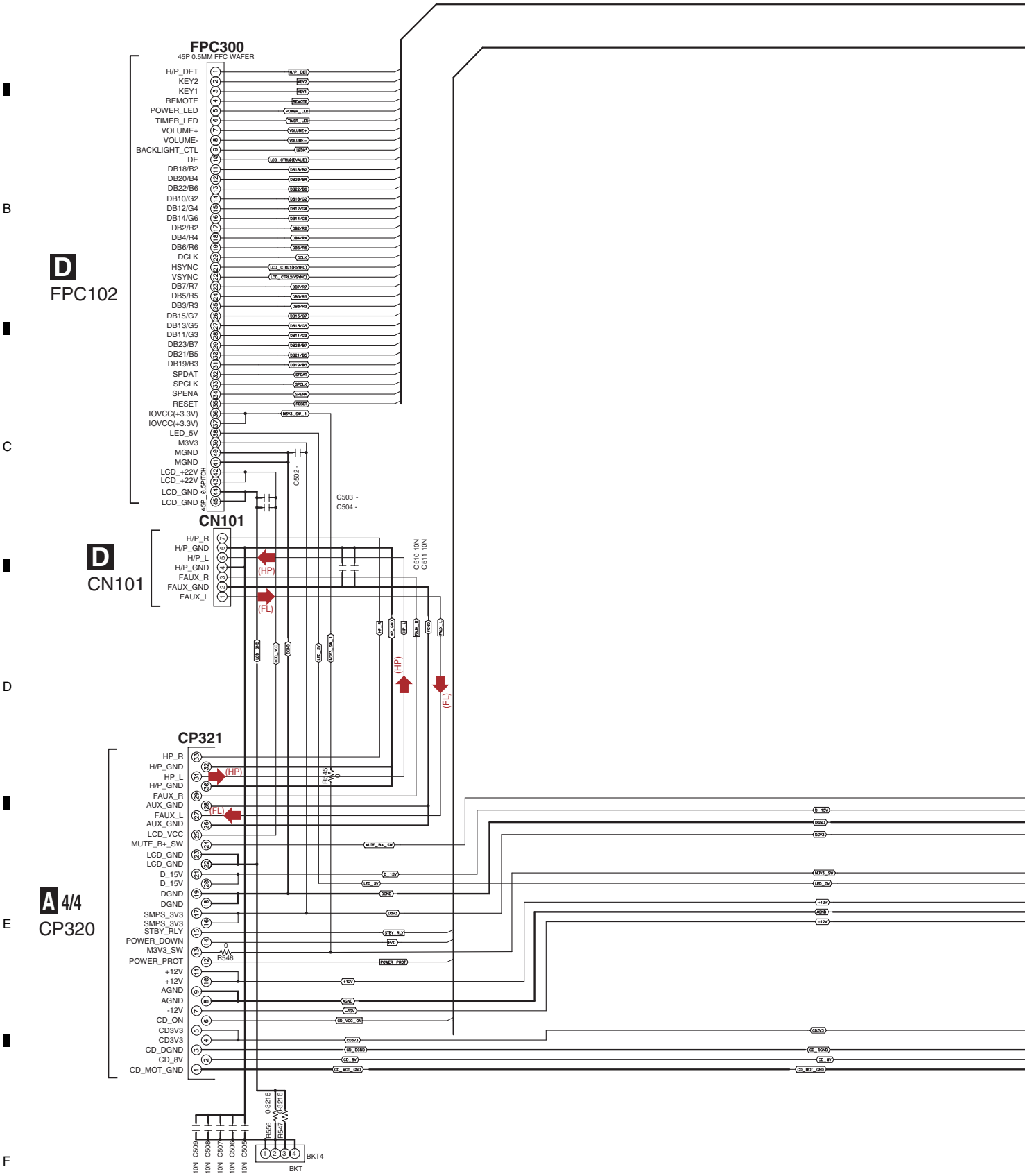
⚠ INDICATIES SAFETY CRITICAL COMPONENTS.
TO REDUCE THE RISK OF ELECTIC SHOCK. LEAKAGE CURRENT OF RESISTANCE MEASUREMENTS SHALL BE CARRIED OUT(EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT) BEFORE THE APPLIANCE RETURNED TO THE CUSTOMER.



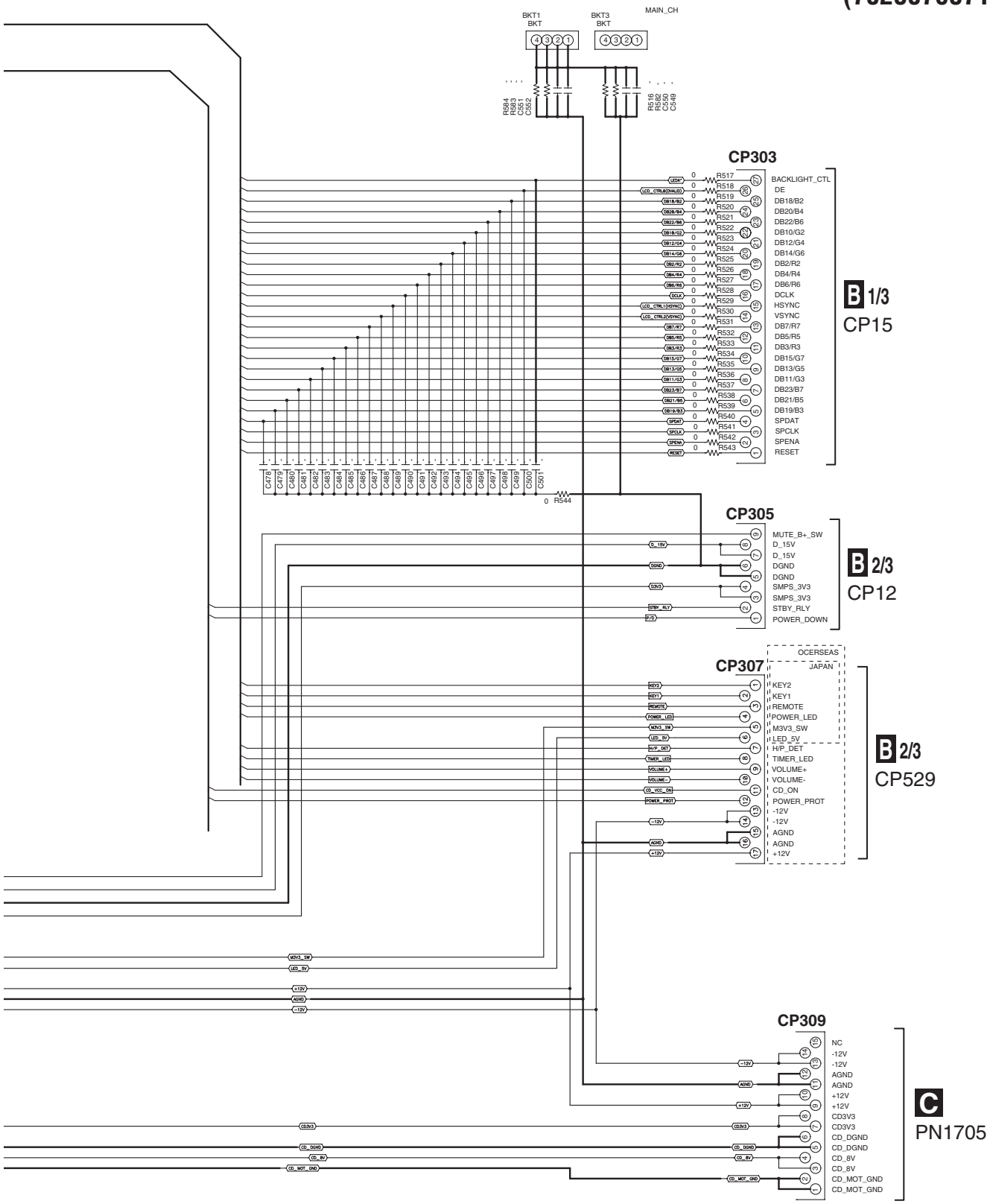
G SMPS ASSY

(X(XC)-HM82/SYXEV8 : 8208001120010S)
(X-HM82/AXEV5 : 8208001120010S)
(X(XC)-HM82D/VXEV8 : 8208001120010S)
(XC-HM82/CXEV : 8208001120030S)
(X-HM72/SYXEV8 : 8208001120010S)
(X-HM72D/VXEV8 : 8208001120010S)
(X-HM72D/YXEV8 : 8208001120010S)

10.11 CNT1 ASSY

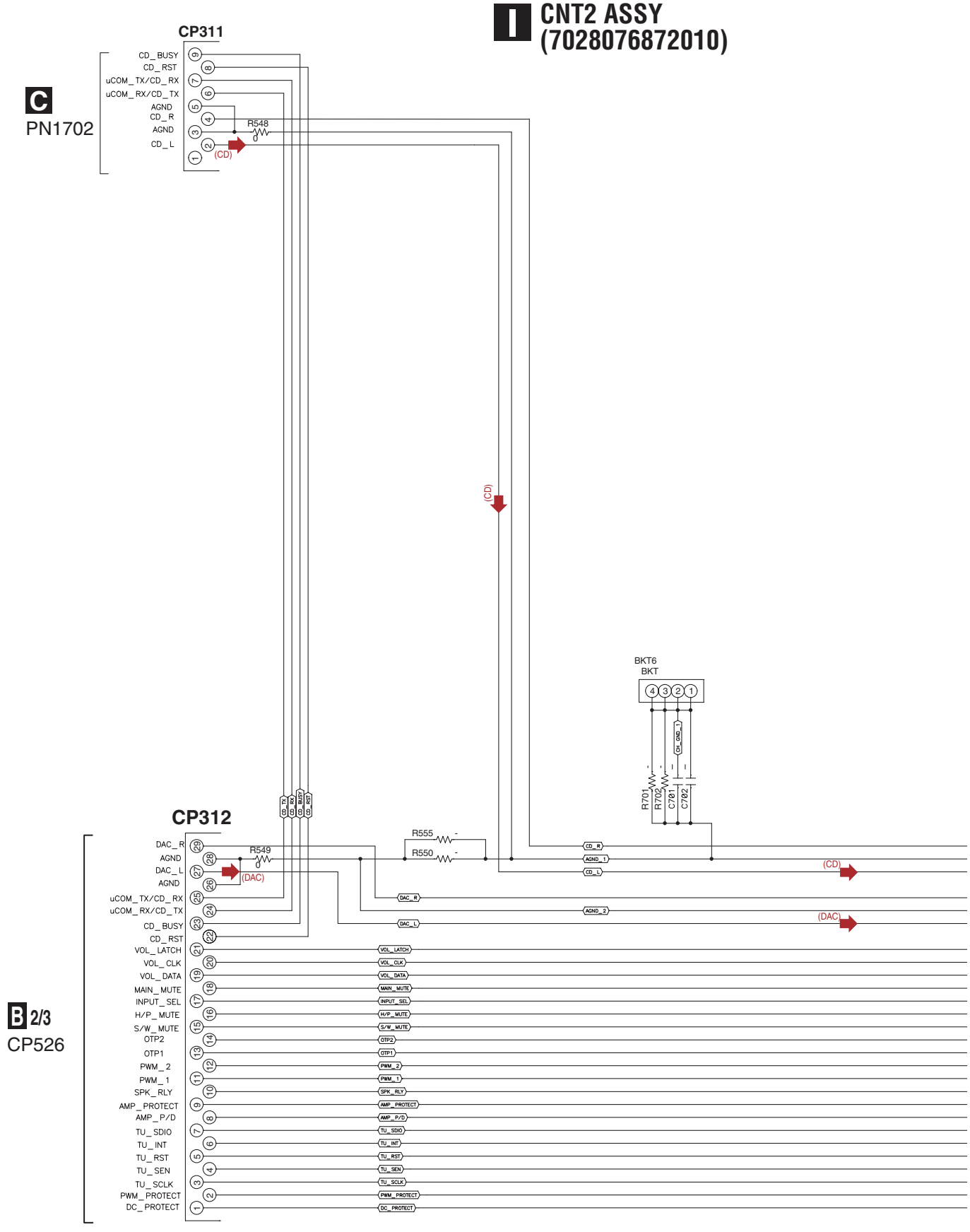


H CNT1 ASSY (7028076871010)



(FL) : Audio Signal Route (FRONT IN Lch)
(HP) : Audio Signal Route (HEADPHONE Lch)

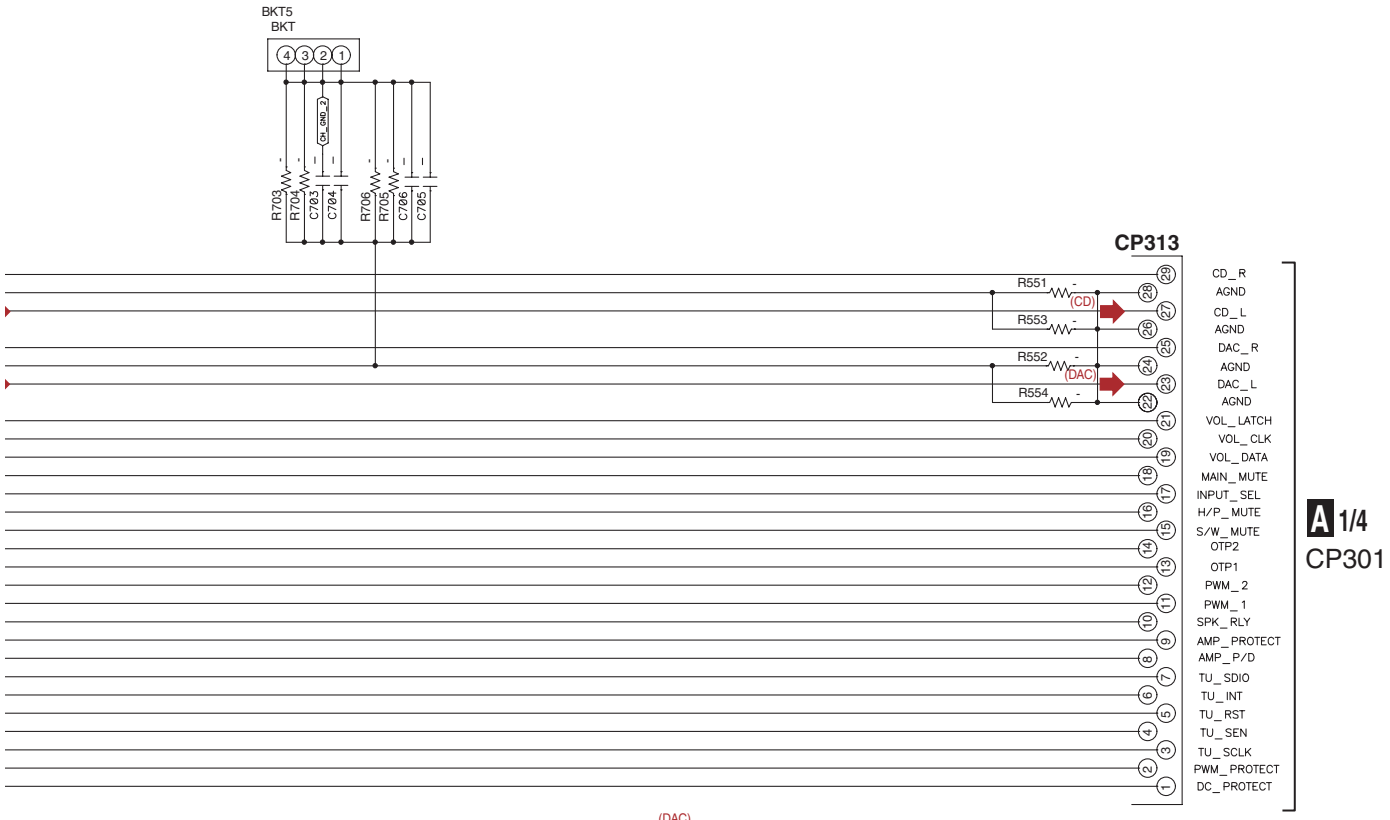
10.12 CNT2 ASSY



J USB GUIDE ASSY (7028076856010)

K GUIDE1 ASSY (7028076854010)

L GUIDE2 ASSY (7028076855010)



(DAC) : Audio Signal Route (DAC Lch)

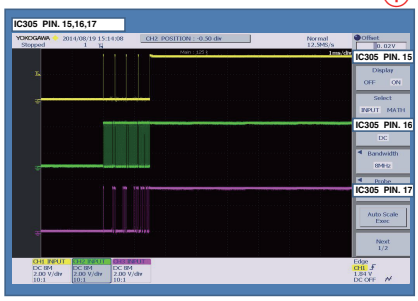
(CD) : Audio Signal Route (CD Lch)

10.13 WAVEFORMS

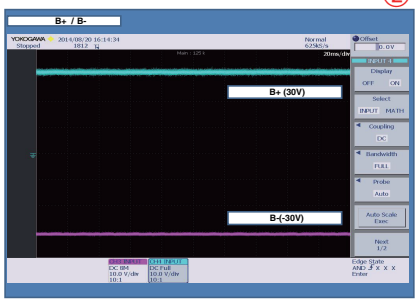
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

A MAIN ASSY

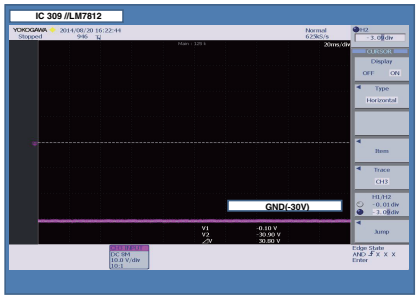
①



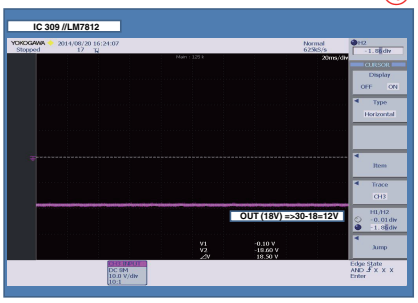
②



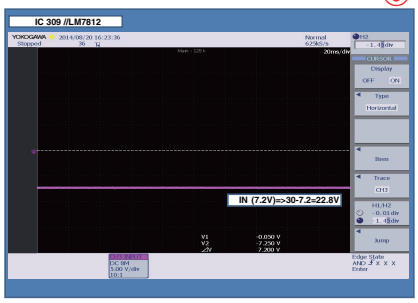
③



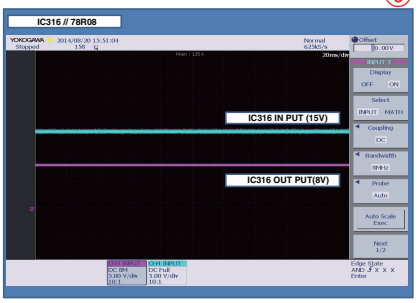
④



⑤



⑥



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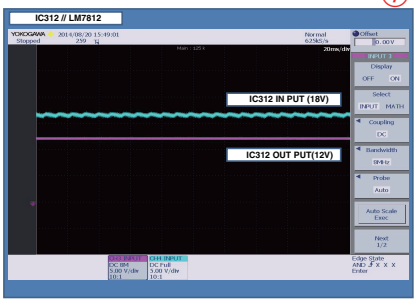
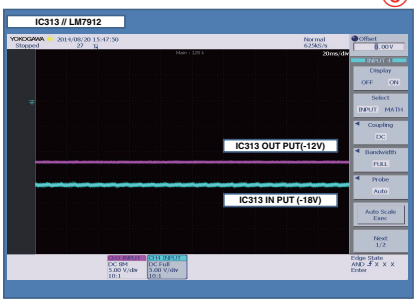
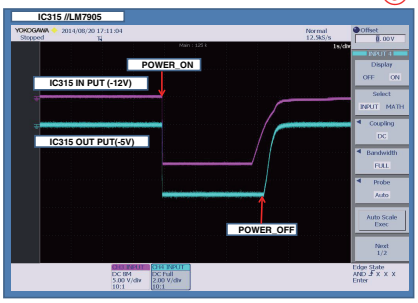


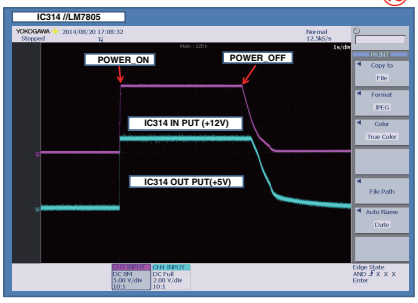
⑧



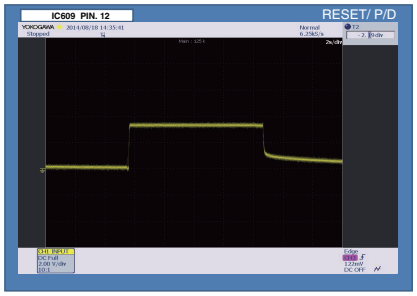
⑨



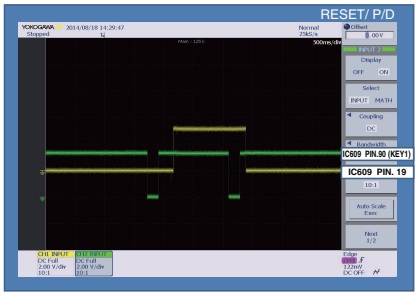
⑩

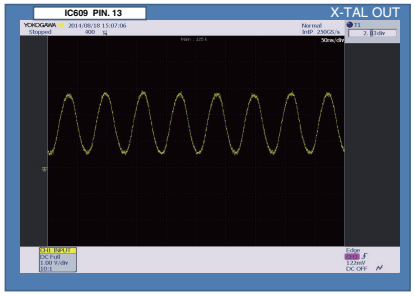


B DMAIN ASSY

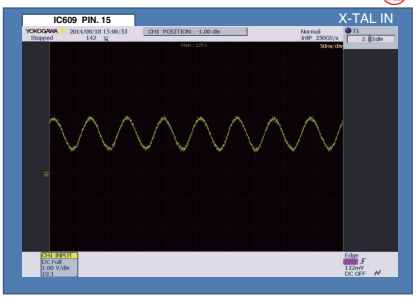


⑪

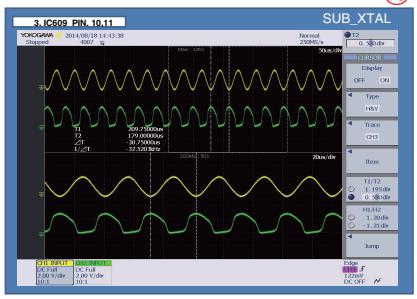




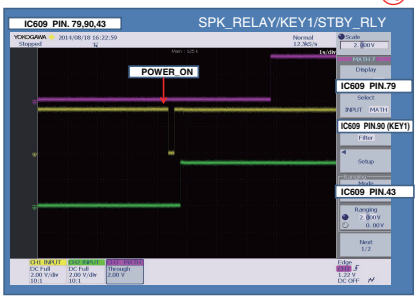
⑫



⑬

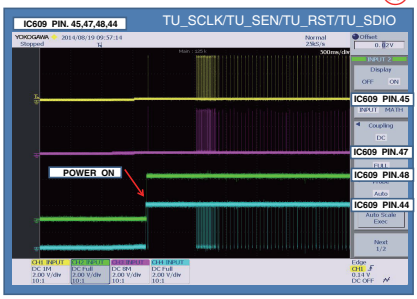


⑯

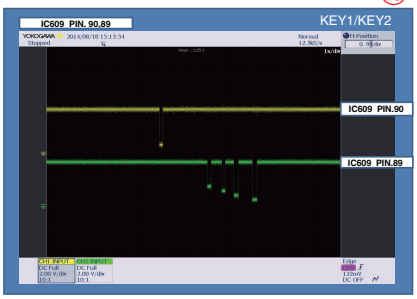


⑭

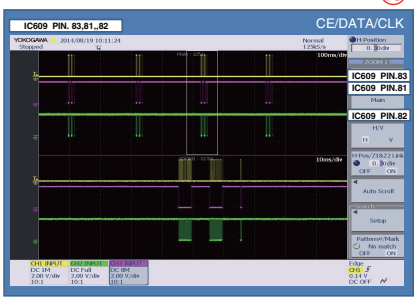
⑰



⑮



⑱



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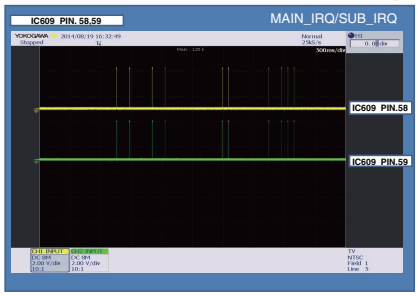
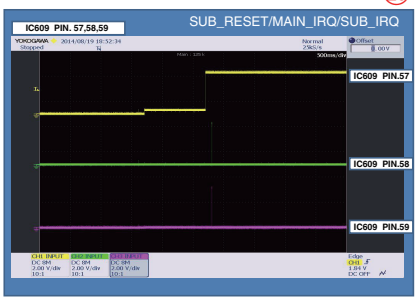


⑳



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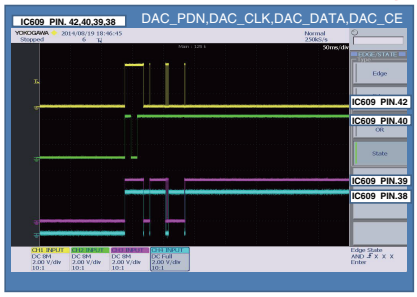

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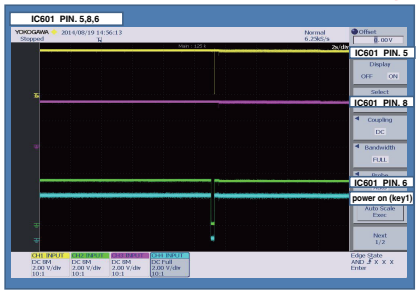

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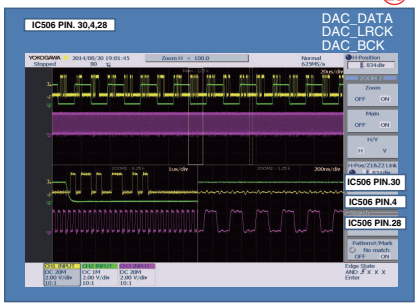

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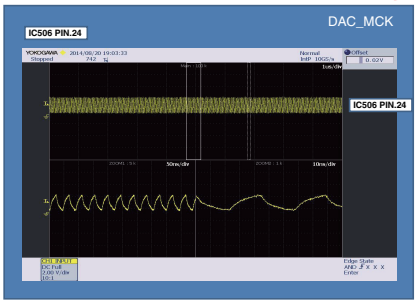

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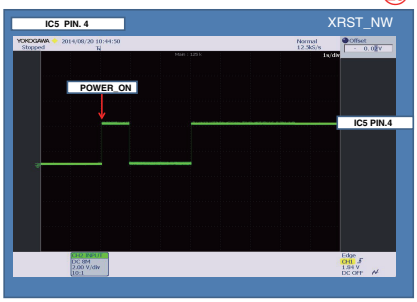

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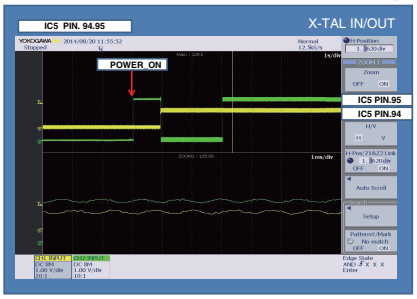

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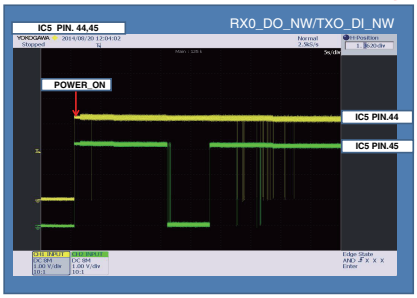

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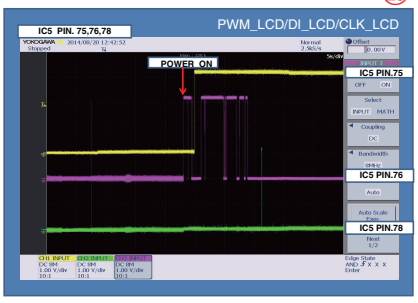

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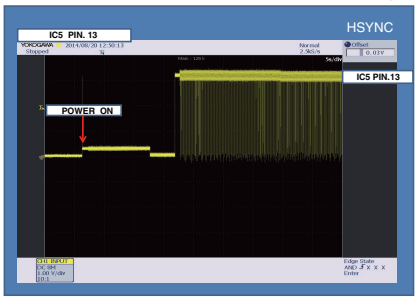

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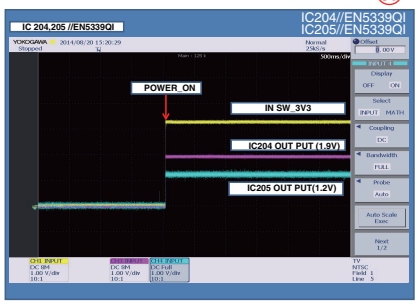

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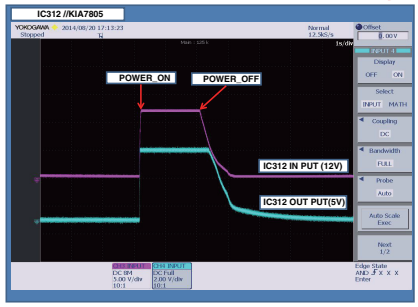
㉜



A

B

C

D

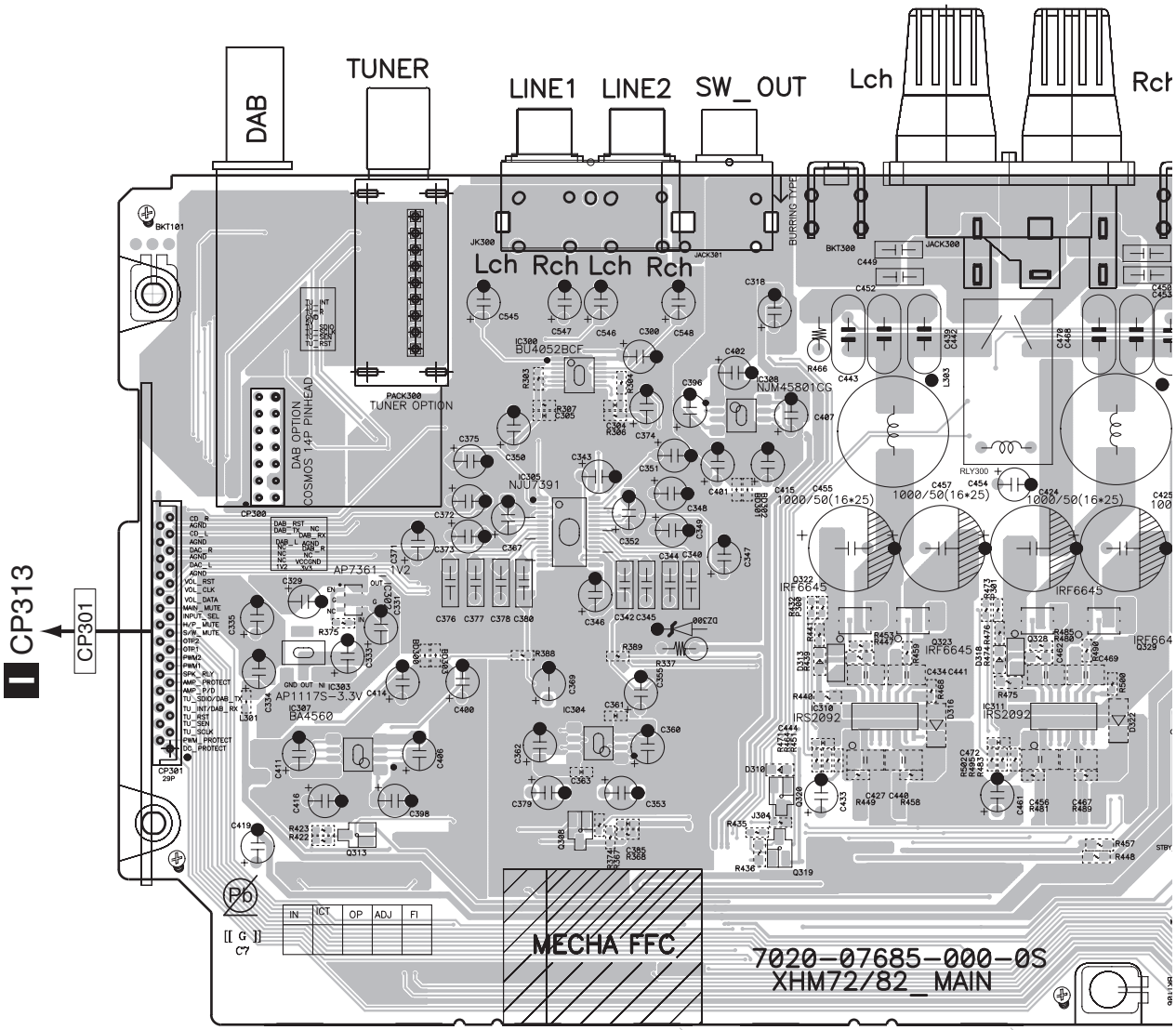
E

F

11. PCB CONNECTION DIAGRAM
11.1 MAIN ASSY

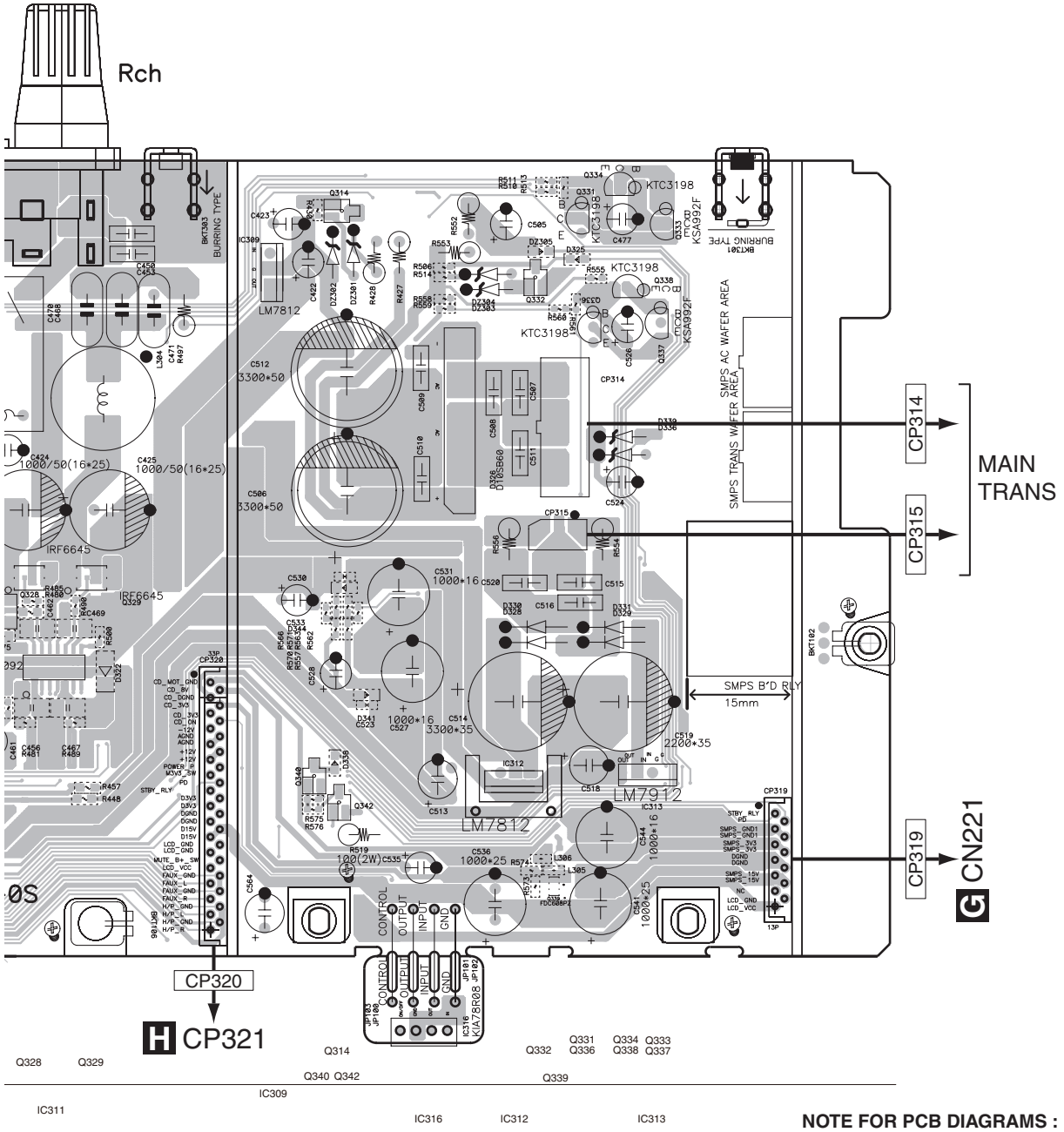
SIDE A

A MAIN ASSY



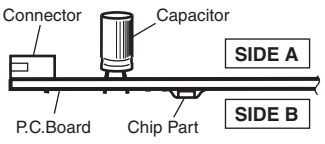
Q		Q313		Q308		Q320 Q319	Q322	Q323	Q328	Q329
IC	IC303	IC302 IC307		IC300 IC305 IC304	IC308		IC310		IC311	

SIDE A



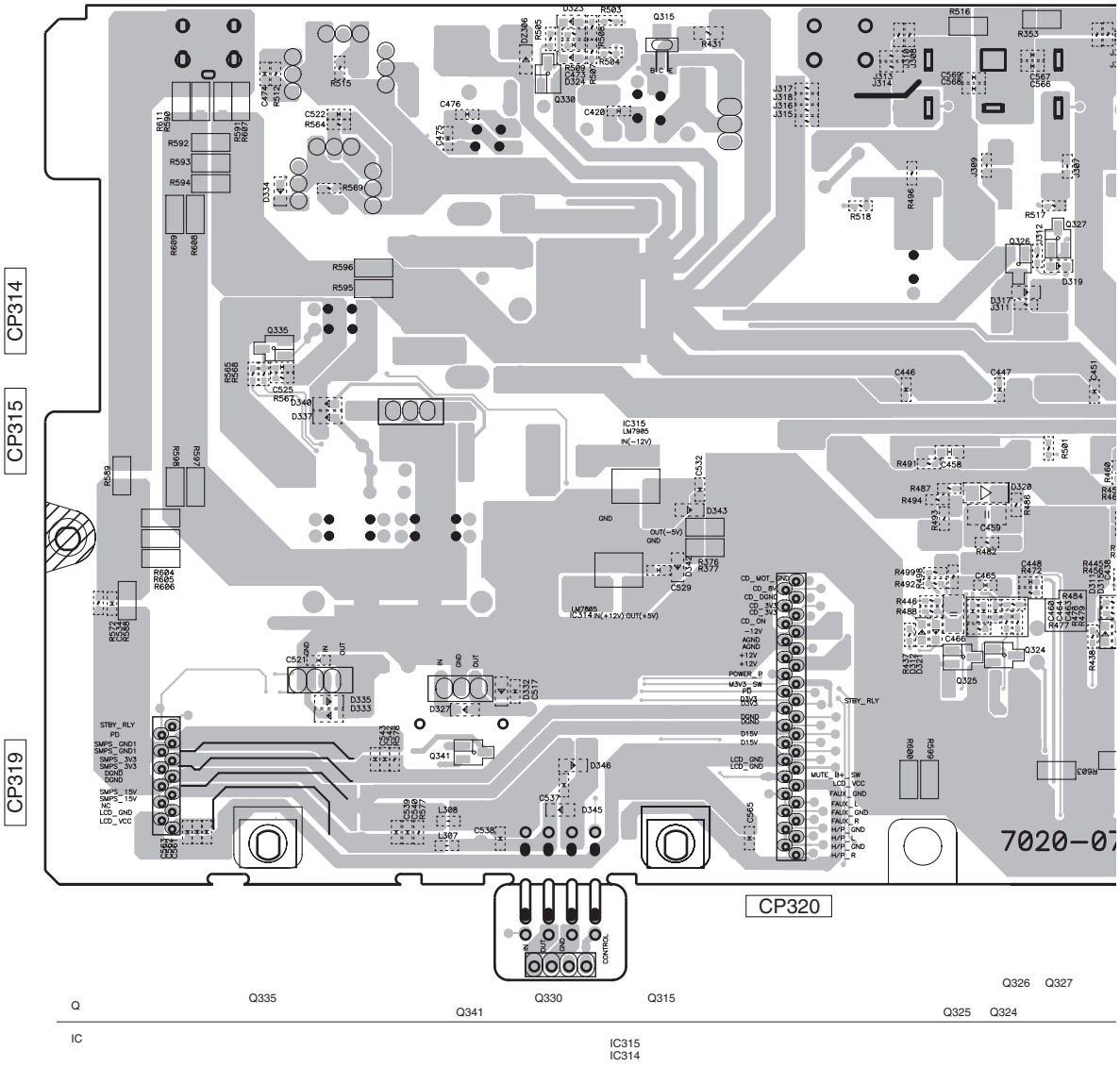
NOTE FOR PCB DIAGRAMS :

1. The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.
2. View point of PCB diagrams.

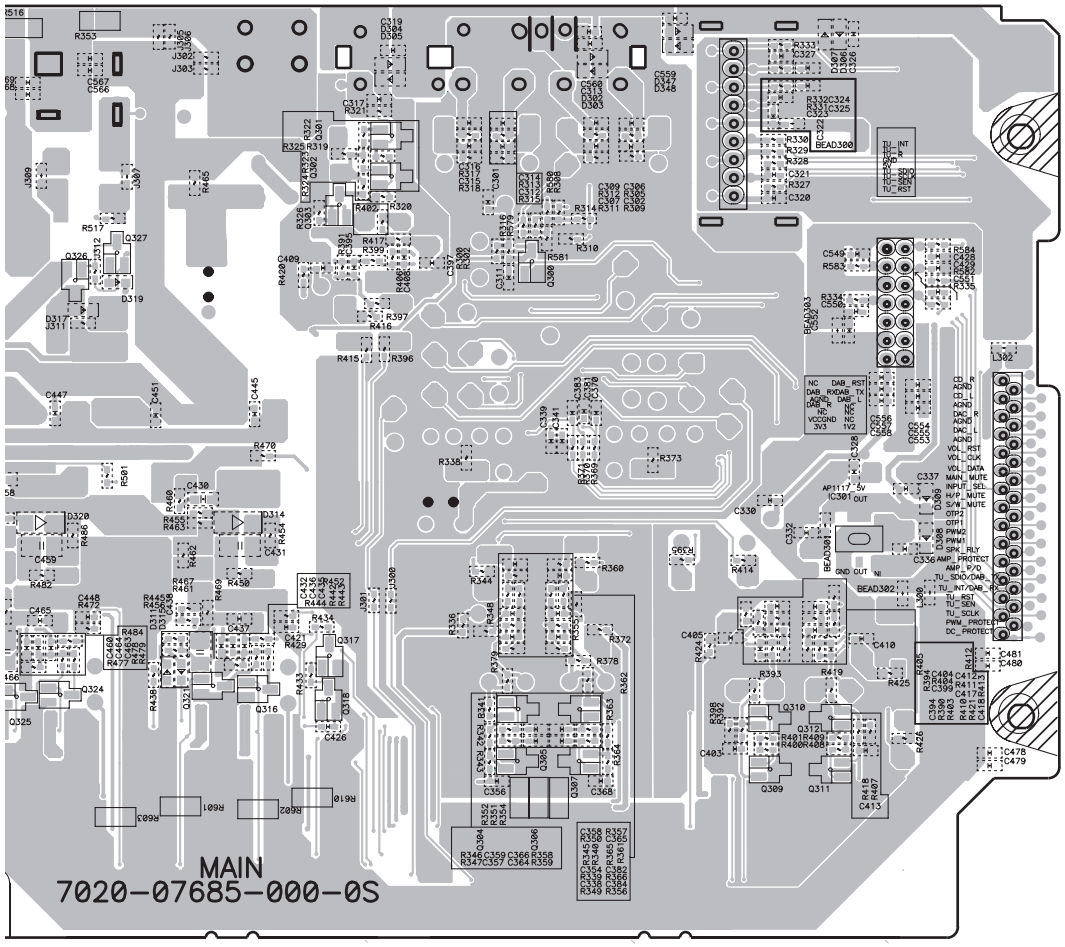


SIDE B

A MAIN ASSY



SIDE B



Q326 Q327 Q303 Q301 Q302 Q300

325 Q324 Q321 Q316 Q317 Q318 Q304 Q305 Q306 Q307 Q310 Q309 Q312 Q311

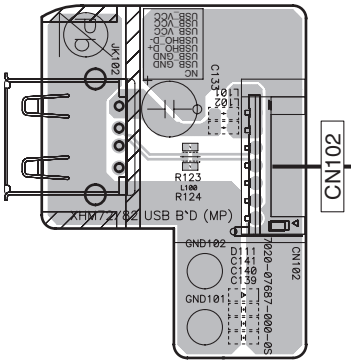
IC301

11.2 DMAIN ASSY and USB ASSY

SIDE A

B DMAIN ASSY

F USB ASSY

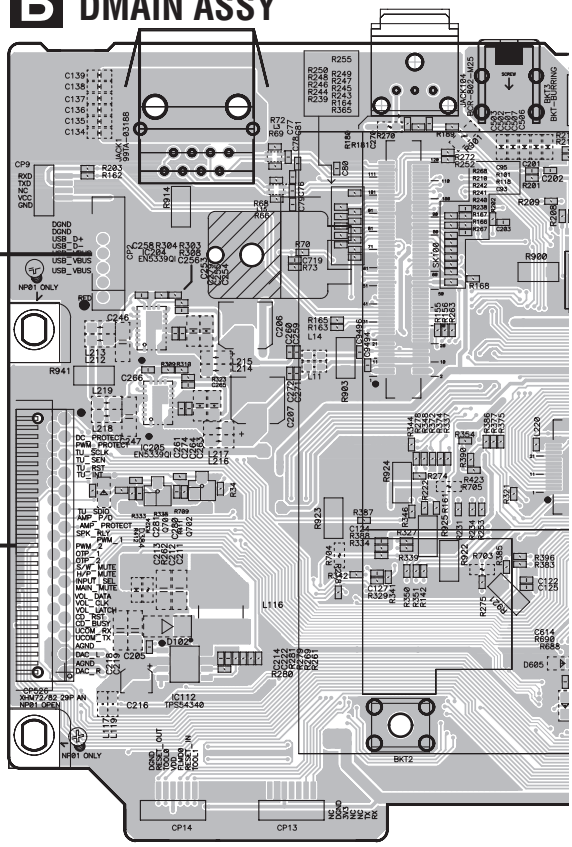


CN102

CP2

CP526

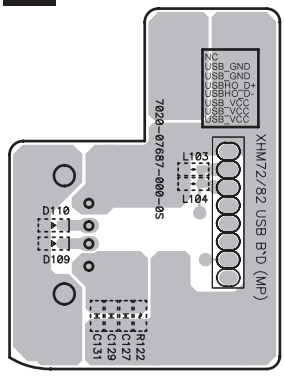
CP312



SIDE B

B DMAIN ASSY

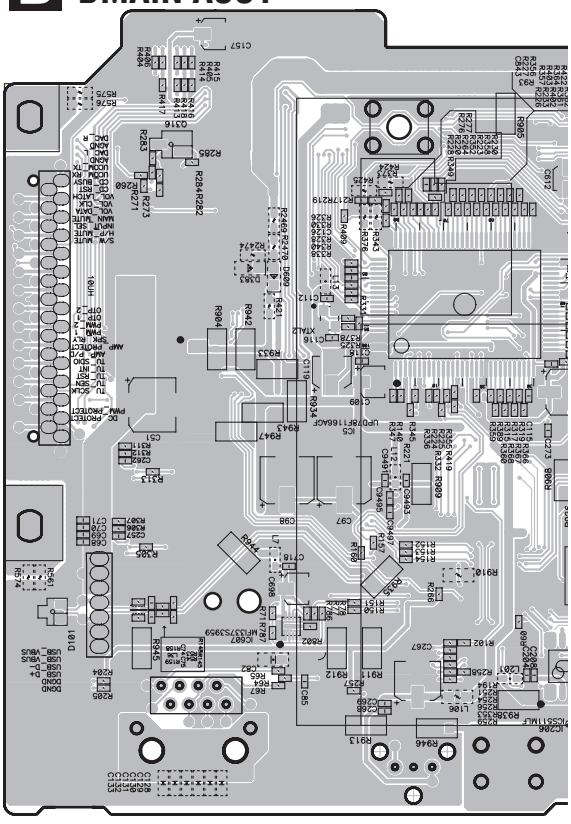
F USB ASSY



CN102

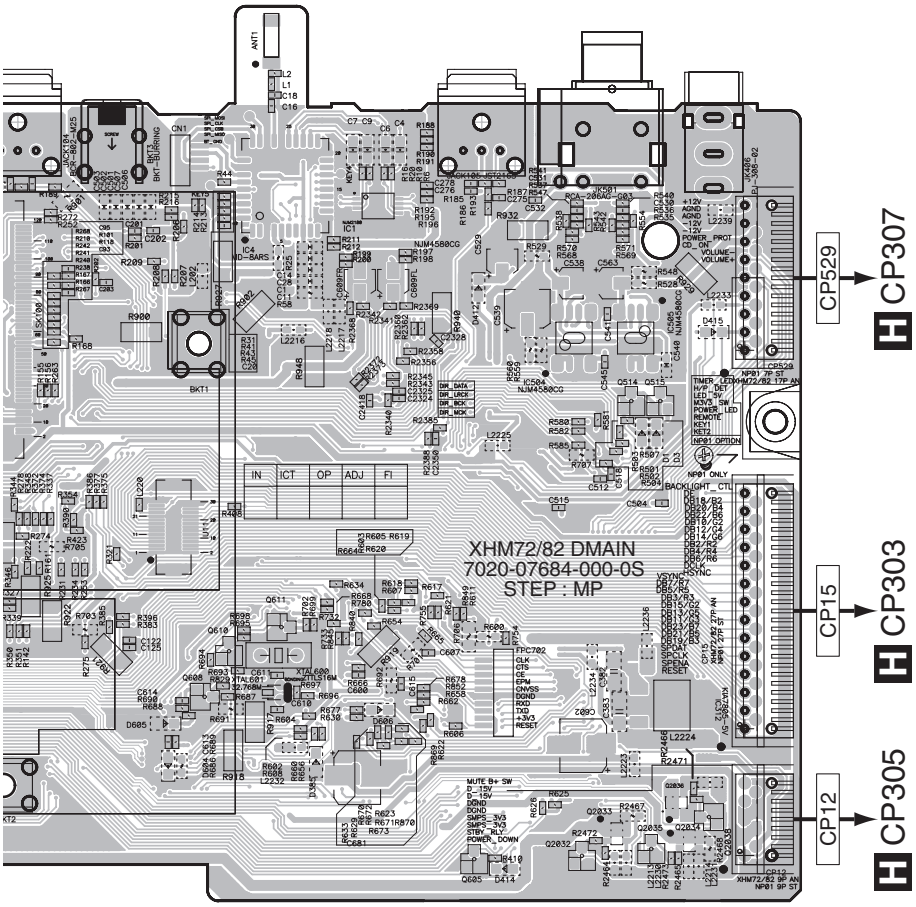
CP526

CP2



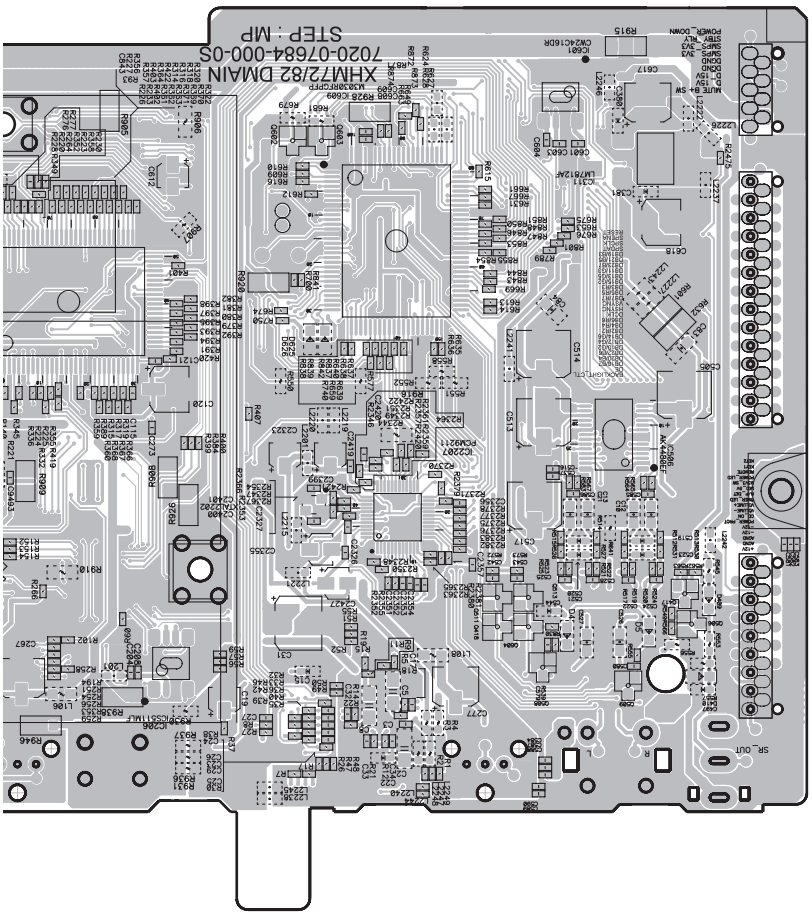
B **F**

SIDE A



Q	IC
	IC4 IC1
	IC504 IC505
Q514 Q515	IC204
	IC205
	U11
Q701 Q702	
Q611	
Q610	
Q608	
	IC112
Q2036	
Q2033 Q2038	
Q2034	
Q2035	
Q605 Q2032	

SIDE B



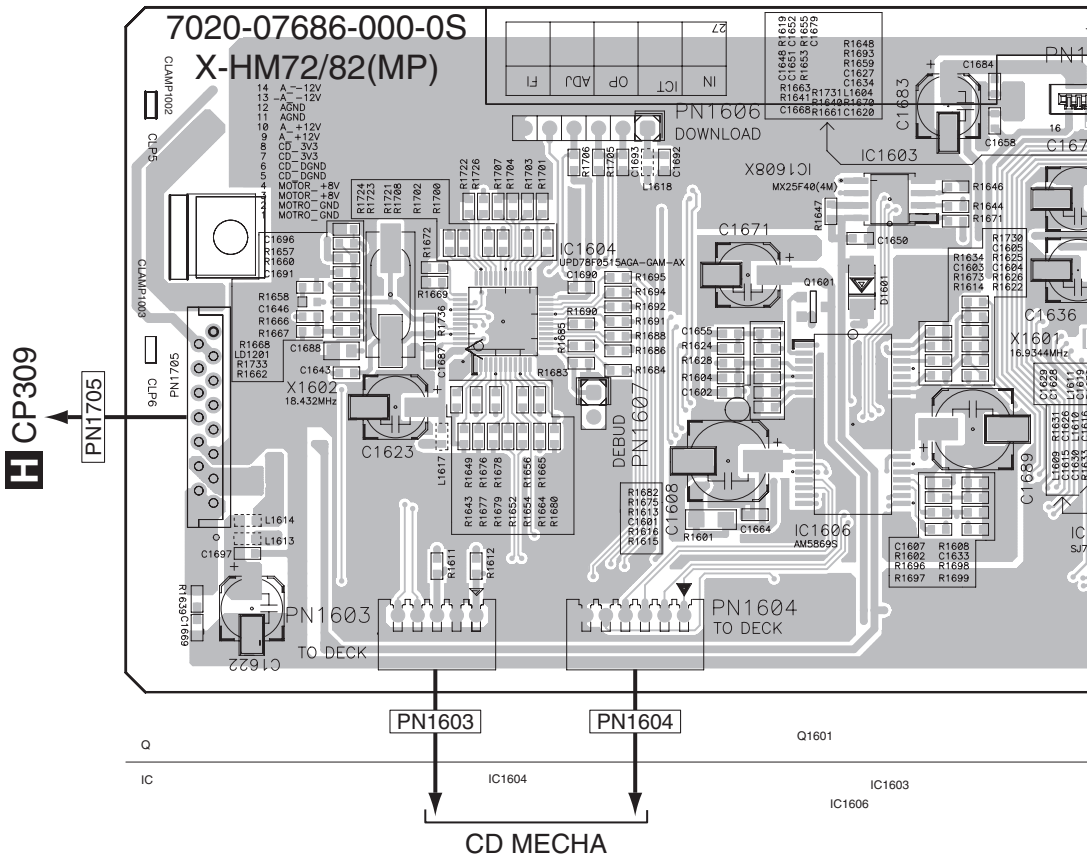
Q	IC
	IC601
Q316 Q602 Q603	
	IC311
	IC609
	IC5
	IC506
	IC2207
Q511 Q513 Q417	
Q418 Q604 Q506	IC607
	IC206
Q508 Q509	

11.3 CD ASSY

SIDE A

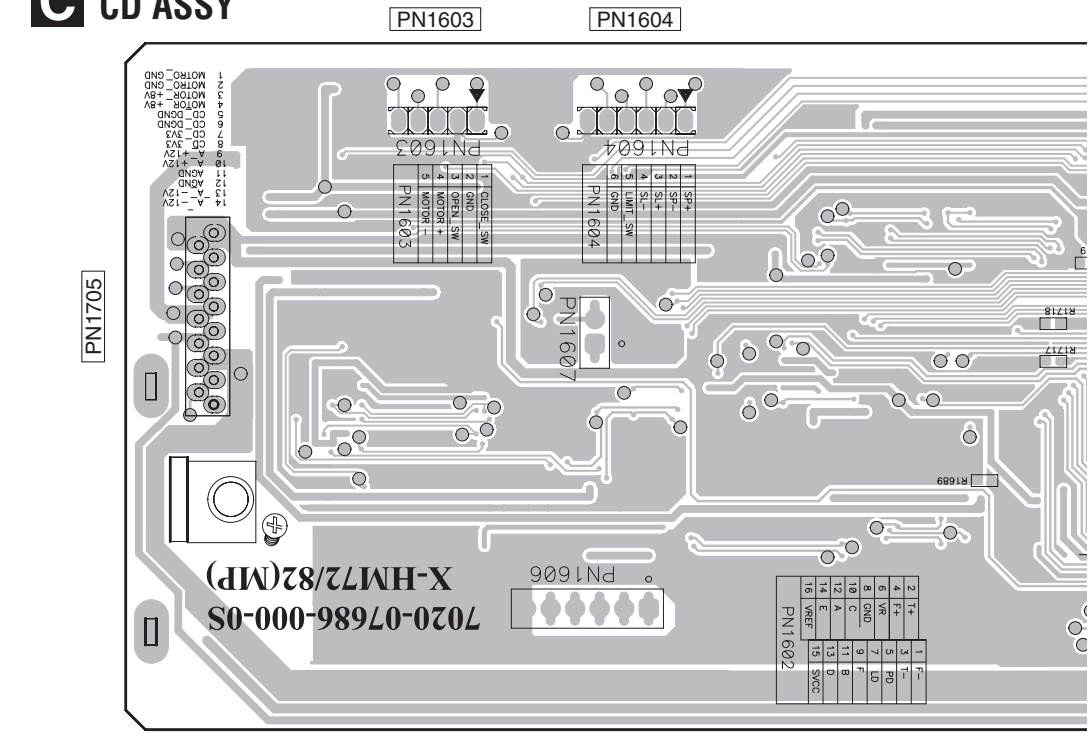
CD M

C CD ASSY

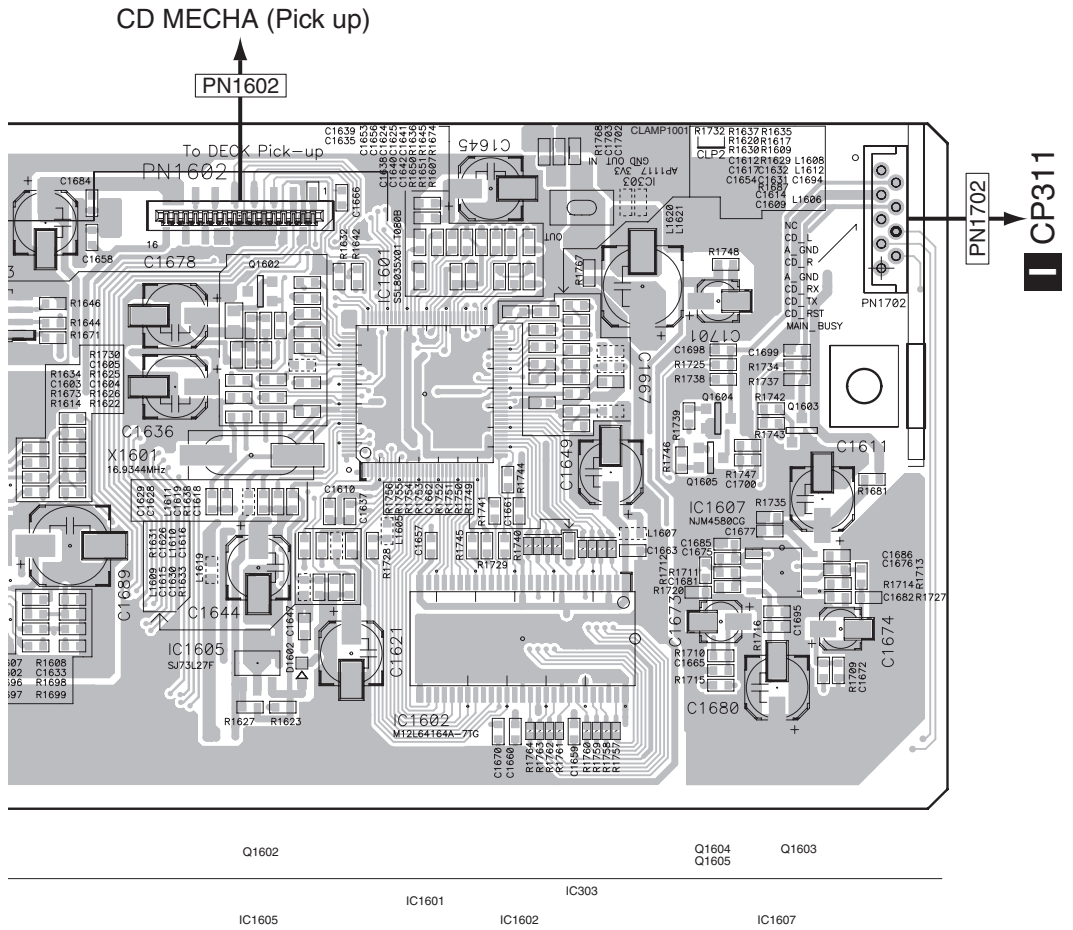


SIDE B

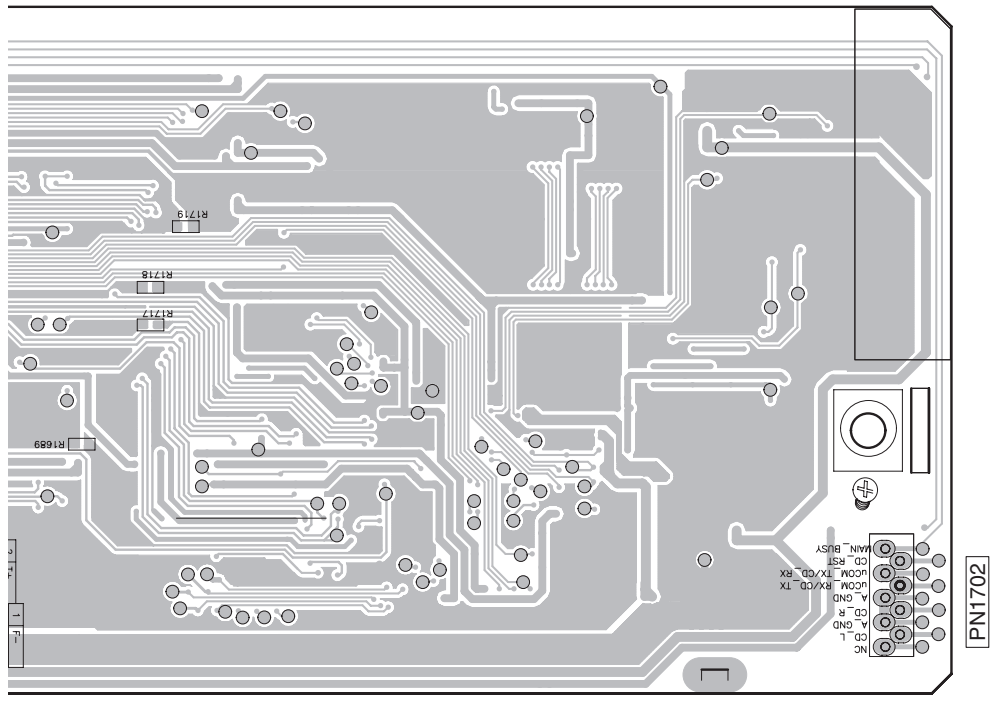
C CD ASSY



SIDE A


CD MECHA (Pick up)
PN1602
To DECK Pick-up
PN1602
PN1702
CP311
IC1601
IC1602
IC1605
IC1607
X1601
16.9344MHz
Q1602
Q1603
Q1604
Q1605
IC303

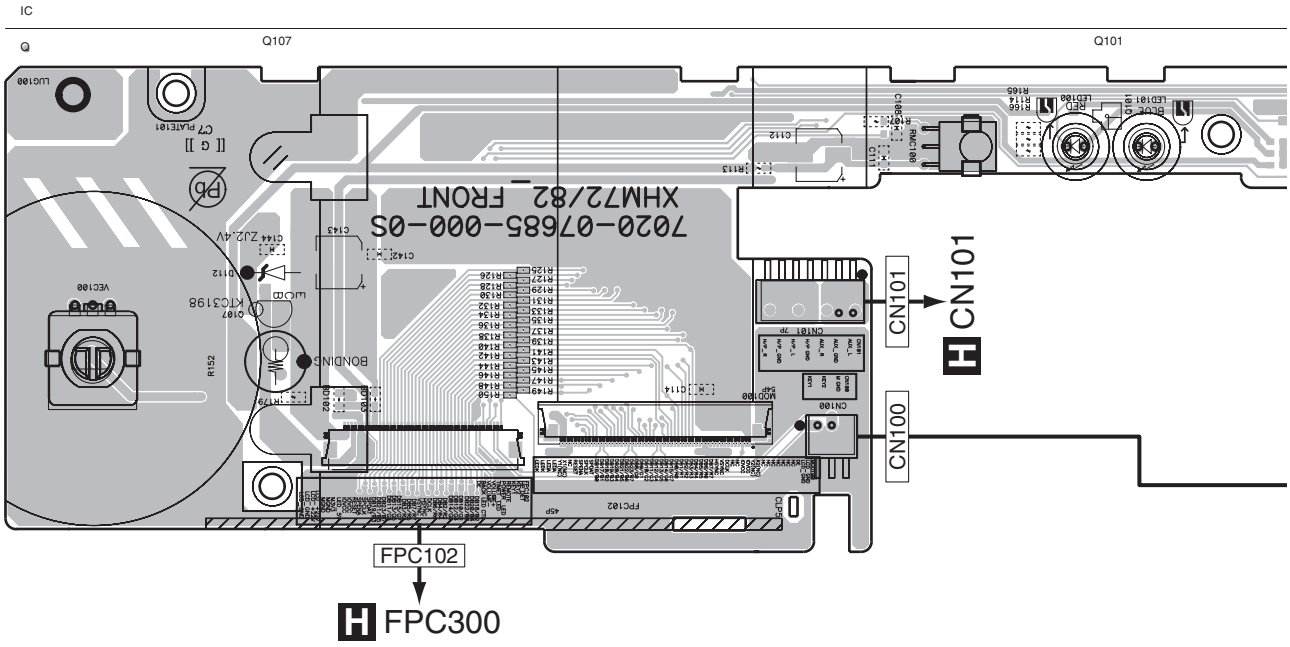
SIDE B


PN1602
PN1702

11.4 FRONT ASSY and KEY ASSY

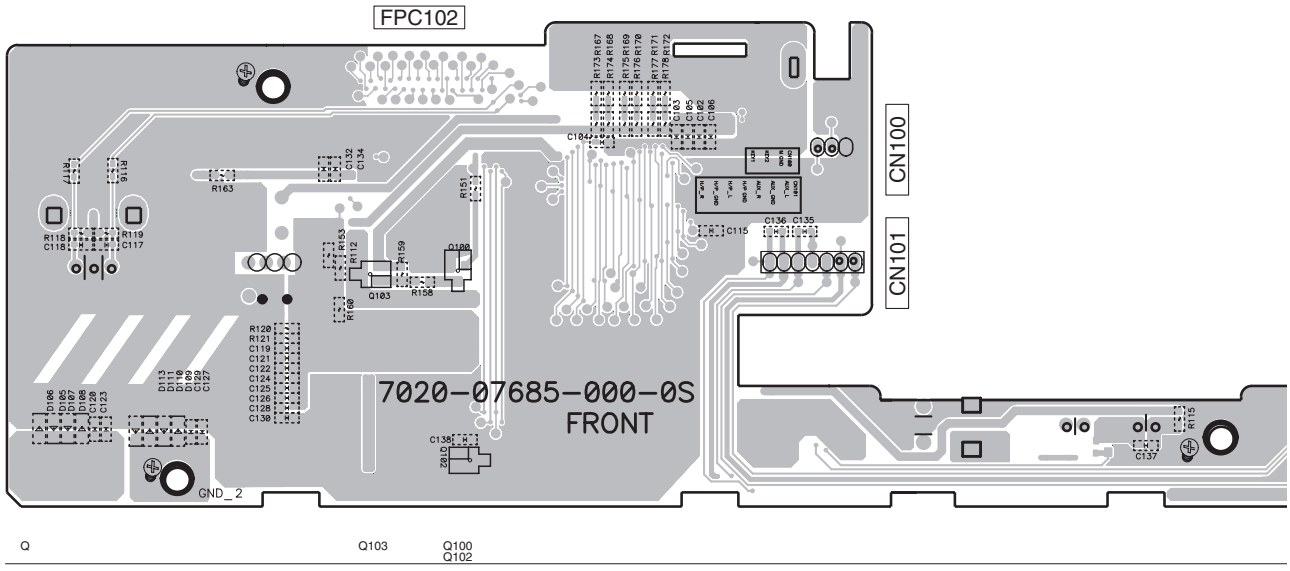
SIDE A

D FRONT ASSY



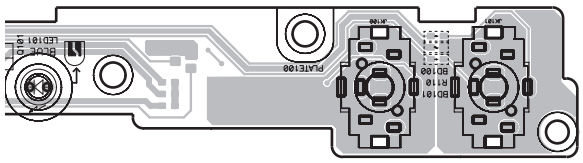
SIDE B

D FRONT ASSY

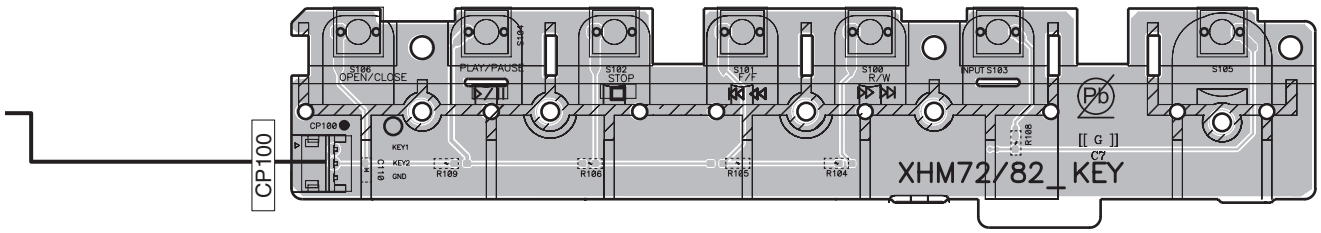


D E

SIDE A

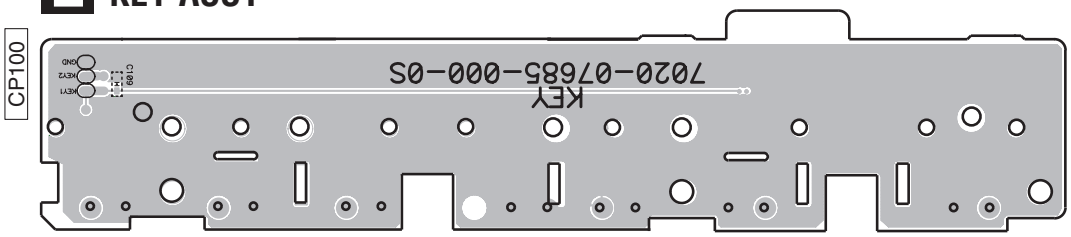


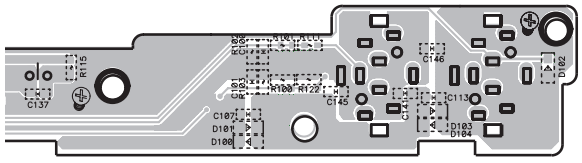
E KEY ASSY



SIDE B

E KEY ASSY

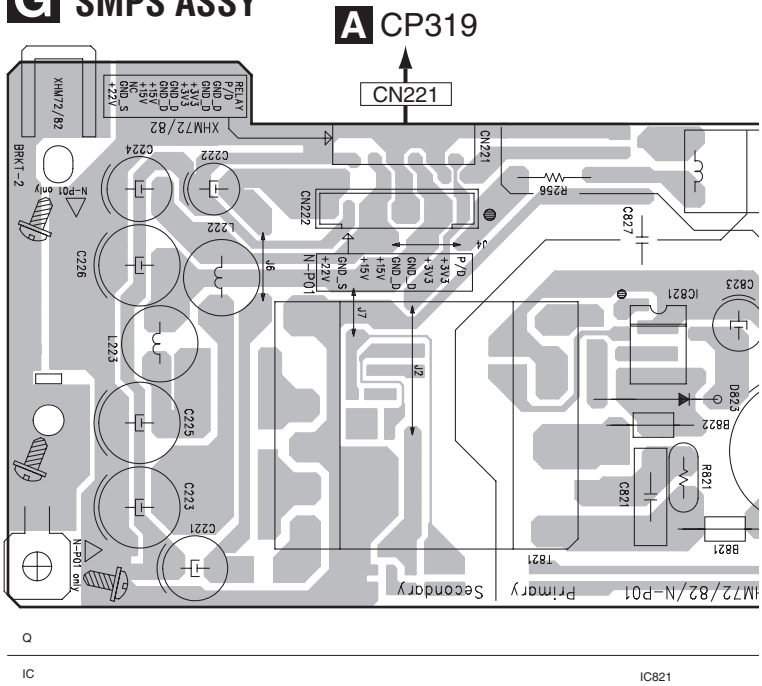




11.5 SMPS ASSY and CNT1 ASSY

SIDE A

G SMPS ASSY

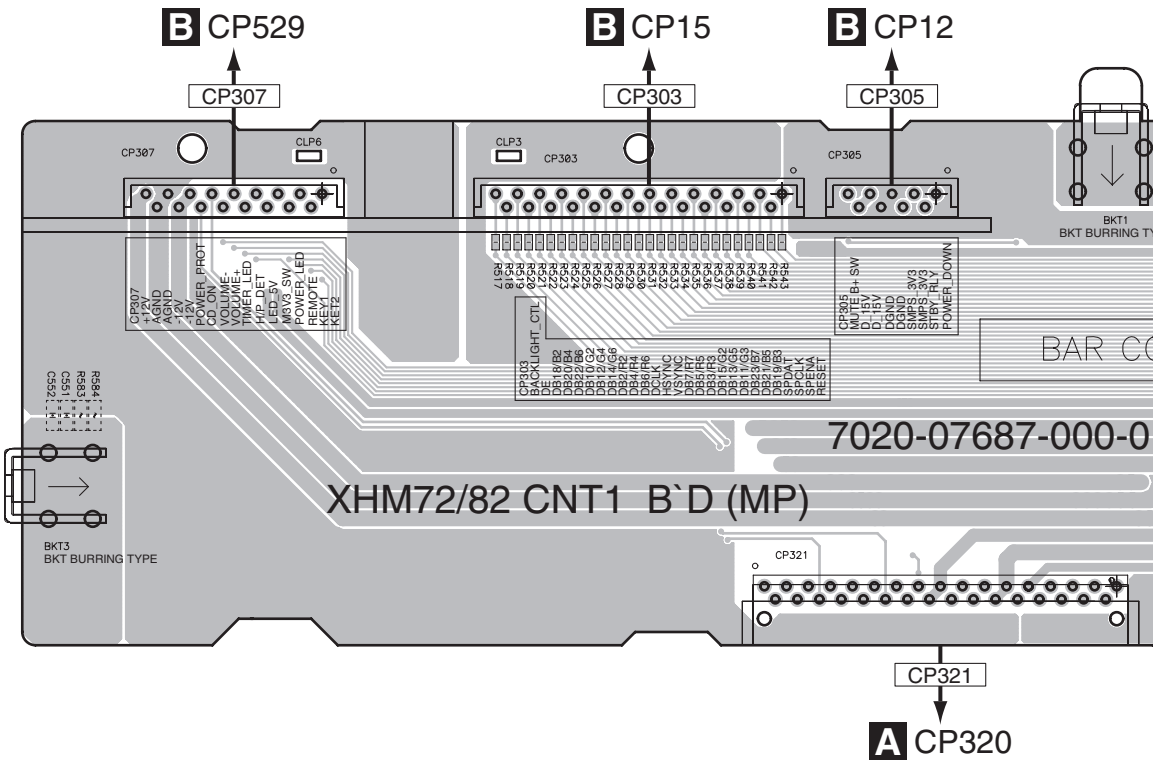


Q

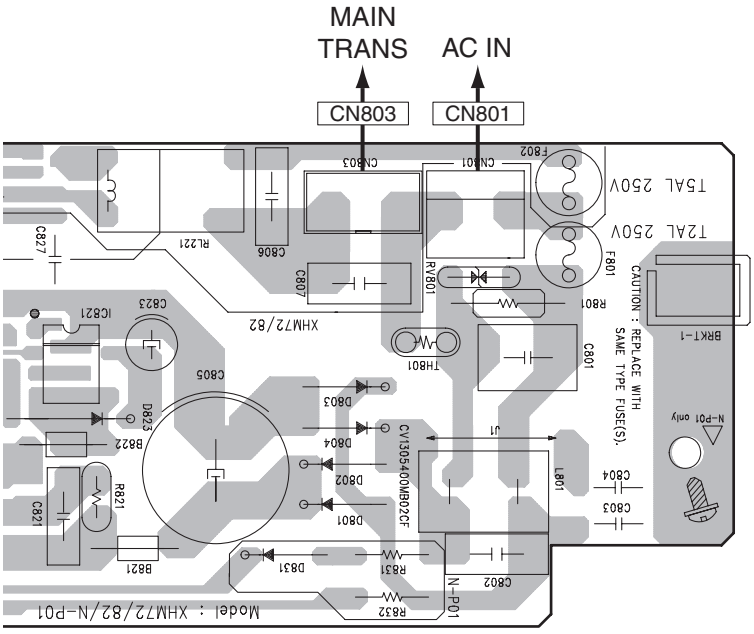
IC

IC821

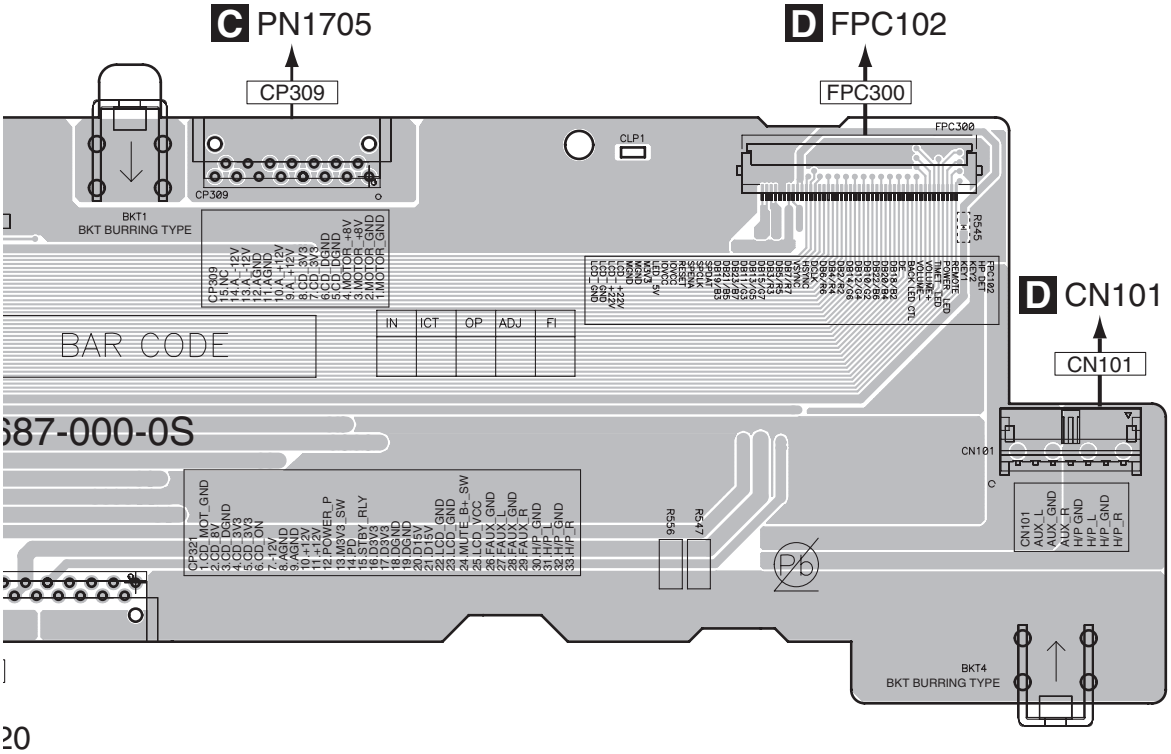
H CNT1 ASSY



SIDE A



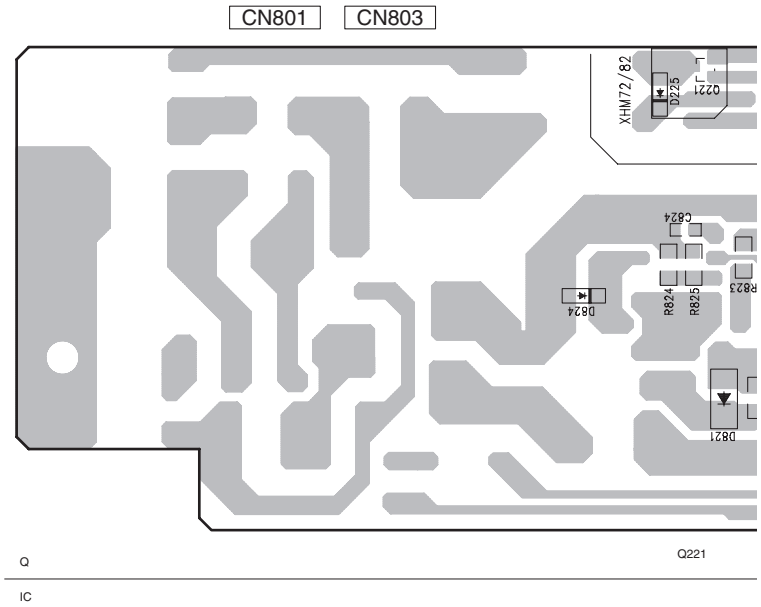
IC821



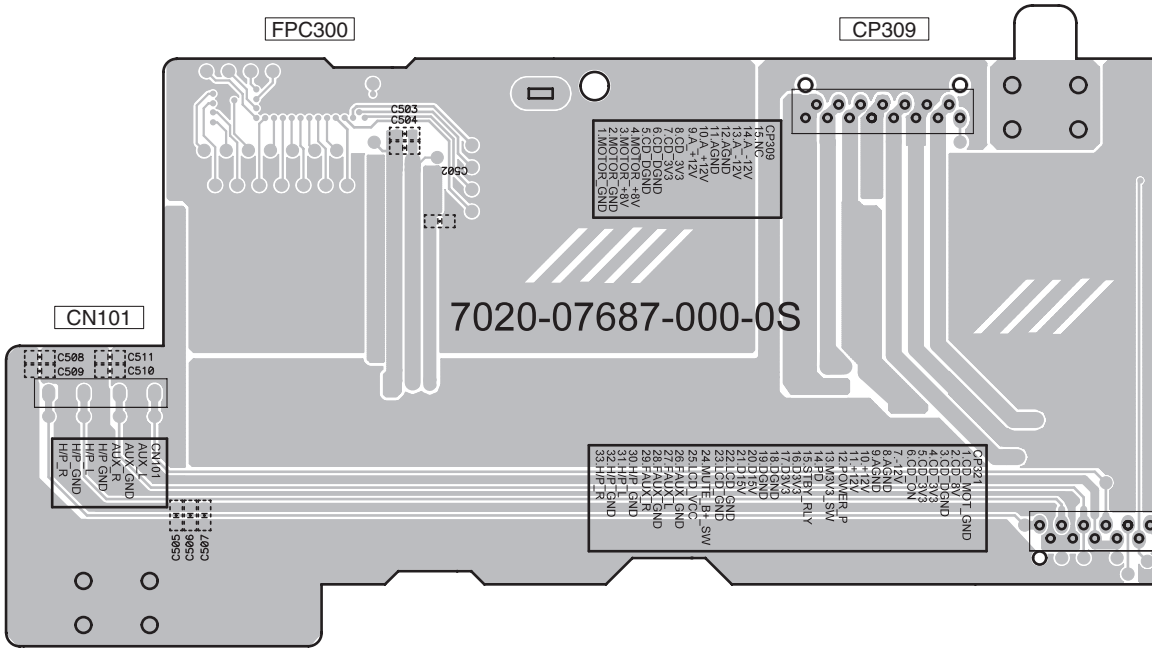
20

SIDE B

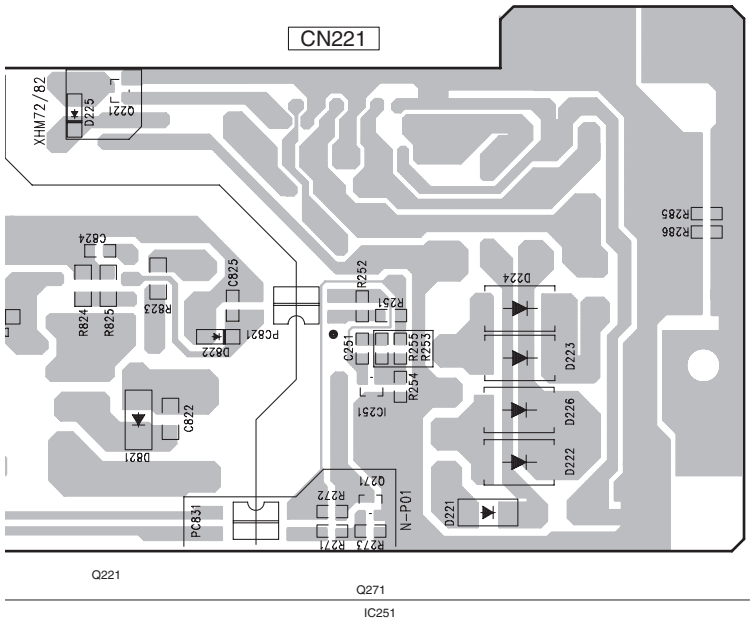
G SMPS ASSY

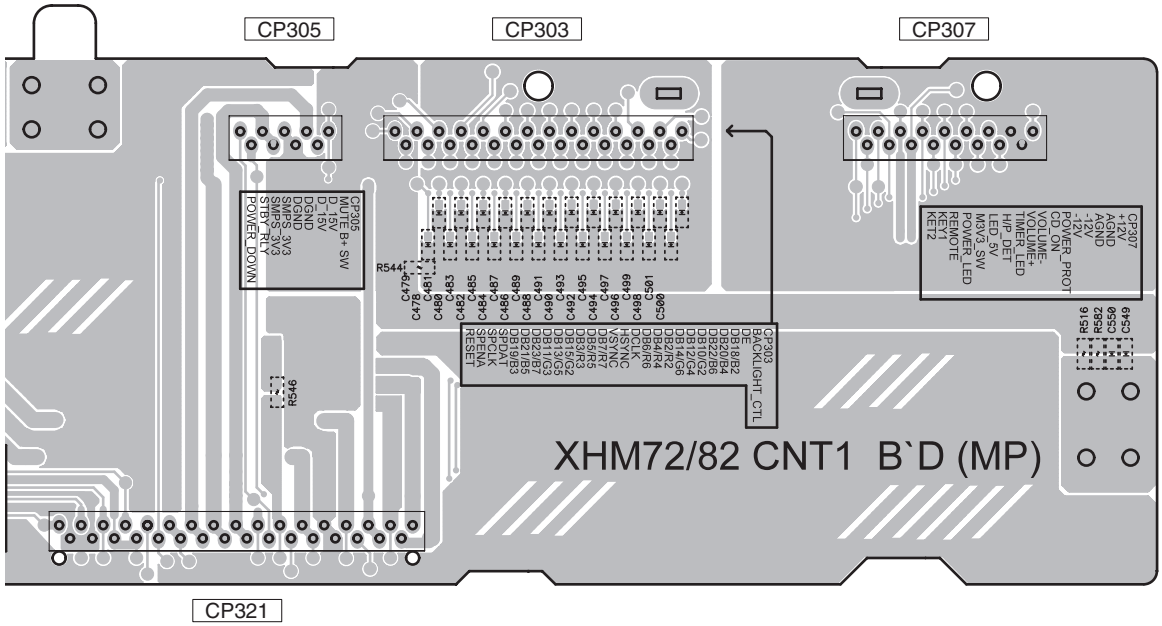


H CNT1 ASSY



SIDE B

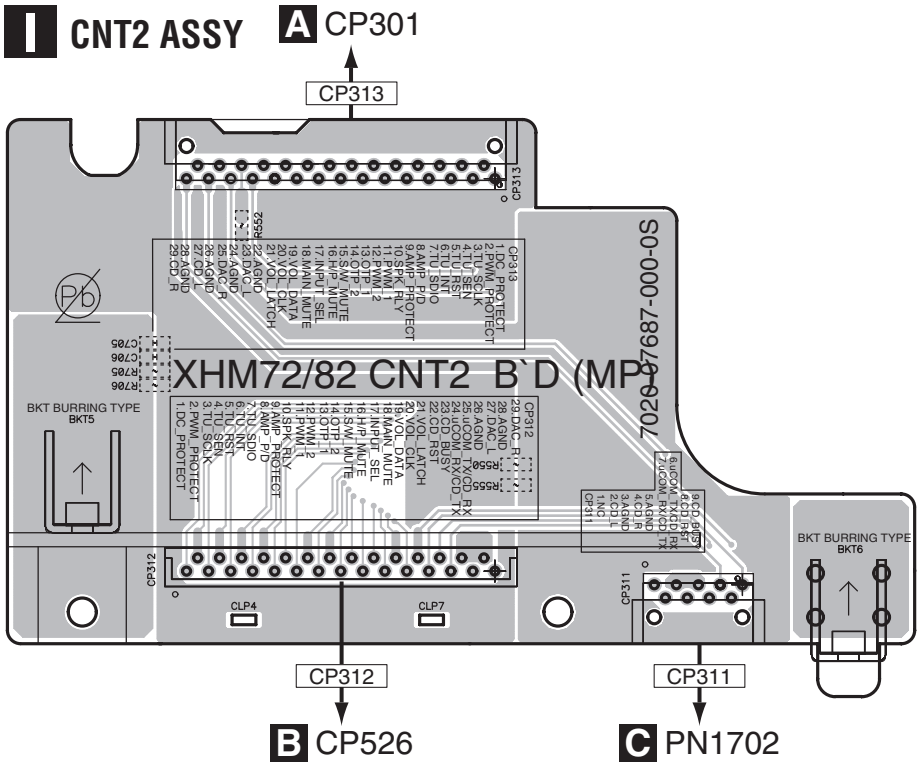

CN221
XHM72/82
Q221
Q271
IC251


CP305
CP303
CP307
CP321
XHM72/82 CNT1 B`D (MP)

11.6 CNT2 ASSY

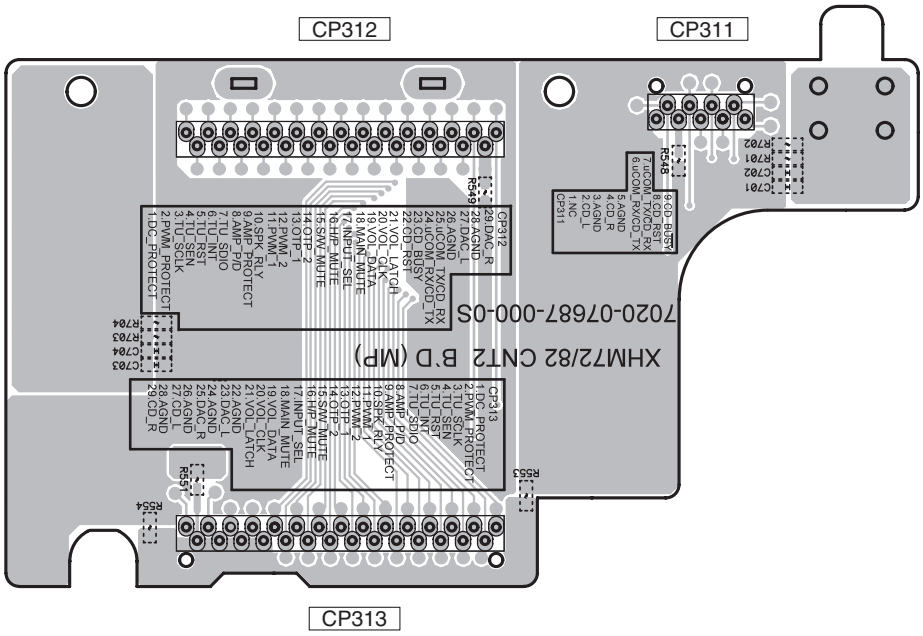
SIDE A

SIDE A



SIDE B

SIDE B



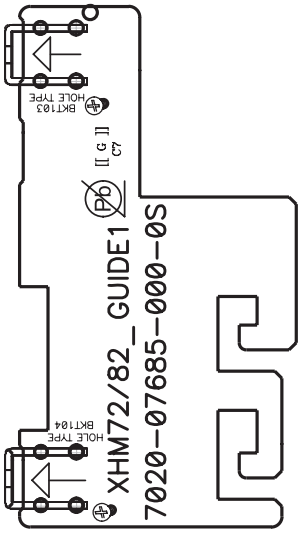
11.7 USB GUIDE ASSY, GUIDE1 ASSY and GUIDE2 ASSY

SIDE A

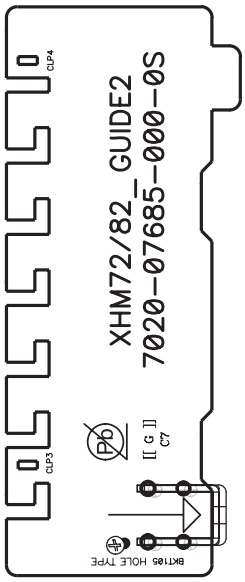
SIDE A

J USB GUIDE ASSY

K GUIDE1 ASSY



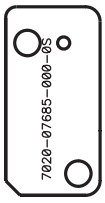
L GUIDE2 ASSY



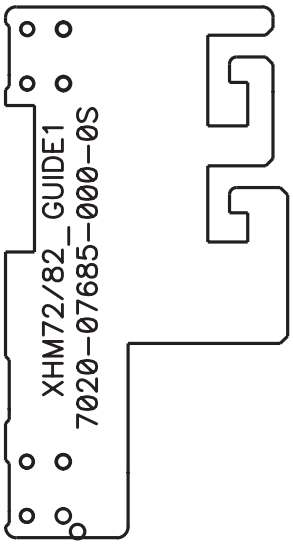
SIDE B

SIDE B

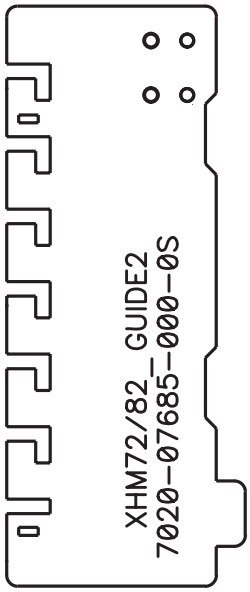
J USB GUIDE ASSY



K GUIDE1 ASSY



L GUIDE2 ASSY



J K L

J K L

12. PCB PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*

● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

● *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47 k ohm (tolerance is shown by J = 5%, and K = 10%).

560 Ω → 56 × 10[1] → 561 ····· RD1/4PU 5 6 1 J

47 kΩ → 47 × 10[3] → 473 ····· RD1/4PU 4 7 3 J

0.5 Ω → R50 ····· RN2H R 5 0 K

1 Ω → 1R0 ····· RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62 kΩ → 562 × 10[1] → 5621 ····· RN1/4PC 5 6 2 1 F

LIST OF ASSEMBLIES

Mark	Symbol & Discription	X-HM82-K/ SYXEV8	X-HM82-S/ SYXEV8	XC-HM82-K/ SYXEV8	XC-HM82-S/ SYXEV8	XC-HM82-K/ CXEV	X-HM82-S/ AXEV5
NSP	1..P.C.B. TOTAL ASSY MAIN	7025MU1401010	7025MU1401020	7025MU1401030	7025MU1401040	7025MU1401070	7025MU1401080
	2..MAIN ASSY	7028076851010	7028076851010	7028076851010	7028076851010	7028076851020	7028076851060
	2..FRONT ASSY	7028076852010	7028076852010	7028076852010	7028076852010	7028076852010	7028076852010
	2..KEY ASSY	7028076853010	7028076853010	7028076853010	7028076853010	7028076853010	7028076853010
	2..GUIDE1 ASSY	7028076854010	7028076854010	7028076854010	7028076854010	7028076854010	7028076854010
	2..GUIDE2 ASSY	7028076855010	7028076855010	7028076855010	7028076855010	7028076855010	7028076855010
	2..USB GUIDE ASSY	7028076856010	7028076856010	7028076856010	7028076856010	7028076856010	7028076856010
NSP	1..P.C.B. TOTAL ASSY DMAIN	7025MU1401011	7025MU1401021	7025MU1401031	7025MU1401041	7025MU1401071	7025MU1401081
	2..DMAIN ASSY	7028076841010	7028076841010	7028076841010	7028076841010	7028076841030	7028076841040
NSP	1..P.C.B. TOTAL ASSY CD	7025MU1401012	7025MU1401022	7025MU1401032	7025MU1401042	7025MU1401072	7025MU1401082
	2..CD ASSY	7028076861010	7028076861010	7028076861010	7028076861010	7028076861010	7028076861010
NSP	1..P.C.B. TOTAL ASSY CNT	7025MU1401013	7025MU1401023	7025MU1401033	7025MU1401043	7025MU1401073	7025MU1401083
	2..CNT1 ASSY	7028076871010	7028076871010	7028076871010	7028076871010	7028076871010	7028076871010
	2..CNT2 ASSY	7028076872010	7028076872010	7028076872010	7028076872010	7028076872010	7028076872010
	2..USB ASSY	7028076873010	7028076873010	7028076873010	7028076873010	7028076873010	7028076873010
⚠	1..SMPS ASSY	8208001120010S	8208001120010S	8208001120010S	8208001120010S	8208001120030S	8208001120010S

Mark	Symbol & Discription	X-HM82D-K/ VXEV8	XC-HM82D-K/ VXEV8	X-HM72-K/ SYXEV8	X-HM72-S/ SYXEV8	X-HM72D-K/ VXEV8	X-HM72D-S/ YXEV8
NSP	1..P.C.B. TOTAL ASSY MAIN	7025MU1401090	7025MU1401100	7025MU1401110	7025MU1401120	7025MU1401130	7025MU1401140
	2..MAIN ASSY	7028076851030	7028076851030	7028076851040	7028076851040	7028076851050	7028076851050
	2..FRONT ASSY	7028076852010	7028076852010	7028076852010	7028076852010	7028076852010	7028076852010
	2..KEY ASSY	7028076853010	7028076853010	7028076853010	7028076853010	7028076853010	7028076853010
	2..GUIDE1 ASSY	7028076854010	7028076854010	7028076854010	7028076854010	7028076854010	7028076854010
	2..GUIDE2 ASSY	7028076855010	7028076855010	7028076855010	7028076855010	7028076855010	7028076855010
	2..USB GUIDE ASSY	7028076856010	7028076856010	7028076856010	7028076856010	7028076856010	7028076856010
NSP	1..P.C.B. TOTAL ASSY DMAIN	7025MU1401091	7025MU1401101	7025MU1401111	7025MU1401121	7025MU1401131	7025MU1401141
	2..DMAIN ASSY	7028076841050	7028076841050	7028076841060	7028076841060	7028076841070	7028076841070
NSP	1..P.C.B. TOTAL ASSY CD	7025MU1401092	7025MU1401102	7025MU1401112	7025MU1401122	7025MU1401132	7025MU1401142
	2..CD ASSY	7028076861010	7028076861010	7028076861010	7028076861010	7028076861010	7028076861010
NSP	1..P.C.B. TOTAL ASSY CNT	7025MU1401093	7025MU1401103	7025MU1401113	7025MU1401123	7025MU1401133	7025MU1401143
	2..CNT1 ASSY	7028076871010	7028076871010	7028076871010	7028076871010	7028076871010	7028076871010
	2..CNT2 ASSY	7028076872010	7028076872010	7028076872010	7028076872010	7028076872010	7028076872010
	2..USB ASSY	7028076873010	7028076873010	7028076873010	7028076873010	7028076873010	7028076873010
⚠	1..SMPS ASSY	8208001120010S	8208001120010S	8208001120010S	8208001120010S	8208001120010S	8208001120010S

A MAIN ASSY

7028076851010, 7028076851020, 7028076851060, 7028076851030, 7028076851040 and 7028076851050 are constructed the same except for the following:

Mark	Symbol & Discription	7028076851010	7028076851020	7028076851060	7028076851030	7028076851040	7028076851050
	IC302 LINEAR-REGULATOR	Not used	Not used	Not used	J126736112010S	Not used	J126736112010S
	IC303 LINEAR-REGULATOR	Not used	Not used	Not used	J126111733230-IL	Not used	J126111733230-IL
	JACK300 TER,BOARD SCREW 4P	G612405EWG02Y-IL	G612405EWG02Y-IL	G612405EWG02Y-IL	G612405EWG02Y-IL	G612405E0200Y-IL	G612405E0200Y-IL
	JACK301 TER,RCA 1PIN	G600107AGF00Y-IL	G600107AGF00Y-IL	G600107AGF00Y-IL	G600107AGF00Y-IL	G600107A0000YS	G600107A0000YS
	PACK300 TUNER,FM/AM	E903104100781S	E903004100781S	E903004100781S	Not used	E903104100781S	Not used

Mark	No.	Description	Part No.

A MAIN ASSY

SEMICONDUCTORS

IC	300	LOGIC	J040405200070S
IC	301	LINEAR-REGULATOR	J126111750230S
IC	304,308	LINEAR OP	J121458000050-IL
IC	305	LOGIC	J040739100010-IL
IC	307	LINEAR OP	J121456000041-IL
IC	309,312	LINEAR-REGULATOR	J126781200510S
IC	310,311	ANALOG	J080209201010-IL
IC	313	LINEAR-REGULATOR	J126791200510S
IC	314	LINEAR-REGULATOR	J126780500520S
IC	315	LINEAR-REGULATOR	J126790500520S
IC	316	LINEAR-REGULATOR	J12678R080010-IL
D	326	RECTIFIER BRIDGE	K047100600220-IL
D	328,329,330,331	SWITCHING	K000400700220-IL

MISCELLANEOUS

JACK300	TER,BOARD SCREW 4P	G612405EWG02Y-IL
JACK301	TER,RCA 1PIN	G600107AGF00Y-IL
P	300,301 POSISTOR	F320184710050-IL
PACK300	TUNER,FM/AM	E903104100781S
RLY300	RELAY	G680120502050-IL

RESISTORS

R	466,497	C060010066050-IL
R	554,556	C060R47065050-IL

CAPACITORS

C	424,425,455,457	D040102087010-IL
C	506,512	D040332087000-IL
C	514	D040332085050S
C	519	D040222085020-IL
C	527,531,544	D040102083030-IL
C	536,541	D040102084060-IL

B DMAIN ASSY

SEMICONDUCTORS

IC	1	LINEAR OP	J121210080010S
IC	5	CPU MICRO PROCESS	8952HM7200010
IC	112	LOGIC-D/D CONVER	J048543400010S
IC	206	LINEAR	J120511000020S
IC	312	LINEAR-REGULATOR	J126780500450-IL
IC	504,505	LINEAR OP	J121458000050-IL
IC	506	LOGIC-D/A CONVER	J042448000010S
IC	601	MEMORY-EEPROM	J000241600170-IL
IC	607	LOGIC-DECODER	J044337395930-IL
IC	609	CPU MICRO PROCESS	8952HM7200030
IC	2207	LOGIC-INTERFACE	J046921100010-IL

MISCELLANEOUS

JACK104	MODULE	E100802000250S
XTAL600	RESONATOR,CERAMIC	E83016R000060-IL
XTAL601	CRYSTAL	E80032R768210S

C CD ASSY

SEMICONDUCTORS

IC	303	LINEAR-REGULATOR	J126111733230-IL
IC	1601	LOGIC	J040580350020-IL
IC	1602	MEMORY-RAM	J001126410010-IL
IC	1603	MEMORY FLASH	8952HM7200070
IC	1604	CPU MICRO PROCESS	8952HM7200060
IC	1605	LINEAR-RESET	J125702700030S
IC	1606	LINEAR-DRIVER	J127586900010-IL
IC	1607	LINEAR OP	J121458000050-IL

D FRONT ASSY

SEMICONDUCTORS

Q	107	J5023198Y0000-IL
LED	100 ROUND	K500032001170S
LED	101 ROUND	K500036001230-IL

MISCELLANEOUS

JK	100,101 JACK,D3.5	G401035180010-IL
VEC	100 SW,ENCODER	G121125072010-IL

E KEY ASSY

MISCELLANEOUS

S	100-106 SW,TACT	G180000270010-IL

F USB ASSY

MISCELLANEOUS

JK	102 CN,PLUG CONTACT	G480040040020-IL

G SMPS ASSY

SMPS ASSY has no service parts.

Mark No. Description Part No.

H CNT1 ASSY

CNT1 ASSY has no service parts.

I CNT2 ASSY

CNT2 ASSY has no service parts.

J USB GUIDE ASSY

USB GUIDE ASSY has no service parts.

K GUIDE1 ASSY

GUIDE1 ASSY has no service parts.

L GUIDE2 ASSY

GUIDE2 ASSY has no service parts.