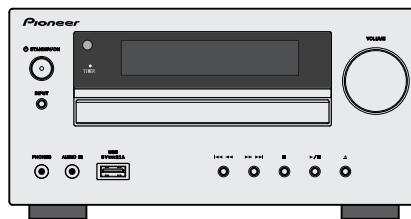


Pioneer

Service Manual



X-HM70-K

ORDER NO.
RRV4217

NETWORK CD RECEIVER SYSTEM

X-HM70-K

X-HM70-S

XC-HM70-K

XC-HM70-S

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

Model	Type	Power Requirement	Serial No.	Remarks
X-HM70-K	SYXCN8	AC 220 V to 240 V	&&&&#####YY	YY: Europe
X-HM70-S	SYXCN8	AC 220 V to 240 V	&&&&#####YY	YY: Europe
XC-HM70-K	SYXCN8	AC 220 V to 240 V	&&&&#####YY	YY: Europe
XC-HM70-S	SYXCN8	AC 220 V to 240 V	&&&&#####YY	YY: Europe



PIONEER CORPORATION 1-1, Shin-ogura, Saiwai-ku, Kawasaki-shi, Kanagawa 212-0031, Japan

PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.

PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium

PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936

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K-IZV OCT. 2011 Printed in Japan

SAFETY INFORMATION

A



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

B

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

C

IMPORTANT

THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1. SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

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)

WARNING

The Laser component is capable of emitting radiation exceeding the limit for CLASS 1. A specially instructed person should do servicing operation of the apparatus.

D

LABEL CHECK

E

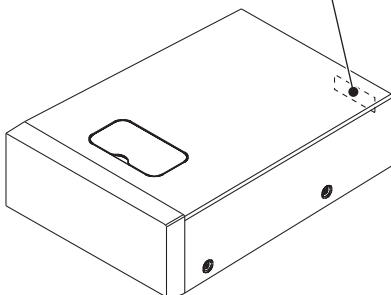
CAUTION

This product is a class 1 laser product classified under the Safety of laser products, IEC 60825-1:2007.

CLASS 1 LASER PRODUCT

D58-5-2-2a_A1_En

F



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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 °C.
Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 °C 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.

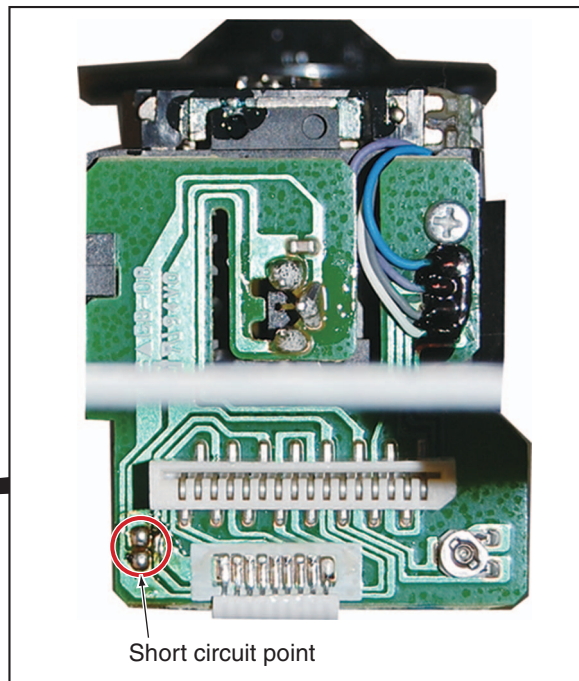
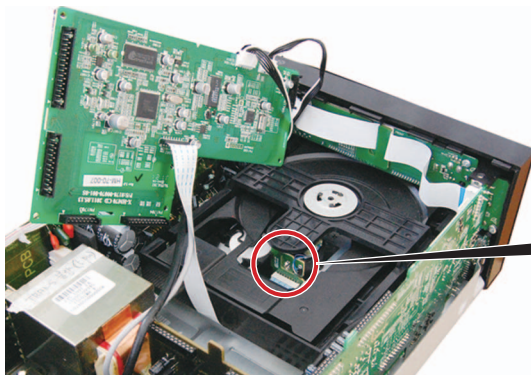
Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

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

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

1.2 WHEN REPLACING MECHA

It is necessary to remove the soldering on the short circuit point after connecting the pickup flexible cable.



Short circuit point

2. SPECIFICATIONS

As part of our policy of continuous improvement, PIONEER reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

*The specifications are applicable when the power supply is 230 V.

Amplifier section
RMS Power Output.....50 W + 50 W
(1 kHz, 10 % T.H.D., 4 ohms)
Guaranteed speaker impedance4 ohms to 16 ohms
Headphonesrecommended: 32 ohms

Tuner section
Frequency Range (FM) 87.5 MHz to 108 MHz
Antenna Input (FM).....75 ohms unbalanced
Frequency Range (AM)531 kHz to 1602 kHz
Antenna (AM) Loop antenna

Video section
Signal level (Composite).....1 Vp-p (75 ohms)

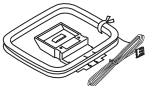
Network section
LAN terminal..... Ethernet jack
10BASE-T/100BASE-TX

Other connectors
Power supply
Front USB connector..... 5 V, 2.1 A
iPod connector..... 5 V, 1.0 A
Rear DC output connector (for Wireless LAN)..... 5 V, 600 mA

Miscellaneous
Power source.....AC 220 V to 240 V, 50 Hz
Power consumption
Power on.....80 W
Power stand-by..... 0.5 W or less
Dimensions
Width 215 mm
Height 111 mm
Depth 353 mm
Weight..... 4.7 kg

Speaker (X-HM70 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 263.5 mm
Depth 208 mm
Weight.....2.7 kg/each

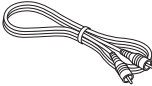
Accessories



AM loop aerial
(E601019000010-IL)



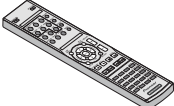
FM aerial
(E605010140010-IL)



Video cable
(L063202010050-IL)



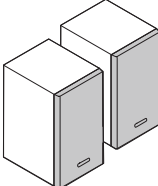
Speaker cables x2
(X-HM70 only)
(8952SHM700042-IL)



Remote control (AXD7639)
(8300763900010-IL)



“AAA” size battery x 2



Speaker x2
(X-HM70 only)

Warranty card
Operating instructions
(5707000005941-IL)

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 iPod playback.	Audio and operations must be normal.
4	Check the USB playback.	Audio and operations must be normal.
5	Check the internet radio and Network audio playback.	Audio and operations must be normal.
6	Check the tuner operations.	Audio and operations (station search etc.) must be normal.
7	Check the Line input playback.	Audio and operations must be normal.
8	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

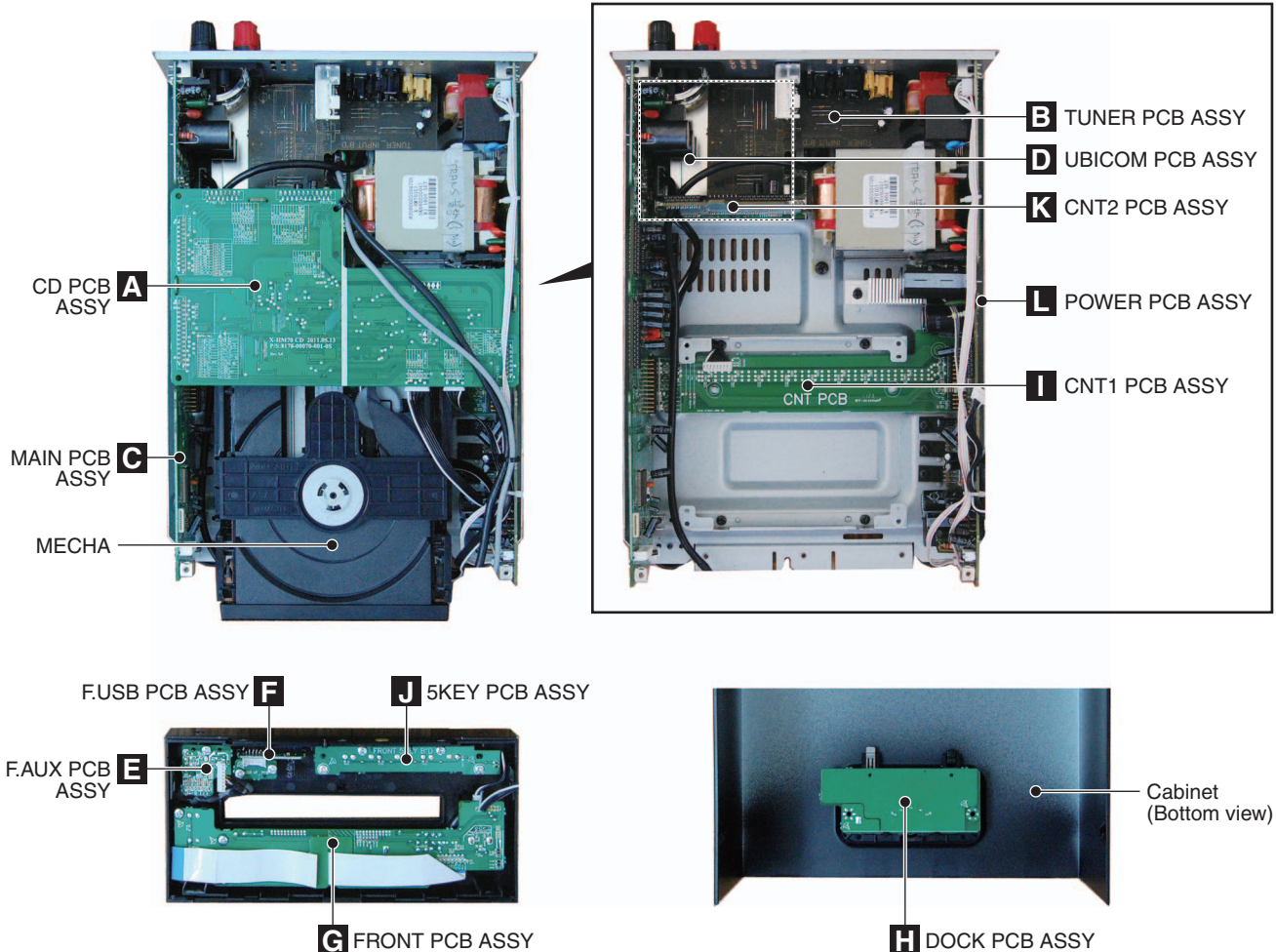
3.2 JIGS LIST

Jigs List

Jig Name	Part No.	Remarks
RS-232C update jig	GGF1642	Firmware update
Board to board extension jig cable	GGD1767	Diagnosis (MAIN PCB Assy ↔ CD PCB Assy)
Board to board extension jig cable	GGD1768	Diagnosis (CNT2 PCB Assy ↔ UBICOM PCB Assy)
Board to board extension jig cable	GGD1769	Diagnosis (CNT2 PCB Assy ↔ CD PCB Assy)
Board to board extension jig cable	GGD1770	Diagnosis (POWER PCB Assy ↔ CD PCB Assy)
Board to board extension jig cable	GGD1771	Diagnosis (MAIN PCB Assy ↔ CNT1 PCB Assy)
Extension jig FFC	GGD1774	Diagnosis (Mecha ↔ CD PCB Assy)

5 6 7 8

3.3 PCB LOCATIONS



NOTES: ● Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.
● The $\triangle$ 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.

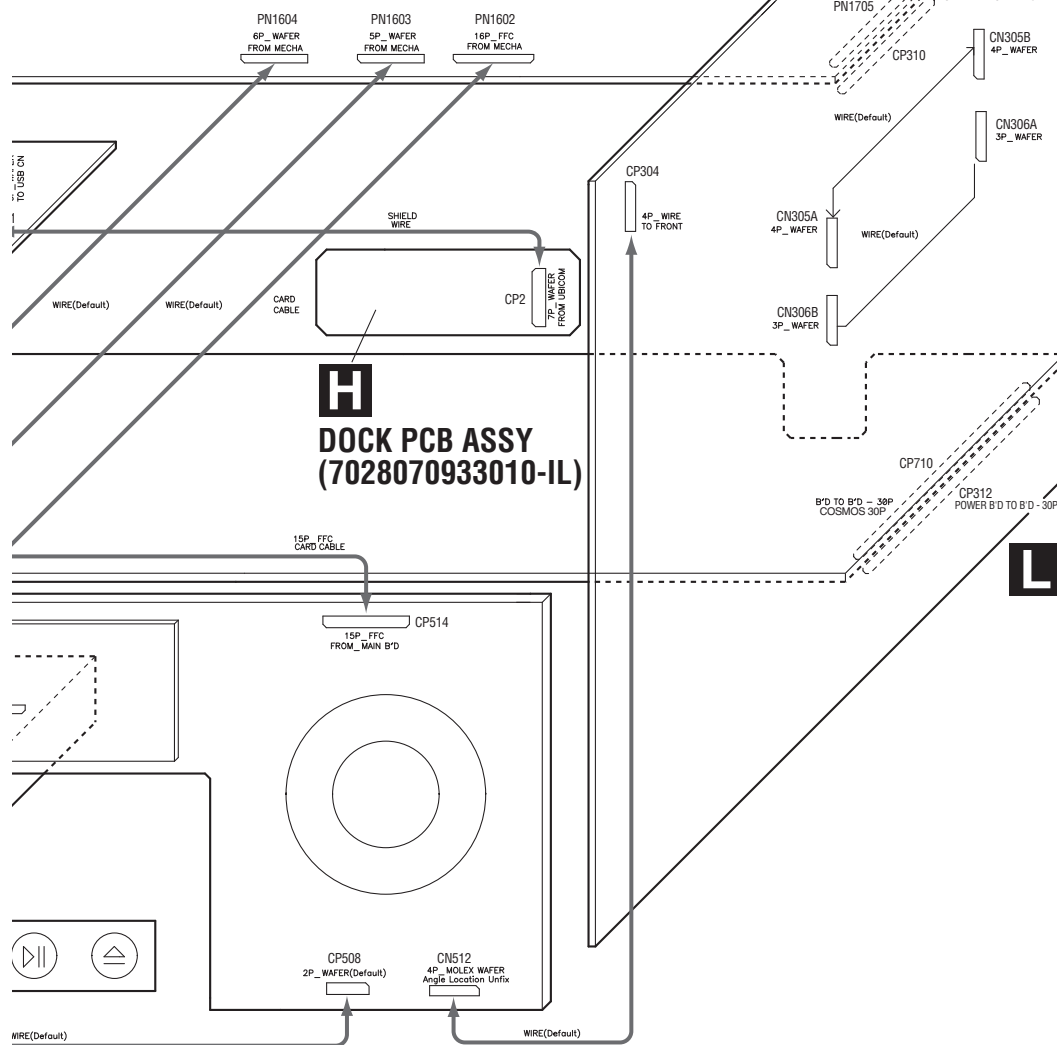
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
LIST OF ASSEMBLIES							
NSP	1..PCB TOTAL ASSY MAIN		7025MU1101011-IL	NSP	1..PCB TOTAL ASSY UBICO		7025MU1101013-IL
	2..MAIN PCB ASSY		7028070931010-IL		2..UBICOM PCB ASSY		7028070951010-IL
	2..FRONT PCB ASSY		7028070932010-IL	NSP	1..PCB TOTAL ASSY CD		7025MU1101014-IL
	2..DOCK PCB ASSY		7028070933010-IL		2..CD PCB ASSY		7028070921010-IL
	2..F.AUX PCB ASSY		7028070934010-IL				
	2..CNT1 PCB ASSY		7028070935010-IL	1..MECHA			8030000010070-IL
	2..F.USB PCB ASSY		7028070936010-IL				
NSP	1..PCB TOTAL ASSY POWER		7025MU1101012-IL				
	2..POWER PCB ASSY		7028070941010-IL				
	2..TUNER PCB ASSY		7028070942010-IL				
	2..CNT2 PCB ASSY		7028070944010-IL				
	2..5KEY PCB ASSY		7028070946010-IL				

4.1 OVERALL CONNECTION DIAGRAM



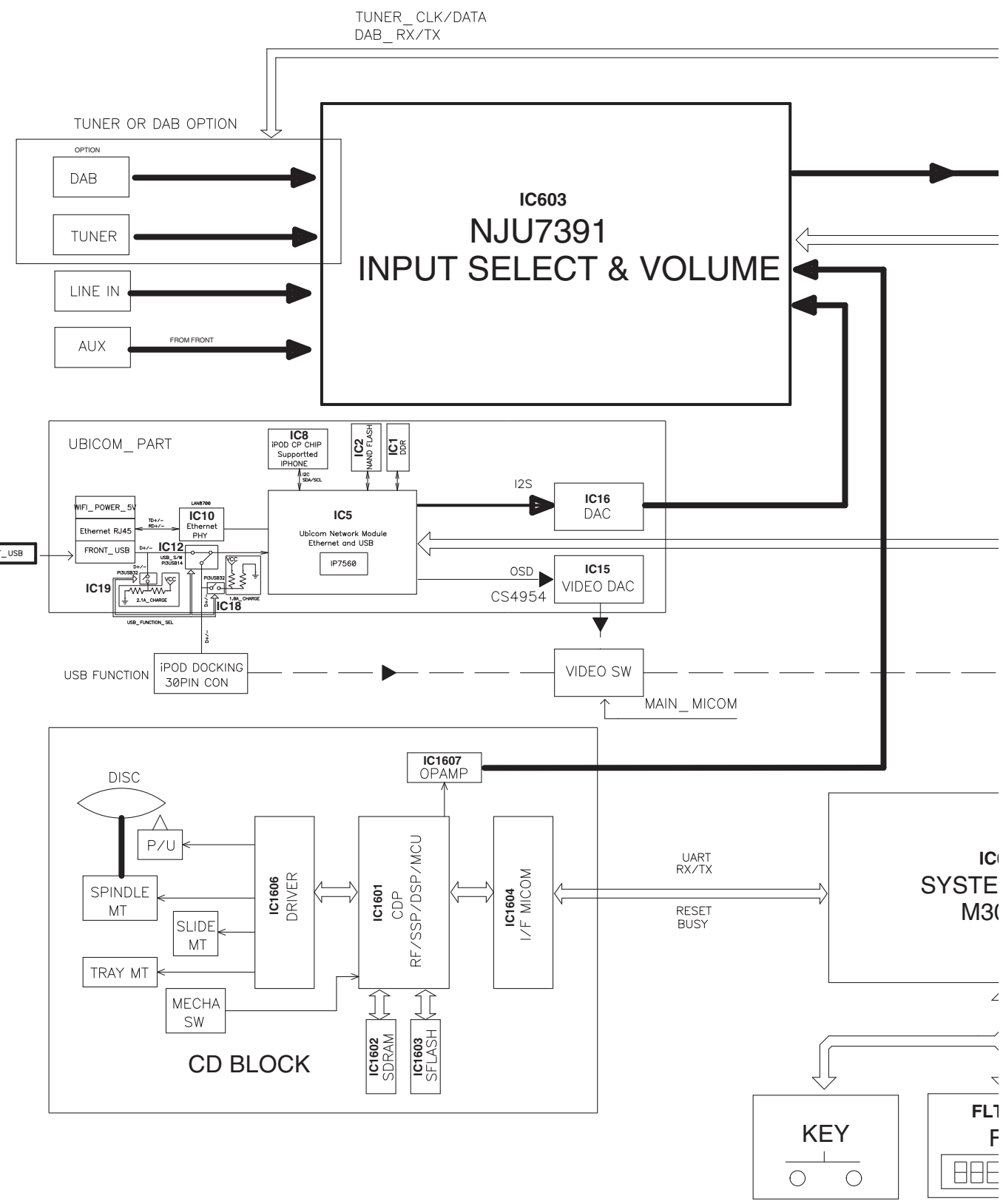
B TUNER PCB ASSY (7028070942010-IL)

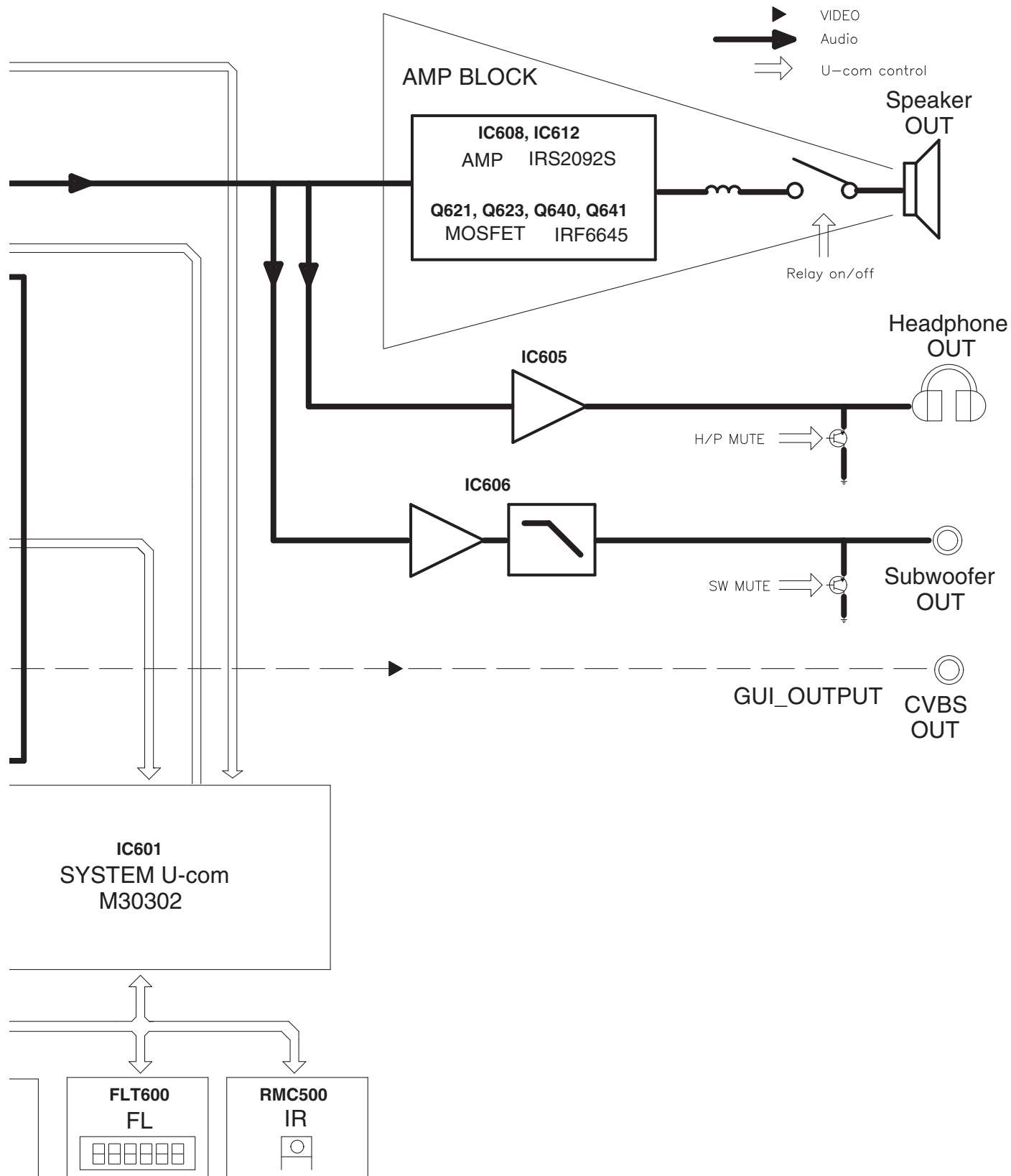
A (A 1/2- A 2/2) CD PCB ASSY (7028070921010-IL)



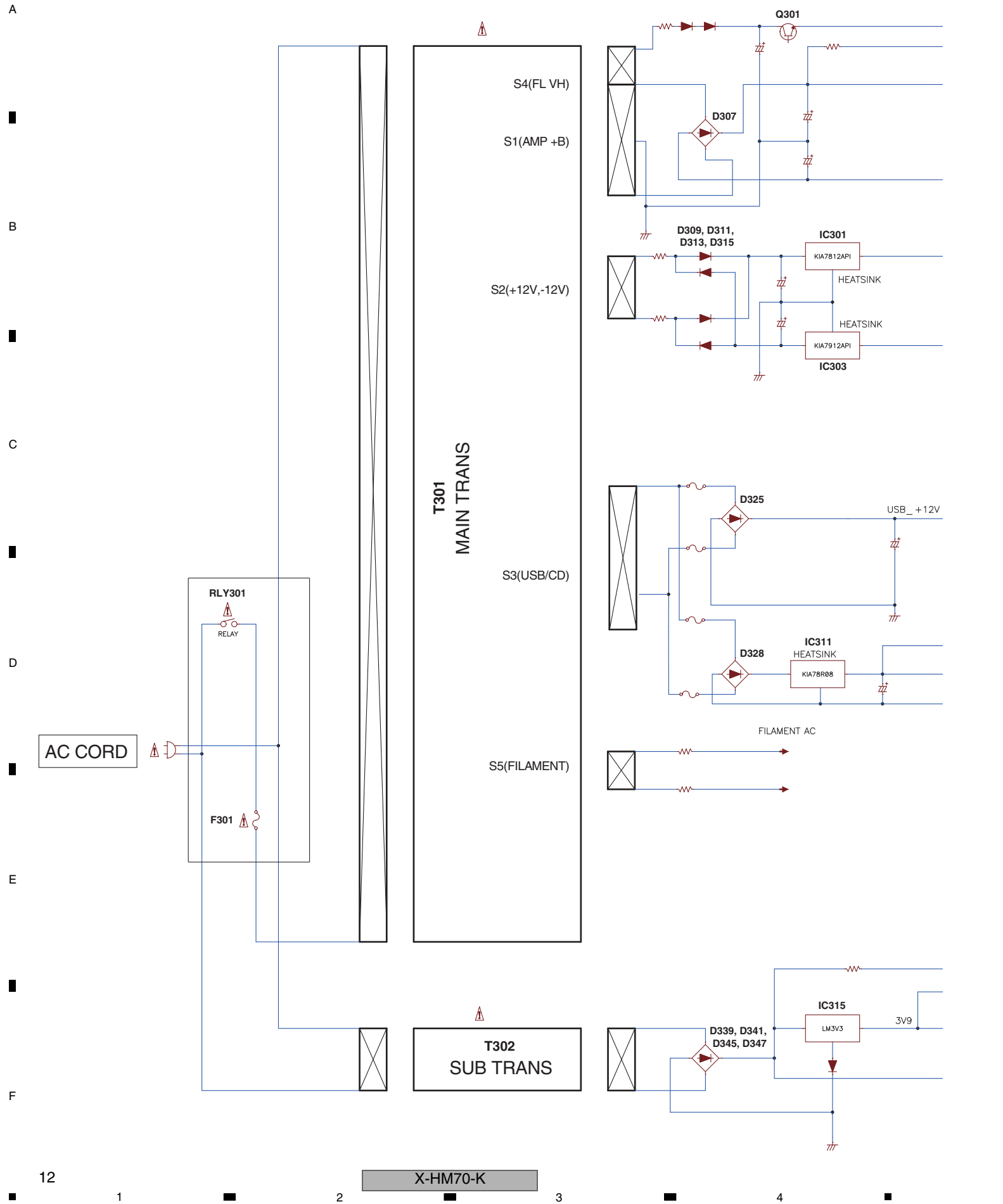
- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
-  : The power supply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

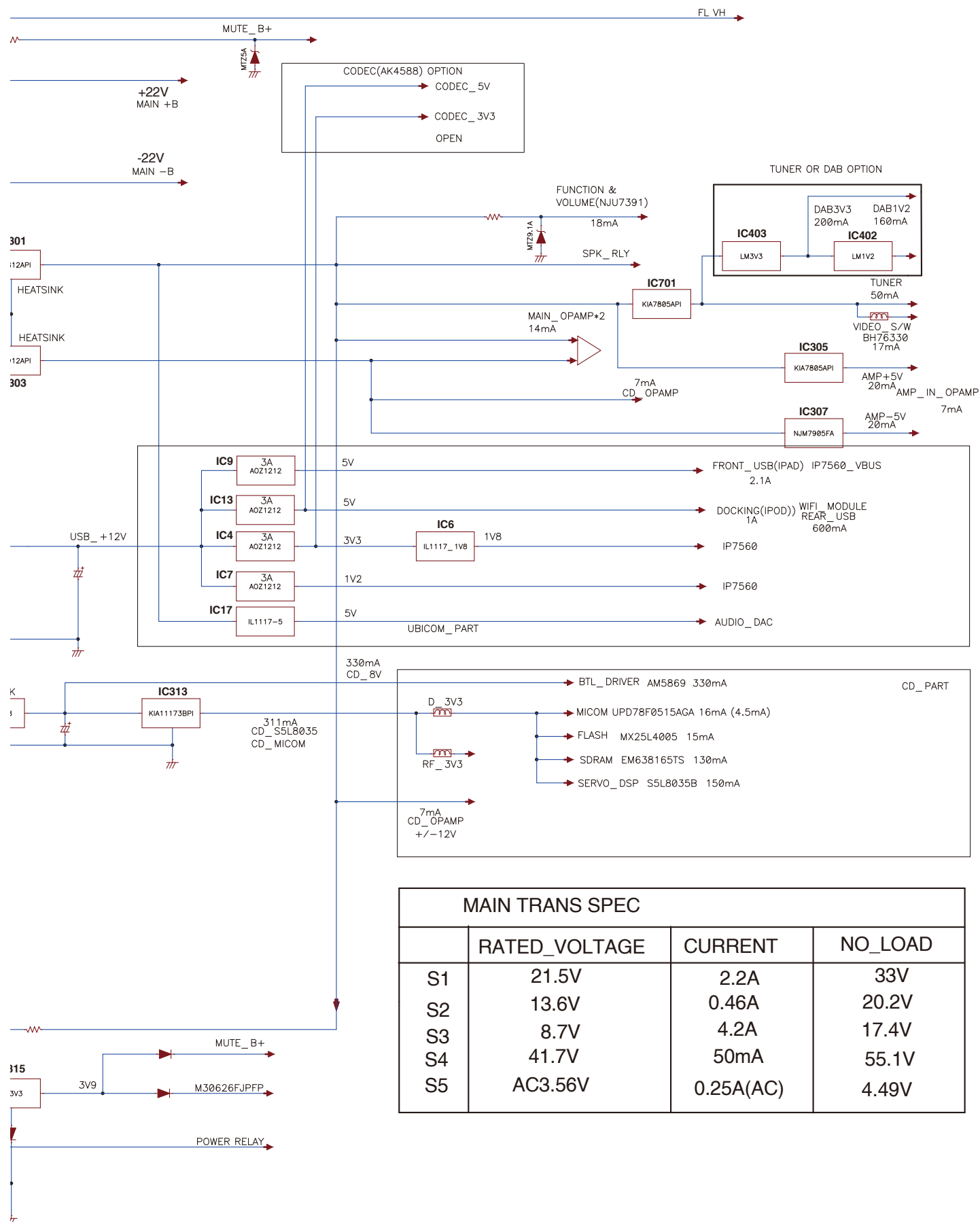
4.2 OVERALL BLOCK DIAGRAM





4.3 POWER BLOCK DIAGRAM

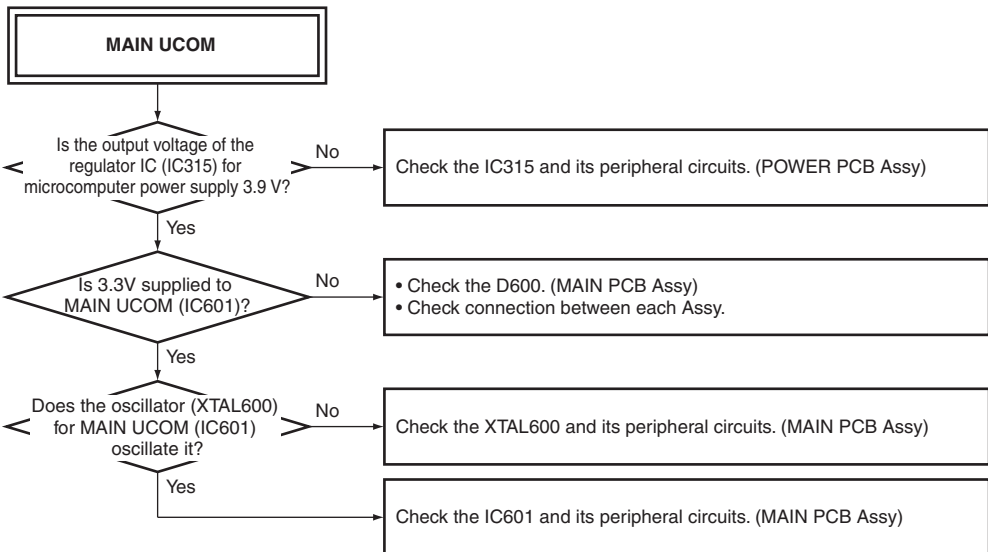
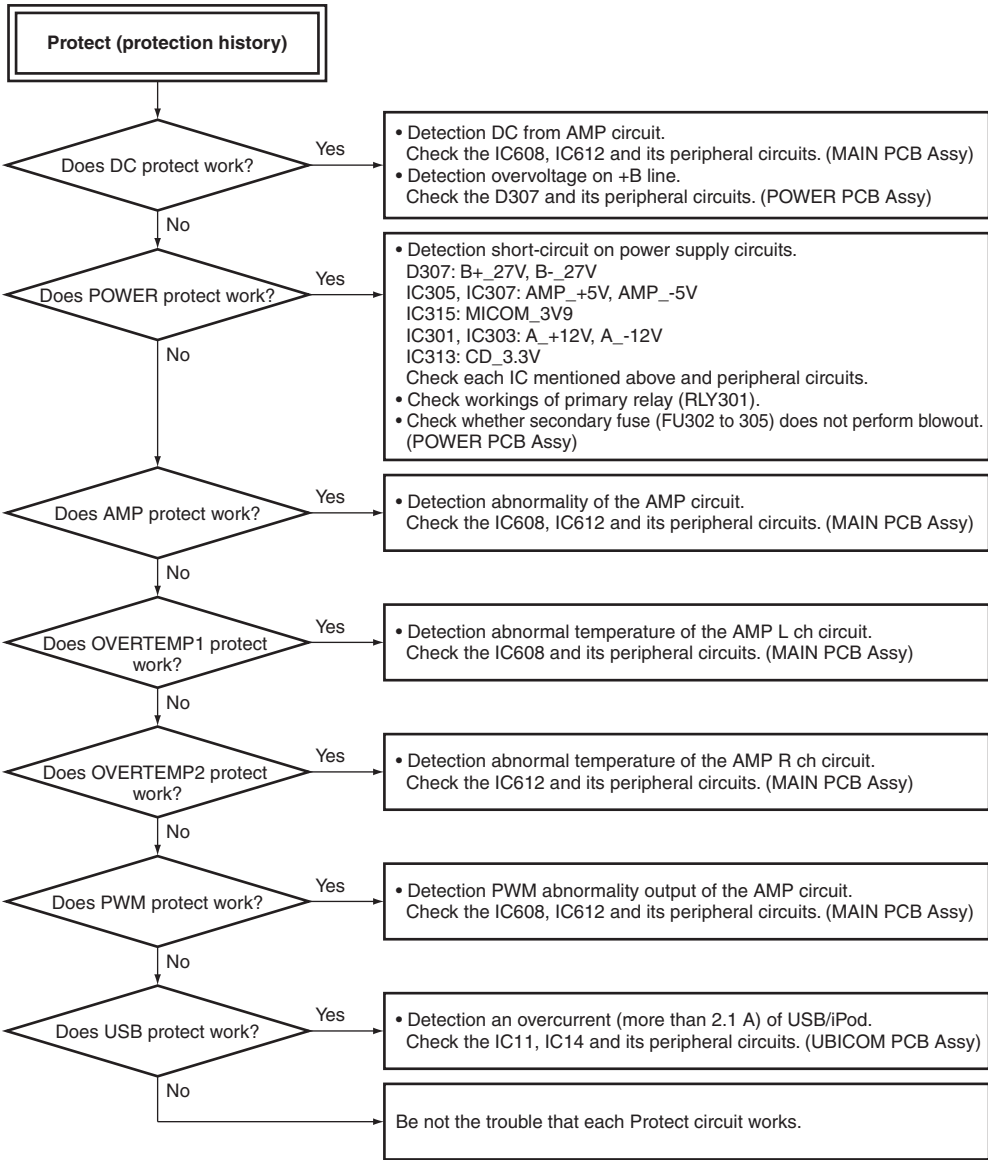




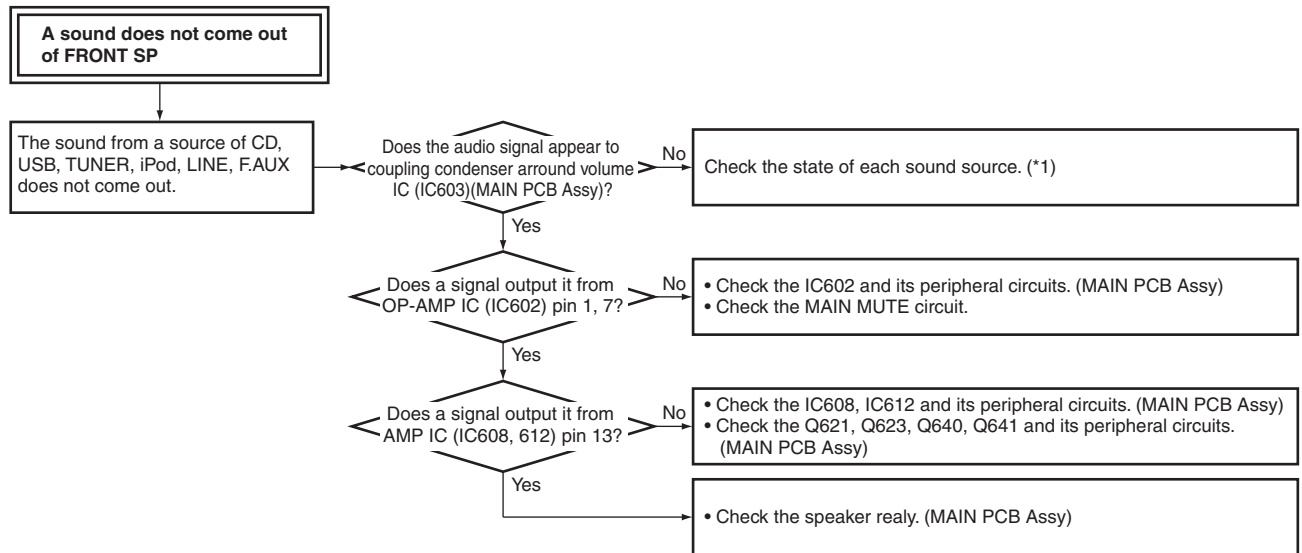
5. DIAGNOSIS

5.1 TROUBLESHOOTING

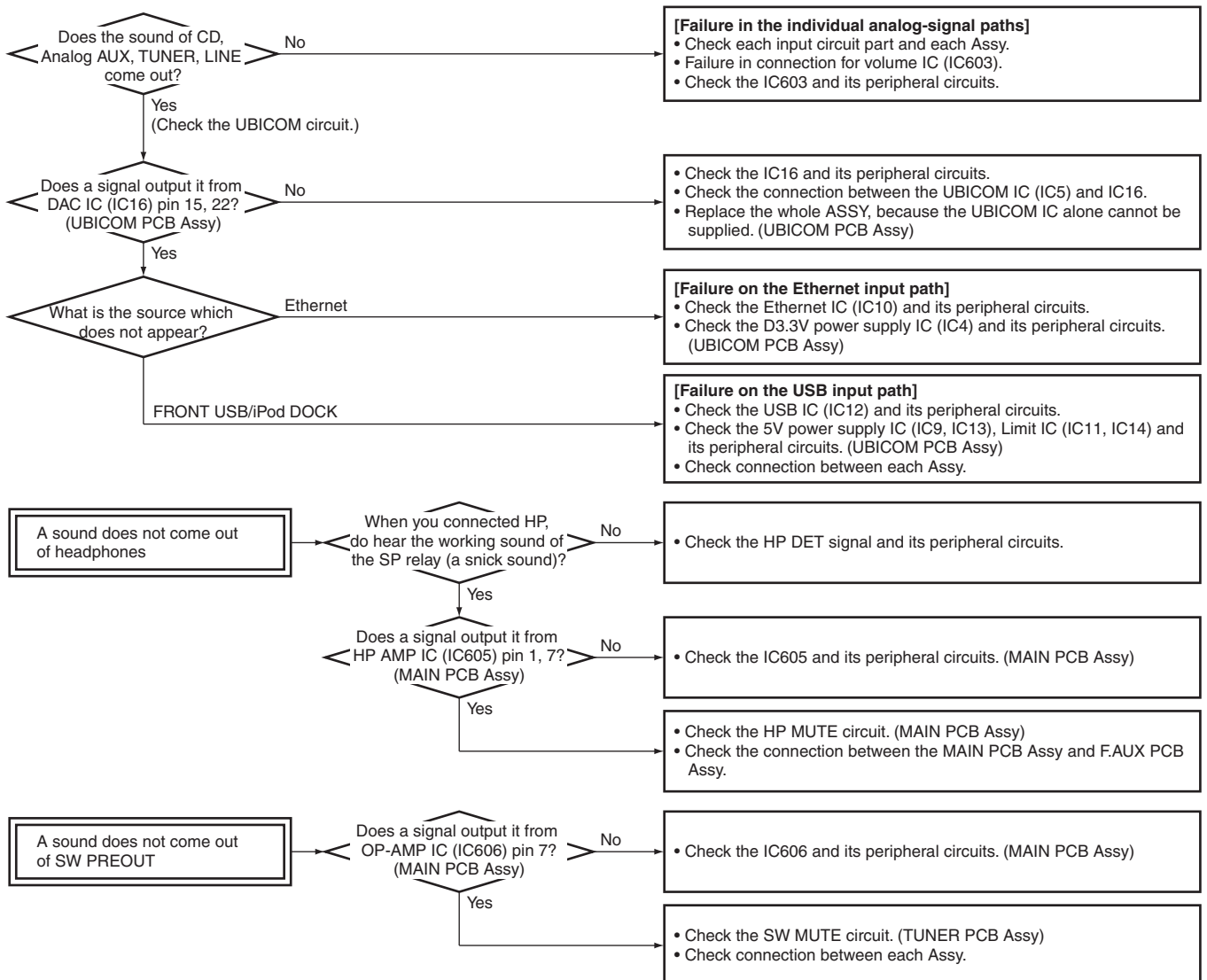
A • No Power



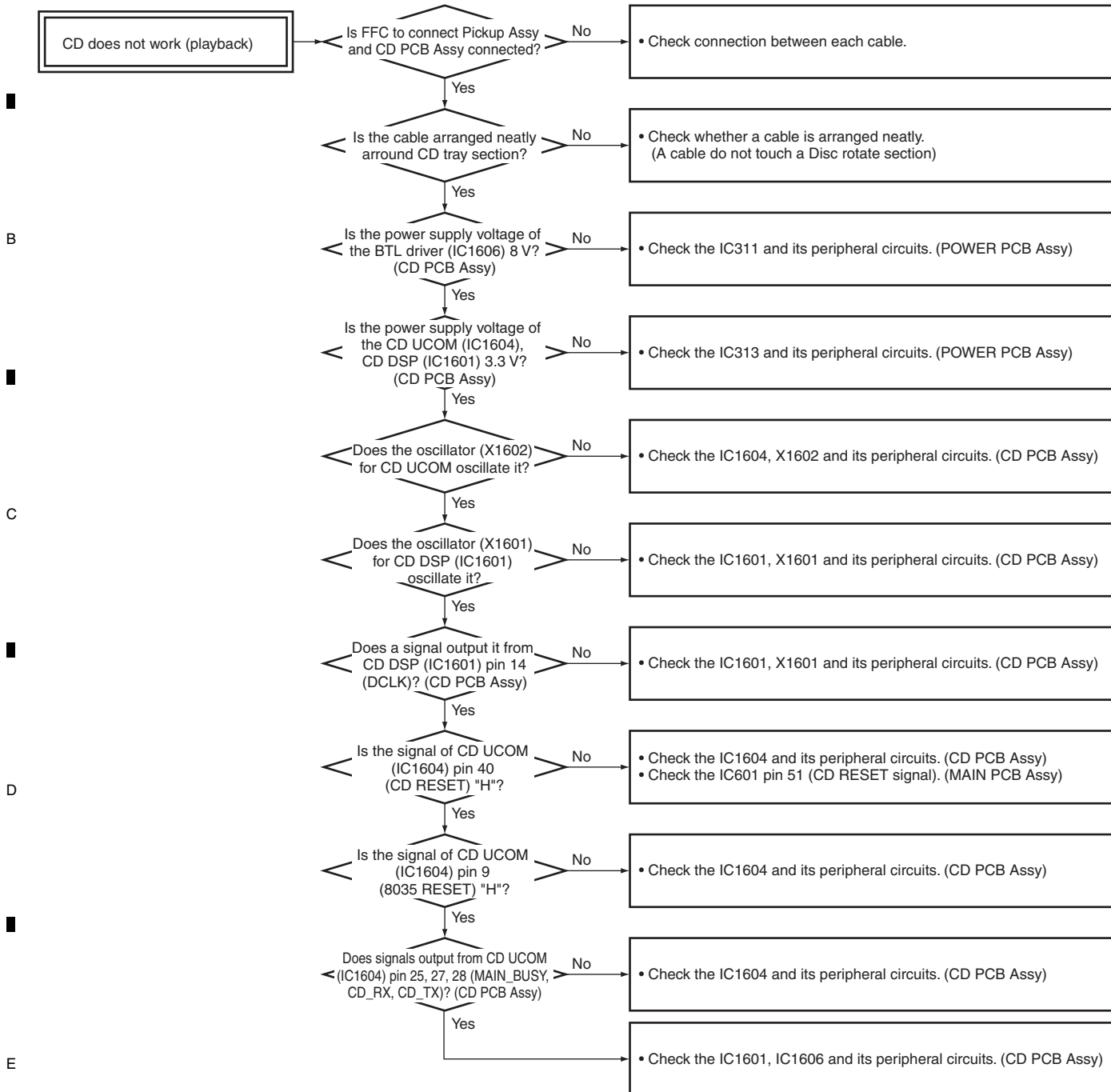
• No Sound

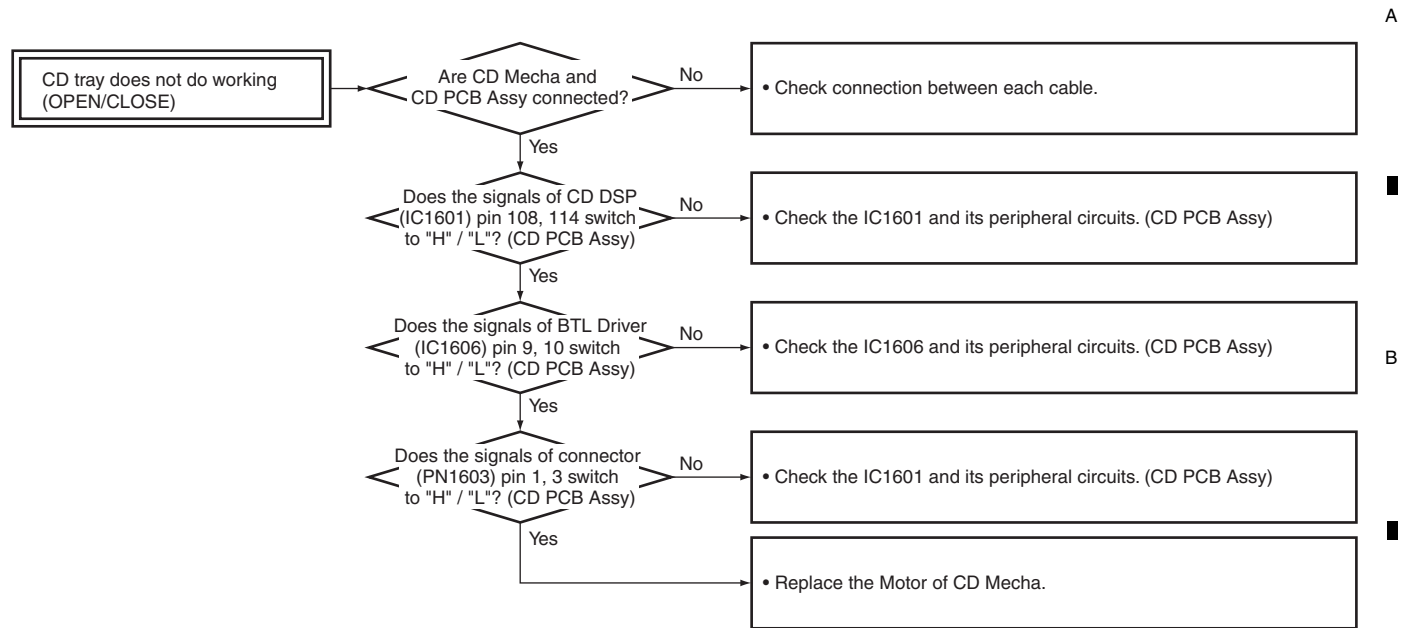


(*1) The confirmation that is in a state of each sound source

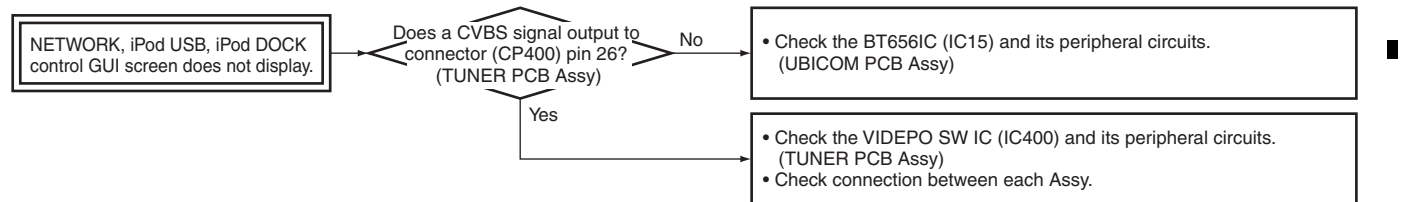


A • CD does not work

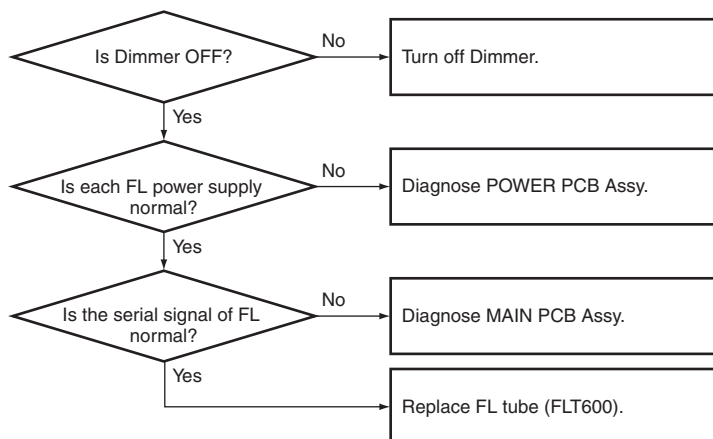




• No Picture (GUI)



• LED does not lit



A 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	
DC	100 msec	900 msec	Lock
POWER	500 msec	500 msec	Lock
AMP	100 msec	100 msec	—
OVER TEMP1	100 msec	100 msec	—
OVER TEMP2	100 msec	100 msec	—
PWM	900 msec	100 msec	Lock
USB	100 msec	100 msec	—

B 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:

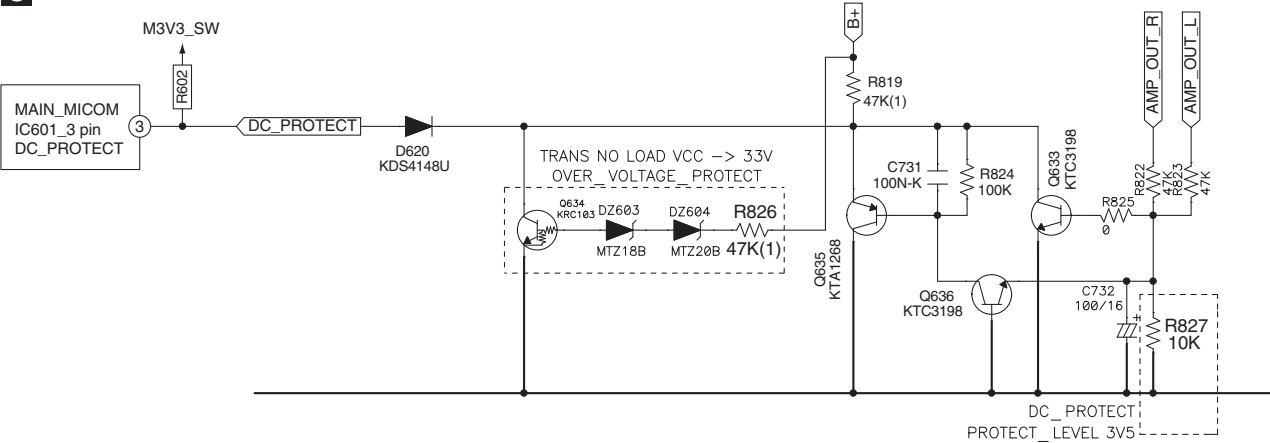
- Simultaneously press the "INPUT" and "▶▶▶▶I (Tune Up, Skip Up)" buttons on the front panel.
After operation lock is released and the unit is then turned ON, the unit will perform the following:
- Count the number of activations of protection circuits
 - Cancel flashing of the LED

C **Description of Each Function**

• **DC Protect**

The DC outputs from AMP_OUT_L and AMP_OUT_R are detected to avoid DC current surge to the speakers and excess voltage at B+ (+33 V).
The protection circuit is activated when the signal at Pin 3 of IC601 changes from H to L.

C MAIN PCB ASSY



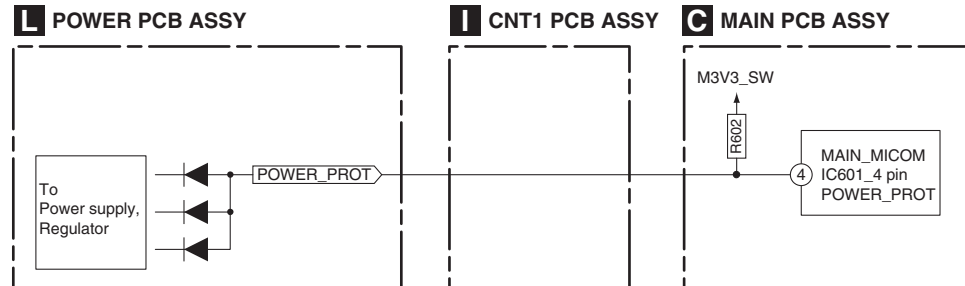
• Power Protect

The protection circuit is activated when short-circuiting is detected at the regulator output.

The circuit is activated when the signal at Pin 4 of IC601 changes from H to L.

Detected power: B+_27V, B-_27V, AMP_+5V, AMP_-5V, MICOM_3V9, A_+12V, A_-12V, CD_3.3V

Note: The above names are the indications on the POWER PCB Assy. The indications of power may be different on other Assys.

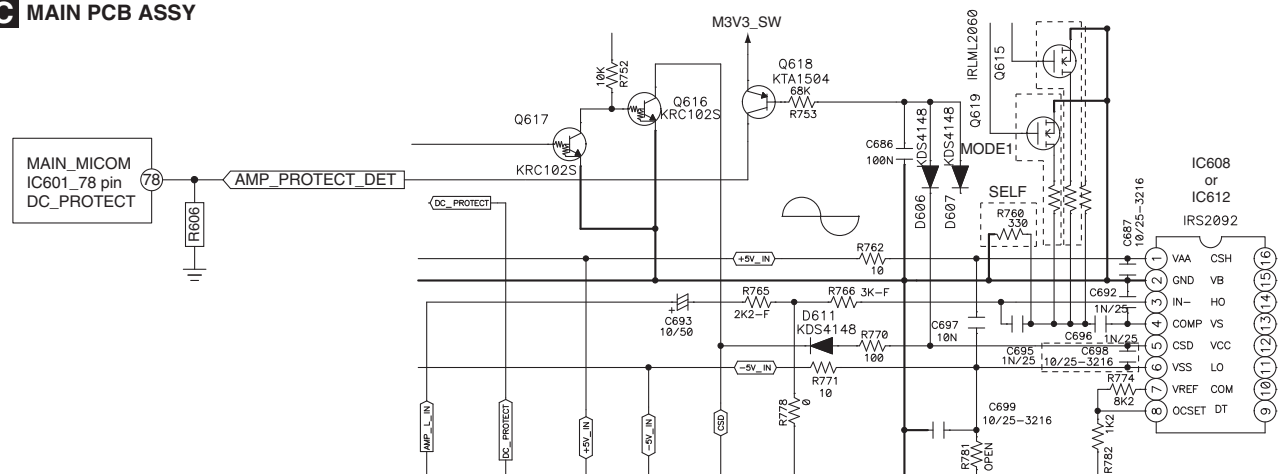


• AMP_PROTECT

The protection circuit is activated when excess current is detected from the AMP.

The circuit is activated when the signal at Pin 78 of IC601 changes from L to H.

C MAIN PCB ASSY

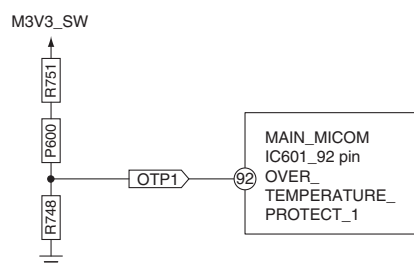


• OVER_TEMPERATURE_PROTECT_1

The protection circuit is activated when abnormally high temperature is detected by the P600 PTC thermistor near IC608 (AMP_Lch).

The circuit is activated when the signal at Pin 92 of IC601 changes from H to L.

C MAIN PCB ASSY

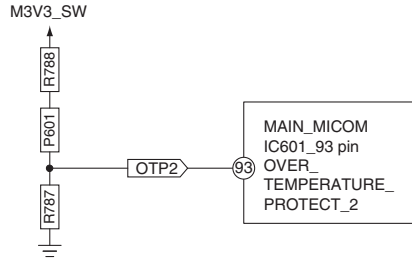


A • OVER_TEMPERATURE_PROTECT_2

The protection circuit is activated when abnormally high temperature is detected by the P601 PTC thermistor near IC612 (AMP_Rch).

The circuit is activated when the signal at Pin 93 of IC601 changes from H to L.

C MAIN PCB ASSY

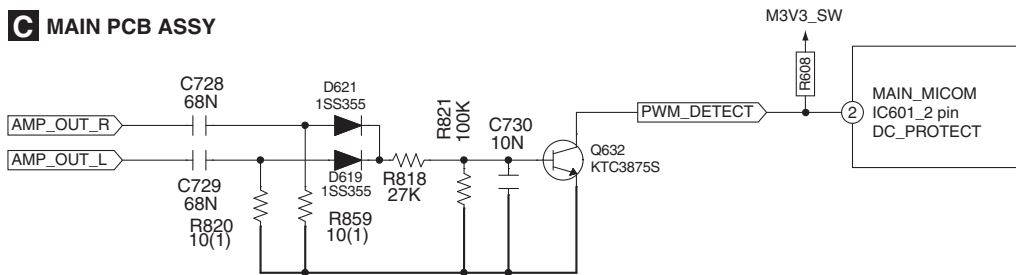


C • PWM_DETECT

The protection circuit is activated when abnormal PWM output is detected from the AMP_OUT_L or AMP_OUT_R.

The circuit is activated when the signal at Pin 2 of IC601 changes from H to L.

C MAIN PCB ASSY



E • USB_LIMIT_DET

The protection circuit is activated when excess current (2.1 A or higher) is detected from the USB/iPod.

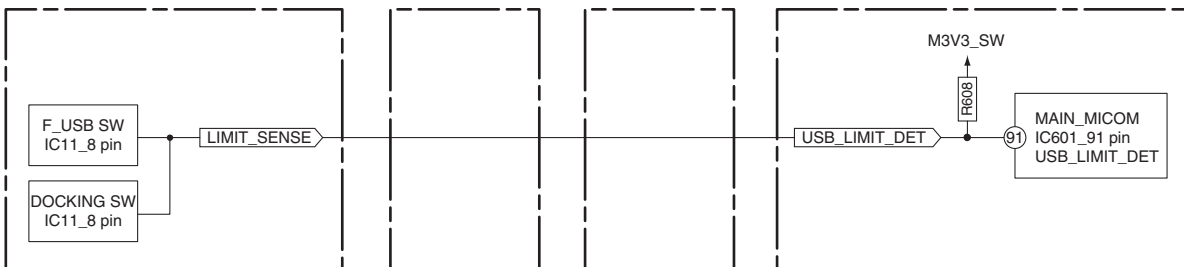
The circuit is activated when the signal at Pin 91 of the IC601 changes from H to L.

D UBICOM PCB ASSY

K CNT2 PCB ASSY

A CD PCB ASSY

C MAIN PCB ASSY

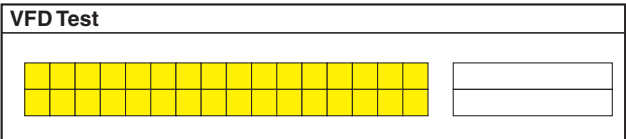


6. SERVICE MODE

6.1 TEST MODE

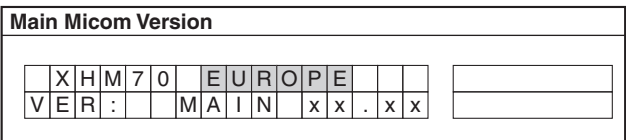
■ Version display

1. During Standby mode, simultaneously press the  (STANDBY/ON) and  (STOP) buttons on the front panel.



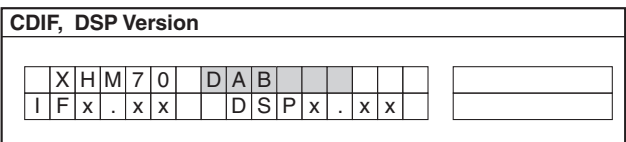
All the segments on the FL display light.
When the firmware of the MAIN microcomputer is more than 04.90, TIMER LED blinks.
In the case of 04.70, the TIMER LED does not blink the firmware of the MAIN microcomputer.

2. Press the  (Tune Up, Skip Up) button on the front panel.



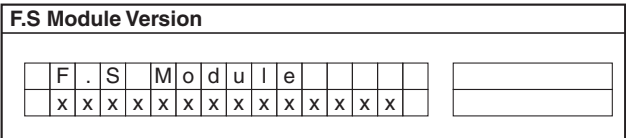
The version of the MAIN microcomputer firmware is displayed.
(Display example: In a case of the EU model)

3. Press the  (Tune Up, Skip Up) button on the front panel.



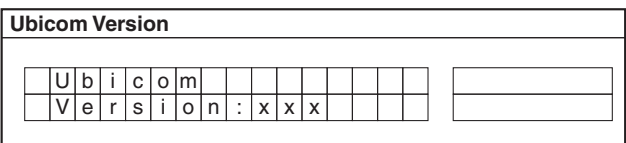
The versions of the CDIF and DSP firmware are displayed.
(Display example: In a case of the UK model)

4. Press the  (Tune Up, Skip Up) button on the front panel.



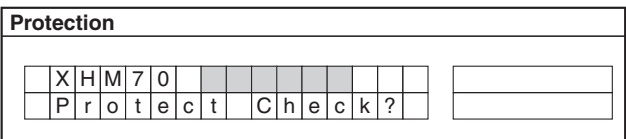
The version of the F.S module (DAB module) is displayed.
To display all the data, scrolling is required.
(Version display of the F.S module is available only for the UK model.)

5. Press the  (Tune Up, Skip Up) button on the front panel.



The version of the UBICOM firmware is displayed.
(Display example: In a case of the EU model)
Note that it may take about 30 seconds for such data to be displayed.

6. Press the  (Tune Up, Skip Up) button on the front panel.



Indication for selecting the mode for displaying the number of detected protection activations

7. To return the display to that of Step 1, press the  (Tune Up, Skip Up) button on the front panel.
If you press the  (Play or Pause) button on the front panel, the display will shift to Step 8 for the mode for displaying the number of detected protection activations.

When you finish Version display, press the  (STANDBY/ON) button, and turn off the power.

A ■ Mode for displaying the number of detected protection activations

8. **Protection**

X	H	M	7	0	P	r	o	t	e	c	t		
N	o		P	r	o	t	e	c	t				

The latest protection function that was activated is displayed.
If no protection function has been activated, "No Protect" will be displayed.

Each time the ►►►►I (Tune Up, Skip Up) button on the front panel is pressed, the number of activations of each protection function will be displayed, in the order indicated below.

9. **Protection**

X	H	M	7	0	P	r	o	t	e	c	t		
D	C		P	r	o	t	e	c	t	:	x	x	x
P	o	w	e	r		P	r	o	t	e	:	x	x
A	m	p		P	r	o	t	e	c	t	:	x	x
O	v	e	r		T	e	m	p	1	:	x	x	x
O	v	e	r		T	e	m	p	2	:	x	x	x
P	w	m		P	r	o	t	e	c	t	:	x	x
U	S	B		P	r	o	t	e	c	t	:	x	x
C	l	e	a	r	:	Y	e	s	?				

The maximum value for the number of activations for each protection function is 255.

17. To return to the display of Step 9, press the ►►►►I (Tune Up, Skip Up) button on the front panel while "Clear:Yes?" is displayed.
To reset all values of detected protection activations, press the ►/II (Play or Pause) button on the front panel.
When you finish displaying the number of detected protection activations, press the ⏻ (STANDBY/ON) button, and turn off the power.

D ■ LED Indications When Activation of Any of the Protection Functions is Detected, and Protection Lock

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

If any of the DC, POWER, or PWM protection functions is activated, operations of the unit will be locked.

To cancel operation lock, see the next item.

Protection	Flashing patterns of the LED		Operation lock
	LED ON time	LED OFF time	
DC	100 ms	900 ms	Locked
POWER	500 ms	500 ms	Locked
AMP	100 ms	100 ms	Not locked
OVERTEMP1	100 ms	100 ms	Not locked
OVERTEMP2	100 ms	100 ms	Not locked
PWM	900 ms	100 ms	Locked
USB	100 ms	100 ms	Not locked

■ Canceling Operation Lock After a Protection Function Activation was Detected

Simultaneously press the INPUT and ►►►►I (Tune Up, Skip Up) buttons on the front panel.

- F With the buttons indicated below, you can also cancel operation lock by activating other functions:
⏻ (STANDBY/ON) and ■ (Stop) buttons: Version & Protect check
⏻ (STANDBY/ON) and ►/II (Play or Pause) buttons: Uicom Upgrade

7. DISASSEMBLY

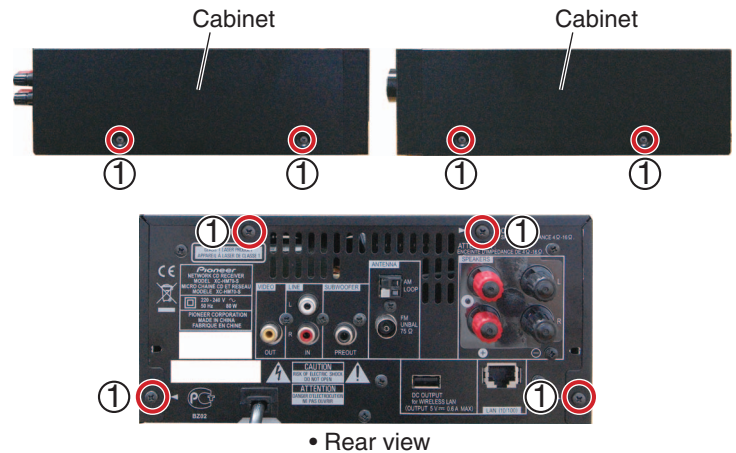
Note:

- (1) Do NOT look directly into the pickup lens. The laser beam may cause eye injury.
- (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.
- (3) For performing the diagnosis shown below, the following jigs for service is required:
 - Board to board extension jig cable (GGD1767)
 - Board to board extension jig cable (GGD1768)
 - Board to board extension jig cable (GGD1769)
 - Board to board extension jig cable (GGD1770)
 - Board to board extension jig cable (GGD1771)
 - Extension jig FFC (GGD1774)

[1] Cabinet and DOCK PCB Assy

• Cabinet

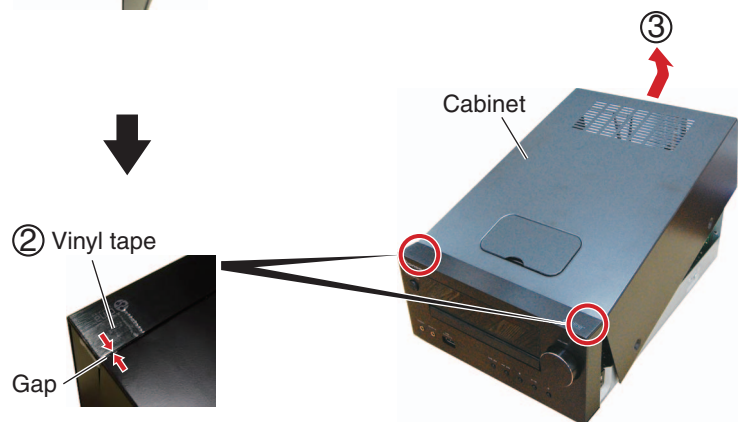
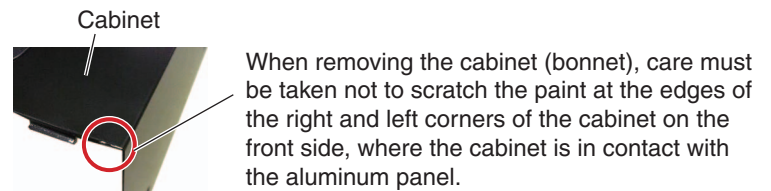
- (1) Remove the eight screws.
(K: B020230083B10-IL)
(S: BBZ30P080FNI)



- (2) Apply a piece of vinyl tape to the corner edges of the cabinet.
- (3) Remove the cabinet.

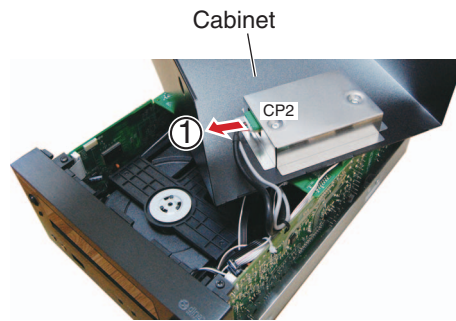
Note:

Please do not damage the cables when removing the cabinet.



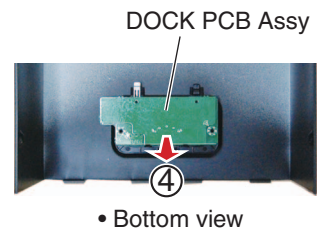
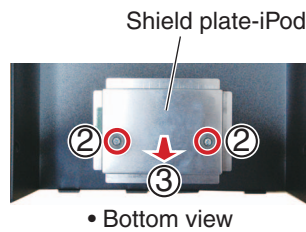
A • DOCK PCB Assy

- (1) Disconnect the one connector. (CP2)



B

- (2) Remove the two screws.
(B020030081B10-IL)
(3) Remove the shield plate-iPod.
(4) Remove the DOCK PCB Assy.



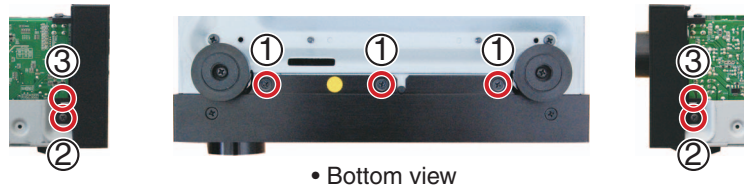
C

[2] Front Section

- (1) Remove the cabinet.
(See procedure [1].)

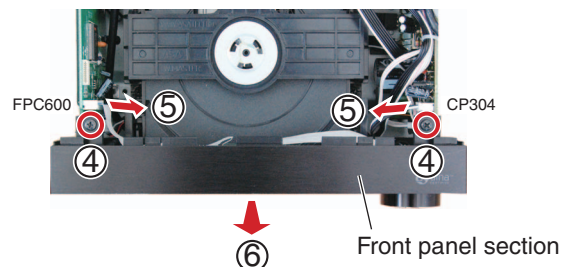
D

- (1) Remove the three screws.
(K: B020030083F10-IL)
(S: B020030084F10-IL)
(2) Remove the two screws.
(B020230083B10-IL)
(3) Unhook the two hooks.



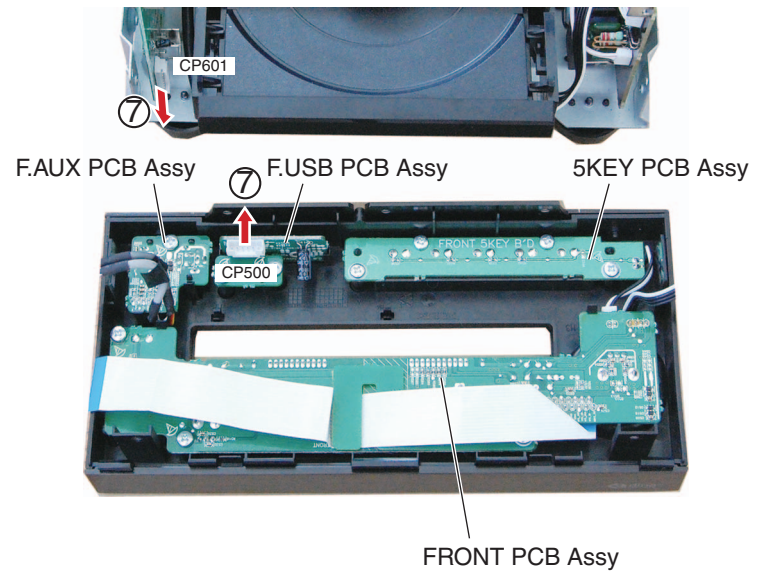
E

- (4) Remove the two screws.
(B020230083B10-IL)
(5) Disconnect the one flexible cable and one connector. (FPC600, CP304)
(6) Remove the front panel section.



F

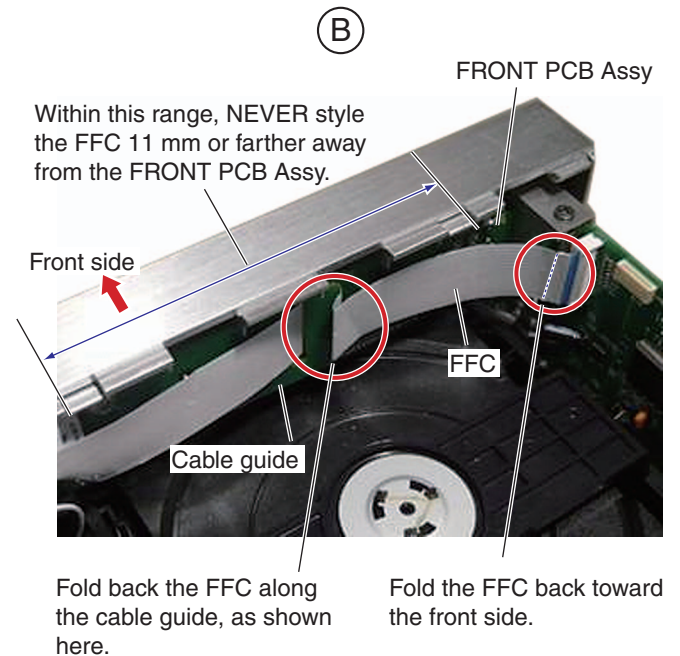
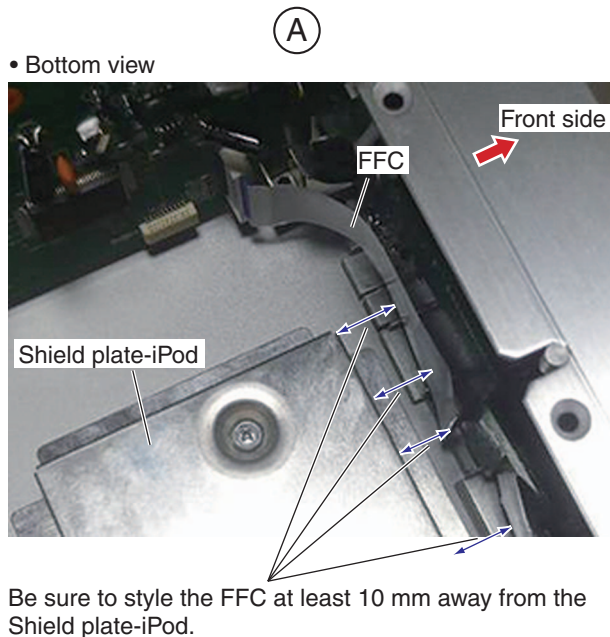
- (7) Disconnect the two connectors.
(CP500, 601)



• Cable Dressing of the FFC Connecting between the FRONT PCB Assy and MAIN PCB Assy

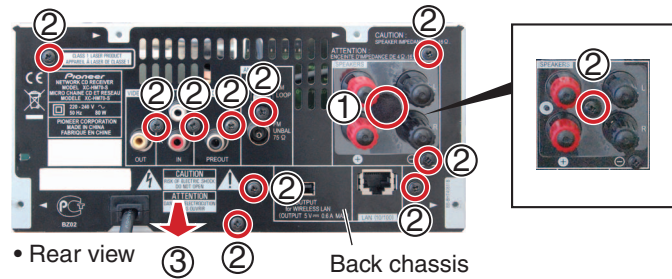
For measures against static electricity, the FFC must be styled at least 10 mm away from the shield Plate-iPod, as shown in Photo ① below.

Be sure to style the FFC so that it runs close to the FRONT PCB Assy, as shown in Photo ② below.
(NEVER style the FFC 11 mm or farther away from the FRONT PCB Assy.)



A [3] Back Chassis

- (1) Remove the one cushion.
- (2) Remove the 11 screws.
(BBT30P100FTB)
- (3) Remove the back chassis.



B

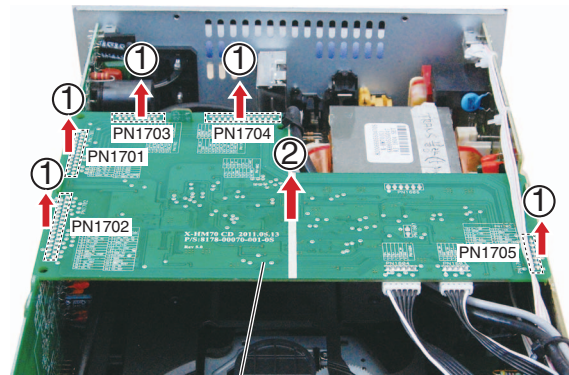
C [4] CD PCB Assy, Mecha

- (1) Remove the cabinet.
(See procedure [1].)
- (2) Remove the front panel section.
(See procedure [2].)

C

• CD PCB Assy

- (1) Disconnect the five BtoB connectors.
(PN1701 to PN1705)
- (2) Remove the CD PCB Assy.



D

- (3) Short-circuit position of figure solodering.
(short)

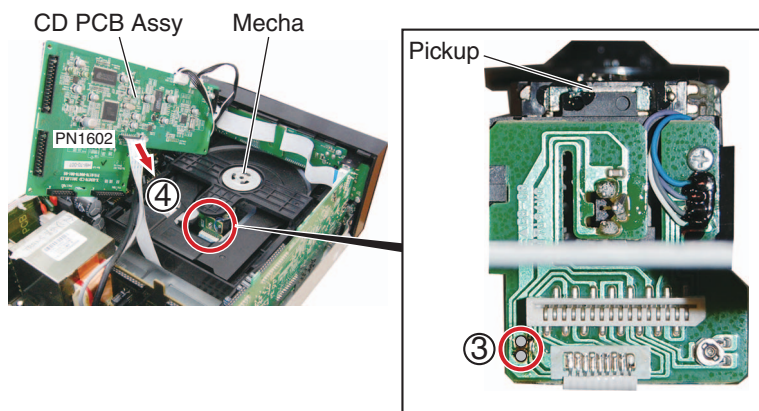
E

Note:

After working, connect the flexible cable,
then remove the soldered joint (open).

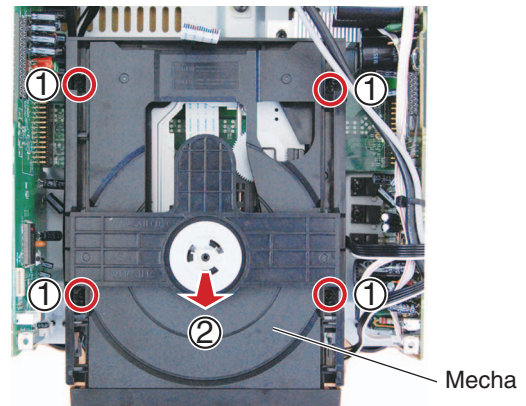
- (4) Disconnect the one flexible cable.
(PN1602)

F



• Mecha

- (1) Remove the four screws.
(B020230083B10-IL)
- (2) Remove the Mecha.

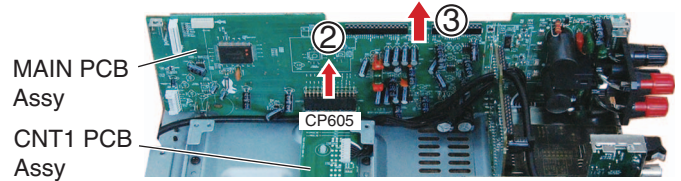


• MAIN PCB Assy

- (1) Remove the one screw.
(B020230083B10-IL)

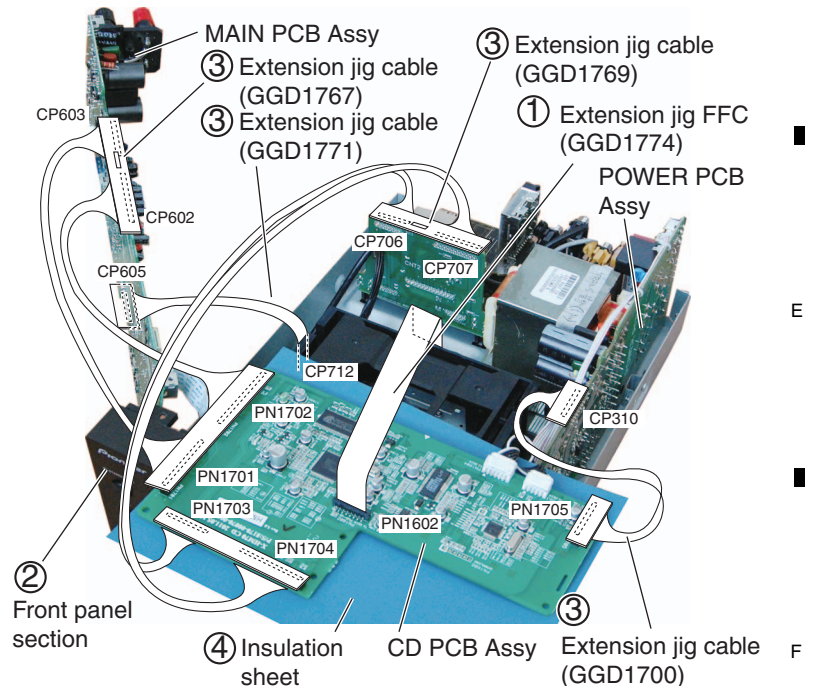


- (2) Disconnect one BtoB connector.
(CP605)
- (3) Remove the MAIN PCB Assy.



• Diagnosis

- (1) Reassemble the Mecha with extension jig FFC.
GGD1774:
PN1602 (CD) ↔ Mecha
- (2) Reassemble the front panel section.
- (3) Connect the five jig cables.
GGD1767:
PN1701, 1702 (CD) ↔ CP603, 602 (MAIN)
GGD1769:
PN1703, 1704 (CD) ↔ CP706, 707 (CNT2)
GGD1770:
PN1700 (CD) ↔ CP310 (POWER)
GGD1771:
CP605 (MAIN) ↔ CP712 (CNT1)
- (4) Insert the any insulation sheet.



A [5] MAIN PCB Assy

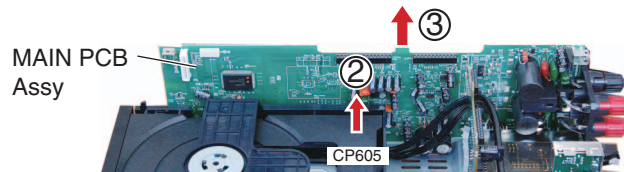
- (1) Remove the cabinet.
(See procedure [1].)
- (2) Remove the front panel section.
(See procedure [2].)
- (3) Remove the back chassis.
(See procedure [3].)
- (4) Remove the CD PCB Assy.
(See procedure [4].)

• MAIN PCB Assy

- (1) Remove the one screw.
(B020230083B10-IL)

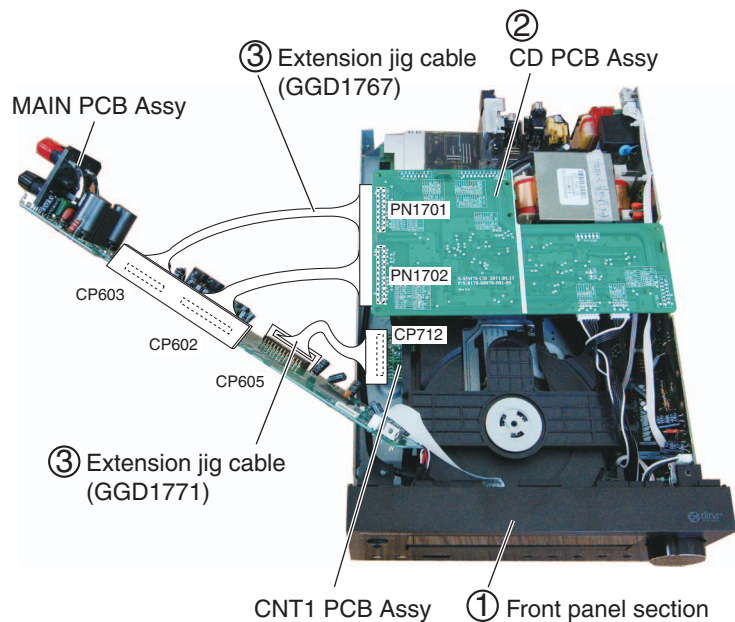


- (2) Disconnect one BtoB connector.
(CP605)
- (3) Remove the MAIN PCB Assy.



• Diagnosis

- (1) Reassemble the front panel section.
- (2) Reassemble the CD PCB Assy.
- (3) Connect the two jig cables.
GGD1767:
PN1701, 1702 (CD) ↔ CP603, 602 (MAIN)
GGD1771:
CP605 (MAIN) ↔ CP712 (CNT1)

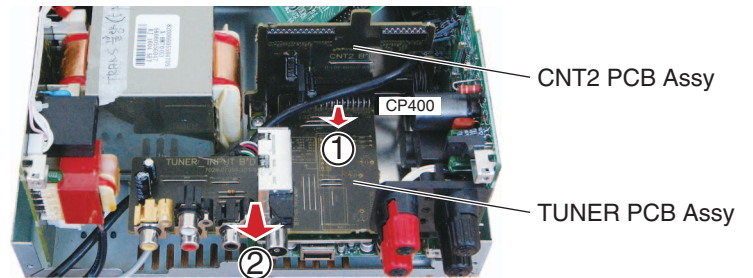


[6] UBICOM PCB Assy

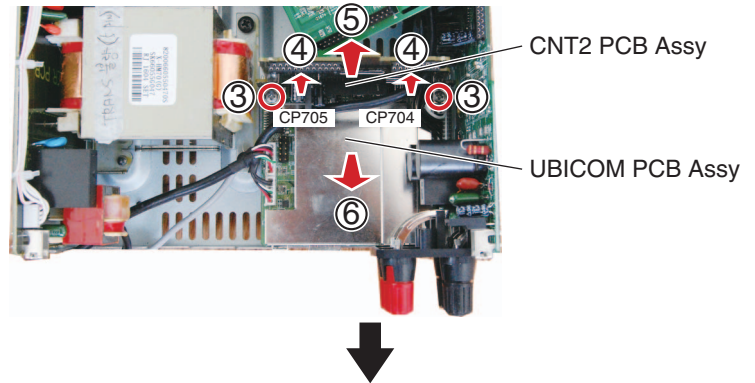
- (1) Remove the cabinet.
(See procedure [1].)
- (2) Remove the back chassis.
(See procedure [3].)
- (3) Remove the CD PCB Assy.
(See procedure [4].)

• TUNER, CNT2, UBICOM PCB Assemblies

- (1) Disconnect the one BtoB connector. (CP400)
- (2) Remove the TUNER PCB Assy.

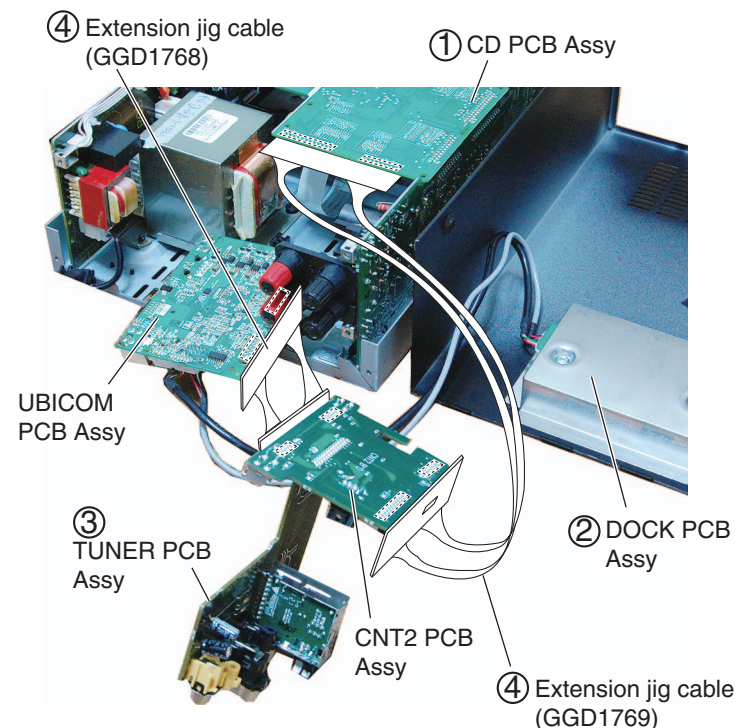


- (3) Remove the two screws.
(B020030171B10-IL)
- (4) Disconnect the two BtoB connectors.
(CP704, 705)
- (5) Remove the CNT2 PCB Assy.
- (6) Remove the UBICOM PCB Assy.



• Diagnosis

- (1) Reassemble the CD PCB Assy.
- (2) Reconnect the DOCK PCB Assy.
- (3) Reassemble the TUNER PCB Assy.
- (4) Connect the two jig cables.
GGD1768:
CN1, 2 (UBICOM) ↔ CP704, 705 (CNT2)
GGD1769:
PN1703, 1704 (CD) ↔ CP706, 707 (CNT2)

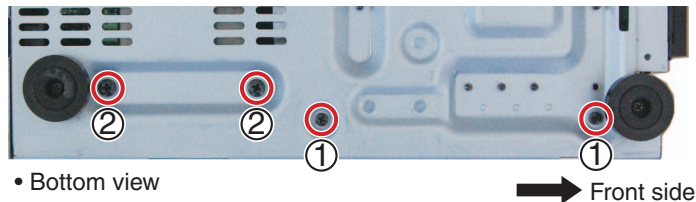


A [7] POWER PCB Assy

- (1) Remove the cabinet.
(See procedure [1].)
- (2) Remove the front panel section.
(See procedure [2].)
- (3) Remove the back chassis.
(See procedure [3].)
- (4) Remove the CD PCB Assy.
(See procedure [4].)

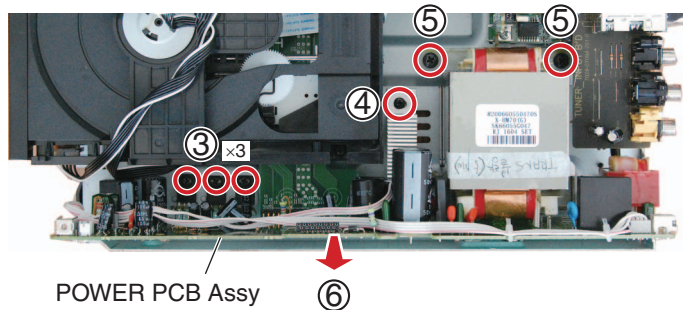
B

- (1) Remove the two screws.
(B020230083B10-IL)
- (2) Remove the two screws.
(B028940101B11-IL)



C

- (3) Remove the three screws.
(B020230083B10-IL)
- (4) Remove the one screw.
(B020230083B10-IL)
- (5) Remove the two screws.
(B028940101B11-IL)
- (6) Remove the POWER PCB Assy.

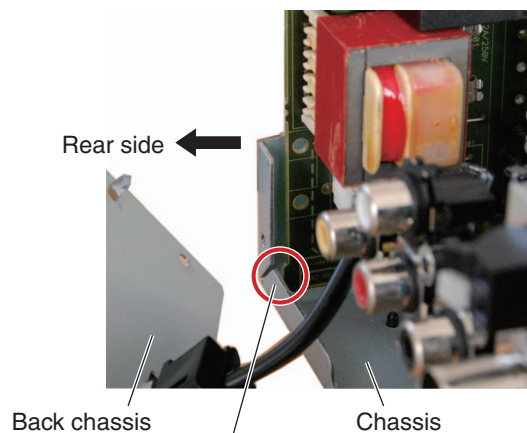
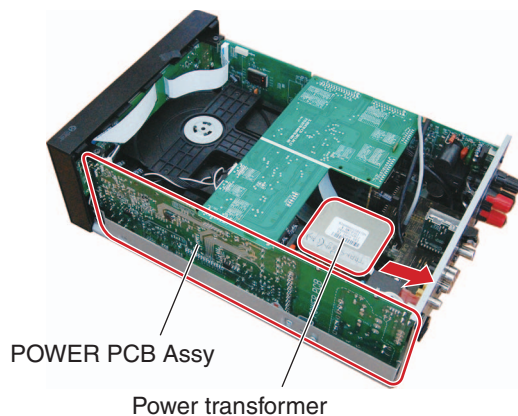


D

• How to Reassemble the POWER PCB Assy

Place the POWER PCB Assy so that the rear side of the POWER PCB Assy comes in contact with that of the chassis, then secure the four fastening screws of the transformer. Then, secure the two screws from the bottom of the chassis.

E



Bring the POWER PCB Assy into contact with the bend of the chassis.

F

Rationale:

If the POWER PCB Assy is not assembled as described above, it will be attached nearer to the front than as designed, with the result that the cabinet and the rear panel may be separated by a gap or that the front panel may be inclined forward.

8. EACH SETTING AND ADJUSTMENT

8.1 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]

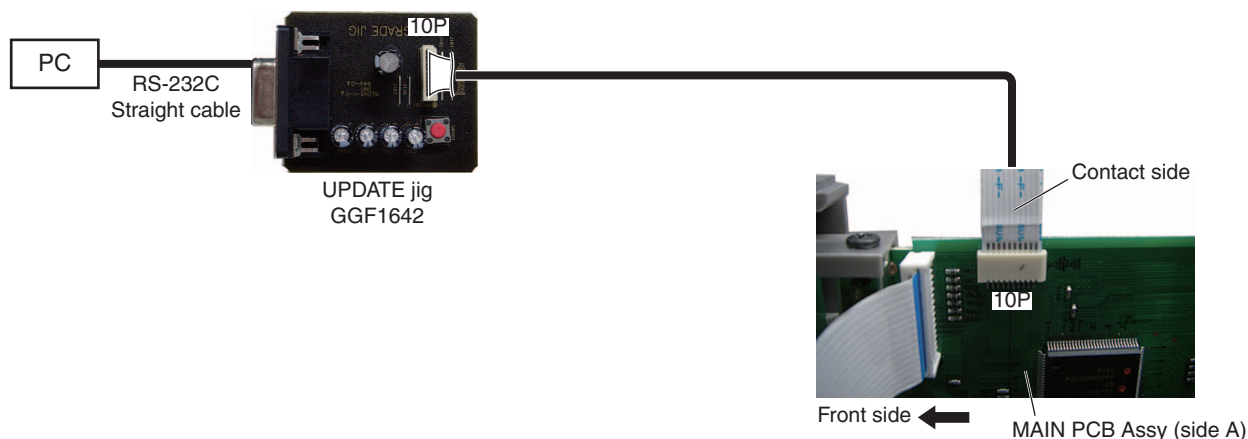
- PC with a serial port
- Updating program: FlashSta.exe
- RS-232C straight cable (9pin female ↔ 9pin male)
- RS-232C update jig: GGF1642
- Firmware file: ".mot" file

[Connections]

Remove the cabinet (bonnet) so that the MAIN PCB Assy becomes accessible.

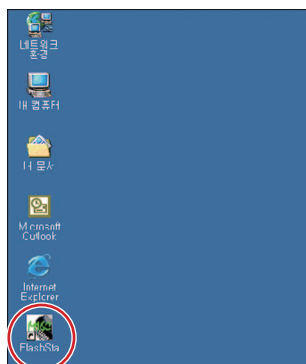
Connect as shown in the figure below.

For the contact side of the FFC, see the photo below.



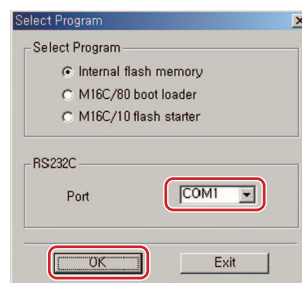
[Procedures]

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



2. Plug the AC 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]

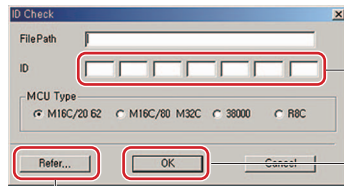


Please push the cancel button and press the JIG's RESET button.

And confirm a connection of FFC.

Please return to procedure 1.

4. Select the update file and enter ID.

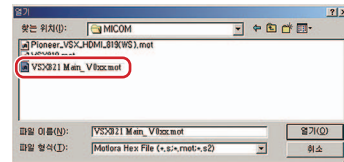


① Selection of upgrade file

② Enter ID.
Enter "ff" in all field.

③ Press OK button to go to next step.

① Select the update file

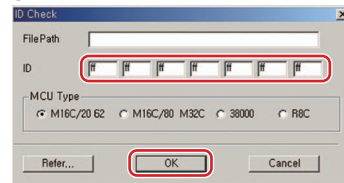


Select "XM70 Main V0xx.mot" file to update the MCU.



Press the OK button.

② Enter ID.

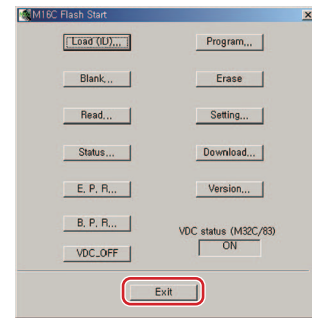


Press the OK button.

6. Update Finished MAIN microcomputer.



Press the OK button.



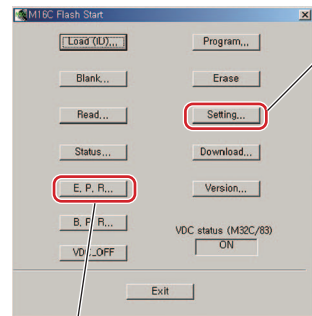
Press the Exit button.
Please wait for until this window disappears.

7. Turn the unit off. (STANDBY mode)

Disconnect the Power cord.

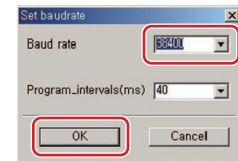
Disconnect the FFC cable.

5. Set speed update and update the MCU.



① Set speed of update.

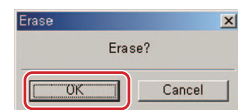
① Set speed of update.
Set Baud rate to 38400.
(Default Baud rate is 9600)



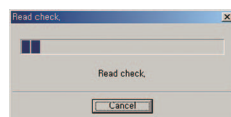
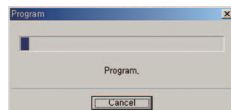
Press the OK button.

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

② Update the MCU
Press the E.P.R ... button



Press OK button.



8.2 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: XHM70CD_IFM_V1_00_110713.UPG

For the CD DSP microcomputer: XHM70CD_DSPV102_(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.

8.3 UPDATING OF THE UBICOM FIRMWARE

For updating of firmware for the UBICOM, a USB memory device is required.

■ How to Update

1. Write a file for updating onto a USB memory device.

Examples of file names (File names vary, depending on the version of firmware.)

xhm70_v0_40.ub (In a case of Version 0.40)

Note: NEVER write files other than a file for updating into the USB memory device.

Write the file into the root directory.

2. Plug the AC power cord of the unit into the outlet.
The unit will enter Standby mode.
3. Plug the USB memory device for updating into the USB connector on the front panel of the unit.
4. Press the $\odot$ (STANDBY/ON) button on the front panel while holding the $\blacktriangleright/\text{II}$ (Play or Pause) button pressed.
5. "UBICOM UPGRADE" is displayed on the FL display.
6. Updating starts when "UPGRADE" is displayed on the lower row of the FL display.
(It may take about 1 minute until updating starts.)
7. Updating is completed when "COMPLETE" is displayed on the lower row of the FL display.
8. Unplug the USB memory device then turn the unit OFF.

If "FILE NOT FOUND" is displayed instead of "UPGRADE," or if "SYSTEM ERROR" is displayed instead of "COMPLETE," unplug the AC power cord, then repeat the procedure from Step 2.

It may take 5 to 10 minutes for updating.

NEVER unplug the AC power cord while "UPGRADE" is displayed.

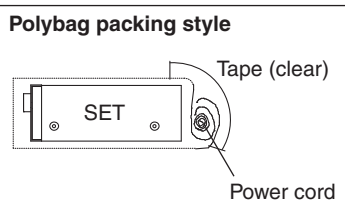
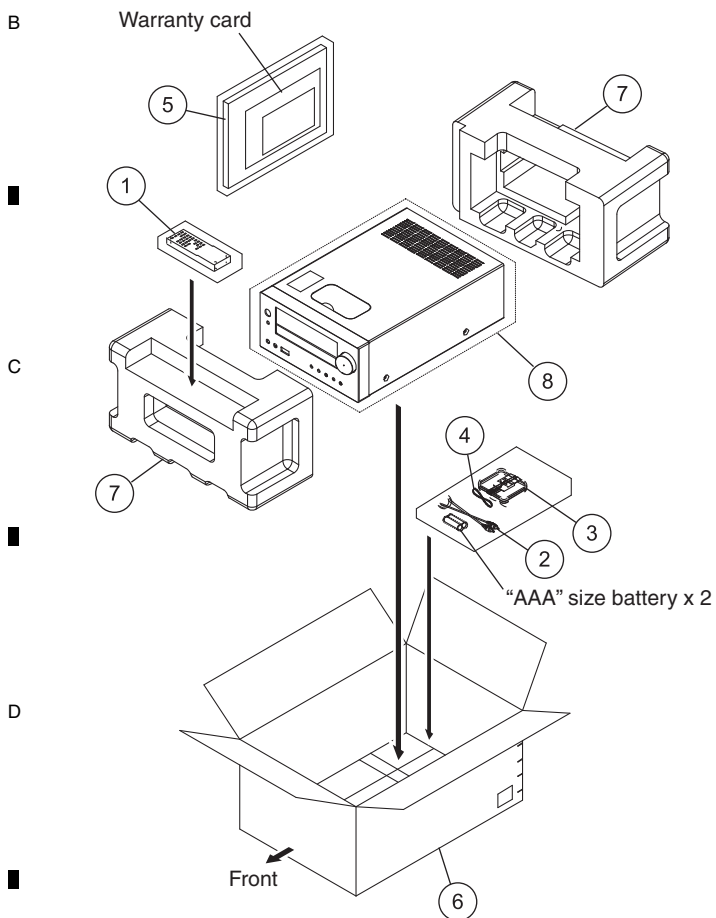
9. EXPLODED VIEWS AND PARTS LIST

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

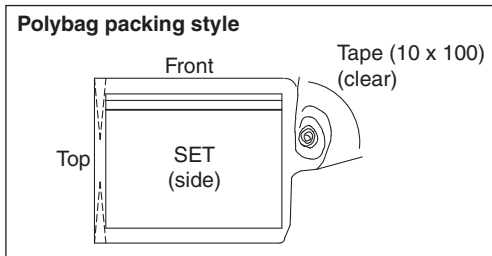
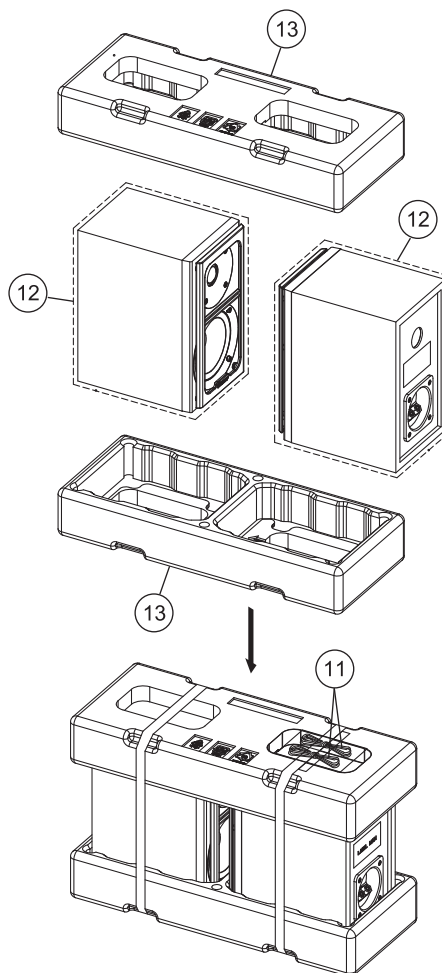
- The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Screws adjacent to ▼ mark on product are used for disassembly.
- For the applying amount of lubricants or glue, follow the instructions in this manual.
(In the case of no amount instructions, apply as you think it appropriate.)

9.1 PACKING SECTION

• CD Receiver



• Speaker (X-HM70 only)



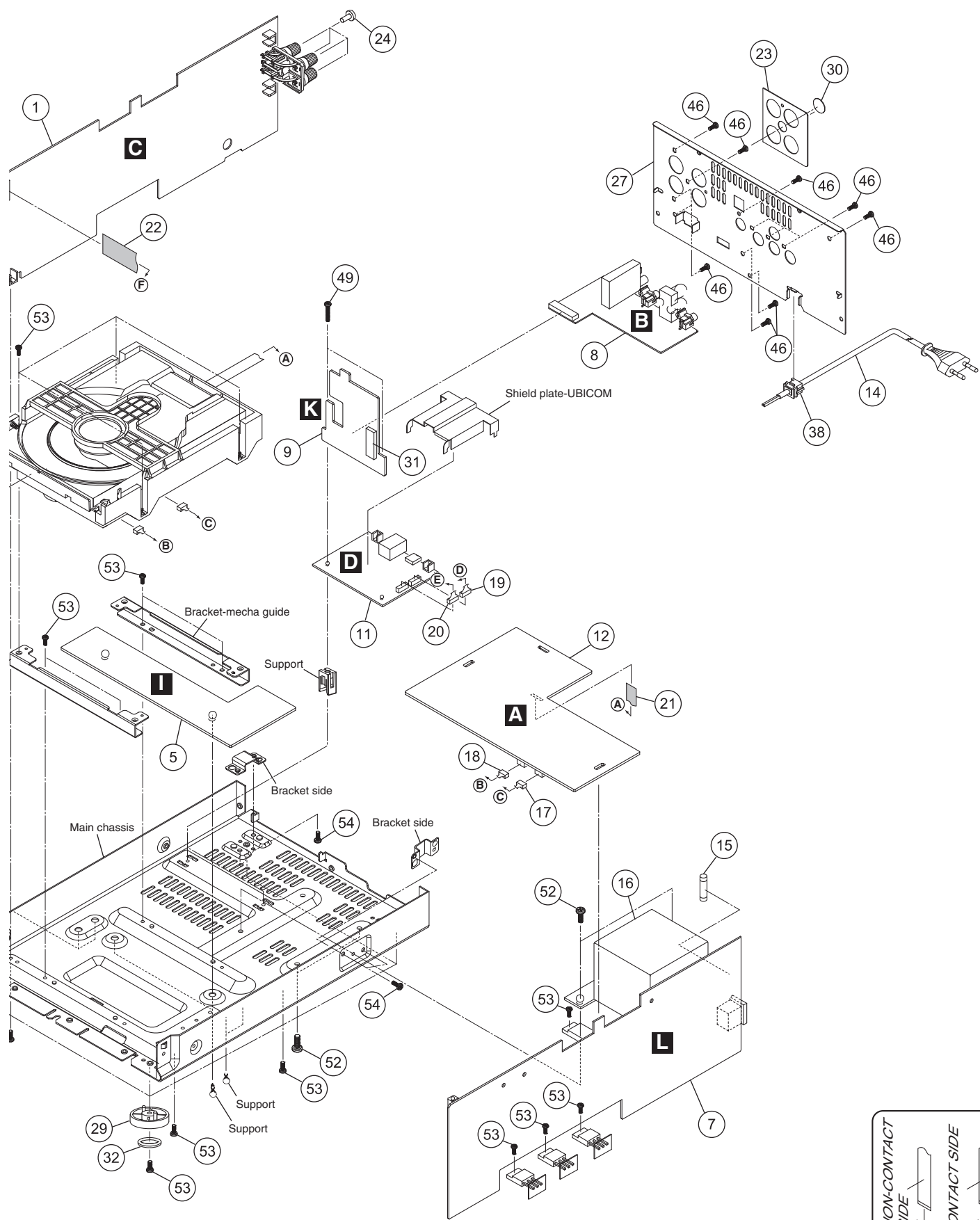
(1) PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Remote Control (AXD7639)	8300763900010-IL
	2	Video Cable	L063202010050-IL
	3	AM Loop Aerial	E601019000010-IL
	4	FM Aerial	E605010140010-IL
	5	Operating Instructions (En, Fr, Es, De, It, Nl, Ru)	5707000005940-IL
	6	Box, Gift	See Contrast table (2)
	7	Cushion, Snow	6230213044000-IL
	8	PE, Sheet	6327210009000-IL
	9	•••••	
	10	•••••	
	11	Speaker Cables	See Contrast table (2)
	12	Bag Poly	See Contrast table (2)
	13	Snow Cushion	See Contrast table (2)

(2) CONTRAST TABLE

X-HM70-K/SYXCN8, X-HM70-S/SYXCN8, XC-HM70-K/SYXCN8 and XC-HM70-S/SYXCN8 are constructed the same except for the following:

Mark	No.	Symbol and Description	X-HM70-K /SYXCN8	X-HM70-S /SYXCN8	XC-HM70-K /SYXCN8	XC-HM70-S /SYXCN8
	6	Box, Gift	6007211940100-IL	6007211940110-IL	6007211940000-IL	6007211940010-IL
	11	Speaker Cables	8952SHM700042-IL	8952SHM700042-IL	Not used	Not used
	12	Bag Poly	8952SHM700044-IL	8952SHM700044-IL	Not used	Not used
	13	Snow Cushion	8952SHM700045-IL	8952SHM700045-IL	Not used	Not used



(1) EXTERIOR SECTION PARTS LIST

	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>		<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
A	1	MAIN PCB Assy	7028070931010-IL		31	Cushion	4050213305000-IL
	2	FRONT PCB Assy	7028070932010-IL		32	Cushion Foot	4050213645000-IL
	3	DOCK PCB Assy	7028070933010-IL		33	Cushion iPod	See Contrast table (2)
	4	F.AUX PCB Assy	7028070934010-IL		34	Cover Tray CD	See Contrast table (2)
	5	CNT1 PCB Assy	7028070935010-IL		35	Cover iPod	See Contrast table (2)
	6	F.USB PCB Assy	7028070936010-IL		36	Holder	See Contrast table (2)
	7	POWER PCB Assy	7028070941010-IL		37	Guide	4350210471000-IL
	8	TUNER PCB Assy	7028070942010-IL		38	Stopper	4380040162010-IL
	9	CNT2 PCB Assy	7028070944010-IL		39	Plate	4470212226000-IL
	10	5KEY PCB Assy	7028070946010-IL		40	Window	5077213193000-IL
B	11	UBICOM PCB Assy	7028070951010-IL		41	Knob Assy	See Contrast table (2)
	12	CD PCB Assy	7028070921010-IL		42	Button 5 Key	See Contrast table (2)
	13	MECHA	8030000010070-IL		43	Button Standby	See Contrast table (2)
	⚠ 14	AC Cord	L068250250040-IL		44	•••••	
	⚠ 15	Fuse Glass Tube 20mm	N751502001160-IL		45	•••••	
	⚠ 16	Power Trans. (T301)	8200660550472-IL		46	Screw	BBT30P100FTB
	17	CN, Wire 2mm	L002171050060-IL		47	Screw	B020030081B10-IL
	18	CN, Wire 2mm	L002171060080-IL		48	Screw, Tap Tite	See Contrast table (2)
	19	CN, Wire 2mm	L002401060080-IL		49	Screw	B020030171B10-IL
	20	CN, Wire 2mm	L002401070050-IL		50	Screw, Tap Tite	See Contrast table (2)
C	21	Cable Flat Card 1.0	N711161842410-IL		51	Screw, Tap Tite	B020920051B10-IL
	22	Cable Flat Card 1.25	N712152013480-IL		52	Screw	B028940101B11-IL
	23	Sheet Speaker	1210211573000-IL		53	Screw, Tap Tite	B020230083B10-IL
	24	Bushing (PLS)	2410040353010-IL	NSP	54	Screw	B020030051B10-IL
	25	Cabinet	See Contrast table (2)				
	26	Panel	See Contrast table (2)				
	27	Back Chassis	See Contrast table (2)				
	28	Frame	See Contrast table (2)				
	29	Foot	4000210671000-IL				
	30	Cushion	4050211745000-IL				
D							

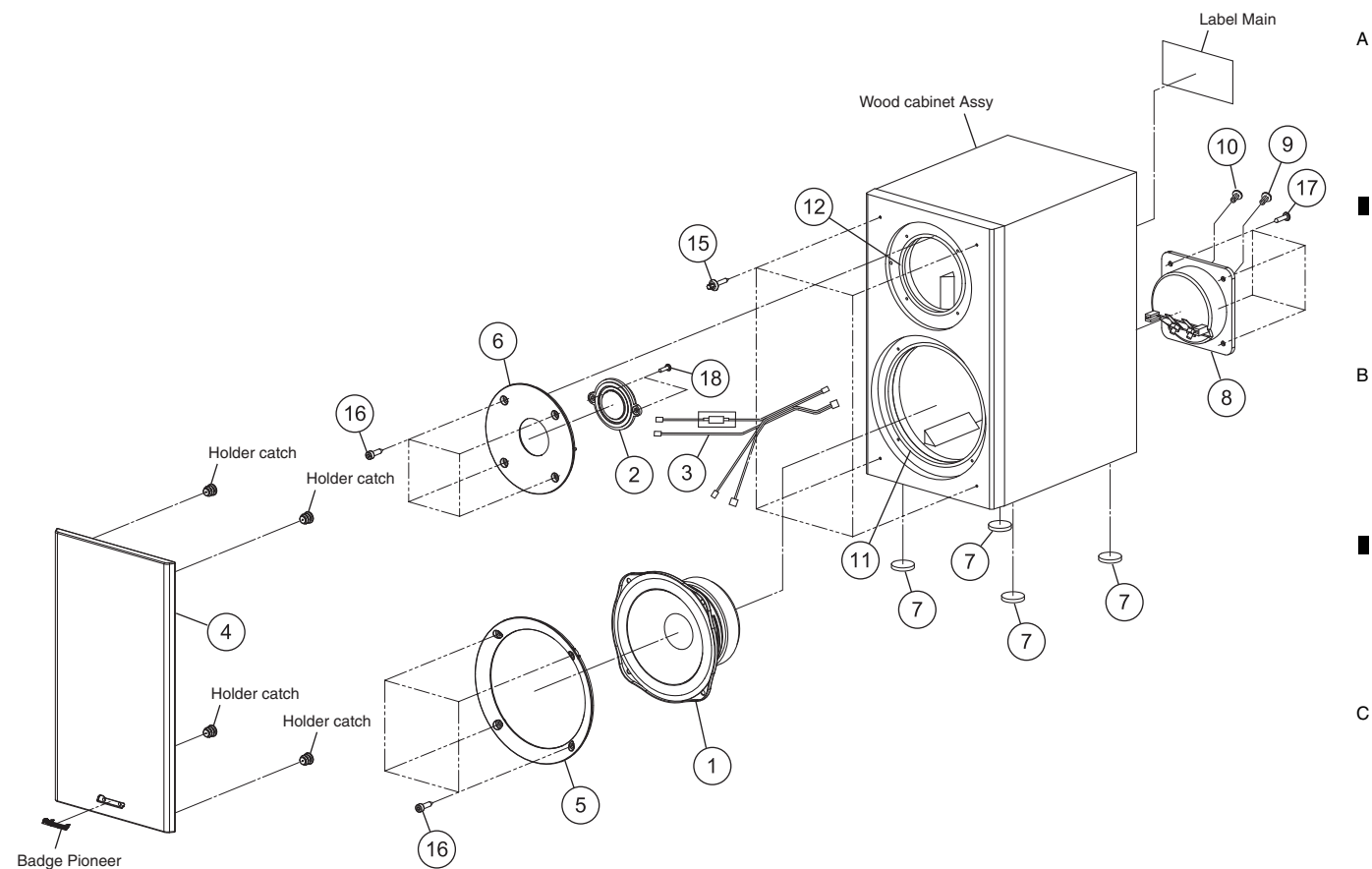
(2) CONTRAST TABLE

X-HM70-K/SYXC�8, X-HM70-S/SYXC�8, XC-HM70-K/SYXC�8 and XC-HM70-S/SYXC�8 are constructed the same except for the following:

	<u>Mark</u>	<u>No.</u>	<u>Symbol and Description</u>	<u>X-HM70-K</u> <u>/SYXC�8</u>	<u>X-HM70-S</u> <u>/SYXC�8</u>	<u>XC-HM70-K</u> <u>/SYXC�8</u>	<u>XC-HM70-S</u> <u>/SYXC�8</u>
E		25	Cabinet	3007211936000-IL	3007211936010-IL	3007211936000-IL	3007211936010-IL
		26	Panel	3067215308000-IL	3067215308010-IL	3067215308000-IL	3067215308010-IL
		27	Back Chassis	3207214026000-IL	3207214026010-IL	3207214026000-IL	3207214026010-IL
		28	Frame	3217212171000-IL	3217212171100-IL	3217212171000-IL	3217212171100-IL
		33	Cushion iPod	4050213655000-IL	4050213655100-IL	4050213655000-IL	4050213655100-IL
		34	Cover Tray CD	4310215421000-IL	4317215421100-IL	4310215421000-IL	4317215421100-IL
		35	Cover iPod	4317215431000-IL	4317215431100-IL	4317215431000-IL	4317215431100-IL
		36	Holder	4327211111000-IL	4327211111100-IL	4327211111000-IL	4327211111100-IL
		41	Knob Assy	5088212518000-IL	5088212518100-IL	5088212518000-IL	5088212518100-IL
		42	Button 5 Key	5090214731000-IL	5090214731100-IL	5090214731000-IL	5090214731100-IL
F		43	Button Standby	5090214741000-IL	5090214741100-IL	5090214741000-IL	5090214741100-IL
		48	Screw, Tap Tite	B020030083F10-IL	B020030084F10-IL	B020030083F10-IL	B020030084F10-IL
		50	Screw, Tap Tite	B020230083B10-IL	BBZ30P080FNI	B020230083B10-IL	BBZ30P080FNI

5 6 7 8

9.3 SPEAKER SECTION (X-HM70 ONLY)

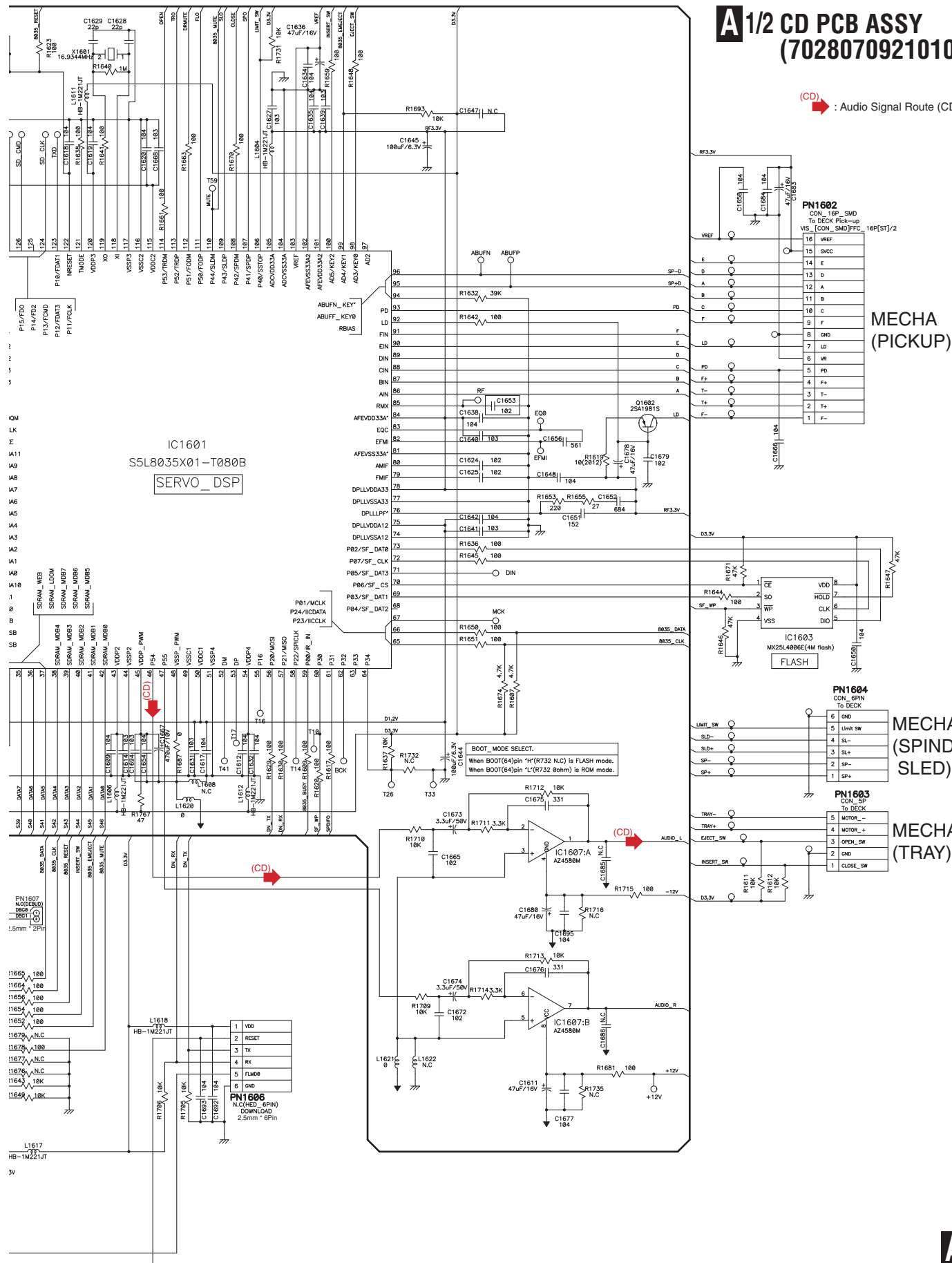


SPEAKER SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Unit Woofer	8952SHM700032-IL
2	Tweeter	8952SHM700033-IL
3	Network Assy	8952SHM700036-IL
4	Frame Net Assy	8952SHM700019-IL
5	Deco Unit	8952SHM700024-IL
6	Deco Tweeter	8952SHM700025-IL
7	Foot Cushion	8952SHM700026-IL
8	Terminal SPK Assy	8952SHM700027-IL
9	Cap Terminal BK	8952SHM700028-IL
10	Cap Terminal RED	8952SHM700029-IL
11	Felt EVA	8952SHM700034-IL
12	Damper EVA	8952SHM700035-IL
13	•••••	
14	•••••	
15	Screw Special	8952SHM700037-IL
16	Screw Wrench	8952SHM700038-IL
17	Screw	BYC35P160FTB
18	Screw, Tap Tite	B020230083B10-IL

A 1/2 CD PCB ASSY (7028070921010-IL)

(CD) : Audio Signal Route (CD Lch)



A



- (CD) : Audio Signal Route (CD Lch)
 (TU) : Audio Signal Route (TUNER L ch)
 (LINE) : Audio Signal Route (LINE IN L ch)
 (USB) : Audio Signal Route (USB L ch)
 (SW) : Audio Signal Route (SubWoofer ch)

A

B

C

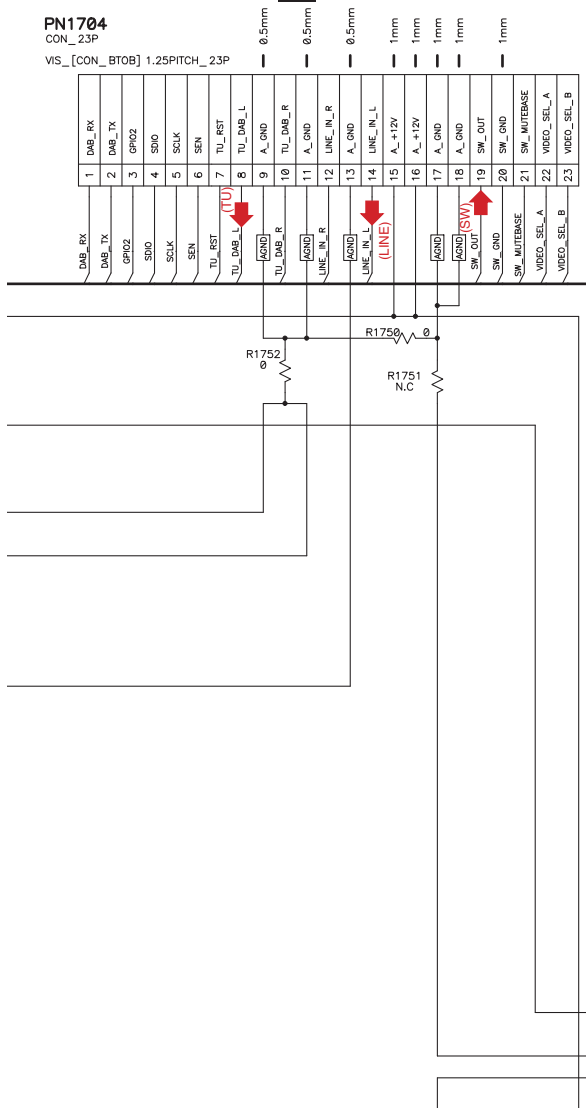
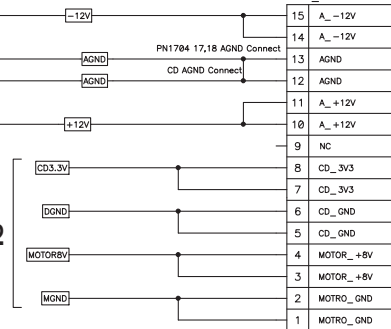
D

E

F

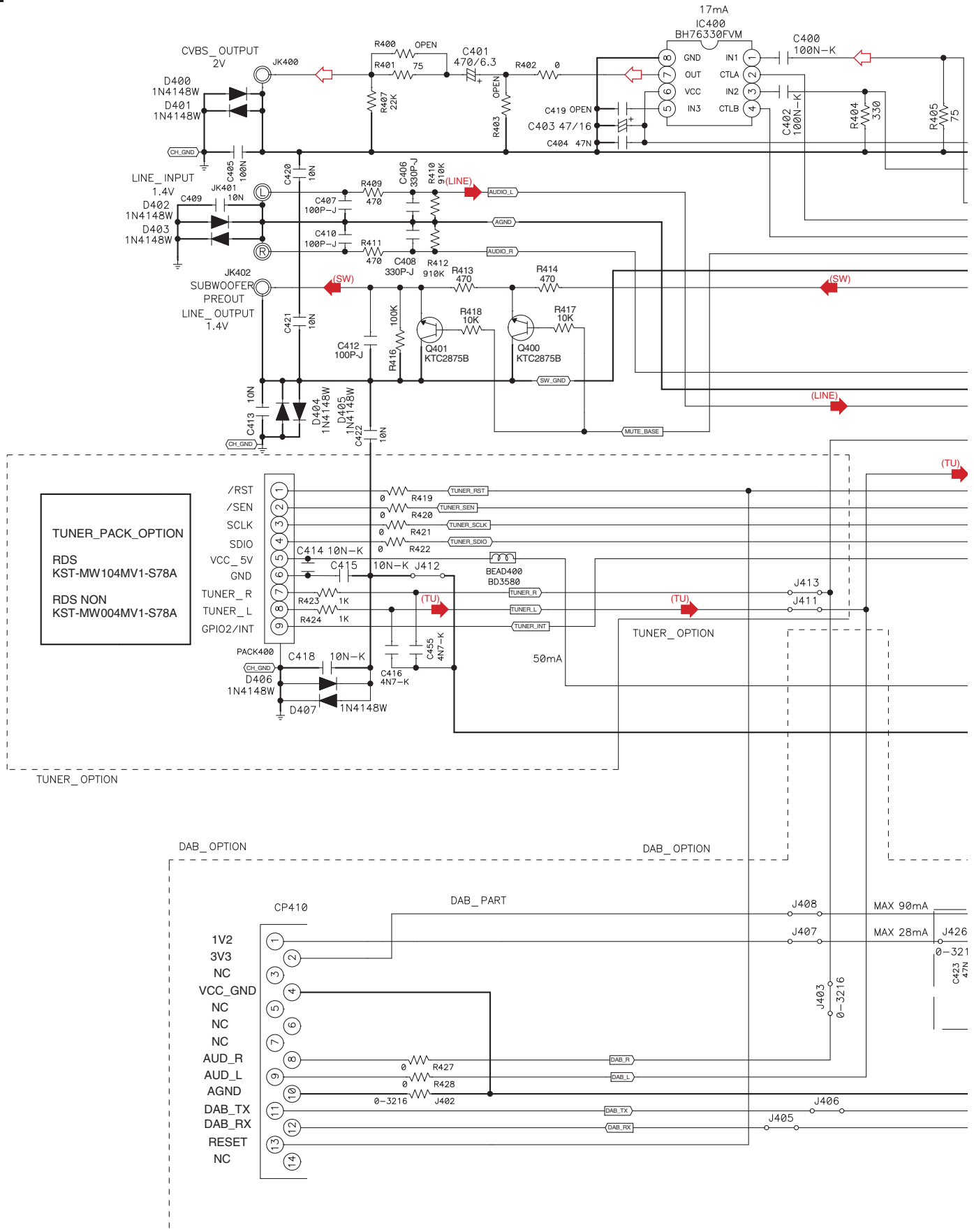
K CP707**PN1704**
CON_23P

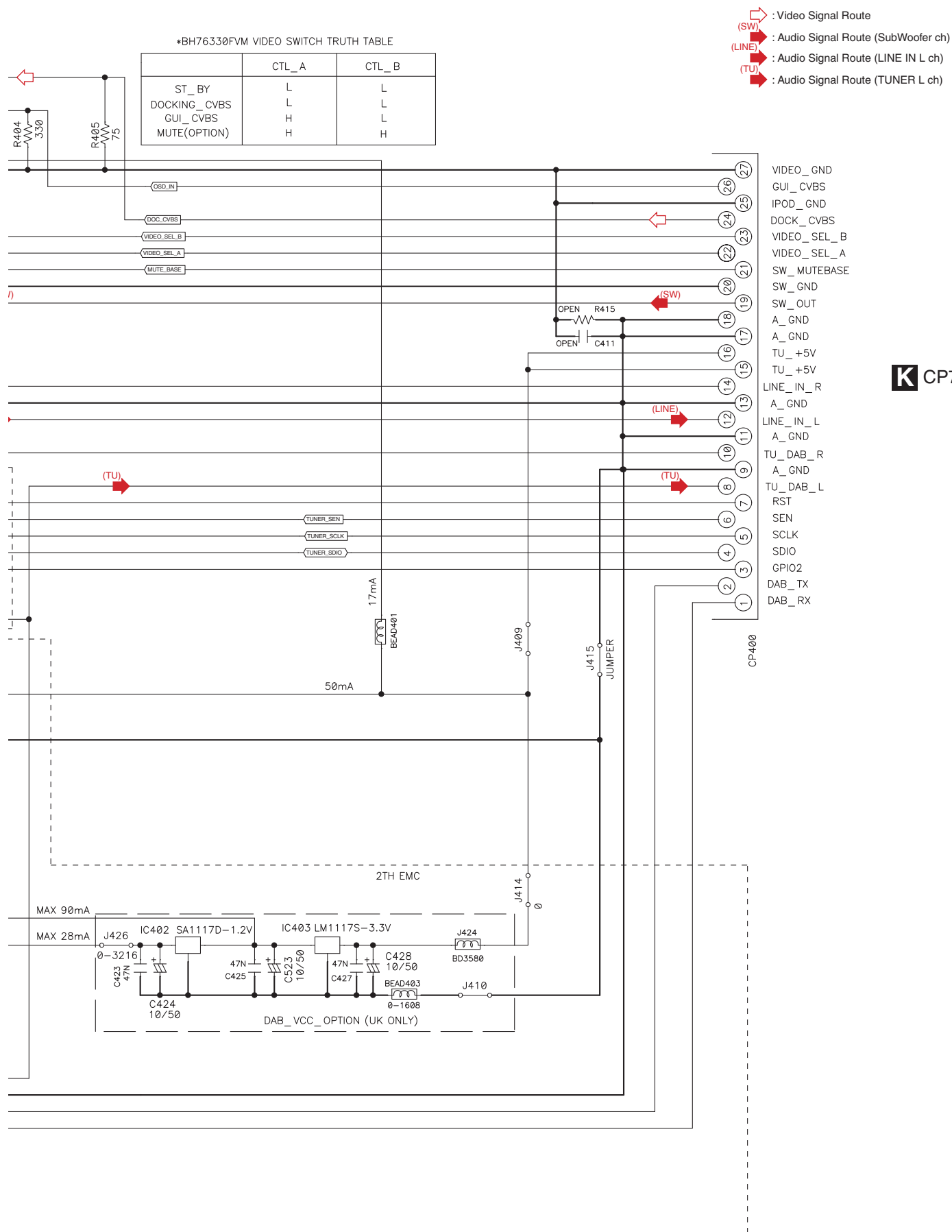
VIS_[CON_BT0B] 1.25PITCH_23P

**PN1705**
CON_15P**L** CP310**A1/2**

10.3 TUNER PCB ASSY

B TUNER PCB ASSY (7028070942010-IL)





△

F



A



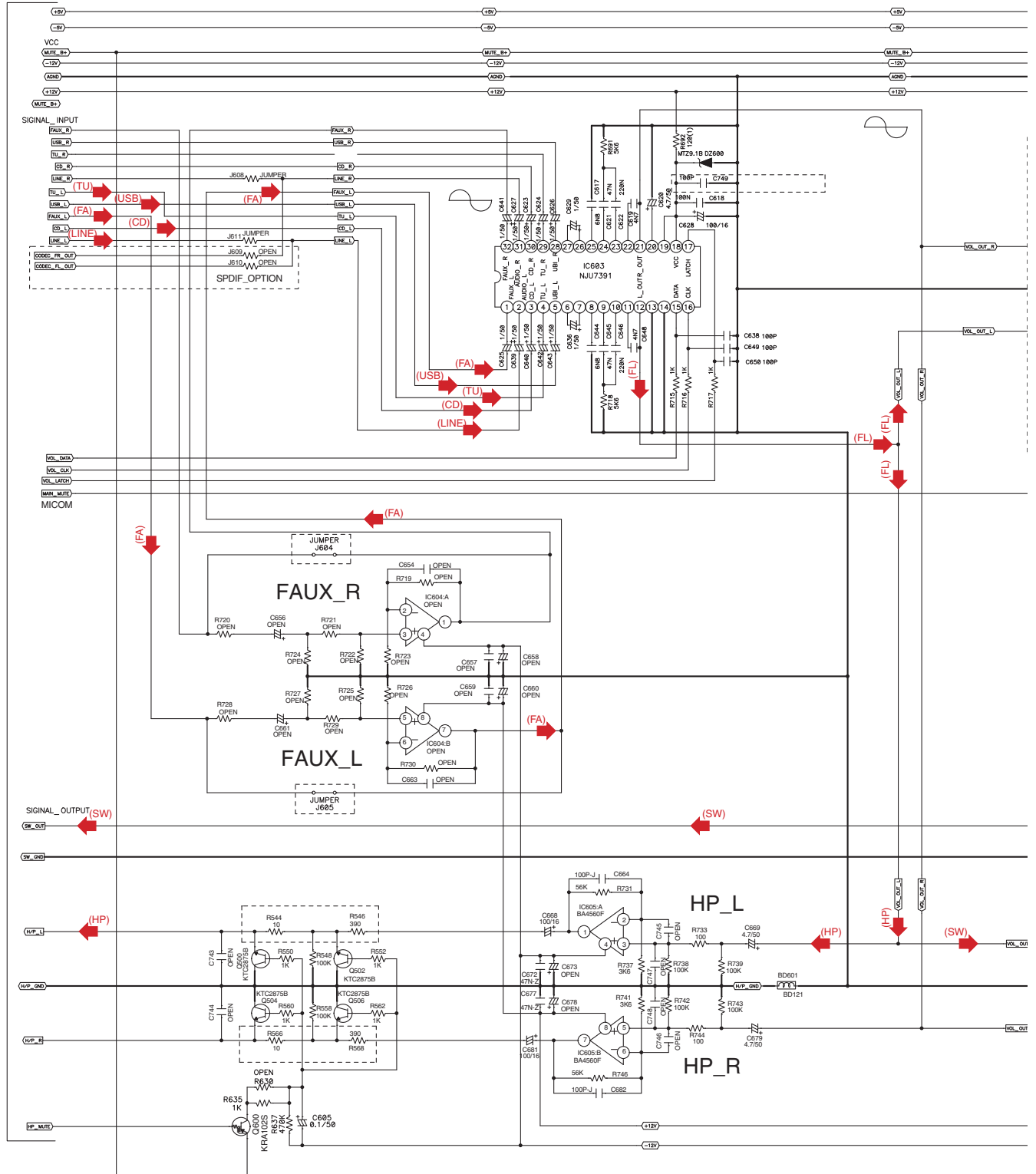
A 2/2
PN170

A2/2
PN1702

SET_OPTION				
PIN_NO	R_NO	UK	EU	—
PIN.71	R669(H) R670 (L)	OPEN OPEN	OPEN OPEN	OPEN OPEN
PIN.70	R672(H) R671 (L)	10K OPEN	OPEN 10K	OPEN OPEN

- (CD) : Audio Signal Route (CD Lch)
- (TU) : Audio Signal Route (TUNER L ch)
- (LINE) : Audio Signal Route (LINE IN L ch)
- (FA) : Audio Signal Route (Front AUDIO IN L ch)
- (USB) : Audio Signal Route (USB L ch)
- (HP) : Audio Signal Route (Phones L ch)
- (SW) : Audio Signal Route (SubWoofer ch)

10.5 MAIN PCB ASSY (2/3)



A



AMP_SHEET

C 3/3

C

D

E

F

4

F



A

E

C

□

F

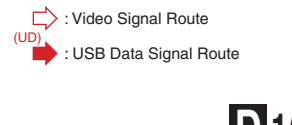
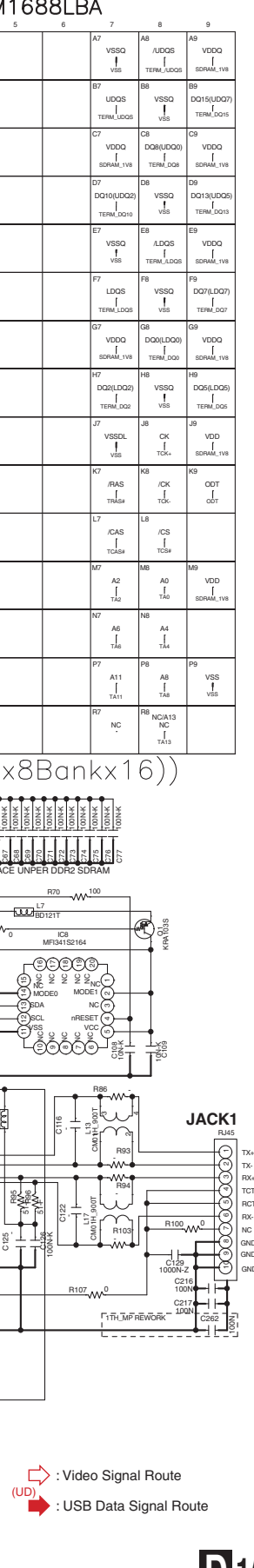
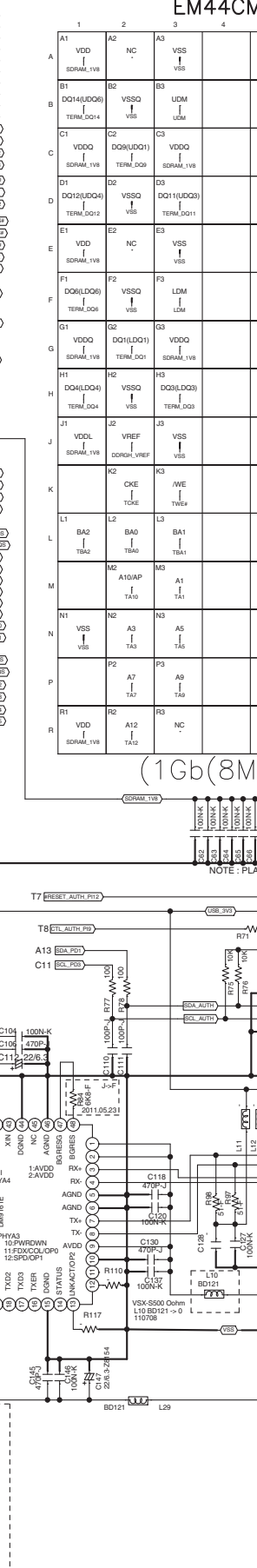
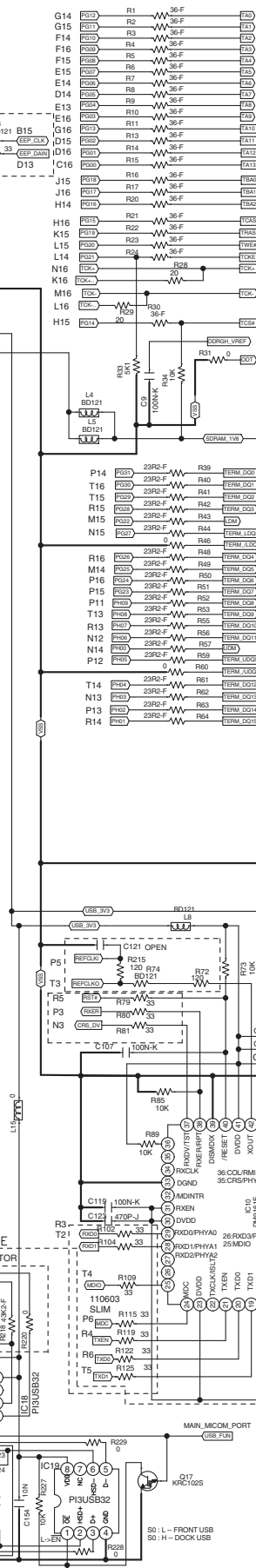
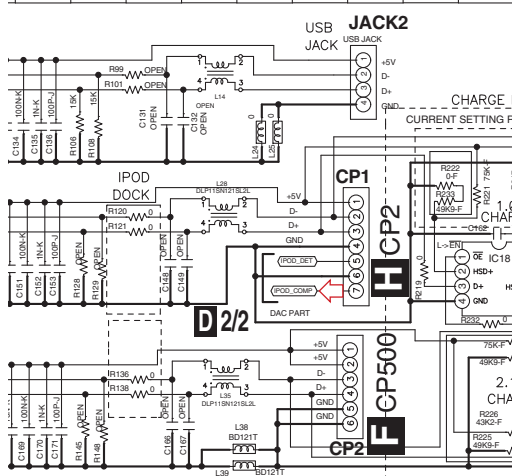
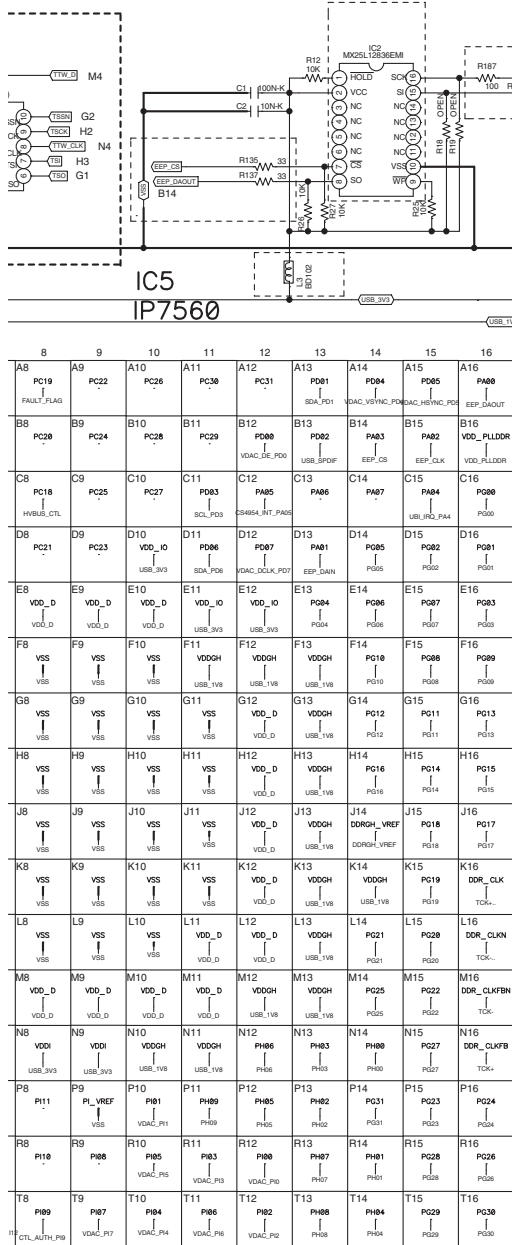
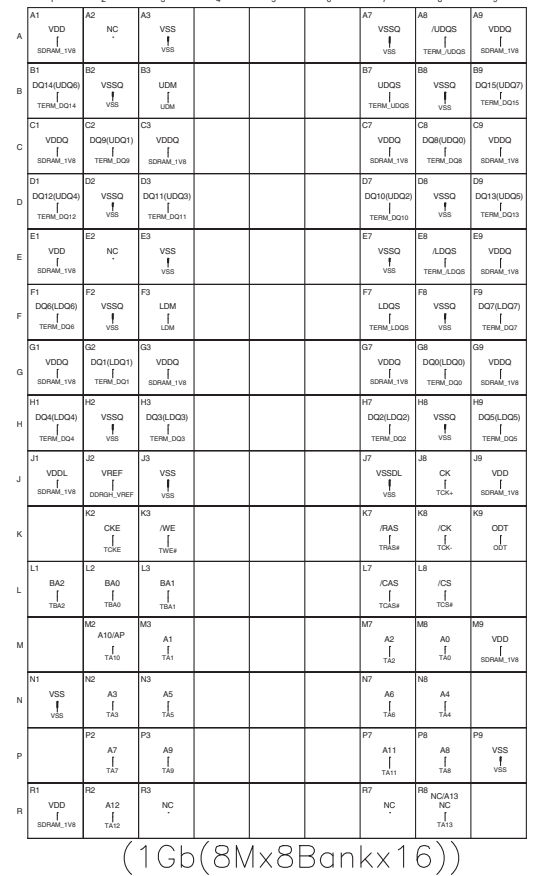
F



- UBICOM USB BLOCK



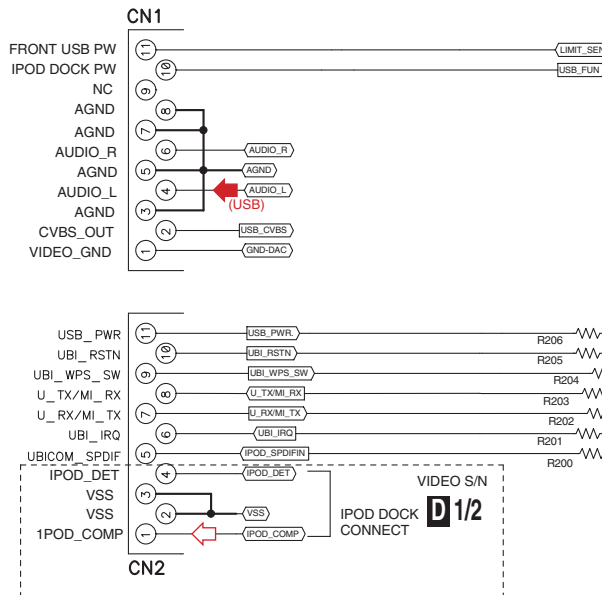
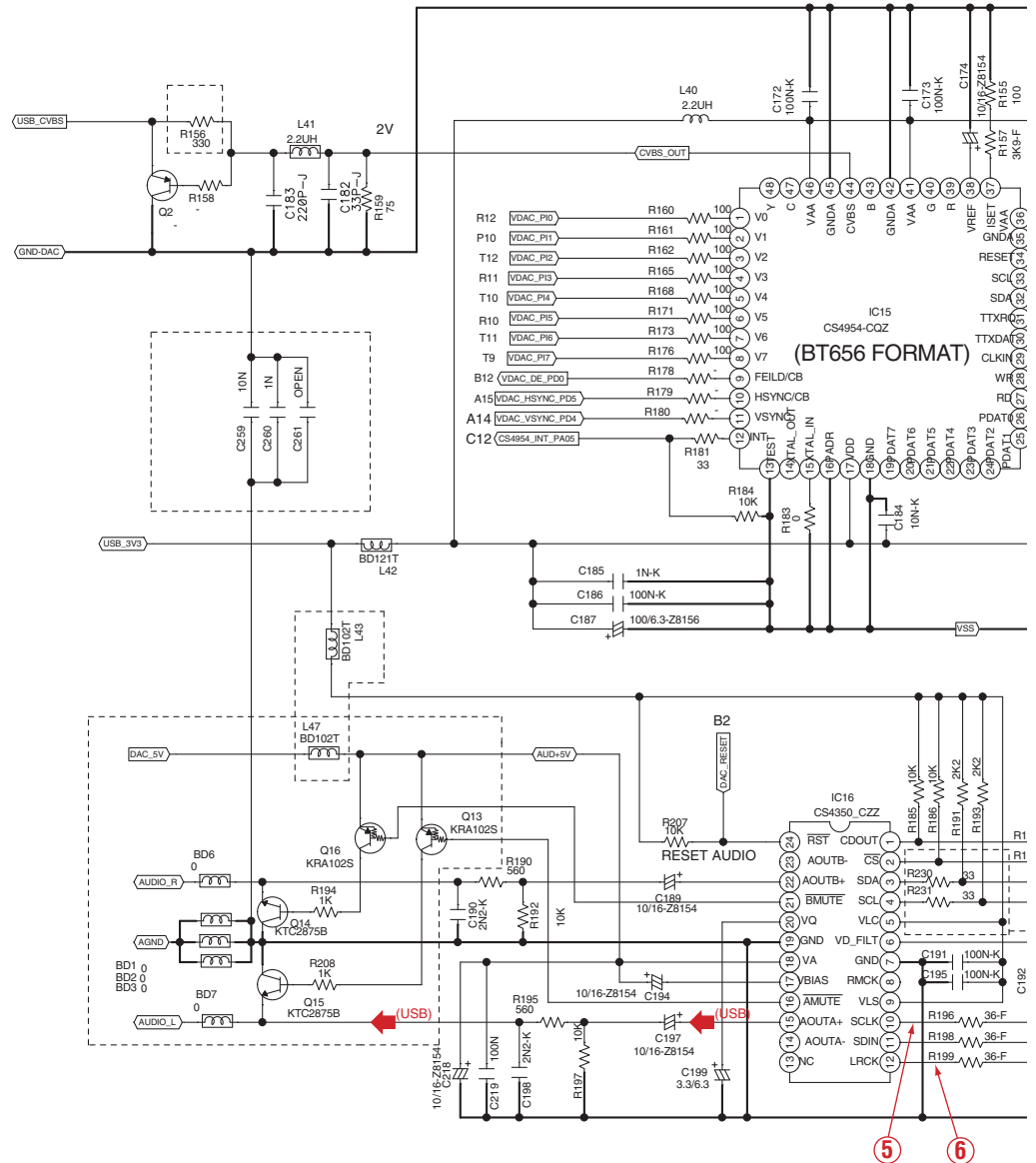
IC1 EM44CM1688LBA



10.8 UBICOM PCB ASSY (2/2)

D 2/2 UBICOM PCB ASSY (7028070951010-IL)

• DAC BLOCK



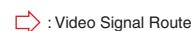
K CP704

K CP705

D 1/2

TO USB PART

D 2/2



F

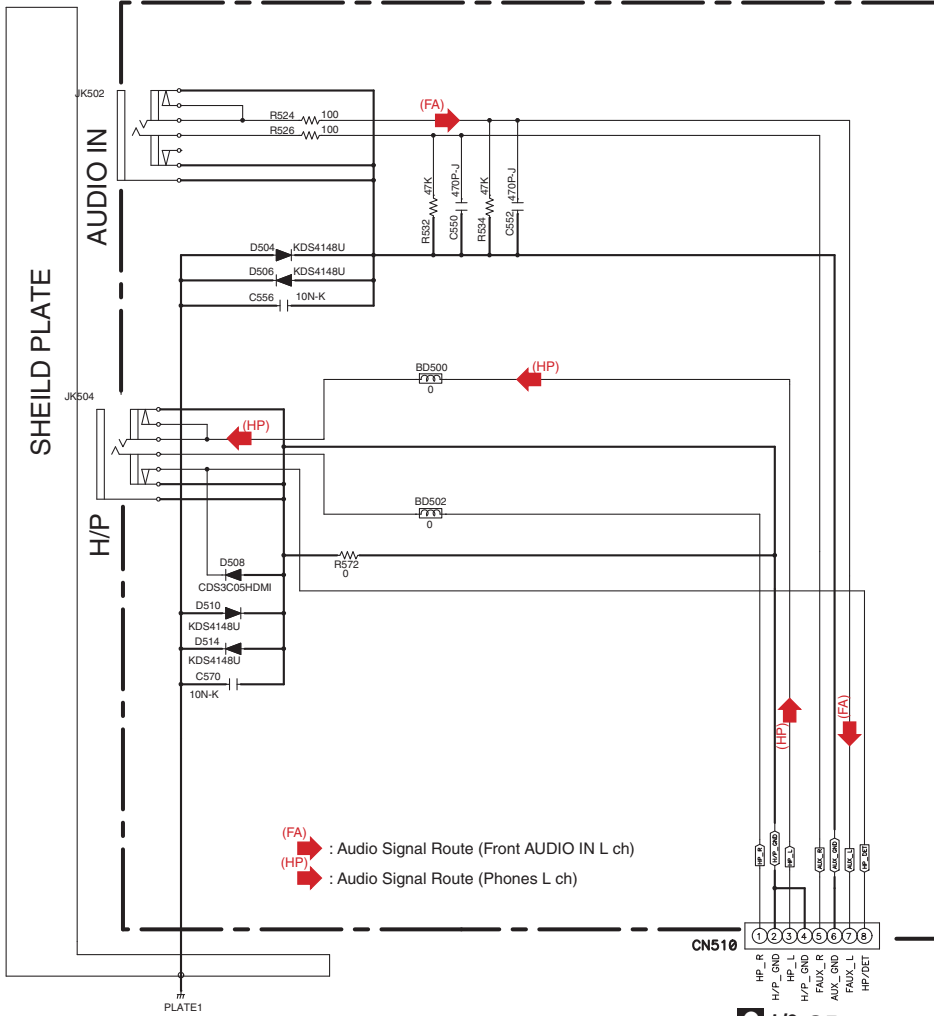
(UD)
(USB)

 : USB Data Signal Route

 : Audio Signal Route (USB L ch)

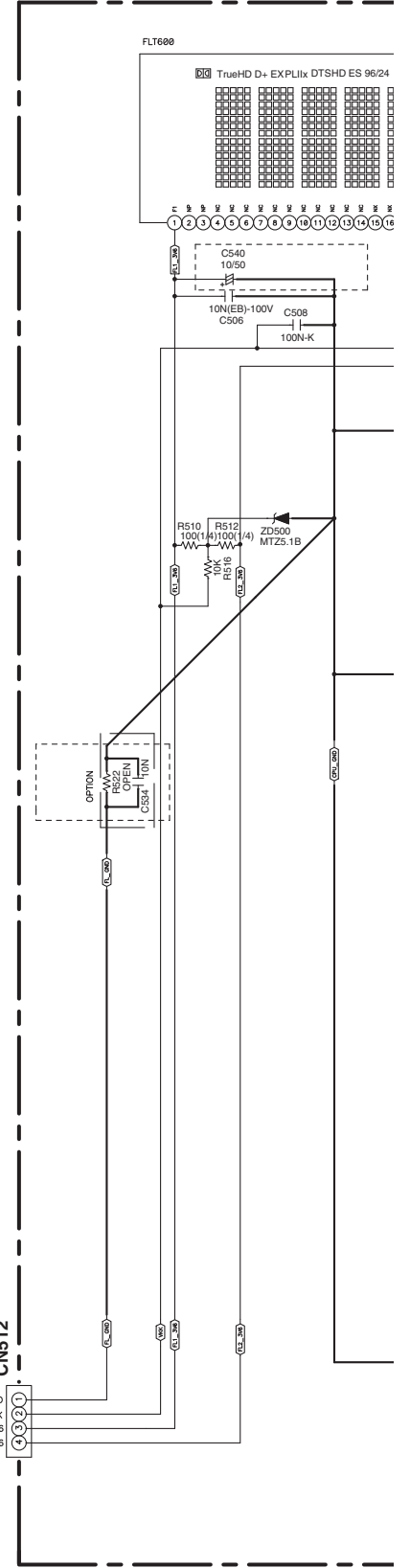
10.9 F.AUX, F.USB and FRONT PCB ASSYS

E F.AUX PCB ASSY (7028070934010-IL)

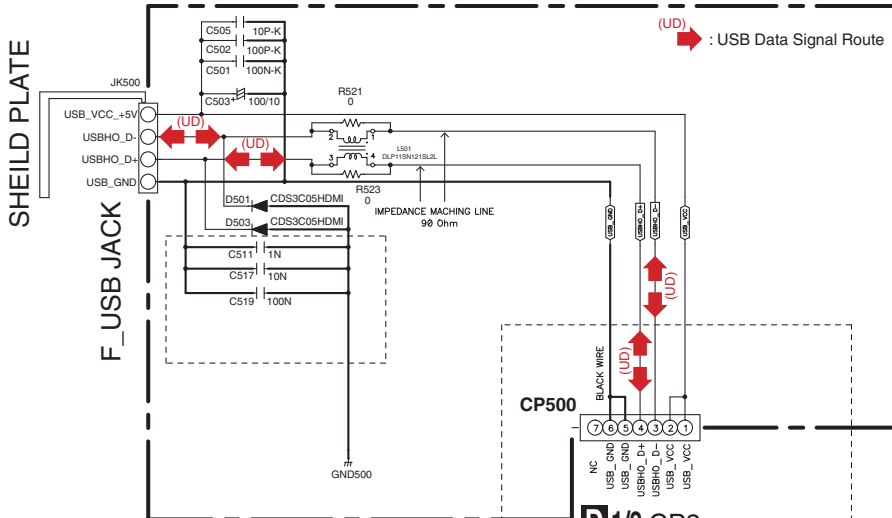


C 1/3 CP601

G FRONT PCB ASSY (7028070934010-IL)



F F.USB PCB ASSY (7028070936010-IL)



D 1/2 CP2

USB WAFER CHANGE 6P->7P

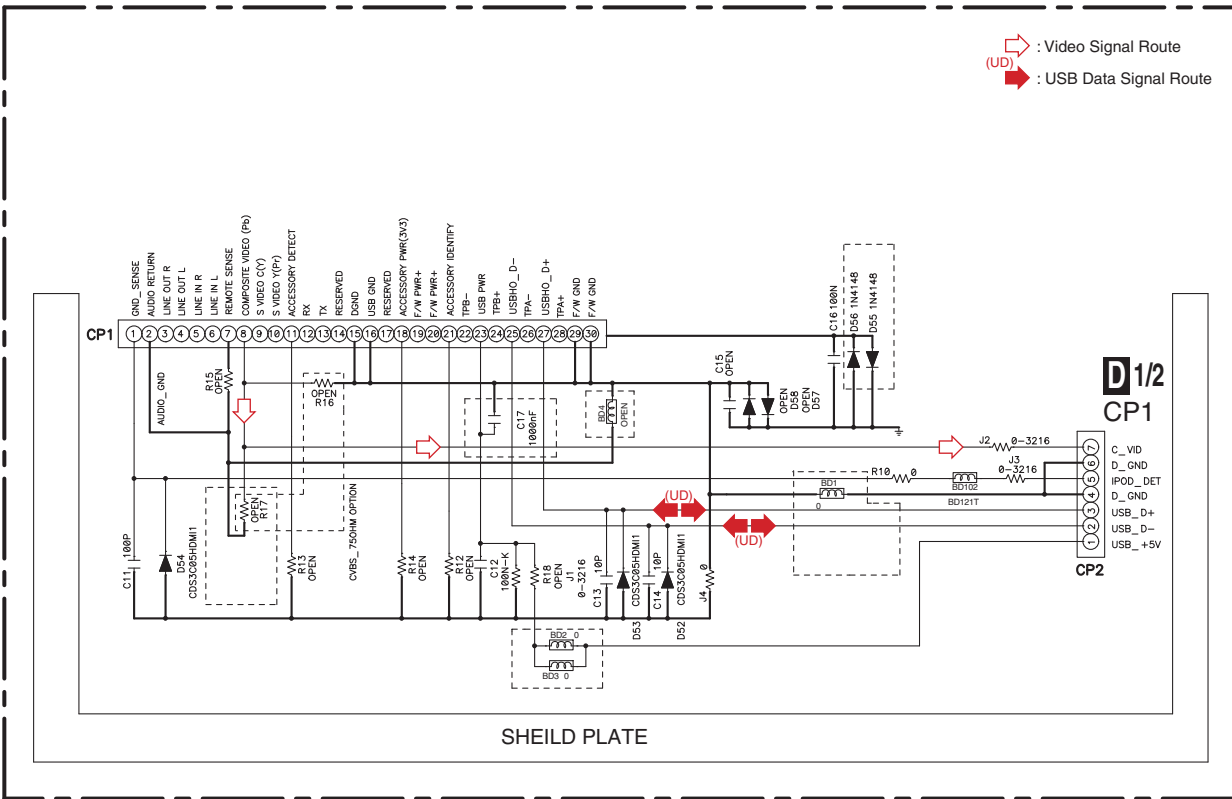
E F G

FRONT

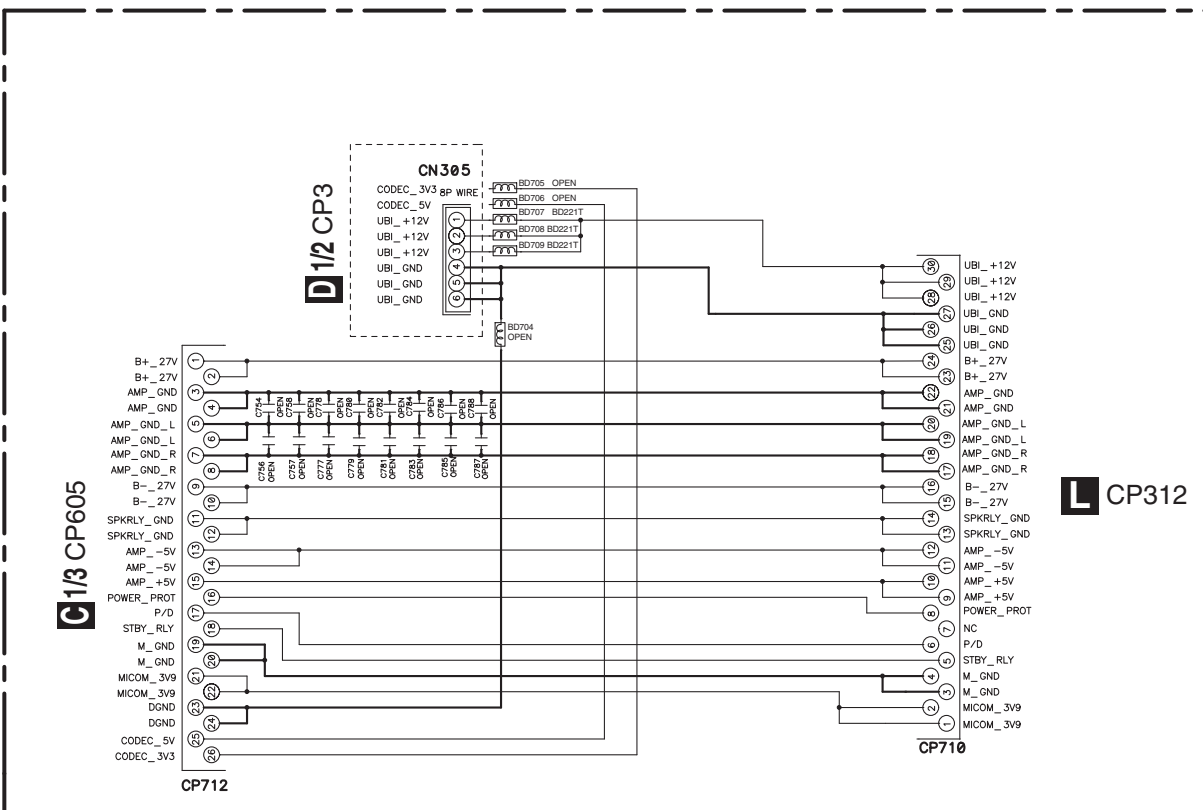


10.10 DOCK, CNT1, 5KEY and CNT2 ASSYS

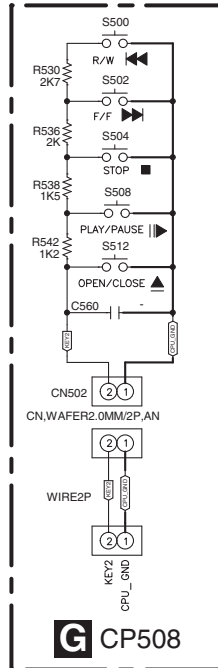
DOCK PCB ASSY (7028070933010-IL)



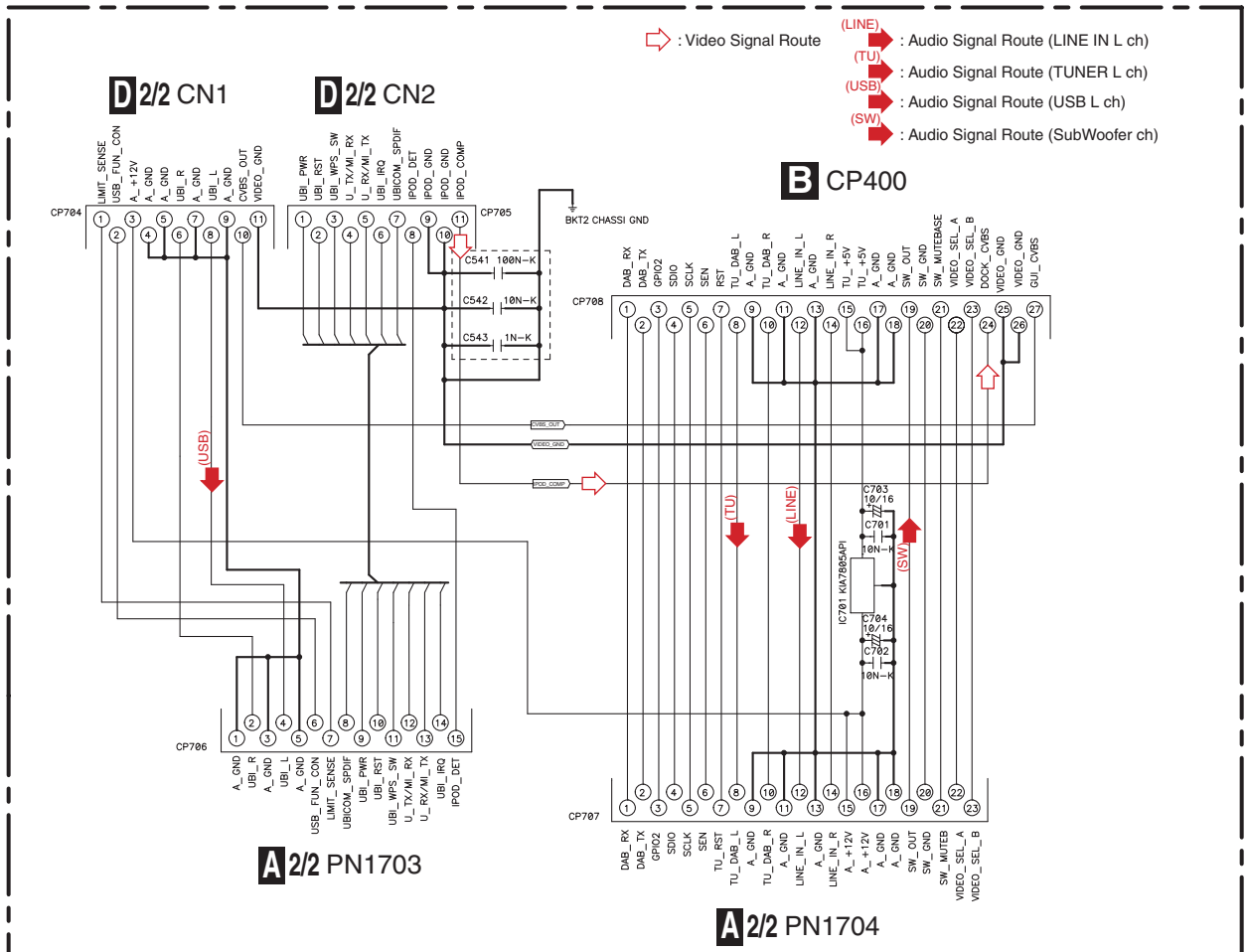
CNT1 PCB ASSY (7028070935010-IL)



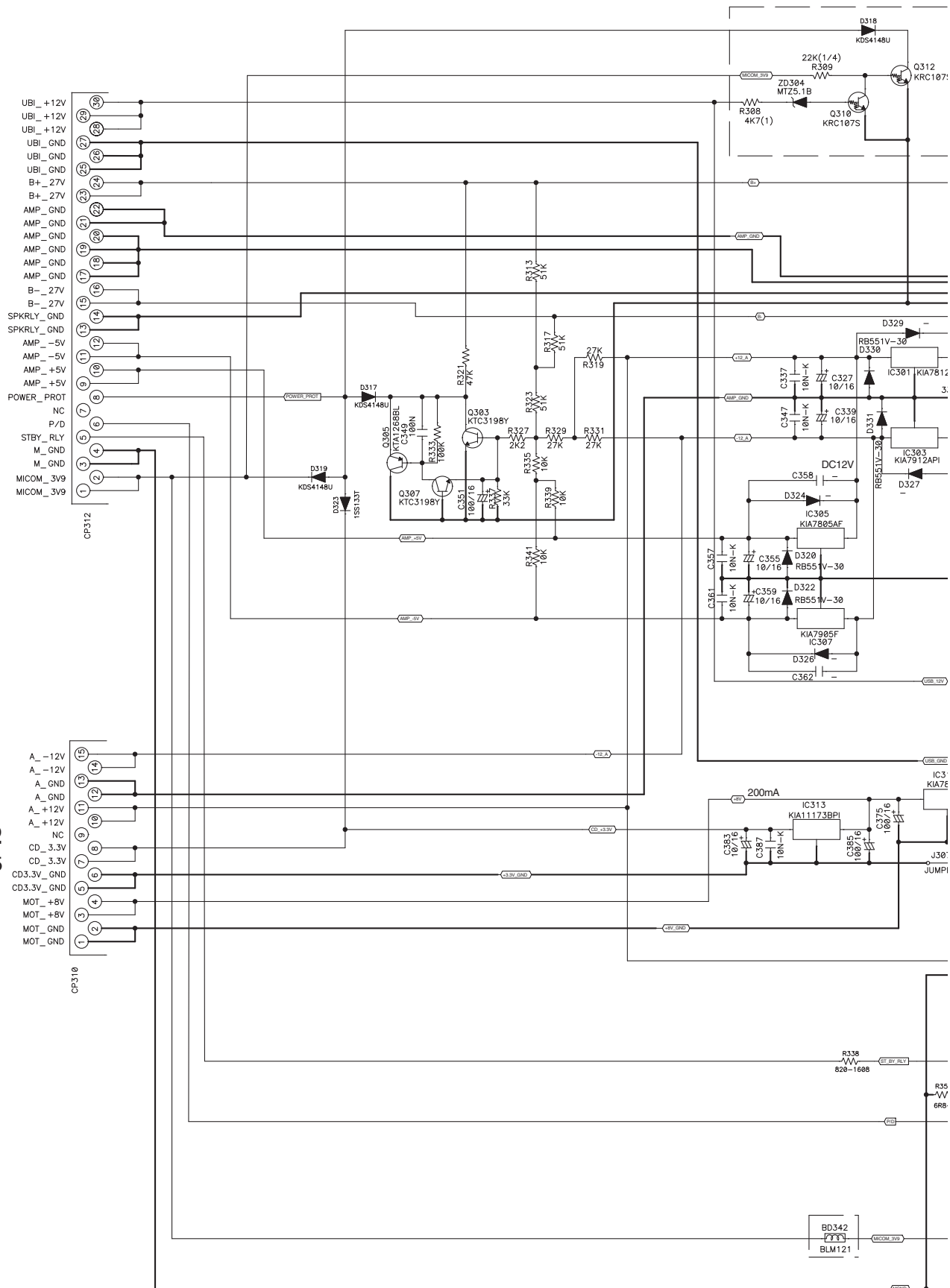
J 5KEY PCB ASSY (7028070946010-IL)



K CNT2 PCB ASSY (7028070944010-IL)

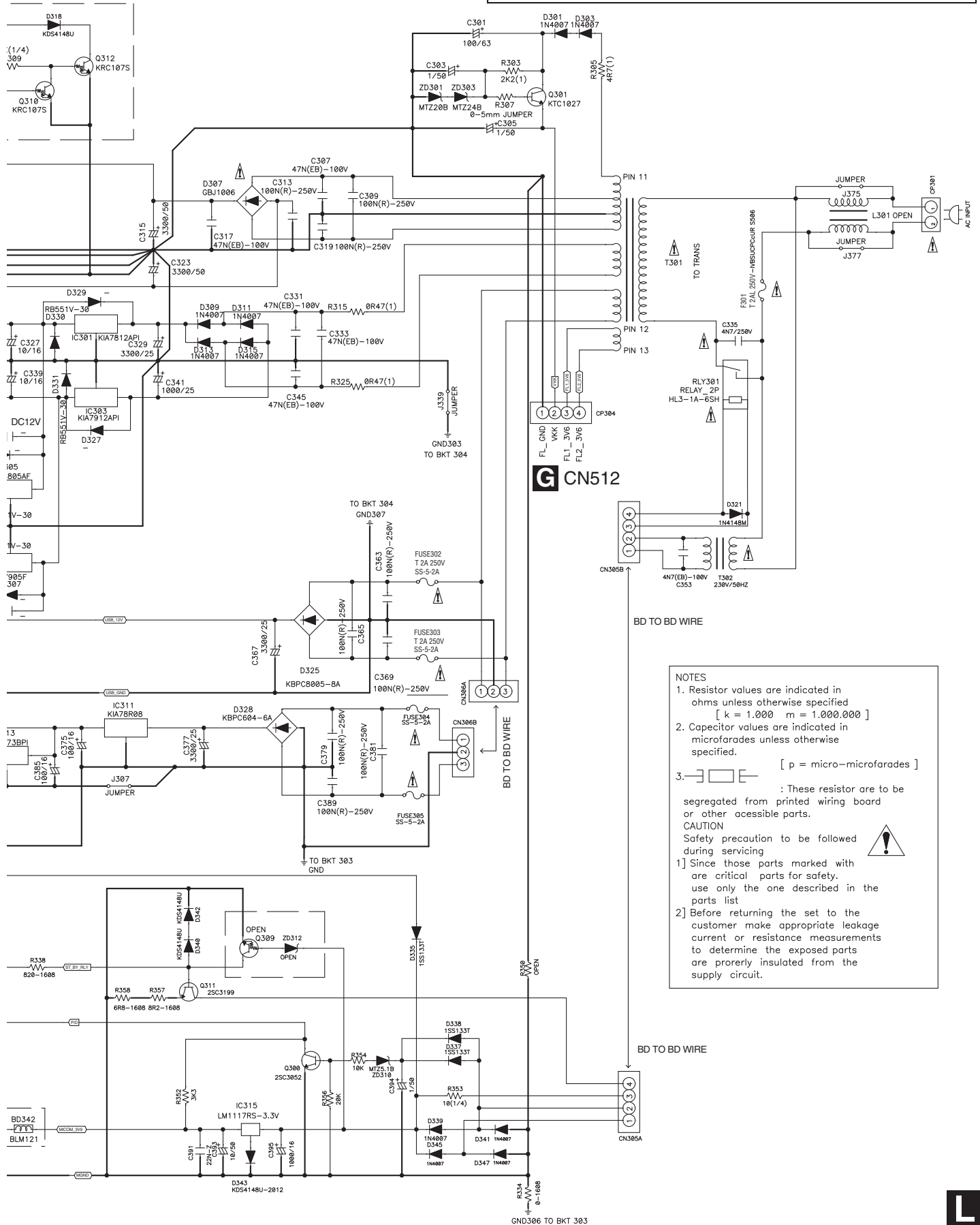


L POWER PCB ASSY (7028070941010-IL)

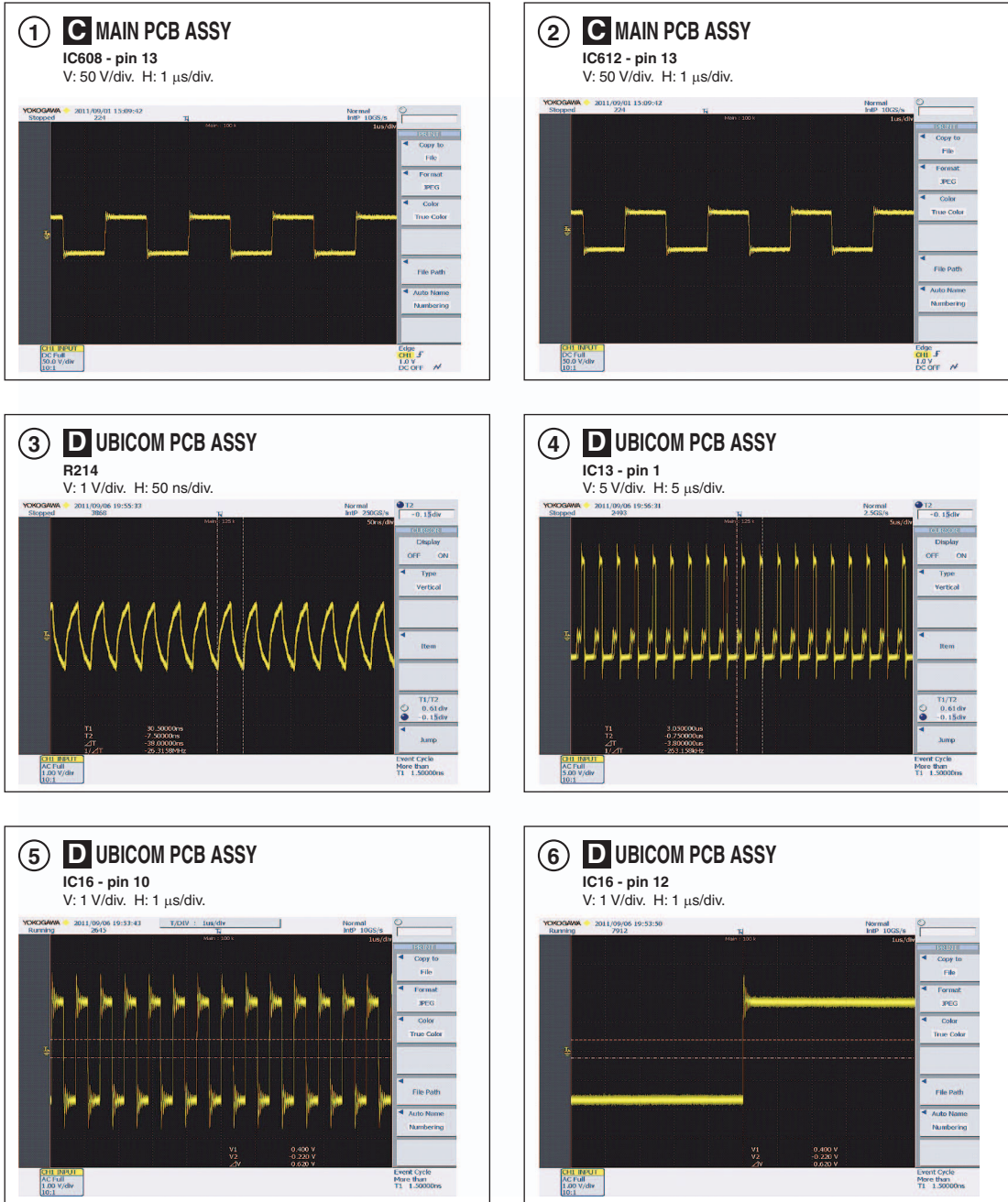


• NOTE FOR FUSE REPLACEMENT

CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE WITH SAME TYPE AND RATINGS OF FUSE.



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

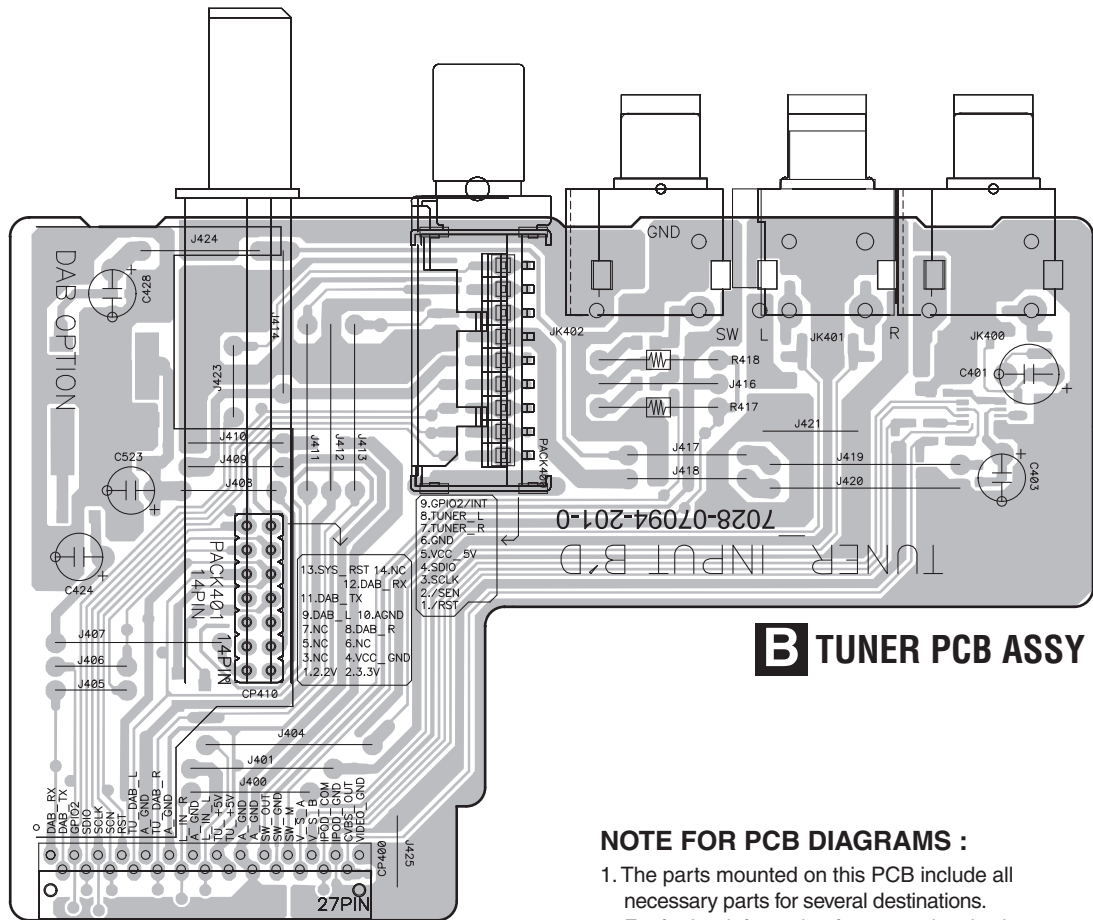


11. PCB CONNECTION DIAGRAM

11.1 TUNER PCB ASSY

SIDE A

SIDE A

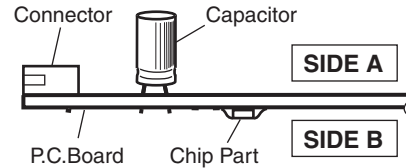


B TUNER PCB ASSY

NOTE FOR PCB DIAGRAMS :

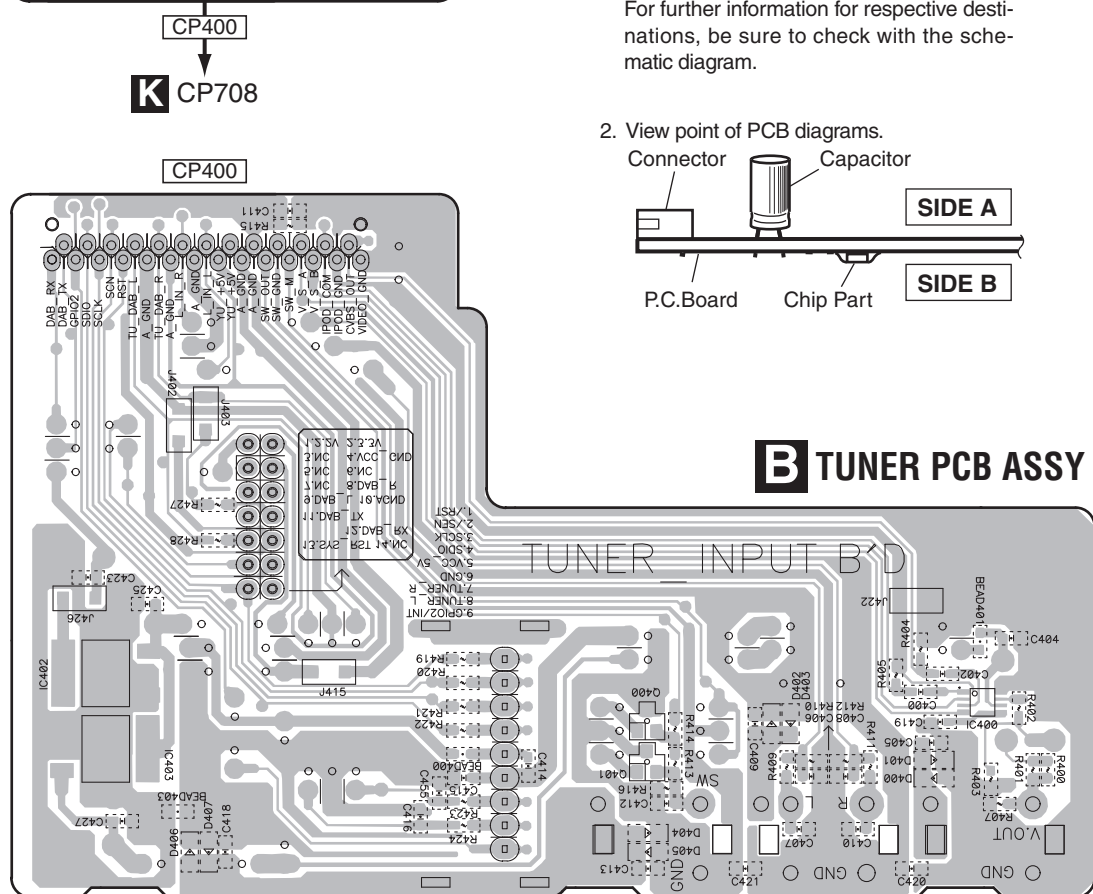
1. The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

2. View point of PCB diagrams.



SIDE B

SIDE B



B TUNER PCB ASSY

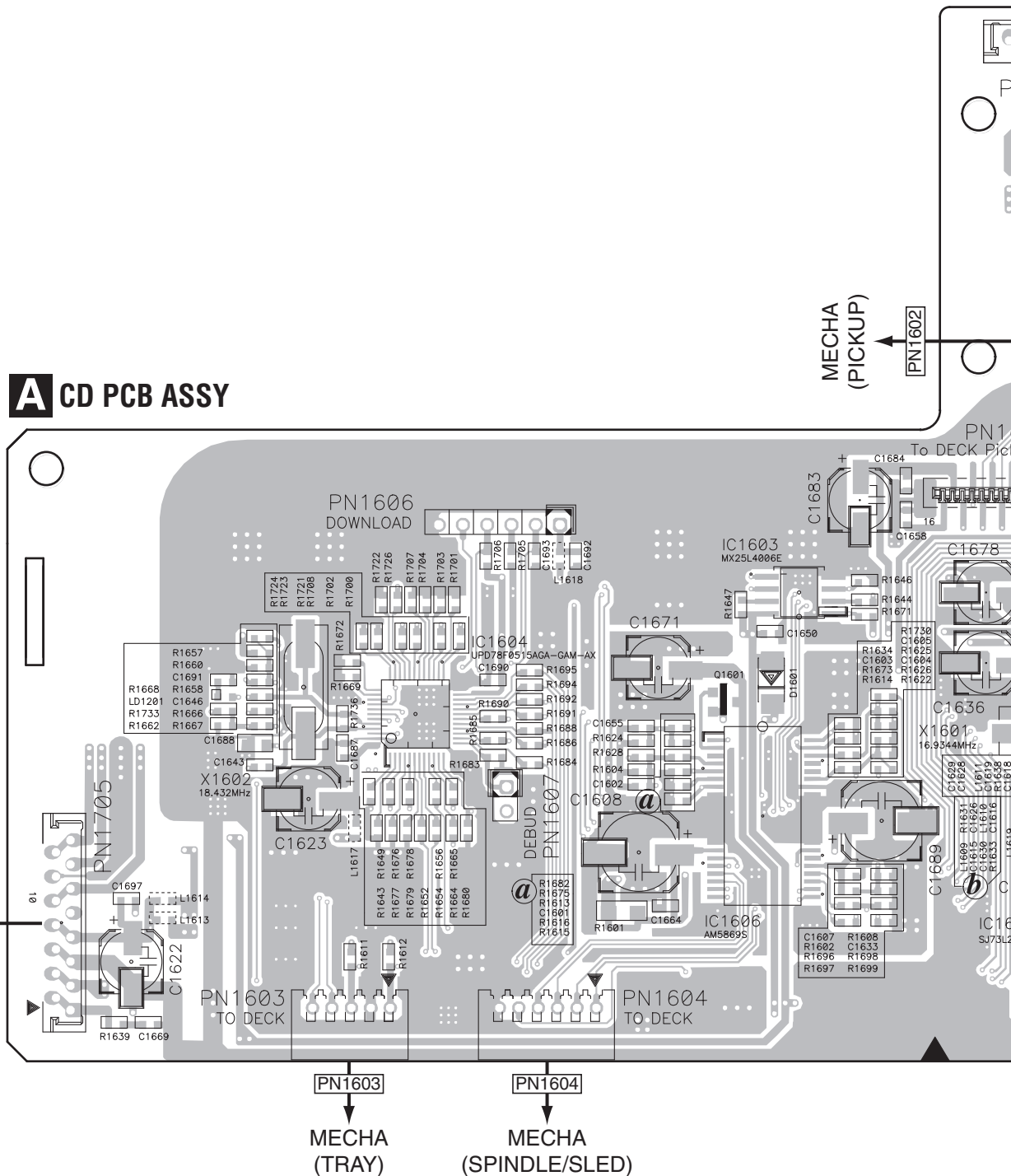
IC402
IC400
IC403
Q401

X-HM70-K

B

11.2 CD PCB ASSY

SIDE A



A

SIDE A

A

B

C

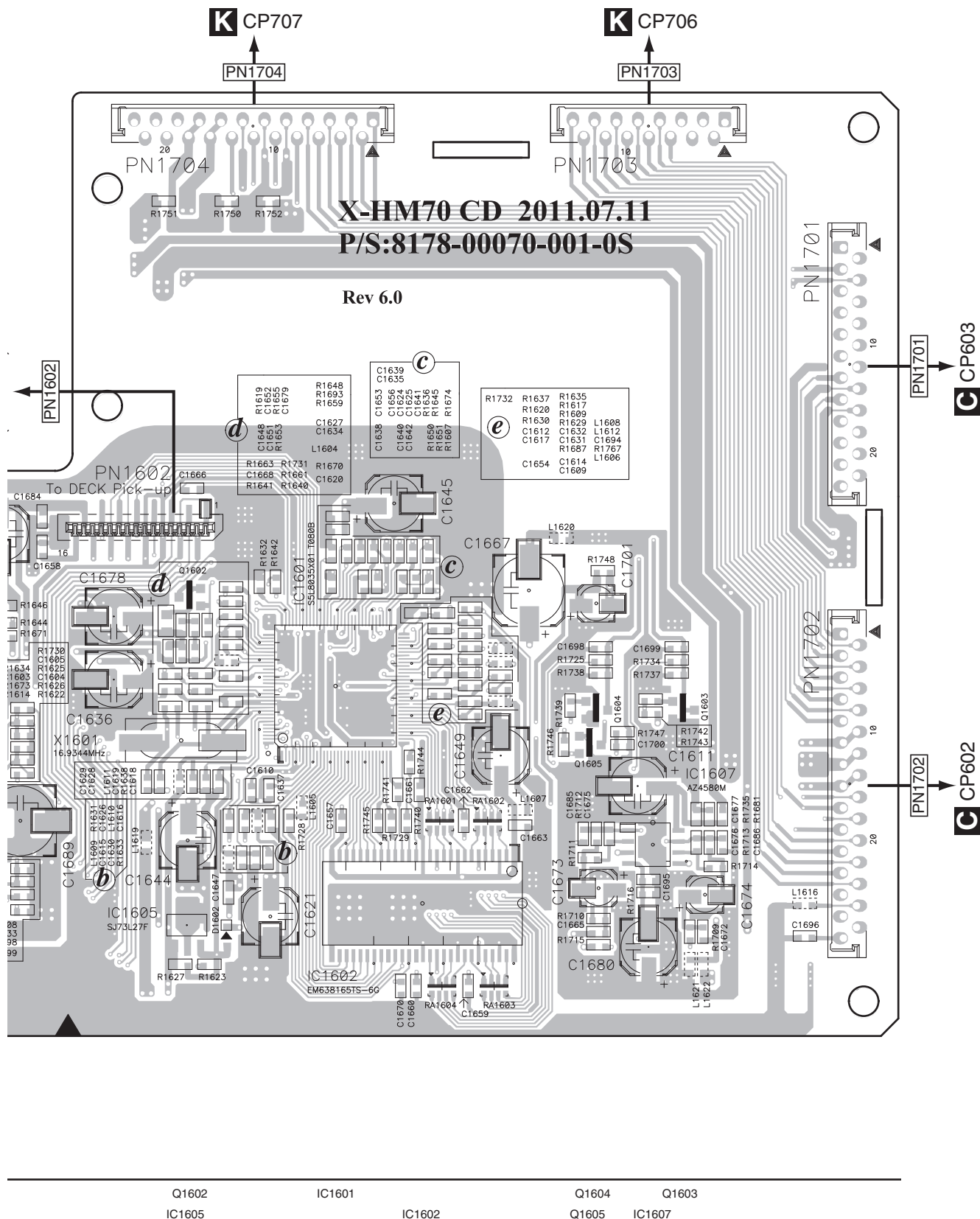
D

E

F

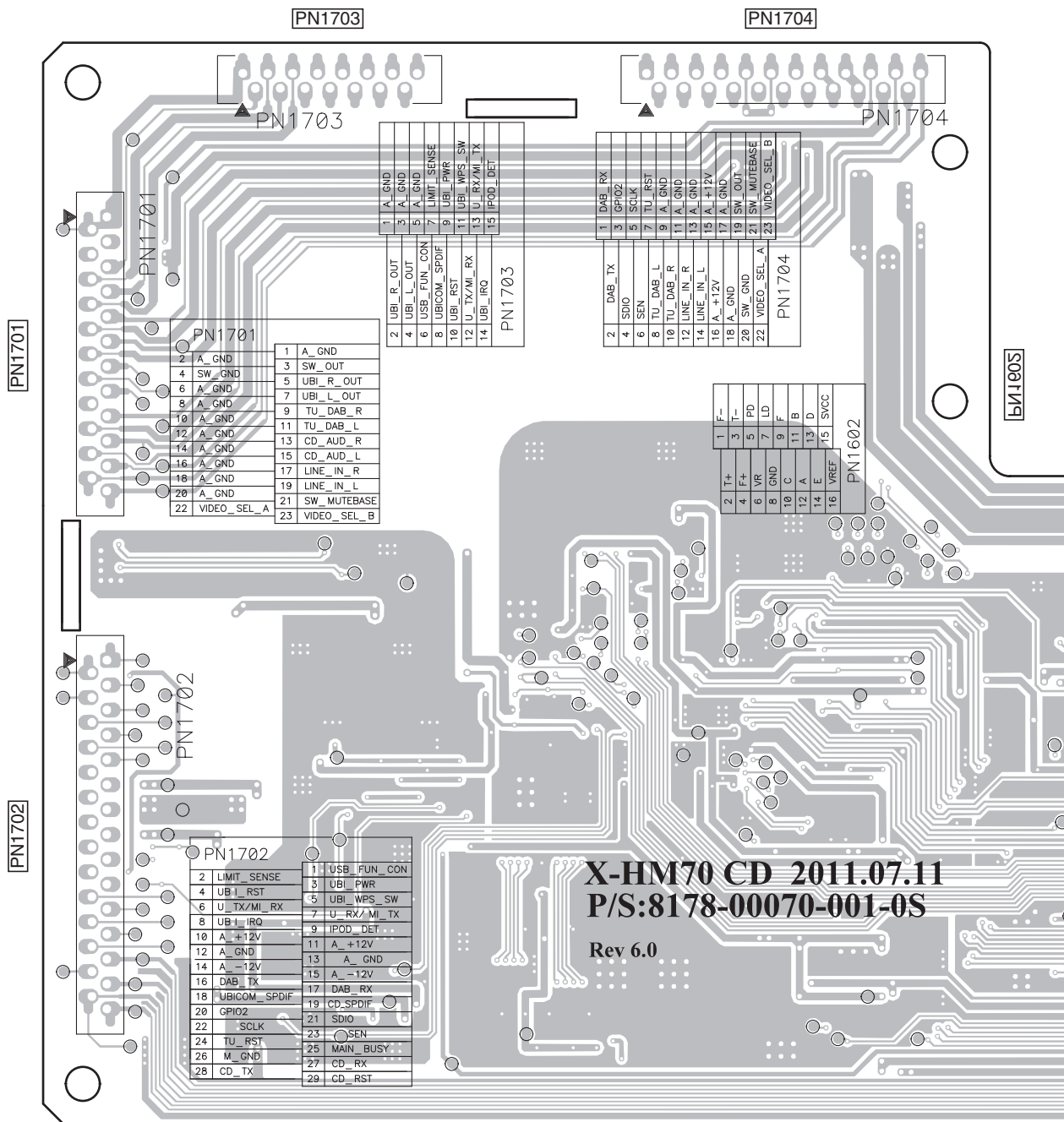
A

65



X-HM70-K

SIDE B



X-HM70 CD 2011.07.11
P/S:8178-00070-001-0S

Rev 6.0

SIDE B

A

B

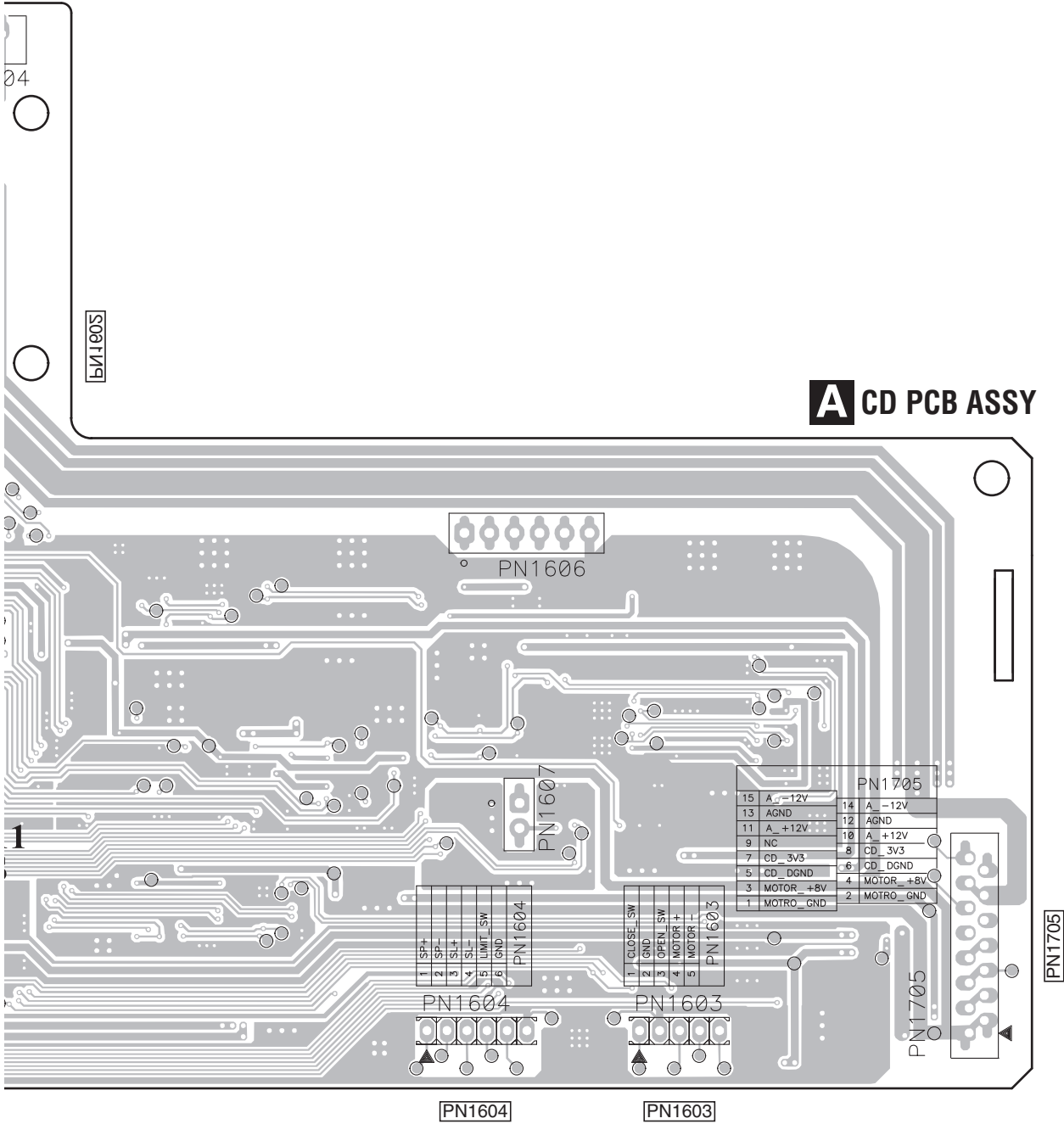
C

D

E

F

A CD PCB ASSY



11.3 MAIN PCB ASSY

SIDE A

C MAIN PCB ASSY

A PN1702

A

B

C

G CP514

E CP510

FPC600

CP601

CP602

XHM70_MAIN
IN ICT OP ADJ FI

26PIN

CP605

CP712

Q600 IC600 IC601 Q630 IC610 IC611 IC60

SIDE B

C MAIN PCB ASSY

D

E

F

CP601

FPC600

CP605

CP602

HM70_MAIN

Q500 Q502 Q504 Q506 Q637 Q631 Q605 Q603 Q604 Q602 Q606 Q601

X-HM70-K

N1702

A PN1701

SIDE A

1
602

CP603

USB MT_P

7020-07093-000-1S

IC603
IC605

IC606
IC602 Q608
Q625 Q622 Q610

Q618

IC608

IC612

Q621
Q623
Q640
Q641

Q613

Q636

Q633 Q635

SIDE B

602

CP603

Q624 Q620

Q609
Q607

Q611	Q629	Q626	Q627
9	Q616	Q614	Q615
	Q617	Q616	

Q628 Q634
Q612

Q632

X-HM70-K

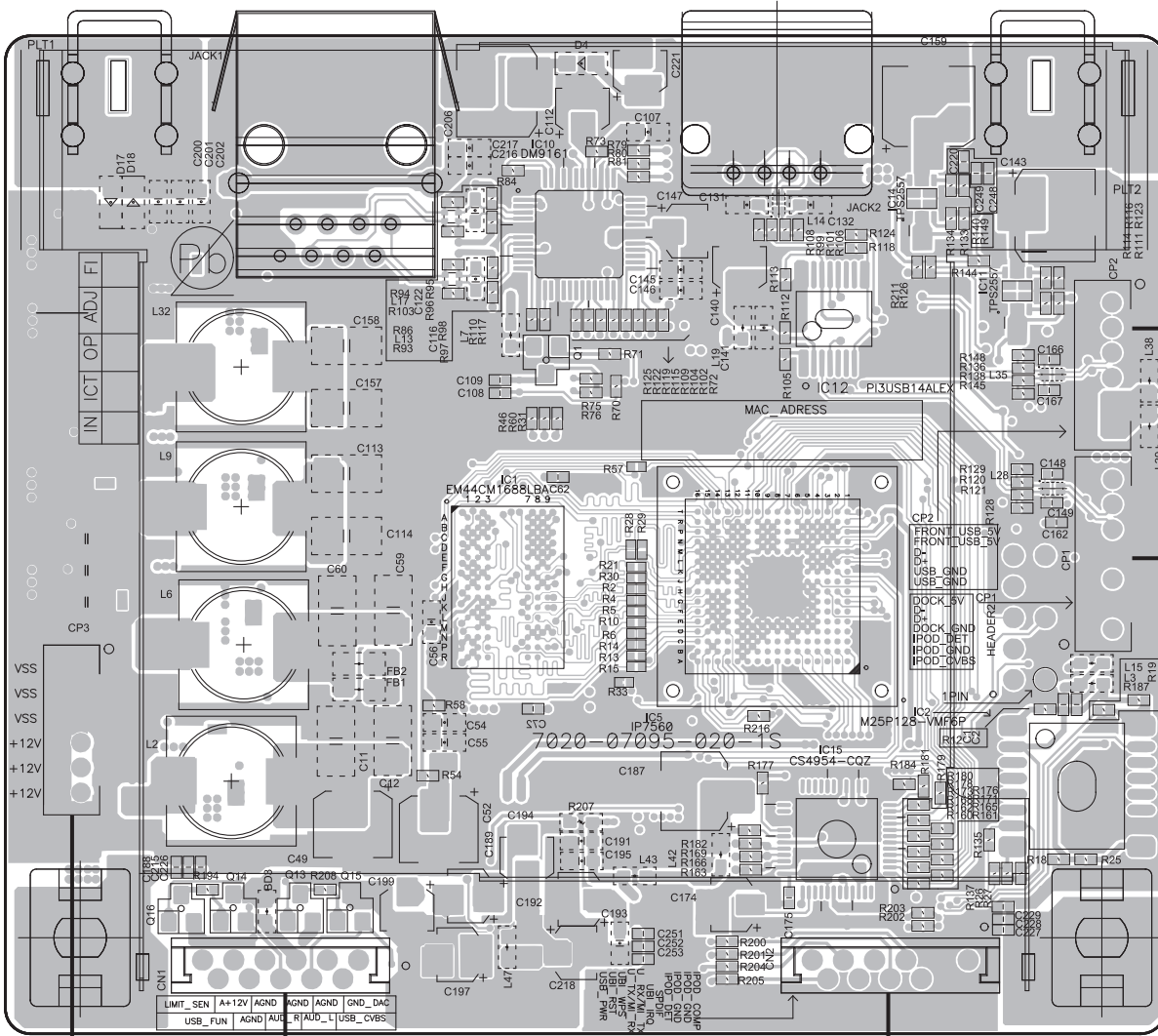
C

11.4 UBICOM PCB ASSY

SIDE A

SIDE A

UBICOM PCB ASSY



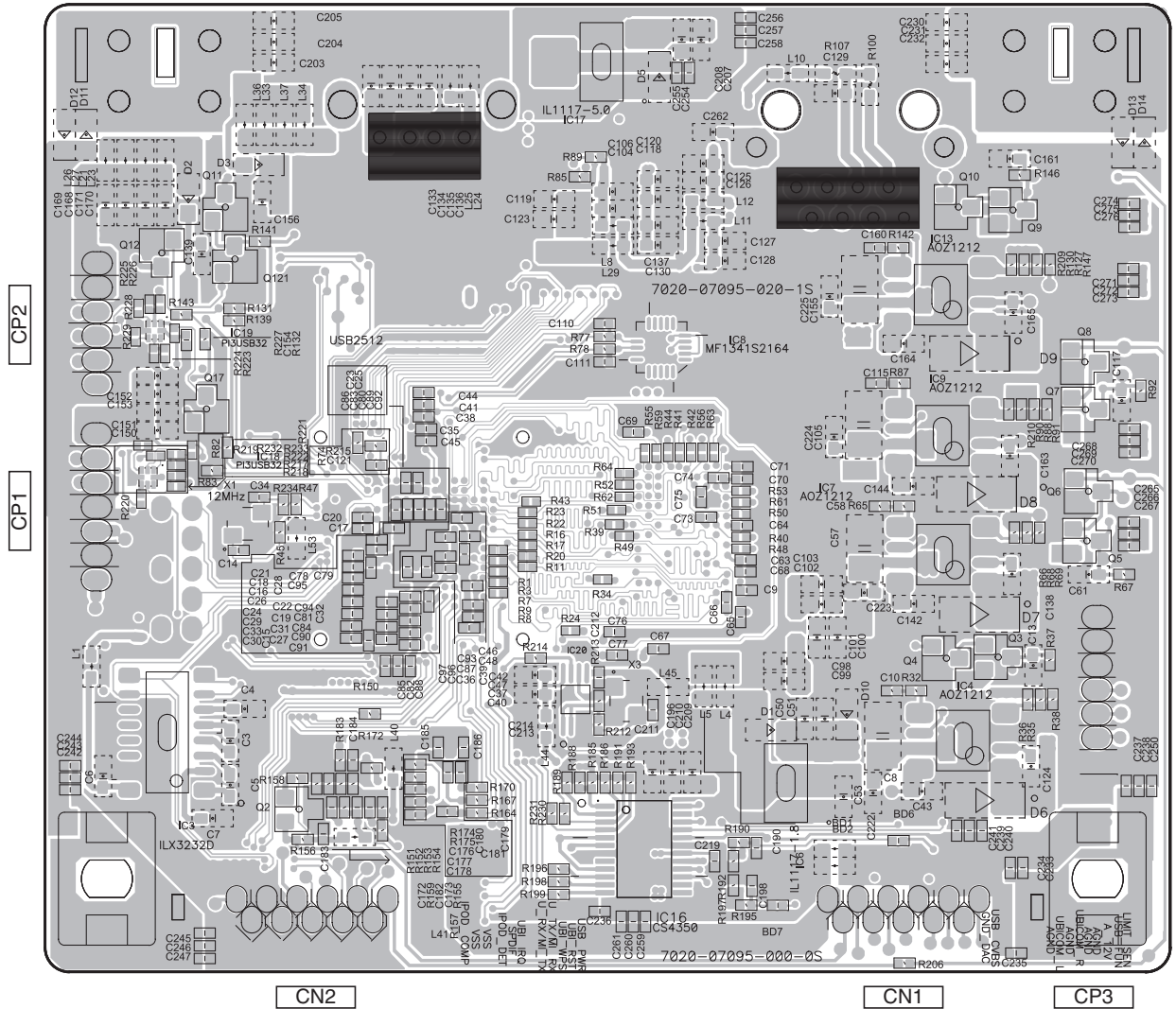
CP3 CN305 CN1 CP704 CN2 CP705

Q18 Q14 Q13 Q15 IC1 Q1 IC10 IC12 IC14 IC11 IC2 IC15

SIDE B

SIDE B

DUBICOM PCB ASSY



Q12 Q11
IC19 Q121
IC18 Q17 Q2
IC3

IC17 IC8
IC20 IC16 IC6

Q10 Q9 Q8
IC13 Q7
IC9 Q6
IC7 Q5
Q4 Q3
IC4

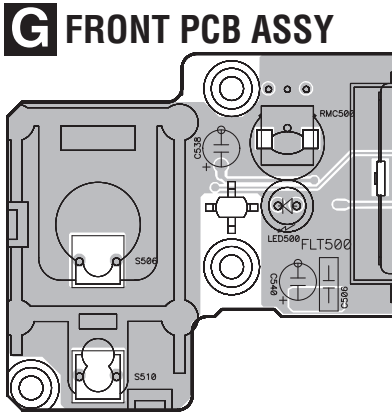
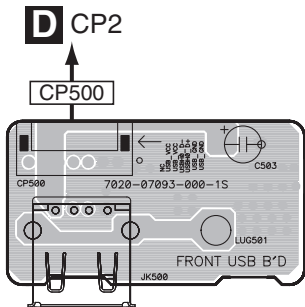
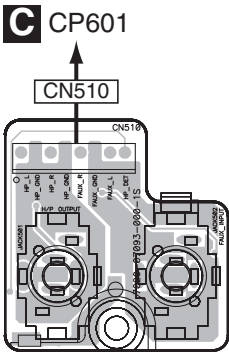
X-HM70-K

D

71

11.5 F.AUX, F.USB and FRONT PCB ASSYS

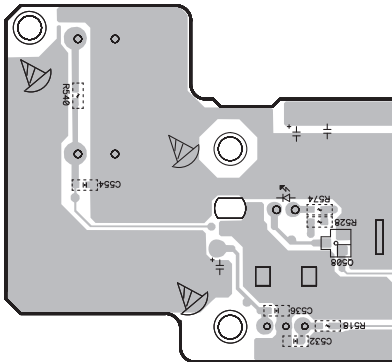
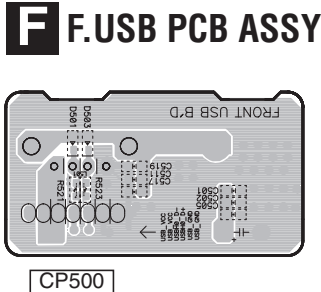
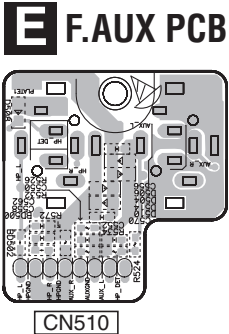
SIDE A



E F.AUX PCB ASSY

F F.USB PCB ASSY

SIDE B

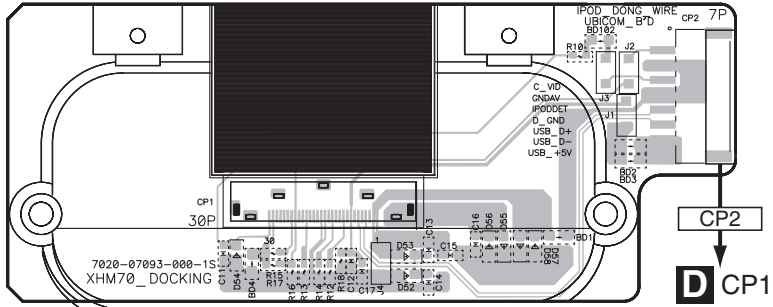


E F G

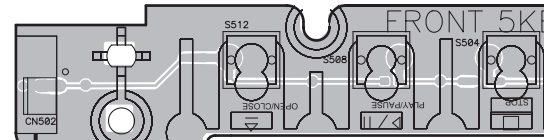
11.6 DOCK, CNT1, 5KEY and CNT2 ASSYS

SIDE A

H DOCK PCB ASSY



J 5KEY PCB ASSY



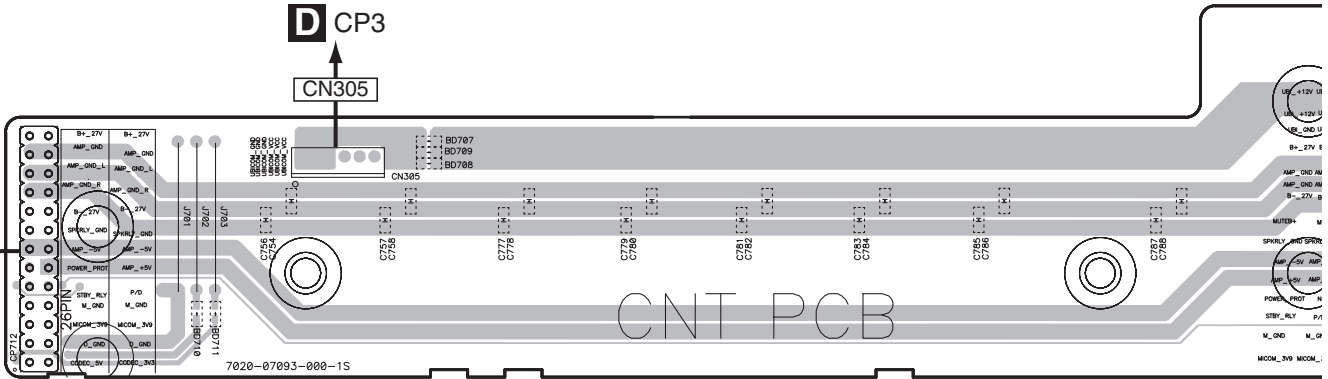
G CP508

D CP3

CN305

C CP605

CP712

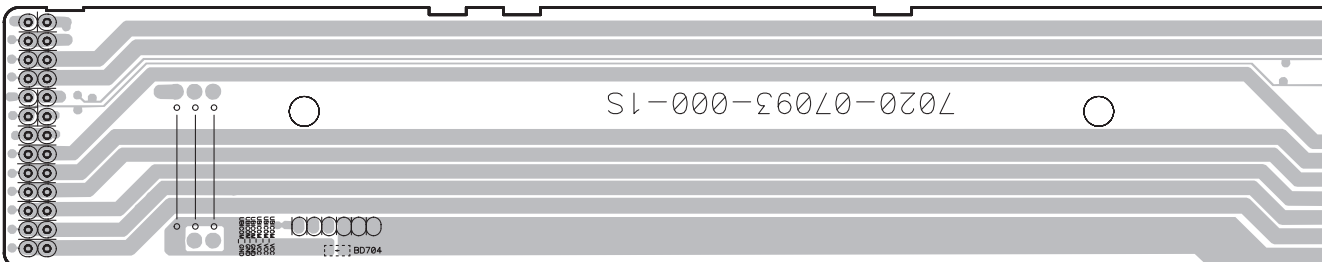


I CNT1 PCB ASSY

SIDE B

I CNT1 PCB ASSY

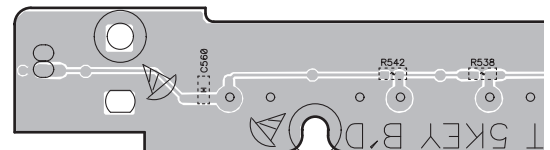
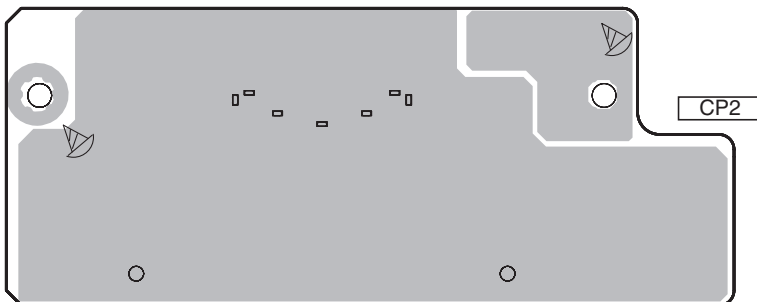
CP712



CN305

CP2

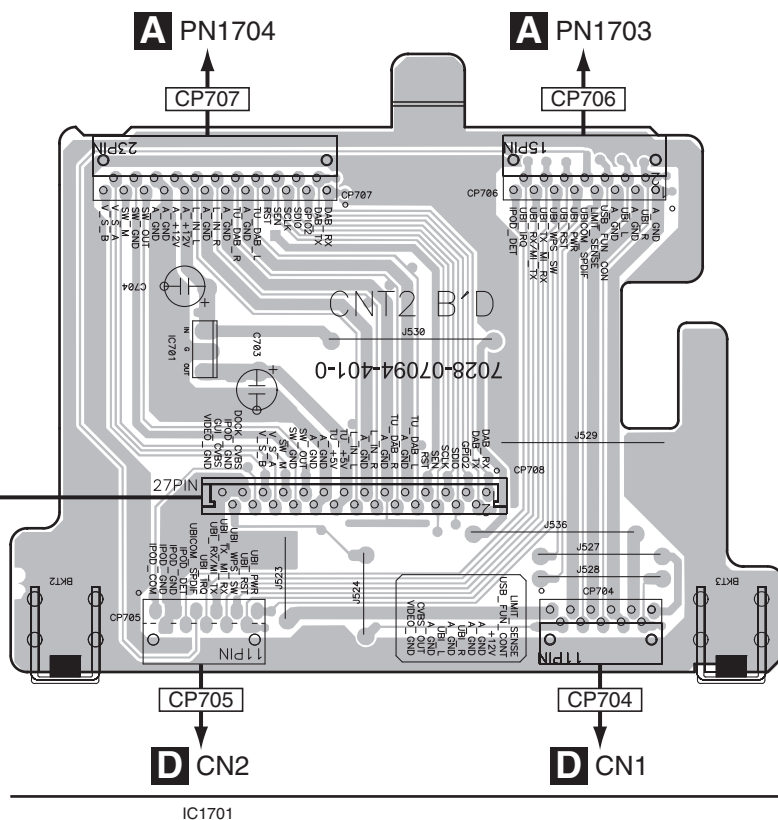
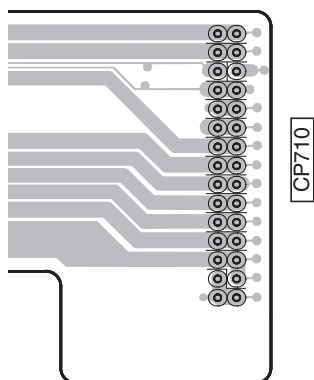
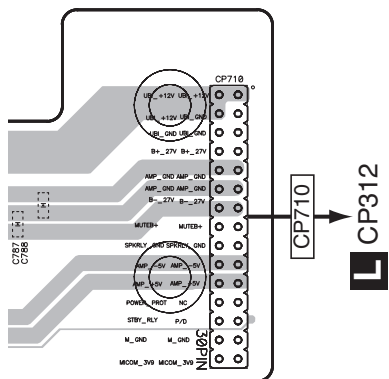
CN502



H I J

H DOCK PCB ASSY

J 5KEY PCB ASSY



12. PCB PARTS LIST

- NOTES: ● Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.
- The Δ 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 $\rightarrow$ 56 $\times 10^1$ $\rightarrow$ 561.....RD1/4PU 5 6 1 J
- 47 k Ω $\rightarrow$ 47 $\times 10^3$ $\rightarrow$ 473.....RD1/4PU 4 7 3 J
- 0.5 Ω $\rightarrow$ R50.....RN2H R 5 0 K
- 1 Ω $\rightarrow$ 1R0.....RSIP 1 R 0 K
- Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
- 5.62 k Ω $\rightarrow$ 562 $\times 10^1$ $\rightarrow$ 5621.....RN1/4PC 5 6 2 1 F
- Meaning of the figures and others in the parentheses in the parts list.
- Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.
- IC 301 (A, 91, 111) IC NJM2068V

SCHEMATIC DIAGRAM and PCB CONNECTION DIAGRAM $\rightarrow$ PCB PARTS LIST

BKT $\rightarrow$ none	BEAD $\rightarrow$ L	RLY $\rightarrow$ RY	SW $\rightarrow$ S
CLAMP $\rightarrow$ none	F $\rightarrow$ FU	RMC $\rightarrow$ U	VEC $\rightarrow$ S9***
W $\rightarrow$ none	FLT $\rightarrow$ V	RES $\rightarrow$ X	GND $\rightarrow$ KN
LUG $\rightarrow$ none	JACK $\rightarrow$ JA	XTAL $\rightarrow$ X9***	
P $\rightarrow$ none	JACK $\rightarrow$ JA9***	BD $\rightarrow$ L7***	
PACK $\rightarrow$ 9***	JK $\rightarrow$ JA	LED $\rightarrow$ D8***	
CP $\rightarrow$ CN	PT $\rightarrow$ T	Z $\rightarrow$ D9***	
CP $\rightarrow$ CN9***	REG $\rightarrow$ IC	ZD $\rightarrow$ D9***	
FPC $\rightarrow$ CN9*** or CN	REG $\rightarrow$ IC9***	DZ $\rightarrow$ D9***	

Mark	No.	Description	Part No.
LIST OF ASSEMBLIES			
NSP	1..	PCB TOTAL ASSY MAIN	7025MU1101011-IL
	2..	MAIN PCB ASSY	7028070931010-IL
	2..	FRONT PCB ASSY	7028070932010-IL
	2..	DOCK PCB ASSY	7028070933010-IL
	2..	FAUX PCB ASSY	7028070934010-IL
	2..	CNT1 PCB ASSY	7028070935010-IL
	2..	FUSB PCB ASSY	7028070936010-IL
NSP	1..	PCB TOTAL ASSY POWER	7025MU1101012-IL
	2..	POWER PCB ASSY	7028070941010-IL
	2..	TUNER PCB ASSY	7028070942010-IL
	2..	CNT2 PCB ASSY	7028070944010-IL
	2..	5KEY PCB ASSY	7028070946010-IL
NSP	1..	PCB TOTAL ASSY UBICO	7025MU1101013-IL
	2..	UBICOM PCB ASSY	7028070951010-IL
NSP	1..	PCB TOTAL ASSY CD	7025MU1101014-IL
	2..	CD PCB ASSY	7028070921010-IL

Mark	No.	Description	Part No.
	IC	1607	J121458000020-IL
	Q	1601	J520124S00020-IL
	Q	1602	J520198100010-IL
	Q	1603,1604	J522123S00020-IL
	Q	1605	J6002201S0020-IL
	D	1601	K045154000000-IL
	D	1602	K005035500010-IL

MISCELLANEOUS

X	1601	CRYSTAL (16.9344 MHz)	E80516R934420-IL
X	1602	CRYSTAL (18.432 MHz)	E80518R432020-IL
CN	1602	CN.FPC 1.0MM	L130100223160-IL
CN	1603	CN.WAFER 2.0MM	L101200100520-IL
CN	1604	CN.WAFER 2.0MM	L101200100620-IL
CN	1701,1704	CN,WAFER	L109012512310-IL
CN	1702	CN,WAFER	L109012512910-IL
CN	1703,1705	CN,WAFER	L109012511510-IL

TUNER PCB ASSY

SEMICONDUCTORS

IC	400	J127763300010-IL
Q	400,401	J5222875B0010-IL
D	400-407	K005041480030-IL

MISCELLANEOUS

JA	400	TER,RCA 1PIN	G600107AY000Y-IL
JA	401	RCA JACK	G601207AE020Y-IL
JA	402	TER,RCA 1PIN	G600107A0000Y-IL
CN	400	CN,WAFER	L109012522710-IL
	400	TUNER,FM/AM	E903104100780-IL

Mark	No.	Description	Part No.
A CD PCB ASSY			
SEMICONDUCTORS			
	IC	1601	8952HM7000030-IL
	IC	1602	J001638165610-IL
	IC	1603	J005254001210-IL
	IC	1604	8952HM7000020-IL
	IC	1605	J126730270020-IL
	IC	1606	J127586900010-IL

5	6	7	8					
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.	
C	MAIN PCB ASSY			A				
	SEMICONDUCTORS							
	IC 600		J000241600021-IL		IC 10		J040916100010-IL	
	IC 601		8952HM7000011-IL		IC 11,14		J046255700010-IL	
	IC 602,606		J121458000020-IL		IC 12		J040314001010-IL	
	IC 603		J040739100010-IL		IC 15		J045495400010-IL	
	IC 605		J121456000041-IL		IC 16		J042435000010-IL	
					IC 17		J126111750030-IL	
	IC 607		J126781200040-IL		IC 18,19		J040332001010-IL	
	IC 608,612		J080209201010-IL		IC 20		TC7WHU04FU	
	Q 500,502,504,506		J5222875B0010-IL		Q 1		J520103S00210-IL	
	Q 600,601,611		J520010200210-IL		Q 3,5,7,9		J520010200210-IL	
	Q 602,604,612,618		J520015040150-IL		Q 4,6,8,10		J522010200210-IL	
					Q 13,16		J520010200210-IL	
	Q 603,605,616,617		J522010200210-IL		Q 14,15		J5222875B0010-IL	
	Q 606,632		J5223875Y0210-IL		Q 17		J522010200210-IL	
	Q 607-610		J5222875B0010-IL		D 2,3,11-14		K005041480030-IL	
	Q 613		J5231898G0210-IL		D 6-9		K120081200010-IL	
	Q 615,619,627,629		J543206000010-IL					
	Q 628,630		J522010200210-IL		D 10		K06603R64P400-IL	
	Q 631,637		J520103S00210-IL		D 17,18		K005041480030-IL	
	Q 633,636		J5023198Y0000-IL		MISCELLANEOUS			
	Q 634		J522010300210-IL		L 2,6,9	COIL,INDUCTOR	D310101056820-IL	
	Q 635		J5001268B0050-IL		L 13,17	COIL,CHOKE	D300121069000-IL	
					L 32	COIL,INDUCTOR	D310101056820-IL	
	D 600-608,611,613		K005041480030-IL		JA 1	JACK,MODULAR	G4060RJ450120-IL	
	D 609,610,612,615		K005120301010-IL		JA 2	CN,PLUG CONTACT	G480040100010-IL	
	D 614,617,620,623		K005041480030-IL					
	D 616,618,622		K005120301010-IL		X 1	CRYSTAL CHIP (12 MHz)	E80512R000050-IL	
	D 619,621		K005035500010-IL		X 3	CRYSTAL CHIP (27 MHz)	E80527R000050-IL	
					CN 1,2	CN,WAFER	L109012511110-IL	
	D 624		K005041480030-IL		CN 9001	CN.WAFER 2.0MM	L101200100710-IL	
	D 9600		K06009R144520-IL		CN 9002,9003	CN.WAFER 2.0MM	L101200100610-IL	
	D 9601		K06015R044520-IL					
	D 9602		K06024R044520-IL					
	D 9603		K06018R044520-IL					
	D 9604		K06020R044520-IL					
	D 9605		K06003R944520-IL					
	D 9606		K000013300520-IL					
	D 9608,9609		K06605R64P400-IL					
MISCELLANEOUS				D				
L 600,602 COIL,FILTER-INDUCTOR								
JA 600 TER,BOARD SCREW 4P								
RY 600 RELAY								
X 600 CRYSTAL (32.768 kHz)								
X 9600 RESONATOR,CERAMIC								
CN 601 CN.WAFER 2.0MM								
CN 602 CN.WAFER								
CN 603 CN.WAFER								
CN 605 CN.WAFER 2.5MM								
CN 702 CN.FPC 1.0MM								
CN 9600 CN.FPC 1.25MM								
P 600,601 POSISTOR								

Mark	No.	Description	Part No.
A	S	506,510 SWITCH	G180501000010-IL
	CN508	CN.WAFER 2.0MM	L101200100220-IL
	CN512	CN.WIRE 2MM	L002101042620-IL
	CN514	CN.FPC 1.25MM	L131125021520-IL

H DOCK PCB ASSY

SEMICONDUCTORS

D	52-54	K067030500010-IL
D	55,56	K005041480030-IL

MISCELLANEOUS

CN2	CN.WAFER 2.0MM	L101200370720-IL
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I CNT1 PCB ASSY

MISCELLANEOUS

CN305	CN.WIRE 2MM	L002181080050-IL
CN710	CN.WAFER 2.5MM	L102125423010-IL
CN712	CN.WAFER 2.5MM	L102125422610-IL

J 5KEY PCB ASSY

MISCELLANEOUS

S	500,502,504,508 SWITCH	G180501000010-IL
S	512 SWITCH	G180501000010-IL
CN502	CN.WIRE 2MM	L002500022620-IL

K CNT2 PCB ASSY

SEMICONDUCTORS

IC	701	J126780500110-IL
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MISCELLANEOUS

CN704,705	CN.WAFER	L109012521110-IL
CN706	CN.WAFER	L109012521510-IL
CN707	CN.WAFER	L109012522310-IL
CN708	CN.WAFER	L109012512710-IL

L POWER PCB ASSY

SEMICONDUCTORS

IC	301	J126781200040-IL
IC	303	J126791200060-IL
IC	305	J126780500450-IL
IC	307	J126790500130-IL
IC	311	J12678R080010-IL

IC	313	J126111733110-IL
IC	315	J126111700041-IL
Q	300	J522305200050-IL
Q	301	J5021027Y0020-IL
Q	303,307	J5023198Y0000-IL

Q	305	J5001268B0050-IL
Q	310,312	J522107S00210-IL
Q	311	J5021740S0010-IL
D	301,303,309,311	K000400700010-IL
D	304,310	K06005R144520-IL

F	⚠	D	307	K047100600010-IL
		D	313,315,339,341	K000400700010-IL
		D	317-319,340,342	K005041480030-IL
		D	320,322,330,331	K125551300010-IL

Mark	No.	Description	Part No.
D	321		K000414802520-IL
D	323,335,337,338		K000013300520-IL
D	325		K047800500010-IL
D	328		K047604000020-IL
D	343		K005041480030-IL
D	345,347		K000400700010-IL
D	9301		K06020R044520-IL
D	9303		K06024R044520-IL

MISCELLANEOUS

⚠	RY	301 RELAY	G680060102020-IL
⚠	T	302 POWER TRANS	8200280150380-IL
⚠	CN	301 CN.WAFER 7.92MM	L108396030010-IL
	CN	304 CN.WAFER 2.0MM	L101200100410-IL
	CN	305 CN.WIRE 2MM	L002281040080-IL

CN	306	CN.WIRE 2MM	L002251030150-IL
CN	310	CN.WAFER	L109012521510-IL
CN	312	CN.WAFER 2.5MM	L102225423020-IL
⚠	FU	302-305 FUSE	G658202250050-IL

RESISTORS

R	305	N113135647920-IL
R	315,325	C060R47065050-IL

CAPACITORS

C	315,323	D040332087000-IL
C	329,367,377	D040332084030-IL
⚠	C	335 D00847208H010-IL
C	341	D040102084060-IL
C	395	D040102083030-IL