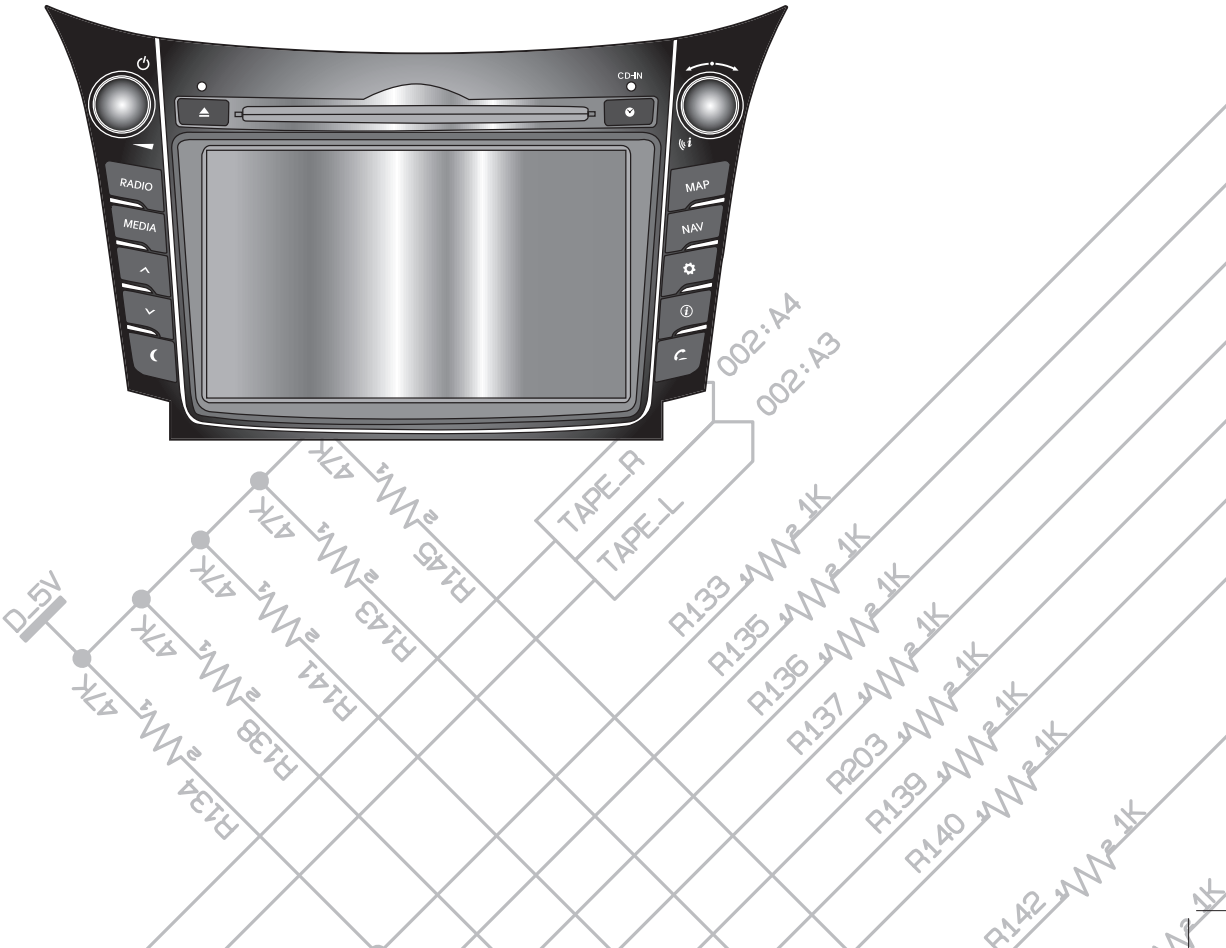


CAR NAVIGATION SYSTEM

SERVICE MANUAL

MODEL: LAN1050EHGD



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SECTION 2. NAME OF EACH PART

SECTION 3. OVERALL BLOCK DIAGRAM

SECTION 4. EXPLODED VIEWS

SECTION 5. FRONT PART

SECTION 6. MAIN PART

SECTION 7. AUDIO PART

SECTION 8. TROUBLESHOOTING GUIDE

SECTION 1. SPECIFICATION

[CONTENTS]

- SPECIFICATION 1-1

SPECIFICATION

GENERAL

Output Power.....	Digital Output (S/PDIF)
Power Source	DC 14.4 V
Ground System.....	Negative
Dimensions (W x H x D)	263.3 x 136.8 x 199.7 mm
Net Weight.....	2.65 kg

DISPLAY

LCD	17.78 cm (7 inch) TFT LCD
Resolution.....	800 X 480
Back Light.....	LED Type

CD SECTION

Frequency Response	20 Hz to 20 kHz
S/N Ratio	70 dB
Distortion	0.3 %
Channel Separation (1 kHz)	60 dB

RADIO SECTION

FM

Frequency Range	87.5 to 108 MHz
S/N Ratio	50 dB
Distortion	1 %
Usable Sensitivity	12 dB μ V

AM (MW)

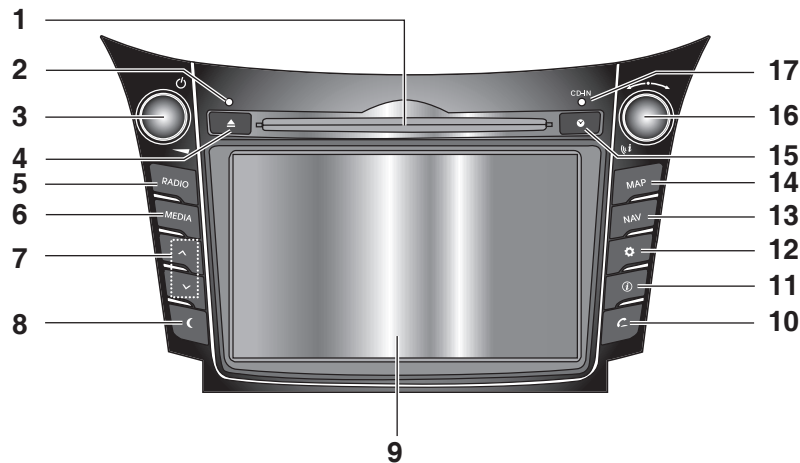
Frequency Range	522 to 1620 kHz
S/N Ratio	45 dB
Distortion	1.0 %
Usable Sensitivity	35 dB μ V

SECTION 2. NAME OF EACH PART

[CONTENTS]

• CONTROL PANEL	2-1
• STEERING WHEEL REMOTE CONTROL	2-3

CONTROL PANEL



1. Disc slot

2. RESET hole

Press with thin object to reset the unit when it does not operate normally.

3. Left knob (⏻ / ◀)

- Press: power on/off
- Turn: volume control

4. Eject (▶)

Press to eject a disc from the unit.

5. RADIO

Press to select FM/AM band.

6. MEDIA

Press to select a source: CD/USB/iPod/BT/AUX

7. ▲/▼

- Press to:
 - Automatic tuning: **RADIO**
 - Track up/down: **USB** **CD** **iPod** **BT**
- Press and hold to:
 - Search (FF/REW): **USB** **CD** **iPod** **BT**

8. Display on/off (⏻)

Press to switch between the display on and off.

9. LCD

Touch to operate.

10. PHONE (☎)

Press to operate Bluetooth Hands-Free function.

11. Info (ℹ)

Press to view the destination, route, and traffic information.

- Destination: shows the information of current vehicle position and destination.
- Route: shows the route information.

- Traffic: shows the traffic information.

- Traffic info on route: the list of traffic information on active route
- Traffic info nearby: the list of traffic information around the current vehicle position.

12. SETUP (⚙)

- Press to access system settings.
- Press and hold to check the device ID, the software version, the navigation version, and the map version.

13. NAV

Press to enter destination menu.

Various methods for entering a destination are available.

14. MAP

Press to display the map.

15. Clock (⌚)

- Press to display the digital/analog clock in both power on/off status.
- Press and hold to display to the [Clock] menu.

16. Right knob (↻)

Rotate it clockwise/counterclockwise.

- Searches the previous or next radio frequency.
 - Manual tuning
- Skips a track/file up/down in all list screen.
- ZOOM IN/ZOOM OUT
 - Rotate to change the map scale on the map screen.

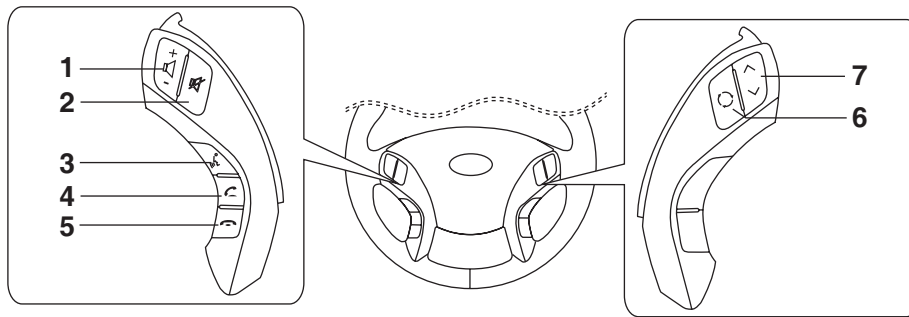
Repeat voice guidance (🔊)

Push to repeat the last guidance advice when guidance is active.

17. CD indicator light (CD-IN)

When a disc is inserted, the indicator is illuminated.

STEERING WHEEL REMOTE CONTROL



1. Volume (⏮/⏭)

Increases or decreases the volume level.

2. 🚫

Mutes the volume.

3. 🗣️

- Press to activate voice recognition mode.
- Press once more to cancel voice recognition.

4. 📞

Press to operate Bluetooth Hands- Free function.

- Press to accept a call.
- Press to make a call from last calls.
- Press and hold to switch the sound path during a call. (Hands free ↔ phone)

5. 📞

Press to hang up a call.

6. 🔄

Press to select a source.

FM → AM → CD → USB (or iPod) → BT → AUX → FM...

7. ⏮/⏭

- Press to:

- Preset up/down: **RADIO**
- Track up/down: **USB** **CD** **iPod** **BT**

- Press and hold to:

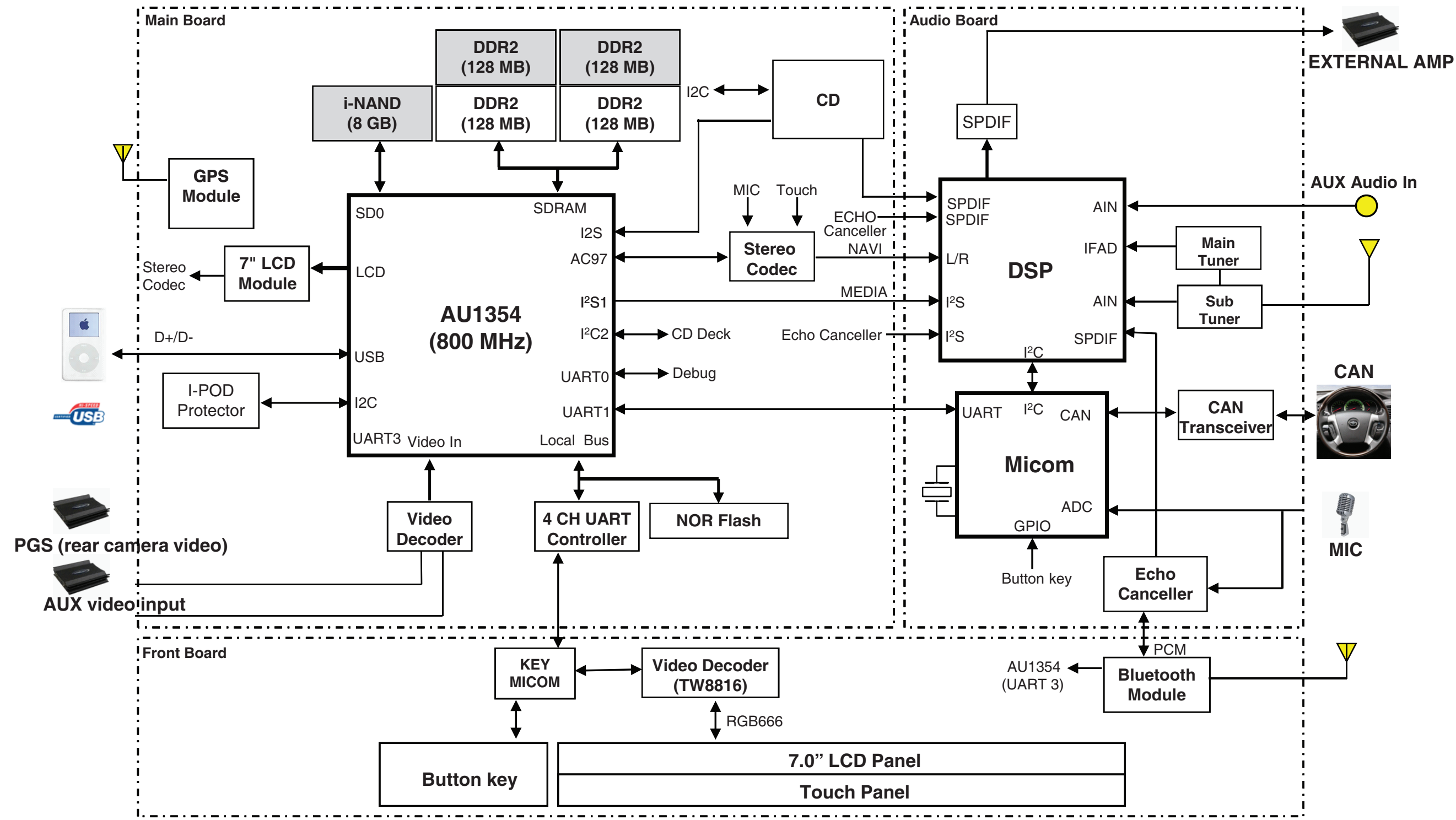
- Manual tuning: **RADIO**
- Search (FF/REW): **USB** **CD** **iPod** **BT**

SECTION 3. OVERALL BLOCK DIAGRAM

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• OVERALL BLOCK DIAGRAM	3-1
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OVERALL BLOCK DIAGRAM

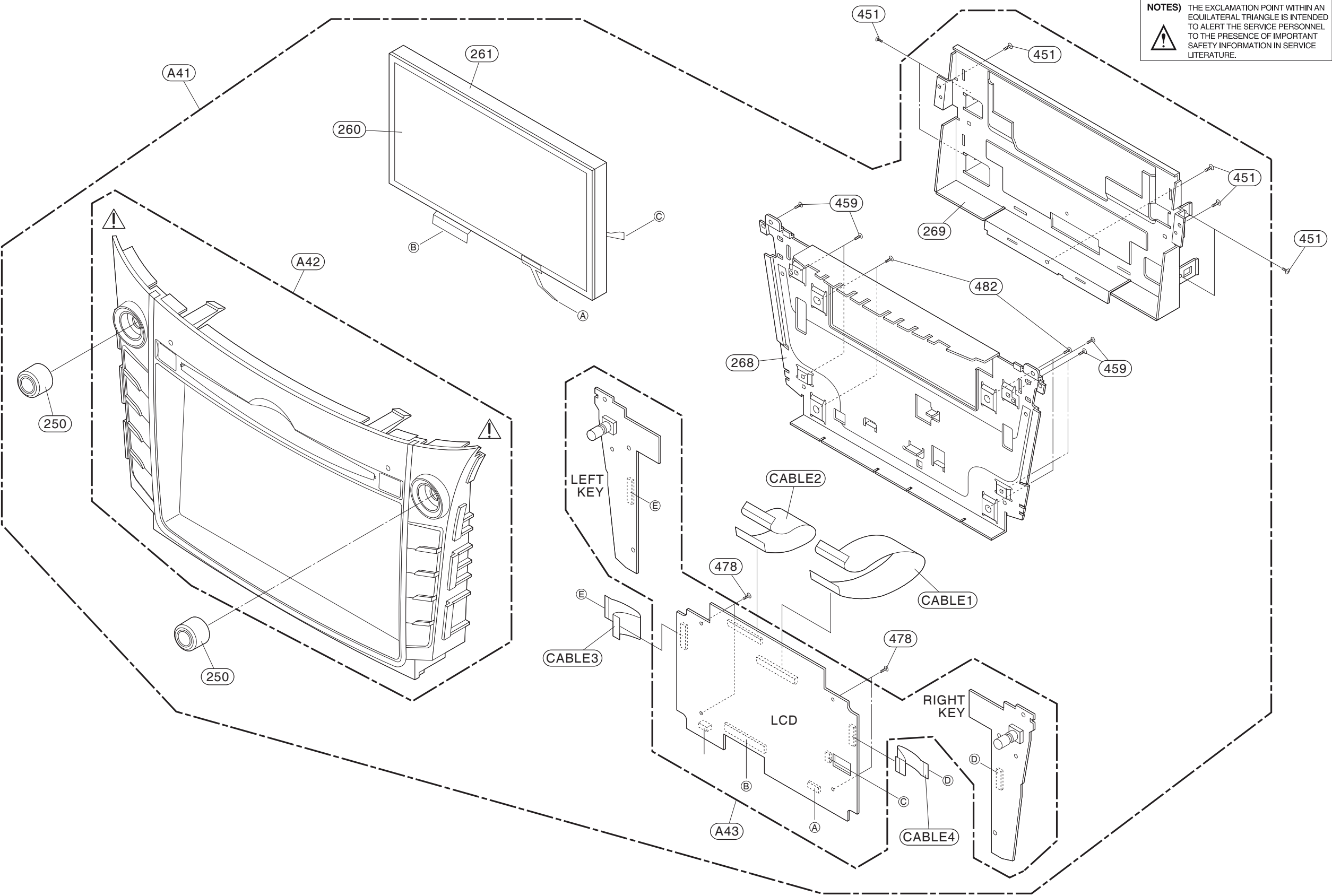


SECTION 4. EXPLODED VIEWS

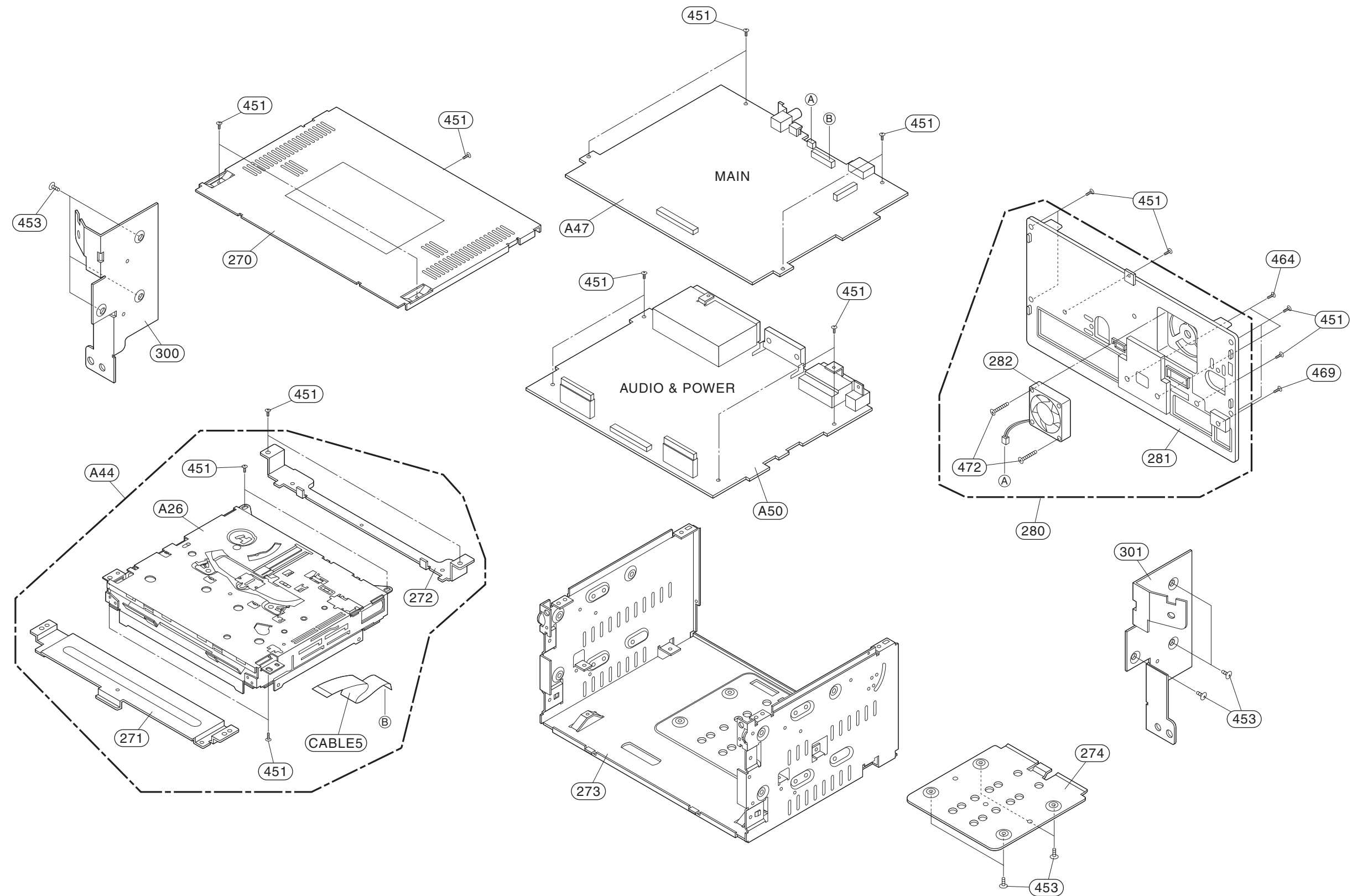
[CONTENTS]

- FRONT PART 4-1
- CABINET AND MAIN FRAME PART 4-3

FRONT PART



CABINET AND MAIN FRAME PART

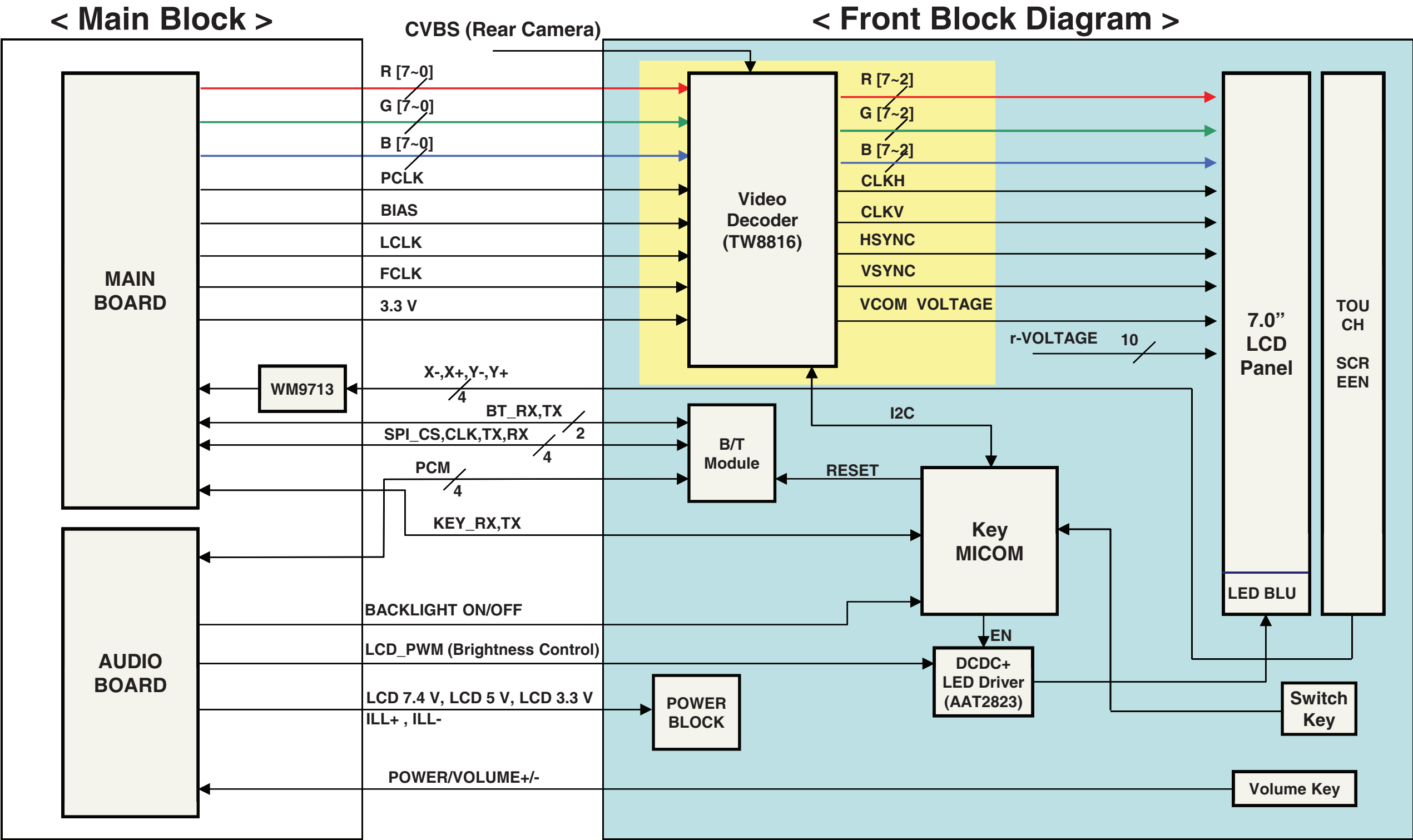


SECTION 5. FRONT PART

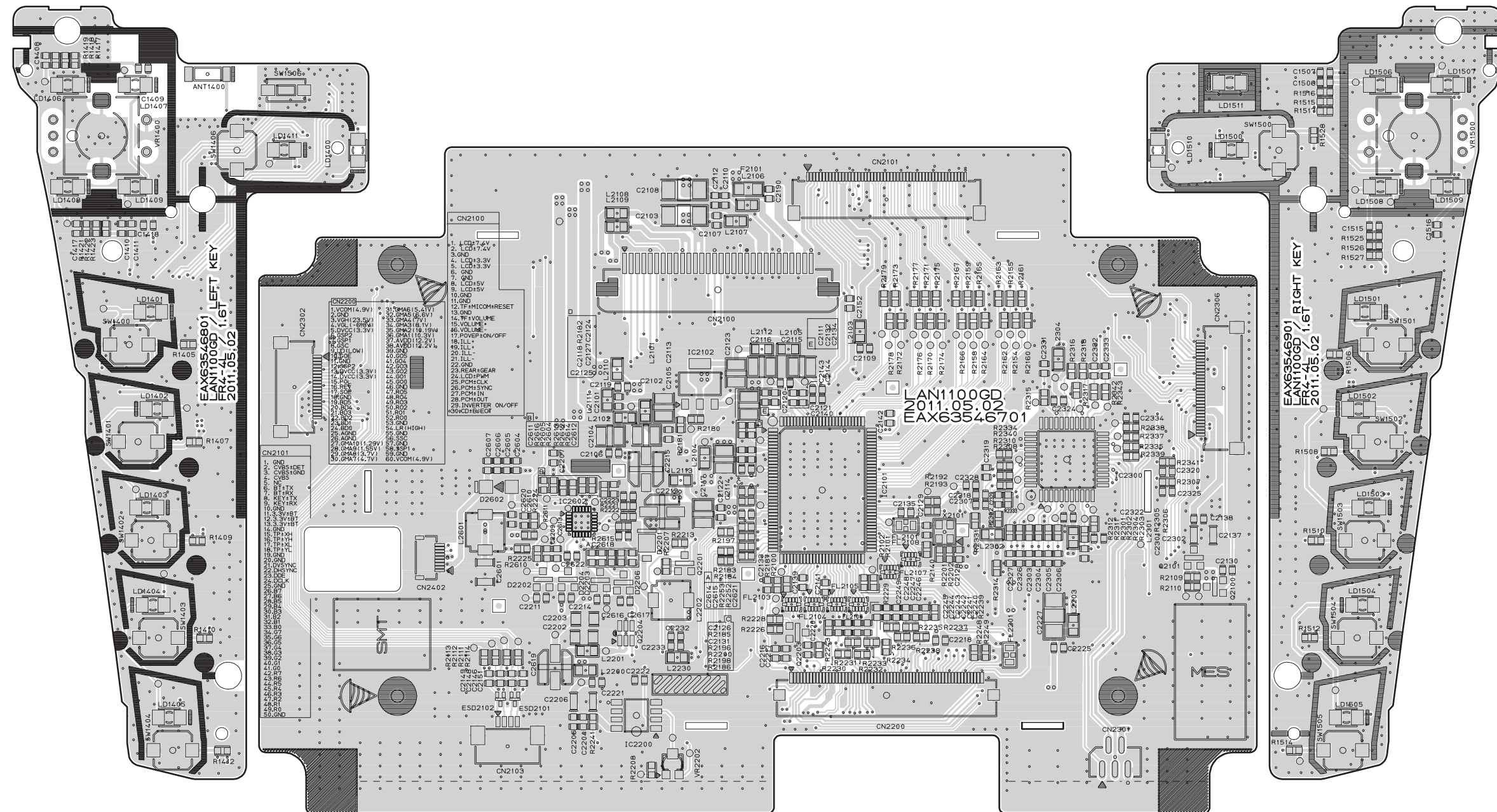
[CONTENTS]

• FRONT BLOCK DIAGRAM	5-1
• FRONT PRINTED CIRCUIT BOARD (TOP VIEW)	5-3
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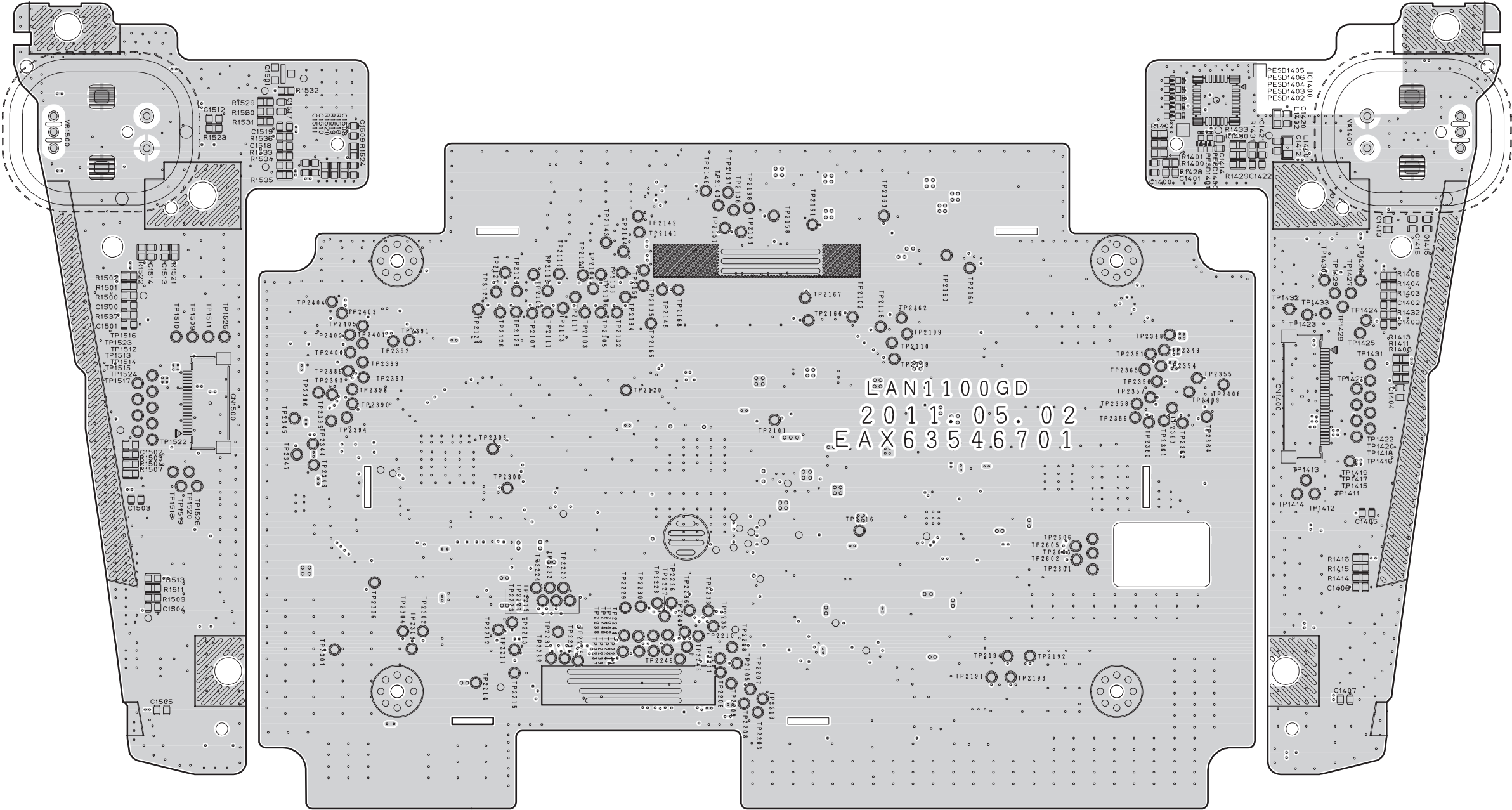
FRONT BLOCK DIAGRAM



FRONT PRINTED CIRCUIT BOARD (TOP VIEW)



FRONT PRINTED CIRCUIT BOARD (BOTTOM VIEW)

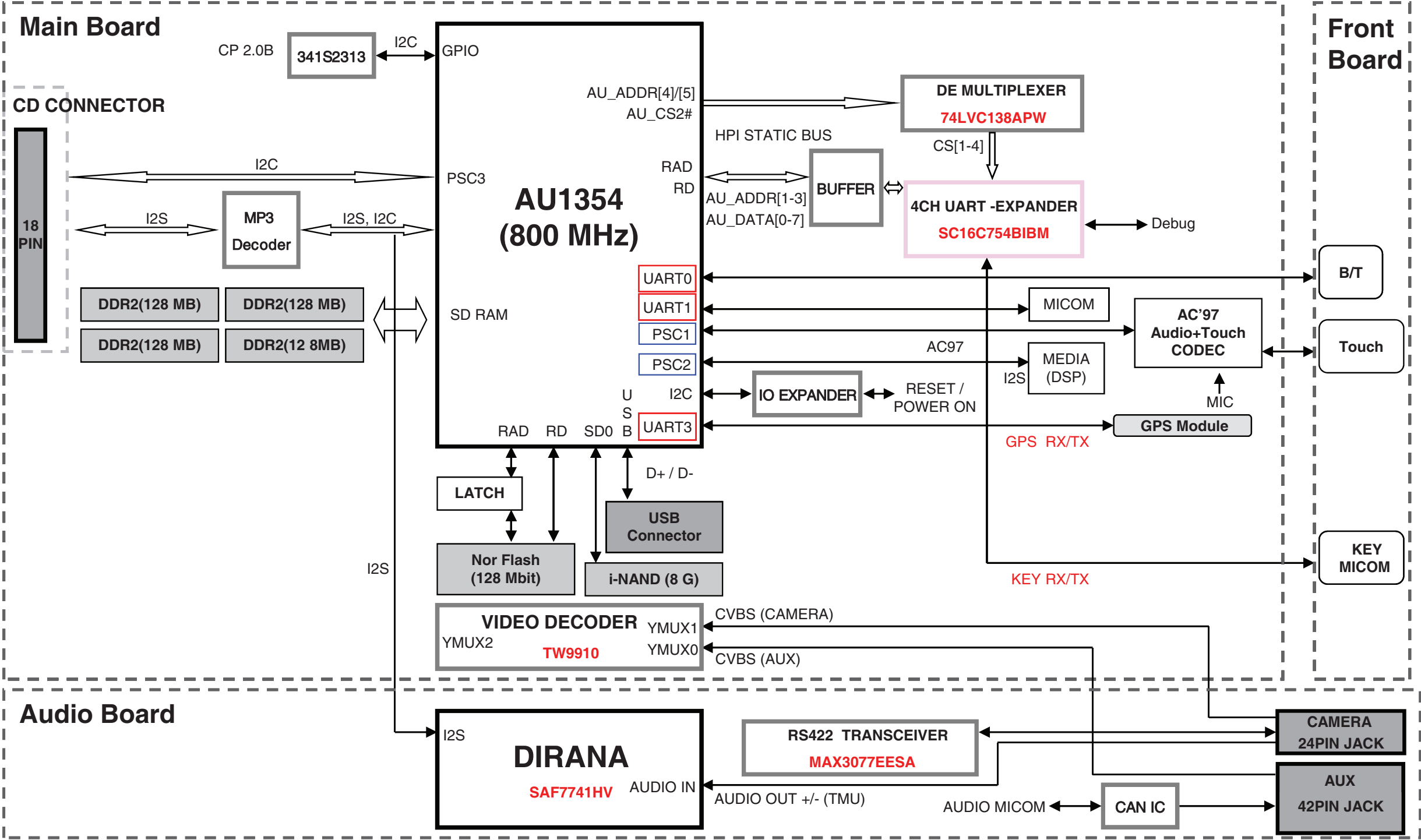


SECTION 6. MAIN PART

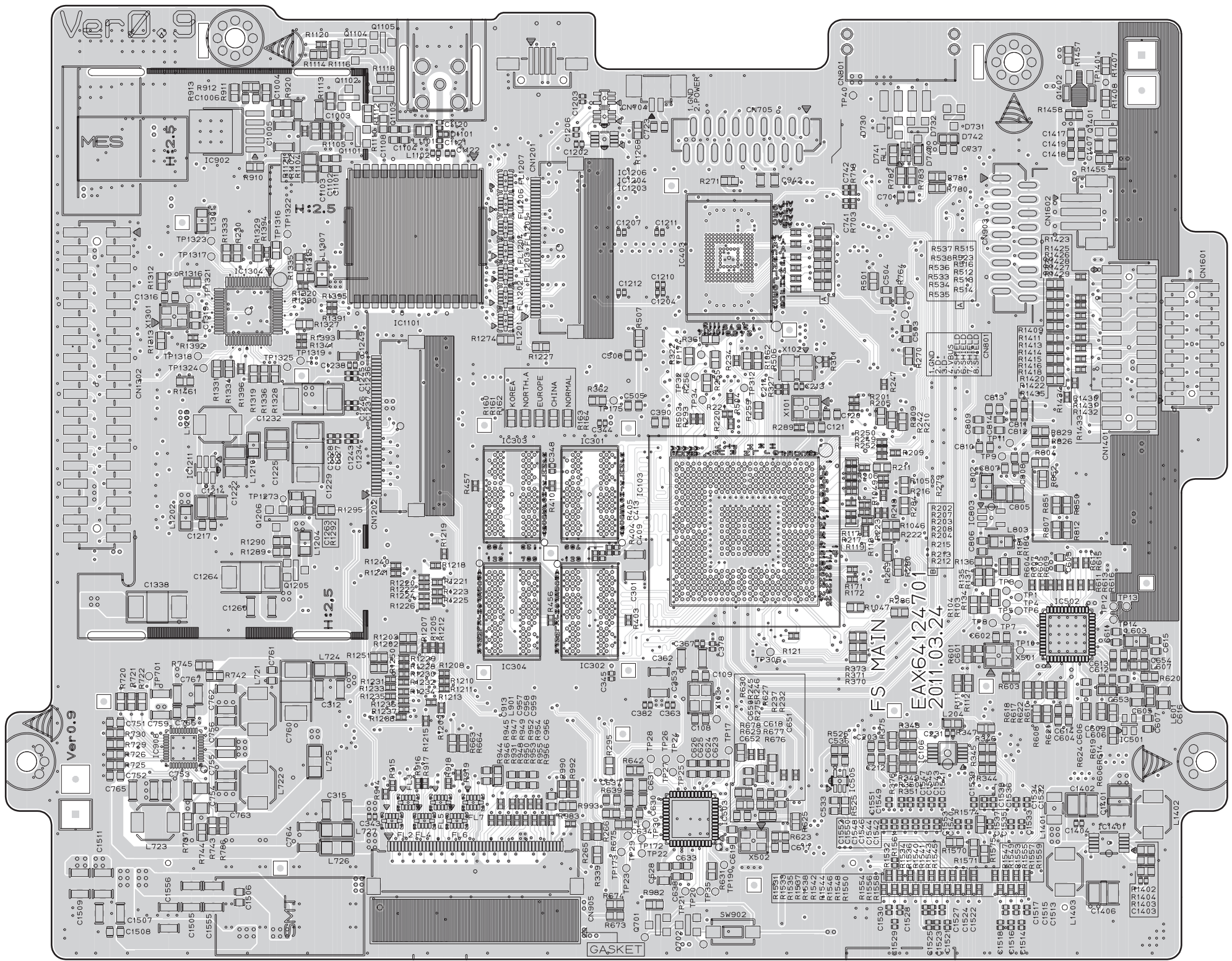
[CONTENTS]

- MAIN BLOCK DIAGRAM..... 6-1
- MAIN PRINTED CIRCUIT BOARD (TOP VIEW) 6-3
- MAIN PRINTED CIRCUIT BOARD (BOTTOM VIEW) 6-5

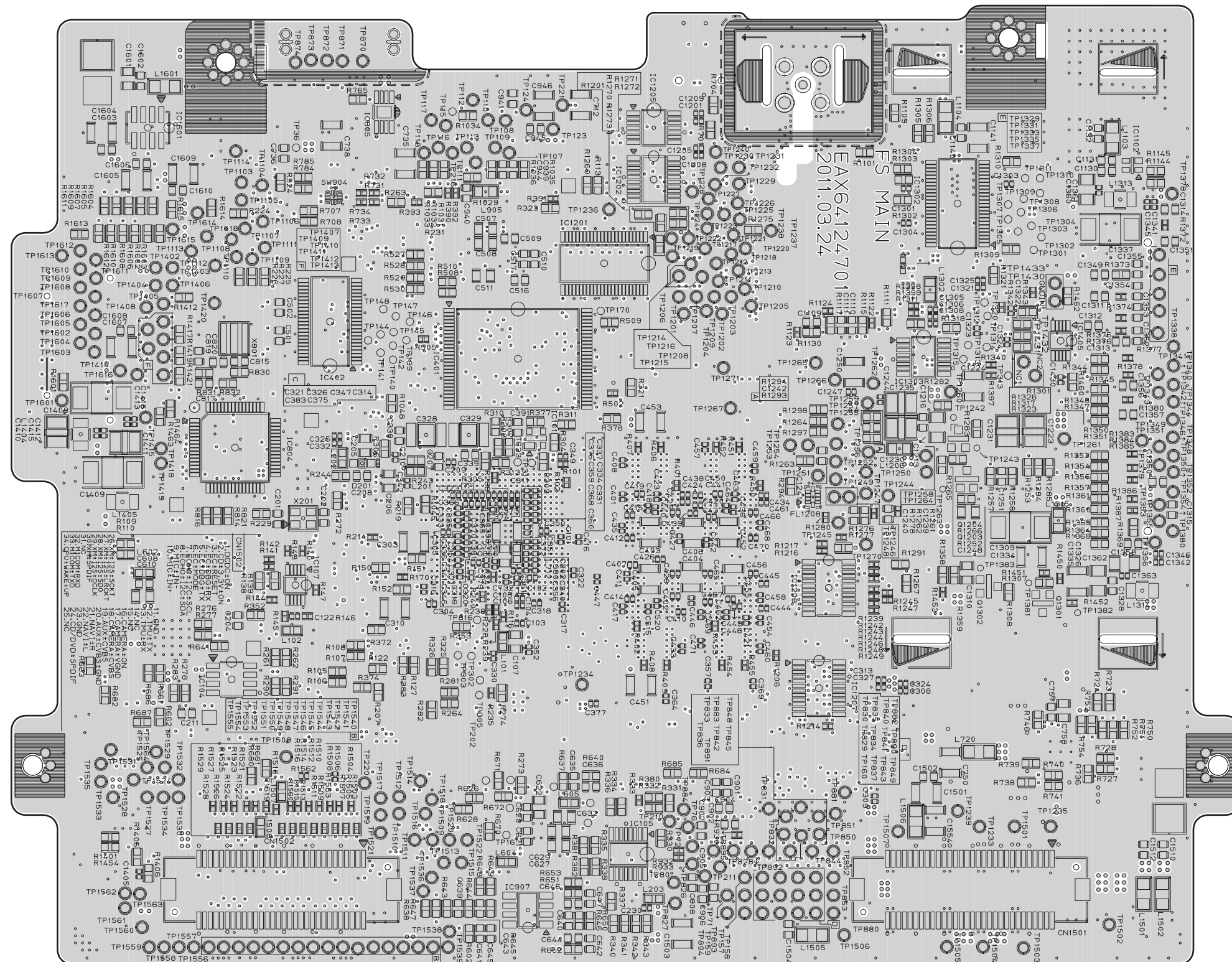
MAIN BLOCK DIAGRAM



MAIN PRINTED CIRCUIT BOARD (TOP VIEW)



MAIN PRINTED CIRCUIT BOARD (BOTTOM VIEW)

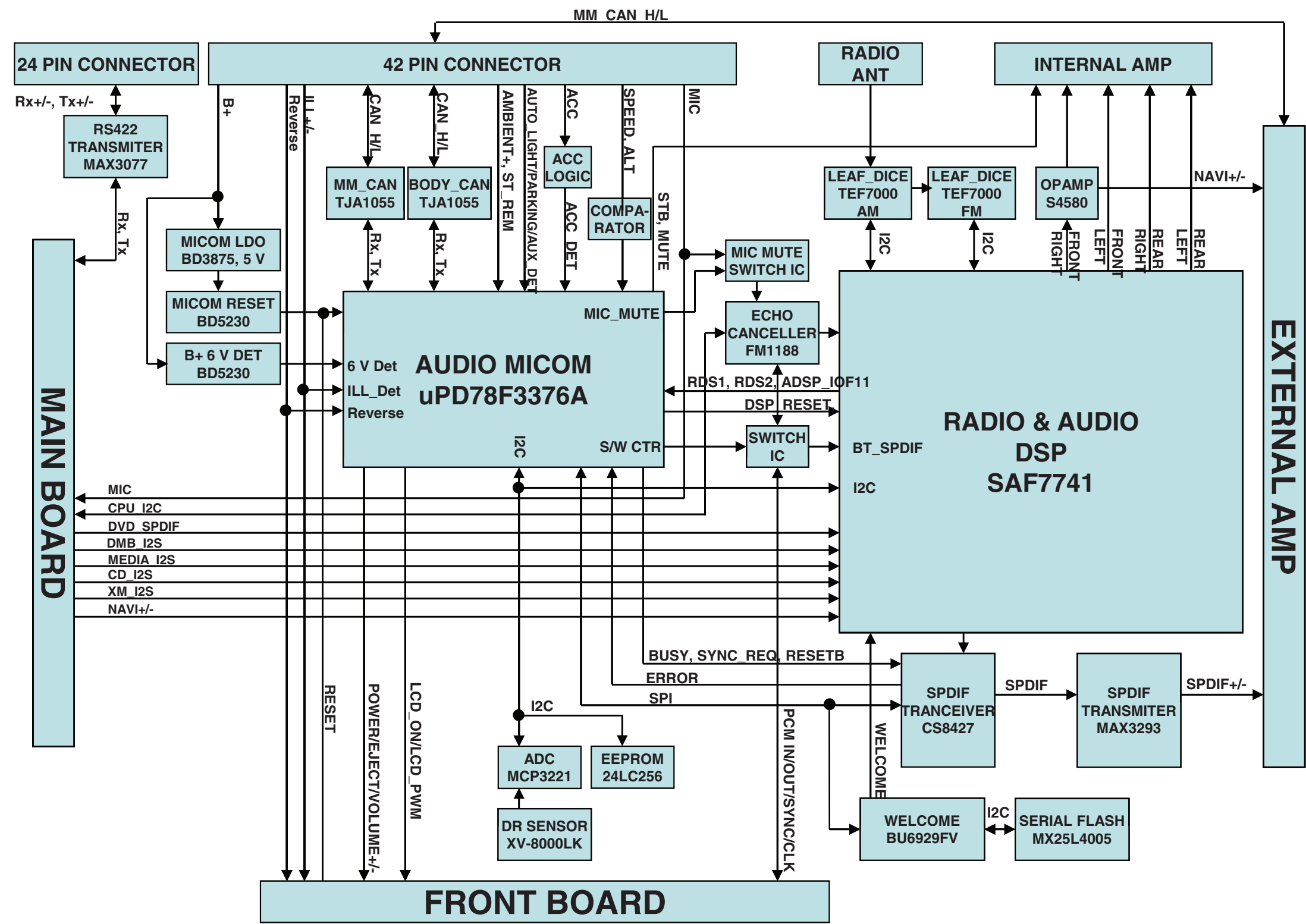


SECTION 7. AUDIO PART

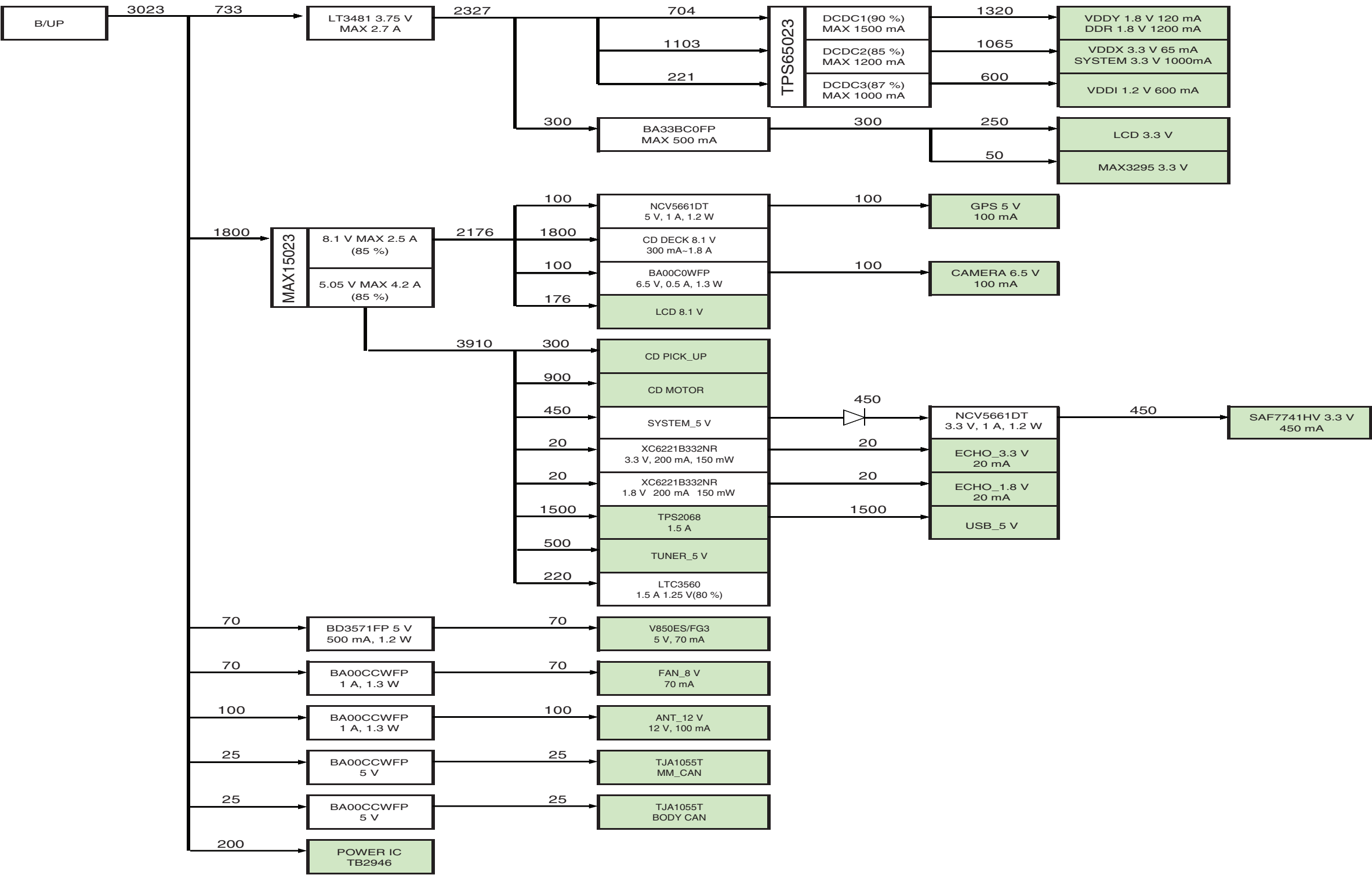
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- AUDIO BLOCK DIAGRAM 7-1
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- AUDIO SOURCE FLOWCHART 7-5
- AUDIO CONNECTOR PIN DESCRIPTON 7-7
- AUDIO PRINTED CIRCUIT BOARD (TOP VIEW) 7-9
- AUDIO PRINTED CIRCUIT BOARD (BOTTOM VIEW) 7-11

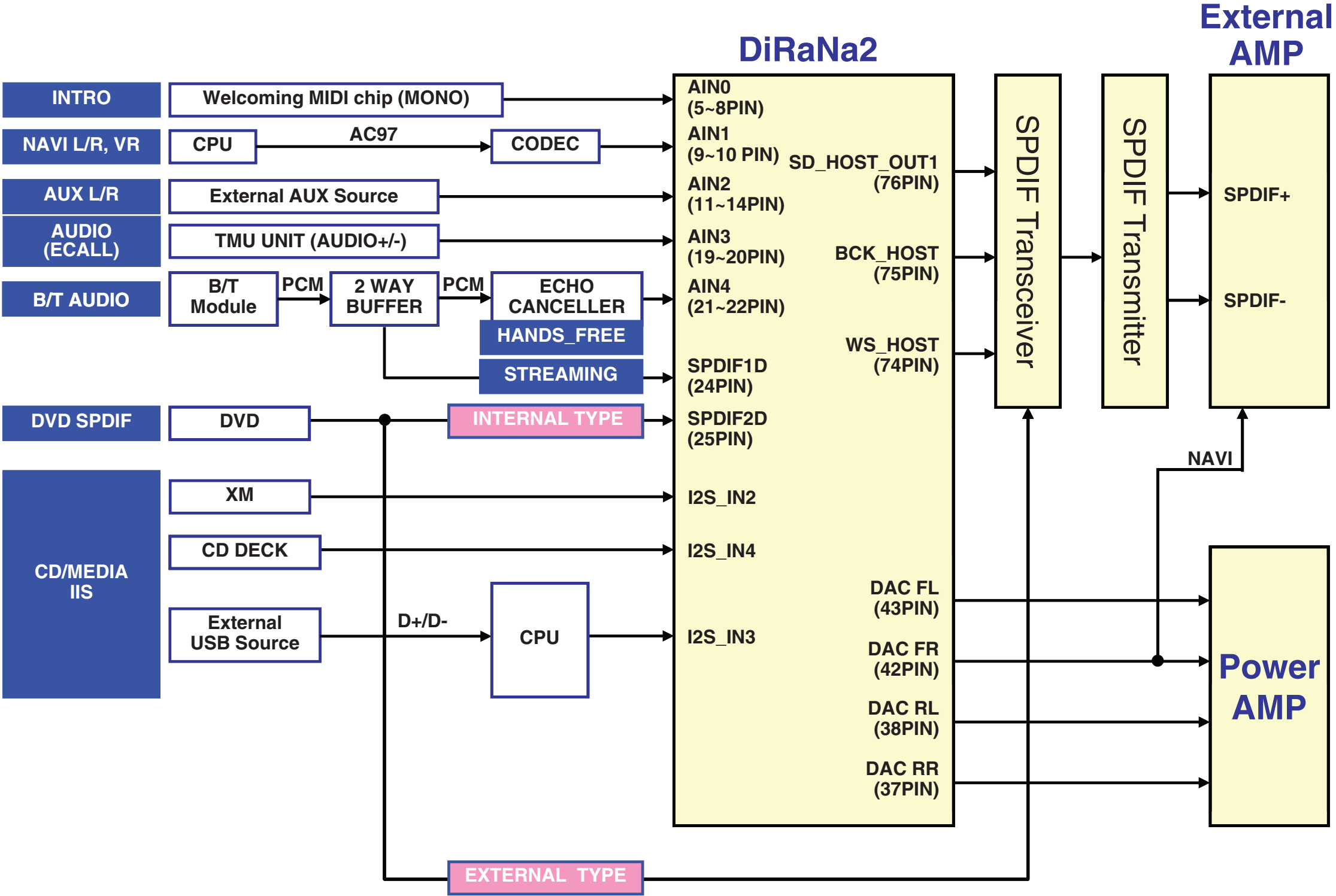
AUDIO BLOCK DIAGRAM



POWER BLOCK DIAGRAM



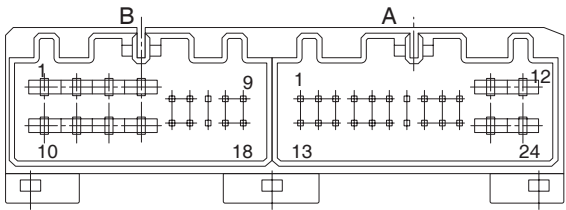
AUDIO SOURCE FLOWCHART



AUDIO CONNECTOR PIN DESCRIPTON

A. POWER & SIGNAL CONNECTOR

KET MG644408 (42PIN)

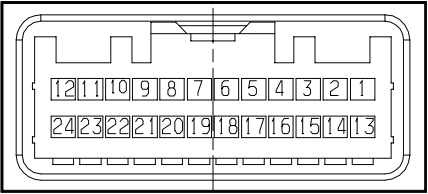


NUMBER	NAME	NUMBER	NAME
A12	BATT_B+	A15	AUTO_LIGHT
A11	ACC	A14	MM_CAN_L
A10	AUX_L	A13	HS_CAN_L
A9	AUX_GND	B9	NAVI_VOICE+
A8	AUX_R	B8	NAVI_VOICE-
A7	ILL+	B7	REVERSE_GEAR
A6	ILL-	B6	SPDIF+
A5	STEER_KEY	B5	SPDIF_GND
A4	N.C (N.America AVN : GND)	B4	Front Left -
A3	DOOR_UNLOCK	B3	Front Right +
A2	MM_CAN_H	B2	Front Right -
A1	HS_CAN_H	B1	Front Left +
A24	GND	B18	SPEED
A23	GND	B17	AUX_CVBS_IN
A22	MIC-	B16	AUX_VGND
A21	MIC+	B15	SPDIF-
A20	AUX_DET	B14	AMBIENT
A19	ALT_IN	B13	Rear Left -
A18	REMOTE_ANTENNA	B12	Rear Left +
A17	Key_GND	B11	Rear Right -
A16	PARKING	B10	Rear Right +

※ North American Optional

B. CAMERA & TMU CONNECTOR

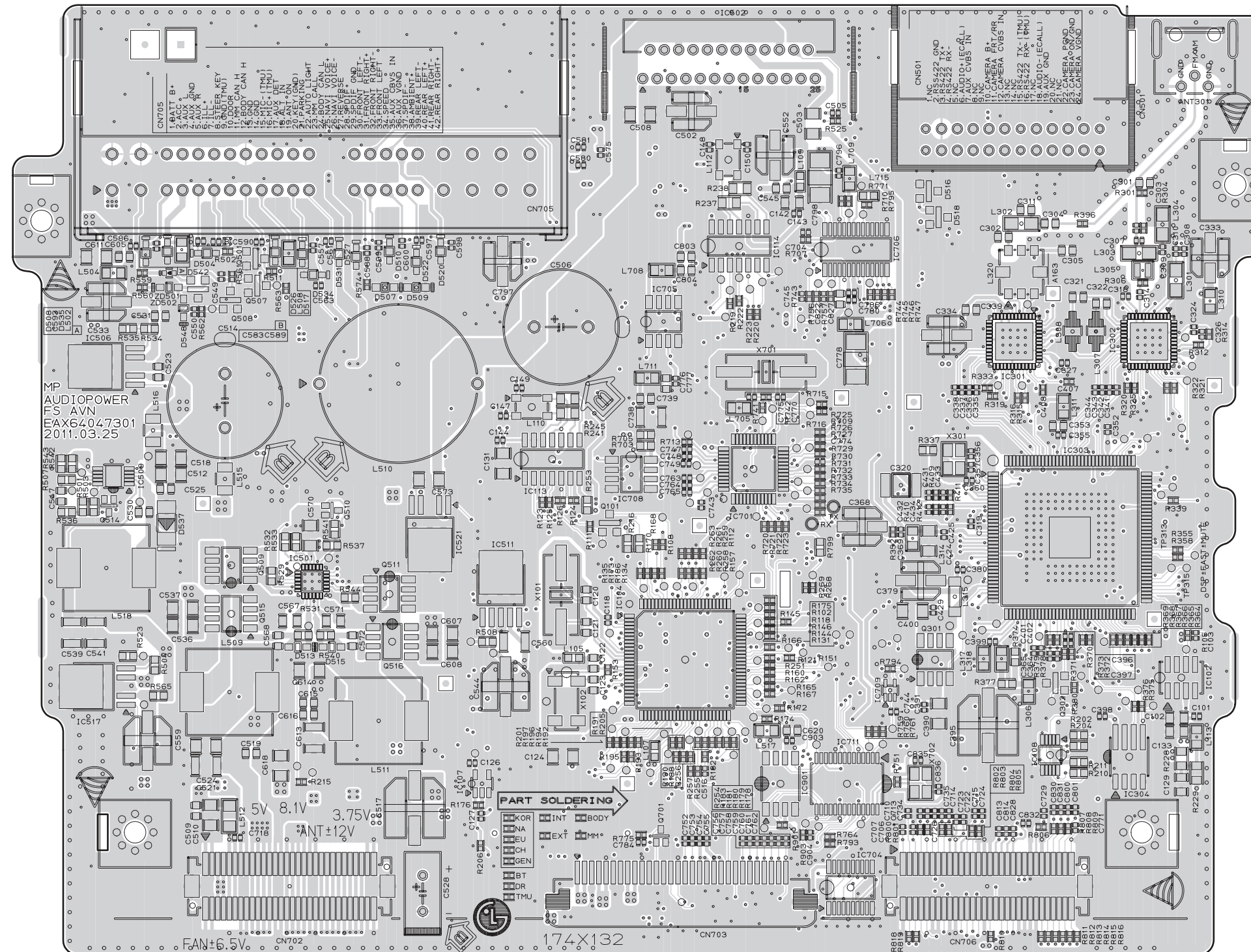
TYCO AMP 1318853 (24PIN)



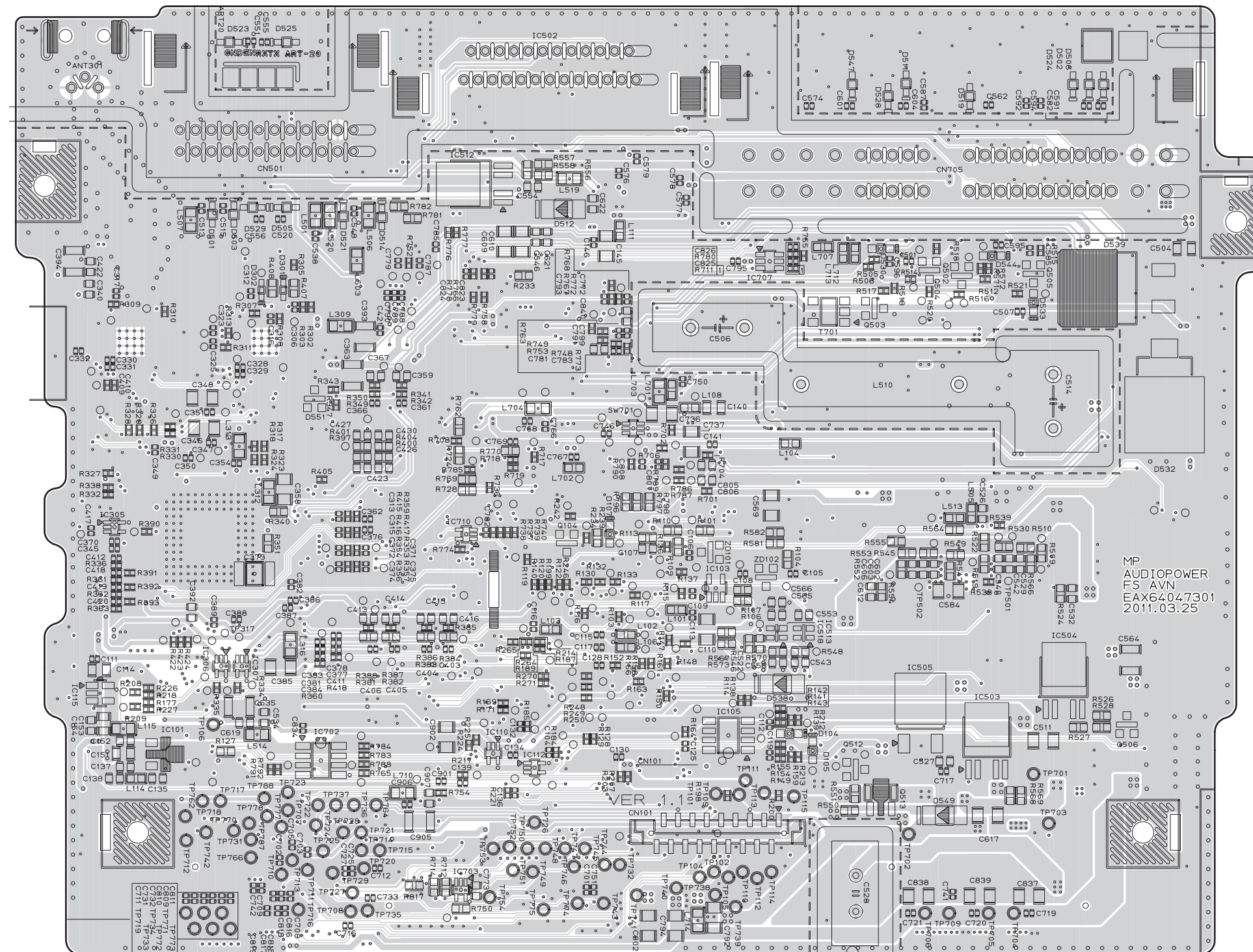
NUMBER	Name
12	CAMERA_CVBS
11	NC
10	CAMERA_B+
9	NC
8	NC
7	NC
6	AUDIO+[ECALL]
5	TMU_GND
4	RS422_RX+_TMU
3	RS422_TX+_TMU
2	RS422_GND
1	NC
24	CAMERA_VGND
23	NC(CAMERA_ON)
22	CAMERA_PGND
21	NC
20	NC
19	NC
18	AUDIO-[ECALL]
17	NC
16	RS422_RX-_TMU
15	RS422_TX-_TMU
14	NC
13	NC

※ North American Optional

AUDIO PRINTED CIRCUIT BOARD (TOP VIEW)



AUDIO PRINTED CIRCUIT BOARD (BOTTOM VIEW)



SECTION 8. TROUBLESHOOTING GUIDE

[CONTENTS]

- GENERAL PART (NAVIGATION) 8-1

GENERAL PART (NAVIGATION)

Cannot identify current location. (GPS not receiving)

GPS cannot be used indoors and must be connected to a power source with ACC in a vehicle in a location where the signal from the satellite can be received easily.

When initially connecting the GPS, it usually takes about 10 minutes to be working normally, but the connection speed can differ depending on the weather condition and surrounding obstacles.

If the GPS connection is unstable for a long period of time, try the following.

- Check if the product is connected to a power source.
- Check if your vehicle is in a location where the sky can be seen well.
- If there are high buildings or if you are under a tree, move to a location where there are no obstacles.

Cannot hear the voice guide.

The volume is not set correctly or turned off. Adjust the volume of voice guidance.

There is a difference between the driving road and the road on the map in the product.

Even though GPS is usually very accurate, there is a small margin for error.

When the GPS receiver is installed, there can be an error of about 10m. But for newly built roads, the problem could come from the data update to the map.

Cannot see the map.

Perhaps you cannot see the map even when you have executed the navigation menu.

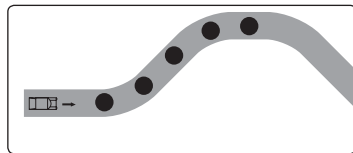
This happens when the data within the memory is damaged. Please reset all settings related with navigation.

The path guide is different from the actual path (path guide error)

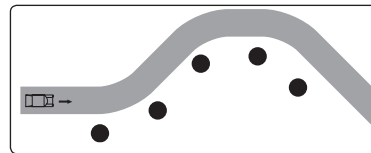
- When the road is closely parallel.
- When the splitting road angle is very small.
- When there is an adjacent road when turning.
- When driving on a road that is narrowing fast.
- When driving through mountains or where the road is too curvy.
- When the starting, passing and arriving locations are too close within 1km.
- When you have set the starting, passing, or arriving locations more than 1km away from the road.
- When driving through tunnels.

Map matching

As mentioned, the GPS systems used by this Navigation System are susceptible to certain errors. Their calculations may on occasion place you to a location on the map where no road exists. In this situation, the processing system understands that vehicles travel only on roads, and is able to correct your position by adjusting it to a nearby road. This is called map matching.



With map matching.



With no map matching.

Symptom	Cause	Correction
Power does not turn on. The unit does not operate.	The ignition switch is NOT turned ON.	Turn the ignition switch to ON.
	The ignition switch is NOT set to ACC.	Set the ignition switch to ACC.
	The power of the unit is turned OFF.	Turn the unit on by pressing  on the control panel.
	Noise and other factors are causing the built-in microprocessor to operate incorrectly.	Turn the unit off and then on.
	The unit does not operate normally.	You can reset the unit. Press the RESET hole with a sharp object.
Playback is not possible.	The disc is dirty.	Clean disc.
	The loaded disc is a type this unit cannot play.	Check the type of the disc.
	The disc is inserted upside down.	Insert the disc with the label upward.
	The files on the disc are an irregular file format.	Check the file format.
There is no sound.	The volume level is low.	Adjust the volume.
	The mute is on.	Turn the mute off.

Trouble Shooting Guide

No	Symptom	Correction
1	The Screen is White. Case1) 1) It is partially white screen. 2) All Button is working.	Replace Front Assy's
2	The Screen is White. Case2) 1) It is completely white screen. 2) All Button is not working.	Replace Main BD
3	CD Deck is not Working. 1) No play CD 2) No insert CD	Replace CD Deck
4	No Sound First, Check as below. 1)Check CD Sound 2)Check Radio Sound	Replace Audio BD