

SAMSUNG

MINI COMPONENT SYSTEM

BASIC MODEL: MAX-DX75/DX76/DX79
MAX-KX75

SERVICE Manual

MINI COMPONENT SYSTEM



Features

- * DVD/VCD/CD/MP3-CD/CD-R/RW
- * Playback
- * USB HOST
- * Tuner
- * Tape Deck

- Confidential -

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1. Precautions

Follow these safety, servicing and ESD precautions to prevent damage and protect against potential hazards such as electrical shock and X-rays.

1-1 Safety Precautions

1. Be sure that all of the built-in protective devices are replaced.
2. When reinstalling the chassis and its assemblies, be sure to restore all protective devices, including control knobs and compartment covers.
3. Make sure that there are no cabinet openings through which people--particularly children--might insert fingers and contact dangerous voltages. Such openings include the spacing between the picture tube and the cabinet mask, excessively wide cabinet ventilation slots, and improperly fitted back covers.
4. Design Alteration Warning:
Never alter or add to the mechanical or electrical design of the unit. Example: Do not add auxiliary audio or video connectors. Such alterations might create a safety hazard. Also, any design changes or additions will void the manufacturer's warranty.

5. Leakage Current Hot Check (Figure 1-1):
Warning: Do not use an isolation transformer during this test. Use a leakage-current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, *Leakage Current for Appliances*), and Underwriters Laboratories (UL Publication UL1410, 59.7).

With the unit completely reassembled, plug the AC line cord directly into a 120V AC outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, etc.) and all exposed metal parts. Examples: Handle brackets, metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat.

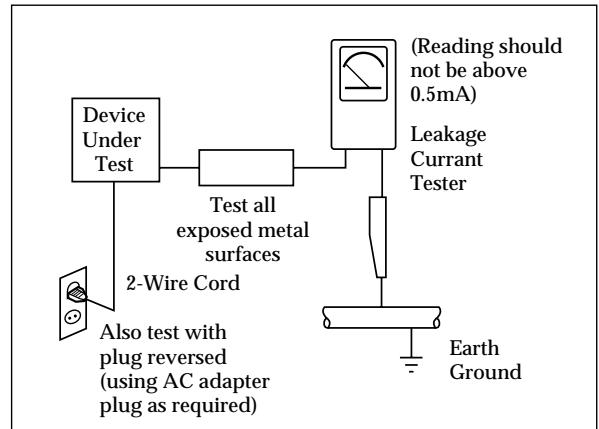


Fig. 1-1 AC Leakage Test

6. Insulation Resistance Cold Check:
(1) With the unit's AC plug disconnected from the AC source, connect an electrical jumper across the two AC prongs. (2) Set the power switch to ON. (3) Measure the resistance between the shorted AC plug and any exposed metallic parts. Example: Screwheads, antenna, control shafts or handle brackets.

If any of the exposed metallic parts has a return path to the chassis, the measured resistance should be between 1 and 5.2 megohms. If there is no return path, the measured resistance should be "infinite." If the resistance is outside these limits, a shock hazard might exist. See Figure 1-2

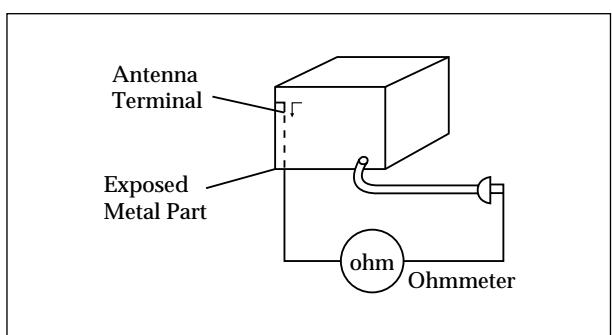


Fig. 1-2 Insulation Resistance Test

1-1 Safety Precautions (Continued)

7. Components, parts and wiring that appear to have overheated or that are otherwise damaged should be replaced with parts that meet the original specifications. Always determine the cause of damage or overheating, and correct any potential hazards
8. Observe the original lead dress, especially near the following areas: Antenna wiring, sharp edges, and especially the AC and high voltage power supplies. Always inspect for pinched, out-of-place, or frayed wiring. Do not change the spacing between components and the printed circuit board. Check the AC power cord for damage. Make sure that no wires or components touch thermally hot parts.
9. Product Safety Notice: Some electrical and mechanical parts have special safety-related characteristics which might not be obvious from visual inspection. These safety features and the protection they give might be lost if the replacement component differs from the original--even if the replacement is rated for higher voltage, wattage, etc.
- 10 Components that are critical for safety are indicated in the circuit diagram by shading,  or  . Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications. A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

1-2 Servicing Precautions

Warning1: First read the "Safety Precautions" section of this manual. If some unforeseen circumstance creates a conflict between the servicing and safety precautions, always follow the safety precautions.

1. Servicing precautions are printed on the cabinet. Follow them.
2. Always unplug the unit's AC power cord from the AC power source before attempting to: (a) Remove or reinstall any component or assembly, (b) Disconnect an electrical plug or connector, (c) Connect a test component in parallel with an electrolytic capacitor.
3. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring may be clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.
4. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the portion around the serviced part has not been damaged.
5. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).
6. Insulation Checking Procedure: Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500V) to the blades of the AC plug.
The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.
7. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.
8. Always connect a test instrument's ground lead to the instrument chassis ground *before* connecting the positive lead; always remove the instrument's ground lead last.

1-3 Precautions for Electrostatically Sensitive Devices (ESDs)

1. Some semiconductor ("solid state") devices are easily damaged by static electricity. Such components are called Electrostatically Sensitive Devices (ESDs). Examples include integrated circuits and some field-effect transistors. The following techniques will reduce the occurrence of component damage caused by static electricity.
2. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. (Be sure to remove it prior to applying power--this is an electric shock precaution.)
3. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of electrostatic charge.
4. Do not use freon-propelled chemicals. These can generate electrical charges that damage ESDs.
5. Use only a grounded-tip soldering iron when soldering or unsoldering ESDs.
6. Use only an anti-static solder removal device. Many solder removal devices are not rated as "anti-static" (these can accumulate sufficient electrical charge to damage ESDs).
7. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.
8. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
9. Minimize body motions when handing unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting a foot from a carpeted floor can generate enough static electricity to damage an ESD.

1-4 Special Precautions and Warning Labels for Laser Products

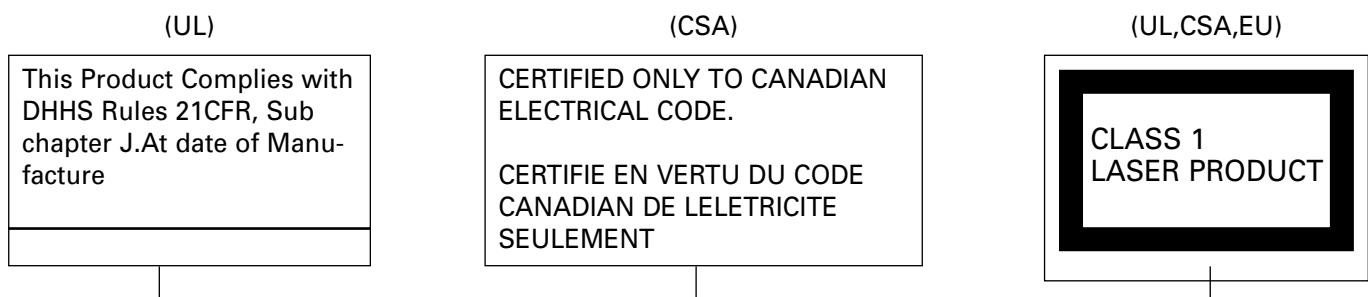


Fig. 1-3 Warning Labels (Location: Enclosure Block)

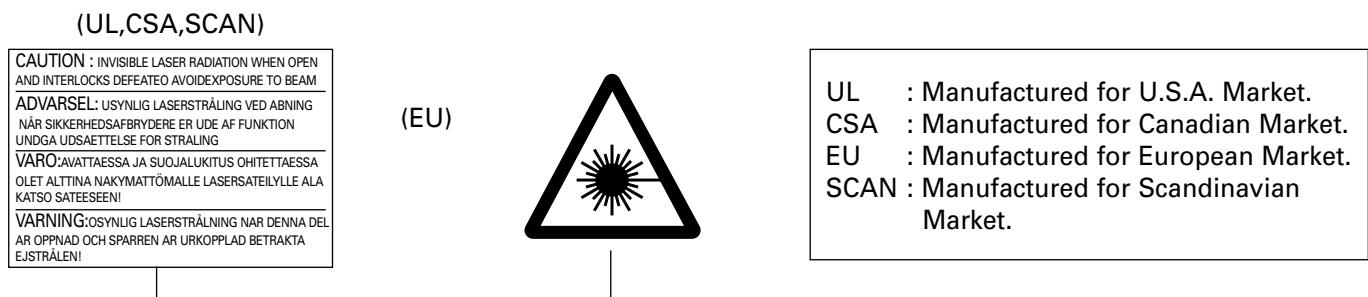


Fig. 1-4 Warning Labels (Location: Disc Clamper, Inner Side of Unit Door or Nearby Unit Chassis)

1-4 Special Precautions and Warning Labels for Laser Products (Continued)

1-4-1 Warnings

- When servicing, do not approach the LASER exit with the eye too closely. In case it is necessary to confirm LASER beam emission, be sure to observe from a distance of more than 30 cm from the surface of the objective lens on the optical pick-up block.
- Do not attempt to handle the objective lens when the DISC is not on the tray.

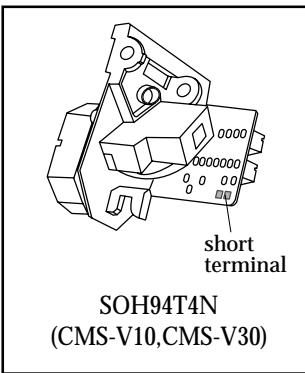
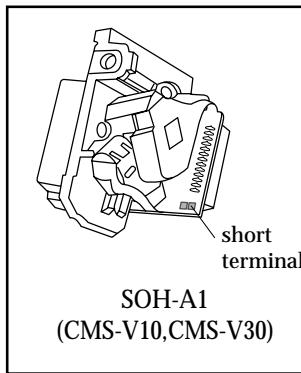
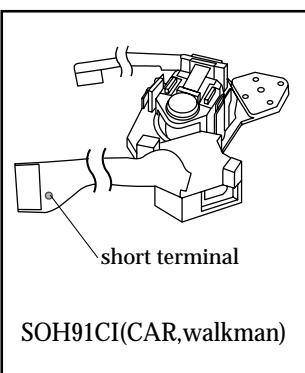
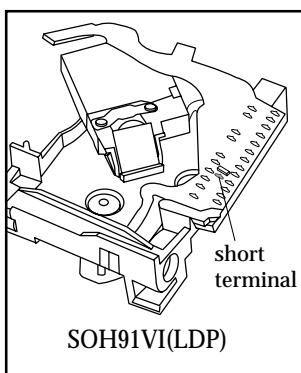
1-4-2 Laser Diode Specifications

Material: GaAs+ GaAlAs

Wavelength: 760-800 nm

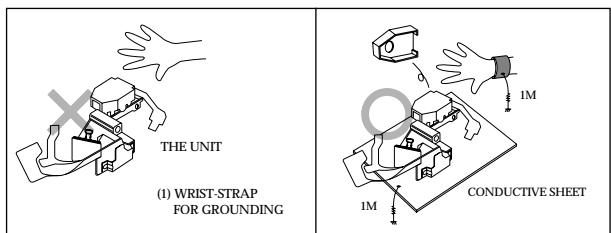
Emission Duration: Continuous

Laser Output: 0.2 mw (measured at a 1.6 mm distance from the objective lens surface on the optical pick-up block.)



1-4-3 Handling the Optical Pick-up

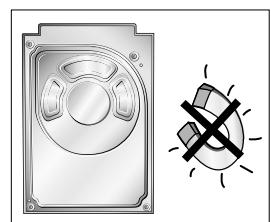
- Static electricity from clothing or the body may cause electrostatic breakdown of the laser diode in the Optical Pickup. Follow this procedure:
- Place a conductive sheet on the work bench (i.e., the black sheet used for wrapping repair parts.) Note: The surface of the work bench should be covered by a copper ground plane, which is grounded.
- The repair technician must wear a wrist strap which is grounded to the copper sheet.
- To remove the Optical Pickup block: Place the set on the conductive sheet, and momentarily touch the conductive sheet with both hands. (While working, do not allow any electrostatic sources--such as clothes--to touch the unit.)
- Ground the "Short Terminal" (located on the PCB, inside the Pickup Assembly) before replacing the Pickup. This terminal should be shorted whenever the Pickup Assembly is lifted or moved.
- After replacing the Pickup, reopen the Short Terminal. See diagrams below:



1-5 Special Precautions for HDD

* HDD Data Maintenance Step

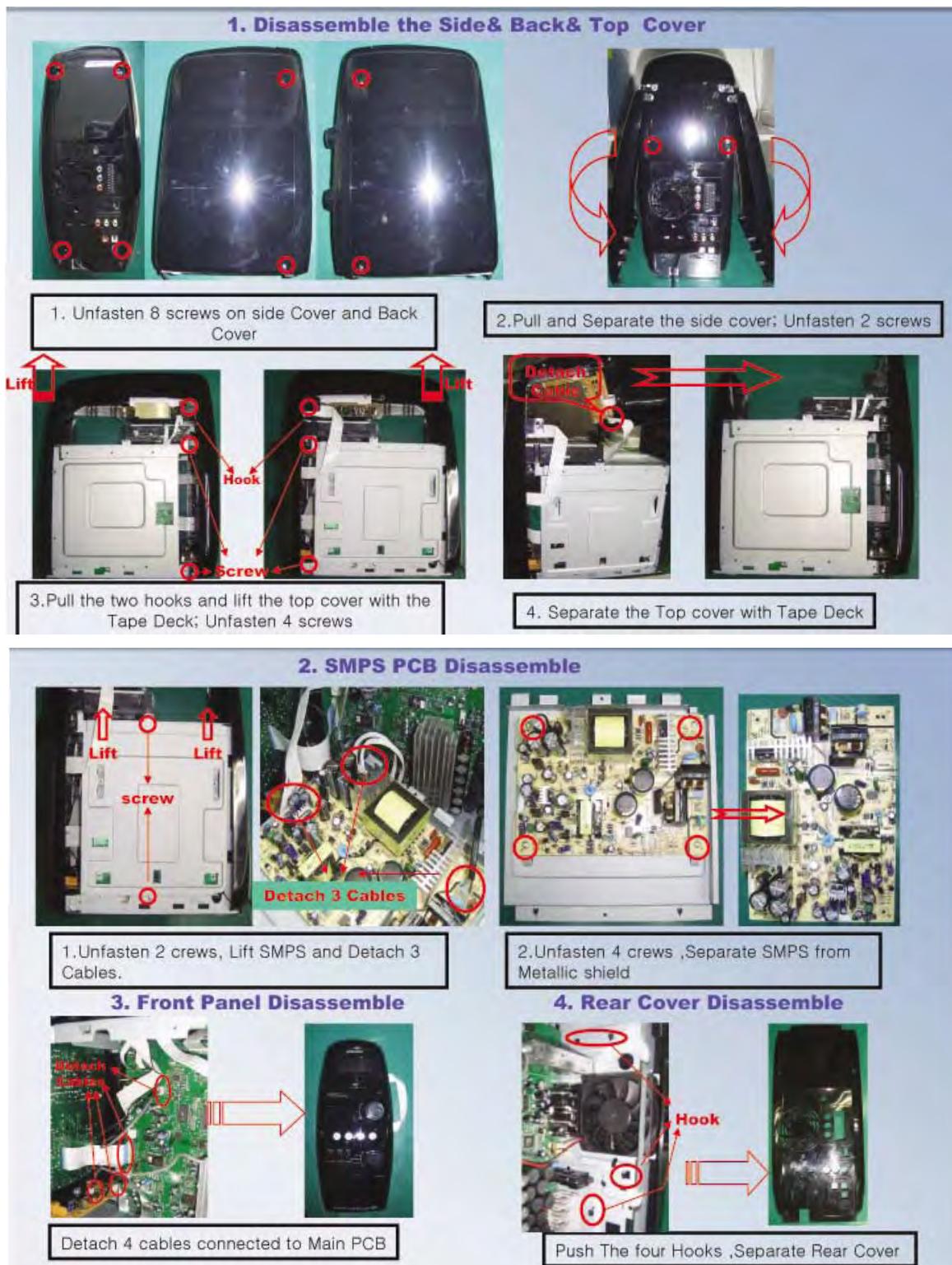
- Since the data on the HDD is weak to mechanical shock, place the HDD in a safe location that is free from mechanical shock once it is removed from the main unit.
- In order to safe keep the data on the HDD, back up the data before the repair or make sure not to place the HDD near any electrical appliance that generates a strong magnetic field.



3. How to disassemble

* CAUTIONS

1. To avoid damage to the product, follow the disassembly method in the Service Manual.
2. As some Semiconductor devices are very sensitive to static, ensure that all procedures are adhered to when handling ESD's.



5. Main PCB Disassemble



Unfasten 9 screws

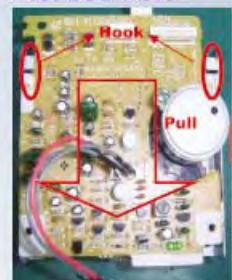


Unfasten 1 screw & Detach Cables ,Lift Up the Main PCB

6. Tape PCB Disassemble



Unfasten 4 screws, Lift Tape Deck from Top cover



Pull and Separate Tape PCB

7. Front PCB Dissemble



1. Separate two Knobs From Front Panel by Using a little more strength



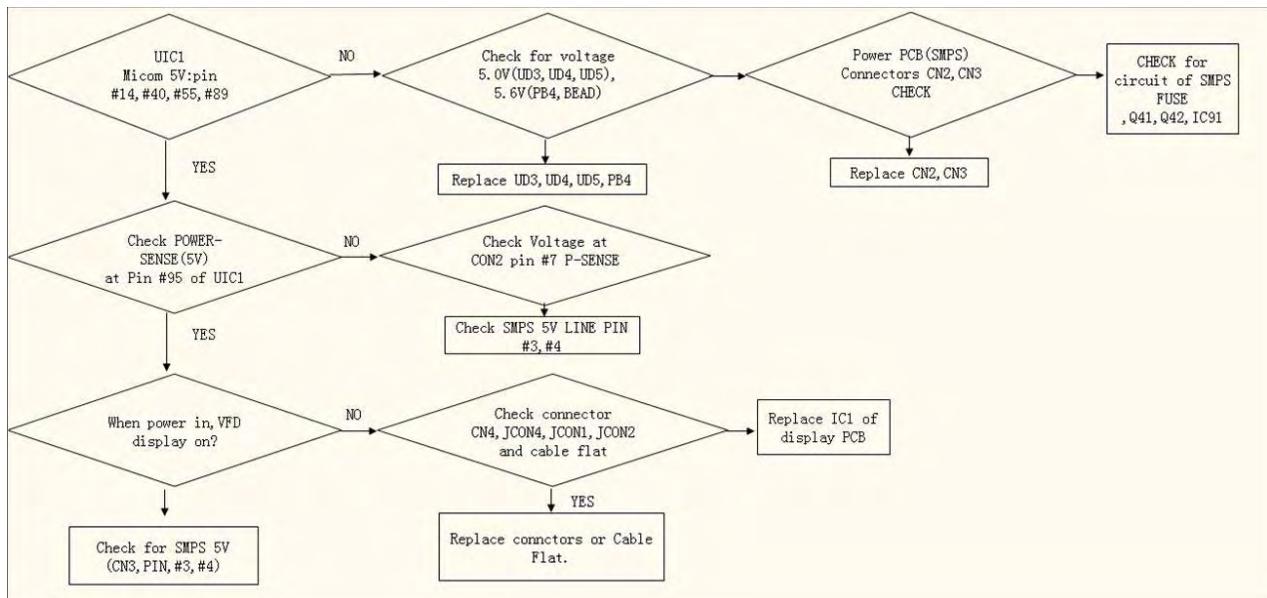
2.Unfasten 9 screws



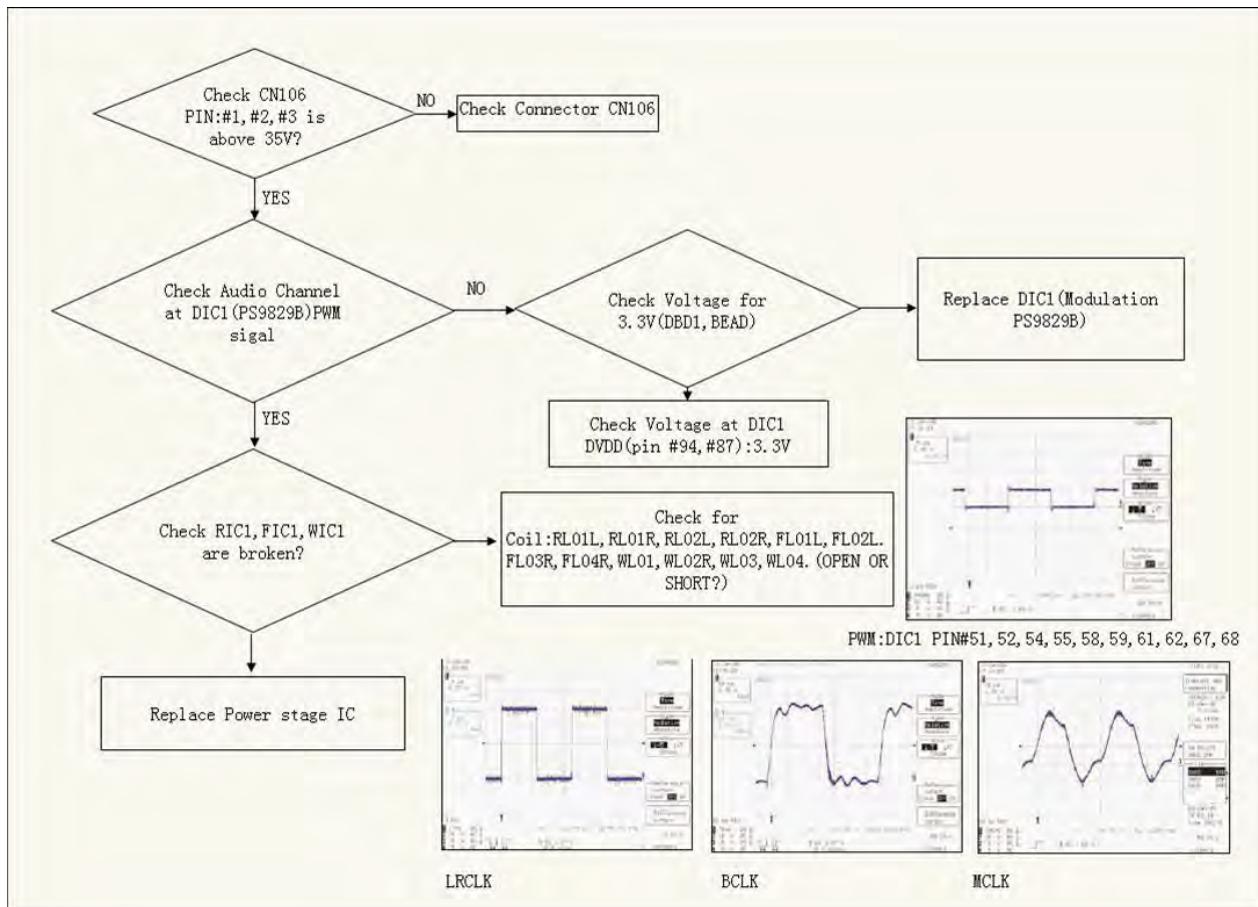
3.Push the 7 hooks ,Lift the Front PCB

4. TroubleShooting

MAIN

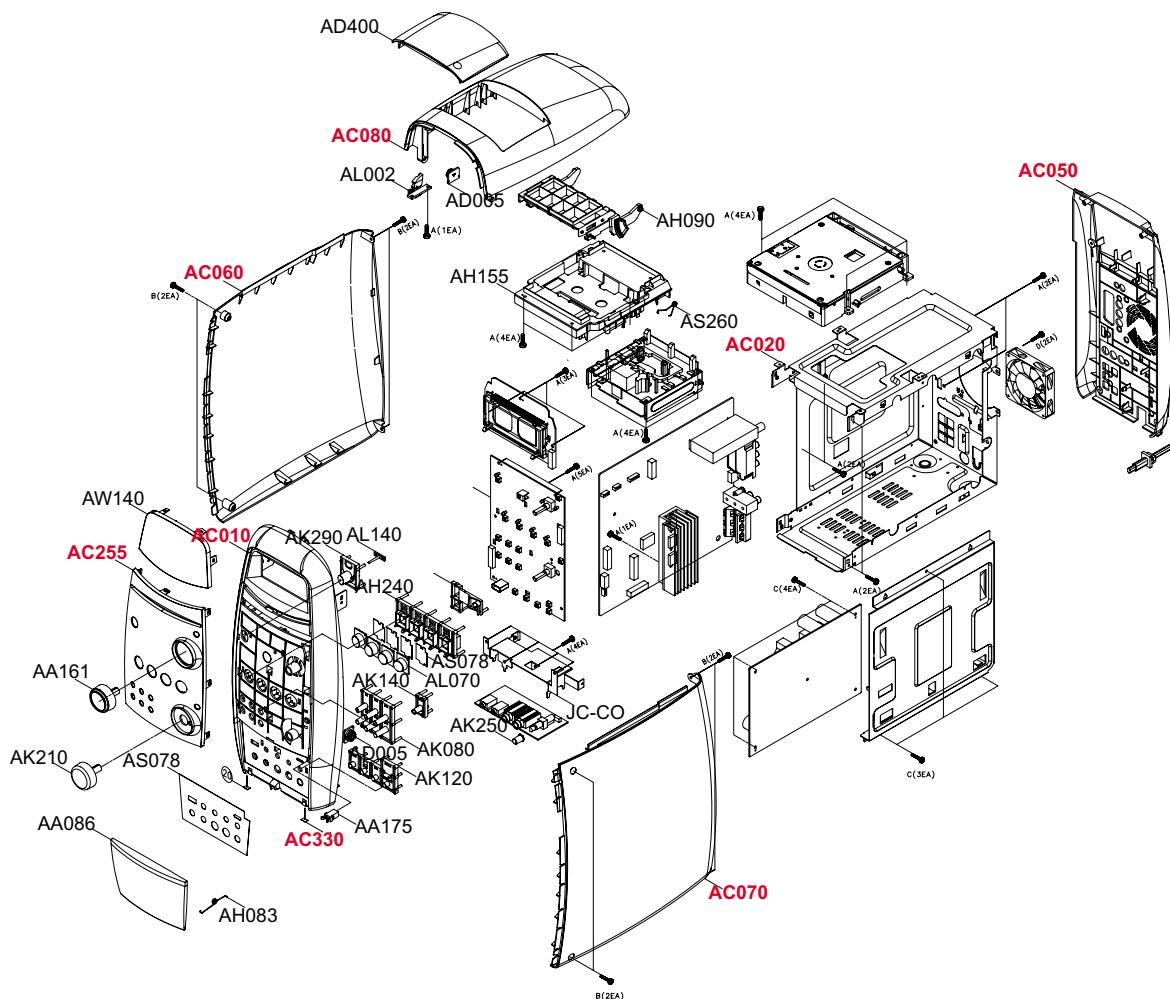


OUTPUT



5-1.Exploded Views and Parts List

1. Total Exploded View

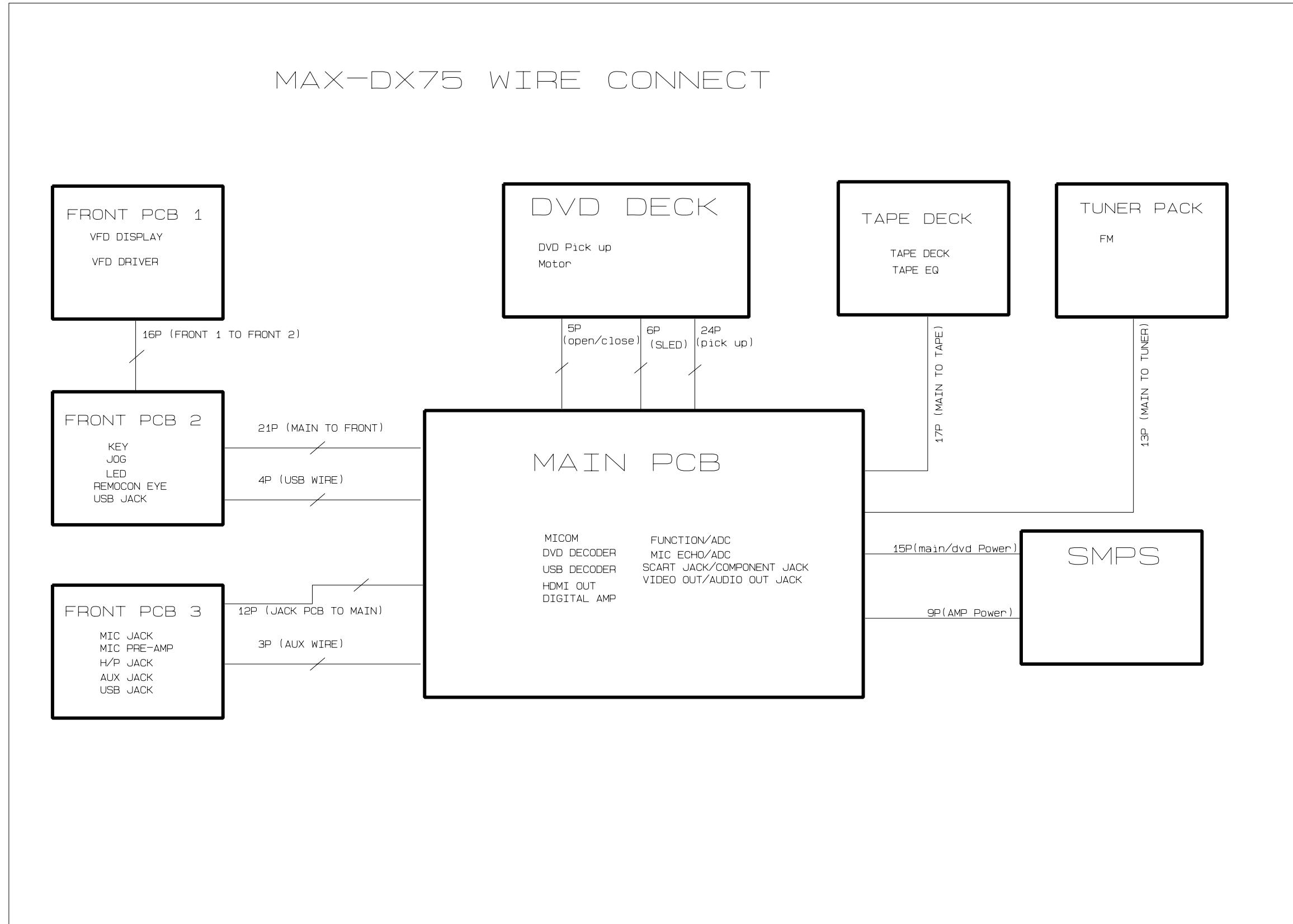


2. Parts List of total Exploded View

LOCATION No.	Description & Specification	CODE NO.	Q'ty	REMARK
AA086	COVER-JACK-ASSY	AH97-02059A	1	
AS078	SHEET-FRONT	AH63-01348A	1	
AH083	SPRING-COVER	AH61-02333A	1	
AA161	KNOB-VOLUME-ASSY	AH97-02062A	1	
AK210	KNOB-JOG	AH64-04249A	1	
AC255	COVER-FRONT	AH63-01347A	1	MAX-DX75
		AH63-01347B		MAX-DX76
		AH63-01347C		MAX-DX79
AW140	WINDOW-VFD	AH64-04238A	1	
AC010	CABINET-FRONT	AH64-04236A	1	
AL140	LENS-POWER	AH67-00456A	1	
AK290	KNOB-POWER	AH64-04244A	1	
AK130	KNOB-EJECT	AH64-04245A	1	
AH240	HOLDER-FUNCTION	AH61-02330A	1	
AS078	SHEET-FUNCTION	AH63-01349A	1	
AL070	LENS-FUNCION	AH67-00457A	1	
AK140	KNOB-ENTER	AH64-04246A	1	
AK080	KNOB-DECK	AH64-04247A	1	
AK120	KNOB-ECHO	AH64-04253A	1	
AA175	LOCKER-SWITCH	AH97-01881A	1	
AD005	DAMPER-GEAR	AH66-00270A	2	
AC330	CUSHION-FOOT	AH69-20031A	2	
AC070	CABINET-SIDE-R	AH64-04240A	1	
AC060	CABINET-SIDE-L	AH64-04239A	1	
AK250	KNOB-MIC	AH64-04235A	1	
JK-CO	SHIELD-JACK	AH63-01398A	1	
AD400	DOOR-CASS	AH64-04243A	1	
AC080	CABINET-TOP-CD	AH64-04242A	1	
AL002	LATCH-ASSY	AH95-50001A	1	
AH090	HOLDER-CASS	AH61-02329A	1	
AH155	HOLDER-DECK	AH61-02332A	1	
AS260	SPRING-DECK	AH61-00857C	1	
AC020	CABINET-BOTTOM	AH64-04252A	1	
AC050	CABINET-REAR	AH64-04237C	1	MAX-DX79
		AH64-04237B		MAX-DX76
		AH64-04237A		MAX-DX75
A	SCREW	6003-001464	33	
B	SCREW	6003-000275	10	
C	SCREW	6003-001375	7	
D	SCREW	6002-000126	5	

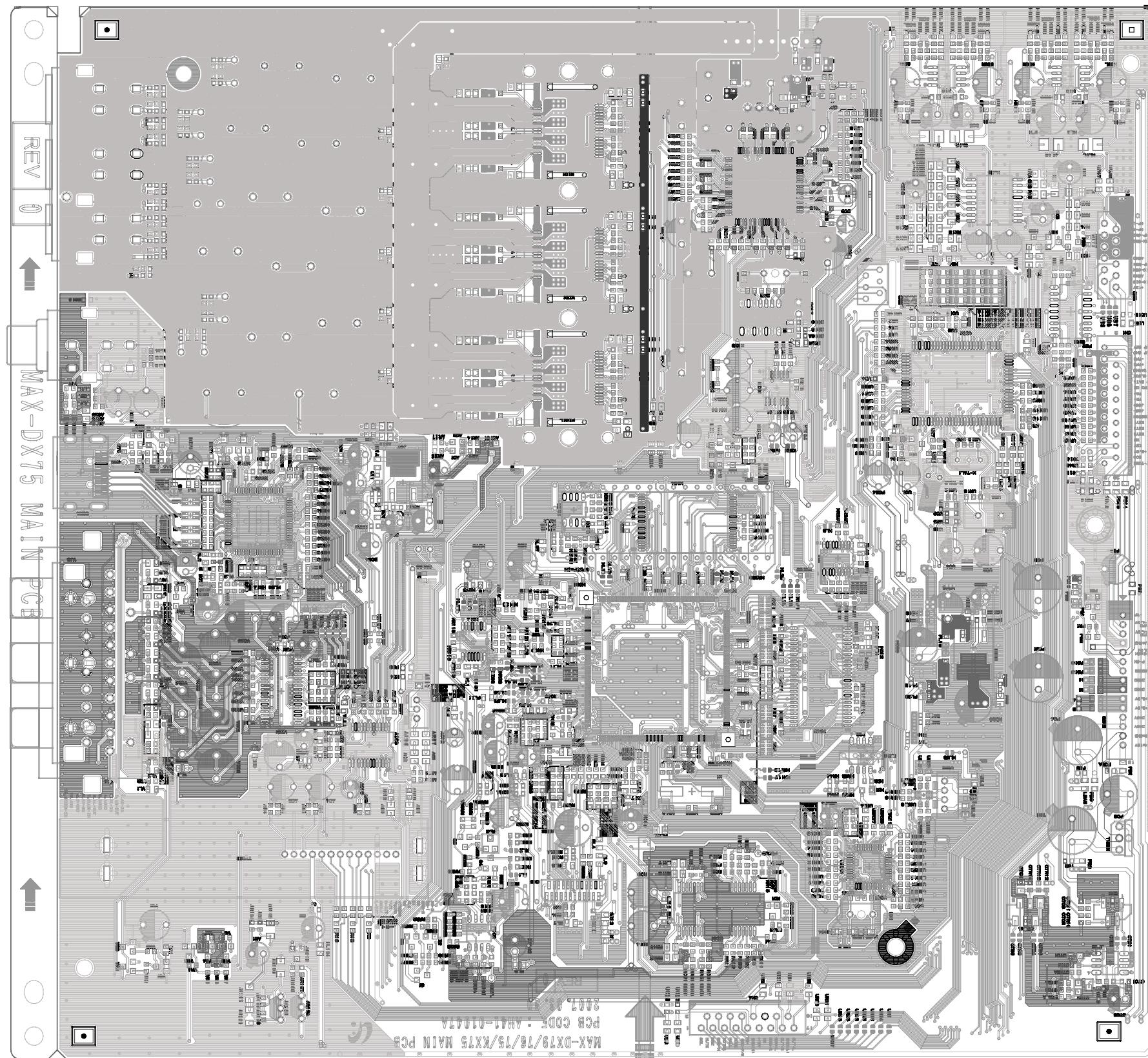
Location no.	Code no.	Description & Specification	Remarks	Location no.	Code no.	Description & Specification	Remarks
L3	2701-000111	"INDUCTOR-AXIAL;100UH,10%,2534"					
BD5	3301-000297	"BEAD-AXIAL;25ohm,3.6x1.2x5.7mm,-,TP,-,-,"					
BD6	3301-000297	"BEAD-AXIAL;25ohm,3.6x1.2x5.7mm,-,TP,-,-,"					
BD8	3301-000297	"BEAD-AXIAL;25ohm,3.6x1.2x5.7mm,-,TP,-,-,"					
BD9	3301-000297	"BEAD-AXIAL;25ohm,3.6x1.2x5.7mm,-,TP,-,-,"					
BD1	3301-000297	"BEAD-AXIAL;25ohm,3.6x1.2x5.7mm,-,TP,-,-,"					
BD10	3301-000297	"BEAD-AXIAL;25ohm,3.6x1.2x5.7mm,-,TP,-,-,"					
BD2	3301-000297	"BEAD-AXIAL;25ohm,3.6x1.2x5.7mm,-,TP,-,-,"					
BD4	3301-000297	"BEAD-AXIAL;25ohm,3.6x1.2x5.7mm,-,TP,-,-,"					
USW3	3404-000165	"SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST"					
USW2	3404-000165	"SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST"					
USW19	3404-000165	"SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST"					
USW18	3404-000165	"SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST"					
USW4	3404-000165	"SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST"					
USW5	3404-000165	"SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST"					
USW7	3404-000165	"SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST"					
USW8	3404-000165	"SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST"					
USW9	3404-000165	"SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST"					
USW1	3404-000165	"SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST"					
USW10	3404-000165	"SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST"					
USW11	3404-000165	"SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST"					
USW12	3404-000165	"SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST"					
USW13	3404-000165	"SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST"					
USW17	3404-000165	"SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST"					
USW16	3404-000165	"SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST"					
USW15	3404-000165	"SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST"					
USW14	3404-000165	"SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST"					
PCB	AH41-01038A	"PCB-FRONT;MAX-DX75,FR1,1,-,1.6MM,247MM*2"					
AH97-02081B	"ASSY-ACCESSION;MAX-DX75/TXP,-"						
4301-000116	"BATTERY-ALKALINE;9V,-,-,17.5x26.5x48.5mm"						
6801-001066	"CARD-REGISTRATION;RUSSIA,CIS(RUSSIA),RUS"						
6801-001566	"CARD-WARRANTY;ALL MP3 MODEL,XFO,RUS,-,-,"						
6902-000385	"BAG PE;LDPE,T0.03,W250,L350,TRP,8,1PE"						
AH39-40001V	"CABLE-AUDIO CABLE;-,1P-1P,3000mm,-,-,"						
AH42-00021A	"ANT FM T;TT18011F-1,75 ohm,1800mm"						
AH46-00038A	"DISC-WMA R/K 4000 SONGS;12cm,-,DVD,DVD-K"						
AH68-01772B	"MANUAL-SONG BOOK REV06;MM-KT8,XFO,-,-,"						
AH68-01939A	"MANUAL USERS;MAX-KX75,XFO,ENG/RUS,-,MOJO"						
AH68-50254B	"LABEL-SERIAL;ART PAPER,T0.1,L10,W45,-,-,"						
AH81-02286A	"A/S-EYEGLASS CLOTH;HT-Q100,-,-,30cm*30"						
AH97-02261G	"ASSY MACHINERY-DECK;XFA,MM-DX75"						
3809-001678	"CABLE-FLAT;30V,80,225mm,24P,.5mm,UL20696"						
3809-001998	"CABLE-FLAT;30V,80,230mm,6P,1.00mm,UL2069"						
AH97-02317A	"ASSY DVD DECK-DVDP SLOT IN;DVDP TYPE,DVD"						

6-1. Wiring Diagram

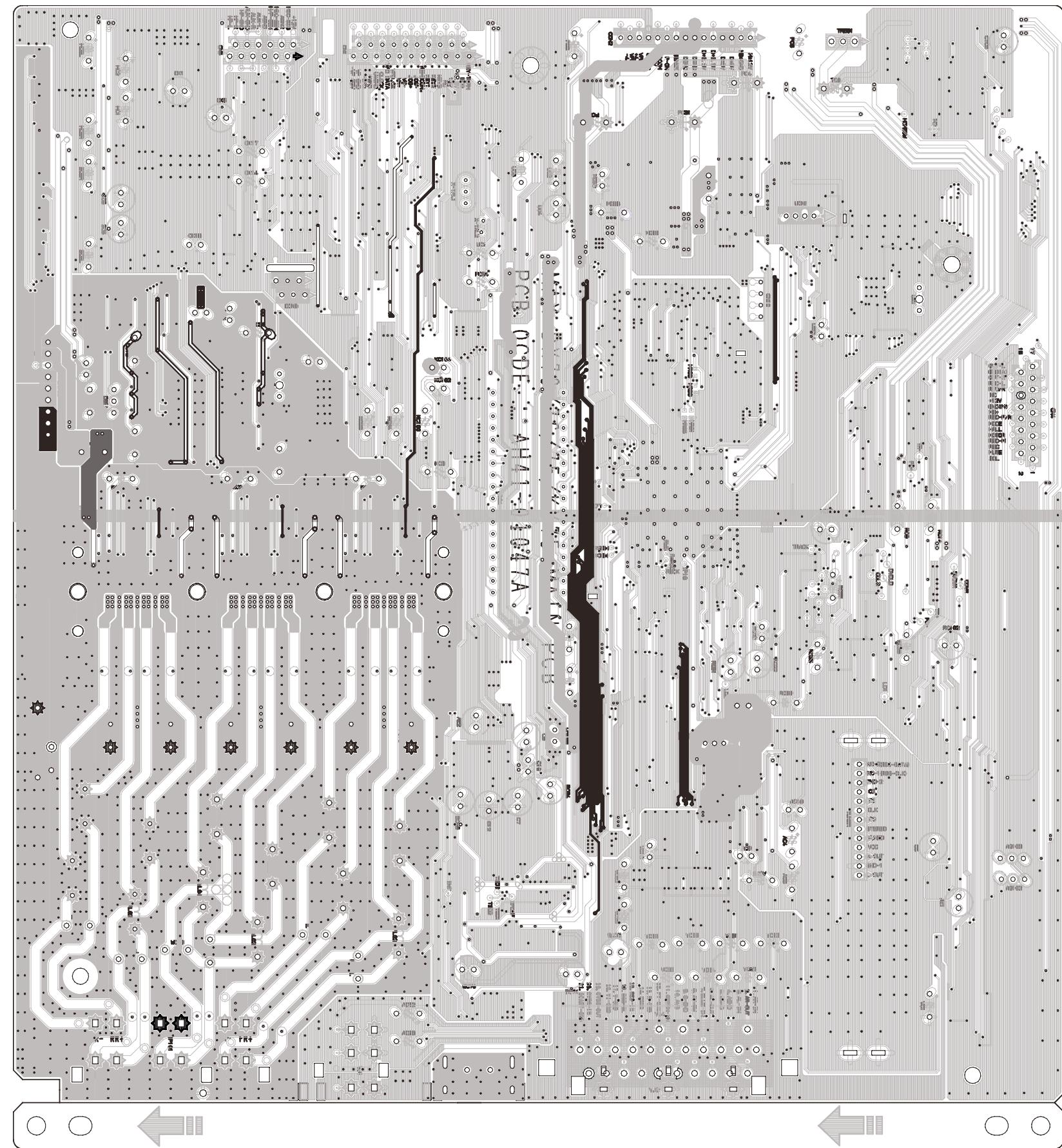


6-2. PCB Diagram

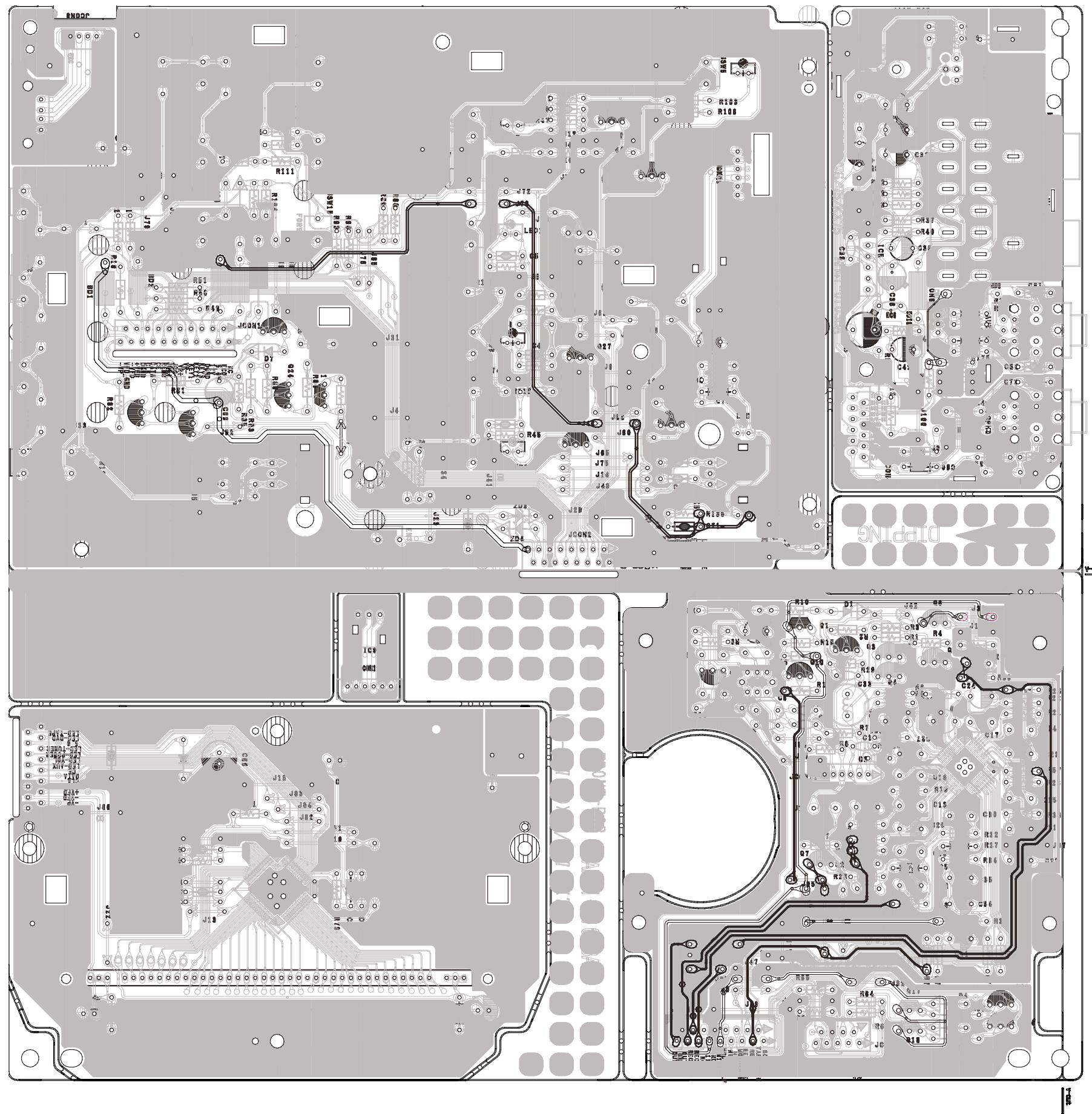
2-1. MAIN TOP



2- 2. MAIN BOTTOM



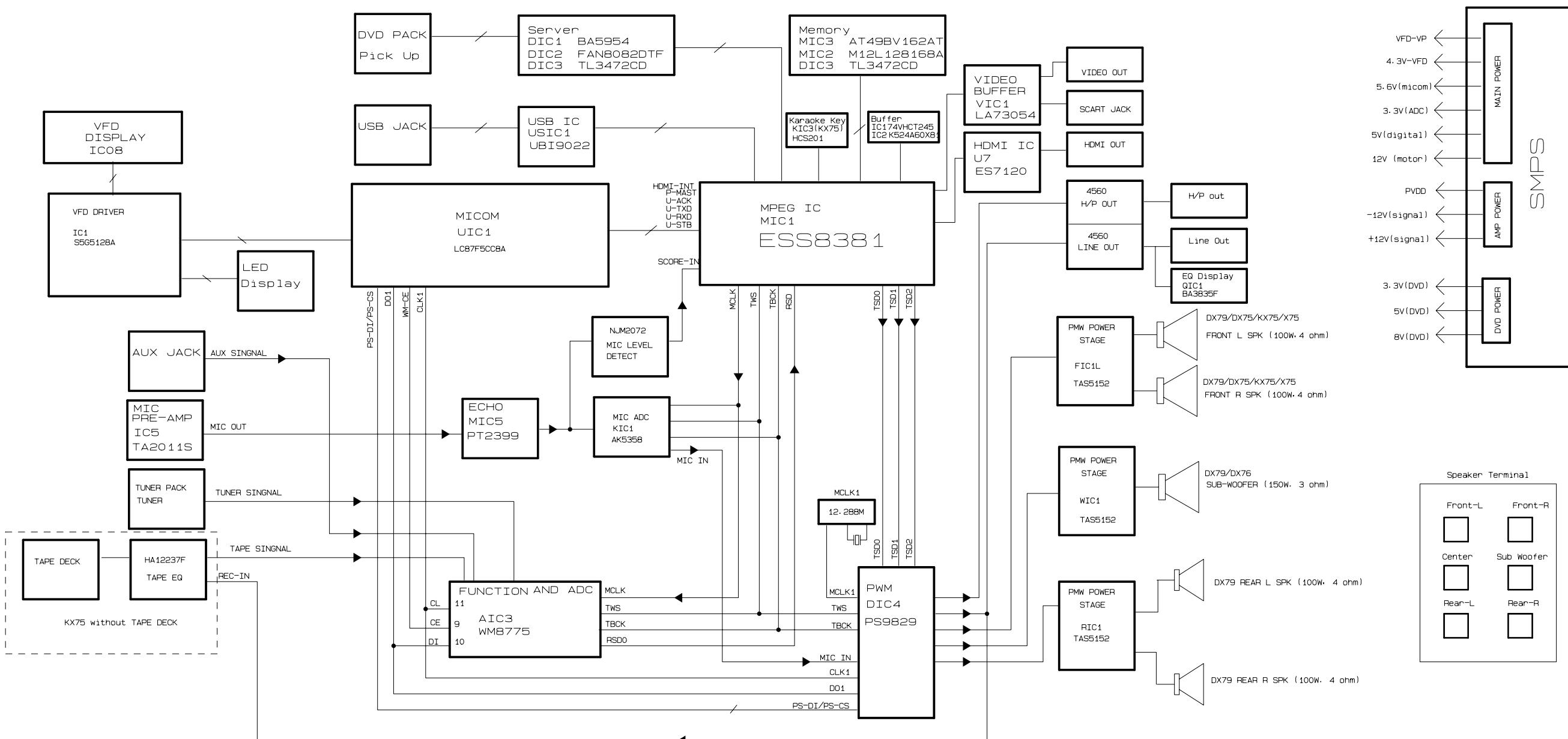
2-3. FRONT



7-1. Block Diagram

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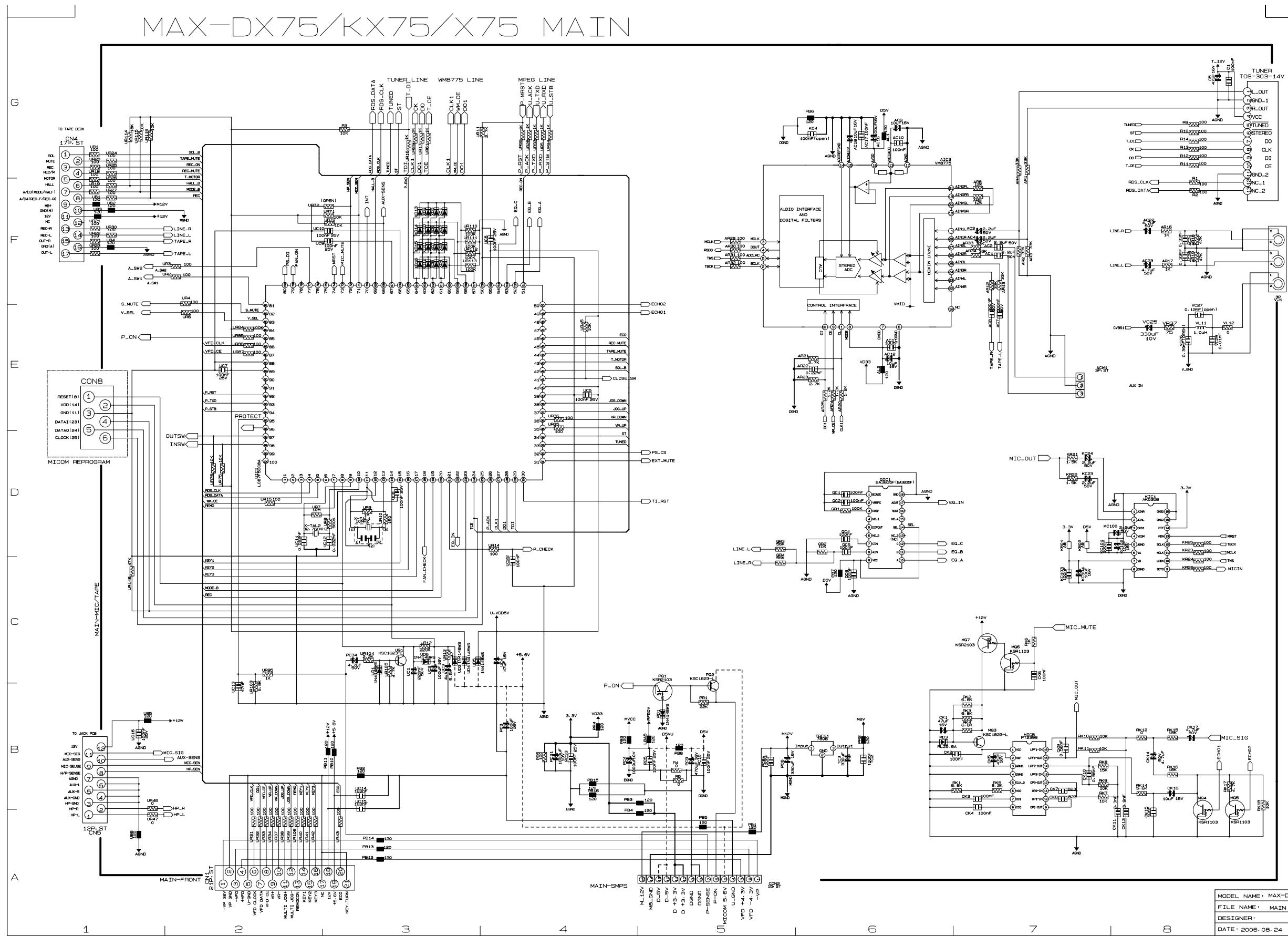
MAX-DX79/DX75/KX75/X75



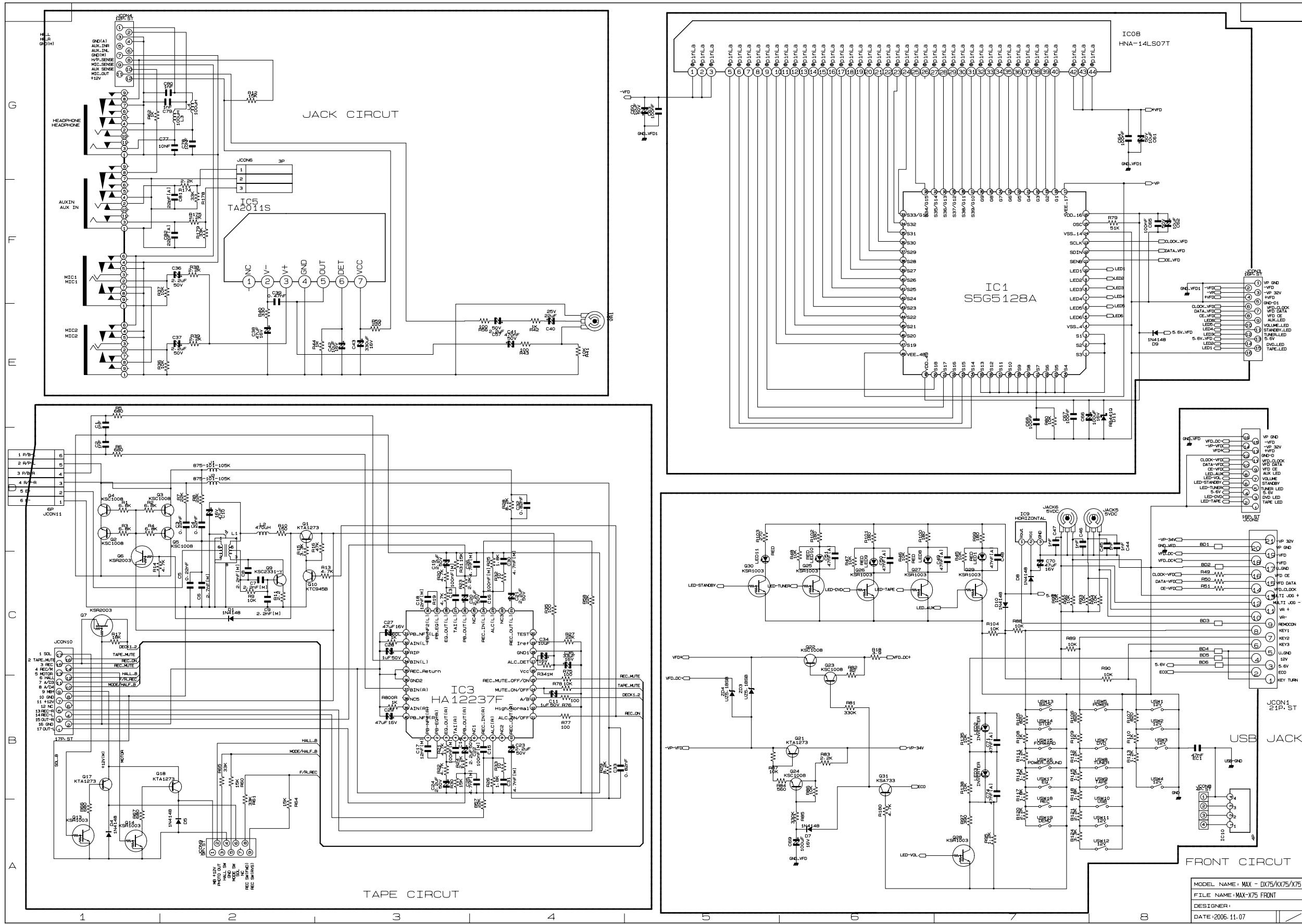
7-2. Schematic Diagram

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2-1. MAIN

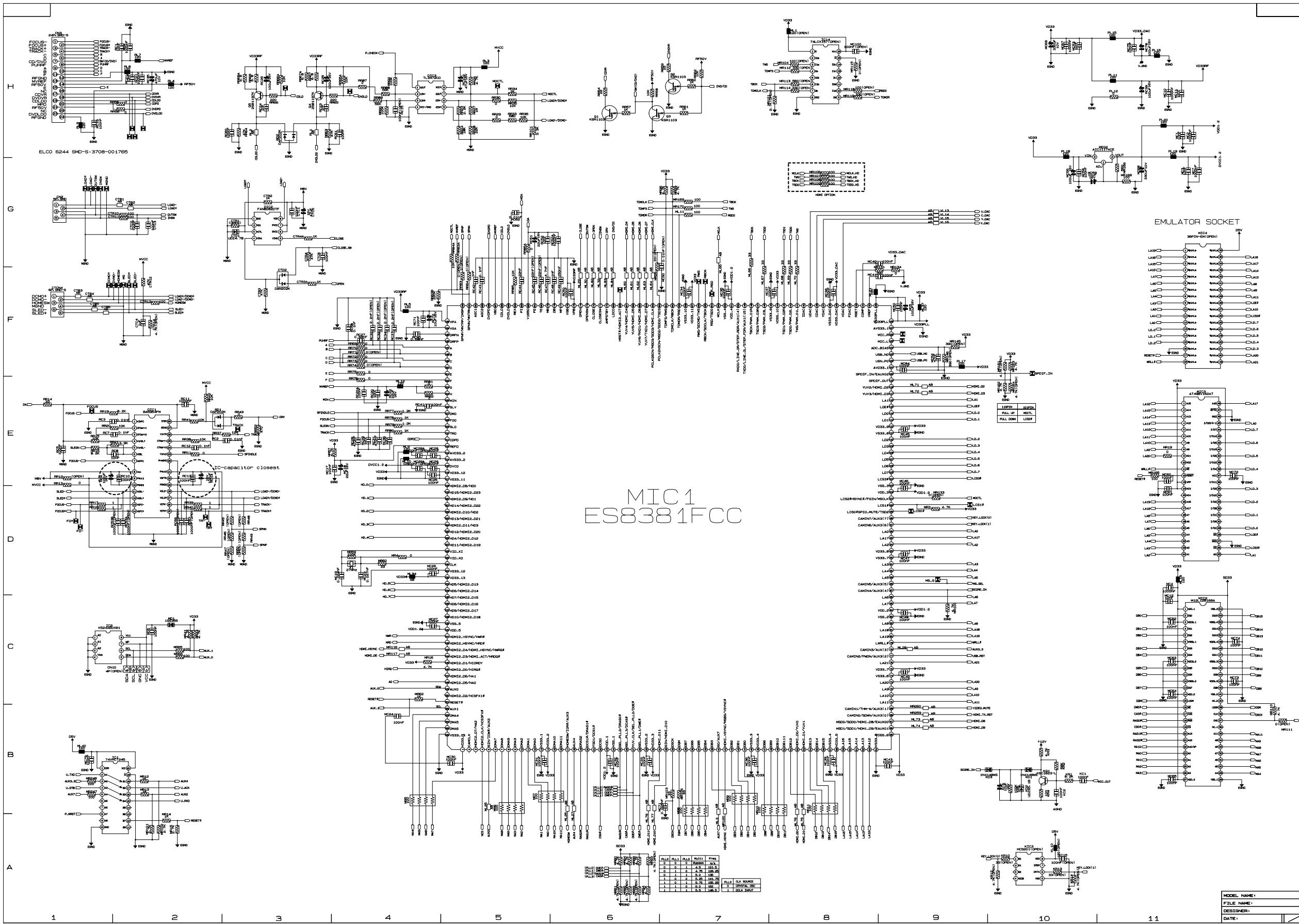


2-2. FRONT



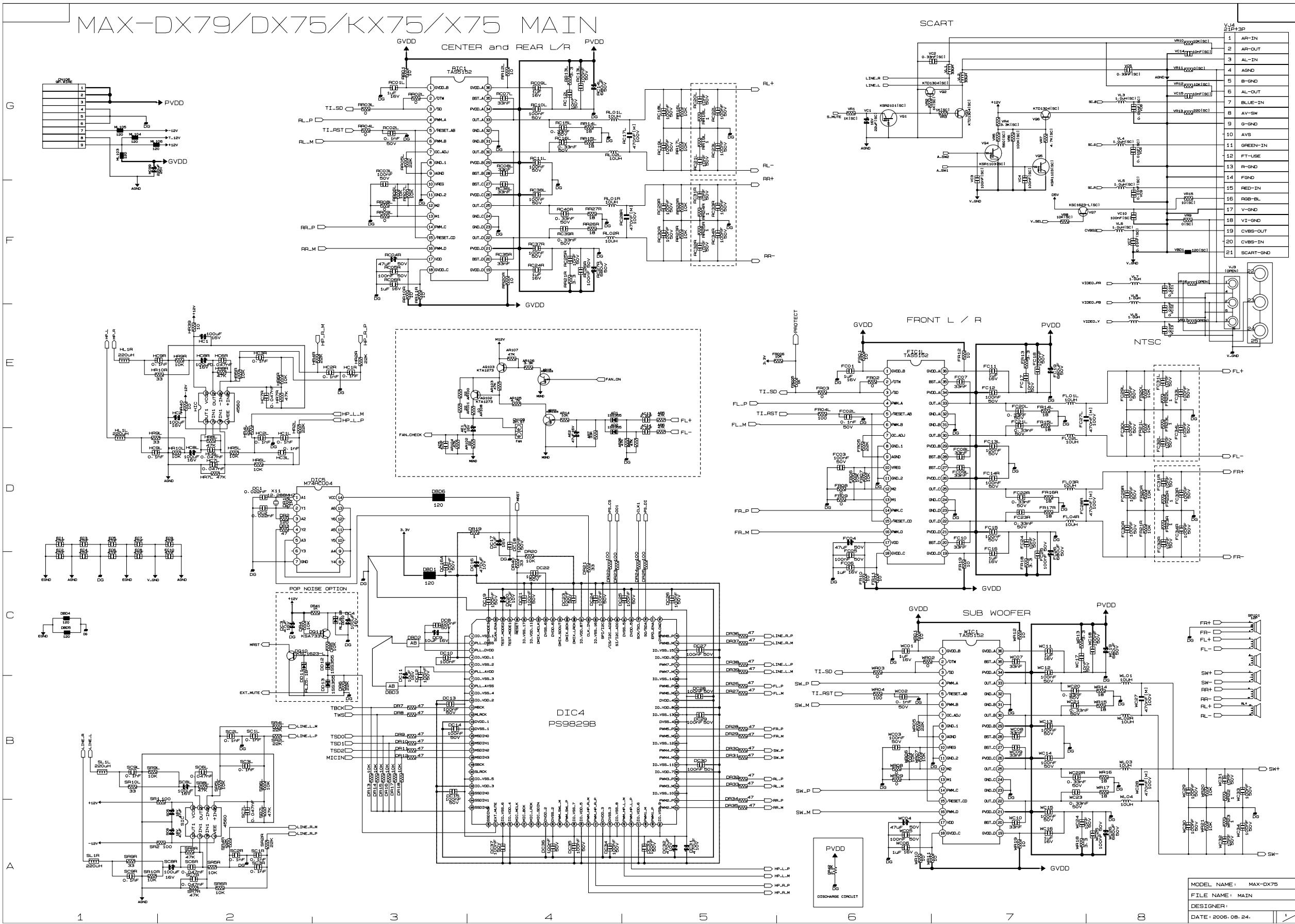
2-3. MPEG

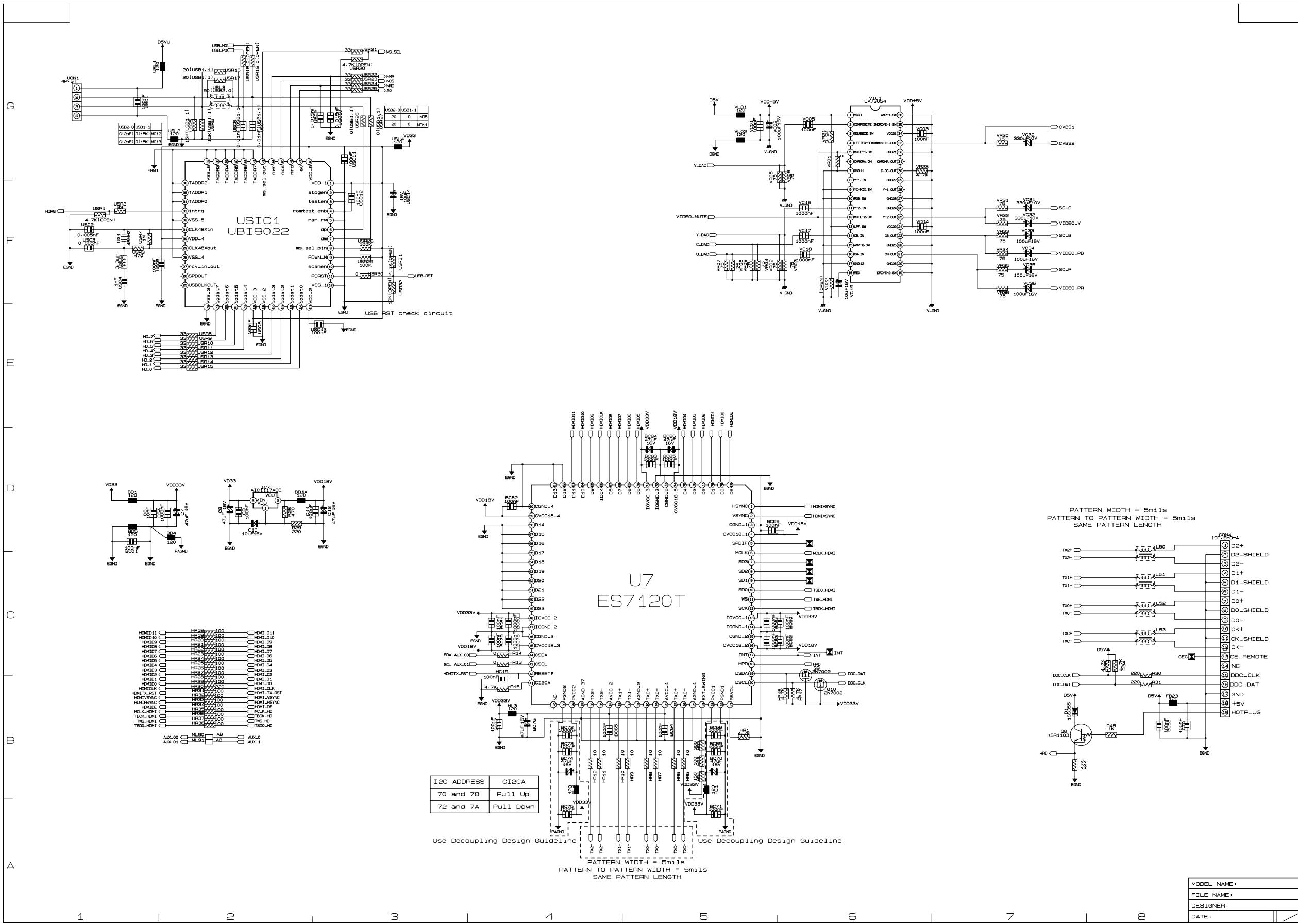
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2-4. AMP

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2-6. SMPS

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