

DVD - 2020H

Service Manual - DVD-2020H

SERVICE INFORMATION

1-1. HOW TO CHECK THE CRACKED CHIP PART

1. Apply heat to the soldered portions of chip part using a soldering iron for about 2-3 seconds.
2. If the chip part is faulty, it will be broken or cracked.

Caution: Do not leave soldering iron on the PCB too long as damage may occur to the PCB or the chip parts.

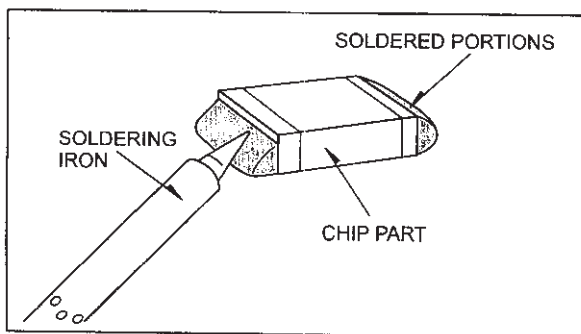


FIG. G1

Note: Regarding intermittent faults

The main causes of these faults are poor soldering and cracked chip parts.

1-2. HOW TO REPLACE THE CHIP PART

1. REMOVAL (RESISTOR, CAPACITOR, etc...)

- 1.1 Presolder the one side of soldering portion for chip part and grasp the chip part by tweezers.
- 1.2 Melt the presoldered portion. And then remove the chip part with a twisting motion while melting the soldering portion of another side quickly.

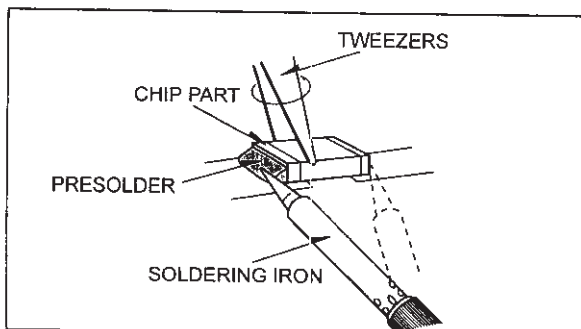


FIG. G2

2. REMOVAL (transistor, diode, etc...)

- 2.1 Grasp the chip part with tweezers and melt the solder of one lead.

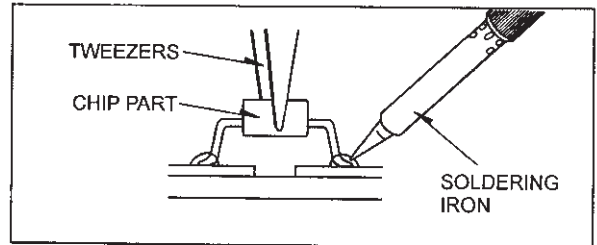


FIG. G3

- 2.2 Lift the side of that lead upward.

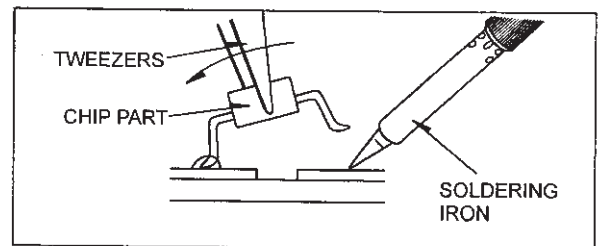


FIG. G4

Caution: Do not lift the chip part too high as damage may occur to the PCB or the leads that are still soldered on the PCB.

- 2.3 Simultaneously heat the solder of the two remaining leads and lift part to remove.

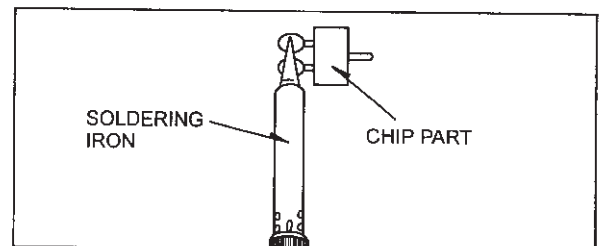


FIG. G5

3. INSTALLATION

- 3.1 Presolder the one side of contact point on the circuit board.

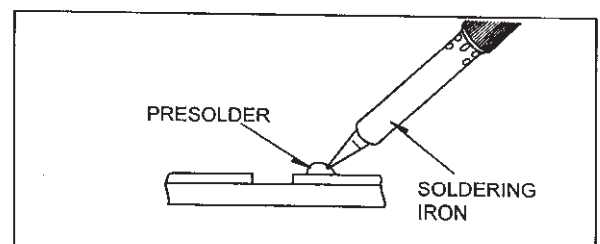


FIG. G6

SERVICE INFORMATION

- 3.2 To install the chip part, hold in position using tweezers, apply heat to the pre-soldered portions using a fine tip soldering iron.
- 3.3 Solder the other side of the chip part.
- 3.4 Check you soldering.

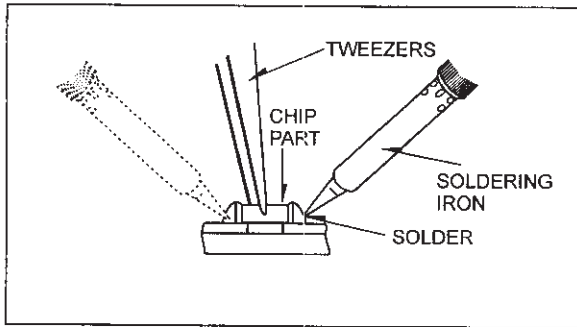


FIG. G7

1-3.HOW TO REMOVE THE FLAT-IC (WITH HOT-AIR FLAT-IC DESOLDERING MACHINE)

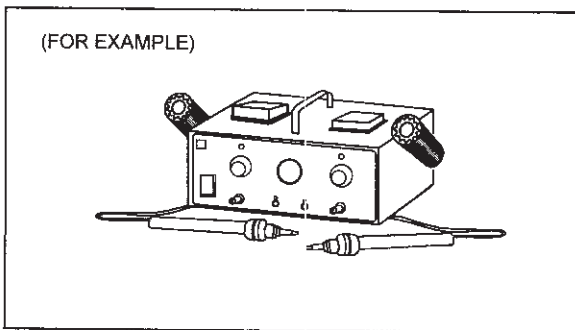


FIG. G8

1. Prepare the HOT-AIR FLAT-IC DESOLDERING MACHINE. And then apply hot air to FLAT-IC about 5~8 seconds.
2. Remove the FLAT-IC with tweezers while applying the hot air.

Caution: Do not supply the hot air to the chip parts around the FLAT-IC for long time as damage may occur to the chip parts around the FLAT-IC.

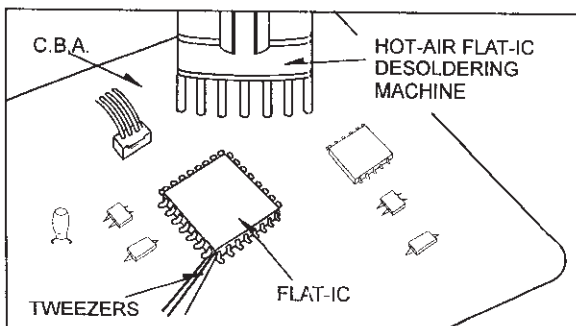


FIG. G9

(WITH SOLDERING IRON)

1. Using solder braid remove the solder from all pins of the Flat-IC.

When you use the solder flux which is applied to all pins of the Flat-IC, you can remove it easily.

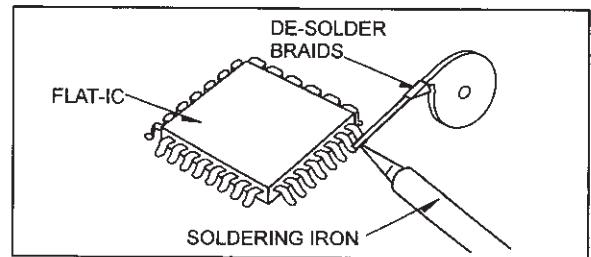


FIG. G10

2. Lift each lead of the Flat-IC upward one by one using a sharp pin or non solder wire (iron wire), while heating the pins using a fine tip soldering iron or a hot air blower.

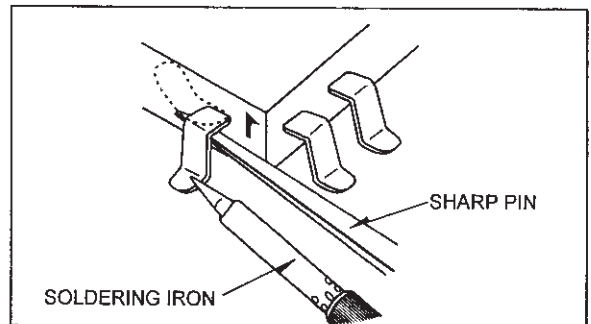


FIG. G11

(WITH IRON WIRE)

1. Affix the wire to workbench or solid mounting point as shown in FIG G12.
2. Pull up wire as the solder melts so as to lift the IC lead from the PCB contact pad, while heating the pins using a fine tip soldering iron or hot air blower

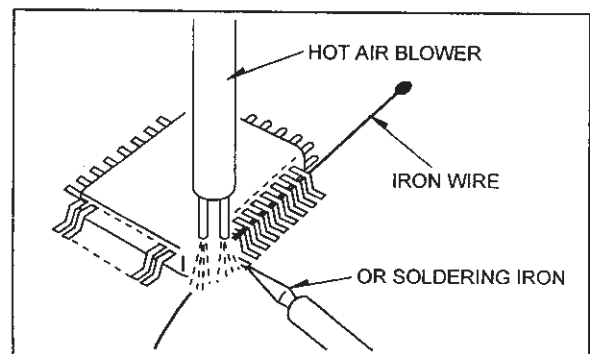
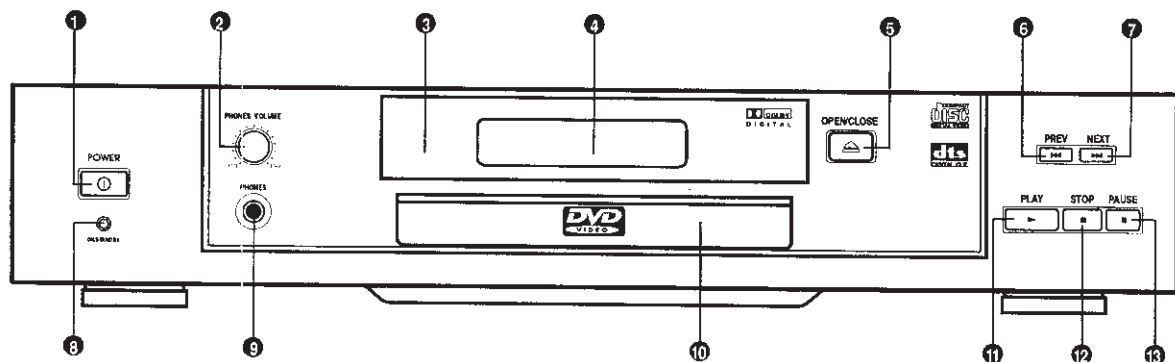


FIG. G12

Note: When using a soldering iron care must be taken to ensure that the Flat IC is not being held by glue before it is the PCB may be damaged if force is

SECTION 1 - FRONT VIEW

**❶ POWER button**

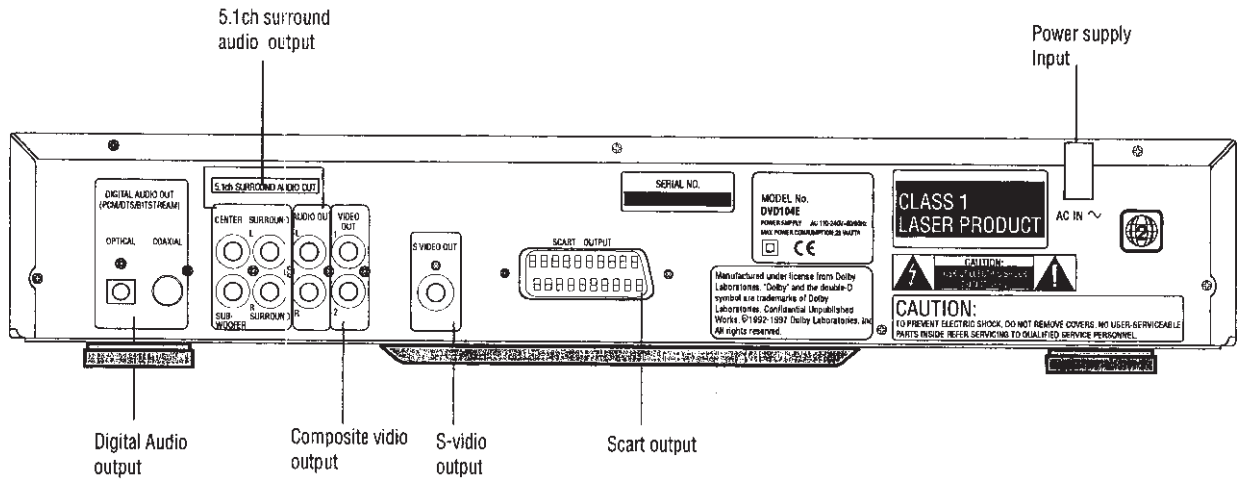
Press to switch on the player or change to standby mode (the player is on)

❷ HEADPHONE VOLUME (PHONE VOLUME) control**❸ Remote control signal sensor****❹ Display window****❺ OPEN/CLOSE button****❻ PREVIOUS SKIP button****❼ NEXT SKIP button****❸ STANDBY indicator**

When the player is connected to the AC power supply, this indicator lights up in standby mode and goes out when the player is turned on.

❹ HEADPHONE JACK (PHONES JACK)**❺ Disc tray****❻ PLAY button****❼ STOP button****❼ PAUSE button**

REAR VIEW



REMOTE CONTROL UNIT

❶ POWER ϕ /I button

❷ EJECT button

❸ REALSONIC

❹ SUBTITLE button

❺ Numeric buttons

When selecting a track, press one of these numeric buttons, then press ENTER or SELECT to confirm. To select 2-digit number, Example "23", press "2" firstly and then "3".

❻ PLAY button

❼ SELECT button

❽ PAUSE/STEP button

❾ RETURN button

❿ PBC ON/OFF button

⓫ TITLE button

⓬ PREV SKIP button

⓭ NEXT SKIP button

⓮ SETUP button

⓯ A-B REPEAT button

⓰ REPEAT 1/ALL button

⓱ FUNCTION(REMAIN) button

⓲ DISPLAY button

⓳ ANGLE button

⓴ AUDIO button

⓵ CLEAR button

⓶ ENTER button

⓷ STOP button

⓸ ARROW button

⓹ SLOW button

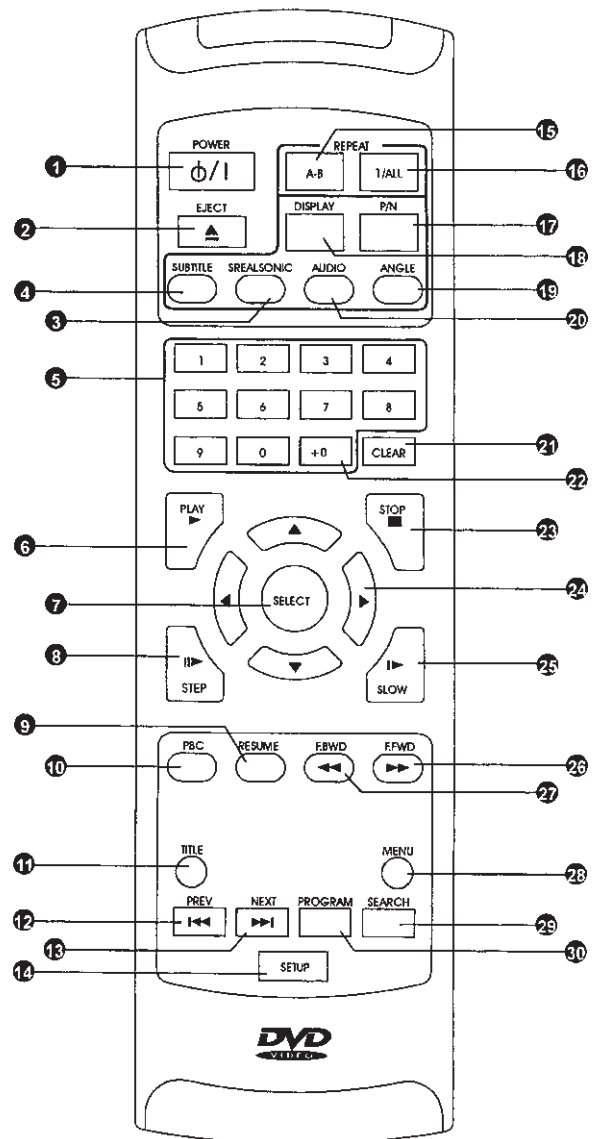
⓺ F.FWD SKIP button

⓻ F.BWD SKIP button

⓼ MENU button

⓽ SEARCH button

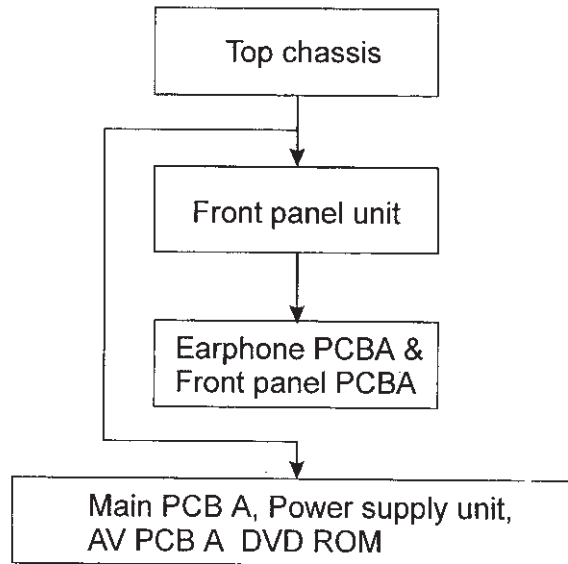
⓿ PROGRAM button



SECTION 2

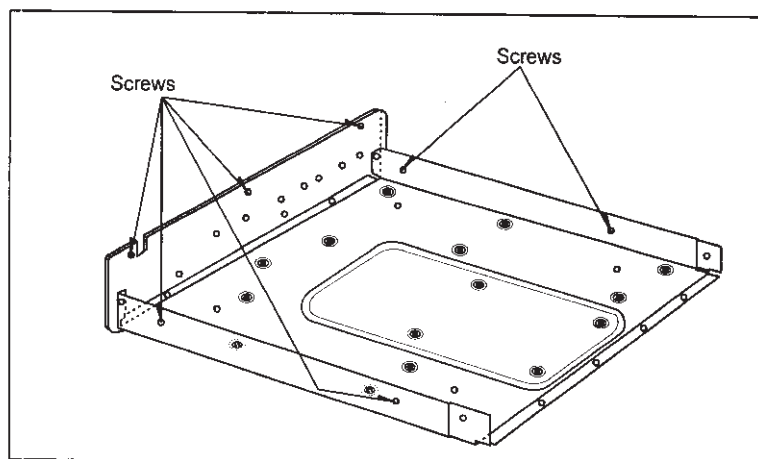
2.1 Disassembly method

The flow chart indicates the disassembly steps of the parts and circuit boards in order to find the necessary items for servicing.



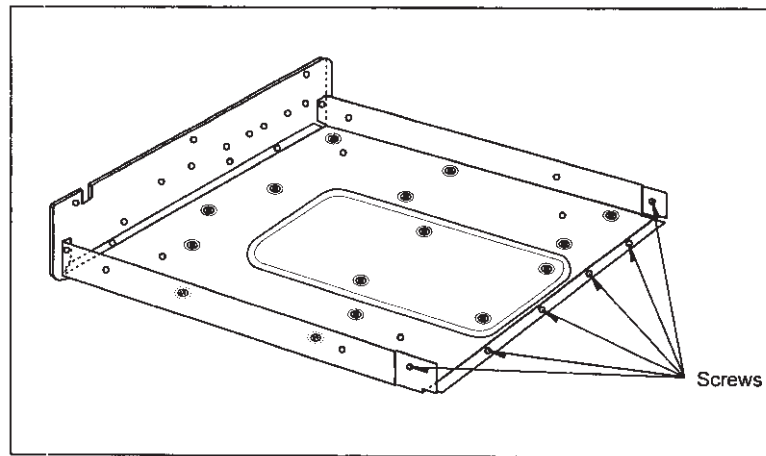
2.2 Detail o to Disassemble Method

1. Removal of top chassis unit



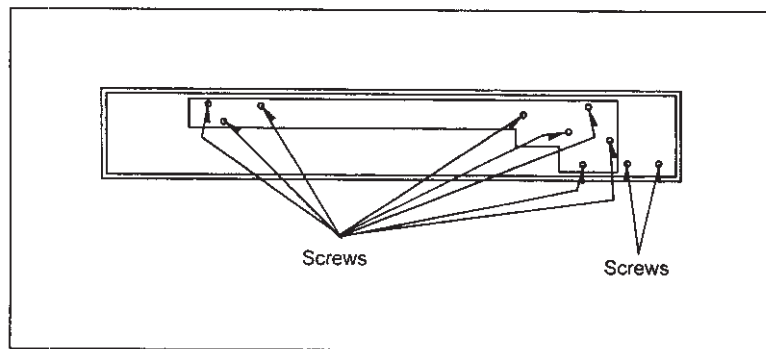
Remove seven screws

2. Removal of the front panel unit



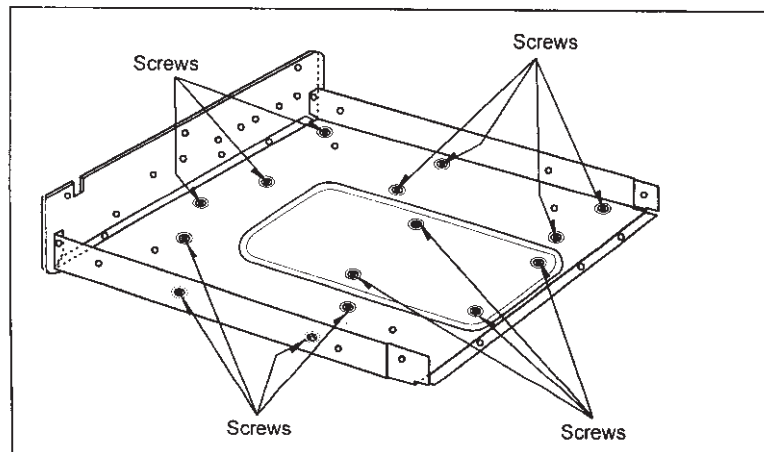
Remove six screws

3. Removal of the front panel PCBA and earphone PCBA



Remove ten screws.

4. Removal of the Main PCBA, DVD ROM, Power supply and AV PCBA

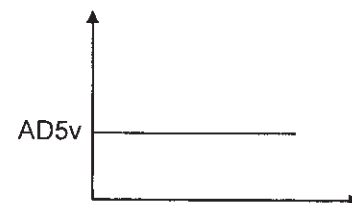
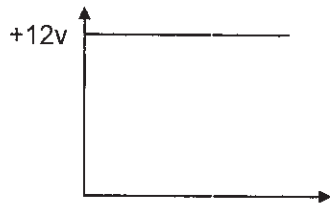
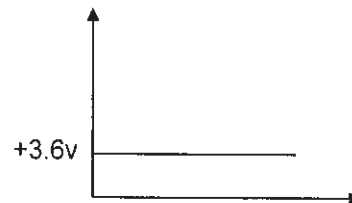
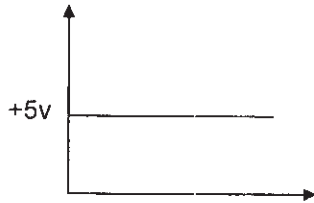


Remove twelve screws

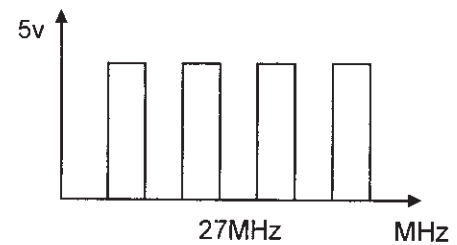
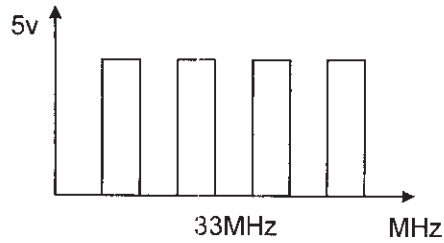
2.3 Electrical Adjustment Procedures

In the situation whereby the main board does not function properly, please perform the following checks.

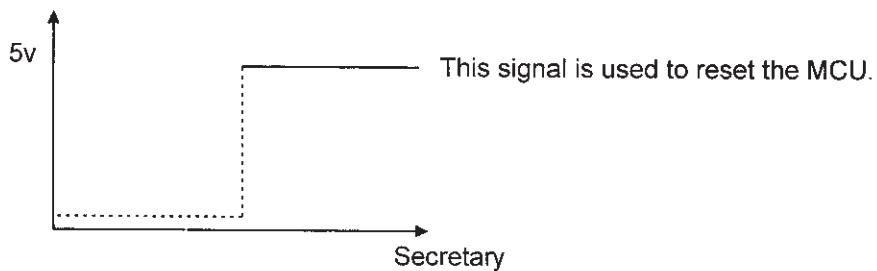
1. Check voltage supplies: +5V, +3.6V, +12V and AD5V



2. check , 27MHz oscillator's output. (ref, point R264,R104)



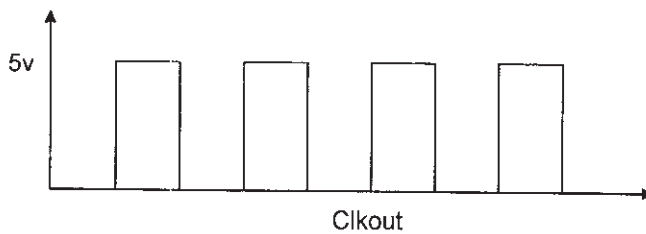
3. check reset IC's output. (ref. Point R271)



These are the basic conditions that the main board can start working.

step 2,

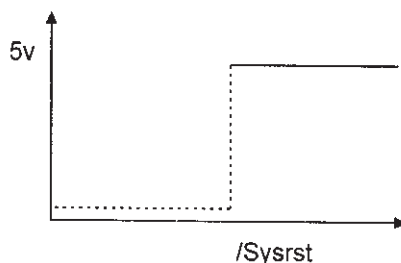
Check D1 mcu's pin16 (clkout A ref.point R150) and pin17(clkout B),if mcu is not spoilt,these two pins should output System clock (33MHz),base on mcu's default configuration.



step 3,

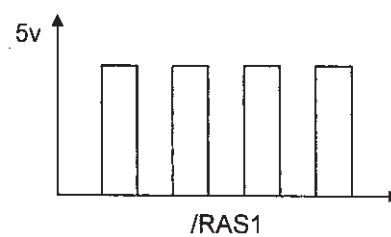
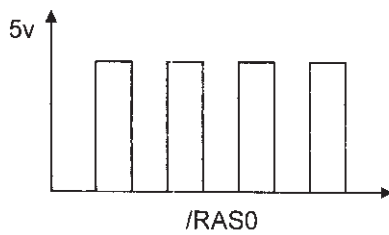
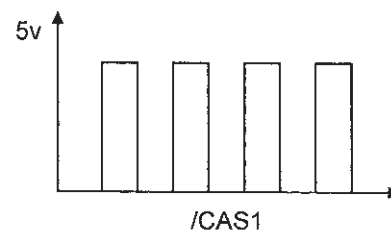
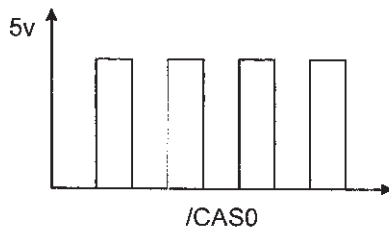
Check D1 mcu's pin 74 (/sysrst),if mcu work correctly, this pin should be high.When power on,mcu initialize itself first. After that, it will pull down the /SYSRST signal and then reset the whole system when this /SYSRST signal switches high. The MCU then resets and initializes the following ICs:ZIVA chip,video encoder,audio ADC and karaoke processor one by one. After finish all initializing,/sysrst stay high.

If /SYSRST is low, it means that mcu can't work properly.Check mcu module, they are mcu,flash memory,FP DRAM, FPGA,bus driver/buffer HCT245,glue logic chip HCT157,HCT175,and D11 ZIVA's pin 130 to pin 168.



step 4,

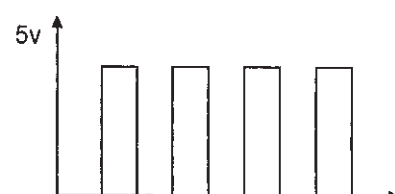
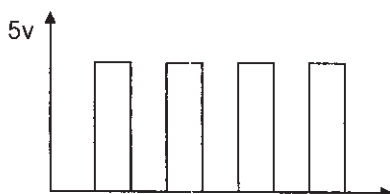
Check D3FPGA's pin34, 36,40,41(/cas0,/cas1,ras0,/ras1,ref. PointR51,R49,R46,R45).When FPGA works correctly, FPGA will output refresh signal to FP DRAM from these pins, the corresponding waveform can be observed. If not, it means FPGA does not work correctly. FPGA and HCT14.

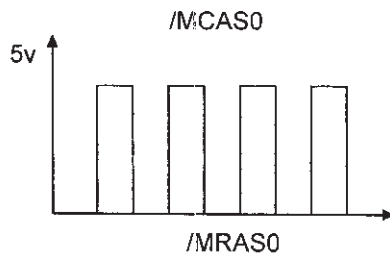


step 5,

1)

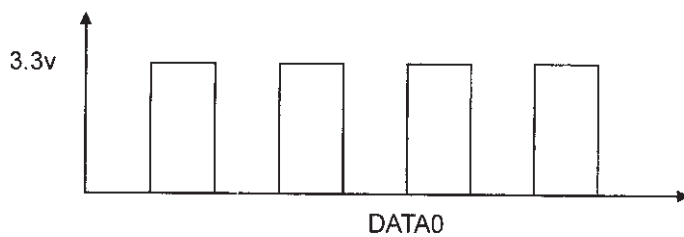
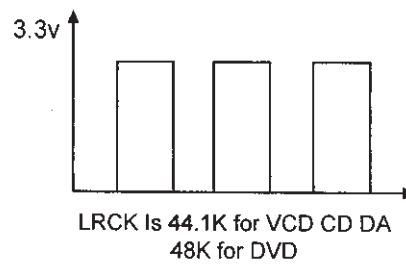
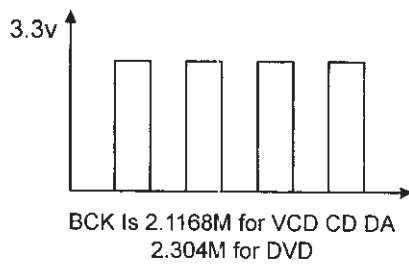
Check D11 ZIVA chip's pin90,88,86,(/MCAS0,/MCAS1,/MRAS0,REF.POINT ref.pointR91,R92,R93).ZIVA will output refresh signal to DEO DRAM from these pins;





2)

And check pin167,166,161(DA_BCK,DA_LRCK,DA_DATA0,ref. PointR89,R88,R80).These pins provide audio DAC Synchronous clock and encoded digital via karaoke processor.



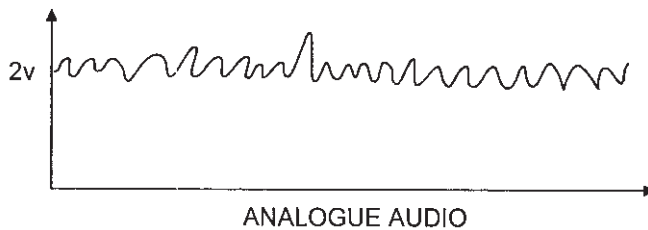
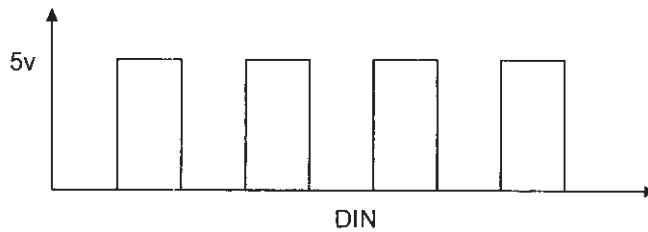
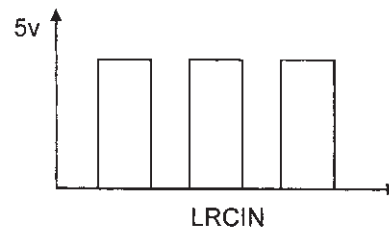
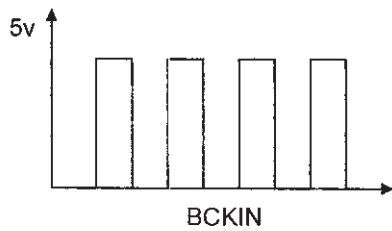
When ZIVA chip is working correctly,the corresponding waveforms can be observed.

If not,check ZIVA chip module and EDO DRAMS.

3)

Check audio u23 DAC's pin14,15,16(BCKIN,DIN,LRCIN),if the corresponding waveform be observed,means karaoke Processor work correctly.

Check audio DAC's pin9,12(V out R,V out L),the analogue audio signal should be observed.

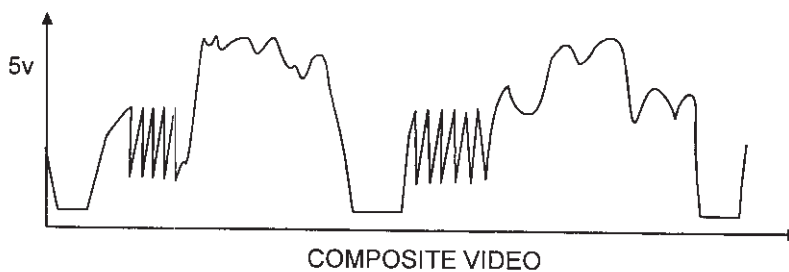
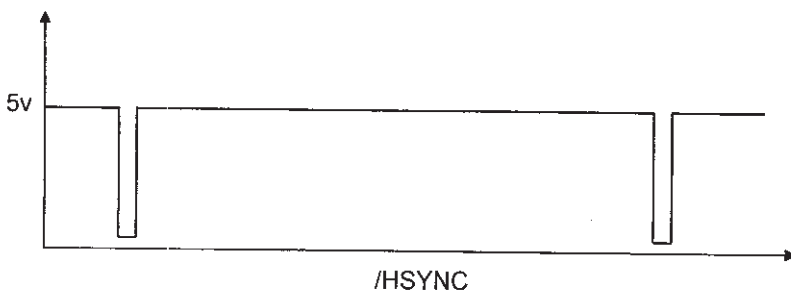
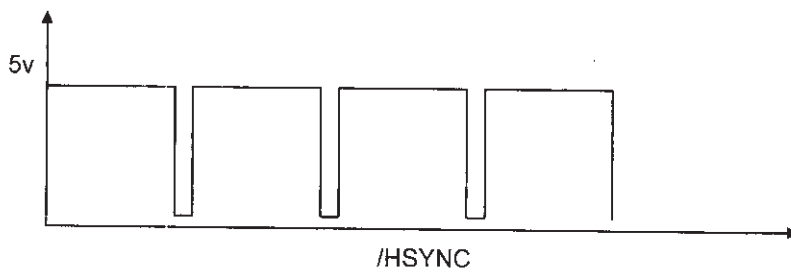


step 6,

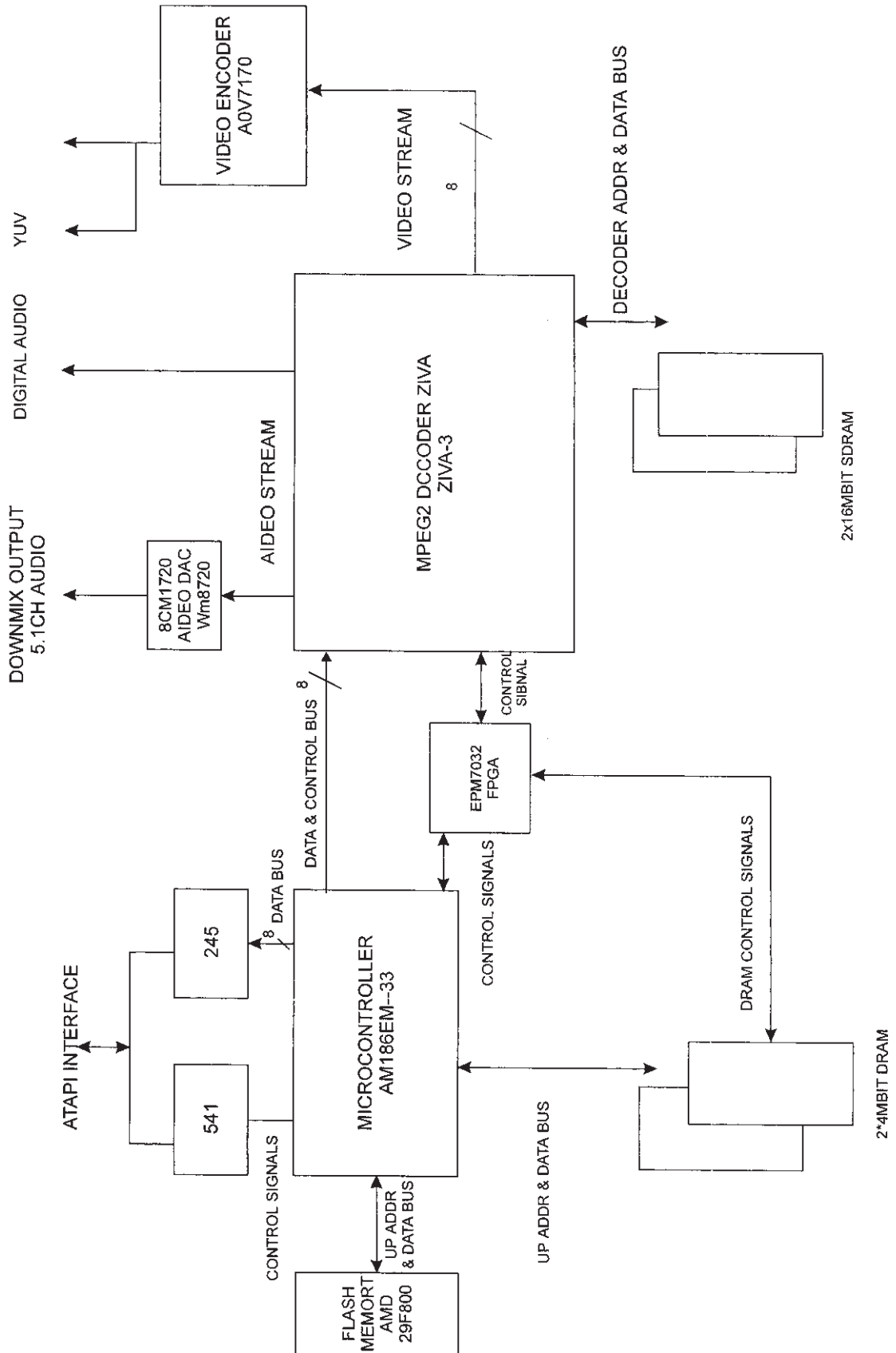
1)

check U31 video encoder's pin15, 16 for /HSYNC, /VSYNC signals, (ref. point R110, R111). After the video encoder is being initialized by mcu, these two pins output horizontal and vertical synchronous clock to ZiVA chip.

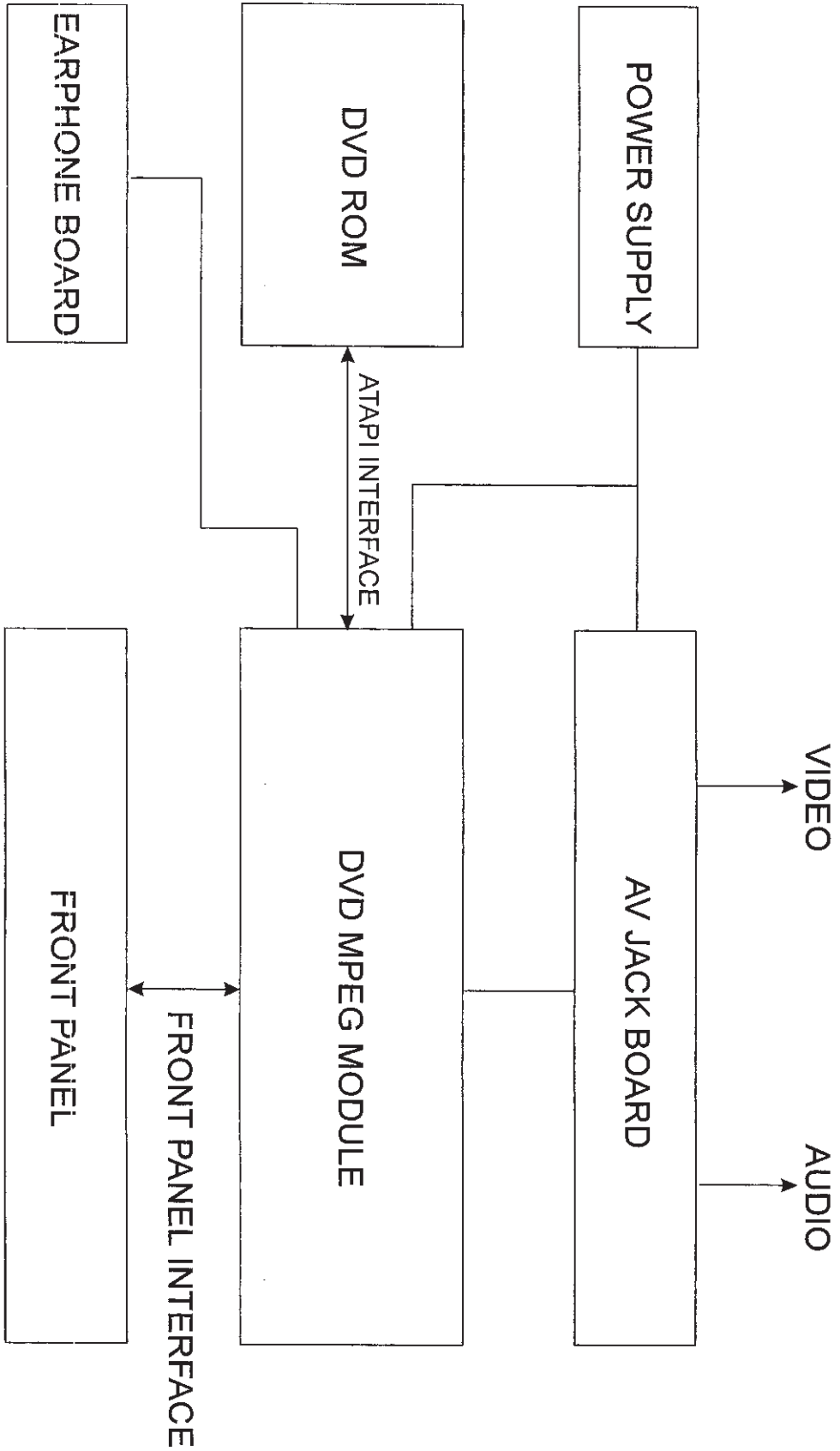
Check video encoder's pin32 (composite video, ref. point R281), if video encoder is working correctly, analogue video signal can be observed. If not, check video encoder module.



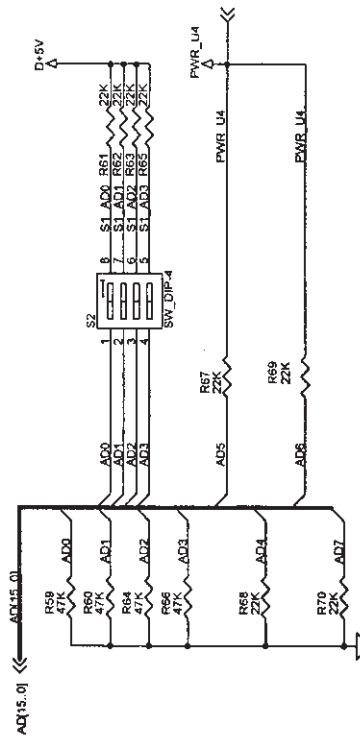
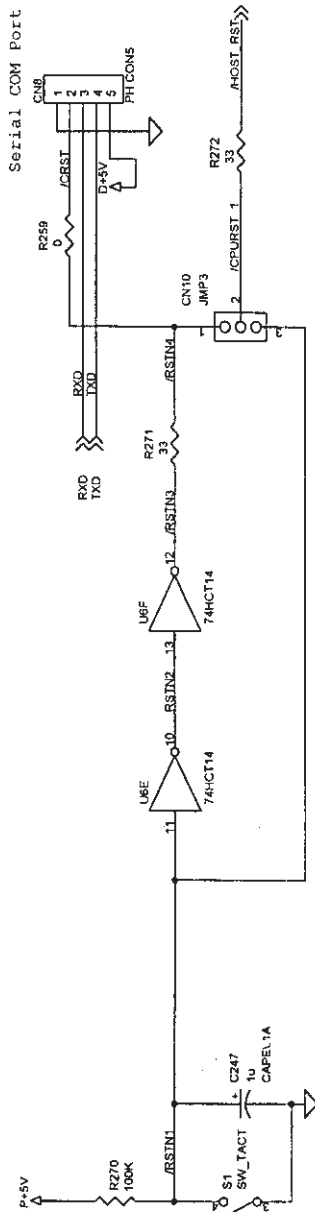
SECTION 3 BLOCK DIAGRAM OF DVD MPEG MODULE



BLOCK DIAGRAM OF DVD PLAYER



ZIVA KIT 3.3 DECODER: HOST MISC

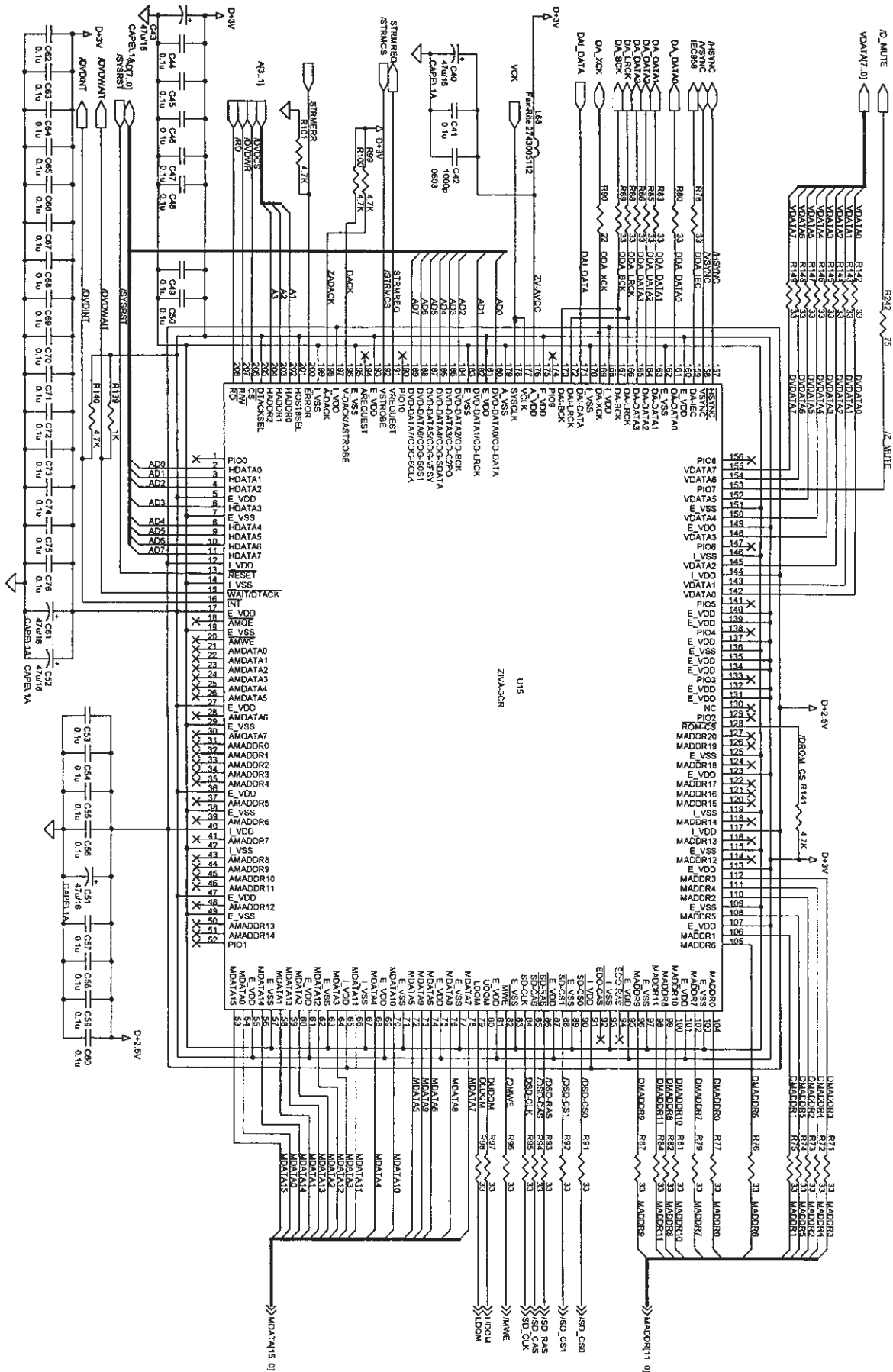


Board Type = 0110

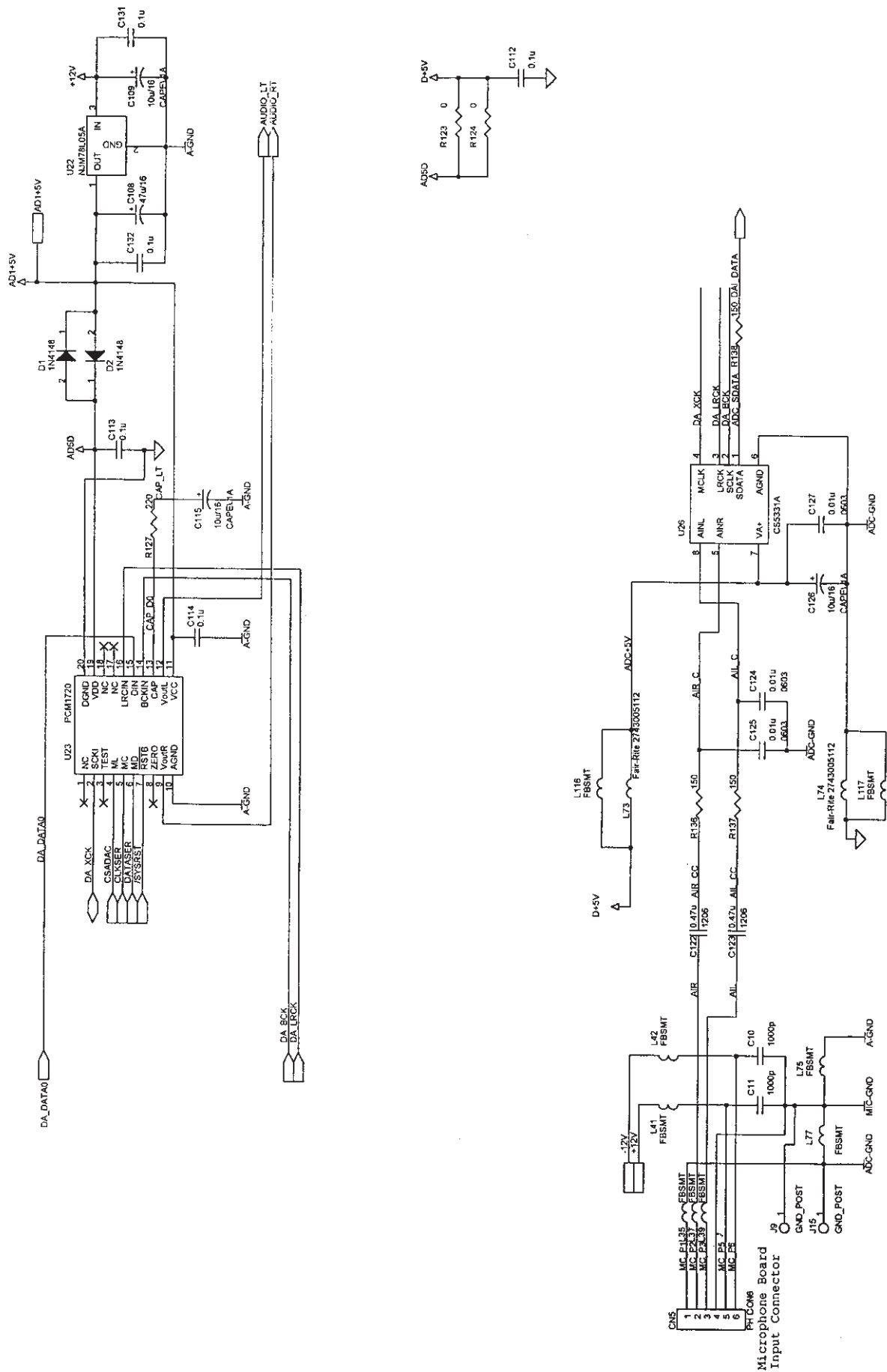
DIP SW (S1) Settings

SW No.	ON	OFF
1	Serial_Debug Mode	Normal Mode
2	Flash Upgrade Mode	Normal Mode
3	NTSC Video	NTSC Video
4	PAL Video	NTSC Video

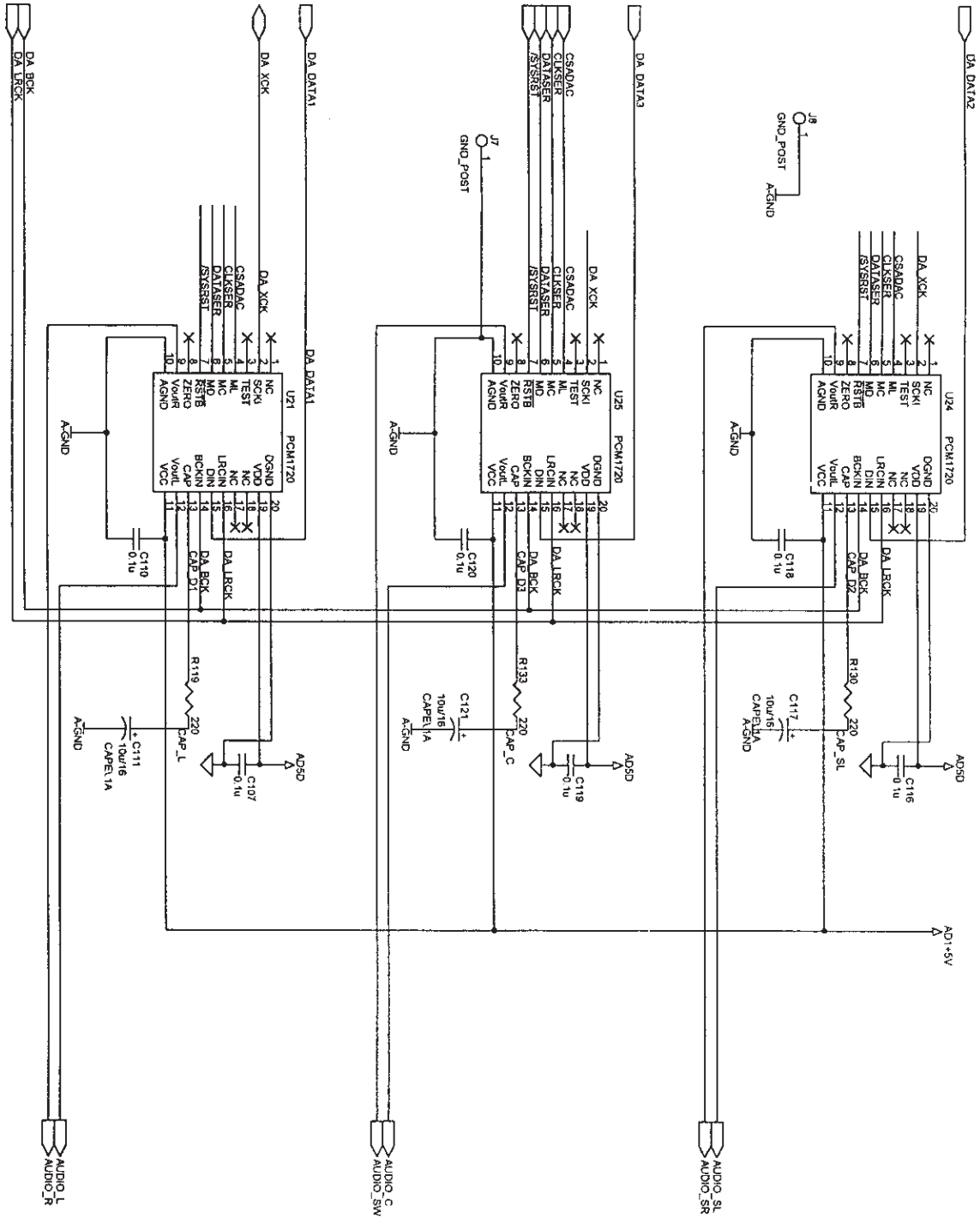
ZIVA KIT 3.3 DECODER: ZIVA



ZIVA KIT 3.3 DECODER: AUDIO DAC DOWN-MIXED CHANNEL

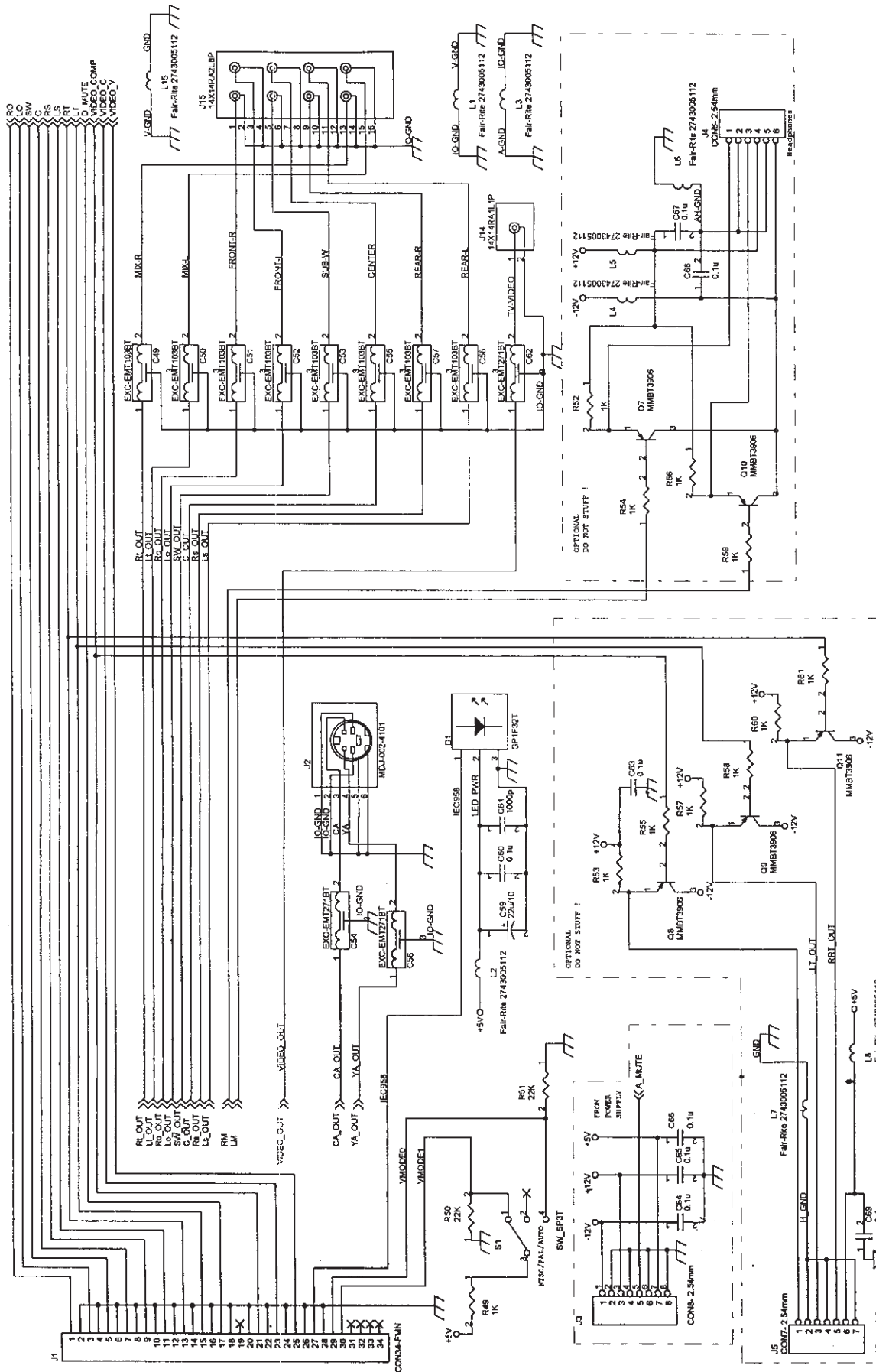


ZIVA KIT 3.3 DECODER: AUDIO DAC 5.1 CHANNELS

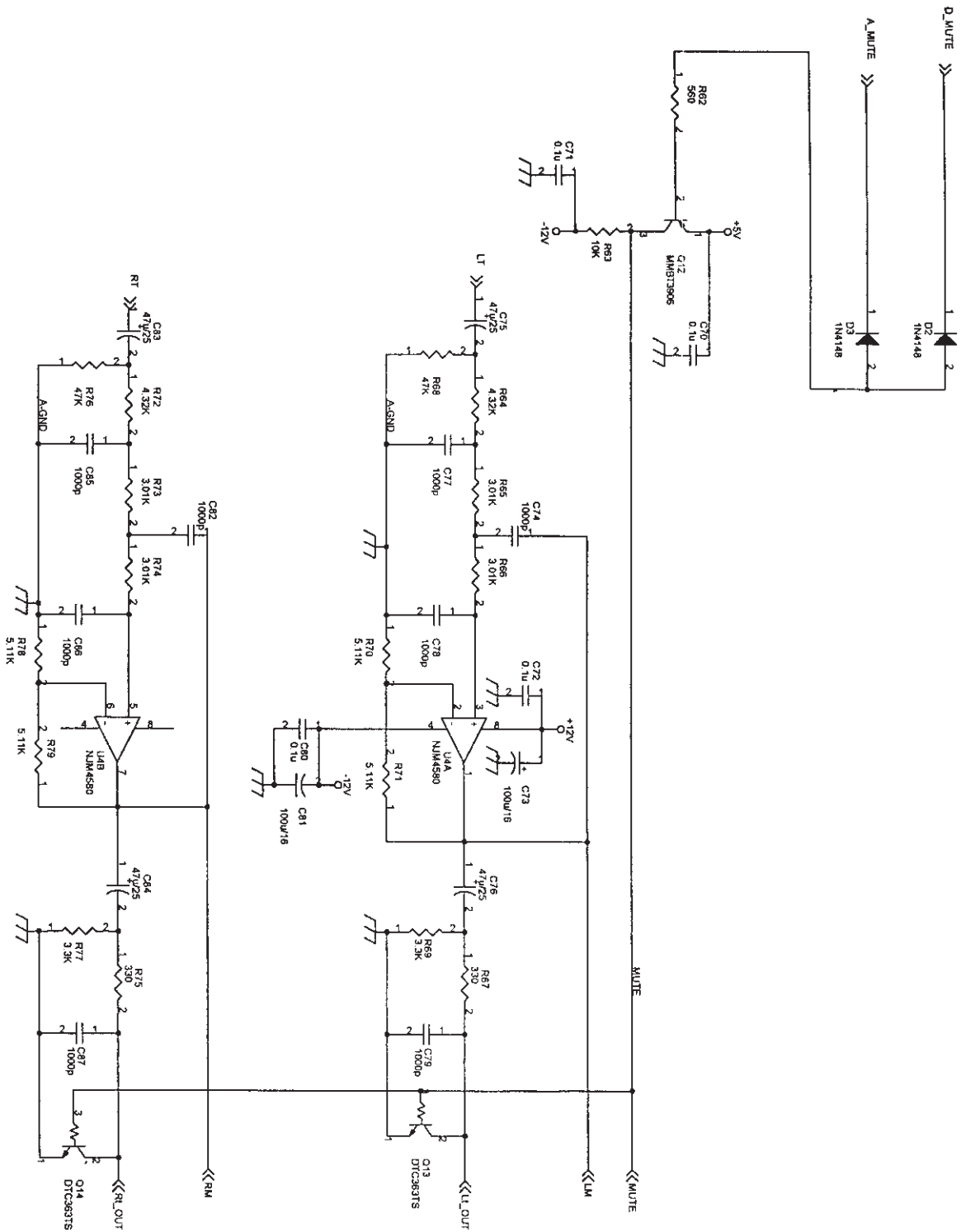


Audio outputs (L, R, SL, SR, C and SW) must be shielded by A-GND.

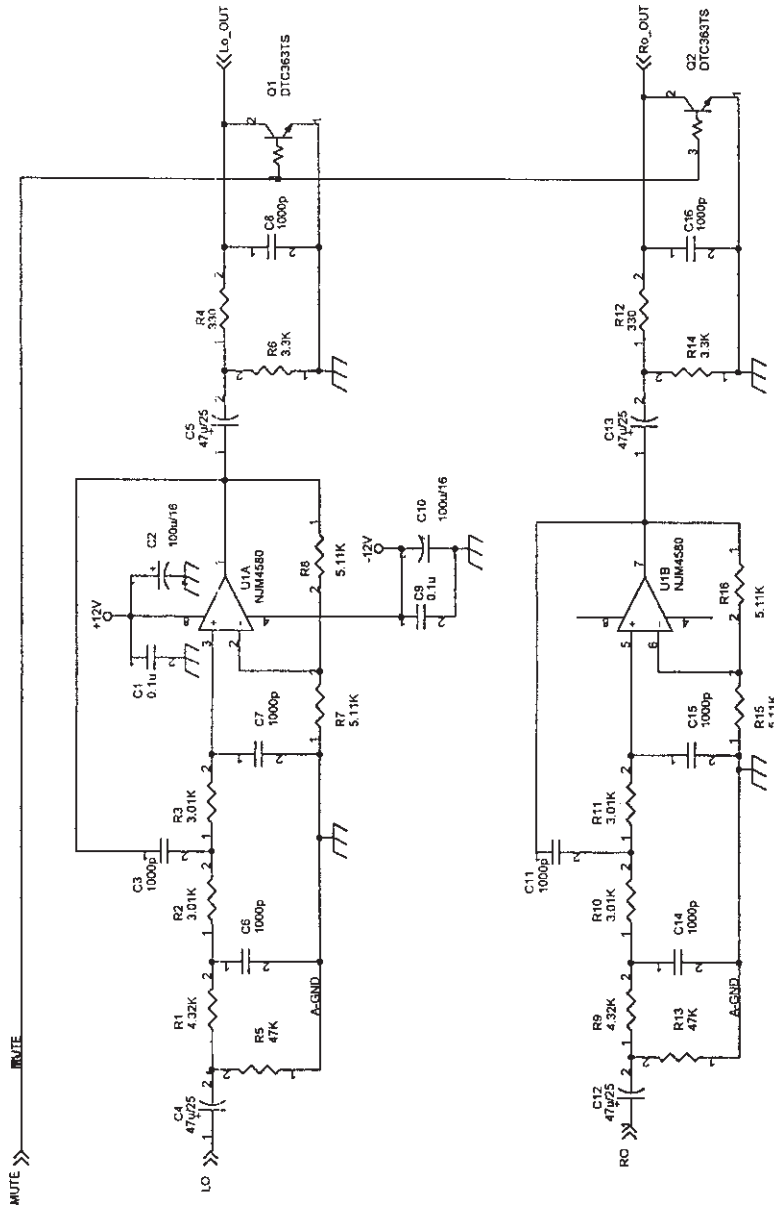
ZIVA KIT 3.3 - 5.1 AV - OUTPUT CONNECTORS



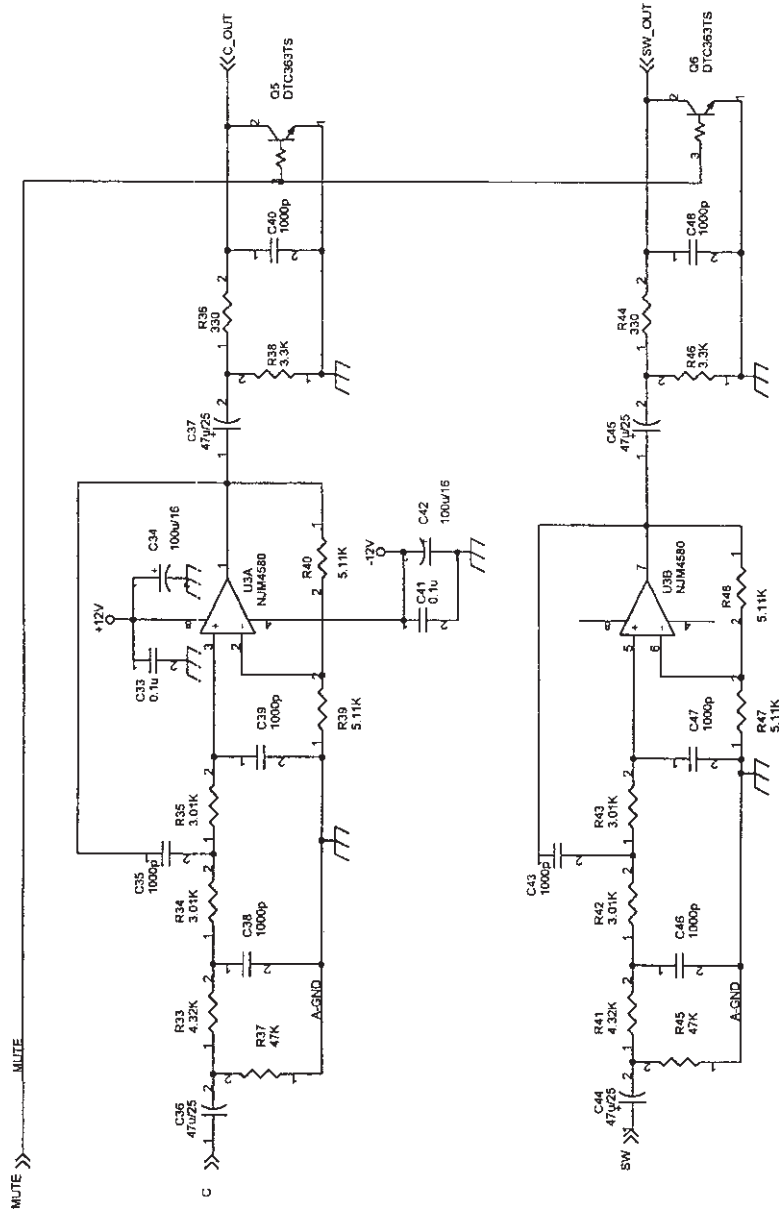
ZIVA KIT 3.3 - 5.1 A/V - DECODER BOARD: LT/RT



ZIVA KIT 3.3 - 5.1 A/V - DECODER BOARD: LO/RO



ZIVA KIT 3.3 - 5.1 AV DECODER BOARD: C/SW



ZIVA KIT 3.3 - 5.1 A/V DECODER BOARD: VIDEO OUTPUT

