



**AKAI**

**DVD PLAYER**

Model:  
DV-R4015VSS

**SERVICE MANUAL**

# 目录

---

▲ Safety information -----3	▲ Attachment 3-----32
1. General guid-----3	▲ Component list
2. Low zeta potential leaking inspection ---3	1. AV output board component list -----33
3. High zeta potential leaking inspection --3	2. Decoder board component list -----36
▲ Device avoiding ES(Electric Susceptible)	3. Control board component list -----39
Influence of ESD (Electric Susceptible Discharge)-----3	
▲ Technical specification -----4	
▲ Mechanical diagram -----8	
Mechanical Parts----- 9	
▲ Packing and accessories -----10	
▲ Disassemble and assemble-----11	
1. Take out disc from trouble player ----11	
2. PCB position -----11	
▲ Disassemble and assemble parts of the unit -----12	
1. Can open the tray by electricity ----12	
2. Can not open the tray by electricity --12	
3. Assemble the unit -----12	
▲ Attachment 1----- 13	
▲ Block Diagram/Electric circuit diagram	
1. Block diagram -----14	
2. Electric circuit diagram -----15	
3. Decoder board diagram -----16	
4. AV output board diagram -----20	
5. Control board diagram -----23	
▲ Attachment 2-----24	
▲ PCB Diagram	
1. Upper decode board PCB diagram ----25	
2. Lower decoder board PCB diagram ---26	
3. AV output board PCB diagram -----27	
4. Control board PCB diagram -----30	

# SAFETY INFORMATION

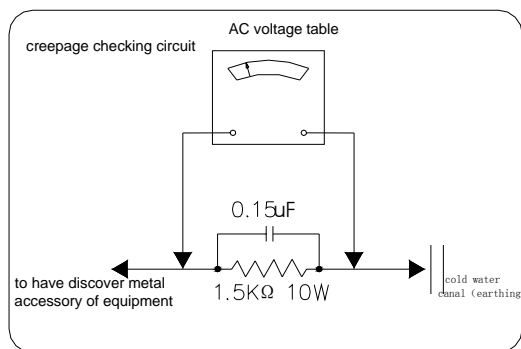
Device avoiding ES(Electric Susceptible)  
Influence of ESD (Electric Susceptible Discharge)

## General guide

- 1.Observe the original circuit during maintenance. if short circuit occurs, change the over-hot or damaged components.
- 2.Observe all the protective device after maintenance, such as whether the shielding cover or paper is assembled well.
- 3.To avoid electric shock, please inspect electricity leakage after maintenance

## Low zeta potential leaking inspection

- 1.Take out AC cord and connect a piece of wire between two legs of the outlet.
- 2.Use Gear R x 10K of the voltmeter to measure the spares on AC outlet and exposed metallic part with short circuit. The resistance between screw cap, control shaft should be unlimited.



picture 1

## High zeta potential leakage inspection

- .As illustrated 1, Connect Resistor with 1.5K, 10W and capacitor 0.15 between exposed metallic part and device of fine connection to the earth (water pipe etc.).
- 2.Plug-in AC cord directly to AC outlet. Do not inspect with shield adaptor.
  - 3.Utilize 1000 or more sensitive voltmeter to measure alternating voltage.
  - 4.Turn back the AC plug-in from AC outlet then iterate the inspection as above.
  - 5.Inspect the voltage of the resistor between other exposed metallic parts and the earth with the same way.
  6. The voltage must not be over than 0.75Vrms at any points on the resistor. Electric leakage should not be over 0.5mA when processing high voltage leakage testing through

exceeded the restrained figure, electric shock should be possibly suffered. Do maintain the unit and inspect once more before return to the user.

## Device avoiding ES influence of ESD.

Some solid semi-conductor devices are easy to be damaged by static electricity. These devices are generally called ES device. The typical devices are IC, field effect component and semi-conductor laser diode.

The following technology helps to abate the danger of ESD on body before handle any semi-conductor or semi-conductor component. Or wear the ESD bangle availed from the market to eliminate the threaten of static electricity on human body.

- 2.Put the electronic parts with ES device on the surface of conductor such as aluminium foil after take them out in order to protect static electricity from accumulation and explosion.
- 3.Solder or disassemble ES device through iron connecting the earth.
4. Utilize device only anti-static electricity to disassemble soldering tin. Non-anti static electricity device (ESC protection) will release ES that damage ES device.
- 5.Do not use chemical volatile releasing static electricity that leads to damage ES device

6. Unless preparation for pre-assembling has been made, do not take out the ES device to be changed from the protective packing ( most of the changed ES devices are packed together with anti-static electrical foam or similar electric material, besides, countermeasures for down-lead short circuit are taken.).

7. Protective material should connect the model or the circuit component to be assembled in it before taking out the protective material from the ES device.

Note: do not bear electricity to the model or the circuit, and pay attention to all the other safety information.

8. When disassembling and replacing the ES device, try to reduce body movement (Or, the movement of legs, the friction of fibrous of clothes, or elevating the legs from the floor will generate static electricity ESD, causing damage to the ES device.).

**Technical specification**

**DVD Electric guideline 1: Video parts**

NO.	Test items	Test point	Performance request	Units	Remark	
1	video		1.0±0.2	V <sub>p-p</sub>		
2	Output range	S-vid	Y	0.7±0.14	V <sub>p-p</sub>	
			C	chroma	0.88±0.176	V <sub>p-p</sub>
		eo		Color sync	0.3±0.06	V <sub>p-p</sub>
				Y. Cr. Cb/Y.Pr.Pb		0.7+/-0.14
4	R. G. B		0.7+/-0.14	V <sub>p-p</sub>		
5	Level definition		≥450	lines		
6	bandwidth(+3/-6 dB)		≥5.5	MHz	100KHz 0 dB	
7	differential coefficient bit DP		≤2	degree	75Ω loads	
8	Lum non distortion		≤5	%	75Ω loads	
9	Differential plus DG		≤2	%	75Ω loads	
10	S/N ratio	Y	≥56 (except power)	dB	75Ω loads	
11		C	U channel	≥50	dB	75Ω loads
			V channel	≥50	dB	75Ω loads
12		R	R channel	≥50	dB	75Ω loads
		G	G channel	≥50	dB	75Ω loads
		B	B channel	≥50	dB	75Ω loads

**2: Audio(Test signals: TCD-784)**

NO.	Test items	Test point	Performance request	Units	Remark
1	Lines audio input, output levels		1.8+0.2/-0.8	V <sub>rms</sub>	DVD (LPCM) 、 CD Audio input impedance:10KΩ
2	Breadth rage response		± 1.5	dB	DVD (LPCM) 20Hz~20KHz
3	S/N		≥80	dB	A count power
4	THD		10	%	1KHz A count power 10W
5	Condition areas		90	dB	1KHz A count power
6	Separate degree		70	dB	1KHz A count power
7	Channel inbalance		≤1.0	dB	DVD (LPCM) 、 CD
8	Coaxial output range		0.5±20%	V <sub>p-p</sub>	75Ω± 1% loads
9	Optical output wavelengh (λ p)		660±30	nm	

**3: Other characteristic parts**

NO.	Test items	Test point	Capability request	Units	Remark
1	Load time		10	S	
2	Remote control for instance		≥5	m	Front surface±15° areas
3	Input power voltage		230V±10%		50Hz
4	Expend power		110W		Normal works
5	Deposited condition of temperature		-25~+55	° C	
6	Works condition of temperature		0~+40	° C	
7	Freedom lower		Accord GB/T 2423.8-1995 request		
8	Disc formats	(1)DVD: 12cm single side, single layer;12cm single face, double layer;12cm double face. Double layer; 8cm single face, single layer: 8cm single face, double layer;8cm double face, double layer. (2)CD disc:12cm disc,8cm disc			

4: Test condition1.condition: normal temperature, normal voltage 2.power voltage: AC 230V 50Hz

3. speaker impedance: 8Ω

## Technical specification

AV output board electric guideline

production model: AKAI DV-R4015VSS

	Items	Unit	Model Value	Limited value	Test condition
POWER PARTS					
1	Input voltage areas	V <sub>AC</sub>	230 ± 10%		
2	Rating output voltage and current		+5V 1.3A	+5V 1.5A	
			-16V 2.2A	+16V 3A	
			-16V 2.2A	+16V 3A	
			AC3.7V 100mA	AC3.7V 120mA	
			-24V 50mA	-24V 50mA	
3	The least of output power	W		110	Input voltage AC230 ± 10%V
4	+5 output veins wave	mV	<50		
4	Power tune rate(+5V port)	%	5		Input voltage AC230 ± 10%V
6	Loads tune rate(+5V port)	%	5		current 10mA-1.5A
AV output parts					
7	Works voltage	V	±16	±20	R <sub>L</sub> =8 Ω
8	Static state current	mA	380	630	
9	Output power	W	12	14	THD = 10% R <sub>L</sub> = 8Ω
10	(FR/FL/SR/SL/CENT)		9	11	THD = 1% R <sub>L</sub> = 8Ω
11	Subwoofer output power	W	30	35	THD = 10% R <sub>L</sub> = 8Ω
12	After all humorous wave distortion	%	0.03	0.07	R <sub>L</sub> = 8Ω ; P <sub>o</sub> = 1W; f = 1KHz
				0.7	R <sub>L</sub> = 8Ω ; P <sub>o</sub> = 0.1 to 7W; f = 100Hz to 15KHz
13	Bunch sound	dB	70		f = 1KHz
			60	50	f = 10KHz
14	S/N	dB	80	75	A count power
15	Breadth response	dB	± 1.5		40~18KHz



# Electric Specification book

Mw electric guideline

Model:AKAI DV-R4015VSS

Test condition:

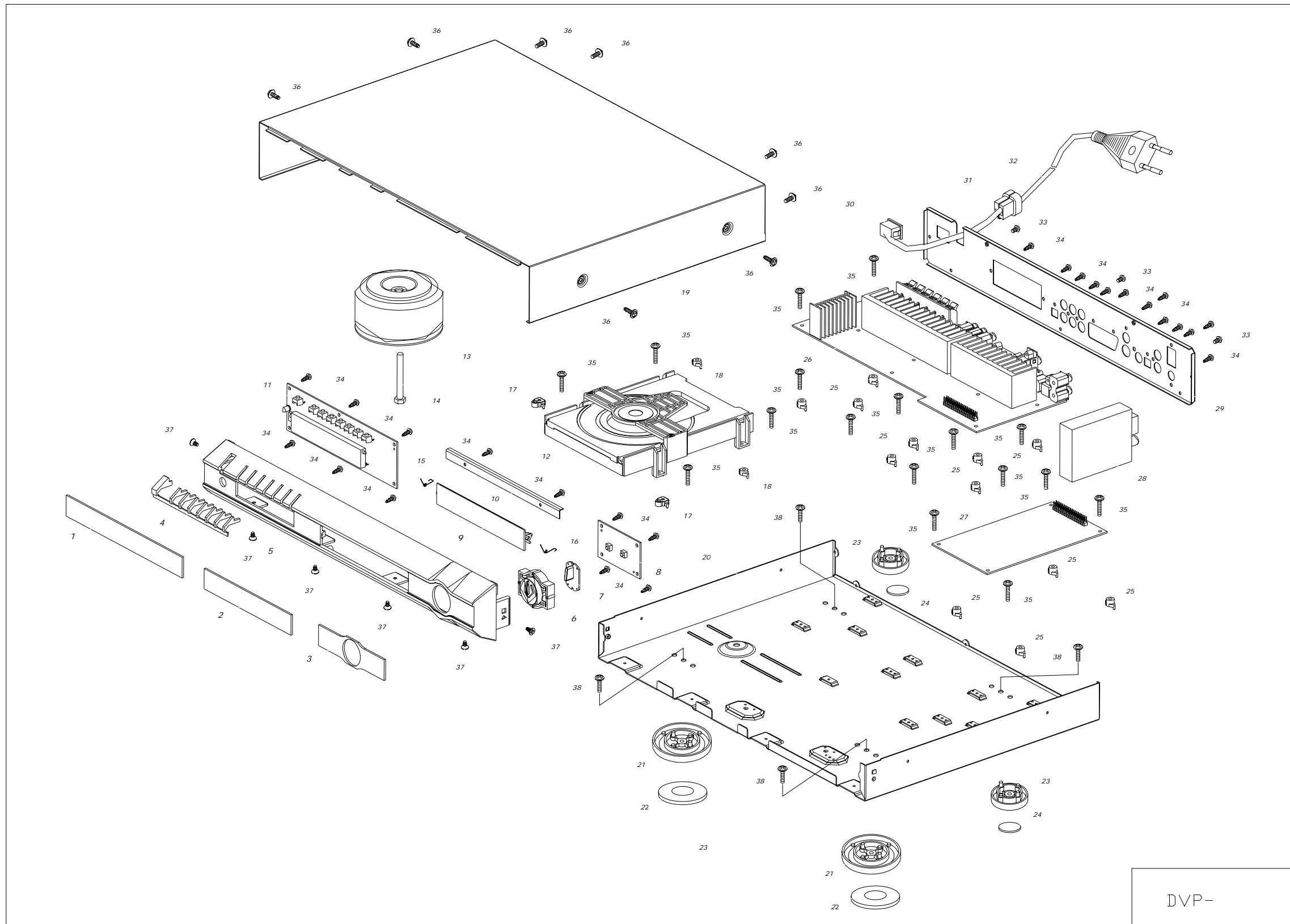
1.power supply voltage: AC 230V 50Hz

2.standard output power:1W

3.loundspeaker impedance: 8  $\Omega$

4.standard confection: 400Hz 30% confection degree

No	Test Items		Unit	Standard	Limited	Error
1	Intermediate frequency		KHz	450		+/-3
2	Cover with areas		KHz	522-1620		+/-5
4	Chirp limited is sensitive to degree	S/N 20dB, 612KHz	dB $\mu$ V/M		$\leq 75$	
		S/N 20dB, 999KHz	dB $\mu$ V/M	$\leq 70$	$\leq 75$	
		S/N 20dB,1413KHz	dB $\mu$ V/M	$\leq 70$	$\leq 75$	
5	S/N SNR (999 KHz ,input 10mV/M, standard confection 1KHz A count power)		dB	$\geq 40$	$\geq 34$	
6	Intermediate frequency restrain compete (612KHz)		dB	45	35	
7	Lens restrain compete (1413KHz)		dB	$\geq 34$	$\geq 20$	
8	AFC (input100mV/M)		dB	30	20	
9	Distortion degree	5mV/M input,30%confection degree	%	1	3	
		100mV/M input,80%confection degree	%	3	5	
10	-6dBbandwidth (20dB S/N)		KHz	8	5-10	
11	whistle(input 5mV/M, IFx1 IFx2)		%	3	10	
12	Output power	Volume largest	W			
		Distortion degree10% , 80% confection, input5mV/M	W	10		
13	+/-10KHz selectivity (on 1000KHz 20dB S/N)		dB	14	8	
14	Breadths response (-6 dB, input 5mV/M)		Hz	40Hz-4KHz	100Hz-3.1 5KHz	
15	Confection AC sound (input 100mV/M)		dB	40	35	
16	The least of volume yawp		mV	1	3	
17	Locking station delicacy degree		dB		$\leq 90$	



Mechanic parts of decompose diagram

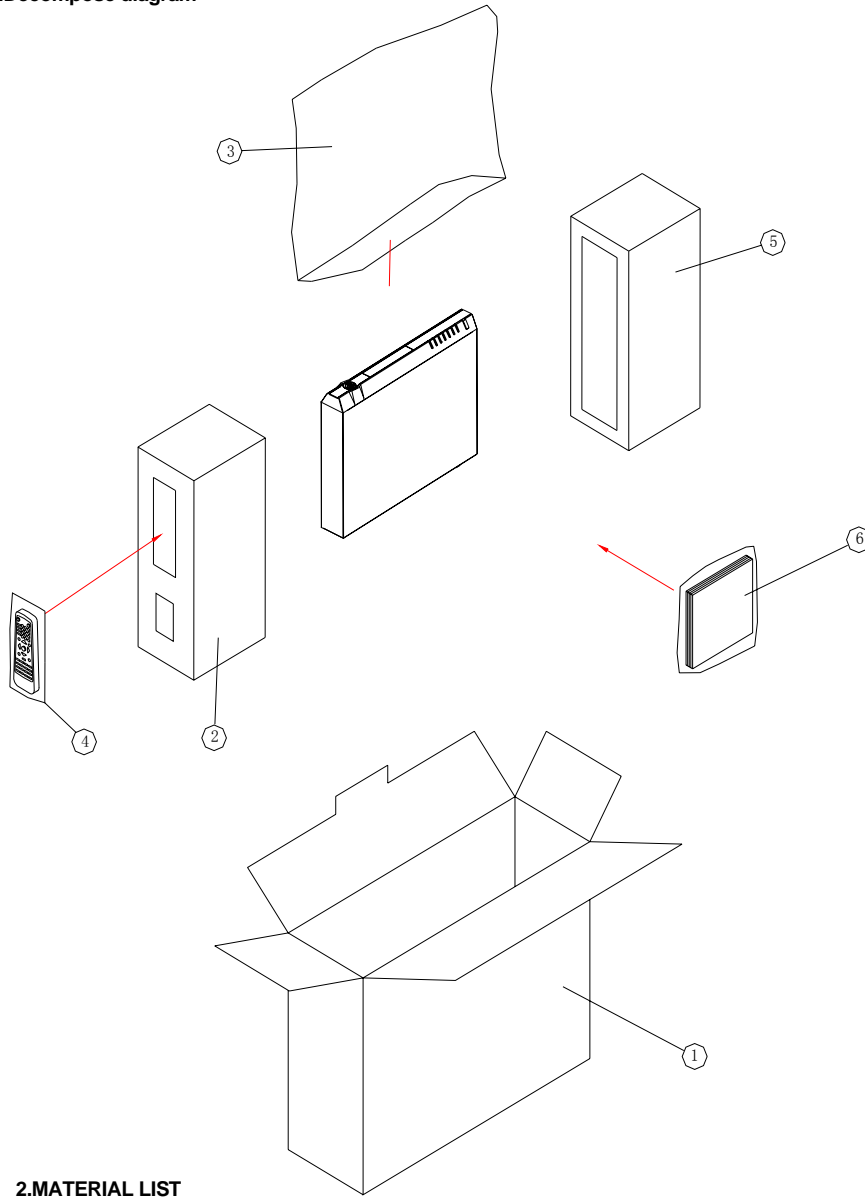


## MACHINE PARTS OF COMPONENT LIST

NO.	MATERIAL NO.	APPELLATION	QTY	REMARK
1	Y9-01012C-33	Lens1	1	PVC
2	Y9-01012C-32	Lens3	1	PVC
3	Y9-01012C-31	Lens2	1	PVC
4	Y1-010171-00	7KEY key	1	ABS
5	Q1-010120-14	surface	1	ABS
6	Y1-0101G1-00	Vol button	1	ABS
7	Y9-01016C-20	Lead	1	ACRYL
8	A5-010120-40	control board	1	
9	Q1-0101D0-04	disc tray	1	ABS
10	Y3-060160-10	uuper cover board plank	1	cool roll baord
11	A5-010120-41	control board	1	
12	A6-000000-41	core	1	SONY optics head. RongXinDa plank
13	T1-400022-00	round power transformer	1	
14	N2-604829-79	transformer sleeping bolt K60×48	1	
15	N4-230101-L0	door spring (left)	1	carbon wires
16	N4-230101-R0	door spring (right)	1	carbon wires
17	Y3-01016C-24	core plank	2	ABS
18	Y3-140160-20	PCB plank(core using)	2	ABS
19	Q3-050121-00	uuper cover board	1	
20	Q4-010120-00	motherboard	1	1mm electrolyte board
21	Y3-130150-20	front feet	2	ABS
22	Y3-130150-50	front feet mat	2	sponge
23	Y3-130151-20	back feet	2	ABS
24	Y3-130151-50	back feet mat	2	sponge
25	Y3-030260-20	PCB mat	13	ABS
26	A5-010120-20	AV output board	1	
27	A5-010120-10	decode board	1	
28	A8-114100-20	Incept nog	1	KST-MV114MA1-B0
29	Q2-010120-16	back baord	1	electrolyte board
30	S1-811048-01	power switchs PS8-11-D-048	1	HuaJie company
31	Y6-440003-00	line button SB4F-4	1	power cord and back board
32	WD-222232-01	power cord2.2m 250V 2.5A VDE attention	1	LianDong company(pin) HengZhiQian (lines)
33	N2-300615-54	PWTT3×6 (adding forcedly) white	3	motherboard/back surface
34	N2-300812-19	PA3×8	25	control board, back port
35	N2-301215-54	PWTT3×12 (adding forcedly) white	17	decode board、output board、core/motherboard
36	N2-300815-54	PWB3×8 (adding forcedly) white	8	uuper cover/motherboard
37	N2-300614-54	KTT3×6 sink head	6	surface、motherboard
38	N2-300812-14	ST3×8 PANi	4	feet/motherboard

**PACKING AND ACCESSORY**

**1.Decompose diagram**



**2.MATERIAL LIST**

NO.	Serial No.	Appellation and Specification	QTY
1	06-010121-00	white box	1
2	07-010120-L0	sparkling glue(left)	1
3	01-500600-10	mainframe bage 500*600mm	1
4	A1-010120-10	remote control	1
5	07-010120-R0	sparkling glue (right)	1

## DISASSEMBLE AND ASSEMBLE

The unit comprises mechanical and electric part,including: front panel,base panel,top panel,bck panel and loader,AV output board,decode board,etc.

### ■ Take out disc by truble unit

If you cannot take out disc even press OPEN/CLOSE button,please pull power cord from the socket and follow as below:

1.Wring 8 screws out then pull left and right side to take away top panel that rear part is upper (Diagram A)

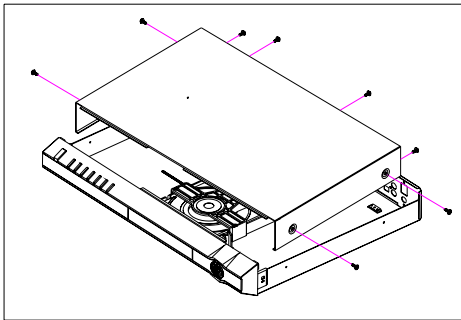


Diagram A Dipart cabinet

2.Wring 3 screws out connected base panel with bottom board then wrest 4 screws connected loader with bottom board(Diagram B)

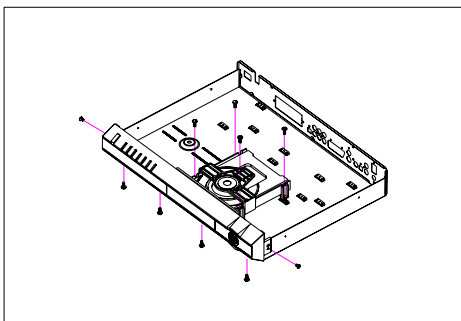


Diagram B Panel,core disassemble

3.Take out front panel and loader carefully,There is a white plastic gear under the loader,Rotate the rear as diagram C to stretch DVD tray and door(diagram D),you can take disc out carefully.

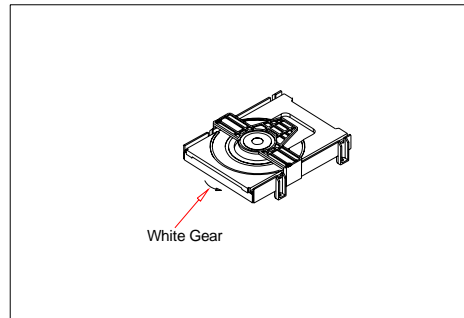


Diagram C Rotate white gear

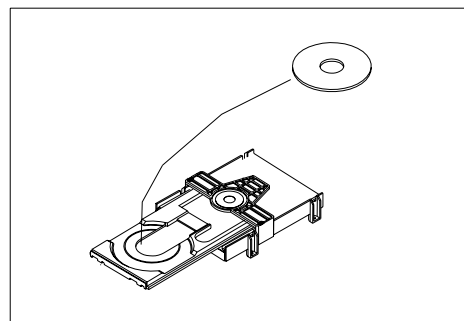


Diagram D Take out disc

### ■ PCB position

Per PCB assemblies locate as(see Diagram H)

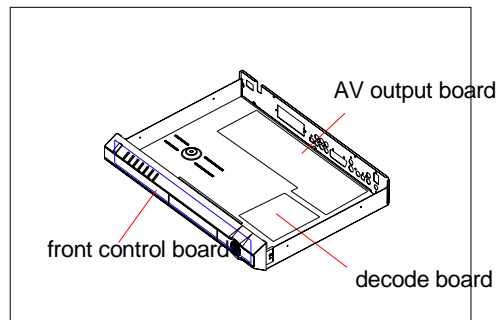


Diagram H Boards Location

## Disassemble and assemble parts of the unit

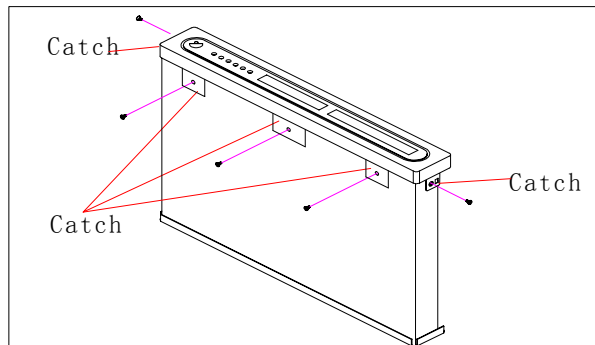
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1. Take down top panel see as illustrate A
2. Take down front panel



### Can open the tray by electricity

1. Operate after completely take out top panel
  2. Press OPEN/CLOSE button to open disc tray.
- Be careful not to damage disc when take it out if it is in the tray .  
Then take away DVD door (as illustrated E)?



Graph E Catch position on the front panel



### Can not open tray by electricity

- Unable to open disc tray when press OPEN/CLOSE button
1. Take down disc as illustrated A,B,C,D
  2. Take down DVD front panel

## **Attachment 1: Block diagram、Circuit diagram**

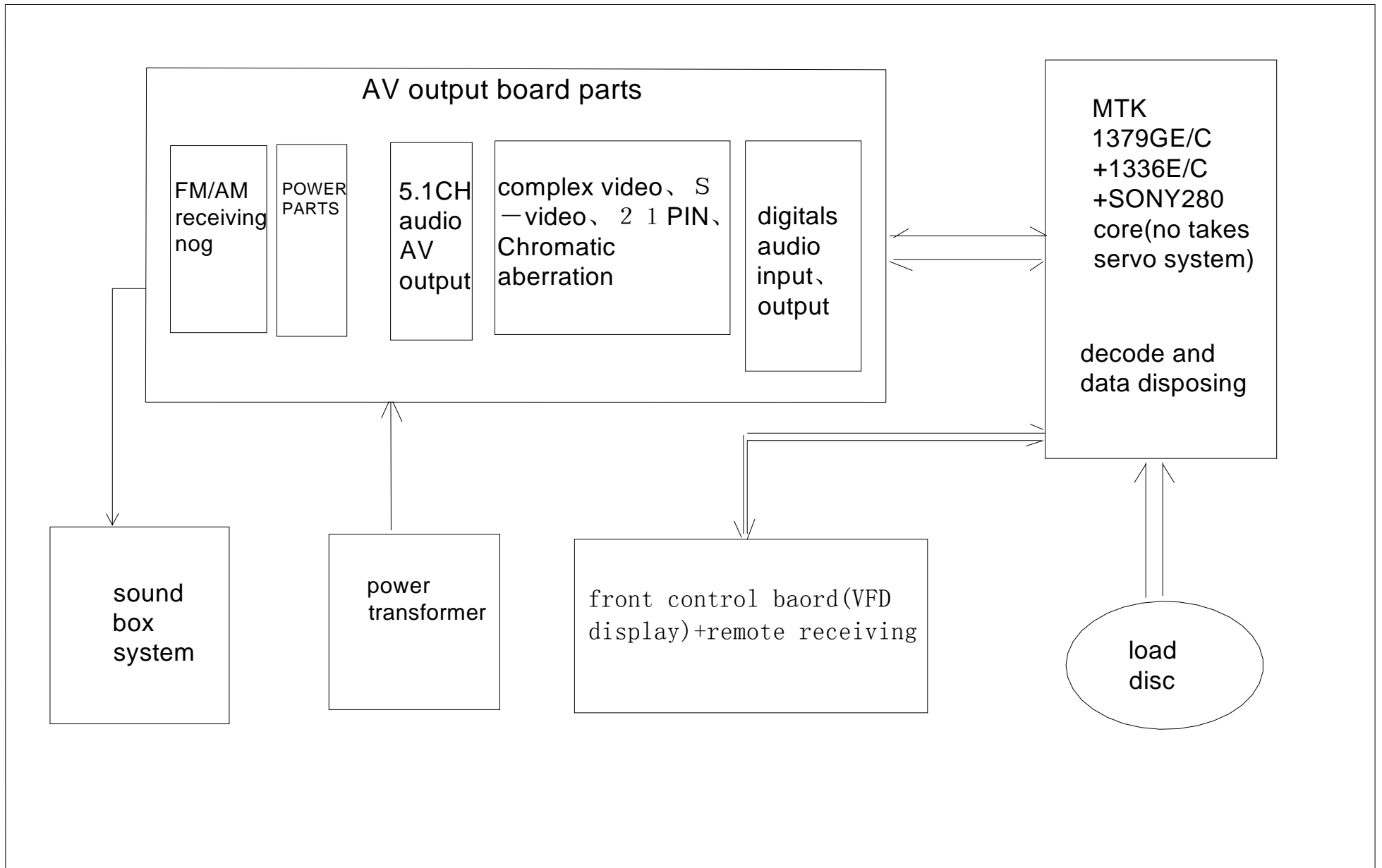
Block diagram

Circuit diagram

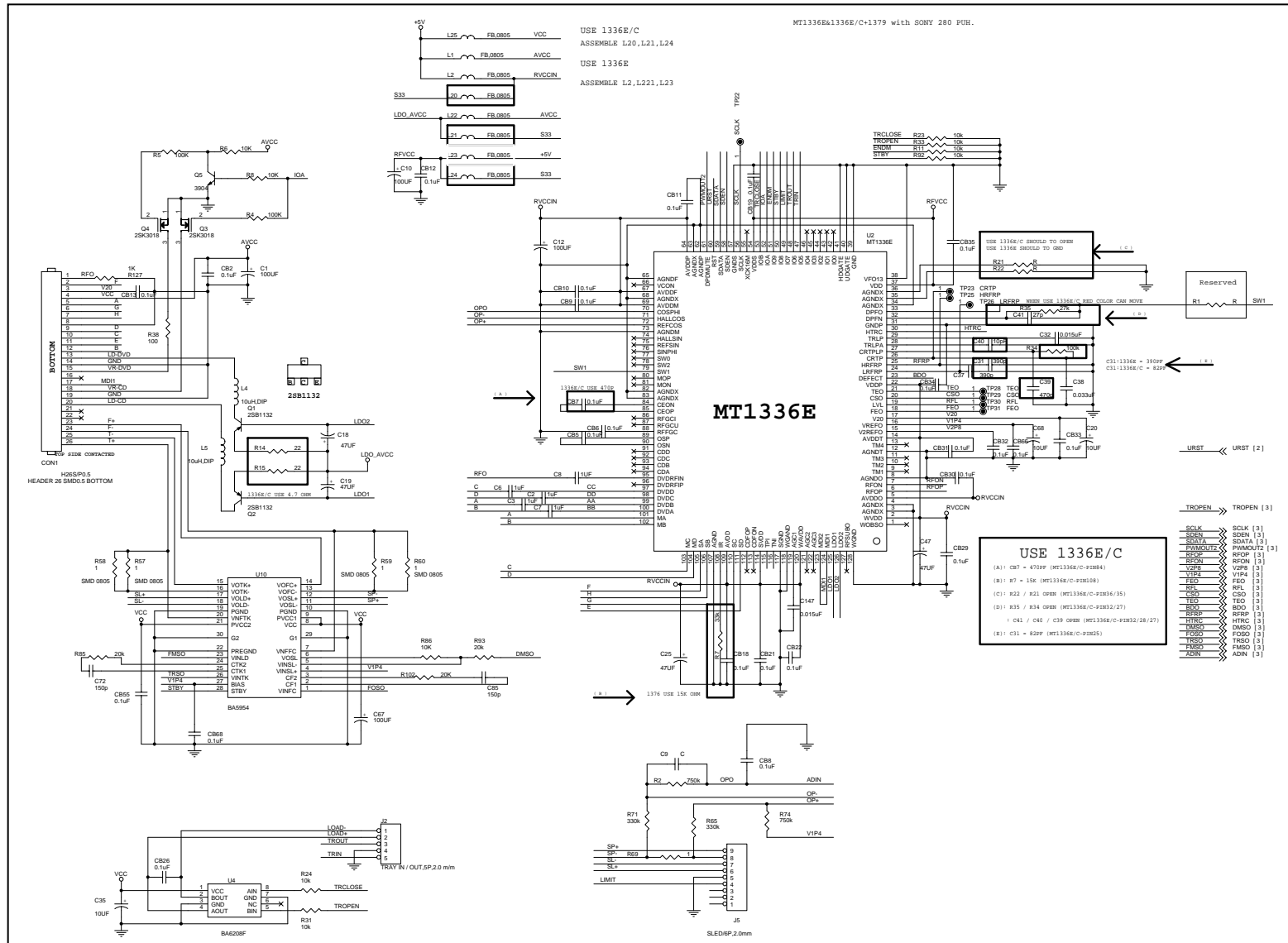
Decoder board circuit diagram

AV Output board circuit diagram

Control board circuit diagram



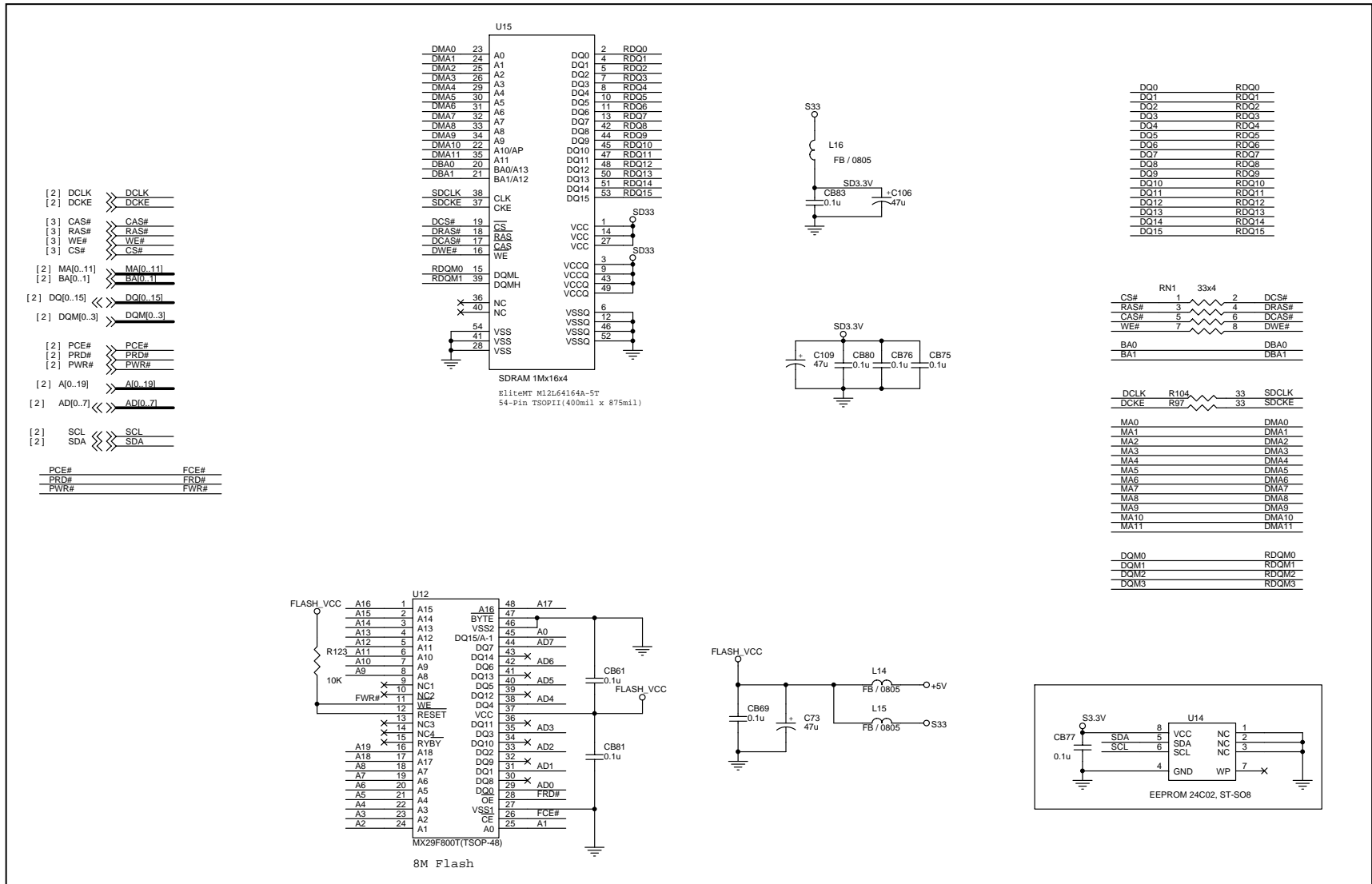
**AKAI DV-R4015VSS Block diagram**



**Decode board elements diagram 1**

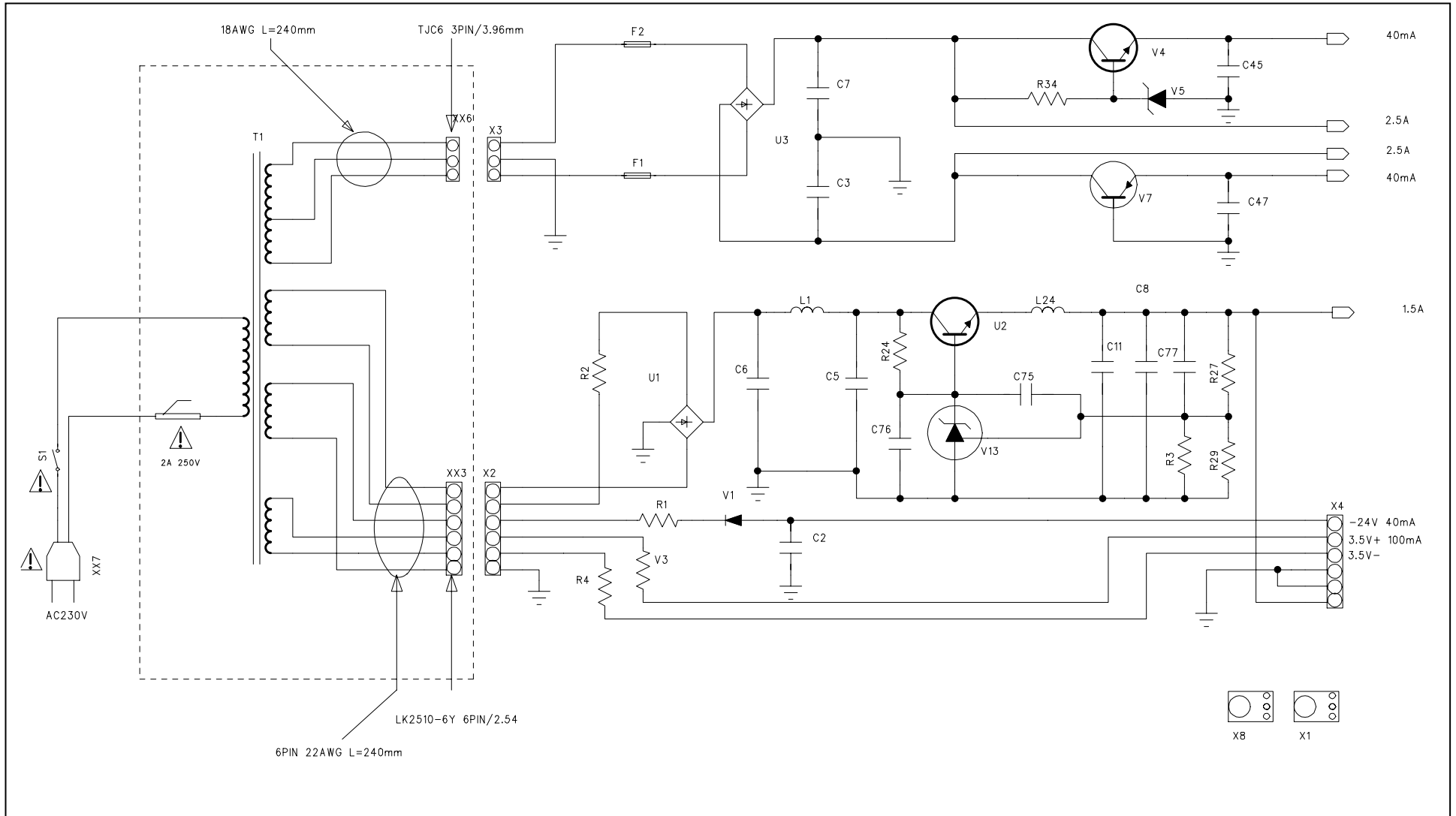




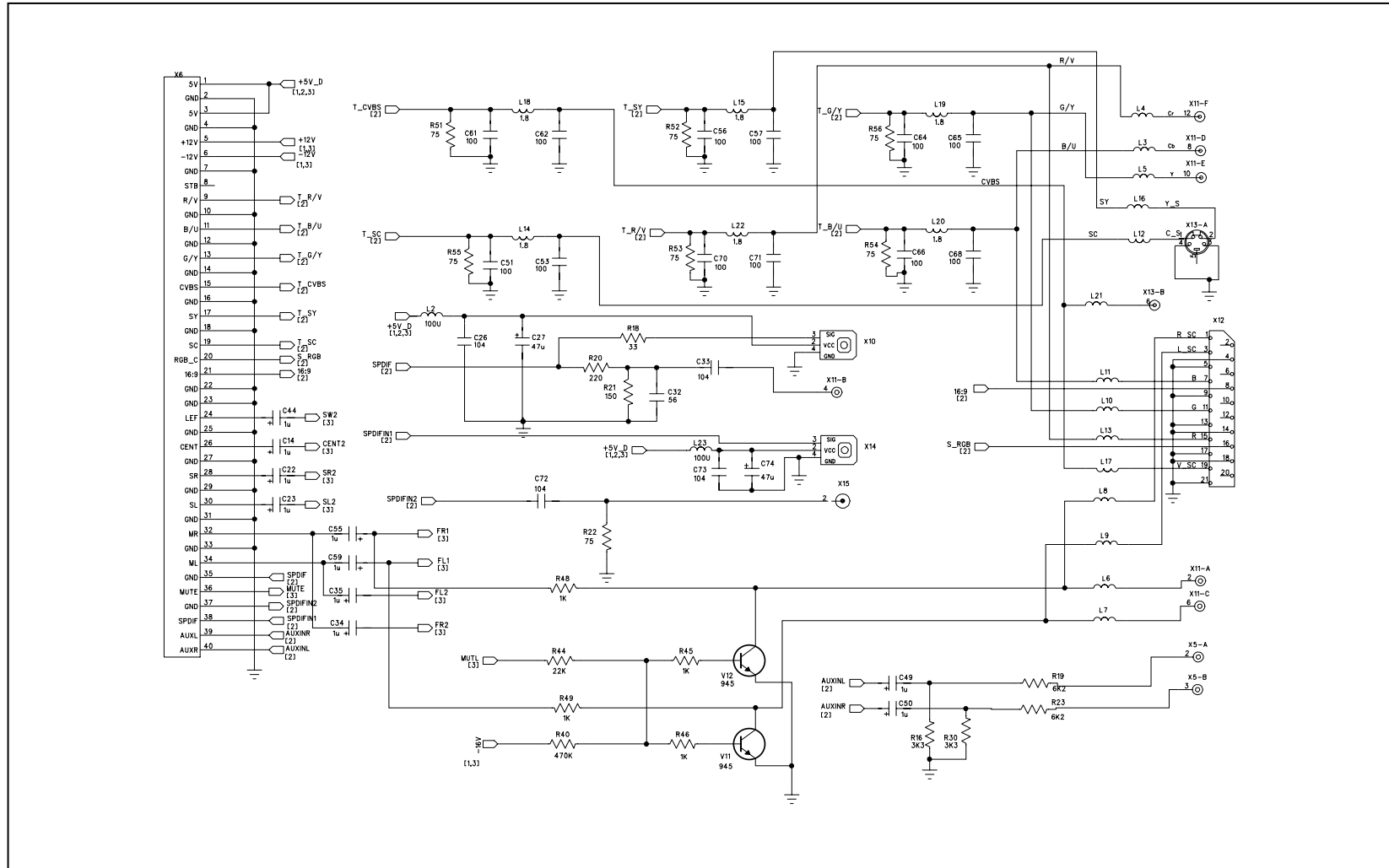


**Decode board elements diagram 3**

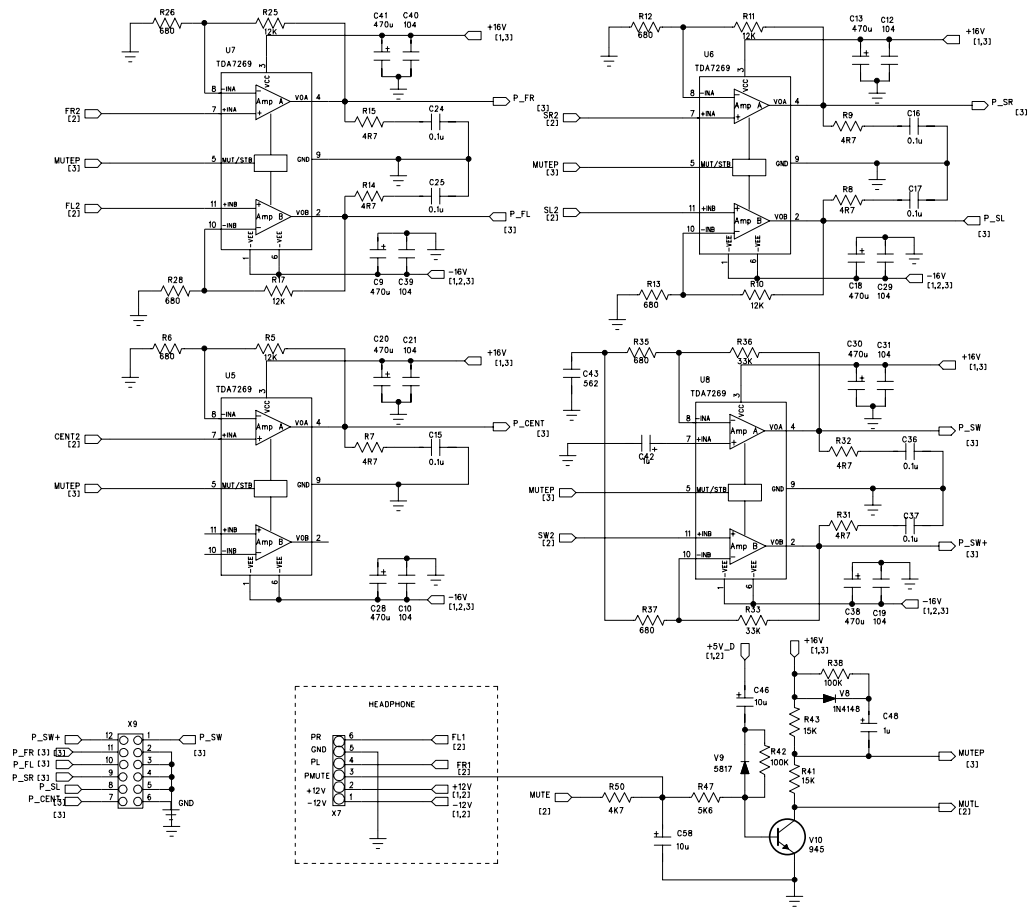




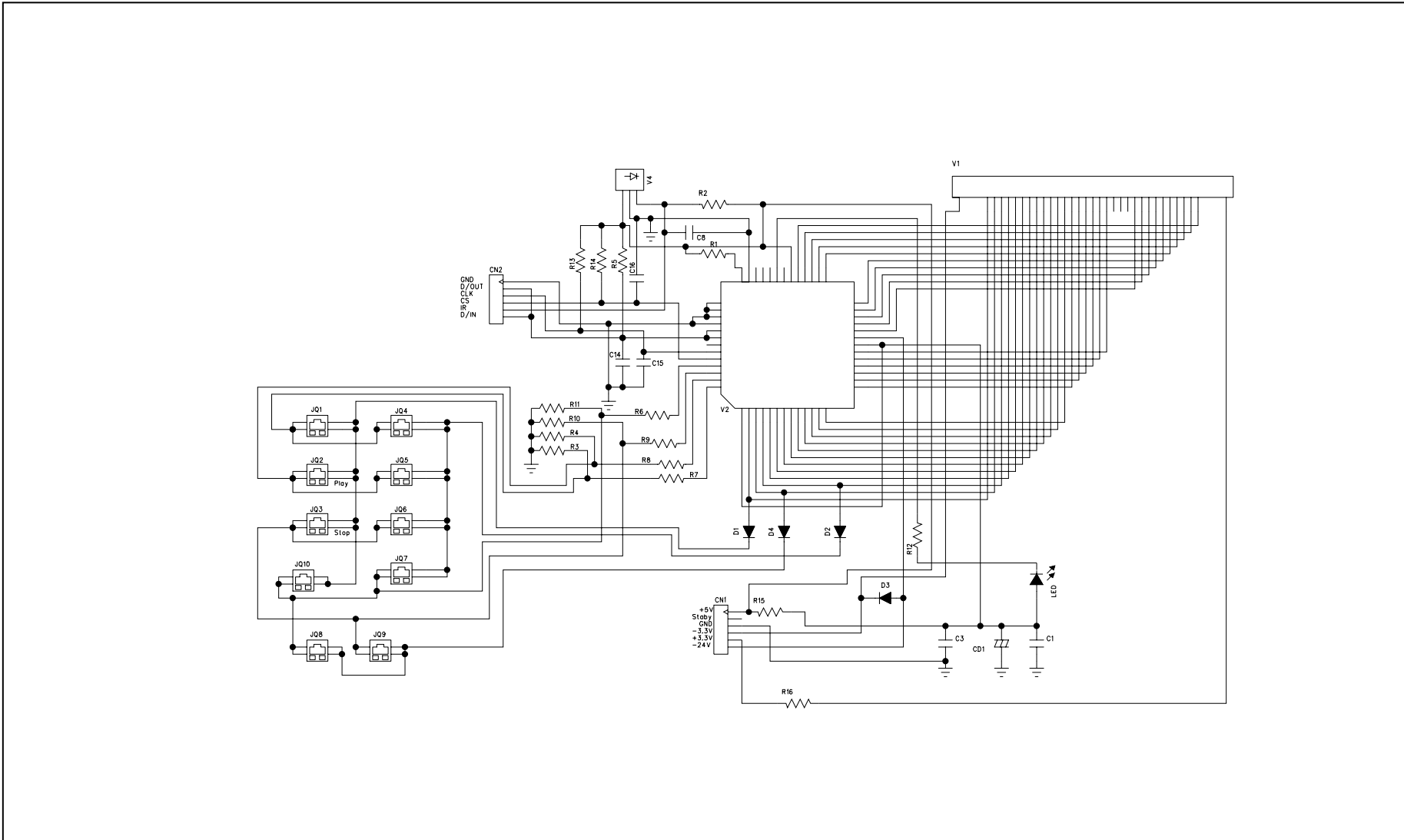
***Output board elements diagram 1***



***Output board elements diagram 2***



**Output board elements diagram 3**



***Control board circuit diagram***

## **Attachment 2: PCB Diagram**

Upper Decode Board PCB Diagram

Upper Decode Board Silk-screen Diagram

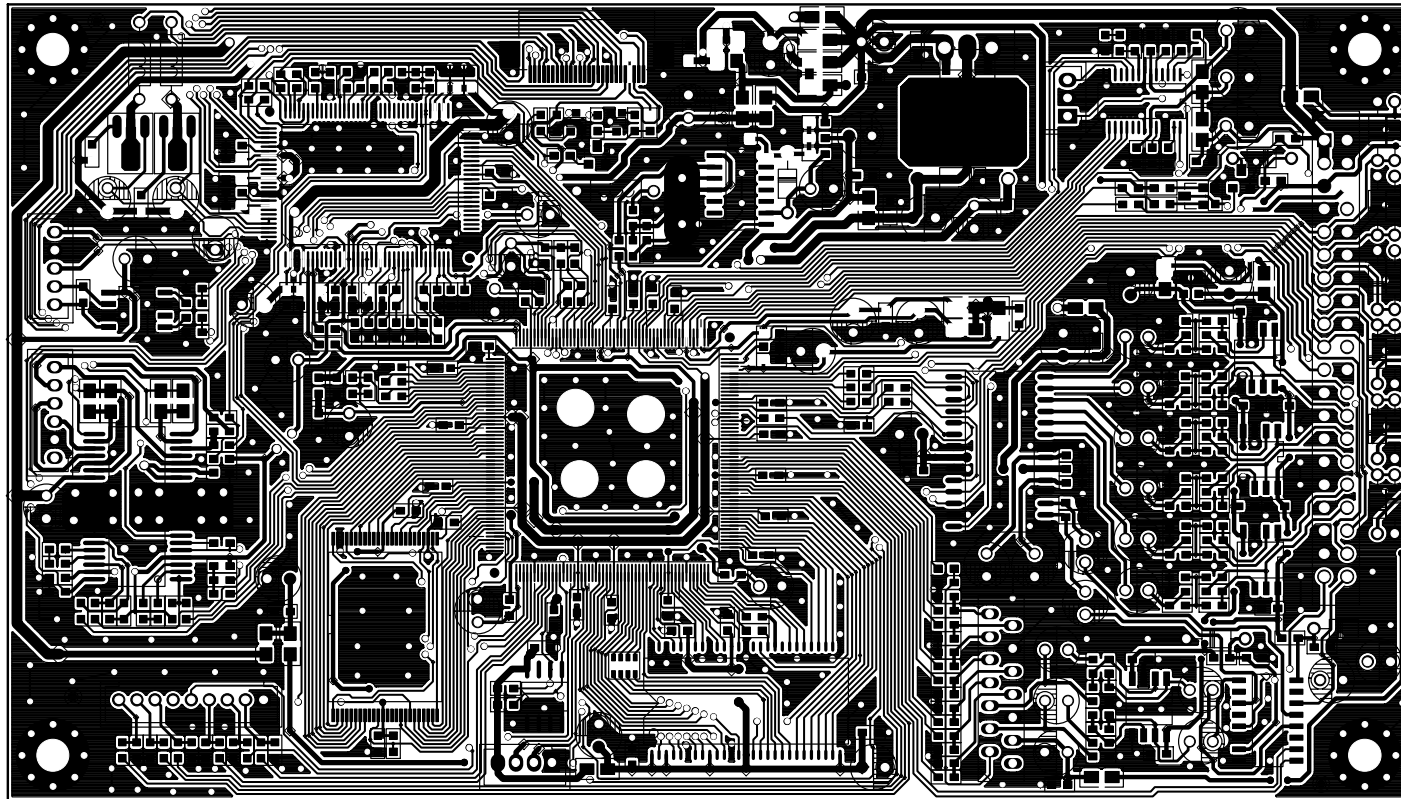
Lower Decode Board PCB Diagram

AV Output Board PCB Diagram

AV Output Board Silk-screen Diagram

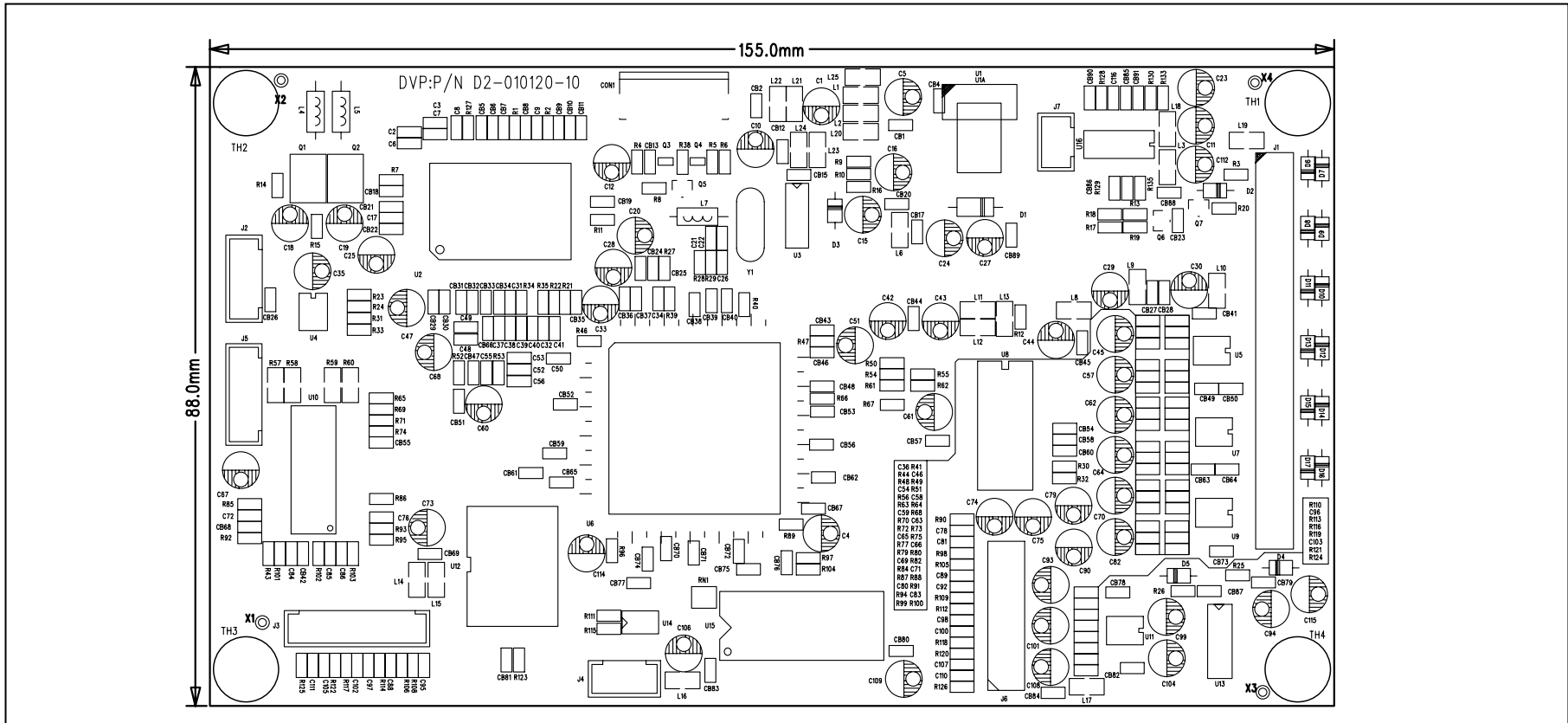
Control Board PCB Diagram

Control Board Silk-screen Diagram

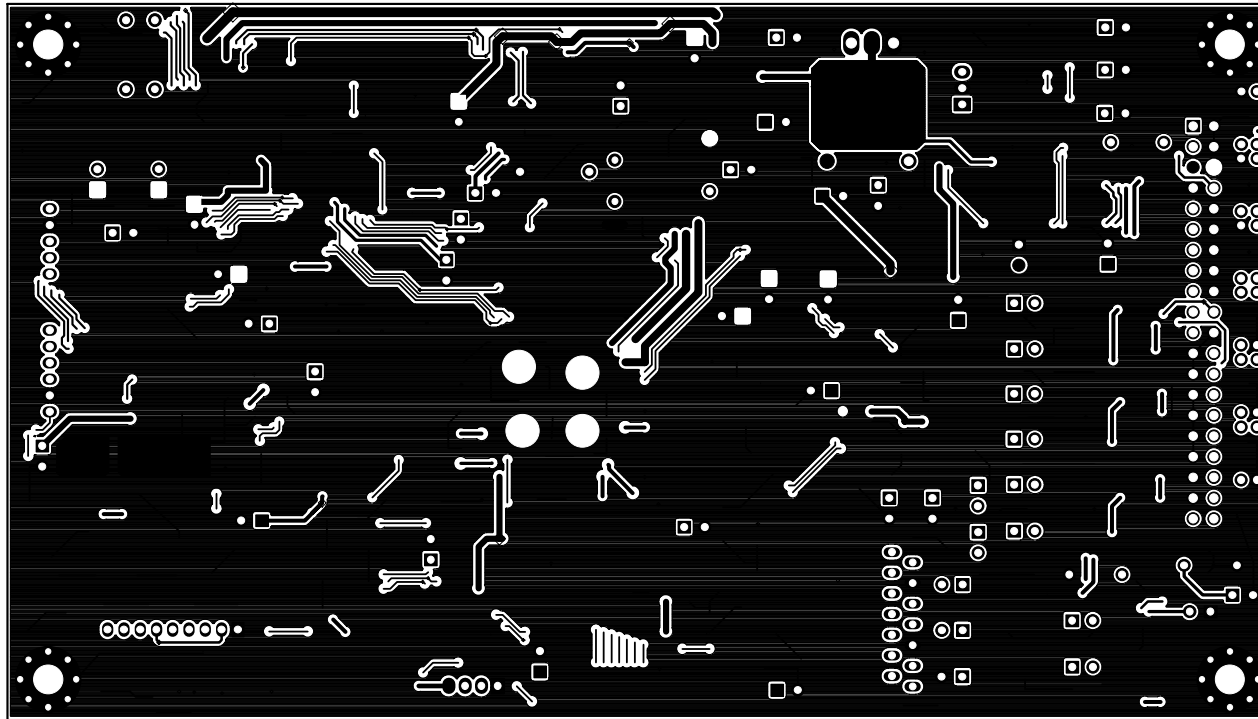


*Upper decode board PCB diagram*

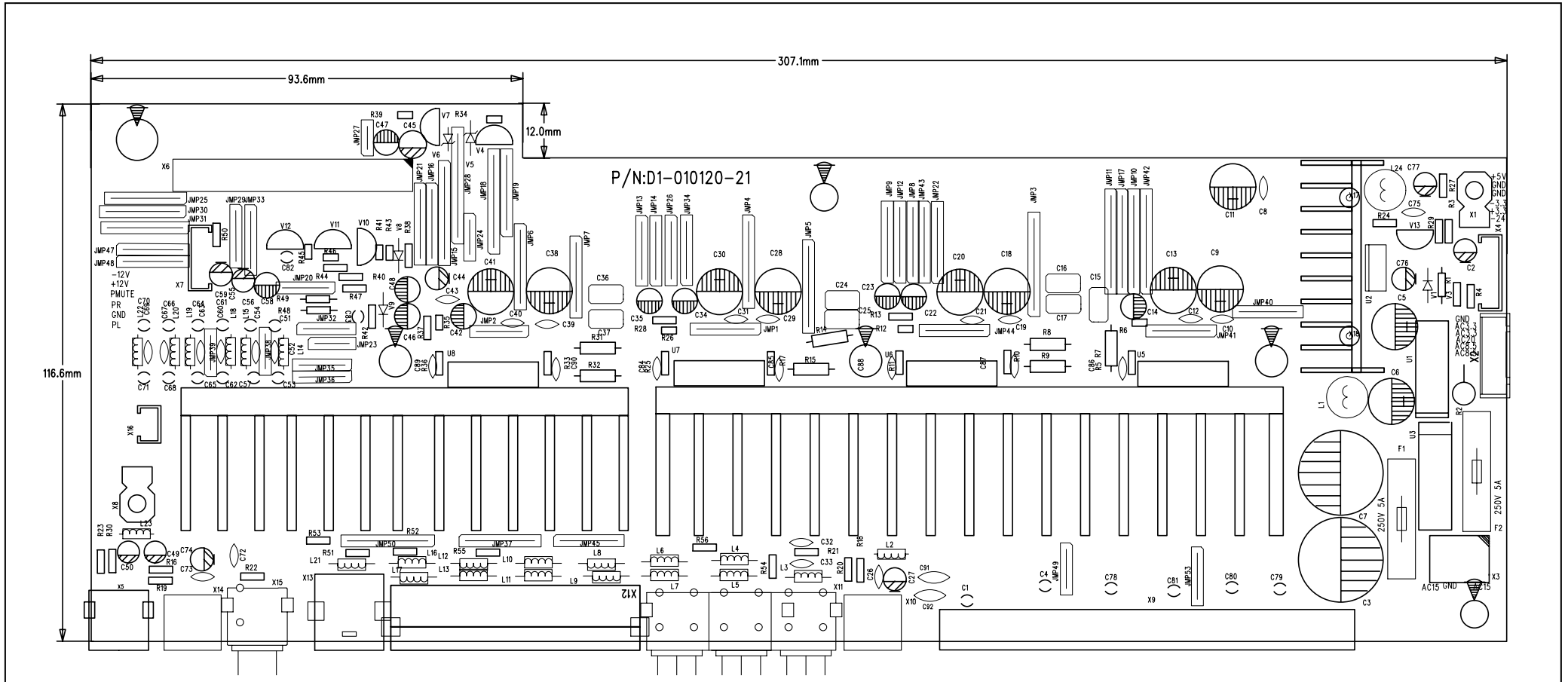




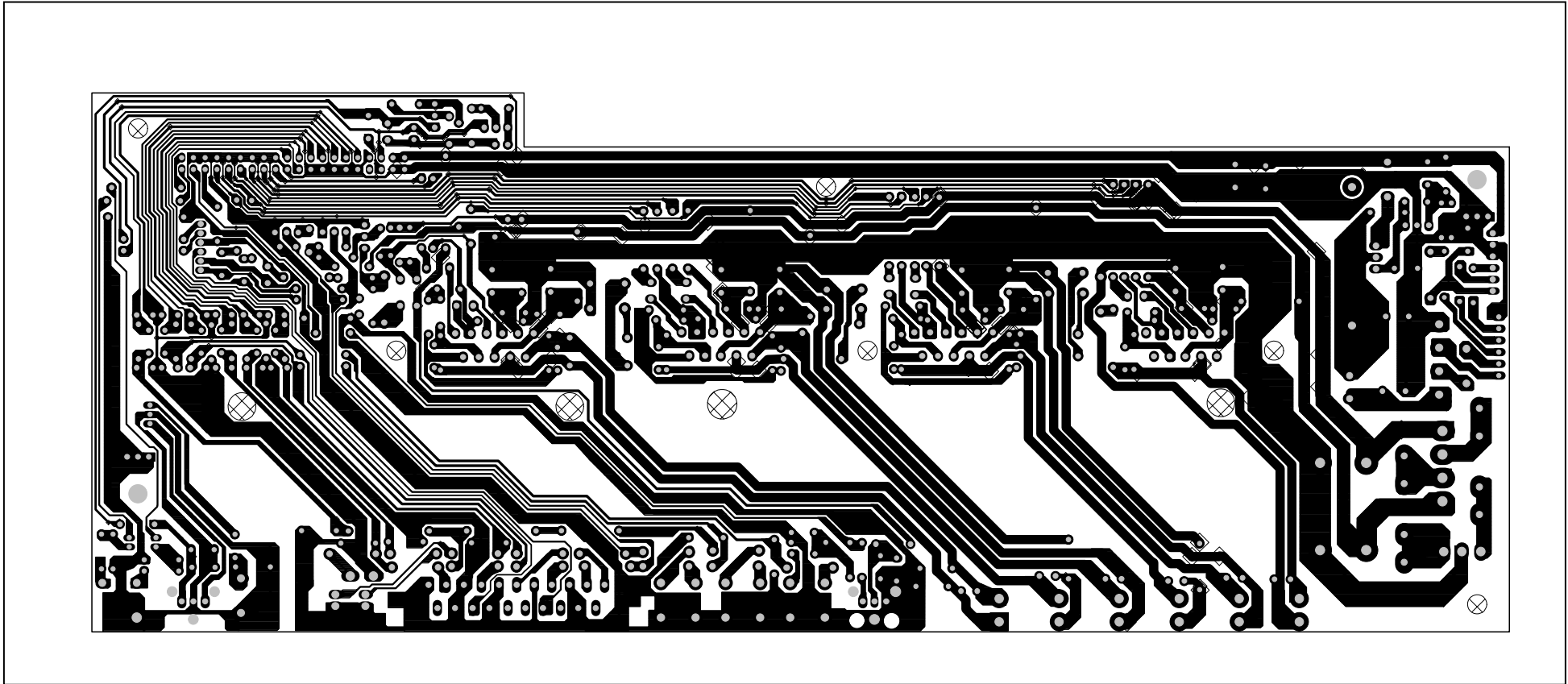
**Upper decode silk-screen diagram**



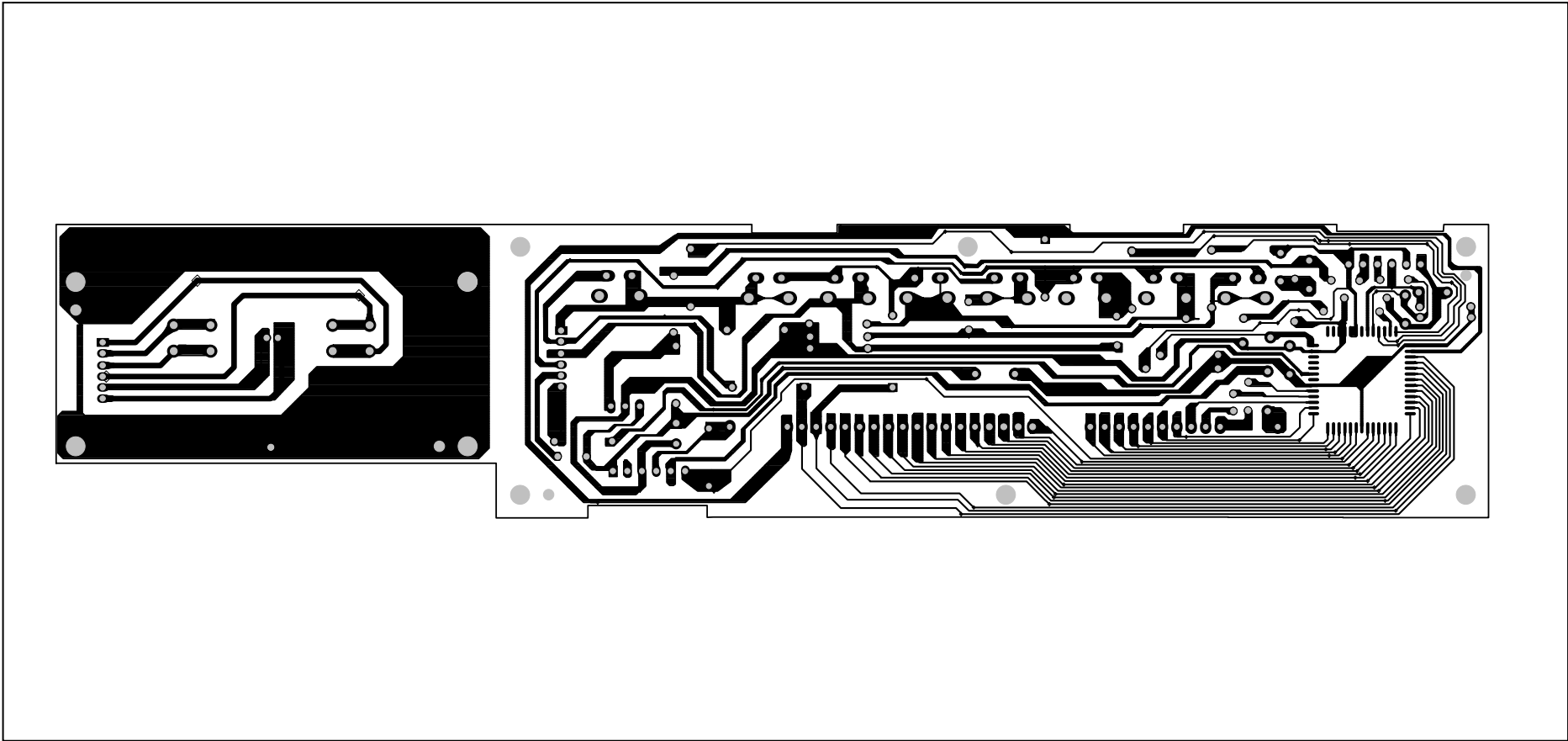
*Lower decode PCB diagram*



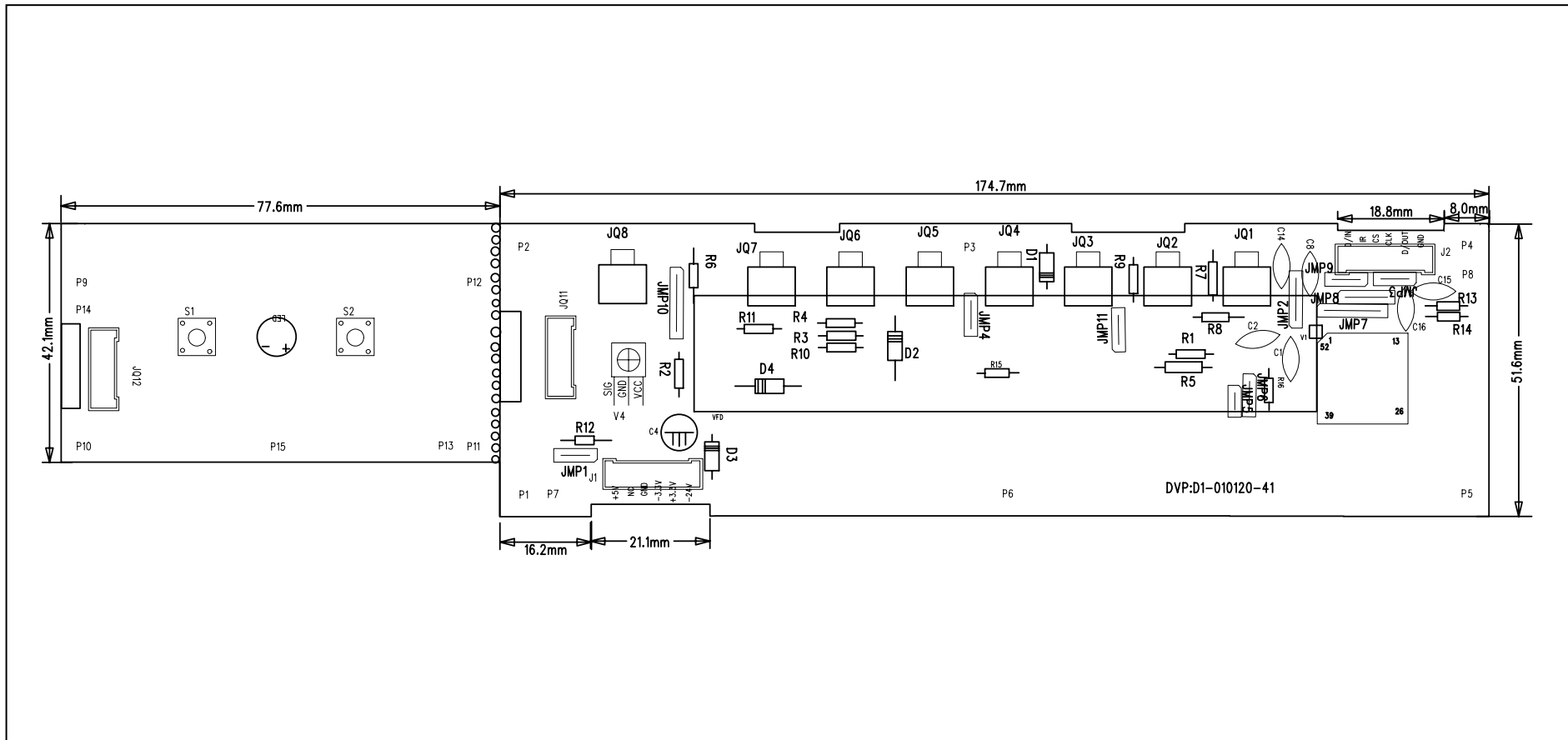
**AV output board PCB diagram**



*AV output board silk-screen diagram*



**Lower Control board PCB diagram**



***Control board silk-screen diagram***

## **Attachment 3: Component List**

AV Output Board Component List

Decode Board Component List

Control Board Component List

## COMPONENT LIST

<i>AV OUPUT BOARD COMPONENT LIST</i>				
<i>NO.</i>	<i>Material No.</i>	<i>Description</i>	<i>Encase No.</i>	<i>QTY</i>
1	N8-097032-03	Radiator 97×32×40		1
2	N8-136032-02	Radiator 136×32×40		1
3	N8-046017-02	Radiator 46×17×40		1
4	RA-S10101-J0	Insurance resistance 0.1Ω ±5% 1W	Parallel connection weld with R2	2
5	RA-100004-J1	Insurance resistance 10Ω ±5% 1/4W	R1	1
6	R1-2S2004-J2	Carbon resistance 2.2Ω ±5% 1/4W	V3, R4	2
7	R1-330008-J2	Carbon resistance 33Ω ±5% 1/8W	R18	1
8	R3-750008-J1	metal resistance 75Ω ±1% 1/8W	R22, R51-56	7
9	R1-151008-J2	metal resistance 150Ω ±5% 1/8W	R21	1
10	R1-221008-J2	metal resistance 220Ω ±5% 1/8W	R20	1
11	R1-681008-J2	metal resistance 680Ω ±5% 1/8W	R6 12-13 26 28 35 37	7
12	R1-102008-J2	Carbon resistance 1KΩ ±5% 1/8W	R39 45-46 48-49	5
13	R1-222008-J2	Carbon resistance 2.2KΩ ±5% 1/8W	R24	1
14	R1-332002-J2	Carbon resistance 3.3KΩ ±5% 1/2W	R16 30	2
15	R1-472002-J2	Carbon resistance 4.7KΩ ±5% 1/2W	R7-9 14-15 31-32	7
16	R1-472004-J2	Carbon resistance 4.7KΩ ±5% 1/4W	R50	1
17	R1-562008-J2	Carbon resistance 5.6KΩ ±5% 1/8W	R47	1
18	R1-622008-J2	Carbon resistance 6.2KΩ ±5% 1/8W	R19 23	2
19	R1-103004-J2	Carbon resistance 10KΩ ±5% 1/4W	R27 29	2
20	R1-123008-J2	Carbon resistance 12KΩ ±5% 1/8W	R5 10-11 17 25	5
21	R1-153008-J2	Carbon resistance 15KΩ ±5% 1/8W	R41 43	2
22	R1-223008-J2	Carbon resistance 22KΩ ±5% 1/8W	R44	1
23	R1-333008-J2	Carbon resistance 33KΩ ±5% 1/8W	R33 36	2
24	R1-104008-J2	Carbon resistance 100KΩ ±5% 1/8W	R38 42	2
25	R1-154004-J2	Carbon resistance 150kΩ ±5% 1/4W	R3	1
26	R1-204008-J2	Carbon resistance 200KΩ ±5% 1/8W	R40	1
28				
29	C1-220500-M2	Porcelain piece capacitance 22±20% 50V	C1 4 78 79 80-83 86-90	13
30	C1-470500-M2	Porcelain piece capacitance 47p±20% 50V	C91、92	2
31	C1-560500-M2	Porcelain piece capacitance 56p±20% 50V	C32	1
32	C1-101500-M2	Porcelain piece capacitance 100±20% 50V	C53 57 62 65 68 71	12
33			C51 56 61 64 66 70	
34	C1-104500-M2	Porcelain piece capacitance 104±20% 50V	C8 10 12 19 21 26 29 31	16
35			C33 39-40 72-73 75-77	
36	C4-562101-K2	Terylene capacitance 100V 562±10%	C43	1
37	C4-104101-K3	Terylene capacitance 100V 104±10%	C15-17 24-25 36-37	7
38	C2-105100-M0	Electrolyte capacitance 1uF±20% 10V	C14 22-23 34-35 42 44	9
39			C55 59	



## COMPONENT LIST

<i>AV OUTPUT COMPONENT LIST</i>				
<i>NO.</i>	<i>Material No.</i>	<i>Description</i>	<i>Encase No.</i>	<i>QTY</i>
<b>1</b>	C2-106100-M0	Electrolyte capacitance 10uF±20% 10V	C46 49-50 58	4
<b>2</b>	C2-226100-M0	Electrolyte capacitance 22uF±20% 10V	C48	1
<b>3</b>	C2-476100-M0	Electrolyte capacitance 47uF±20% 10V	C27 74	2
<b>4</b>	C2-108100-M0	Electrolyte capacitance 1000uF±20% 10V	C11	1
<b>5</b>	C2-228100-M0	Electrolyte capacitance 2200uF±20% 10V	C5-6	2
<b>6</b>	C2-107160-M0	Electrolyte capacitance 100uF±20% 16V	C45 47	2
<b>7</b>	C2-337250-M0	Electrolyte capacitance 330uF±20% 25V	C41	1
<b>8</b>	C2-477250-M0	Electrolyte capacitance 470uF±20% 25V	C9 13 18 20 28 30 38	7
<b>9</b>	C2-478250-M0	Electrolyte capacitance 4700uF±20% 25V	C3 7	2
<b>10</b>	C2-476350-M0	Electrolyte capacitance 47uF±20% 35V	C2	1
<b>11</b>	V1-401000-40	Bridge stack KBL401	U1	1
<b>12</b>	V1-602000-40	Bridge stack KBU602	U3	1
<b>13</b>	V1-140040-10	diode 1N4004	V1	1
<b>14</b>	V1-141480-10	diode 1N4148	V8	1
<b>15</b>	V1-158190-10	diode 1N5819	V9	1
<b>16</b>	V1-120004-20	Push down diode 12V 1/4W	V6	1
<b>17</b>	V2-294500-10	dynatron 2SC945	V10 V11 V12	3
<b>18</b>	V2-254010-10	dynatron 2N5401	V7	1
<b>19</b>	V2-781200-10	Push down dynatron TA7812	V4	1
<b>20</b>	V2-12200-10	DaLinTun canal TIP122	U2	1
<b>21</b>	IC-431000-10	Control transformer TL431	V13	1
<b>24</b>	L4-035060-40	Interludeing magnetism bead Φ3.5×6mm	L3-13 L16-17 L21	14
<b>25</b>	L1-1S8001-J0	Inductance 1.8uH±5%	L14-15 L18-20 22	6
<b>26</b>	L1-101001-J0	Inductance 100uH±5%	L2 L23	2
<b>27</b>	L1-101101-J0	Standing inductance 100U 2A	L1 L24	2
<b>28</b>	F1-5S0011-00	fuse T5AL-250 5X20mm	F1 F2	2
<b>29</b>	F2-010000-00	Fuse jack	F1 F2 (two sides)	4
<b>30</b>	IC-726500-10	AV output IC TDA7265	U8	1
<b>31</b>	IC-726900-10	AV output IC TDA7269A	U5 U6 U7	3
<b>32</b>	X1-550000-00	Output optical port GPIFA550TZ	X10	1
<b>33</b>	X1-179000-RX	Output optical port RX179A	X14	1
<b>34</b>	X4-020003-10	Raft jack 3PIN/2.0 180°	X16	1
<b>35</b>	X4-025006-10	Raft jack 6PIN/2.54 180°	X4	1
<b>36</b>	X4-025006-10	Raft jack 6PIN/2.54 180°	X2	1
<b>37</b>	X4-396031-31	Raft jack (take lock) 3PIN/3.96	X3	1
<b>38</b>	X3-254402-30	IDE double pin 40PIN/2.54	X6	1
<b>39</b>				
<b>40</b>				

## COMPONENT LIST

<b>AV OUTPUT COMPONENT LIST</b>				
<b>NO.</b>	<b>Material No.</b>	<b>Description</b>	<b>Encase No.</b>	<b>QTY</b>
1	X7-848000-30	Core jack AV-8.4-8Atake earthing piece black	X15	1
2	X7-284130-30	Core jack AV2-8.4-13A take earthing piece	X5	1
3		up red down white		
4	X7-683440-30	Core jack AV6-8.3-44Q take earthing piece	X11	1
5		Up white green blue, down red yellow red		
6	X1-105000-00	21 pin CS105	X12	1
7	X1-020000-30	S-video + video core jack <span style="color: red;">DASW-02</span>	X13	1
8	X8-121000-00	AV output board WP12-1	X9	1
9	N5-049010-10	Weld	X12 上	1
10	J1-0605S0-00	Jump line $\Phi 0.6 \times 5\text{mm}$	JMP27 V5	2
11	J1-0607S5-00	Jump line $\Phi 0.6 \times 7.5\text{mm}$	JMP23-24 39 38 L24	4
12	J1-060100-00	Jump line $\Phi 0.6 \times 10\text{mm}$	JMP2 20 29 32 35-36	8
13			JMP49 53	
14	J1-060120-00	Jump line $\Phi 0.6 \times 12.5\text{mm}$	JMP1 13-14 26 33-34	10
15			JMP40-P41 44-45	
16	J1-061300-00	Jump line $\Phi 0.6 \times 13\text{mm}$	JMP47-48	2
17	J1-060150-00	Jump line $\Phi 0.6 \times 15\text{mm}$	JMP7-9 12 16 21-22	10
18			JMP25 37 43	
19	J1-060160-00	Jump line $\Phi 0.6 \times 16\text{mm}$	JMP4 6 19 30 31	5
20	J1-060170-00	Jump line $\Phi 0.6 \times 17.5\text{mm}$	JMP5 50	2
21	J1-060200-00	Jump line $\Phi 0.6 \times 20\text{mm}$	JMP3 10-11 15 17-18	7
24			JMP42	
25	J1-060220-00	Jump line $\Phi 0.6 \times 22.5\text{mm}$	JMP28	1
26	N0-300051-10	seal piece	X1 X8	2
27	N2-300615-54	PWB 3×6	Radiator and AV output board	4
28	N2-300812-54	PTT 3×8	Radiator and component	5
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## COMPONENT LIST

<b>DECODE BOARD COMPONENT LIST</b>				
NO.	Material No.	Description	Encase No.	QTY
1	D2-010120-11	Decode board (88×185mm)		1
2	R6-33004J-30	Patch rank block 0603 4*33Ω ±5%	RN1	1
3	R4-0S0016-J3	Patch resistance 0603 0Ω ±5% 1/16w	R9	1
4	R4-1S0016-J4	Patch resistance 0805 1Ω ±5% 1/16w	R57-60 69	5
5	R4-4S7016-J3	Patch resistance 0603 4.7Ω ±5% 1/16w	R52 89 96	3
6	R4-100016-J3	Patch resistance 0603 10Ω ±5% 1/16w	R14 15 28	3
7	R4-100010-J4	Patch resistance 0805 10Ω ±5% 1/10w	L9-10	2
8	R4-330016-J3	Patch resistance 0603 33Ω ±5% 1/16w	R13 50 54-55 61-62 66	
9			R90 97 104 106	
10			R108-109 112 114	
11			R118 120 126 98 105	20
12	R4-561016-J3	Patch resistance 0603 560Ω ±5% 1/16w	R47	1
13	R4-102016-J3	Patch resistance 0603 1kΩ ±5% 1/16w	R20 25-26 40 67 111	
14			R115	7
15	R4-122016-J3	Patch resistance 0603 1.2kΩ ±5% 1/16w	R128	1
16	R4-222016-J3	Patch resistance 0603 2.2kΩ ±5% 1/16w	R17 19	2
17	R4-472016-J3	Patch resistance 0603 4.7kΩ ±5% 1/16w	R3 12 18	3
18	R4-512016-J3	Patch resistance 0603 5.1kΩ ±5% 1/16w	R41 64 68 80 82 100	6
19	R4-822016-J3	Patch resistance 0603 8.2kΩ ±5% 1/16w	R46	1
20	R4-103016-J3	Patch resistance 0603 10kΩ ±5% 1/16w	R6 8 11 23-24 31 33 44	
21			R48 56 63 70 72 77 79	
22			84 86-87 92 94-95 99	
23			R110 121 123 129-130	
24			R133 135	29
25	R4-123016-J3	Patch resistance 0603 12kΩ ±5% 1/16w	R113 119	2
26	R4-153016-J3	Patch resistance 0603 15kΩ ±5% 1/16w	R7 43 49 51 73 75 88 91	8
27	R4-183016-J3	Patch resistance 0603 18kΩ ±5% 1/16w	R39 101	2
28	R4-203016-J3	Patch resistance 0603 20kΩ ±5% 1/16w	R16 30 32 85 93 102-103	7
29				
30	R4-153016-J3	Patch resistance 0603 15kΩ ±5% 1/16w	R7	1
31	R4-104016-J3	Patch resistance 0603 100kΩ ±5% 1/16w	R4-5 27 29 116 124	6
32	R4-334016-J3	Patch resistance 0603 330kΩ ±5% 1/16w	R65 71	2
33	R4-754016-J3	Patch resistance 0603 750kΩ ±5% 1/16w	R2 53 74	3
34				
35	C1-150500-JA	Patch capacitance 0603 15p±5% 50V	C22 26	2
36	C1-330500-JA	Patch capacitance 0603 33p±5% 50V	C96 103	2
37	C1-820500-JA	Patch capacitance 0603 82p±5% 50V	C31	1
38	C1-101500-JA	Patch capacitance 0603 100p±5% 50V	C55 78 88 92 95 81 89	
39			C97-98 100 107 110	12

## COMPONENT LIST

<b>DECODE BOARD COMPONENT LIST</b>				
<b>NO.</b>	<b>Material No.</b>	<b>Description</b>	<b>Encase No.</b>	<b>QTY</b>
1	C1-221500-JA	Patch capacitance 0603 220p±5%	C46 58 63 66 71 83	6
2	C1-331500-JA	Patch capacitance 0603 330p±5%	C84 86	2
3	C1-391500-JA	Patch capacitance 0603 390p±5%	C37	1
4	C1-471500-JA	Patch capacitance 0603 470p±5%	CB7	1
5	C1-102500-KA	Patch capacitance 0603 102±10%	C34 48-49	3
6	C1-202500-KA	Patch capacitance 0603 202±10%	C36 54 59 65 69 80	6
7	C1-472500-KA	Patch capacitance 0603 472±10%	C116	1
8	C1-103500-KA	Patch capacitance 0603 103±10%	C50 52-53 56	4
9	C1-153500-KA	Patch capacitance 0603 153±10%	C17 32 76	3
10	C1-333500-KA	Patch capacitance 0603 333±10%	C38	1
11	C1-104500-MA	Patch capacitance 0603 104±20%	CB1-2 4-6 8-13	87
12			15 17-91	
13	C1-105500-MA	Patch capacitance 0603 1u±20%	C2-3 6-8	5
14	C1-151500-JA	Patch capacitance 0603 150p±5%	C72 85	2
15	C2-225160-M0	Electrolyte capacitance 2.2u	C4 114	2
16	C2-106500-M9	Electrolyte capacitance 50V 10u	C15 20 28 33 35 42-43	
17			C45 51 57 61-62 64	
18			C67-68 70 79 82 90	
19			C93-94 99 101 104 115	25
20	C2-476160-M0	Electrolyte capacitance 16V 47u	C11 18-19 23 25 47 60	
21			C73-75 106 109 112	13
22	C2-107100-M0	Electrolyte capacitance 10V	C1 5 10 12 16 24	
23			C27 29-30 44 108	11
24	X4-005024-40	Patch raft jack 90° 24P/0.5mm	CON1	1
25	X4-020005-10	Raft jack 5PIN/2.0mm 180°	J2	1
26	X4-020006-10	Raft jack 6PIN/2.0mm 180°	J5	1
27	X4-020006-10	Raft jack 6PIN/2.0mm 180°	J3	1
28	X3-254402-30	IDE double raft pin 40PIN/2.54	J1	1
29	X4-020003-10	Raft jack 3PIN/2.0mm 180°	J7	1
30	X4-012513-10	Floppy raft jack connector FPC	J6	1
31	L4-020012-60	Patch magnetism bead 0805	L1 3 6 8 11-14 16-21	
32			L24-25	16
33	L1-100001-J0	inductance 10uH±5%	L4 5	2
34	V1-140010-10	diode 1N4001	D1	1
35	V1-141480-10	diode 1N4148	D3 6-17	13
36	V1-5S1002-20	Push down diode 5.1V 1/2W	D4 5	2
37	V1-6S8002-20	Push down diode 6.8V 1/2W	D2	1
38	VB-211320-10	Patch dynatron 2SB1132 SOT89	Q1 2	2
39	VB-239060-10	Patch dynatron 2N3906 SOT23	Q6	1
40	VB-239040-10	Patch dynatronpu 2N3904 SOT23	Q5 7	2

## COMPONENT LIST

<b>DECODE BOARD COMPONENT LIST</b>				
<b>NO.</b>	<b>Material No.</b>	<b>Description</b>	<b>Encase No.</b>	<b>QTY</b>
1	VC-230180-60	Field domino effect 2SK3018	Q3 4	2
2	Z1-27S006-00	Radix wave49S type crystal 27MHz	Y1	1
3	IC-111700-20	Patch IC AS1117M (3.3V)	U1	1
4	IC-133600-21	Patch IC MT1336E/C	U2	1
5	IC-740400-25	Patch IC SN74HC04(DeZhou produce)	U3	1
6	IC-620800-20	Patch IC BA6208F	U4	1
7	IC-455800-20	Patch IC JRC4558	U5 7 9 11	4
8				
9	IC-137900-24	Patch IC MT1379GE-CRS	U6	1
10	IC-218800-20	AV2188	U8	1
11	IC-595400-20	Patch IC BA5954	U10	1
12				
13	IC-498192-20	Patch IC AT49F8192	U12	1
14	IC-29800M-27	Patch IC MX29F800BTC-70 (8M bits)	U12	
15	IC-744052-20	74HC4052	U13	1
16				
17	IC-240200-20	Patch IC 24C02	U14	1
18	IC-126416-20	Patch IC SDRAM M12L64164A	U15	1
19	IC-841500-20	Patch IC CS8415	U16	1
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## 元件列表

前控板元件表				
序号	料号	名 称	装 入位号	数量
1	D1-010120-41	前控板		1
2	08-070712-10	海绵 7*7*12mm 中密度	V4 下面	1
3	08-101008-10	海绵 10*10*8mm 中密度	VFD 下面	2
4	L4-120160-30	磁环: K5BT16×12×8	6P 排线在磁环上绕 3.5T	2
5	W1-401066-10	双头不带插排线 6PIN/2.0 L=400mm	JQ11-JQ12	1
6	W3-381065-20	单头排线 6PIN/2.5 L=380mm	J1	1
7	W3-431065-10	单头排线 6PIN/2.0 L=430mm	J2	1
8				
9	R1-330004-J1	碳膜电阻 33Ω ±5% 1/4W	R15	1
10	R1-221004-J1	碳膜电阻 220Ω ±5% 1/4W	R12	1
11	R1-472004-J1	碳膜电阻 4.7KΩ ±5% 1/4W	R2 5-9 13-14	8
12	R1-333004-J1	碳膜电阻 33KΩ ±5% 1/4W	R3-4 10 11	4
13	R1-563004-J1	碳膜电阻 56KΩ ±5% 1/4W	R1	1
14				
15	C1-104500-Z2	瓷片电容 104 ±20% 50V	C1	1
16	C1-101500-M2	瓷片电容 50V 100pF±20%	C8 15 16	3
17	C2-107100-M2	电解电容 10V 100uF ±20%	C4	1
18	V1-141480-10	二极管 1N4148	D1 2 4	3
19	V1-253021-30	发光二极管 φ3 红色 散焦	LED	1
20	P3-102200-00	显示屏 HNV-10SS22	VFD	1
21	IC-163110-20	集成块 uPD16311	V1	1
24	IC-163110-21	集成块 PT6311	V1	
25	IC-603800-10	接收头FM-6038LM	V4	1
26	IC-354000-10	接收头SRM354	V4	
27	S3-665000-00	轻触开关6X6X5	S1-2	2
28	S3-065500-00	KFC-A06-P55 轻触开关 90°	JQ1-8	8
29	V1-5S1002-20	稳压二极管 5.1V 1/2W	D3	1
30	J1-0603S0-00	跳线3mm/φ0.6	JMP5	1
31	J1-0605S0-00	跳线5mm/φ0.6	JMP1 3 4 6 8 11	6
32	J1-0607S5-00	跳线 7.5mm/φ0.6	JMP2 9 R16	3
33	J1-060100-00	跳线10mm/φ0.6	JMP7 10	2
34	W9-800501-01	单芯导线双头带焊片 L: 80mm	前控板(带指示灯)	1
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