

DSW-801

SERVICE MANUAL

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1. General Section

1.1. Cautions/Warnings

1.1.1. Product Safety Notice

Parts marked with the symbol  in the schematic diagram have critical characteristics.

Use ONLY replacement parts recommended by the manufacturer. It is recommended that the unit be operated from a suitable DC supply or batteries during initial check out procedures.



1.1.2. Leakage Current Check/Resistance Check

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to insulated resistance check.

If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 K ohms, the unit is defective.

WARNING: DO NOT return the unit to the customer until the problem is located and corrected.

1.2. Safe Warnings

1.2.1. Protection of Eyes from Laser Beam

To protect eyes from invisible laser beam during servicing

DO NOT LOOK AT THE LASER BEAM

1.2.2. Laser Caution

CAUTION

Adjusting the knobs, switches, and controls, etc. or taking actions not specified herein may result in a harmful emission of laser beams. This CD Changer must be adjusted and repaired only by qualified service personnel.

Laser symbol:

CAUTION-	INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED AVOID EXPOSURE TO BEAM.
VORSICHTI-	UNSICHTBARE LASERSTRAHLUNG TRITT AUS. WENN DECKEL GEOFFNET UND WENN SICHERHEITSVERRIEGELUNG uBERBRuCKT IST. NICHT DEM STRAHL AUSSETZEN!
VARNING-	OSYNLIG LASERSTRALNING NAR DENNA DEL AR OPPNAD OCH SPARR AR URKOPPLAD STRALEN AR FARLIG.
ADVARSEL-	USYNLIG LASERSTRALING VED ABNING NAR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGA UDSAETTEELSE FOR STRALING.



THIS IS COMPACT DISC PLAYER IS CLASSIFIED AS A CLASS 1 LASER PRODUCT.

THE CLASS 1 LASER PRODUCT LABEL IS LOCATED ON THE REAR EXTERIOR.

1.3. Precautions

1.3.1. ESD Precautions in Repairing

- 1.3.1.1. Do not apply excessive pressure on the mechanical parts (moving parts), including the Pickup Block, as extremely high mechanical precision is required in these parts.
- 1.3.1.2. When soldering the microprocessor and signal processing IC's, use a ceramic soldering iron or a soldering iron whose metal part is grounded since they are not resistant to static electricity.
- 1.3.1.3. When removing the solder or soldering the laser shorting lands for the Pickup Block, use a ceramic soldering iron or a soldering iron whose metal part is grounded since the laser diode is not resistant to static electricity.

1.3.2. DVD Loading Unit Precautions when handling the Mechanism Block

- 1.3.2.1. Do not loosen any screws in the Pickup Block.
- 1.3.2.2. Do not adjust any screws in the Mechanism Block except for "Tilt Adjust Screws", as they are adjusted precisely at the factory.
- 1.3.2.3. Replacement of the Pickup Block is impossible. Always replace the Traverse Ass'y when the Pickup Block needed to be replaced. Do not touch the lens or lens holder of the Pickup Block.
- 1.3.2.4. The Guide Rails of the Pickup Block are greased. Take care when handling.
- 1.3.2.5. When you try to slide the Pickup Block, do not press or pull it directly. Always turn the drive gears with your fingers.
- 1.3.2.6. Be sure that the anti-slipping rubber on the turntable is clean. If there is dust or it is greasy, clean the part with the liquid that contains 50% each of alcohol and water.
- 1.3.2.7. When removing the Mechanism P.C.B. Ass'y, you need to short-circuit the laser diode shorting lands beforehand.

1.4. Software Upgrade

You can upgrade DVD Player using the software we provide as following step:

- Creating a software upgrade CD
- Use only a new CD-R/CD-RW(not an erased one).
- Give the CD a name of your choice(e.g. version and unit name).
- Burn the unpacked documents on the CD-R/CD-RW.
- The root directory(uppermost level) of the software upgrade CD

Attention: If a failure should occur during the software upgrade (e.g. a mains failure), it may happen that the units function and a restart of the upgrade function are no longer possible. If this should be the case, you must replace the intergraded FLASH ICs with preprogrammed ICs (see corresponding spare parts list).

- Insert the upgrade CD (see corresponding spare parts list) and observe the hints on the display and on the screen of the TV set.
- Carry out an initialization of the set.

Displaying the Software Version Number

- Press one after the other the “STOP” and “EJECT” buttons on the unit.
- Press the “OSD” with the remote control.
- Using the cursor buttons on the remote control, select the software version “MICRO Version” or “CUSTOMER VERSION” .The respective software version number then is displayed

2. Circuit Diagram and Component Layout

2.1.MPEG IC BLOCK Diagrams

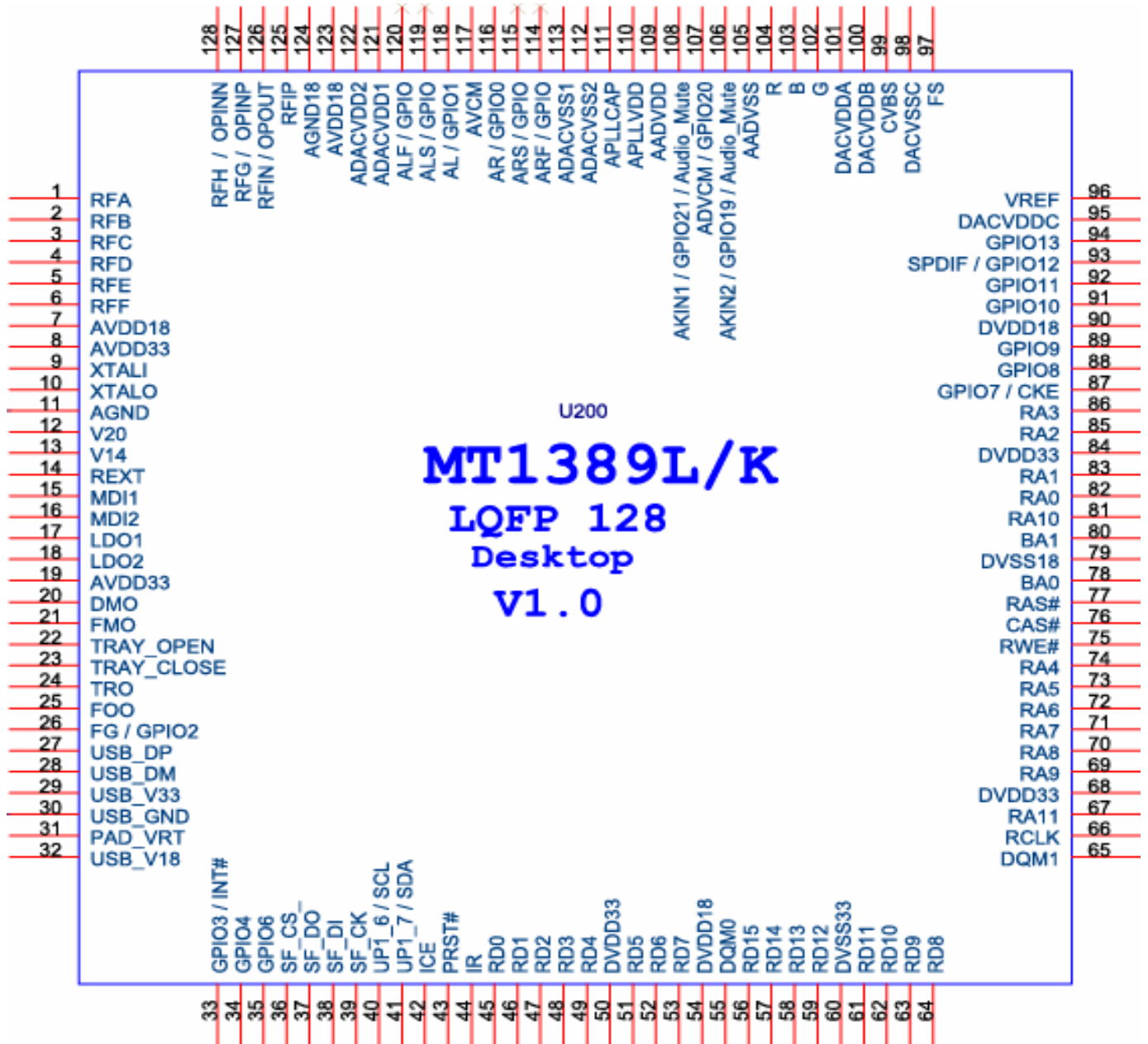


Table:1 MTK1389L/K Pin Description
Table1-Pin functions allocation

Pkg	Pin Functions	Dir	Description
Left wall			
1	RFA	AI	ADC input signal
2	RFB	AI	ADC input signal
3	RFC	AI	ADC input signal
4	RFD	AI	ADC input signal
5	RFE	AI	ADC input signal
6	RFF	AI	ADC input signal
7	AVDD18	s	1.8v analog periphery power supply
8	AVDD33	s	3.3v analog periphery power supply
9	XTALI	ID	27.000MHz clock generator or crystal input for the pll
10	XTALO	AO	Output to a crystal that is connected to XI. if a crystal is not used at XI. XO must be
11	AGND	S	analog core ground(1.8v and 3.3v supplies)
12	V20	S	RF Reference
13	V14	S	RF Reference
14	REXT	S	Resistive load for internal reference voltage generation
15	MDI1	S	analog ground
16	MDI2	S	analog ground
17	LD01	AO	CD LASER diode drive output
18	LD02	AO	DVD LASER diode drive output
19	AVDD33	S	analog AFE 3.3V supply shield
20	DMO	O	PWM output signal-Spindle PWM
21	FMO	O	PWM output signal-sled PWM
22	TRAY-OPEN	O	General purpose output,monitored/controlled by the cpu
23	TRAY-CLOSE	I/O	General Purpose input/output, monitored/controlled by the CPU or DSP SW
24	TRO	O	PWM output signal-track PWM
25	FOO	O	PWM output signal-Focus PWM
26	FG/GPIO2	I	General purpose input/out pud,monitored/controlled by the CPU or DSP SW
27	USB_DP	I/O	N/A General purpose output,controlled by the cpu
28	USB_DM	I/O	N/A General purpose output,controlled by the cpu
29	USB_V33	S	3.3V analog periphery power supply
30	USB_GND	S	Digital core ground
31	PAD_VRT	AI/O	Capacitive load for internal band-gap voltage generation
32	USB_V18	S	1.8v analog periphery power supply

Bottom wall			
33	GPI03/INT#	I/O	General purpose input/output,monitored/controlled by the CPU.can be used as an interrupt for the CPU-INT1
34	GPI04	I/O	General purpose input/output,monitored/controlled by the cpu or DSP SW
35	GPI06	I/O	General Purpose input/output, monitored/controlled by the CPU
36	SF_CS_	0	Flash card interface unit output signal
37	SF_D0	0	Flash card interface unit output signal
38	SF_DI	0	Flash card interface unit output signal
39	SF_CK	0	Flash card interface unit output signal
40	UP1_6/SCL	I/O	General purpose input,monitored/controlled by the cpu
41	UP1_7/SDA	I/O	General purpose input,monitored/controlled by the cpu
42	ICE	0	TEST
43	PRST#	AI/O	RESET PIN
44	IR	I/O	General purpose input/output,monitored/controlled by the CPU.can be used as an interrupt for the CPU-INT1
45	RD0	I/O	SDRAM bi-directional data bus
46	RD1	I/O	SDRAM bi-directional data bus
47	RD2	I/O	SDRAM bi-directional data bus
48	RD3	I/O	SDRAM bi-directional data bus
49	RD4	I/O	SDRAM bi-directional data bus
50	DVDD33	S	3.3v Digital core power supply
51	RD5	I/O	SDRAM bi-directional data bus
52	RD6	I/O	SDRAM bi-directional data bus
53	RD7	I/O	SDRAM bi-directional data bus
54	DVDD18	I/O	SDRAM bi-directional data bus
55	DQM0	0	SDRAM data masking(active low)output
56	RD15	I/O	SDRAM bi-directional data bus
57	RD14	I/O	SDRAM bi-directional data bus
58	RD13	I/O	SDRAM bi-directional data bus
59	RD12	I/O	SDRAM bi-directional data bus
60	DVSS34	S	Dgital core ground
61	RD11	I/O	SDRAM bi-directional data bus
62	RD10	I/O	SDRAM bi-directional data bus
63	RD9	I/O	SDRAM bi-directional data bus
64	RD8	I/O	SDRAM bi-directional data bus
Right wall			
65	DQM1	0	SDRAM data masking(active high)output
66	RCLK	0	SDRAM clock output
67	MA11	0	SDRAM address bus output
68	DVD33	0	3.3Vv Digital core power supply
69	MA9	0	SDRAM address bus output

70	MA8	0	SDRAM address bus output
71	MA7	0	SDRAM address bus output
72	MA6	0	SDRAM address bus output
73	MA5	0	SDRAM address bus output
74	MA4	0	SDRAM address bus output
75	RW#	0	SDRAM write enable(active low)output
76	CAS#	0	SDRAM column enable(active high)output
77	RAS#	0	SDRAM row enable(active high)output
78	BA0	0	SDRAM bank select output
79	DVSS18	S	1.8v Digital Core ground
80	BA1	0	SDRAM bank select output
81	MA10	0	SDRAM address bus output
82	MA0	0	SDRAM address bus output
83	MA1	0	SDRAM address bus output
84	DVDD33	S	3.3V Digital core power supply
85	MA2	0	SDRAM address bus output
86	MA3	0	SDRAM address bus output
87	GPI07/CKE	I/O	General purpose input/output,monitored/controlled by the CPU or DSP SW
88	GPI08	I/O	General Purpose input/output, monitored/controlled by the CPU
89	GPI09	I	Main debug UART data input
		I/O	General purpose input/output,monitored/controlled by the CPU or DSP SW
90	DVDD18	S	1.8V Digital core power supply
91	GPI010	0	Digital Video Output-Horizontal sync output signal
92	GPI011	0	Digital Video Output-vertical sync output signal
93	GPI012	0	S/PDIF receiver input for digital coded or reconstructed audio data
94	GPI013	0	CLOCK enable signal to the SDRAM(for power down)
		I	DVD DSP interface input
95	DACVDDC	S	3.3V Digital core power supply
96	VREF	AI/O	Capacitive load for internal band-gap voltage generation
Top wall			
97	FS	S	Resistive load for gain adjustment of the DACS
98	DACVSS0	S	analog core ground
99	CVBS	AO	CVBS-Analog video output
100	DACVddb	s	3.3v analog power supply for the video dacs
101	DACVdda	s	3.3v analog power supply for the video dacs
102	G	AO	Analog video output
103	B	AO	Analog video output
104	R	AO	Analog video output
105	AADVSS	S	common Ground for the video and servo DACS

106	AKIN2/GPIO19/AUDIO_MUTE	I/O	General Purpose input/output, monitored/controlled by the CPU
107	ADVCM/GPIO20	o	Audio PWM#1-Positive
108	AKIN1/GPIO21/AUDIO_MUTE	I	Serial input of digital stereo audio
109	AADVDD	S	3.3v analog power supply for the video dacs
110	APLLVDD	S	3.3v analog power supply for the Audio dacs
111	APLLCAP	S	analog ap11
112	ADACVSS2	S	analog core ground
113	ADACVSS1	S	analog core ground
114	ARF/GPIO	S	NC
115	ARS/GPIO	S	NC
116	AR/GOIO	O	Audio PWM#1-Positive
117	AVCM	AI/O	Capacitive load for internal band-gap voltage generation
118	AL/GPIO1	O	Audio PWM#1-Positive
119	ALS/GPIO	S	NC
120	ALF/GPIO	S	NC
121	ADACVDD1	S	3.3v analog periphery power supply
122	ADACVDD2	S	3.4v analog periphery power supply
123	AVDD18	S	1.8v analog periphery power supply
124	AGND18	S	analog core ground
125	RFIP	AI	RF positive input signal(differential input) //RF input singal(single ended)
126	RFIN/OPUT	AT	RF positive input signal(differential input) //RF input singal(single ended)
127	RFHG/OPINP	AT	RF positive input signal(differential input) //RF input singal(single ended)
128	RFH/OPINN	AT	RF negative input signal(differential input) //RF reference input singal

2.2.MPEG circuit Diagram and component layout

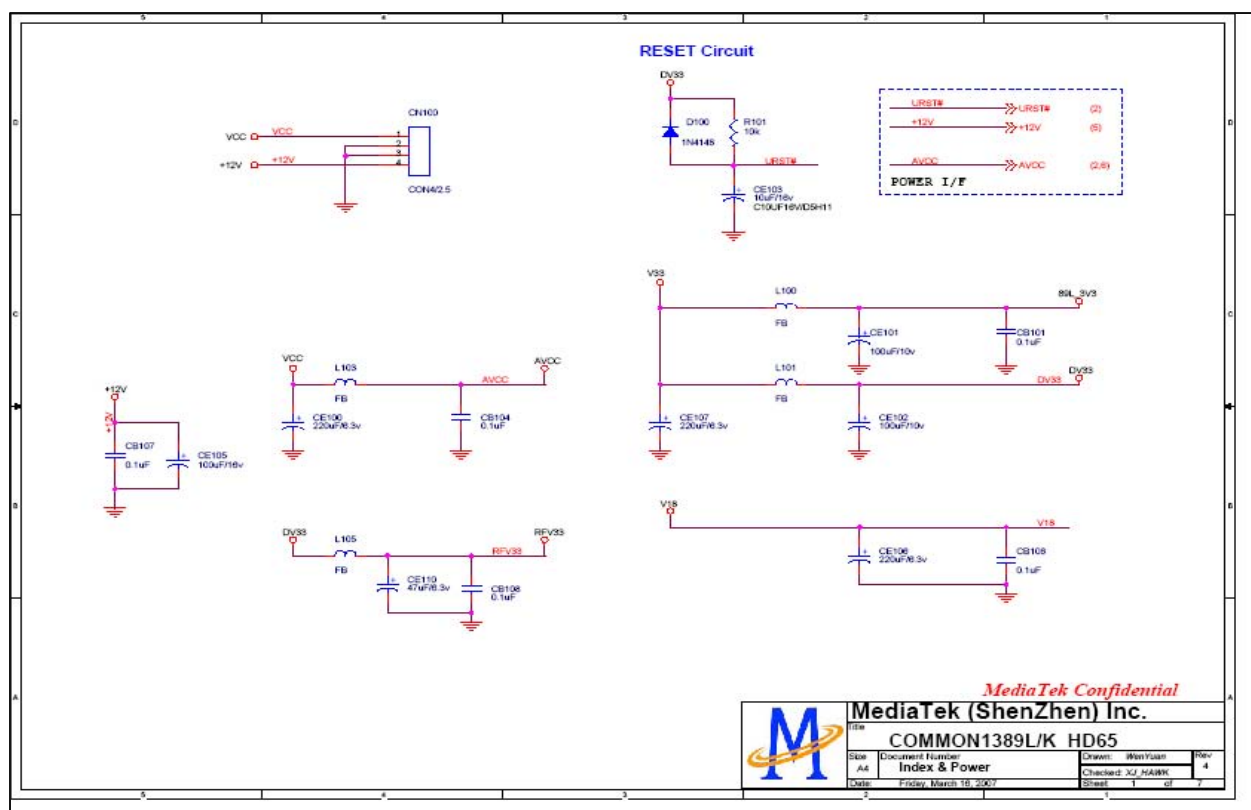


Fig 2-2 Index&Power

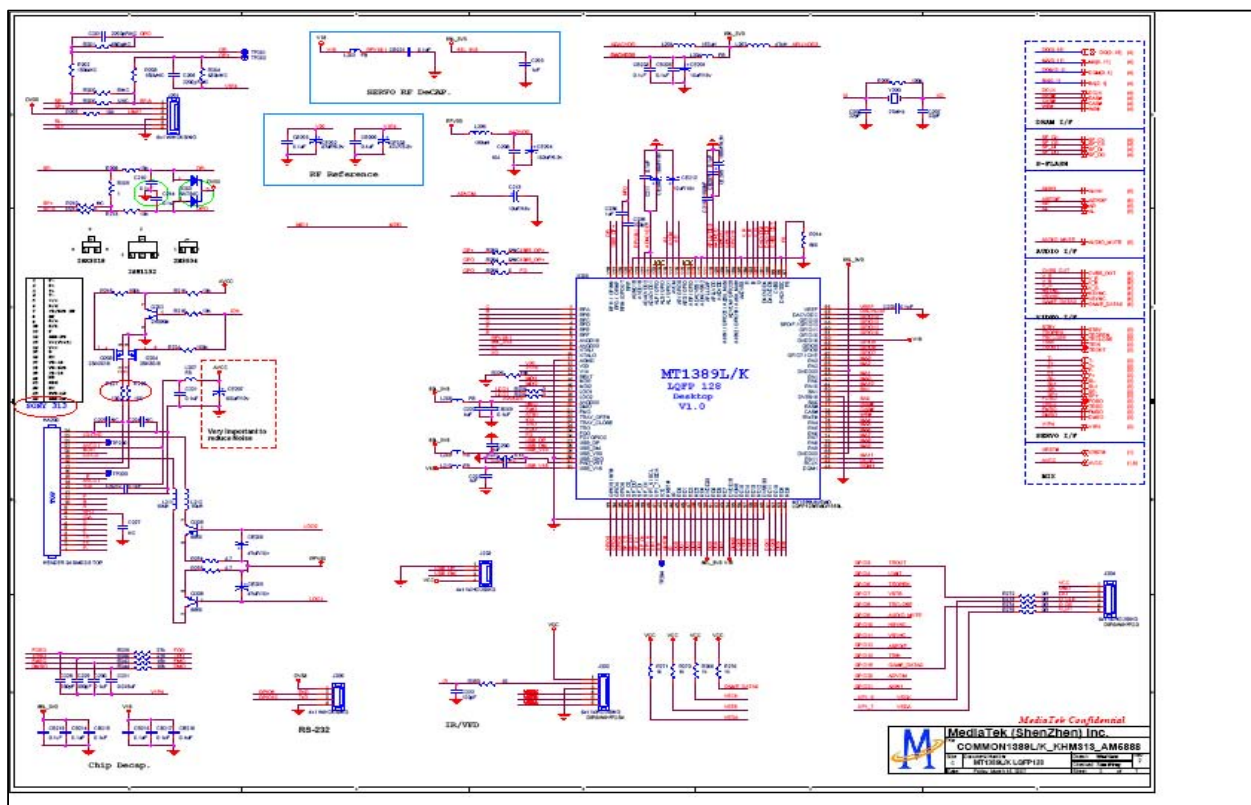


Fig2-3 MT1389L/K

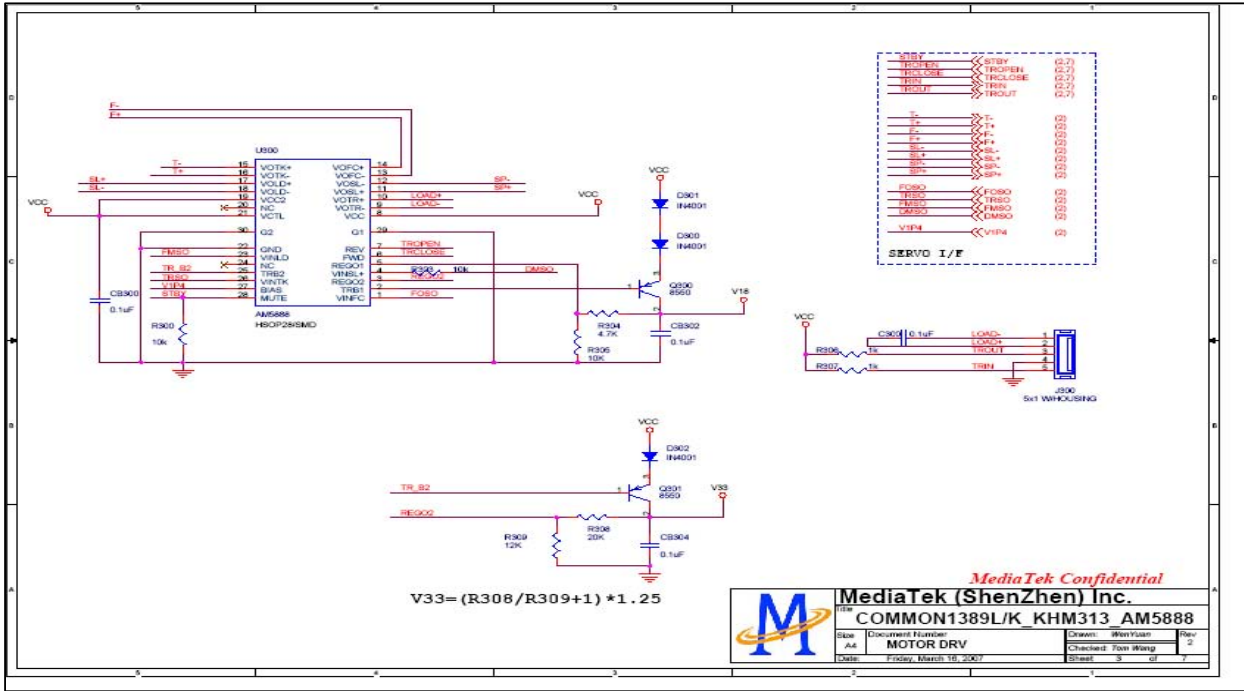


Fig2-4 MOTOR DRV

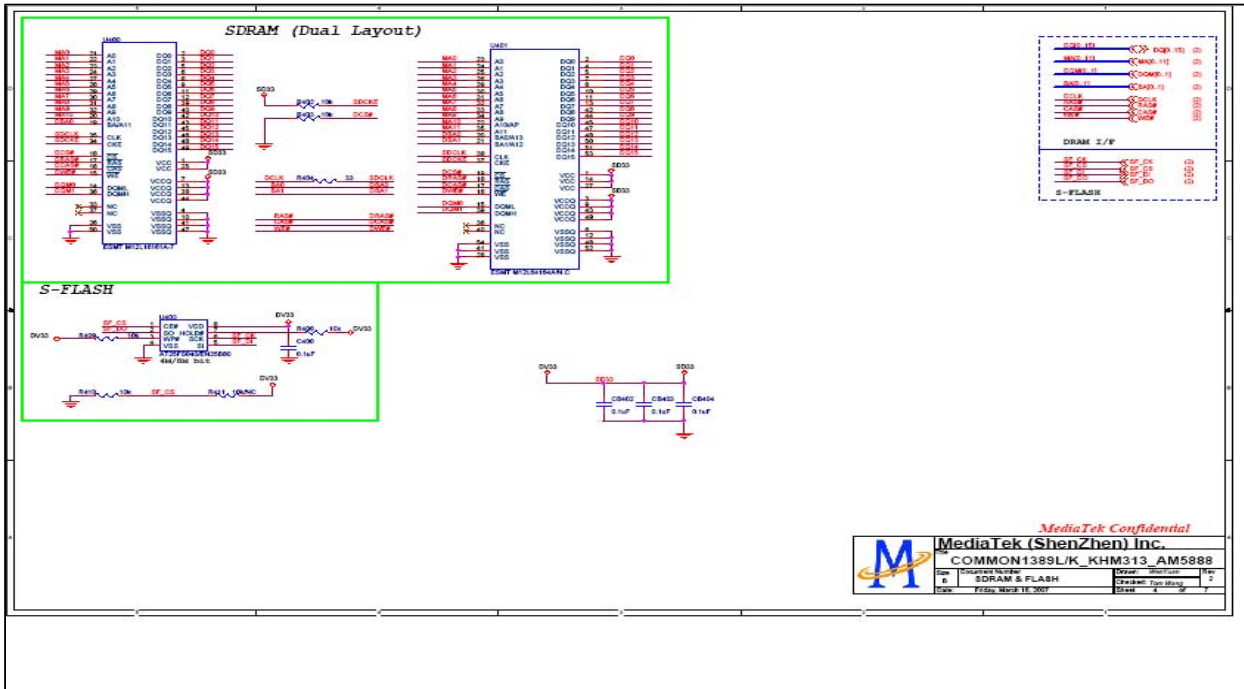


Fig2-5 SDRAM&FLASH

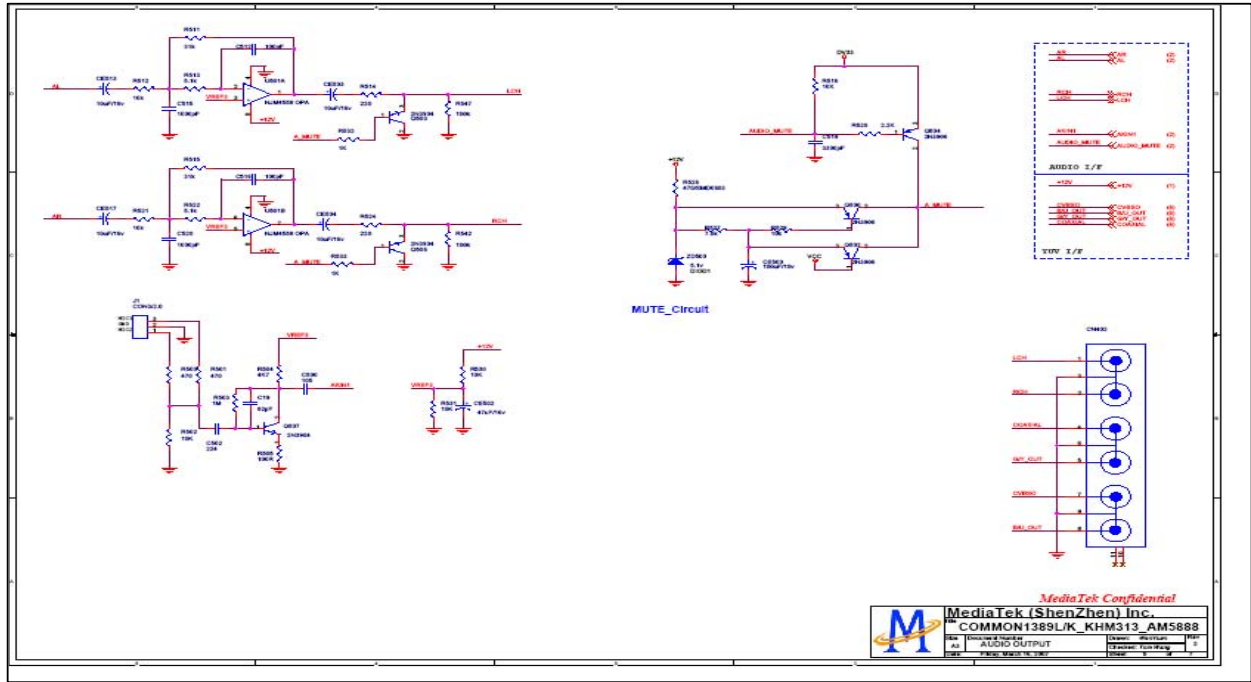


Fig2-6 AUDIO OUT

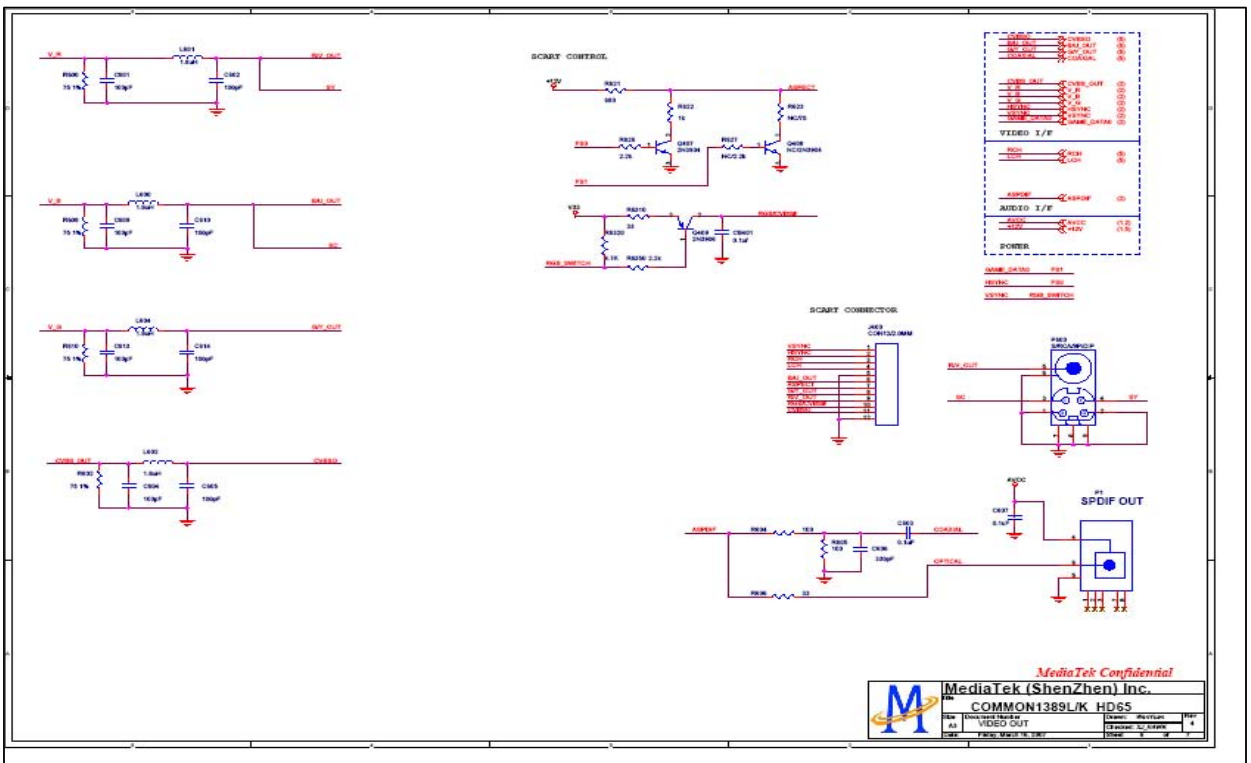


Fig2-7 VIDEO OUT

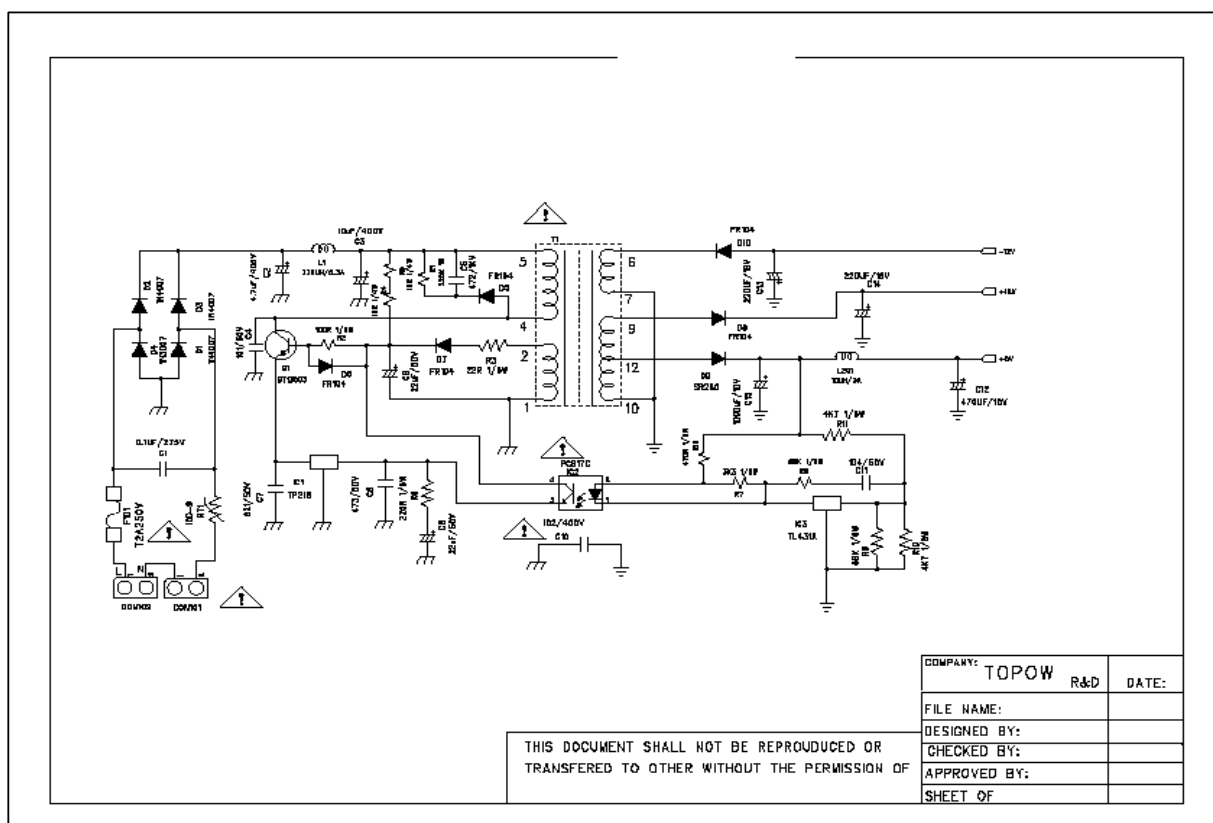
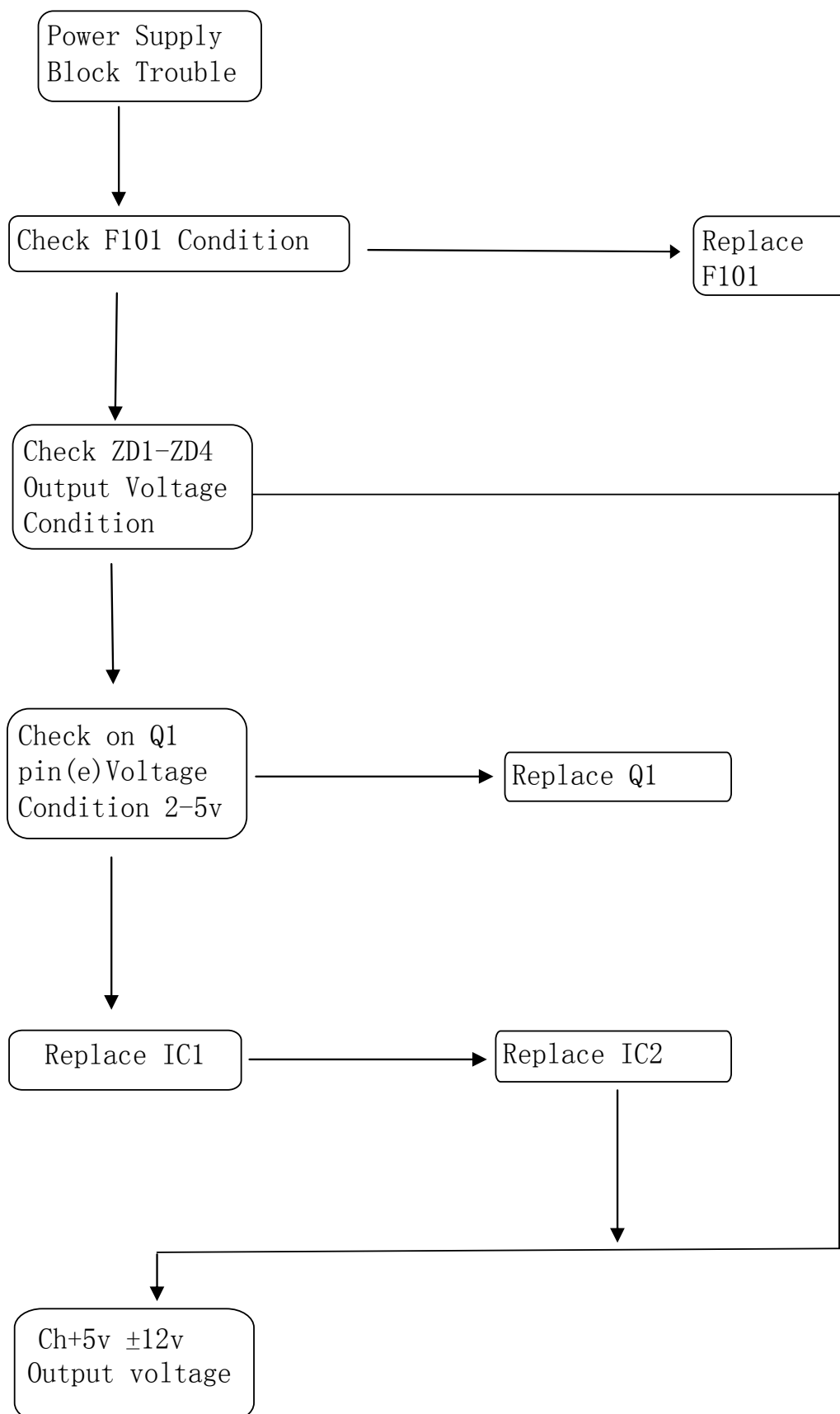


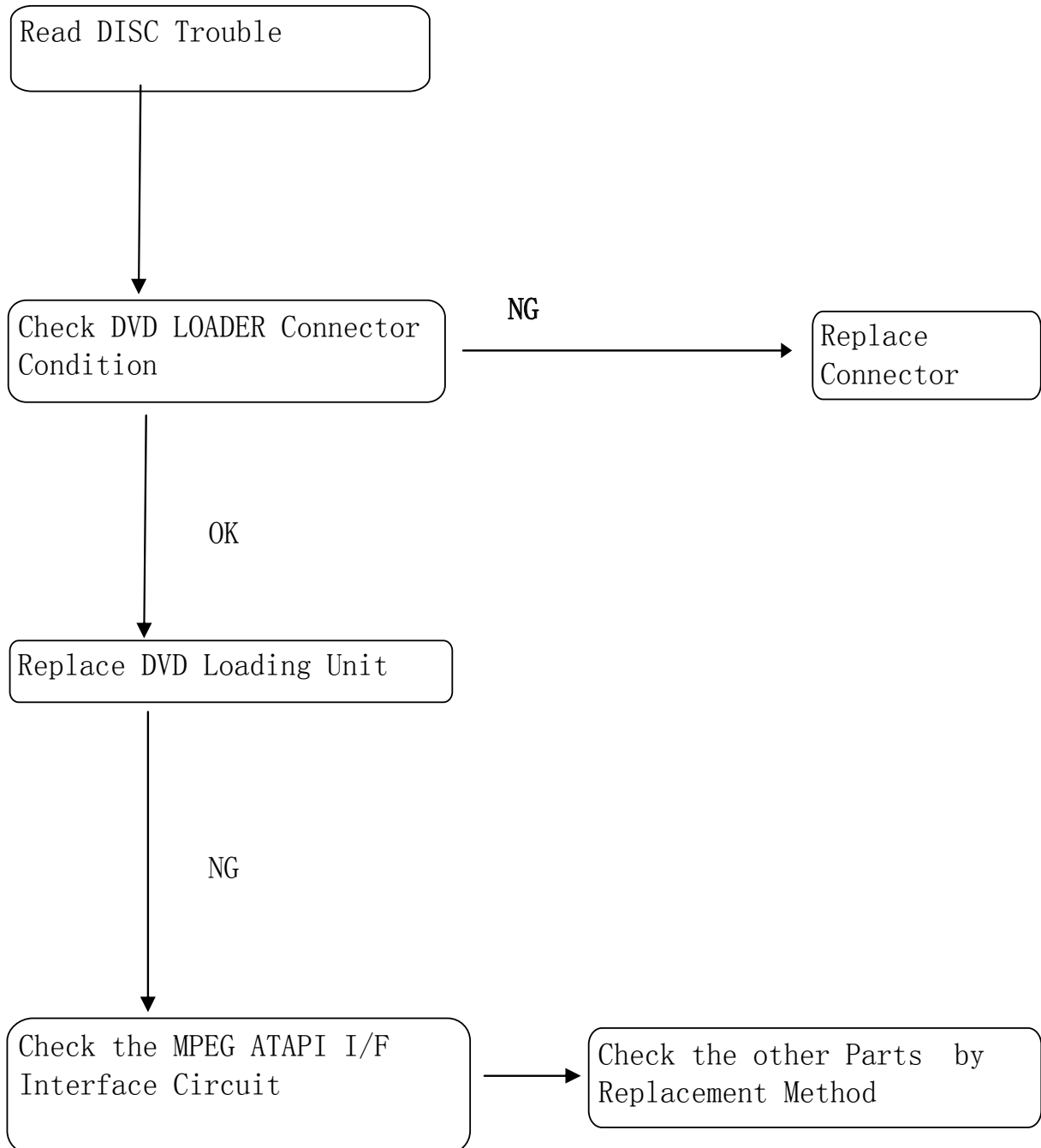
Fig2-8 Power Supply Circuit Diagram

3. Servicing procedures

3.1. power supply trouble service Flow Chart

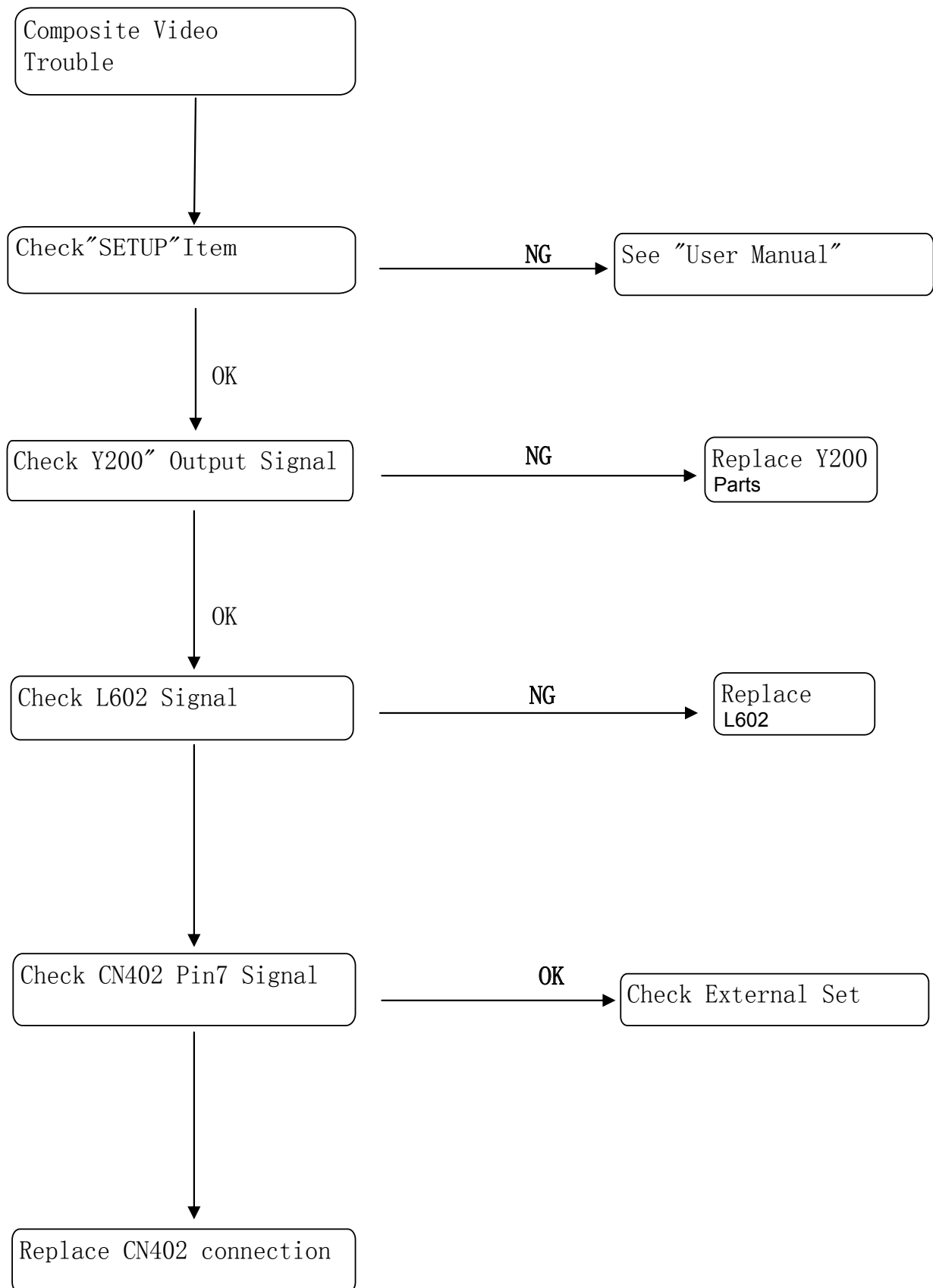


3.2 Read Disc Trouble Service Flow Chart

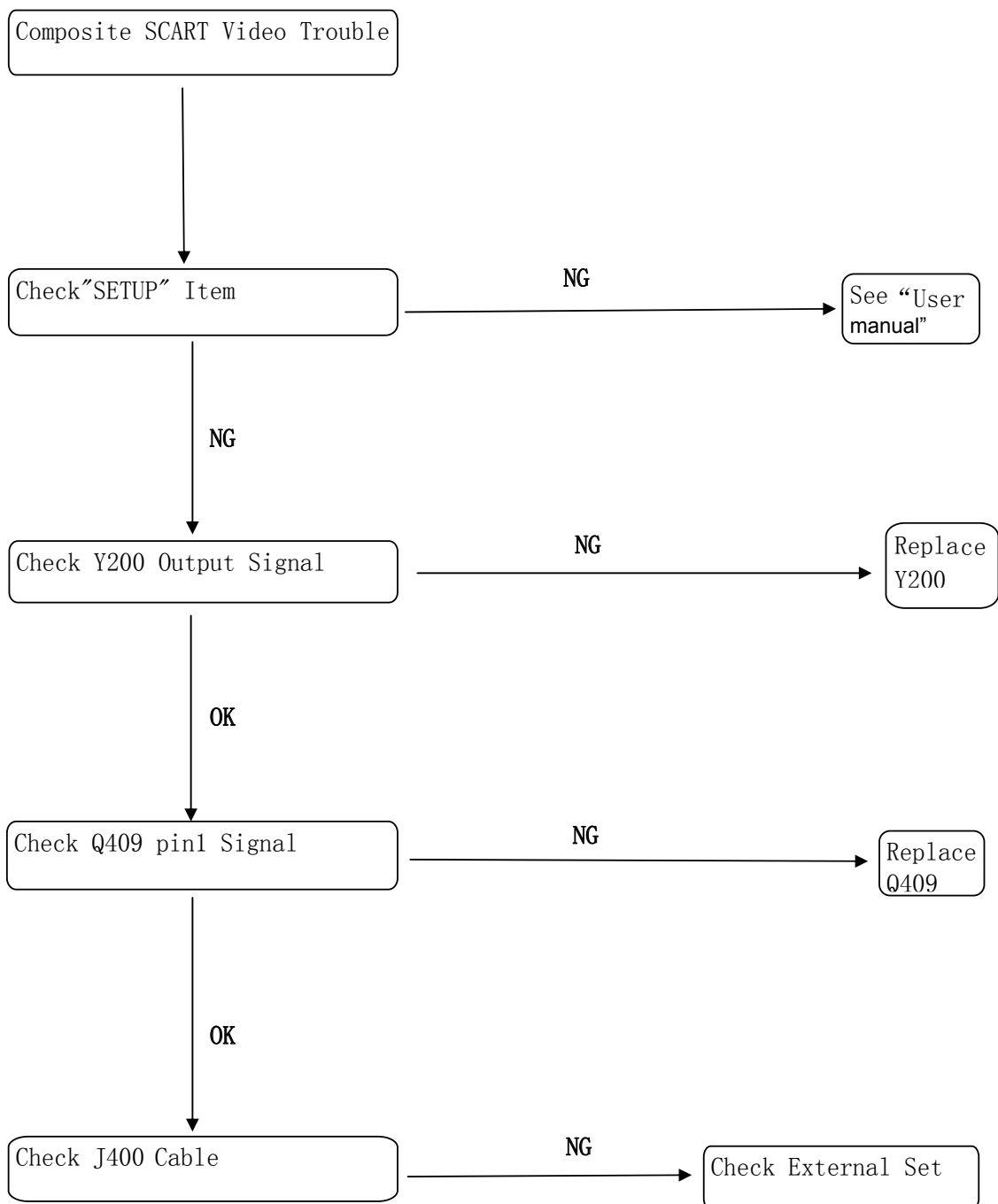


3.3. Video Trouble Service Flow Chart

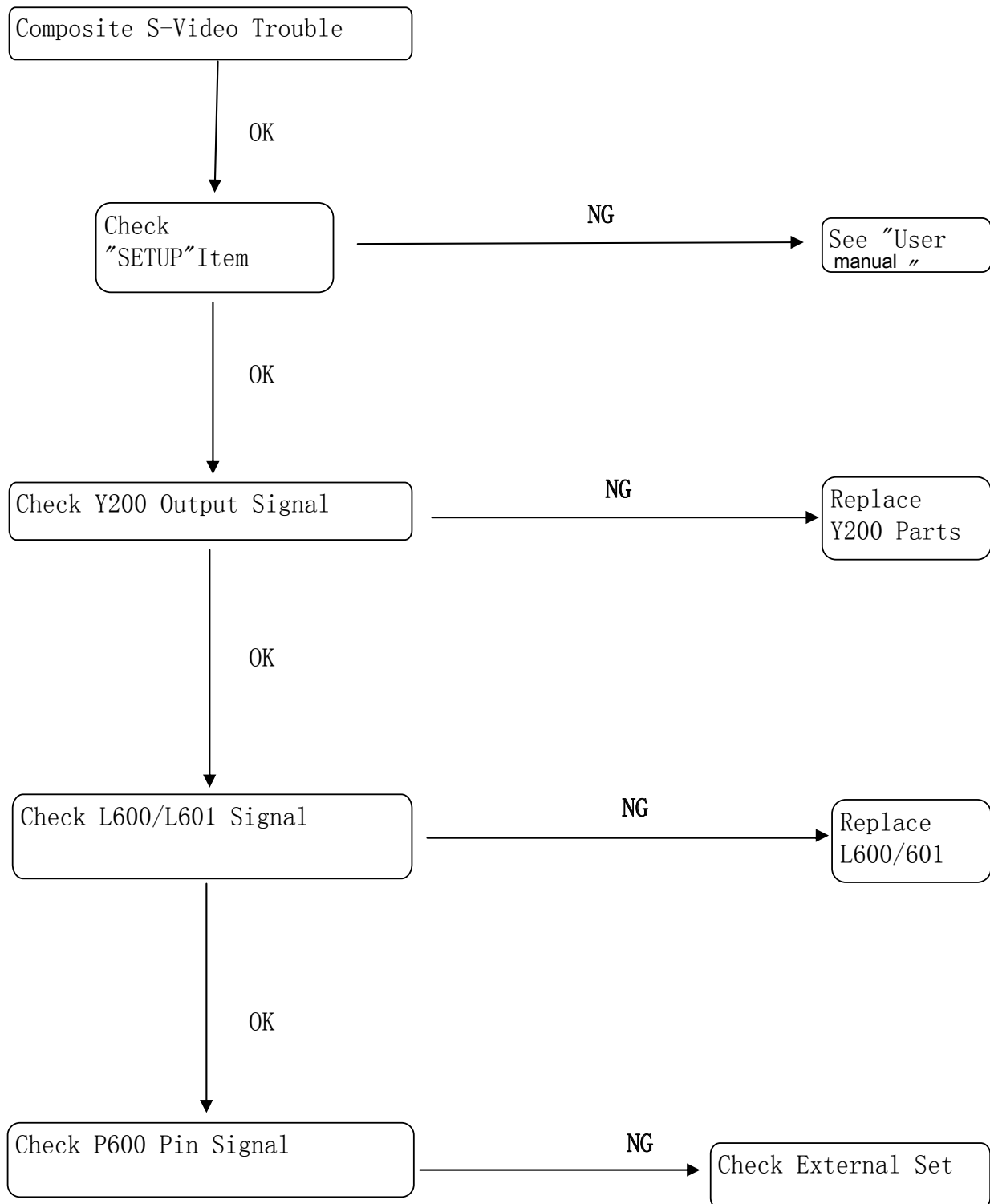
3.3.1. Composite Video Trouble service Flow Chart



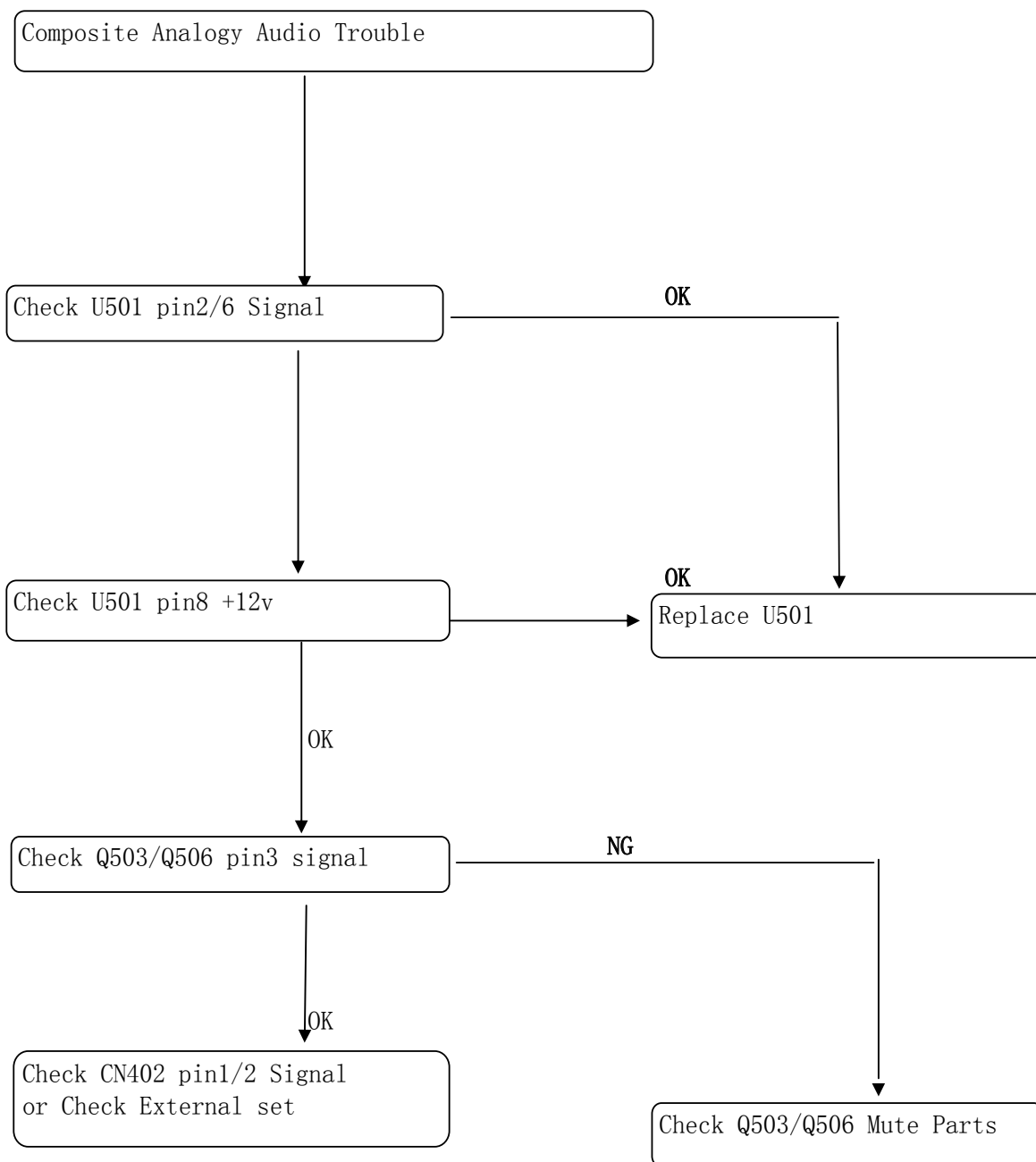
3.3.2 SCART Video Trouble Service Flow Chart



3.3.3.S_Video Trouble Service Flow Chart



3.4. Composite Analogy Audio Trouble Service Flow Chart



4. Parts List

4.1. MPEG list

No.	Parts	Specification	QTY	Location
1	IC	1389L/K	1	U200
2	IC	CD5888	1	U300
3	IC	1X16	1	U400
4	IC	4X16	1	U401
5	IC	EN25B80	1	U403
6	IC	DIP8A	1	U2
7	IC	4558	2	U501 U1
8	Crystal	27MHZ	1	Y200
9	SMD(0402) C	0.1UF	29	CB104 CB107 CB200 CB201 CB205 CB206 C210 C211 CB212 CB214 C214 CB215
10	SMD(0603) C	33PF	4	C206 C207 C512 C516
11	SMD(0603) C	100PF	18	C233 C601 C602 C604 C605 C609 C610 C613 C614 C25 C26 C1 C2 C3 C4 C5 C6
12	SMD(0603) C	220PF	1	C235
13	SMD(0603) C	330PF	3	C228 C229 C606
14	SMD(0603) C	1000PF	3	C520 C515 C12
15	SMD(0603) C	1500PF	1	C215
16	SMD(0603) C	0.015UF	2	C231 CB208
17	SMD(0603) C	0.22UF	2	C502 C11
18	SMD(0603) C	1UF	5	C200 C203 C222 C226 C236
19	SMD(0402) R	0R	5	R212 R229 R230 R227 R228
20	SMD(0402) R	1R	1	R209
21	SMD(0402) R	5.1R	2	R234 R235
22	SMD(0402) R	10R	1	R253
23	SMD(0402) R	33R	2	R404 R606
24	SMD(0402) R	75R1%	4	R600 R602 R608 R610
25	SMD(0402) R	100R	5	R604 R605 R533 R532 R413
26	SMD(0402) R	220R	2	R524 R514
27	SMD(0402) R	470R	1	R8
28	SMD(0402) R	560R	1	R214
29	SMD(0402) R	1K	5	R268 R271 R1 R4 R7
30	SMD(0402) R	4.7K	3	R3 R24 R25
31	SMD(0402) R	5.1K	4	R231 R513 R522 R15
32	SMD(0402) R	5.6K	1	R304
33	SMD(0402) R	7.5K	1	R527
34	SMD(0402) R	10K	24	R101 R208 R213 R216 R218 R244 R300 R303 R305 R402 R403 R408 R409 R410
35	SMD(0402) R	12K	1	R309
36	SMD(0402) R	15K	2	R242 R226
37	SMD(0402) R	22K	1	R308
38	SMD(0402) R	27K	2	R240 R239
39	SMD(0402) R	47K	1	R412
40	SMD(0402) R	91K	2	R515 R511
41	SMD(0402) R	100K	3	R200 R215 R224

42	SMD(0402) R	1M	1	R16
43	SMD(0603) R	470R	1	R526
44	SMD(0603) R	2.2R	1	L213
45	SMD(0603) FB	FB	1	L203
46	SMD(0603) L	1.8UH	4	L600 L601 L602 L604
47	SMD(0603) L	10UH	2	L211 L212
48	SMD Q	3904	3	Q202 Q503 Q506
49	SMD Q	9014	1	Q8
50	SMD Q	3906	3	Q500 Q502 Q14
51	SMD Q	3018	2	Q204 Q203
52	SMD Q	8550	2	Q205 Q208
53	SMD D	BAT54C	1	D200
54	SMD D	BAV99	1	D602
55	DIP D	4001	2	D301 D302
56	DIP D	4.7V	1	ZD500
57	DIP D	4148	1	D101
58	DIP Q	8550 (1.5A)	2	Q300 Q301
59	DIP Q	9014	1	Q303
60	DIP Q	8050	1	Q302
61	DIP C	10UF/25V(4*7)	7	CE103 C212 C213 CE503 CE504 CE517 CE518
62	DIP C	47UF/10V(4*7)	4	CE202 CE203 CE208 CE209
63	DIP C	100UF/10V(5*7)	1	CE204
64	DIP C	47UF/16V(5*7)	2	CE105 CE502
65	DIP C	220UF/10V(6*7)	4	CE100 CE106 CE107 CE500
66	Socket	3P/2.0	1	J1
67	Socket	5P/2.0	1	J300
68	socket	4P/2.0	1	J203
69	socket	6P/2.0	2	J201 J204
70	socket	7P/2.0	1	J402
71	socket	12P/2.0	1	J400
72	socket	5P.2.5	1	CN100
73	socket	6P/2.5	1	J202
74	socket	24P	1	HA200(vertical insert)
75	Lotus socket	optical	1	P1
76	S-VIDEO Socket	S-VIDEO	1	P600
77	Lotus socket	AV6孔	1	CN402
78	Bottom Pannel	AL1389L-2SW	1	PCB(65*75*1.2)

4.2.Front panel parts list

DSW-801

NO	Parts No.	Parts	Specification	Location	QTY
1	72-16100006-A0	Jump Wire	L=10mm,D=0.6mm,	JMP1	1
2	01-010R0J0A-A0	Carbon Resistor	10Ω,±5%,1/8W	R7	1
3	01-010KRJ0A-A0	Carbon Resistor	10KΩ,±5%,1/8W	R1 R2 R3	3
4	01-051KRJ0A-A0	Carbon Resistor	51KΩ,±5%,1/8W	R4	1
5	02-0101PJ2F-A0	Porcelain Capacitor	101,±5%,50V	C1 C3 C4	3
6	02-0104PM2F-A0	Porcelain Capacitor	104,±20%,50V	C2 C6	2
7	02-0100UM0C-A0	Electrolytic Capacitor	100uF,±20%,16V,Size: 5×11mm,85℃,	EC1	1
8	02-0220UM0C-A0	Electrolytic Capacitor	220uF,±20%,16V,Size: 6×12mm,85℃,	EC2	1
9	06-0KCLA50H-A0	Touch Switch	KFC-LA5.0(250±30g)	SW	6
10	10-03AV71LC-A0	Receiver	IRM138S	REM	1
11	05-1SM1628B-M0	IC	SM1628	U	1
12	07-0J501AY0-A0	Digital Screen	Digital screen with 5 words Like"8" JGD 240501AY Rectangle,L=20mm	LCD	1
13	71-2101009B-A0	Sponge	10(L)×10(W)×9(H)mm,Black,	Under Receiver	1
14	08-ADSW8011-A0	Front Panel	DSW-801-LED.	Front Panel	1
15	08-DDSW8011-A0	Key board	DSW-801-KEY	Key board	1
16	04-0W204D02-A0	LED	WJ-204LRD;D:3mm;RED, DIP	LED3	1
17	01-010R0J0A-A0	Carbon Resistor	330Ω,±5%,1/8W	R5	1
Wire					
1	12-A2615F3F-A0	Wire	7P/2.5,5P #22Red white wire L=260mm	Power board CON2/MPEG board CN100	1
2	12-A4316F5B-A0	Wire	6P/2.5,6P #26 Red white wire ,L=430mm,	Front Panel6P/2.5pin/MPEG boardJ202	1
3	12-C181P05B-A0	Wire	FFC,24p/0.5,L=180mm,w=12.5+/-0.05mm with SONY SAMSUNG Loader,Thickness:1u m	Loader 24P/0.5pin /MPEG board HA200	1
4	12-A1515E5A-A0	Wire	5P/2.0,5P #26Red white wire L=150mm	Loader 5P/2.0pin /MPEG boardJ300	1
5	12-A1216E5B-A0	Wire	6P/2.0,6P #26Red white wire ,L=120mm	Loader 6P/2.0pin/MPEG boardJ201	1
6	12-A401505A-A0	Wire	6P #26Red white wire ,L:400mm,	Front Panel/Key board	1
7	12-A4812E5K-A0	Wire	7P/2.0,2P #26 Red white wire L=480mm	STANDBY/On board /MPEG boardJ402	1

4.2 PCB Board Parts List

No.	Parts No.	Parts	specification	Location	QTY
1	53-10PW5252-A0	*PCB board	POW525 2007. 11. 28, Size:L100 ×W50×T1. 6mm, 94V0, Transformer:TOP OW EEL19/POW525、 Electrolytic Capacitor(C15: JICON 10uF/400V), Transistor (TP218、 13003、 CYT TL431A), IC:EL 817, Metal slice capacitor (C1: TC MEXTENTA MKP 0.1uF K X2 275AC 9 country certificate), Diode (D9: SB340), HI- VOLT Capacitor (C10: SHM E102M/AC 400V;C4:101 1KV;C5:472 1KV), fuse (VDE T2A 250V), CON1. Q1,	bottom cabinet	1