



SERVICE MANUAL

MODEL: DK867/DK855/DK854/DV840

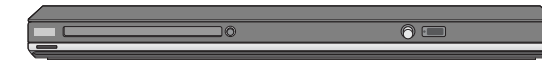
DVD-VIDEO PLAYER

SERVICE MANUAL

MODEL: DK867/DK855/DK854/DV840

CAUTION

BEFORE SERVICING THE UNIT, READ THE "SAFETY PRECAUTIONS"
IN THIS MANUAL.



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SUMMARY

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PRODUCT SAFETY SERVICING GUIDELINES FOR DVD PRODUCTS

IMPORTANT SAFETY NOTICE

This manual was prepared for use only by properly trained audio-video service technicians.

When servicing this product, under no circumstances should the original design be modified or altered without permission from LG Corporation. All components should be replaced only with types identical to those in the original circuit and their physical location, wiring and lead dress must conform to original layout upon completion of repairs.

Special components are also used to prevent x-radiation, shock and fire hazard.

These components are indicated by the letter "X" included in their component designators and are required to maintain safe performance. No deviations are allowed without prior approval by LG Corporation.

Circuit diagrams may occasionally differ from the actual circuit used. This way, implementation of the latest safety and performance improvement changes into the set are not delayed until the new service literature is printed.

CAUTION: Do not attempt to modify this product in any way. Never perform customized installations without manufacturer's approval. Unauthorized modifications will not only void the warranty, but may lead to property damage or user injury.

Service work should be performed only after you are thoroughly familiar with these safety checks and servicing guidelines.

GRAPHIC SYMBOLS



The exclamation point within an equilateral triangle is intended to alert the service personnel to important safety information in the service literature.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the service personnel to the presence of noninsulated "dangerous voltage" that may be of sufficient magnitude to constitute a risk of electric shock.



The pictorial representation of a fuse and its rating within an equilateral triangle is intended to convey to the service personnel the following fuse replacement caution notice:

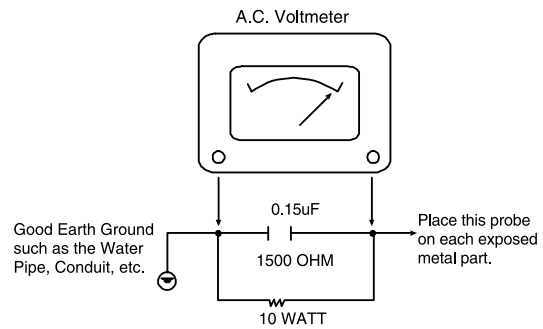
CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ALL FUSES WITH THE SAME TYPE AND RATING AS MARKED NEAR EACH FUSE.

SERVICE INFORMATION

While servicing, use an isolation transformer for protection from AC line shock. After the original service problem has been corrected, make a check of the following:

FIRE AND SHOCK HAZARD

1. Be sure that all components are positioned to avoid a possibility of adjacent component shorts. This is especially important on items transported to and from the repair shop.
2. Verify that all protective devices such as insulators, barriers, covers, shields, strain reliefs, power supply cords, and other hardware have been reinstalled per the original design. Be sure that the safety purpose of the polarized line plug has not been defeated.
3. Soldering must be inspected to discover possible cold solder joints, solder splashes, or sharp solder points. Be certain to remove all loose foreign particles.
4. Check for physical evidence of damage or deterioration to parts and components, for frayed leads or damaged insulation (including the AC cord), and replace if necessary.
5. No lead or component should touch a high current device or a resistor rated at 1 watt or more. Lead tension around protruding metal surfaces must be avoided.
6. After reassembly of the set, always perform an AC leakage test on all exposed metallic parts of the cabinet (the channel selector knobs, antenna terminals, handle and screws) to be sure that set is safe to operate without danger of electrical shock. **DO NOT USE A LINE ISOLATION TRANSFORMER DURING THIS TEST.** Use an AC voltmeter having 5000 ohms per volt or more sensitivity in the following manner: Connect a 1500 ohm, 10 watt resistor, paralleled by a .15 mfd 150V AC type capacitor between a known good earth ground water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1500 ohm resistor and .15 mfd capacitor. Reverse the AC plug by using a non-polarized adaptor and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.75 volts RMS. This corresponds to 0.5 milliamp AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



TIPS ON PROPER INSTALLATION

1. Never install any receiver in a closed-in recess, cubbyhole, or closely fitting shelf space over, or close to, a heat duct, or in the path of heated air flow.
2. Avoid conditions of high humidity such as: outdoor patio installations where dew is a factor, near steam radiators where steam leakage is a factor, etc.
3. Avoid placement where draperies may obstruct venting. The customer should also avoid the use of decorative scarves or other coverings that might obstruct ventilation.
4. Wall- and shelf-mounted installations using a commercial mounting kit must follow the factory-approved mounting instructions. A product mounted to a shelf or platform must retain its original feet (or the equivalent thickness in spacers) to provide adequate air flow across the bottom. Bolts or screws used for fasteners must not touch any parts or wiring. Perform leakage tests on customized installations.
5. Caution customers against mounting a product on a sloping shelf or in a tilted position, unless the receiver is properly secured.
6. A product on a roll-about cart should be stable in its mounting to the cart. Caution the customer on the hazards of trying to roll a cart with small casters across thresholds or deep pile carpets.
7. Caution customers against using extension cords. Explain that a forest of extensions, sprouting from a single outlet, can lead to disastrous consequences to home and family.

SERVICING PRECAUTIONS

CAUTION: Before servicing the DVD covered by this service data and its supplements and addends, read and follow the SAFETY PRECAUTIONS. NOTE: if unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions in this publication, always follow the safety precautions.

Remember Safety First :

General Servicing Precautions

1. Always unplug the DVD AC power cord from the AC power source before:
 - (1) Removing or reinstalling any component, circuit board, module, or any other assembly.
 - (2) Disconnecting or reconnecting any internal electrical plug or other electrical connection.
 - (3) Connecting a test substitute in parallel with an electrolytic capacitor.
Caution: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.
2. Do not spray chemicals on or near this DVD or any of its assemblies.
3. Unless specified otherwise in this service data, clean electrical contacts by applying an appropriate contact cleaning solution to the contacts with a pipe cleaner, cotton-tipped swab, or comparable soft applicator.
Unless specified otherwise in this service data, lubrication of contacts is not required.
4. Do not defeat any plug/socket B+ voltage interlocks with which instruments covered by this service manual might be equipped.
5. Do not apply AC power to this DVD and / or any of its electrical assemblies unless all solid state device heat sinks are correctly installed.
6. Always connect the test instrument ground lead to an appropriate ground before connecting the test instrument positive lead. Always remove the test instrument ground lead last.

Insulation Checking Procedure

Disconnect the attachment plug from the AC outlet and turn the power on. Connect an insulation resistance meter (500V) to the blades of the attachment plug. The insulation resistance between each blade of the attachment plug and accessible conductive parts (Note 1) should be more than 1Mohm.

Note 1: Accessible Conductive Parts include Metal panels, Input terminals, Earphone jacks, etc.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field effect transistors and semiconductor chip components.

The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate an electrical charge sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil, or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

Caution: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Normally harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

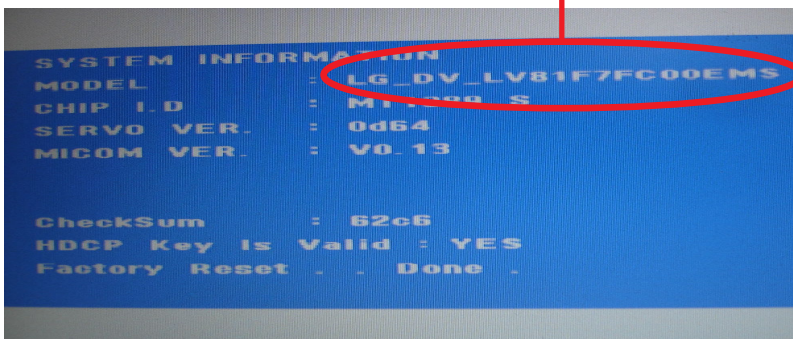
THE PROCESS OF DISC DOWNLOAD

Please follow the below process to download a program with disc

1. Turn on the DVD-player.
(Note. Be sure that there is no disc in DVD-player)
2. Press "SETUP" button on Remote control.
3. Choose a "**display**" menu by using the cursor button and then choose a "**TV Aspect**" menu. And choose "**16:9**" menu.

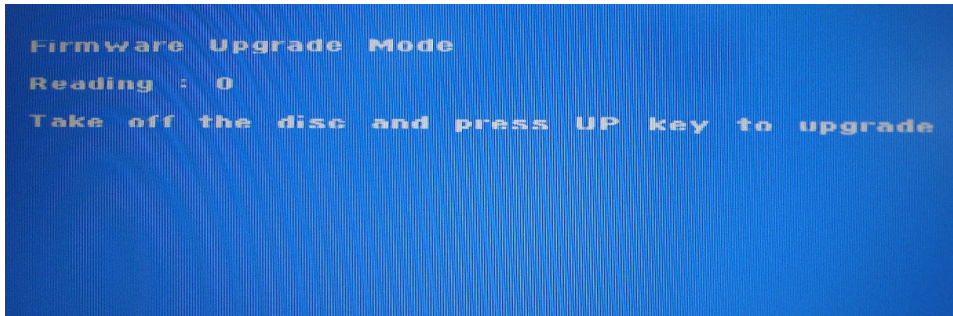


4. Press the 1 --> 3 --> 9 --> 7 --> 1 --> 3 --> 9(numerical button) --> Enter key on remote control to confirm the system information.
5. Remember or write the **model name**.

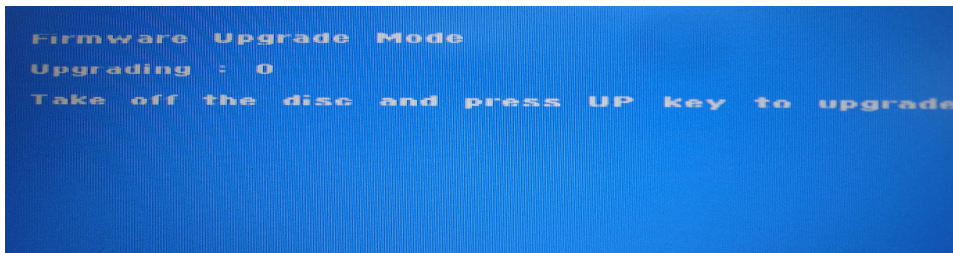


6. Change the program file name of new version to the model name
Ex> New ver. program file->LG_DV_LV80F7FC10EMSMIS_V014.ROM
Model name -> LG_DV_LV81F7FC00EMS
Change New ver. program file like this --> LG_DV_LV81F7FC00EMSMIS.ROM
(NOTICE) You must add "MIS" at the end of model name
If you don't change the file name like that, Disc download isn't be worked.

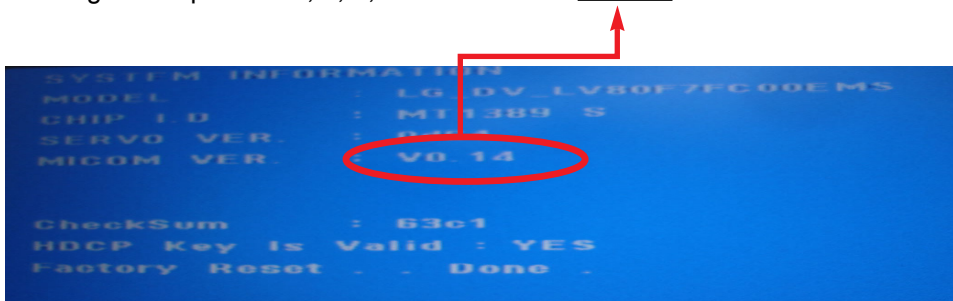
7. Copy the changed file to a disc.
8. Insert the copied disc to DVD-player.
9. If the below picture appears on the screen, Press “▲” key.



10. After the below picture appears on the screen, Disc will emerge from DVD-player automatically. Take the disc out of the DVD-player.



11. After Disc download is completed, DVD-player turns off and then turns on automatically.
12. Do it again the process 1, 2, 3, 4 to confirm the version.



SPECIFICATIONS

• GENERAL

Power requirements	AC 110V ~ 240V, 50/60Hz
Power consumption	8W
Dimensions (Approx.)	360 x 35 x 195mm (W x H x D) without foot
Net Weight (Approx.)	2.3kg
Operating temperature:	5°C to 35°C
Operating humidity	5% to 90%
Laser	Semiconductor laser
Signal system	PAL / NTSC

• OUTPUTS

Video Output	1.0V (p-p), 75Ω, sync negative, RCA jack x 1
Component Video Output	(Y) 1.0V (p-p), 75Ω, sync negative, RCA jack x 1 (Pb)/(Pr) 0.7V (p-p), 75Ω, RCA jack x 2
Audio Output	2.0Vrms (1kHz, 0dB), 600Ω, RCA jack (L, R) x 1 /
Digital Output (Coaxial)	0.5V (p-p), 75Ω, RCA jack x 1

MEMO

A series of horizontal dotted lines for writing.

SECTION 2

CABINET & MAIN CHASSIS

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EXPLODED VIEWS

1. CABINET AND MAIN FRAME SECTION

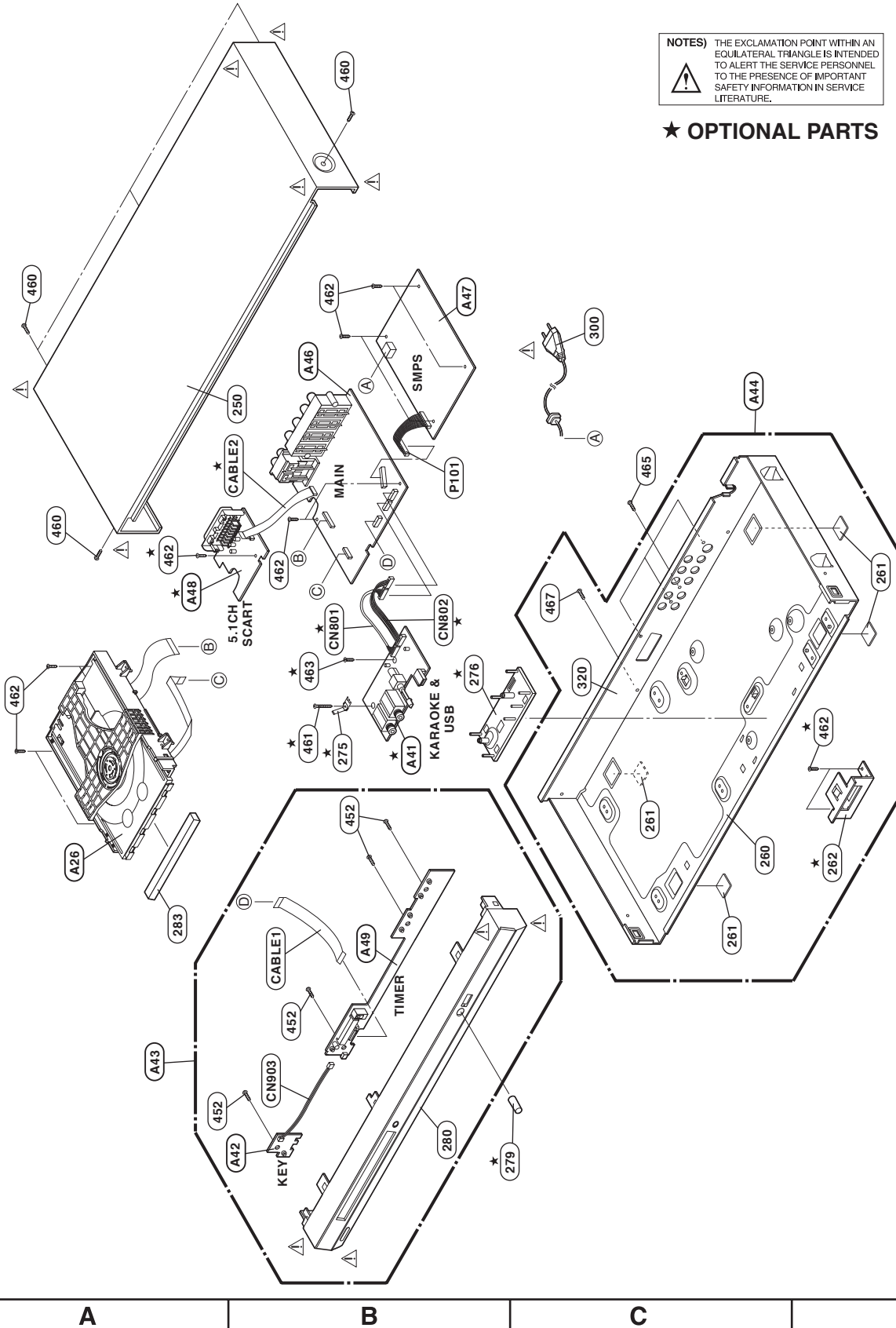
5

4

3

2

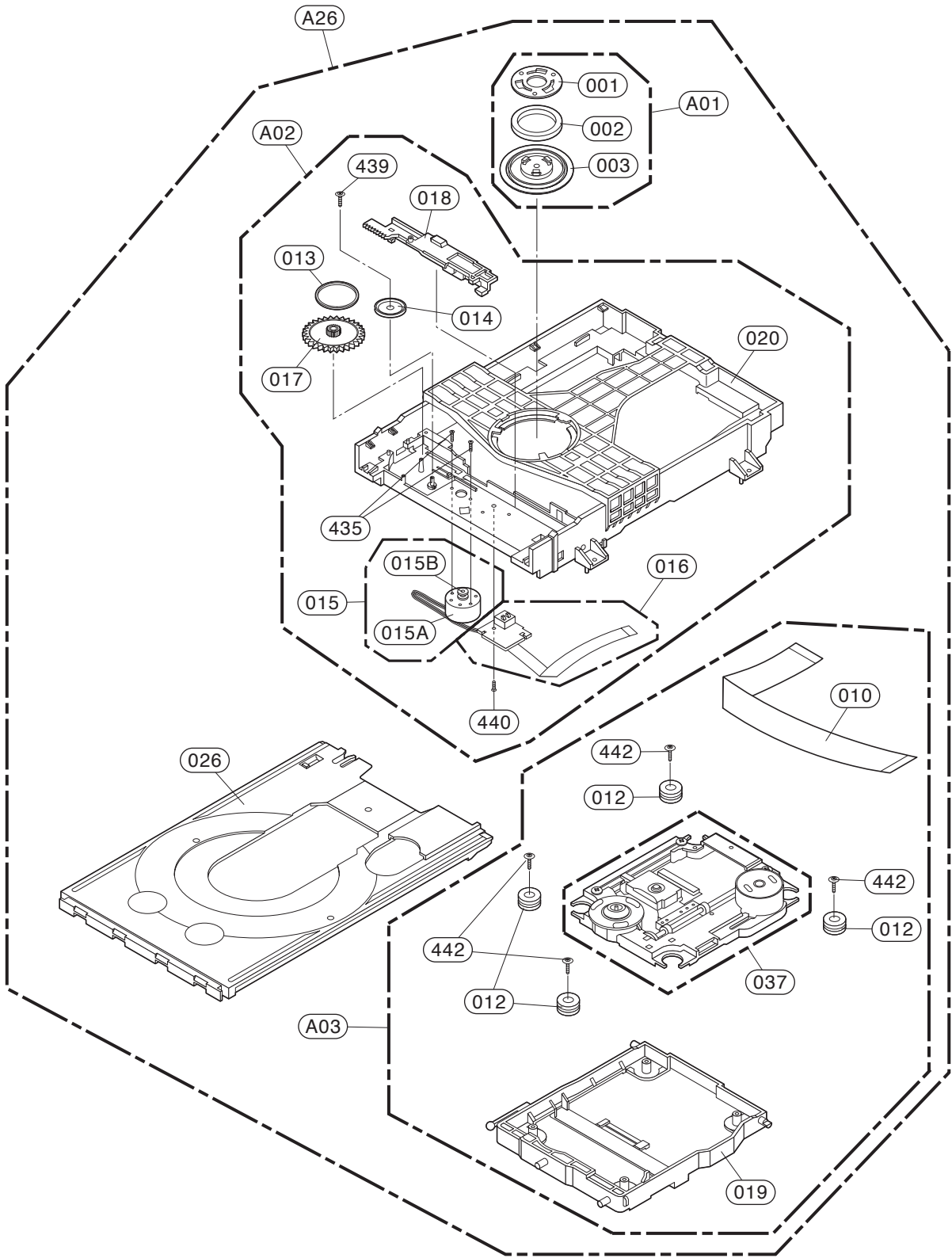
1



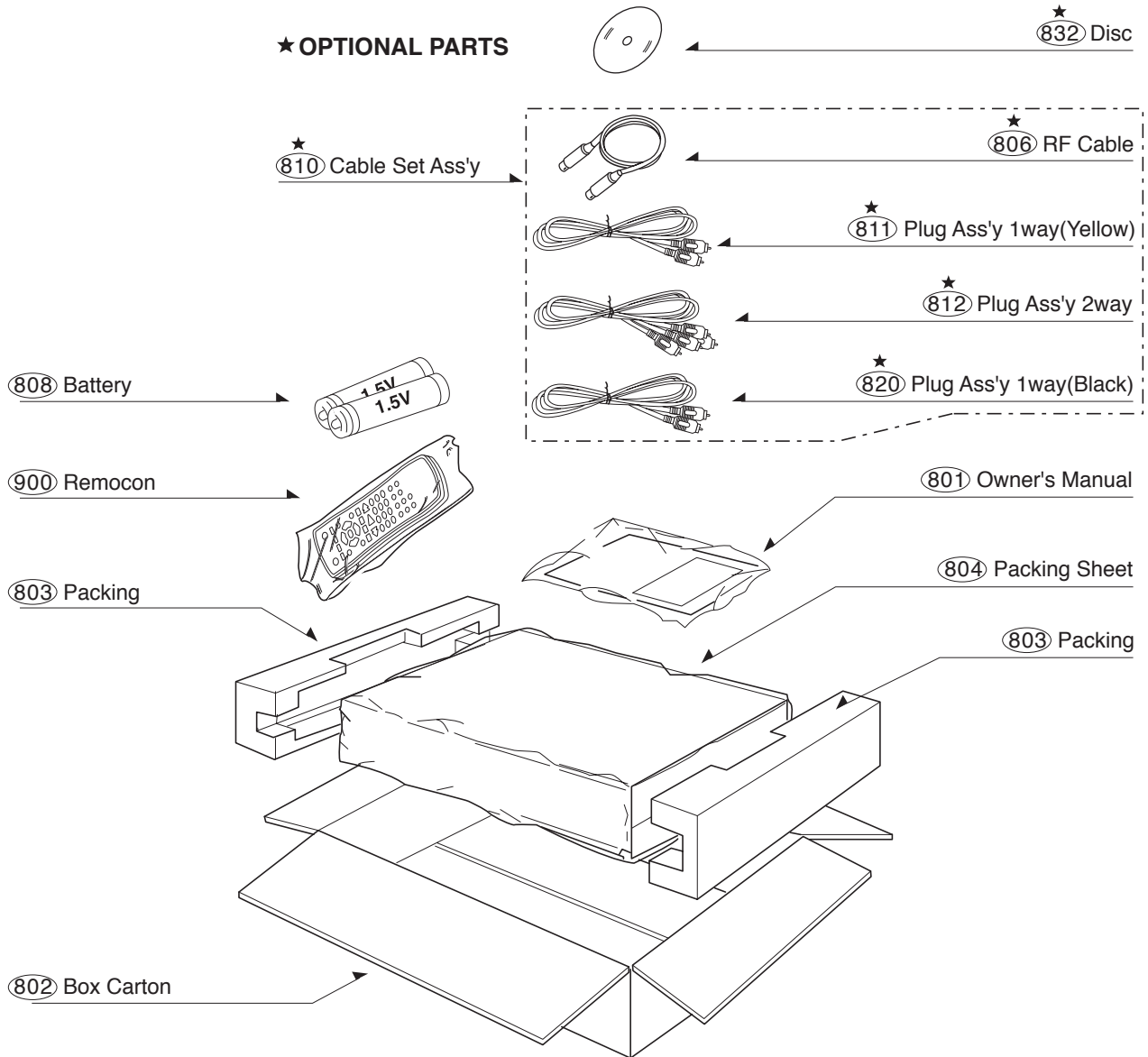
NOTES) THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF IMPORTANT SAFETY INFORMATION IN SERVICE LITERATURE.

★ **OPTIONAL PARTS**

2. DECK MECHANISM SECTION (DP-12V)



3. PACKING ACCESSORY SECTION



SECTION 3

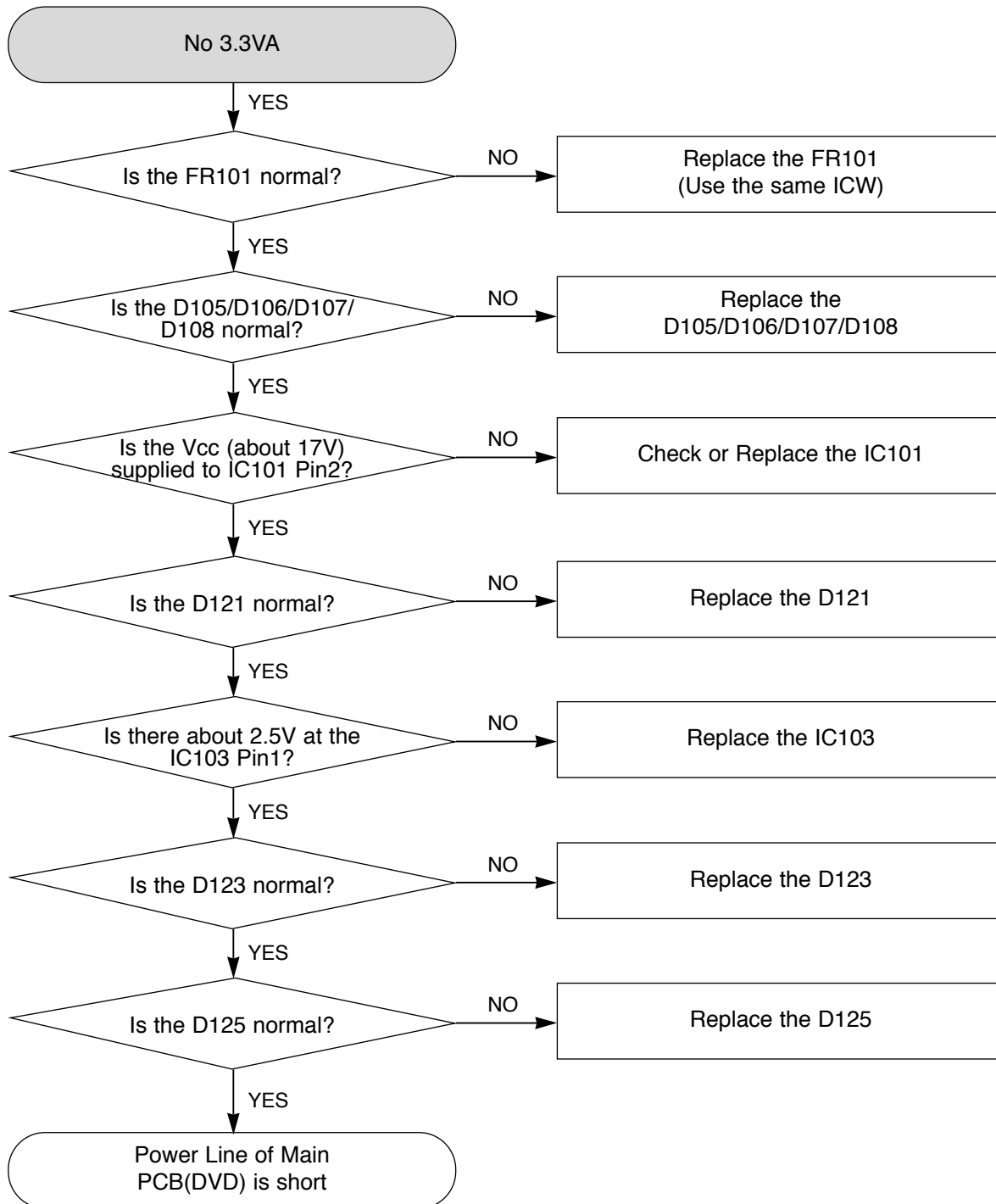
ELECTRICAL

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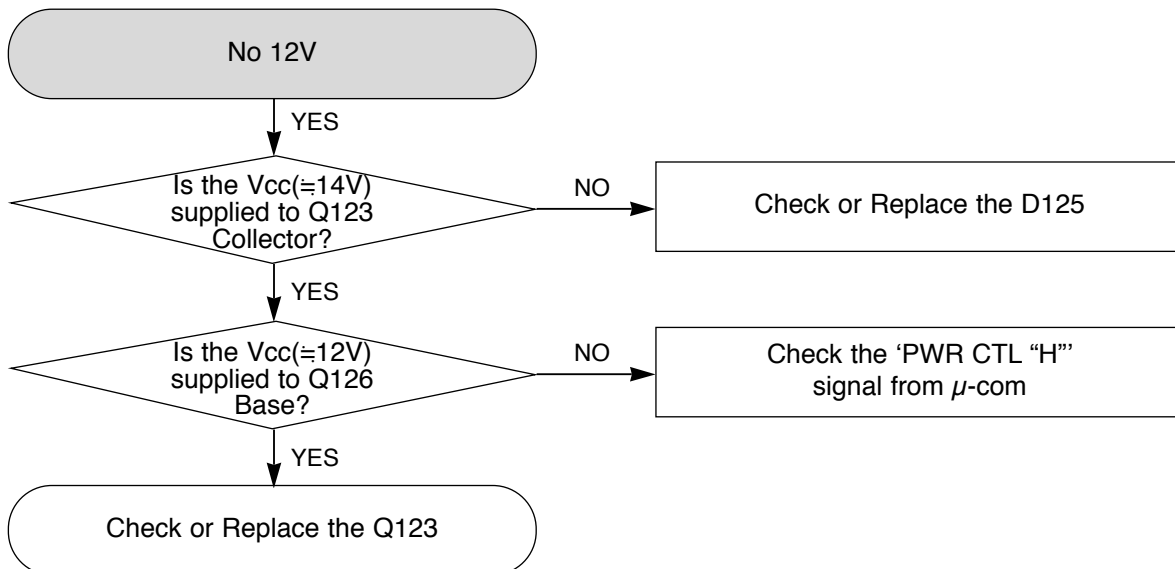
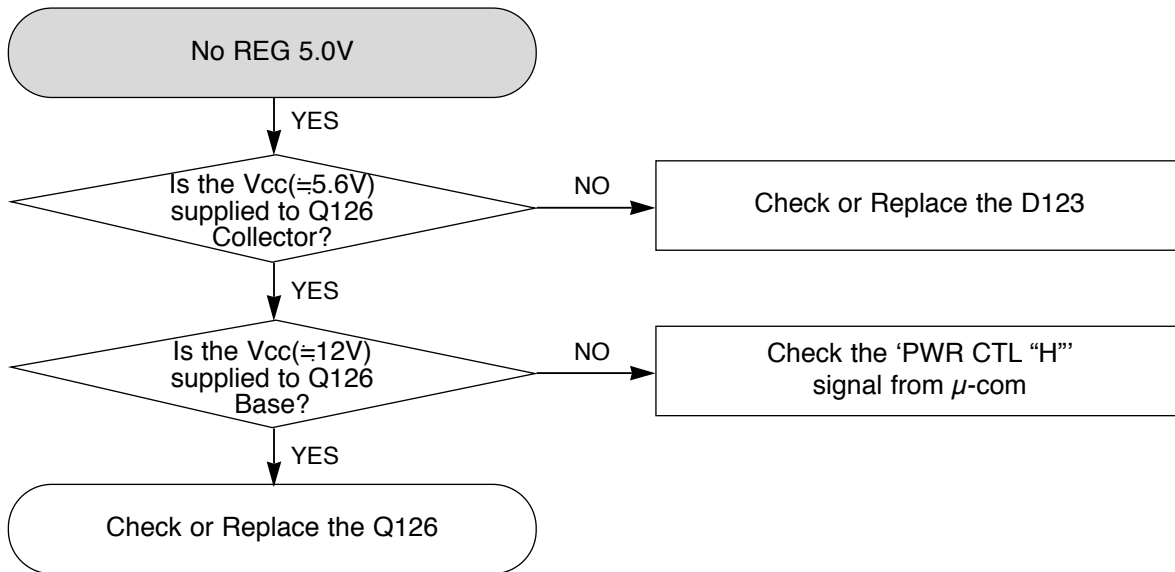
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ELECTRICAL TROUBLESHOOTING GUIDE

1. SMPS TROUBLESHOOTING FLOW

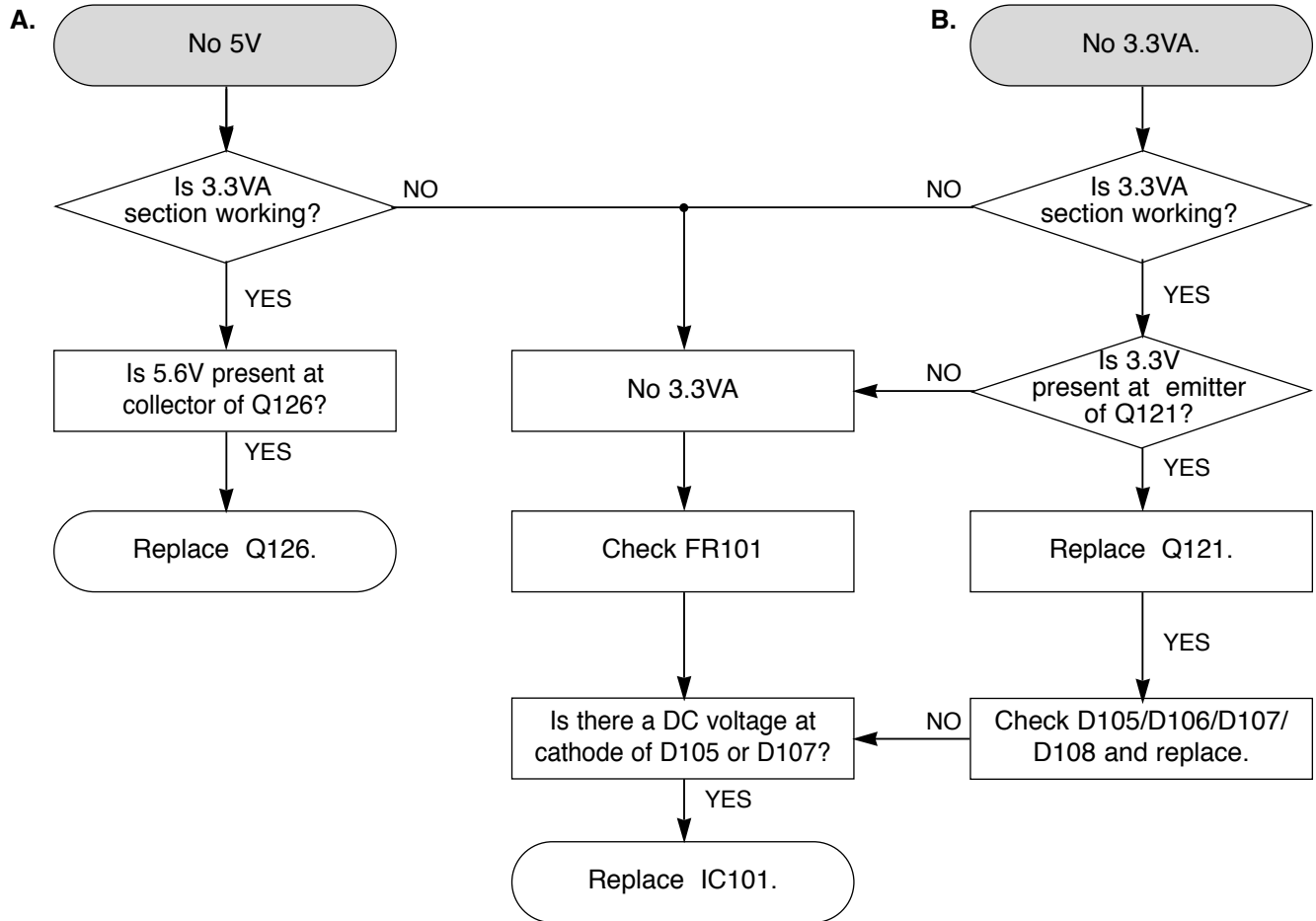


ELECTRICAL TROUBLESHOOTING GUIDE



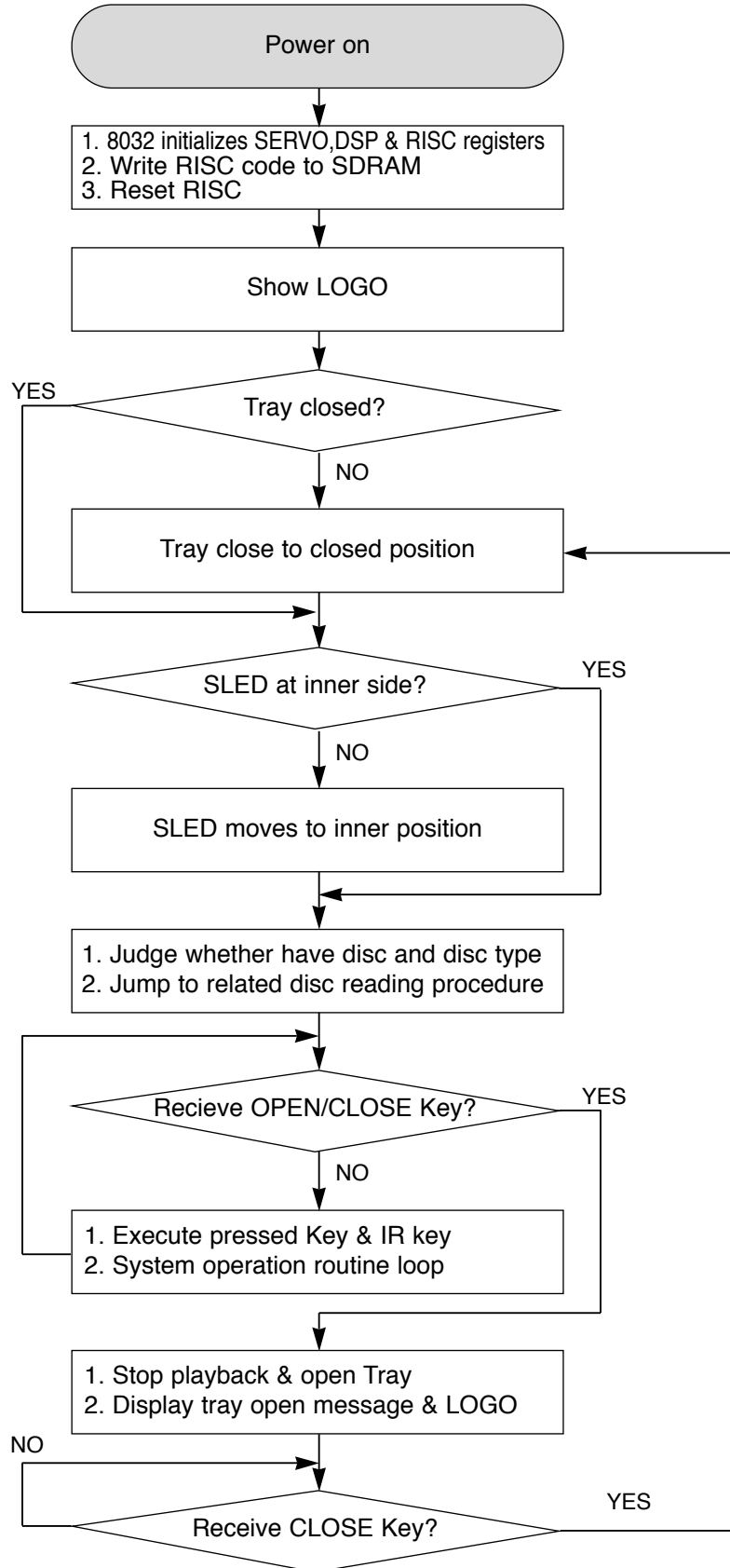
ELECTRICAL TROUBLESHOOTING GUIDE

2. POWER CHECK FLOW



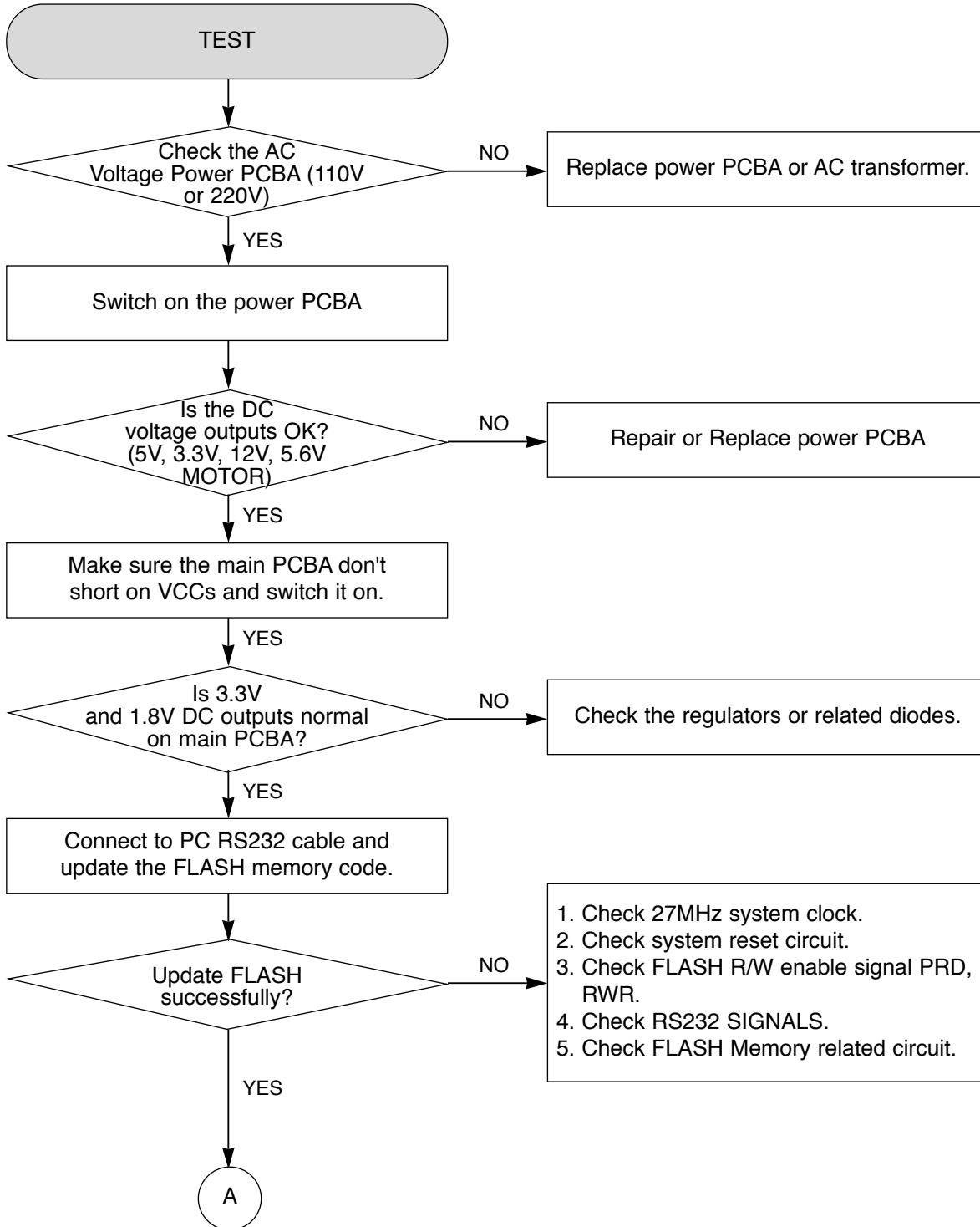
ELECTRICAL TROUBLESHOOTING GUIDE

3. SYSTEM OPERATION FLOW

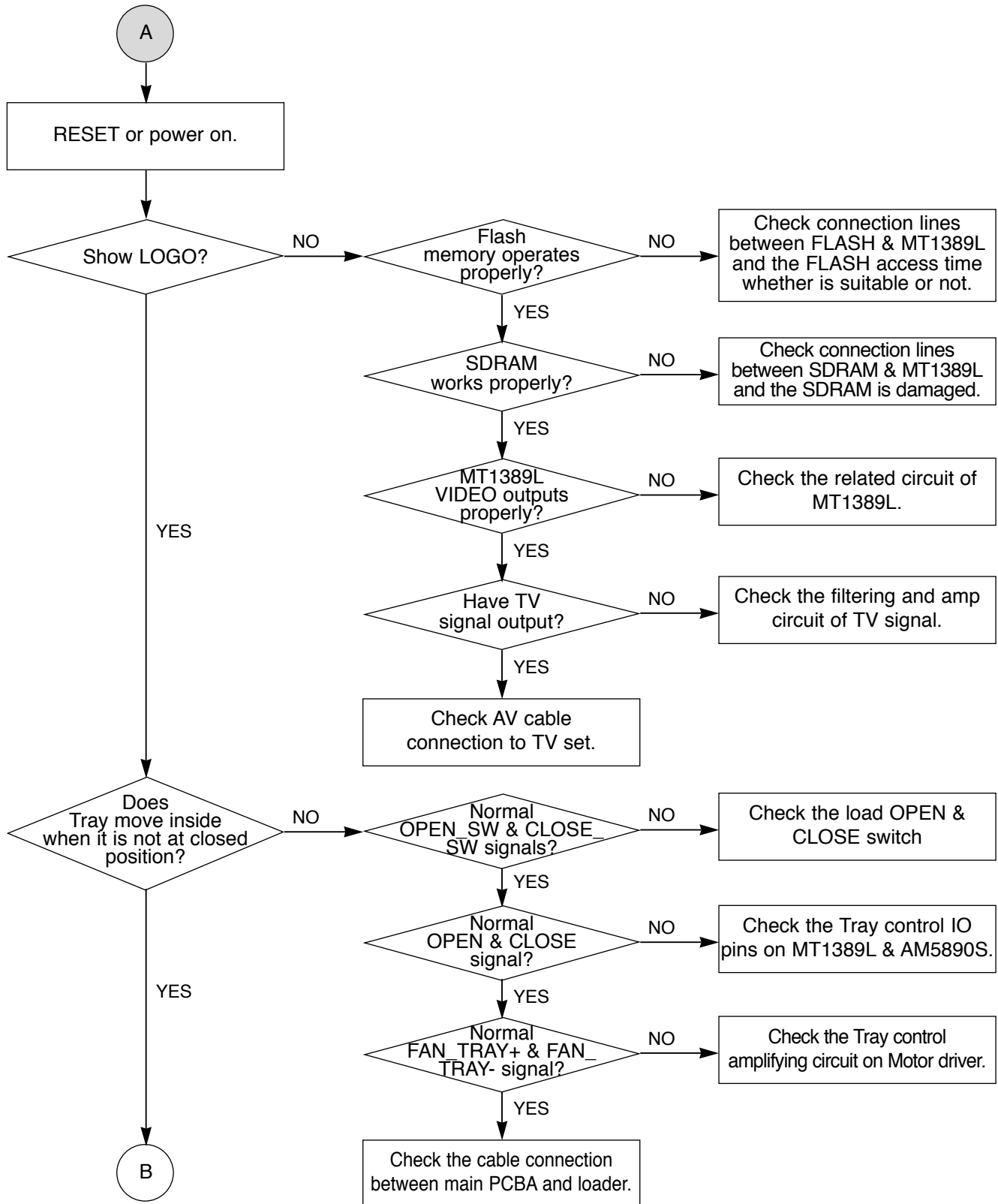


ELECTRICAL TROUBLESHOOTING GUIDE

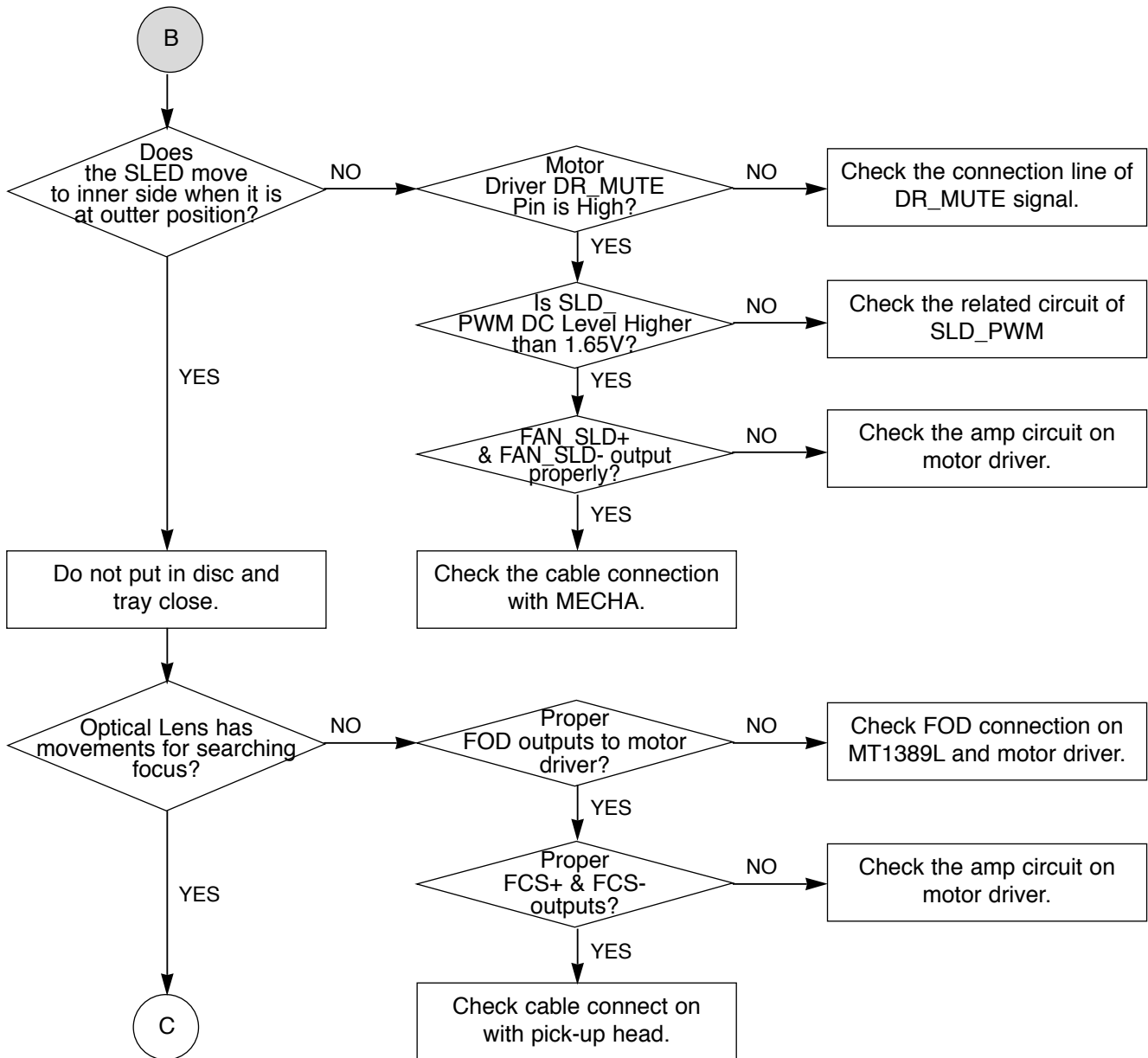
4. SYSTEM TEST FLOW



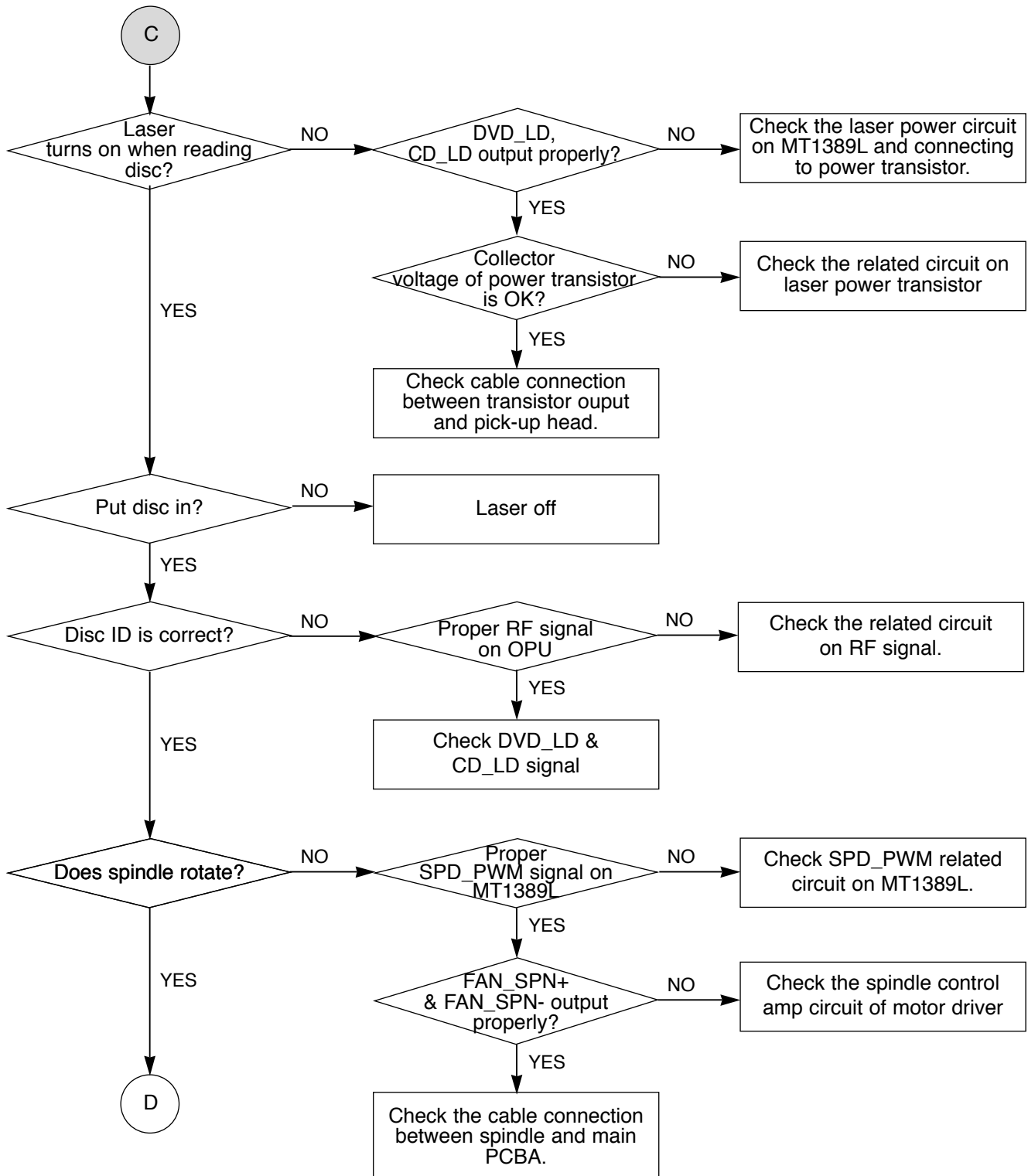
ELECTRICAL TROUBLESHOOTING GUIDE



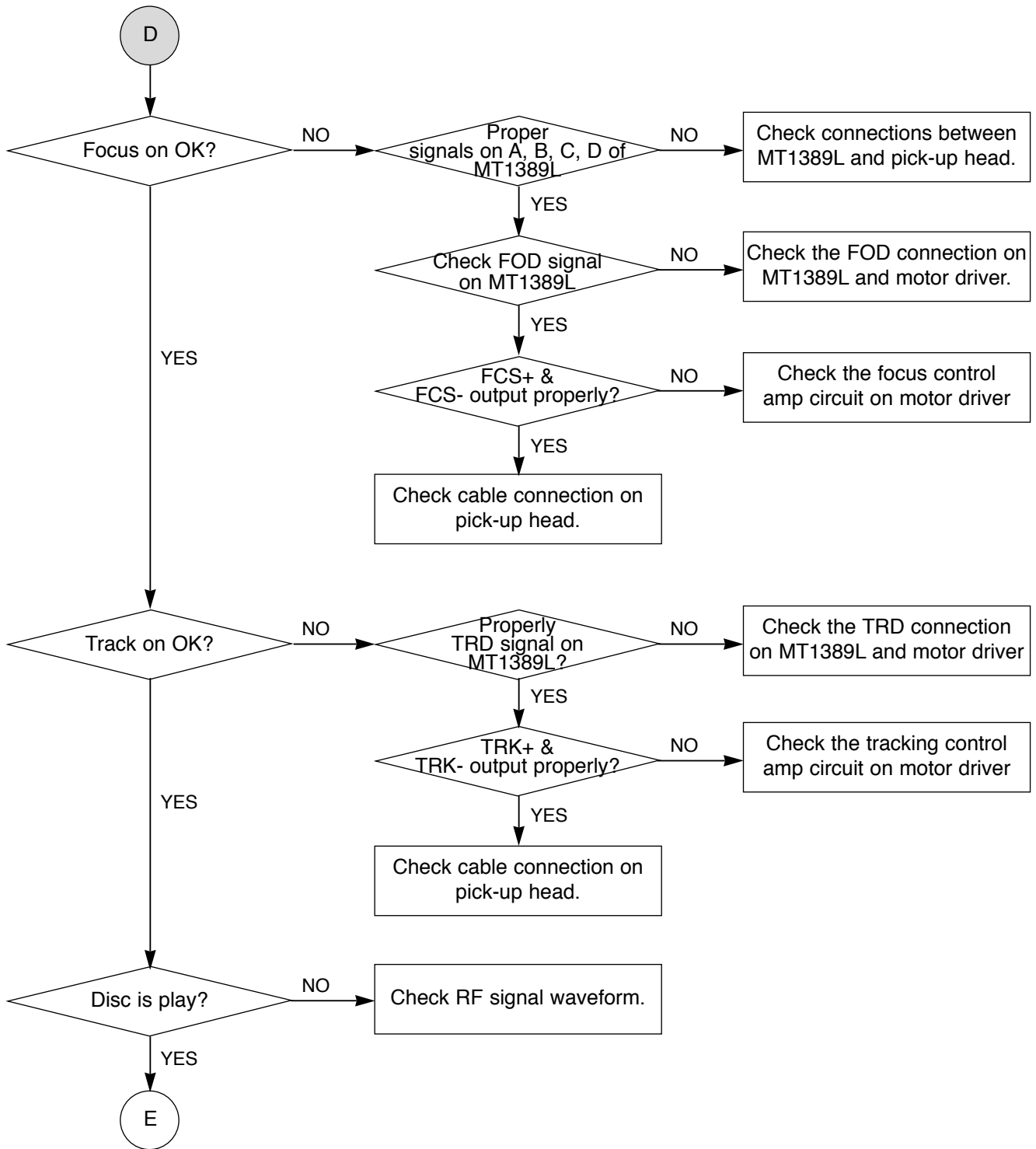
ELECTRICAL TROUBLESHOOTING GUIDE



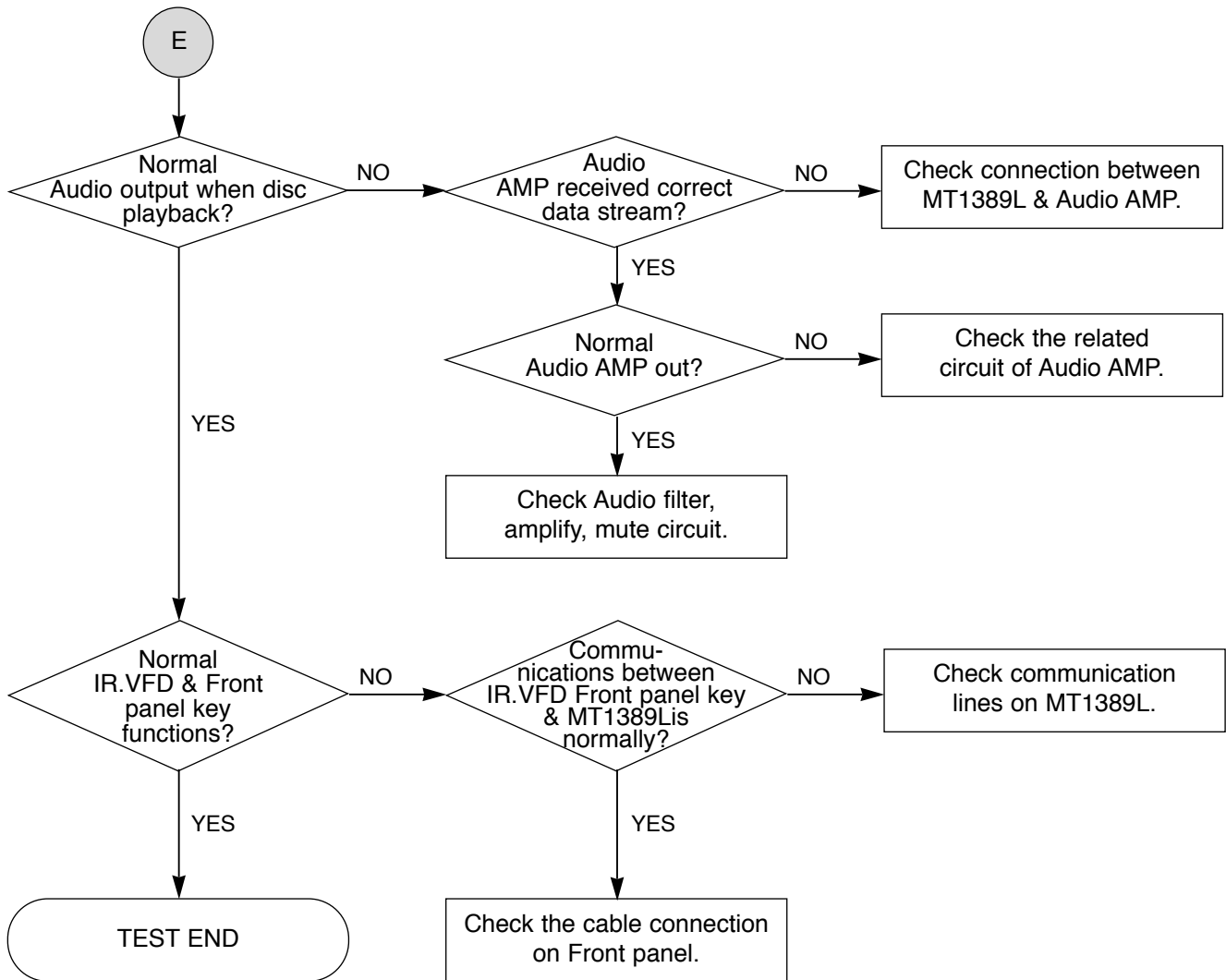
ELECTRICAL TROUBLESHOOTING GUIDE



ELECTRICAL TROUBLESHOOTING GUIDE



ELECTRICAL TROUBLESHOOTING GUIDE



DETAILS AND WAVEFORMS ON SYSTEM TEST AND DEBUGGING

1. SYSTEM 27MHz CLOCK, RESET, FLASH R/W SIGNAL

1) MT1389L main clock is at 27MHz (X601)

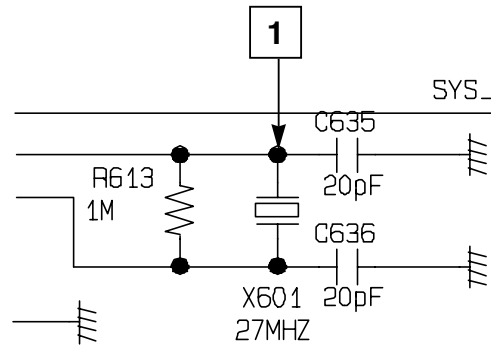
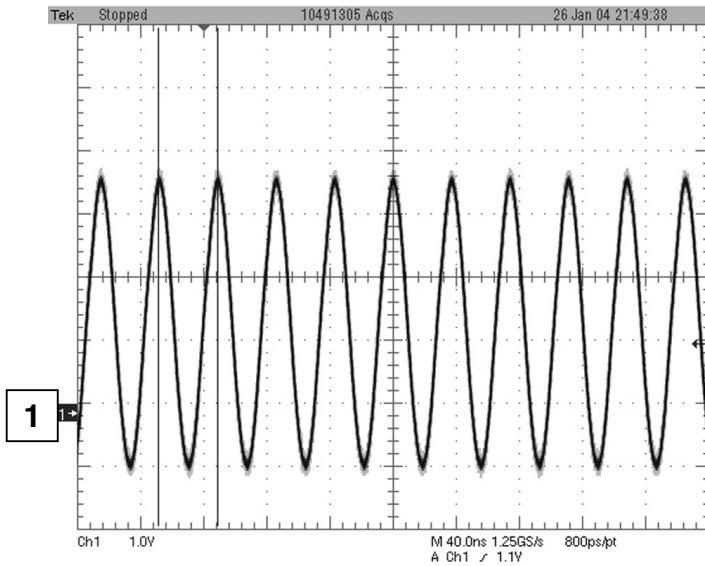


FIG 1-1

2) MT1389L reset is active high.

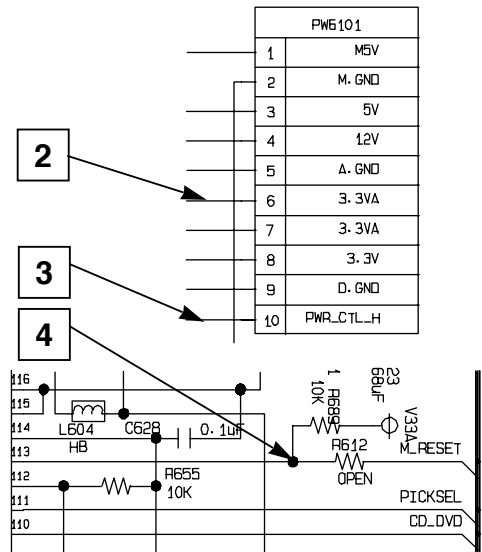
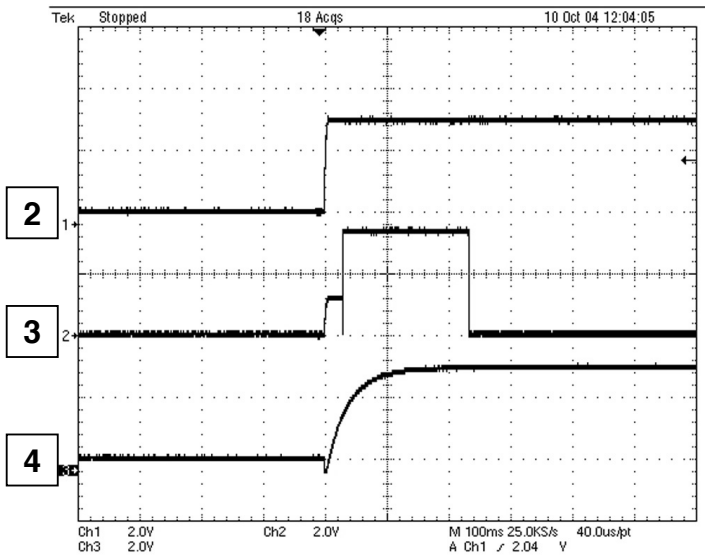


FIG 1-2

3) RS232 waveform during procedure (Downloading)

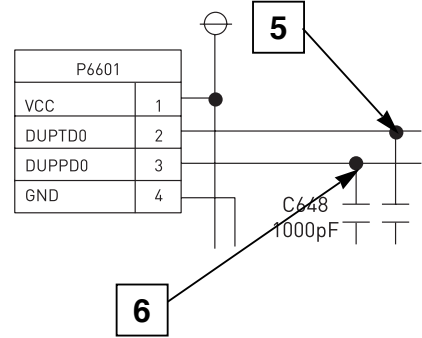
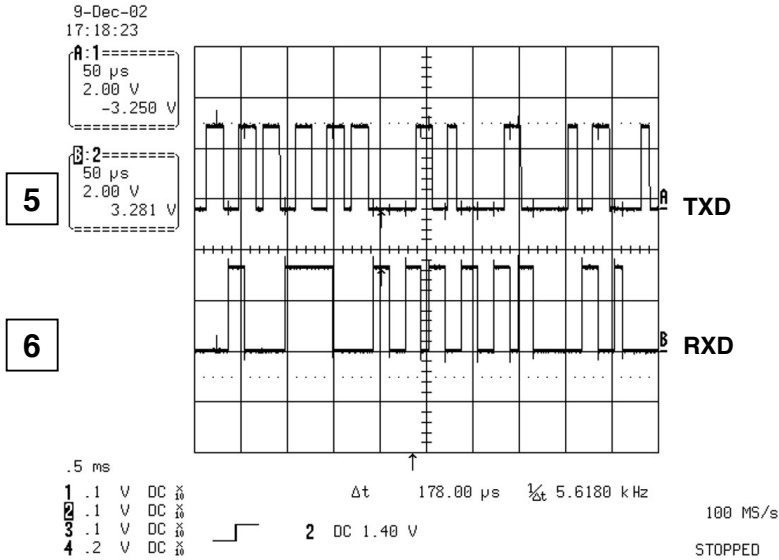


FIG 1-3

4) Flash CE# enable signal and SCK signal during Downloading

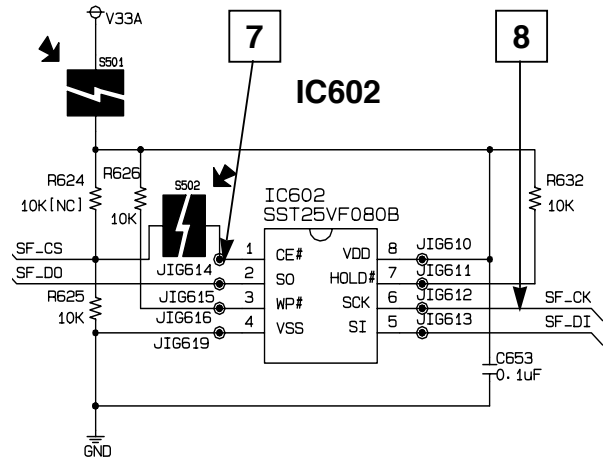
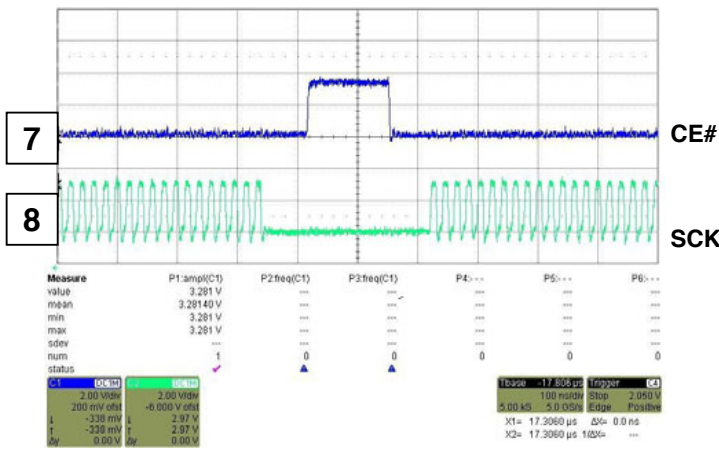


FIG 1-4

2. SDRAM CLOCK

DCLK = 128MHz, Vp-p=2.2, Vmax=2.7V

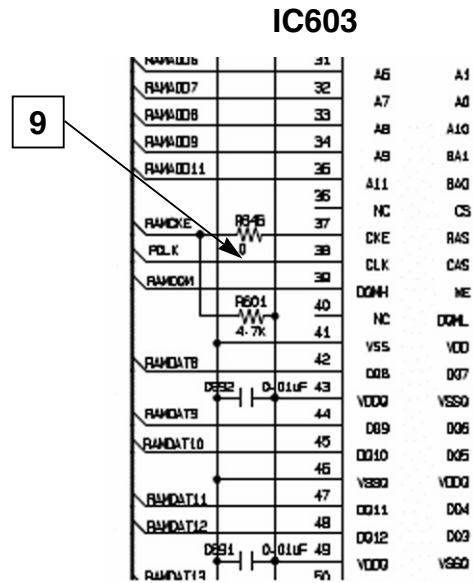
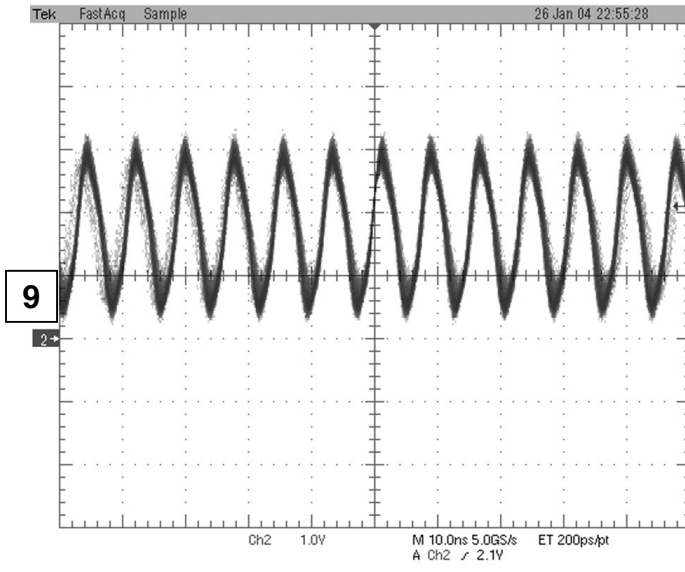


FIG 2-1

3. TRAY OPEN/CLOSE SIGNAL

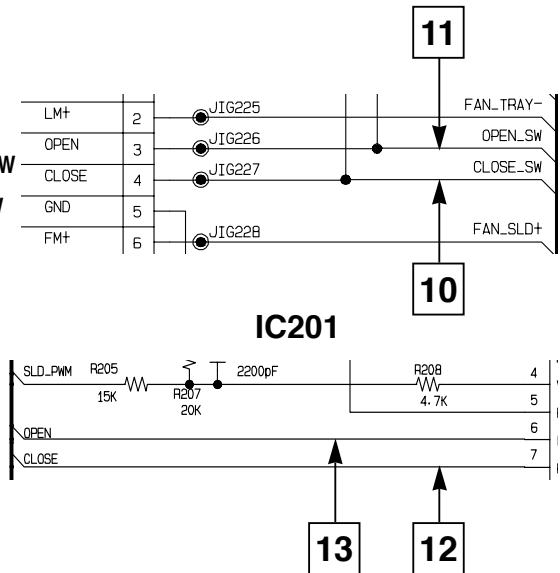
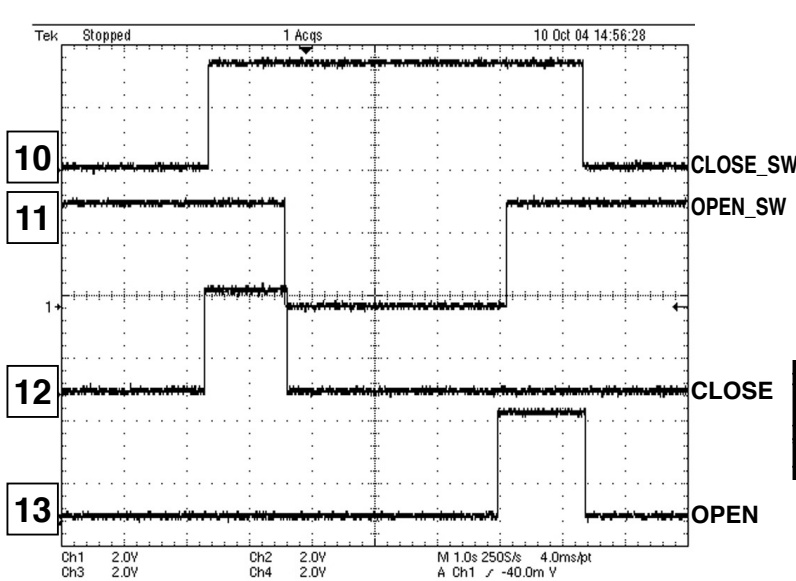


FIG 3-1

4. SLED CONTROL RELATED SIGNAL (NO DISC CONDITION)

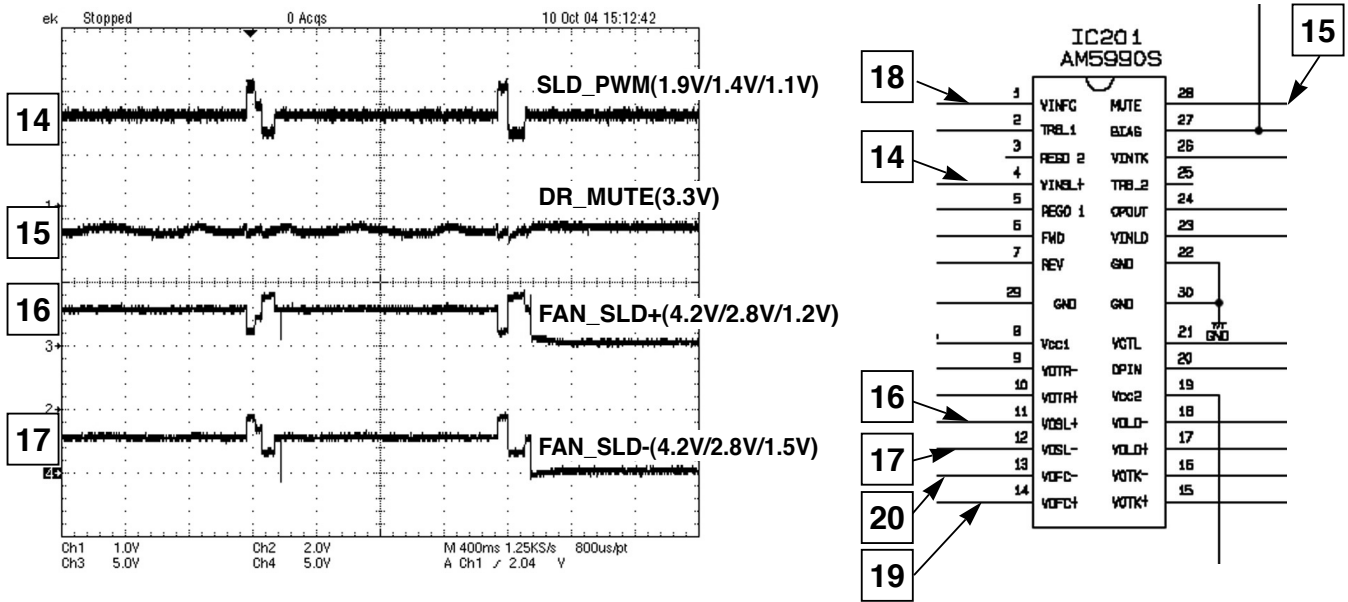


FIG 4-1

5. LENS CONTROL RELATED SIGNAL (NO DISC CONDITION)

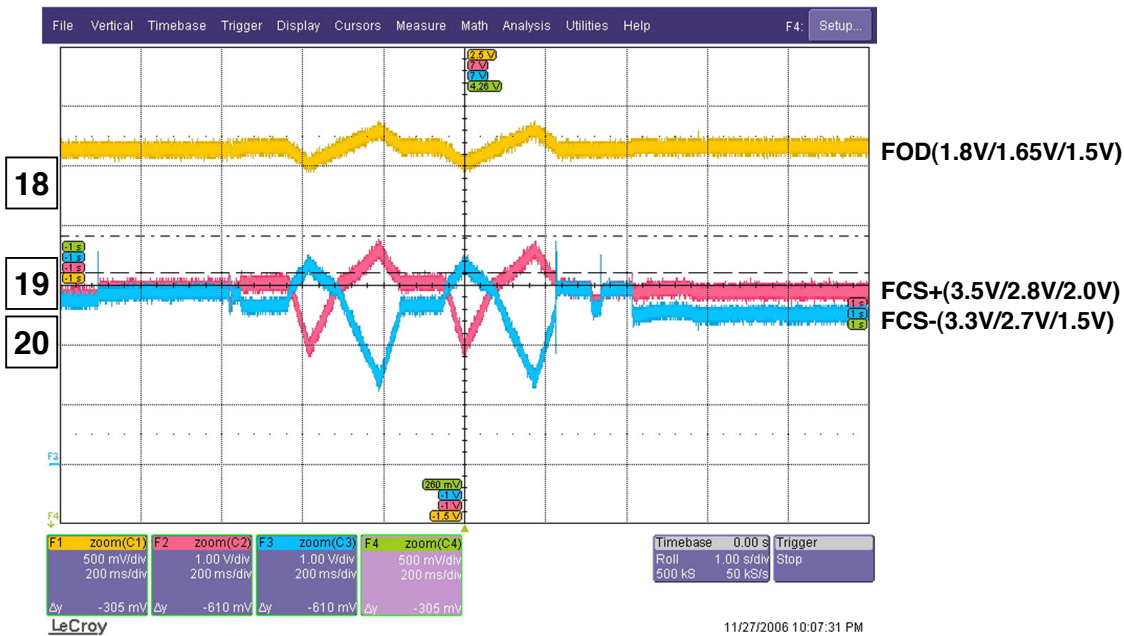


FIG 5-1

6. LASER POWER CONTROL RELATED SIGNAL (NO DISC CONDITION)

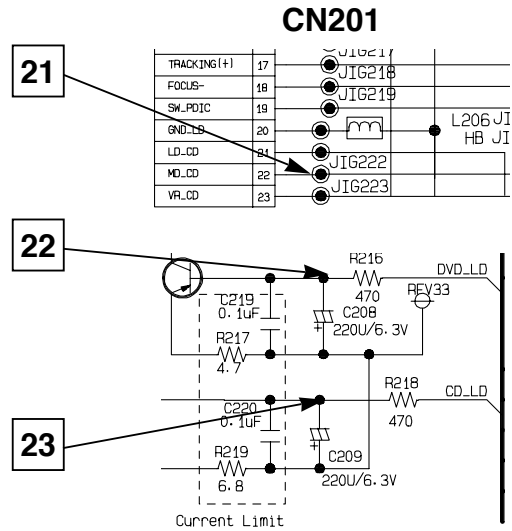
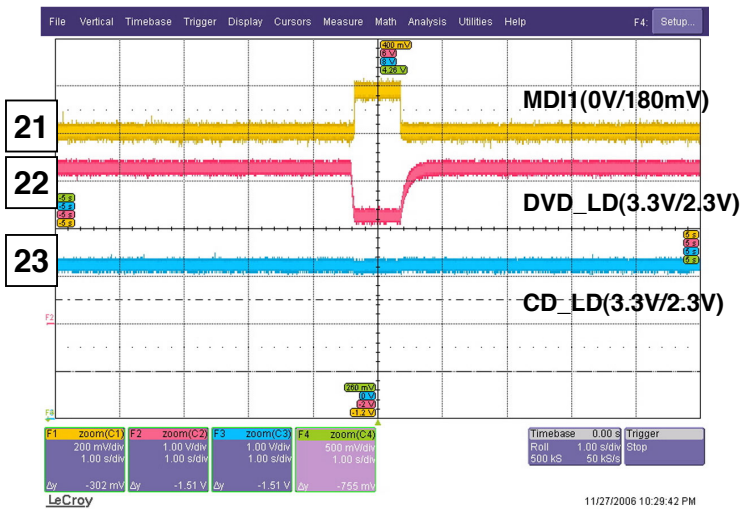


FIG 6-1

7. SPINDLE CONTROL WAVEFORM (NO DISC CONDITION)

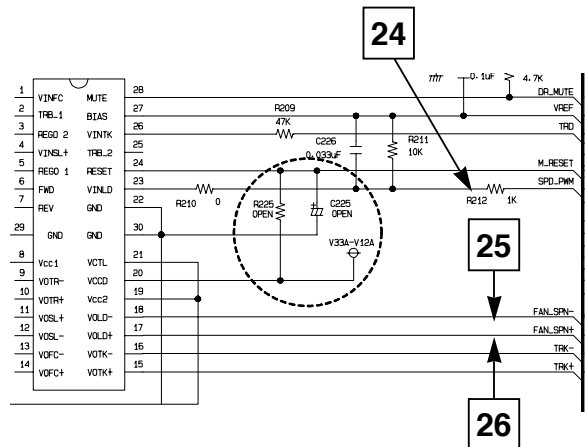
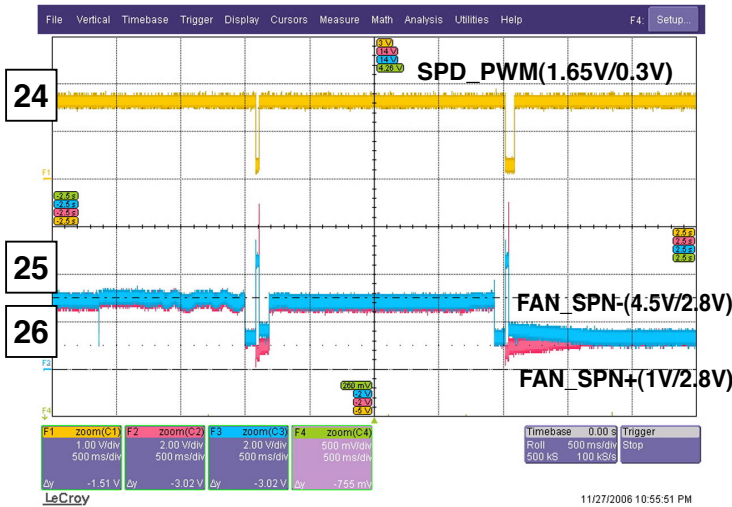


FIG 7-1

8. FOCUS ON WAVEFORM

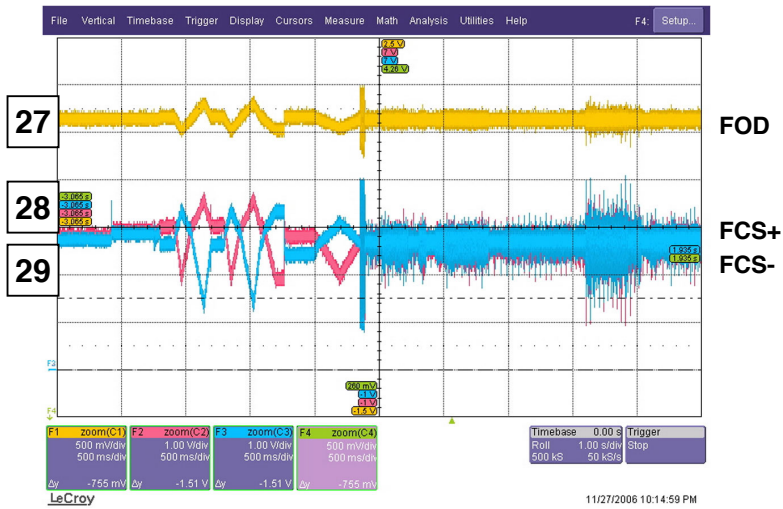


FIG 8-1 (DVD)

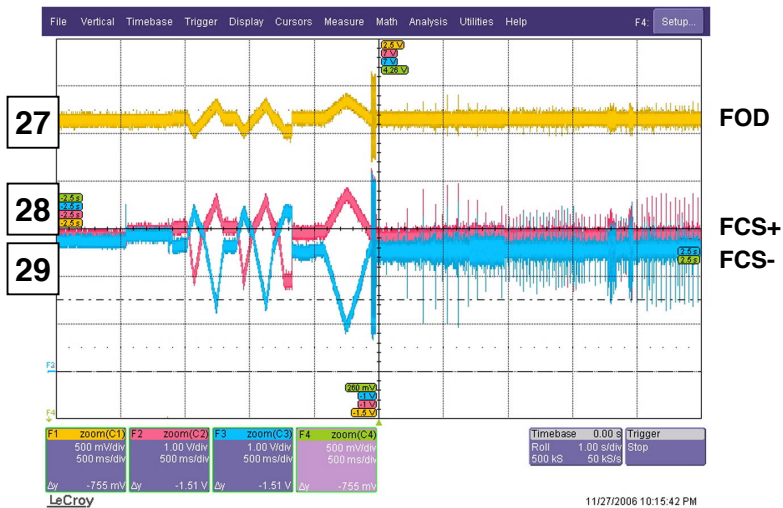
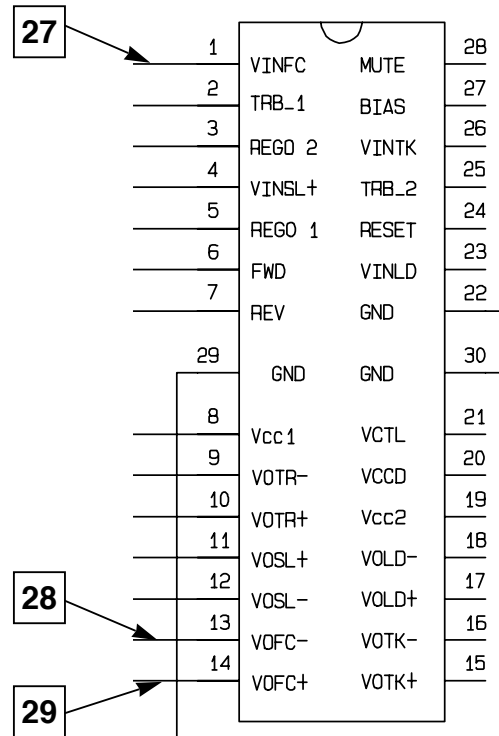


FIG 8-2 (CD)

IC201

IC201
AM5890S



9. TRACKING CONTROL RELATED SIGNAL (SYSTEM CHECKING)

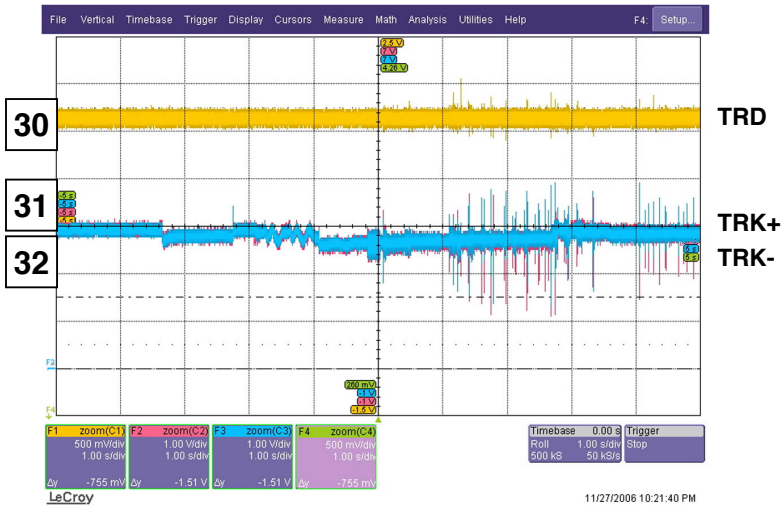


FIG 9-1 (DVD)

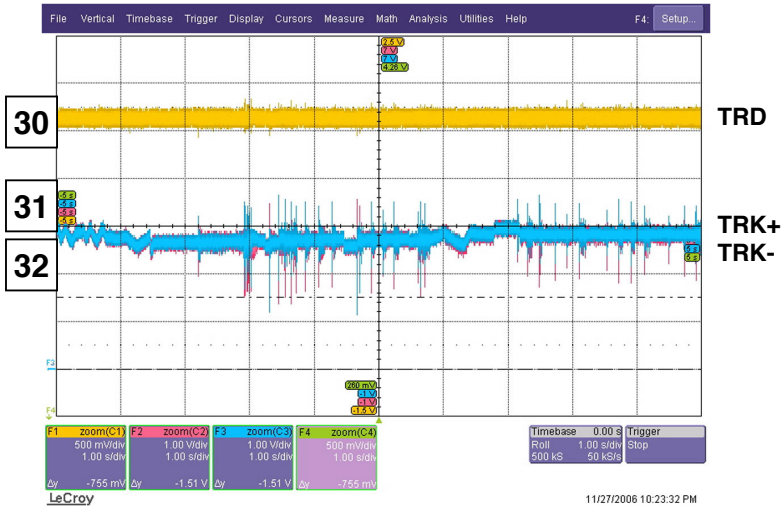
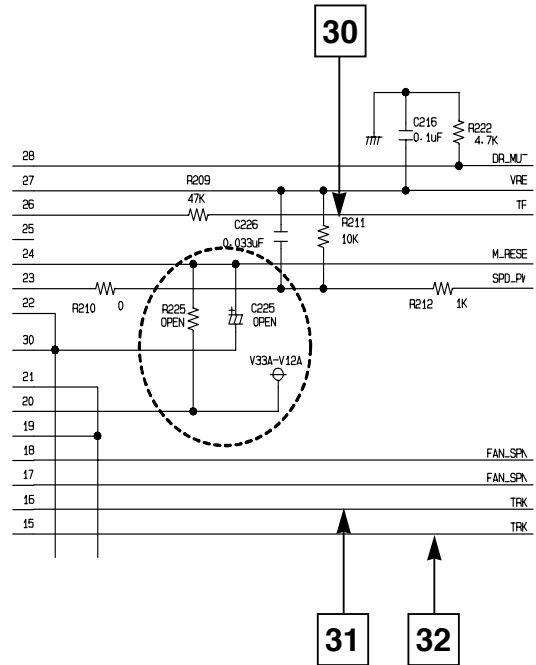


FIG 9-2 (CD)

10. MT1389L AUDIO COAXIAL OUTPUT (SPDIF)

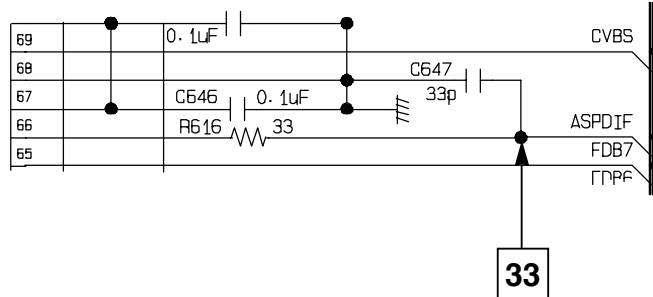
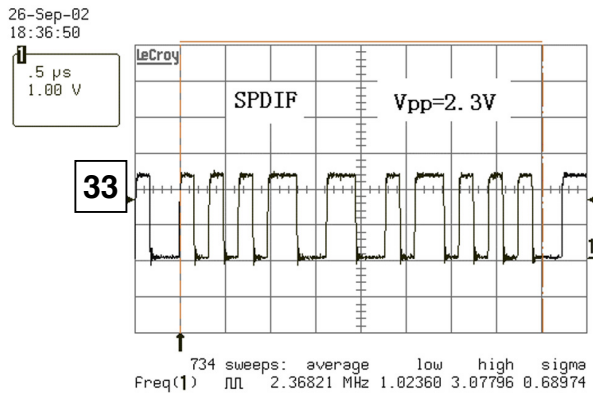


FIG 10-1

11. MT1389L VIDEO OUTPUT WAVEFORM

1) 100% COLOR BAR

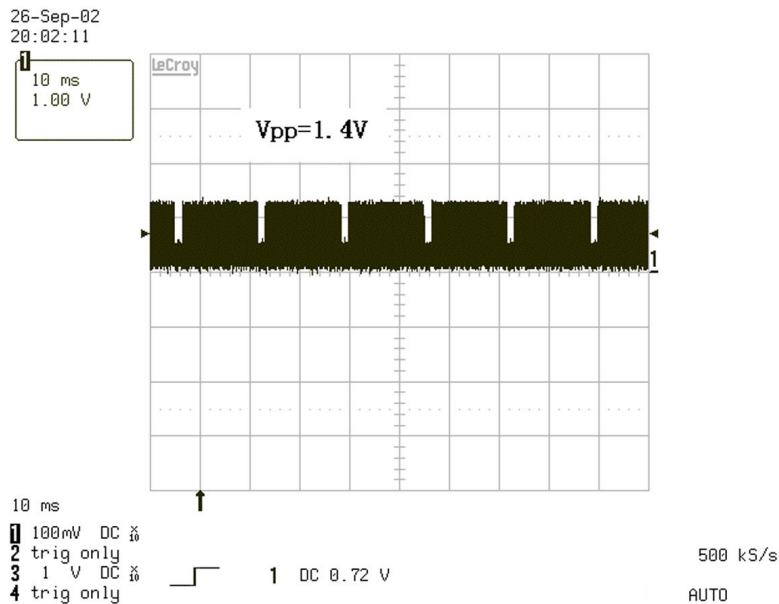


FIG 11-1

2) COMPOSITE VIDEO SIGNAL

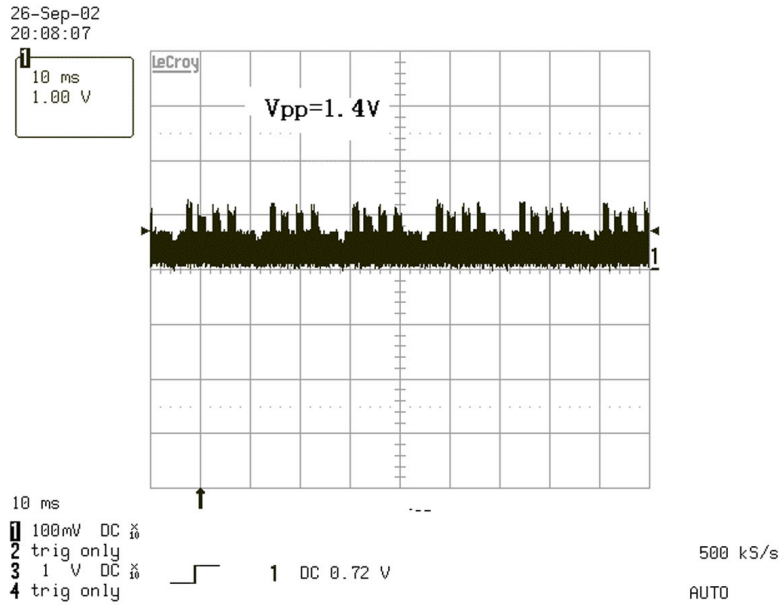


FIG 11-2

12. AUDIO OUTPUT FROM MT1389L

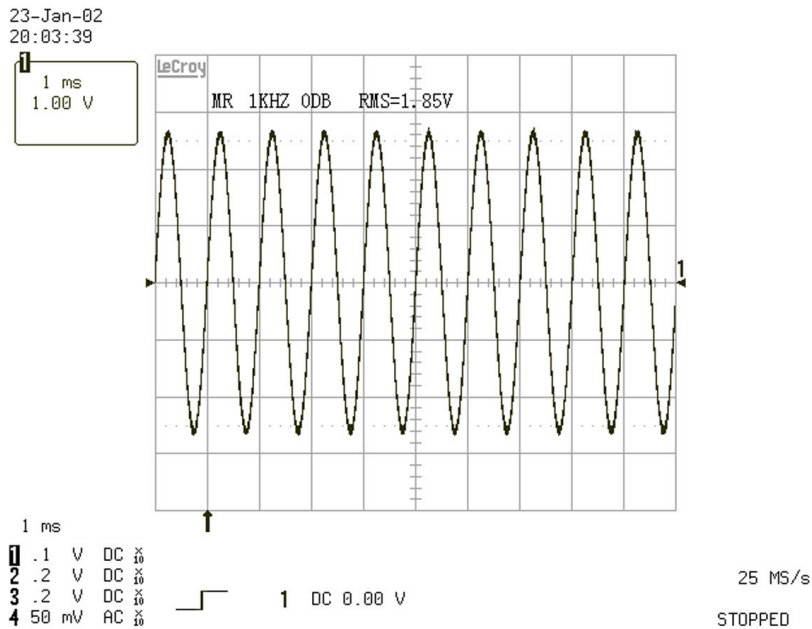
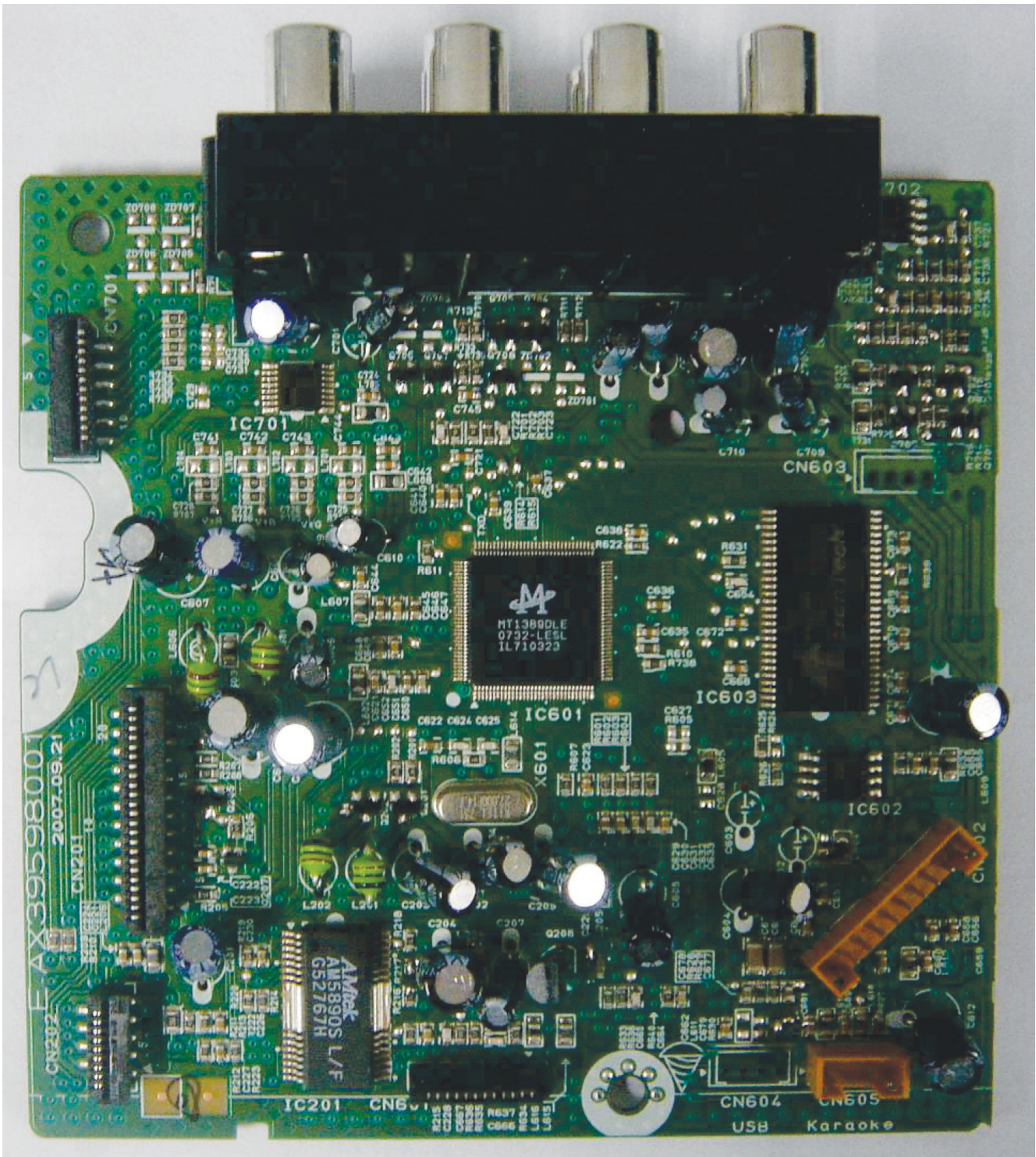


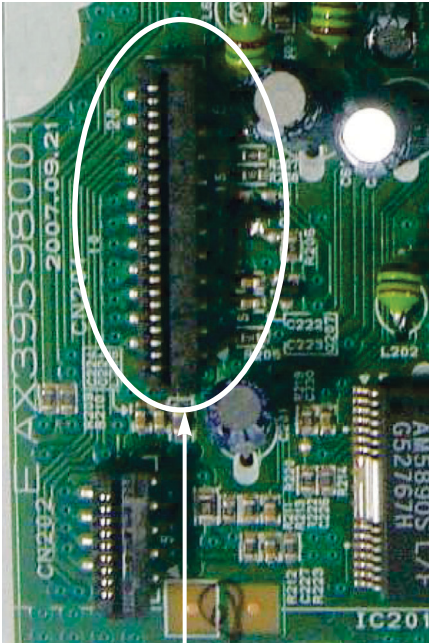
FIG 12-1

CONNECTOR PICTURE

1. ALL CONNECTOR PICTURE



2. CN201 CONNECTOR PICTURE

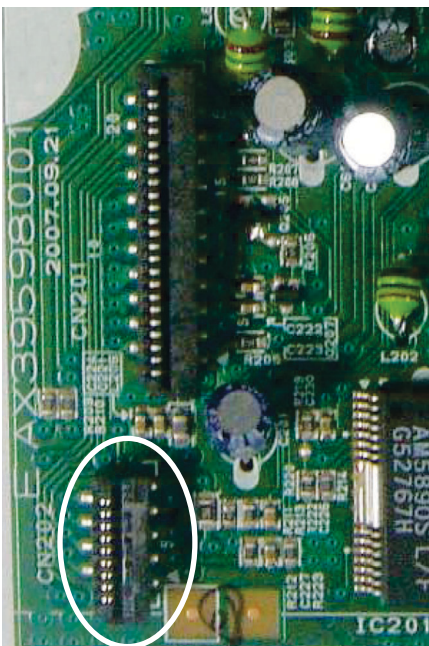


FROM PICKUP

CN20 1			
NC/FHM-VCC	1	D	12
RF	2	C	13
DVD-LD	3	B	14
MON(COM)/5V	4	F(+)	15
DVD_VR	5	T(+)	16
GND	6	T(-)	17
VREF/VC	7	F(-)	18
VCC	8	SW_PDIC	19
F	9	GND	20
E	10	CD_LD	21
A	11	MON/MPD	22
		CD_VR	23

CN201 (MD 23PIN)

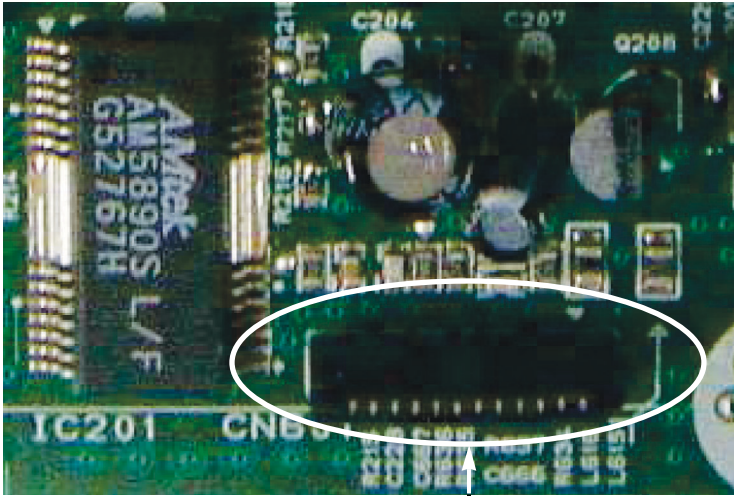
3. CN202 CONNECTOR PICTURE



CN202	
LM-	1
LM+	2
OPEN	3
CLOSE	4
GND	5
FM+	6
FM-	7
SP+	8
SP-	9

CN202 (MD 9PIN)

4. CN601 CONNECTOR PICTURE

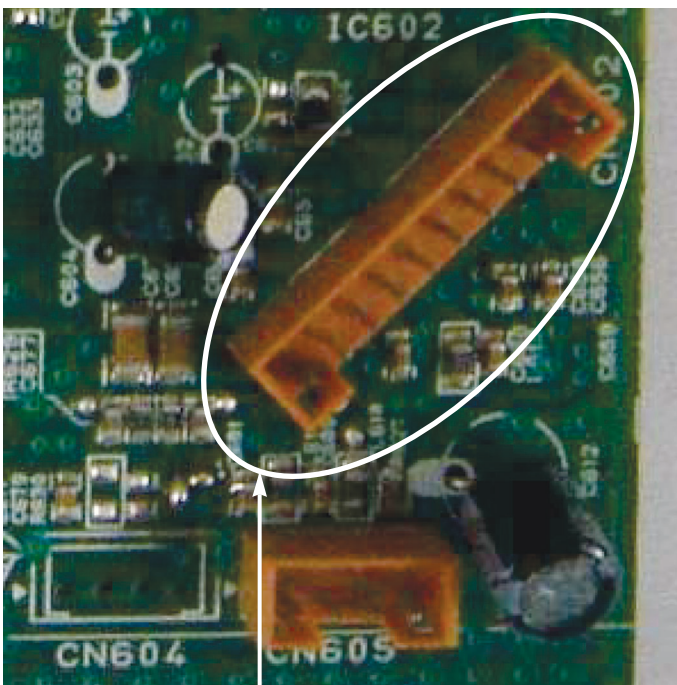


TO FRONT PCB

12	DOUT
11	DIN
10	GND
9	CLK
8	STB
7	GND
6	IR
5	GND
4	3.3VA
3	5V
2	GND
1	POWER_KEY
CN601	

CN601 (FP 12PIN)

5. CN602 CONNECTOR PICTURE

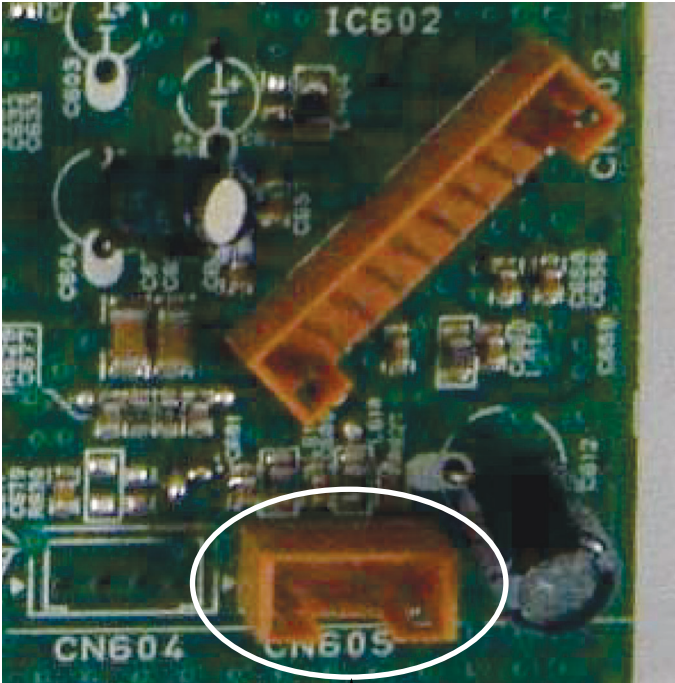


FROM POWER PCB

CN602	
1	5VA
2	M. GND
3	5V
4	12V
5	A. GND
6	3.3VA
7	3.3VA
8	3.3V
9	D. GND
10	PWR_CTL_H

CN602 (POWER 10PIN)

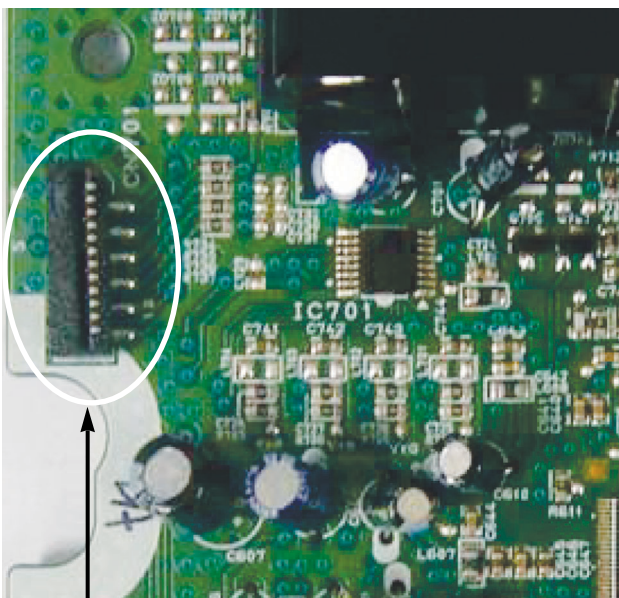
6. CN605 CONNECTOR PICTURE



CN605	
1	12V
2	GND
3	MIC_DET
4	MIC_IN

CN605 (KARAOKE 4PIN)

7. CN701 CONNECTOR PICTURE

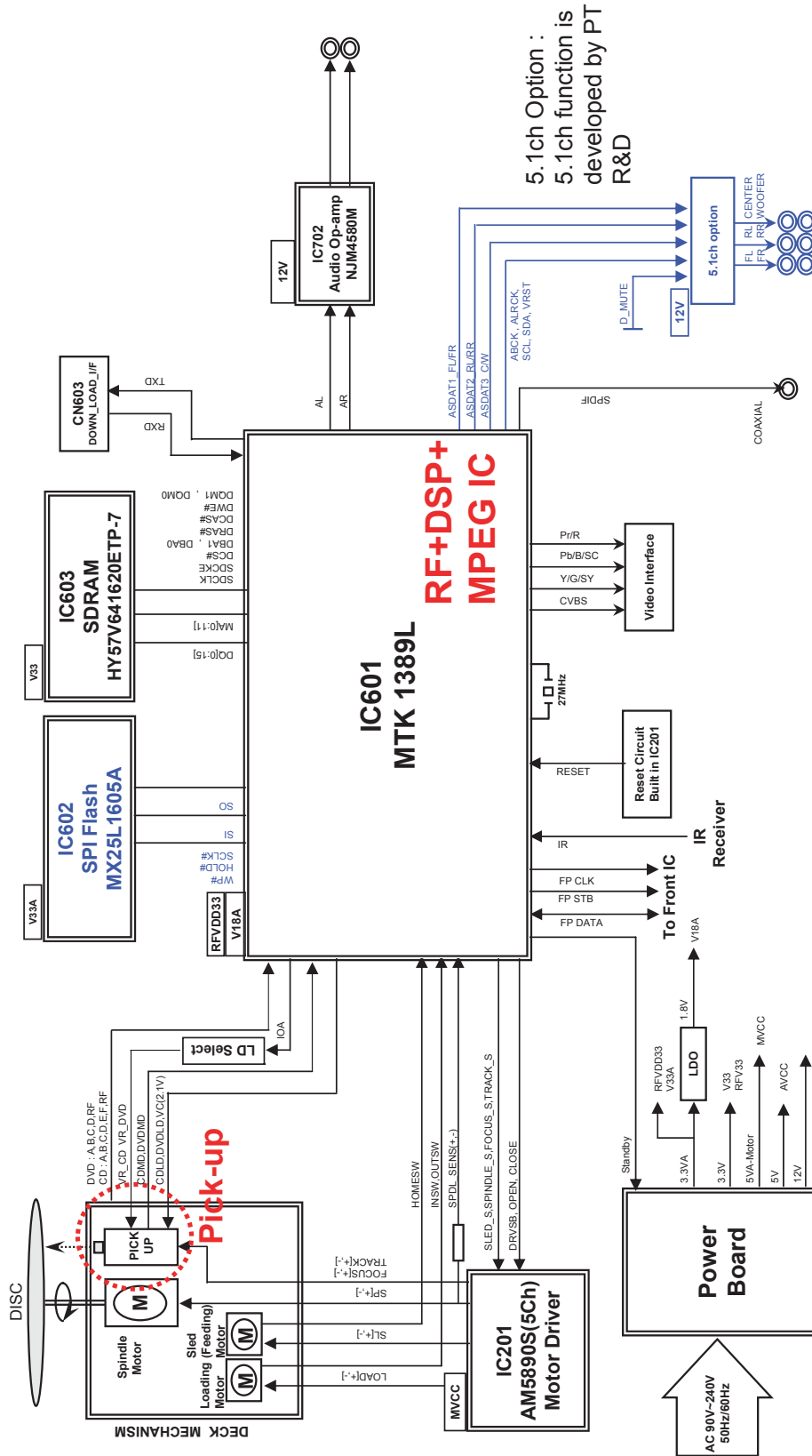


CN701	
1	12V
2	16_9_H
3	GND
4	CVBS_OUT
5	RGB_H
6	R_OUT
7	G_OUT
8	B_OUT
9	GND
10	DVD_AUDIO_L
11	DVD_AUDIO_R
12	GND

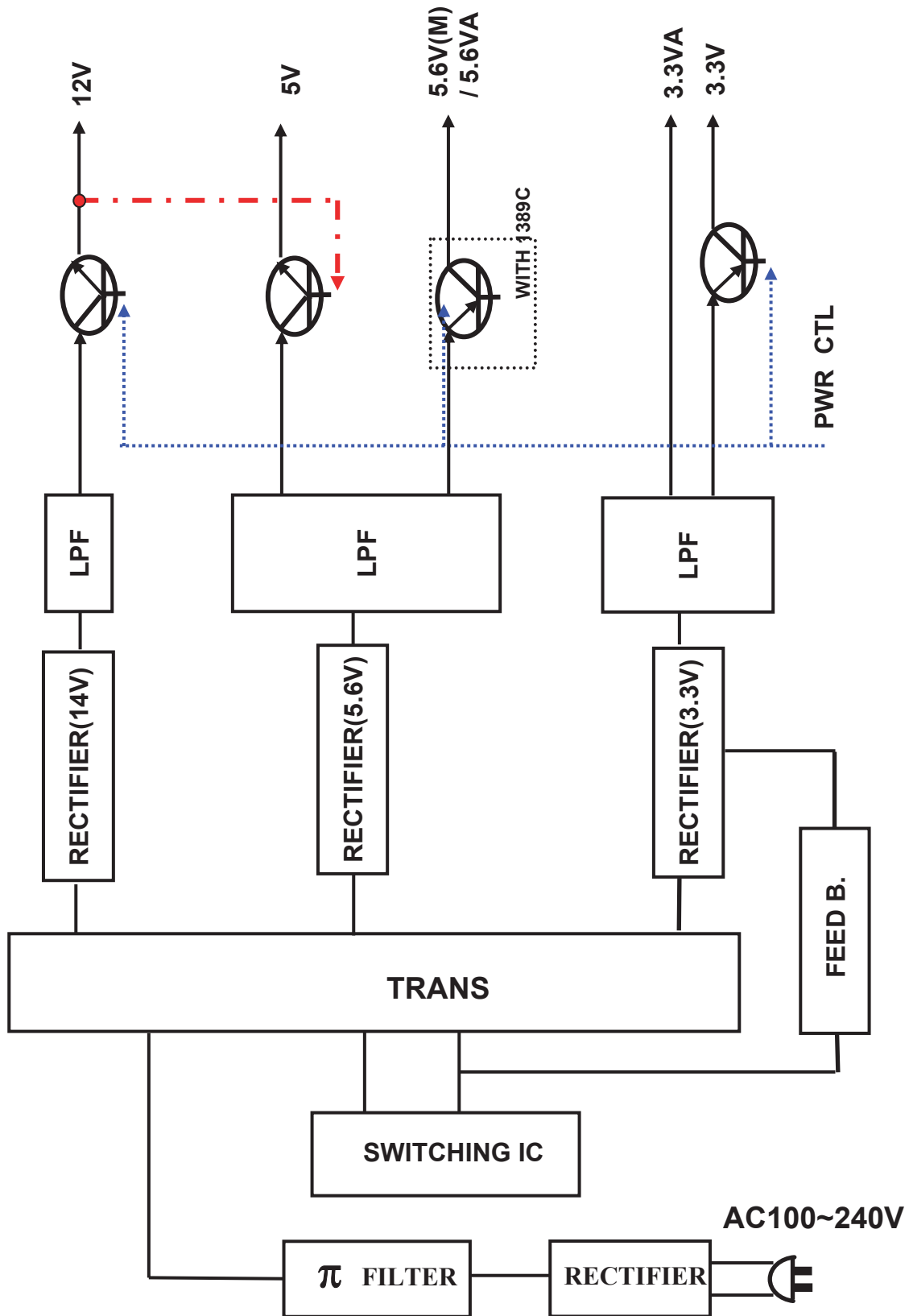
CN701 (SCART 12PIN)

BLOCK DIAGRAMS

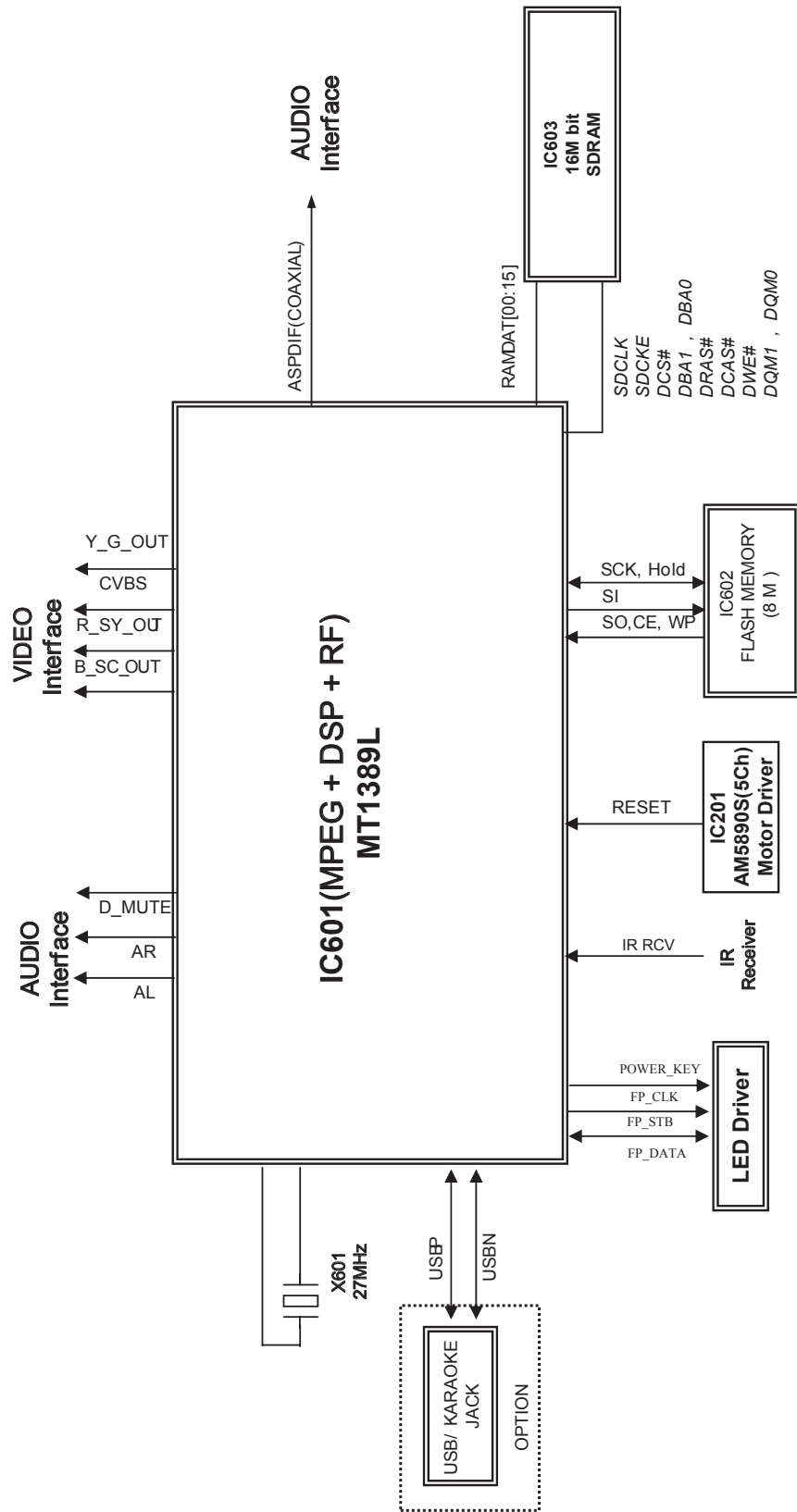
1. OVERALL BLOCK DIAGRAM



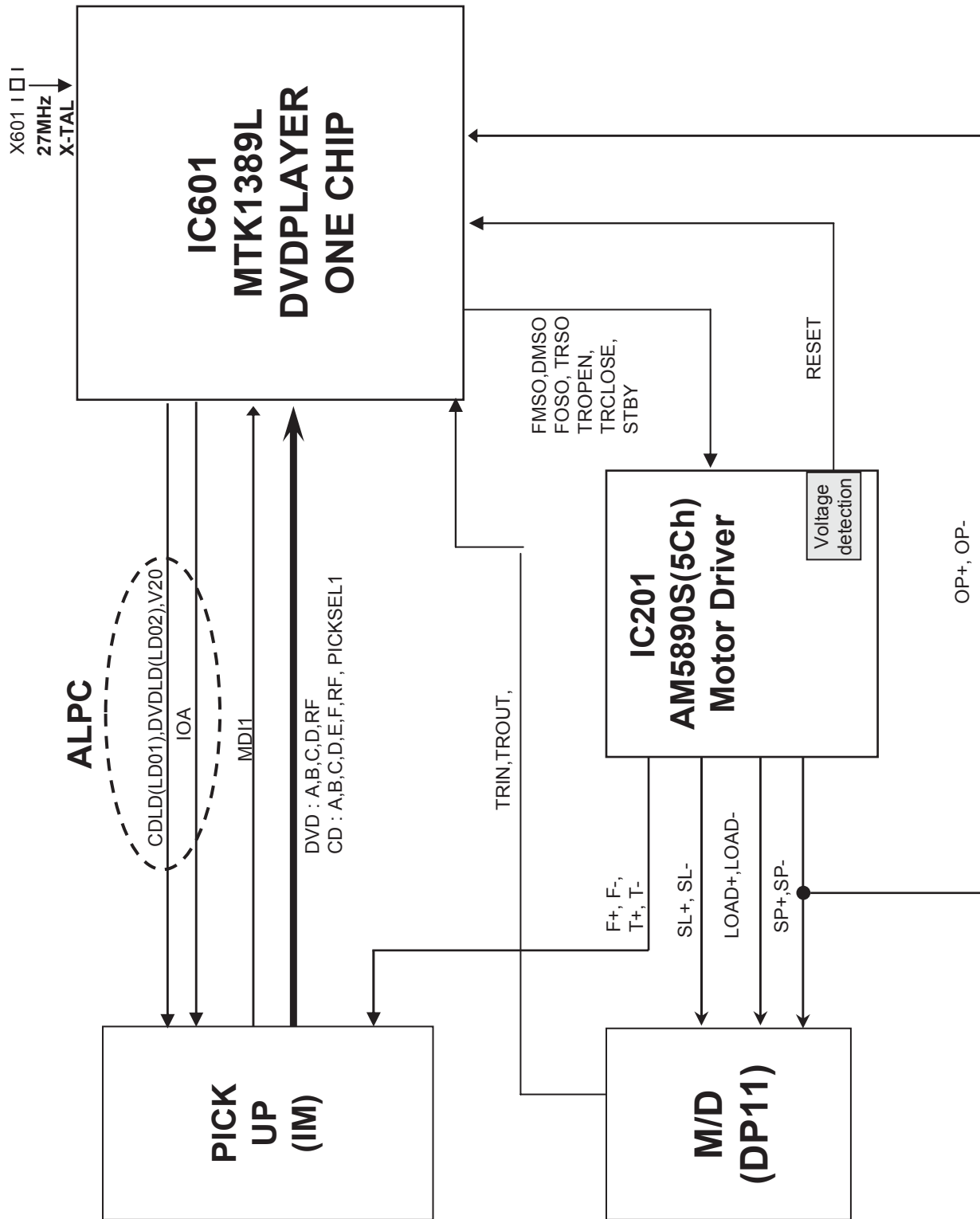
2. POWER (SMPS) BLOCK DIAGRAM



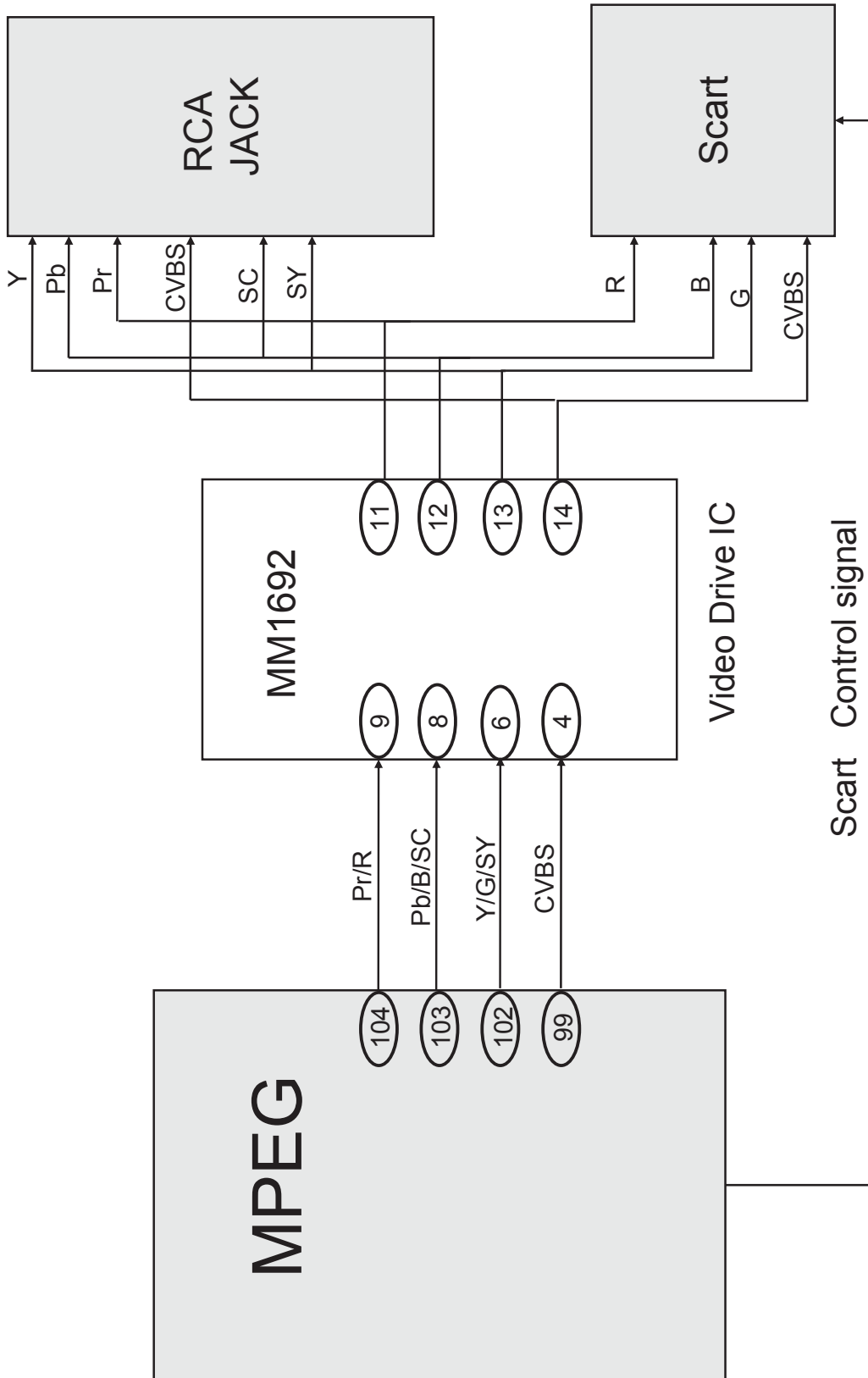
3. SYSTEM BLOCK DIAGRAM



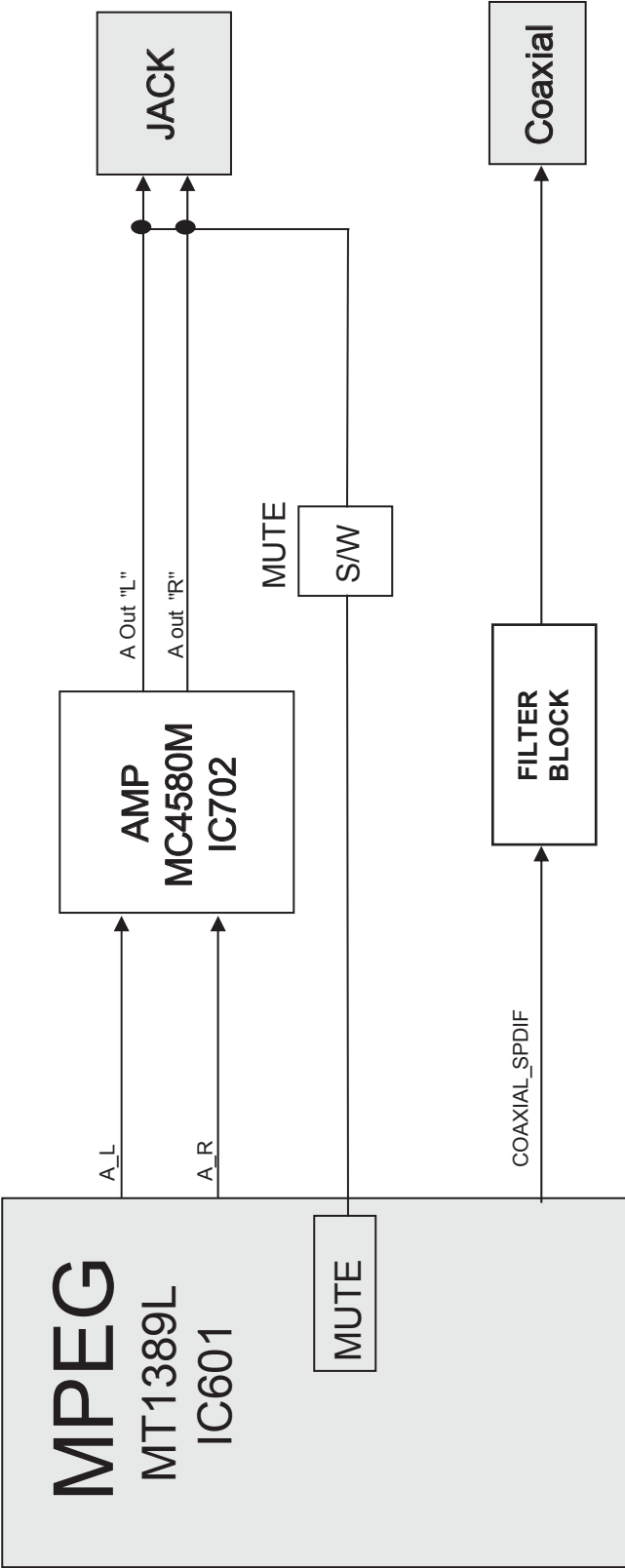
4. SERVO BLOCK DIAGRAM



5. VIDEO BLOCK DIAGRAM



6. AUDIO BLOCK DIAGRAM



CIRCUIT DIAGRAMS

1. POWER (SMPS) CIRCUIT DIAGRAM

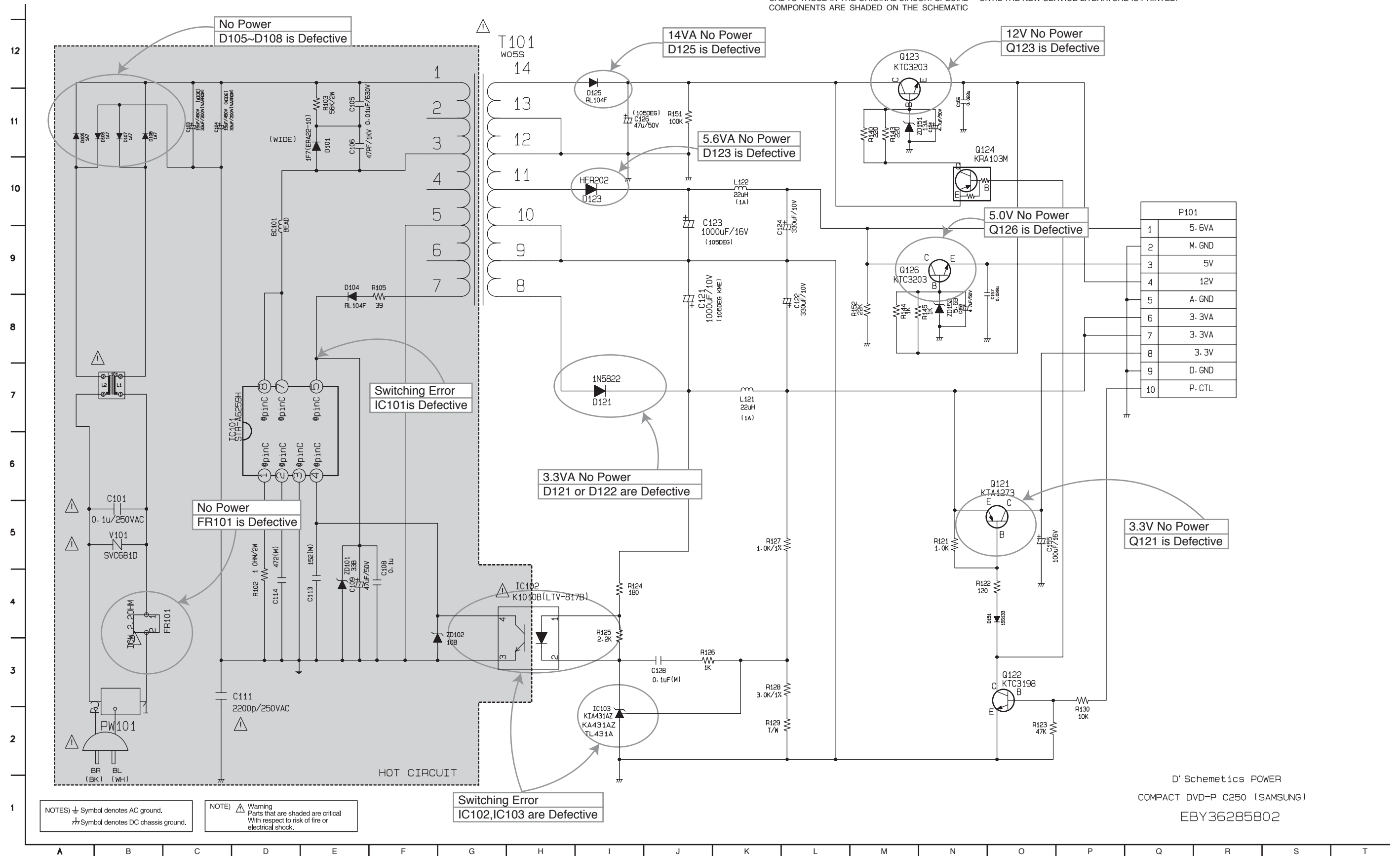
IMPORTANT SAFETY

WHEN SERVICING THIS CHASSIS, UNDER NO CIRCUMSTANCES SHOULD THE ORIGINAL DESIGN BE MODIFIED OR ALTERED WITHOUT PERMISSION FROM THE LG CORPORATION. ALL COMPONENTS SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT. SPECIAL COMPONENTS ARE SHADED ON THE SCHEMATIC

FOR EASY IDENTIFICATION, THIS CIRCUIT DIAGRAM MAY OCCASIONALLY DIFFER FROM THE ACTUAL CIRCUIT USED. THIS WAY, IMPLEMENTATION OF THE LATEST SAFETY AND PERFORMANCE IMPROVEMENT CHANGES INTO THE SET IS NOT DELAYED UNTIL THE NEW SERVICE LITERATURE IS PRINTED.

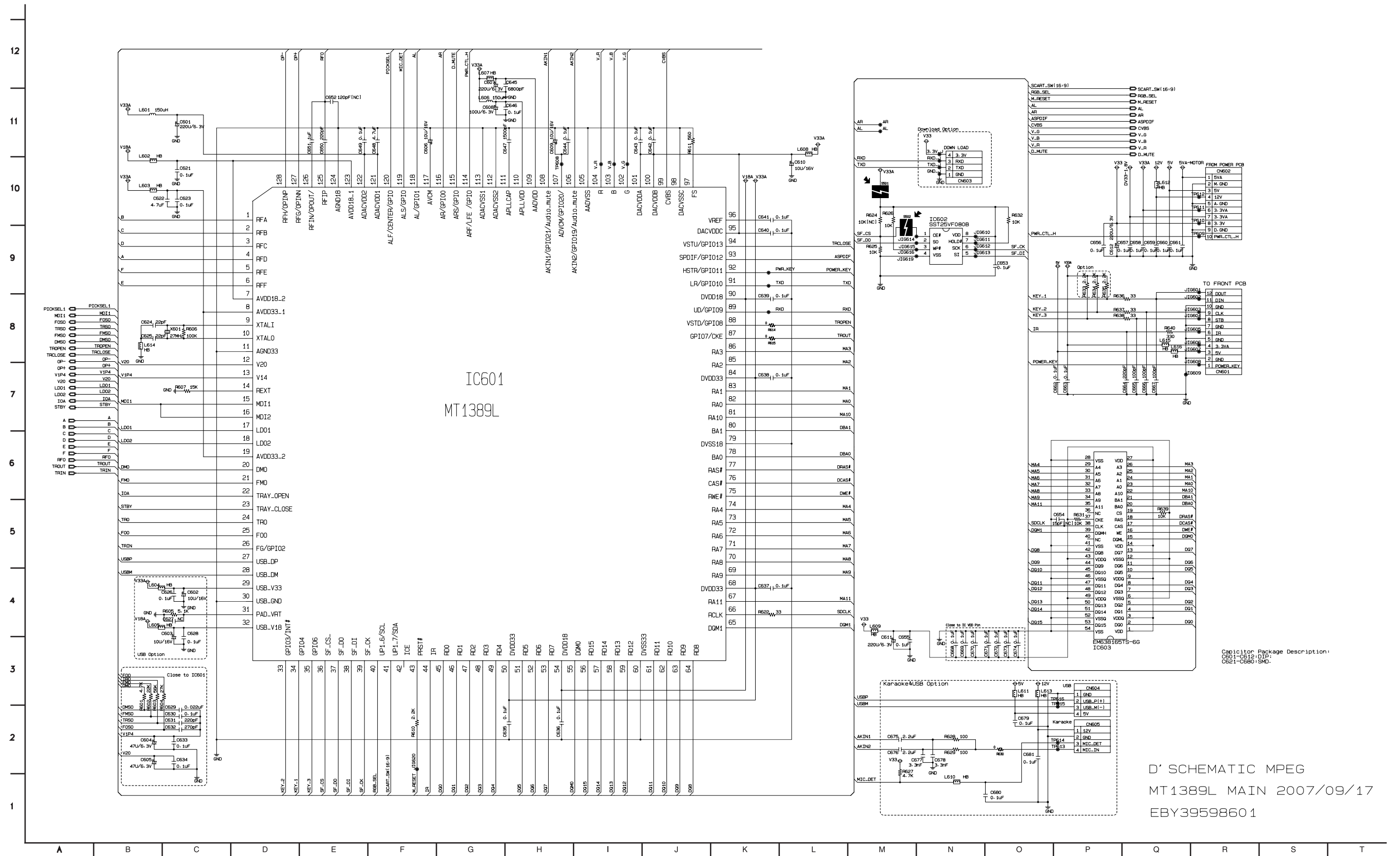
NOTE :

- Shaded(■) parts are critical for safety. Replace only with specified part number.
- Voltages are DC-measured with a digital voltmeter during Play mode.

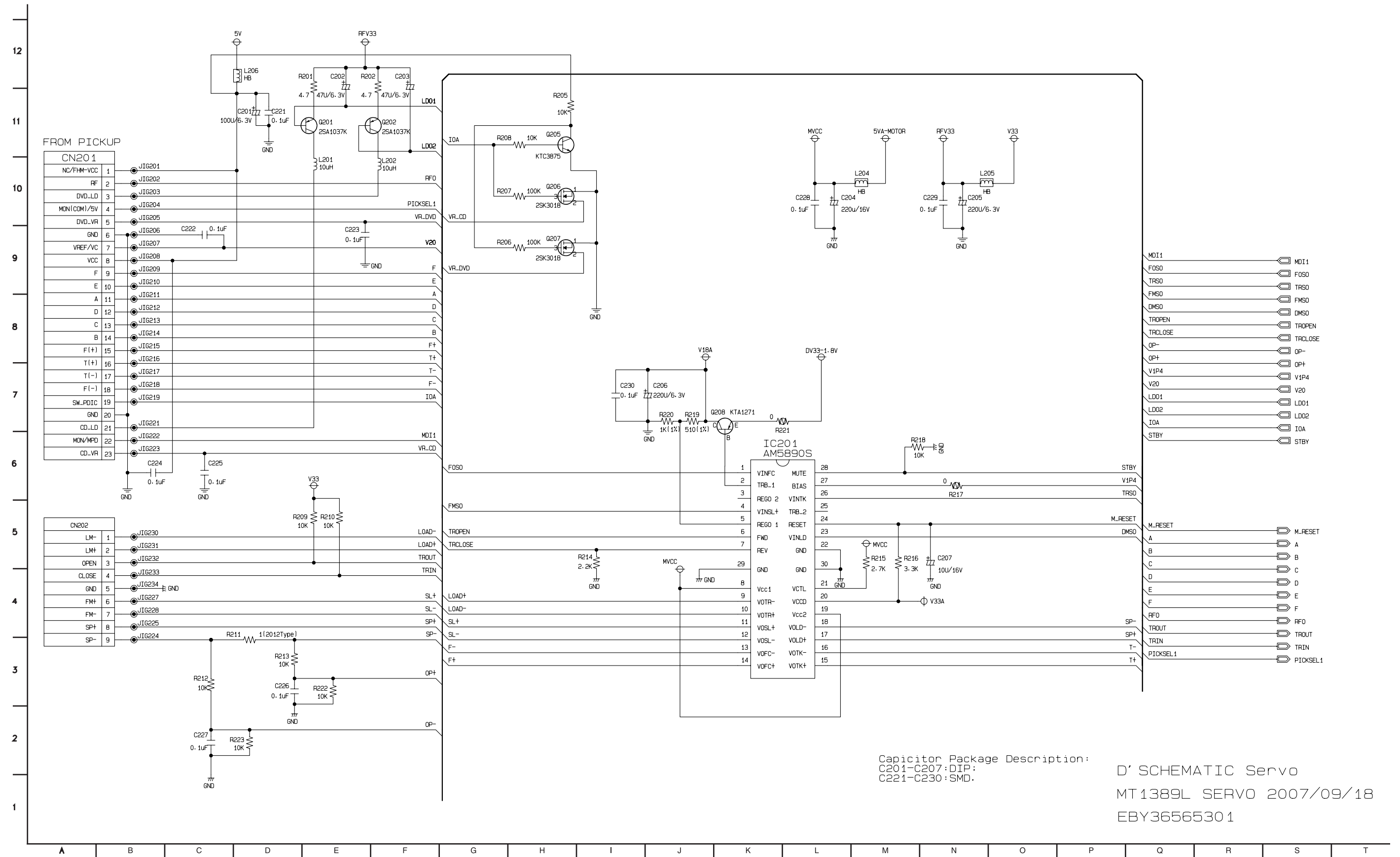


D' Schematics POWER
 COMPACT DVD-P C250 (SAMSUNG)
 EB36285802

2. SYSTEM (MPEG) CIRCUIT DIAGRAM



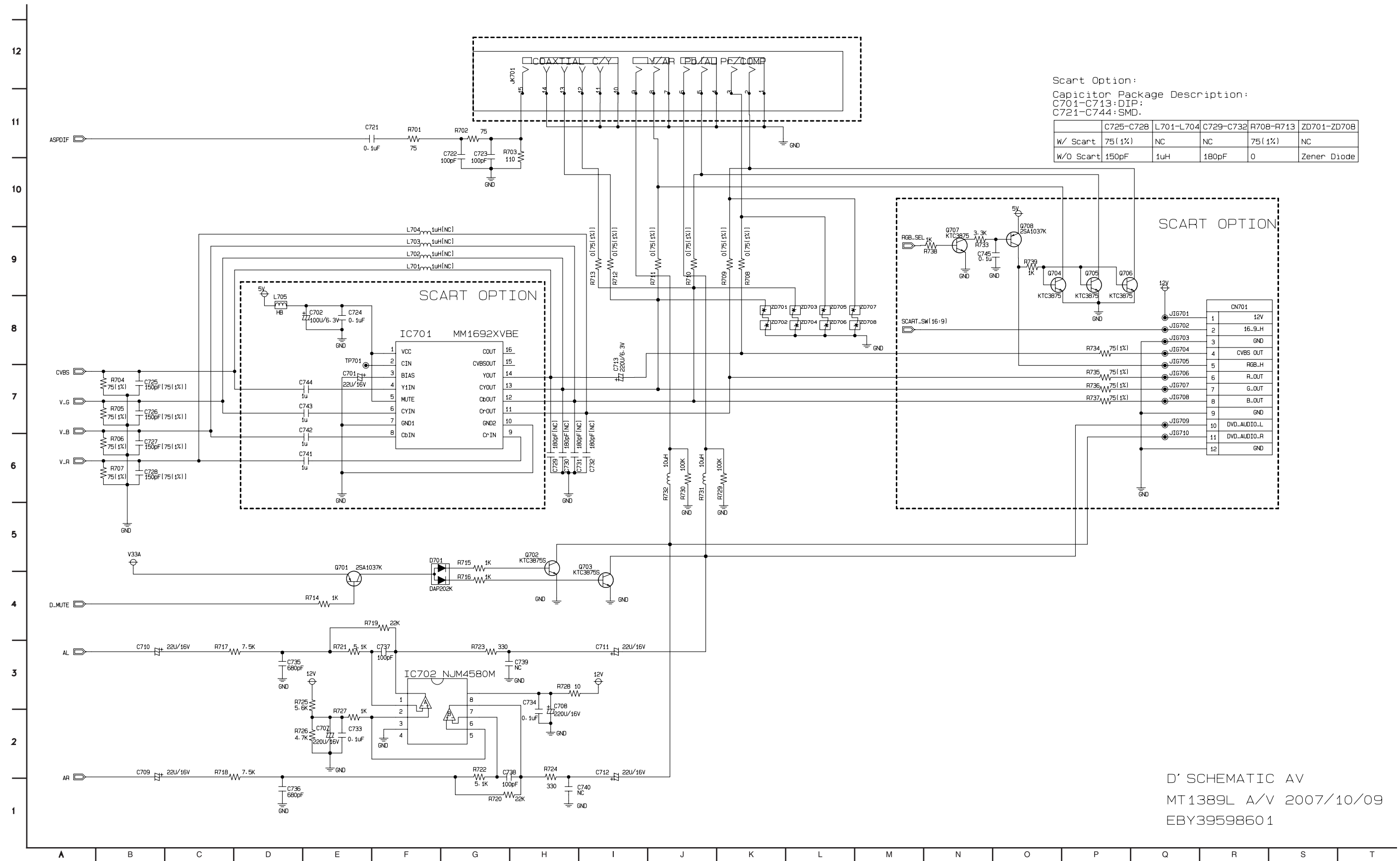
3. SERVO CIRCUIT DIAGRAM



Capacitor Package Description:
 C201-C207: DIP;
 C221-C230: SMD.

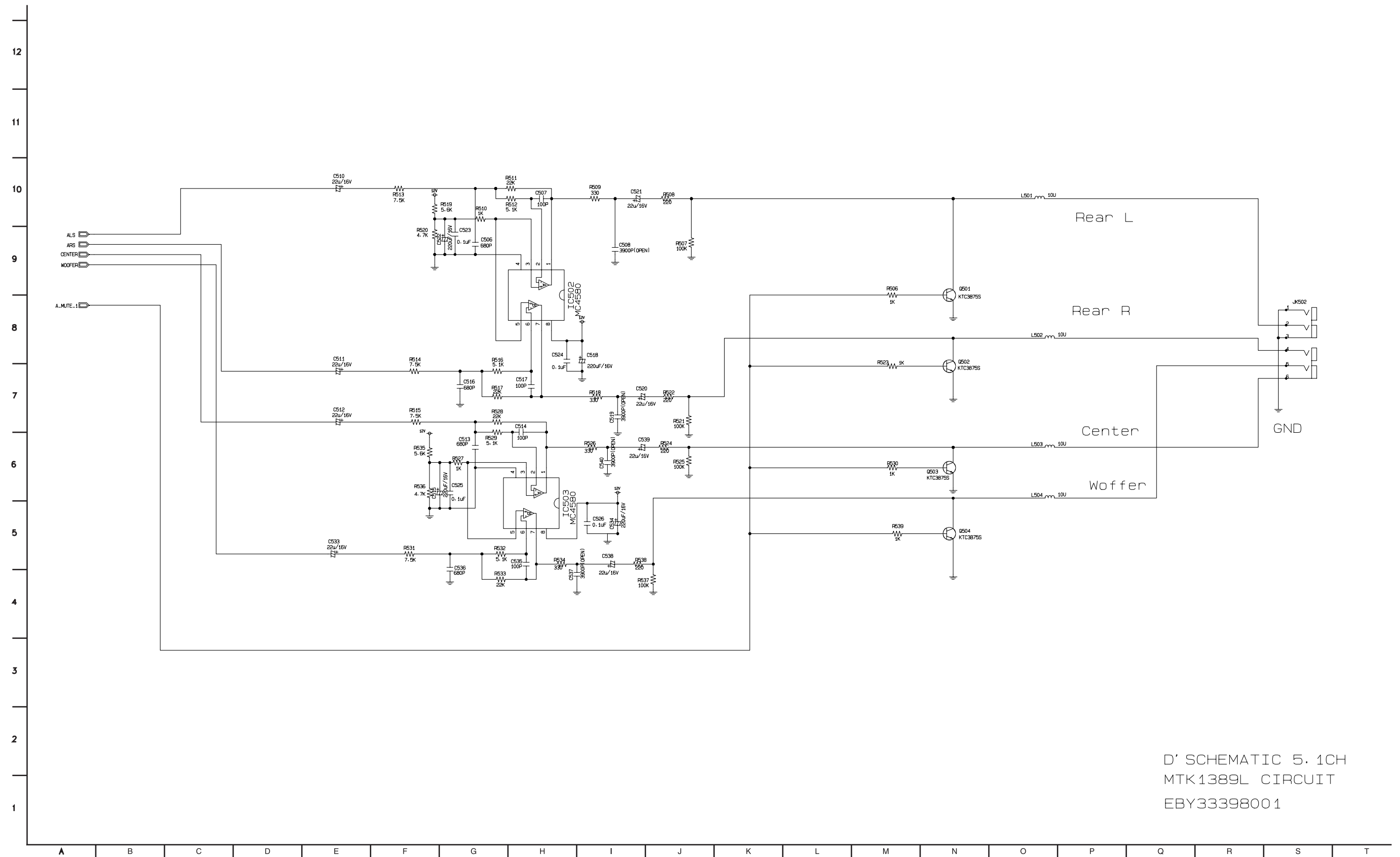
D' SCHEMATIC Servo
 MT1389L SERVO 2007/09/18
 EBY36565301

4. AV (JACK) CIRCUIT DIAGRAM



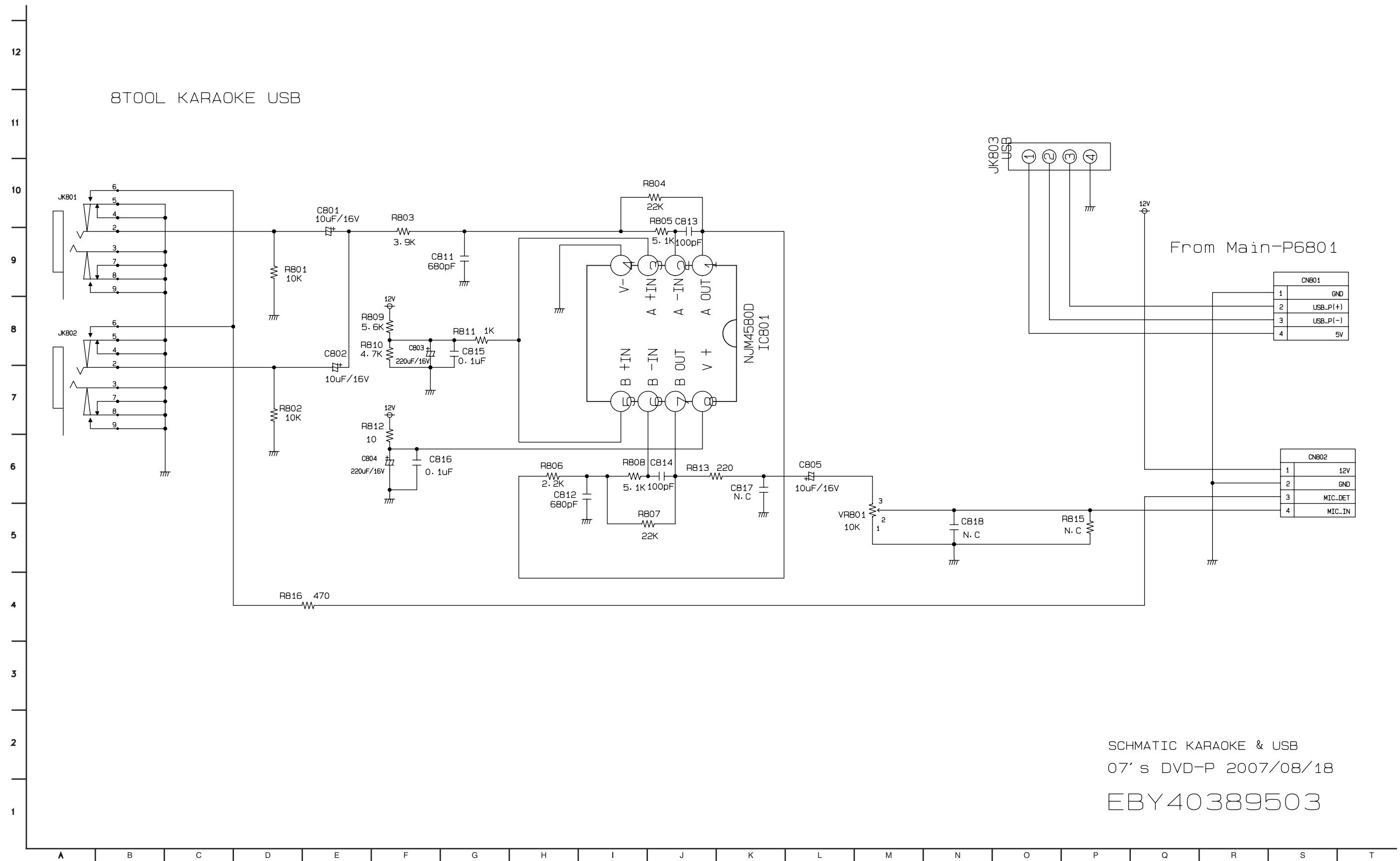
D' SCHEMATIC AV
 MT1389L A/V 2007/10/09
 EBY39598601

5. 5.1CH CIRCUIT DIAGRAM (OPTION)



D' SCHEMATIC 5.1CH
 MTK1389L CIRCUIT
 EBY33398001

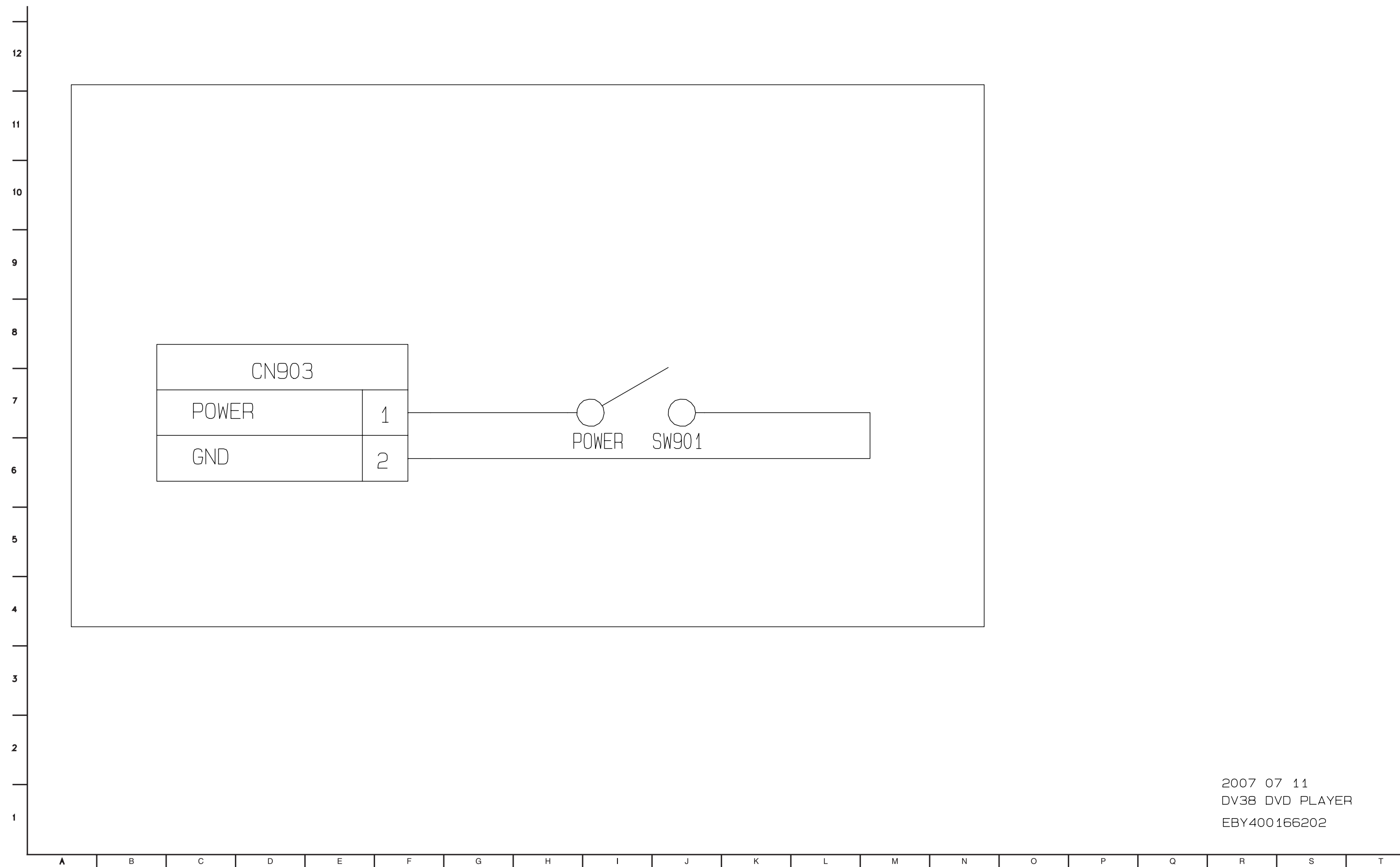
6. KARAOKE & USB CIRCUIT DIAGRAM (OPTION)



SCHMATIC KARAOKE & USB
07's DVD-P 2007/08/18

EBY40389503

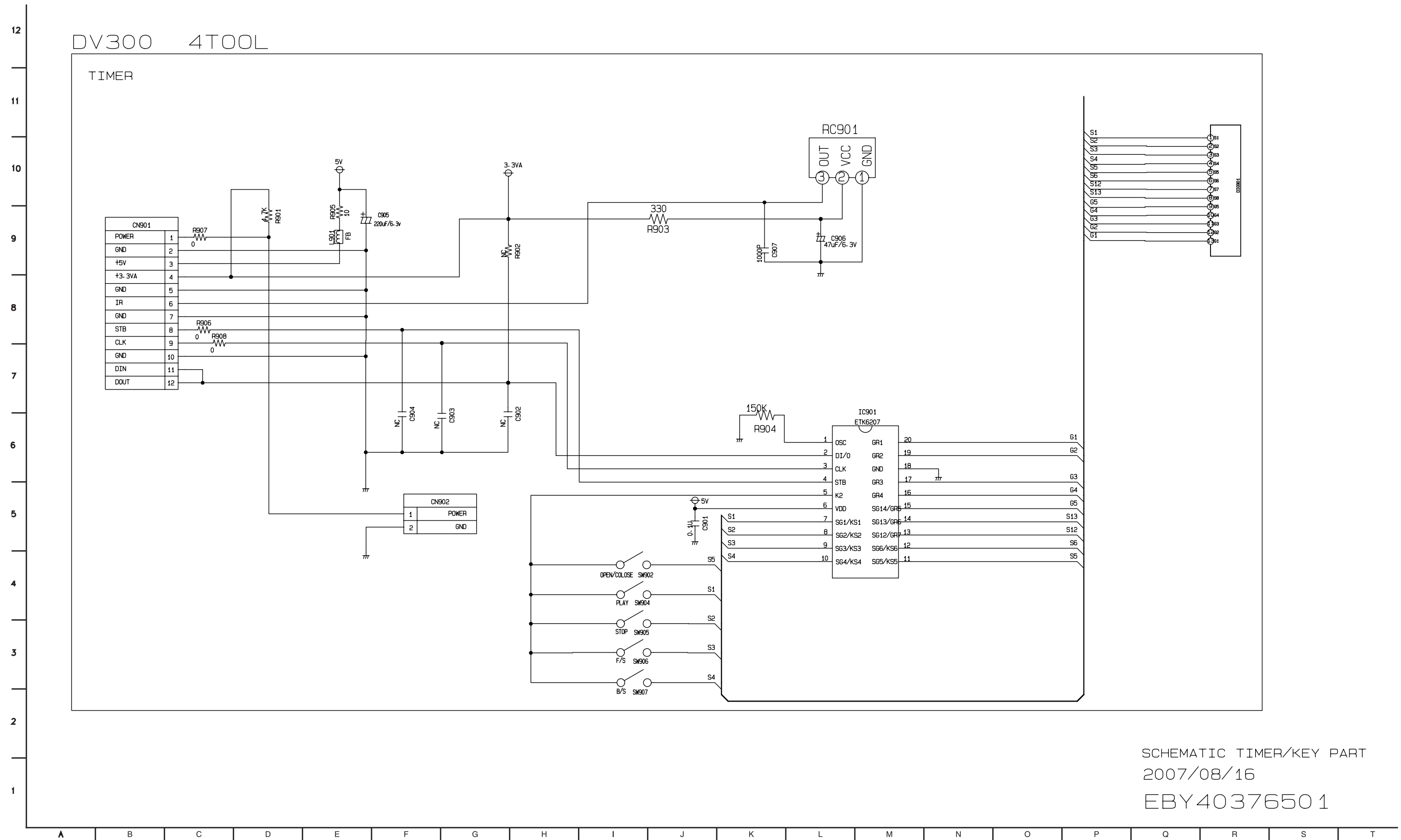
7. KEY CIRCUIT DIAGRAM



2007 07 11
 DV38 DVD PLAYER
 EBY400166202

8. TIMER CIRCUIT DIAGRAM

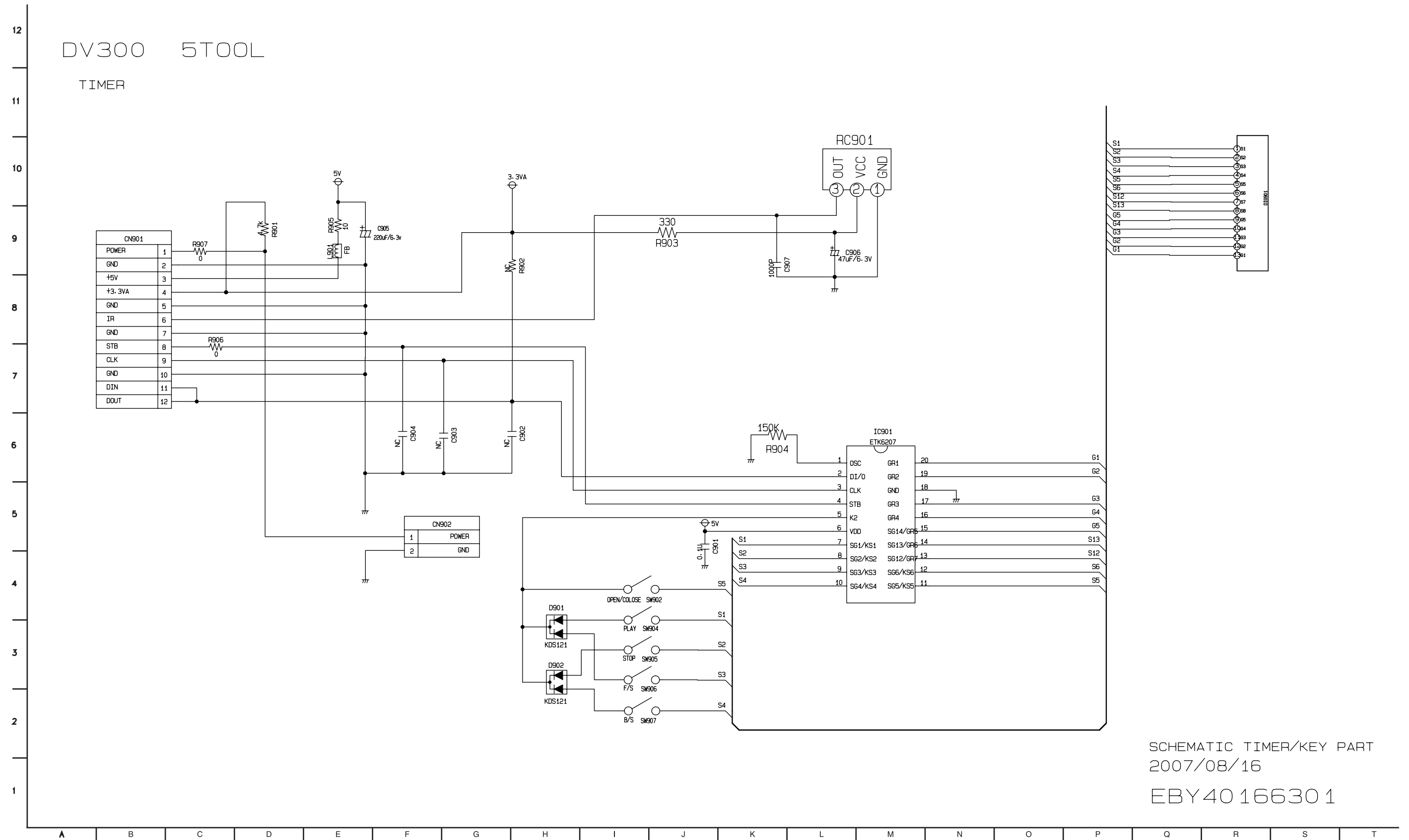
8-1. 4 TOOL



SCHEMATIC TIMER/KEY PART
 2007/08/16
 EBY4037650 1

8-2. 5 TOOL

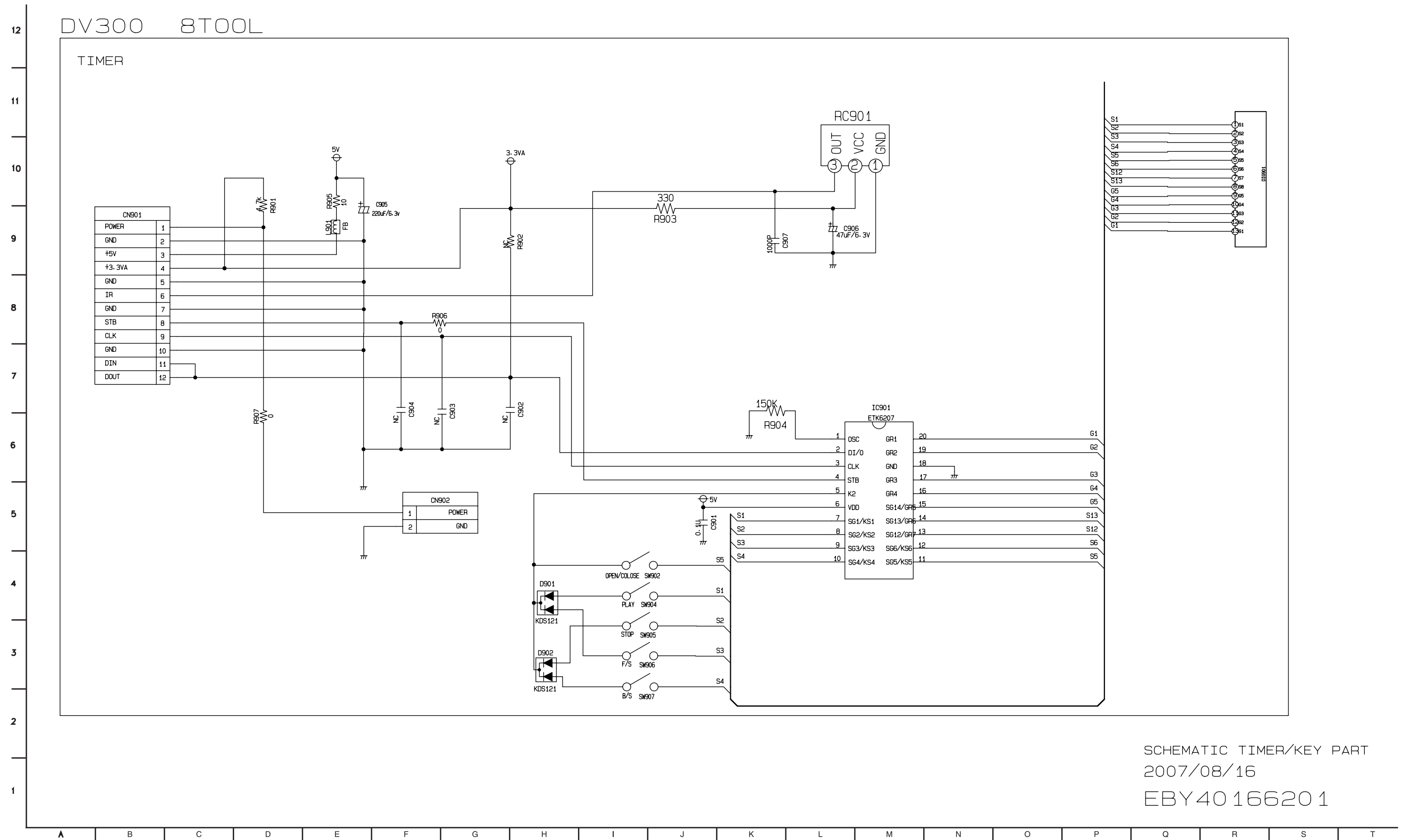
DV300 5TOOL
TIMER



SCHEMATIC TIMER/KEY PART
2007/08/16

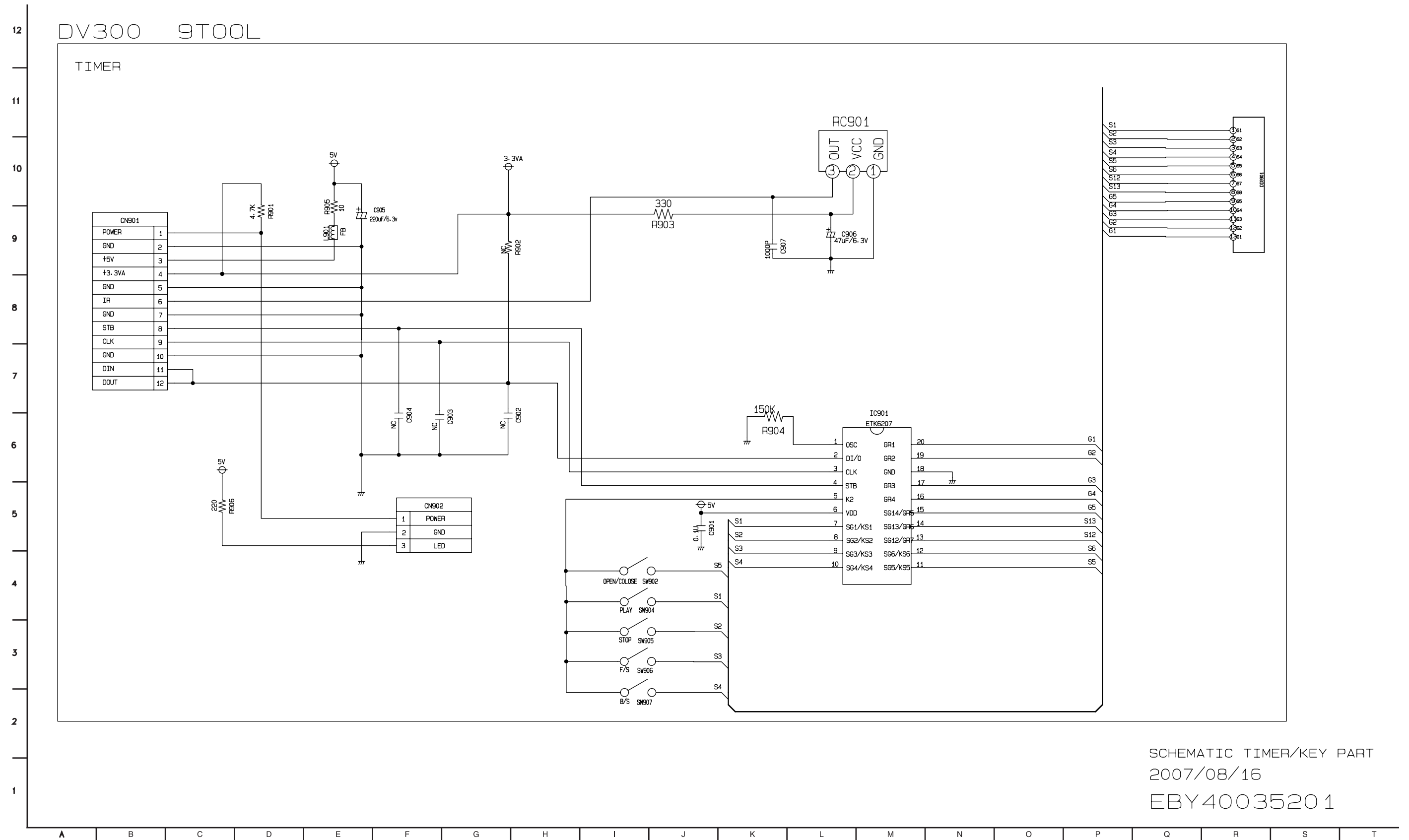
EBY40166301

8-3. 8 TOOL



SCHEMATIC TIMER/KEY PART
 2007/08/16
 EBY40166201

8-4. 9 TOOL



SCHEMATIC TIMER/KEY PART
 2007/08/16
 EBY4003520 1

• CIRCUIT VOLTAGE CHART

PIN	No Disc	Play
IC201		
1	1.405	1.422
2	1.812	1.797
3	2.554	2.873
4	1.409	1.421
5	1.262	1.254
6	0.01	0.01
7	0.01	0.011
8	6.445	5.57
9	0.001	0.002
10	0.001	0.002
11	3.216	2.832
12	3.216	2.917
13	3.215	2.776
14	3.215	2.931
15	3.222	2.866
16	3.223	2.872
17	3.207	4.331
18	3.207	1.212
19	6.447	3.464
20	3.302	3.297
21	6.445	0.112
22	0.001	0.001
23	1.412	2.847
24	3.292	3.447
25	6.419	2.015
26	2.254	1.41
27	1.409	1.871
28	0.009	3.128
29	0	0
30	0	0
IC601		
1	2.033	2.077
2	2.03	2.076
3	2.027	2.065
4	2.027	2.068
5	2.026	2.071
6	2.024	2.065
7	1.876	1.88
8	3.287	3.265
9	0.795	0.737
10	0.925	0.72
11	0.002	0.002
12	2.024	2.026
13	1.413	1.409
14	0.591	0.59
15	0.001	0.192
16	0.002	0.191
17	3.283	2.748
18	3.284	2.285
19	3.287	3.284
20	3.288	2.191
21	1.404	1.47
22	0.014	0.013

PIN	No Disc	Play
23	0.009	3.13
24	1.407	0.002
25	1.387	1.453
26	0.001	0.001
27	0.024	0.024
28	0.024	0.024
29	3.29	2.917
30	0.002	0.082
31	0.82	0.819
32	1.859	1.859
33	0.185	0.19
34	0.185	0.189
35	2.232	2.229
36	3.284	3.166
37	0.004	0.013
38	3.298	3.244
39	0.013	0.014
40	0.029	0.044
41	0.002	3.279
42	3.31	0.013
43	3.32	3.281
44	3.03	3.029
45	0.884	0.004
46	0.831	0.587
47	0.98	0.567
48	0.571	0.522
49	0.745	0.746
50	3.305	3.295
51	1.141	0.149
52	0.352	0.766
53	1.258	0.897
54	1.865	1.864
55	2.812	2.963
56	0.121	0.882
57	1.26	1.122
58	0.914	0.097
59	0.949	0.153
60	0.002	0.006
61	0.844	0.436
62	0.788	0.513
63	0.828	0.365
64	0.803	0.625
65	2.572	1.906
66	2.312	2.458
67	0.385	0.021
68	3.304	3.294
69	0.032	0.031
70	0.032	0.036
71	1.166	1.293
72	1.546	1.541
73	1.478	1.107
74	1.042	1.033
75	3.254	3.247
76	3.064	3.057

PIN	No Disc	Play
77	3.201	3.196
78	0.922	0.919
79	0.004	0.004
80	0.005	0.017
81	0.012	0.071
82	0.08	0.697
83	1.052	1.903
84	3.302	3.293
85	1.025	1.871
86	1.024	1.432
87	2.869	2.848
88	0.01	0.011
89	3.288	3.278
90	1.876	1.871
91	3.296	3.288
92	3.186	3.278
93	1.545	1.537
94	0.012	0.011
95	3.279	3.285
96	0.002	0.002
97	1.224	1.221
98	0.002	0.002
99	0.883	0.459
100	3.298	3.284
101	3.298	3.284
102	0.002	0.002
103	0.002	0.002
104	0.001	0.003
105	0.002	0.002
106	0.002	0.02
107	3.273	0.015
108	3.274	0.003
109	3.299	3.259
110	3.293	3.285
111	2.701	1.942
112	0.002	0.003
113	0.002	0.002
114	3.237	3.229
115	3.263	3.255
116	1.627	1.619
117	1.393	1.5
118	1.632	1.39
119	3.276	3.262
120	0.059	0.013
121	3.269	3.258
122	3.269	3.258
123	1.885	1.859
124	0.004	0.003
125	0.983	0.983
126	2.891	1.07
127	2.535	1.32
128	3.097	1.765
IC602		
1	0.215	0.282

PIN	No Disc	Play
2	1.416	1.247
3	3.299	3.294
4	0.001	0.001
5	0.013	0.014
6	0.012	0.014
7	3.302	3.295
8	3.305	3.299
IC603		
1	3.305	3.282
2	0.953	0.298
3	0.903	0.317
4	0.002	0.001
5	0.95	0.283
6	0.812	0.229
7	3.305	3.288
8	0.814	0.88
9	1.302	0.222
10	0.002	0.001
11	0.398	0.276
12	1.185	0.465
13	3.305	3.288
14	2.796	3.052
15	3.247	3.28
16	3.057	3.222
17	3.194	3.263
18	0.001	0.09
19	0.917	0.921
20	0.015	0.016
21	0.204	0.206
22	1.051	1.061
23	1.024	1.022
24	1.017	1.02
25	3.305	3.287
26	0.001	0.001
27	1.024	0.982
28	1.478	1.182
29	1.543	0.917
30	1.16	0.821
31	0.036	0.028
32	0.031	0.022
33	0	0
34	3.302	3.284
35	1.41	1.4
36	2.802	3.049
37	0	0.003
38	3.305	3.287
39	0.901	0.944
40	0.925	0.422
41	0.002	0.002
42	0.875	0.493
43	0.908	0.333
44	3.305	3.287
45	1.015	0.551
46	0.997	0.59

PIN	No Disc	Play
47	0.002	0.002
48	1.351	0.156
49	0.081	1.184
50	0.001	0.02
IC701		
1	4.7	4.69
2	2.22	2.22
3	2.35	2.35
4	1.76	1.81
5	4.71	4.73
6	1.76	1.79
7	0	0
8	2.22	2.22
9	2.2	2.19
10	0	0
11	2.19	2.2
12	2.18	2.17
13	1.84	1.97
14	1.82	1.92
15	1.78	1.88
16	2.2	2.2
IC702		
1	5.067	5.669
2	5.68	5.681
3	5.679	5.679
4	0.002	0.001
5	5.681	5.681
6	5.683	5.684
7	5.671	5.672
8	12.397	12.397

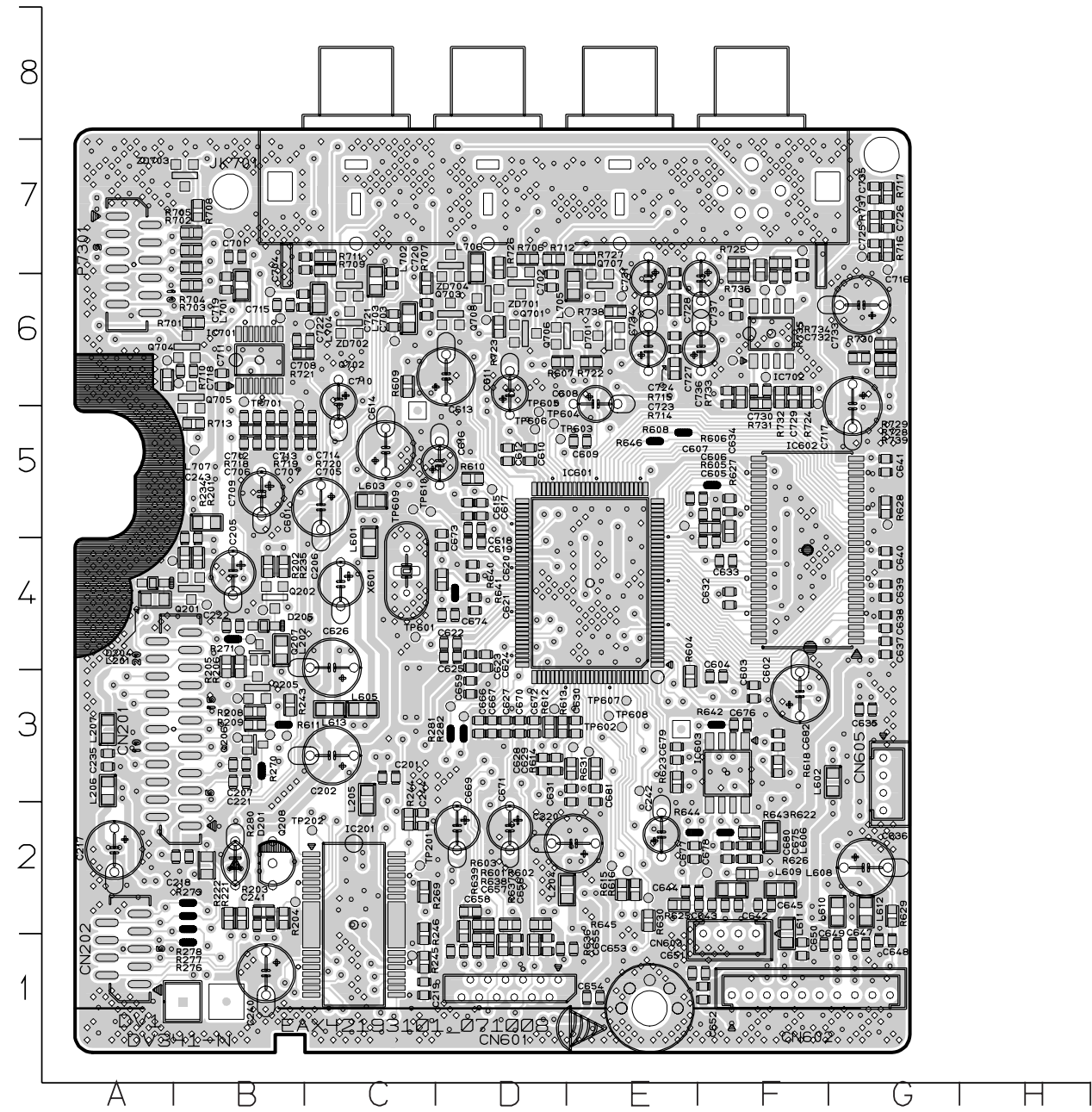
DC VOLTMETER MEASUREMENT METODS

Condenser	Capacitor	WV (Withstanding Voltage)	PLAY	
			+A	-K
C601	220uF	6.3V	3.26	0.00
C602	10uF	10V	2.92	0.01
C603	10uF	10V	1.86	0.00
C604	47uF	6.3V	2.03	0.00
C605	47uF	6.3V	1.41	0.00
C606	10uF	16V	1.39	0.00
C607	220uF	6.3V	3.26	0.00
C608	100uF	6.3V	3.28	0.00
C609	10uF	16V	0.20	0.00
C610	10uF	16V	3.29	0.00
C611	220uF	6.3V	3.28	0.00
C612	220uF	6.3V	3.29	0.01
C201	100uF	6.3V	4.99	0.00
C202	47uF	6.3V	3.28	2.75
C203	47uF	6.3V	3.28	2.28
C204	220uF	16V	5.77	0.00
C205	220uF	6.3V	3.28	0.00
C206	220uF	6.3V	1.90	0.00
C207	10uF	16V	3.29	0.00
C708	220uF	16V	12.42	0.00
C709	22uF	16V	5.68	1.62
C701	22uF	16V	2.34	0.00
C702	100uF	6.3V	4.69	0.00
C707	220uF	16V	5.69	0.00
C710	22uF	16V	5.69	1.62
C711	22uF	16V	5.68	0.10
C712	22uF	16V	5.68	0.00
C713	220uF	6.3V	1.96	1.83

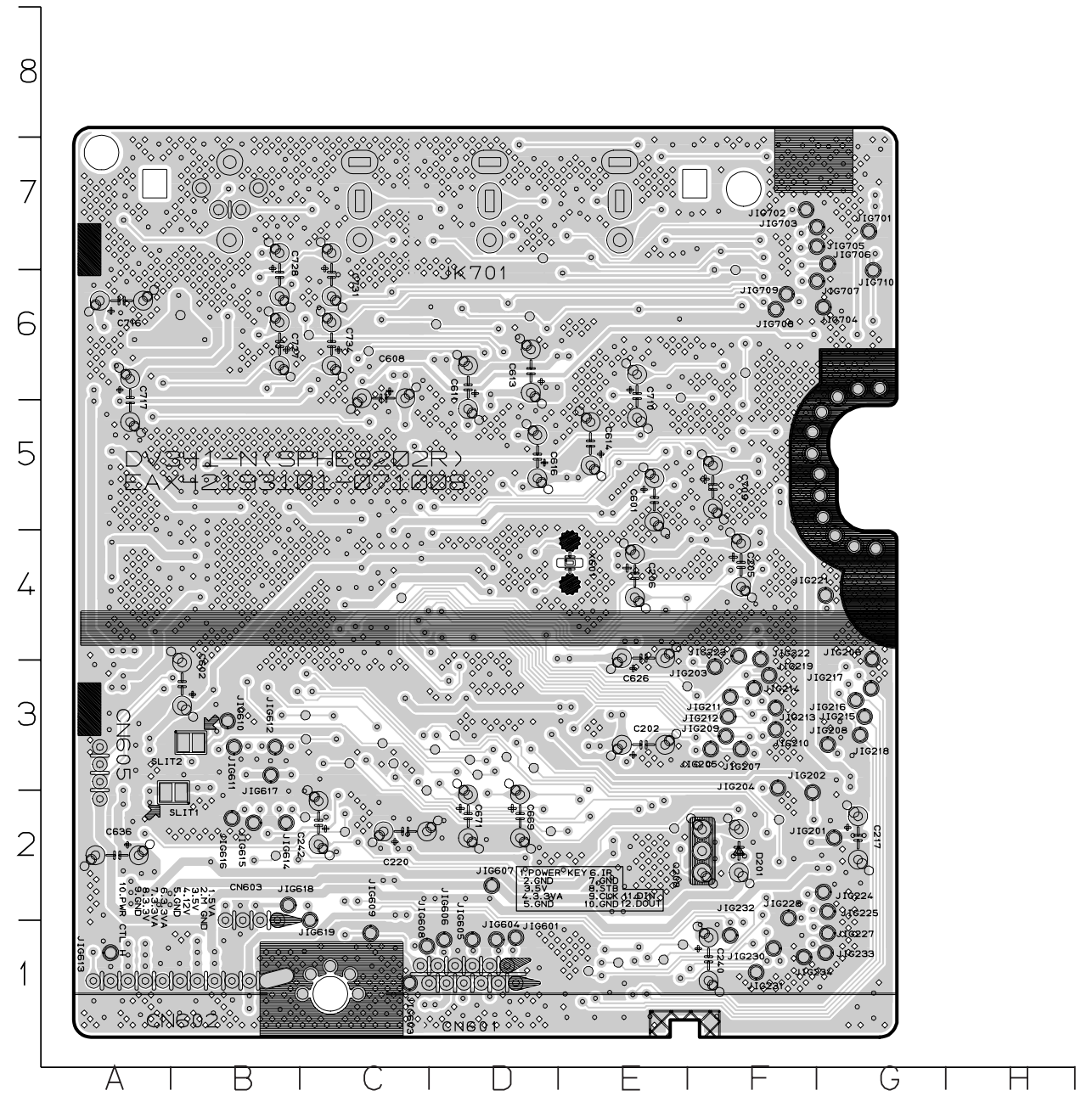
TR	PLAY		
	E/S	C/D	B/G
Q201	3.28	0.04	2.75
Q202	3.02	2.19	2.28
Q205	0.00	0.01	4.94
Q206	0.01	4.98	0.00
Q207	0.01	0.19	0.01
Q208	2.48	1.91	1.81
Q701	0.00	-1.90	3.20
Q702	0.01	0.00	-0.76
Q703	-0.01	0.00	-1.30
Q704	0.74	0.06	0.00
Q705	0.74	0.07	0.00
Q706	0.74	0.08	0.00
Q707	0	0.06	0.61
Q708	4.04	4.72	4.75

PRINTED CIRCUIT BOARD DIAGRAMS

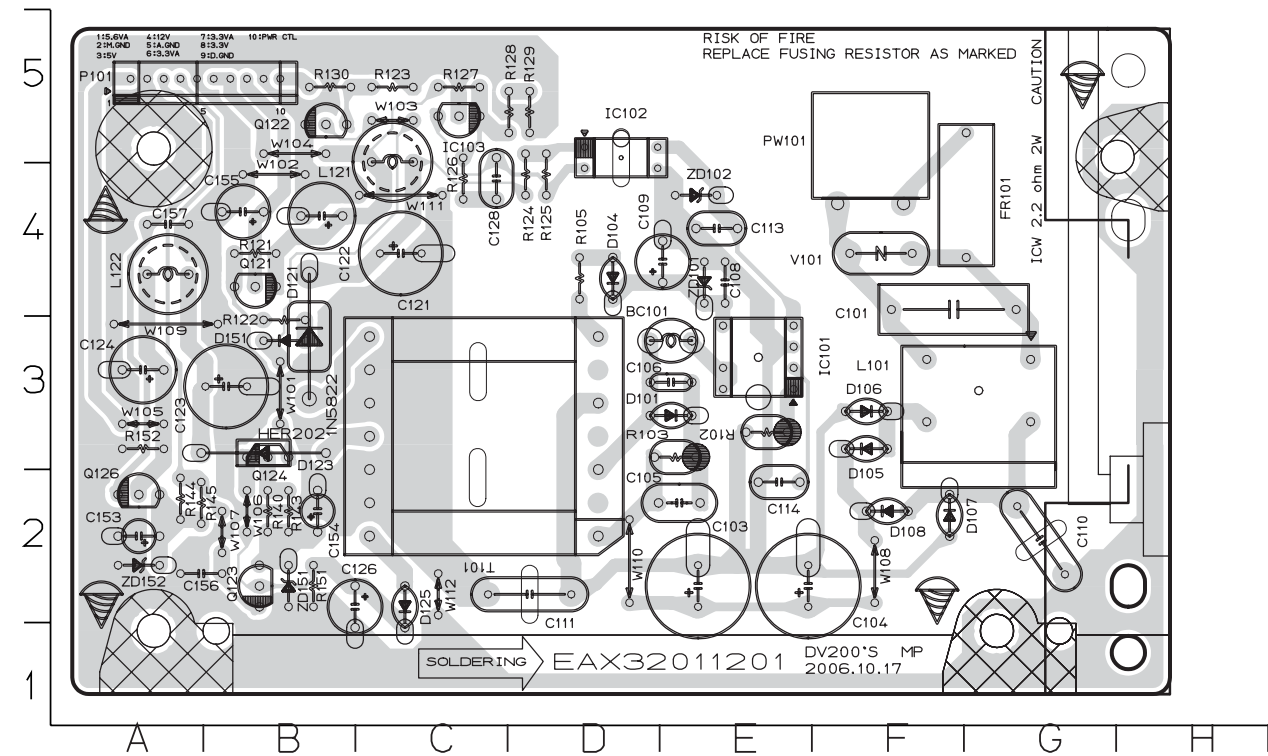
1. MAIN P.C.BOARD (TOP VIEW)



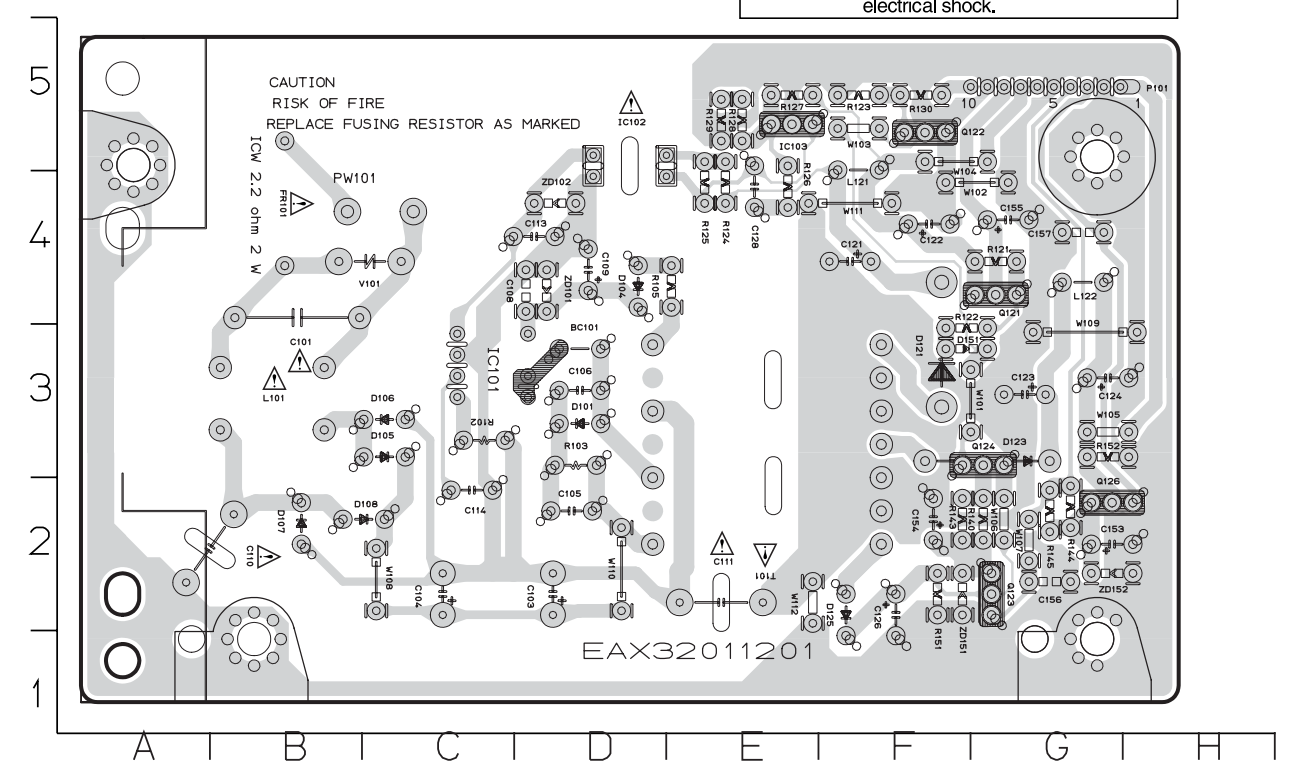
(BOTTOM VIEW)



2. POWER (SMPS) P.C.BOARD (TOP VIEW)

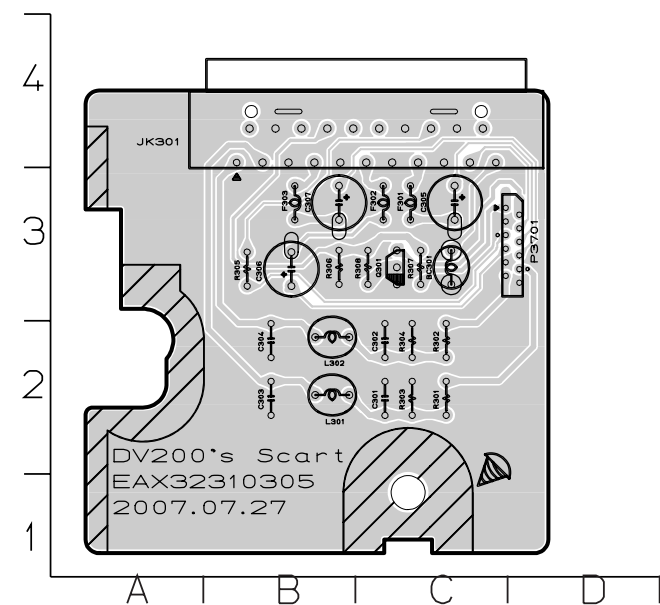


(BOTTOM VIEW)

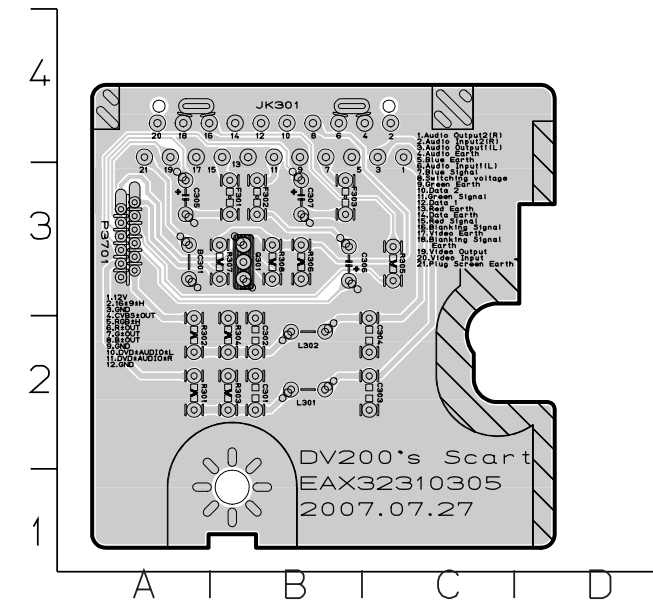


NOTE) ⚠ Warning
Parts that are shaded
with respect to risk of fire or
electrical shock.

3. 5.1CH & SCART P.C.BOARD (OPTIONAL PART) (TOP VIEW)

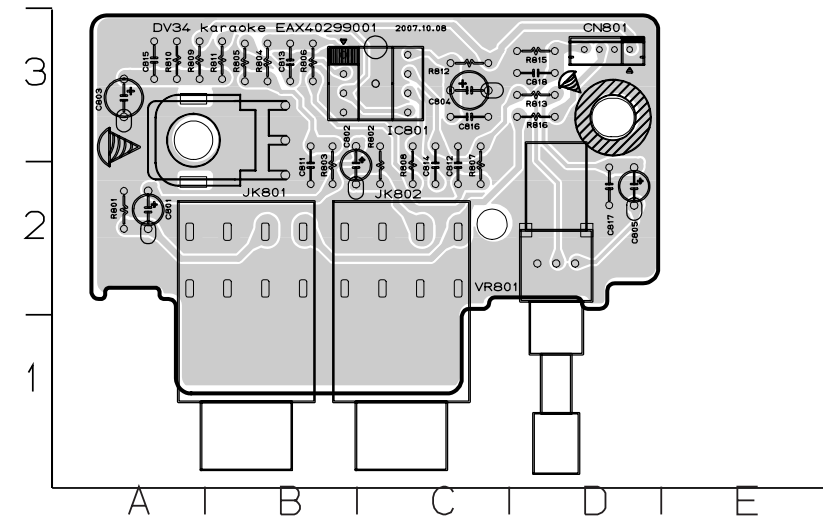


(BOTTOM VIEW)

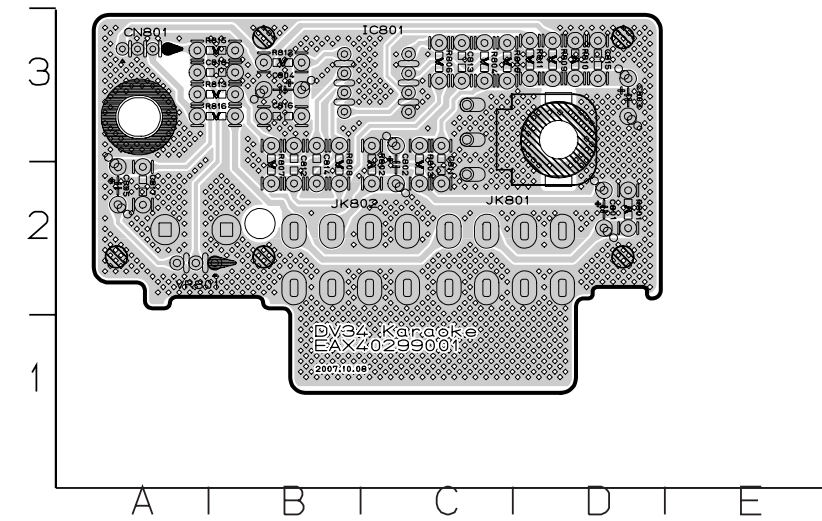


4. KARAOKE & USB P.C.BOARD (OPTIONAL PART)

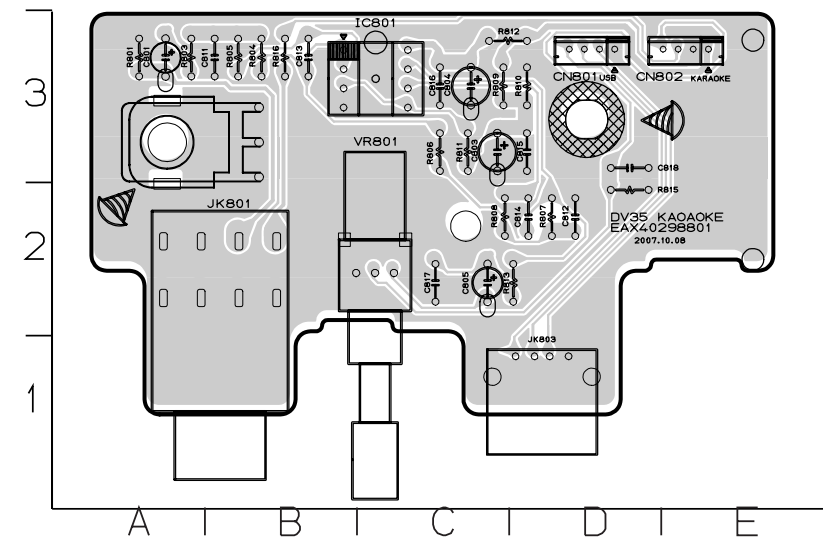
4-1. 4 TOOL (TOP VIEW)



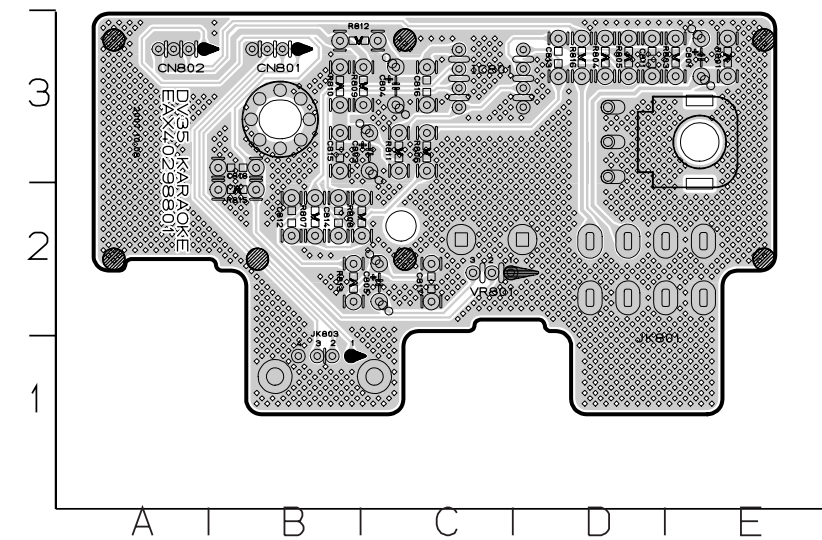
(BOTTOM VIEW)



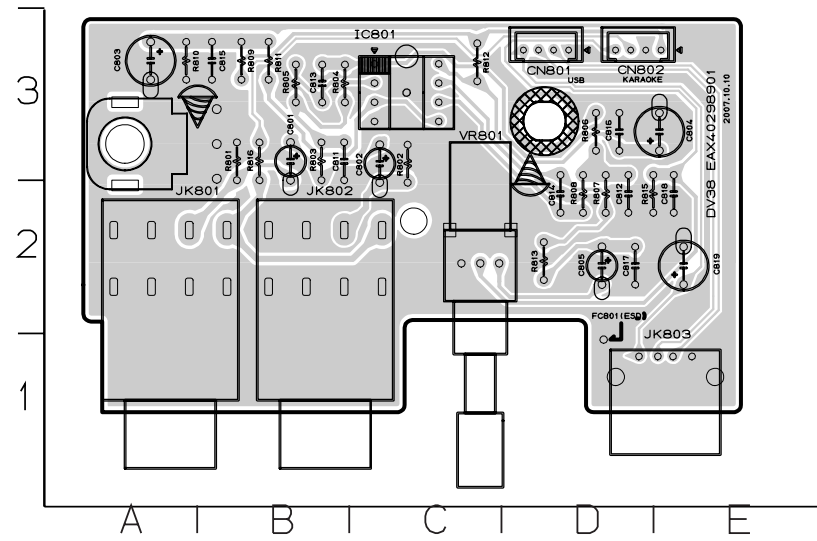
4-2. 5 TOOL (TOP VIEW)



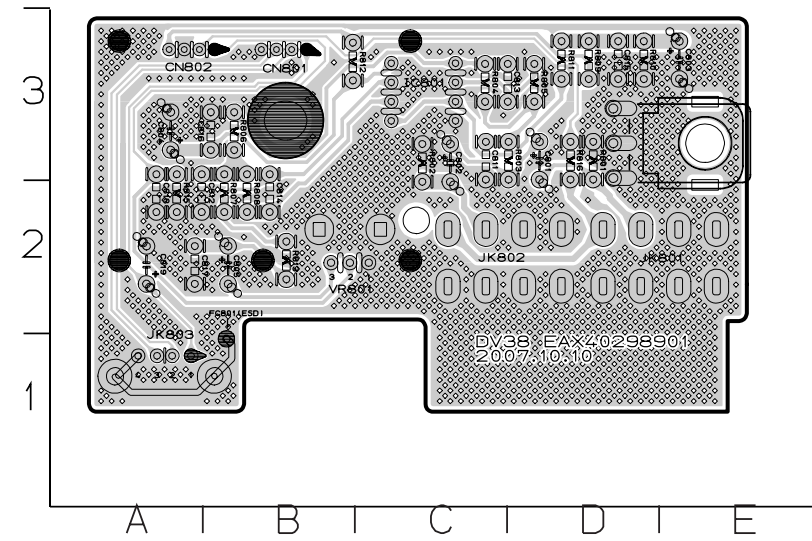
(BOTTOM VIEW)



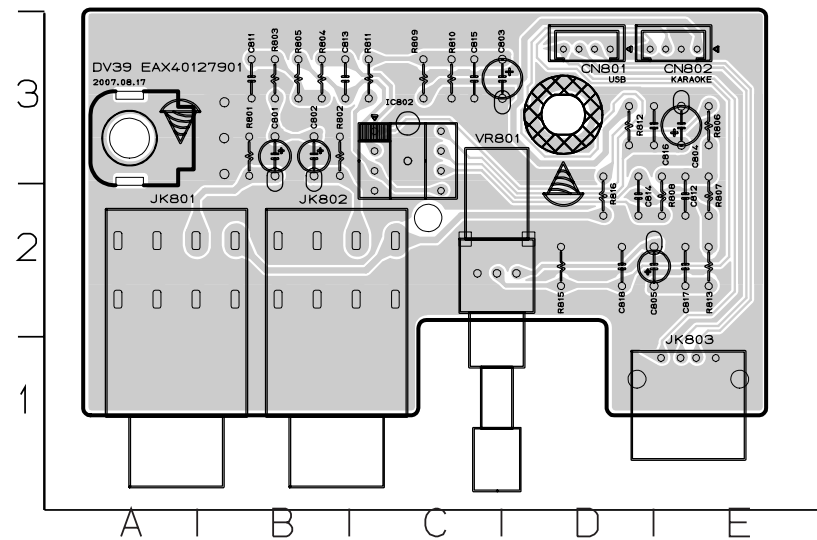
**4-3. 8 TOOL
(TOP VIEW)**



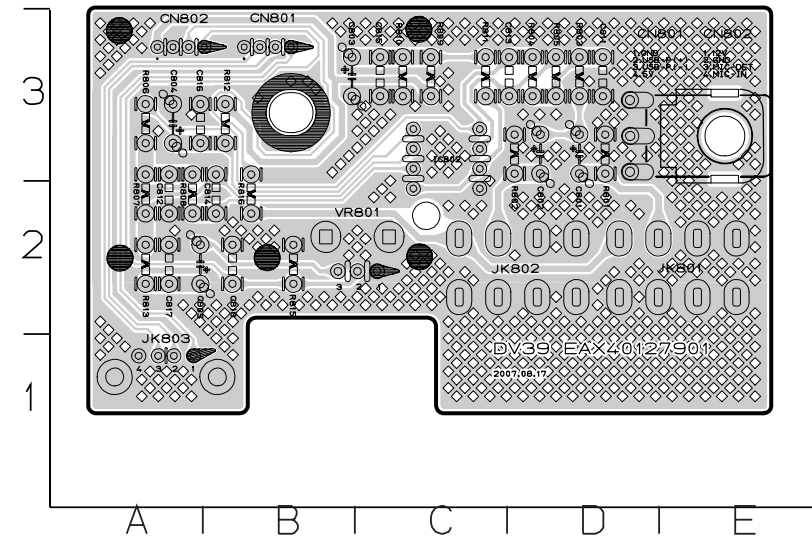
(BOTTOM VIEW)



**4-4. 9 TOOL
(TOP VIEW)**

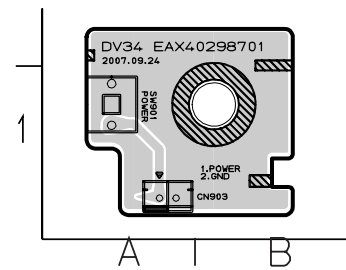


(BOTTOM VIEW)

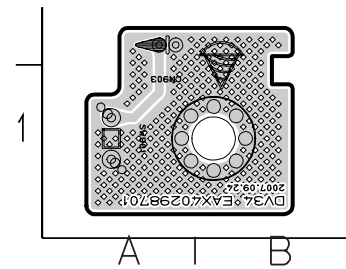


5. KEY P.C.BOARD

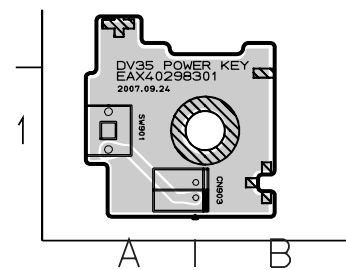
5-1. 4 TOOL (TOP VIEW)



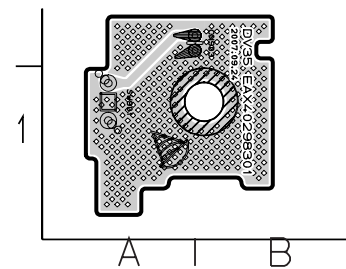
(BOTTOM VIEW)



5-2. 5 TOOL (TOP VIEW)

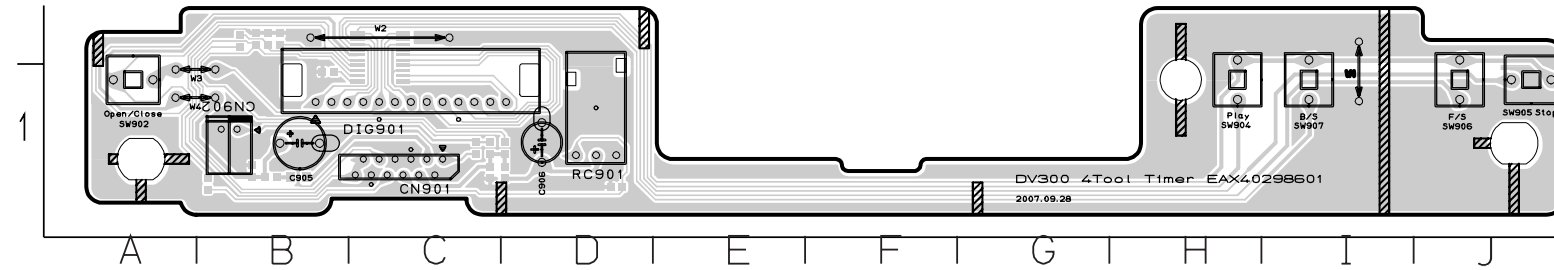


(BOTTOM VIEW)

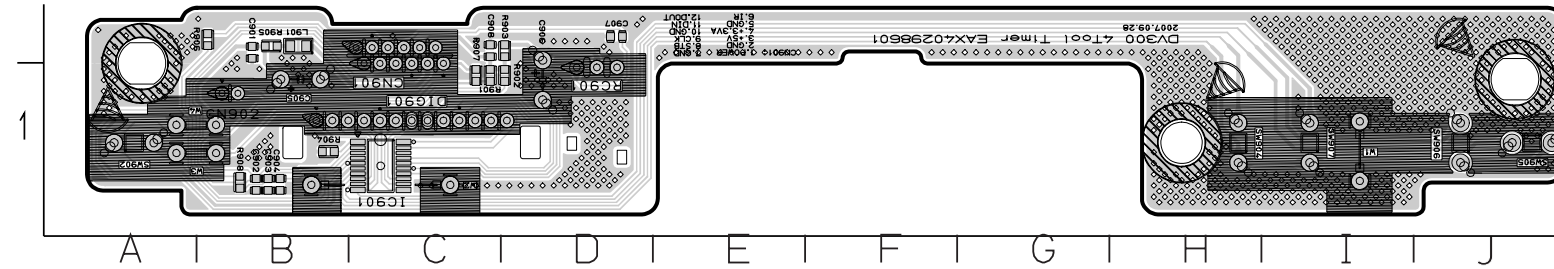


6. TIMER P.C.BOARD

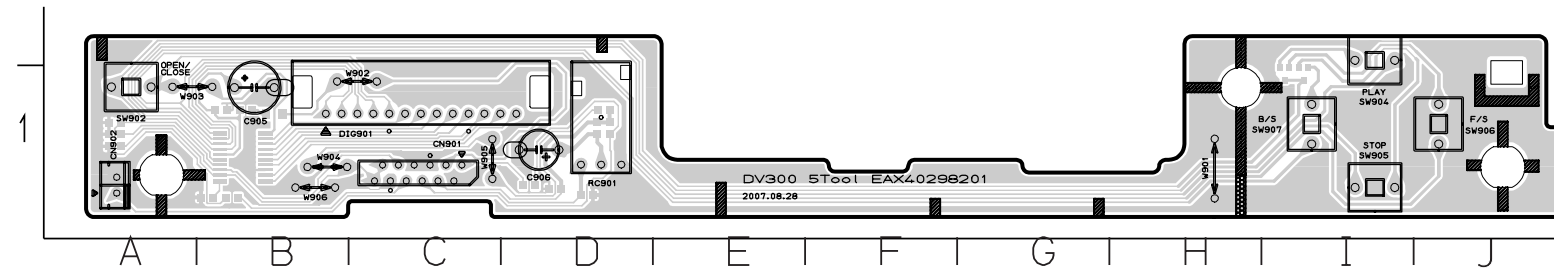
6-1. 4 TOOL (TOP VIEW)



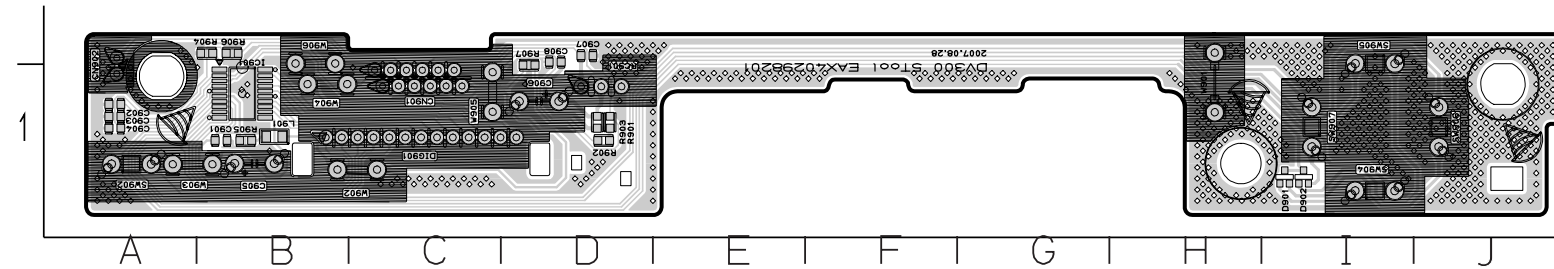
(BOTTOM VIEW)



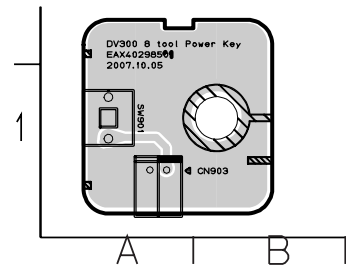
6-2. 5 TOOL (TOP VIEW)



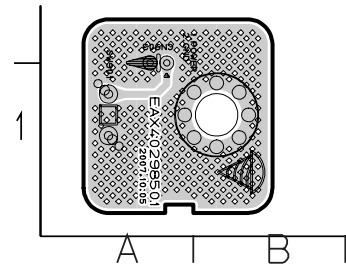
(BOTTOM VIEW)



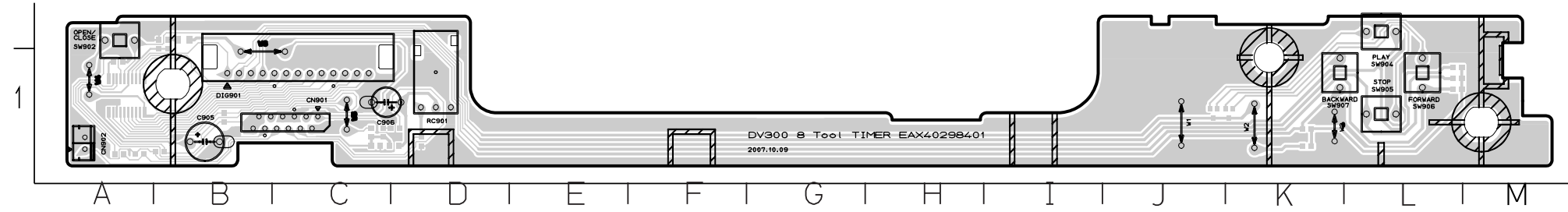
**5-3. 8 TOOL
(TOP VIEW)**



(BOTTOM VIEW)



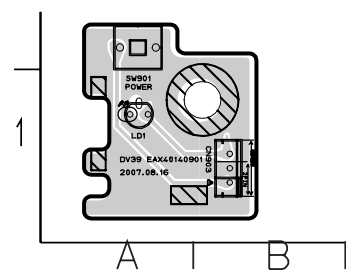
**6-3. 8 TOOL
(TOP VIEW)**



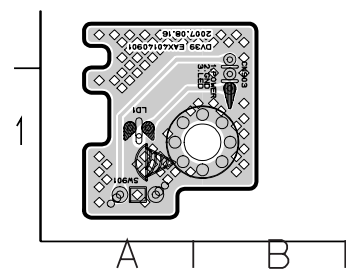
(BOTTOM VIEW)



**5-4. 9 TOOL
(TOP VIEW)**



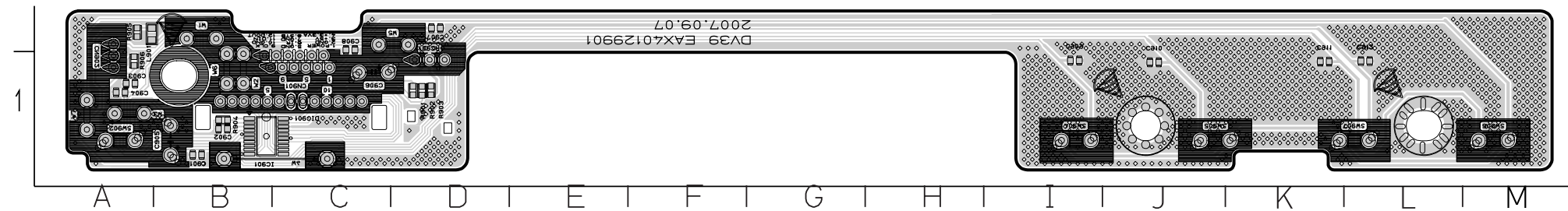
(BOTTOM VIEW)



**6-4. 9 TOOL
(TOP VIEW)**



(BOTTOM VIEW)



SECTION 4

MECHANISM (DP-12V)

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DECK MECHANISM PARTS LOCATIONS

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DECK MECHANISM DISASSEMBLY

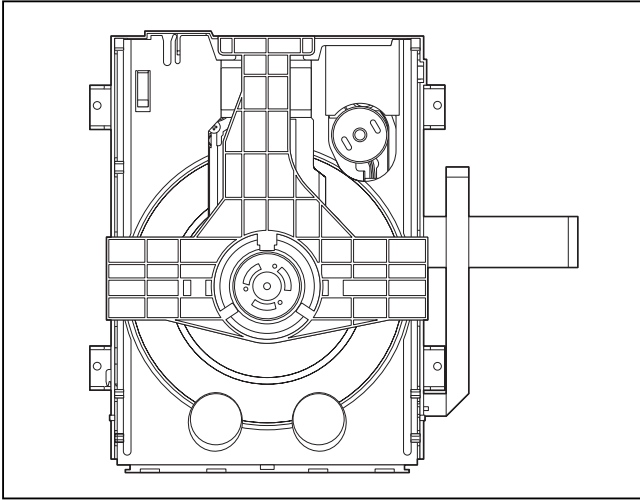
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EXPLODED VIEW

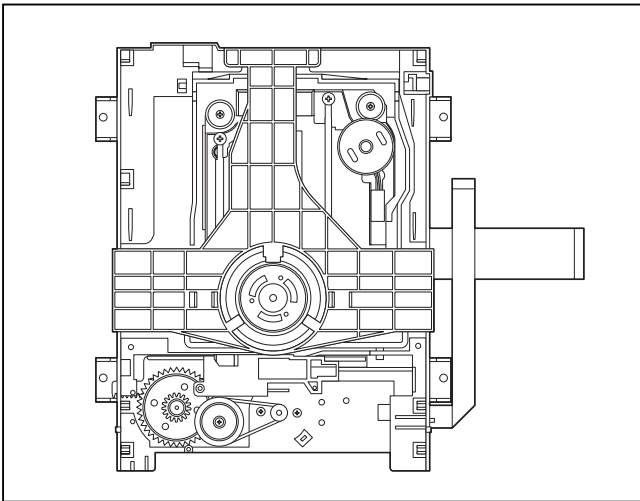
- 1. Deck Mechanism Exploded View4-7**

DECK MECHANISM PARTS LOCATION

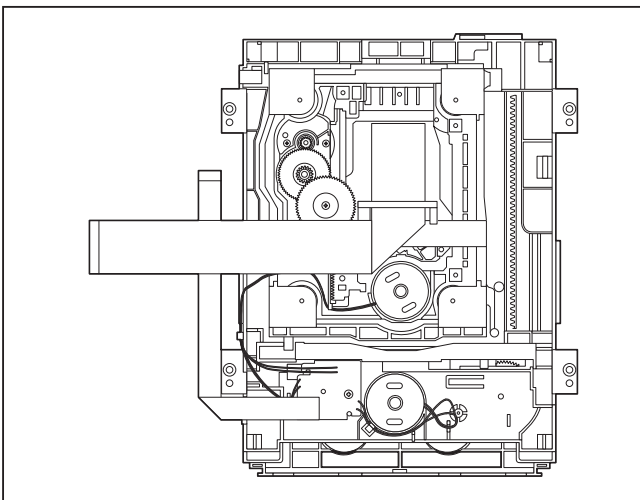
• TOP VIEW (WITHOUT TRAY)



• TOP VIEW (WITH TRAY)



• BOTTOM VIEW



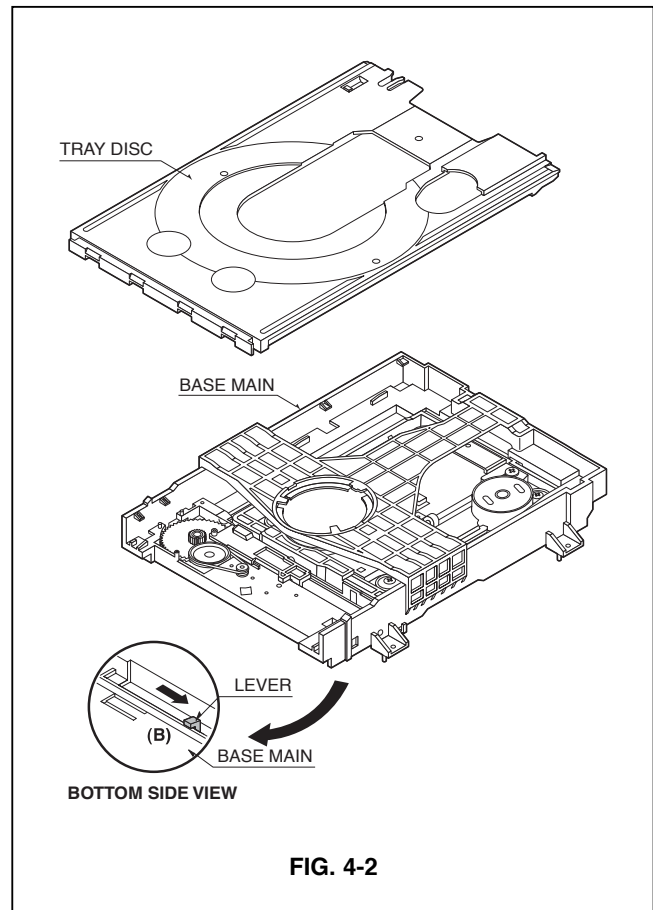
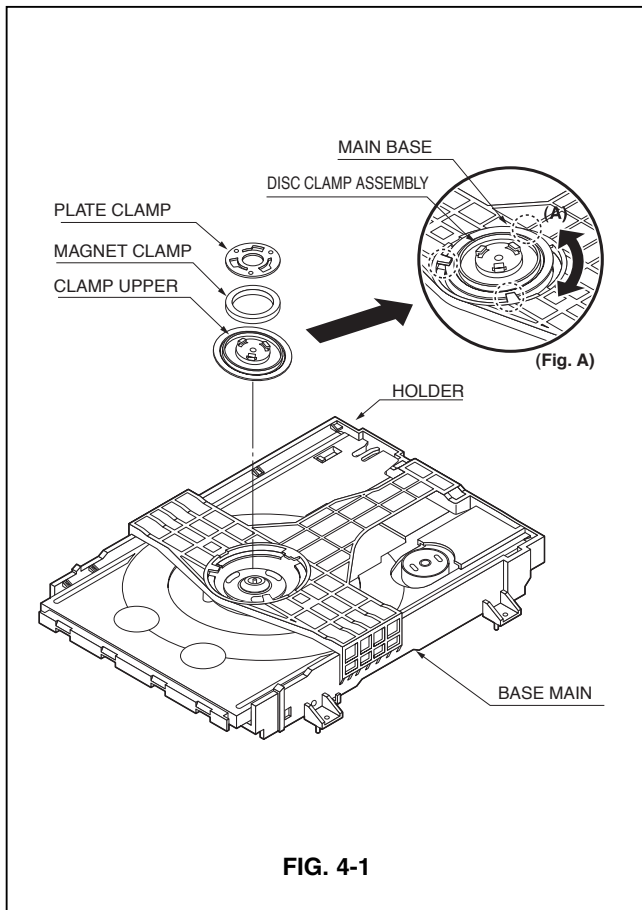
Procedure Starting No.	Parts	Fixing Type	Disassembly	Figure
1	Main Base			4-1
1	2 Clamp Assembly Disc			4-1
1, 2	3 Plate Clamp			4-1
1, 2, 3	4 Magnet Clamp			4-1
1, 2, 3, 4	5 Clamp Upper			4-1
1	6 Tray Disc			4-2
1, 6	7 Base Assembly Sled			4-3
1, 2, 6	8 Gear Feed	4 Screws, 1 Connector 1 Locking Tabs		4-3
1, 2, 6, 8	9 Gear Middle			
1, 2, 6, 8, 9	10 Gear Rack	1 Screw		4-3
1, 2, 7	11 Rubber Rear			4-3
1, 2, 7	12 Frame Assembly Up/Down	1 Screw	Bottom	4-4
1, 2	13 Belt Loading	1 Locking Tab		4-4
1, 2, 13	14 Gear Pulley			4-4
1, 2, 13, 14	15 Gear Loading	1 Locking Tab		4-4
1, 2, 7, 12, 13, 14	16 Guide Up/Down			4-4
1, 2, 13	17 PWB Assembly Loading	1 Locking Tab 1 Hook 2 Screw	Bottom	4-4
1, 2, 7, 12, 13, 14, 15, 16, 17	18 Base Main	2 Locking Tabs		4-4

Note

When reassembling, perform the procedure in reverse order.

The "Bottom" on Disassembly column of above Table indicates the part should be disassembled at the Bottom side.

DECK MECHANISM DISASSEMBLY



1. MAIN BASE (FIG. 4-1)

1-1. Clamp Assembly Disc

- 1) Place the Clamp Assembly Disc as Fig. (A)
- 2) Lift up the Clamp Assembly Disc in direction of arrow(A).
- 3) Separate the Clamp Assembly Disc from the Holder Clamp.

1-1-1. Plate Clamp

- 1) Turn the Plate Clamp to counterclockwise direction and then lift up the Plate Clamp.

1-1-2. Magnet Clamp

1-1-3. Clamp Upper

2. TRAY DISC (FIG. 4-2)

- 1) Insert and push a Driver in the emergency eject hole(A) at the right side, or put the Driver on the Lever(B) of the Gear Emergency and pull the Lever(B) in direction of arrow so that the Tray Disc is ejected about 15~20mm.
- 2) Pull the Tray Disc until it is separated from the Base Main completely.

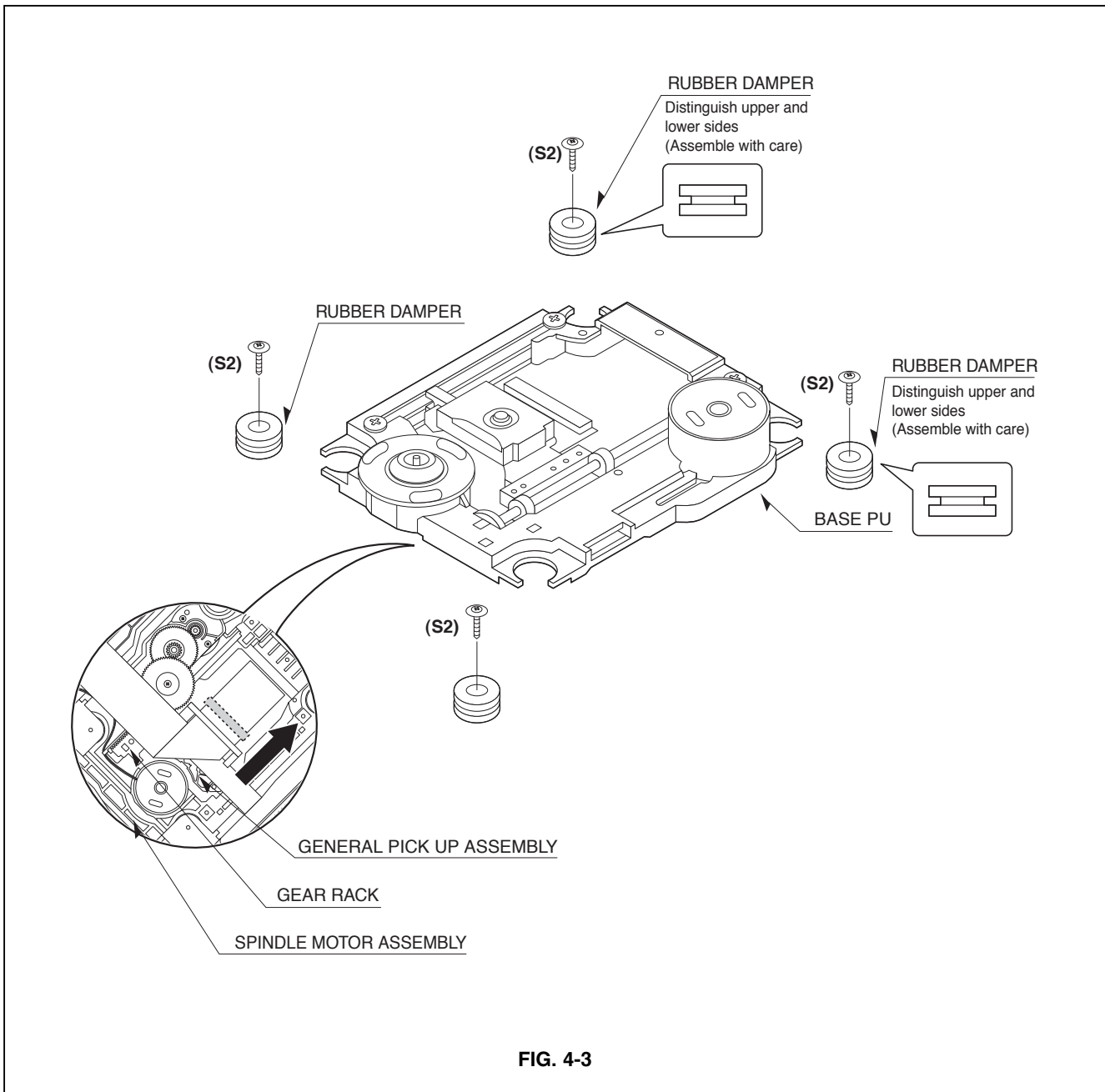


FIG. 4-3

3. BASE ASSEMBLY SLED (FIG. 4-3)

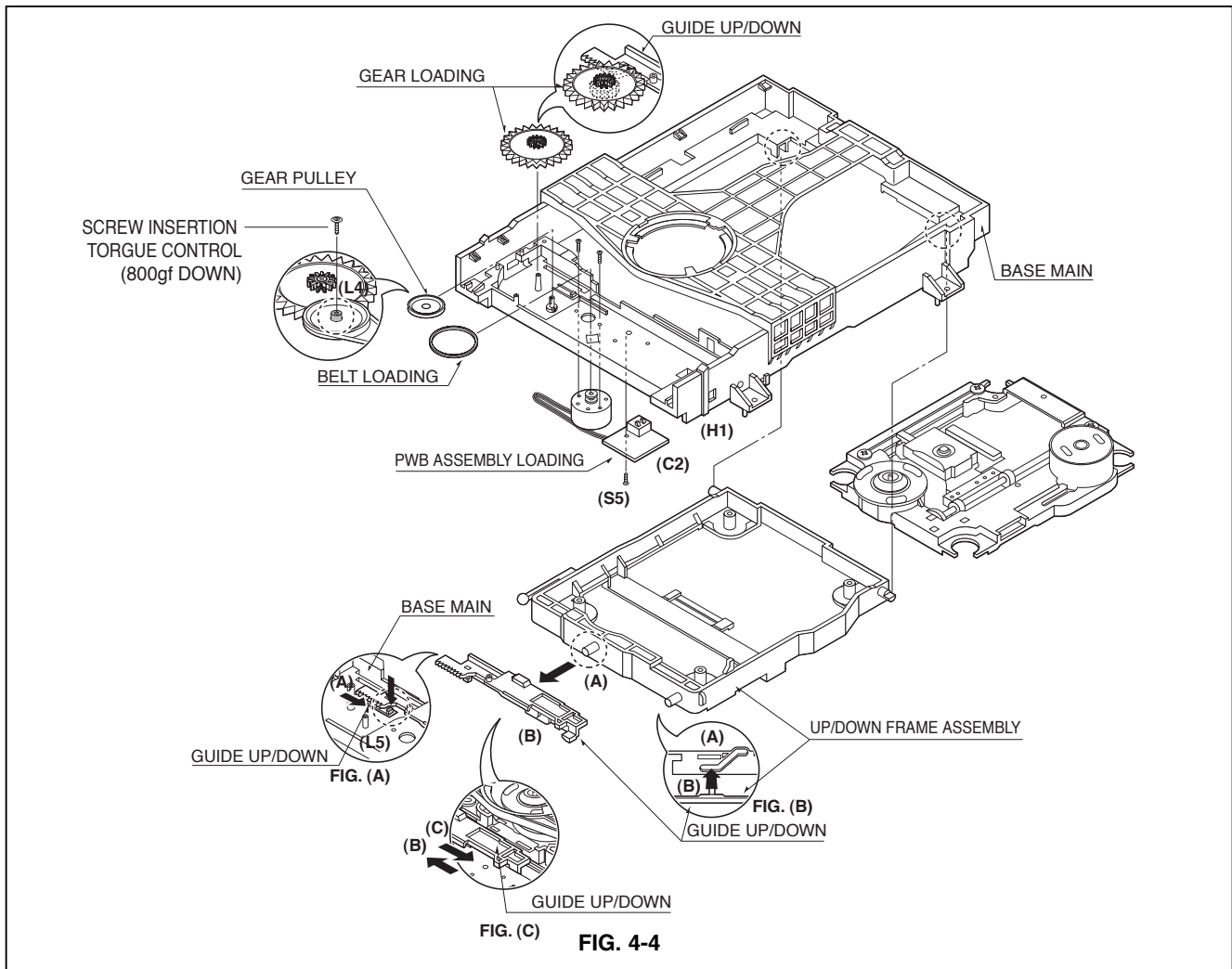
- 1) Release 4 Screw (S2).
- 2) Disconnect the FFC Connector (C1)

- 3-1. Gear Feed
- 3-2. Gear Middle

3-3. Gear Rack

- 1) Release the Scerw (S3)

4. RUBBER REAR (FIG. 4-3)



5. FRAME ASSEMBLY UP/DOWN (FIG. 4-4)

Note

Put the Base Main face down (Bottom Side)

- 1) Release the screw (S4)
- 2) Unlock the Locking Tab (L3) in direction of arrow and then lift up the Frame Assembly Up/Down to separate it from the Base Main.

Note

- When reassembling move the Guide Up/Down in direction of arrow (C) until it is positioned as Fig.(C).
- When reassembling insert (A) portion of the Frame Assembly Up/Down in the (B) portion of the Guide Up/Down as Fig.(B)

6. BELT LOADING (FIG. 4-4)

Note

Put the Base Main on original position (Top Side)

7. GEAR PULLEY (FIG. 4-4)

- 1) Unlock the Locking Tab (L4) in direction of arrow (B) and then separate the Gear Pulley from the Base Main

8. GEAR LOADING (FIG. 4-4)

9. GUIDE UP/DOWN (FIG. 4-4)

- 1) Move the Guide Up/Down in direction of arrow (A) as Fig.(A)
- 2) Push the Locking Tab (L5) down and then lift up the Guide Up/Down to separate it from the Base Main.

Note

When reassembling place the Guide Up/Down as Fig.(C) and move it in direction arrow (B) until it is locked by the Locking Tab (L5). And confirm the Guide Up/Down as Fig.(A)

10. PWB ASSEMBLY LOADING (FIG. 4-4)

Note

Put the Base Main face down (Bottom Side)

- 1) Release 1 Screws (S5)
- 2) Unlock the Loading Motor (C2) from the Hook (H1) on the Base Main.
- 3) Unlock 2 Locking Tabs (L6) and separate the PWB Assembly Loading from the Base Main.

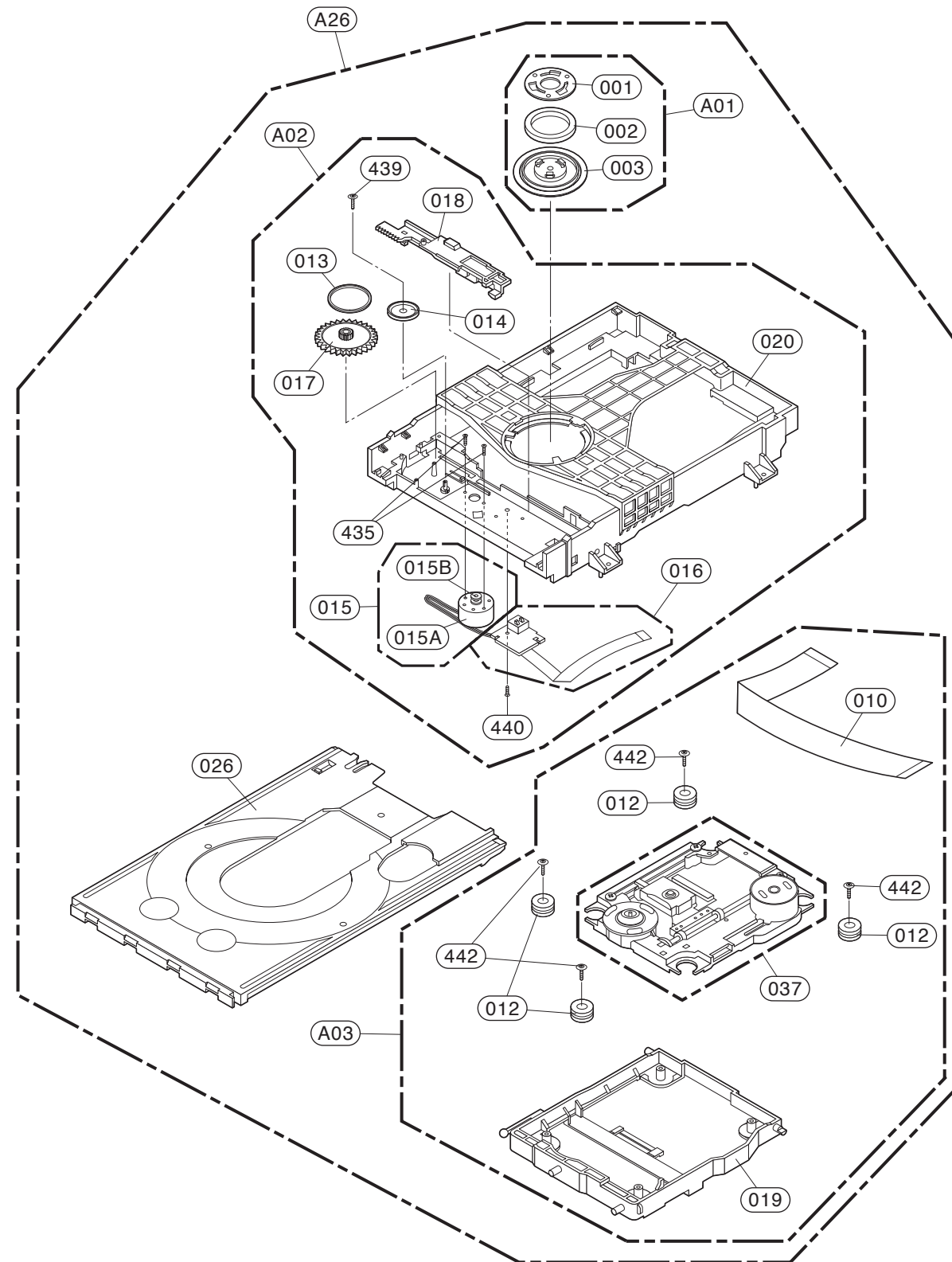
11. BASE MAIN (FIG. 4-4)

MEMO

A series of horizontal dotted lines for writing a memo.

EXPLODED VIEW

1. DECK MECHANISM EXPLODED VIEW DP-12V



MEMO

Horizontal dotted lines for writing.

MEMO

Horizontal dotted lines for writing.