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# SECTION 1

## SUMMARY

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# PRODUCT SAFETY SERVICING GUIDELINES FOR VIDEO PRODUCTS

**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 YOUR BEING LIABLE FOR ANY RESULTING PROPERTY DAMAGE OR USER INJURY.

SERVICE WORK SHOULD BE PERFORMED ONLY AFTER YOU ARE THOROUGHLY FAMILIAR WITH ALL OF THE FOLLOWING SAFETY CHECKS AND SERVICING GUIDELINES. TO DO OTHERWISE, INCREASES THE RISK OF POTENTIAL HAZARDS AND INJURY TO THE USER.

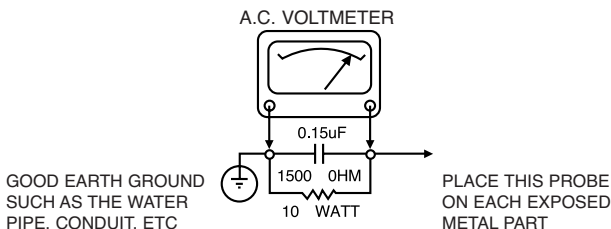
WHILE SERVICING, USE AN ISOLATION TRANSFORMER FOR PROTECTION FROM A.C. LINE SHOCK.

## SAFETY CHECKS

AFTER THE ORIGINAL SERVICE PROBLEM HAS BEEN CORRECTED, A CHECK SHOULD BE MADE OF THE FOLLOWING.

### SUBJECT : FIRE & SHOCK HAZARD

1. BE SURE THAT ALL COMPONENTS ARE POSITIONED IN SUCH A WAY AS TO AVOID POSSIBILITY OF ADJACENT COMPONENT SHORTS. THIS IS ESPECIALLY IMPORTANT ON THOSE MODULES WHICH ARE TRANSPORTED TO AND FROM THE REPAIR SHOP.
2. NEVER RELEASE A REPAIR UNLESS ALL PROTECTIVE DEVICES SUCH AS INSULATORS, BARRIERS, COVERS, SHIELDS, STRAIN RELIEFS, POWER SUPPLY CORDS, AND OTHER HARDWARE HAVE BEEN REINSTALLED PER 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, DAMAGED INSULATION (INCLUDING A.C. CORD), AND REPLACE IF NECESSARY FOLLOW ORIGINAL LAYOUT, LEAD LENGTH AND DRESS.
5. NO LEAD OR COMPONENT SHOULD TOUCH A RECEIVING TUBE OR A RESISTOR RATED AT 1 WATT OR MORE. LEAD TENSION AROUND PROTRUDING METAL SURFACES MUST BE AVOIDED.
6. ALL CRITICAL COMPONENTS SUCH AS FUSES, FLAMEPROOF RESISTORS, CAPACITORS, ETC. MUST BE REPLACED WITH EXACT FACTORY TYPES, DO NOT USE REPLACEMENT COMPONENTS OTHER THAN THOSE SPECIFIED OR MAKE UNRECOMMENDED CIRCUIT MODIFICATIONS.
7. AFTER RE-ASSEMBLY OF THE SET ALWAYS PERFORM AN A.C. LEAKAGE TEST ON ALL EXPOSED METALLIC PARTS OF THE CABINET, (THE CHANNEL SELECTOR KNOB, ANTENNA TERMINALS, HANDLE AND SCREWS) TO BE SURE THE SET IS SAFE TO OPERATE WITHOUT DANGER OF ELECTRICAL SHOCK. DO NOT USE A LINE ISOLATION TRANSFORMER DURING THIS TEST USE AN A.C. VOLT-METER, HAVING 5000 OHMS PER VOLT OR MORE SENSITIVITY, IN THE FOLLOWING MANNER; CONNECT A 1500 OHM 10 WATT RESISTOR, PARALLELED BY A .15 MFD. 150.V A.C TYPE CAPACITOR BETWEEN A KNOWN GOOD EARTH GROUND (WATER PIPE, CONDUIT, ETC.) AND THE EXPOSED METALLIC PARTS, ONE AT A TIME. MEASURE THE A.C. VOLTAGE ACROSS THE COMBINATION OF 1500 OHM RESISTOR AND .15 MFD CAPACITOR. REVERSE THE A.C. PLUG AND REPEAT A.C. VOLTAGE MEASUREMENTS FOR EACH EXPOSED METALLIC PART. VOLTAGE MEASURED MUST NOT EXCEED 75 VOLTS R.M.S. THIS CORRESPONDS TO 0.5 MILLIAMPS A.C ANY VALUE EXCEEDING THIS LIMIT CONSTITUTES A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED IMMEDIATELY.



### SUBJECT: GRAPHIC SYMBOLS



THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK.



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

### SUBJECT : X-RADIATION

1. BE SURE PROCEDURES AND INSTRUCTIONS TO ALL SERVICE PERSONNEL COVER THE SUBJECT OF X-RADIATION. THE ONLY POTENTIAL SOURCE OF X-RAYS IN CURRENT T.V. RECEIVERS IS THE PICTURE TUBE. HOWEVER, THIS TUBE DOES NOT EMIT X-RAYS WHEN THE HIGH VOLTAGE IS AT THE FACTORY SPECIFIED LEVEL. THE PROPER VALUE IS GIVEN IN THE APPLICABLE SCHEMATIC. OPERATION AT HIGHER VOLTAGES MAY CAUSE A FAILURE OF THE PICTURE TUBE OR HIGH VOLTAGE SUPPLY AND, UNDER CERTAIN CIRCUMSTANCES, MAY PRODUCE RADIATION IN EXCESS OF DESIRABLE LEVELS.
2. ONLY FACTORY SPECIFIED C.R.T. ANODE CONNECTORS MUST BE USED. DEGAUSSING SHIELDS ALSO SERVE AS X-RAY SHIELD IN COLOR SETS, ALWAYS RE-INSTALL THEM.
3. IT IS ESSENTIAL THAT SERVICE PERSONNEL HAVE AVAILABLE AN ACCURATE AND RELIABLE HIGH VOLTAGE METER. THE CALIBRATION OF THE METER SHOULD BE CHECKED PERIODICALLY AGAINST A REFERENCE STANDARD, SUCH AS THE ONE AVAILABLE AT YOUR DISTRIBUTOR.
4. WHEN THE HIGH VOLTAGE CIRCUITRY IS OPERATING PROPERLY THERE IS NO POSSIBILITY OF AN X-RADIATION PROBLEM. EVERY TIME A COLOR CHASSIS IS SERVICED, THE BRIGHTNESS SHOULD BE RUN UP AND DOWN WHILE MONITORING THE HIGH VOLTAGE WITH A METER TO BE CERTAIN THAT THE HIGH VOLTAGE DOES NOT EXCEED THE SPECIFIED VALUE AND THAT IT IS REGULATING CORRECTLY. WE SUGGEST THAT YOU AND YOUR SERVICE ORGANIZATION REVIEW TEST PROCEDURES SO THAT VOLTAGE REGULATION IS ALWAYS CHECKED AS A STANDARD SERVICING PROCEDURE. AND THAT THE HIGH VOLTAGE READING BE RECORDED ON EACH CUSTOMER'S INVOICE.
5. WHEN TROUBLESHOOTING AND MAKING TEST MEASUREMENTS IN A PRODUCT WITH A PROBLEM OF EXCESSIVE HIGH VOLTAGE, AVOID BEING UNNECESSARILY CLOSE TO THE PICTURE TUBE AND THE HIGH VOLTAGE SUPPLY. DO NOT OPERATE THE PRODUCT LONGER THAN IS NECESSARY TO LOCATE THE CAUSE OF EXCESSIVE VOLTAGE.
6. REFER TO HV. B+ AND SHUTDOWN ADJUSTMENT PROCEDURES DESCRIBED IN THE APPROPRIATE SCHEMATIC AND DIAGRAMS (WHERE USED).

### SUBJECT: IMPLOSION

1. ALL DIRECT VIEWED PICTURE TUBES ARE EQUIPPED WITH AN INTEGRAL IMPLOSION PROTECTION SYSTEM, BUT CARE SHOULD BE TAKEN TO AVOID DAMAGE DURING INSTALLATION, AVOID SCRATCHING THE TUBE. IF SCRATCHED REPLACE IT.
2. USE ONLY RECOMMENDED FACTORY REPLACEMENT TUBES.

### SUBJECT : TIPS ON PROPER INSTALLATION

1. NEVER INSTALL ANY PRODUCT IN A CLOSED-IN RECESS, CUBBY-HOLE OR CLOSELY FITTING SHELF SPACE. OVER OR CLOSE TO 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 PALCEMENT WHERE DRAPERIES MAY OBSTRUCT REAR VENTING. THE CUSTOMER SHOULD ALSO AVOID THE USE OF DECORATIVE SCARVES OR OTHER COVERINGS WHICH 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 TEST ON CUSTOMIZED INSTALLATIONS.
5. CAUTION CUSTOMERS AGAINST THE MOUNTING OF A PRODUCT ON SLOPING SHELF OR A TILTED POSITION, UNLESS THE PRODUCT IS PROPERLY SECURED.
6. A PRODUCT ON A ROLL-ABOUT CART SHOULD BE STABLE ON 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 THE USE OF A CART OR STAND WHICH HAS NOT BEEN LISTED BY UNDERWRITERS LABORATORIES, INC. FOR USE WITH THEIR SPECIFIC MODEL OF TELEVISION RECEIVER OR GENERALLY APPROVED FOR USE WITH T.V.'S OF THE SAME OR LARGER SCREEN SIZE.
8. CAUTION CUSTOMERS AGAINST THE USE OF 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.

Remembers 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) Disconnection 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 test instrument ground lead to the appropriate ground before connection 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 1M-ohm.

**Note 1 :** Accessible Conductive Parts including 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 a "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate 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.)

# SPECIFICATIONS

## • GENERAL

Power requirements:	AC 100-240 V , 50/60 Hz
Power consumption:	12W
Dimensions (Approx.):	430 x 39 x 242 mm (W x H x D) without foot
Weight (Approx.):	2.2 kg
Operating temperature:	5 °C to 35 °C (41 °F to 95 °F)
Operating humidity:	5 % to 90 %

## • OUTPUTS

VIDEO OUT:	1 Vp-p 75 Ω, sync negative, RCA jack x 1/ SCART (TO TV)
AUDIO OUT:	2.0 Vrms (1 KHz, 0 dB), 600 Ω, RCA jack (L, R) x 1/ SCART (TO TV)
DIGITAL OUT (COAXIAL):	0.5 V (p-p), 75 Ω, RCA jack x 1

## • System

Laser:	Semiconductor laser, wavelength 650 nm
Signal system:	PAL / NTSC
Frequency response:	DVD (PCM 96 kHz): 8 Hz to 44 kHz DVD (PCM 48 kHz): 8 Hz to 22 kHz CD: 8 Hz to 20 kHz
Signal-to-noise ratio:	More than 100 dB (ANALOG OUT connectors only)
Harmonic distortion:	Less than 0.008%
Dynamic range:	More than 90 dB (DVD/CD)

## • Accessories

Video cable (1), Audio cable (1), Remote control (1), Batteries (2)

**SECTION 2**  
**CABINET & MAIN CHASSIS**

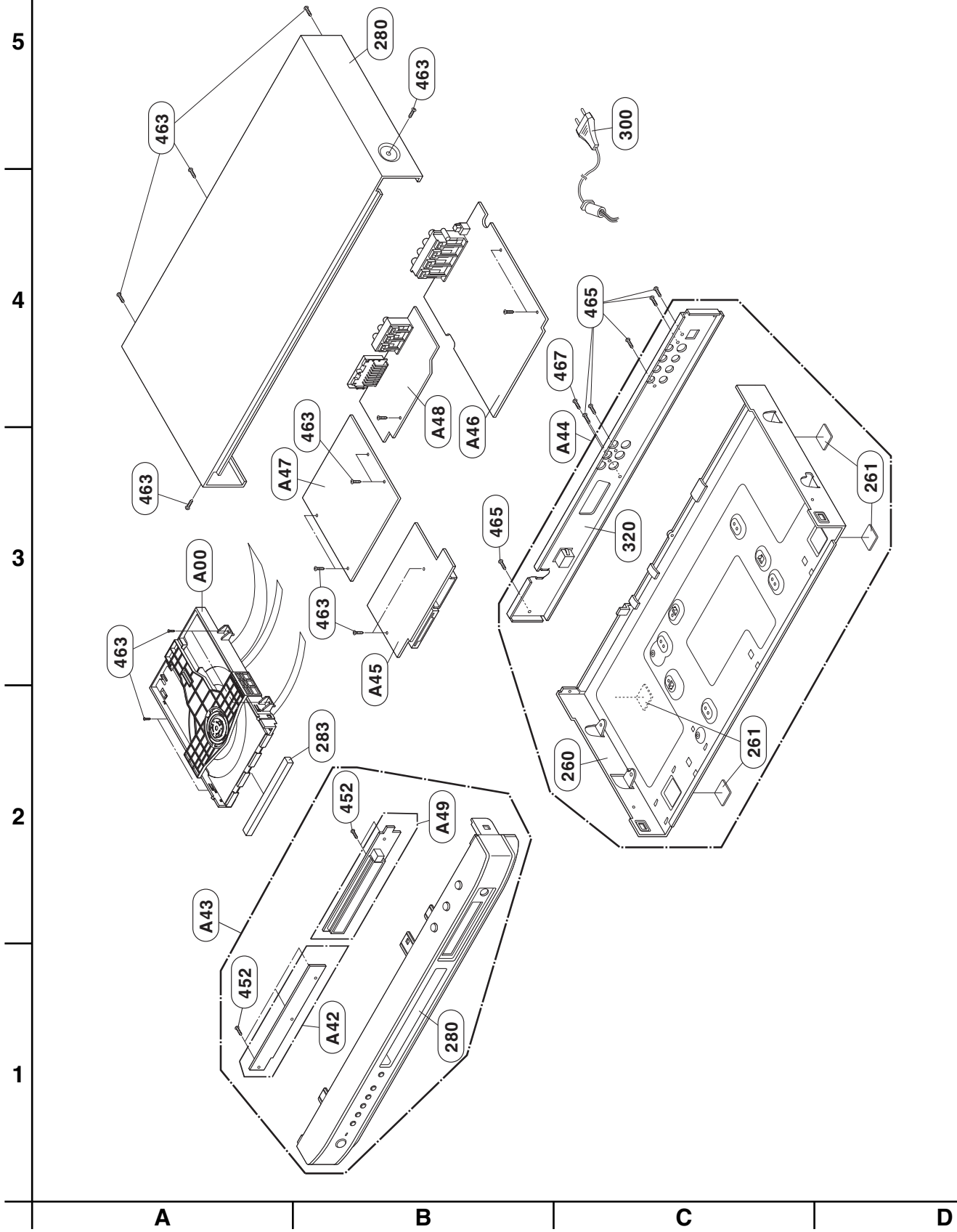
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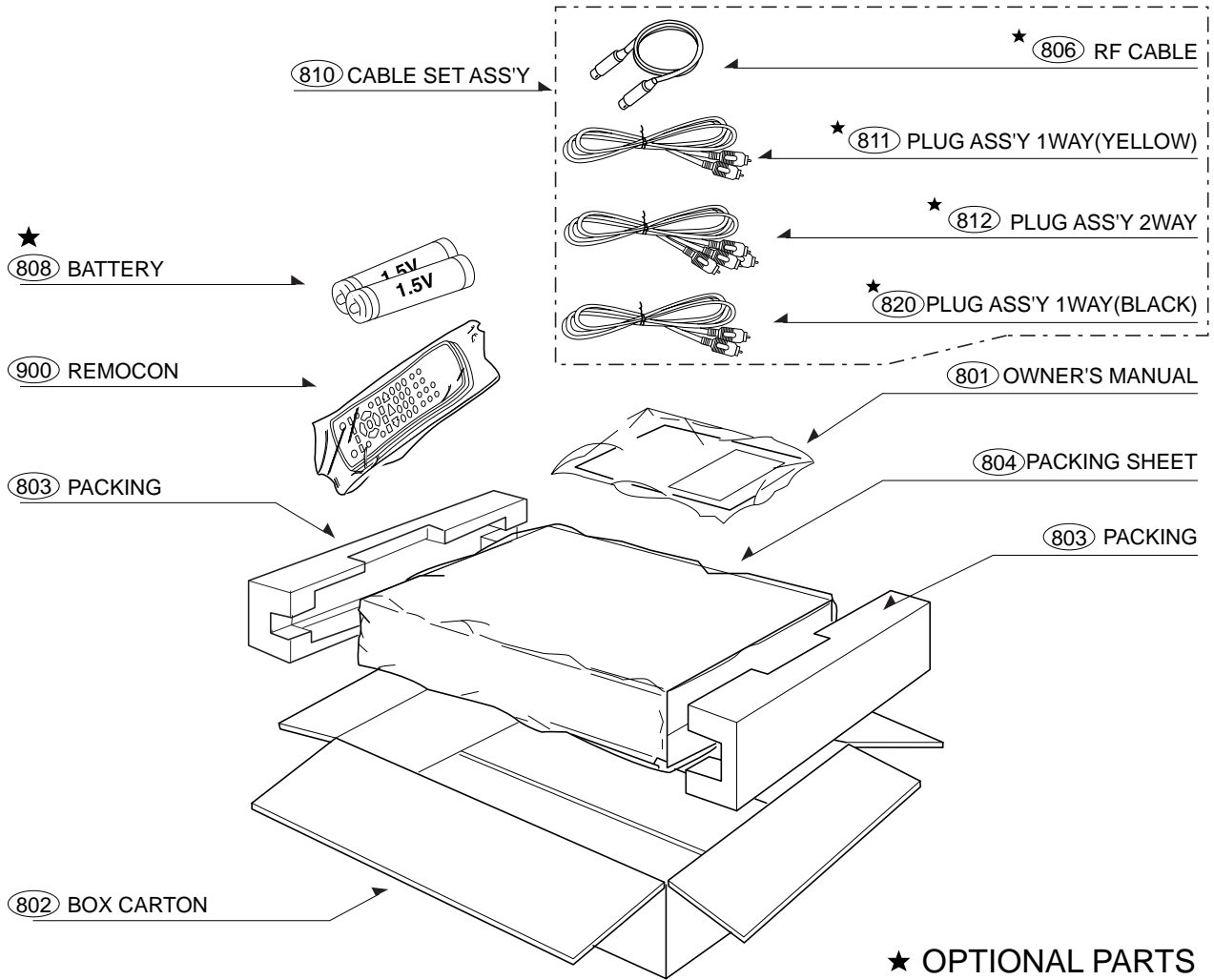
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# EXPLODED VIEWS

## 1. Cabinet and Main Frame Section



## 2. Packing Accessory Section





# SECTION 3 ELECTRICAL CONTENTS

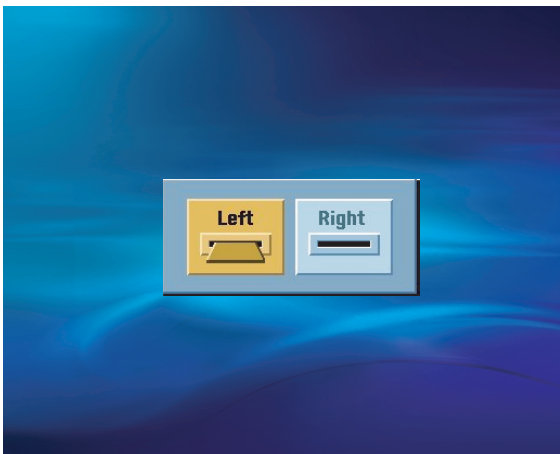
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# FEATURES FOR MEMORY CARD READ

1. There will be a key in front panel to convert mode from disc ( or VCR or AUX ) to memory, vice versa.
2. In disc mode ( Any status ), if user press MEM key, we have to change the mode if there is memory card. If there is no memory card inserted, please shows warning messages after change to MEM mode.

**There is no memory card.  
Please insert a memory card**

3. If there is memory card, please show below GUI, PIC-1.
4. Below OSD shows that there are two card slot exist. If only one slot has the card, other slot OSD should shows disable color.
5. If use select one of slot, it will shows file browser, PIC-2.
6. All function should work as disc mode when we are in memory card mode.
7. To distinguish disc and memory card, we use different icon in browser. Please refer yellow circle in PIC-2.
8. If there are two memory card is inserted and user want to move other slot, he/she have to press RETURN key.  
If then, it will shows PIC-1 again.



PIC-1

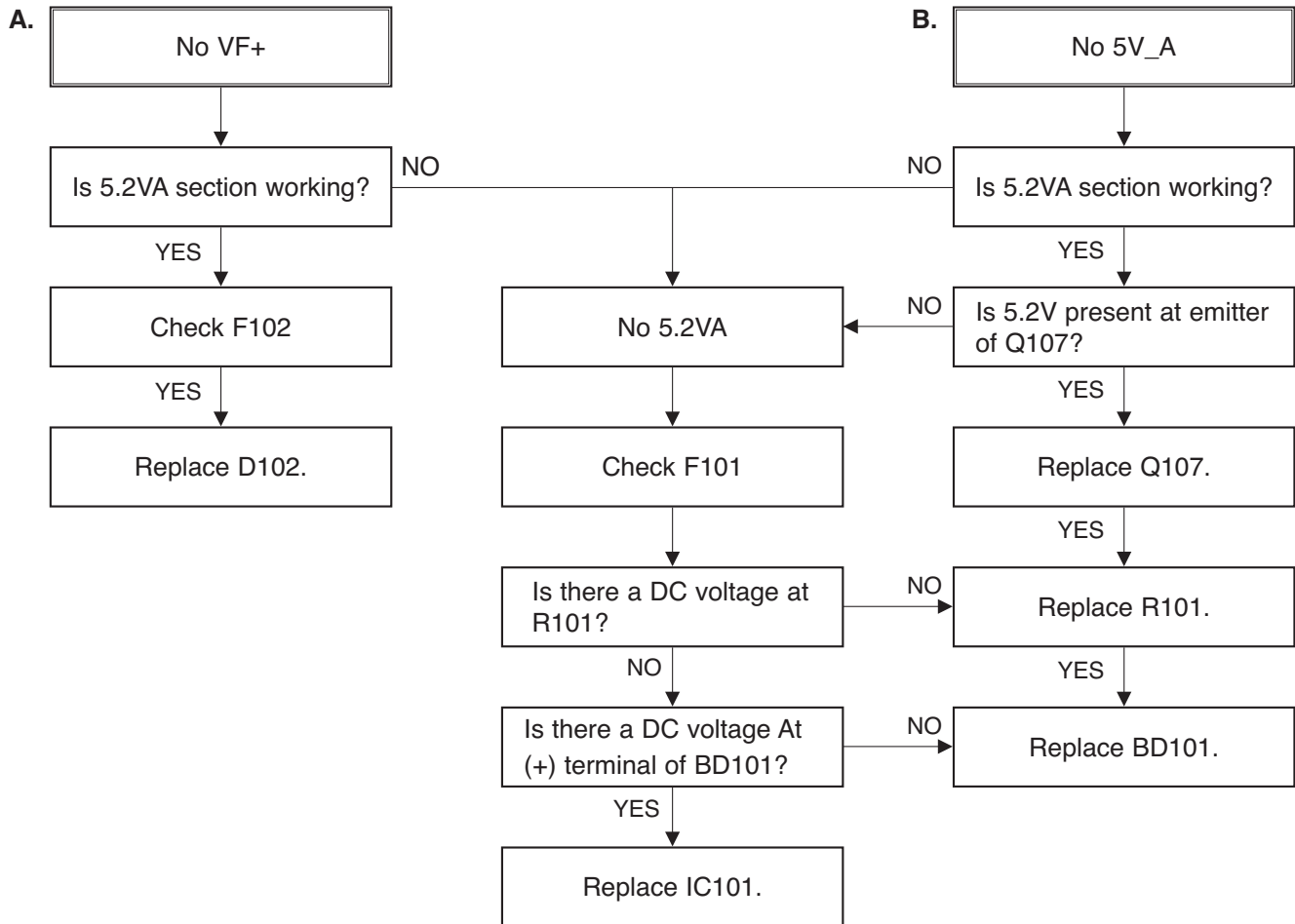


PIC-2

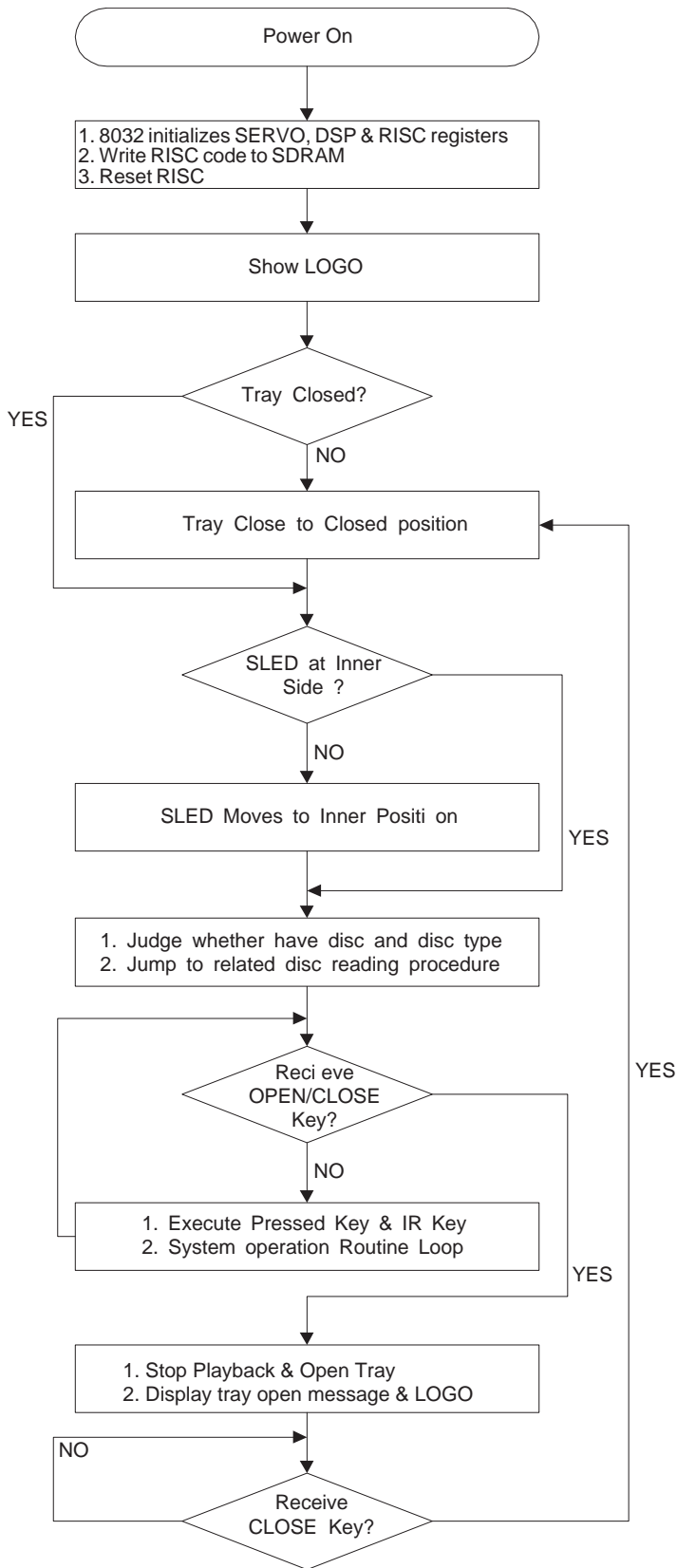
9. In memory card mode, if we press MEM ( Stand alone model ) key or VCR/AUX key ( VCR/Audio model ), it should exit current mode and go to disc or VCR or AUX mode.
10. After select one of slot, if we insert/pull out another slot, nothing happens on current status. But, after return to selection OSD, it should be applied on OSD. ( two card -> select one card -> while playing, pull out the other card -> press RETURN and go to selection OSD. -> Just one card should be enabled. )
11. If there are two cards are inserted and we are playing one of card. At that time, pull out current card. If then, it will exit current browser and shows selection OSD automatically.
12. If there are one card are inserted and we are playing that. If the user pull out current memory card, please display warning message same as step '2'.

# ELECTRICAL TROUBLESHOOTING GUIDE

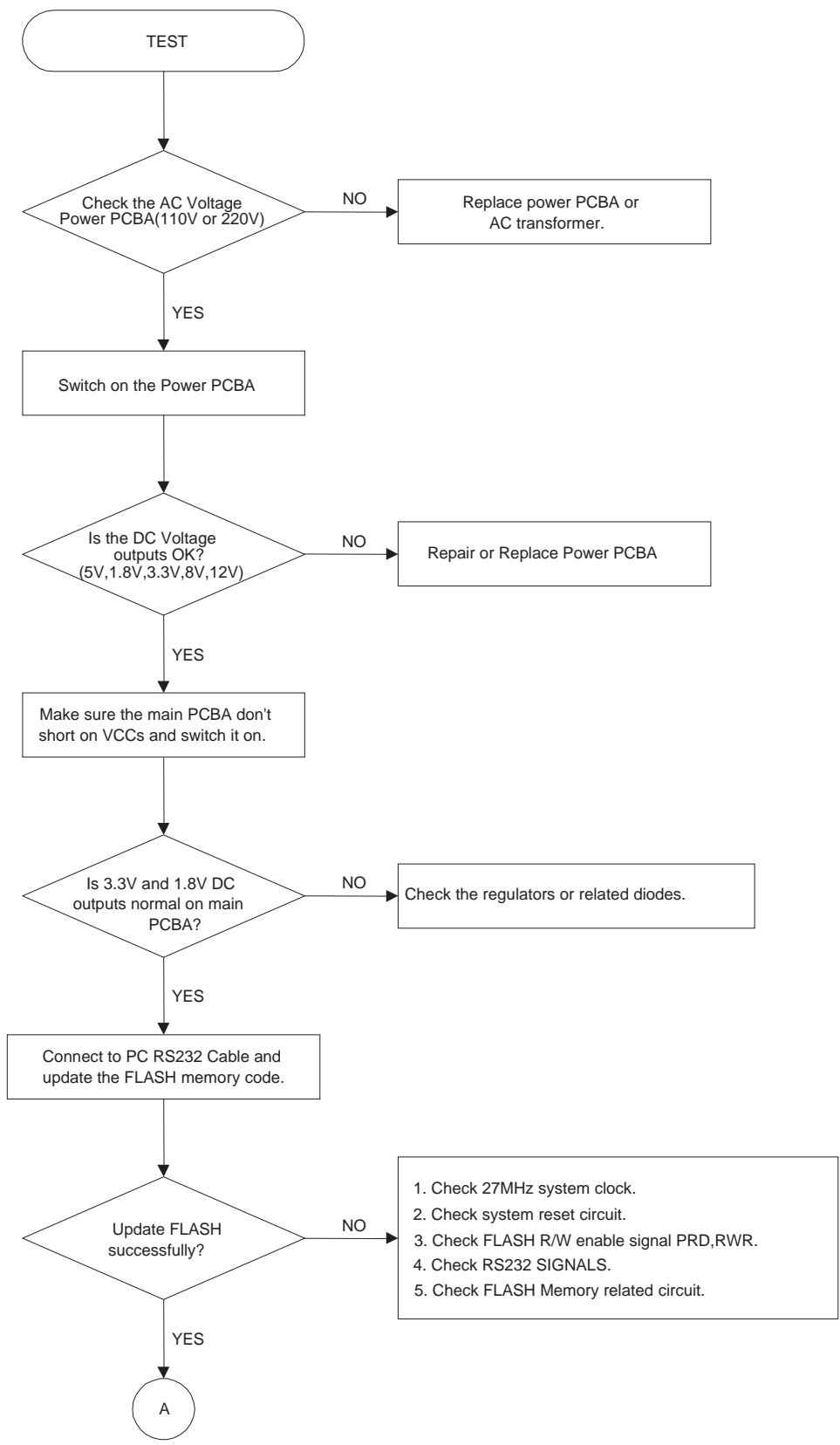
## 1. Power check flow

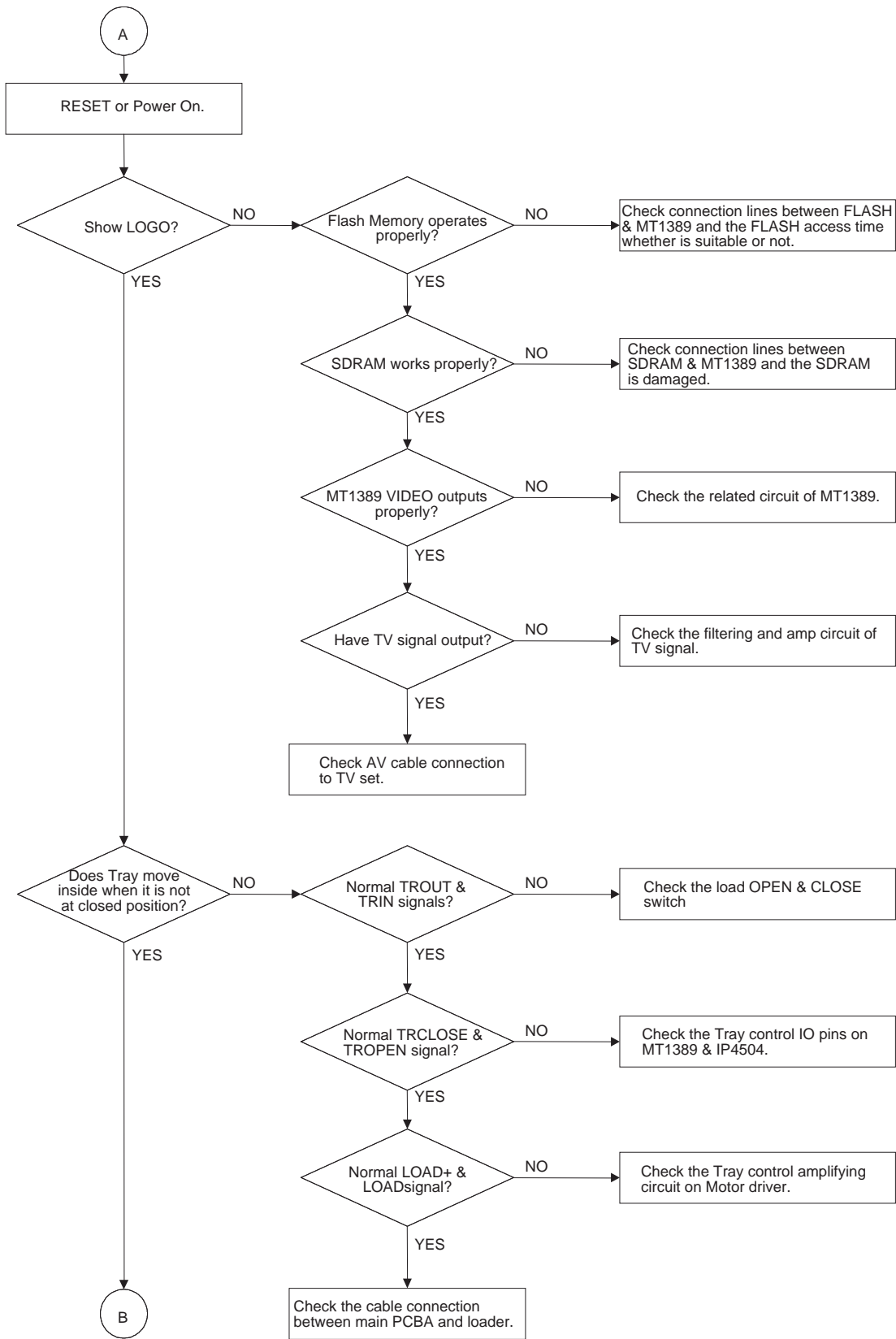


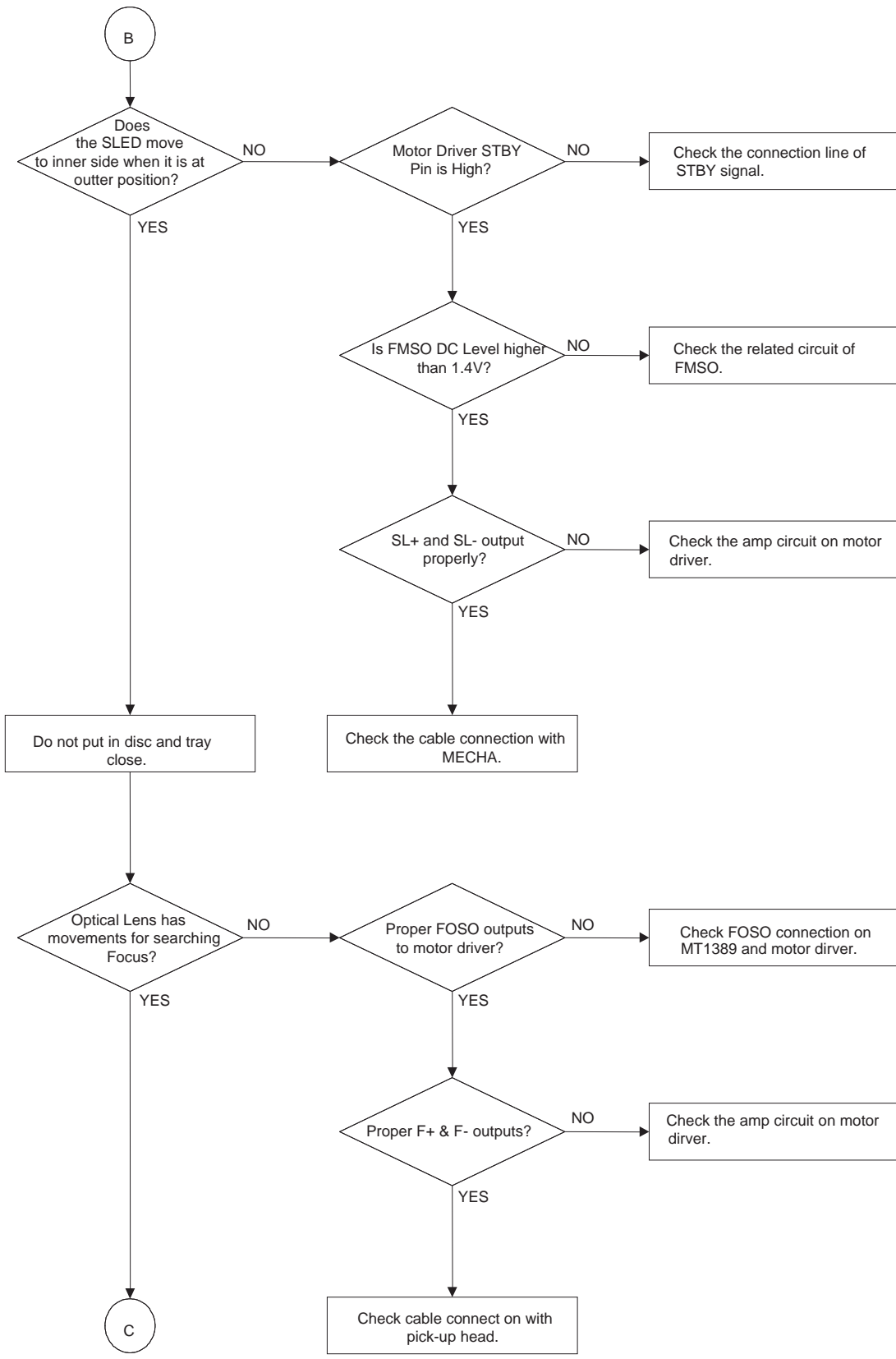
## 2. System operation flow

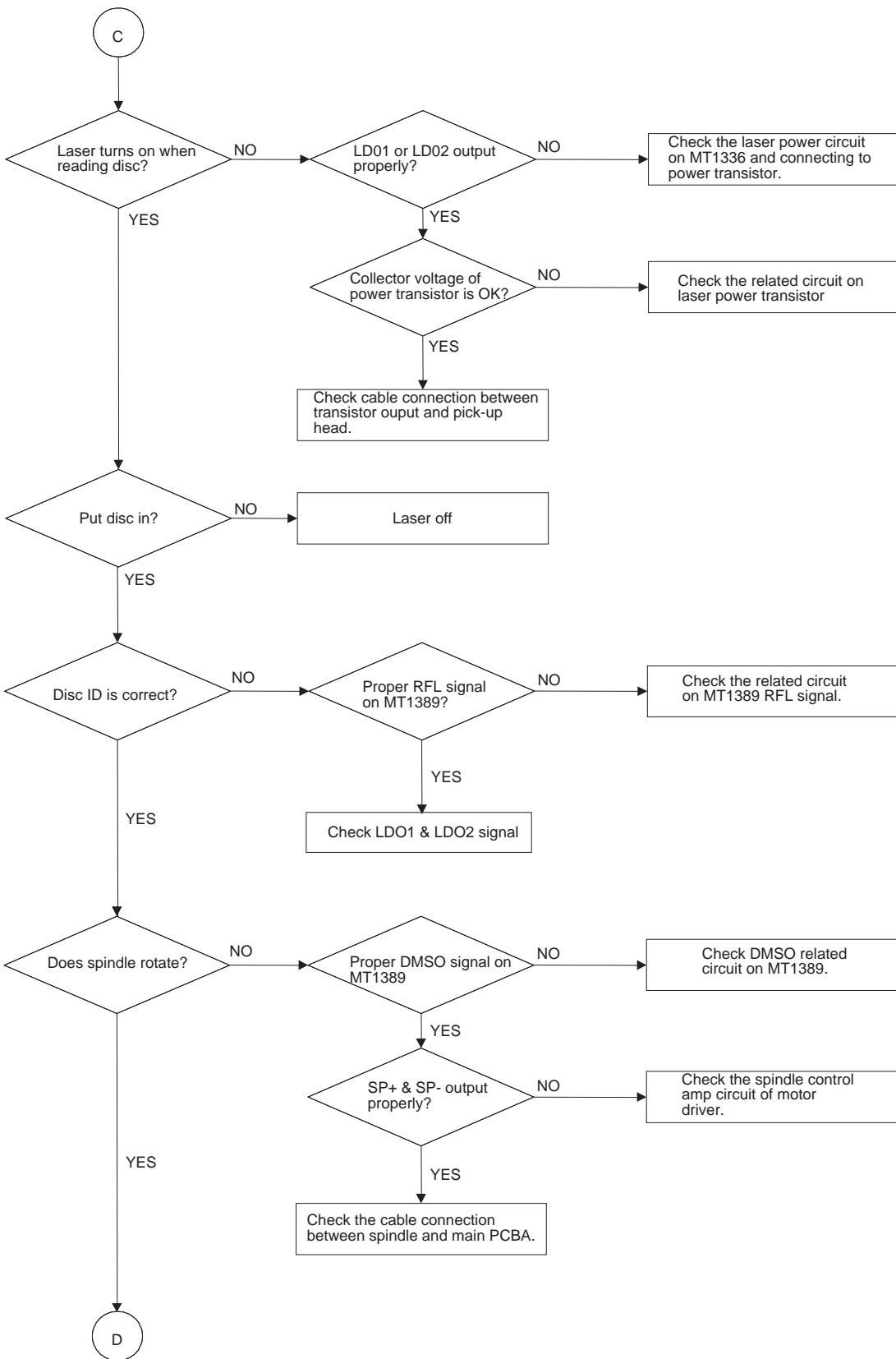


### 3. Test & debug flow

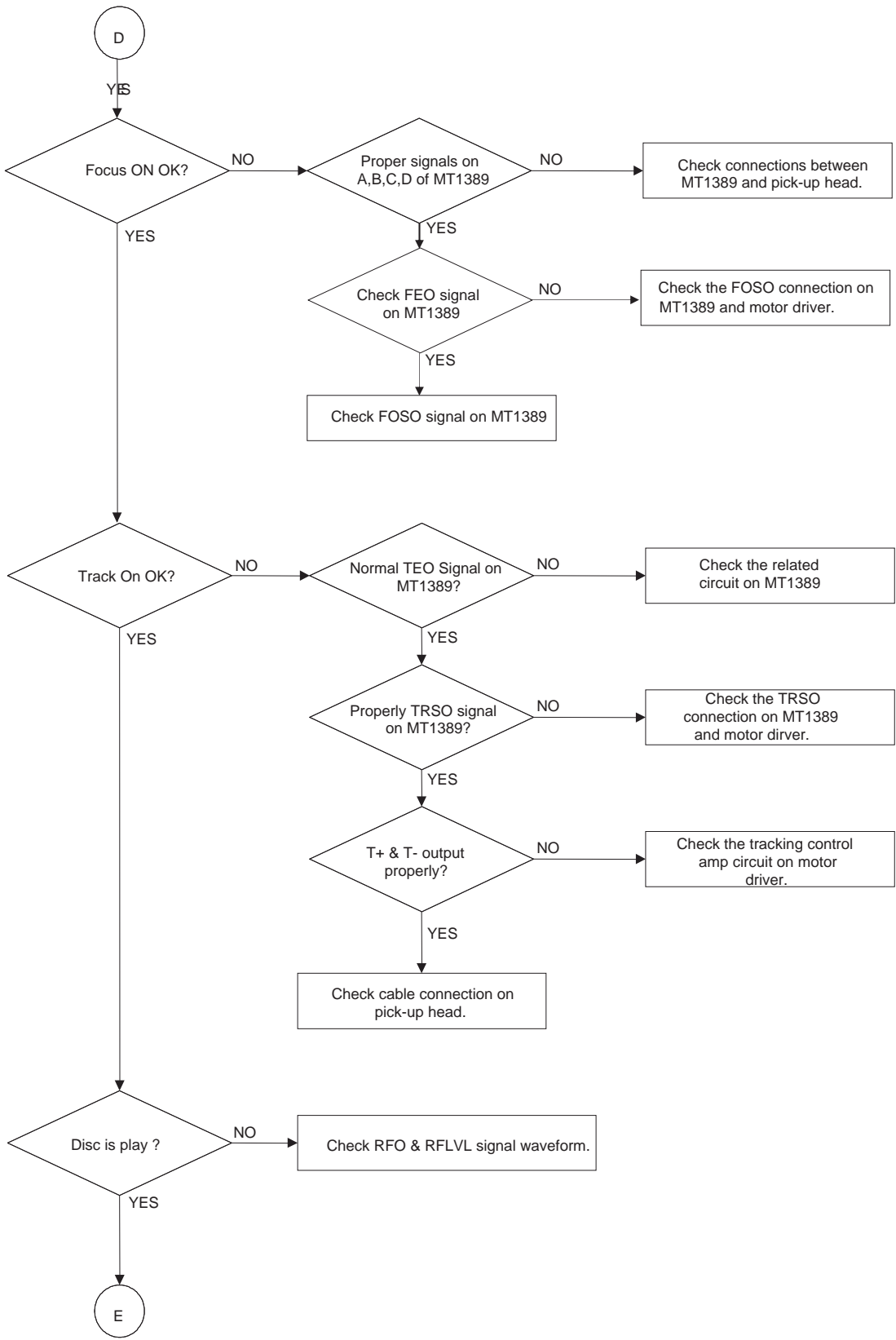


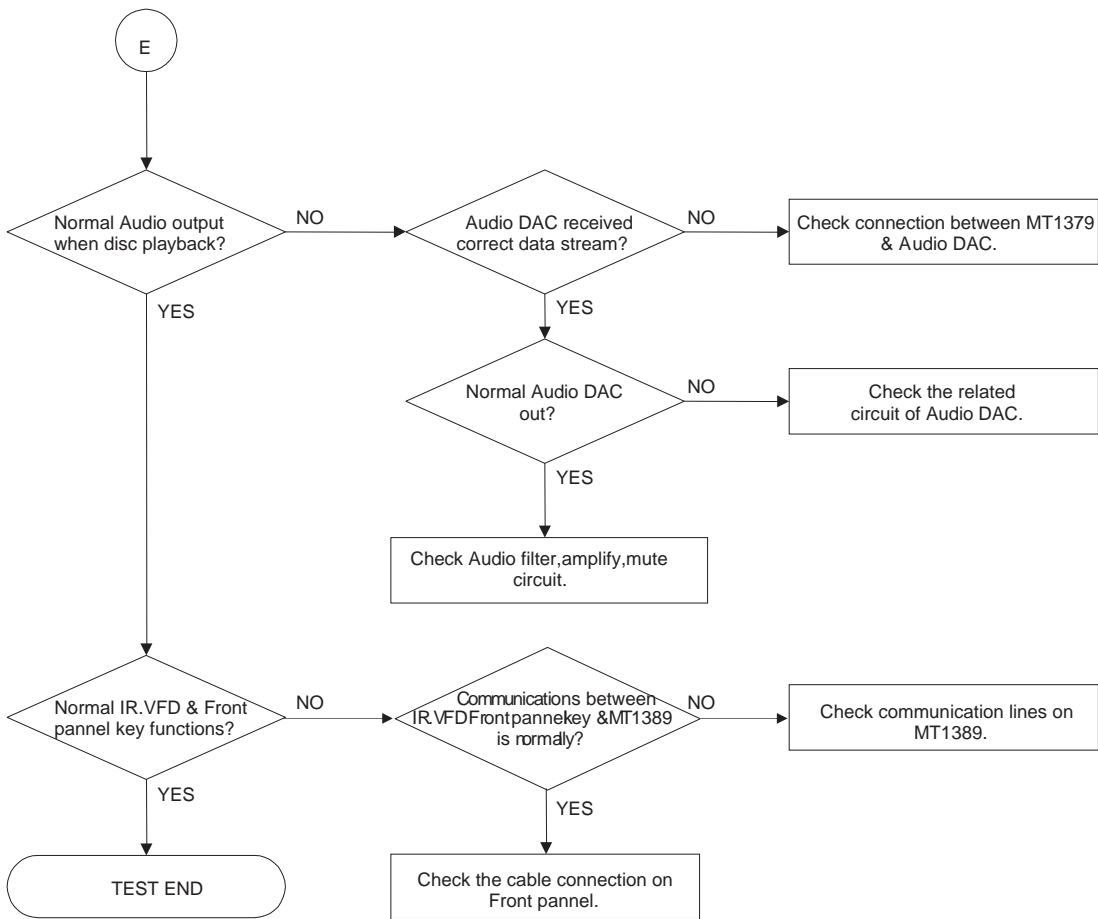












# DETAILS AND WAVEFORMS ON SYSTEM TEST AND DEBUGGING

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

1) MT1389 main clock is at 27MHz(X501)

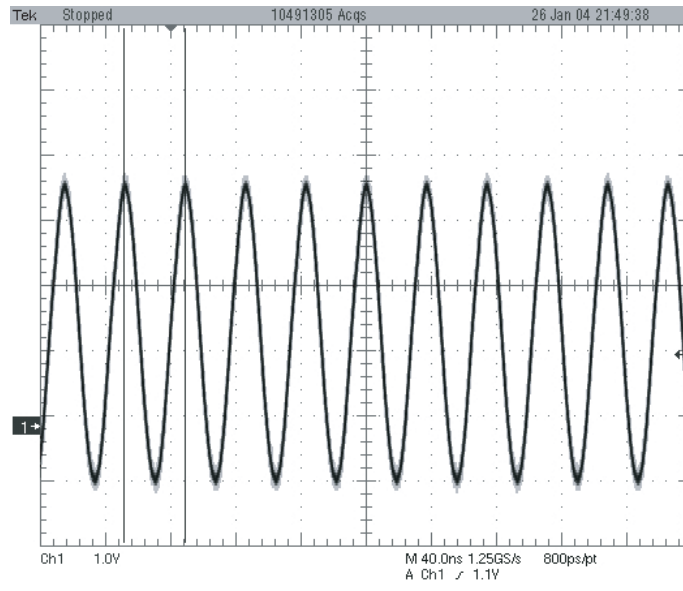


FIG 1-1

2) MT1389 reset is low active.

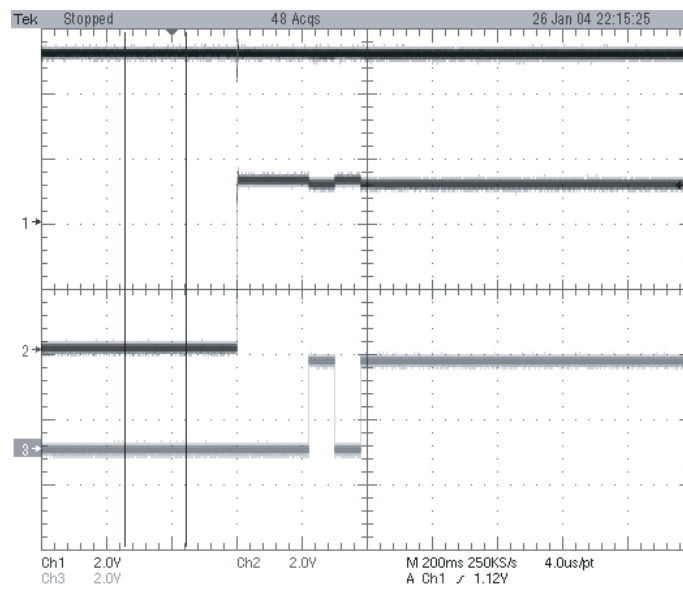


FIG 1-2

### 3) RS232 waveform during procedure(Downloading)

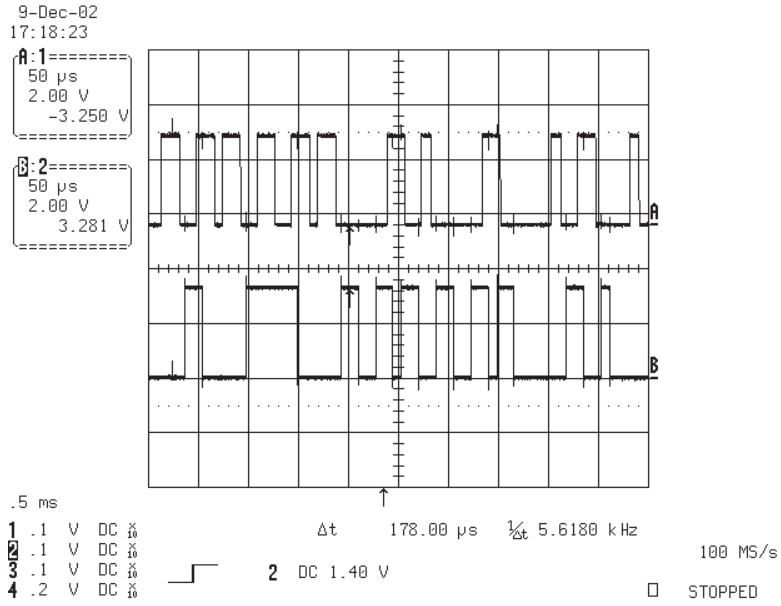


FIG 1-3

### 4) Flash R/W enable signal during download(Downloading)

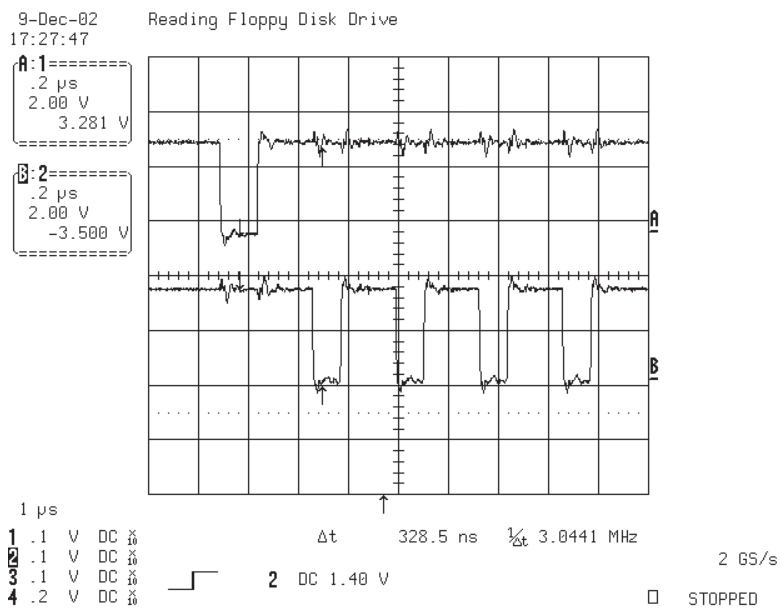


FIG 1-4

## 2. SDRAM CLOCK

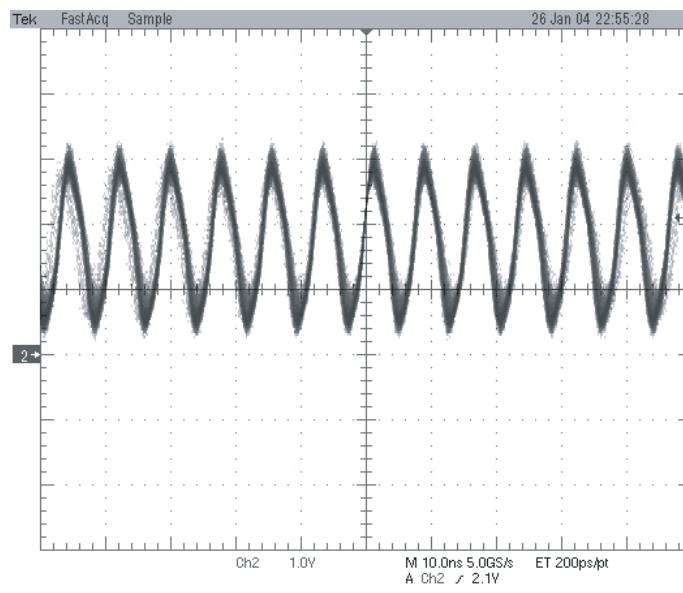


FIG 2-1

## 3. TRAY OPEN/CLOSE SIGNAL

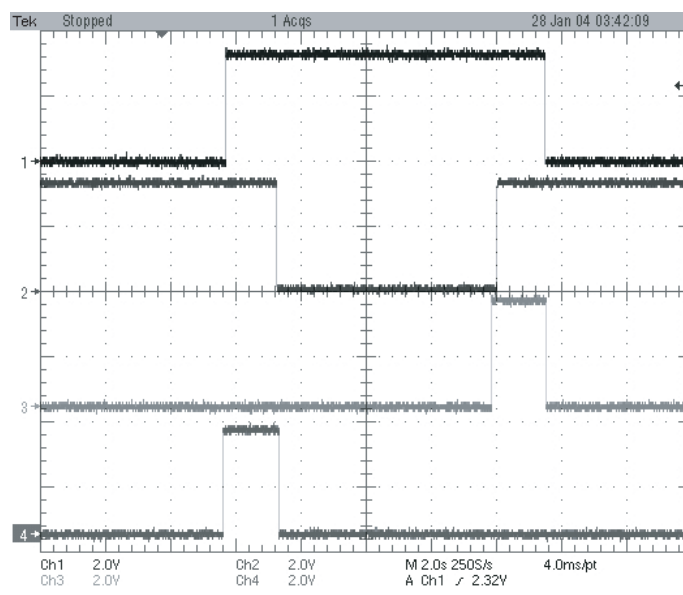


FIG 3-1

#### 4. SLED CONTROL RELATED SIGNAL (NO DISC CONDITION)

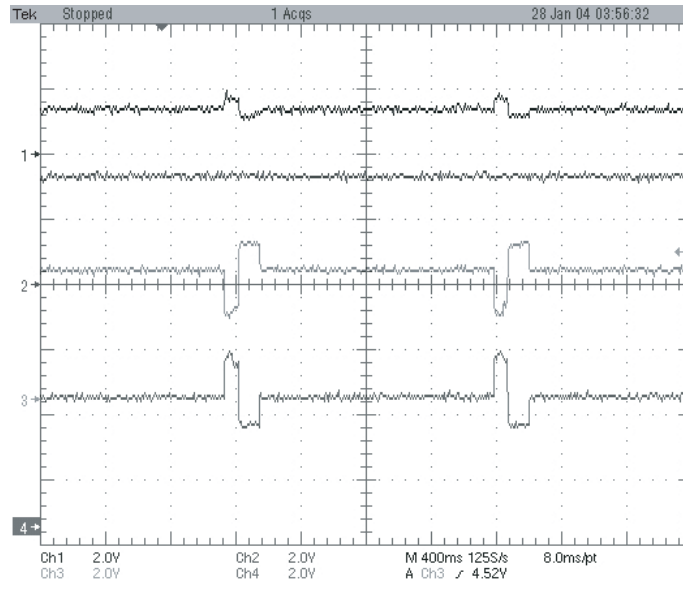


FIG 4-1

#### 5. LENS CONTROL RELATED SIGNAL (NO DISC CONDITION)

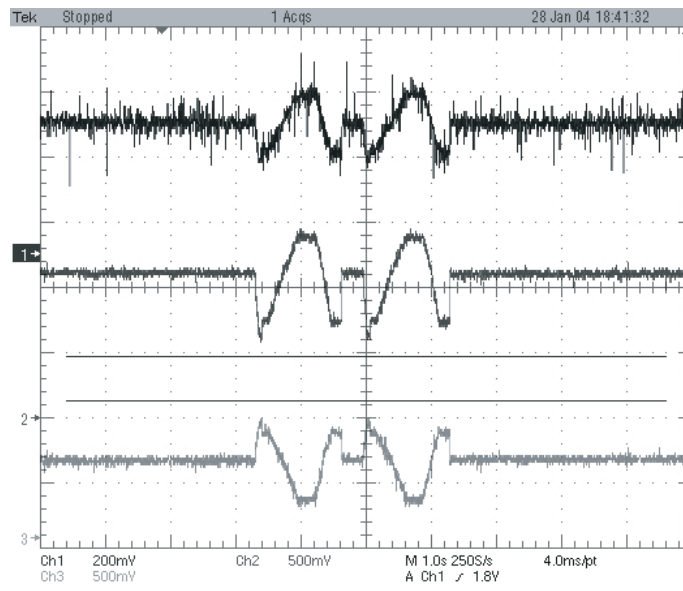


FIG 5-1

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

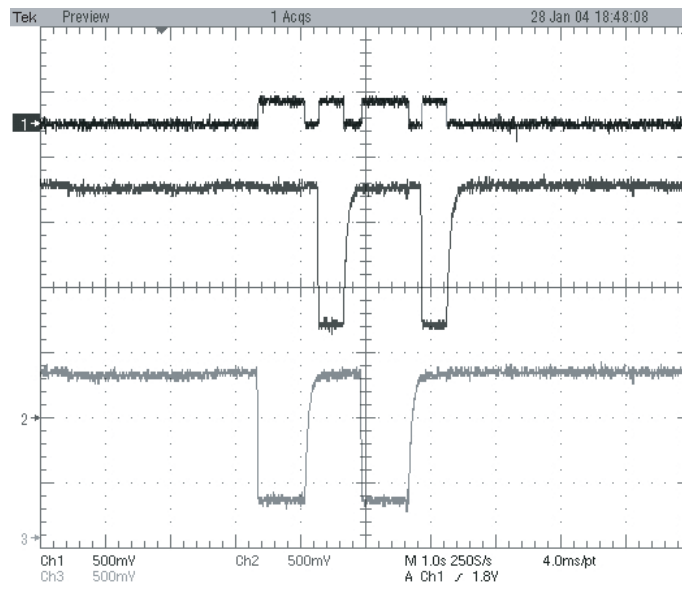


FIG 6-1

## 7. DISC TYPE JUDGEMENT WAVEFORM

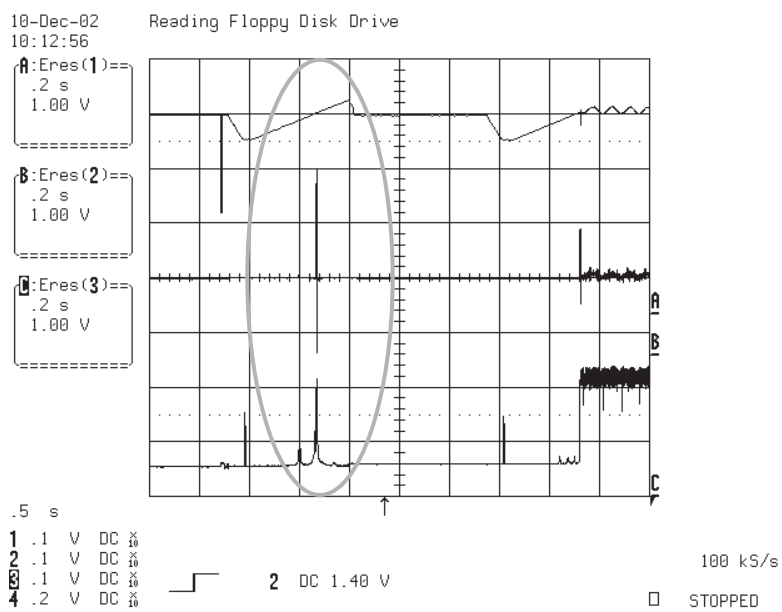


FIG 7-1

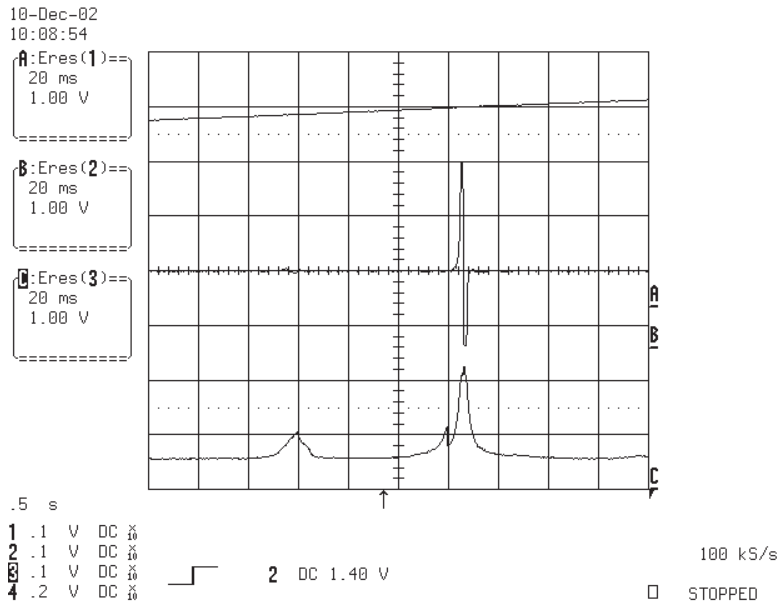


FIG 7-2 (DVD)

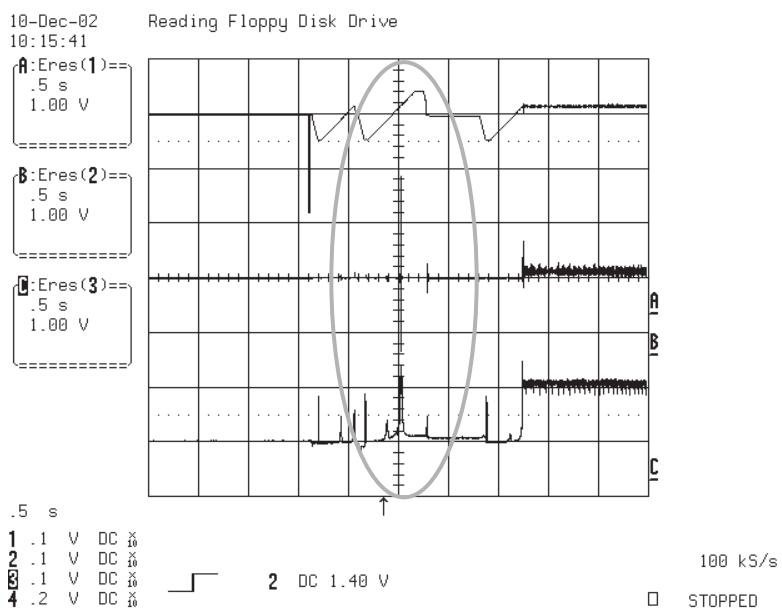


FIG 7-3 (CD)



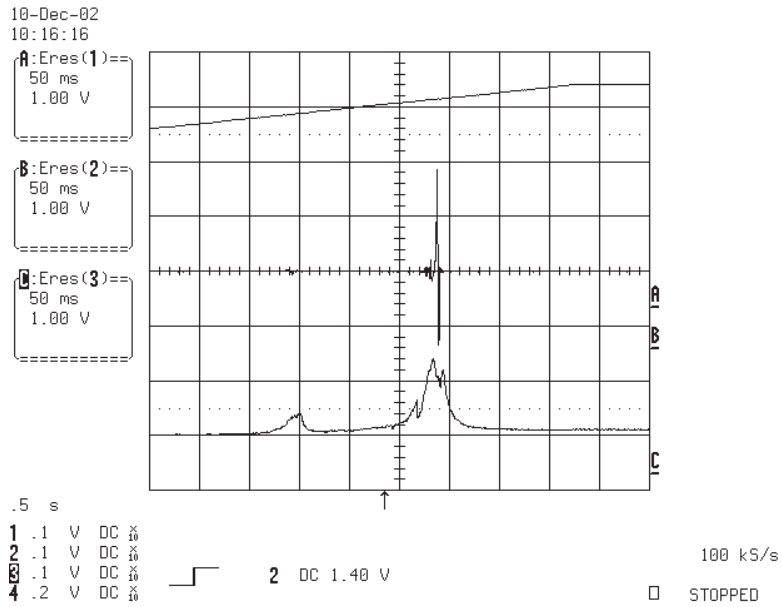


FIG 7-4 (CD)

## 8. FOCUS ON WAVEFORM

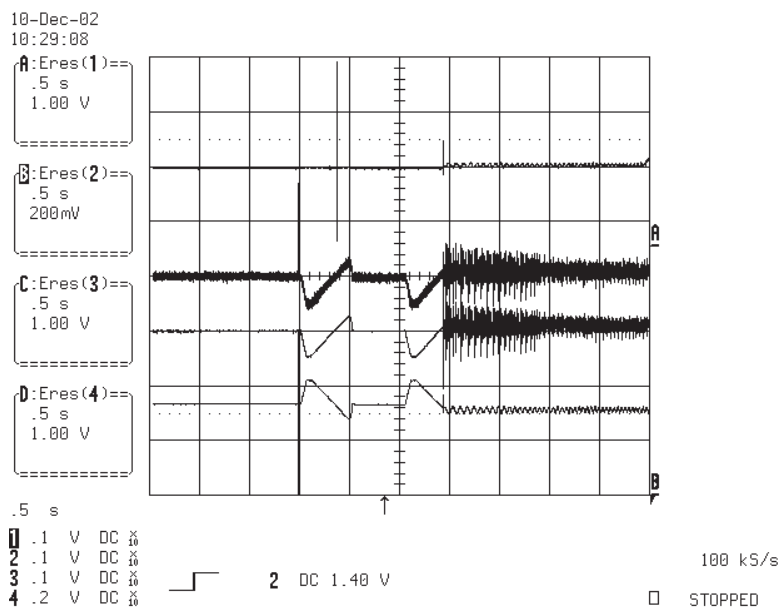


FIG 8-1 (DVD)

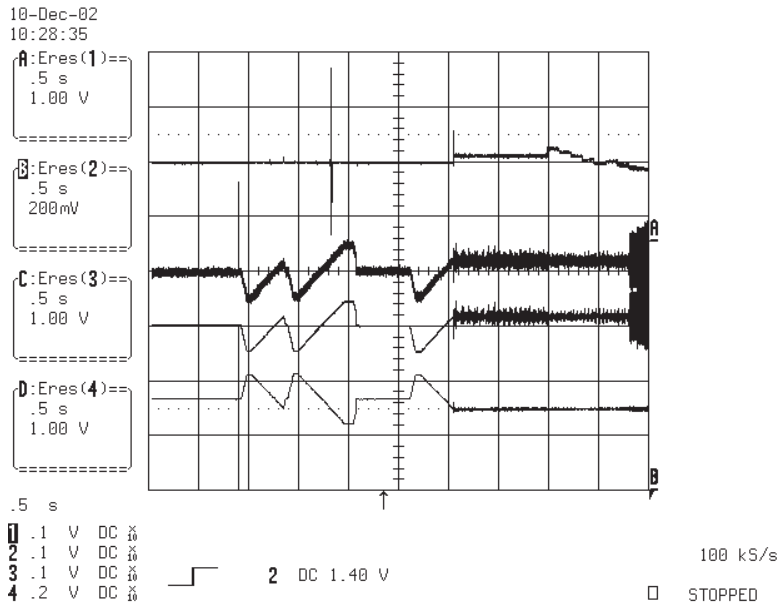


FIG 8-2 (CD)

## 9. SPINDLE CONTROL WAVEFORM (NO DISC CONDITION)

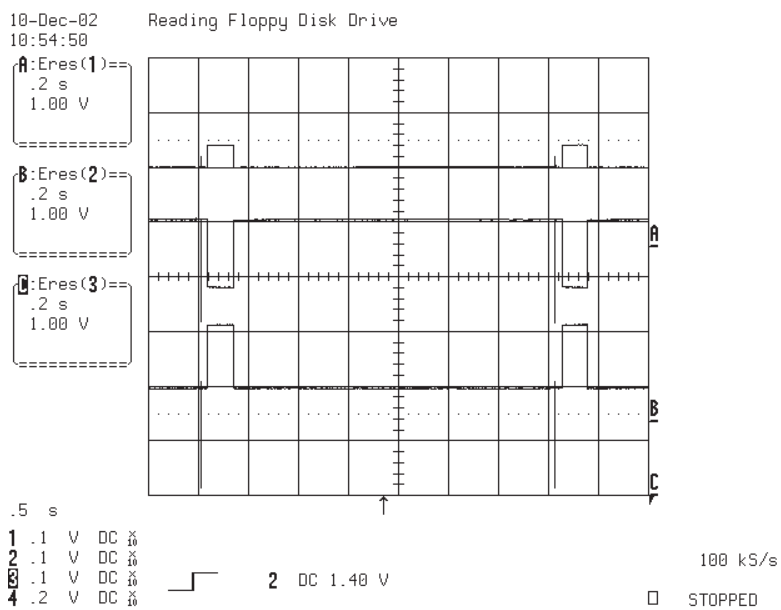


FIG 9-1

# 10. TRACKING CONTROL RELATED SIGNAL(System checking)

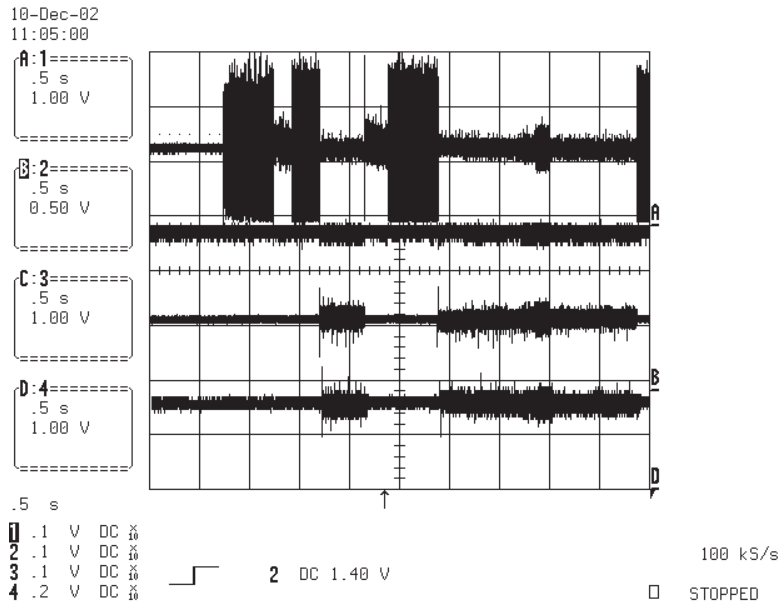


FIG 10-1 (DVD)

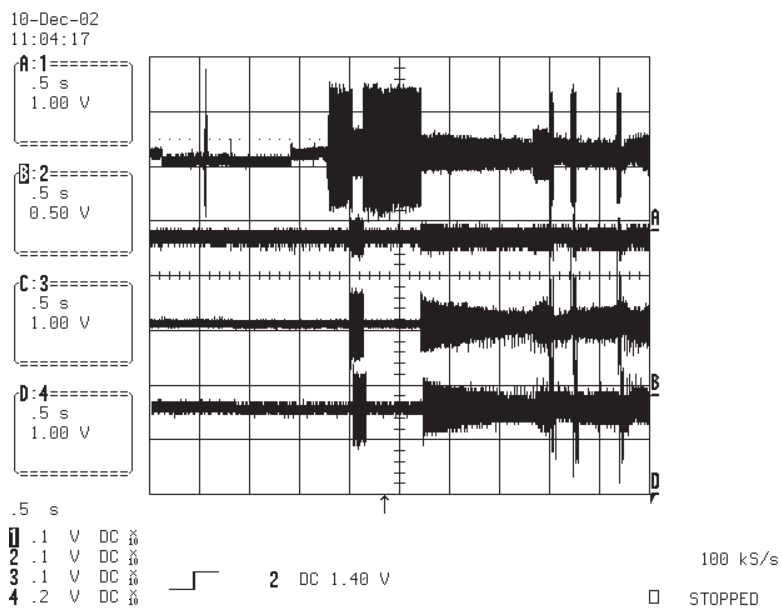


FIG 10-2 (CD)

## 11. MT1389 AUDIO OPTICAL AND COAXIAL OUTPUT (SPDIF)

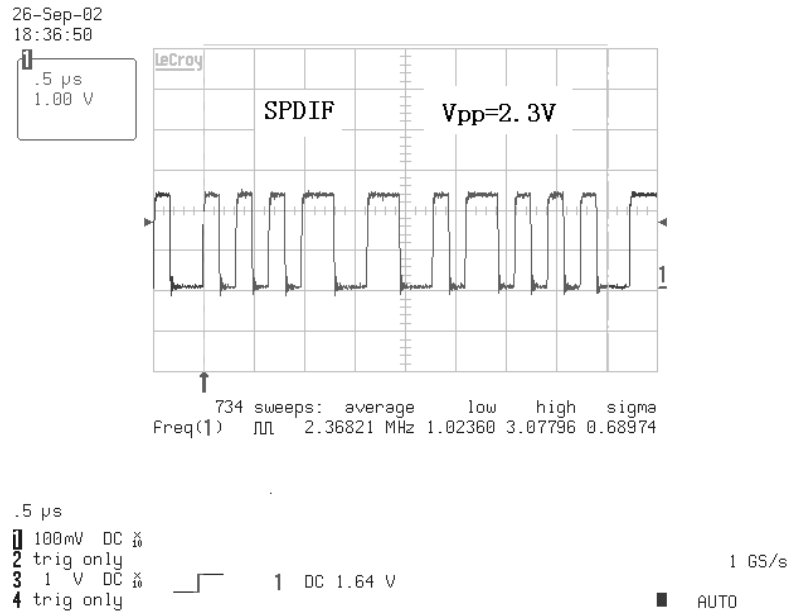


FIG 11-1 (DVD)

## 12. MT1389 VIDEO OUTPUT WAVEFORM

### 1) 100%

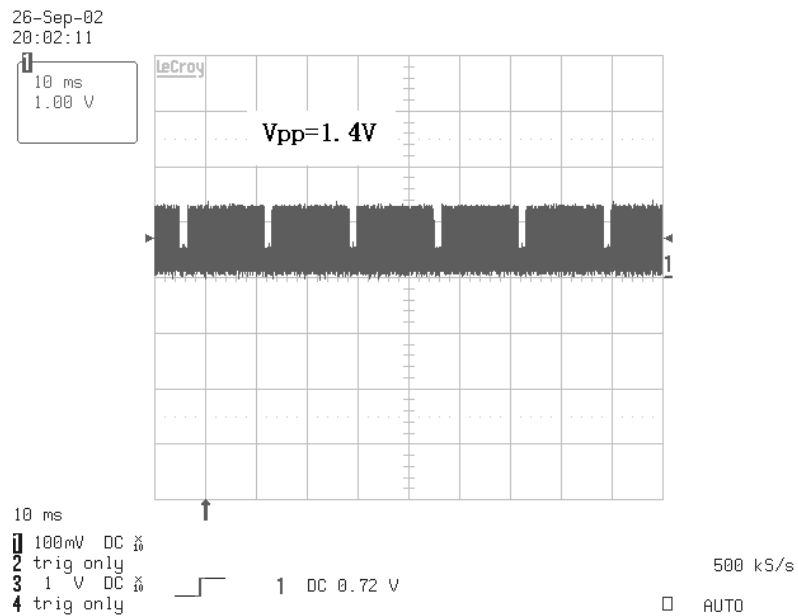


FIG 12-1

## 2) COMPOSITE VIDEO SIGNAL

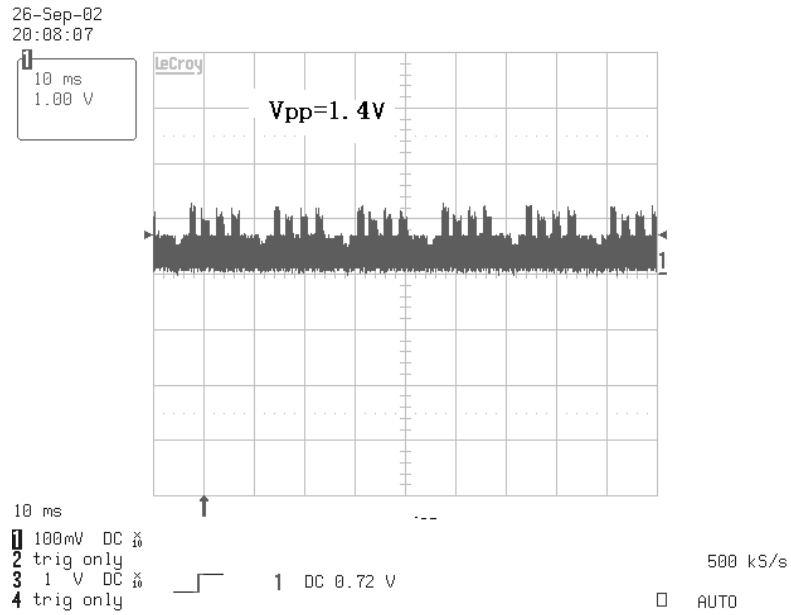


FIG 12-2

## 13. MT1389 AUDIO OUTPUT TO AUDIO DAC

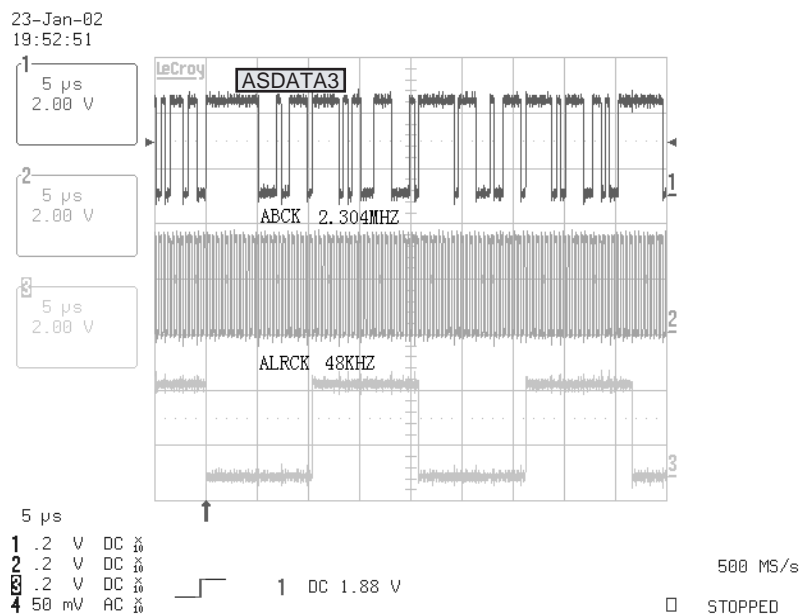


FIG 13-1

# 14. AUDIO OUTPUT FROM AUDIO DAC

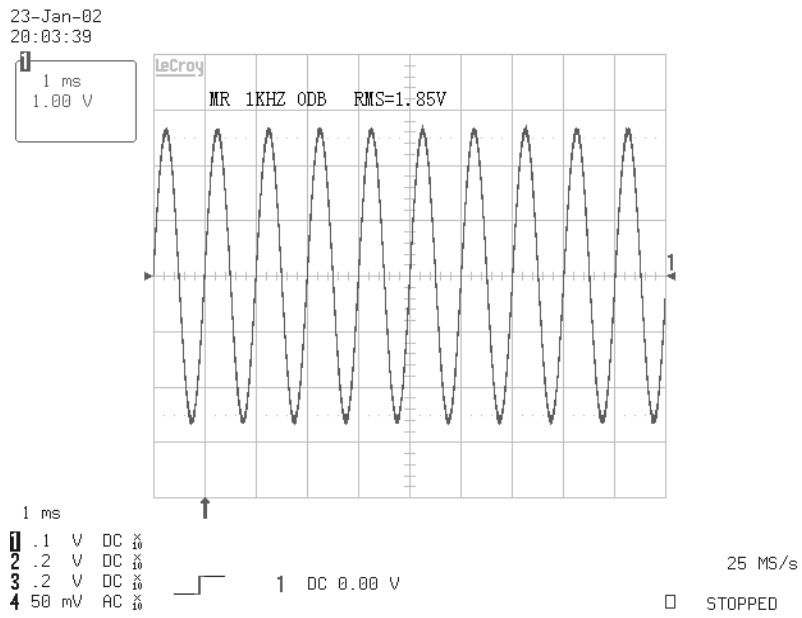
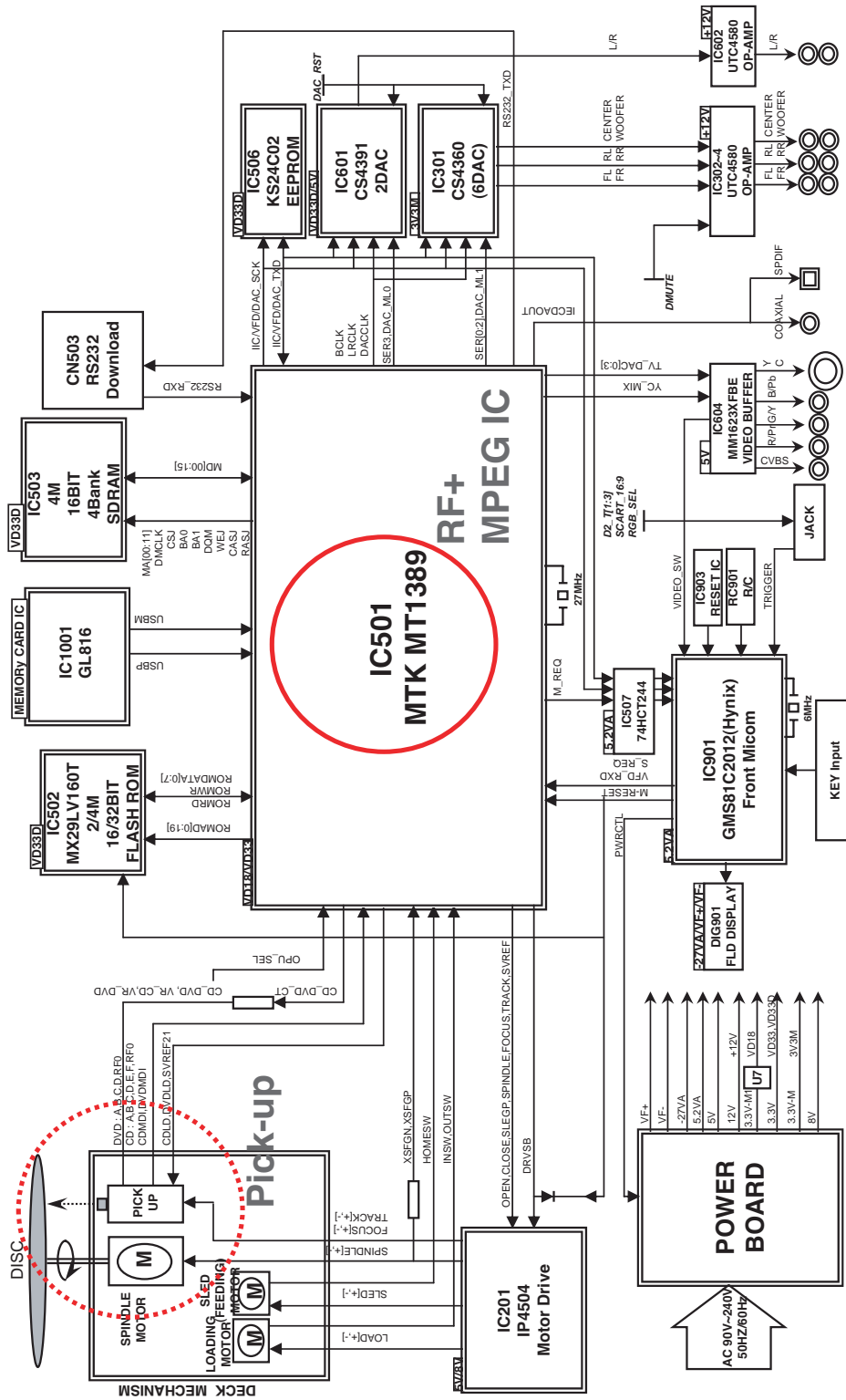


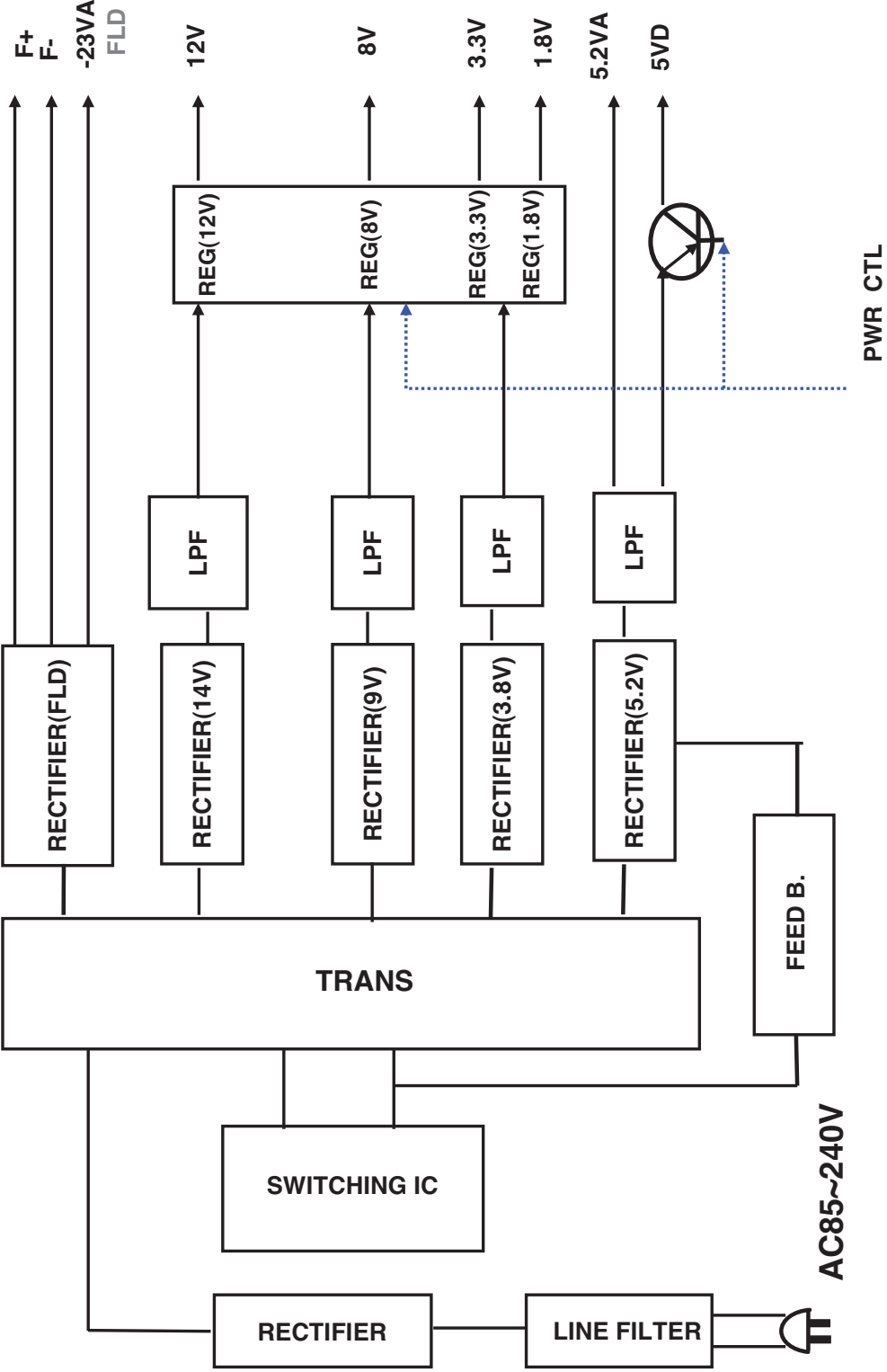
FIG 14-1

# BLOCK DIAGRAMS

## 1. Overall Block Diagram

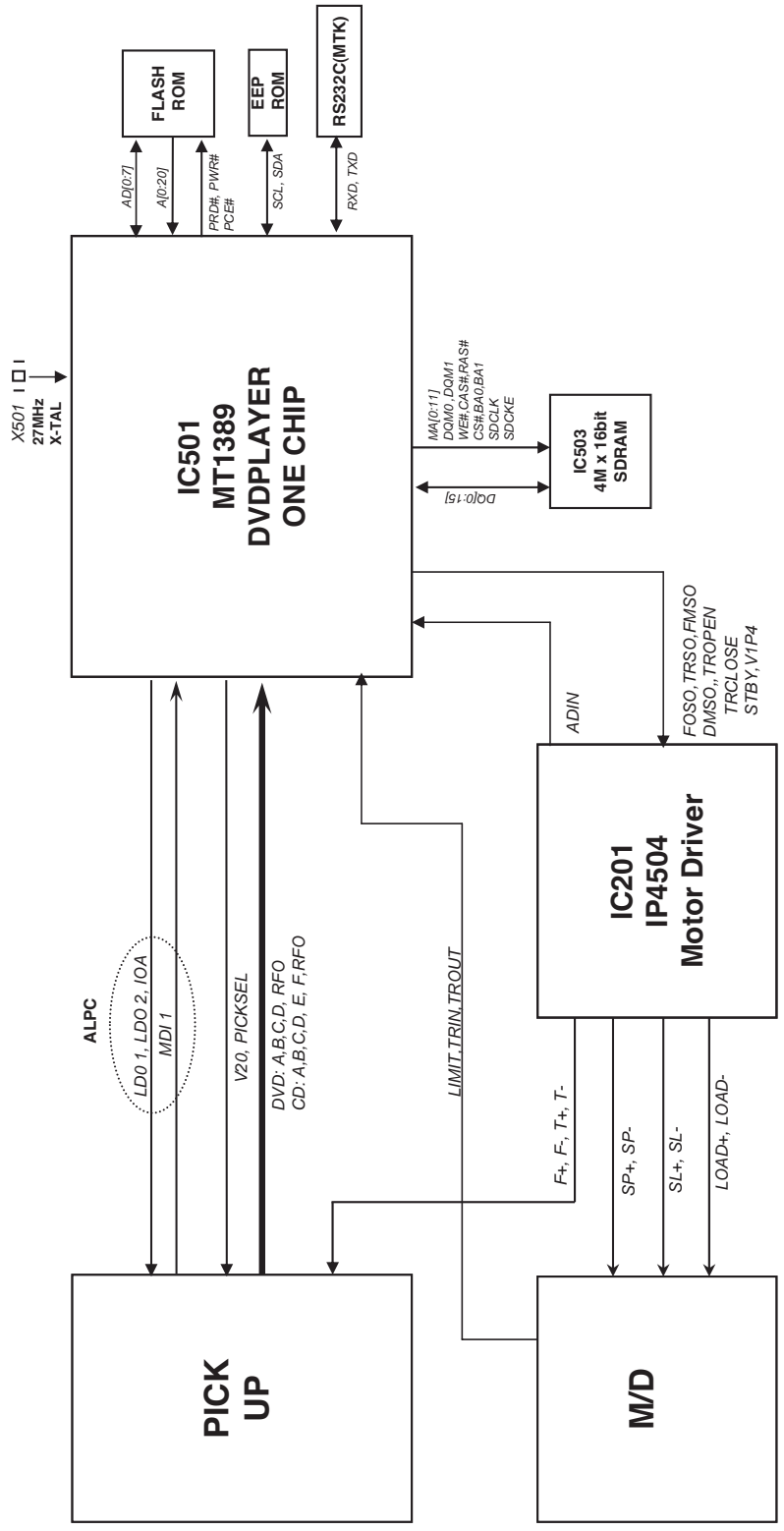


## 2. Power(SMPS) Block Diagram

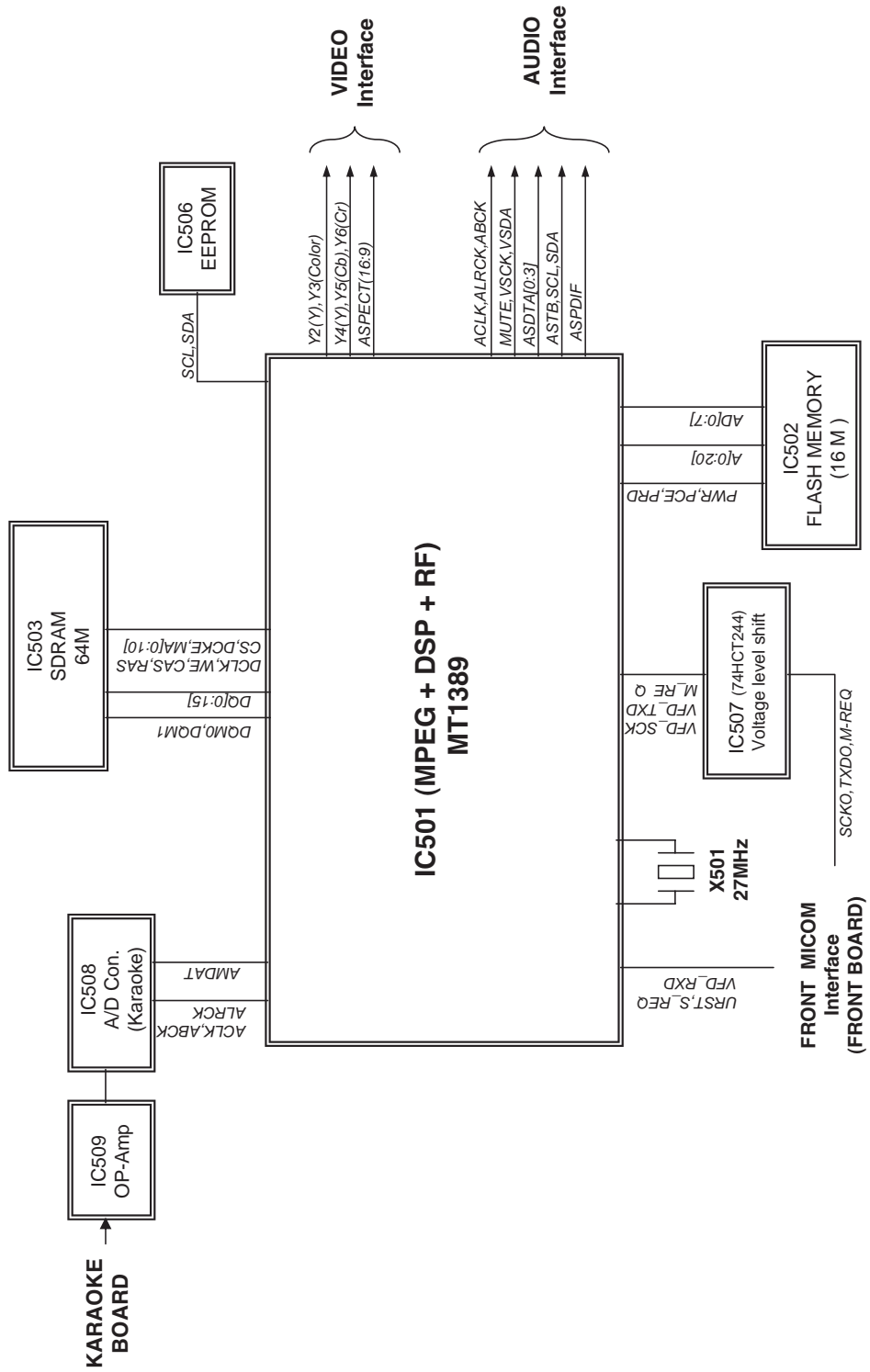




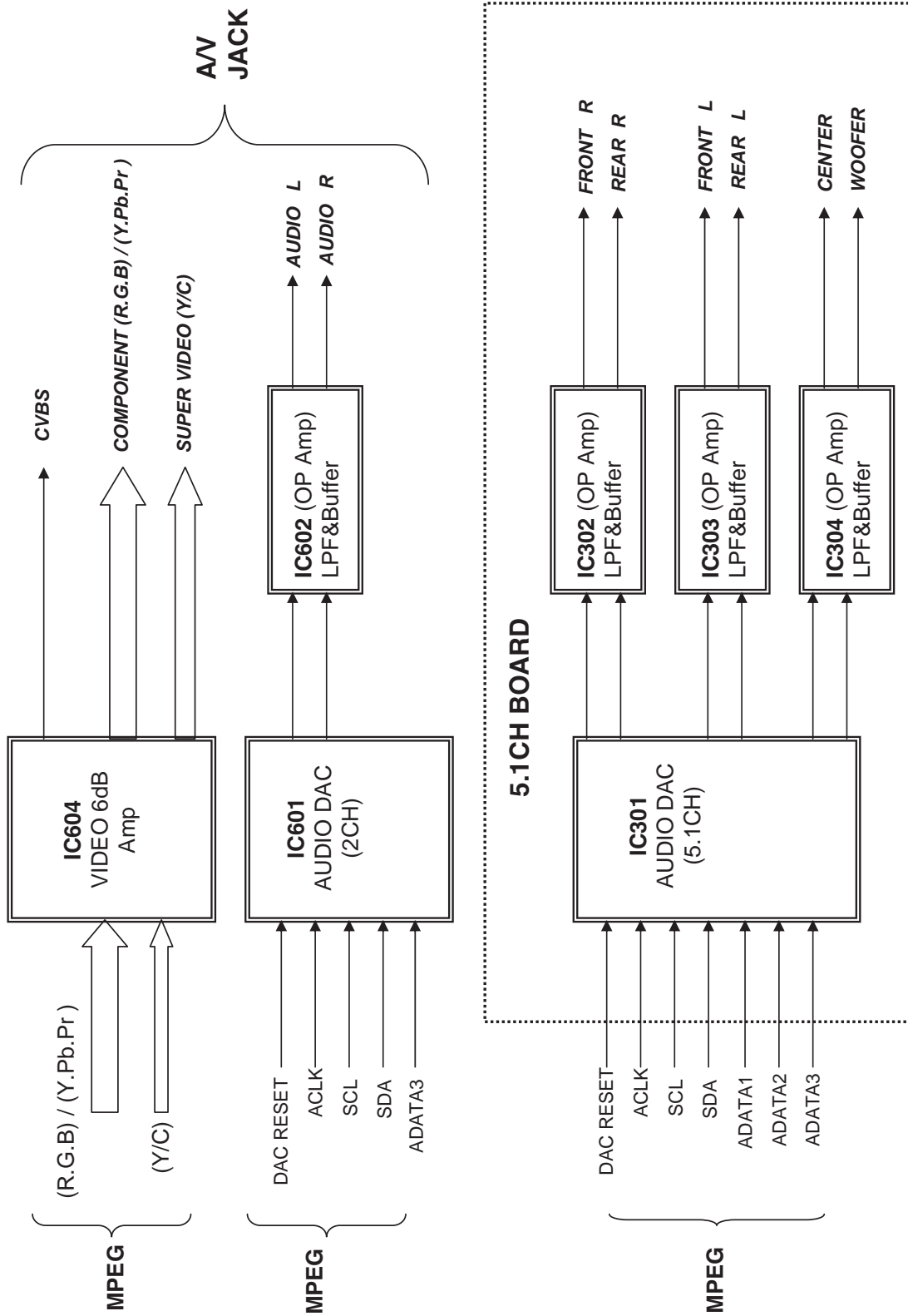
### 3. SERVO Block Diagram



# 4. MPEG & MEMORY Block Diagram



# 5. VIDEO & AUDIO Block Diagram



# CIRCUIT DIAGRAMS

## 1. POWER(SMPS) CIRCUIT DIAGRAM

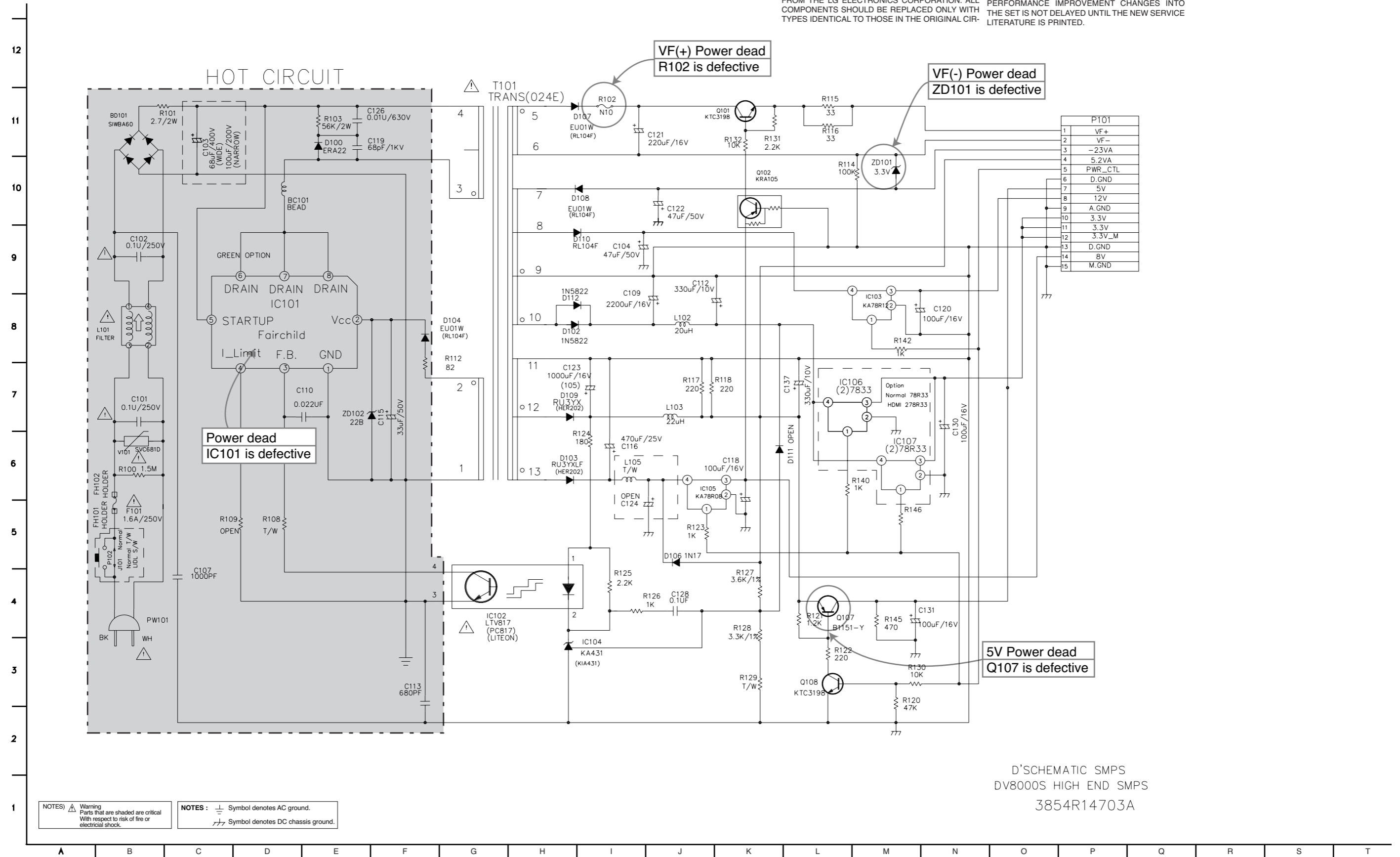
### IMPORTANT SAFETY NOTICE

WHEN SERVICING THIS CHASSIS, UNDER NO CIRCUMSTANCES SHOULD THE ORIGINAL DESIGN BE MODIFIED OR ALTERED WITHOUT PERMISSION FROM THE LG ELECTRONICS CORPORATION. ALL COMPONENTS SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIR-

CUIT. 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 :

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



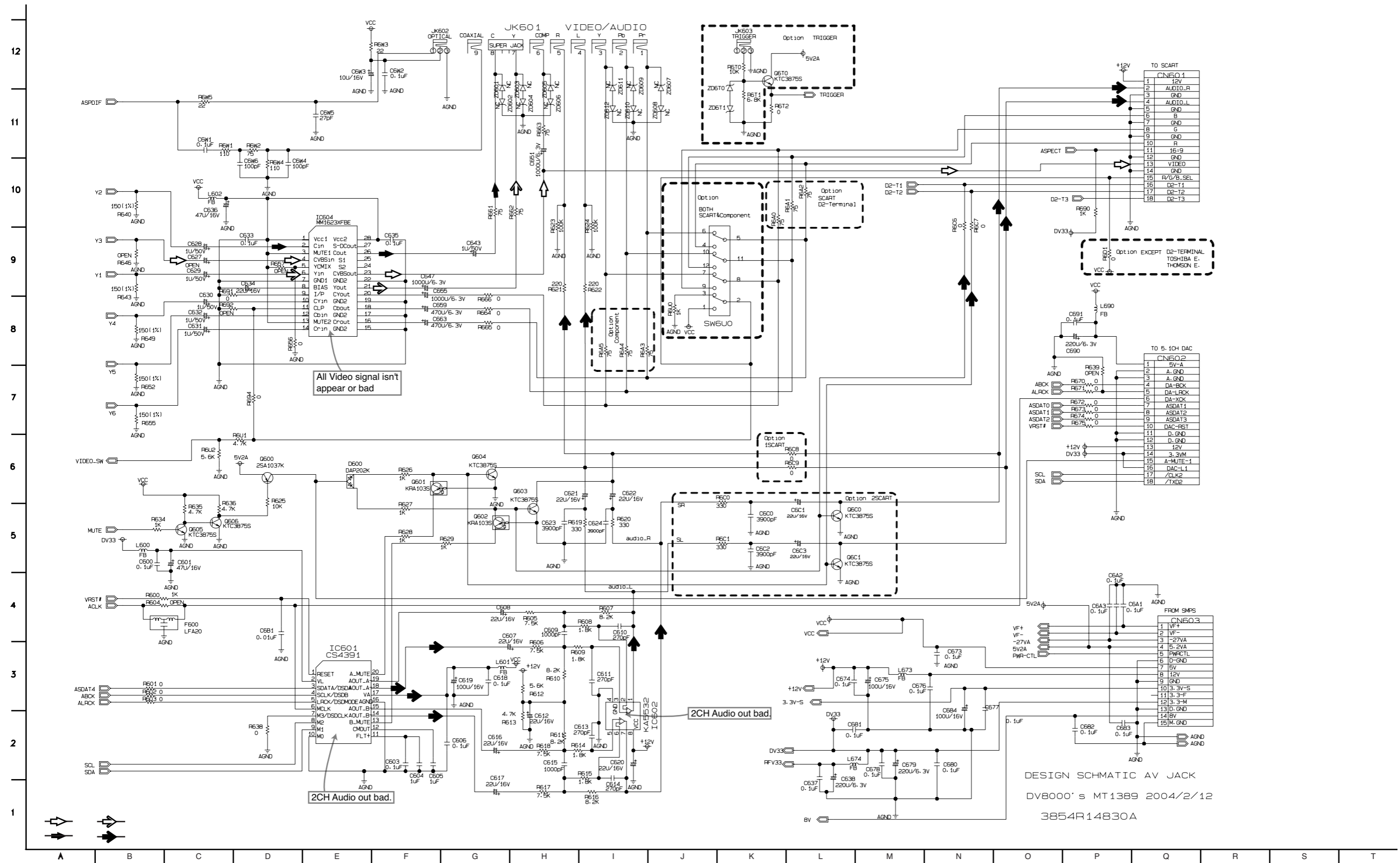
NOTES: ⚠ Warning Parts that are shaded are critical With respect to risk of fire or electrical shock.

NOTES: ⚡ Symbol denotes AC ground.

⏏ Symbol denotes DC chassis ground.

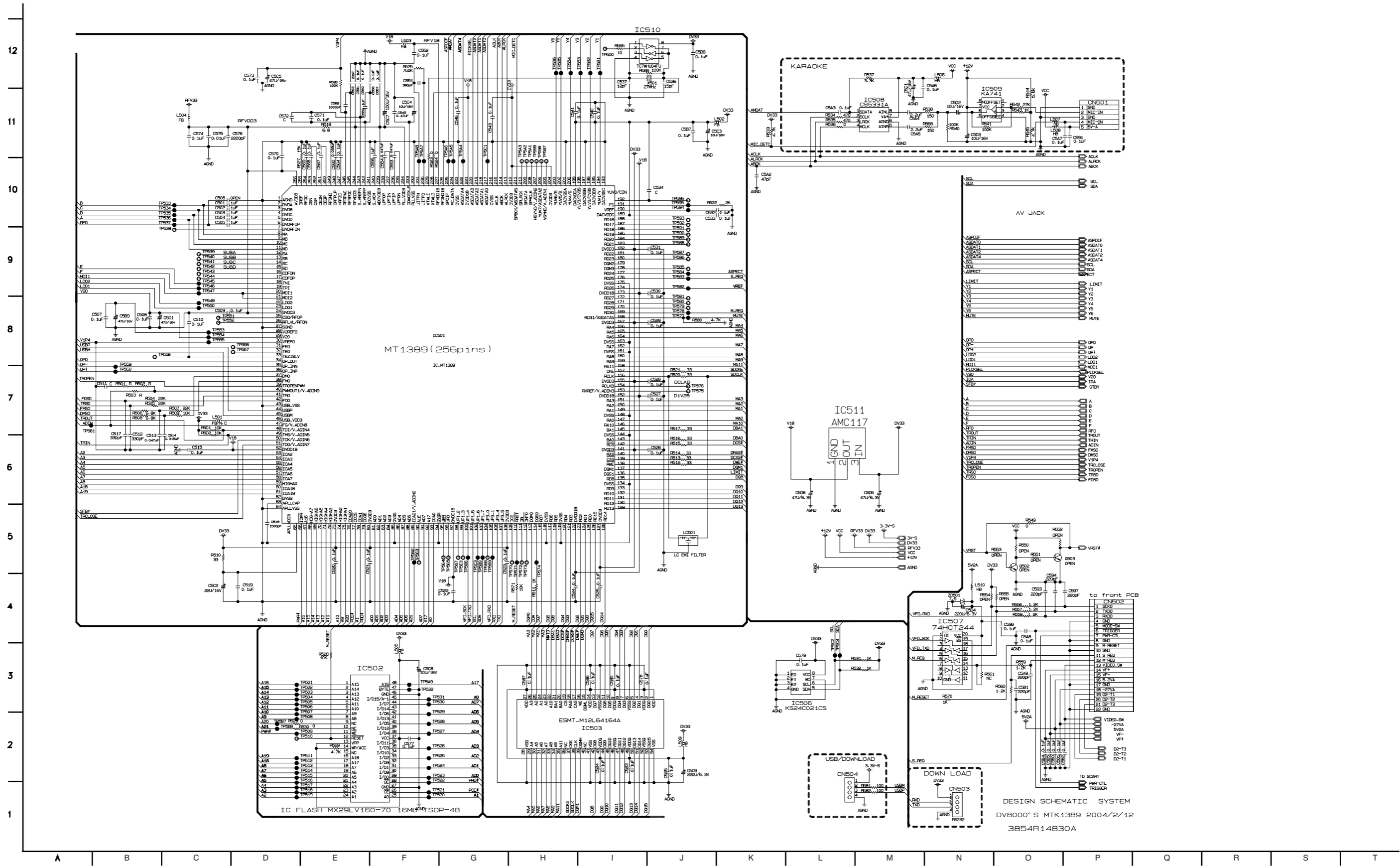
D'SCHEMATIC SMPS  
DV8000S HIGH END SMPS  
3854R14703A

## 2. AV/JACK CIRCUIT DIAGRAM



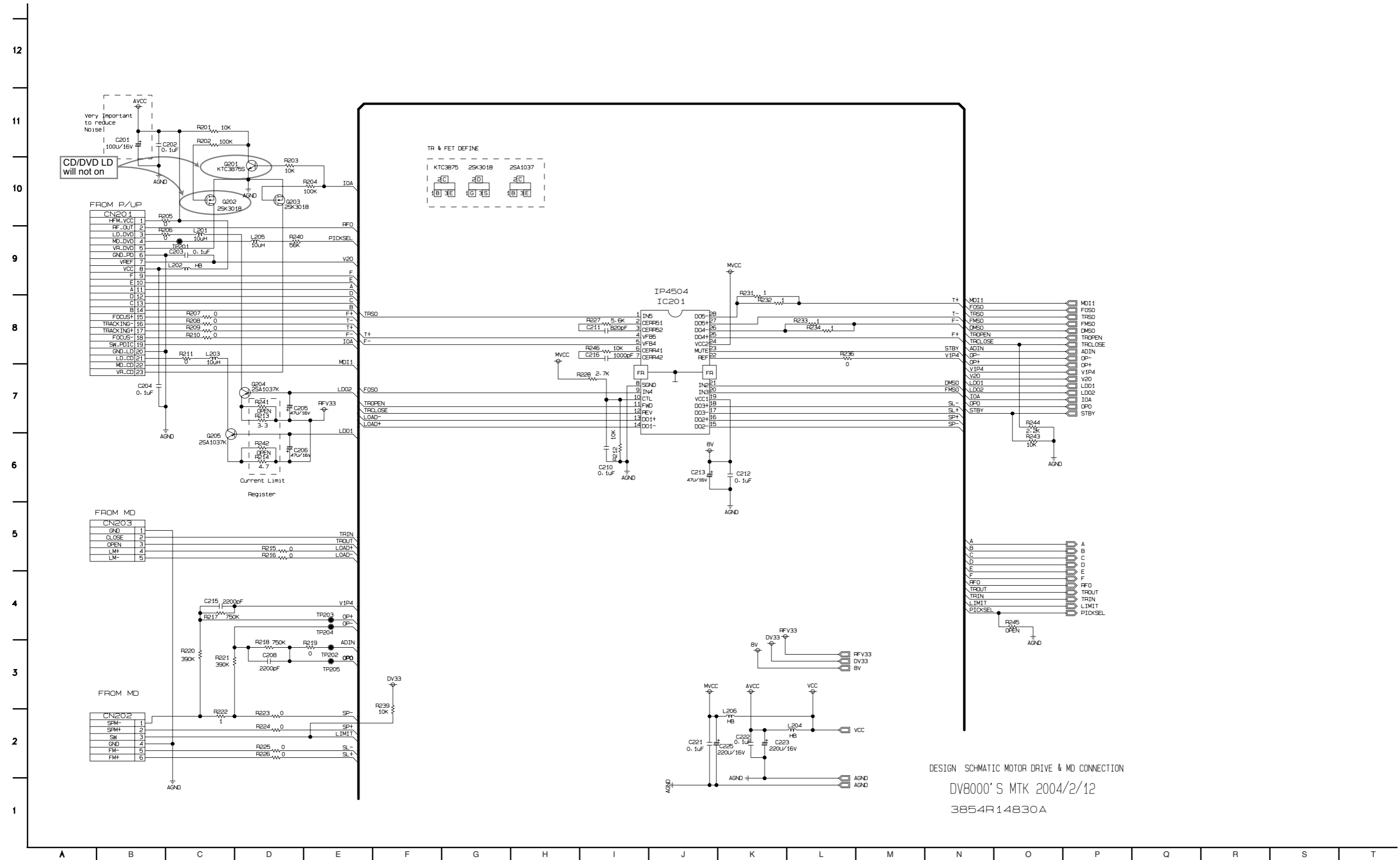
DESIGN SCHMATIC AV JACK  
DV8000' s MT1389 2004/2/12  
3854R14830A

### 3. SYSTEM CIRCUIT DIAGRAM

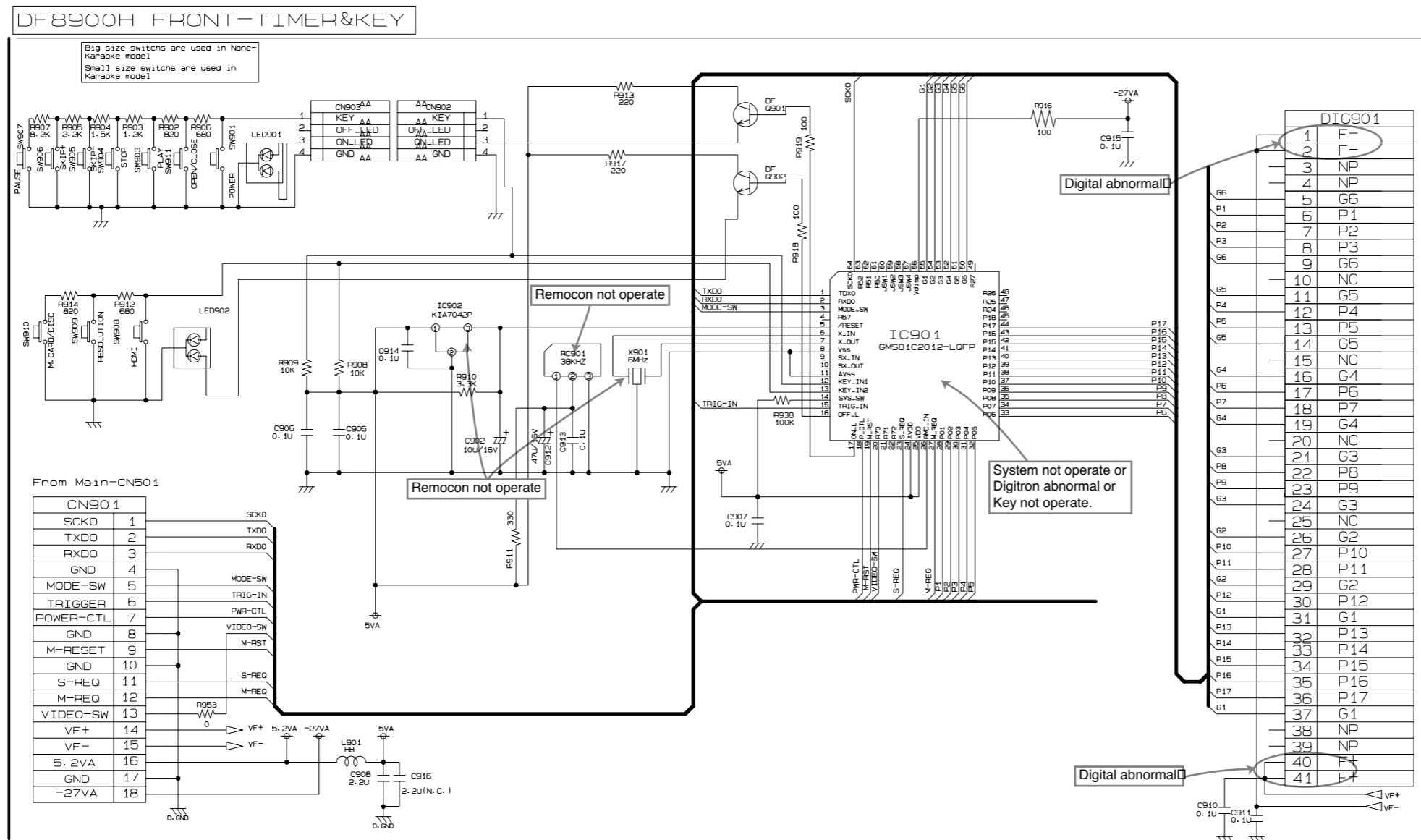


DESIGN SCHEMATIC SYSTEM  
 DV8000'S MTK1389 2004/2/12  
 3854R14830A

# 4. DRIVER CIRCUIT DIAGRAM



# 5. TIMER CIRCUIT DIAGRAM

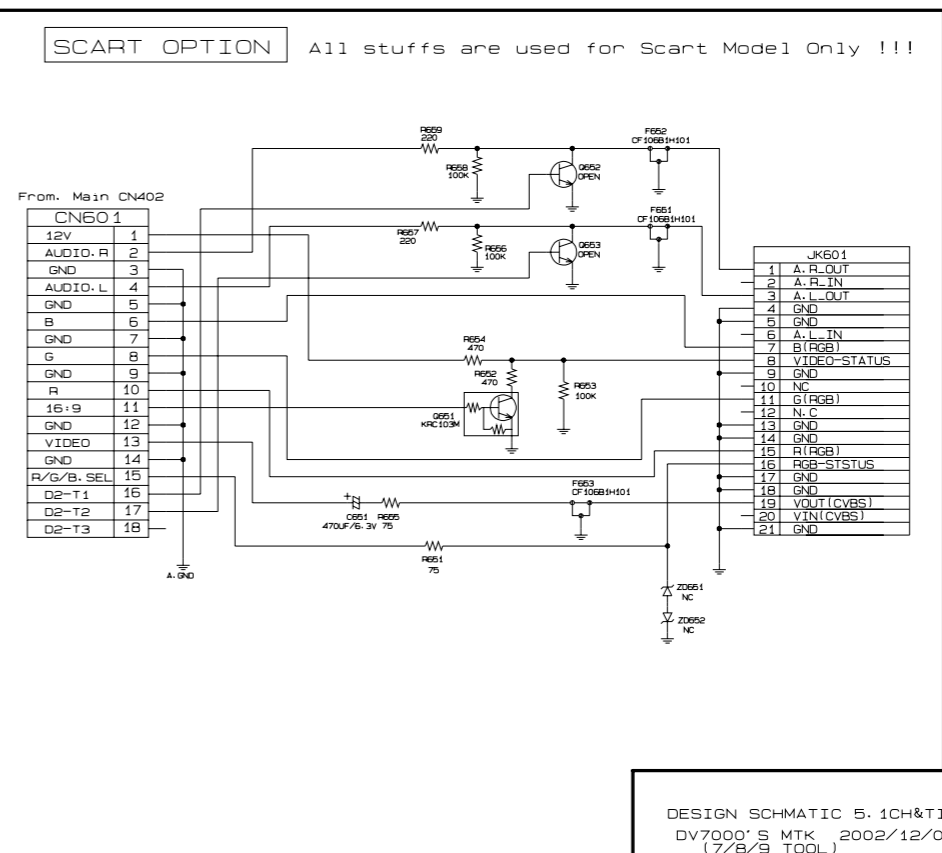
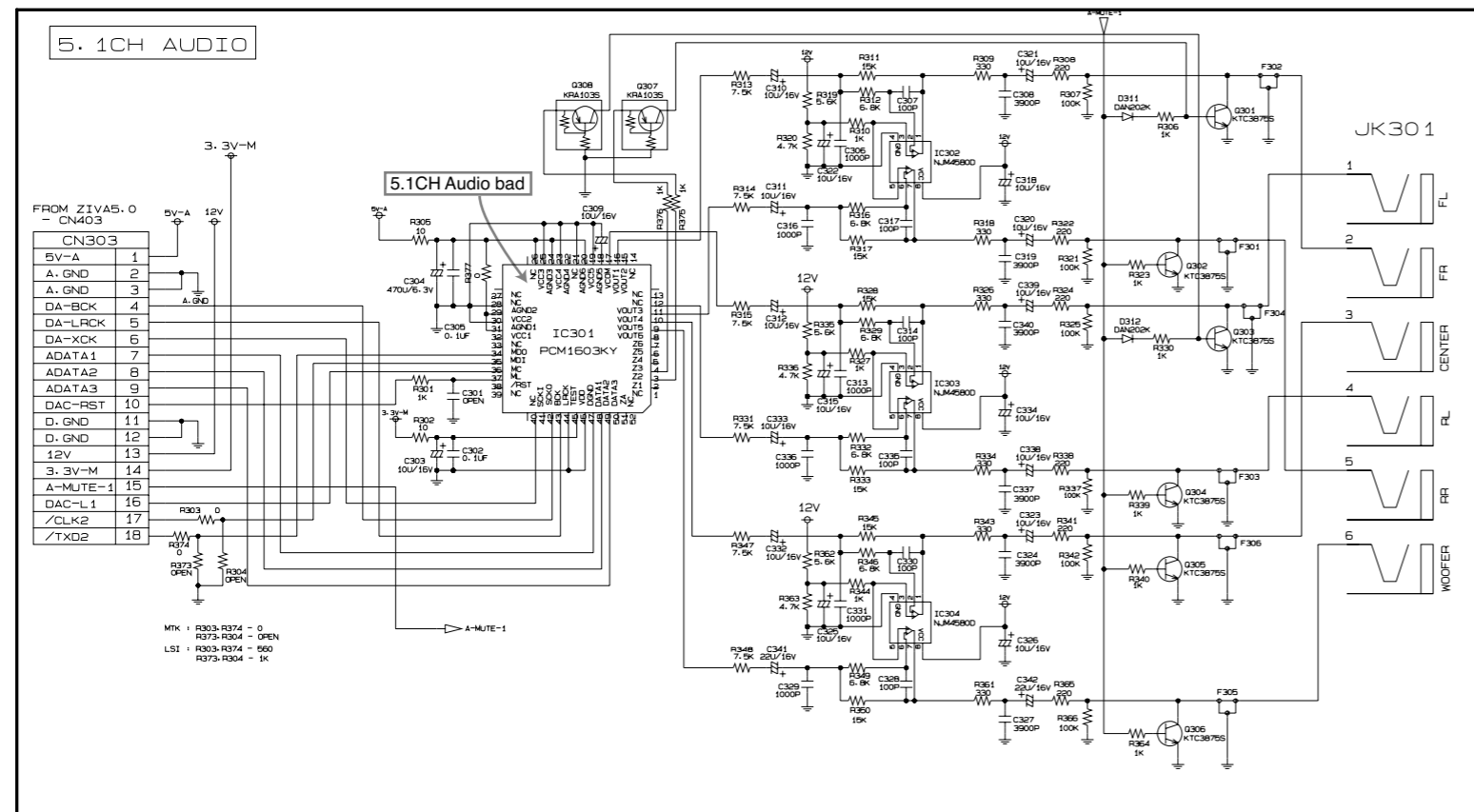


DESIGN SCHMATIC TIMER  
DF8900H HIGHEND 2004/05/11  
3854R14892A



# 6. 5.1CH, SCART CIRCUIT DIAGRAM

12  
11  
10  
9  
8  
7  
6  
5  
4  
3  
2  
1



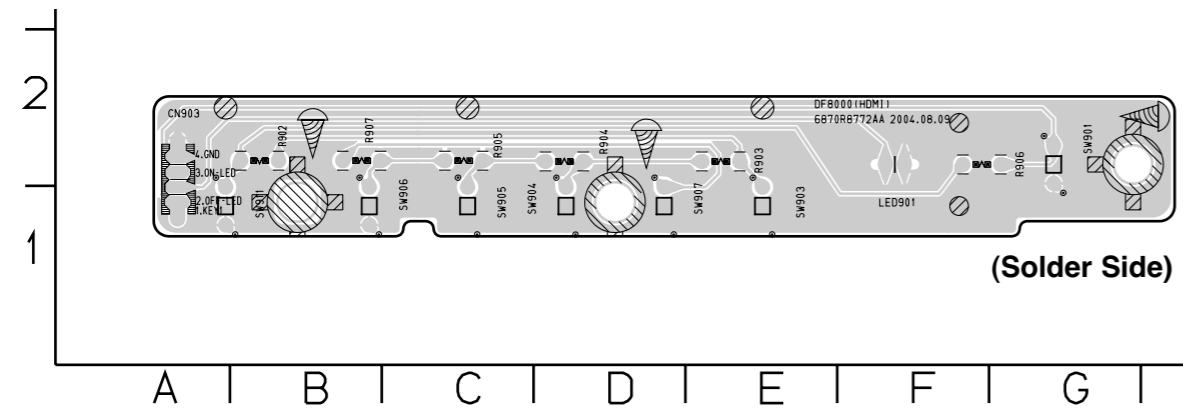
A B C D E F G H I J K L M N O P Q R S T

• CIRCUIT VOLTAGE CHART

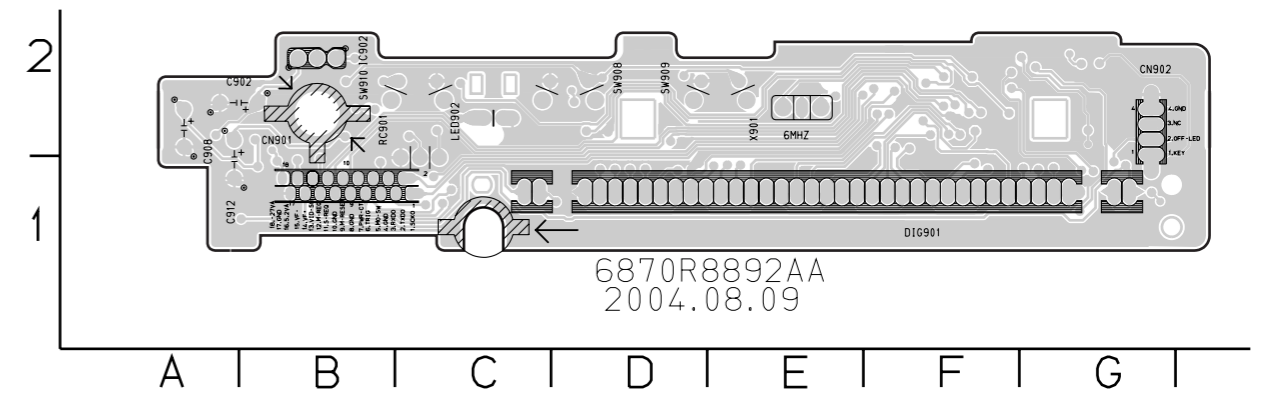
MODE PIN NO.	STOP	PLAY	MODE PIN NO.	STOP	PLAY	MODE PIN NO.	STOP	PLAY	MODE PIN NO.	STOP	PLAY	MODE PIN NO.	STOP	PLAY	MODE PIN NO.	STOP	PLAY
<b>IC201(MT1336E)</b>			26	2.34	0	81	1.2	1.07	136	3.3	3.3	191	1.25	1.24	246	1.39	1.39
1	1.4	1.41	27	0	0	82	0	0.82	137	2.63	1.65	192	2.26	2.25	247	1.45	1.44
2	2.17	2.03	28	2.8	2.8	83	1.17	0.77	138	3.27	3.1	193	0	0	248	1.93	1.94
3	2.17	2.04	29	2	0	84	0.64	0.54	139	3	2.63	194	0.46	0.47	249	0	0
4	2.16	2.02	30	1.4	0	85	0	0	140	3.2	3.1	195	3.3	3.3	250	0	0
5	2.16	1.94	31	1.52	0	86	1.44	0.53	141	3.3	3.3	196	0.7	0.7	251	0	0
6	2.17	1.98	32	1.38	0	87	1.65	1.77	142	2.9	2.38	197	0	0	252	1.75	1.75
7	2.17	2	33	1.38	0	88	1.4	1.53	143	1.59	1.7	198	3.28	3.29	253	1.71	1.71
8	0	0.01	34	2.62	0	89	0	0	144	0	0	199	3.3	3.3	254	1.37	1.37
9	1.41	1.44	35	2.62	2.73	90	1.21	1.2	145	1.38	1.55	200	0.42	0.43	255	0.94	0.94
10	4.38	4.19	36	2.25	0	91	1.02	1.03	146	0.07	0	201	0	0	256	3.3	3.3
11	0.01	0.01	37	2.2	2.11	92	0	0	147	0.31	0.78	202	0.57	0.38	<b>IC604(MM1623XFBE)</b>		
12	0.01	0	38	1.37	1.36	93	2.06	1.93	148	0	0	203	0	0.42	1	5.15	5.15
13	1.79	1.7	38	0	0	94	0	0	149	1.51	1.95	204	3.3	3.3	2	2.44	2.44
14	1.82	1.73	40	1.4	0	95	3	2.74	150	1.49	1.93	205	0.25	2.62	3	5.15	5.15
15	1.81	0.33	41	1.43	0	96	3.28	3.25	151	1.49	1.62	206	2.72	2.64	4	1.14	1.14
16	1.81	2.68	42	1.4	1.41	97	1.8	1.8	152	1.8	1.75	207	2.71	2.63	5	0	0.01
17	1.79	1.76	43	0	0	98	3	2.7	153	0	0	208	0	0	6	1.52	1.49
18	1.8	1.65	44	0	0	99	3	2.7	154	0	0	209	0	0	7	0	0
19	3.66	3.48	45	0	0	100	2.97	2.67	155	3.3	3.3	210	0	0	8	2.48	2.49
20	1.4	1.39	46	3.3	3.3	101	0	2.68	156	1.72	1.72	211	0.1	3.3	9	0	0
21	1.4	1.74	47	2.64	0	102	3.33	3.32	157	0.92	2.29	212	3.3	3.3	10	2.45	2.45
22	1.4	1.4	48	3.32	0	103	3.33	3.32	158	0	0	213	1.31	1.66	11	5.18	5.17
23	3.3	3.29	49	0.01	0	104	3	2.7	159	0	0	214	1.67	1.64	12	2.44	2.44
24	5.18	5.16	50	3.3	0	105	5.18	5.18	160	0	0	215	1.58	1.57	13	5.14	5.15
25	2.21	2.15	51	0	0	106	3.32	3.31	161	0	0	216	0	0	14	2.44	2.44
26	2.16	1.92	52	1.76	1.8	107	2.76	2.75	162	1.56	1.4	217	0	1.24	15	0	0
27	2.21	2.05	53	2.13	0	108	3.3	3.3	163	0	0	218	0	1.1	16	2.48	2.48
28	2.16	2.01	54	2.14	2.12	109	0	0	164	2.36	1.54	219	0	0	17	0	0
<b>IC501(MT1389 MPEG)</b>			55	2.13	1.74	110	5.2	5.2	165	2.32	1.61	220	0	0	18	2.5	2.51
1	0	0	56	1.81	1.34	111	2.67	2.92	166	1.49	1.61	221	1.76	1.76	19	0	0
2	1.73	0	57	2.12	0	112	3.14	3.18	167	3.3	3.3	222	0	1.24	20	2.52	2.52
3	1.73	1.73	58	1.83	1.52	113	2.28	1.6	168	3.25	3.24	223	0	0	21	1.66	0
4	1.73	1.73	59	0	1.63	114	0	0	169	3.3	3.27	224	0	0	22	0	0
5	1.73	1.73	60	0	2.99	115	1.06	0.85	170	0	0	225	1.66	1.65	23	1.65	1.88
6	1.75	1.73	61	0	0	116	0	0	171	0	0	226	0	0	24	0.04	0.04
7	2.15	1.74	62	0	0	117	1.04	1.09	172	0	0	227	1.8	1.76	25	0.04	0.04
8	2.2	2.21	63	0	2.05	118	1.28	0.94	173	1.8	1.8	228	3.3	3.3	26	2.49	0
9	2.18	2.18	64	0	0	119	0	0	174	3.33	3.3	229	3.3	3.3	27	0.02	0.02
10	2.16	0	65	3.3	3.3	120	1.18	1.65	175	0	0	230	0.85	0.86	28	5.16	5.15
11	2.14	2.14	66	3.3	3.32	121	1.36	1.7	176	2.73	2.73	231	0.81	0.82			
12	1.74	1	67	1.29	0	122	1.8	1.75	177	0	0	232	0	0			
13	1.04	1	68	2.36	0.32	123	1.26	1.51	178	3.32	3.32	233	0.83	0.89			
14	1.03	1	69	0	0.37	124	1.23	1.4	179	2.75	0	234	3.19	3.18			
15	0.12	1	70	0.56	0.46	125	1.28	1.16	180	0	0	235	1.74	1.72			
16	0.13	0	71	0	3.2	126	0	0.86	181	0	0	236	1.71	1.71			
17	0.12	1	72	1.27	1.42	127	3.3	3.3	182	3.3	3.3	237	1.71	1.71			
18	0.13	2.05	73	3.3	3.3	128	2.35	1.28	183	0	0	238	1.72	1.75			
19	2.05	0	74	2.23	1.93	129	1.8	1.05	184	0	0	239	3.19	3.18			
20	2.05	0	75	1.39	0	130	0	1.1	185	0	0	240	0	0			
21	2.05	0	76	0	0	131	1.39	1.25	186	0	0	241	0	0			
22	2.38	0	77	0	0	132	1.37	1.27	187	0	0	242	0	0			
23	3.29	0	78	2.06	0	133	1.31	1.3	188	0	0	243	0	0			
24	3.3	3.3	79	0	0	134	0	0	189	3.3	3.3	244	3.19	3.19			
25	0.21	1	80	3.3	3.3	135	1.33	1.37	190	1.24	1.24	245	1.55	1.55			



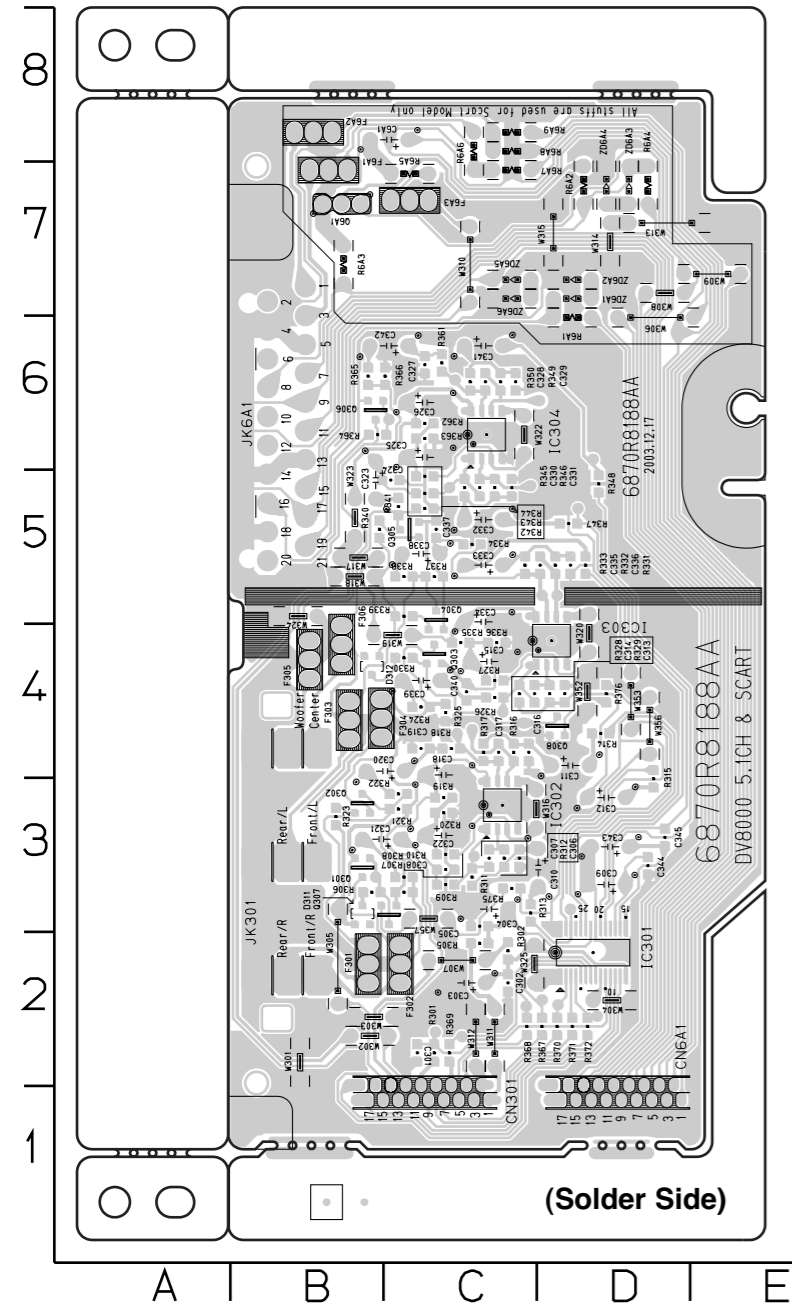
## 2. KEY P.C.BOARD



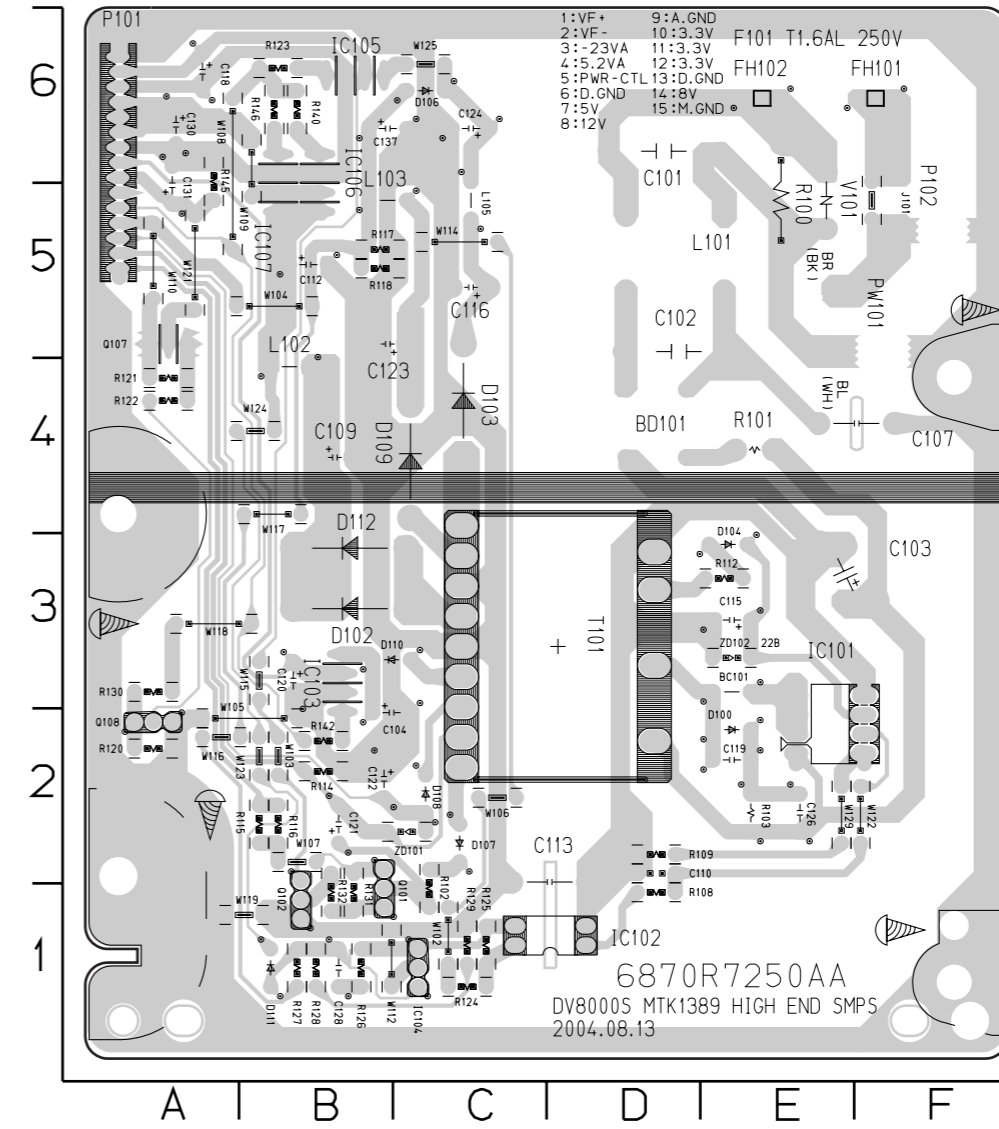
## 3. TIMER P.C.BOARD



#### 4. SCART & 5.1CH P.C.BOARD(OPTIONAL PART)



#### 5. SMPS P.C.BOARD



(Solder Side)

# SECTION 4 MECHANISM (DP-8)

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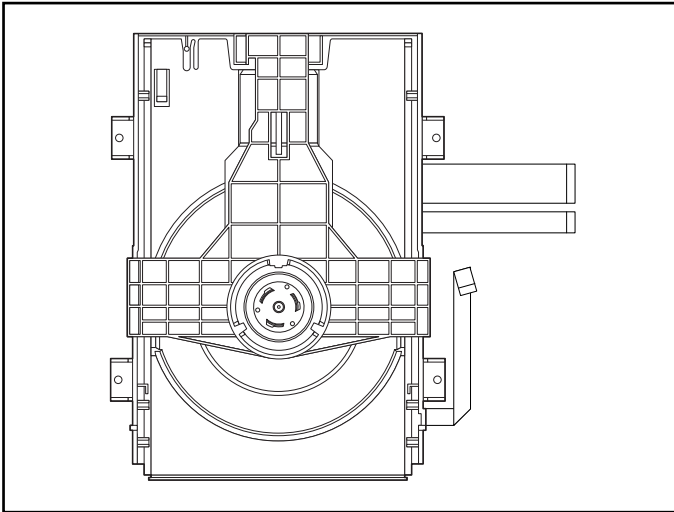
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### EXPLODED VIEW

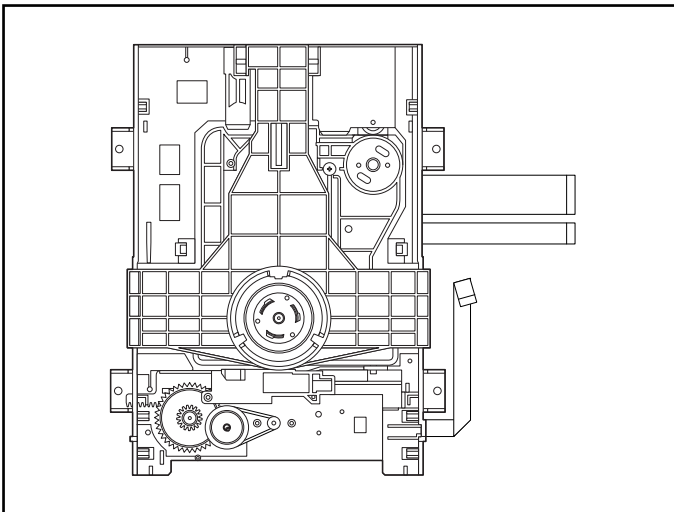
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# DECK MECHANISM PARTS LOCATION

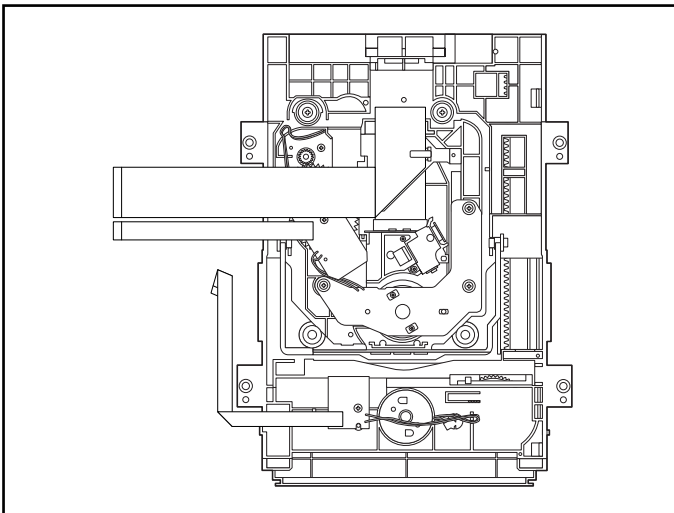
## • Top View (With Tray)



## • Top View (Without Tray)



## • Bottom View



Procedure		Parts	Fixing Type	Disassembly	Figure
Starting No.					
	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			4-3
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, 16	16	Guide Up/Down			4-4
13, 14	17	PWB Assembly Loading	1 Locking Tab 1 Hook 2Screw	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

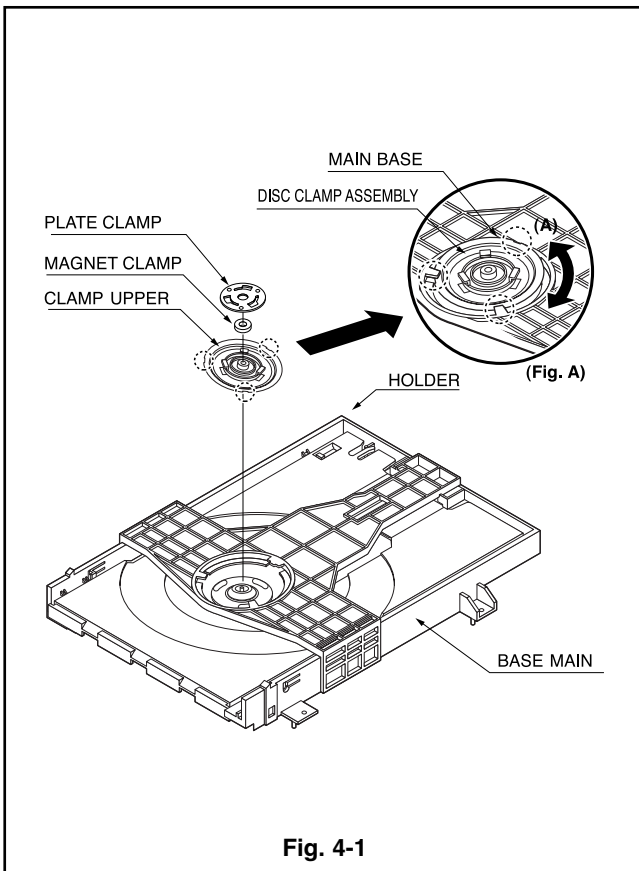


Fig. 4-1

## 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

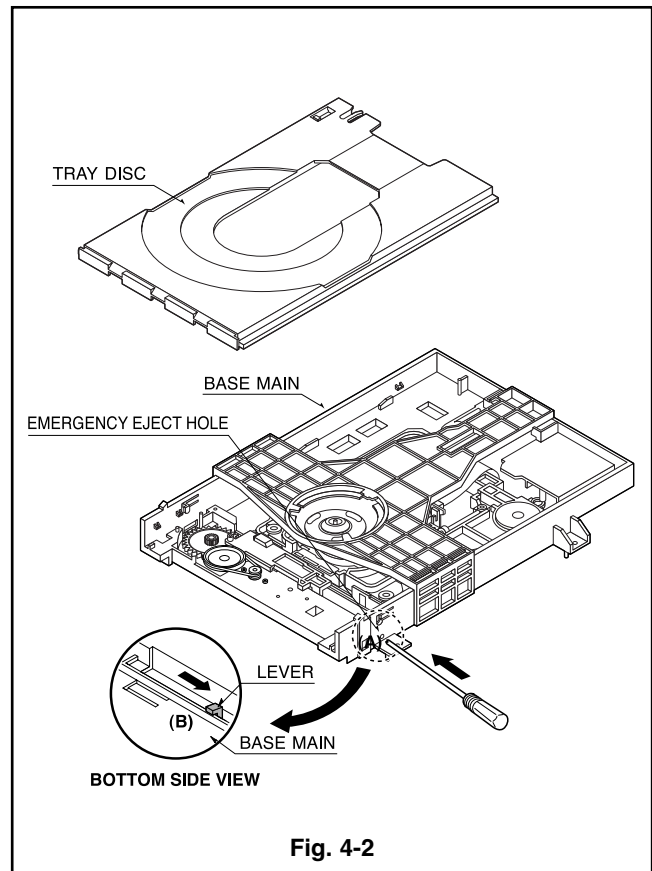


Fig. 4-2

## 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.



# DECK MECHANISM DISASSEMBLY

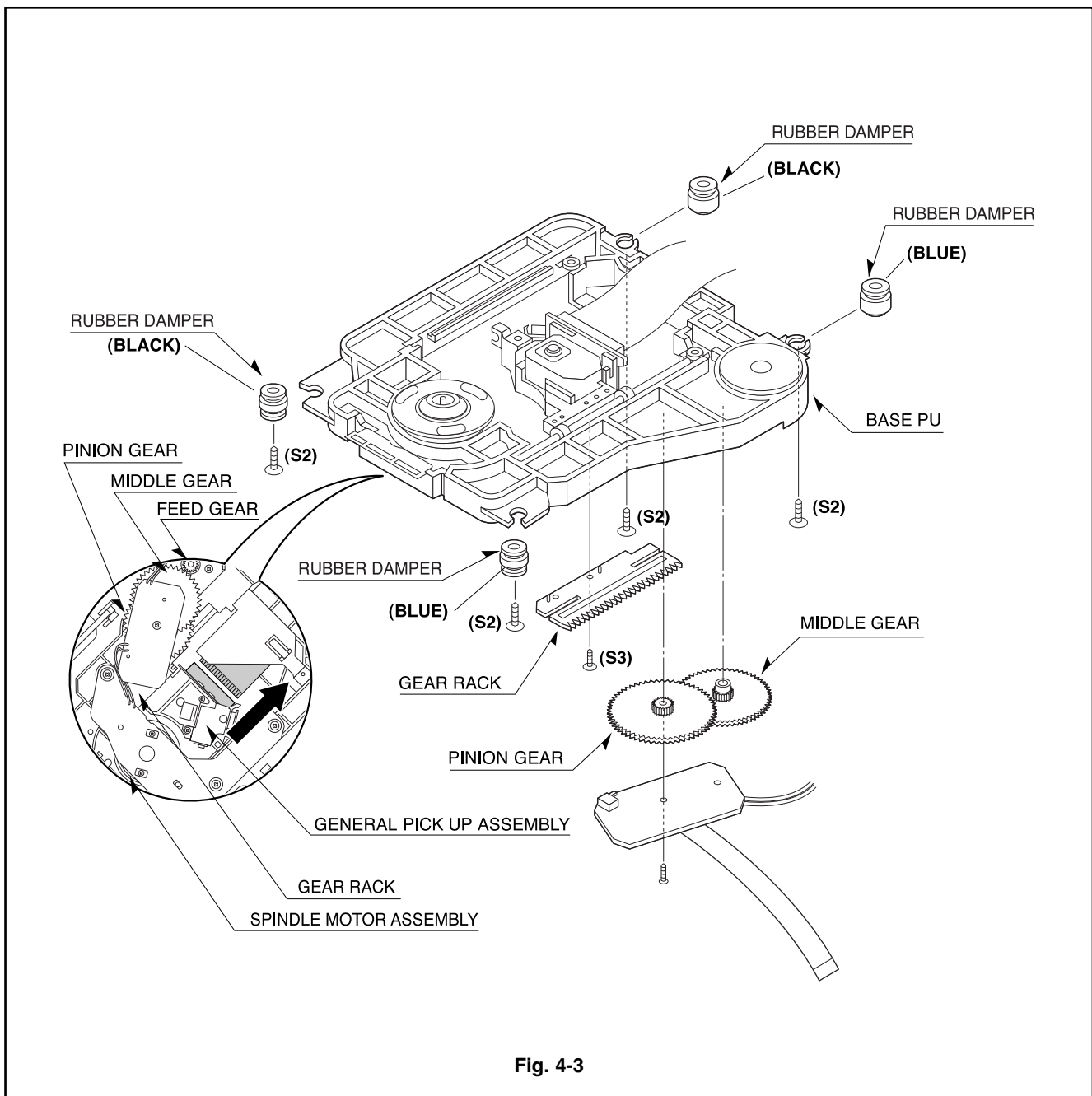


Fig. 4-3

### 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)

# DECK MECHANISM DISASSEMBLY

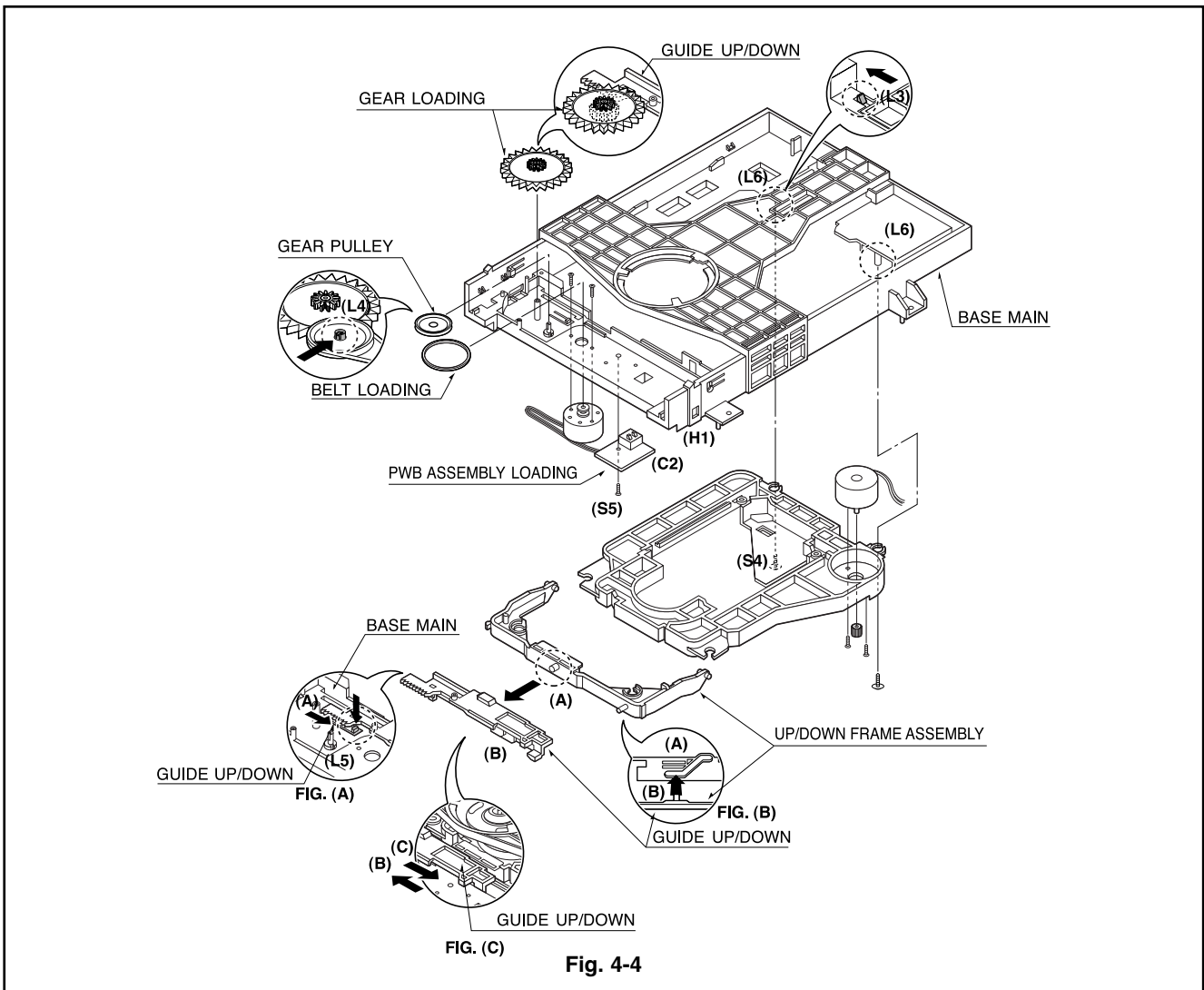


Fig. 4-4

## 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.

# EXPLODED VIEWS

## 1. Deck Mechanism Exploded View

