CONTENTS

SECTION 1. GENERAL PART

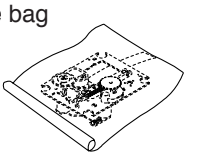
❑ SERVICING PRECAUTIONS

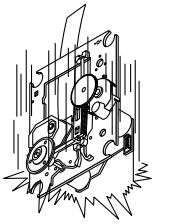
NOTES REGARDING HANDLING OF THE PICK-UP

1. Notes for transport and storage

1) The pick-up should always be left in its conductive bag until immediately prior to use.
2) The pick-up should never be subjected to external pressure or impact.

Storage in conductive bag

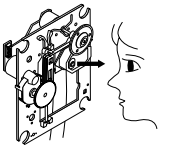




Drop impact

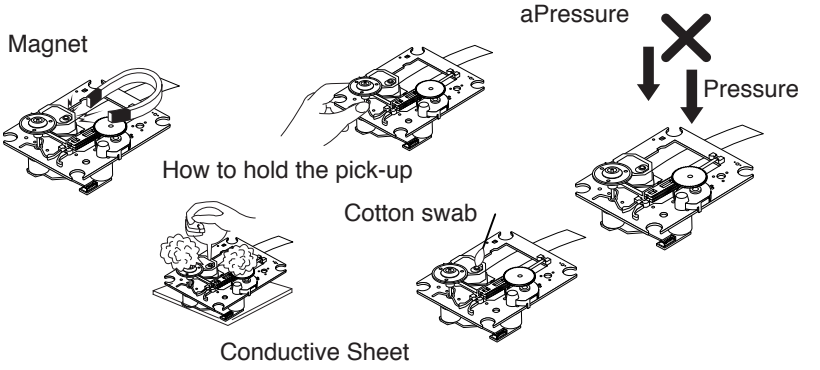
2. Repair notes

1) The pick-up incorporates a strong magnet, and so should never be brought close to magnetic materials.
2) The pick-up should always be handled correctly and carefully, taking care to avoid external pressure and impact. If it is subjected to strong pressure or impact, the result may be an operational malfunction and/or damage to the printed-circuit board.
3) Each and every pick-up is already individually adjusted to a high degree of precision, and for that reason the adjustment point and installation screws should absolutely never be touched.
4) Laser beams may damage the eyes!
   Absolutely never permit laser beams to enter the eyes!
   Also NEVER switch ON the power to the laser output part (lens, etc.) of the pick-up if it is damaged.



NEVER look directly at the laser beam, and don't let contact fingers or other exposed skin.

5) Cleaning the lens surface
   If there is dust on the lens surface, the dust should be cleaned away by using an air bush (such as used for camera lens). The lens is held by a delicate spring. When cleaning the lens surface, therefore, a cotton swab should be used, taking care not to distort this.



6) Never attempt to disassemble the pick-up.
   Spring by excess pressure. If the lens is extremely dirty, apply isopropyl alcohol to the cotton swab. (Do not use any other liquid cleaners, because they will damage the lens.) Take care not to use too much of this alcohol on the swab, and do not allow the alcohol to get inside the pick-up.

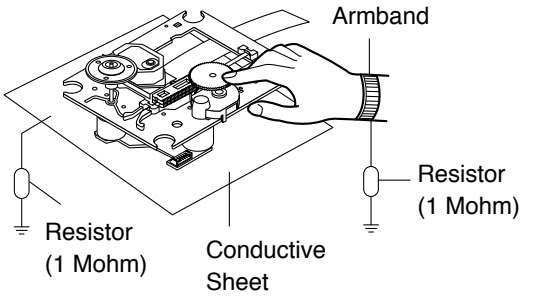
NOTES REGARDING COMPACT DISC PLAYER REPAIRS

1. Preparations

1) Compact disc players incorporate a great many ICs as well as the pick-up (laser diode). These components are sensitive to, and easily affected by, static electricity. If such static electricity is high voltage, components can be damaged, and for that reason components should be handled with care.
2) The pick-up is composed of many optical components and other high-precision components. Care must be taken, therefore, to avoid repair or storage where the temperature of humidity is high, where strong magnetism is present, or where there is excessive dust.

2. Notes for repair

1) Before replacing a component part, first disconnect the power supply lead wire from the unit
2) All equipment, measuring instruments and tools must be grounded.
3) The workbench should be covered with a conductive sheet and grounded.
   When removing the laser pick-up from its conductive bag, do not place the pick-up on the bag. (This is because there is the possibility of damage by static electricity.)
4) To prevent AC leakage, the metal part of the soldering iron should be grounded.
5) Workers should be grounded by an armband (1MΩ)
6) Care should be taken not to permit the laser pick-up to come in contact with clothing, in order to prevent static electricity changes in the clothing to escape from the armband.
7) The laser beam from the pick-up should NEVER be directly facing the eyes or bare skin.



❑ ESD PRECAUTIONS

Electrostatically Sensitive Devices (ESD)

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive Devices (ESD). Examples of typical ESD 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 ESD 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 ESD 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 ESD devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESD devices.
6. Do not remove a replacement ESD device from its protective package until immediately before you are ready to install it. (Most replacement ESD devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive materials).
7. Immediately before removing the protective material from the leads of a replacement ESD device, touch the protective material to the chassis or circuit assembly into which the device will by installed.

CAUTION : BE SURE NO POWER IS APPLIED TO THE CHASSIS OR CIRCUIT, AND OBSERVE ALL OTHER SAFETY PRECAUTIONS.

8. Minimize bodily motions when handing unpackaged replacement ESD devices. (Otherwise 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 ESD device).

CAUTION. GRAPHIC SYMBOLS

	THE LIGHTNING FLASH WITH APROWHEAD 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.

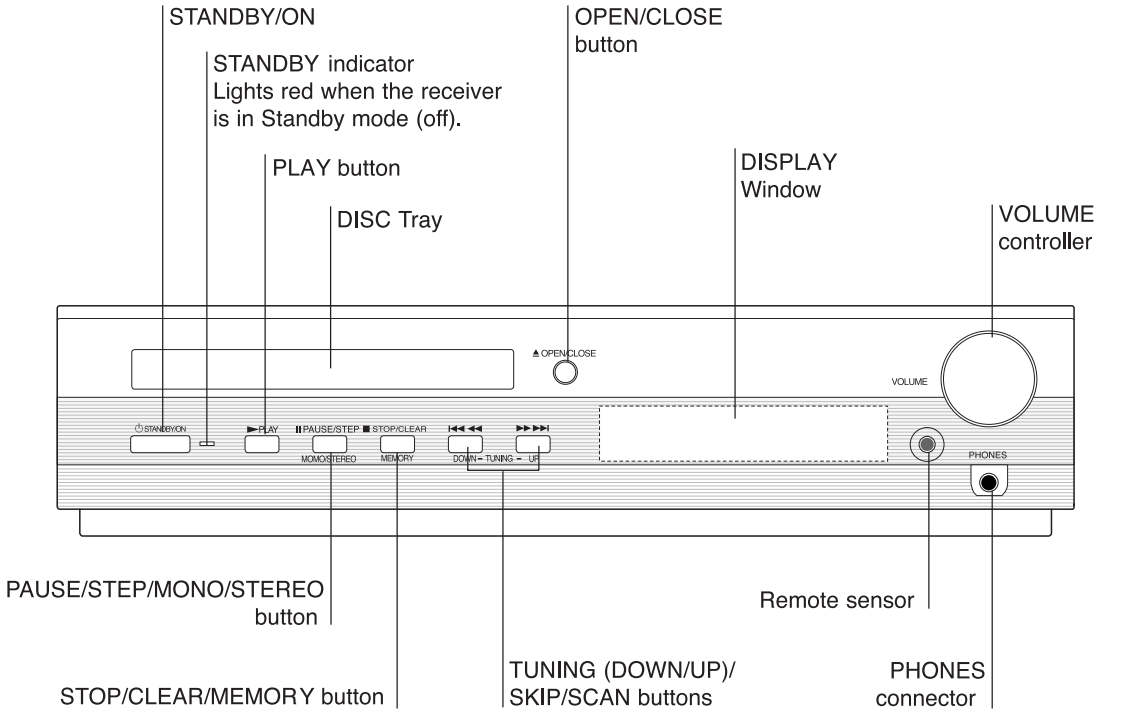
❑ SPECIFICATIONS

[General]	Power supply	AC 230V, 50Hz	
	Power consumption	100 W	
	Mass	5.9 kg	
	External dimensions (W x H x D)	360 x 82 x 344 mm	
	Operating conditions	Temperature: 5°C to 35°C, Operation status: Horizontal	
	Operating humidity	5% to 85%	
[CD/DVD]	Laser	Semiconductor laser, wavelength 650 nm	
	Signal system	PAL 625/50, NTSC 525/60	
	Frequency response (audio)	100 Hz to 18 kHz	
	Signal-to-noise ratio (audio)	More than 75 dB (1 kHz, NOP, 20 kHz LPF/A-Filter)	
	Dynamic range (audio)	More than 70 dB	
	Harmonic distortion (audio)	0.5 % (1 kHz, at 12W position) (20 kHz LPF/A-Filter)	
[Video]	Video output	1.0 V (p-p), 75 Ω, negative sync., RCA jack	
	S-video output	(Y) 1.0 V (p-p), 75 Ω, negative sync., Mini DIN 4-pin x 1 (C) 0.3 V (p-p), 75 Ω	
[Tuer] [FM]	Tuning Range	87.5 - 108 MHz	
	Intermediate Frequency	10.7 MHz	
	Signal-to Noise Ratio	60 dB (Mono)	
	Frequency Response	150 - 10,000 Hz	
[Tuer] [AM [MW]]	Tuning Range	522 - 1,611 kHz	
	Intermediate Frequency	450 kHz	
[Amplifier]	Stereo mode	20W + 20W (4 Ω at 1 kHz, THD 10 %)	
	Surround mode (* **Depending on the sound mode settings and the source, there may be no sound output.**)	Front: 20W + 20W (THD 10 %) Centre*: 20W Surround*: 20W + 20W (4Ω at 1 kHz, THD 10 %) Subwoofer*: 40W (8Ω at 30 Hz, THD 10 %)	
	Outputs	S-VIDEO MONITOR PHONES: (32 Ω, 22mW)	
[Speakers]		**Satellite Speaker (LHS-D6230T)**	**Passive Subwoofer (LHS-D6230W)**
	Type	1 Way 1 Speaker	1 Way 1 Speaker
	Impedance	4Ω	8Ω
	Frequency Response	130 - 20,000 Hz	50 - 1,500 Hz
	Sound Pressure Level	83 dB/W (1m)	82 dB/W (1m)
	Rated Input Power	20W	40W
	Max. Input Power	40W	80W
	Net Dimensions (W x H x D)	88 x 100 x 95 mm	160 x 350 x 325 mm
	Net Weight	0.54 kg	4.12kg
[Supplied Accessories]	• Audio cable .....1 • Speakers .....6 • Remote control .....1 • AM loop antenna .....1 • SCART-RCA Adapter 1	• Video cable .....1 • Speaker cables .....5 • Batteries (AAA) .....2 • FM antenna 1	

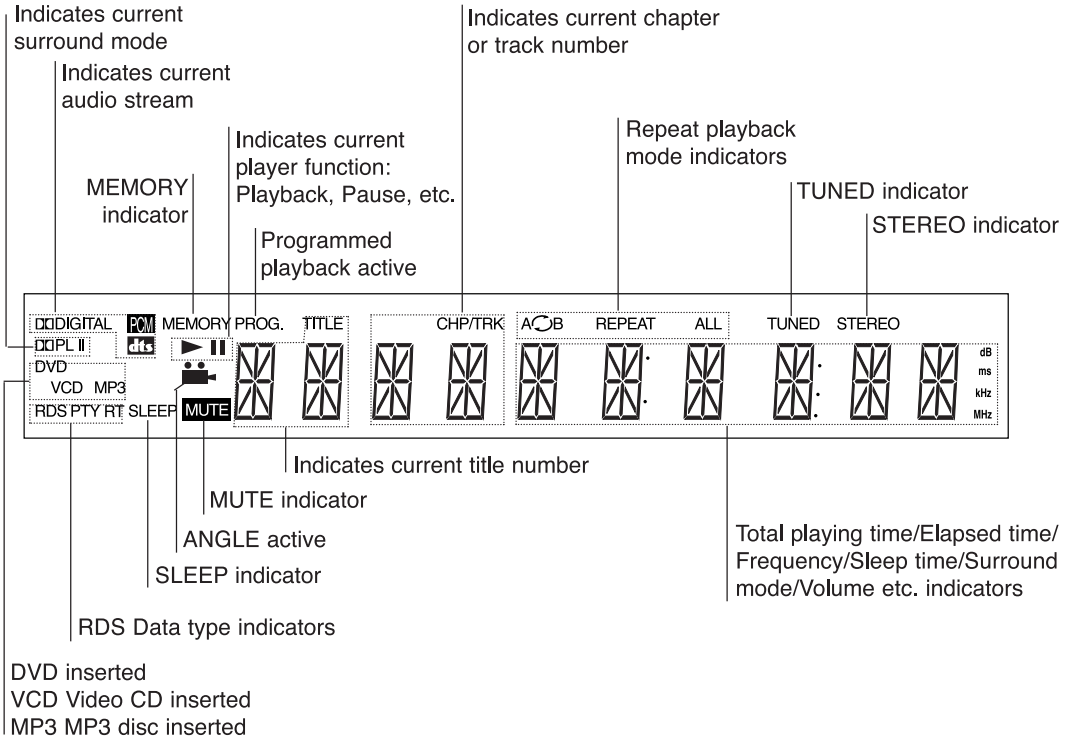
• Designs and specifications are subject to change without notice.

❑ LOCATION OF CUSTOMER CONTROLS

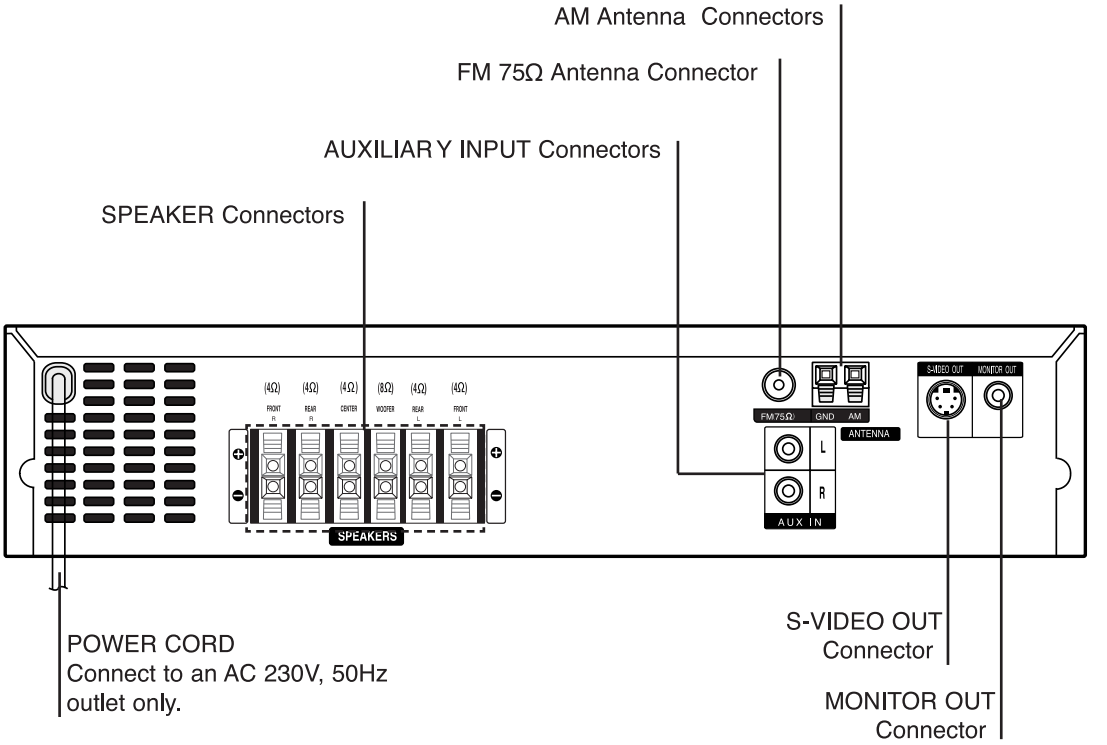
FRONT PANEL



DISPLAY WINDOW



REAR PANEL



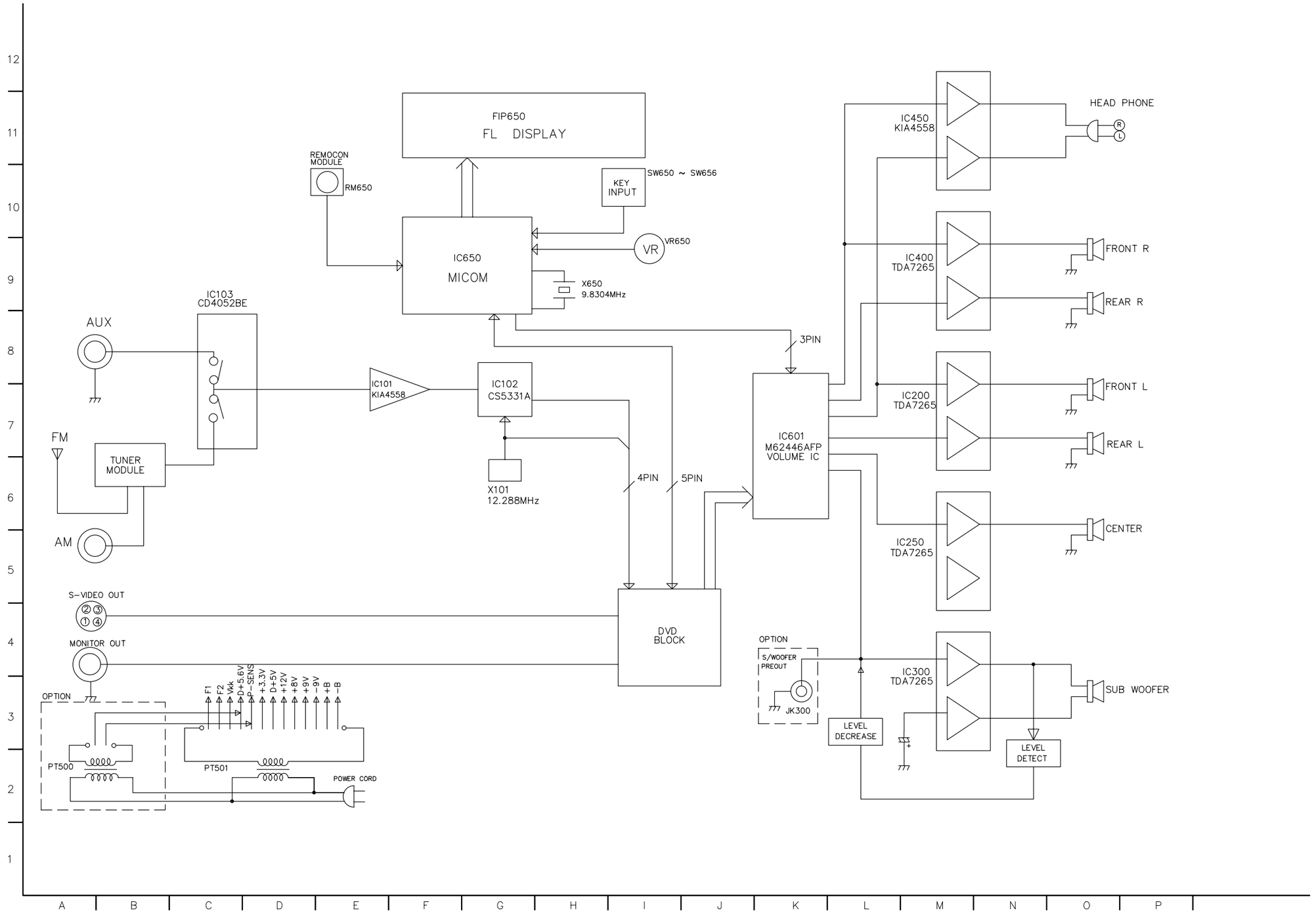
⚠

Do not touch the inner pins of the jacks on the rear panel. Electrostatic discharge may cause permanent damage to the unit.

MEMO

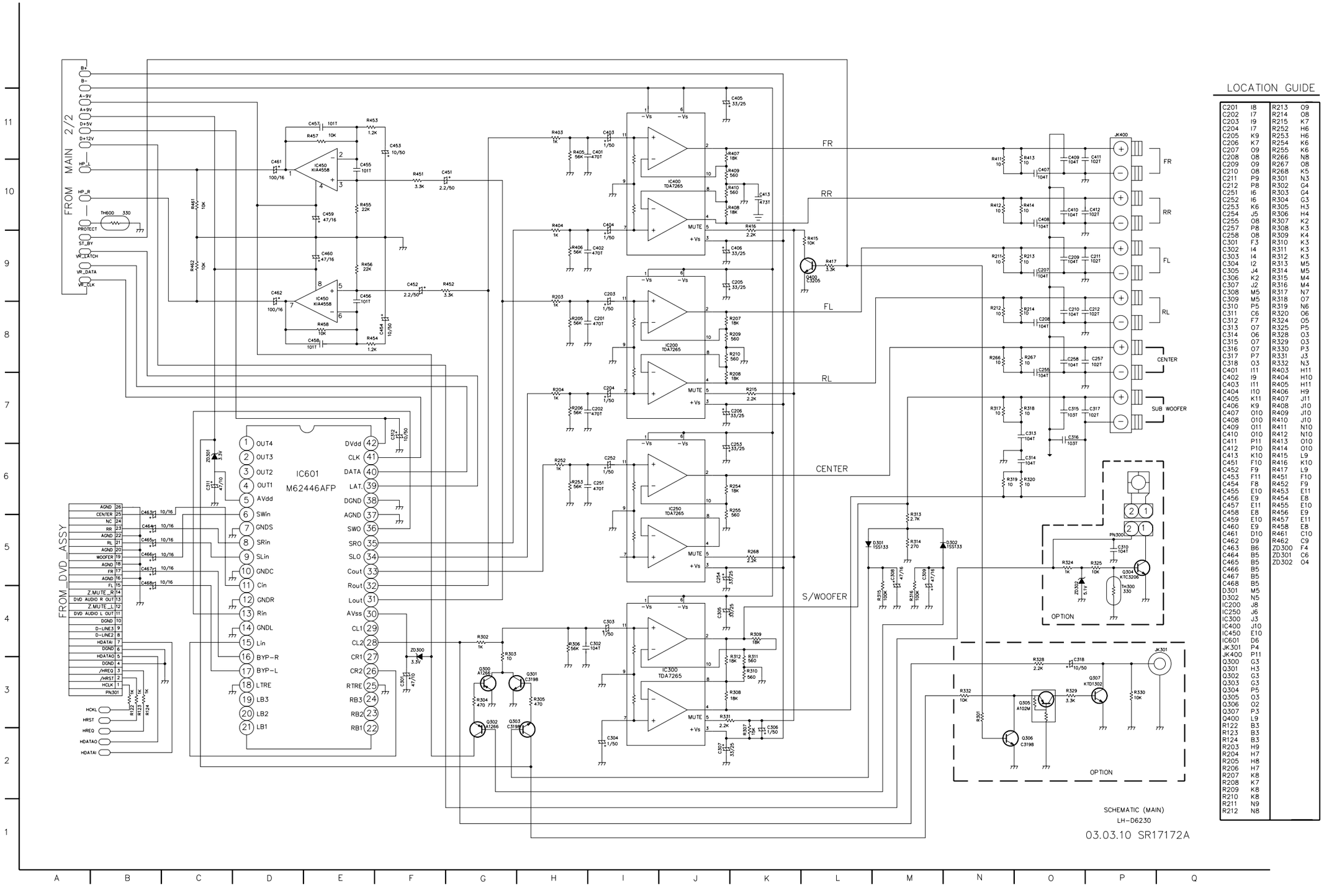
SECTION 2. AUDIO PART

❑ BLOCK DIAGRAM



❑ SHEMATIC DIAGRAMS

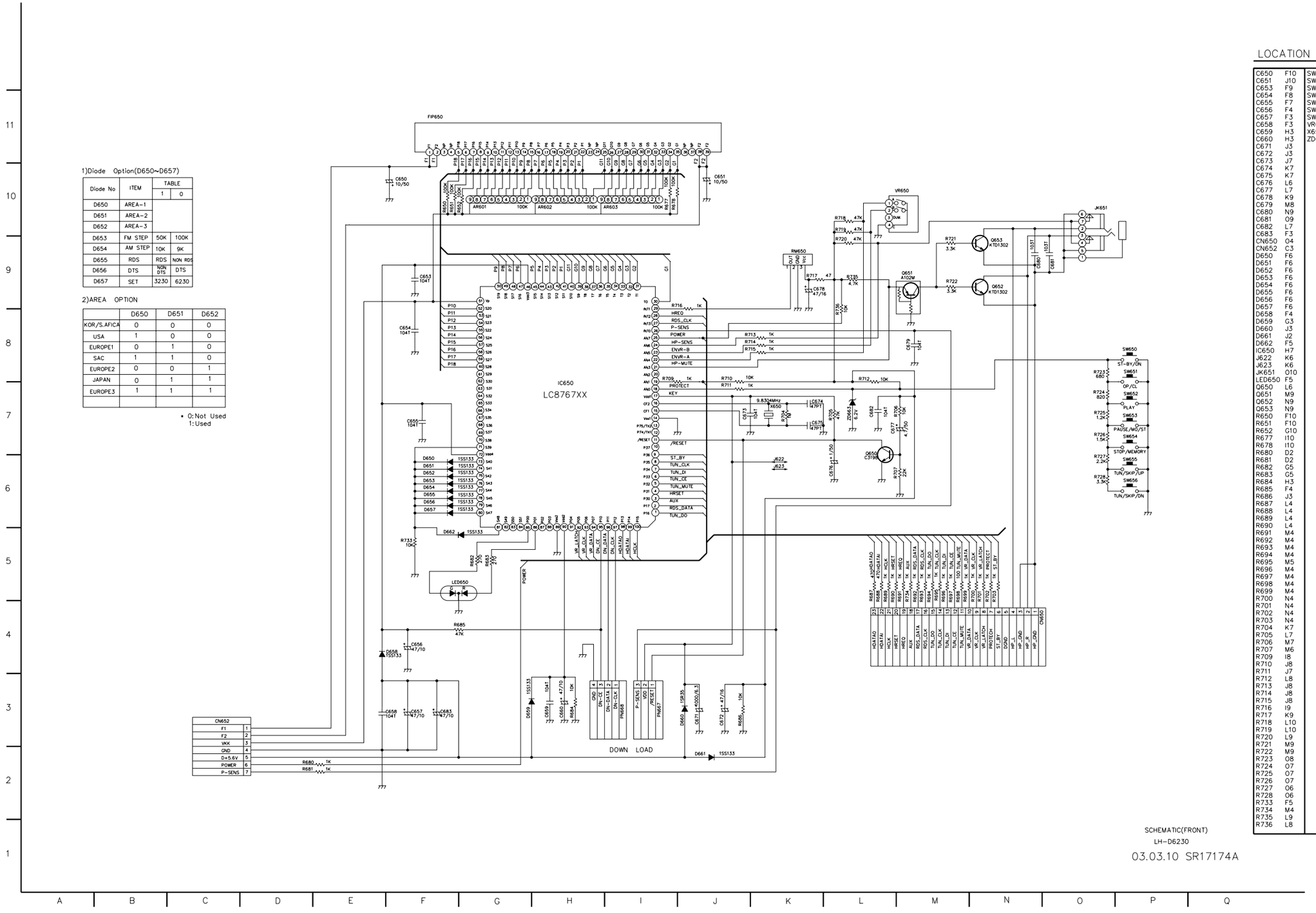
• MAIN SCHEMATIC DIAGRAM



LOCATION GUIDE

C201	I8	R213	O9
C202	I7	R214	O8
C203	I9	R215	K7
C204	I7	R252	H6
C205	K9	R253	H6
C206	K7	R254	K6
C207	O9	R255	K6
C208	O8	R266	N8
C209	O9	R267	O8
C210	O8	R268	K5
C211	P9	R301	N3
C212	P8	R302	G4
C251	I6	R303	G4
C252	I6	R304	G3
C253	K6	R305	H3
C254	J5	R306	H4
C255	O8	R307	K2
C257	P8	R308	K3
C258	O8	R309	K4
C301	F3	R310	K3
C302	I4	R311	K3
C303	I4	R312	K3
C304	I2	R313	M5
C305	J4	R314	M5
C306	K2	R315	M4
C307	J2	R316	M4
C308	M5	R317	N7
C309	M5	R318	O7
C310	P5	R319	N6
C311	C6	R320	O6
C312	F7	R324	O5
C313	O7	R325	P5
C314	O6	R328	O3
C315	O7	R329	O3
C316	O7	R330	P3
C317	P7	R331	J3
C318	O3	R332	N3
C401	I11	R403	H11
C402	I9	R404	H10
C403	I11	R405	H11
C404	I10	R406	H9
C405	K11	R407	J11
C406	K9	R408	J10
C407	O10	R409	J10
C408	O10	R410	J10
C409	O11	R411	N10
C410	O10	R412	N10
C411	P11	R413	O10
C412	P10	R414	O10
C413	K10	R415	L9
C451	F10	R416	K10
C452	F9	R417	L9
C453	F11	R451	F10
C454	F8	R452	F9
C455	E10	R453	E11
C456	E9	R454	E8
C457	E11	R455	E10
C458	E8	R456	E9
C459	E10	R457	E11
C460	E9	R458	E8
C461	D10	R461	C10
C462	D9	R462	C9
C463	B6	ZD300	F4
C464	B5	ZD301	C6
C465	B5	ZD302	O4
C466	B5		
C467	B5		
C468	B5		
D301	M5		
D302	N5		
IC200	J8		
IC250	J6		
IC300	J3		
IC400	J10		
IC450	E10		
IC601	D6		
JK301	P4		
JK400	P11		
Q300	G3		
Q301	H3		
Q302	G3		
Q303	G3		
Q304	P5		
Q305	O3		
Q306	O2		
Q307	P3		
Q400	L9		
R122	B3		
R123	B3		
R124	B3		
R203	H9		
R204	H7		
R205	H8		
R206	H7		
R207	K8		
R208	K7		
R209	K8		
R210	K8		
R211	N9		
R212	N8		

• FRONT SCHEMATIC DIAGRAM



LOCATION GUIDE

C650	F10	SW650	P8
C651	J10	SW651	P8
C653	F9	SW652	P7
C654	F8	SW653	P7
C655	F7	SW654	P7
C656	F4	SW655	P6
C657	F3	SW656	P6
C658	F3	VR650	L10
C659	H3	X650	K7
C660	H3	ZD663	L7
C671	J3		
C672	J3		
C673	J7		
C674	K7		
C675	K7		
C676	L6		
C677	L7		
C678	K9		
C679	M8		
C680	N9		
C681	O9		
C682	L7		
C683	F3		
CN650	O4		
CN652	C3		
D650	F6		
D651	F6		
D652	F6		
D653	F6		
D654	F6		
D655	F6		
D656	F6		
D657	F6		
D658	F4		
D659	G3		
D660	J3		
D661	J2		
D662	F5		
IC650	H7		
J622	K6		
J623	K6		
JK651	O10		
LED650	F5		
Q650	L6		
Q651	M9		
Q652	N9		
Q653	N9		
R650	F10		
R651	F10		
R652	G10		
R677	I10		
R678	I10		
R680	D2		
R681	D2		
R682	G5		
R683	H3		
R684	F4		
R685	J3		
R686	L4		
R687	L4		
R688	L4		
R689	L4		
R690	L4		
R691	M4		
R692	M4		
R693	M4		
R694	M4		
R695	M5		
R696	M4		
R697	M4		
R698	M4		
R699	M4		
R700	N4		
R701	N4		
R702	N4		
R703	N4		
R704	K7		
R705	L7		
R706	M7		
R707	M6		
R709	I8		
R710	J8		
R711	J7		
R712	L8		
R713	J8		
R714	J8		
R715	J8		
R716	I9		
R717	K9		
R718	L10		
R719	L10		
R720	L9		
R721	M9		
R722	M9		
R723	O8		
R724	O7		
R725	O7		
R726	O7		
R727	O6		
R728	O6		
R733	F5		
R734	M4		
R735	L9		
R736	L8		

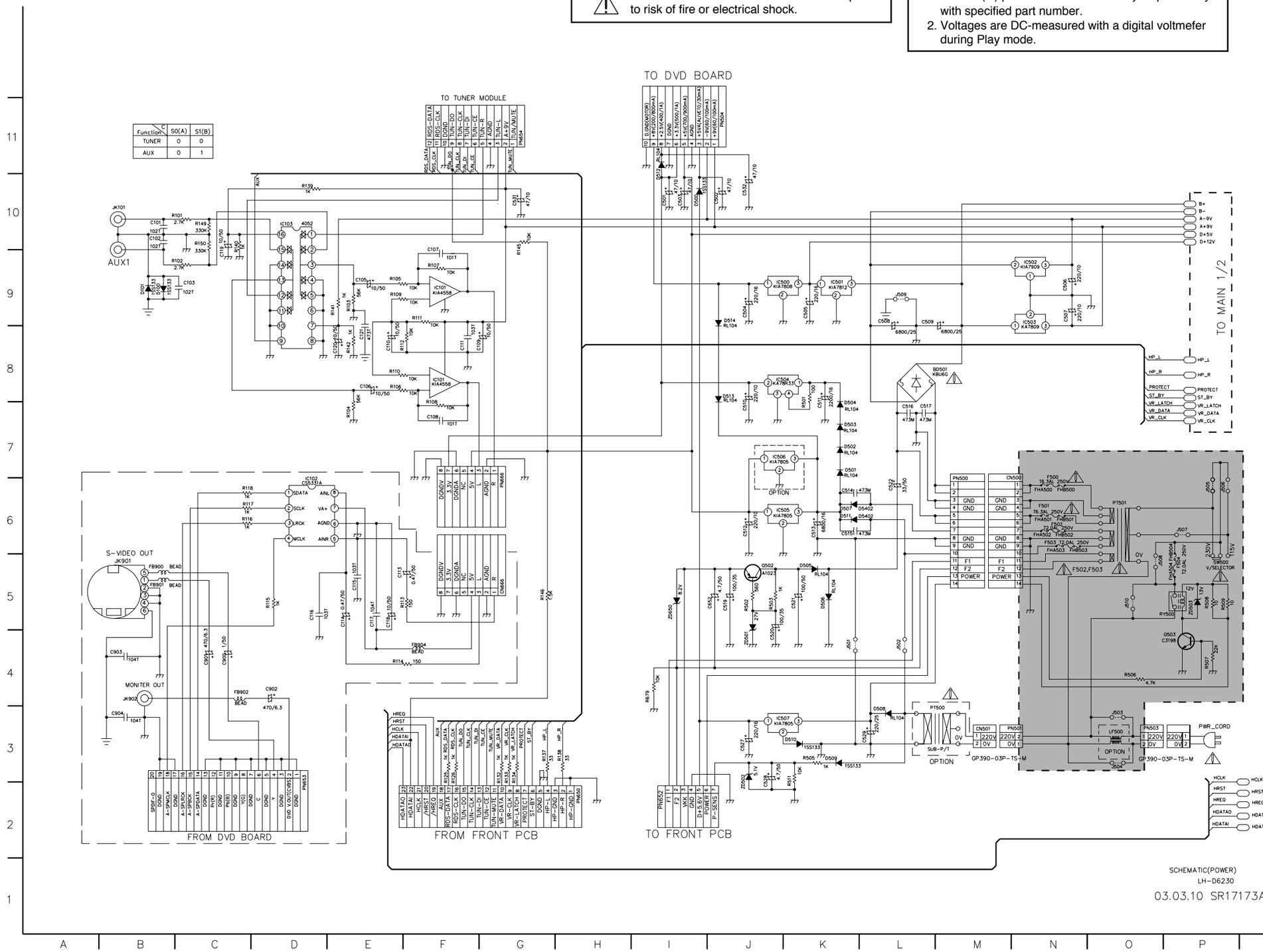
• POWER SCHEMATIC DIAGRAM

NOTE: Warning

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

NOTE:

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

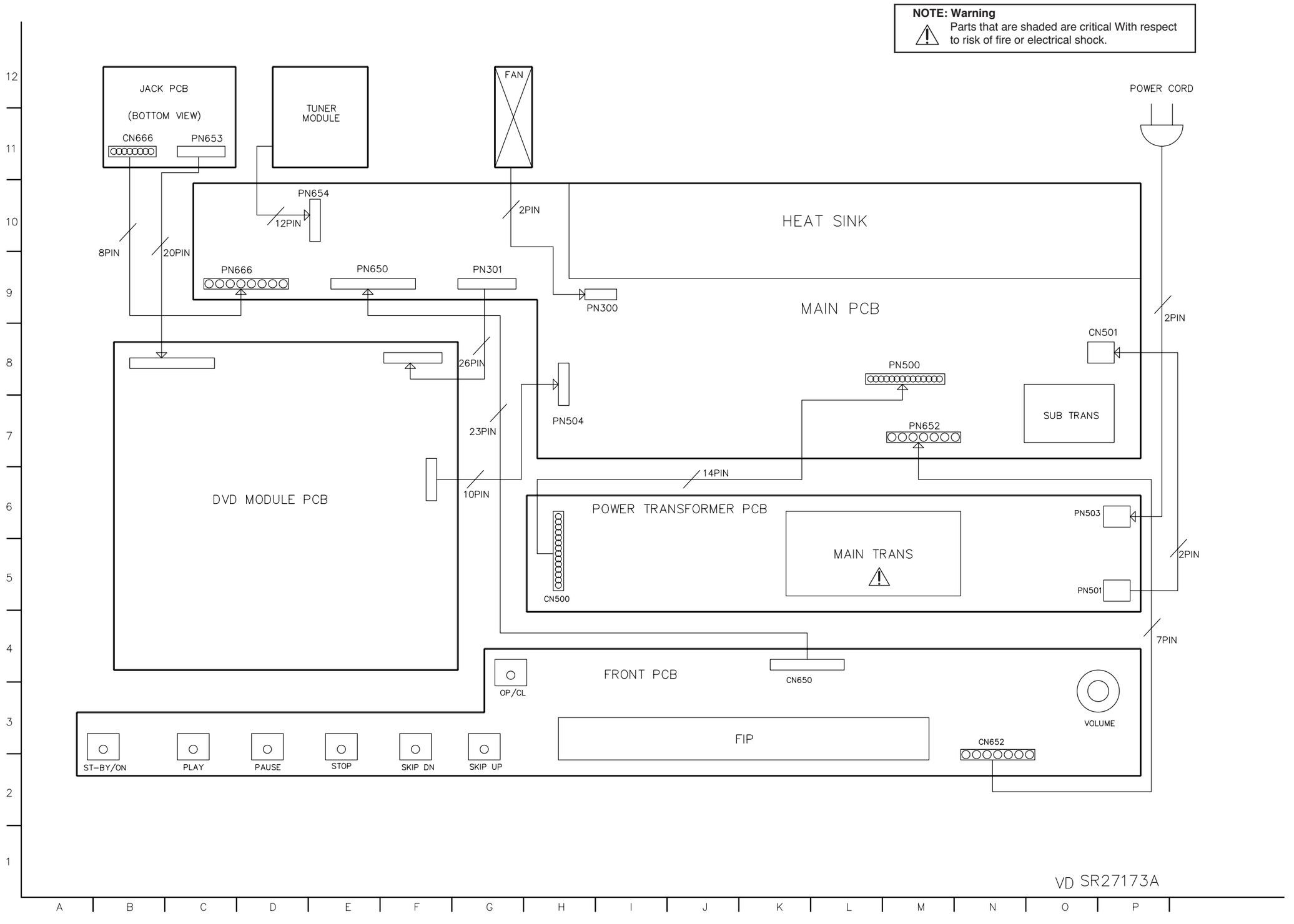


Function / C	S0(A)	S1(B)
TUNER	0	0
AUX	0	1

LOCATION GUIDE

BD501	L8	JK901	B5
C101	B10	JK902	B4
C102	B10	LF500	O3
C103	C9	PN500	M6
C105	E9	PN501	M3
C106	E8	PN503	O3
C107	F9	PN504	J11
C108	F7	PN650	H2
C109	G8	PN652	I2
C110	E8	PN653	D2
C111	F8	PN654	G11
C113	E5	PN666	G6
C114	E5	PT500	L3
C115	E5	PT501	O6
C116	D5	Q502	J5
C117	E5	Q503	P4
C118	E5	R101	B10
C119	C9	R102	B9
C120	E8	R103	E9
C121	E8	R104	E7
C501	I10	R105	E9
C502	J10	R106	E8
C503	I10	R107	F9
C504	J9	R108	F7
C505	K9	R109	E9
C506	N9	R110	E8
C507	N9	R111	F9
C508	L9	R112	F8
C509	L9	R113	F5
C510	J7	R114	E4
C511	K7	R115	D5
C512	J6	R116	C6
C513	K6	R117	C6
C514	K6	R118	C6
C515	K6	R125	F2
C516	L7	R126	F2
C517	L7	R132	G2
C519	J5	R133	G2
C520	J4	R134	G2
C521	K5	R137	G3
C522	L6	R138	H3
C527	J3	R139	D10
C528	J2	R140	C9
C529	L3	R141	E9
C531	G10	R142	E8
C532	J10	R145	G9
C652	J5	R146	G5
C900	C4	R149	C10
C901	C4	R150	C10
C902	D4	R501	K7
C903	B4	R502	J5
C904	B3	R503	J5
CN500	M6	R505	K3
CN501	M3	R506	O4
CN666	G5	R507	P4
D100	B9	R508	P5
D101	B9	R509	P5
D500	I10	R511	K2
D501	K7	R679	I4
D502	K7	SW500	P5
D503	K7	ZD501	J4
D504	K7	ZD502	J2
D505	K5	ZD503	P5
D506	K5	ZD650	I5
D507	K6		
D508	L3		
D509	K3		
D510	K3		
D511	K6		
D512	I10		
D513	J8		
D514	J9		
F500	N6		
F501	N6		
F502	N6		
F503	N6		
F504	P5		
IC101	F9		
IC102	D6		
IC103	D10		
IC500	J9		
IC501	K9		
IC502	N9		
IC503	N9		
IC504	J8		
IC505	J6		
IC506	J7		
IC507	J3		
J501	K4		
J502	L4		
J503	O3		
J504	O3		
J505	P6		
J506	P6		
J507	P6		
J508	O5		
J509	L9		
J510	O5		
JK101	B10		

❑ WIRING DIAGRAM



❑ VOLTAGE SHEET (IC&TR)

LOC.	PART	PIN NUM.	STOP	DVD PLAY
IC650	LC8767XX	1	0	0
		2	0	0
		3	0	0
		4	4.54	4.54
		5	0	0
		6	0	0
		7	5	5
		8	0	0
		9	4.7	4.7
		10	X	X
		11	4.84	4.84
		12	X	X
		13	X	X
		14	0	0
		15	2.34	2.34
		16	2.45	2.45
		17	4.86	4.86
		18	4.84	4.84
		19	0.57	0.57
		20	X	X
		21	1.65	1.65
		22	4.88	4.88
		23	4.88	4.88
		24	0	0
		25	2.2	2.2
		26	4.37	4.37
		27	0	0
		28	2.77	2.77
		29	4.83	4.83
		30	-25.2	-25.2
		31	-25.2	-25.2
		32	-25.2	-25.2
		33	-25.2	-25.2
		34	-25.2	-25.2
		35	-25.2	-25.2
		36	-25.2	-25.2
		37	-25.2	-25.2
		38	-25.2	-25.2
		39	0	0
		40	-25.2	-25.2
		41	-9.52	-9.52
		42	-15.3	-15.3
		43	-9.4	-9.4
		44	-18.1	-18.1
		45	-24.2	-24.2
		46	4.9	4.9
		47	-18.1	-18.1
		48	-15.3	-15.3
		49	-24.1	-27
		50	-24.1	-24.1
		51	-27.5	-27.5
		52	-26.6	-27

LOC.	PART	PIN NUM.	STOP	DVD PLAY
		53	-15.1	-15.2
		54	-26.7	-27
		55	-26.7	-27
		56	-26.7	-27
		57	-17.7	-18
		58	-26.7	-27
		59	-26.7	-27
		60	-26.7	-27
		61	X	X
		62	X	X
		63	X	X
		64	X	X
		65	X	X
		66	X	X
		67	X	X
		68	X	X
		69	X	X
		70	X	X
		71	0	0
		72	4.9	4.9
		73	0	0
		74	0	0
		75	0	0
		76	0	0
		77	0	0
		78	0	0
		79	0	0
		80	0	0
		81	0	0
		82	X	X
		83	X	X
		84	X	X
		85	3.8	3.8
		86	0	0
		87	X	X
		88	X	X
		89	0	0
		90	4.86	4.85
		91	X	X
		92	0	0
		93	0	0
		94	0	0
		95	4.86	4.86
		96	0.75	0.75
		97	0.75	0.75
		98	4.5	4.5
		99	4.9	4.9
		100	2.5	2.5

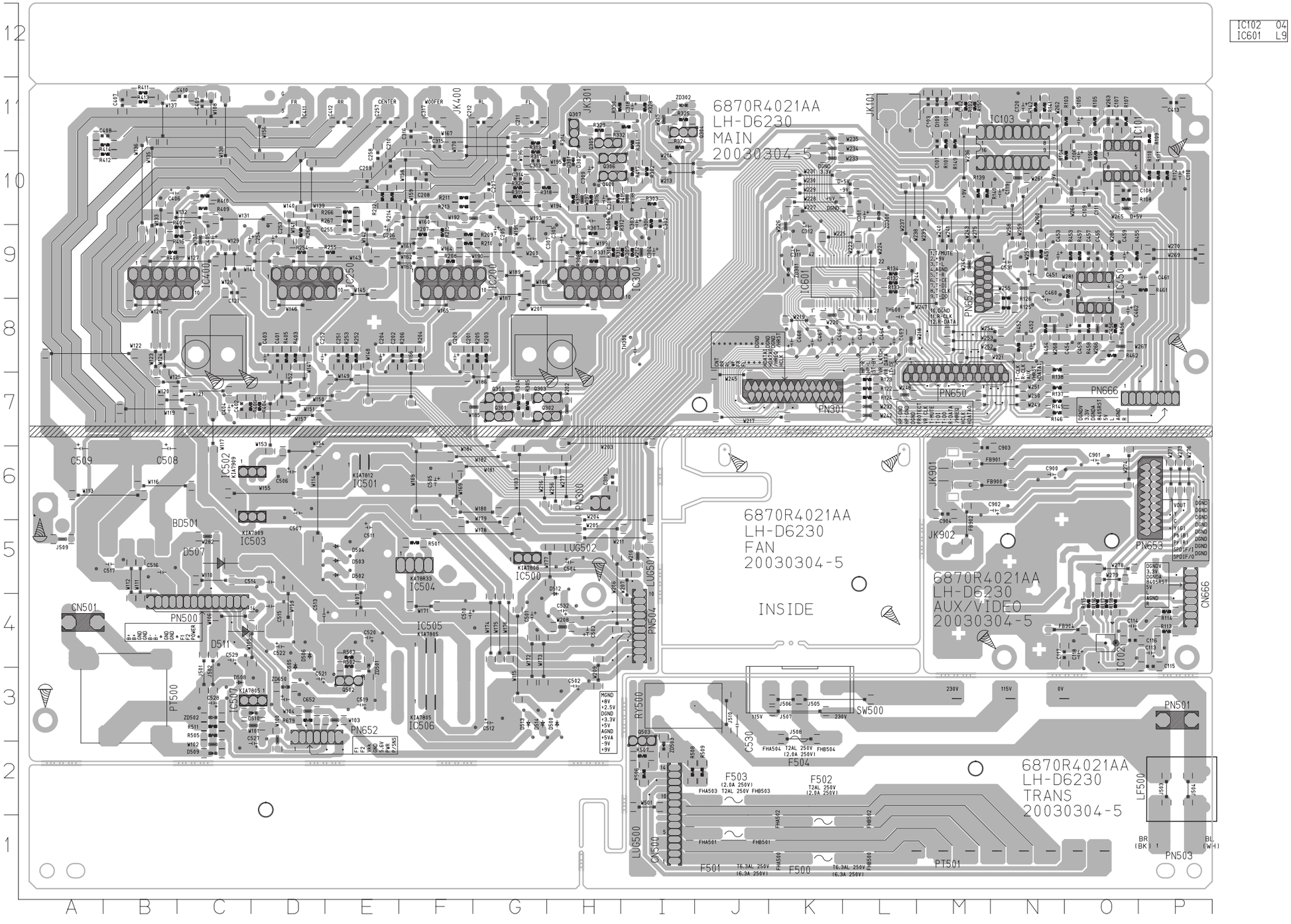
LOC.	PART	PIN NUM.	STOP	DVD PLAY
IC500	KIA7808	1	11.9	11.9
		2	0	0
		3	8	8
IC501	KIA7812	1	18.4	18.4
		2	0	0
		3	11.9	11.9
IC502	KIA7909	1	0	0
		2	-18.6	-18.6
		3	-9	-9
IC503	KA7809	1	18.4	18.4
		2	0	0
		3	9	9
IC504	KA78R33	1	8.4	8.4
		2	3.3	3.3
		3	0	0
		4	8.4	8.4
IC505	KIA7805	1	10.3	10.3
		2	0	0
		3	5	5
IC507	KIA7805	1	5.6	5.6
		2	0.6	0.6
		3	10.6	10.6
D507	D5402	ANODE	-0.2	-0.2
		CATHODE	10.5	10.5
D511	D5402	ANODE	-0.2	-0.2
		CATHODE	10.5	10.5
BD501	KBU6G	1	-18.6	-18.6
		2	0	0
		3	0	0
		4	18.4	18.4
IC101	KIA4558	1	4.5	4.5
		2	4.5	4.5
		3	4.5	4.5
		4	0	0
		5	4.5	4.5
		6	4.5	4.5
		7	4.5	4.5
		8	9	9
IC102	CS5331A	1	1.4	1.4
		2	1.6	1.6
		3	1.6	1.6
		4	1.5	1.5
		5	2.2	2.2
		6	0	0
		7	5	5
		8	2.2	2.2
IC103	4052	1	0	0
		2	0	0
		3	0	0
		4	0	0
		5	0	0
		6	0	0

LOC.	PART	PIN NUM.	STOP	DVD PLAY
		7	-4.5	-4.5
		8	0	0
		9	0	0
		10	0	0
		11	0	0
		12	0	0
		13	0	0
		14	0	0
		15	0	0
		16	4.5	4.5
IC450	KIA4558	1	0	0
		2	0	0
		3	0	0
		4	-9	-9
		5	0	0
		6	0	0
		7	0	0
		8	9	9
IC601	M60446AFP	5	5.2	5.2
		30	-5.3	-5.3
		42	5	5
IC200	TDA7265	1	-18.7	-18.7
		2	0	0
		3	18.6	18.6
		4	0	0
		5	9.3	9.3
		6	-18.6	-18.6
		7	0	0
		8	0	0
		9	0	0
		10	0	0
		11	0	0
IC250	TDA7265	1	-18.7	-18.7
		2	0	0
		3	18.6	18.6
		4	0	0
		5	9.3	9.3
		6	-18.6	-18.6
		7	0	0
		8	0	0
		9	0	0
		10	0	0
		11	0	0
IC300	TDA7265	1	-18.7	-18.7
		2	0	0
		3	18.6	18.6
		4	0	0
		5	9.3	9.3
		6	-18.6	-18.6
		7	0	0
		8	0	0
		9	0	0
		10	0	0
		11	0	0

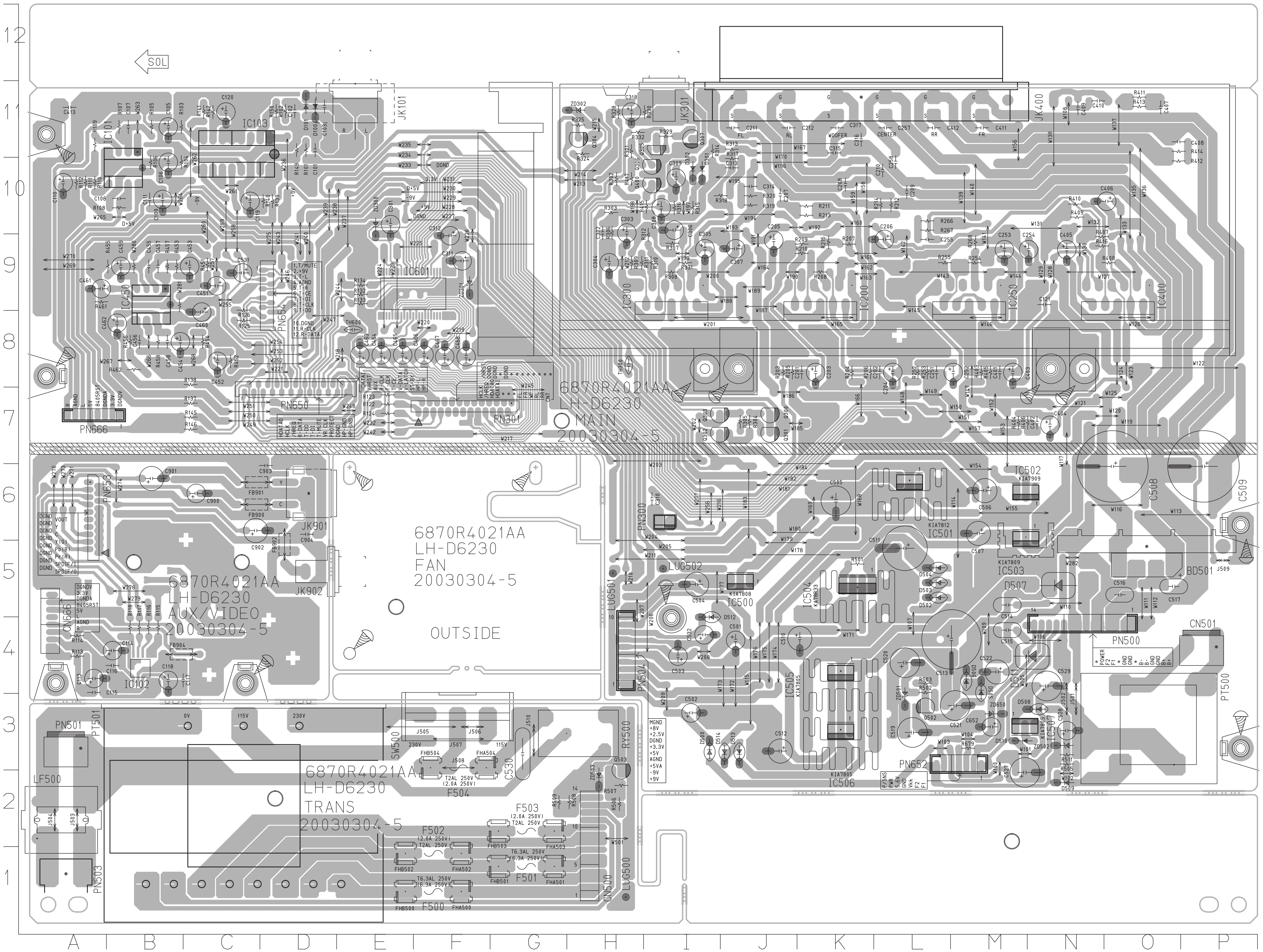
LOC.	PART	PIN NUM.	STOP	DVD PLAY
IC400	TDA7265	1	-18.7	-18.7
		2	0	0
		3	18.6	18.6
		4	0	0
		5	9.3	9.3
		6	-18.6	-18.6
		7	0	0
		8	0	0
		9	0	0
		10	0	0
		11	0	0

❑ PRINTED CIRCUIT DIAGRAMS

• MAIN/POWER/JACK P.C BOARD (SOLDER SIDE)

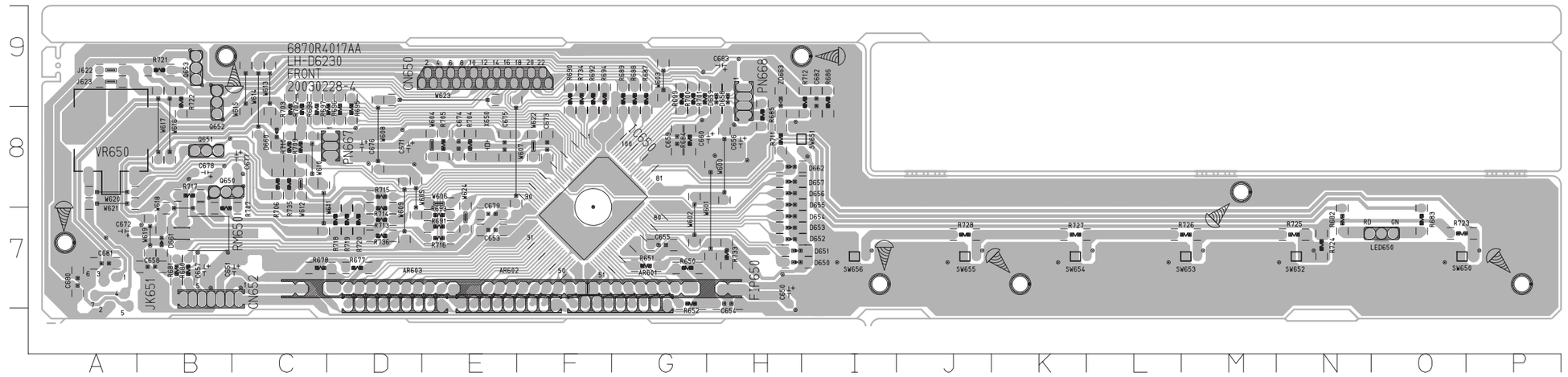


• MAIN/POWER/JACK P.C BOARD (COMPONENT SIDE)

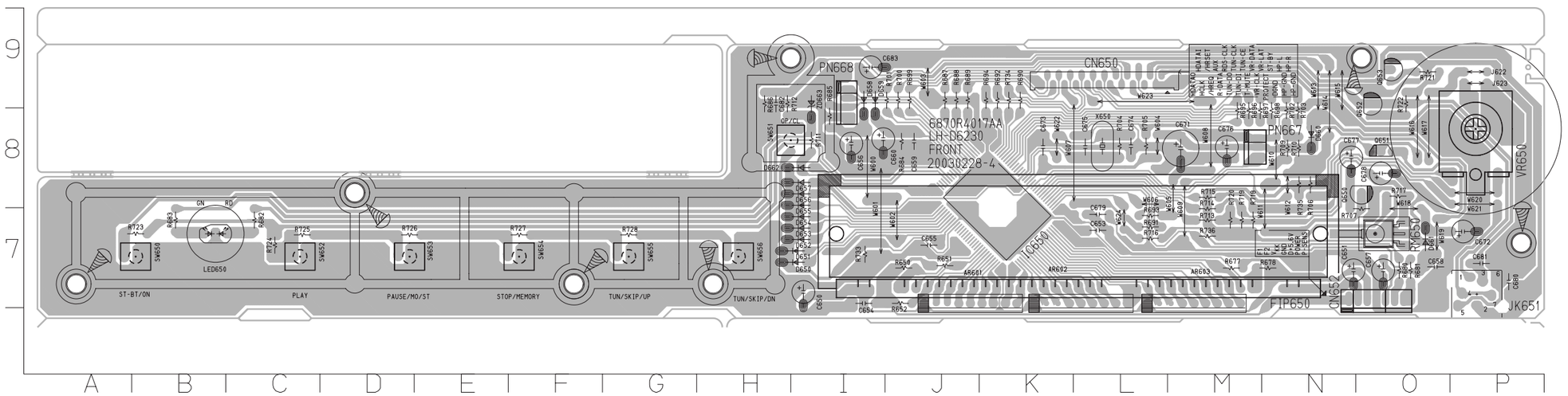


BD501	O5	C460	C8	IC200	K9	LF500	A2	R254	M9
C101	D11	C461	A9	IC250	M9	LUG500	H1	R255	L9
C102	D11	C462	B8	IC300	I9	LUG501	H5	R266	L10
C103	D11	C463	E8	IC400	O9	LUG502	I5	R267	L10
C105	B11	C464	E8	IC450	B9	PN300	I6	R268	M9
C106	B10	C465	E8	IC500	J5	PN301	G7	R301	H11
C107	B11	C466	F8	IC501	L6	PN500	O4	R302	H10
C108	B10	C467	F8	IC502	M6	PN501	A3	R303	H10
C109	B10	C468	F8	IC503	M6	PN503	A1	R304	J7
C110	A10	C501	J4	IC504	K5	PN504	H4	R305	J7
C111	B10	C502	I3	IC505	K4	PN650	C7	R306	H10
C113	A4	C503	I4	IC506	K3	PN652	M3	R307	I9
C114	B4	C504	I5	IC507	M3	PN653	A6	R308	I9
C115	A4	C505	K6	J501	N3	PN654	D8	R309	H9
C116	B4	C506	M6	J502	N3	PN666	B7	R310	I9
C117	C4	C507	M6	J503	A2	PT500	O3	R311	H9
C118	B4	C508	O6	J504	A2	PT501	E1	R312	I9
C119	C10	C509	P6	J505	F3	Q300	J7	R313	J11
C120	C11	C510	K4	J506	F3	Q301	J7	R314	I11
C121	N9	C511	L5	J507	F3	Q302	I7	R315	I10
C201	K8	C512	J3	J508	F3	Q303	I7	R316	I10
C202	L8	C513	M4	J509	P5	Q304	H11	R317	J10
C203	K8	C514	M5	J510	G3	Q305	I11	R318	J10
C204	L8	C515	M4	JK101	E11	Q306	I10	R319	J10
C205	J9	C516	O5	JK301	I11	Q307	I11	R320	J10
C206	L9	C517	O5	JK400	K11	Q400	I10	R324	H11
C207	J10	C519	L3	JK901	D6	Q502	L3	R325	H11
C208	K10	C520	L4	JK902	D5	Q503	H2	R328	H11
C209	L10	C521	M3	JP001	A7	R101	D11	R329	I11
C210	L10	C522	M4	JP002	A8	R102	D11	R330	I11
C211	J11	C527	M2	JP003	A7	R103	B11	R331	I9
C212	J11	C528	N3	JP004	A8	R104	B10	R332	H11
C251	L8	C529	N4	JP005	A7	R105	B11	R403	M8
C252	M8	C530	G3	JP006	A7	R106	B10	R404	M7
C253	M9	C531	C9	JP007	E7	R107	B11	R405	M8
C254	N9	C532	I4	JP008	F7	R108	B10	R406	N7
C255	L9	C652	M3	JP009	H2	R109	A11	R407	N9
C257	L11	C900	C6	JP010	H2	R110	A10	R408	O9
C258	L10	C901	B6	JP011	H5	R111	A10	R409	N10
C301	E10	C902	C6	JP013	I4	R112	A10	R410	N10
C302	H10	C903	D6	JP014	H4	R113	A4	R411	O11
C303	H10	C904	D6	JP015	I4	R114	A4	R412	O10
C304	H9	CN500	H1	JP016	H4	R115	B4	R413	O11
C305	I9	CN501	P4	JP017	H4	R116	B4	R414	O11
C306	I10	CN666	A5	JP018	I4	R117	B4	R415	I10
C307	J9	D100	D11	JP019	N4	R118	B4	R416	N9
C308	I10	D101	D11	JP021	N4	R122	E7	R417	H10
C309	I10	D301	I10	JP022	N5	R123	E7	R451	C9
C310	I6	D302	I10	JP023	M3	R124	E7	R452	C8
C311	F9	D500	I3	JP024	L3	R125	C8	R453	B9
C312	F9	D502	L5	JP025	M2	R126	C8	R454	C8
C313	J10	D503	L5	JP026	L2	R132	E9	R455	B9
C314	J10	D504	L5	JP030	A6	R133	E9	R456	B8
C315	K11	D505	M4	JP031	A5	R134	E9	R457	B9
C316	K11	D506	M4	JP032	A4	R137	C7	R458	B8
C317	K11	D507	N5	JP033	A6	R138	C8	R461	A9
C318	H11	D508	N3	JP034	A6	R139	D10	R462	B8
C401	M8	D509	N2	JP035	A6	R140	D10	R501	K5
C402	N7	D510	M3	JP036	A6	R141	C11	R502	L4
C403	M8	D511	N4	JP037	A5	R142	C11	R503	L4
C404	N7	D512	I4	JP038	D8	R145	C7	R505	N3
C405	N9	D513	J3	JP039	D8	R146	C7	R506	H2
C406	O10	D514	J3	JP040	D8	R149	D11	R507	H2
C407	O11	FB900	C6	JP041	D8	R150	D11	R508	H2
C408	O11	FB901	C6	JP042	D7	R203	J8	R509	G2
C409	N11	FB902	D5	JP043	D8	R204	K8	R511	N3
C410	N11	FB904	B4	JP044	E8	R205	J8	R679	M3
C411	M11	FHA500	F1	JP045	D8	R206	K8	RY500	G3
C412	L11	FHA501	G1	JP046	D7	R207	K9	SW500	F3
C413	A11	FHA502	F1	JP047	D7	R208	K9	TH300	H8
C451	C9	FHA503	G2	JP048	D7	R209	K9	TH600	E8
C452	C8	FHA504	F3	JP049	C7	R210	K9	ZD300	E10
C453	C9	FHB500	E1	JP050	C7	R211	K10	ZD301	F9
C454	B8	FHB501	G1	JP051	C7	R212	L10	ZD302	H11
C455	B9	FHB502	E1	JP052	D7	R213	K10	ZD501	L3
C456	B8	FHB503	G2	JP053	F7	R214	L10	ZD502	N3
C457	B9	FHB504	F3	JP054	G7	R215	K9	ZD503	H2
C458	B8	IC101	B11	JP055	G7	R252	L8	ZD650	M3
C459	B9	IC103	D11	JP056	G7	R253	L8		

• FRONT P.C. BOARD (SOLDER SIDE)



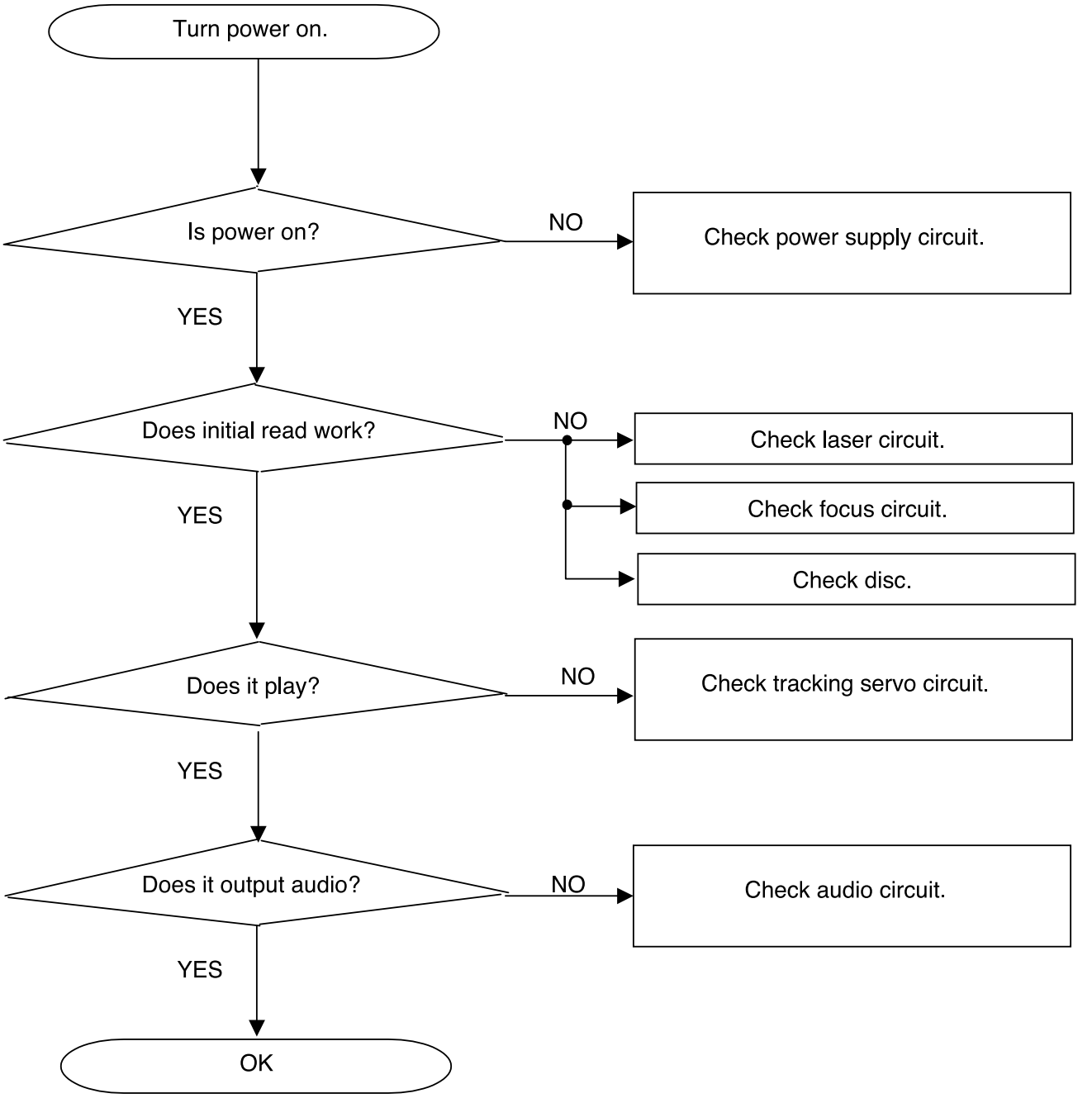
• FRONT P.C. BOARD (COMPONENT SIDE)



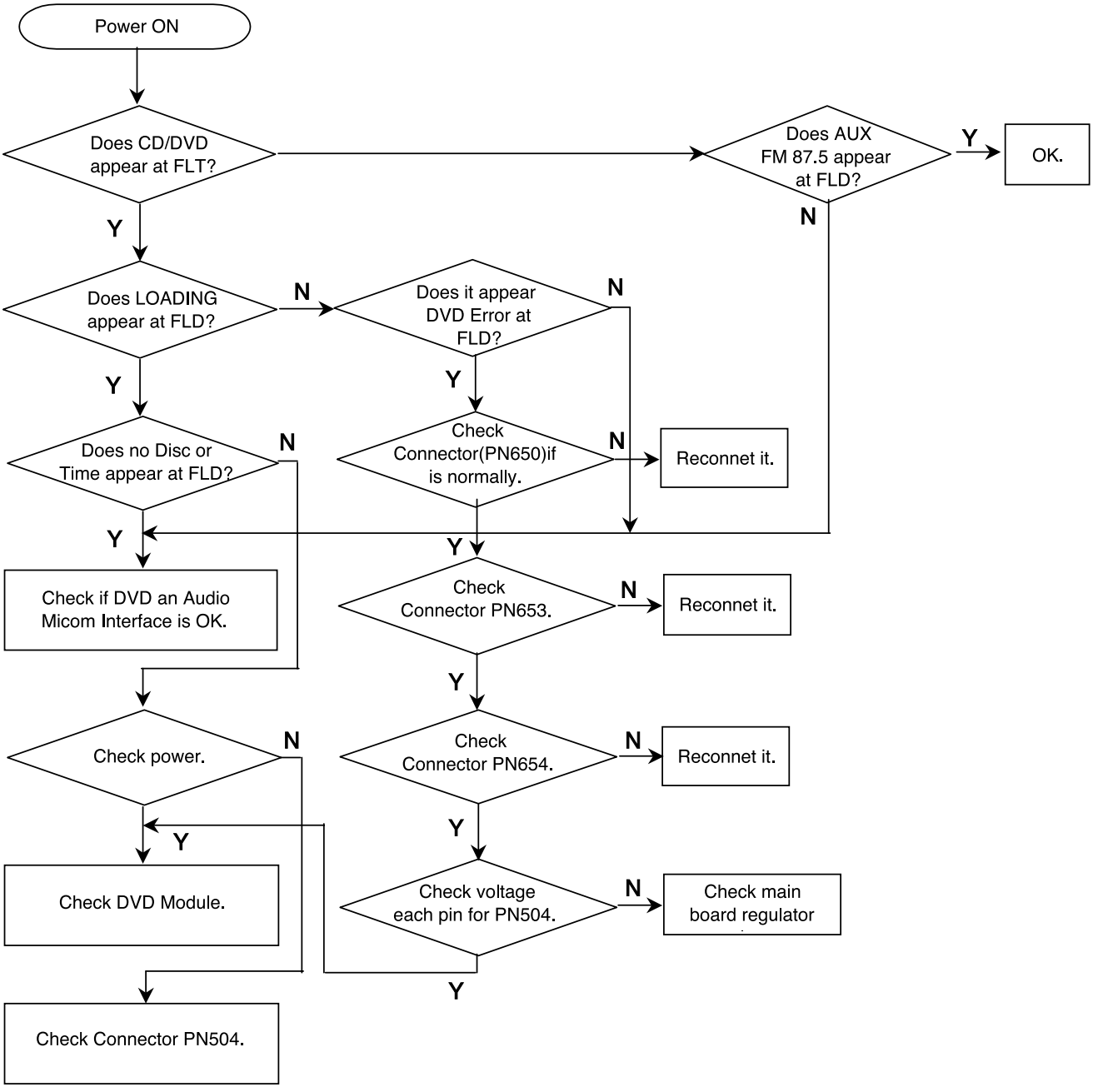
AR601	J7	R683	B7
AR602	K7	R684	J8
AR603	L7	R685	I8
C650	I7	R686	H9
C651	N7	R687	J9
C653	L7	R688	J9
C654	I7	R689	J9
C655	J7	R690	K9
C656	I8	R691	L7
C657	O7	R692	K9
C658	O7	R693	L7
C659	J8	R694	K9
C660	I8	R695	M8
C671	M8	R696	M8
C672	P7	R697	M8
C673	K8	R698	N8
C674	L8	R699	J9
C675	L8	R700	J9
C676	M8	R701	J9
C677	N8	R702	N8
C678	O8	R703	N8
C679	L7	R704	L8
C680	P7	R705	L8
C681	P7	R706	N8
C682	H9	R707	O7
C683	I9	R709	N8
CN650	K9	R710	N8
CN652	N7	R711	I8
D650	I7	R712	H9
D651	I7	R713	M7
D652	I7	R714	M7
D653	I7	R715	M8
D654	I7	R716	L7
D655	I8	R717	O8
D656	I8	R718	M7
D657	I8	R719	M7
D658	I9	R720	M7
D659	I9	R721	O9
D660	N8	R722	O9
D661	O7	R723	B7
D662	I8	R724	C7
FIP650	N7	R725	C7
J622	P9	R726	D7
J623	P9	R727	F7
JK651	P7	R728	G7
LED650	B7	R733	I7
PN667	M8	R734	K9
PN668	I9	R735	N8
Q650	O8	R736	M7
Q651	O8	RM650	O7
Q652	O9	SW650	B7
Q653	O9	SW651	I8
R650	J7	SW652	C7
R651	J7	SW653	D7
R652	J7	SW654	F7
R677	M7	SW655	G7
R678	N7	SW656	H7
R680	O7	VR650	P8
R681	O7	X650	L8
R682	C7	ZD663	I9

SECTION 3. ELECTRICAL TROUBLESHOOTING GUIDE

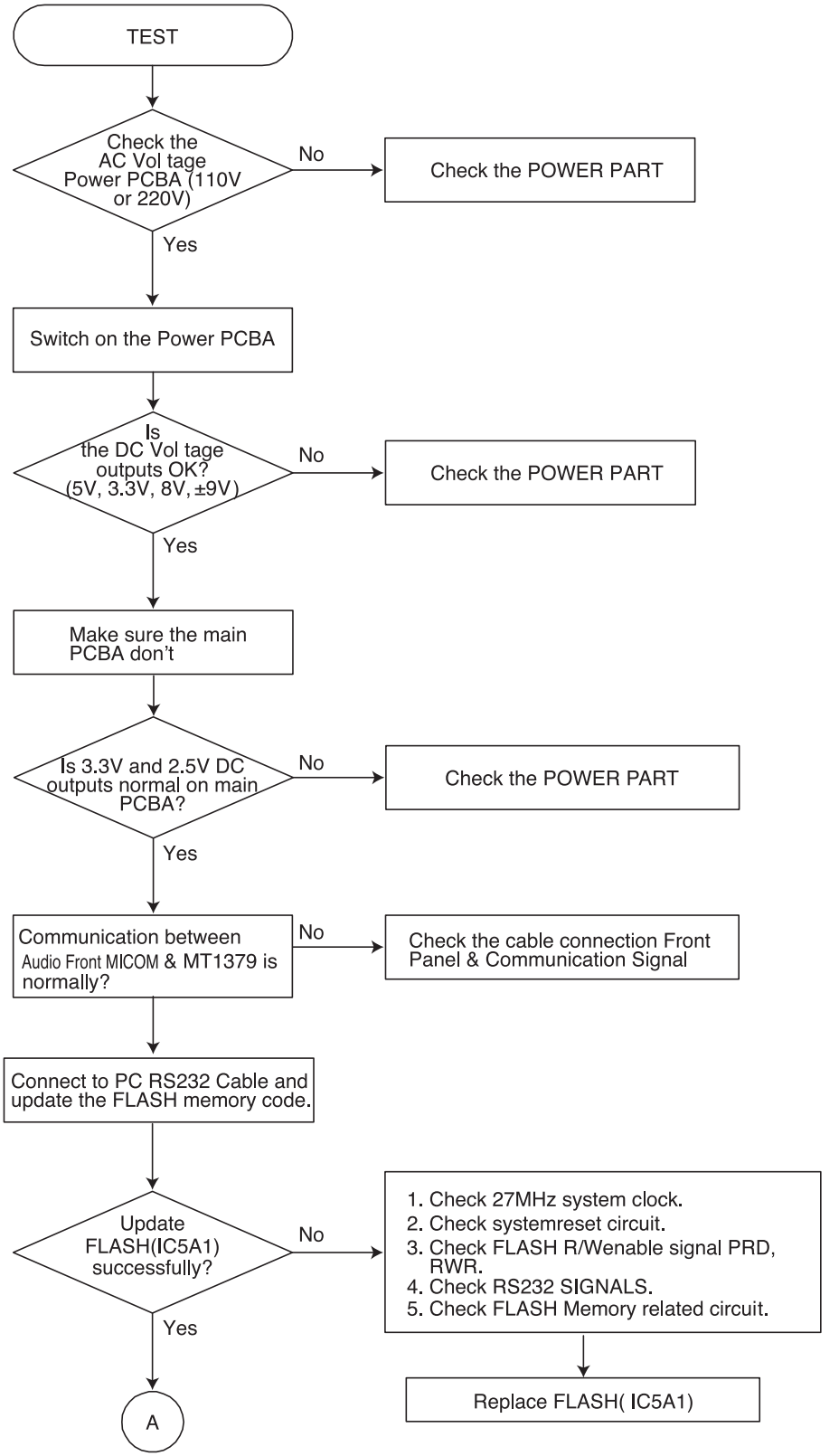
1. System check flow

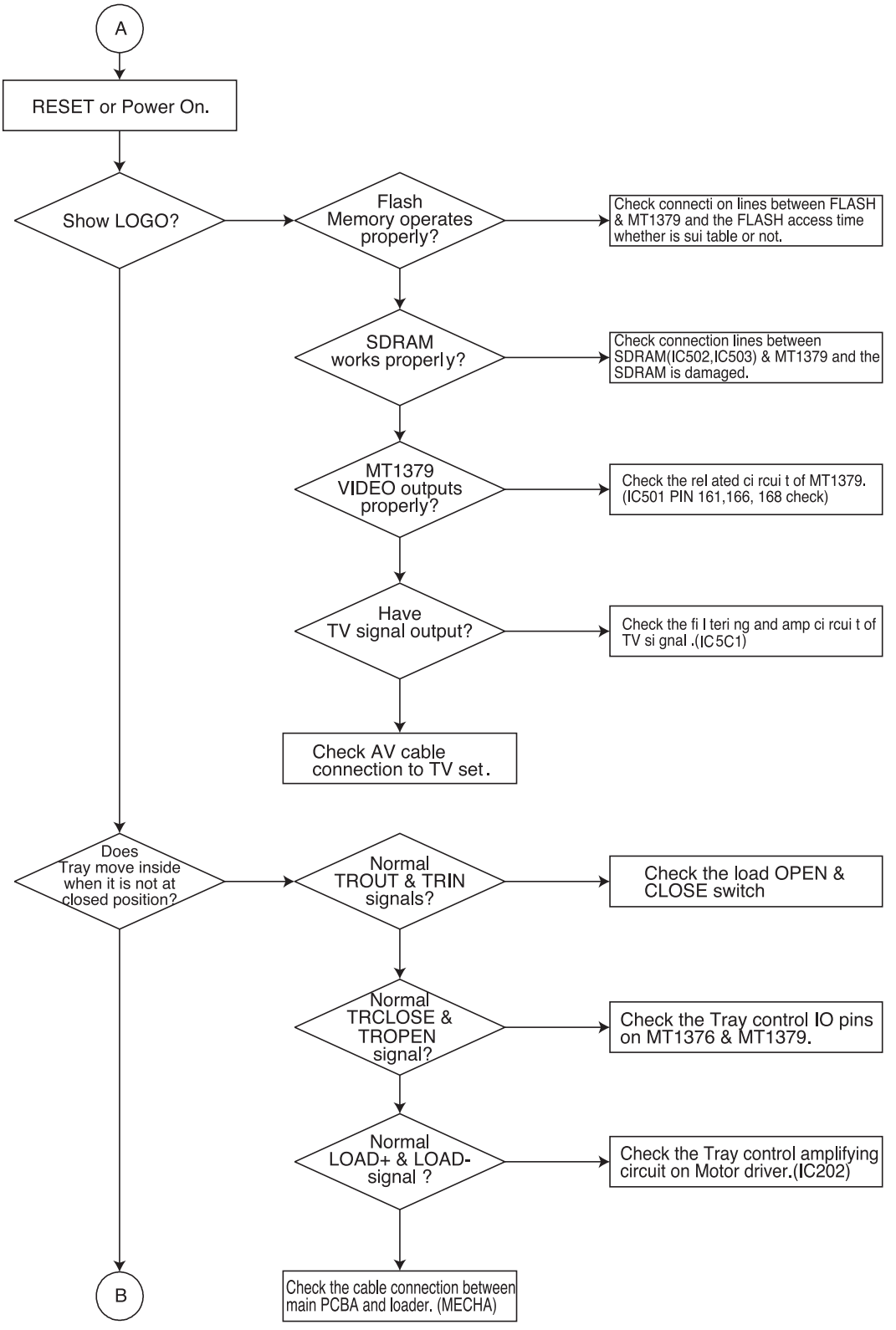


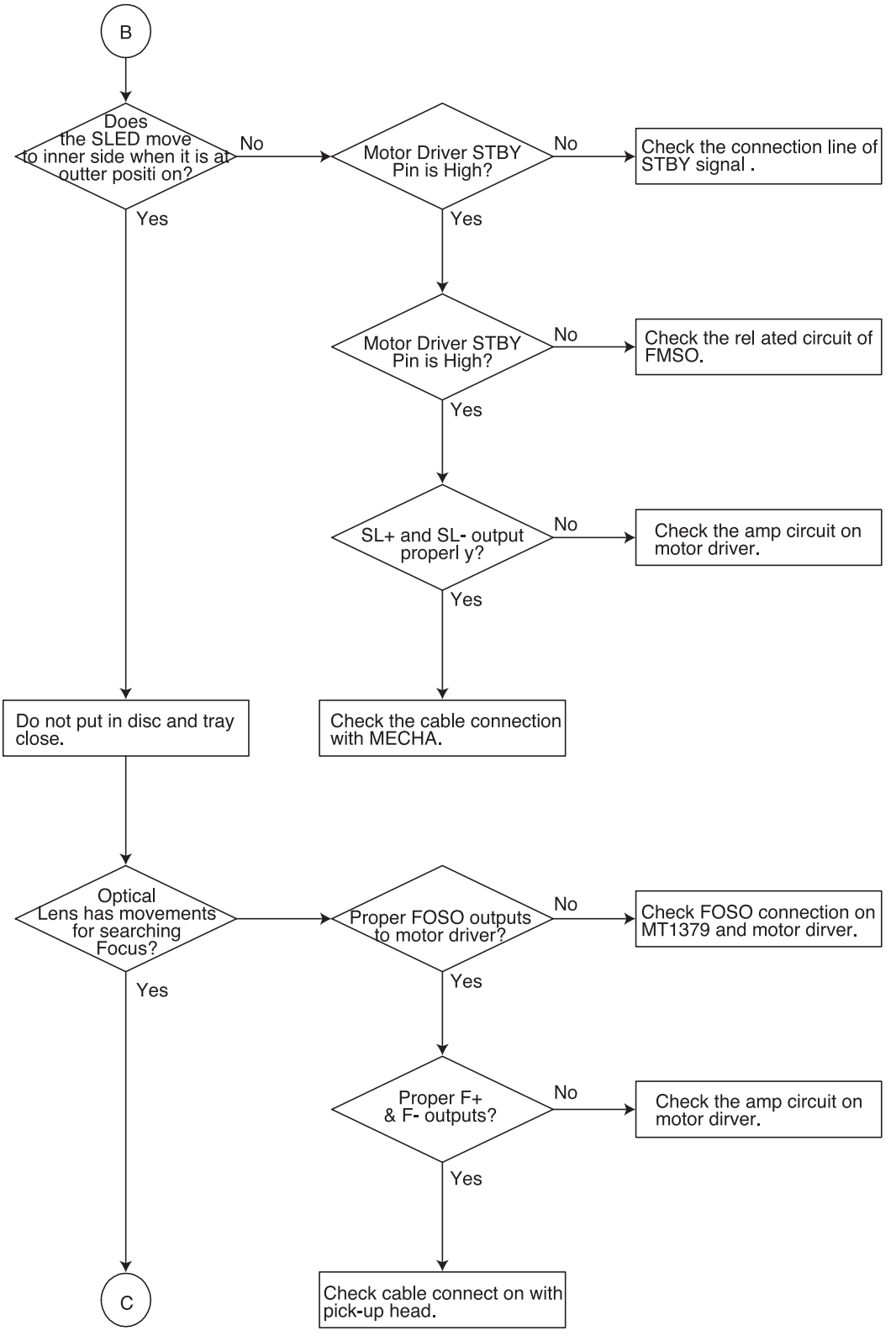
2. Power check flow

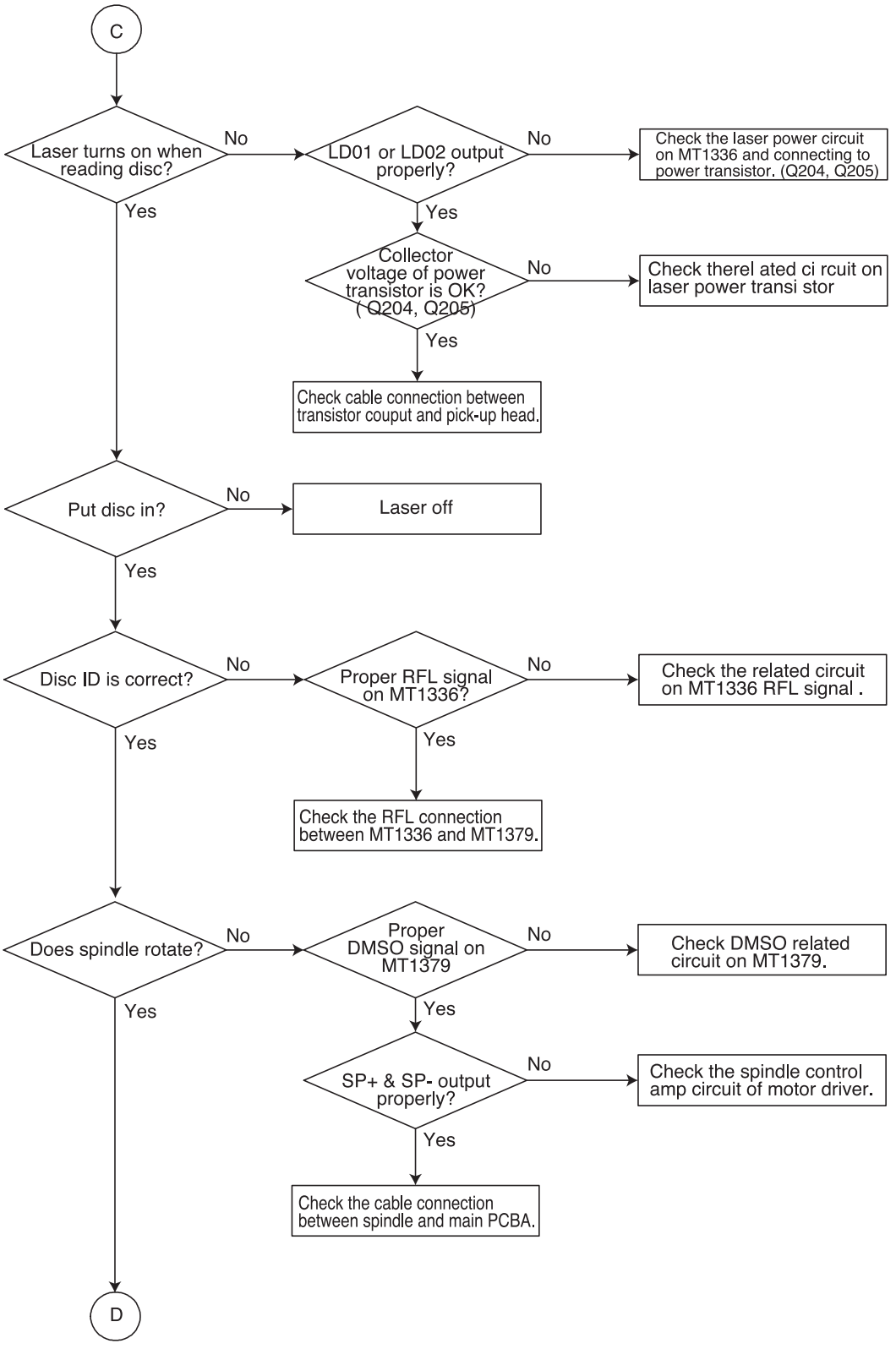


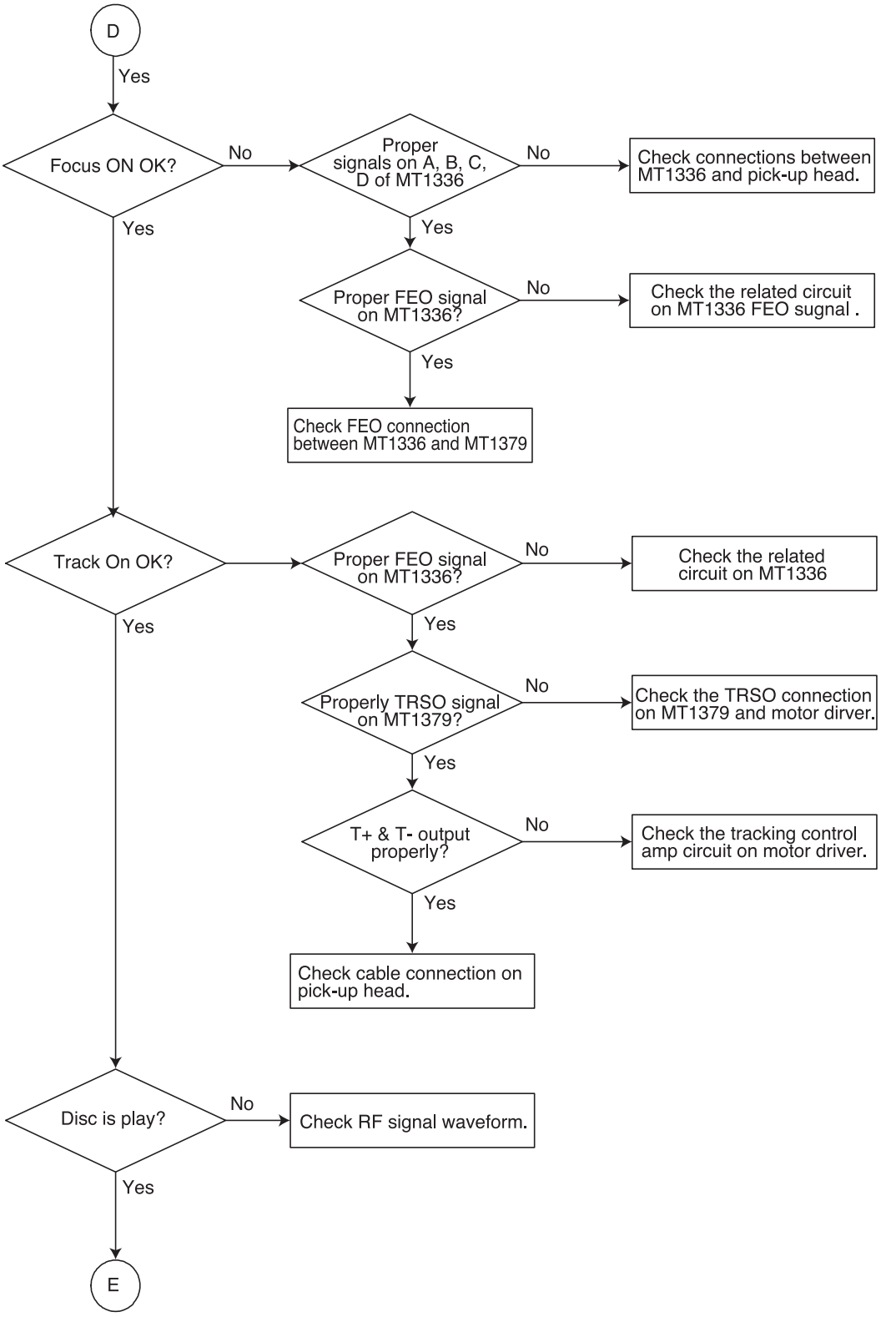
3. Test & debug flow

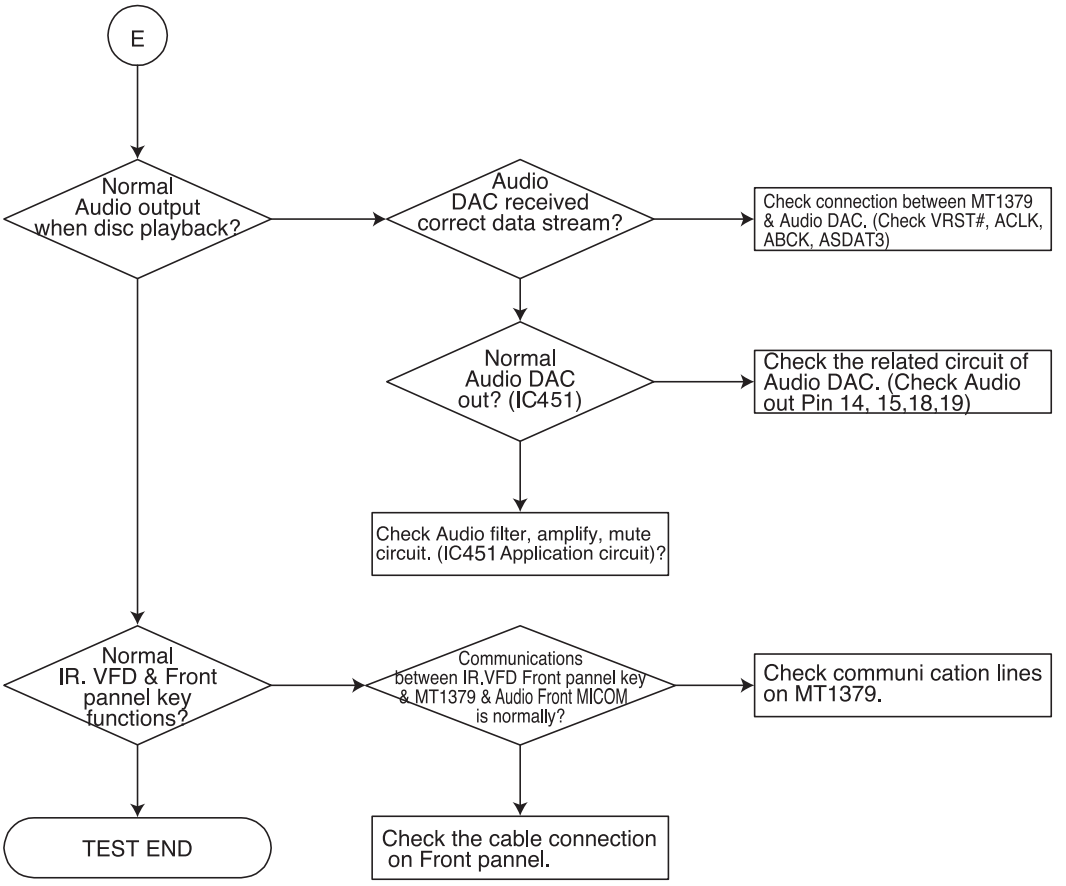



A
RESET or Power On.
Show LOGO?
Flash Memory operates properly?
Check connecti on lines between FLASH & MT1379 and the FLASH access time whether is sui table or not.
SDRAM works properl y?
Check connection lines between SDRAM(IC502,IC503) & MT1379 and the SDRAM is damaged.
MT1379 VIDEO outputs properly?
Check the rel ated ci rcui t of MT1379. (IC501 PIN 161,166, 168 check)
Have TV signal output?
Check the fi l teri ng and amp ci rcui t of TV si gnal .(IC5C1)
Check AV cable connection to TV set.
Does Tray move inside when it is not at closed position?
Normal TROUT & TRIN signals?
Check the load OPEN & CLOSE switch
Normal TRCLOSE & TROPEN signal?
Check the Tray control IO pins on MT1376 & MT1379.
Normal LOAD+ & LOAD- signal ?
Check the Tray control amplifying circuit on Motor driver.(IC202)
B
Check the cable connection between main PCBA and loader. (MECHA)


B
Does the SLED move to inner side when it is at outter positi on?
No
Yes
Motor Driver STBY Pin is High?
No
Check the connection line of STBY signal .
Yes
Motor Driver STBY Pin is High?
No
Check the rel ated circuit of FMSO.
Yes
SL+ and SL- output properl y?
No
Check the amp circuit on motor driver.
Yes
Do not put in disc and tray close.
Check the cable connection with MECHA.
Optical Lens has movements for searching Focus?
Proper FOSO outputs to motor driver?
No
Check FOSO connection on MT1379 and motor dirver.
Yes
Yes
Proper F+ & F- outputs?
No
Check the amp circuit on motor dirver.
Yes
C
Check cable connect on with pick-up head.


C
Laser turns on when reading disc?
No
LD01 or LD02 output properly?
No
Check the laser power circuit on MT1336 and connecting to power transistor. (Q204, Q205)
Yes
Yes
Collector voltage of power transistor is OK? (Q204, Q205)
No
Check therel ated ci rcuit on laser power transi stor
Yes
Check cable connection between transistor couput and pick-up head.
Put disc in?
No
Laser off
Yes
Disc ID is correct?
No
Proper RFL signal on MT1336?
No
Check the related circuit on MT1336 RFL signal .
Yes
Yes
Check the RFL connection between MT1336 and MT1379.
Does spindle rotate?
No
Proper DMSO signal on MT1379
No
Check DMSO related circuit on MT1379.
Yes
Yes
SP+ & SP- output properly?
No
Check the spindle control amp circuit of motor driver.
Yes
Check the cable connection between spindle and main PCBA.
D


D
Yes
Focus ON OK?
No
Proper signals on A, B, C, D of MT1336
No
Check connections between MT1336 and pick-up head.
Yes
Yes
Proper FEO signal on MT1336?
No
Check the related circuit on MT1336 FEO sugnal .
Yes
Check FEO connection between MT1336 and MT1379
Track On OK?
Proper FEO signal on MT1336?
No
Check the related circuit on MT1336
Yes
Yes
Properly TRSO signal on MT1379?
No
Check the TRSO connection on MT1379 and motor dirver.
Yes
T+ & T- output properly?
No
Check the tracking control amp circuit on motor driver.
Yes
Check cable connection on pick-up head.
Disc is play?
No
Check RF signal waveform.
Yes
E


E
Normal Audio output when disc playback?
Audio DAC received correct data stream?
Check connection between MT1379 & Audio DAC. (Check VRST#, ACLK, ABCK, ASDAT3)
Normal Audio DAC out? (IC451)
Check the related circuit of Audio DAC. (Check Audio out Pin 14, 15,18,19)
Check Audio filter, amplify, mute circuit. (IC451 Application circuit)?
Normal IR. VFD & Front pannel key functions?
Communications between IR.VFD Front pannel key & MT1379 & Audio Front MICOM is normally?
Check communi cation lines on MT1379.
TEST END
Check the cable connection on Front pannel.

❑ DETAILS AND WAVEFORMS ON SYSTEM TEST AND DEBUGGING

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

1) MT1379 main clock is at 27MHz(X501)

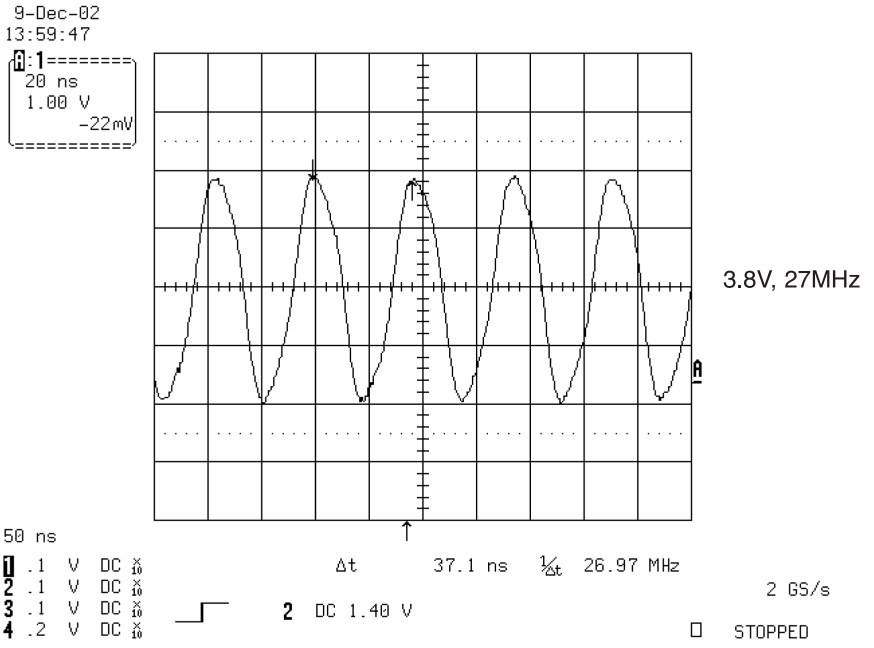


FIG 1-1

2) MT1336 reset is high active

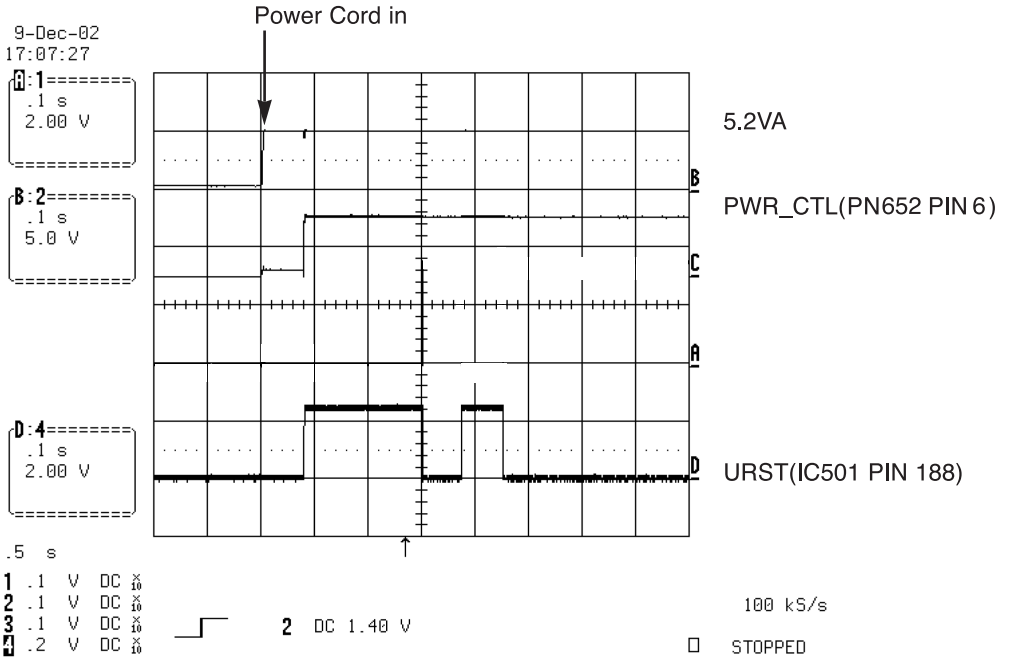


FIG 1-2

3) RS232 waveform during procedure(Downloading)

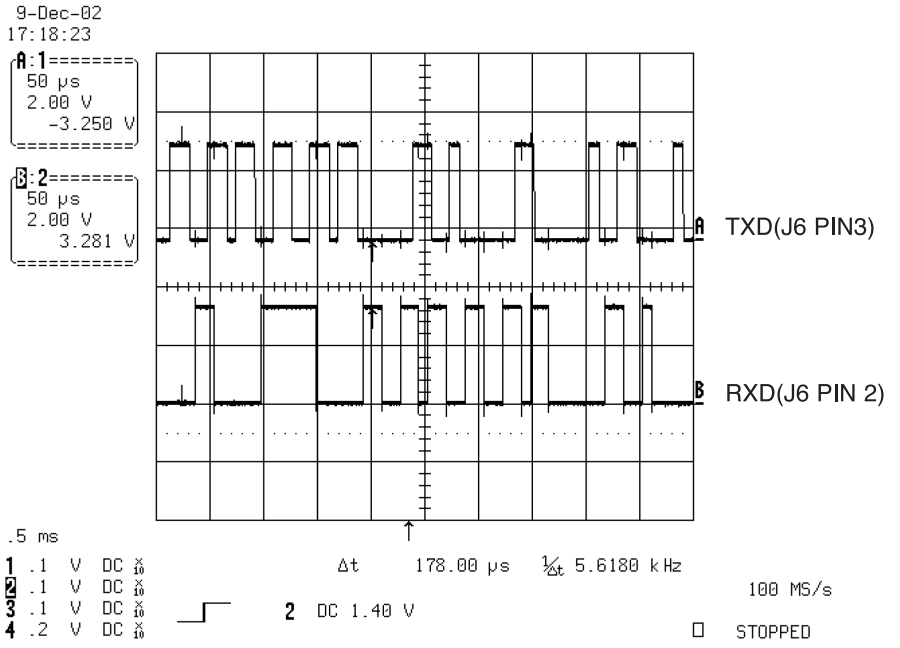


FIG 1-3

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

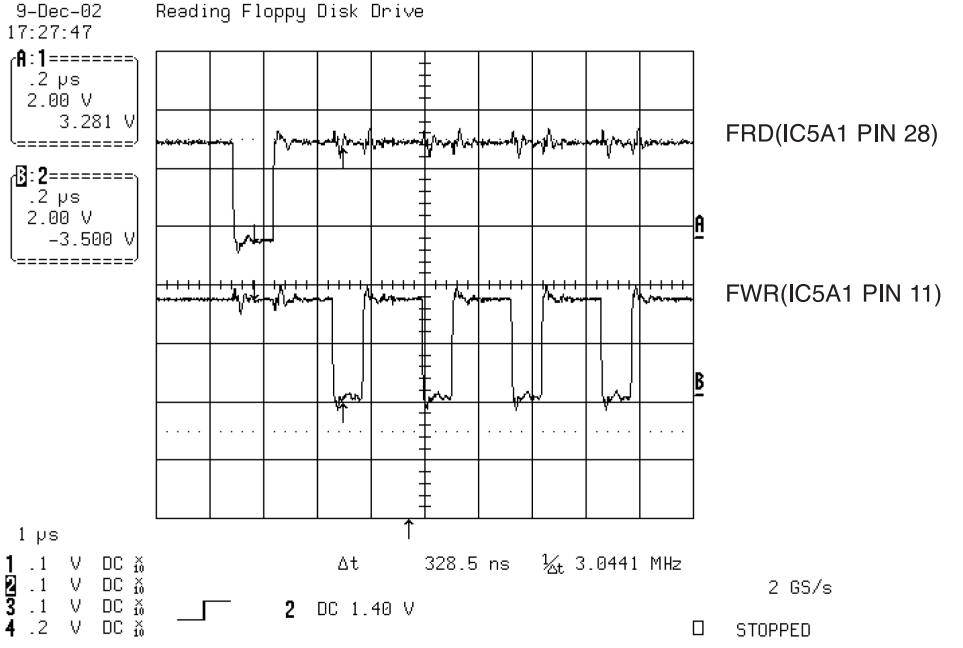
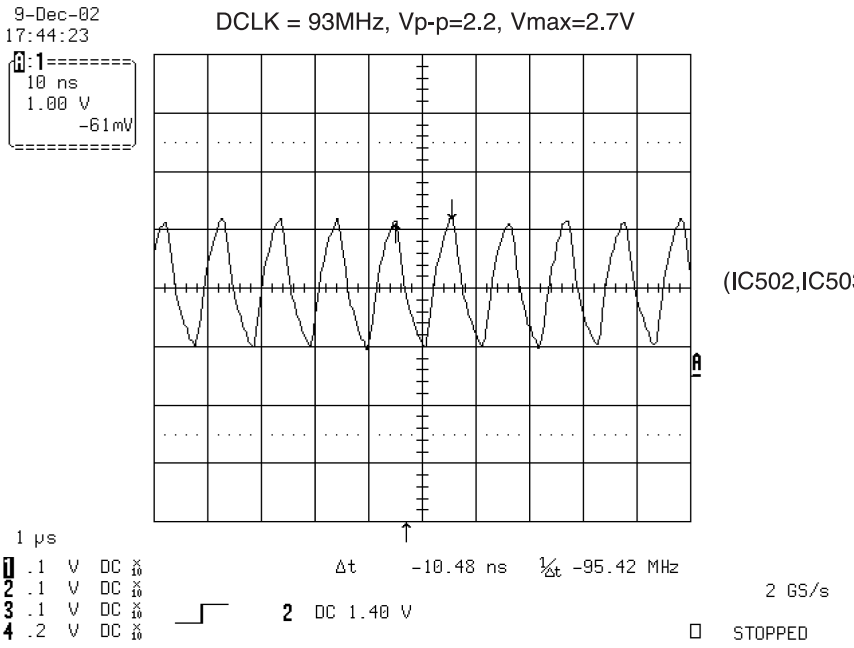


FIG 1-4

2. SDRAM CLOCK

1) MT1379 main clock is at 27MHz(X501)

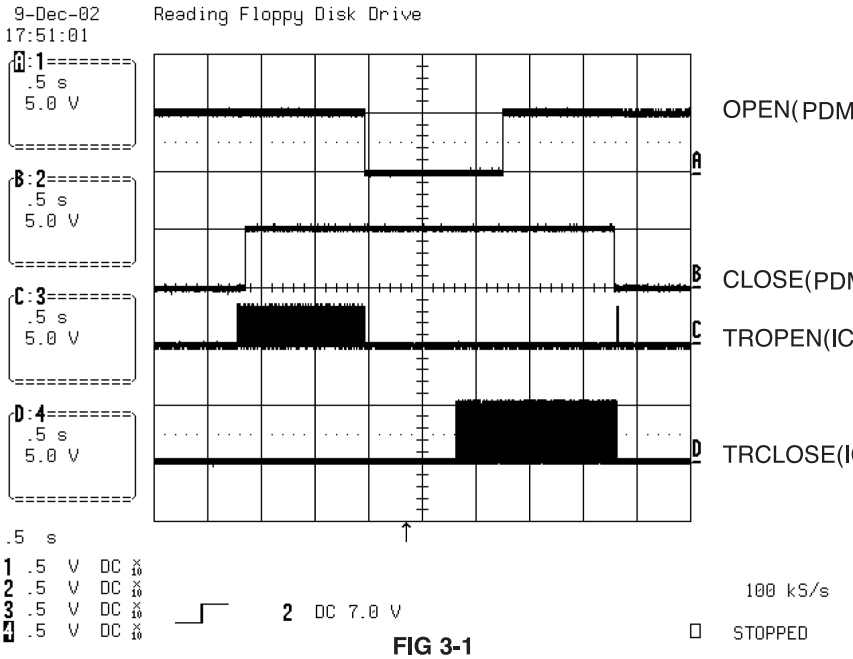


(IC502,IC503 PIN 35)

FIG 2-1

3. TRAY OPEN/CLOSE SIGNAL

1) Tray open/close waveform



OPEN(PDM 02 PIN 7)

CLOSE(PDM 02 PIN 8)

TROPEN(IC202 PIN 1)

TRCLOSE(IC202 PIN 2)

FIG 3-1

2) Tray close waveform

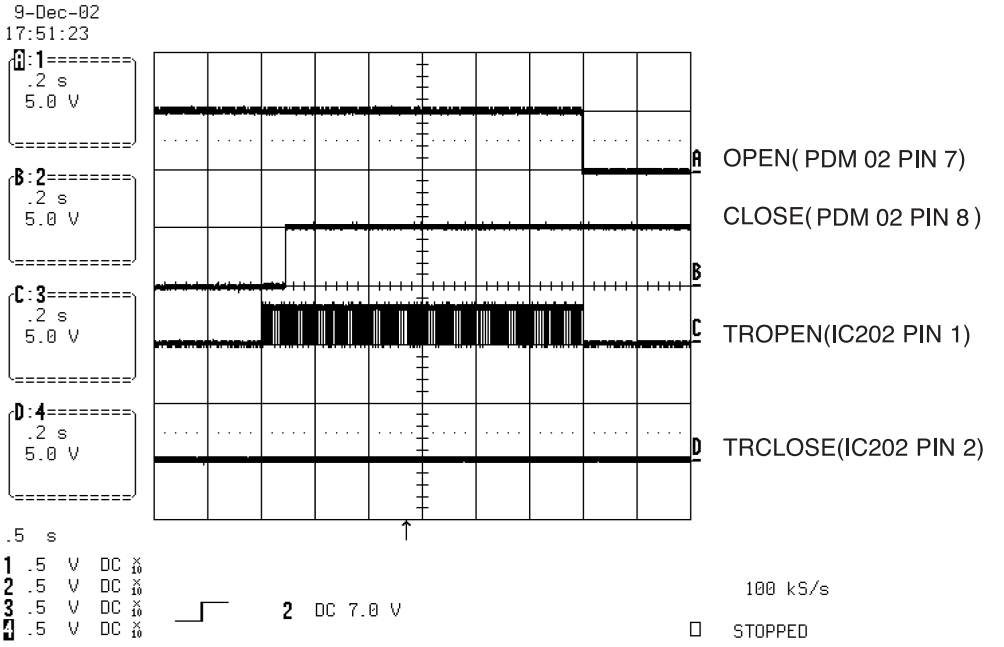


FIG 3-2

3) Tray open waveform

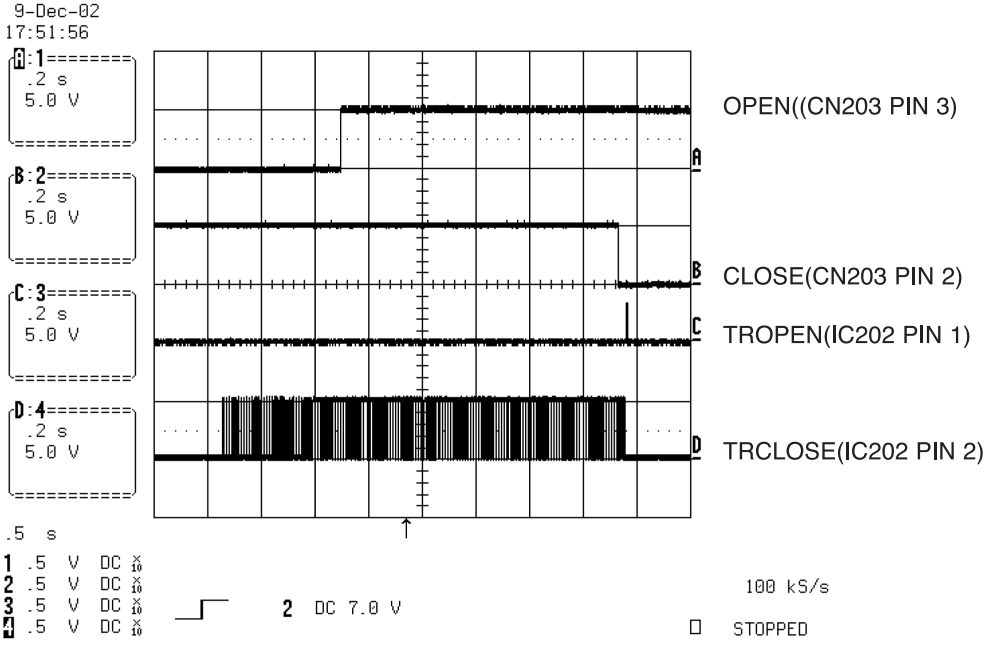
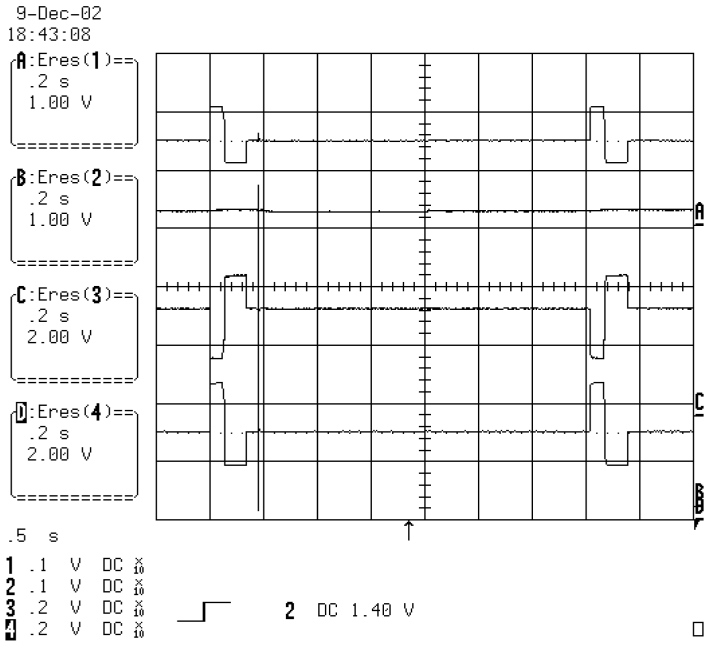


FIG 3-3

4. SLED CONTROL RELATED SIGNAL (NO DISC CONDITION)



FMSO(2.0V/1.4V/1.0V)
(IC501 PIN 19)

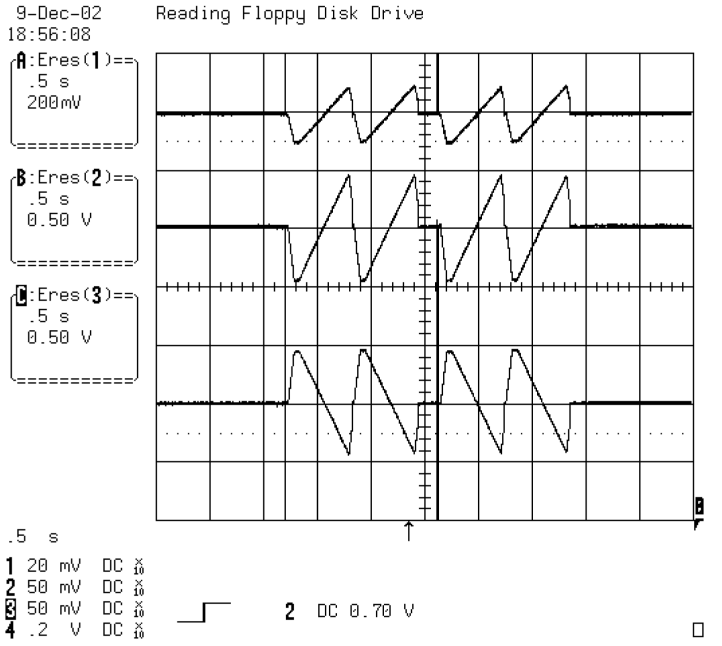
STBY(5V) – (IC201 PIN 50)

SL+(4.7V/3.6V/1.9V)
(IC202 PIN 12)

SL-(5.3V/3.7V/2.5V)
(IC202 PIN 13)

FIG 4-1

5. LENS CONTROL RELATED SIGNAL(NO DISC CONDITION)



FOSO(1.5V/1.4V/1.3V)
(IC501 PIN 12)

F+(4.0V/3.6V/3.2V)
(IC202 PIN 9)

F-(4.0V/3.6V/3.2V)
(IC202 PIN 8)

FIG 5-1

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

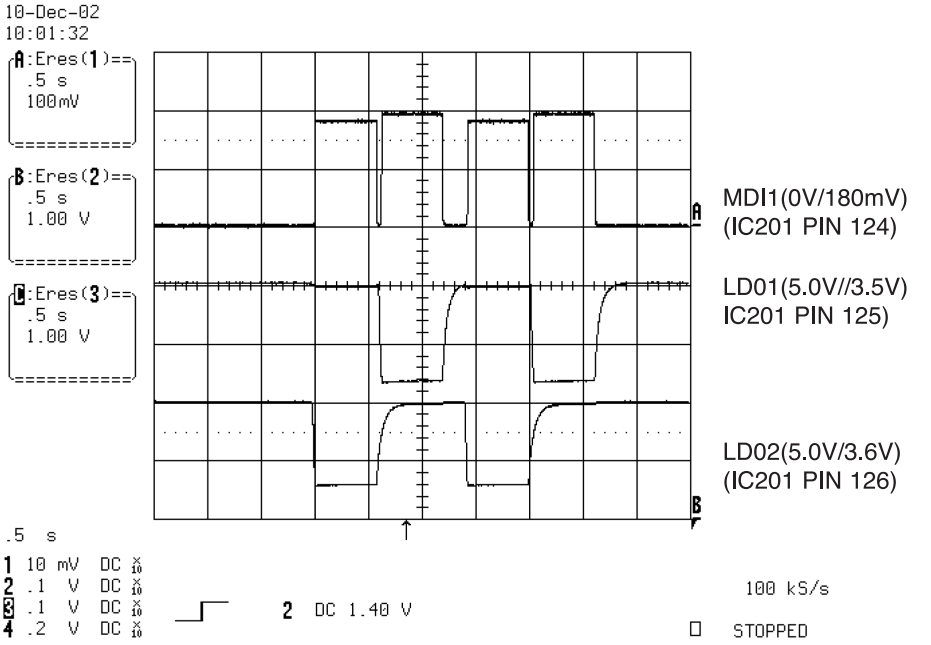


FIG 6-1

7. DISC TYPE JUDGEMENT WAVEFORM

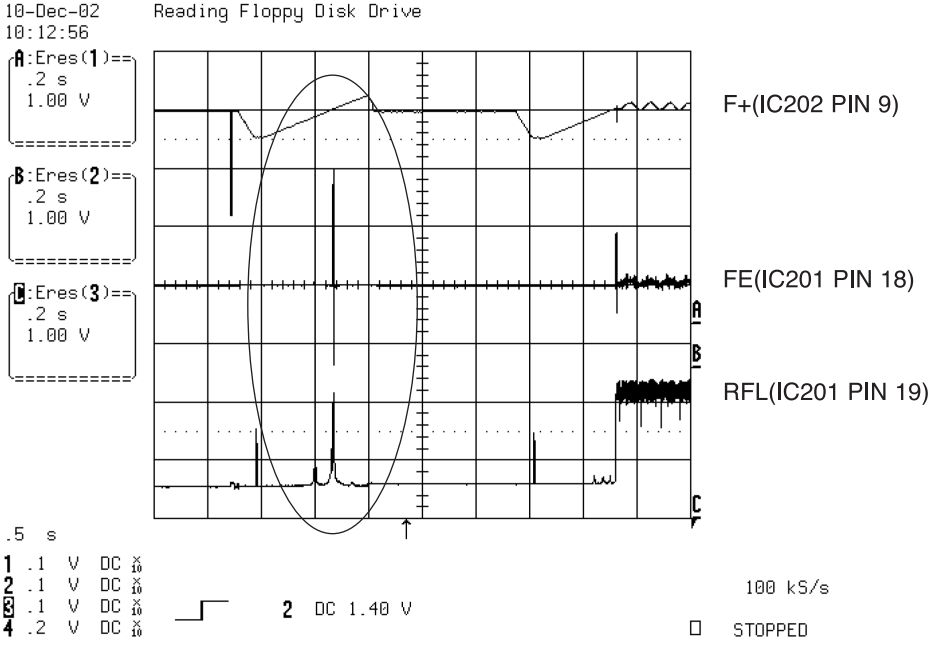


FIG 7-1 (DVD)

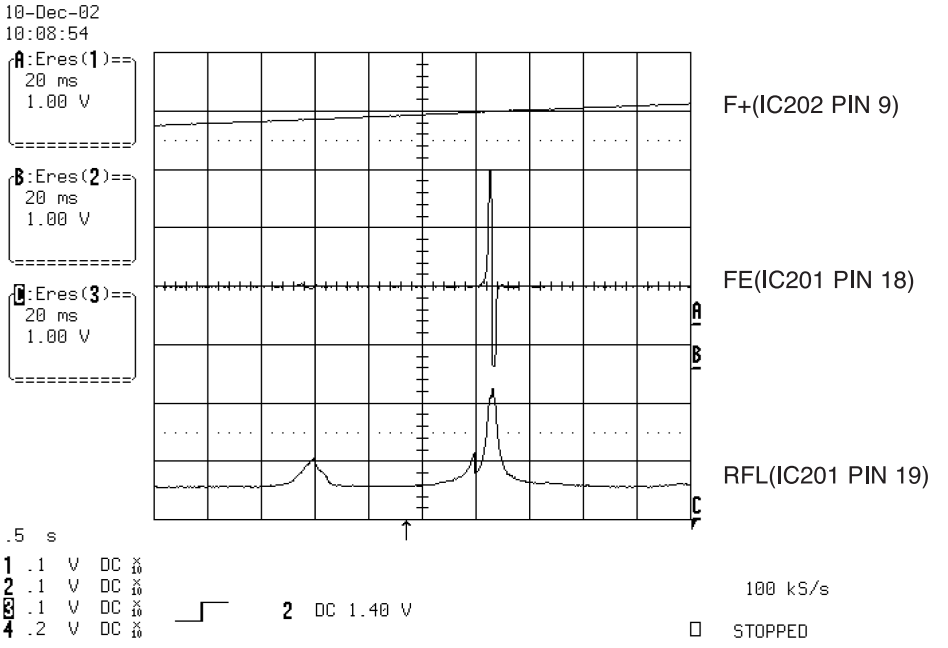


FIG 7-2 (DVD)

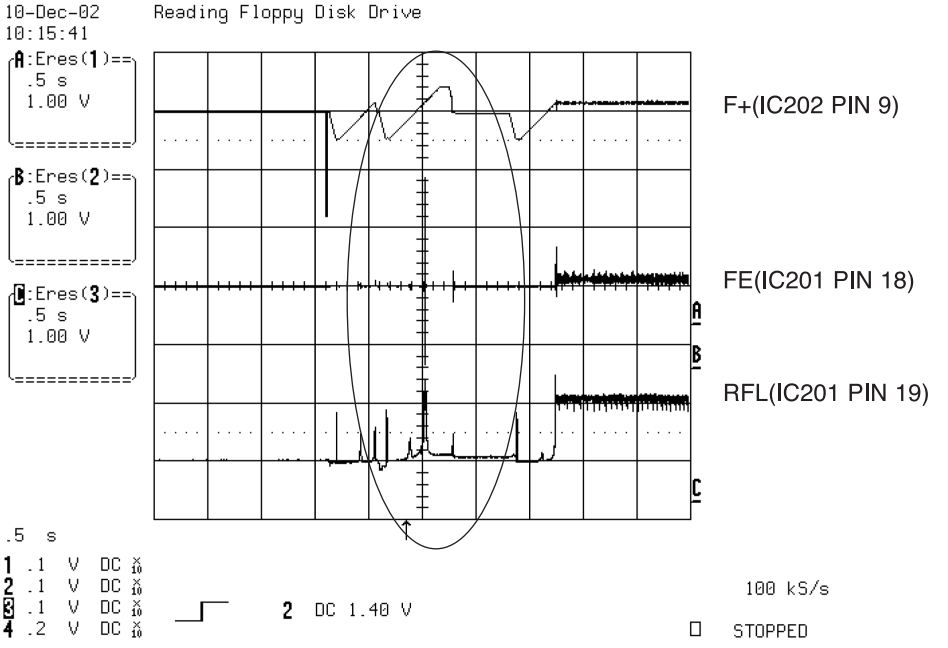


FIG 7-3 (CD)

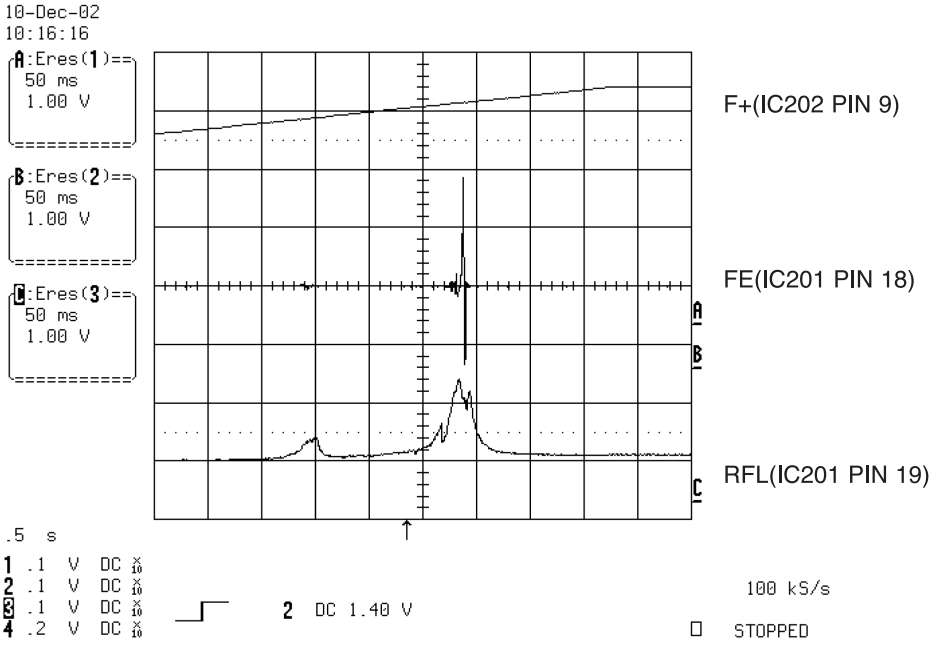


FIG 7-4 (CD)

8. FOCUS ON WAVEFORM

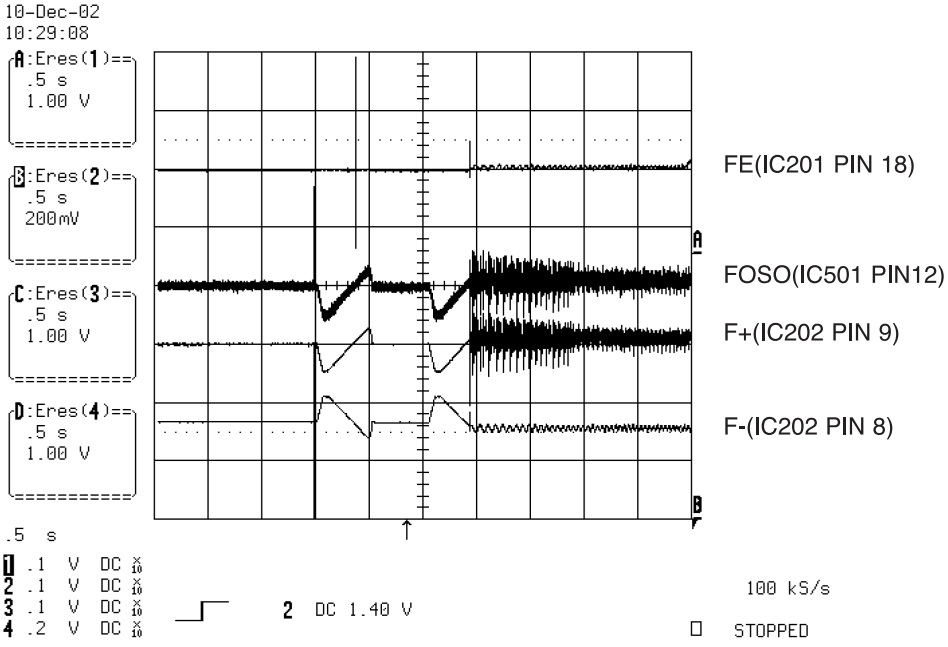


FIG 8-1 (DVD)

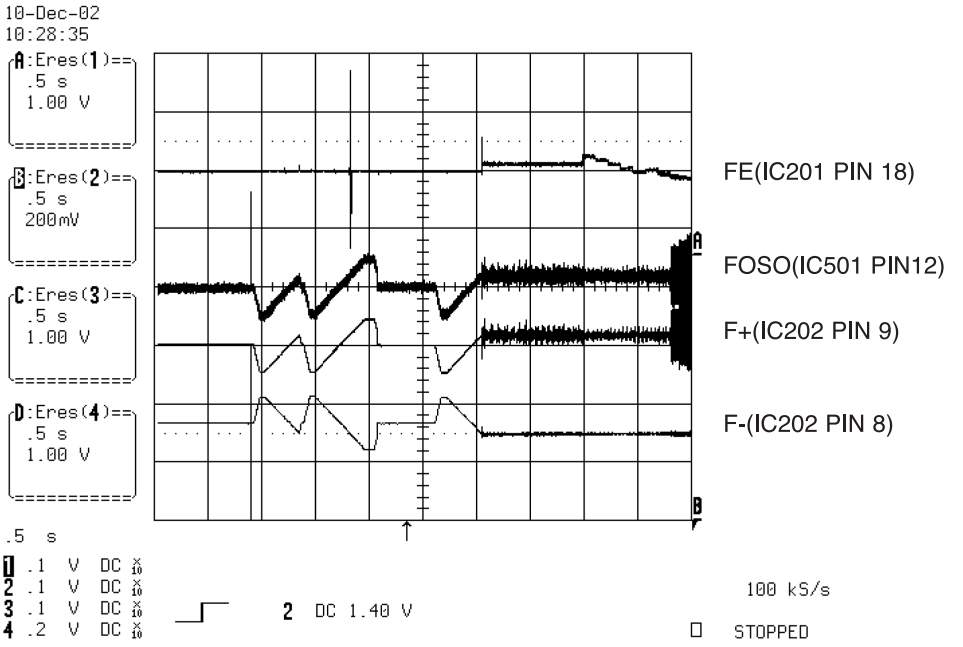


FIG 8-2 (CD)

9. SPINDLE CONTROL WAVEFORM (NO DISC CONDITION)

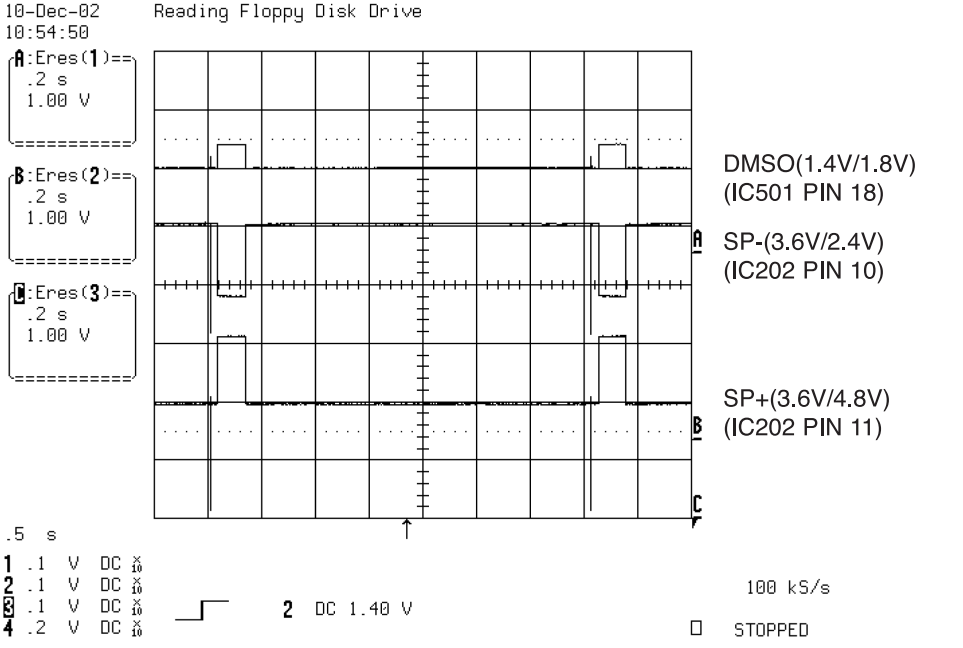


FIG 9-1

10. TRACKING CONTROL RELATED SIGNAL(System checking)

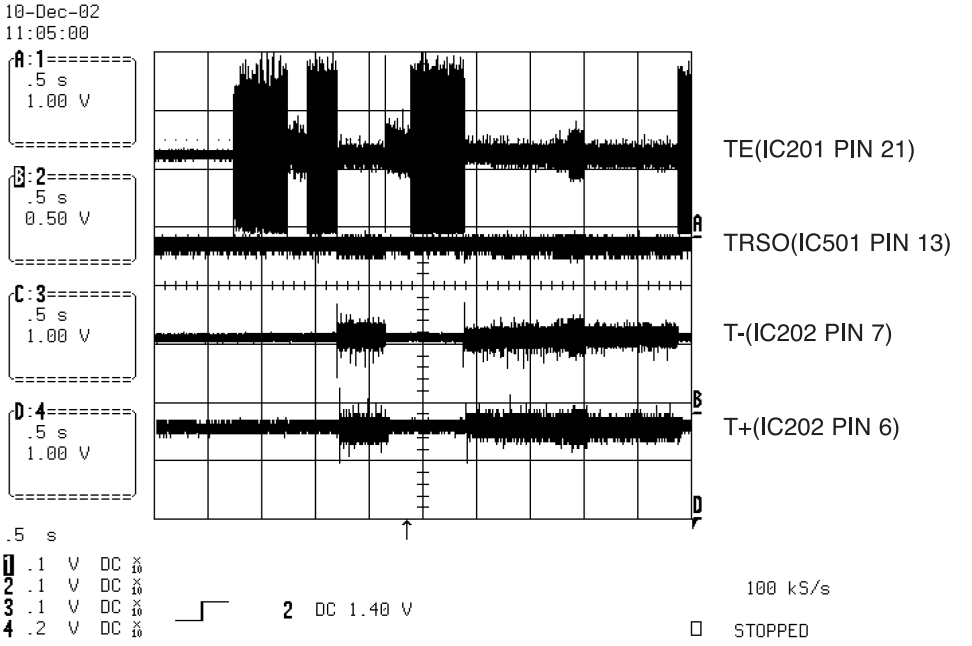


FIG 10-1(DVD)

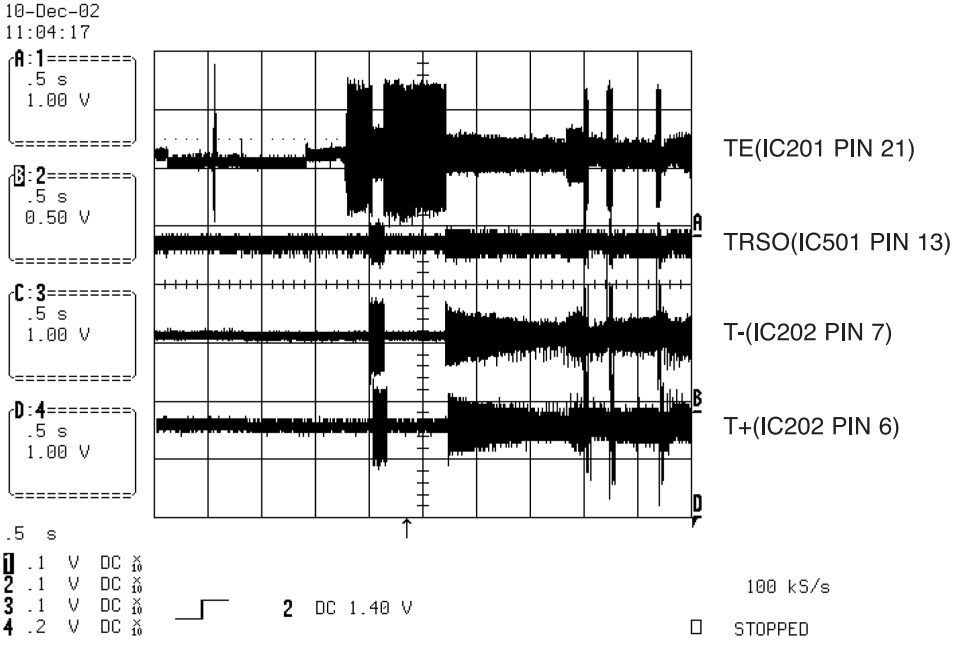


FIG 10-2(CD)

11. RF WAVEFORM

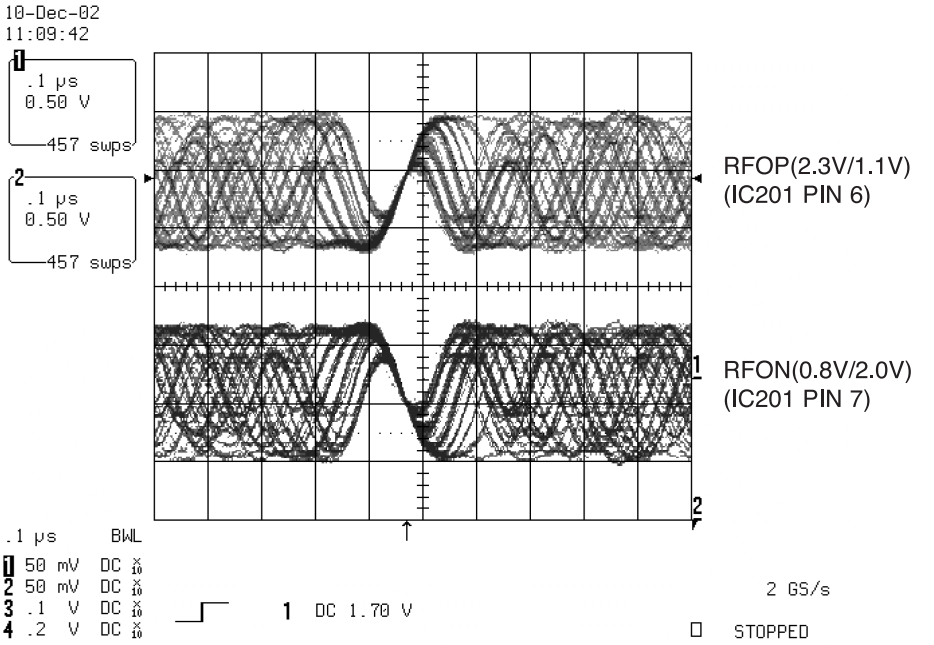


FIG 11-1

12. MT1379 AUDIO OPTICAL AND COAXIAL OUTPUT (ASPDIF)

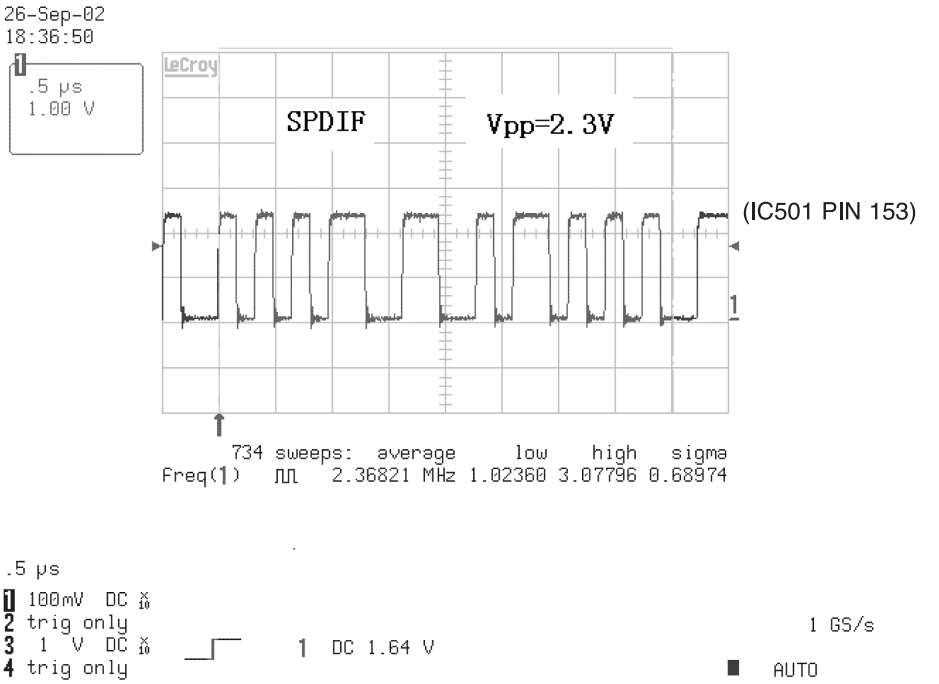
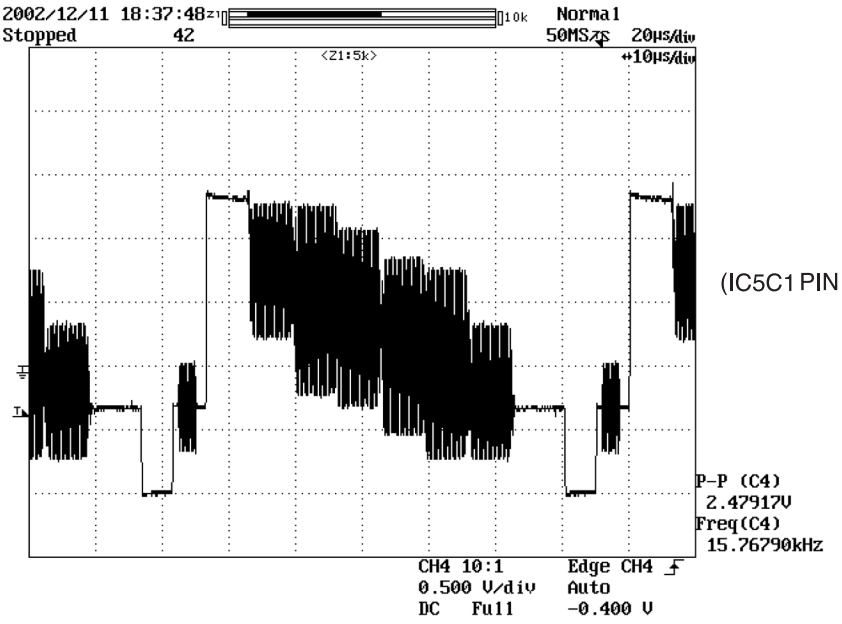


FIG 12-1

13. MT1379 VIDEO OUTPUT WAVEFORM

1) Full colorbar signal(CVBS)

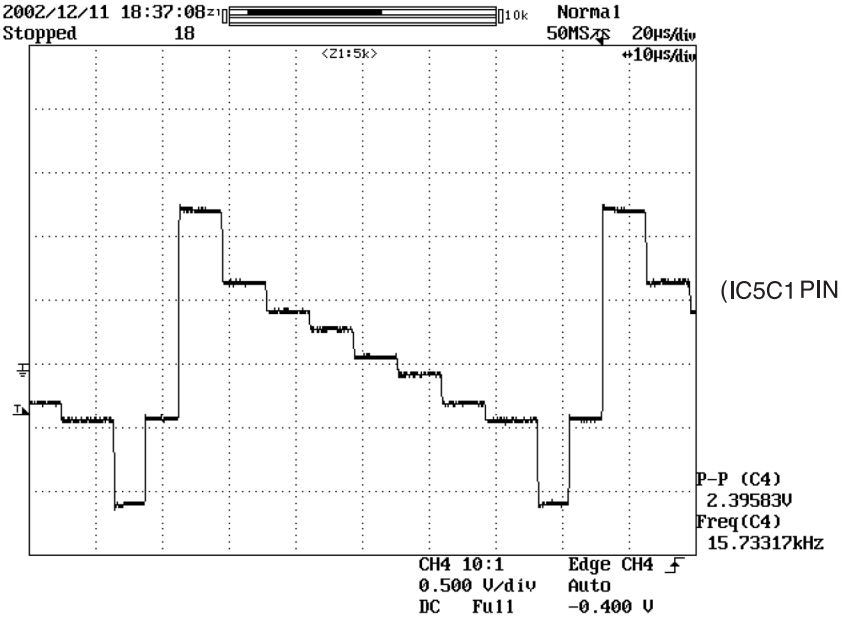
DCLK = 93MHz, Vp-p=2.2, Vmax=2.7V



(IC5C1 PIN 23)

FIG 13-1

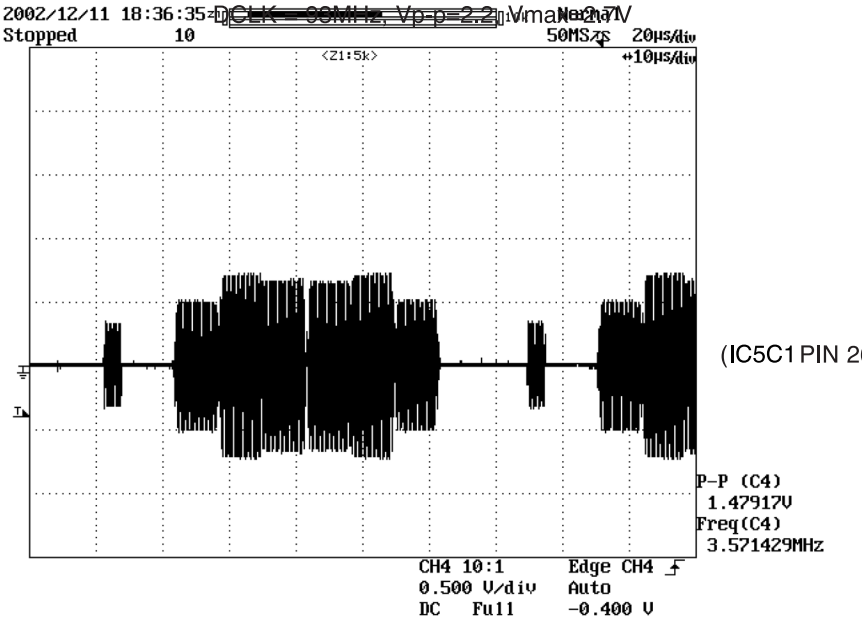
2) Y



(IC5C1 PIN 21)

FIG 13-2

3) C

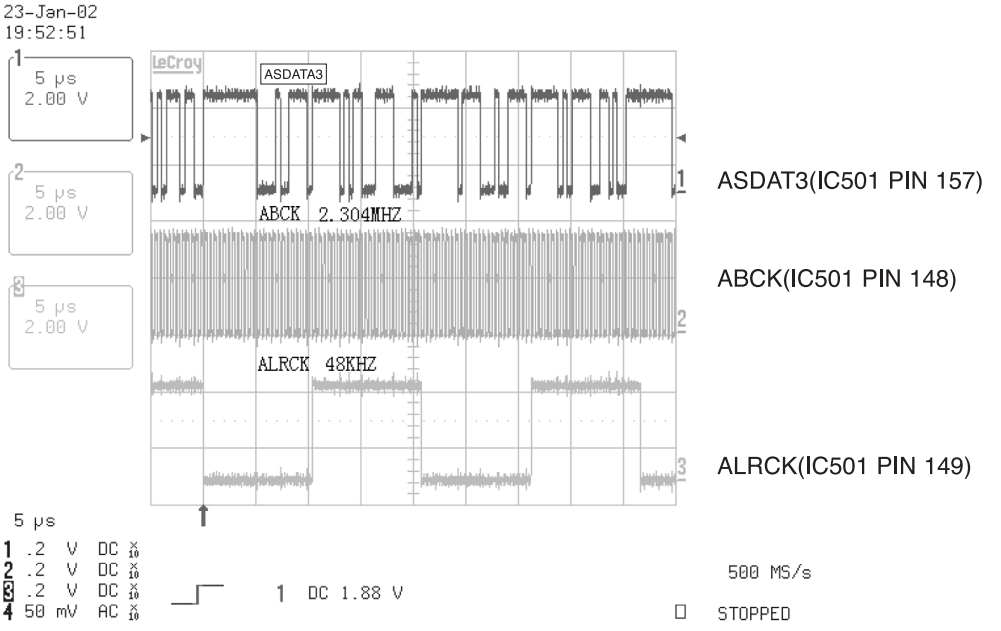


(IC5C1 PIN 26)

FIG 13-3

14. AUDIO OUTPUT FORM AUDIO DAC

1) Audio related Signal



ASDAT3(IC501 PIN 157)

ABCK(IC501 PIN 148)

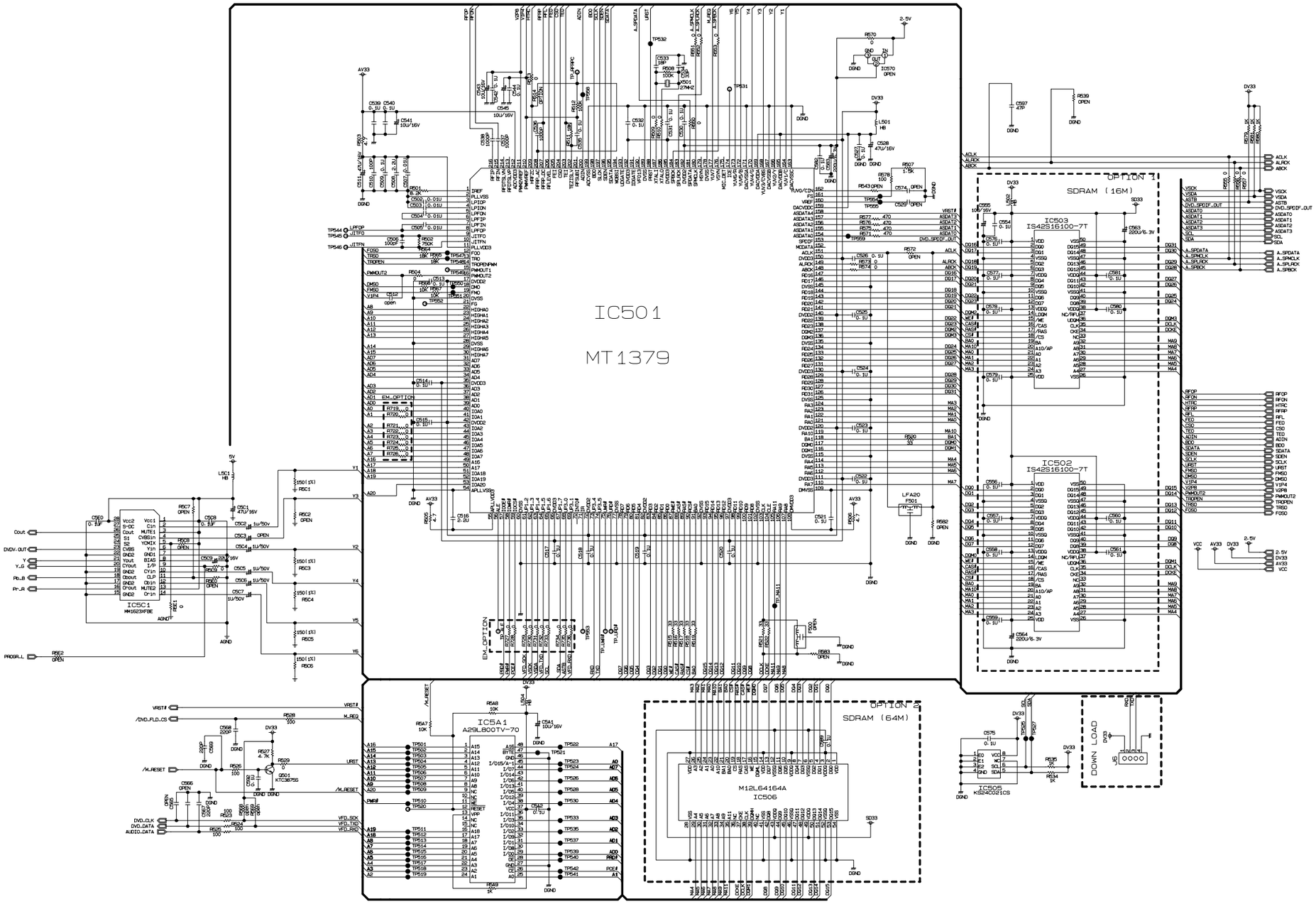
ALRCK(IC501 PIN 149)

FIG 14-1

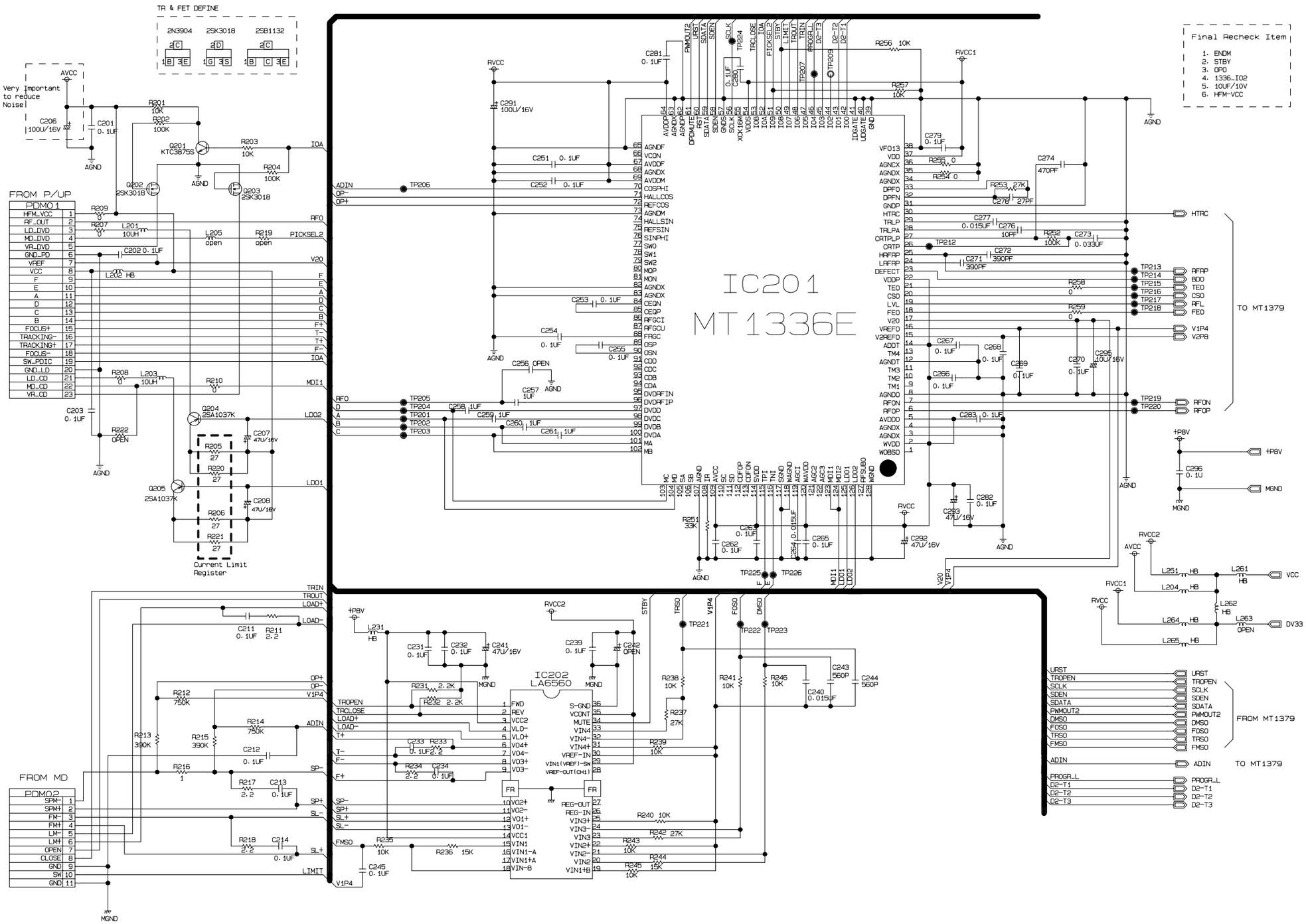
MEMO

❑ DVD PART SCHEMATIC DIAGRAMS

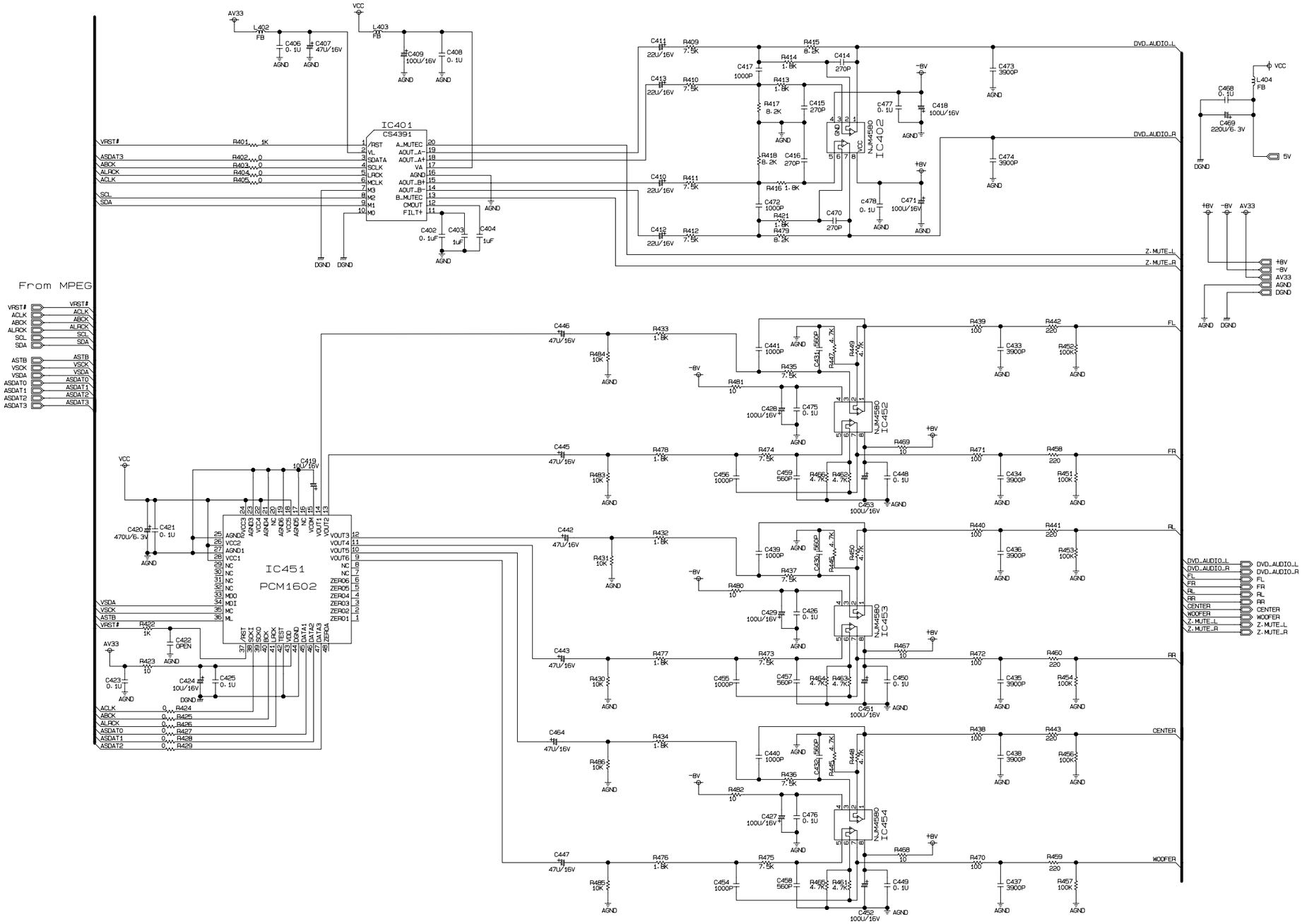
• MPEG SCHEMATIC DIAGRAM



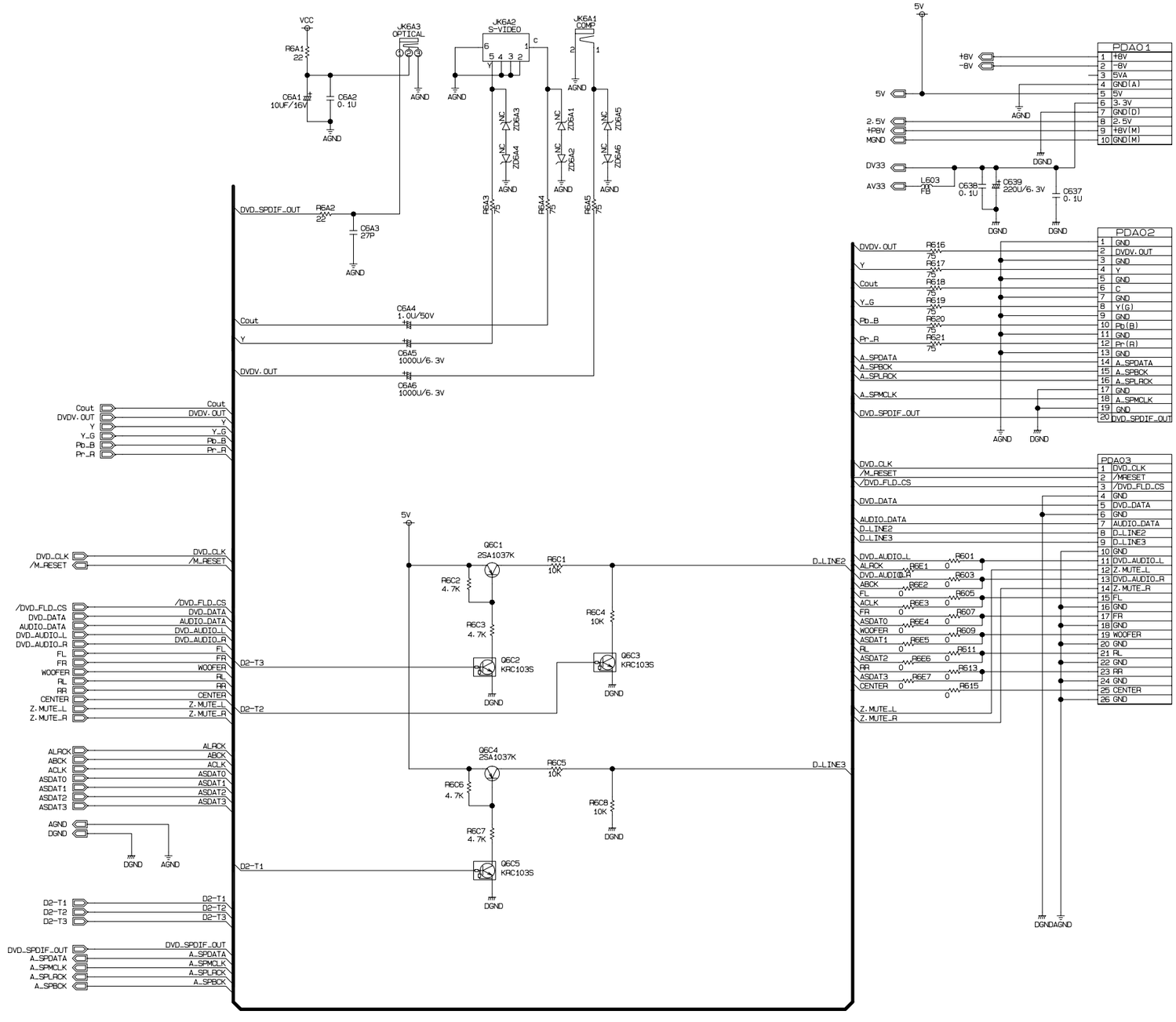
• SERVO SCHEMATIC DIAGRAM



• AUDIO SCHEMATIC DIAGRAM



• INTERFACE SCHEMATIC DIAGRAM

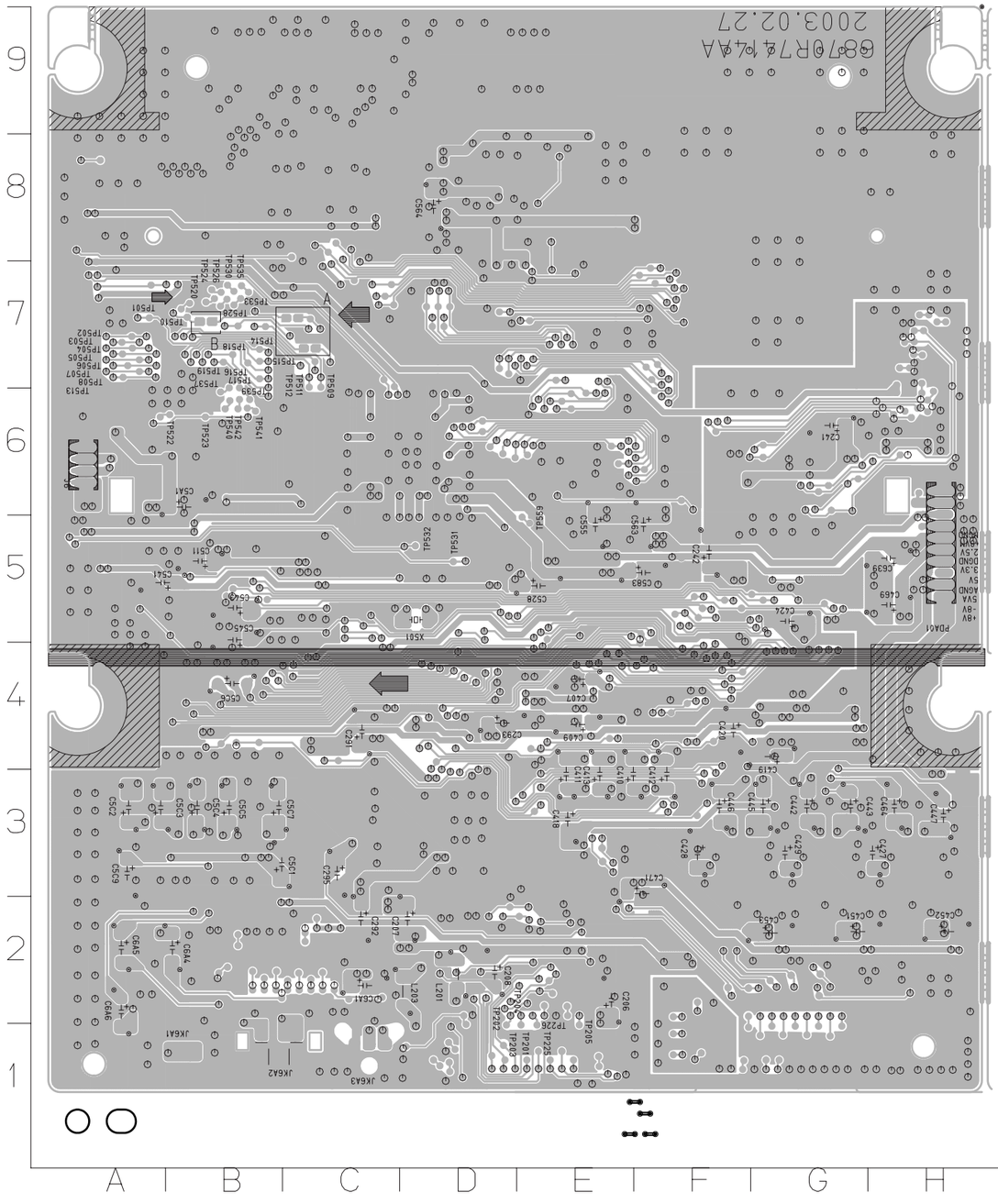


❑ VOLTAGE SHEET (IC&TR)

	IC201(MT1336E)		IC202(MOTOR)		IC401(CS4391)		IC402(AMP)		IC5C1(MM1623XFBE)		IC501(MT1379)		IC502(SDRAM)		IC505(EEPROM)		IC510(BUFFER)	
PIN	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY
1	1.03	2.99	0	0	3.28	3.29	5.52	5.49	5.09	5.08	1.22	1.22	3.27	3.28	0	0	0	0
2	5.11	5.08	0	0	3.28	3.28	5.52	5.48	2.43	2.42	0	0	1.18	1.26	0	0	2.59	2.55
3	0	0	8.04	8.01	0	1.65	5.51	5.47	5.09	5.08	0.96	0.9	1.1	1.52	0	0	0	0
4	0	0	0.12	0.06	1.63	1.64	0	0	1.45	0	2	2.06	0	0	0	0	2.59	2.56
5	5.11	5.07	0	0.06	1.64	1.65	5.51	5.48	0	0	0	1.51	0.66	1.07	3.28	3.29	0	0
6	0	1.95	3.64	3.69	1.59	1.61	5.51	5.48	1.45	1.69	1.48	1.47	0.85	1.12	3.28	3.29	3.24	3.23
7	0	0	3.62	3.61	0	0	5.52	5.47	0	0	0	1.56	3.27	3.28	0	0	0	0
8	0	0	3.64	3.53	3.28	0	12.03	12.03	2.47	2.46	3.2	1.52	0.51	0.97	3.28	3.29	0.14	0.08
9	5.11	0	3.6	3.76	3.28	3.29			0	0	0.12	0.06	3.06	0			0	0
10	5.11	5.08	3.62	2.43	0	0			1.14	1.76	0.12	0.06	0	0			0	0
11	5.11	5.08	3.63	4.85	5.01	5.01			0	0	3.25	3.25	0.06	0.98			0.15	0.09
12	0	0	3.62	3.72	2.31	2.31			2.42	2.42	1.41	1.49	3.18	0.87			0	0
13	5.11	0	3.64	3.57	4.96	0			5.09	5.08	1.41	1.41	3.27	3.28			0.15	0.08
14	5.11	5.08	8.04	8.01	1.42	2.41			2.43	2.42	0	0	2.94	2.56			5.19	5.19
15	2.84	2.81	1.45	1.48	2.4	2.39			0	0	1.42	1.42	0.47	0.42			0.14	0.09
16	1.45	1.43	0.27	1.39	0	0			2.49	2.47	3.3	0	2.93	3.01			5.25	5.24
17	2.08	2.07	0.29	1.32	5.11	5.09			0	0	2.53	2.53	3.21	3.22			0.15	0.08
18	1.37	1.42	1.45	1.43	2.41	2.41			2.48	2.47	1.42	2.27	2.87	2.95			5.23	5.23
19	0.69	2.3	1.45	1.43	2.43	2.43			0	0	1.42	1.39	0.15	1.32			0	0
20	2.4	0	1.45	0.82	0	0			1.18	2.3	0	0	0	0.05			5.25	5.25
21	2.35	0	1.45	1.43					1.76	2.17	2.61	2.58	3.09	1.32				
22	5.11	5.08	1.45	1.43					0	0	0.75	1.46	3.09	1.32				
23	0	0	1.47	1.37					1.76	2.24	2.83	1	3.09	1.32				
24	2.59	3.2	1.45	1.43					0	0	1.9	0.89	3.09	1.33				
25	0.19	1.88	1.45	1.43					0	0	1.72	0.39	3.27	3.29				
26	1.58	0	0.95	0.91					0	0	0.68	0.31	0	0				
27	2.56	3.13	0	0					0.06	0.05	2.84	3.16	0.15	1.36				
28	2	2.01	1.45	1.43					5.09	0	0	0	1.84	2.36				
29	2	2.06	5.15	5.11							2.85	0.66	1	2.32				
30	2.96	1.52	1.45	1.43							1.83	0.49	0.54	1.75				
31	0	0	1.45	1.43							0.91	1.39	0.06	0.06				
32	0.06	2.07	1.45	1.43							1.43	1.2	0.05	0.06				
33	0.07	2.07	1.46	1.45							1.51	1.57	0	0				
34	0	0	5.08	5.06							1.51	1.43	0.73	1.26				
35	0	0	5.15	5.11							3.3	3.29	1.48	1.55				
36	0	0	0	0							0.81	1.26	2.91	2.53				
37	5.13	0									1.45	1.02	0.07	0				
38	0	0									1.82	1.6	3.27	3.28				
39	0	0									1.2	1.5	1.06	1.05				
40	0	0									2	2.06	0.47	0.98				
41	0	0									2.17	1.95	0	0				
42	5.12	5.09									2.53	2.52	0	0.6				
43	5.12	5.09									1.96	1.9	1.12	1.24				
44	5.12	5.09									1.79	1.9	3.27	3.28				
45	5.12	5.09									0.8	1.72	1.21	0.99				
46	5.12	5.09									0.8	1.96	1.31	1.34				
47	0	0									0.8	1.84	0	0				
48	5.12	5.09									3.3	2.63	1.43	1.44				
49	5.12	0									0	0.13	0.88	1.01				
50	5.08	5.06									0	0.07	0	0				
51	5.09	5.07									0	0						
52	5.1	0									0	0						
53	0	0									0	0						
54	5.13	0									0	0						
55	0.09	0.2									3.25	3.27						
56	1.61	0									1.21	1.18						
57	0	0									0	0						
58	0	0									3.29	3.29						
59	0	0									0	0						
60	0	0									0	0						
61	3.28	0									2.59	2.57						
62	0	0									2.58	2.58						
63	0	0									0	0						
64	0	0									2.59	2.56						
65	0	0									3.29	3.29						
66	0.26	0									3.3	3.29						
67	5.12	5.08									3.29	3.29						
68	0	0									2.57	2.56						
69	5.12	0									5.19	5.18						
70	3.21	2.03									2.59	2.57						
71	3.46	2.2									0.12	0.08						
72	2.81	0									2.53	2.52						
73	0	0									2.59	2.57						
74	0.21	0.09									3.29	3.29						
75	0.22	0									2.61	2.61						
76	0	0.1									3.27	3.24						
77	0.21	0.09									0	0						
78	0.23	0.09									0.94	1.04						
79	0.21	0.08									0.78	1.06						
80	0.23	0.08									0.89	1.15						

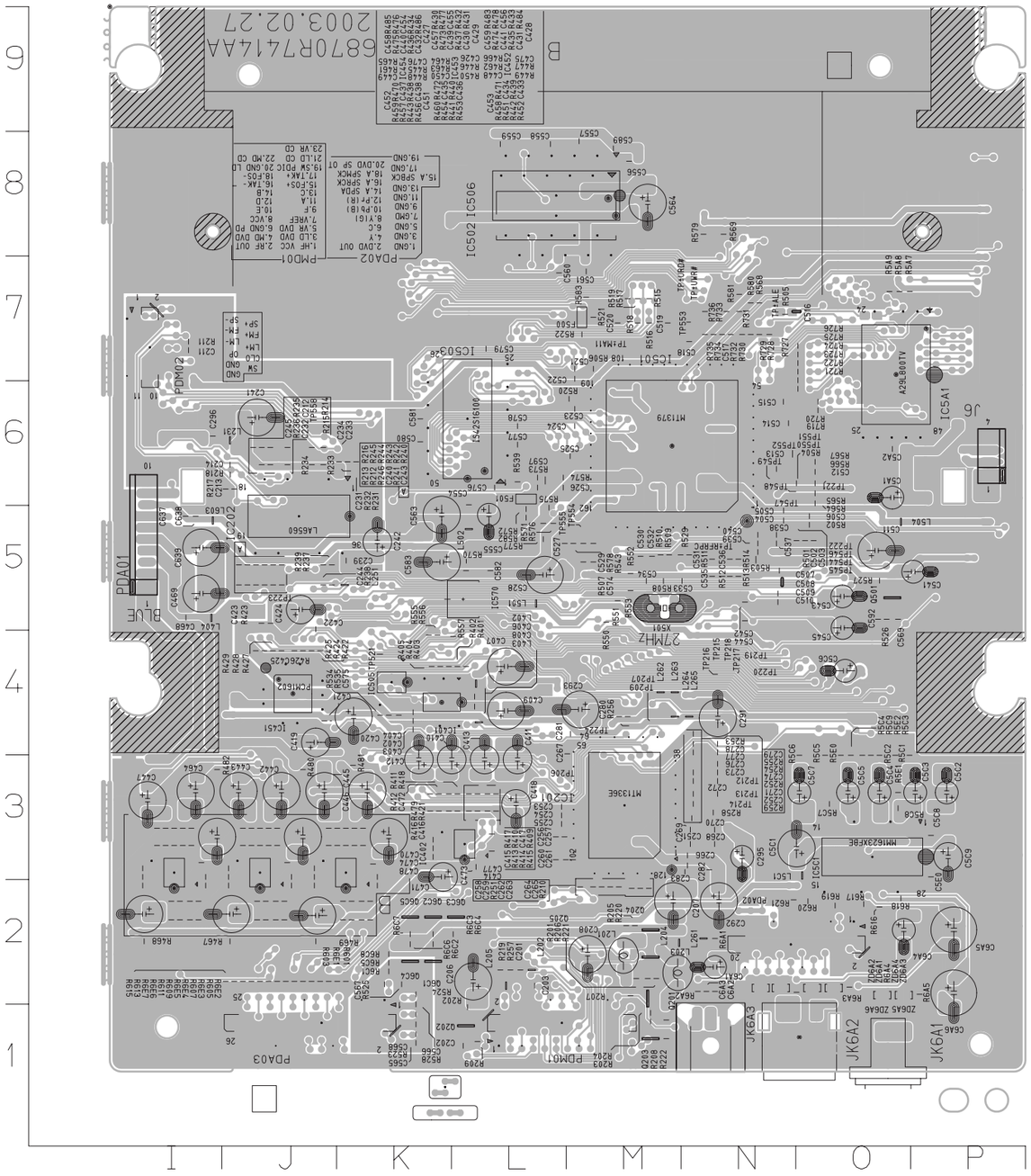
❑ PRINTED CIRCUIT DIAGRAM

• DVD P.C. BOARD(SOLDER SIDE)



TP201	E1
TP202	D1
TP203	D1
TP204	E1
TP205	E1
TP225	E1
TP226	E1
TP501	A7
TP502	A7
TP503	A7
TP504	A7
TP505	A7
TP506	A7
TP507	A7
TP508	A7
TP509	C7
TP510	B7
TP511	C7
TP512	C7
TP513	A7
TP514	B7
TP515	B7
TP516	B7
TP517	B7
TP518	B7
TP519	B7
TP520	B7
TP522	B6
TP523	B6
TP524	B7
TP525	F4
TP526	B7
TP527	F4
TP528	B7
TP530	B7
TP531	D5
TP532	D5
TP533	B7
TP535	B7
TP537	B6
TP539	B6
TP540	B6
TP541	B6
TP542	B6
TP559	E5

• DVD P.C. BOARD (COMPONENT SIDE)

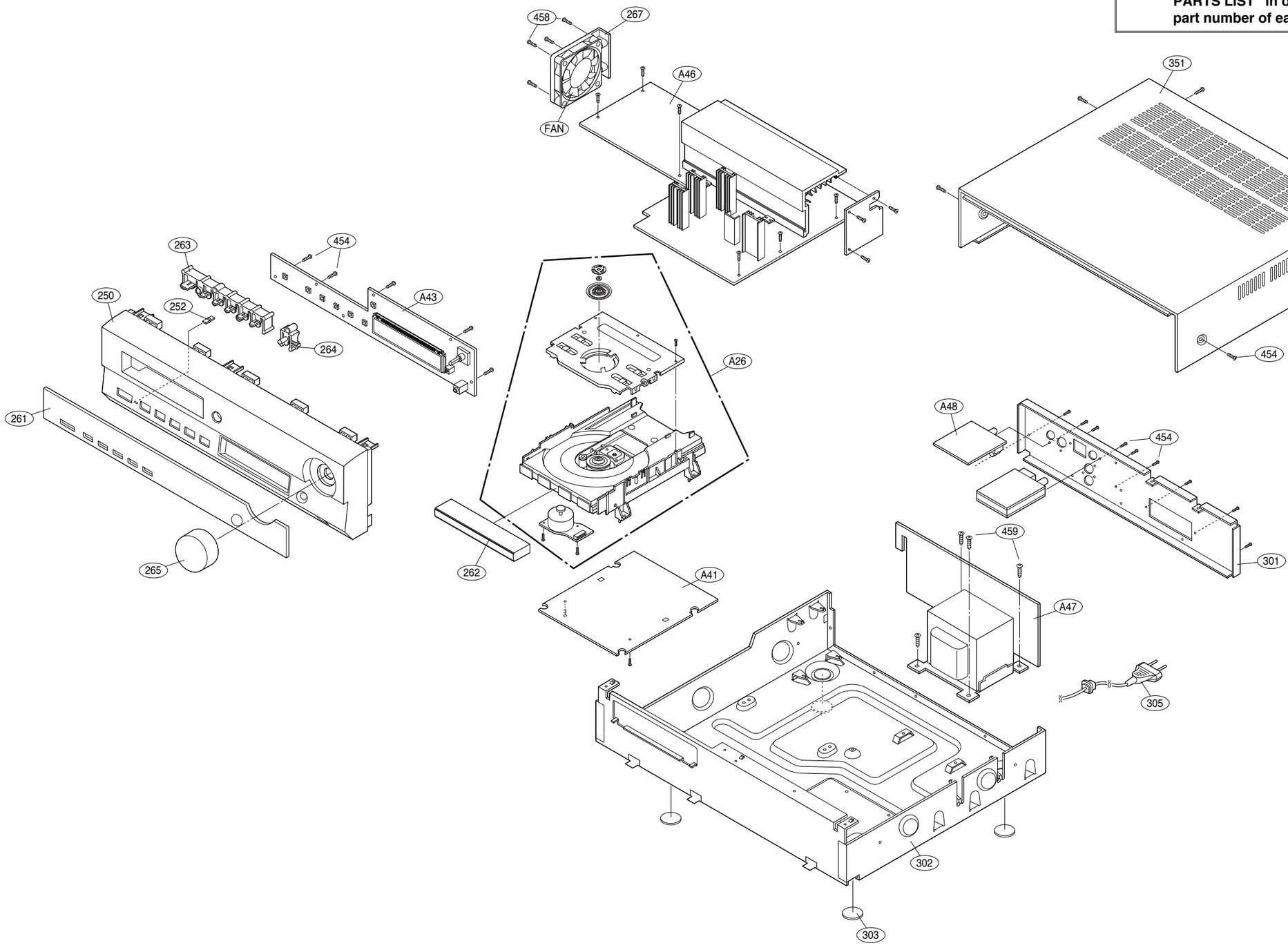


C201	L2	C409	L4	C504	N5	C581	K6	L501	L5	R256	M4	R468	I2	R569	N8	R719	O6
C202	L1	C410	L3	C505	N5	C582	L5	L502	L5	R257	L2	R469	J2	R570	L5	R720	O6
C203	L2	C411	L3	C506	O5	C583	K5	L504	O5	R258	N3	R470	I2	R571	L5	R721	O6
C206	L2	C412	K3	C507	N5	C589	M8	L5C1	O3	R259	N3	R471	K2	R572	L5	R722	O6
C207	M2	C413	L3	C508	N5	C592	O5	L603	I5	R401	L4	R472	J2	R573	L6	R723	O7
C208	M2	C414	L3	C509	N5	C597	L6	PDA01	I5	R402	L4	R473	J3	R574	L6	R724	O7
C211	I7	C415	L3	C510	N5	C5A1	O6	PDA02	N2	R403	K4	R474	K3	R575	L5	R725	O7
C212	J6	C416	L3	C511	O5	C5A2	O6	PDA03	J1	R404	K4	R475	I3	R576	L5	R726	O7
C213	J6	C417	L3	C512	O6	C5C1	O3	PDM01	L1	R405	K4	R476	I3	R577	L5	R727	N7
C214	J6	C418	L3	C513	N6	C5C2	P3	PDM02	I7	R409	L3	R477	J3	R578	M5	R728	N7
C231	K6	C419	J4	C514	N6	C5C3	P3	Q201	M2	R410	L3	R478	K3	R579	N8	R729	N7
C232	J6	C420	K4	C515	N6	C5C4	O3	Q202	L1	R411	K3	R479	K3	R580	N7	R730	N7
C233	J6	C421	J4	C516	O7	C5C5	O3	Q203	M1	R412	K3	R480	J3	R581	N7	R731	N7
C234	J6	C422	J5	C517	N7	C5C6	O4	Q204	M2	R413	L3	R481	K3	R582	L5	R732	N7
C239	K5	C423	J5	C518	N7	C5C7	O3	Q205	M2	R414	L3	R482	I3	R583	M7	R733	N7
C240	J5	C424	J5	C519	M7	C5C8	P3	Q501	O5	R415	L3	R483	J3	R5A7	O7	R734	N7
C241	J6	C425	J4	C520	M7	C5C9	P3	Q6C1	K2	R416	K3	R484	K3	R5A8	O7	R735	N7
C242	K5	C426	J3	C521	M7	C5E0	P3	Q6C2	K2	R417	L3	R485	I3	R5A9	O7	R736	N7
C243	J5	C427	I3	C522	M7	C637	I5	Q6C3	L2	R418	L3	R486	I3	R5C1	O3	TP206	M3
C244	J5	C428	K3	C523	M6	C638	I5	Q6C4	K2	R421	K3	R501	O5	R5C2	O3	TP207	M4
C245	J6	C429	J3	C524	M6	C639	I5	Q6C5	K2	R422	J4	R502	O5	R5C3	O3	TP209	M4
C251	N3	C430	J3	C525	M6	C6A1	N2	R201	M2	R423	J5	R503	N5	R5C4	O3	TP212	N3
C252	N3	C431	K3	C526	L6	C6A2	N2	R202	L1	R424	J4	R504	O6	R5C5	O3	TP213	N3
C253	L3	C432	I3	C527	L5	C6A3	N2	R203	M1	R425	J4	R505	N7	R5C6	O3	TP214	N3
C254	L3	C433	K2	C528	L5	C6A4	O2	R204	M1	R426	J4	R506	M7	R5C7	O3	TP215	N4
C255	L3	C434	K2	C529	M5	C6A5	P2	R205	M2	R427	J4	R507	M5	R5C8	O3	TP216	N4
C256	L3	C435	J2	C530	M5	C6A6	P2	R206	M2	R428	J4	R508	M5	R5C9	O3	TP217	N4
C257	L3	C436	J2	C531	N5	F500	M7	R207	M2	R429	J4	R509	M5	R5E0	O3	TP218	N4
C258	M2	C437	I2	C532	M5	F501	L6	R208	M1	R430	J3	R510	M5	R5E1	O3	TP219	N4
C259	M2	C438	I2	C533	N5	IC201	M3	R209	L1	R431	J3	R511	N5	R5E2	O3	TP220	N4
C260	L3	C439	J3	C534	M5	IC202	J5	R210	M2	R432	J3	R512	N5	R601	K2	TP221	O6
C261	L3	C440	I3	C535	N5	IC401	K4	R211	I7	R433	K3	R513	N5	R603	J2	TP222	O5
C262	M2	C441	K3	C536	N5	IC402	L3	R212	J5	R434	I3	R514	N5	R605	J2	TP223	J5
C263	M2	C442	J3	C537	N5	IC451	J4	R213	J5	R435	K3	R515	M7	R607	J2	TP224	M4
C264	M2	C443	J3	C538	N5	IC452	K3	R214	J6	R436	I3	R516	M7	R609	J2	TP521	K4
C265	M2	C445	J3	C539	N5	IC453	J3	R215	J6	R437	J3	R517	M7	R611	J2	TP544	O5
C266	N3	C446	K3	C540	N5	IC454	I3	R216	J5	R438	I2	R518	M7	R613	J2	TP545	O5
C267	M4	C447	I3	C541	P5	IC501	M6	R217	J6	R439	K2	R519	M7	R615	J2	TP546	O5
C268	N3	C448	J2	C542	N5	IC502	L8	R218	J6	R440	J2	R520	M6	R616	O2	TP547	N6
C269	N3	C449	I2	C543	O5	IC503	L6	R219	L2	R441	J2	R521	M7	R617	O2	TP548	O6
C270	N3	C450	J2	C544	N5	IC505	K4	R220	M2	R442	K2	R522	M7	R618	O2	TP549	N6
C271	N3	C451	J2	C545	O5	IC506	L8	R221	M2	R443	I2	R523	K1	R619	O2	TP550	O6
C272	N3	C452	I2	C554	L6	IC570	L5	R222	M1	R445	I3	R524	K2	R620	O2	TP551	O6
C273	N3	C453	J2	C555	L5	IC5A1	O7	R231	K6	R446	J3	R525	K2	R621	N2	TP552	N6
C274	N3	C454	I3	C556	M8	IC5C1	O3	R232	K6	R447	K3	R526	O5	R6A1	N2	TP553	N7
C276	N3	C455	J3	C557	M8	J6	P6	R233	J6	R448	I2	R527	O5	R6A2	N2	TP554	M5
C277	N3	C456	K3	C558	L8	JK6A1	O1	R234	J6	R449	K2	R528	K1	R6A3	O2	TP555	M5
C278	N4	C457	J3	C559	L8	JK6A2	O1	R235	J6	R450	J2	R529	M5	R6A4	O2	TP558	J6
C279	N4	C458	I3	C560	L7	JK6A3	N1	R236	J6	R451	K2	R534	K4	R6A5	P2	TP±ALE	N7
C280	M4	C459	J3	C561	M7	L201	M2	R237	J5	R452	K2	R535	K4	R6C1	K2	TP±MA11	M7
C281	M4	C464	I3	C563	K5	L202	L2	R238	J5	R453	J2	R539	L6	R6C2	K2	TP±RFRP	O5
C282	N3	C468	I5	C564	M8	L203	M2	R239	J5	R454	J2	R543	M5	R6C3	K2	TP±URD#	N7
C283	N3	C469	I5	C565	K1	L204	M2	R240	J5	R456	I2	R550	M5	R6C4	L2	TP±UWR#	N7
C291	N4	C470	K3	C566	K1	L205	L2	R241	J5	R457	I2	R551	M5	R6C5	K2	X501	M5
C292	N2	C471	K3	C567	K2	L231	J6	R242	J5	R458	K2	R552	M5	R6C6	K2	ZD6A1	N2
C293	M4	C472	K3	C568	K1	L251	K5	R243	J5	R459	I2	R553	M5	R6C7	K2	ZD6A2	N2
C295	N3	C473	L3	C569	O5	L261	N2	R244	J5	R460	J2	R555	K4	R6C8	K2	ZD6A3	O2
C296	I6	C474	K3	C574	M5	L262	M4	R245	J5	R461	I3	R556	K4	R6E1	K2	ZD6A4	O2
C402	K4	C475	K3	C575	K4	L263	M4	R246	J5	R462	J3	R557	L4	R6E2	J2	ZD6A5	O2
C403	K4	C476	I3	C576	L6	L264	M4	R251	M2	R463	J3	R564	O6	R6E3	J2	ZD6A6	O2
C404	K4	C477	L3	C577	L6	L265	N4	R252	N3	R464	J3	R565	O6	R6E4	J2		
C406	L4	C478	K3	C578	L6	L402	L4	R253	N4	R465	I3	R566	O6	R6E5	J2		
C407	L4	C502	O5	C579	L7	L403	L4	R254	N4	R466	J3	R567	O6	R6E6	J2		
C408	L4	C503	O5	C580	K6	L404	I5	R255	N4	R467	J2	R568	N7	R6E7	J2		

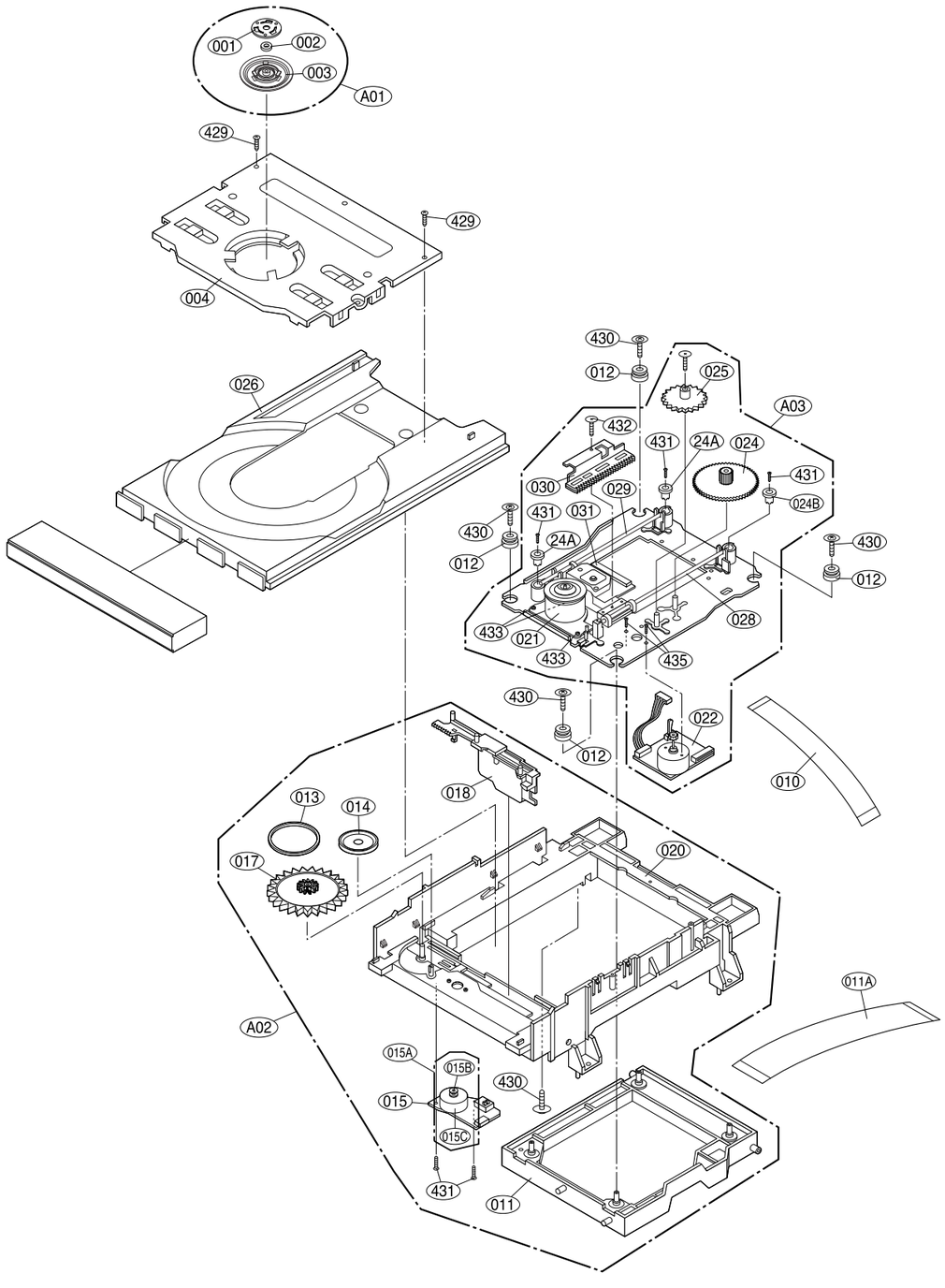
SECTION 4. EXPLODED VIEWS

• CABINET AND MAIN FRAME SECTION

NOTE) Refer to "SECTION 6 REPLACEMENT PARTS LIST" in order to look for the part number of each part.



• Deck Mechanism Exploded View



LOCA.NO.	PART NO	DESCRIPTION	SPECIFICATION
A26	6721RF0381A	DECK ASSEMBLY,AUDIO	DECK/MECHA DP-7
A01	4861R-0016C	CLAMP ASSEMBLY	
A02	3041R-M017C	BASE ASSEMBLY	
A03	3041R-M021A	BASE ASSEMBLY	
003	4860R-0021A	CLAMP	UPPER DP7
004	4930R-0402A	HOLDER	CLAMP DP-7A
010	6850R-GK12A	CABLE,FLAT	P=1.0 FFC UL2896(0.05X0.65) 11
011	3210R-M002A	FRAME	UP/DOWN MOLD DP7C
011A	6850R-JW14B	CABLE,FLAT	P=1.0 FFC UL2896(0.035X0.7) 23
012	5040R-0075D	RUBBER	DAMPER DP7 (YAMAUCHI 30)
013	4400R-0006B	BELT	DECK/MECHA DP2-5, DP7C,DP7A OT
014	4470R-0055A	GEAR	PULLEY
015	6871RZ5130A	PWB(PCB) ASSEMBLY,JACK(AUDIO)	PWB(PCB) TOTAL LOADING-HZ
015A	4681R-1023G	MOTOR ASSEMBLY	DECK/MECHA LOADING-HZ
015B	4560R-0008A	PULLEY	MOTOR
015C	4680R-E010A	MOTOR(MECH)	FEEDING BCZ3B51 SANKYO FOR DP7
017	4470R-0056A	GEAR	LOADING
018	4974R-0023A	GUIDE	UP/DOWN
020	3040R-D001A	BASE	MAIN MOLD DP-7AUDIO
021	4680R-C011A	MOTOR(MECH)	SPINDLE JCL9B68 SANKYO FOR COM
022	4681R-0037A	MOTOR ASSEMBLY	
024	4470R-0131A	GEAR	PINION DP7C
024A	5006R-0044A	CAP	SKEW-T DP7C
024B	5006R-0043A	CAP	SKEW DP7C
025	4470R-0130A	GEAR	MIDDLE DP7C
026	3390R-0012A	TRAY	DISC(DP-5RM MULTI)
028	4370R-0082B	SHAFT	DECK/MECHA PU R DP-7C OTHER
029	4370R-0082A	SHAFT	PU DP-7C
030	4471R-0013C	GEAR ASSEMBLY	
031	6716DPH005A	PICK UP,DVD	PVR-502W MITSUMI PLAYER H/HIGH
429	1SZZR-0012A	SCREW	B-TITE
430	1SZZH-1003A	SCREW	+ D2.0 6MM SWRCH16A/NIY 4.5MM
431	1SZZH-1007B	SCREW,DRAWING	+ D2.0 6MM SWRCH16A/ZNBK 4MM 1
432	1SZZR-0023B	SCREW,DRAWING	+ 1 D1.7 L6.0 SWRCH16A/FZY RAC
433	1SZZR-0050A	SCREW,DRAWING	+ 1 D2.0 L4.5 SWRCH16A/ZNY S-T
435	1SZZR-0011A	SCREW	MACHINE

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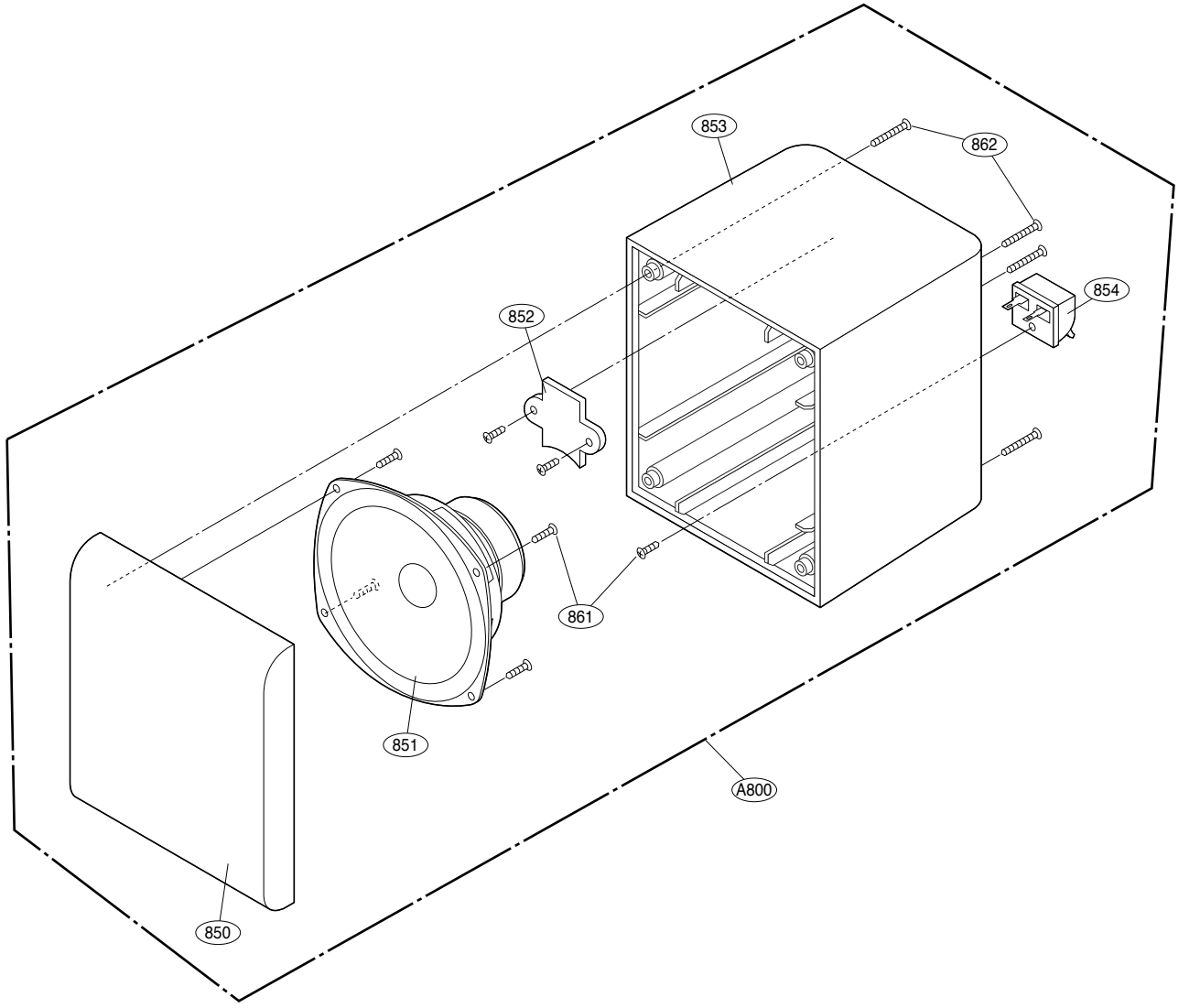
SECTION 5. SPEAKER PART

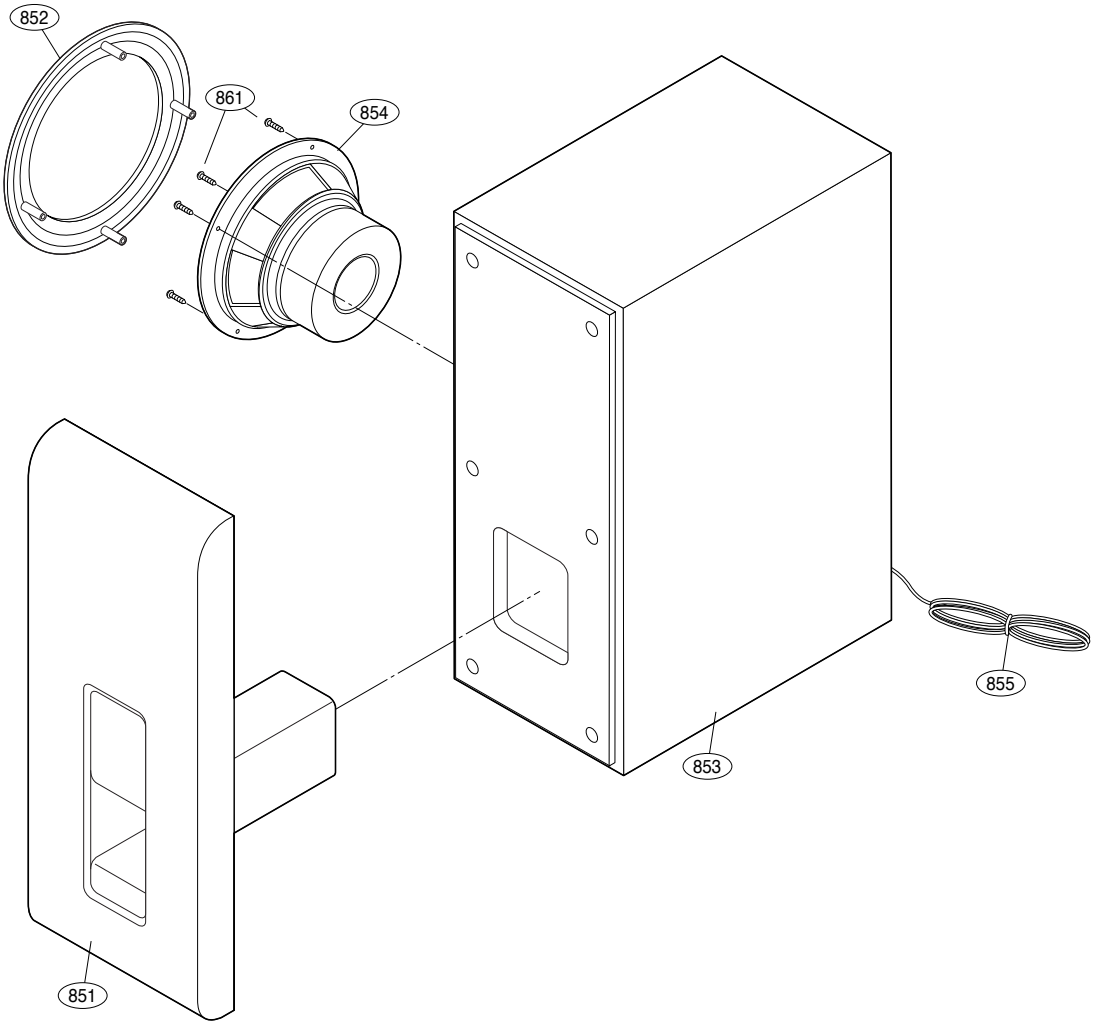
❑ MODEL: LHS-D6230T



LOCA.NO.	PART NO	DESCRIPTION	SPECIFICATION	REMARKS
850	3701RM0042A	NET ASSEMBLY	SPK LHS-D6230T L.SILVER	
851	6400FTTC02A	SPEAKER,FULLRANGE	F30C-D366 TOPTONE FULL-RANGE(H	
853	3110RMP009A	CASE	REAR LH-6230TE MOLD STANDARD	
854	6871RU4116B	PWB(PCB) ASSEMBLY,SUBSET(AUDIO	FE-3620TE 2P NEW TERMINAL 150M	
855	6871RU9271A	PWB(PCB) ASSEMBLY,SUBSET(AUDIO	LHS-D6230T FRONT WIRE(5M) R CH	
856	6871RU9271B	PWB(PCB) ASSEMBLY,SUBSET(AUDIO	LHS-D6230T FRONT WIRE(5M)/ L C	
857	6871RU9271C	PWB(PCB) ASSEMBLY,SUBSET(AUDIO	LHS-D6230T CENTER WIRE(5M)/ (G	
858	6871RU9271D	PWB(PCB) ASSEMBLY,SUBSET(AUDIO	LHS-D6230T REAR WIRE(10M) R/CH	
859	6871RU9271E	PWB(PCB) ASSEMBLY,SUBSET(AUDIO	LHS-D6230T REAR WIRE(10M)/ L/C	
861	353M025V	SCREW,DRAWING	+ 2 D3.0 L6.0 MSWR3/FZB	
862	353M025W	SCREW,DRAWING	+ 2 D3.0 L14.0 MSWR3/FZB	
A800	6401RM0045A	SPEAKER ASSEMBLY	F30C-D384-2 SHIN POONG LHS-D62	

SECTION 5. SPEAKER PART

❑ MODEL: LHS-D6230W



LOCA.NO.	PART NO	DESCRIPTION	SPECIFICATION	REMARKS
851	3720RMF045A	PANEL,FRONT	FRONT LH-6230WE STANDARD	
852	3701RM0043A	NET ASSEMBLY	SPK LHS-D6230W SILVER STANDARD	
853	3091RMW050A	CABINET ASSEMBLY	ASSY LH-6230WE ALL PB 9T	
854	6400WTTJ03A	SPEAKER,WOOFER	F65C-D365 TOPTONE WOOFER LHS-6	
855	6871RU9271F	PWB(PCB) ASSEMBLY,SUBSET(AUDIO	LHS-D6230W SUB WOOFER 2.5M, OR	
861	353M050C	SCREW	BH 3.5X16 FBK	