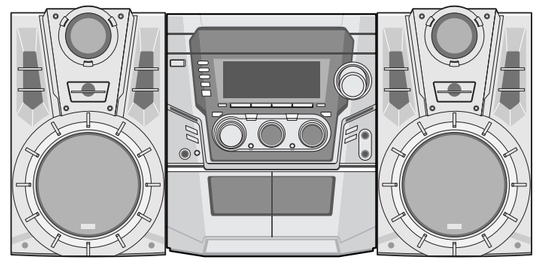
LG Electronics Inc.

SERVICE MANUAL MODEL: LM-M1030A/D/X, LMS-M1030

REVISION

LG

3CD CHANGER
HI-FI SYSTEM
SERVICE MANUAL



MODEL: LM-M1030A/D/X, LMS-M1030

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SECTION 1. GENERAL

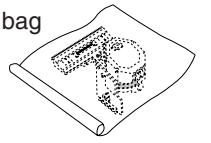
❑ SERVICING PRECAUTIONS

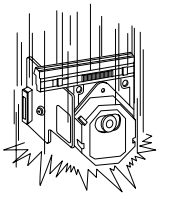
NOTES REGARDING HANDLING OF THE PICK-UP

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

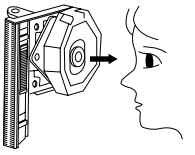




Drop impact

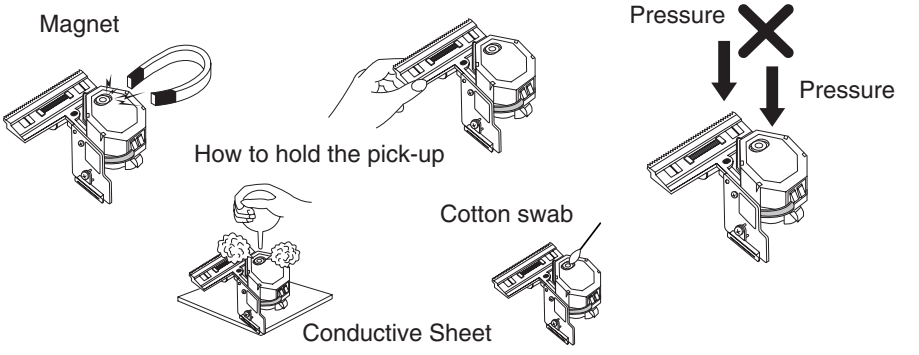
2. Repair notes

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.

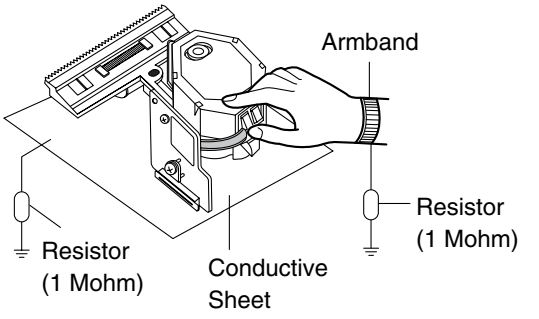
NOTES REGARDING COMPACT DISC PLAYER REPAIRS

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.



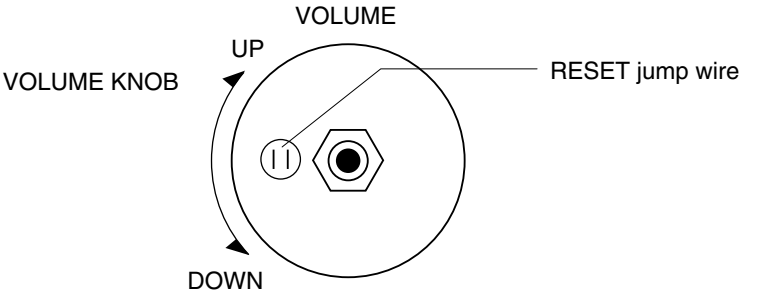
CLEARING MALFUNCTION

You can reset your unit to initial status if malfunction occur(button malfunction, display, etc.).

Using a pointed good conductor(such as driver), simply short the RESET jump wire on the inside of the volume knob for more than 3 seconds.

If you reset your unit, you must reenter all its settings(stations, clock, timer)

NOTE: 1. To operate the RESET jump wire, pull the volume rotary knob and release it.
2. If you wish to operate the RESET jump wire, it is necessary to unplug the power cord.



❑ 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

SECTION / MODEL			LM-M1030A/D/X
[General]		Power supply	Refer to the back panel of the unit.
		Power consumption	95 W
		Mass	8.34 kg
		External dimensions (W x H x D)	273 x 330 x 360 mm
[CD]		Frequency response	40 - 18000 Hz
		Signal-to-noise ratio	70 dB
		Dynamic range	70 dB
[Tuner]	FM	Tuning Range	87.5 - 108.0 MHz or 65 - 74 MHz, 87.5 - 108.0 MHz
		Intermediate Frequency	10.7 MHz
		Signal to Noise Ratio	60/55 dB
		Frequency Response	60 - 10000 Hz
	AM (MW)	Tuning Range	522 - 1611 kHz or 530 - 1610 kHz
		Intermediate Frequency	450 kHz
		Signal to Noise Ratio	35 dB
		Frequency Response	100 - 1800 Hz
[Amp]		Output Power	90 W + 90 W
		T.H.D	0.15 %
		Frequency Response	42 - 25000 Hz
		Signal-to-noise ratio	80 dB
[TAPE]		Tape Speed	4.75 cm/sec
		Wow Flutter	0.25 %(MTT -111, JIS-WTD)
		F.F/REW Time	120 sec (C-60)
		Frequency Response	250 - 8000Hz
		Signal to Noise Ratio	43 dB
		Channel Separation	50 dB(P/B) / 45 dB(R/P)
		Erase Ratio	55 dB(MTT-5511)
[Speakers]			**LMS-M1030**
		Type	3 Way 3 Speaker
		Impedance	6Ω
		Frequency Response	65 - 20000 Hz
		Sound Pressure Level	86 dB/W (1m)
		Rated Input Power	100 W
		Max. Input Power	200 W
		Net Dimensions (W x H x D)	230 X 338 X 298 mm
		Net Weight	5.11 kg

Designs and specifications are subject to change without notice.

MEMO

SECTION 2. ELECTRICAL

❑ ADJUSTMENTS

This set has been aligned at the factory and normally will not require further adjustment. As a result, it is not recommended that any attempt is made to modificate any circuit. If any parts are replaced or if anyone tampers with the adjustment, realignment may be necessary.

IMPORTANT

1. Check Power-source voltage.
2. Set the function switch to band being aligned.
3. Turn volume control to minimum unless otherwise noted.
4. Connect low side of signal source and output indicator to chassis ground unless otherwise specified.
5. Keep the signal input as low as possible to avoid AGC and AC action.

TAPE DECK ADJUSTMENT

1. AZIMUTH ADJUSTMENT

Deck Mode	Test Tape	Test Point	Adjustment	Adjust for
A Deck Playback	MTT-114	Speaker Out	DECK Screw Azimuth Screw	Maximum
B Deck Playback	MTT-114	Speaker Out	Azimuth Screw	Maximum

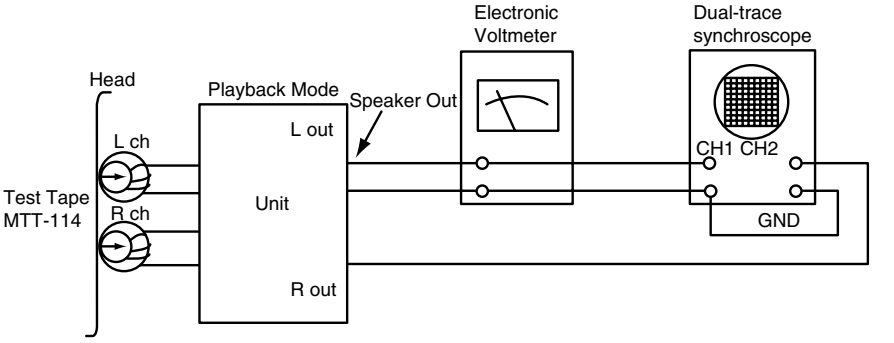


Figure 1. Azimuth Adjustment Connection Diagram

2. MOTOR SPEED ADJUSTMENT

Deck Mode	Test Tape	Test Point	Adjustment	Adjust for	Remark
Normal Speed	MTT-111	Speaker Out	VR501	3kHz ± 1%	A Deck
HI-Speed	MTT-111	Speaker Out	more than 5.4kHz		HI-Speed Dubbing Mode

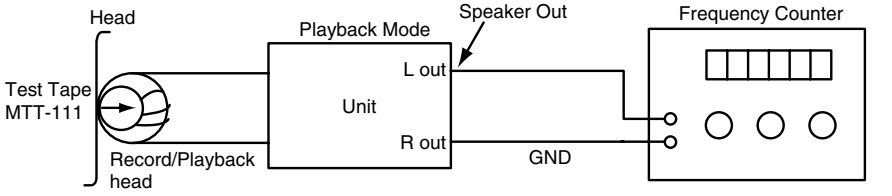


Figure 2. Motor Speed Adjustment Connection Diagram

3. RECORD BIAS ADJUSTMENT

Deck Mode	Test Tape	Test Point	Adjustment	Adjust for
Rec/Pause	MTT-5511	ERASE HEAD WIRE(PN202)	L203	60kHz±5kHz (Auto stop) 85kHz±5kHz(Auto Reverse)

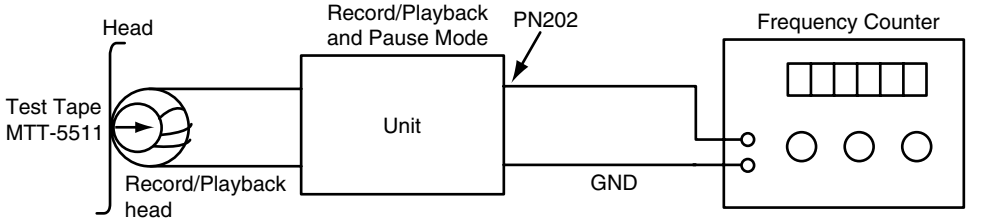
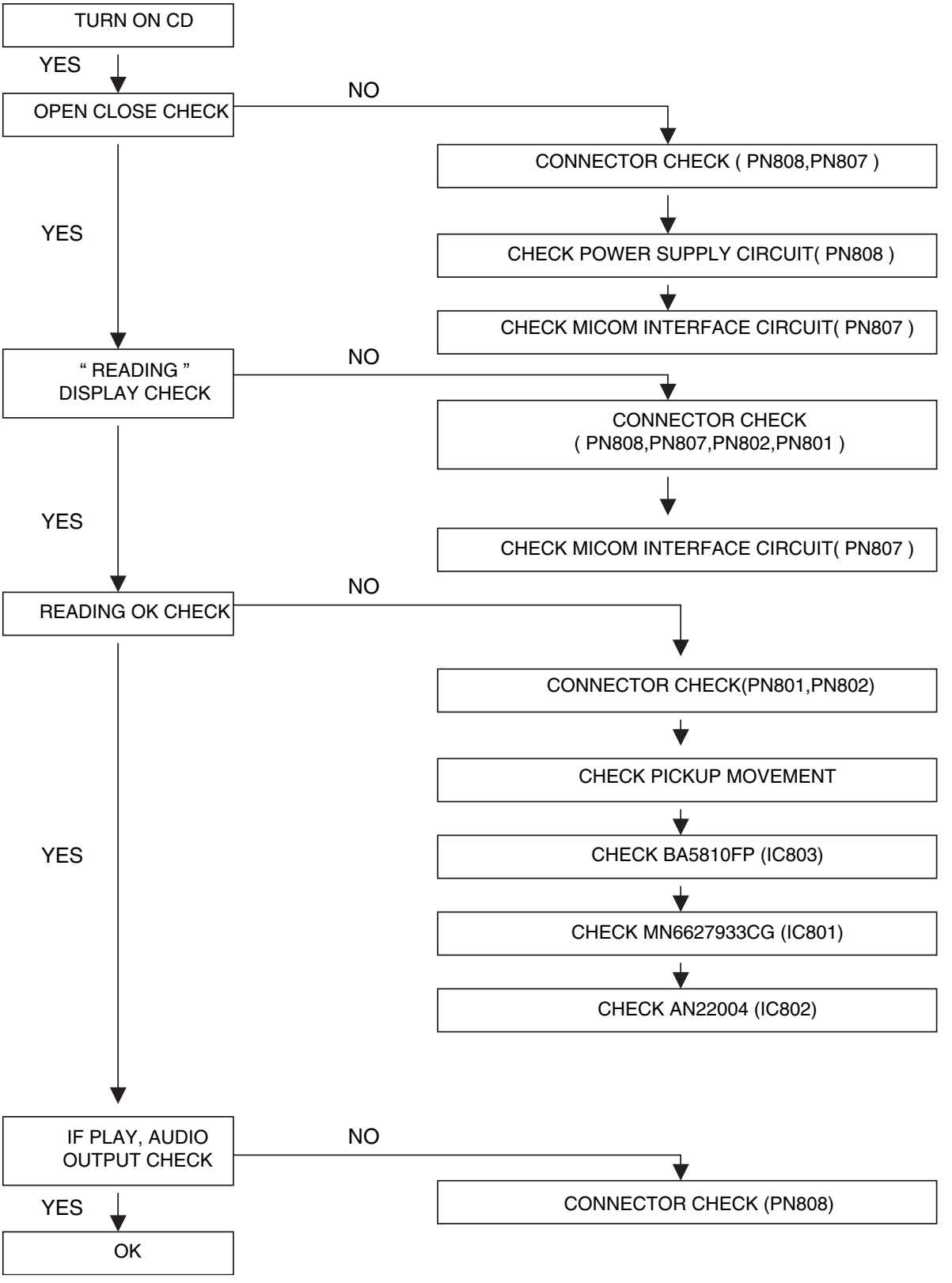


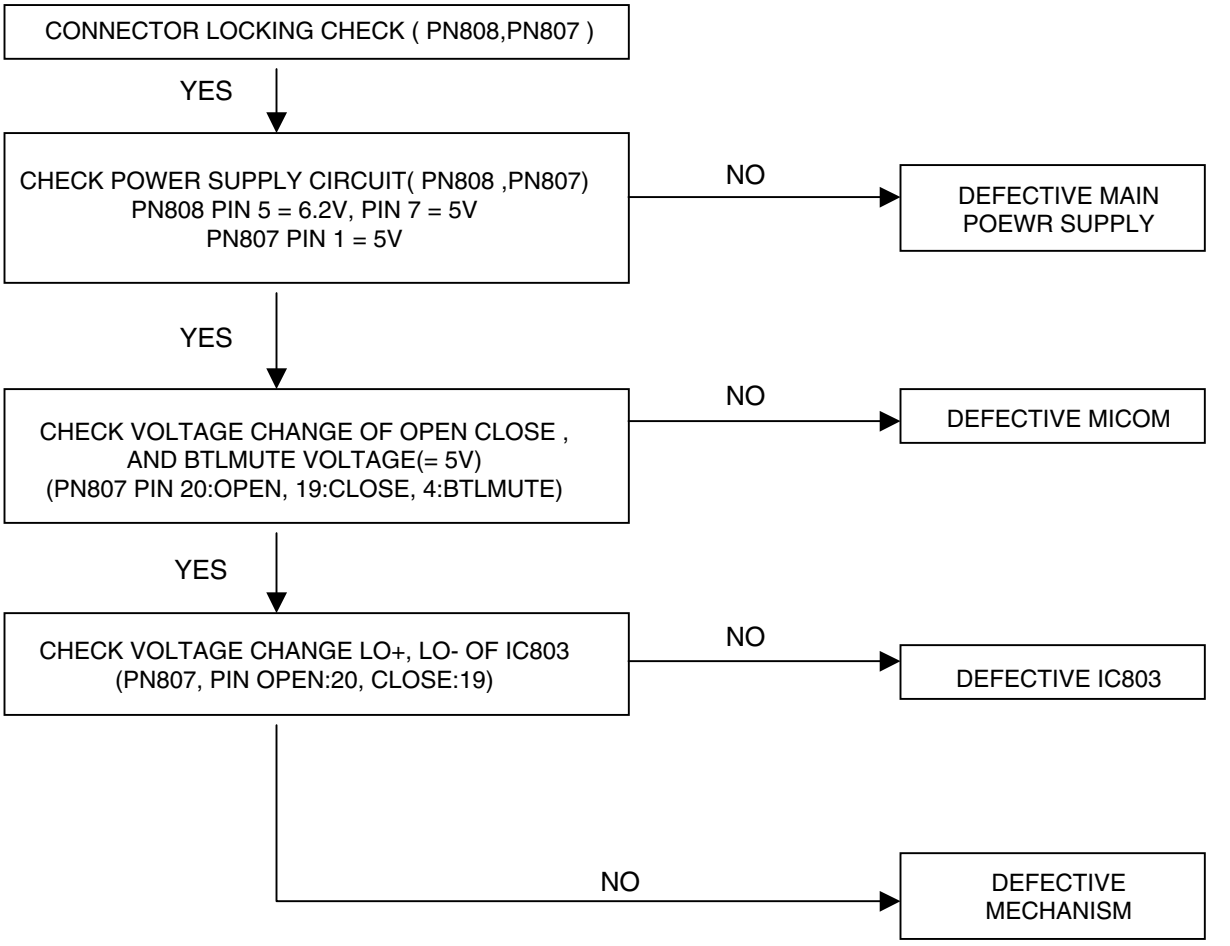
Figure 3. Record Bias Adjustment Connection Diagram

❑ TROUBLESHOOTING

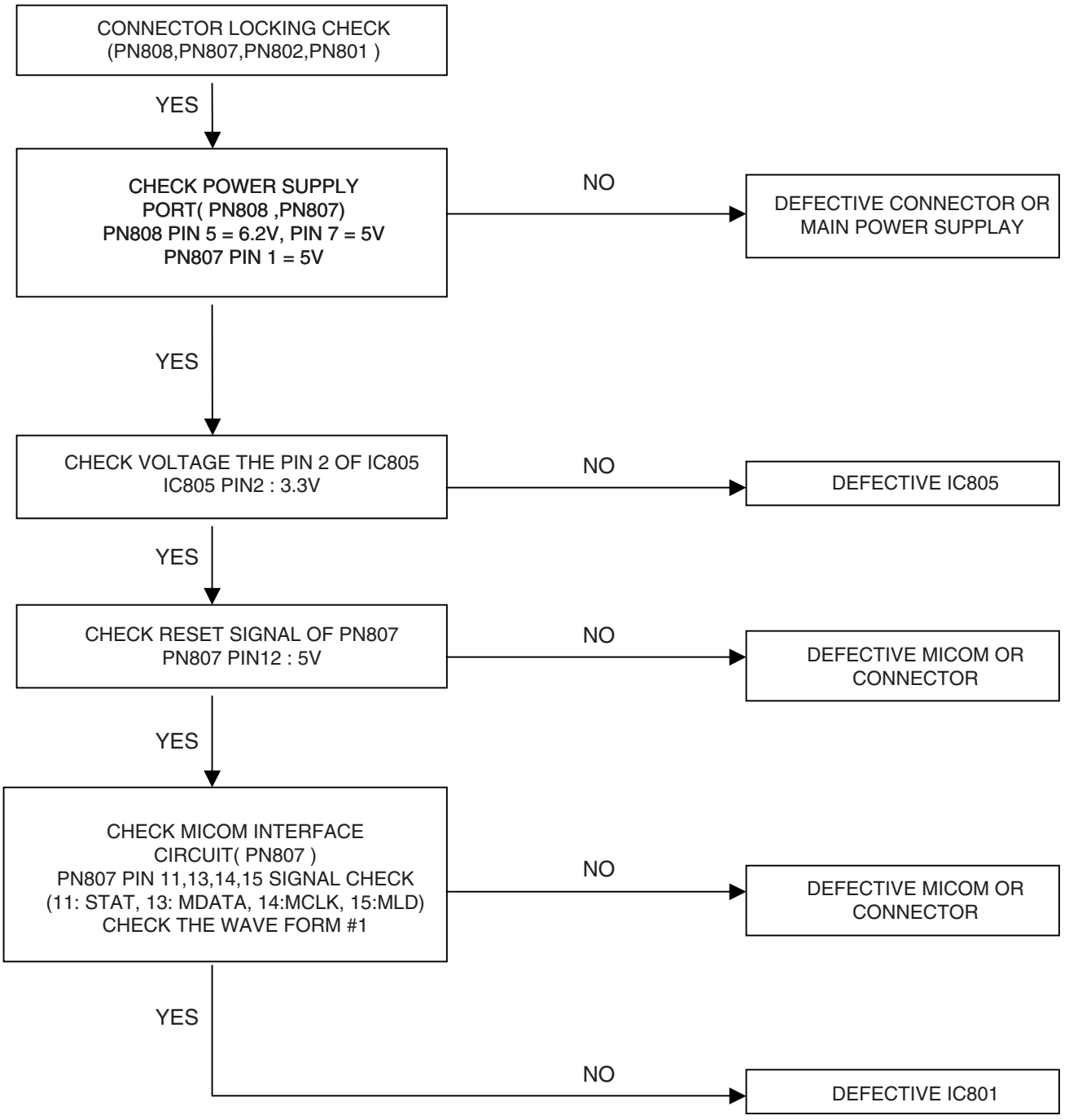
• CD PART



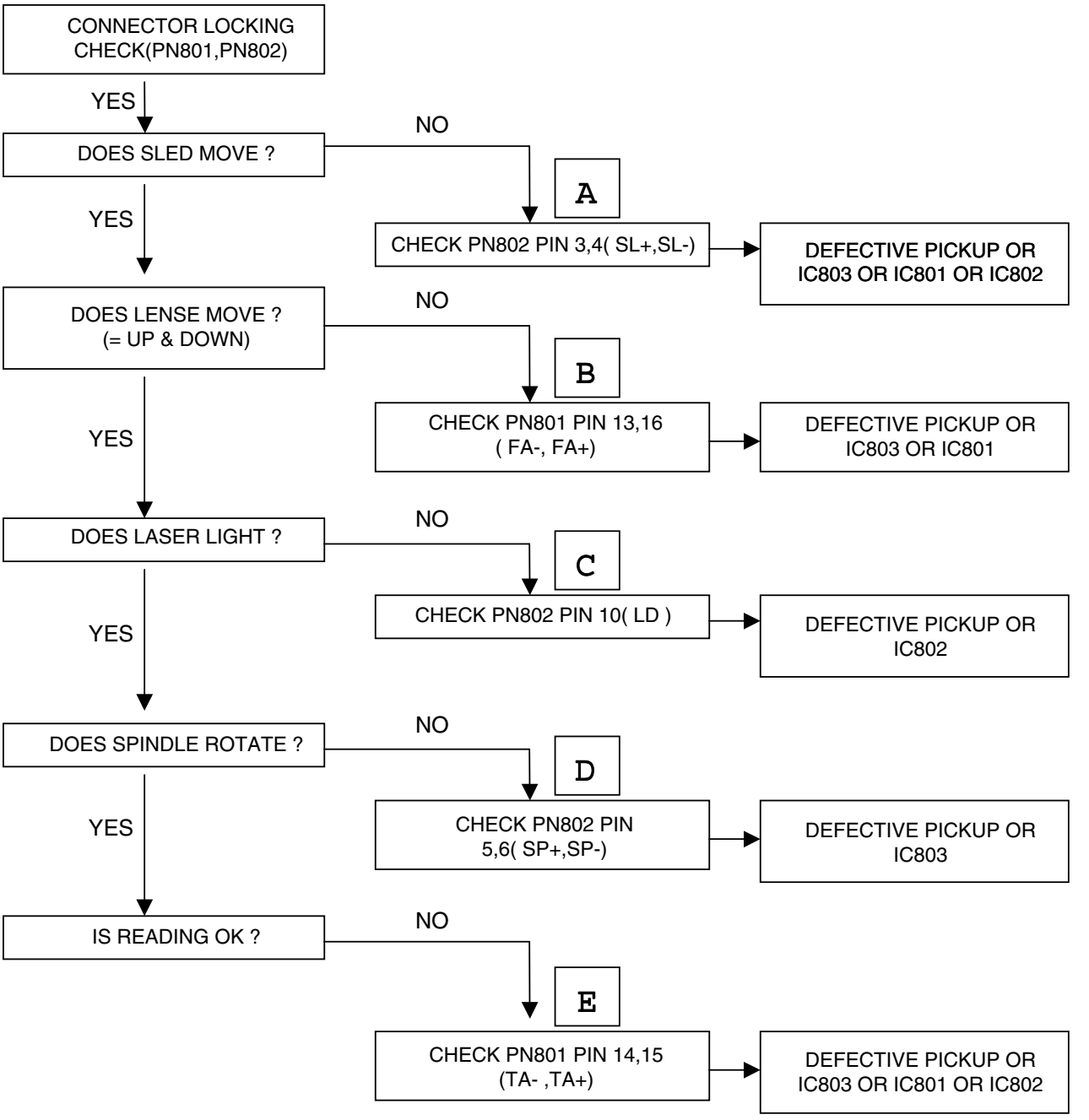
• OPEN CLOSE NG



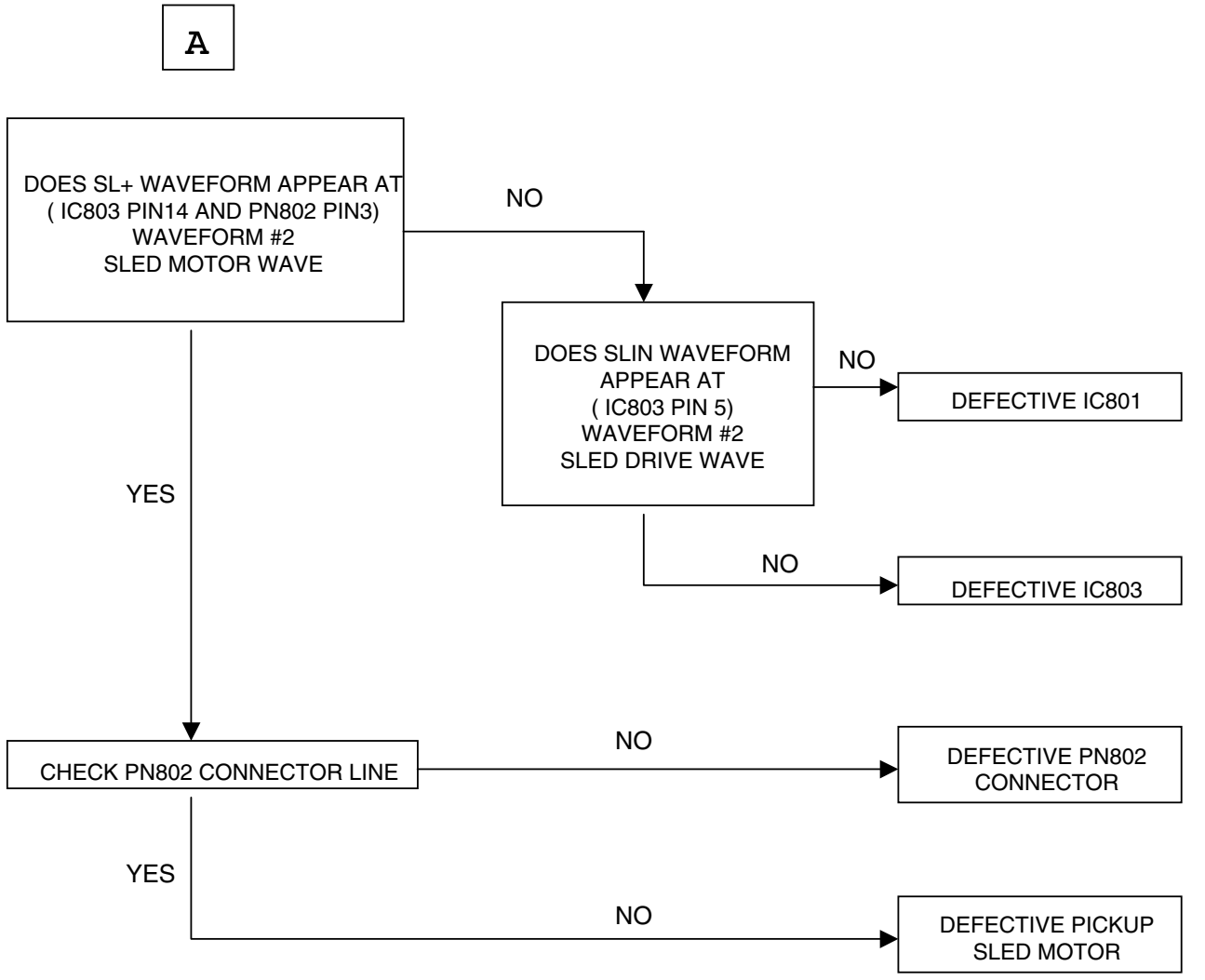
• " READING " DISPLAY CHECK (= ONLY "CD "DISPLAY)



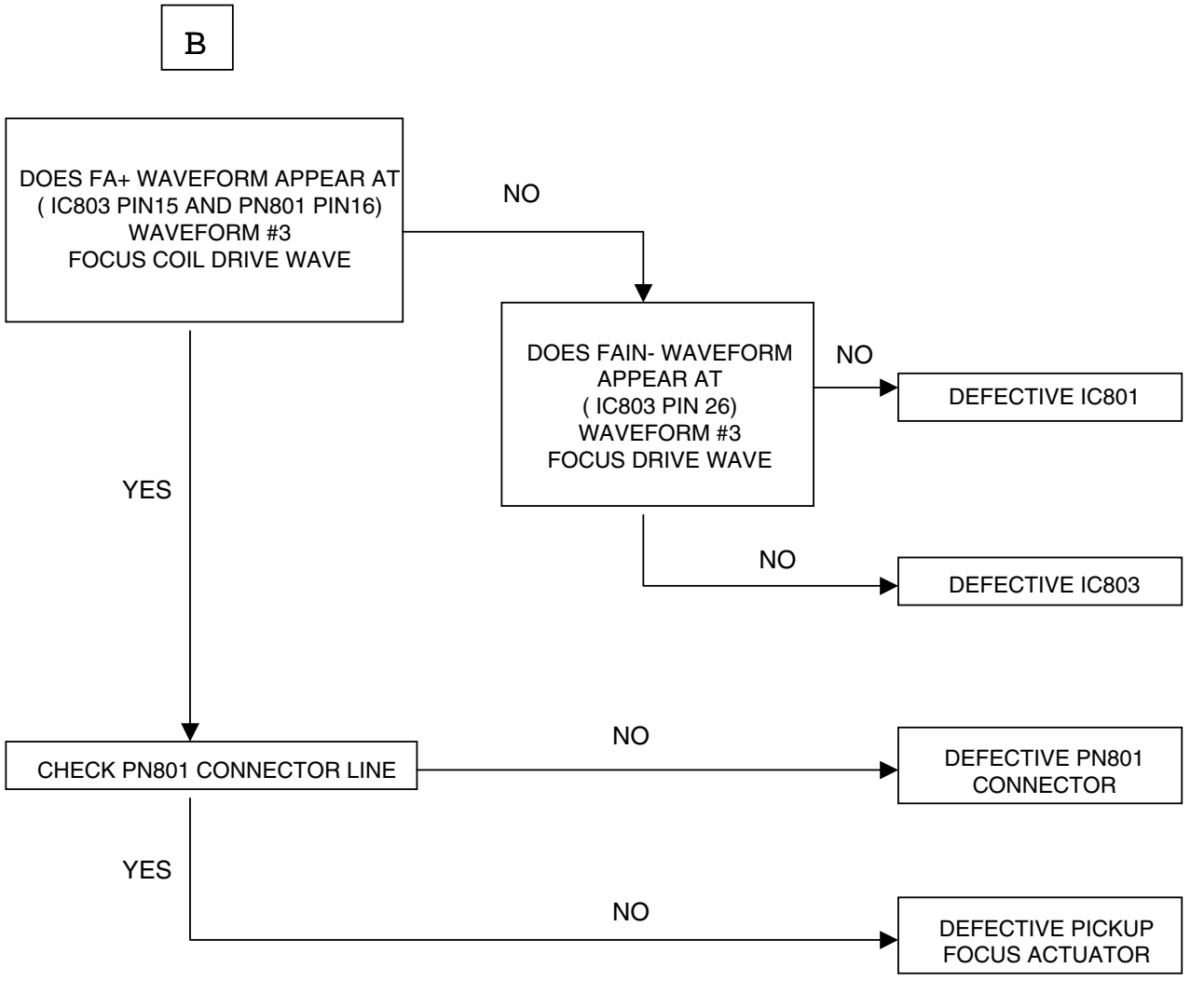
• READING OK CHECK (= “NO DISC” DISPLAY)



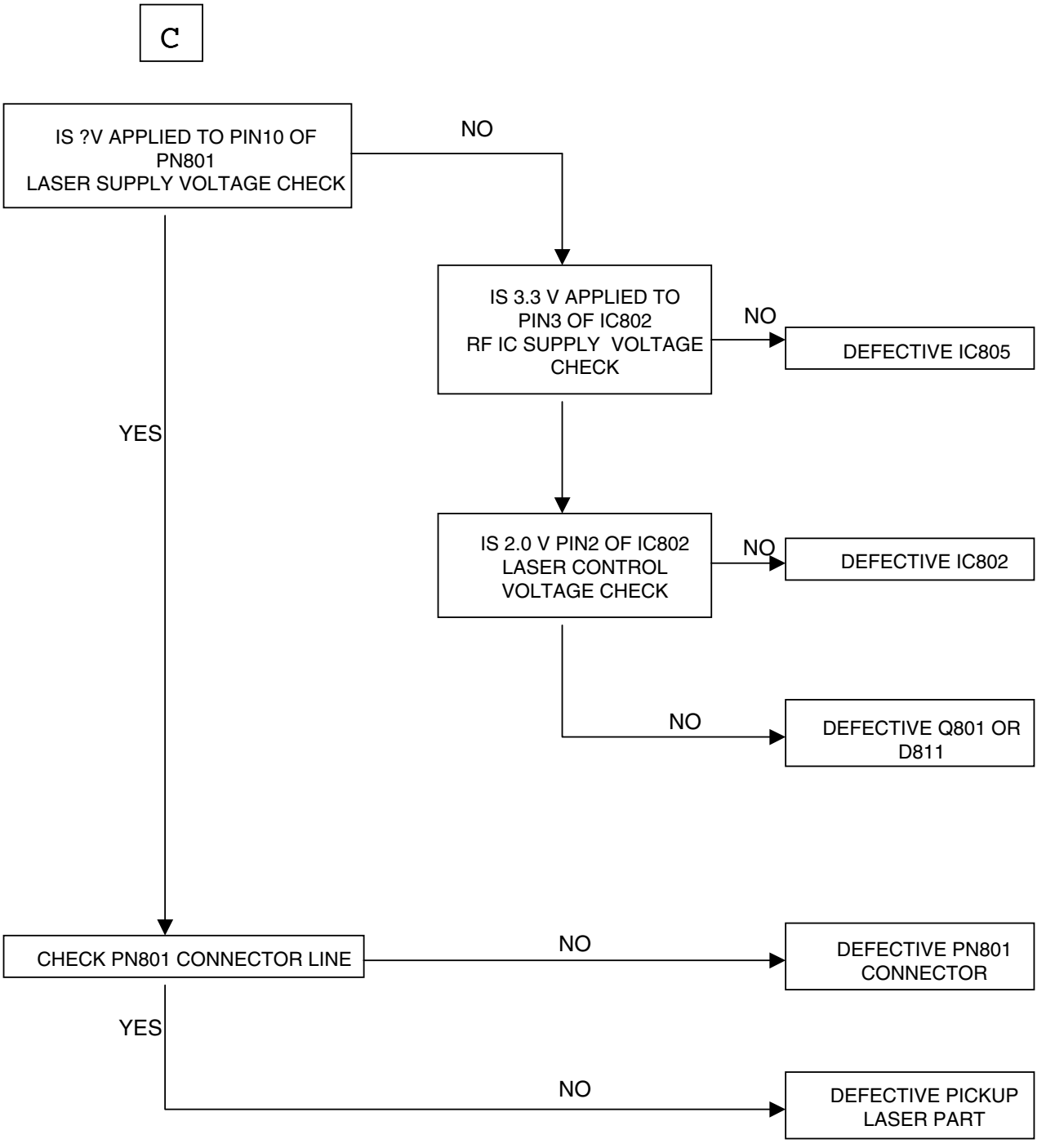
• **READING OK CHECK #A**
(= "NO DISC" DISPLAY)



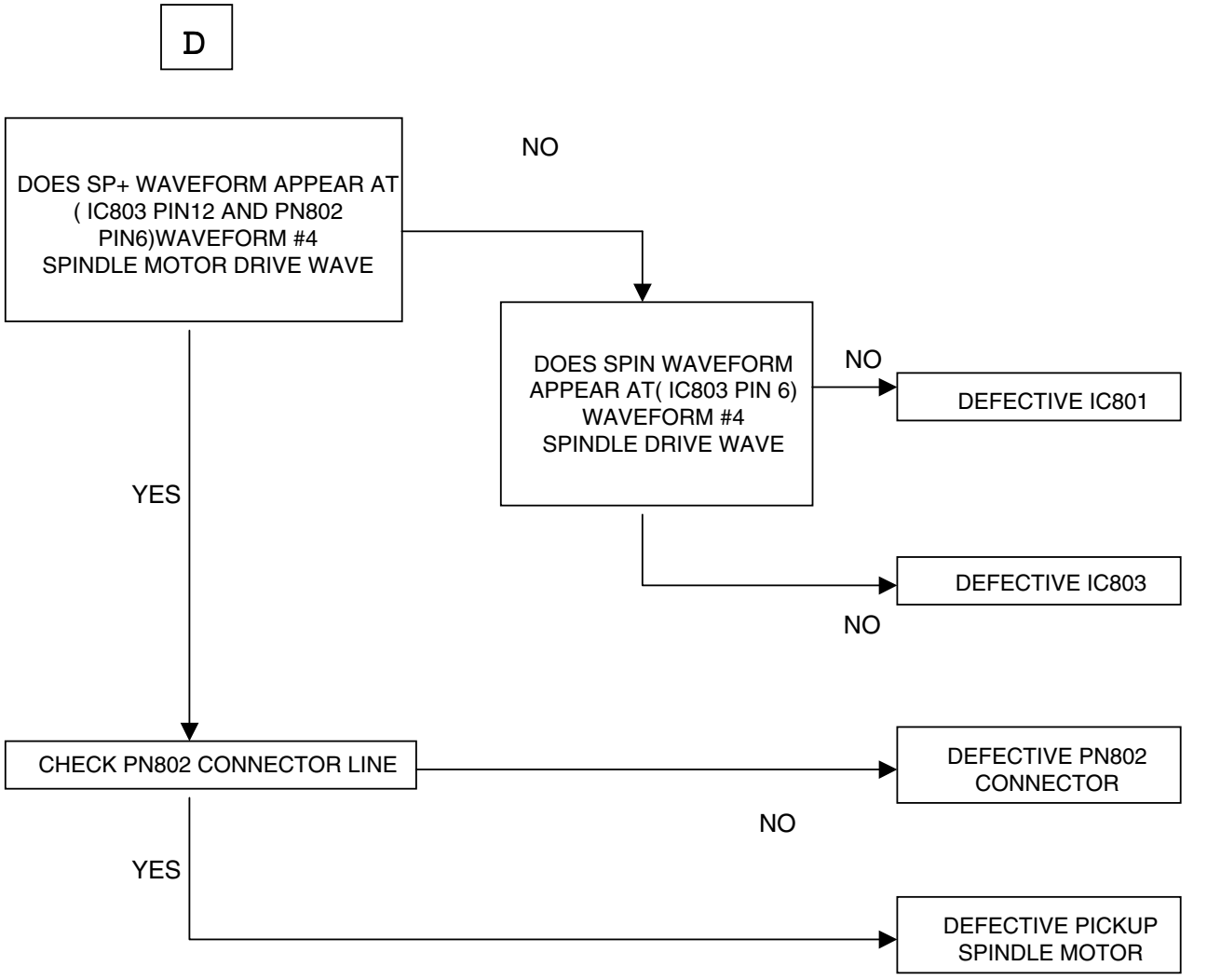
• READING OK CHECK #B
(= “NO DISC” DISPLAY)



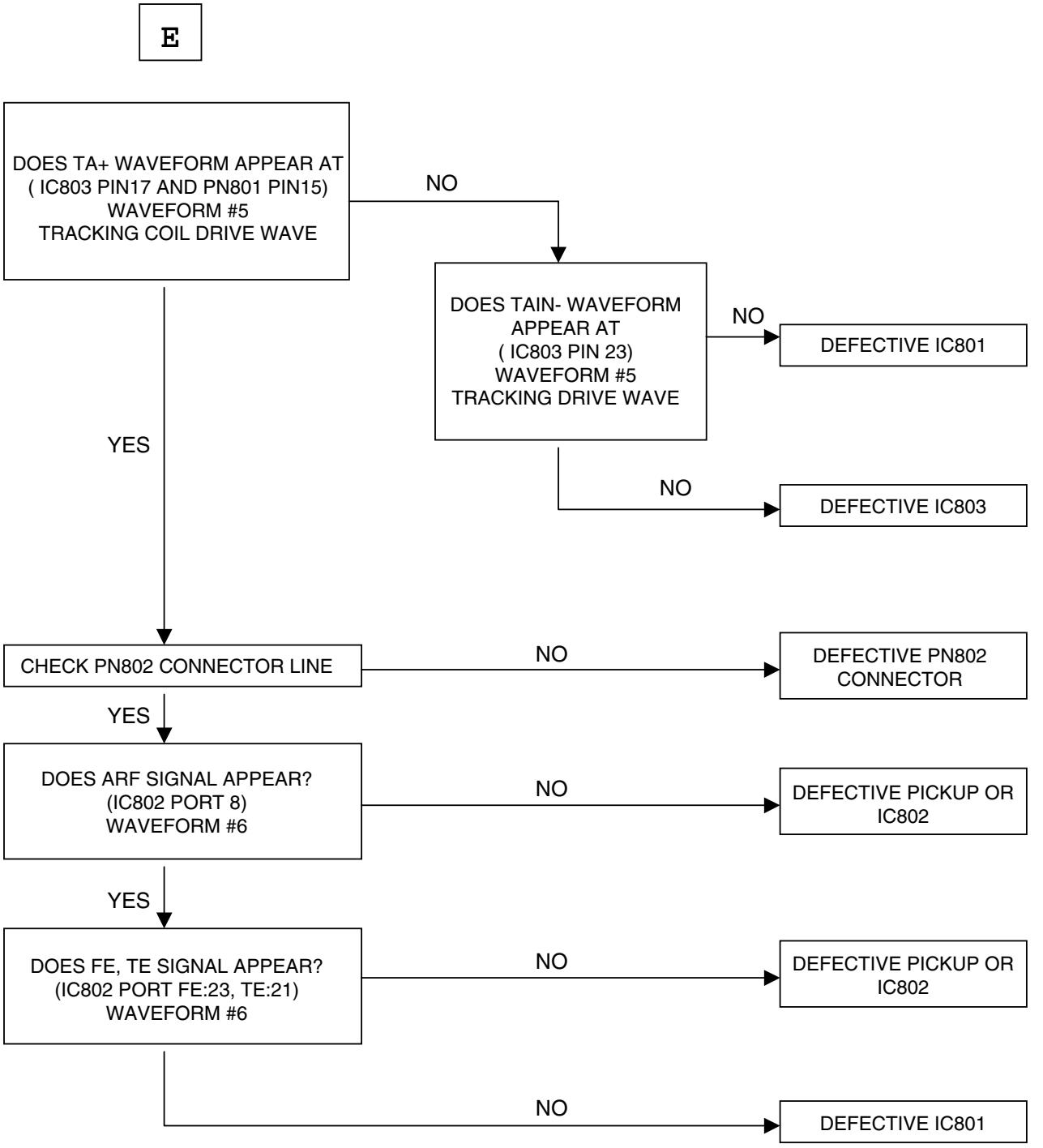
• READING OK CHECK #C
(= “NO DISC” DISPLAY)



• READING OK CHECK #D
(= “NO DISC” DISPLAY)



• READING OK CHECK # E (= “NO DISC” DISPLAY)



• CD PART VOLTAGE SHEET

IC	PIN NO.	STOP	CD-DA PLAY	MP3 PLAY	IC	PIN NO.	STOP	CD-DA PLAY	MP3 PLAY
IC801	1	0	0	3.3		51	0.8	0.8	0.8
MN6627933CG	2	0	0	3.3		52	1.6	1.6	1.6
	3	0	0	3.3		53	1.6	1.6	1.6
	4	0	0	3.3		54	3.3	3.3	3.3
	5	3.3	3.3	3.3		55	1	1.4	1
	6	0	0	3.3		56	1	1.4	1
	7	0	0	0		57	0	0	0
	8	0	0	3.3		58	1.6	1.6	1.6
	9	0	0	3.3		59	0	0	0
	10	0	0	3.3		60	1.6	1.6	1.6
	11	0	0	3.3		61	3.3	3.3	3.3
	12	0	0	3.3		62	0	0	0
	13	0	0	3.3		63	0	0	0
	14	3.3	3.3	3.3		64	0	0	0
	15	3.3	3.3	3.3		65	0	0	0
	16	3.3	3.3	3.3		66	0	0	0
	17	3.3	3.3	3.3		67	1.5	1.5	1.5
	18	3.3	3.3	3.3		68	0	0	0
	19	0	0	3.3		69	0	0	0
	20	0	0	3.3		70	0	0	0
	21	0	0	3.3		71	1.1	1.1	1.1
	22	0	0	3.3		72	2.8	2.8	2.8
	23	3.3	3.3	3.3		73	0	0	0
	24	0	0	0		74	2.9	2.9	2.9
	25	0	0	3.3		75	0	0	0
	26	0	0	0		76	0	0	0
	27	0	0	0		77	0	0	0
	28	1.5	1.5	1.5		78	0	0	0
	29	1.6	1.5	1.6		79	1.6	1.6	1.6
	30	3.3	0	3.3		80	0	0	3.3
	31	1.6	1.6	1.6		81	2.9	2.9	2.9
	32	0	0	0		82	3.3	3.3	3.3
	33	0	0	0		83	0	0	0
	34	0	0	0		84	1.6	1.5	1.5
	35	1.6	1.6	1.6		85	1.6	1.6	1.6
	36	0	0	0		86	3.3	3.3	3.3
	37	1.6	1.7	1.7		87	1.5	1.5	1.5
	38	0	0	0		88	0	0	3.3
	39	3.3	3.3	3.3		89	0	0	3.3
	40	1.6	1.6	1.6		90	0	0	3.3
	41	1.6	1.6	1.6		91	0	0	3.3
	42	1.6	1.6	1.6		92	0	0	3.3
	43	1.6	1.6	1.6		93	0	0	3.3
	44	2.3	2.3	2.3		94	0	0	3.3
	45	1.5	1.5	1.5		95	0	0	3.3
	46	0	3.3	3.3		96	0	0	3.3
	47	3	0	0		97	0	0	3.3
	48	0	0	0		98	3.3	3.3	3.3
	49	0	0	0		99	0	0	3.3
	50	3.3	3.3	3.3		100	0	0	3.3

IC	PIN NO.	STOP	CD-DA PLAY	MP3 PLAY
IC802	1	0	0	0
AN22004A	2	2.8	2	2
	3	3.3	3.3	3.3
	4	0	0	0
	5	0	2.3	2.3
	6	1.6	2	2
	7	1.3	1.6	1.6
	8	0.4	1.5	1.5
	9	1.3	1.5	1.5
	10	1.5	1.5	1.5
	11	1.5	2	2
	12	1	1	1
	13	0	0	0
	14	0	0	0
	15	3	0	0
	16	0	3.3	3.3
	17	0	0	0
	18	1.6	1.6	1.6
	19	1.6	1.6	1.6
	20	1.6	1.6	1.6
	21	1.6	1.6	1.6
	22	1.6	1.6	1.6
	23	1.6	1.6	1.6
	24	0 (*CD-RW: 3.0)	0 (*CD-RW: 3.0)	0 (*CD-RW: 3.0)
	25	1.6	1.6	1.6
	26	1.6	1.6	1.6
	27	1.6	1.7	1.6
	28	1.6	1.7	1.6
	29	1.6	1.7	1.6
	30	1.6	1.7	1.6
	31	1.6	1.7	1.6
	32	1.6	1.7	1.6

IC	PIN NO.	STOP	CD-DA PLAY	MP3 PLAY
IC803	1	0	0	0
BA5810FP	2	0	0	0
	3	1.5	1.5	1.5
	4	3.6	3.7	3.7
	5	1.6	1.6	1.6
	6	1.6	1.6	1.6
	7	6.2	6.2	6.2
	8	6.2	6.2	6.2
	9	0	0	0
	10	0	0	0
	11	3.2	3.4	3.4
	12	3.2	3	3
	13	3.2	3.2	3.2
	14	3.2	3.2	3.2
	15	3	2.8	2.8
	16	3.3	3.4	3.4
	17	3.2	3.2	3.2
	18	3.2	3.2	3.2
	19	0	0	0
	20	6.2	6.2	6.2
	21	3.6	3.7	3.7
	22	1.6	1.6	1.6
	23	1.6	1.6	1.6
	24	1.6	1.6	1.6
	25	1.6	1.6	1.6
	26	1.6	1.6	1.6
	27	1.6	1.6	1.6
	28	1.6	1.6	1.6

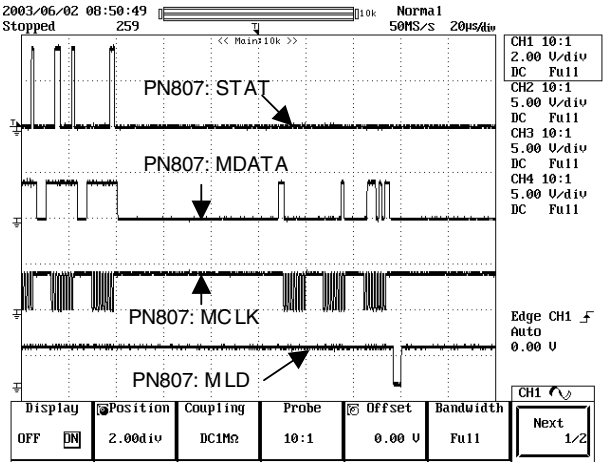
IC	PIN NO.	STOP	CD-DA PLAY	MP3 PLAY
IC804	1	3.3	3.3	3.3
M12L16161A	2	0	0	3.3
	3	0	0	3.3
	4	0	0	0
	5	0	0	3.3
	6	0	0	3.3
	7	3.3	3.3	3.3
	8	0	0	3.3
	9	0	0	3.3
	10	0	0	0
	11	0	0	3.3
	12	0	0	3.3
	13	3.3	3.3	3.3
	14	3.3	3.3	3.3
	15	3.3	3.3	3.3
	16	3.3	3.3	3.3
	17	3.3	3.3	3.3
	18	3.3	3.3	3.3
	19	0	0	3.3
	20	0	0	3.3
	21	0	0	3.3
	22	0	0	3.3
	23	0	0	3.3
	24	0	0	3.3
	25	3.3	3.3	3.3
	26	0	0	0
	27	0	0	3.3
	28	0	0	3.3
	29	0	0	3.3
	30	0	0	3.3
	31	0	0	3.3
	32	0	0	3.3
	33	0	0	0
	34	3.3	3.3	3.3
	35	0	0	3.3
	36	3.3	3.3	3.3
	37	0	0	0
	38	3.3	3.3	3.3
	39	0	0	3.3
	40	0	0	3.3
	41	0	0	0
	42	0	0	3.3
	43	0	0	3.3
	44	3.3	3.3	3.3
	45	0	0	3.3
	46	0	0	3.3
	47	0	0	0
	48	0	0	3.3
	49	0	0	3.3
	50	0	0	0

IC	PIN NO.	STOP	CD-DA PLAY	MP3 PLAY
IC805	1	0	0	0
UTC LD1117A	2	3.3	3.3	3.3
	3	4.77	4.6	4.6

• CD PART WAVEFORMS OF MAJOR CHECK POINT

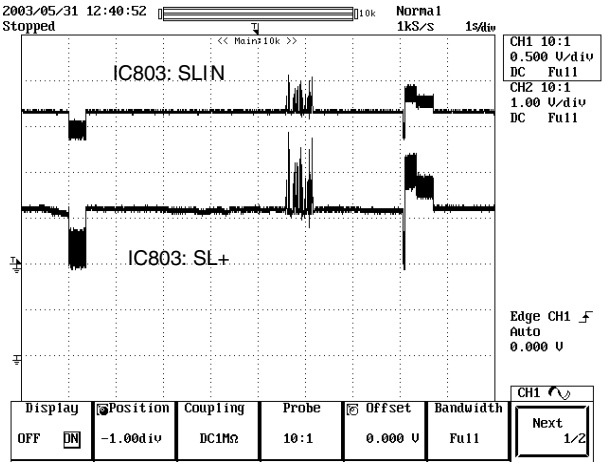
#X. MICOM INTERFACE WAVEFORM

(PN807 pin XX, X3, X4, X5) during normal play



#2. S LED DRIVE AND MOTOR WAVEFORM

(IC803 pin 5, X4) when focus search

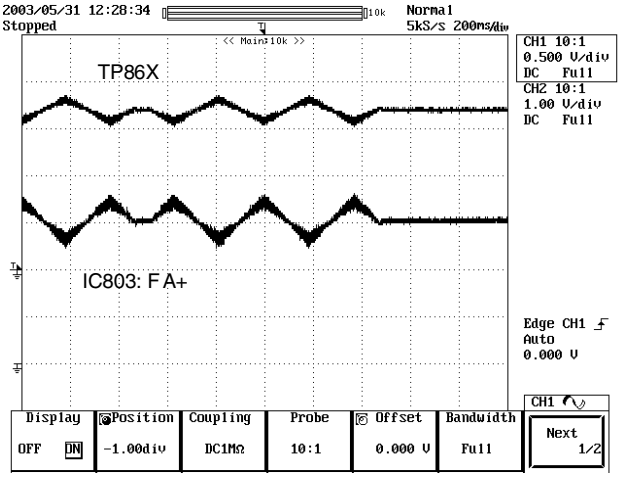


#3. F OCUS DRIVE AND MOTOR WAVEFORM

(TP86X, IC803 pin X5)

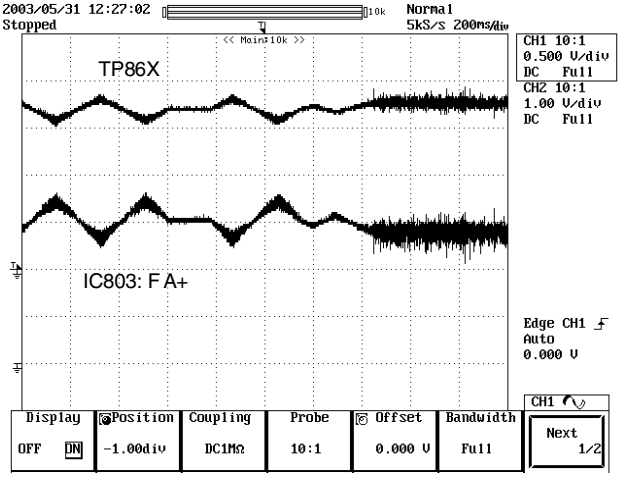
When focus search failed or there is no disc on tray

;

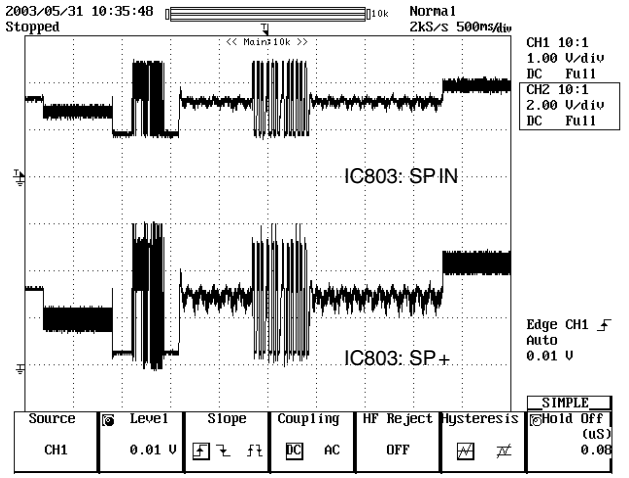


There is disc on tray and focus search success

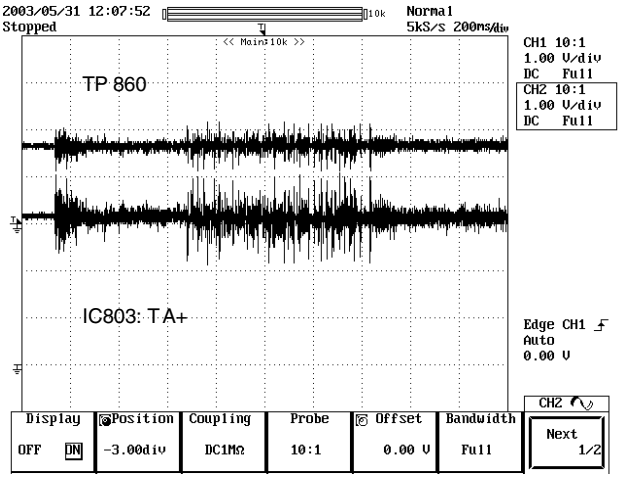
;



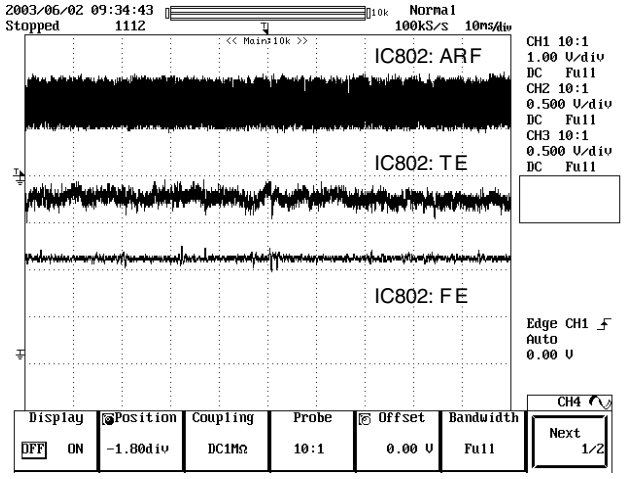
#4. SPINDLE DRIVE AND MOTOR WAVEFORM
(IC803 pin 6, 2) when TOC reading



#5. TRACK DRIVE AND MOTOR WAVEFORM
(TP860, IC803 pin 23) during normal play

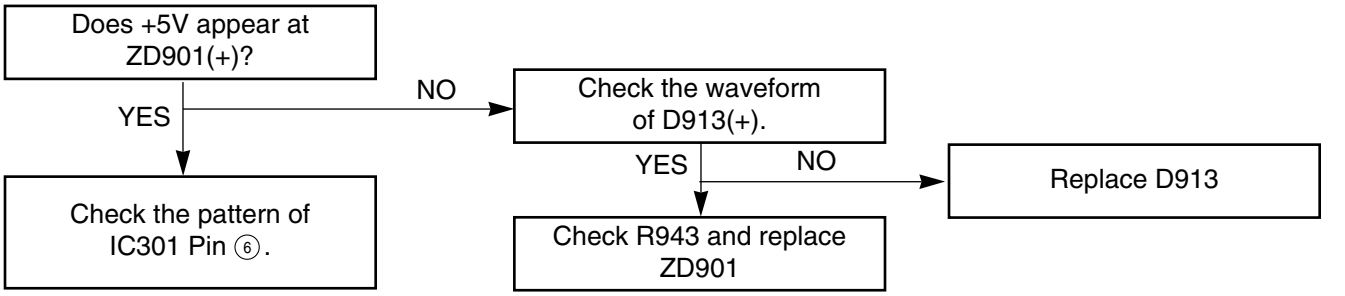


#6. RF, TRACKING AND FOCUS ERROR WAVEFORM
(IC802 pin 8, 2 , 23) during normal play

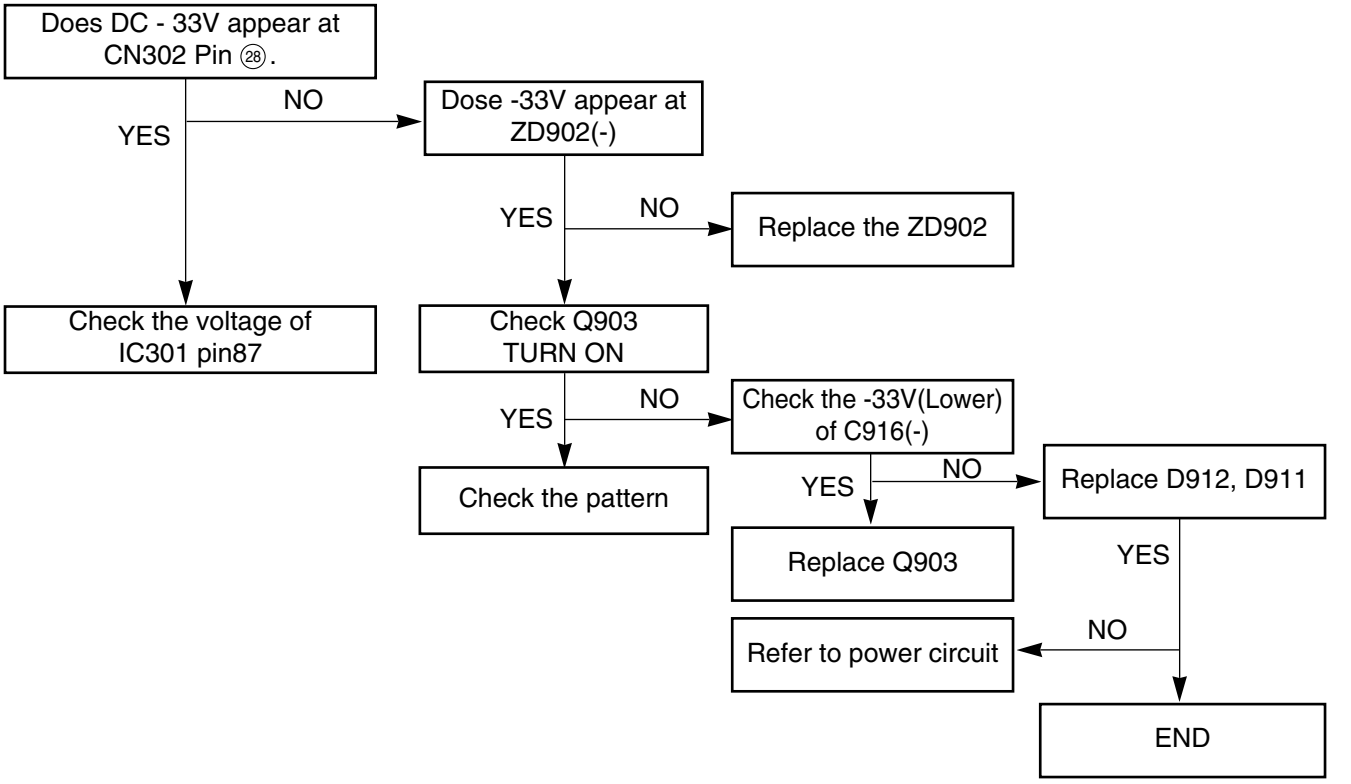


• MAIN SET

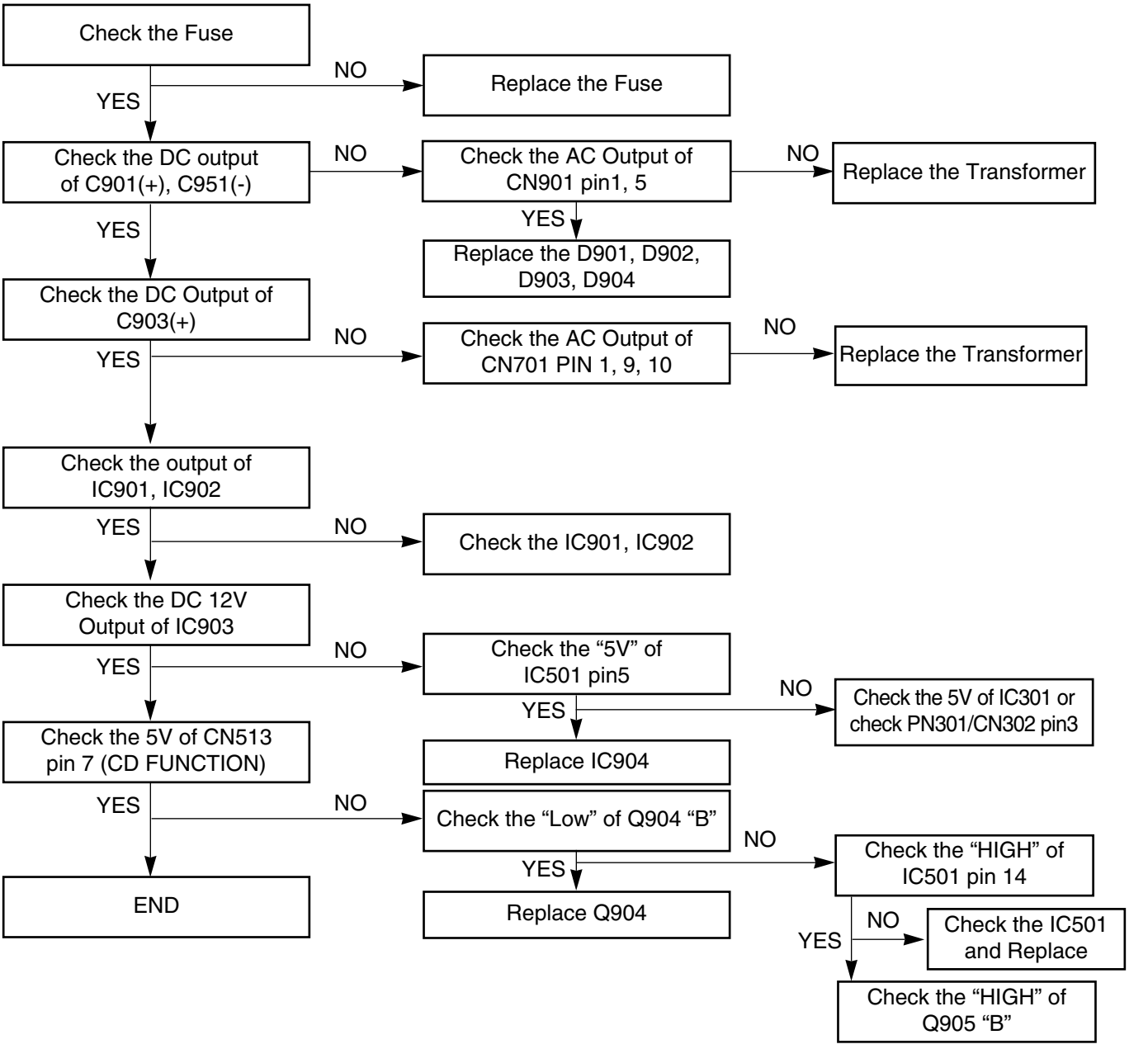
P-SENS PART



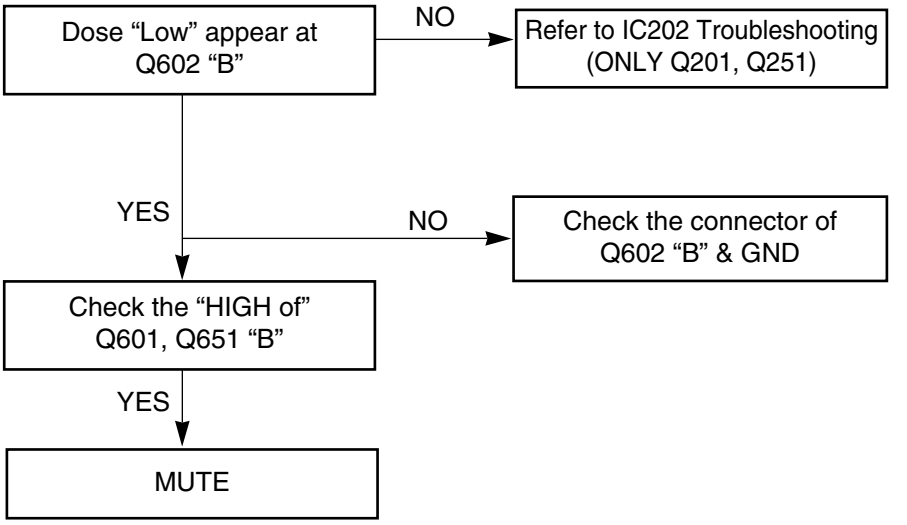
VKK PART



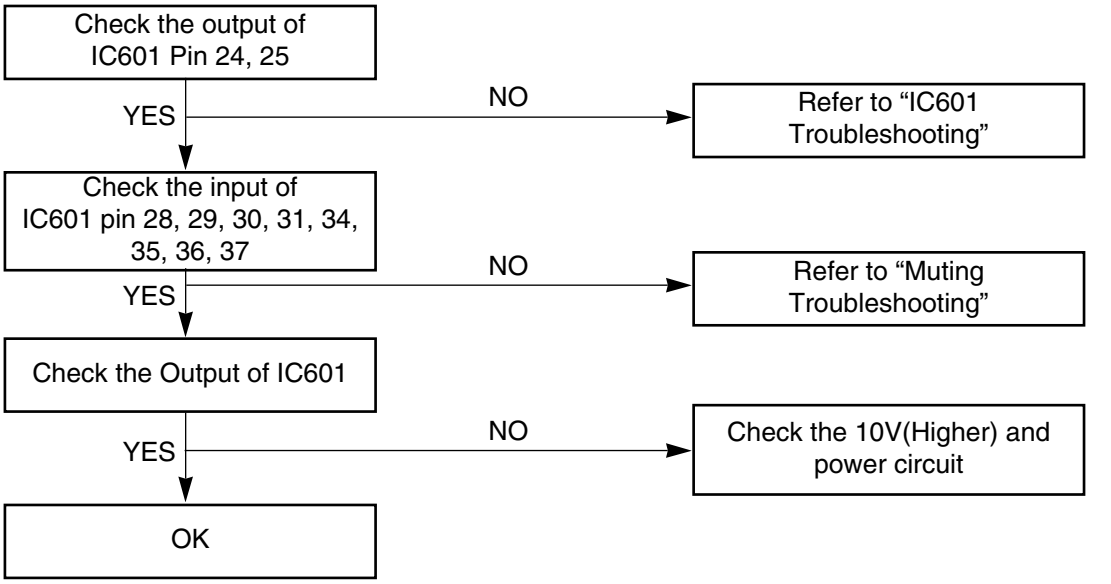
Power Circuit



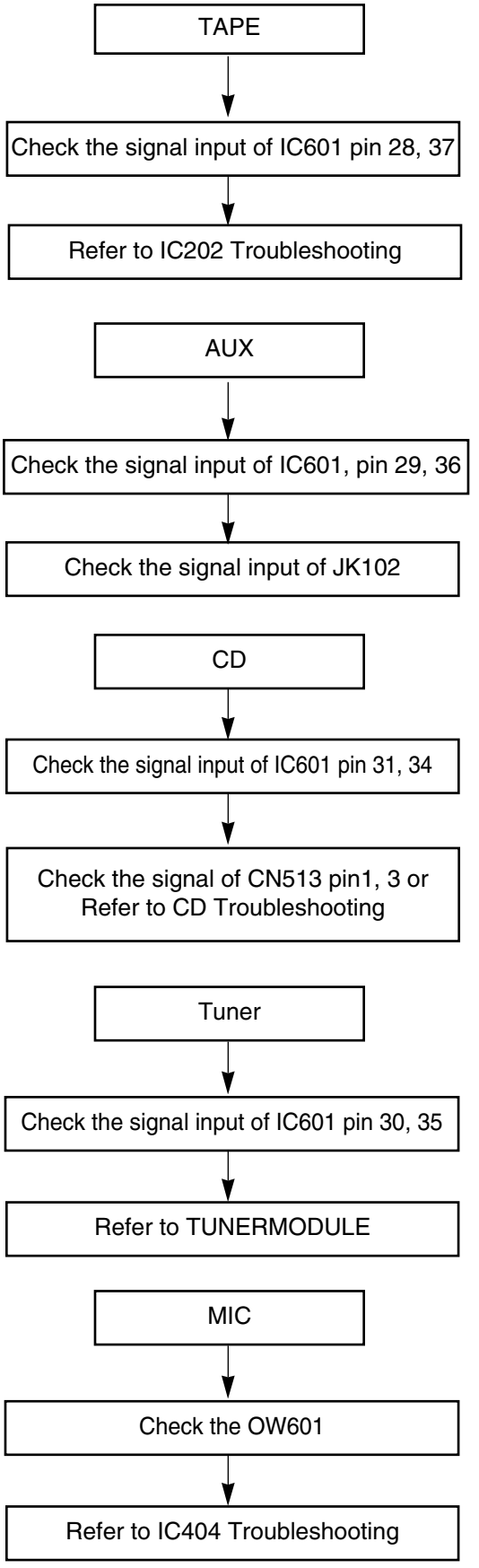
Muting circuit (MUTE)



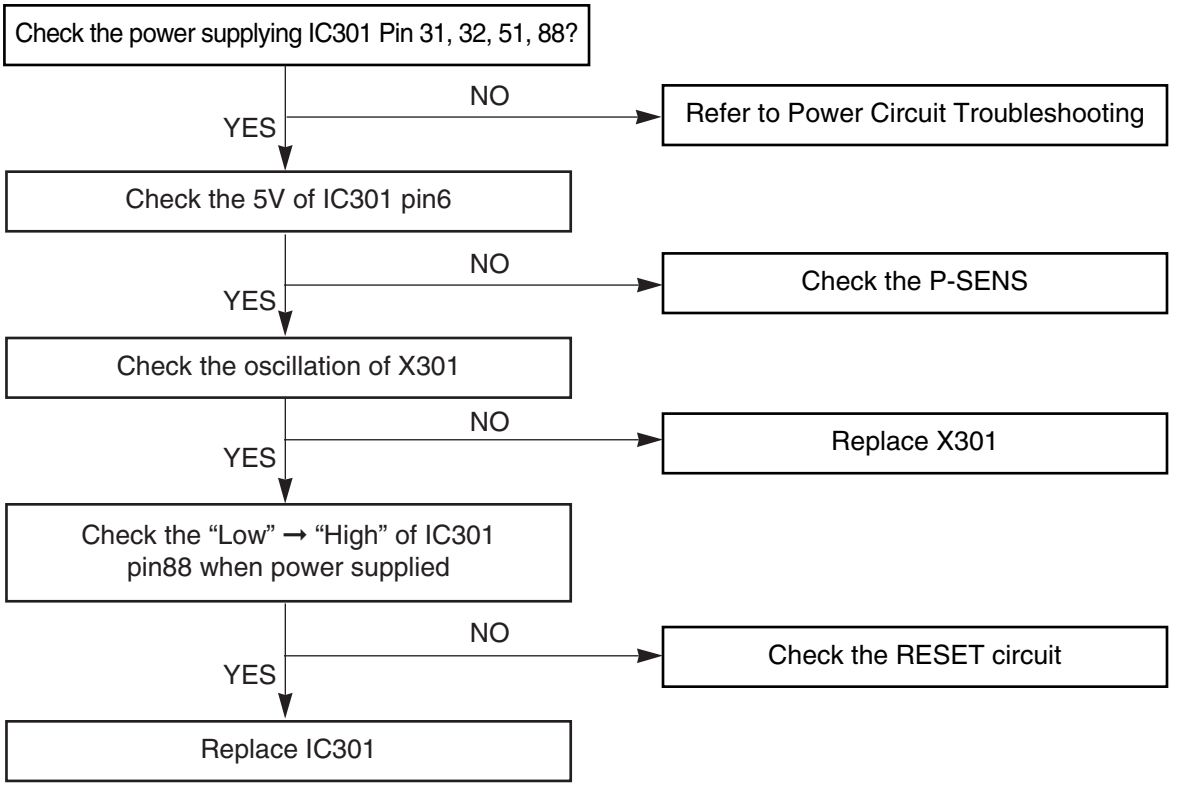
Audio abnormal



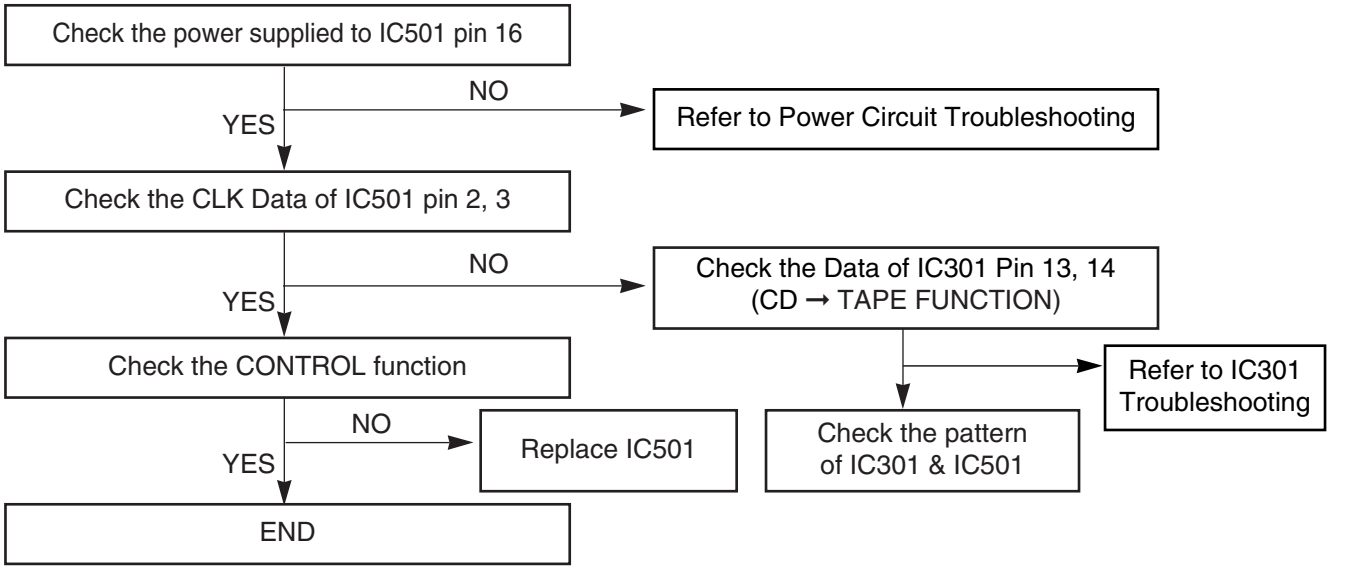
FUNCTION MODE Audio abnormal



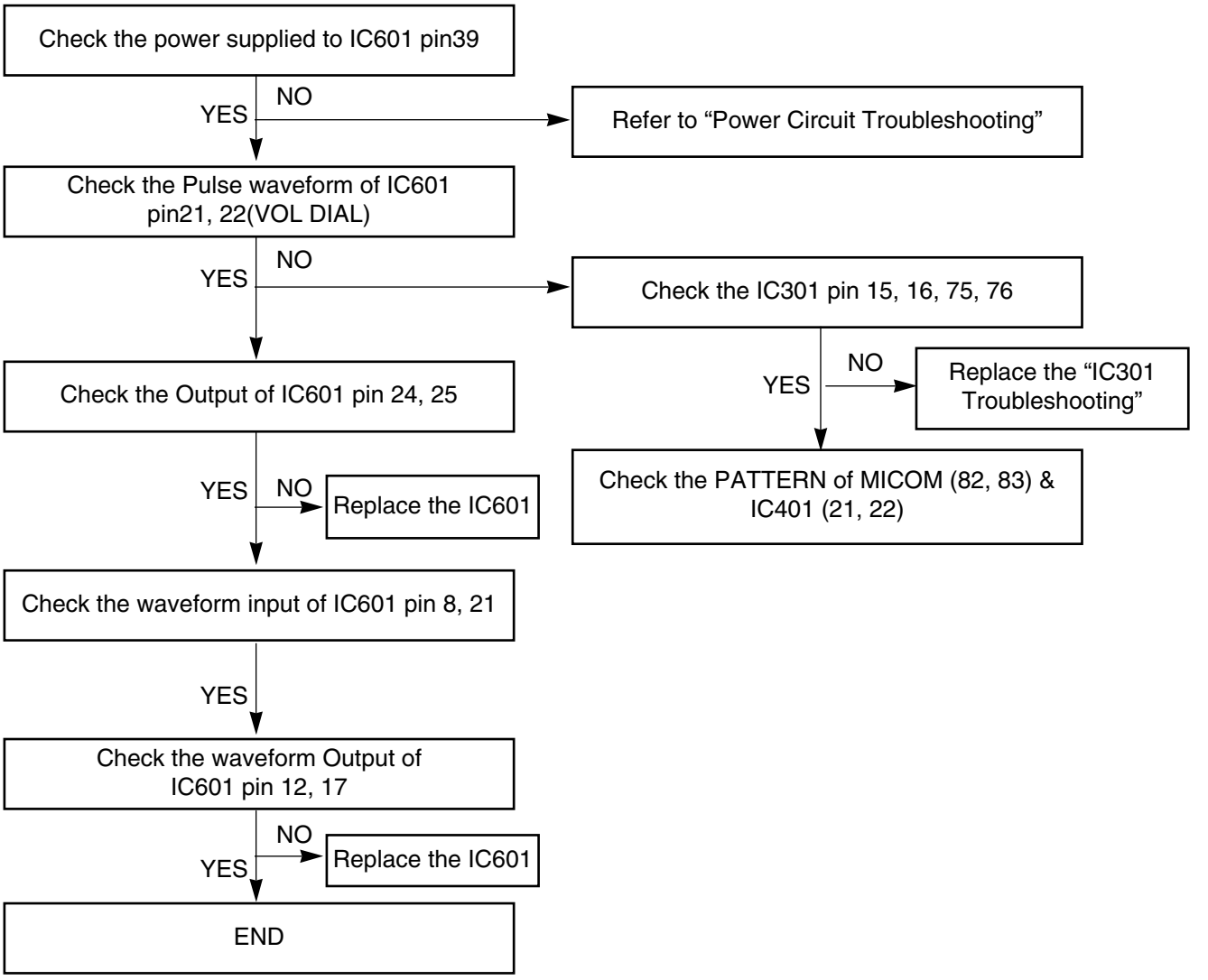
IC301 Troubleshooting



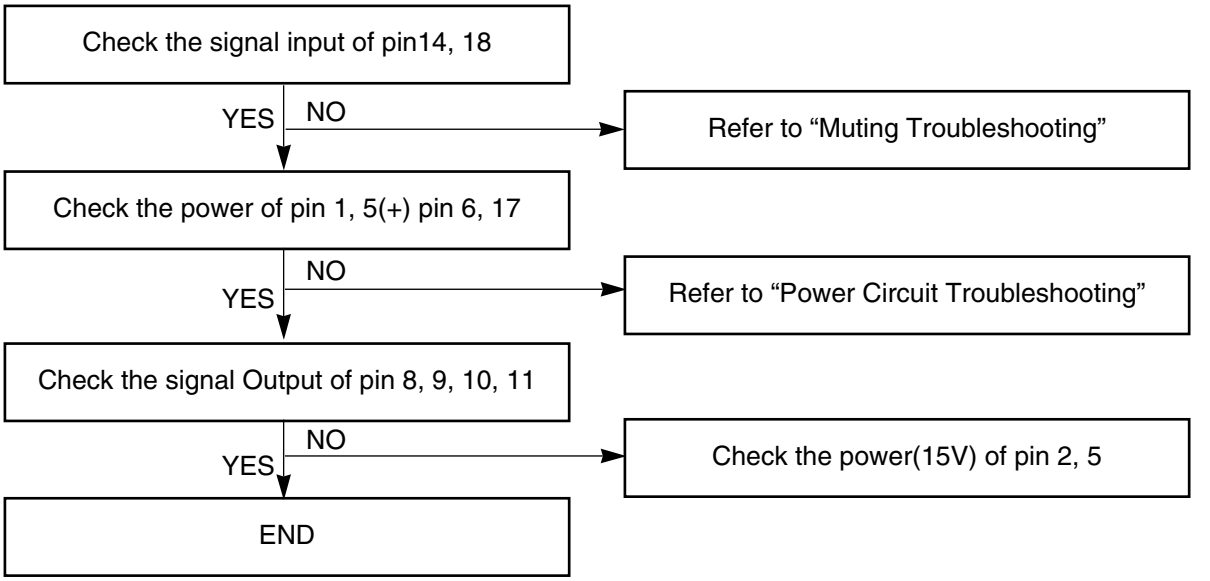
IC501 Troubleshooting



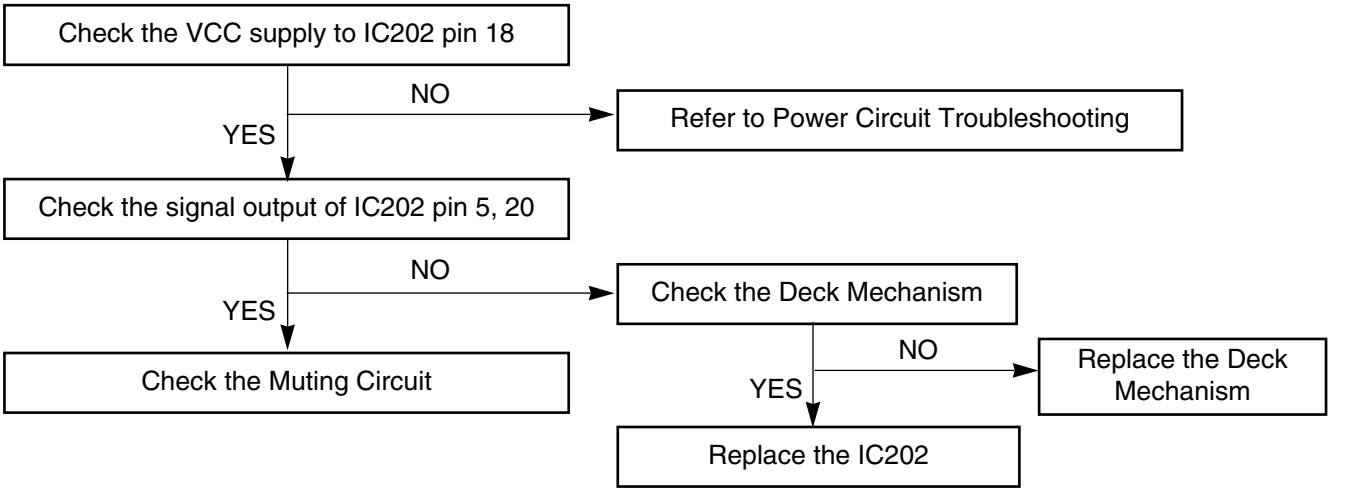
IC601 Troubleshooting



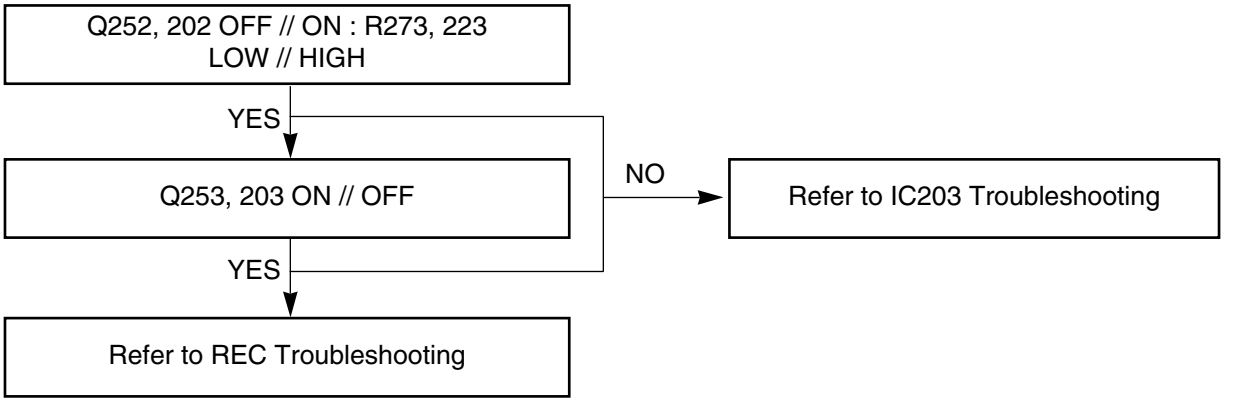
IC701 Troubleshooting



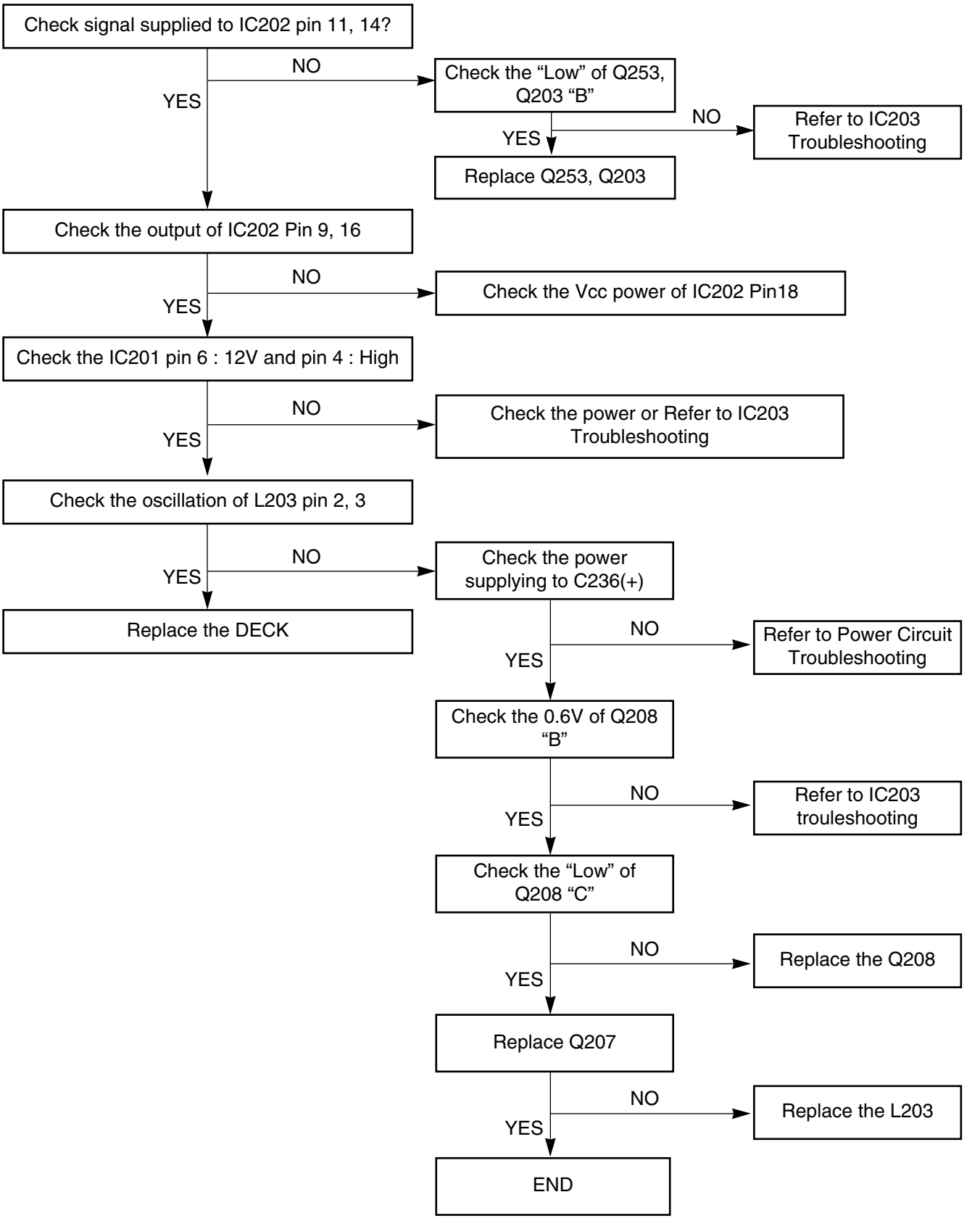
Play



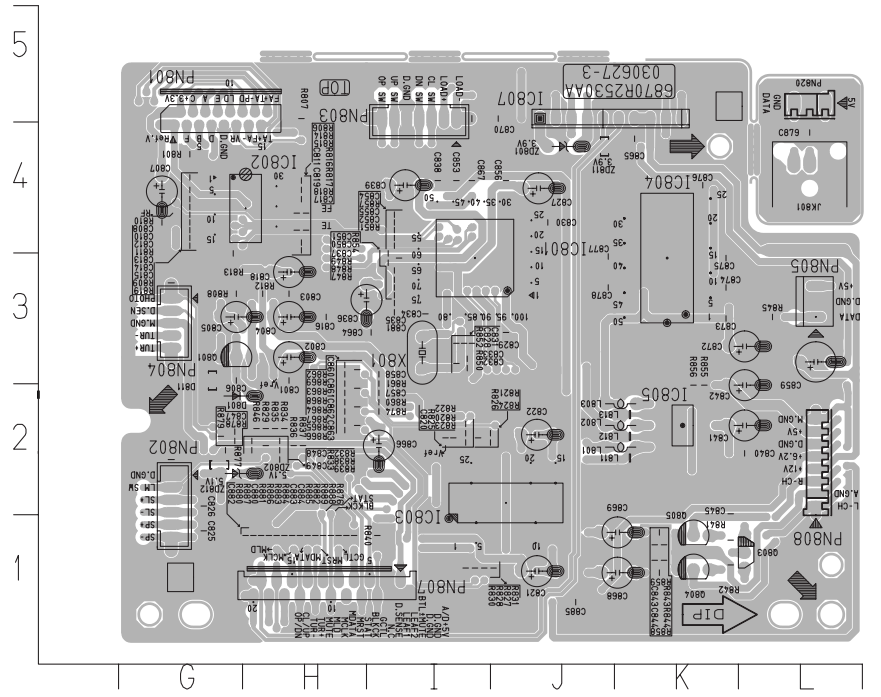
Dubbing(NORMAL or REC // HIGH)



REC (Q252, Q202 ON / R273, R223 High)

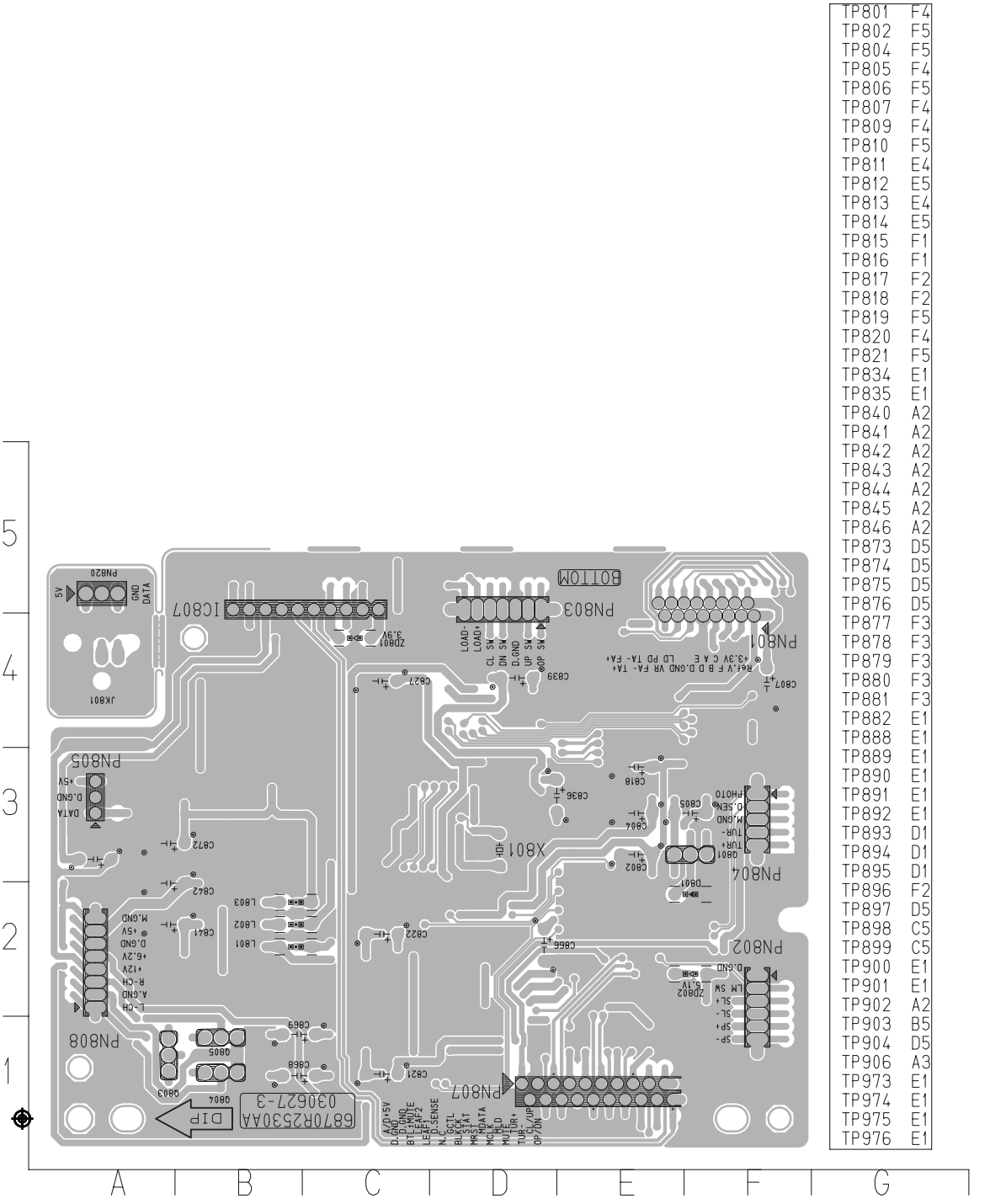


• CD MAIN P.C. BOARD (COMPONENT SIDE)



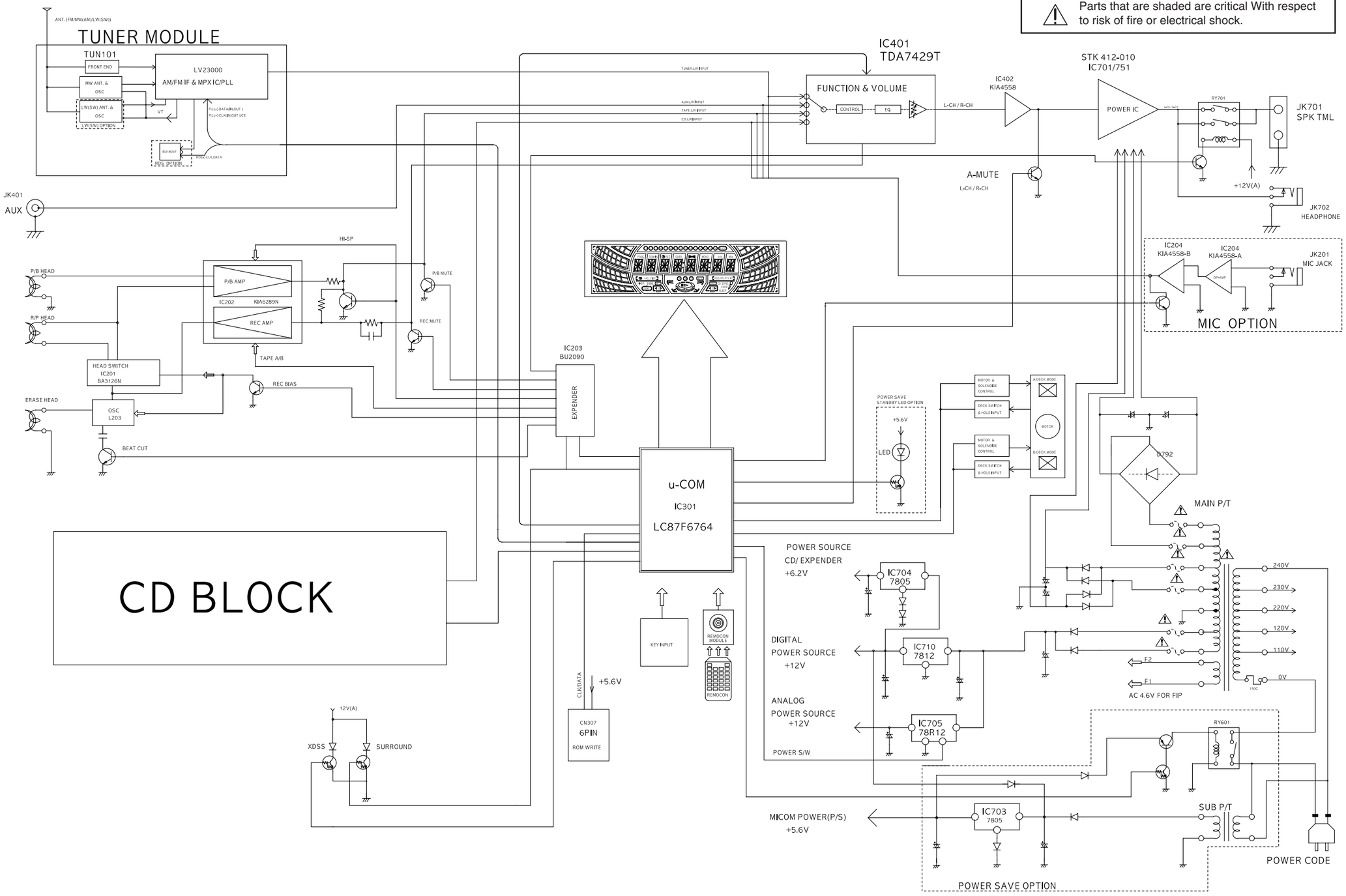
C801	H3	C866	I2	R821	J2	R888	H1	TP917	J4
C802	H3	C867	I4	R822	I2	R889	H1	TP918	K4
C803	H3	C868	K1	R823	I2	TP803	G4	TP919	J4
C804	H3	C869	K1	R824	J2	TP808	H4	TP920	K4
C805	G3	C870	J5	R825	I2	TP822	G3	TP921	K4
C806	G3	C872	L3	R826	I2	TP823	H3	TP922	L3
C807	G4	C873	K3	R827	I1	TP824	G4	TP923	L3
C808	G4	C874	K3	R828	I1	TP825	G4	TP924	L4
C810	G4	C875	K3	R829	H2	TP826	G4	TP925	L4
C811	H4	C876	K4	R830	I1	TP827	G4	TP926	L4
C812	G4	C877	J3	R831	J1	TP828	G4	TP927	K4
C813	G4	C878	J3	R832	H2	TP829	G4	TP928	K4
C814	G4	C879	L4	R833	H2	TP830	H2	TP929	K4
C815	G4	C880	H1	R834	H2	TP831	H2	TP930	K4
C816	H3	C881	I3	R835	H2	TP832	H1	TP931	J3
C817	H4	C882	H1	R836	H2	TP833	H2	TP933	K4
C818	H3	C883	H1	R837	H2	TP836	H1	TP934	J4
C819	H4	C884	H1	R838	H2	TP837	G4	TP935	J4
C820	I2	C885	J1	R839	H2	TP838	G3	TP936	J4
C821	J1	D801	G2	R840	I1	TP839	H4	TP937	I4
C822	J2	D811	G3	R841	K1	TP847	H4	TP938	I4
C825	G1	IC801	I3	R842	K1	TP848	H4	TP939	J4
C826	G2	IC802	H4	R843	K1	TP849	I2	TP940	I4
C827	J4	IC803	J2	R844	K1	TP850	H3	TP941	I4
C828	I3	IC804	K3	R845	L3	TP851	I3	TP942	I4
C829	J3	IC805	K2	R846	H2	TP852	H4	TP943	I4
C830	J4	IC807	J5	R847	I3	TP853	H4	TP944	I4
C831	I3	L801	K2	R848	I3	TP854	G3	TP945	I4
C832	I3	L802	K2	R849	I3	TP855	G3	TP946	I3
C833	I3	L803	K2	R850	I3	TP856	G3	TP948	J1
C834	I3	L811	K2	R851	I4	TP857	G3	TP950	J1
C835	I3	L812	K2	R852	I3	TP858	G3	TP951	I4
C836	I3	L813	K2	R854	I3	TP859	G4	TP952	I3
C837	I3	PN801	G4	R855	K2	TP860	J2	TP953	I3
C838	I4	PN802	G2	R856	K2	TP861	I2	TP954	I3
C839	I4	PN803	I5	R857	I4	TP862	H2	TP956	K1
C840	L2	PN804	G3	R858	K1	TP863	H2	TP957	K1
C841	L2	PN805	L3	R859	K1	TP864	I2	TP958	I3
C842	L2	PN807	I1	R860	I2	TP865	I2	TP959	I3
C843	K1	PN808	L2	R861	I2	TP866	I2	TP960	J3
C844	K1	PN820	L5	R862	H3	TP867	I2	TP961	J3
C845	K2	Q801	G3	R863	H2	TP868	J2	TP962	K3
C847	G2	Q803	L1	R864	H2	TP869	I1	TP963	J3
C848	H2	Q804	K1	R865	H2	TP870	I1	TP964	J3
C849	H2	Q805	K1	R866	H2	TP871	I1	TP965	K3
C850	I3	R801	G4	R867	H2	TP872	I1	TP966	J3
C851	I3	R806	H4	R868	H2	TP884	I3	TP967	J3
C852	I4	R807	H5	R869	H3	TP885	K1	TP968	K3
C853	I4	R808	G3	R874	I2	TP886	K1	TP969	J3
C854	I4	R809	G4	R876	H1	TP887	K1	TP970	K3
C855	I4	R810	G4	R877	G2	TP905	G4	TP971	J3
C856	J4	R811	G4	R878	G2	TP907	L3	TP972	I3
C857	I2	R812	H3	R879	G2	TP908	K3	TP977	G2
C858	I3	R813	G3	R880	H1	TP909	J3	TP978	H4
C859	L3	R814	H4	R881	H1	TP910	J3	TP979	H4
C860	H3	R815	H4	R882	H1	TP911	J3	X801	I3
C861	H2	R816	H4	R883	H1	TP912	J3	ZD801	J4
C862	H2	R817	H4	R884	H1	TP913	K4	ZD802	G2
C863	H2	R818	H4	R885	H1	TP914	J4	ZD811	J4
C864	I3	R819	G4	R886	H1	TP915	L4	ZD812	G2
C865	K4	R820	I2	R887	H1	TP916	K4		

• CD MAIN P.C. BOARD (SOLDER SIDE)



❑ BLOCK DIAGRAM

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



CD BLOCK

NAME	R1	R2
C102M	10K	10K
C103M	22K	22K
C104M	47K	47K
C110M	4.7K	

NAME	R1	R2
C111M	10K	

❑ SCHEMATIC DIAGRAMS

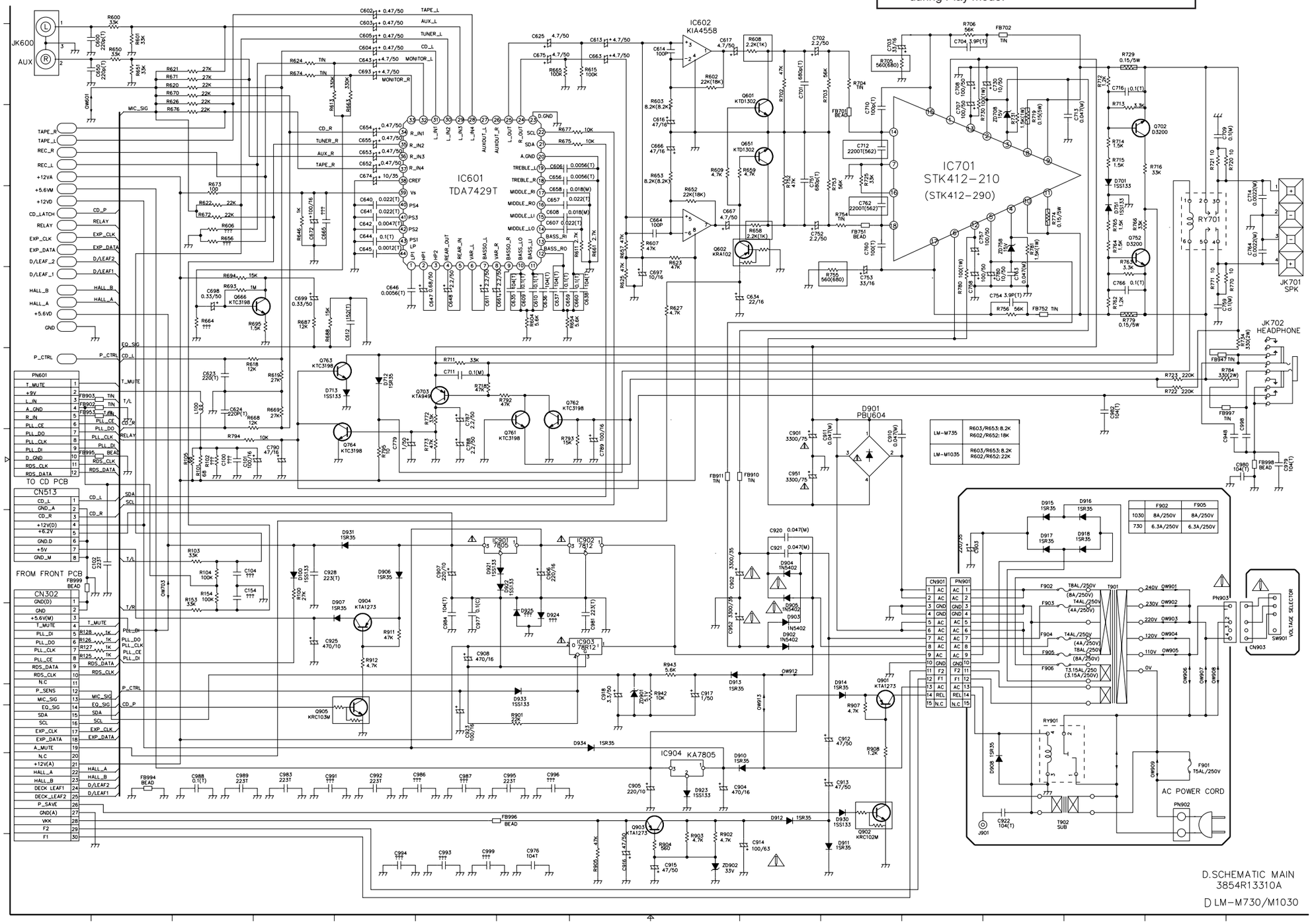
• MAIN SCHEMATIC DIAGRAM

NOTE: Warning

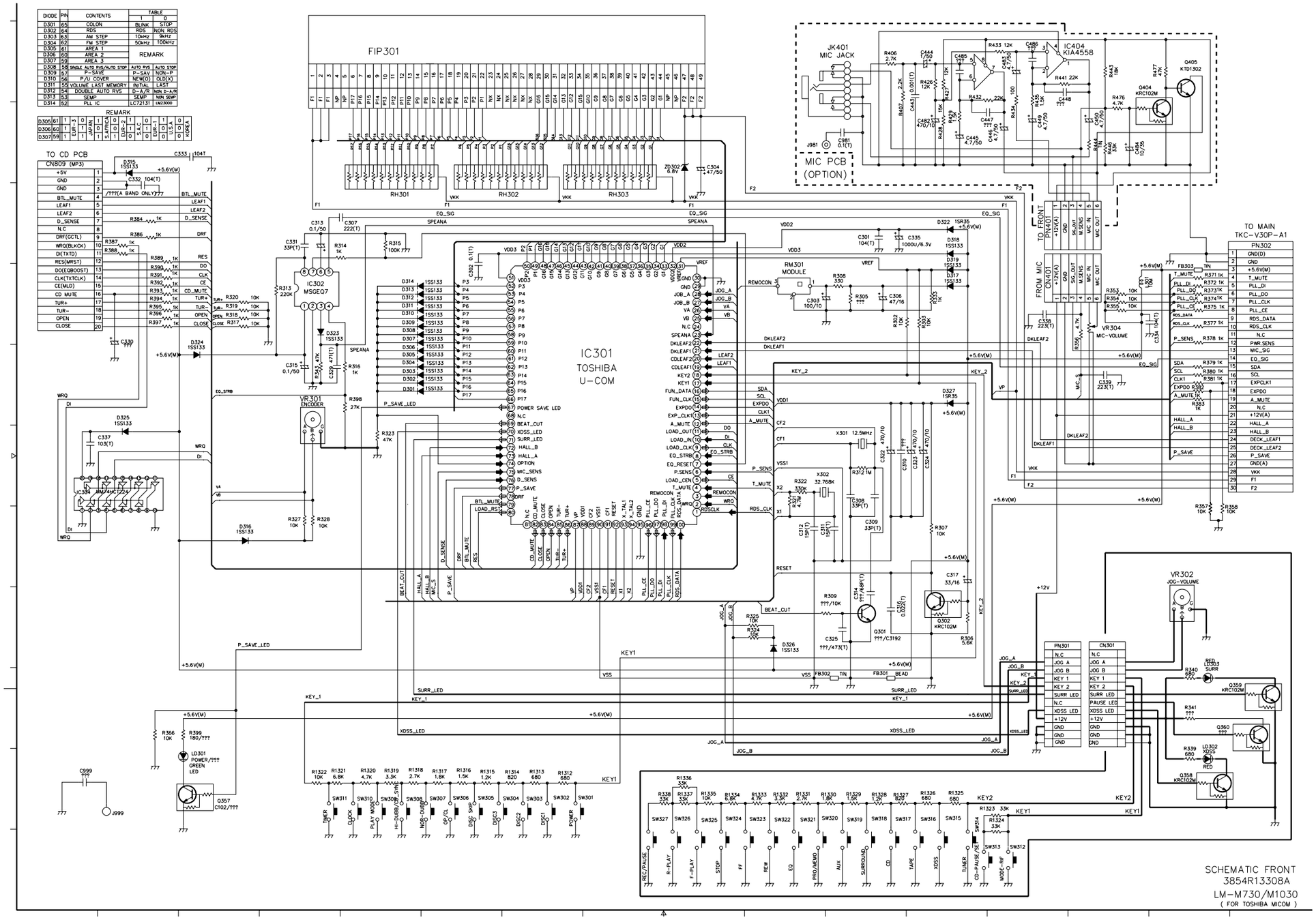
⚠ Parts that are shaded are critical With respect to risk of fire or electrical shock.

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.



• FRONT SCHEMATIC DIAGRAM

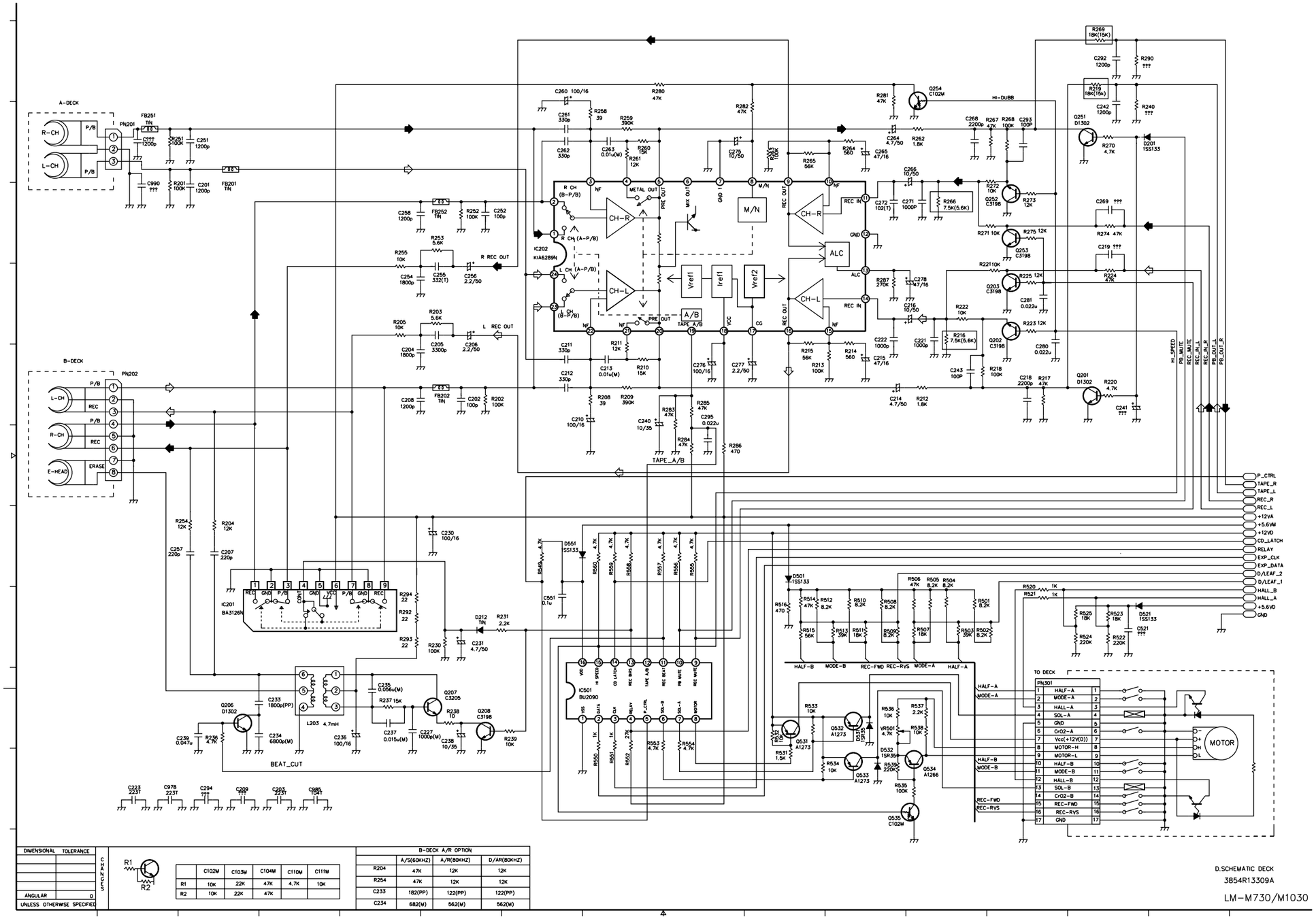


DIODE	PIN	CONTENTS	TABLE 1	TABLE 0
D301	65	COLON	BLINK	STOP
D302	64	RDS	RDS	NON_RDS
D303	63	AM STEP	10kHz	9kHz
D304	62	FM STEP	50kHz	100kHz
D305	61	AREA 1	REMARK	
D306	60	AREA 2		
D307	59	AREA 3		
D308	58	SINGLE AUTO RVS/AUTO STOP	AUTO RVS	AUTO STOP
D309	57	P-SAVE	P-SAV	NON-P
D310	56	P/U COVER	NEW(G)	OLD(X)
D311	55	VOLUME LAST MEMORY	INITIAL	LAST
D312	54	DOUBLE AUTO RVS	D-A/R	NON D-A/R
D313	53	SEMP	SEMP	NON SEMP
D314	52	PLL IC	LC72131	LM23000

REMARK

D305	61	1	EUR-3	0	JAPAN	1	0	S.AFRICA	1	0	EUR-2	1	0	EUR-1	1	0	U.S.A	1	0	KOREA
D306	60	1		1		0			0			1	0		0			0		
D307	59	1		0		1			0			0	1		0			0		

• TUNER/DECK SCHEMATIC DIAGRAM



DIMENSIONAL	TOLERANCE
ANGULAR	0

UNLESS OTHERWISE SPECIFIED

CHANGES

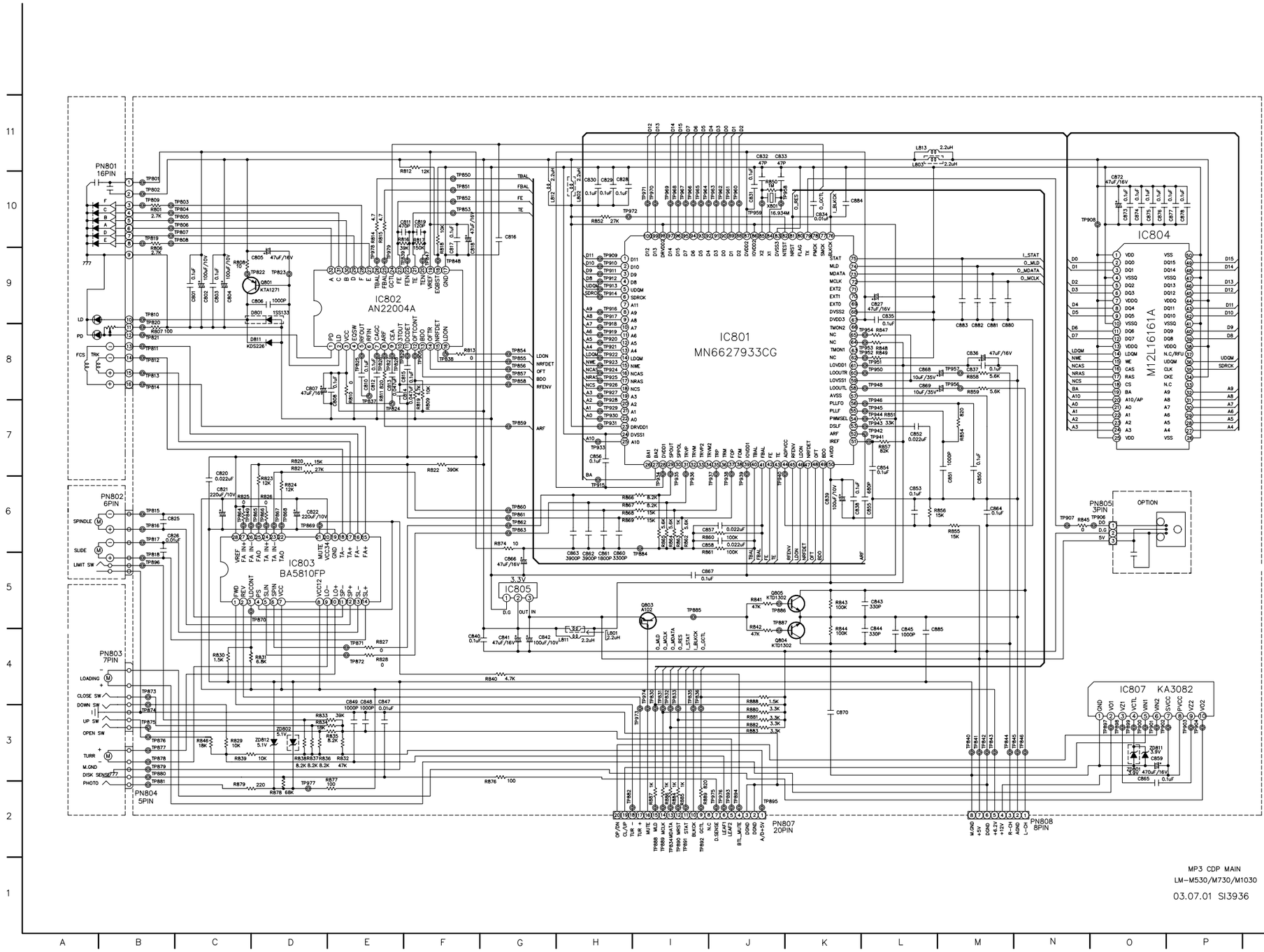
R1 / R2

	C102M	C103M	C104M	C110M	C111M
R1	10K	22K	47K	4.7K	10K
R2	10K	22K	47K		

	B-DECK A/R OPTION		
	A/S(60KHZ)	A/R(80KHZ)	D/AR(80KHZ)
R204	47K	12K	12K
R254	47K	12K	12K
C233	182(PP)	122(PP)	122(PP)
C234	682(M)	562(M)	562(M)

D.SCHEMATIC DECK
3854R13309A
LM-M730/M1030

• CDP SCHEMATIC DIAGRAM



LOCATION GUIDE

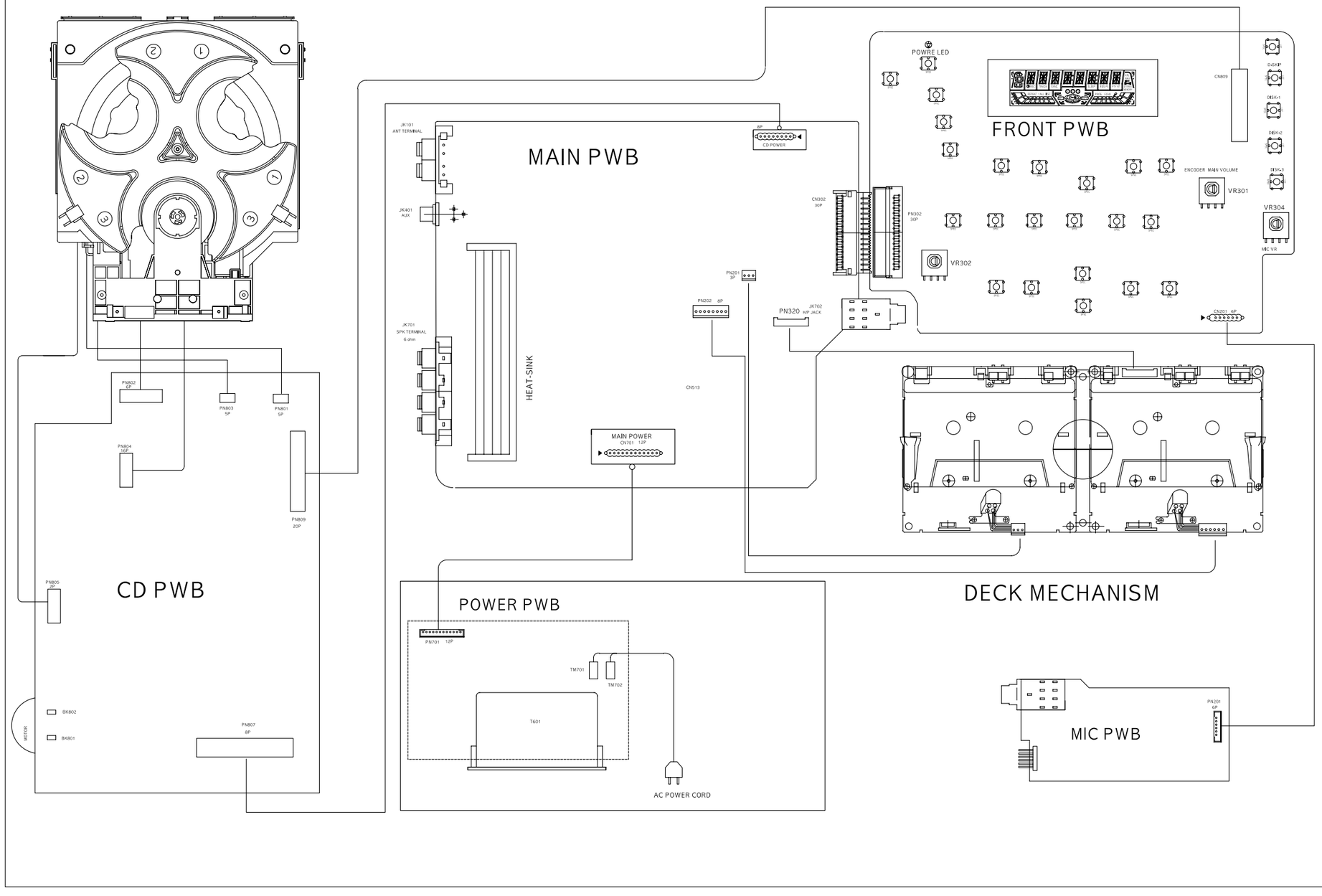
C801	C9	R810	E7	TP828	F8	TP930	H7
C802	C9	R811	F7	TP829	F8	TP931	H7
C803	C9	R812	F10	TP830	I4	TP933	H7
C804	D9	R813	G8	TP831	I4	TP934	I6
C805	D9	R814	E10	TP832	I4	TP935	I6
C806	D9	R815	F10	TP833	I4	TP936	J6
C807	E8	R816	F10	TP834	I2	TP937	J6
C808	E7	R817	F10	TP835	J4	TP938	J6
C810	E8	R818	F9	TP836	J4	TP939	J6
C811	F10	R819	F7	TP837	E7	TP940	K6
C812	E8	R820	D7	TP838	F8	TP941	L7
C813	F8	R821	D7	TP839	F9	TP942	L7
C814	F8	R822	F7	TP840	M3	TP943	L7
C815	F8	R823	D6	TP841	M3	TP944	L7
C816	G10	R824	D6	TP842	M3	TP945	L7
C817	F9	R825	D6	TP843	N3	TP946	L8
C818	G9	R826	D6	TP844	N3	TP948	L8
C819	F10	R827	E4	TP845	N3	TP950	L8
C820	C7	R828	E4	TP846	N3	TP951	L8
C821	C6	R829	D3	TP847	F9	TP952	L8
C822	E6	R830	C4	TP848	F9	TP953	L8
C825	C6	R831	D4	TP849	D6	TP954	L8
C826	C6	R832	E3	TP850	F10	TP956	M8
C827	L9	R833	E3	TP851	F10	TP957	M8
C828	I10	R834	E3	TP852	F10	TP958	K10
C829	H10	R835	E3	TP853	F10	TP959	J10
C830	H10	R836	E3	TP854	G8	TP960	J10
C831	J10	R837	E3	TP855	G8	TP961	J10
C832	J11	R838	D3	TP856	G8	TP962	J10
C833	K11	R839	D3	TP857	G8	TP963	J10
C834	K10	R840	G4	TP858	G8	TP964	J10
C835	L9	R841	J5	TP859	G7	TP965	J10
C836	M8	R842	J5	TP860	G6	TP966	J10
C837	M8	R843	K5	TP861	G6	TP967	I10
C838	L6	R844	K4	TP862	G6	TP968	I10
C839	K6	R845	O6	TP863	G6	TP969	I10
C840	G4	R846	C3	TP864	D6	TP970	I10
C841	G4	R847	L8	TP865	D6	TP971	I10
C842	H4	R848	L8	TP866	D6	TP972	I10
C843	L5	R849	L8	TP867	D6	TP973	I3
C844	L4	R850	K10	TP868	D6	TP974	I4
C845	L4	R851	L7	TP869	D6	TP975	J2
C847	E4	R852	H10	TP870	D5	TP976	J2
C848	E4	R854	M7	TP871	E4	TP977	D2
C849	E4	R855	M6	TP872	E4	TP978	E9
C850	M6	R856	M6	TP873	B4	TP979	F9
C851	M6	R857	L7	TP874	B3	UDQM	H9
C852	L7	R858	M8	TP875	B3	UDQM	Q8
C853	L6	R859	M8	TP876	C3	X801	K10
C854	L7	R860	J6	TP877	C3	ZD801	O3
C855	L6	R861	J5	TP878	C3	ZD802	D3
C856	H7	R862	J6	TP879	C3	ZD811	P3
C857	J6	R863	I6	TP880	C3	ZD812	D3
C858	J6	R864	I6	TP881	C2		
C859	P3	R865	I6	TP882	I2		
C860	I5	R866	I6	TP884	I5		
C861	H5	R867	I6	TP885	J5		
C862	H5	R868	I6	TP886	K5		
C863	H5	R869	I6	TP887	K5		
C864	M6	R874	G6	TP888	I2		
C865	O3	R876	G2	TP889	I2		
C866	G5	R877	E2	TP890	I2		
C867	J5	R878	D2	TP891	J2		
C868	M8	R879	D2	TP892	J2		
C869	M8	R880	J3	TP893	J2		
C870	K3	R881	J3	TP894	J2		
C872	O10	R882	J3	TP895	K2		
C873	O10	R883	J3	TP896	B5		
C874	O10	R884	I2	TP897	O3		
C875	P10	R885	I2	TP898	O3		
C876	P10	R886	I2	TP899	O3		
C877	P10	R887	I2	TP900	O3		
C878	P10	R888	J4	TP901	P3		
C880	N8	R889	J2	TP902	P3		
C881	M8	TP801	B10	TP903	P3		
C882	M8	TP802	B10	TP904	P3		
C883	M8	TP803	C10	TP905	F8		
C884	L10	TP804	C10	TP906	O6		
C885	M4	TP805	C10	TP907	N6		
IC801	J8	TP806	C10	TP908	O10		
IC802	E9	TP807	C10	TP909	H9		
IC803	D5	TP808	C10	TP910	H9		
IC804	O10	TP809	B10	TP911	H9		
IC805	G5	TP810	B9	TP912	H9		
IC807	O4	TP811	B8	TP913	H9		
PN801	B11	TP812	B8	TP914	H9		
PN802	B6	TP813	B8	TP915	H6		
PN803	B4	TP814	B8	TP916	H9		
PN804	B2	TP815	B6	TP917	H9		
PN805	O6	TP816	B6	TP918	H8		
PN807	K2	TP817	B6	TP919	H8		
PN808	N2	TP818	B5	TP920	H8		
Q801	D9	TP819	B10	TP921	H8		
Q803	I5	TP820	B8	TP922	H8		
Q804	K4	TP821	B8	TP923	H8		
Q805	K5	TP822	D9	TP924	H8		
R801	B10	TP823	D9	TP925	H8		
R806	B9	TP824	F7	TP926	H8		
R807	B8	TP825	E8	TP927	H8		
R808	D9	TP826	F8	TP928	H7		
R809	F7	TP827	F8	TP929	H7		

❑ WIRING DIAGRAM

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

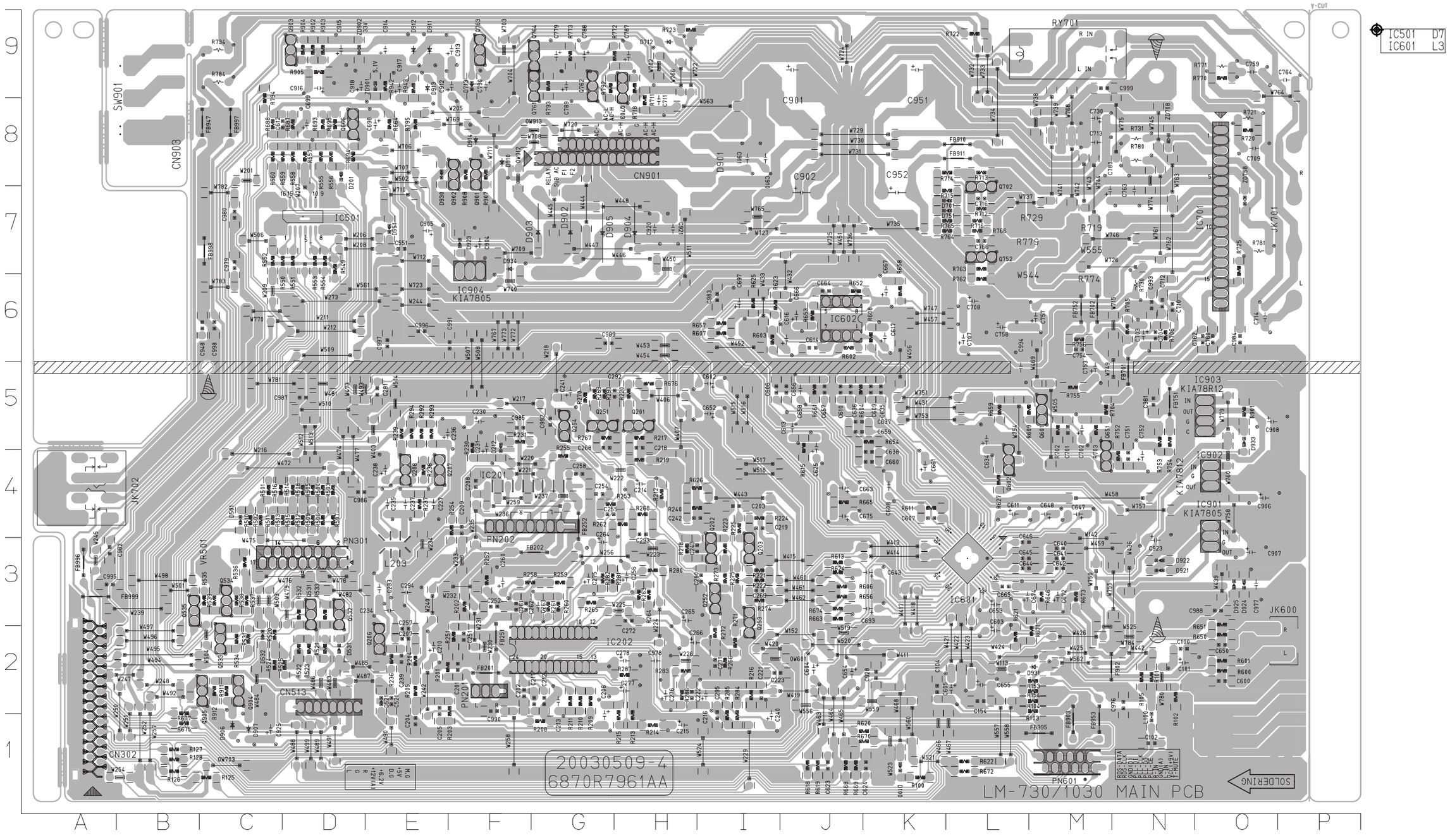
3CD CHANGER MECHANISM ASSY

LM-M230/M530 WIRING DIAGRAM

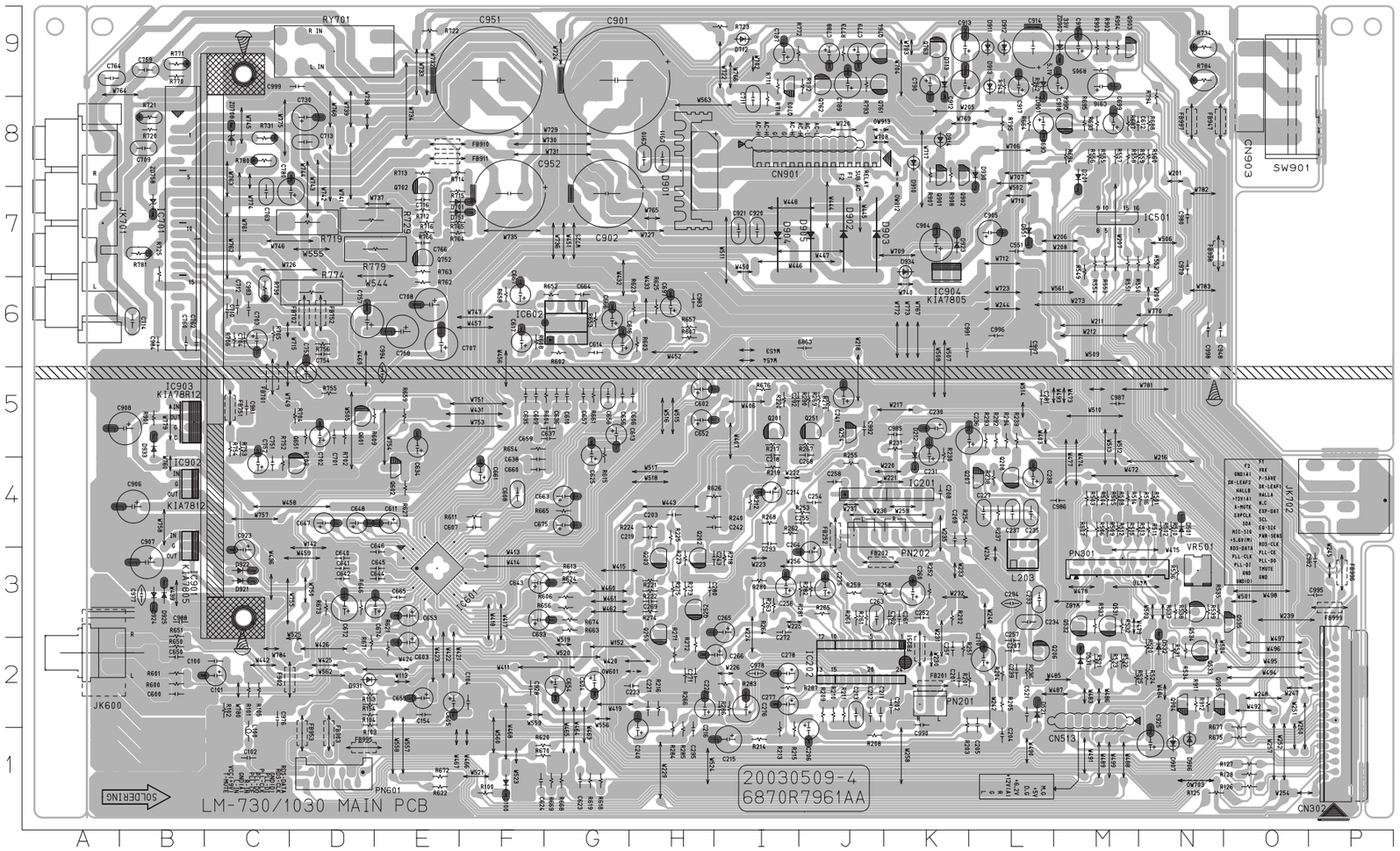


❑ PRINTED CIRCUIT DIAGRAMS

• MAIN MIC P.C. BOARD (SOLDER SIDE)

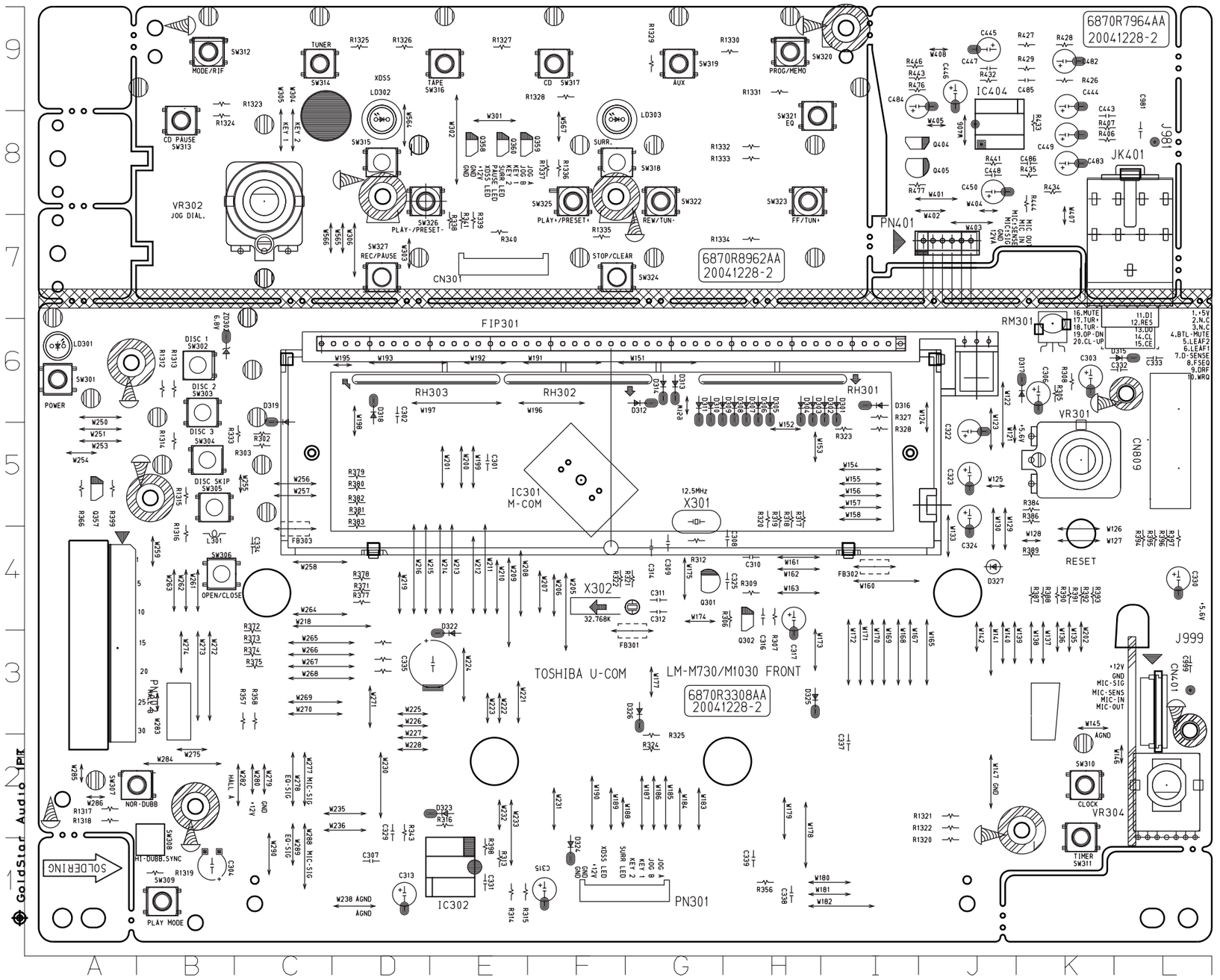


• MAIN MIC P.C. BOARD (COMPONENT SIDE)



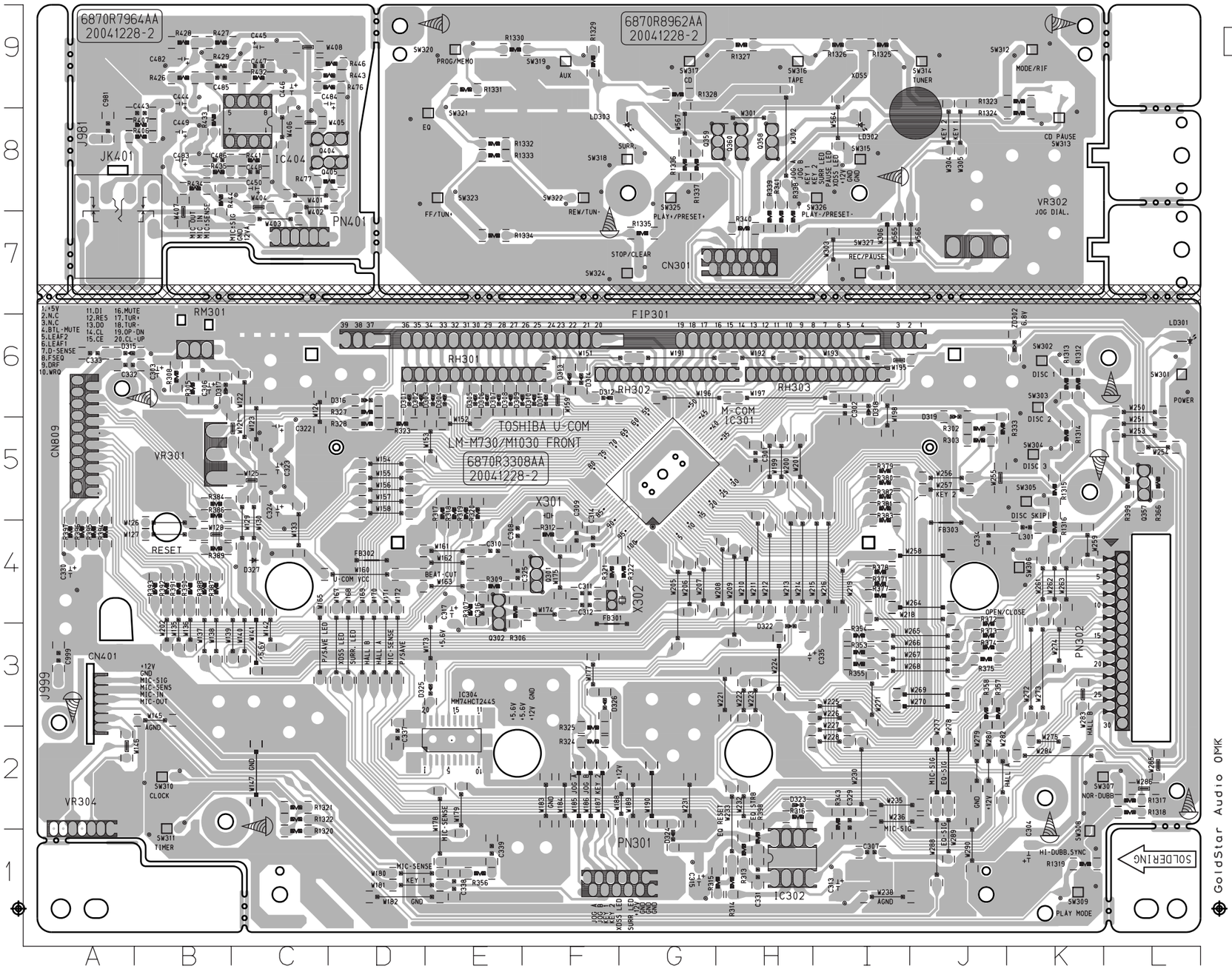
C100	C2	C278	I2	C693	F3	C977	B3	FB201	K2	Q761	J9	R263	I3	R554	M7	R705	C6
C101	C2	C280	H3	C697	H6	C978	I2	FB202	J3	Q762	J9	R264	I3	R555	M8	R706	C6
C102	C1	C281	L5	C698	L8	C979	N7	FB251	K2	Q763	K9	R265	J3	R556	M8	R711	I8
C104	F2	C292	I5	C699	M8	C980	N7	FB252	J4	Q764	J9	R266	H2	R557	M8	R712	E7
C154	E2	C293	I4	C701	D5	C981	C5	FB701	C5	Q901	K8	R267	J5	R558	M8	R713	E8
C201	K2	C294	L3	C702	D5	C982	P3	FB702	D6	Q902	K8	R268	I4	R559	M8	R714	E8
C202	K2	C295	H1	C703	C6	C983	H6	FB751	C5	Q903	M9	R269	J5	R560	N8	R715	E7
C203	H4	C521	L2	C704	C6	C984	B6	FB752	D6	Q904	N2	R270	J5	R600	B2	R716	E7
C204	L1	C551	L7	C707	E6	C985	K5	FB903	D1	Q905	N2	R271	H2	R601	B2	R718	I9
C205	L2	C600	B2	C708	E6	C986	M4	FB910	E8	R100	F1	R272	H2	R602	G6	R719	D7
C206	J1	C602	H5	C709	B8	C987	M5	FB911	E8	R101	C2	R273	H3	R603	H6	R720	B8
C207	L2	C603	E2	C710	C6	C988	B3	FB947	N8	R102	C2	R274	H3	R604	G5	R721	B8
C208	K4	C604	G2	C711	I8	C989	J6	FB953	D1	R103	D2	R275	H3	R606	G3	R722	E9
C209	K4	C605	E2	C712	C6	C990	K2	FB995	D1	R104	D2	R280	I3	R607	H6	R723	I9
C210	L2	C606	H5	C713	D8	C991	K6	FB996	P3	R105	C2	R281	J3	R608	F6	R725	B7
C211	J2	C607	F4	C714	B6	C992	J5	FB997	N8	R125	N1	R282	J3	R609	E5	R729	D7
C212	J2	C608	F4	C716	E7	C993	C6	FB998	N7	R126	O1	R283	I2	R611	F4	R730	C6
C213	J2	C609	F5	C730	D8	C994	E5	FB999	P3	R127	O1	R284	H1	R613	G3	R731	C8
C214	I4	C610	G5	C751	C4	C995	P3	IC201	J4	R128	O1	R285	H1	R615	G5	R734	N9
C215	I1	C611	E4	C752	C4	C996	L6	IC202	K2	R153	D2	R286	I2	R618	G1	R752	C4
C216	H2	C612	M8	C753	D5	C997	L6	IC602	G6	R154	D2	R287	I2	R619	G1	R753	C5
C218	I5	C613	G5	C754	D6	C998	N6	IC701	B7	R201	L2	R290	J5	R620	F1	R754	C5
C219	H4	C614	G6	C757	D6	C999	D9	IC901	B4	R202	K3	R292	L5	R621	E2	R755	D5
C221	H2	C616	G6	C758	E6	CN302	P2	IC902	B4	R203	K2	R293	L5	R622	E1	R756	D6
C222	I2	C617	F6	C759	B9	CN513	M2	IC903	B5	R204	L2	R294	L5	R623	H6	R762	E6
C223	H2	C623	G1	C760	B6	CN901	I8	IC904	K7	R205	L2	R501	N4	R624	G3	R763	E7
C227	L4	C624	F1	C762	B6	CN903	O9	JK600	A2	R208	J1	R502	N4	R625	H6	R764	E7
C230	K5	C625	G5	C763	C7	D100	F1	JK701	A7	R209	J2	R503	M4	R626	I4	R765	E7
C231	K5	C634	E5	C764	A9	D201	M8	JK702	P4	R210	J2	R504	M4	R627	E4	R766	E7
C233	L3	C635	F5	C766	E7	D212	K5	L100	C1	R211	J2	R505	M4	R646	D3	R770	B9
C234	L3	C636	G5	C779	J9	D501	N4	L203	L3	R212	I4	R506	M4	R650	B2	R771	B9
C235	L4	C637	G5	C780	D7	D521	L2	0W601	H2	R213	I1	R507	M4	R651	B3	R772	I9
C236	L5	C638	F4	C787	I9	D531	M2	0W703	N1	R214	I1	R508	M4	R652	G6	R773	J9
C237	L4	C640	D3	C788	J9	D532	N2	0W912	K8	R215	I1	R509	M4	R653	G6	R774	D6
C238	L4	C641	D3	C789	J9	D551	L7	0W913	J8	R216	H2	R510	N4	R654	F5	R779	E7
C239	L2	C642	D3	C790	K9	D701	E7	PN201	K2	R217	I5	R511	N4	R656	G3	R780	C8
C240	H1	C643	F3	C901	G9	D712	I9	PN202	J4	R218	I3	R512	M4	R657	H6	R781	B7
C241	J5	C644	E3	C902	G7	D713	K9	PN301	M3	R219	I4	R513	M4	R658	F6	R784	N9
C242	I4	C645	E3	C904	K7	D751	E7	PN601	D1	R220	I5	R514	M4	R659	E5	R792	J9
C243	I3	C646	E3	C905	L7	D901	H8	Q201	I5	R221	H3	R515	M4	R661	G5	R793	J9
C251	K2	C647	D4	C906	B4	D902	J7	Q202	H3	R222	H3	R516	N4	R663	G3	R794	N8
C252	K3	C648	D4	C907	B3	D903	J7	Q203	H3	R223	H3	R520	N2	R664	L8	R795	L8
C254	J4	C650	B2	C908	B5	D904	I7	Q206	L2	R224	H4	R521	M2	R665	G4	R901	B5
C255	J4	C652	H5	C910	H8	D905	J7	Q207	L4	R225	H4	R522	M2	R668	G1	R902	M9
C256	I3	C653	E3	C911	H8	D906	N1	Q208	L4	R230	K5	R523	M2	R669	G1	R903	M9
C257	L2	C654	G2	C912	K9	D907	N1	Q251	J5	R231	K5	R524	N2	R670	F1	R904	M9
C258	J4	C655	E2	C913	K9	D910	K8	Q252	H3	R236	L2	R525	M2	R671	D2	R905	M9
C260	K3	C656	G5	C914	L9	D911	L9	Q253	H3	R237	L4	R531	N2	R672	E1	R907	K8
C261	K3	C657	G5	C915	M9	D912	L9	Q254	J5	R238	L4	R532	M3	R673	D3	R908	K8
C262	K3	C658	G5	C916	M9	D913	L9	Q531	M3	R239	L5	R533	M3	R674	G3	R911	N2
C263	J3	C659	G5	C917	L9	D914	K8	Q532	M3	R240	I4	R534	N2	R675	O1	R912	N2
C264	J3	C660	F4	C918	M9	D921	C3	Q533	N2	R251	K2	R535	N3	R676	I5	R942	L9
C265	I3	C661	F4	C920	I7	D922	C3	Q534	N3	R252	K3	R536	N3	R677	O2	R943	L9
C266	I2	C663	G4	C921	I7	D923	K7	Q535	O3	R253	J4	R537	N3	R687	M8	RY701	D9
C268	J5	C664	G6	C923	C3	D924	B3	Q601	D5	R254	K4	R538	N3	R688	N8	SW901	O8
C269	H3	C665	E3	C925	N1	D925	B3	Q602	E4	R255	J4	R539	N3	R693	M8	VR501	N3
C271	H2	C666	G6	C928	F2	D930	L8	Q651	D4	R258	K3	R549	M7	R694	M8	ZD708	C8
C272	I3	C667	F6	C948	N6	D931	D2	Q666	M8	R259	J3	R550	M7	R695	M8	ZD758	B7
C275	J3	C672	D3	C951	F9	D933	B5	Q702	E7	R260	J3	R551	M7	R702	D5	ZD901	L9
C276	I2	C674	E3	C952	F7	D934	K7	Q703	I9	R261	J3	R552	N7	R703	D5	ZD902	M9
C277	I2	C675	G4	C976	C2	F902	D2	Q752	E7	R262	I4	R553	M7	R704	D5		

• FRONT P.C. BOARD(COMPONENT SIDE)

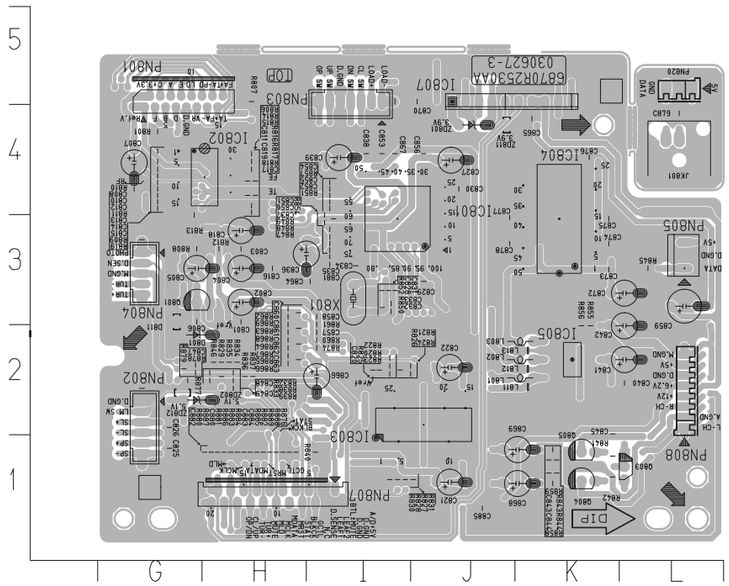


C301	E5	D313	G6	R1335	F7	R394	L4
C302	D6	D314	G6	R1336	F8	R395	L4
C303	K6	D315	L6	R1337	F8	R396	L4
C304	B1	D316	I6	R302	C5	R397	L4
C306	K6	D317	K6	R303	C5	R398	E1
C307	D1	D318	D6	R305	K6	R399	A5
C308	H4	D319	C5	R306	H4	R406	K8
C309	G4	D322	E3	R307	H4	R407	K8
C310	H4	D323	E2	R308	K6	R426	K9
C311	G4	D324	F1	R309	H4	R427	K9
C312	G4	D325	H3	R312	G4	R428	K9
C313	D1	D326	G3	R313	E1	R429	K9
C314	G4	D327	J4	R314	E1	R432	J9
C315	F1	FB301	G3	R315	E1	R433	K8
C316	H4	FB302	I4	R316	E2	R434	K8
C317	H4	FB303	C4	R317	H5	R435	K8
C322	J5	FIP301	F6	R318	H5	R441	J8
C323	J5	IC302	E1	R319	H5	R443	I9
C324	J5	IC404	J8	R320	H5	R444	K8
C325	H4	J981	L8	R321	G4	R446	I9
C329	D2	J999	L3	R322	F4	R476	I9
C330	L4	JK401	L7	R323	I5	R477	I8
C331	E1	L301	B4	R324	G2	RH301	G6
C332	L6	LD301	A6	R325	G2	RH302	E6
C333	L6	LD302	D8	R327	I6	RH303	D6
C334	C4	LD303	F8	R328	I5	RM301	K6
C335	E3	PN301	G1	R333	C5	SW301	A6
C337	I2	PN302	A3	R338	E7	SW302	B6
C338	H1	PN401	J7	R339	E7	SW303	B6
C339	H1	Q301	G4	R340	E7	SW304	B5
C443	K8	Q302	H4	R341	E7	SW305	B5
C444	K9	Q357	A5	R343	D2	SW306	B4
C445	J9	Q358	E8	R353	D3	SW307	B2
C446	J9	Q359	E8	R354	D3	SW308	B1
C447	J9	Q360	E8	R355	D3	SW309	B1
C448	J8	Q404	I8	R356	H1	SW310	K2
C449	K8	Q405	I8	R357	C3	SW311	K2
C450	J8	R1312	B6	R358	C3	SW312	B9
C482	K9	R1313	B6	R366	A5	SW313	B8
C483	K8	R1314	B5	R371	D4	SW314	C9
C484	I9	R1315	B5	R372	C3	SW315	D8
C485	K9	R1316	B4	R373	C3	SW316	E9
C486	K8	R1317	A2	R374	C3	SW317	F9
C981	L8	R1318	A2	R375	C3	SW318	F8
C999	L3	R1319	B1	R377	D4	SW319	G9
CN301	F7	R1320	J1	R378	D4	SW320	H9
CN401	L3	R1321	J2	R379	D5	SW321	H8
CN809	L5	R1322	J2	R380	D5	SW322	G8
D301	I6	R1323	B9	R381	D5	SW323	H8
D302	I6	R1324	B8	R382	D5	SW324	F7
D303	H6	R1325	D9	R383	D4	SW325	F8
D304	H6	R1326	D9	R384	K5	SW326	D8
D305	H6	R1327	E9	R386	K5	SW327	D7
D306	H6	R1328	F9	R387	K4	VR301	K5
D307	H6	R1329	G9	R388	K4	VR302	C8
D308	H6	R1330	H9	R389	K4	VR304	L2
D309	G6	R1331	H9	R390	K4	X301	G5
D310	G6	R1332	H8	R391	K4	X302	G4
D311	G6	R1333	H8	R392	K4	ZD302	B6
D312	G6	R1334	H7	R393	K4		

• FRONT P.C. BOARD(SOLDER SIDE)

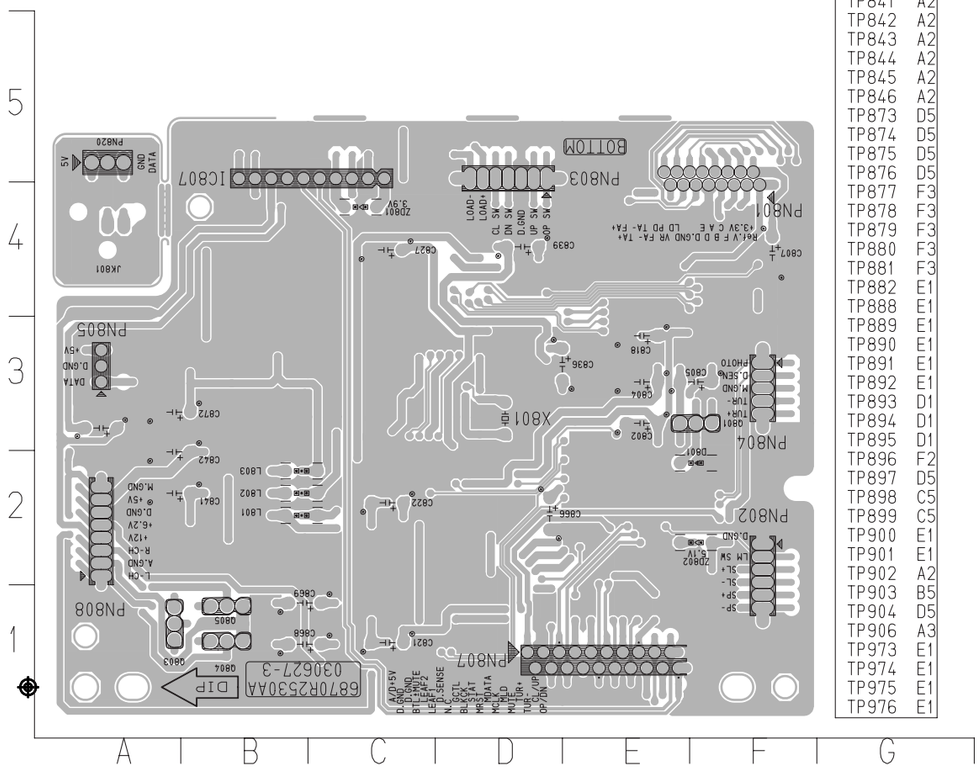


• CD MAIN P.C. BOARD (COMPONENT SIDE)



C801	H3	C866	I2	R821	J2	R888	H1	TP917	J4
C802	H3	C867	I4	R822	I2	R889	H1	TP918	K4
C803	H3	C868	K1	R823	I2	TP803	G4	TP919	J4
C804	H3	C869	K1	R824	J2	TP808	H4	TP920	K4
C805	G3	C870	J5	R825	I2	TP822	G3	TP921	K4
C806	G3	C872	L3	R826	I2	TP823	H3	TP922	L3
C807	G4	C873	K3	R827	I1	TP824	G4	TP923	L3
C808	G4	C874	K3	R828	I1	TP825	G4	TP924	L4
C810	G4	C875	K3	R829	H2	TP826	G4	TP925	L4
C811	H4	C876	K4	R830	I1	TP827	G4	TP926	L4
C812	G4	C877	J3	R831	J1	TP828	G4	TP927	K4
C813	G4	C878	J3	R832	H2	TP829	G4	TP928	K4
C814	G4	C879	L4	R833	H2	TP830	H2	TP929	K4
C815	G4	C880	H1	R834	H2	TP831	H2	TP930	K4
C816	H3	C881	I3	R835	H2	TP832	H1	TP931	J3
C817	H4	C882	H1	R836	H2	TP833	H2	TP933	K4
C818	H3	C883	H1	R837	H2	TP836	H1	TP934	J4
C819	H4	C884	H1	R838	H2	TP837	G4	TP935	J4
C820	I2	C885	J1	R839	H2	TP838	G3	TP936	J4
C821	J1	D801	G2	R840	I1	TP839	H4	TP937	I4
C822	J2	D811	G3	R841	K1	TP847	H4	TP938	I4
C825	G1	IC801	I3	R842	K1	TP848	H4	TP939	J4
C826	G2	IC802	H4	R843	K1	TP849	I2	TP940	I4
C827	J4	IC803	J2	R844	K1	TP850	H3	TP941	I4
C828	I3	IC804	K3	R845	L3	TP851	I3	TP942	I4
C829	J3	IC805	K2	R846	H2	TP852	H4	TP943	I4
C830	J4	IC807	J5	R847	I3	TP853	H4	TP944	I4
C831	I3	L801	K2	R848	I3	TP854	G3	TP945	I4
C832	I3	L802	K2	R849	I3	TP855	G3	TP946	I3
C833	I3	L803	K2	R850	I3	TP856	G3	TP948	J1
C834	I3	L811	K2	R851	I4	TP857	G3	TP950	J1
C835	I3	L812	K2	R852	I3	TP858	G3	TP951	I4
C836	I3	L813	K2	R854	I3	TP859	G4	TP952	I3
C837	I3	PN801	G4	R855	K2	TP860	J2	TP953	I3
C838	I4	PN802	G2	R856	K2	TP861	I2	TP954	I3
C839	I4	PN803	I5	R857	I4	TP862	H2	TP956	K1
C840	L2	PN804	G3	R858	K1	TP863	H2	TP957	K1
C841	L2	PN805	L3	R859	K1	TP864	I2	TP958	I3
C842	L2	PN807	I1	R860	I2	TP865	I2	TP959	I3
C843	K1	PN808	L2	R861	I2	TP866	I2	TP960	J3
C844	K1	PN820	L5	R862	H3	TP867	I2	TP961	J3
C845	K2	Q801	G3	R863	H2	TP868	J2	TP962	K3
C847	G2	Q803	L1	R864	H2	TP869	I1	TP963	J3
C848	H2	Q804	K1	R865	H2	TP870	I1	TP964	J3
C849	H2	Q805	K1	R866	H2	TP871	I1	TP965	K3
C850	I3	R801	G4	R867	H2	TP872	I1	TP966	J3
C851	I3	R806	H4	R868	H2	TP884	I3	TP967	J3
C852	I4	R807	H5	R869	H3	TP885	K1	TP968	K3
C853	I4	R808	G3	R874	I2	TP886	K1	TP969	J3
C854	I4	R809	G4	R876	H1	TP887	K1	TP970	K3
C855	I4	R810	G4	R877	G2	TP905	G4	TP971	J3
C856	J4	R811	G4	R878	G2	TP907	L3	TP972	I3
C857	I2	R812	H3	R879	G2	TP908	K3	TP977	G2
C858	I3	R813	G3	R880	H1	TP909	J3	TP978	H4
C859	L3	R814	H4	R881	H1	TP910	J3	TP979	H4
C860	H3	R815	H4	R882	H1	TP911	J3	X801	I3
C861	H2	R816	H4	R883	H1	TP912	J3	ZD801	J4
C862	H2	R817	H4	R884	H1	TP913	K4	ZD802	G2
C863	H2	R818	H4	R885	H1	TP914	J4	ZD811	J4
C864	I3	R819	G4	R886	H1	TP915	L4	ZD812	G2
C865	K4	R820	I2	R887	H1	TP916	K4		

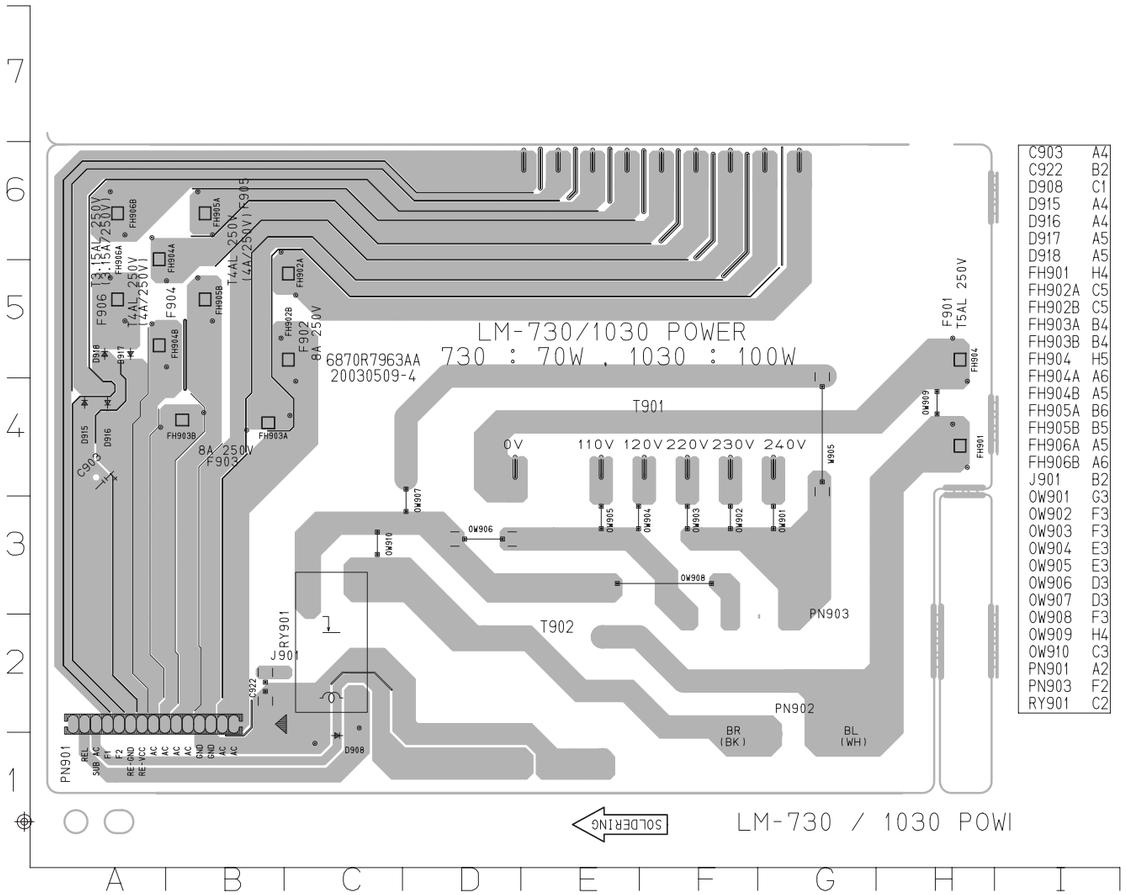
• CD MAIN P.C. BOARD (SOLDER SIDE)



TP801	F4
TP802	F5
TP804	F5
TP805	F4
TP806	F5
TP807	F4
TP809	F4
TP810	F5
TP811	E4
TP812	E5
TP813	E4
TP814	E5
TP815	F1
TP816	F1
TP817	F2
TP818	F2
TP819	F5
TP820	F4
TP821	F5
TP834	E1
TP835	E1
TP840	A2
TP841	A2
TP842	A2
TP843	A2
TP844	A2
TP845	A2
TP846	A2
TP873	D5
TP874	D5
TP875	D5
TP876	D5
TP877	F3
TP878	F3
TP879	F3
TP880	F3
TP881	F3
TP882	E1
TP888	E1
TP889	E1
TP890	E1
TP891	E1
TP892	E1
TP893	D1
TP894	D1
TP895	D1
TP896	F2
TP897	D5
TP898	C5
TP899	C5
TP900	E1
TP901	E1
TP902	A2
TP903	B5
TP904	D5
TP906	A3
TP973	E1
TP974	E1
TP975	E1
TP976	E1

• POWER P.C. BOARD

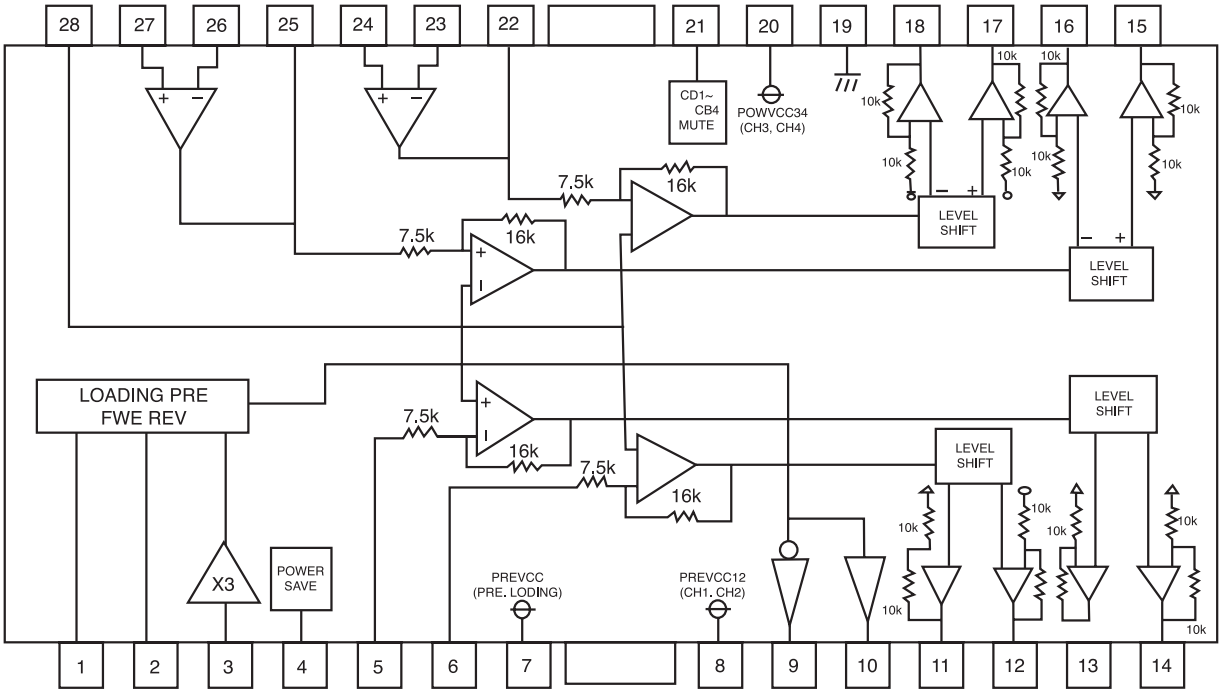
NOTE: Warning
⚠ Parts that are shaded are critical With respect to risk of fire or electrical shock.



C903	A4
C922	B2
D908	C1
D915	A4
D916	A4
D917	A5
D918	A5
FH901	H4
FH902A	C5
FH902B	C5
FH903A	B4
FH903B	B4
FH904	H5
FH904A	A6
FH904B	A5
FH905A	B6
FH905B	B5
FH906A	A5
FH906B	A6
J901	B2
OW901	G3
OW902	F3
OW903	F3
OW904	E3
OW905	E3
OW906	D3
OW907	D3
OW908	F3
OW909	H4
OW910	C3
PN901	A2
PN903	F2
RY901	C2

❑ INTERNAL BLOCK DIAGRAM OF ICs

■ BA5810FP (IC803)



■ KIA 78R12 PI (IC903)

4 TERMINAL LOW DROP VOLTAGE REGULATOR

The KIA78RXX Series are Low Drop Voltage Regulator suitable for various electronic equipments. It provides constant voltage power source with TO-220 4 termainal lead full molded PKG. The Regulator has multi function such as over current protection, overheat protection and ON/OFF control.

ELECTRICAL CHARACTERISTICS
(Unless otherwise specified, I_O=0.5A, Ta=25℃, Note1.)

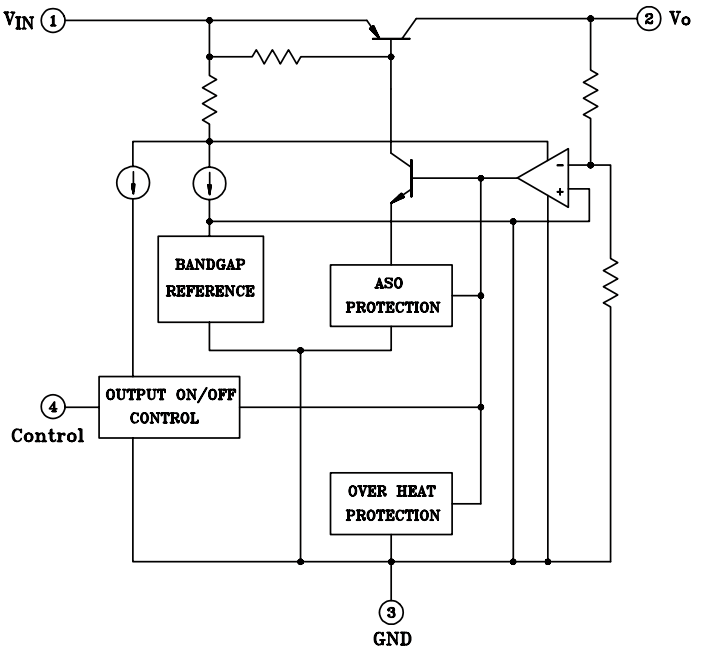
CHARACTERISTIC		SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Output Voltage	KIA78R05	V_O	-	4.88	5.0	5.12	V
	KIA78R06		-	5.85	6.0	6.15	
	KIA78R08		-	7.80	8.0	8.2	
	KIA78R09		-	8.78	9.0	9.22	
	KIA78R10		-	9.75	10.0	10.25	
	KIA78R12		-	11.70	12.0	12.30	
	KIA78R15		-	14.70	15.0	15.30	
Load Regulation		Reg Load	I_O=5mA～1A	-	0.1	2.0	%
Line Regulation		Reg Line	(Note 2)	-	0.5	2.5	%
Ripple Rejection		R·R		45	55	-	dB
Drop Out Voltage		V_D	(Note 3)	-	-	0.5	V
Output ON state for control Voltage		$V_{C(ON)}$		2.0	-	-	V
Output ON state for control Current		$I_{C(ON)}$	V_C=2.7V	-	-	20	μA
Output OFF state for control Voltage		$V_{C(OFF)}$	-	-	-	0.8	V
Output OFF state for control Current		$I_{C(OFF)}$	V_C=0.4V	-	-	-0.4	mA
Quiescent Current		I_Q	I_O=0	-	-	10	mA

Note1) V_{IN} of KIA78R05=7V
〃 KIA78R06=8V
〃 KIA78R08=10V
〃 KIA78R09=15V
〃 KIA78R10=16V
〃 KIA78R12=18V
〃 KIA78R15=21V

Note2) V_{IN} of KIA78R05=6～12V
〃 KIA78R06=7～15V
〃 KIA78R08=9～25V
〃 KIA78R09=10～25V
〃 KIA78R10=11～26V
〃 KIA78R12=13～29V
〃 KIA78R15=16～32V

Note3) At V_{IN}=0.95V_O

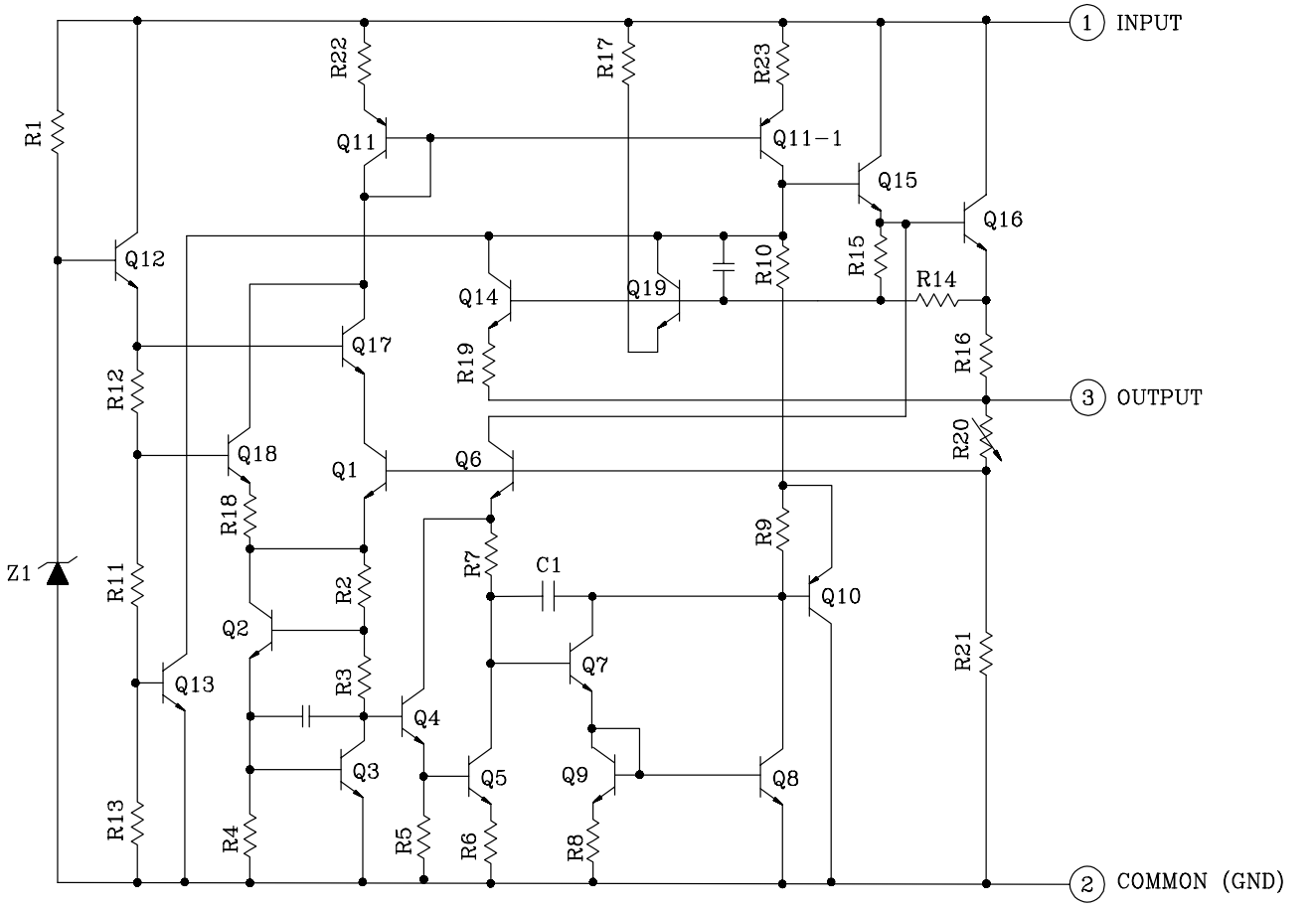
Block Diagram



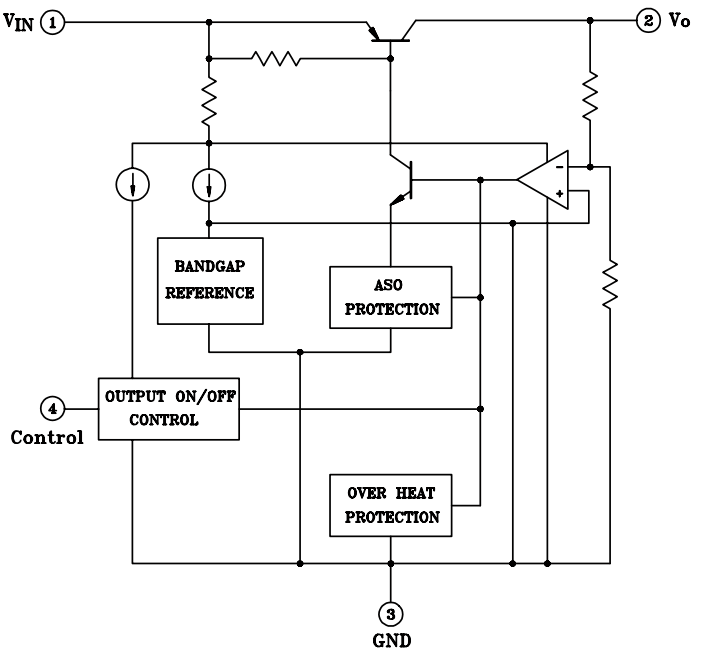
■ KIA7805AP/API (IC901)

THREE TERMINAL POSITIVE VOLTAGE REGULATORS 5V, 6V, 8V, 9V, 10V, 12, 15V, 18V, 24V.

EQUIVALENT CIRCUIT



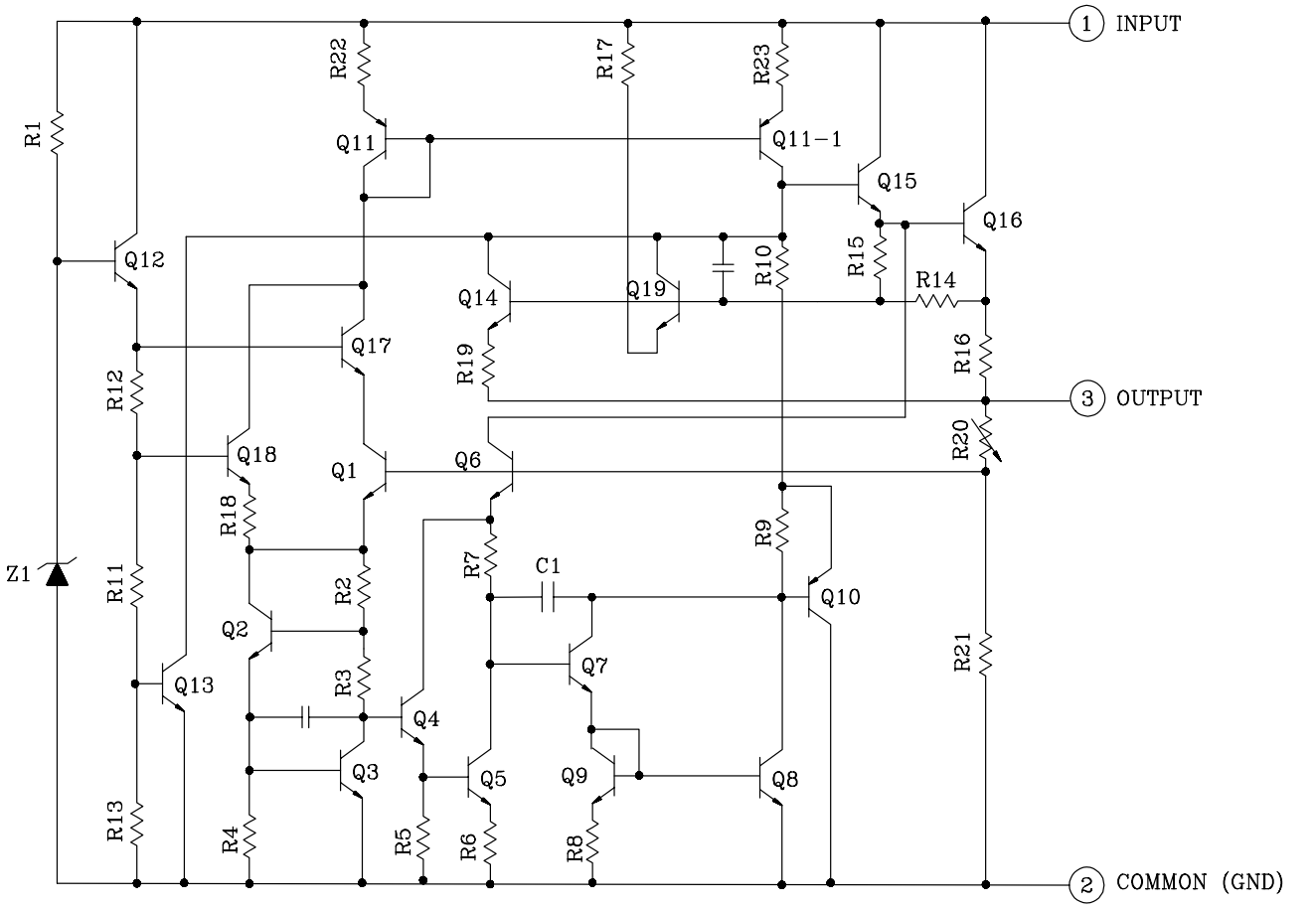
Block Diagram



■ KIA7805AP/API (IC901)

THREE TERMINAL POSITIVE VOLTAGE REGULATORS 5V, 6V, 8V, 9V, 10V, 12, 15V, 18V, 24V.

EQUIVALENT CIRCUIT



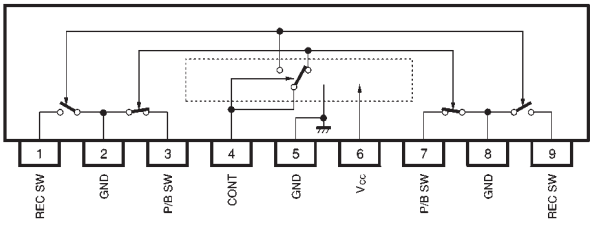
KIA7805AP/API

ELECTRICAL CHARACTERISTICS (V_{IN}=10V, I_{OUT}=500mA, 0℃≦T_j≦125℃)

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Output Voltage	V_{OUT}	1	T_j=25℃, I_{OUT}=100mA		4.8	5.0	5.2	V
Input Regulation	Reg line	1	T_j=25℃	7.0V≦V_{IN}≦25V	-	3	100	mV
				8.0V≦V_{IN}≦12V	-	1	50	
Load Regulation	Reg load	1	T_j=25℃	5mA≦I_{OUT}≦1.4A	-	15	100	mV
				250mA≦I_{OUT}≦750mA	-	5	50	
Output Voltage	V_{OUT}	1	7.0V≦V_{IN}≦20V 5.0mA≦I_{OUT}≦1.0A, Po≦15W		4.75	-	5.25	V
Quiescent Current	I_B	1	T_j=25℃, I_{OUT}=5mA		-	4.2	8.0	mA
Quiescent Current Change	ΔI_B	1	7.0V≦V_{IN}≦25V		-	-	1.3	mA
Output Noise Voltage	V_{NO}	1	Ta=25℃, 10Hz≦f≦100kHz I_{OUT}=50mA		-	50	-	μV_{rms}
Ripple Rejection Ratio	RR	1	f=120Hz, 8.0V≦V_{IN}≦18V, I_{OUT}=50mA, T_j=25℃		62	78	-	dB
Dropout Voltage	V_D	1	I_{OUT}=1.0A, T_j=25℃		-	2.0	-	V
Short Circuit Current Limit	I_{SC}	1	T_j=25℃		-	1.6	-	A
Average Temperature Coefficient of Output Voltage	TC_{VO}	1	I_{OUT}=5mA, 0℃≦T_j≦125℃		-	-0.6	-	mV/℃

■ BA3126N (IC201)

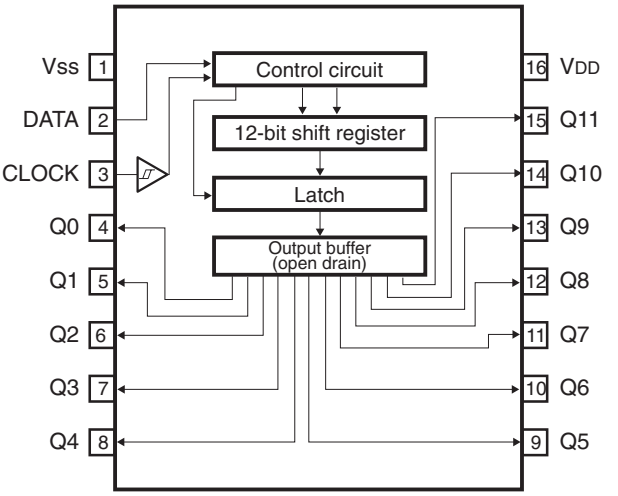
2-channel head switch for radio cassette recorders



■ BU2090F (IC501)

12-bit, Serial IN, Parallel OUT driver

Block diagram



PIN DESCRIPTION

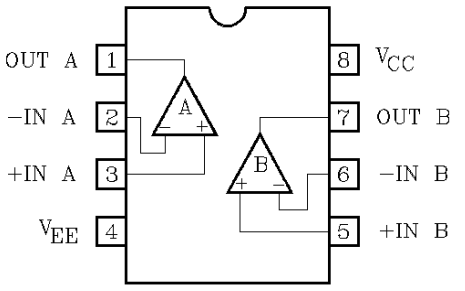
Pin No.			Pin name	Function
BU2090/F/FS	BU2092/F	BU2092/FV		
1	1	1	Vss	GND
2	2	2	DATA	Serial data input
3	3	3	CLOCK	Data shift clock input
-	4	4	LCK	Data latch clock input
4	5	5	Q0	parallel data output
5	6	6	Q1	parallel data output
6	7	7	Q2	parallel data output
7	8	8	Q3	parallel data output
8	9	9	Q4	parallel data output
9	10	10	Q5	parallel data output
10	11	11	Q6	parallel data output
-	-	12	N.C.	Not connected
-	-	13	N.C.	Not connected
11	12	14	Q7	parallel data output
12	13	15	Q8	parallel data output
13	14	16	Q9	parallel data output
14	15	17	Q10	parallel data output
15	16	18	Q11	parallel data output
-	17	19	$\overline{OE}$	Output Enable
16	18	20	V_{DD}	Power supply

■ KIA4558P/S (IC602)

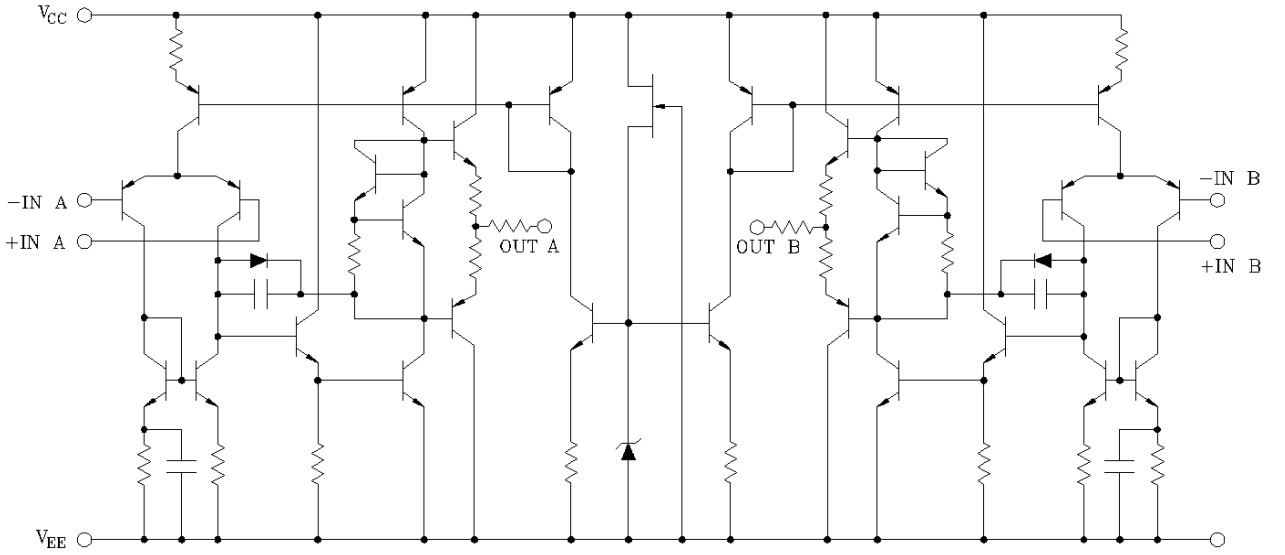
BIPOLAR LINEAR INTEGRATED CIRCUIT

PIN CONNECTION (TOP VIEW)

KIA4558P, KIA4558F



EQUIVALENT CIRCUIT



■ KA3082 (IC804)

Bi-Directional DC Motor Driver

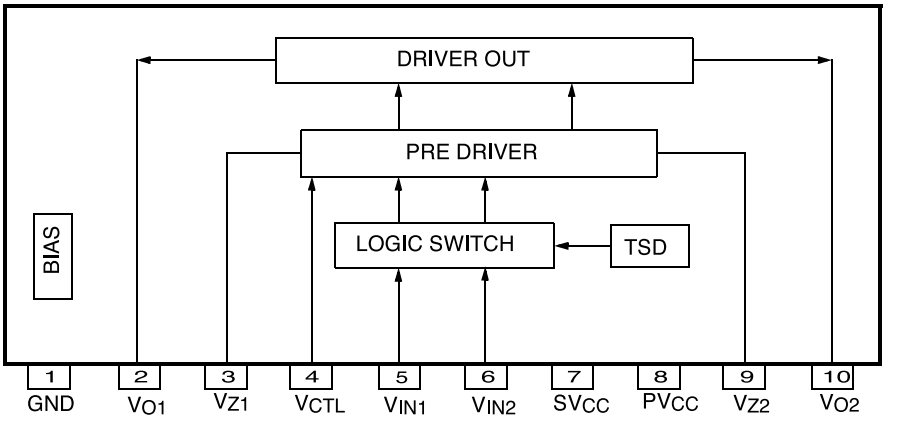
Description

The KA3082 is a monolithic integrated circuit designed for driving bi-directional DC motor with braking and speed control.

Pin Definitions

Pin Number	Pin Name	I/O	Pin Function Description
1	GND	-	Ground
2	V_{O1}	O	Output 1
3	V_{Z1}	-	Phase Compensation
4	V_{CTL}	I	Motor Speed Control
5	V_{IN1}	I	Input 1
6	V_{IN2}	I	Input 2
7	SV_{CC}	-	Supply Voltage (Signal)
8	PV_{CC}	-	Supply Voltage (Power)
9	V_{Z2}	-	Phase Compensation
10	V_{O2}	O	Output 2

Internal Block Diagram

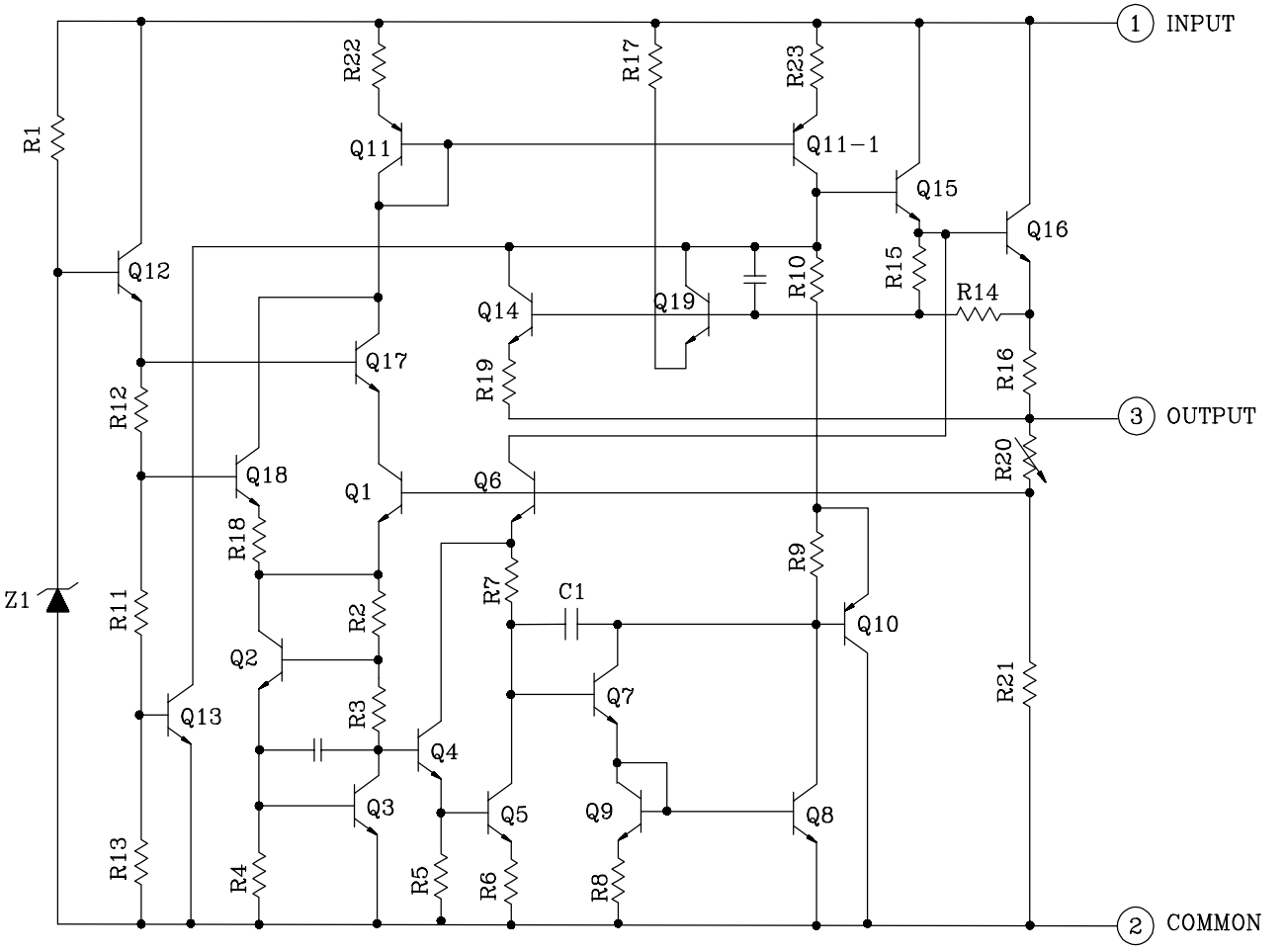


■ KIA7812API (IC902)

BIPOLAR LINEAR INTEGRATED CIRCUIT

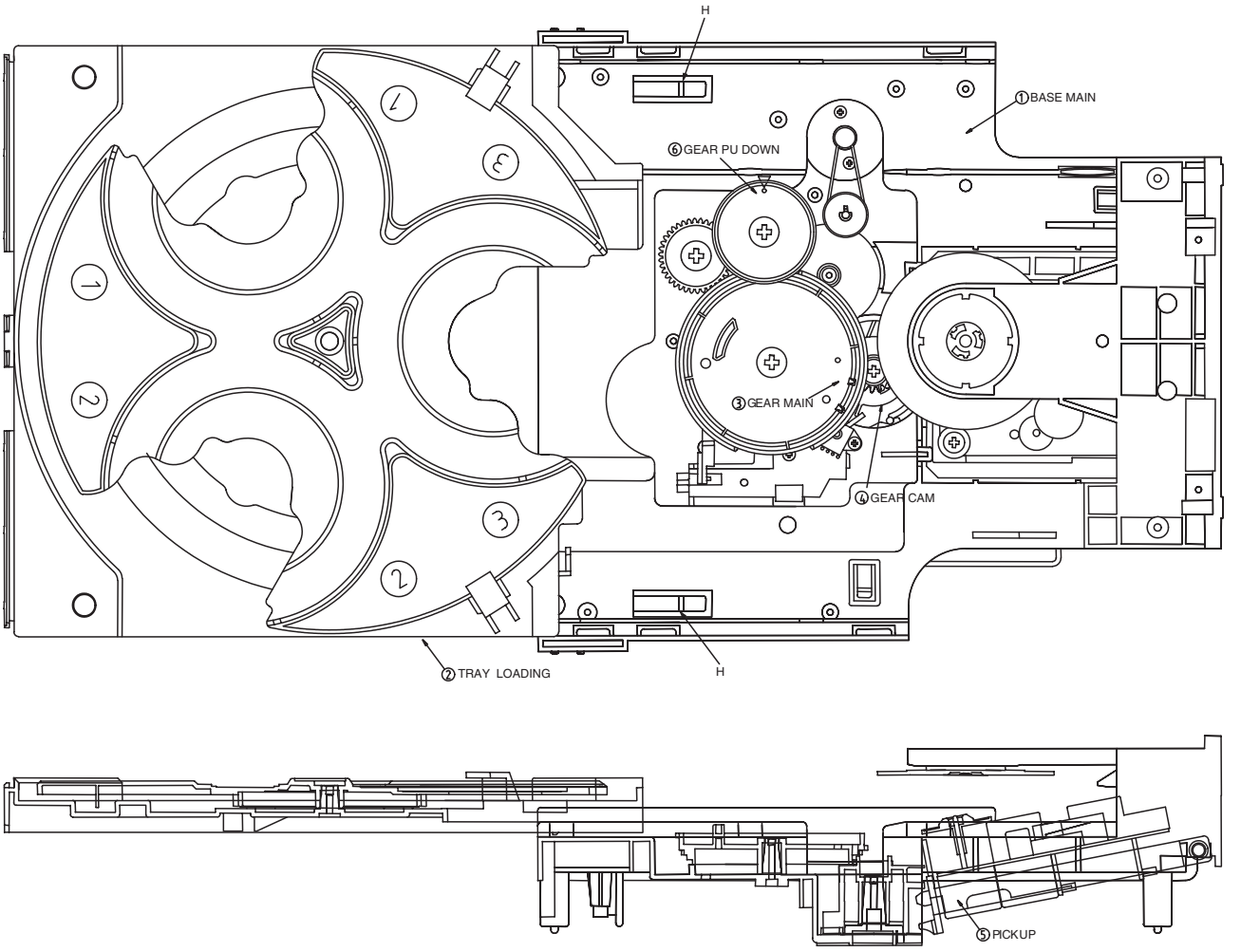
FEATURES

- Suitable for C-MOS, TTL, the Other Digital IC's Power Supply
- Internal Thermal Overload Protection.
- Internal Short Circuit Current Limiting



❑ REPAIRS REGARDING CD MECHANISM

■ IMPROVED METHOD - WHEN THE TRAY GEARS WERE DISTORTED



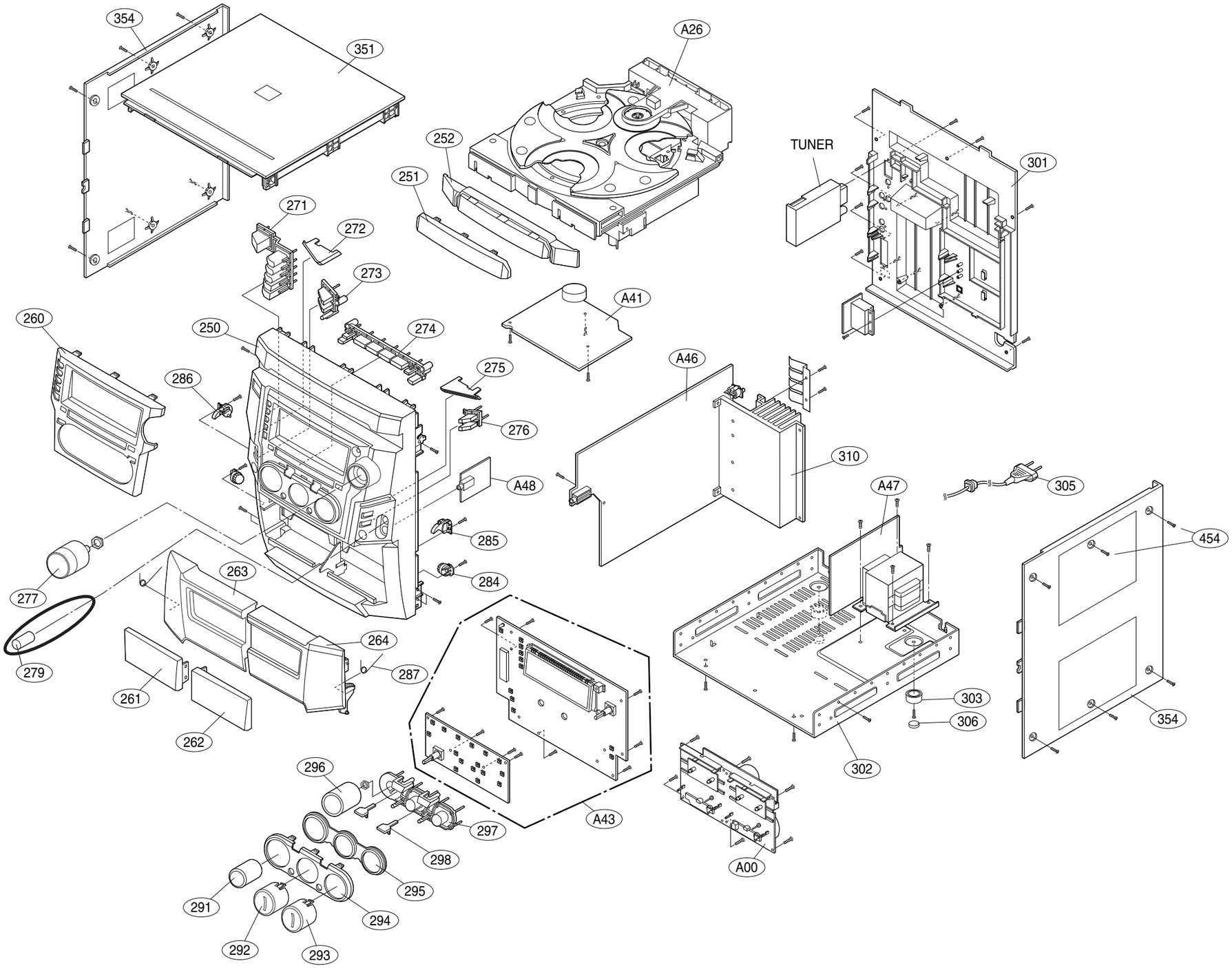
1. How to open the tray
Push two hooks (H) of the ① BASE MAIN, and open the ② TRAY LOADING

2. How to correct the distorted gears
(1) Turn ③ GEAR MAIN until it clicks, if so that ⑤ PICK-UP is downed completely
(2) The hold of ⑥ GEAR FU DOWN array as the arrow of ① BASENAIN
(3) Push the ② TRAY LOADING

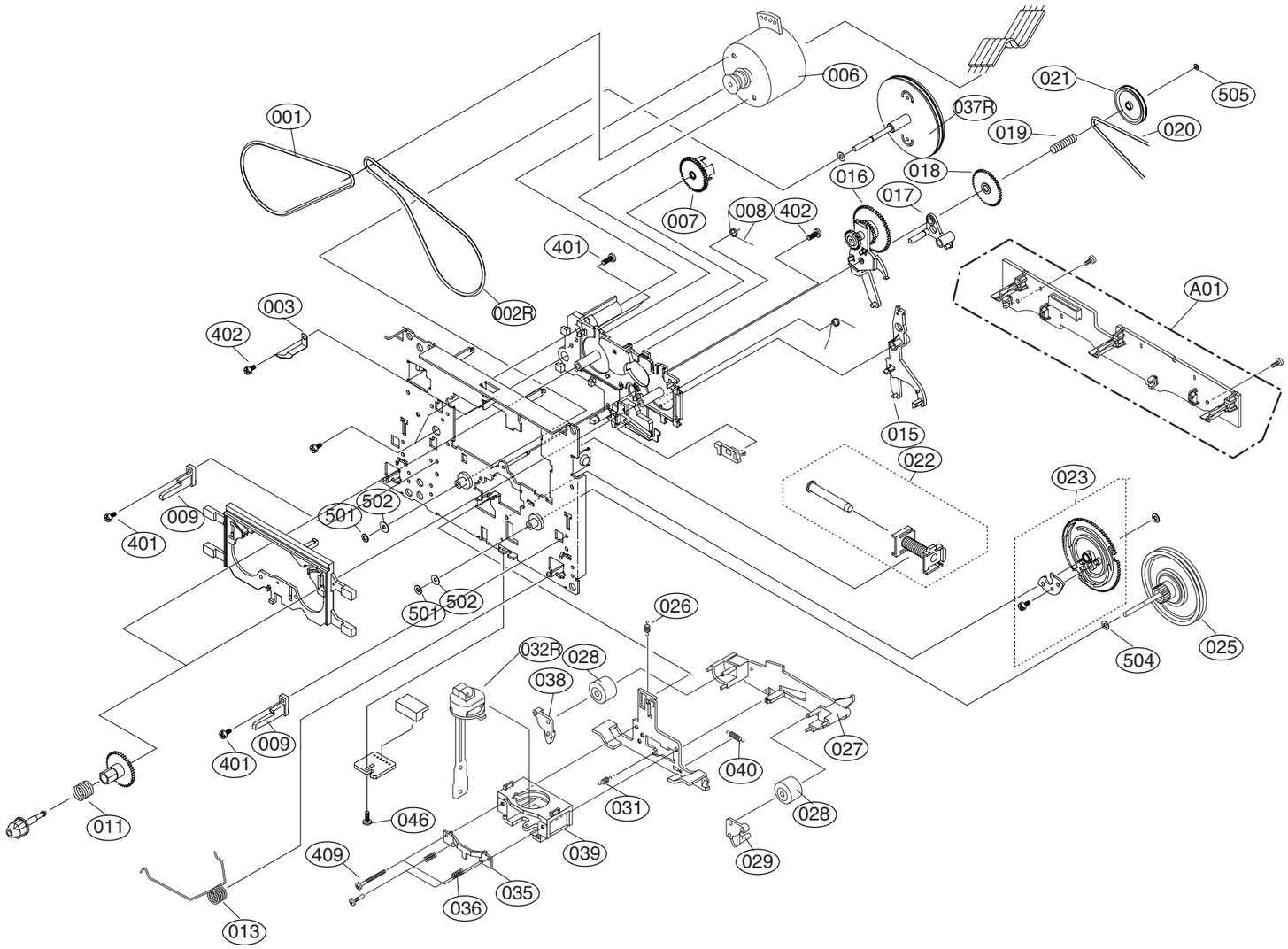
SECTION 3. EXPLODED VIEWS

❑ CABINET AND MAIN FRAME SECTION

NOTE) Refer to "SECTION 5 REPLACEMENT PARTS LIST" in order to look for the part number of each part.

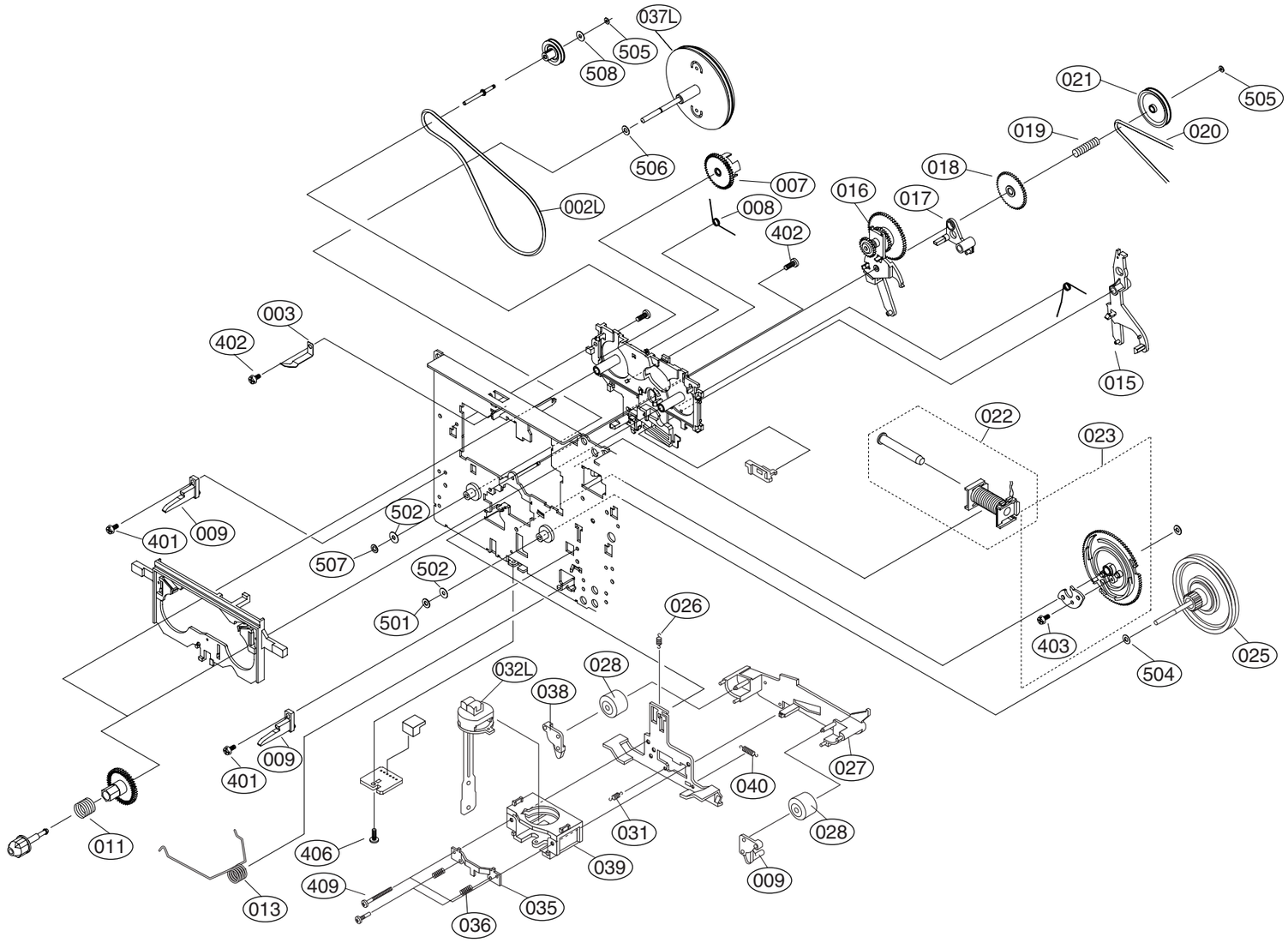


• TAPE DECK MECHANISM DOUBLE AUTO REVERSE DECK (RIGHT)



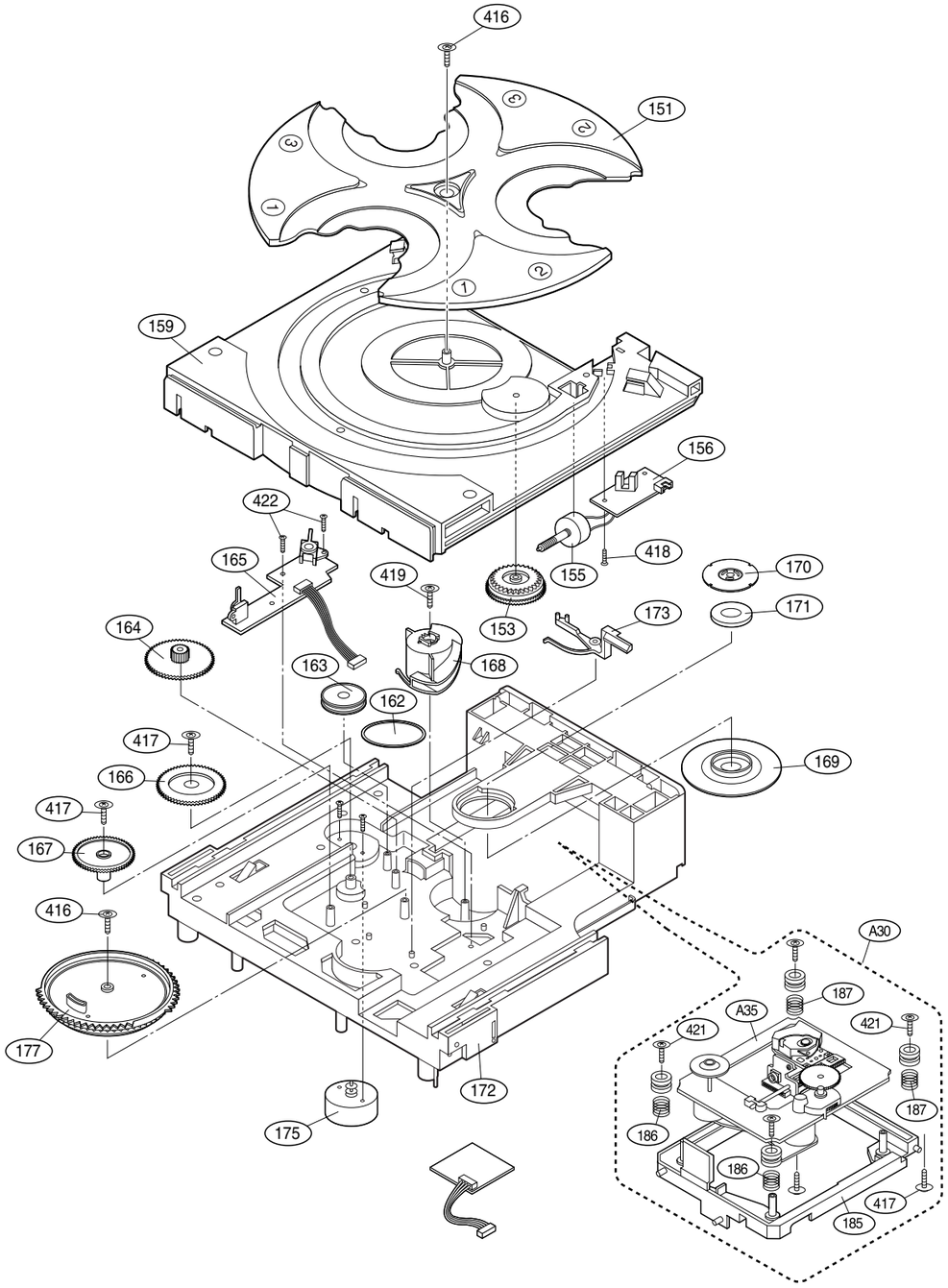
LOCA.NO	PART NO.	SPECIFICATION
A00	6720AG0003C	CWM42RR48 TOKYO PIGEON L-DOUBLE
A01	6768R-UP03D	50-093-4895 PIGEON PWB UNIT CW
001	6768R-BP03D	02-083-4254 PIGEON BELT/FELT C
002L	6768R-BP03F	02-083-4232 PIGEON BELT/FELT C
002R	6768R-BP03E	02-083-4256 PIGEON BELT/FELT C
003	6768R-PP03A	33-160-4309 PIGEON PRESS CASSE
006	6768R-QP03C	50-093-4880 PIGEON MOTOR(ASSY)
007	6768R-GP03B	50-222-4578 PIGEON GEAR IDLER
008	6768R-SP01F	01-082-4598 PIGEON SPRING CWL4
009	6768R-MP01C	50-219-4014 PIGEON MOLD CWL44
011	6768R-SP01A	01-081-4601 PIGEON SPRING CWL4
013	6768R-SP03A	01-082-4686 PIGEON SPRING CRM4
015	6768R-AP01A	50-268-3016 PIGEON ARM CWL44
016	6768R-GP01H	50-093-4503 PIGEON GEAR CRL442
017	6768R-AP01C	50-239-4072 PIGEON ARM CWL44
018	6768R-GP01J	50-222-4428 PIGEON GEAR CRL442
019	6768R-SP01P	01-081-4678 PIGEON SPRING CRL4
020	6768R-BP01C	02-083-4188 PIGEON BELT/FELT C
021	6768R-LP01C	50-223-4429 PIGEON PULLEY/FLYW
022	6768R-VP03A	50-093-4748 PIGEON SOLENOID AS
023	6768R-GP03A	50-093-4810 PIGEON GEAR ASSY C
025	6768R-JP03B	50-093-31009 PIGEON PULLEY/FLY
026	6768R-SP01D	01-080-4609 PIGEON SPRING CWL4
027	6768R-DP01A	50-259-3342 PIGEON LEVER CWL44
028	6768R-RP01A	22-027-41054 PIGEON ROLLER CWL
029	6768R-MP01A	50-219-4033 PIGEON MOLD CWL44
031	6768R-SP04A	01-082-4731 PIGEON SPRING
032R	6768R-EP04A	50-093-41007 PIGEON HEAD ASSY
032L	6768R-EP04B	50-093-41130 PIGEON HEAD ASSY
035	6768R-PP04A	50-119-4915 PIGEON PRESS
036	6768R-SP04B	01-081-4730 PIGEON SPRING
037R	6768R-JP03A	50-093-4674 PIGEON PULLEY/FLYW
037L	6768R-JP03C	50-093-4726 PIGEON PULLEY/FLYW
038	6768R-MP01D	50-219-4034 PIGEON MOLD CWL44
039	6768R-MP02A	50-219-3900 PIGEON MOLD
040	6768R-SP01M	01-080-4607 PIGEON SPRING CWL4
401	6768R-CP01B	GSE20A2005 PIGEON SCREW CWL44
402	6768R-CP01A	GSE10A2003 PIGEON SCREW CWL44
403	6768R-CP01D	GSL10A1704 PIGEON SCREW CWL44
406	6768R-CP01G	GSE20A2004 PIGEON SCREW CWL44
409	6768R-CP02A	GSD10A2016 PIGEON SCREW
501	6768R-WP03A	GWN19S035040 PIGEON WASHER CRM
502	6768R-WP03B	03-000-4532 PIGEON WASHER CRM4
504	6768R-WP01D	GWP21X045020 PIGEON WASHER CWL
505	6768R-WP01E	GWP12X030040S PIGEON WASHER CW
506	6768R-WP01H	GWP23X040020 PIGEON WASHER CWL
507	6768R-WP01F	GWN21X040040 PIGEON WASHER CWL
508	6768R-WP03C	GWP16X030020 PIGEON WASHER CWM

• TAPE DECK MECHANISM: DOUBLE AUTO REVERSE DECK (LEFT)



LOCA.NO	PART NO.	SPECIFICATION
A00	6720AG0003C	CWM42RR48 TOKYO PIGEON L-DOUBLE
A01	6768R-UP03D	50-093-4895 PIGEON PWB UNIT CW
001	6768R-BP03D	02-083-4254 PIGEON BELT/FELT C
002L	6768R-BP03F	02-083-4232 PIGEON BELT/FELT C
002R	6768R-BP03E	02-083-4256 PIGEON BELT/FELT C
003	6768R-PP03A	33-160-4309 PIGEON PRESS CASSE
006	6768R-QP03C	50-093-4880 PIGEON MOTOR(ASSY)
007	6768R-GP03B	50-222-4578 PIGEON GEAR IDLER
008	6768R-SP01F	01-082-4598 PIGEON SPRING CWL4
009	6768R-MP01C	50-219-4014 PIGEON MOLD CWL44
011	6768R-SP01A	01-081-4601 PIGEON SPRING CWL4
013	6768R-SP03A	01-082-4686 PIGEON SPRING CRM4
015	6768R-AP01A	50-268-3016 PIGEON ARM CWL44
016	6768R-GP01H	50-093-4503 PIGEON GEAR CRL442
017	6768R-AP01C	50-239-4072 PIGEON ARM CWL44
018	6768R-GP01J	50-222-4428 PIGEON GEAR CRL442
019	6768R-SP01P	01-081-4678 PIGEON SPRING CRL4
020	6768R-BP01C	02-083-4188 PIGEON BELT/FELT C
021	6768R-LP01C	50-223-4429 PIGEON PULLEY/FLYW
022	6768R-VP03A	50-093-4748 PIGEON SOLENOID AS
023	6768R-GP03A	50-093-4810 PIGEON GEAR ASSY C
025	6768R-JP03B	50-093-31009 PIGEON PULLEY/FLY
026	6768R-SP01D	01-080-4609 PIGEON SPRING CWL4
027	6768R-DP01A	50-259-3342 PIGEON LEVER CWL44
028	6768R-RP01A	22-027-41054 PIGEON ROLLER CWL
029	6768R-MP01A	50-219-4033 PIGEON MOLD CWL44
031	6768R-SP04A	01-082-4731 PIGEON SPRING
032R	6768R-EP04A	50-093-41007 PIGEON HEAD ASSY
032L	6768R-EP04B	50-093-41130 PIGEON HEAD ASSY
035	6768R-PP04A	50-119-4915 PIGEON PRESS
036	6768R-SP04B	01-081-4730 PIGEON SPRING
037R	6768R-JP03A	50-093-4674 PIGEON PULLEY/FLYW
037L	6768R-JP03C	50-093-4726 PIGEON PULLEY/FLYW
038	6768R-MP01D	50-219-4034 PIGEON MOLD CWL44
039	6768R-MP02A	50-219-3900 PIGEON MOLD
040	6768R-SP01M	01-080-4607 PIGEON SPRING CWL4
401	6768R-CP01B	GSE20A2005 PIGEON SCREW CWL44
402	6768R-CP01A	GSE10A2003 PIGEON SCREW CWL44
403	6768R-CP01D	GSL10A1704 PIGEON SCREW CWL44
406	6768R-CP01G	GSE20A2004 PIGEON SCREW CWL44
409	6768R-CP02A	GSD10A2016 PIGEON SCREW
501	6768R-WP03A	GWN19S035040 PIGEON WASHER CRM
502	6768R-WP03B	03-000-4532 PIGEON WASHER CRM4
504	6768R-WP01D	GWP21X045020 PIGEON WASHER CWL
505	6768R-WP01E	GWP12X030040S PIGEON WASHER CW
506	6768R-WP01H	GWP23X040020 PIGEON WASHER CWL
507	6768R-WP01F	GWN21X040040 PIGEON WASHER CWL
508	6768R-WP03C	GWP16X030020 PIGEON WASHER CWM

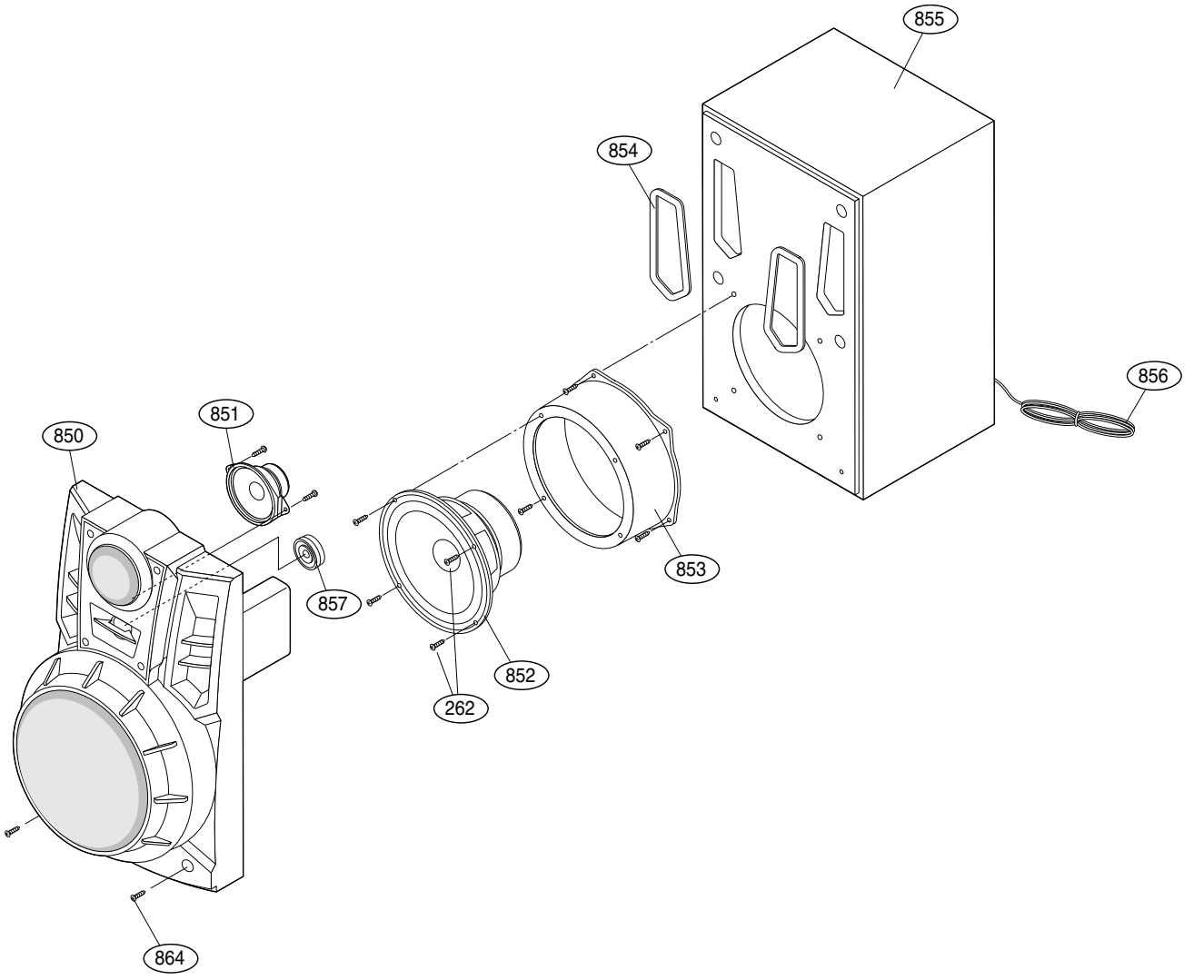
❑ CD MECHANISM



LOCA.NO.	PART NO	DESCRIPTION	SPECIFICATION
A26	4405RCE008C	MECHANISM ASSEMBLY	CDM-H1503 3 CD CHANGER
A30	3041RB0002C	BASE ASSEMBLY	PU(SPRING DAMPER)
A35	6717RCA001A	PICK UP ASSY	KSM-213VSCM SONY FRONT LOADING
151	3390RB0002A	TRAY	DISC(CDM-H1503)
153	4470RB0005A	GEAR	TRAY (CDM-H1503)
155	4681RBA001A	MOTOR ASSEMBLY	TRAY (CDM-H1503)
156	6871RF9211A	PWB(PCB) ASSEMBLY,FRONT	1503 T/D SENSOR
159	3390RB0001A	TRAY	LOADING(CDM-H1503)
162	4400SB0001A	BELT	MAIN(CDM-H1303)
163	4470SB0003A	GEAR	PULLEY (CDM-H1303)
164	4470RB0003A	GEAR	LOADING (CDM-H1503)
165	6871RZ7036A	PWB(PCB) ASSEMBLY,OTHERS	CDM-H1503 UP/DW/OP/CL
166	4470RB0006A	GEAR	PU UP (CDM-H1503)
167	4470RB0007A	GEAR	PU DOWN (CDM-H1503)
168	4470RB0002A	GEAR	CAM (CDM-H1503)
169	4860SB0001A	CLAMP	DISC(CDM-H1303)
170	3550SB0001A	COVER	MAGNET(CDM-H1303)
171	524-012AAAA	COVER	CLAMP MAGNET (030X018X5T)
172	3040RB0005A	BASE	MAIN (CDM-H1503)
173	4510RB0001A	LEVER	S/W CLOSE
175	4680SBP001A	MOTOR(MECH)	OTHER . . .
177	4470RB0001A	GEAR	MAIN (CDM-H1503)
184	4900RB0001A	DAMPER	RUBBER 3CD CHANGER
185	3040SB0003A	BASE	PU(CDM-H1303)
186	4970RB0001A	SPRING	COIL 3 CD CHANGER
187	4970RB0001B	SPRING	COIL 50 3CD CHANGER
416	88H-0004	CD MECHA PARTS	3X12X12FNM
417	88H-0002	CD MECHA PARTS	3X9X12FZMY
418	353-025BAAA	SCREW	#NAME?
419	88H-0003	CD MECHA PARTS	3X12X10FZMY
420	353S353F	SCREW	#NAME?
421	6756SBX001A	CD MECHANISM PARTS	SCREW 2.6X10X10XFZMY CDM-H813
422	353-028H	SCREW	#NAME?

SECTION 4. SPEAKER SECTION

❑ MODEL: LMS-M1030



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