

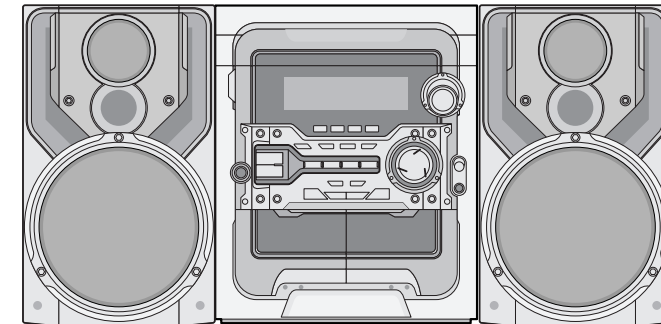


MINI HI-FI SYSTEM

SERVICE MANUAL

CAUTION

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



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SECTION 1. GENERAL

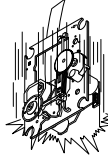
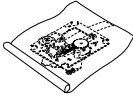
□ SERVICING PRECAUTIONS

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.

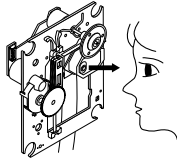
Storage in conductive bag



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.

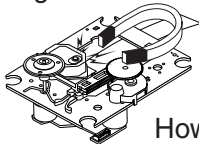


NEVER look directly at the laser beam, and don't let contact fingers or other exposed skin.

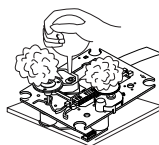
5) Cleaning the lens surface

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.

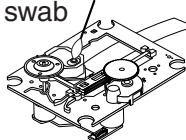
Magnet



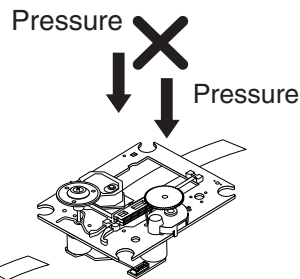
How to hold the pick-up



Cotton swab



Conductive Sheet



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.

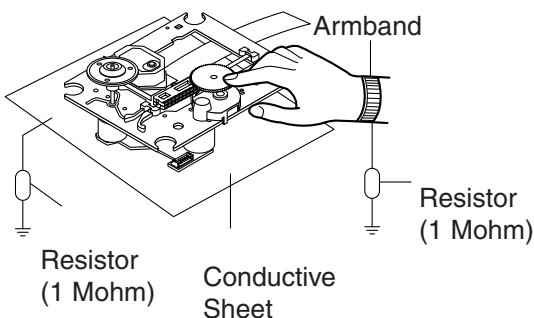
NOTES REGARDING COMPACT DISC PLAYER REPAIRS

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 or 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 (1M Ω)
- 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

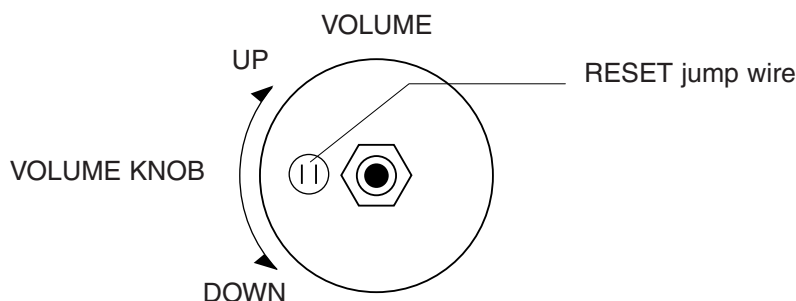
You can reset your unit to initial status if malfunction occur(button malfunction, display, etc.).

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 be installed.

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

8. Minimize bodily motions when handling unpackaged replacement 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-M342A
[General]		Power supply	Refer to the back panel of the unit.
		Power consumption	70 W
		Mass	8.0 kg
		External dimensions (WxHxD)	273 x 330 x 360 mm
[CD]		Frequency response	40 - 18000 Hz
		Signal-to-noise ratio	70 dB(1kHz)
		Dynamic range	70 dB(1kHz)
[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	30W+30W
		T.H.D	0.15%
		Frequency Response	42 - 25000 Hz
		Signal-to-noise ratio	80 dB
[TAPE]		Tape Speed	4.75 cm/s ec
		Wow Flutter	0.25% (MTT -111, JIS-WTD)
		F.F/REW Time	120sec (C-60)
		Frequency Response	250 - 8000Hz
		Signal to Noise Ratio	43dB
		Channel Separation	50dB(P/B)/45dB(R/P)
		Erase Ratio	55dB (MTT-5511)
[Speakers]			LMS-M342
		Type	2 Way 2 Speaker
		Impedance	6Ω
		Frequency Response	50 - 20000 Hz
		Sound Pressure Level	84 dB/W (1m)
		Rated Input Power	30 W
		Max. Input Power	60 W
		Net Dimensions (WxHxD)	200 X 326 X 241 mm
		Net Weight (1EA)	3.2 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
Palyback	MTT-114	Speaker Out	DECK Screw Azimuth Screw	Maximum

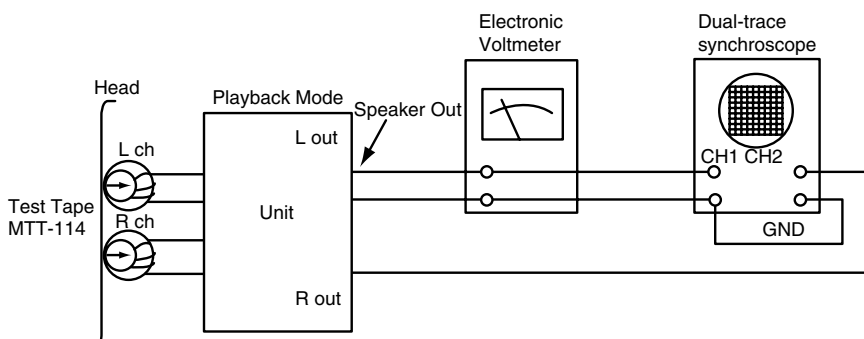
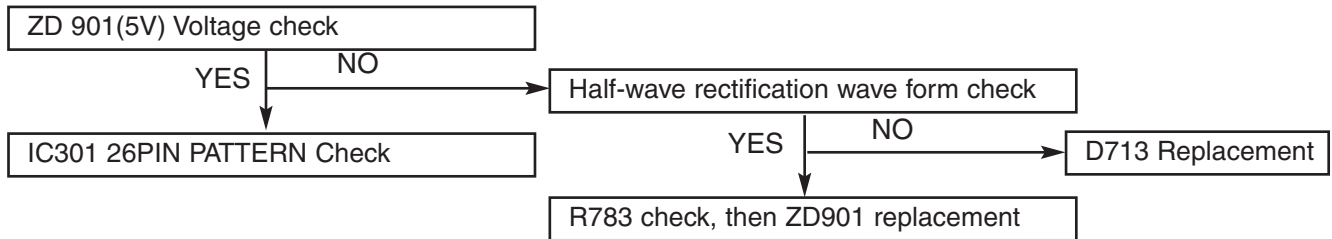


Figure 1. Azimuth Adjustment Connection Diagram

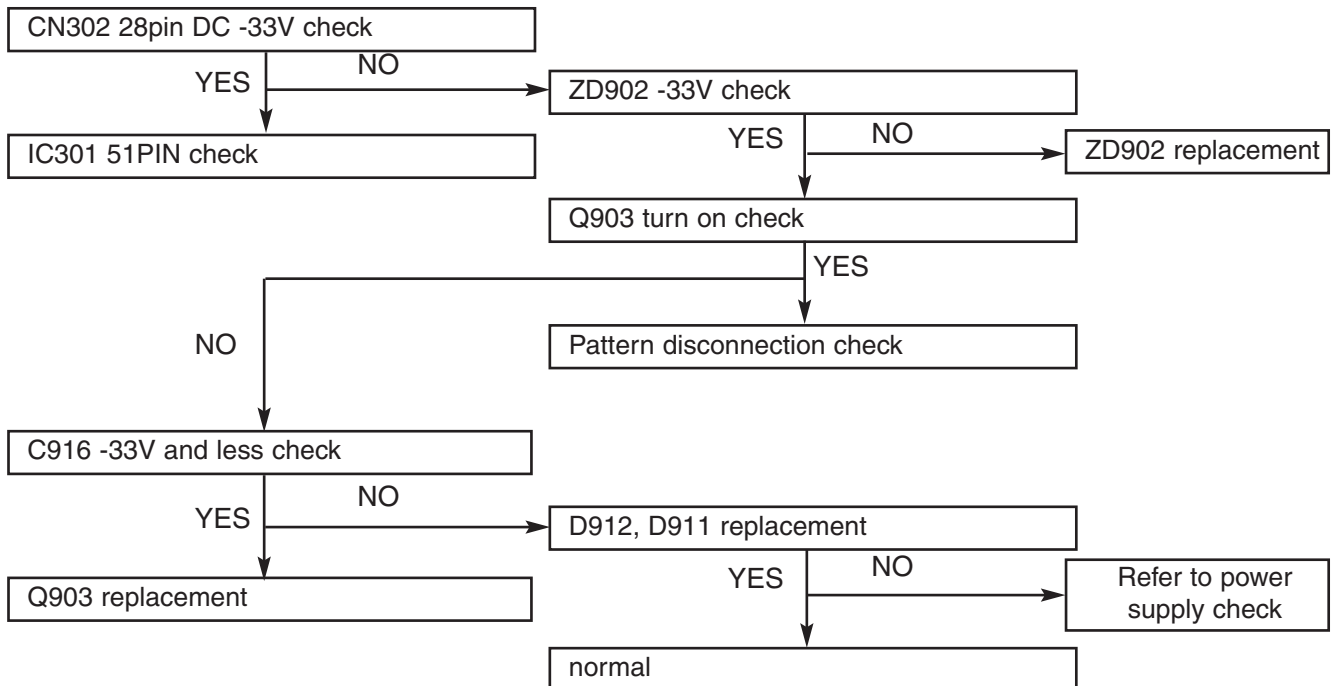
■ ELECTRICAL TROUBLESHOOTING GUIDE

■ AUDIO PART

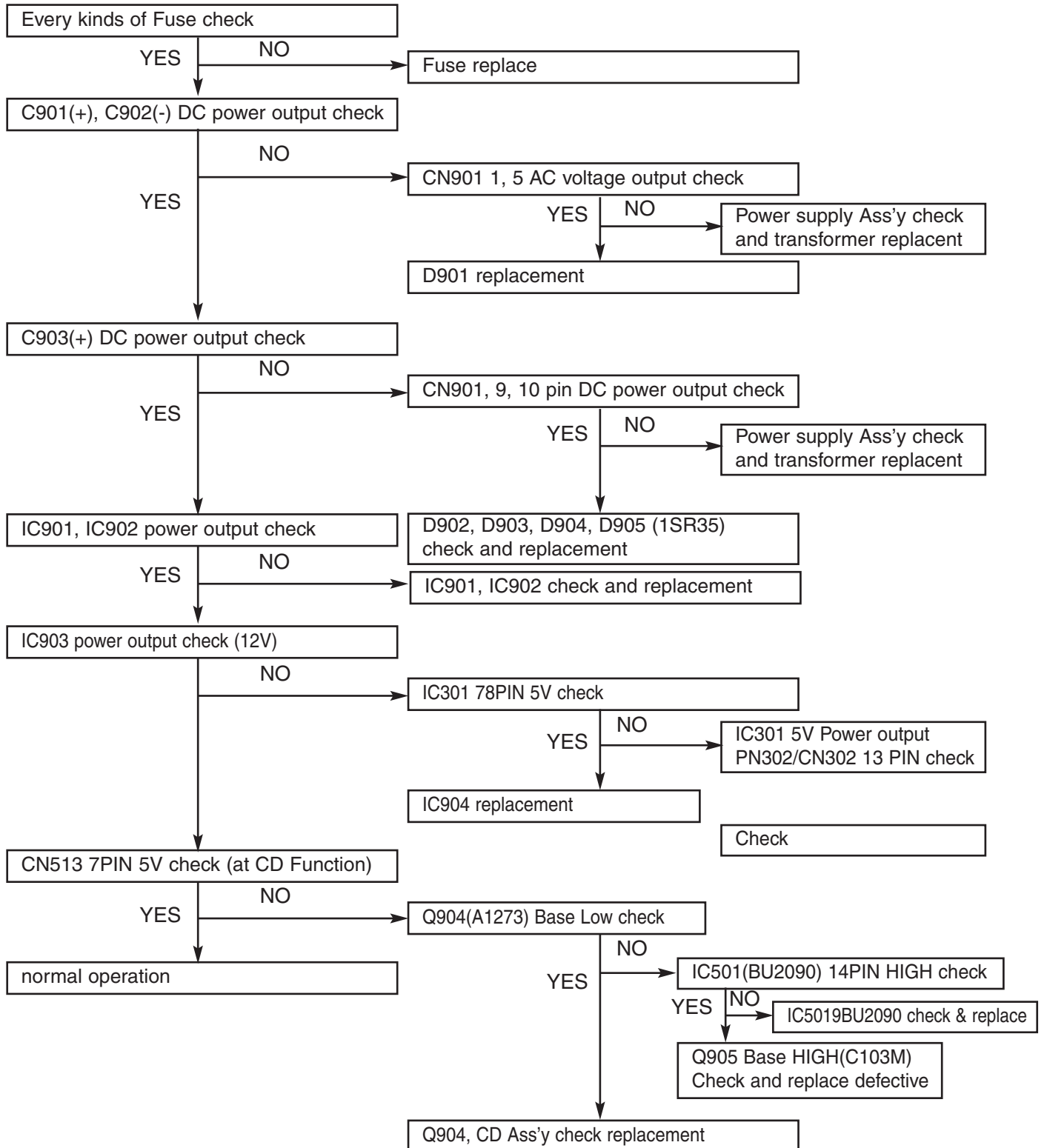
P-SENS PART CHECK



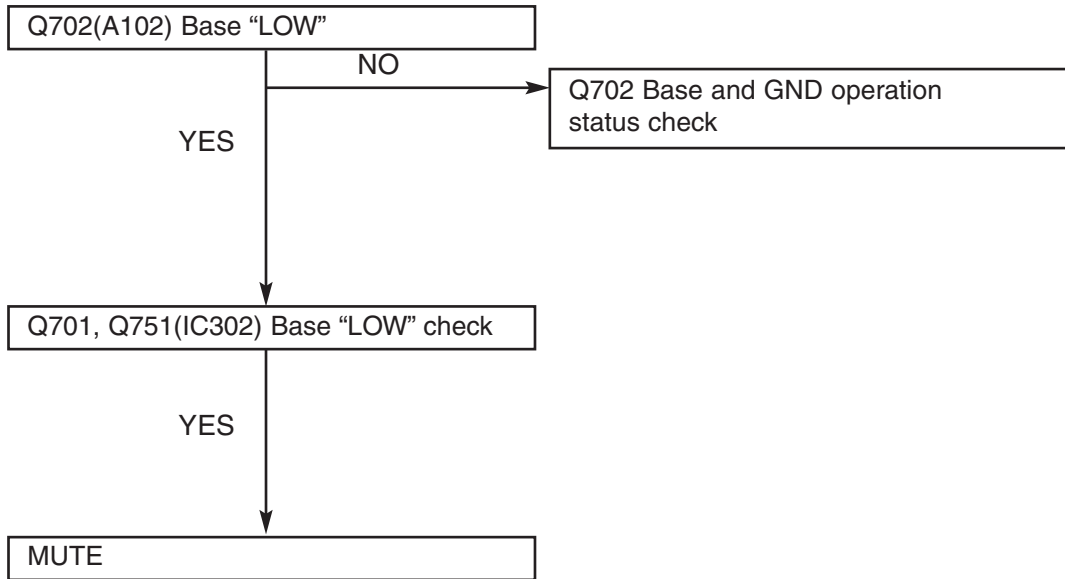
VKK CHECK



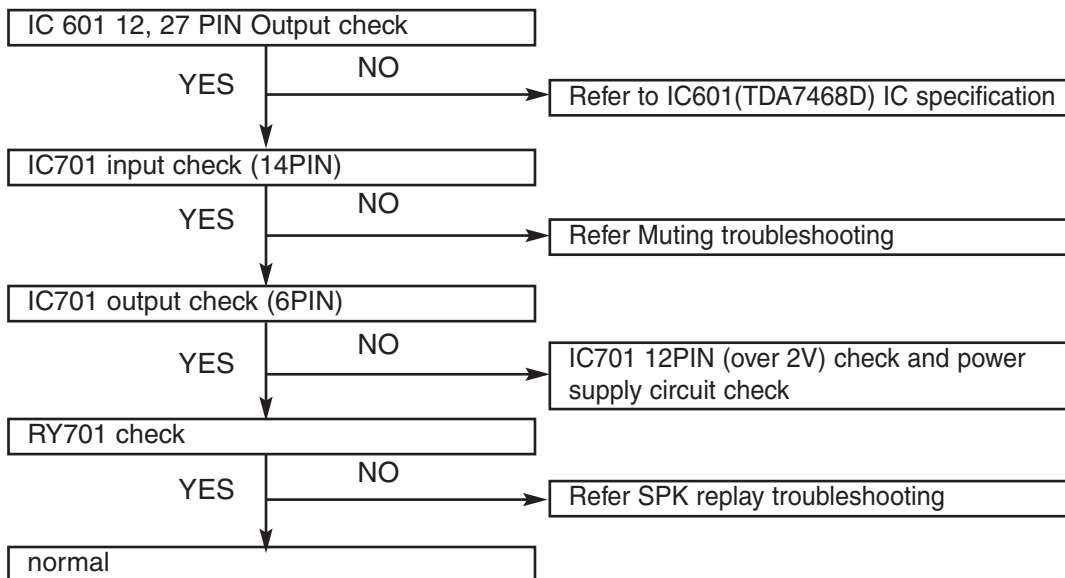
POWER CHECK



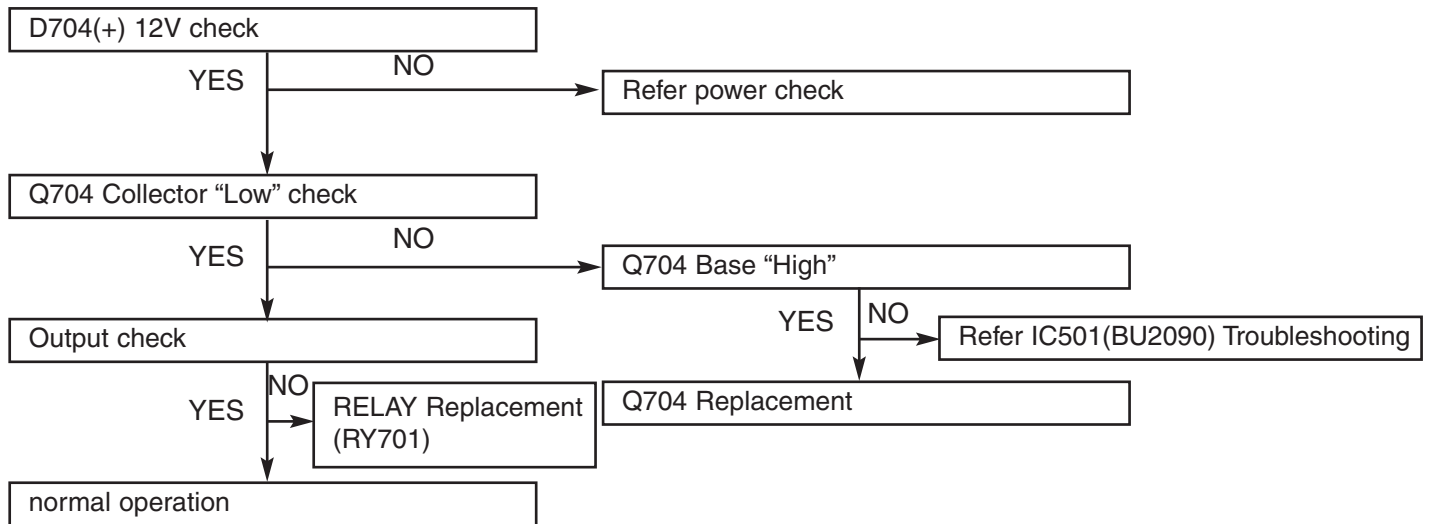
Muting circuit Troubleshooting (if MUTE)



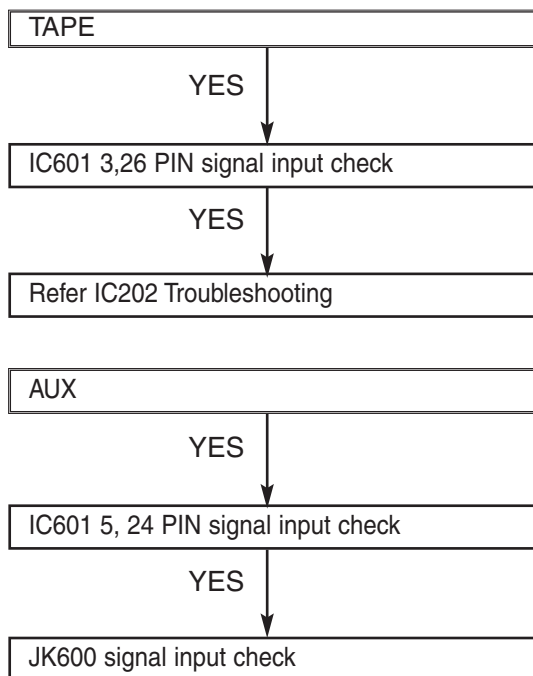
No sound

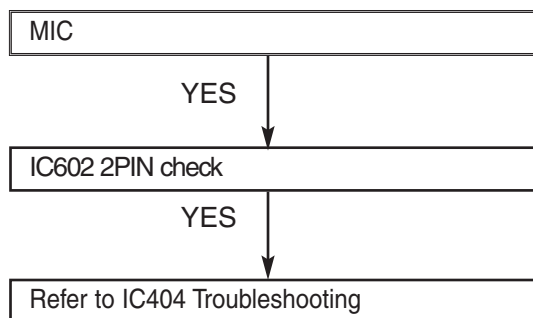
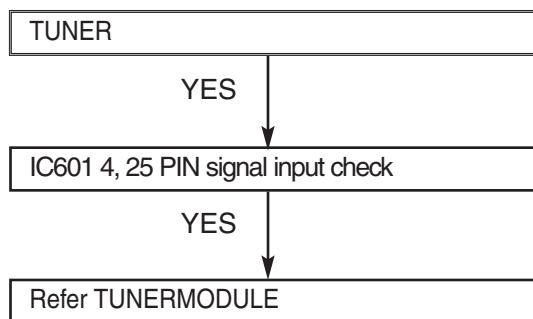
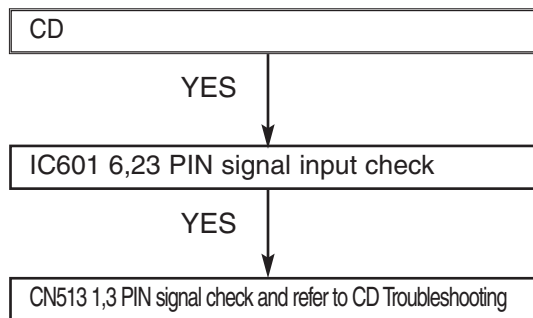


SPK Relay Troubleshooting

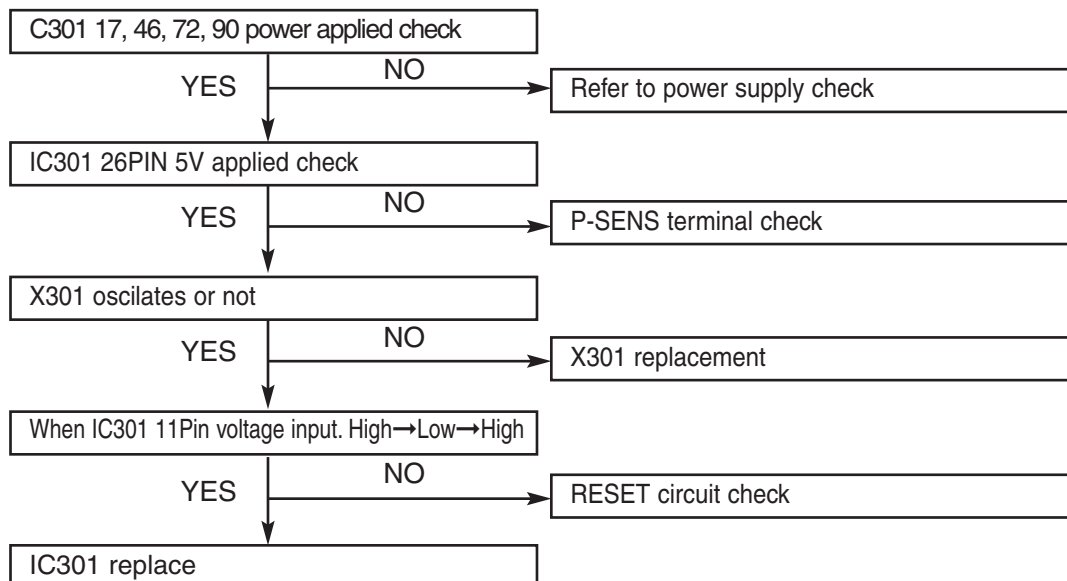


Specific FUNCTION MODE has no sound

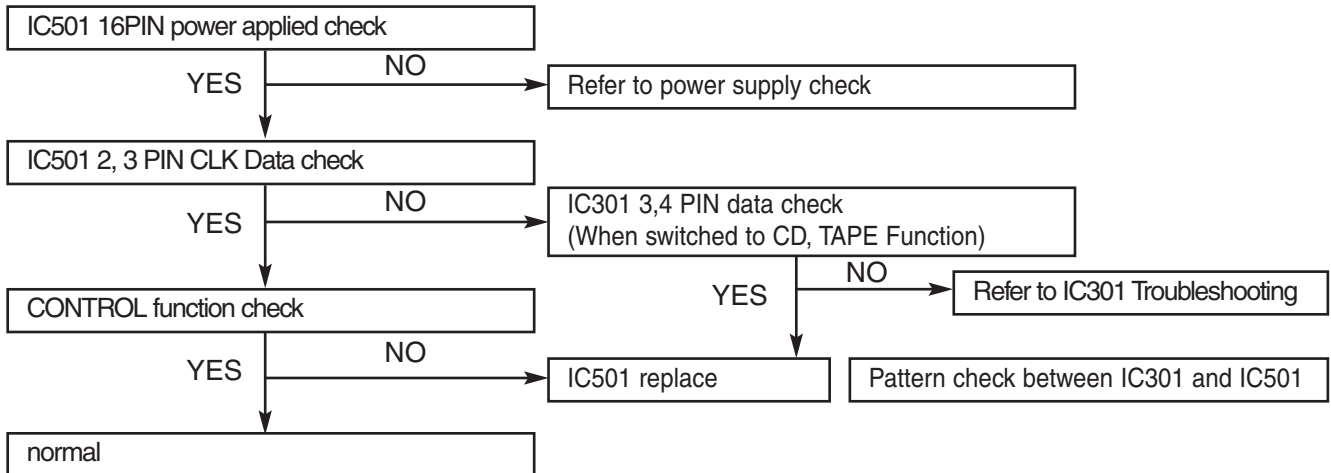




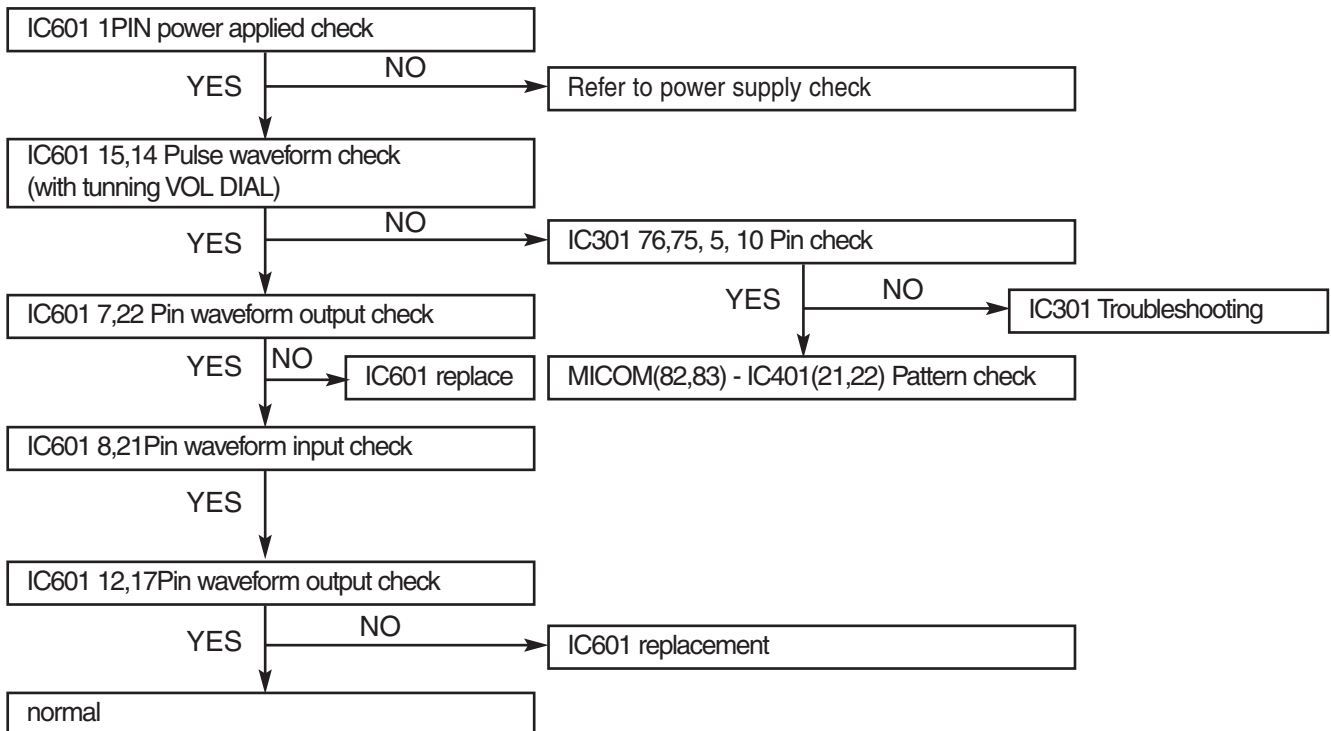
IC301 Troubleshooting



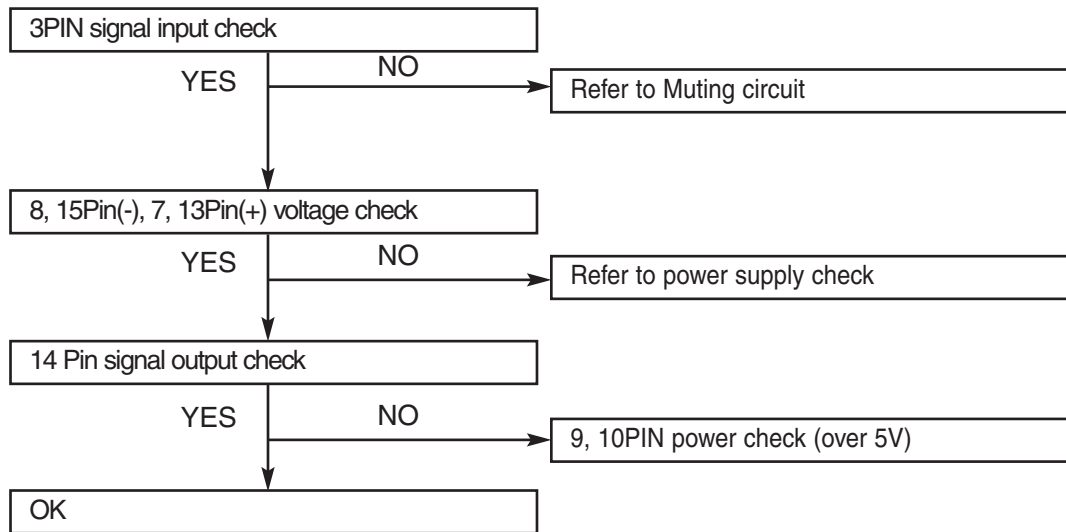
IC501 Troubleshooting



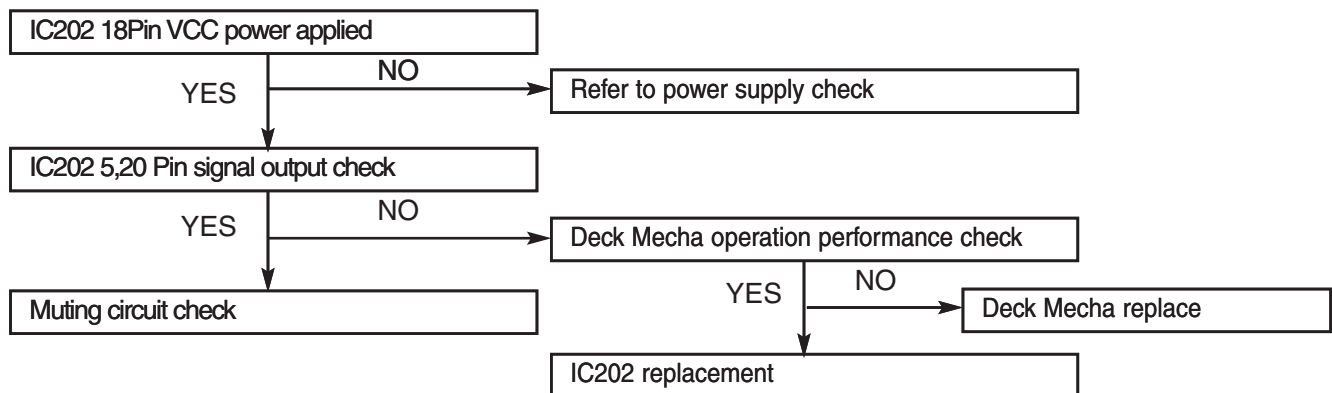
IC601(TDA7468D) Troubleshooting



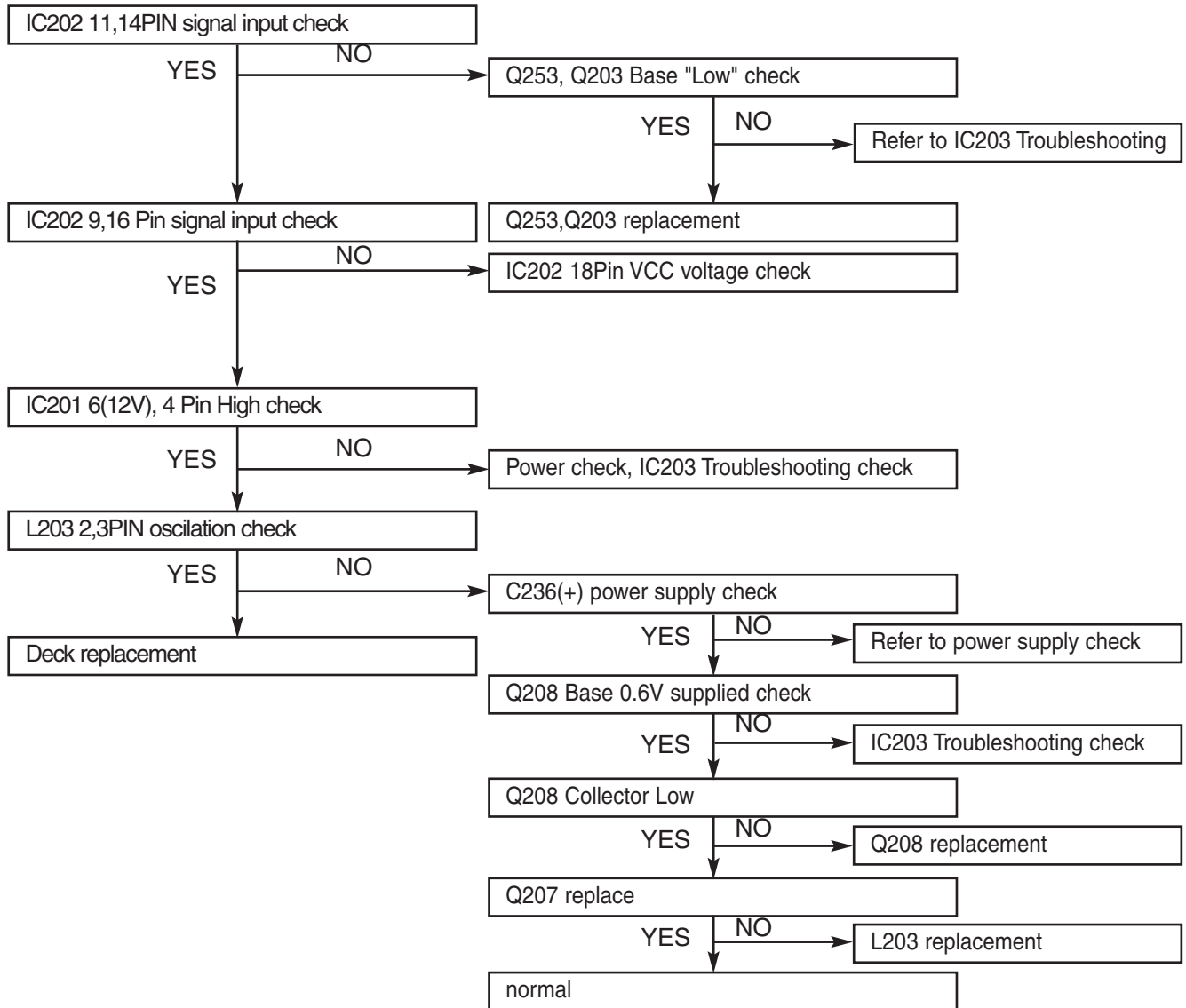
IC701, IC751 Troubleshooting



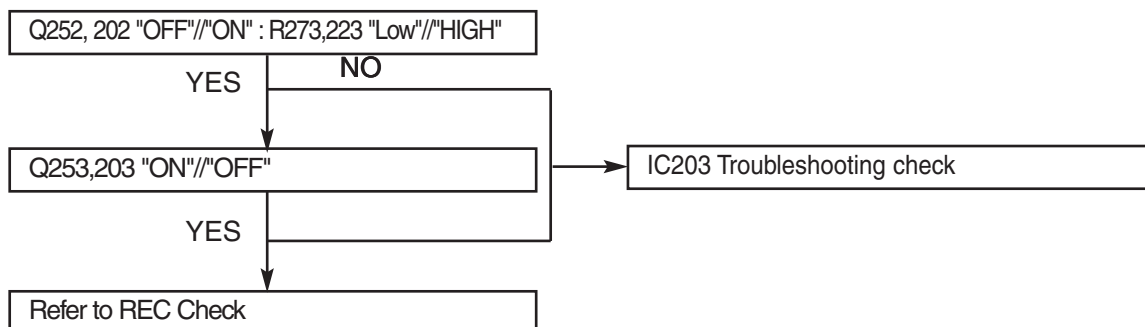
PLAY check



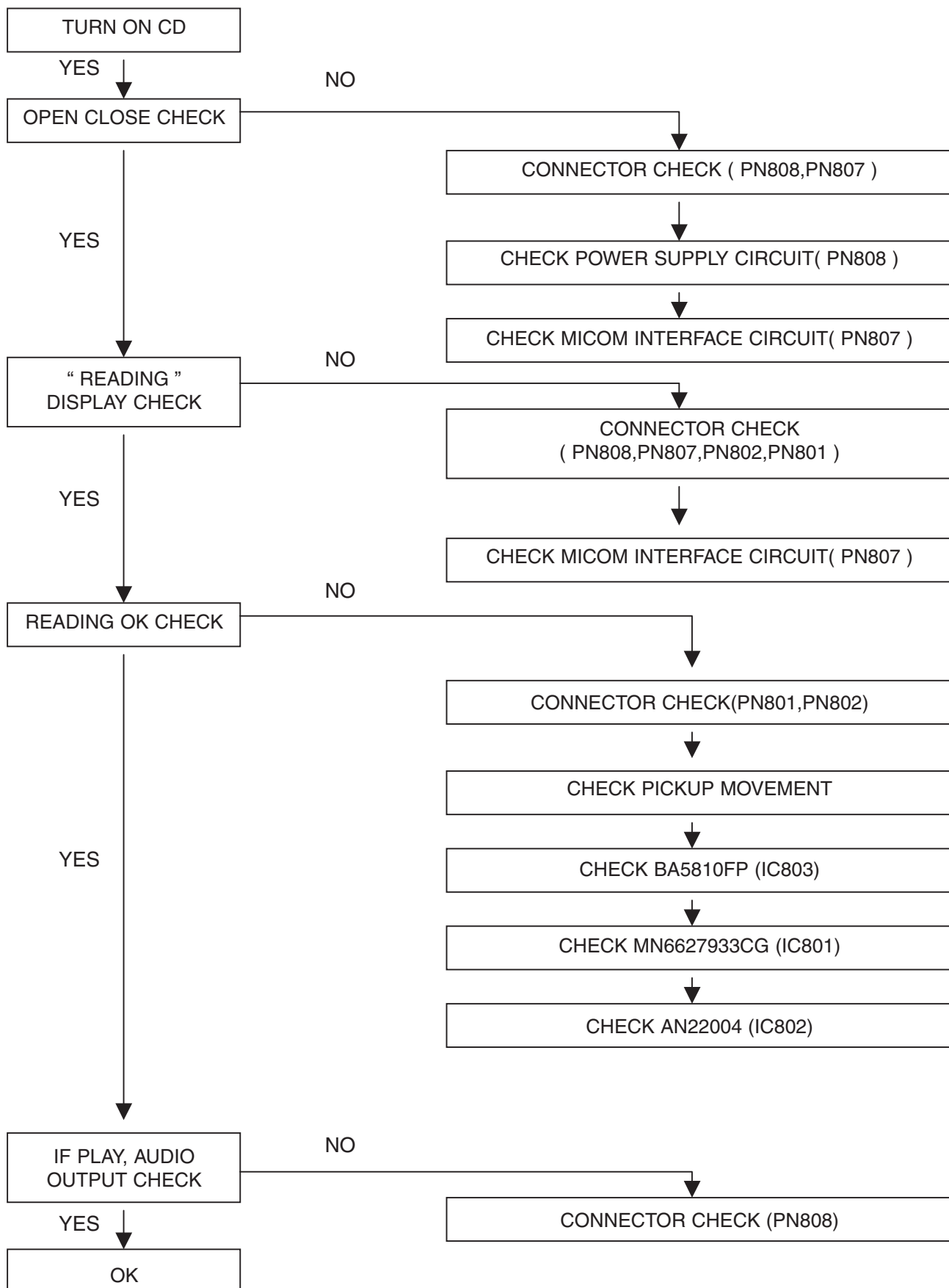
Rec check (Q252, Q202 ON : R273, R223 High)



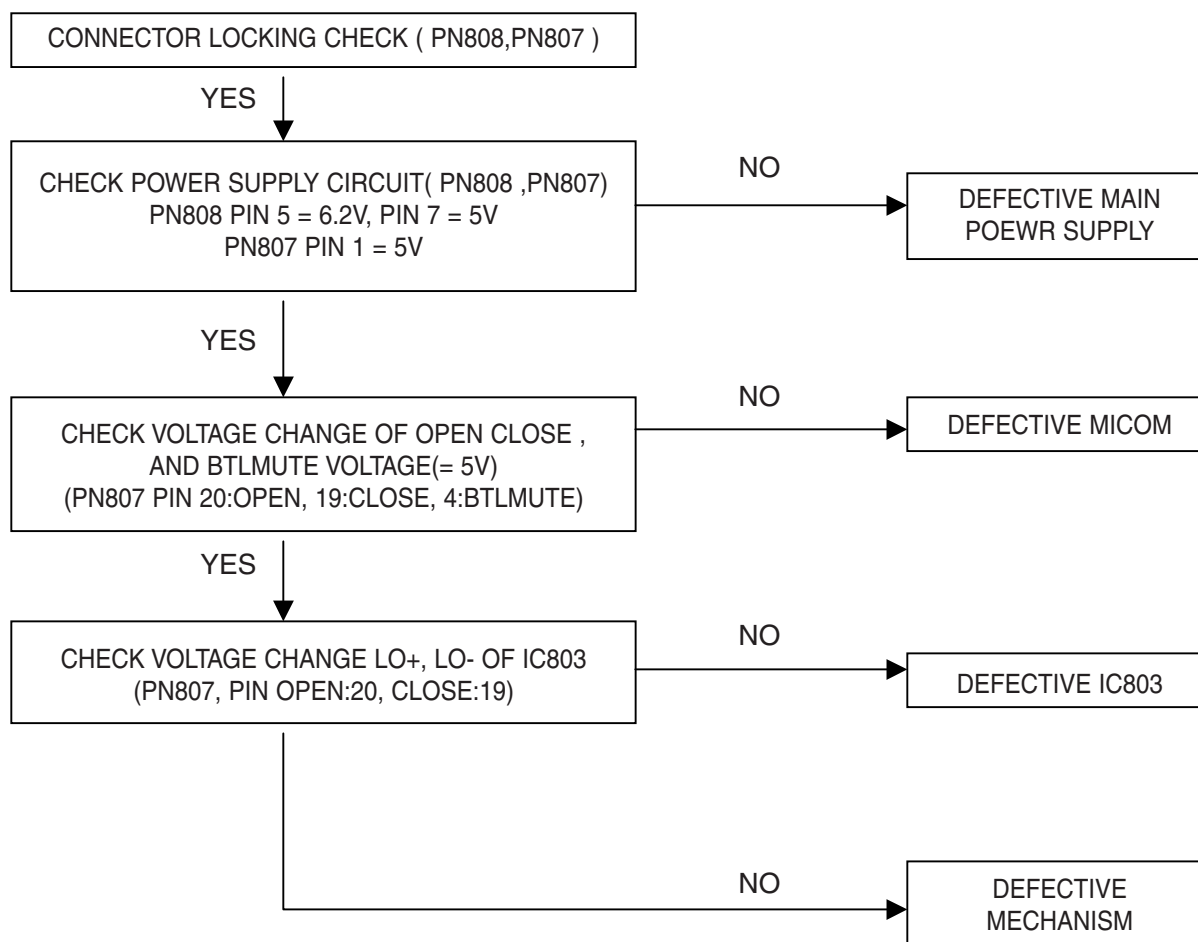
Dubbing check ("NORMAL or REC"//"HIGH")



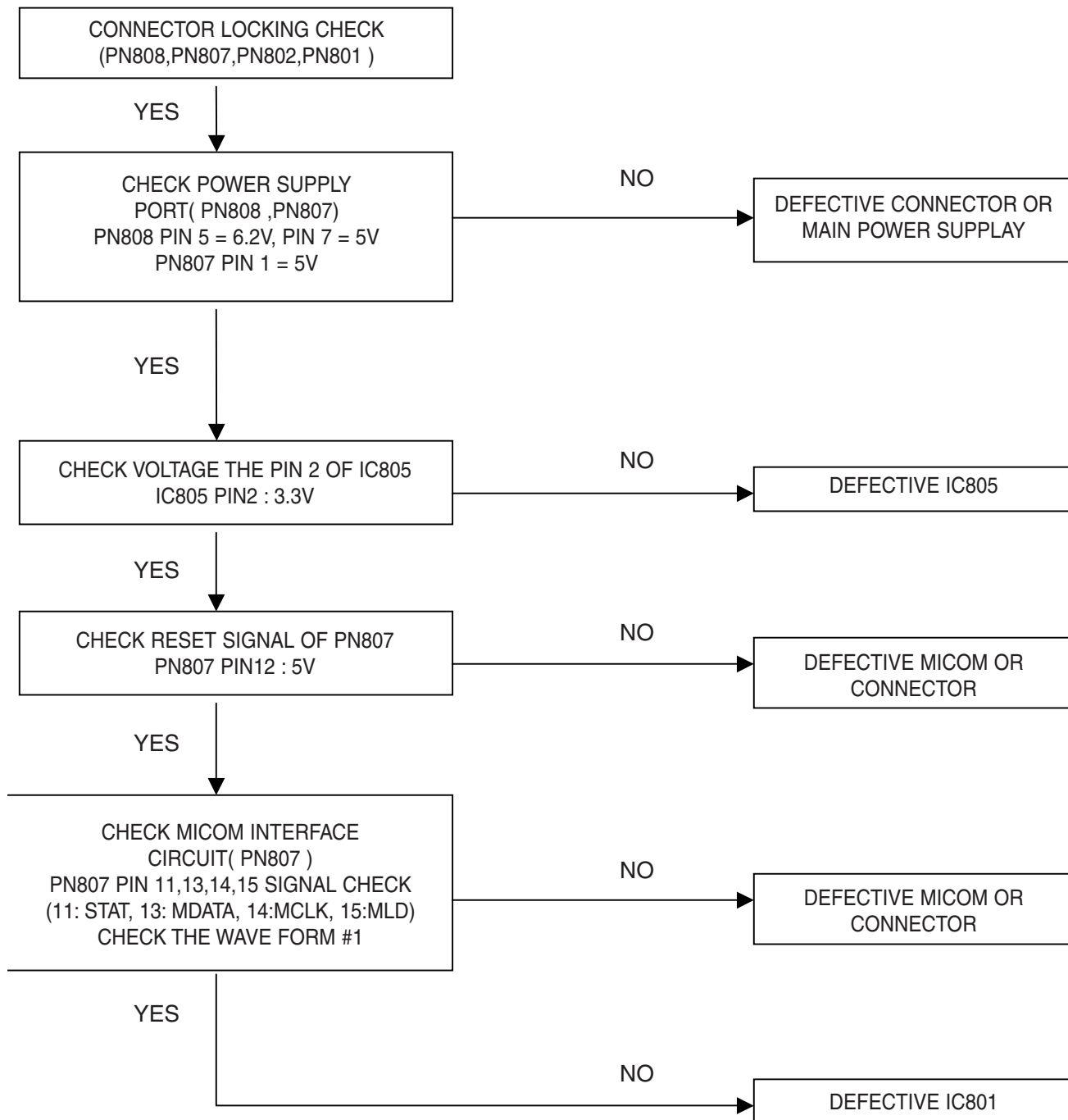
■ CD PART



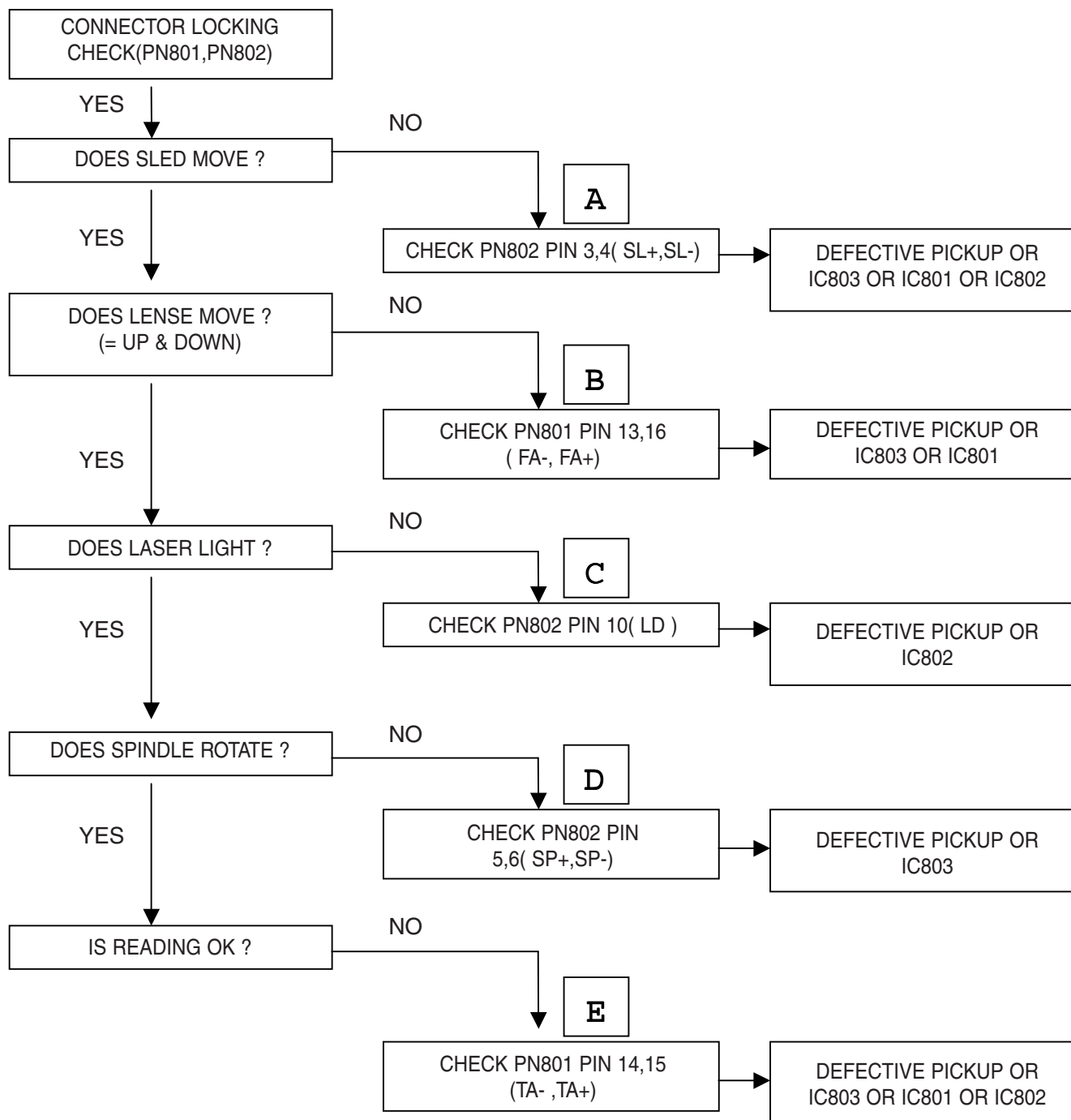
OPEN CLOSE NG



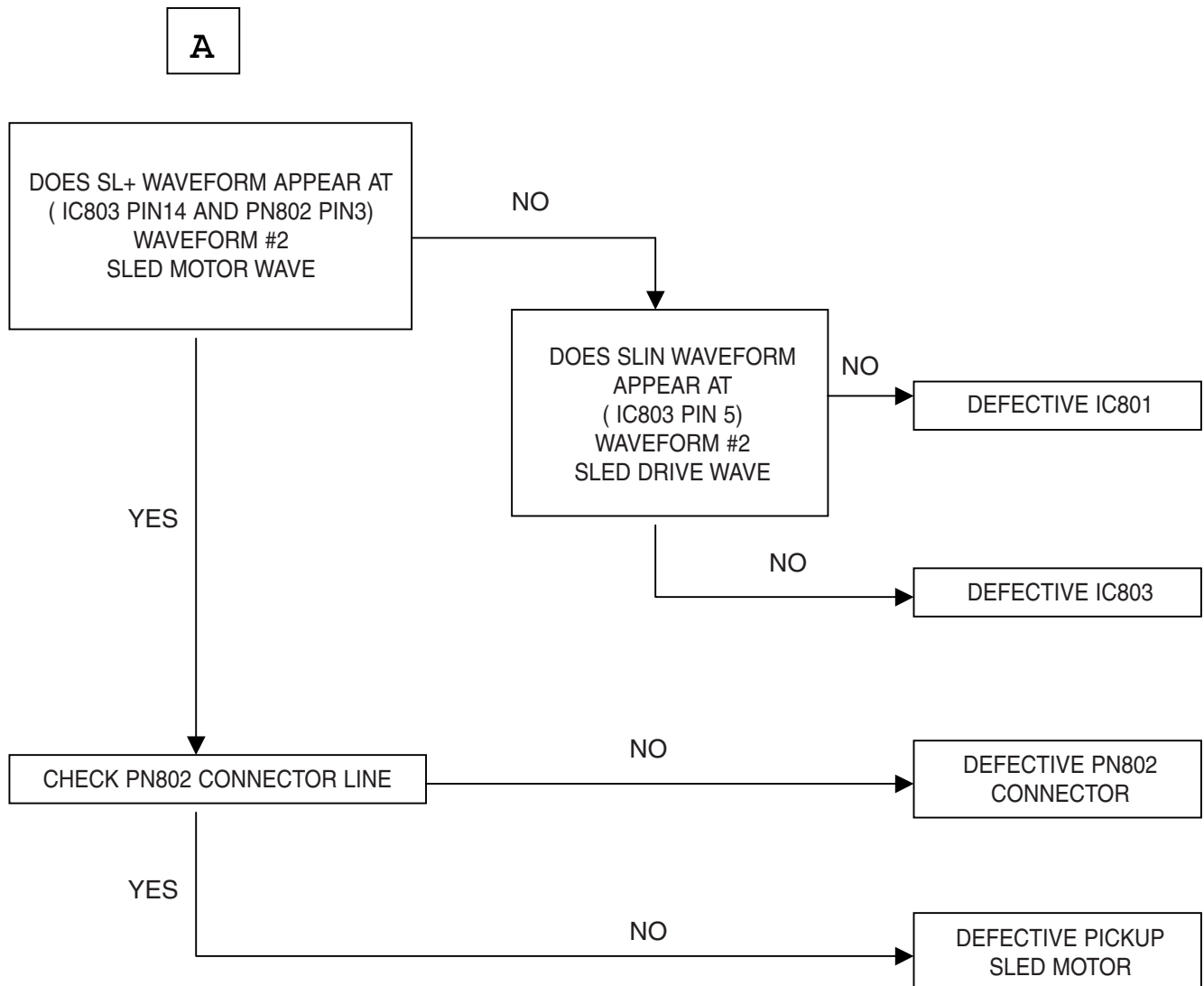
READING DISPLAY CHECK (= ONLY “CD “DISPLAY)



READING OK CHECK (= “NO DISC” DISPLAY)

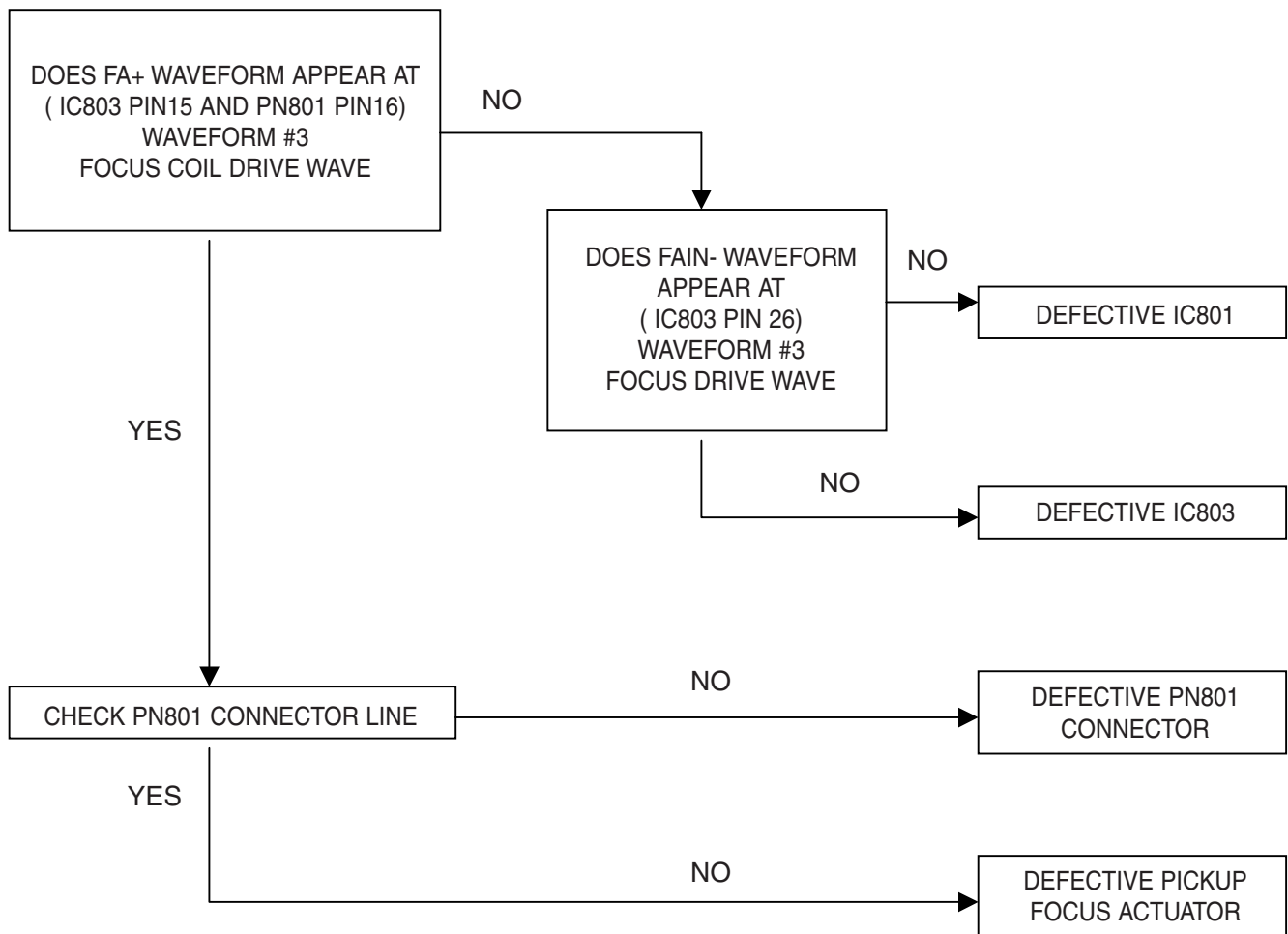


READING OK CHECK #A (= “NO DISC” DISPLAY)

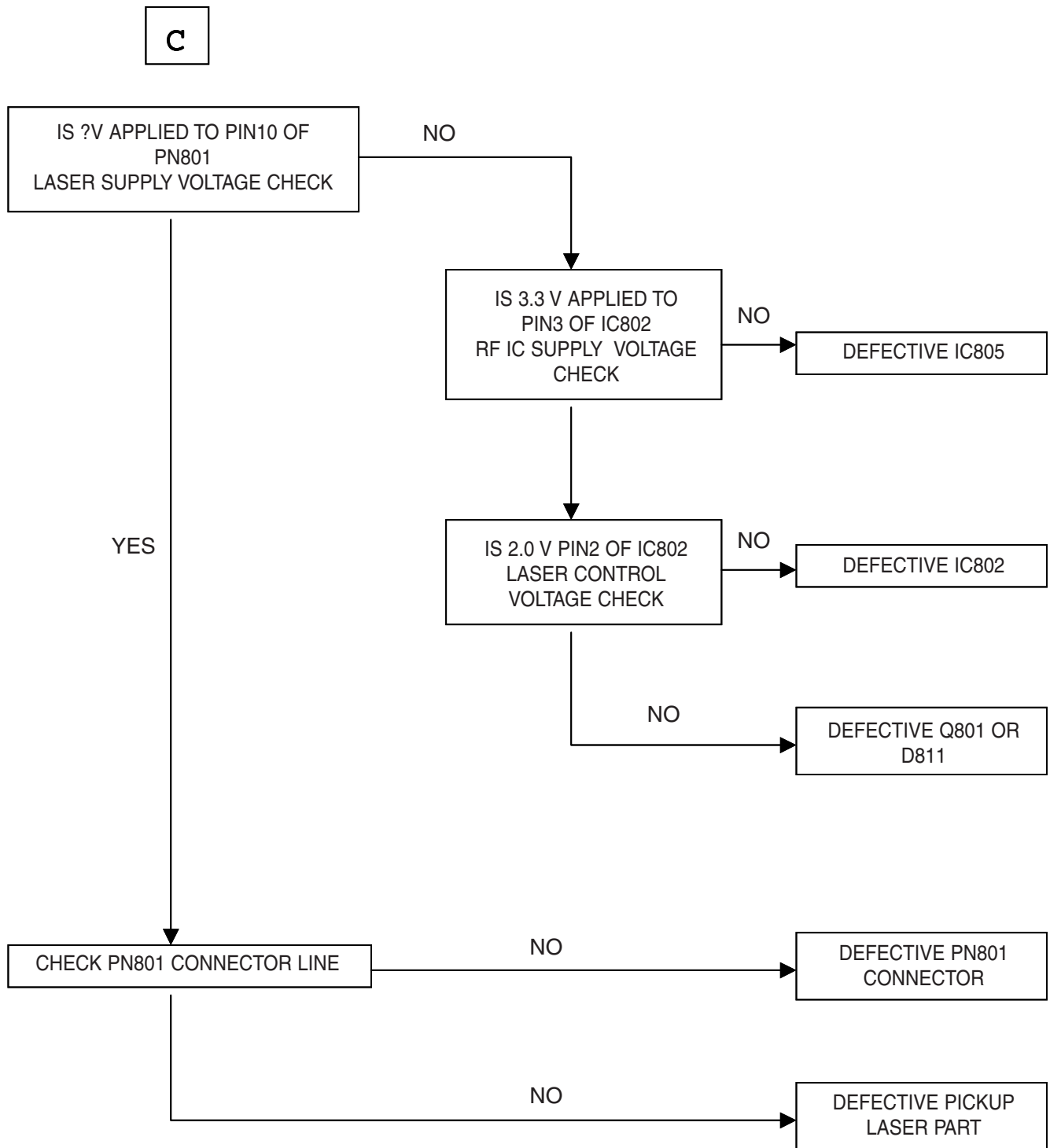


READING OK CHECK #B (= “NO DISC” DISPLAY)

B

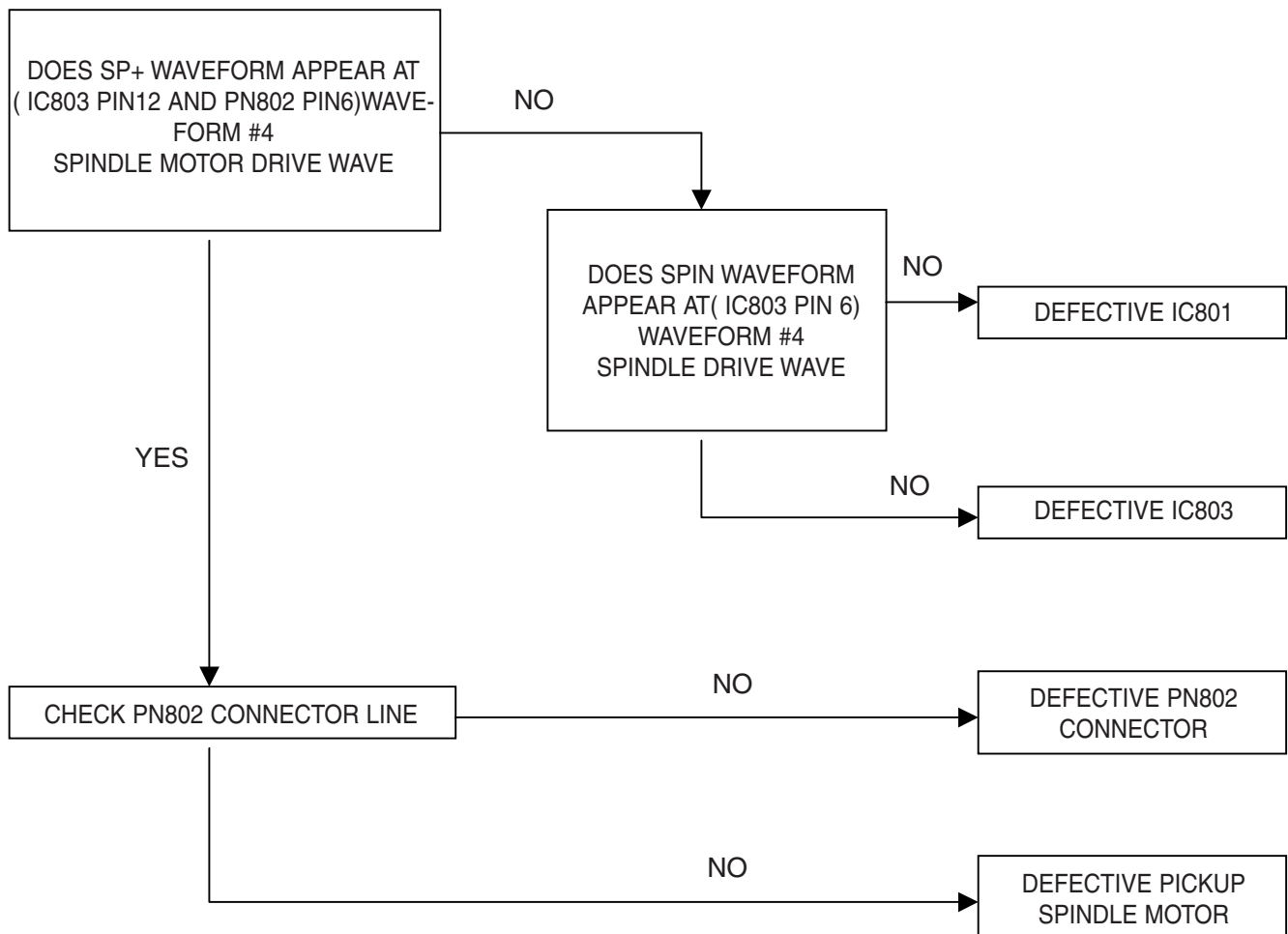


READING OK CHECK #C (= “NO DISC” DISPLA)

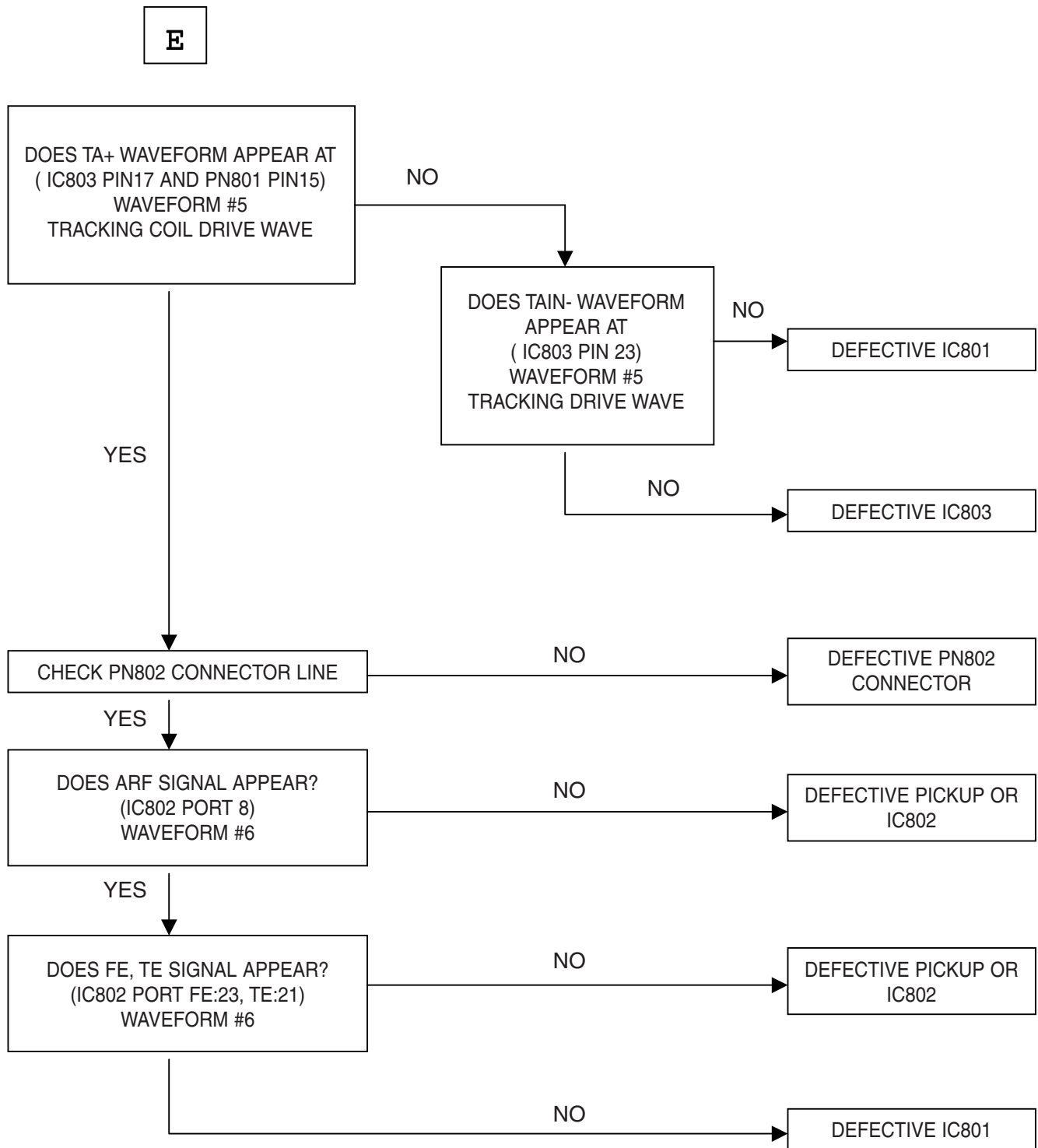


READING OK CHECK #D (= “NO DISC” DISPLAY)

D

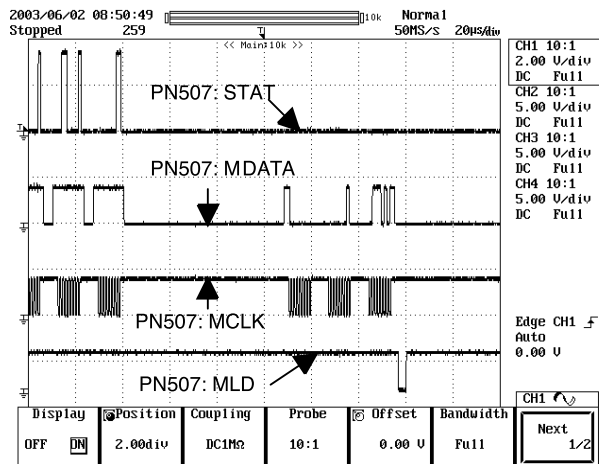


READING OK CHECK #E (= “NO DISC” DISPLAY)

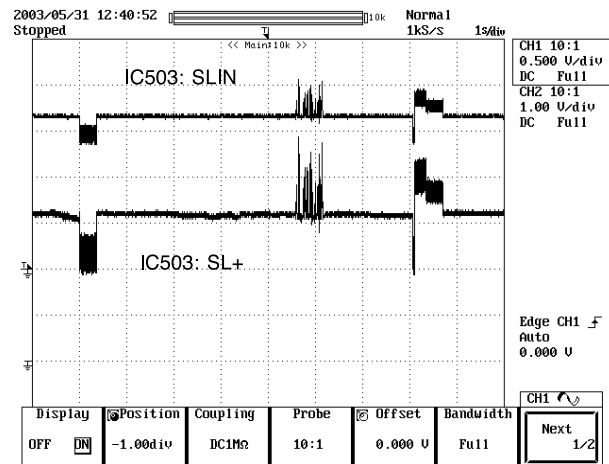


WAVEFORMS OF MAKOR CHECK POINT

#1 . MICOM INTERFACE WAVEFORM (PN507 pin6, 8, 9, 1 0) during normal play

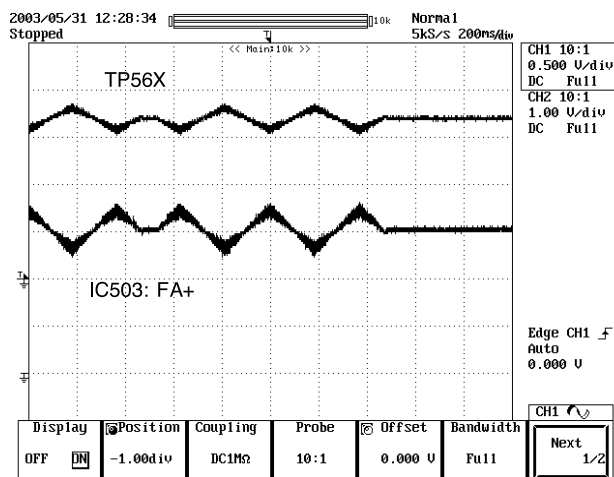


#2. SLED DRIVE AND MOTOR WAVEFORM (IC503 pin5, 1 4) when focus search

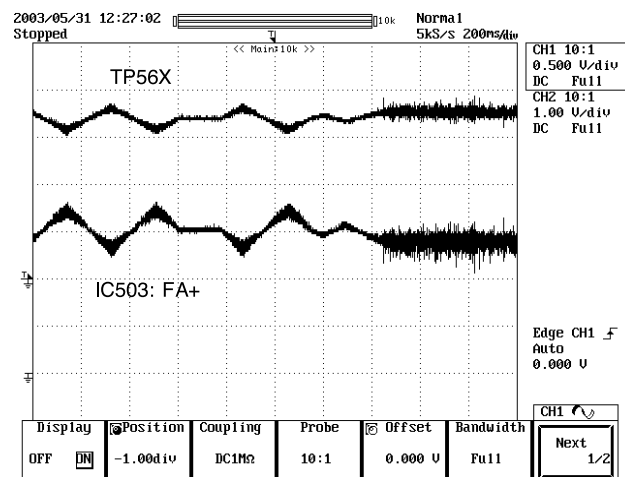


#3. FOCUS DRIVE AND MOTOR WAVEFORM (TP56 1 , IC503 pin 1 5)

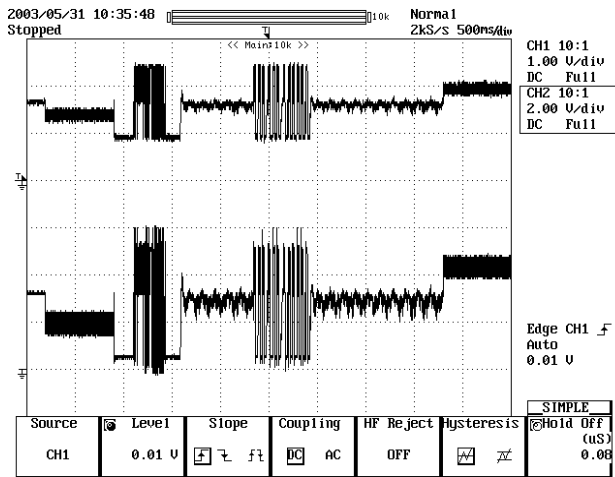
- When focus search failed or there is no disc on tray



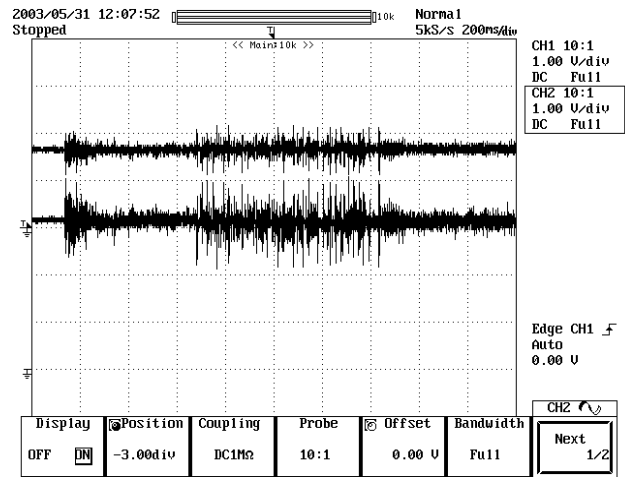
- There is disc on tray and focus search success



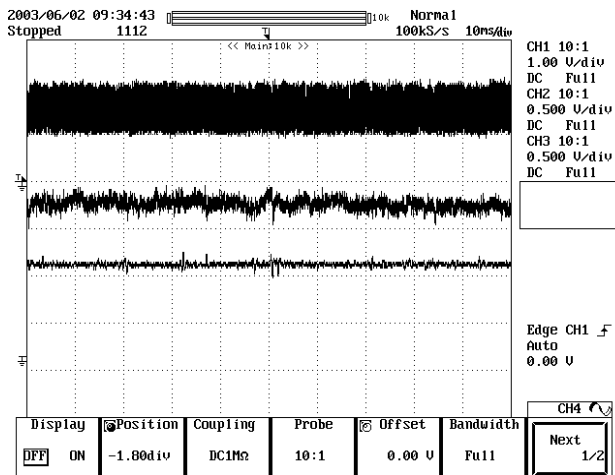
#4. SPINDLE DRIVE AND MOTOR WAVEFORM (IC503 pin6, 1 2) when TOC reading



#5. TRACK DRIVE AND MOTOR WAVEFORM (TP560, IC503 pin23) during normal play

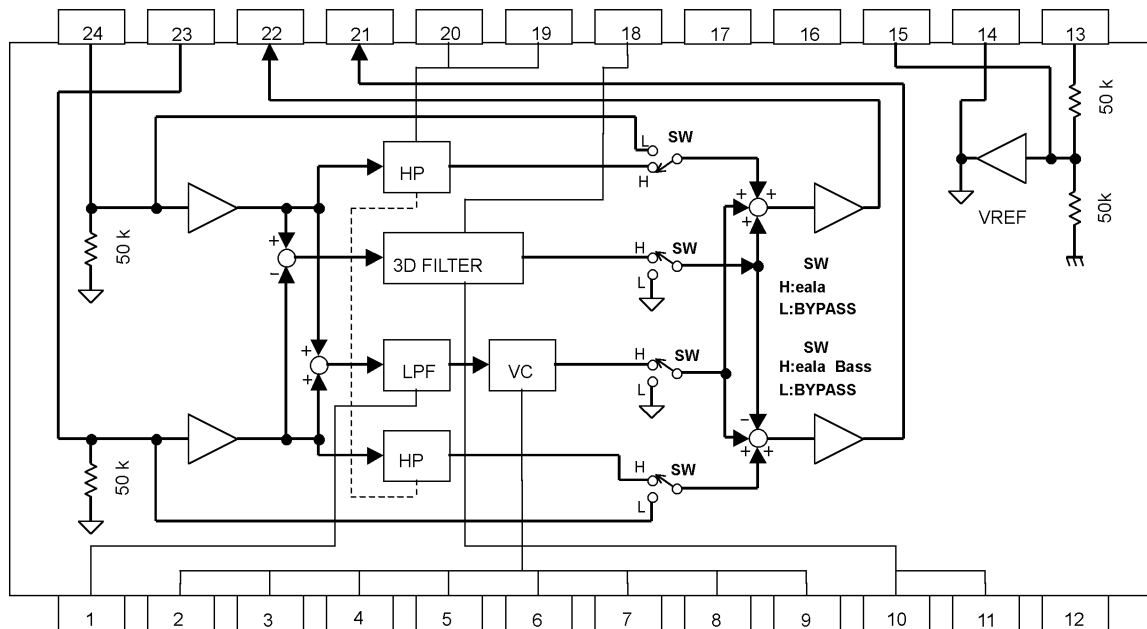


#6. RF, TRACKING AND FOCUS ERROR WAVEFORM (IC502 pin8, 2 1 , 23) during normal play

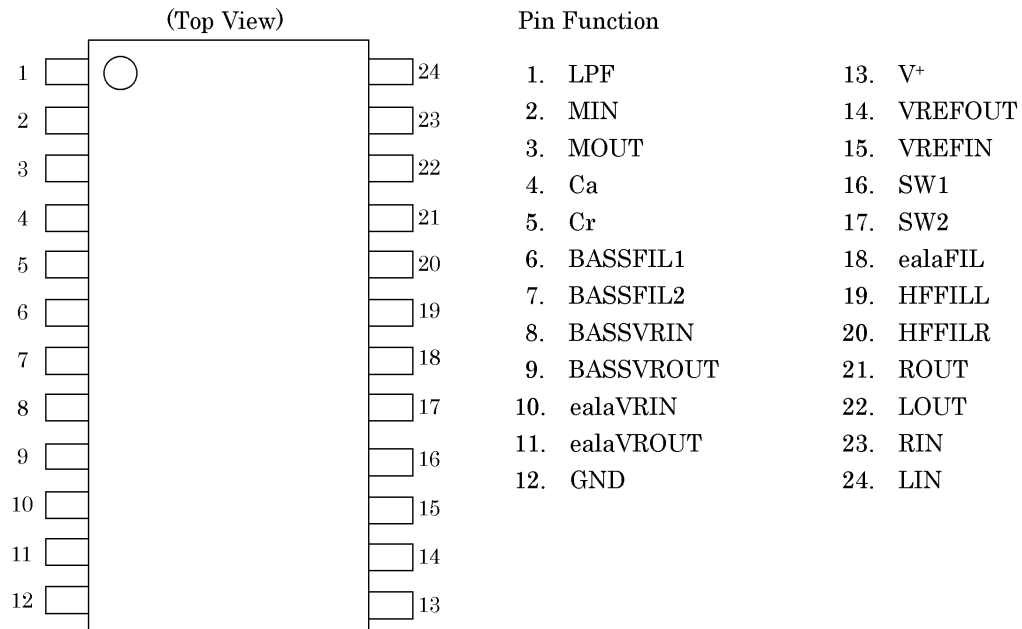


INTERNAL BLOCK DIAGRAM of ICs

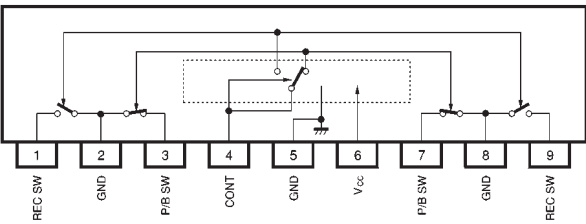
• NJM2706M (IC1) BLOCK DIAGRAM



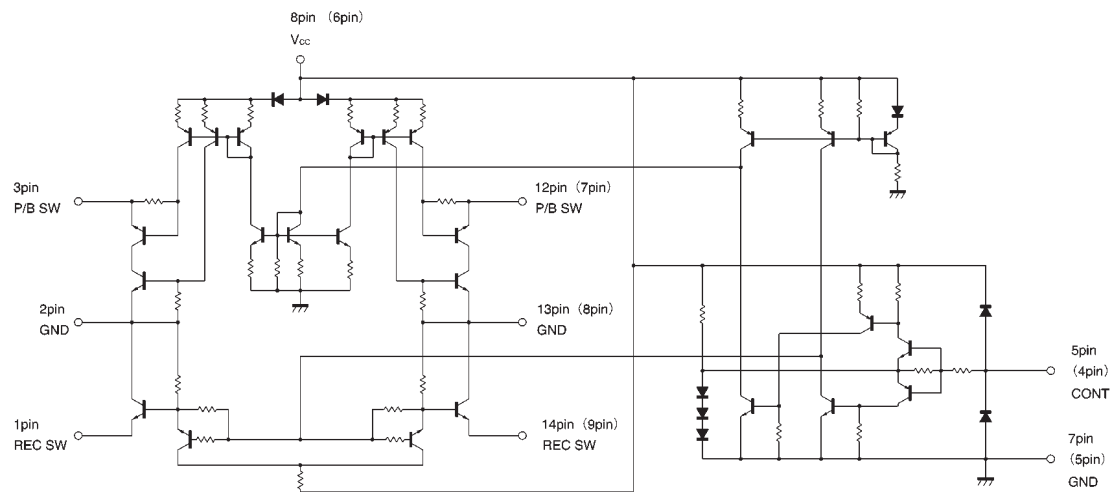
PIN CONFIGURATION



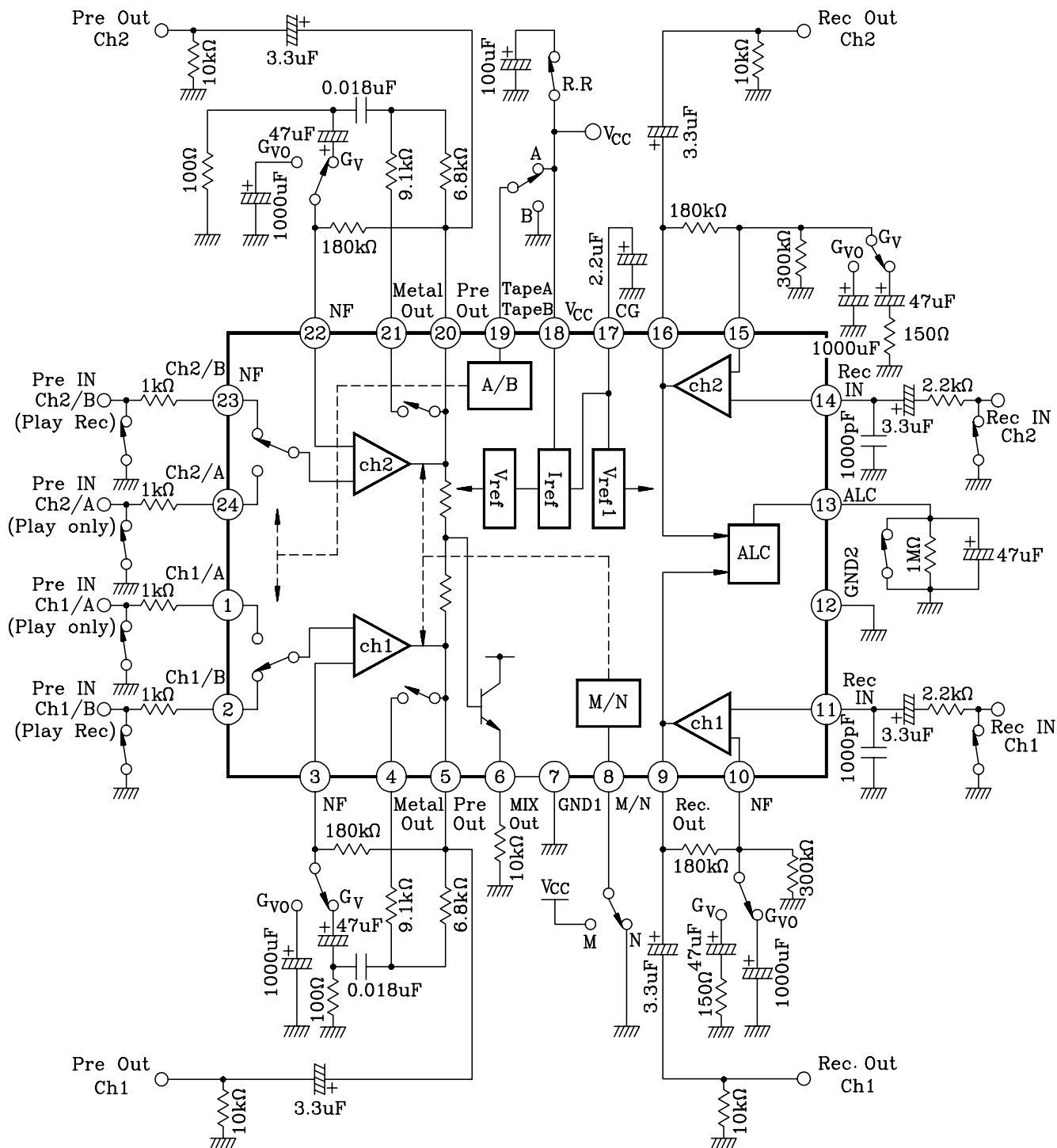
• **BA3126N (IC201)**
BLOCK DIAGRAM



PIN CONFIGURATION



• KIA6289N (IC202)
BLOCK DIAGRAM



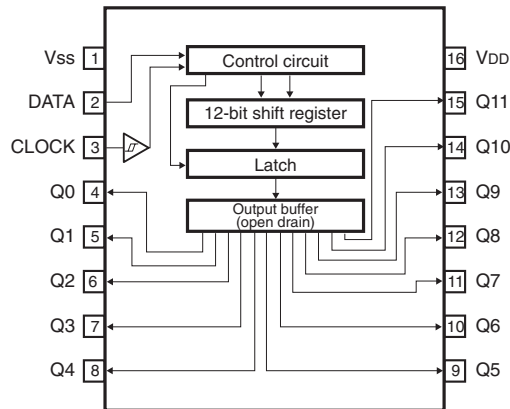
TERMINAL EXPLANATION

NO.	TERMINAL NAME	FUNCTION	EQUIVALENT CIRCUIT
1	TAPE A IN (ch1)	Tape Play Back Input (Play)	
24	TAPE A IN (ch1)		
2	TAPE B IN (ch2)	Tape Play Back Input (Play/Rec)	
23	TAPE B IN (ch2)		
3	PB NF (ch1)	Tape Play Back NF	
22	PB NF (ch2)		
4/21	Metal Out	Play Back Amp Metal Output	
5	Pre Out (ch1)	Play Back Amp Output	
20	Pre Out (ch2)		
6	MIX OUT	Mixing Output	
7	GND	GND	

NO.	TERMINAL NAME	FUNCTION	EQUIVALENT CIRCUIT
8	Metal/Normal SW	Change Over Switch for Metal Mode and Normal Mode.	
9	Rec Out (Ch1)	Recording Amp Output	
16	Rec Out (Ch2)		
10	Rec NF(Ch1)	Recording Amp NF	
15	Rec NF(Ch2)		
11	Rec IN (Ch1)	Recording Amp Input	
14	Rec IN (Ch2)		
12	GND	GND	

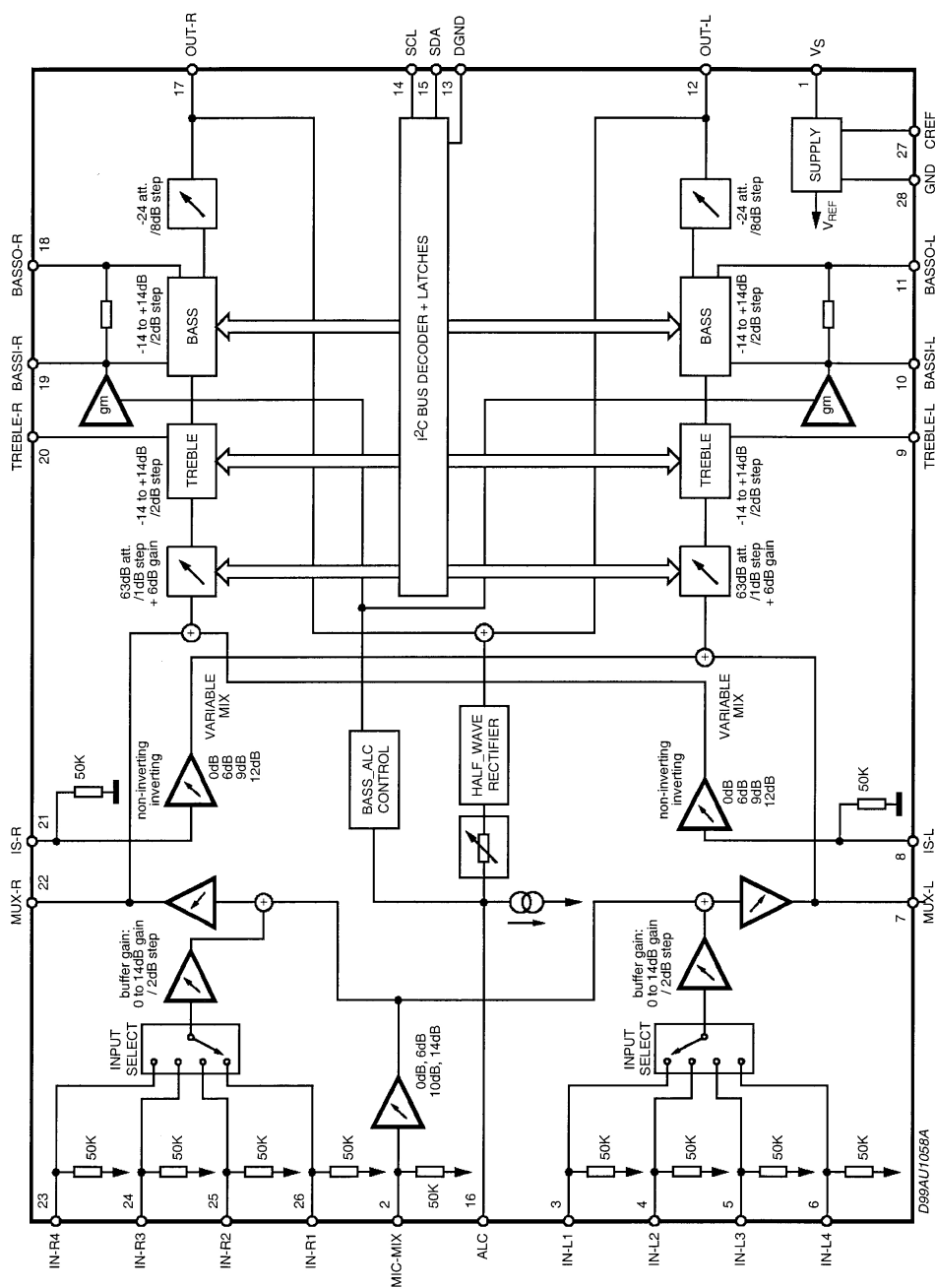
NO.	TERMINAL NAME	FUNCTION	EQUIVALENT CIRCUIT
13	ALC T.G	Automatic Level Control (ALC) Time Constant Terminal	
17	CG Det.	NF Charge up Circuit Switching Terminal	
19	TAPE A/TAPE B SW	Play Back Amp Input Selector	

- **BU2090F (IC 501)**
12-bit, Serial IN, Parallel OUT driver

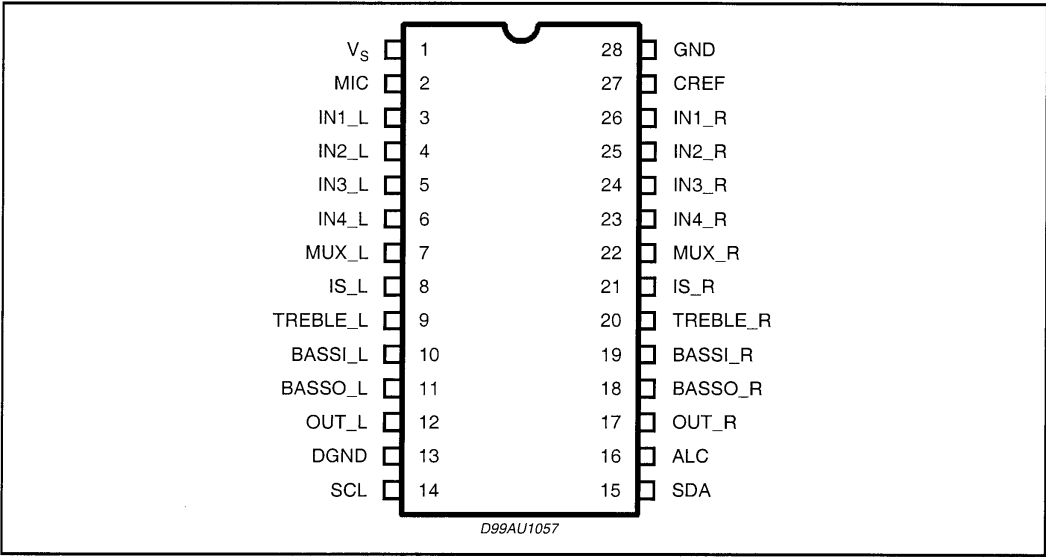


Pin No.			Pin name	Function
BU2090/F/FS	BU2092/F	BU2092/FV		
1	1	1	Vss	GND
2	2	2	DATA	Serial data input
3	3	3	CLOCK	Data shift clock input
-	4	4	LCK	Data latch clock input
4	5	5	Q0	parallel data output
5	6	6	Q1	parallel data output
6	7	7	Q2	parallel data output
7	8	8	Q3	parallel data output
8	9	9	Q4	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	OE	Output Enable
16	18	20	VDD	Power supply

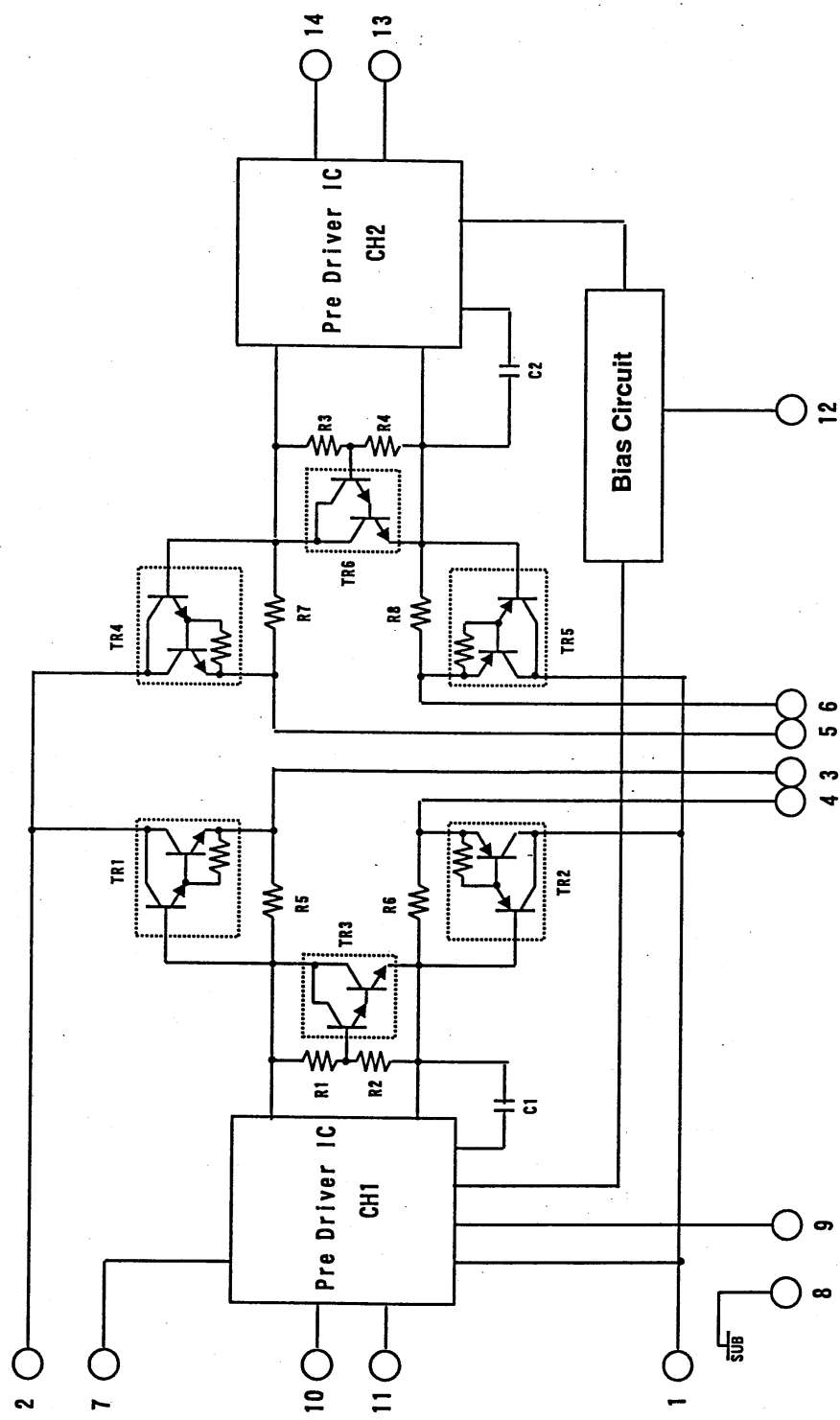
• TDA7468D (IC601) BLOCK DIAGRAM



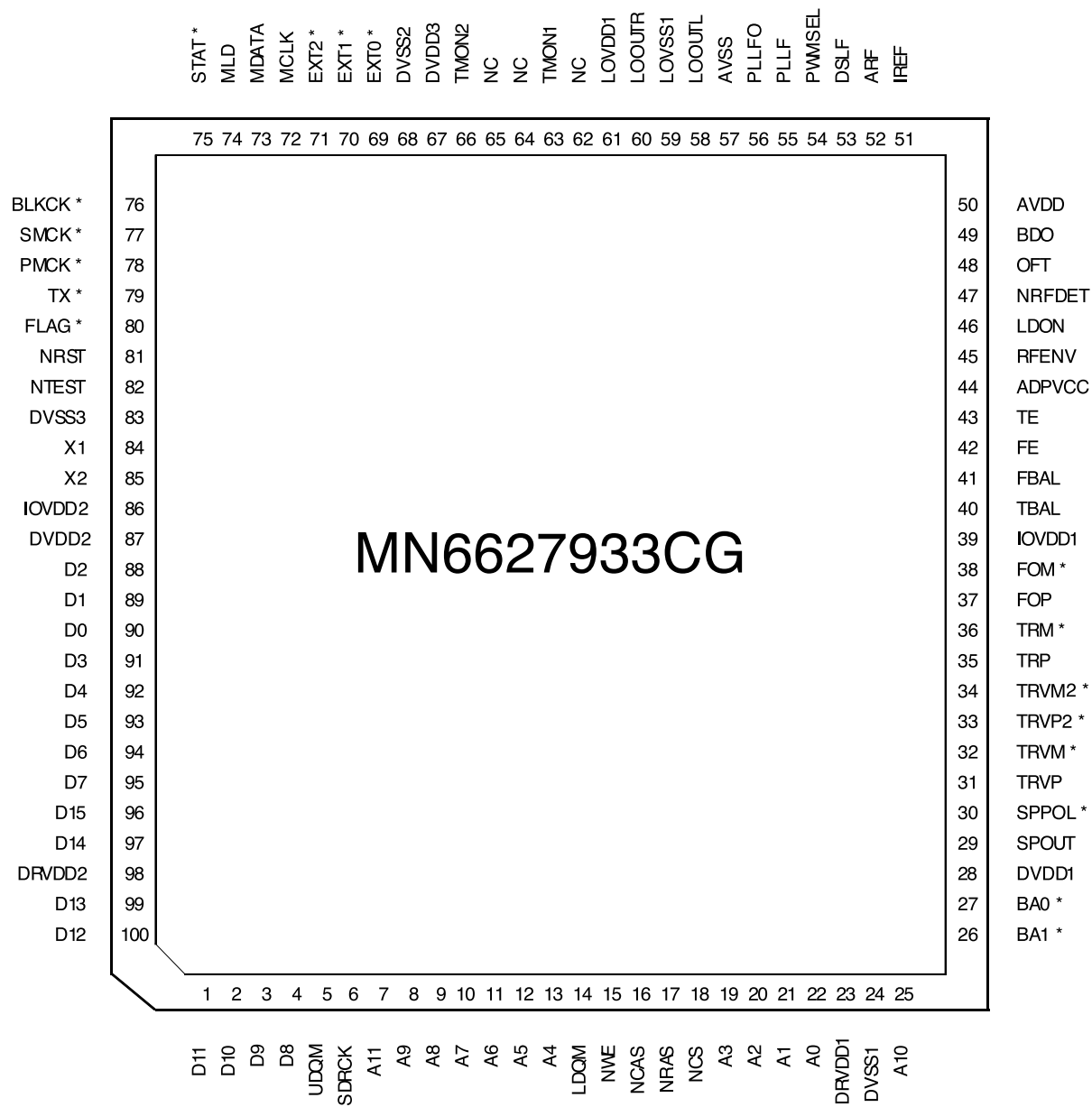
PIN CONFIGURATION



• STK403-070 (IC701)
BLOCK DIAGRAM

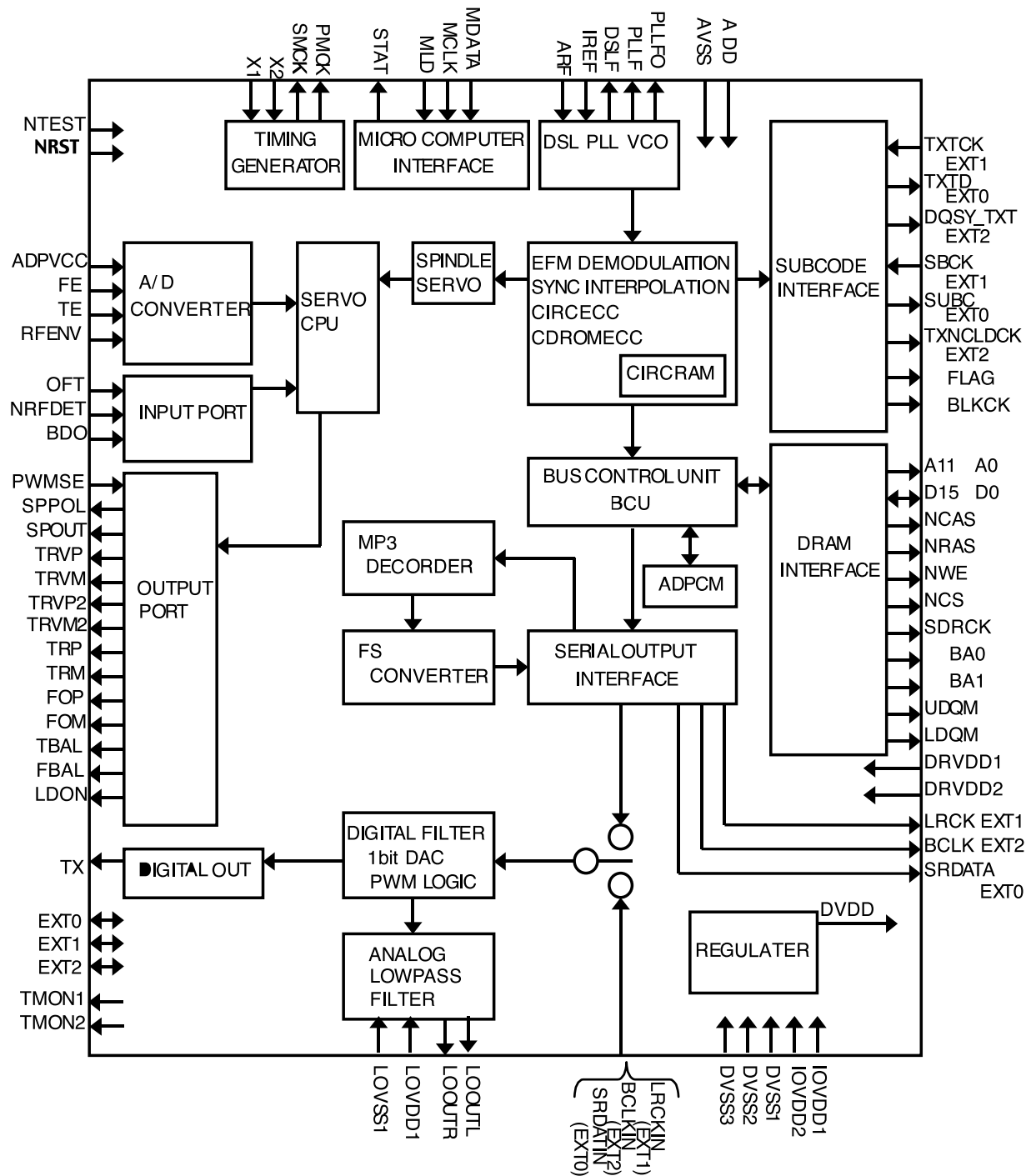


• **N6627933CG (IC801)**
Pin Assignment



Note) Pins marked with an asterisk can be switched to different signals by using microcontroller commands.

Internal Block Diagram

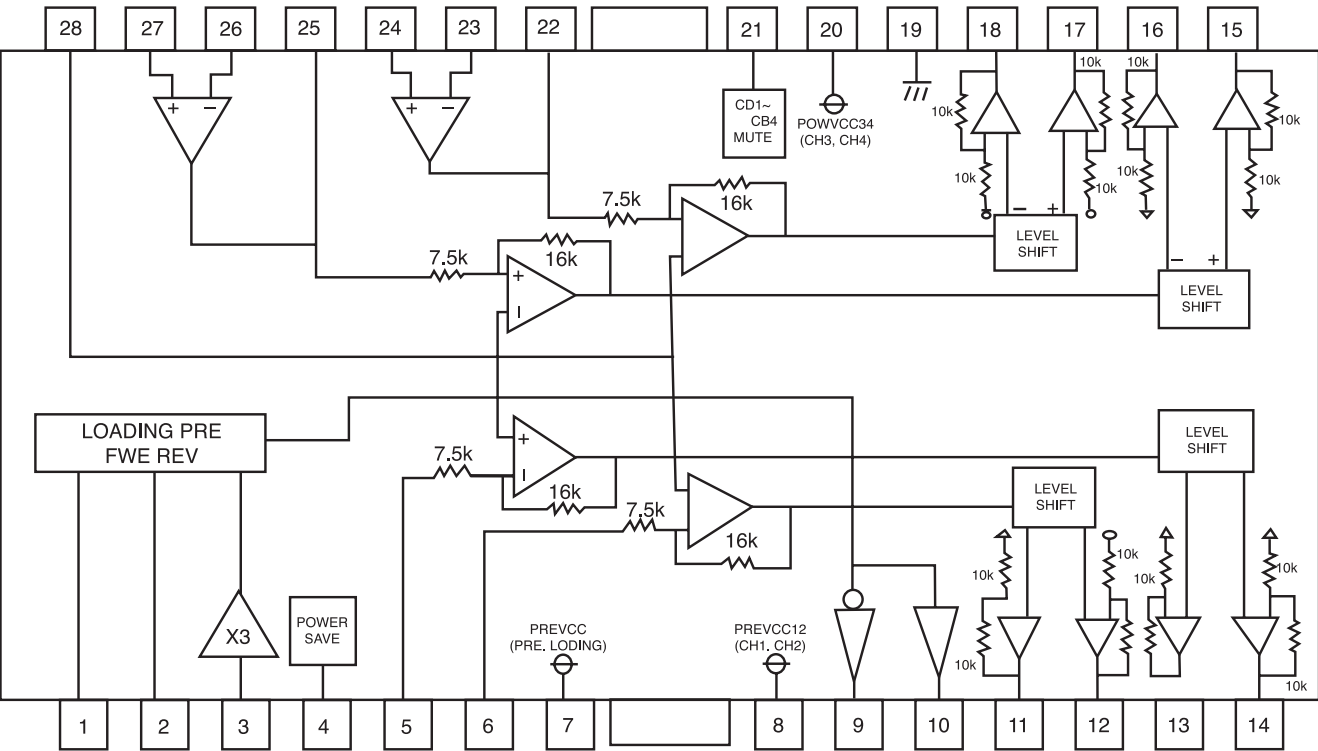


Pin Descriptions

Pin No.	Symbol	I/O	Function
1	D11	I/O	DRAM data signal I/O 11
2	D10	I/O	DRAM data signal I/O 10
3	D9	I/O	DRAM data signal I/O 9
4	D8	I/O	DRAM data signal I/O 8
5	UDQM	O	SDRAM upper byte data mask signal output
6	SDRCK	O	SDRAM clock signal output
7	A11	O	DRAM address signal output 11
8	A9	O	DRAM address signal output 9
9	A8	O	DRAM address signal output 8
10	A7	O	DRAM address signal output 7
11	A6	O	DRAM address signal output 6
12	A5	O	DRAM address signal output 5
13	A4	O	DRAM address signal output 4
14	LDQM	O	SDRAM lower byte data mask signal output
15	NWE	O	DRAM write enable signal output
16	NCAS	O	DRAM CAS control signal output
17	NRAS	O	DRAM RAS control signal output
18	NCS	O	SDRAM chip select signal output
19	A3	O	DRAM address signal output 3
20	A2	O	DRAM address signal output 2
21	A1	O	DRAM address signal output 1
22	A0	O	DRAM address signal output 0
23	DRVDD1	I	Power supply 1 for DRAM interface I/O
24	DVSS1	I	Ground 1 for digital circuits
25	A10	O	DRAM address signal output 10
26	*BA1	O	SDRAM bank selection signal output 1
27	*BA0	O	SDRAM bank selection signal output 0
28	DVDD1	I	Power supply 1 for internal digital circuits
29	SPOUT	O	Spindle drive signal output (absolute value)
30	*SPPOL	O	Spindle drive signal output (polarity)
31	TRVP	O	Traverse drive signal output (positive polarity)
32	*TRVM	O	Traverse drive signal output (negative polarity)
33	*TRVP2	O	Traverse drive signal output 2 (positive polarity)
34	*TRVM2	O	Traverse drive signal output 2 (negative polarity)
35	TRP	O	Tracking drive signal output (positive polarity)
36	*TRM	O	Tracking drive signal output (negative polarity)
37	FOP	O	Focus drive signal output (positive polarity)
38	*FOM	O	Focus drive signal output (negative polarity)
39	IOVDD1	I	Power supply 1 for digital I/O
40	TBAL	O	Tracking balance adjustment signal output
41	FBAL	O	Focus balance adjustment signal output
42	FE	I	Focus error signal input
43	TE	I	Tracking error signal input
44	ADPVCC	I	Voltage input for supply voltage monitor
45	RFENV	I	RF envelope signal input
46	LDON	O	Laser ON signal output
47	NRFDET	I	RF detectoion signal input
48	OFT	I	Off-track signal input
49	BDO	I	Dropout signal input
50	AVDD1	I	Power supply 1 for analog circuits
51	IREF	I	Analog reference current input
52	ARF	I	RF signal input
53	DSLIF	O	DSL loop filter pin
54	PWMSEL	I	PWM output mode selection input Low: Direct High: 3-state
55	PLLIF	O	PLL loop filter pin (for phase comparison)

Pin No.	Symbol	I/O	Function
56	PLLFO	O	PLL loop filter pin (for speed comparison)
57	AVSS1	I	Ground 1 for analog circuits
58	LOOUTL	O	L-ch audio output for line-out output
59	LOVSS1	I	Ground for line-out output
60	LOOUTR	O	R-ch audio output for line-out output
61	LOVDD1	I	Power supply for line-out output
62	N.C.	-	-
63	TMON1	O	Test monitor output 1
64	N.C.	-	-
65	N.C.	-	-
66	TMON2	O	Test monitor output 2
67	DVDD3	I	Power supply 3 for digital circuits
68	DVSS2	I	Ground 2 for digital circuits
69	*EXT0	I/O	Expansion I/O port 0
70	*EXT1	I/O	Expansion I/O port 1
71	*EXT2	I/O	Expansion I/O port 2
72	MCLK	I	Microcontroller command clock signal input
73	MDATA	I	Microcontroller command data signal input
74	MLD	I	Microcontroller command load signal input
75	*STAT	O	Status signal output
76	*BLKCK	O	Subcode block clock signal output
77	*SMCK	O	4.2336-/8.4672-MHz clock signal output
78	*PMCK	O	88.2-kHz clock signal output
79	*TX	O	Digital audio interface signal output
80	*FLAG	O	Flag signal output
81	NRST	I	LSI reset signal input
82	NTEST	I	Test mode setting input
83	DVSS3	I	Ground 3 for digital circuits
84	X1	I	Crystal oscillator circuit input
85	X2	O	Crystal oscillator circuit output
86	IOVDD2	I	Power supply 2 for digital I/O
87	DVDD2	I	Power supply 2 for internal digital circuits
88	D2	I/O	DRAM data signal I/O 2
89	D1	I/O	DRAM data signal I/O 1
90	D0	I/O	DRAM data signal I/O 0
91	D3	I/O	DRAM data signal I/O 3
92	D4	I/O	DRAM data signal I/O 4
93	D5	I/O	DRAM data signal I/O 5
94	D6	I/O	DRAM data signal I/O 6
95	D7	I/O	DRAM data signal I/O 7
96	D15	I/O	DRAM data signal I/O 15
97	D14	I/O	DRAM data signal I/O 14
98	DRVDD2	I	Power supply 2 for DRAM interface I/O
99	D13	I/O	DRAM data signal I/O 13
100	D12	I/O	DRAM data signal I/O 12

• BA5810FP (IC803)



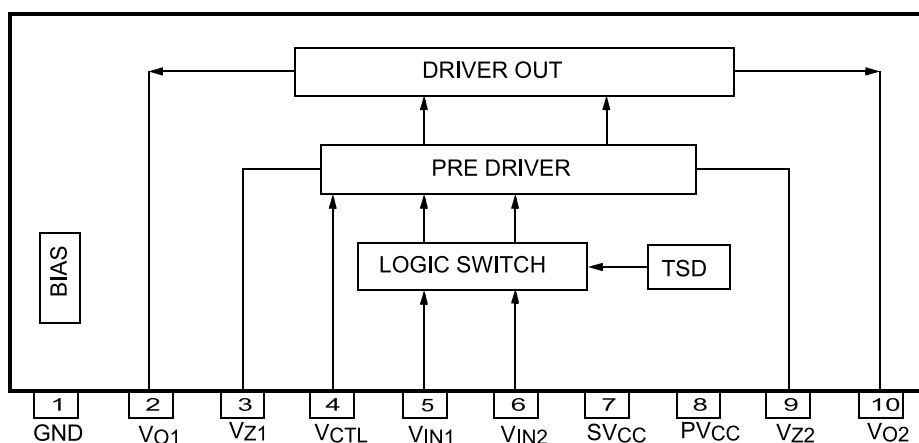
• KA3082 (IC 807)
Bi-Directional DC Motor Driver
Description

The KA3082 is a monolithic integrated circuit designed for driving bi-directional DC motor with braking and speed control, and it is suitable for the loading motor driver of VCR, CDP, and TOY systems. The speed control can be achieved by adjusting the external voltage of the speed control pin. It has two pins of logic inputs for controlling the forward/ reverse and braking.

Pin Definitions

Pin Number	Pin Name	I/O	Pin Function Description
1	GND	-	Ground
2	VO1	O	Output 1
3	VZ1	-	Phase Compensation
4	VCTL	I	Motor Speed Control
5	VIN1	I	Input 1
6	VIN2	I	Input 2
7	SVcc	-	Supply Voltage (Signal)
8	PVcc	-	Supply Voltage (Power)
9	VZ2	-	Phase Compensation
10	VO2	O	Output 2

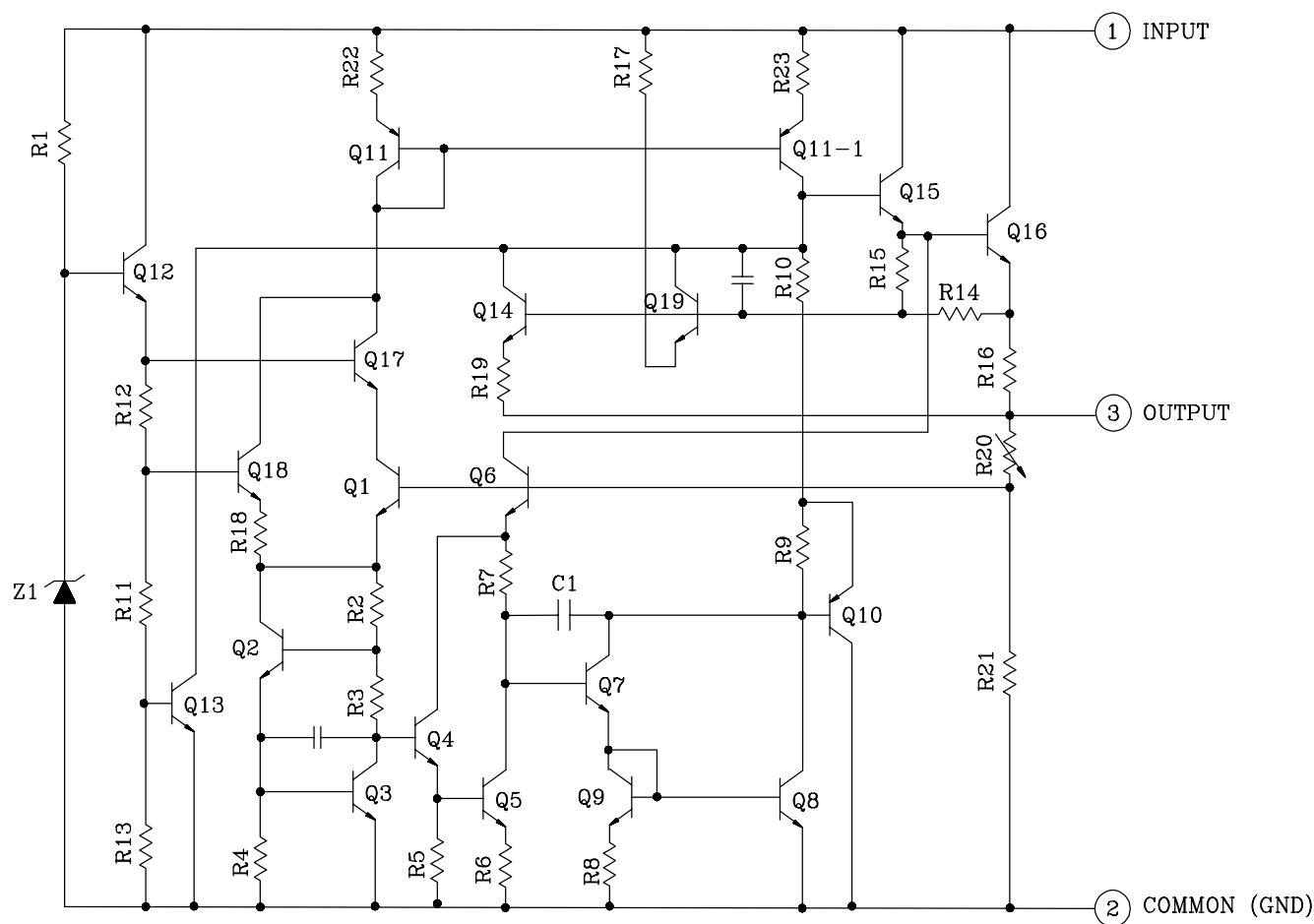
Internal Block Diagram



• KIA7805AP/API (IC 901)

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

EQUIVALENT CIRCUIT



KIA7805AP/API

ELECTRICAL CHARACTERISTICS ($V_{IN}=10V$, $I_{OUT}=500mA$, $0^{\circ}C \leq T_j \leq 125^{\circ}C$)

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

• **KIA78R12PI (IC 903)**
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 terminal 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.)

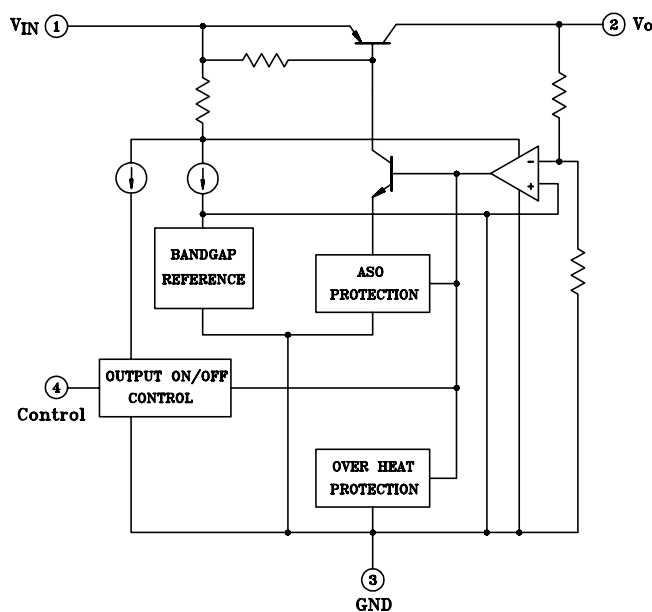
CHARACTERISTIC		SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Output Voltage	KIA78R05	V _O	-	4.88	5.0	5.12	V
	KIA78R06		-	5.85	6.0	6.15	
	KIA78R08		-	7.80	8.0	8.2	
	KIA78R09		-	8.78	9.0	9.22	
	KIA78R10		-	9.75	10.0	10.25	
	KIA78R12		-	11.70	12.0	12.30	
	KIA78R15		-	14.70	15.0	15.30	
Load Regulation		Reg Load	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

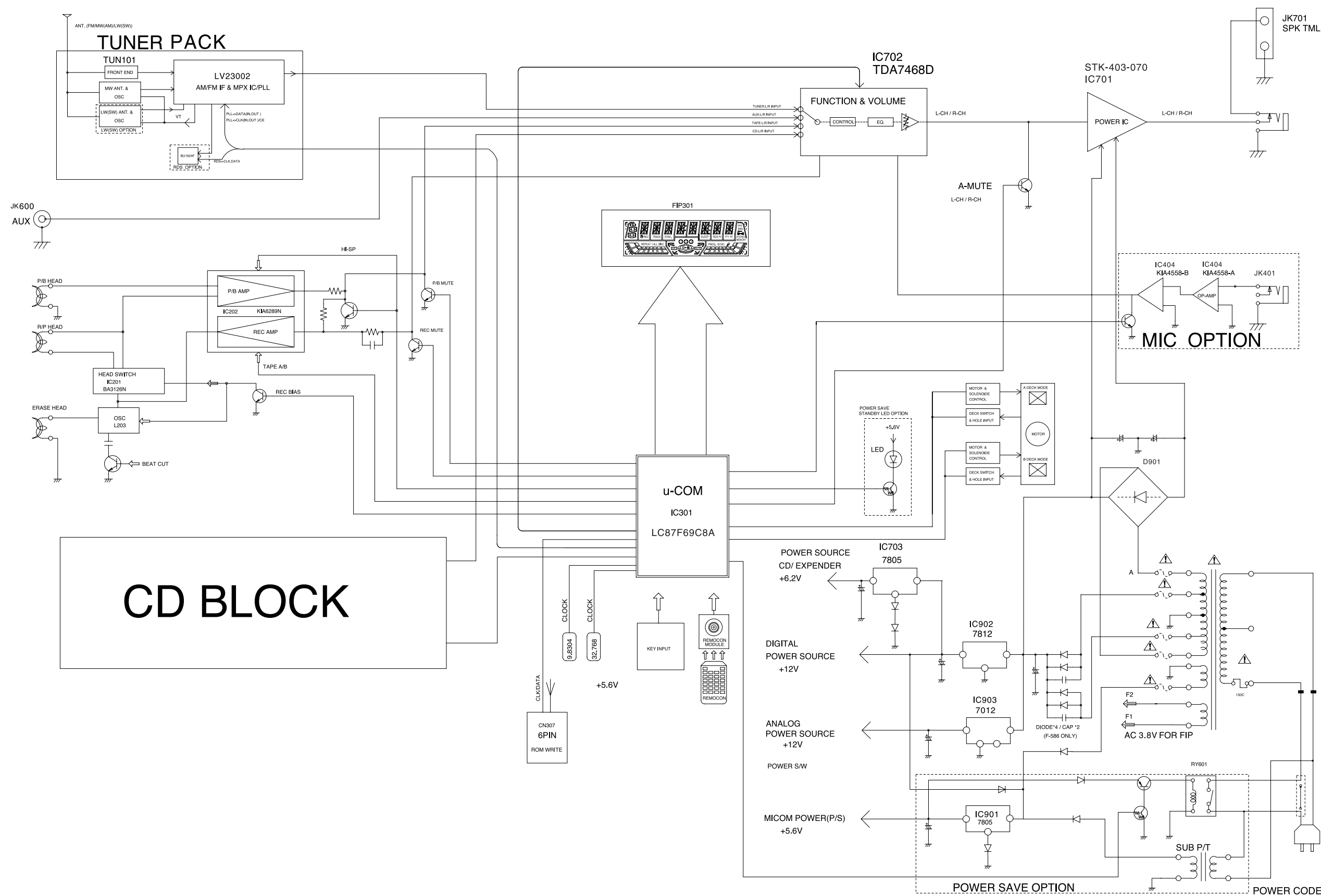
Note2) V_{IN} of KIA78R05=6~12V
" KIA78R06=7~15V
" KIA78R08=9~25V
" KIA78R09=10~25V
" KIA78R10=11~26V
" KIA78R12=13~29V
" KIA78R15=16~32V

Note3) At V_{IN}=0.95V_O

Block Diagram

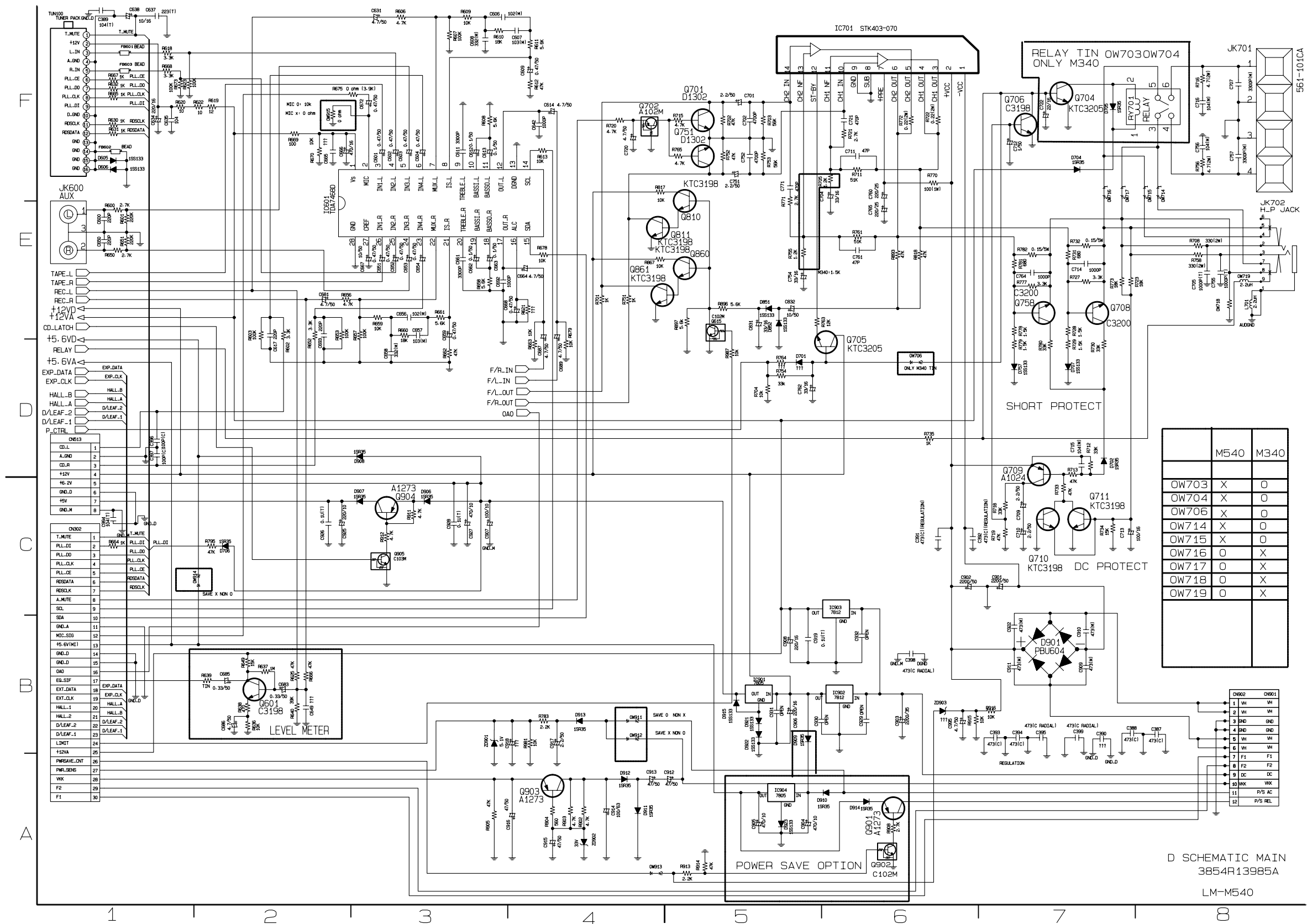


❑ BLOCK DIAGRAM

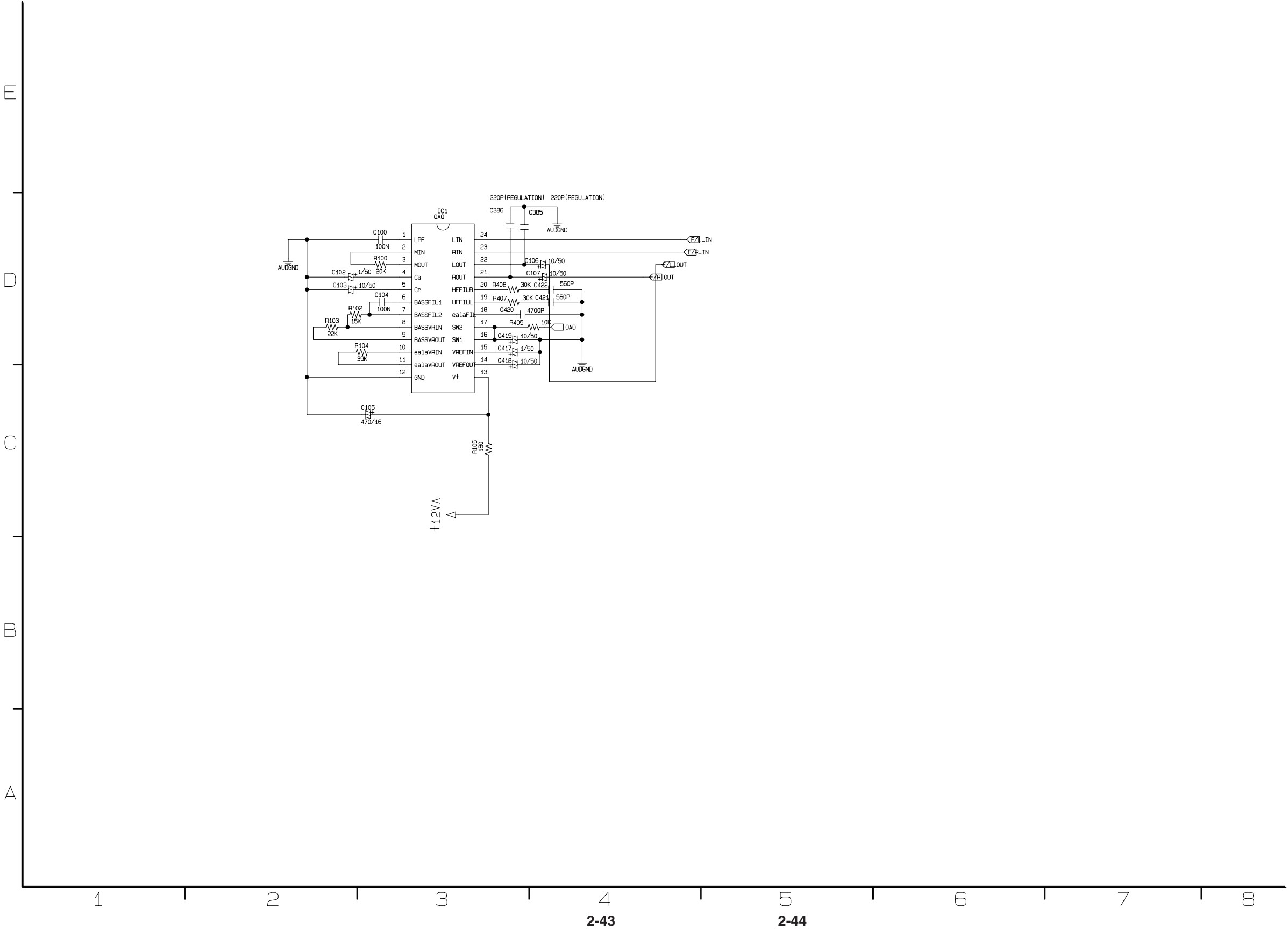


SCHEMATIC DIAGRAMS

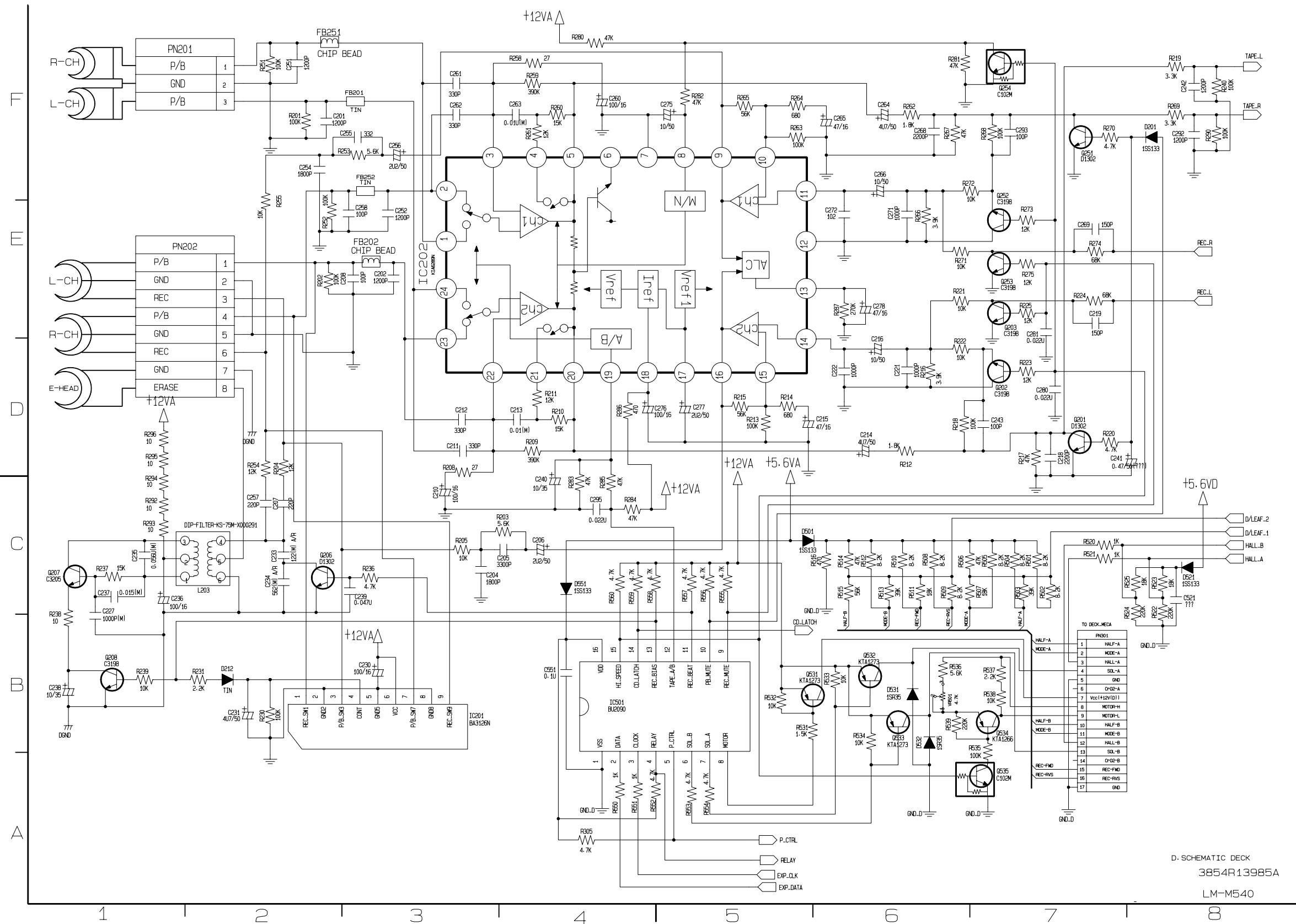
MAIN SCHEMATIC DIAGRAM



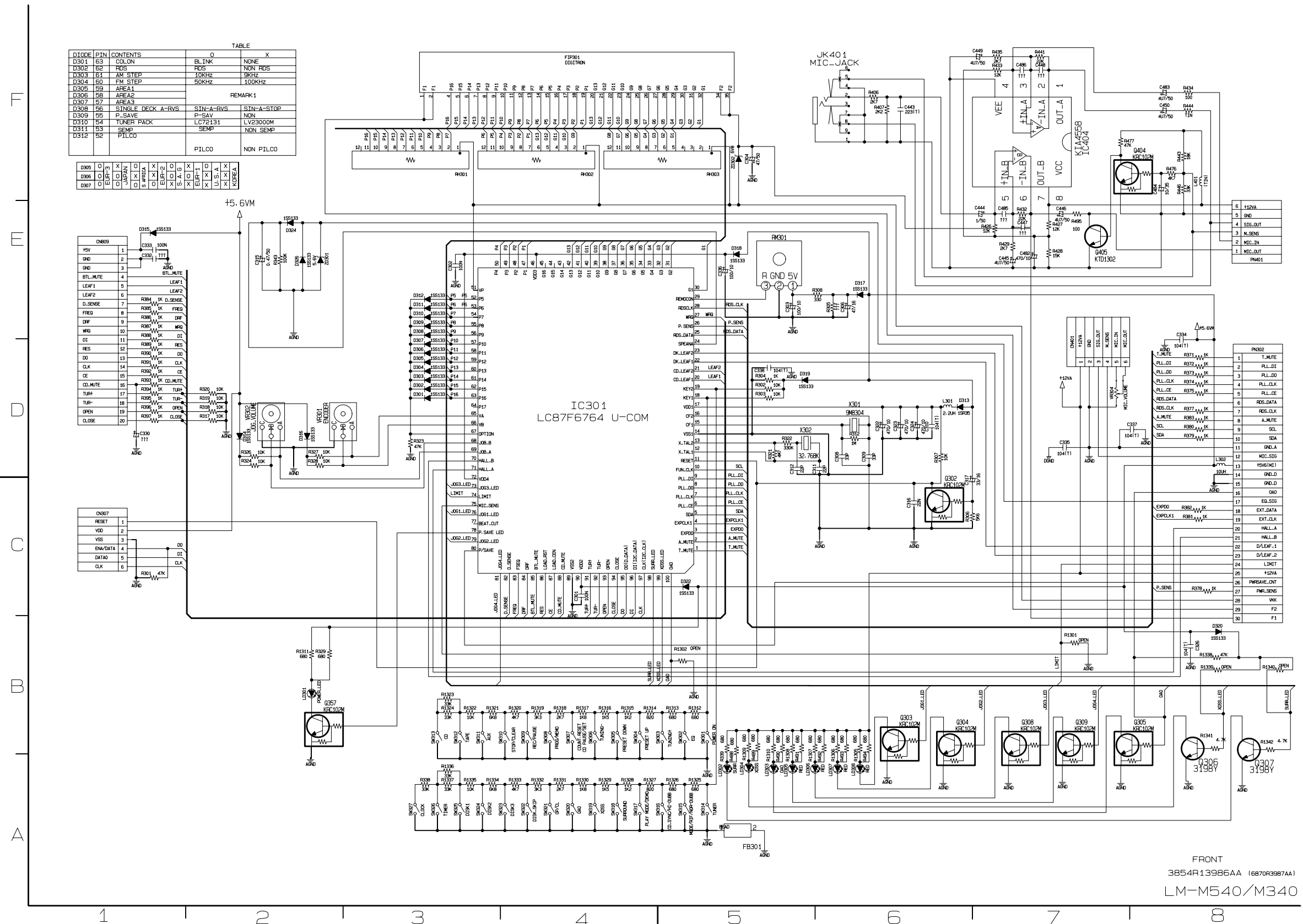
• MAIN-OAO SCHEMATIC DIAGRAM



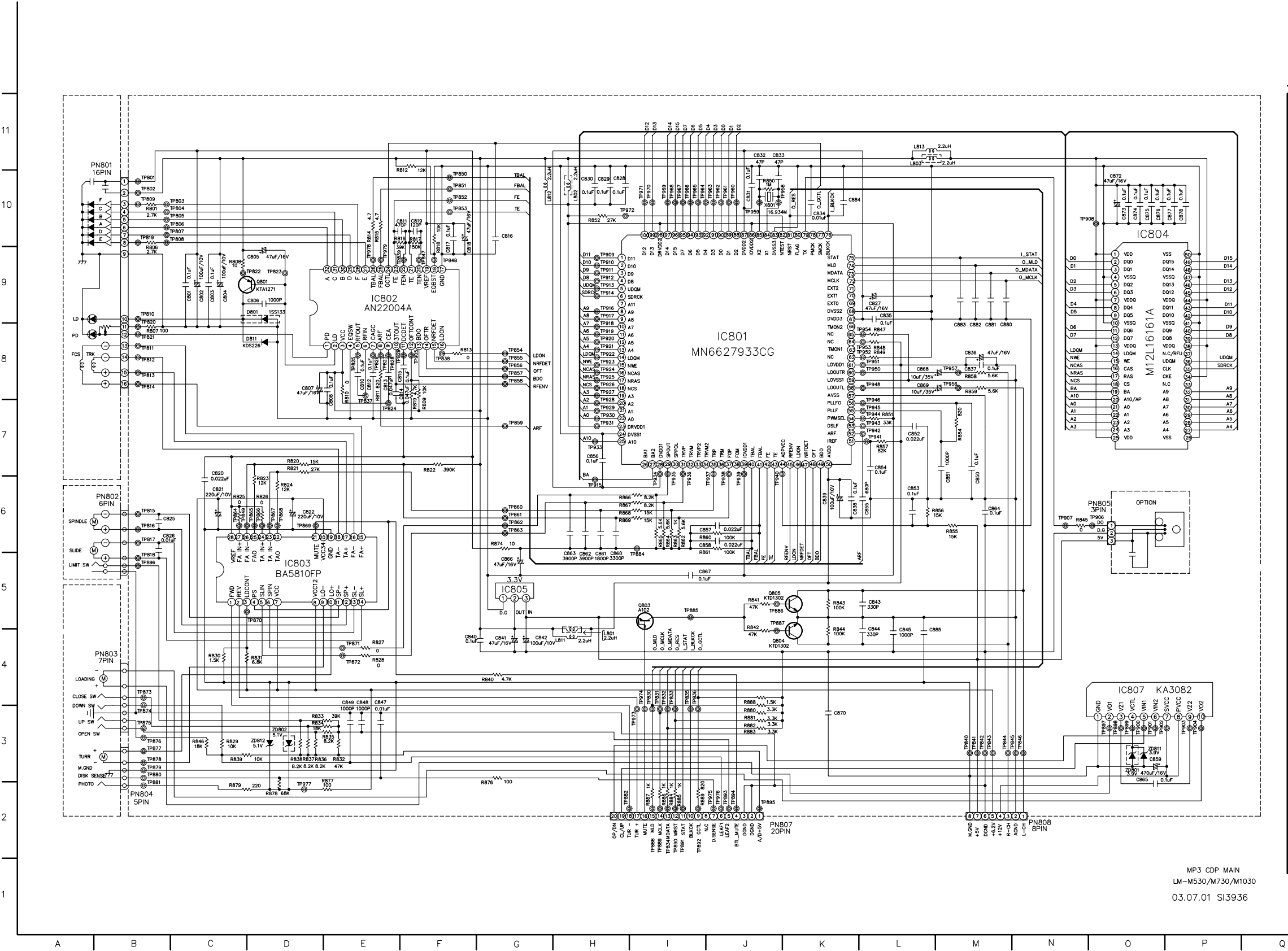
- **DECK SCHEMATIC DIAGRAM**



- **FRONT SCHEMATIC DIAGRAM**



• CDP SCHEMATIC DIAGRAM

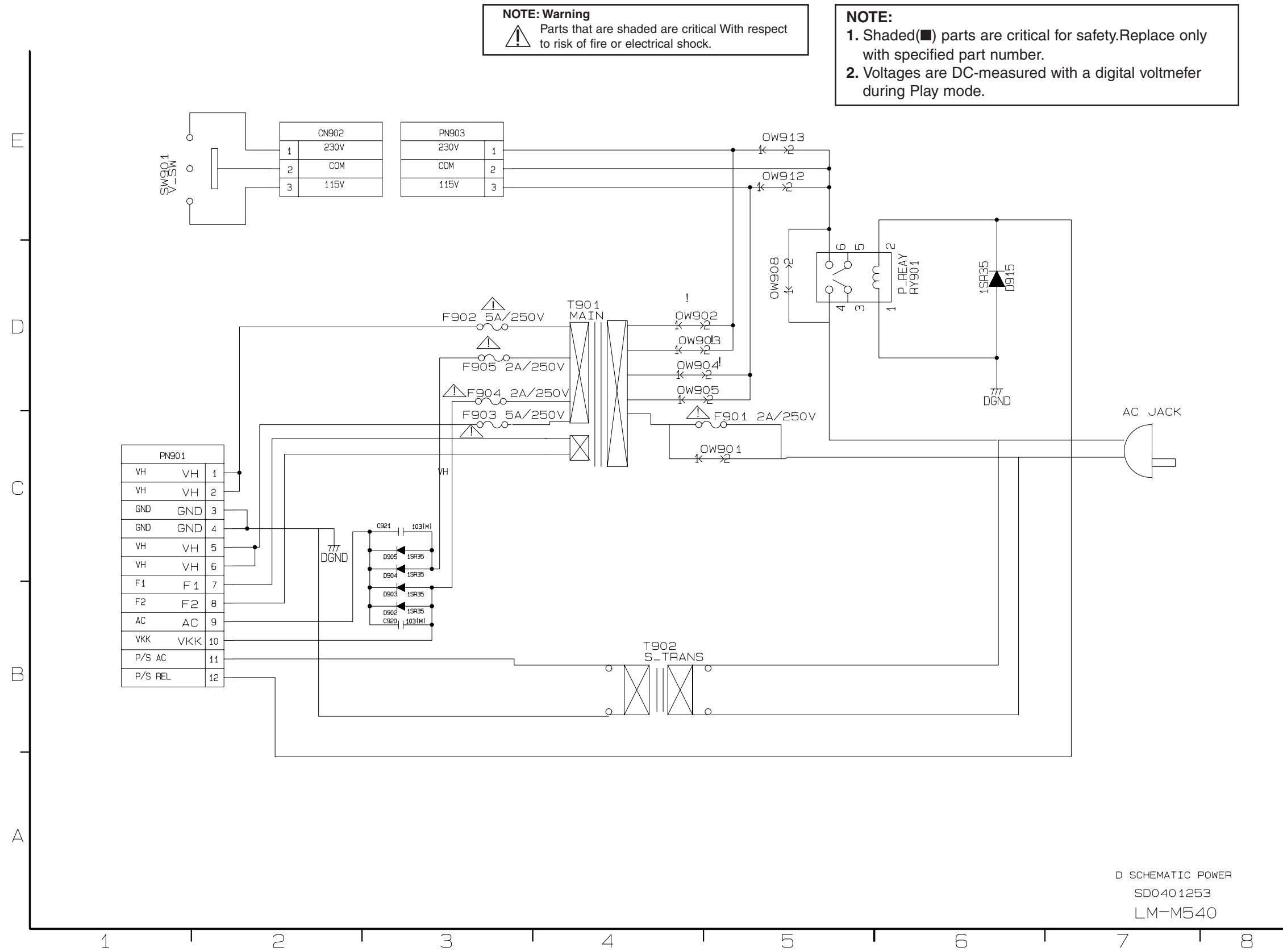


LOCATION GUIDE

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	H6
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	L7
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		

MP3 CDP MAIN
LM-M530/M730/M1030
03.07.01 SI3936

• POWER SCHEMATIC DIAGRAM



D SCHEMATIC POWER

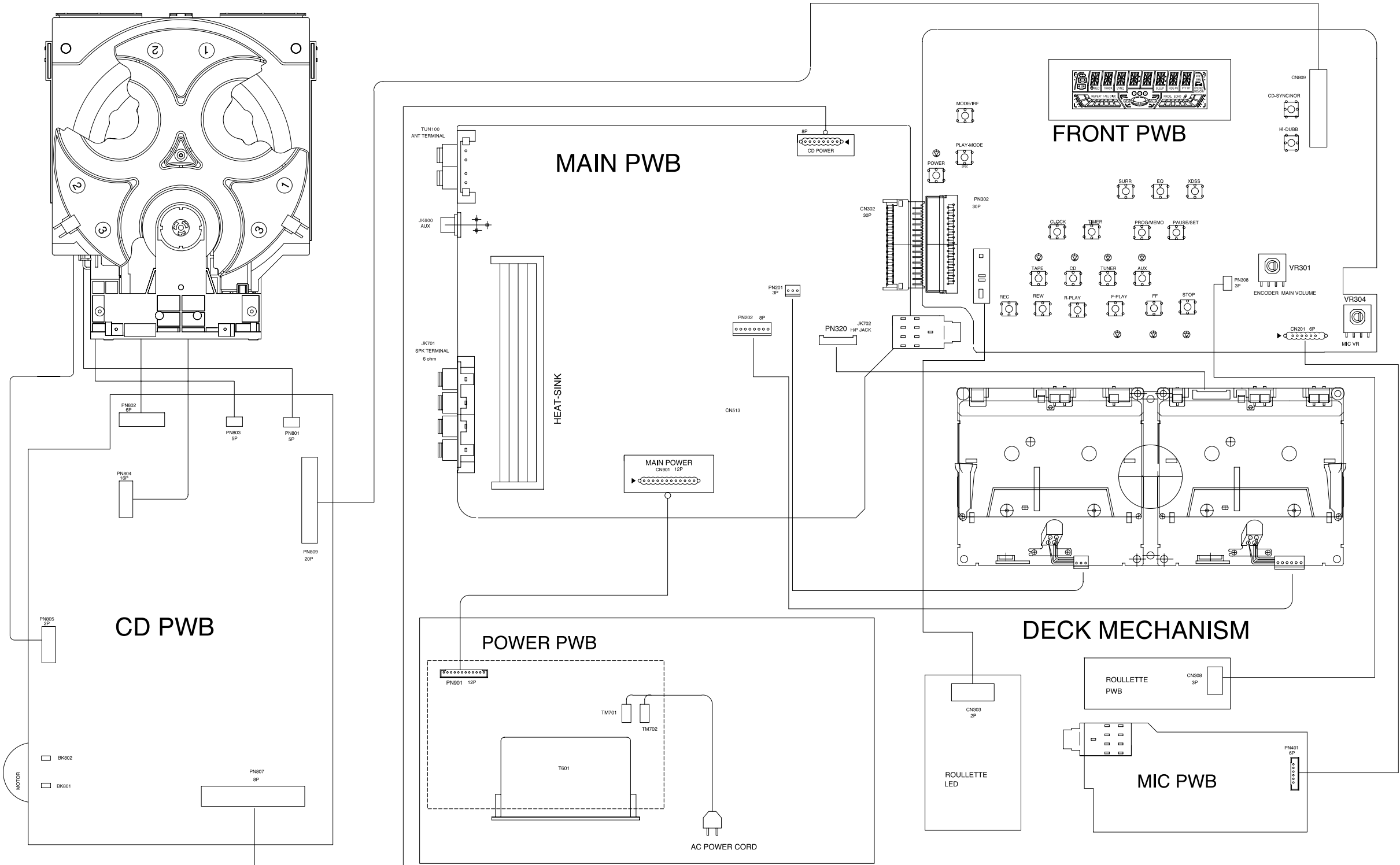
SD0401253

LM-M540

❑ WIRING DIAGRAM

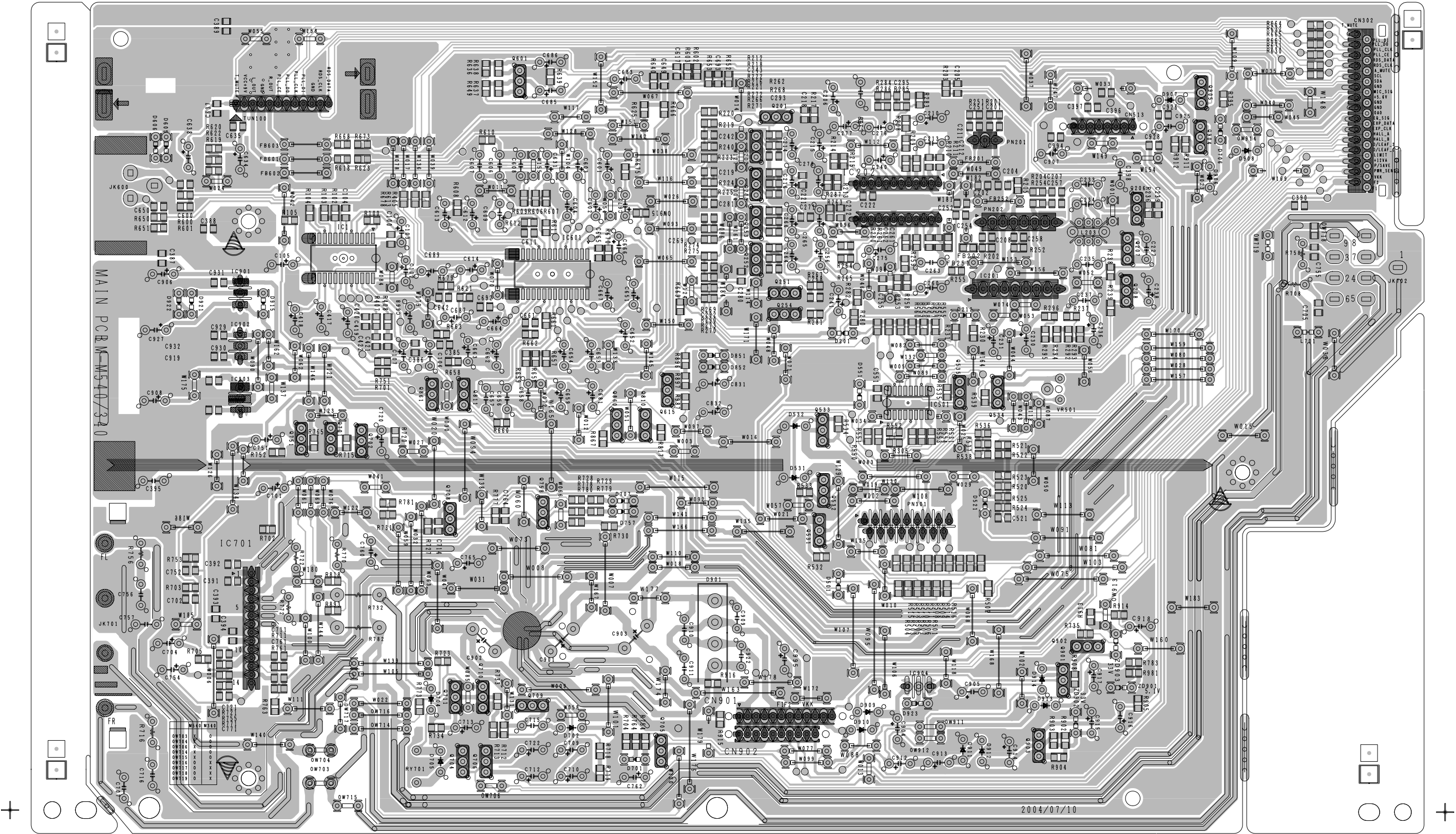
3CD CHANGER MECHANISM ASSY

M340/540 WIRING DIAGRAM

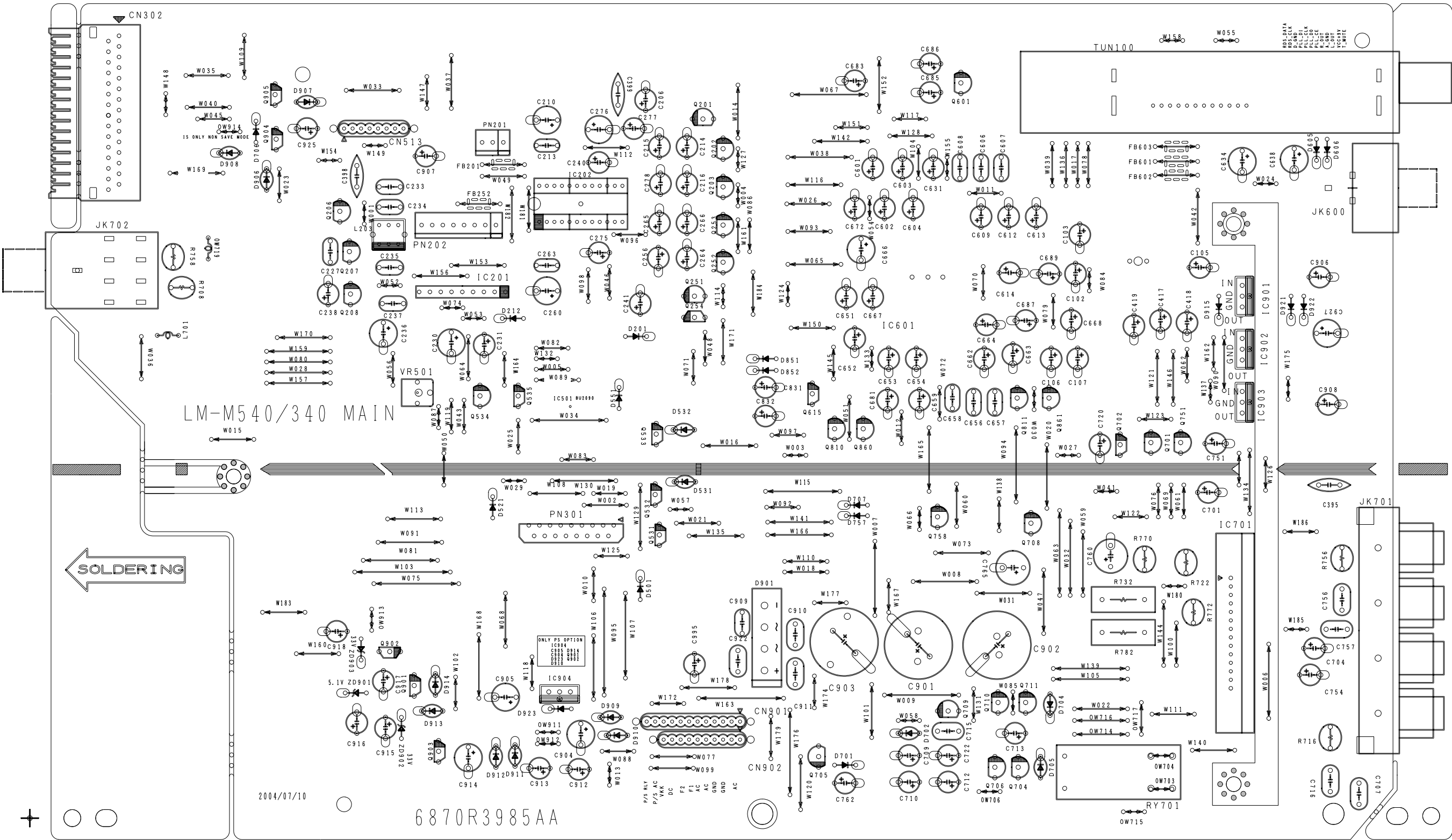


PRINTED CIRCUIT DIAGRAMS

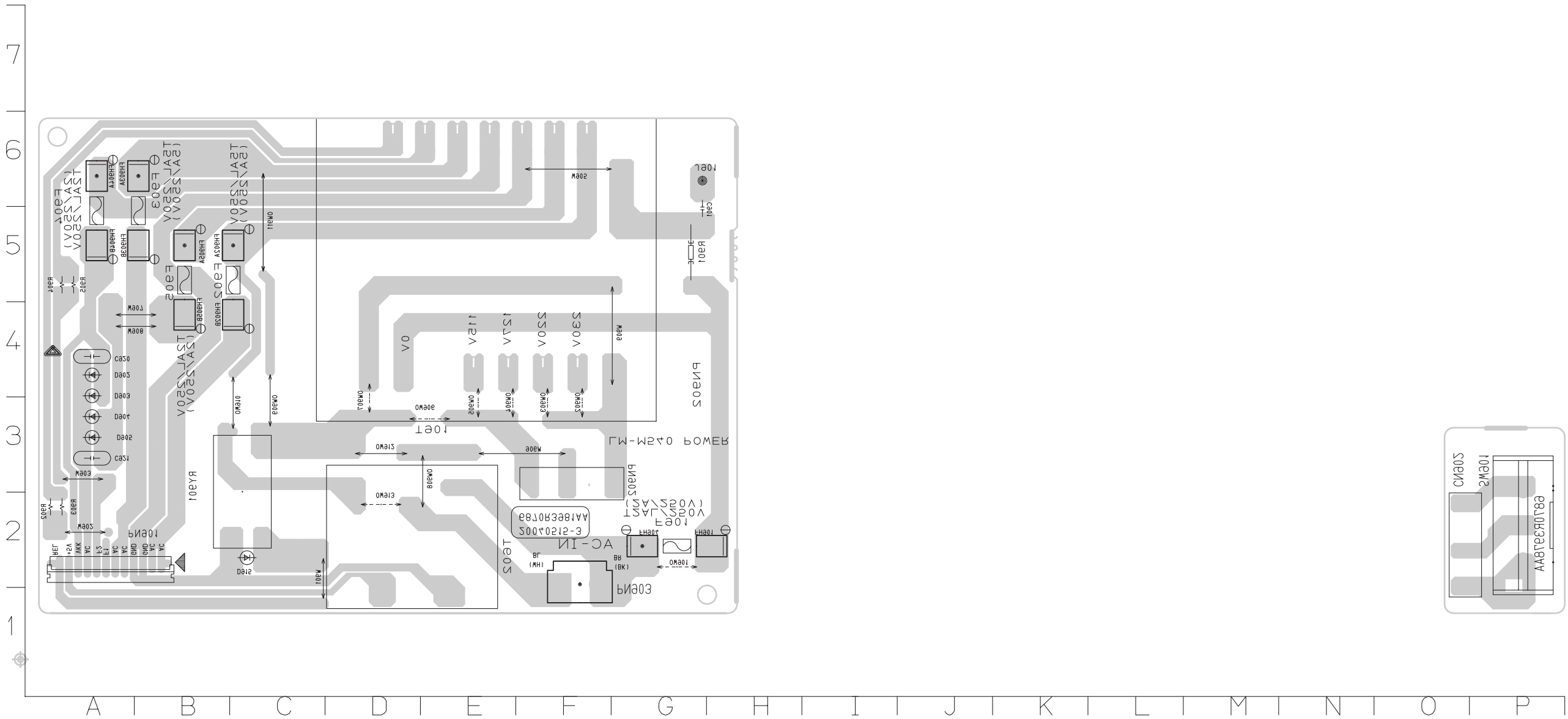
MAIN P.C. BOARD (SOLDER SIDE)



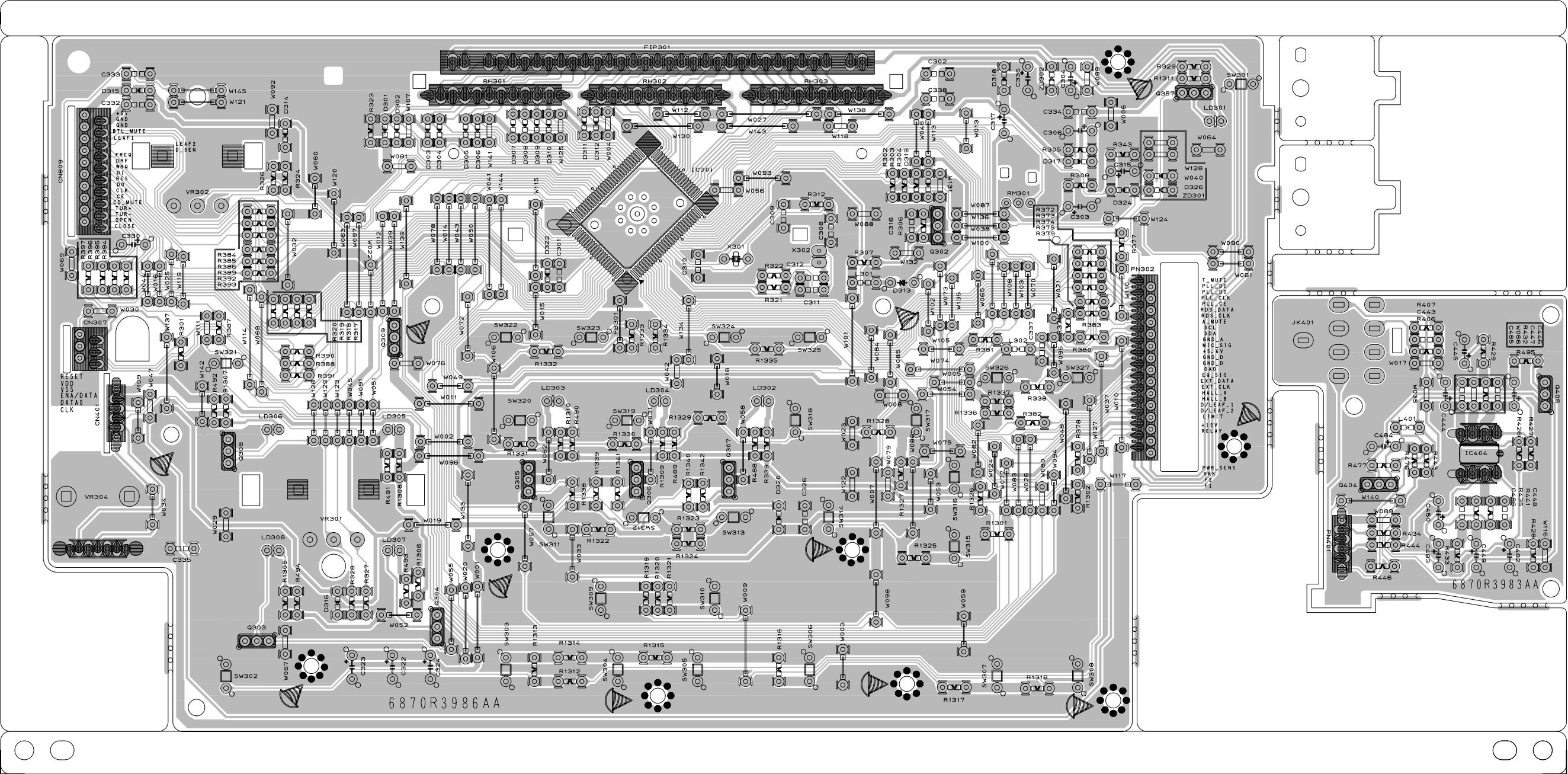
• MAIN P.C. BOARD (COMPONENT SIDE)



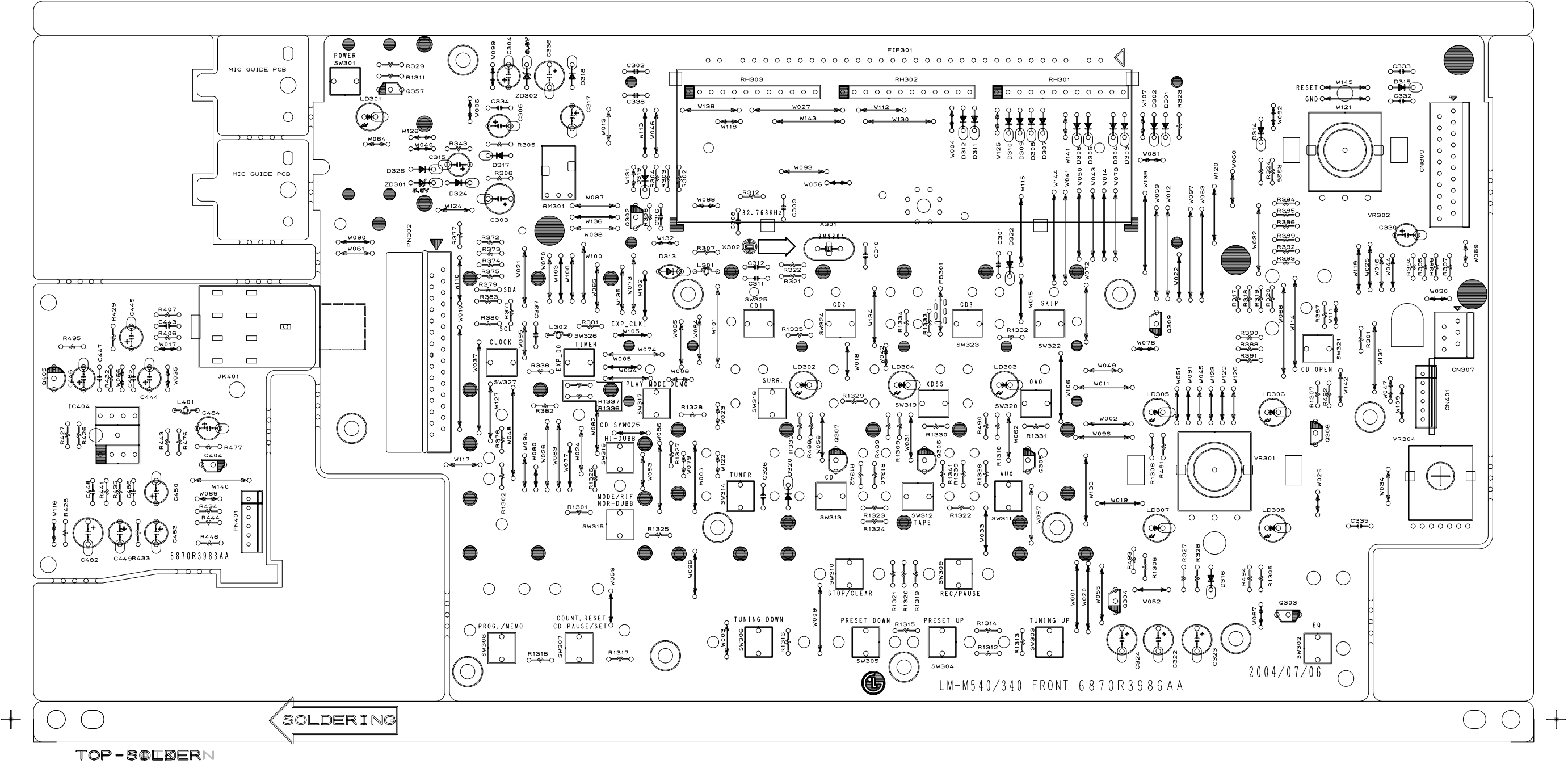
• POWER P.C. BOARD



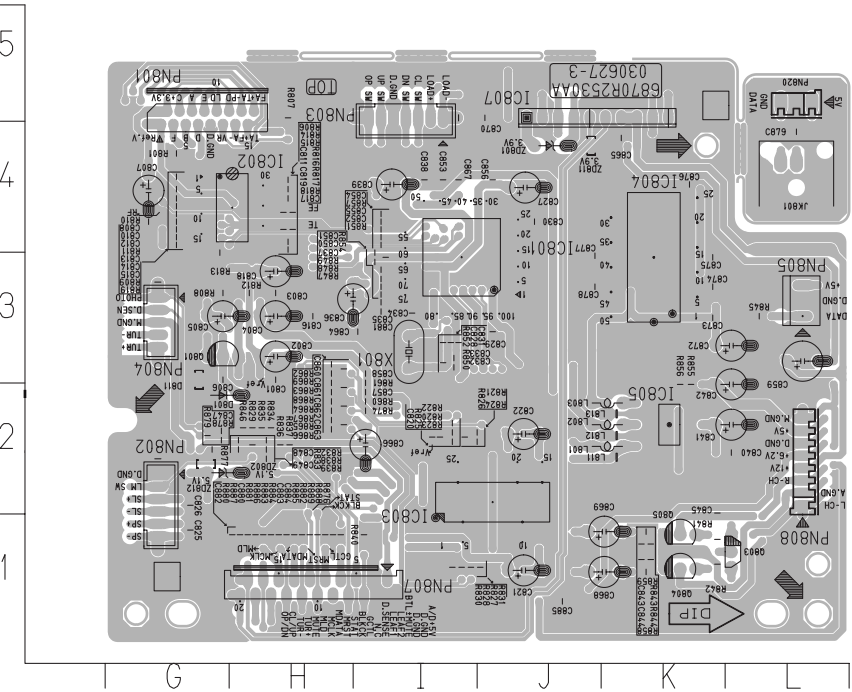
• FRONT P.C. BOARD (SOLDER SIDE)



• FRONT P.C. BOARD (COMPONENT SIDE)

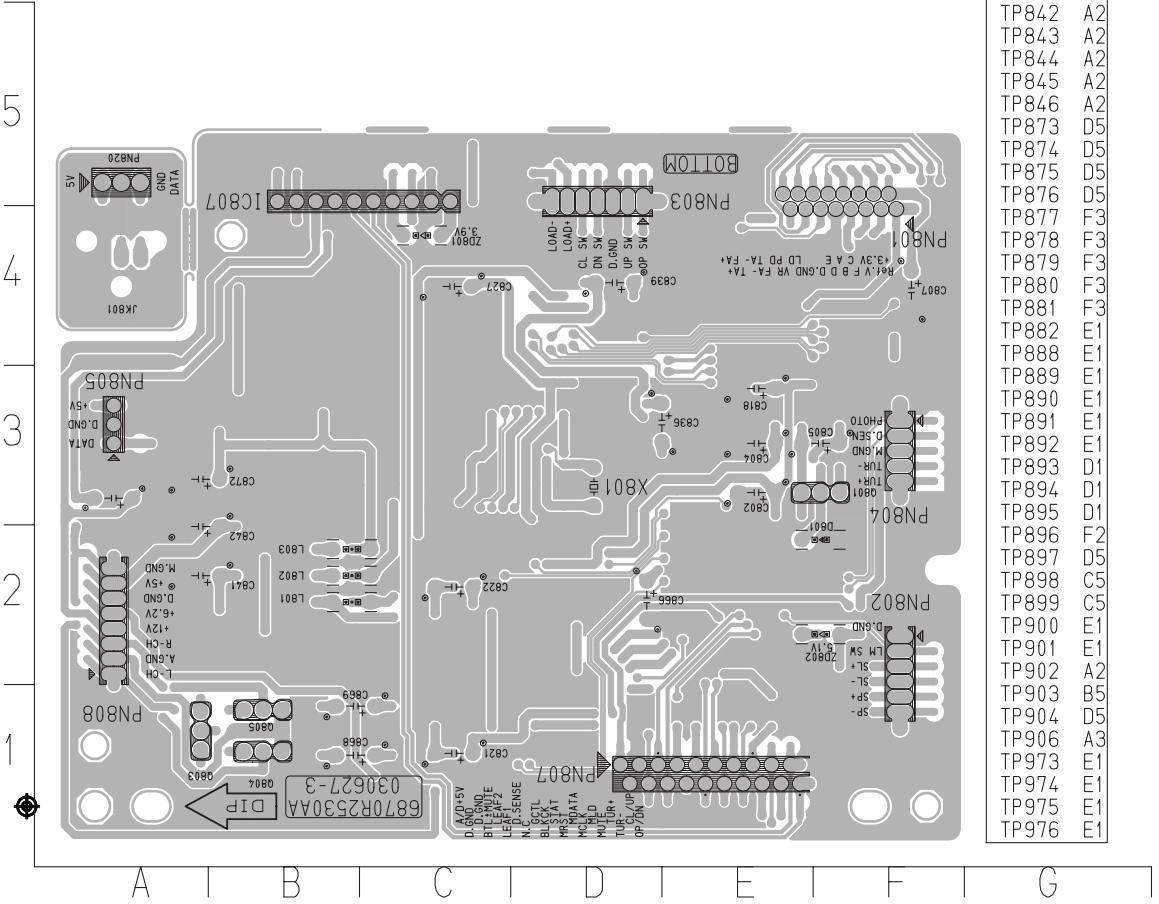


• CD MAIN P.C. BOARD (COMPONENT SIDE)



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	TP932	K4
C818	H3	C883	H1	R837	H2	TP836	H1	TP933	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	J7	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	J3	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	TP949	J1
C835	I3	L812	K2	R852	I3	TP858	G3	TP950	J1
C836	I3	L813	K2	R853	I3	TP859	G3	TP951	J1
C837	I3	PN801	G2	R854	I3	TP860	G3	TP952	I3
C838	I4	PN802	G2	R855	K2	TP861	G3	TP953	I3
C839	I4	PN803	I5	R856	K2	TP862	I2	TP954	I3
C840	I4	PN804	G3	R857	I4	TP863	H2	TP955	K1
C841	L2	PN805	L3	R858	I1	TP864	H2	TP956	K1
C842	L2	PN806	L3	R859	I1	TP865	I2	TP957	K1
C843	K1	PN807	L2	R860	I2	TP866	I2	TP958	I3
C844	K1	PN808	L2	R861	I2	TP867	I2	TP959	I3
C845	K2	Q801	G3	R862	H3	TP868	I2	TP960	J3
C846	K2	Q802	G3	R863	H2	TP869	I2	TP961	J3
C847	G2	Q803	I1	R864	H2	TP870	I1	TP962	K3
C848	H2	Q804	I1	R865	H2	TP871	I1	TP963	J3
C849	H2	Q805	I1	R866	H2	TP872	I1	TP964	J3
C850	H2	Q806	I1	R867	H2	TP873	I1	TP965	K3
C851	I3	Q807	H5	R868	H3	TP874	I1	TP966	J3
C852	I3	Q808	H5	R869	H3	TP875	I1	TP967	J3
C853	I3	Q809	H5	R870	H3	TP876	I1	TP968	K3
C854	I3	Q810	H5	R871	H3	TP877	G2	TP969	K3
C855	I3	Q811	H5	R872	G2	TP878	G2	TP970	K3
C856	I3	Q812	H5	R873	G2	TP879	G2	TP971	K3
C857	I3	Q813	G3	R874	H1	TP880	H1	TP972	K3
C858	I3	Q814	H1	R875	H1	TP881	H1	TP973	K3
C859	I3	Q815	H1	R876	H1	TP882	H1	TP974	K3
C860	H3	Q816	H1	R877	H1	TP883	H1	TP975	K3
C861	H3	Q817	H1	R878	H1	TP884	H1	TP976	K3
C862	H2	Q818	H1	R879	H1	TP885	H1	TP977	K3
C863	H2	Q819	H1	R880	H1	TP886	H1	TP978	K3
C864	H2	Q820	H1	R881	H1	TP887	H1	TP979	K3
C865	K4	R882	I2	R888	H1	TP917	J4	TP980	K4

• CD MAIN P.C. BOARD (SOLDER SIDE)

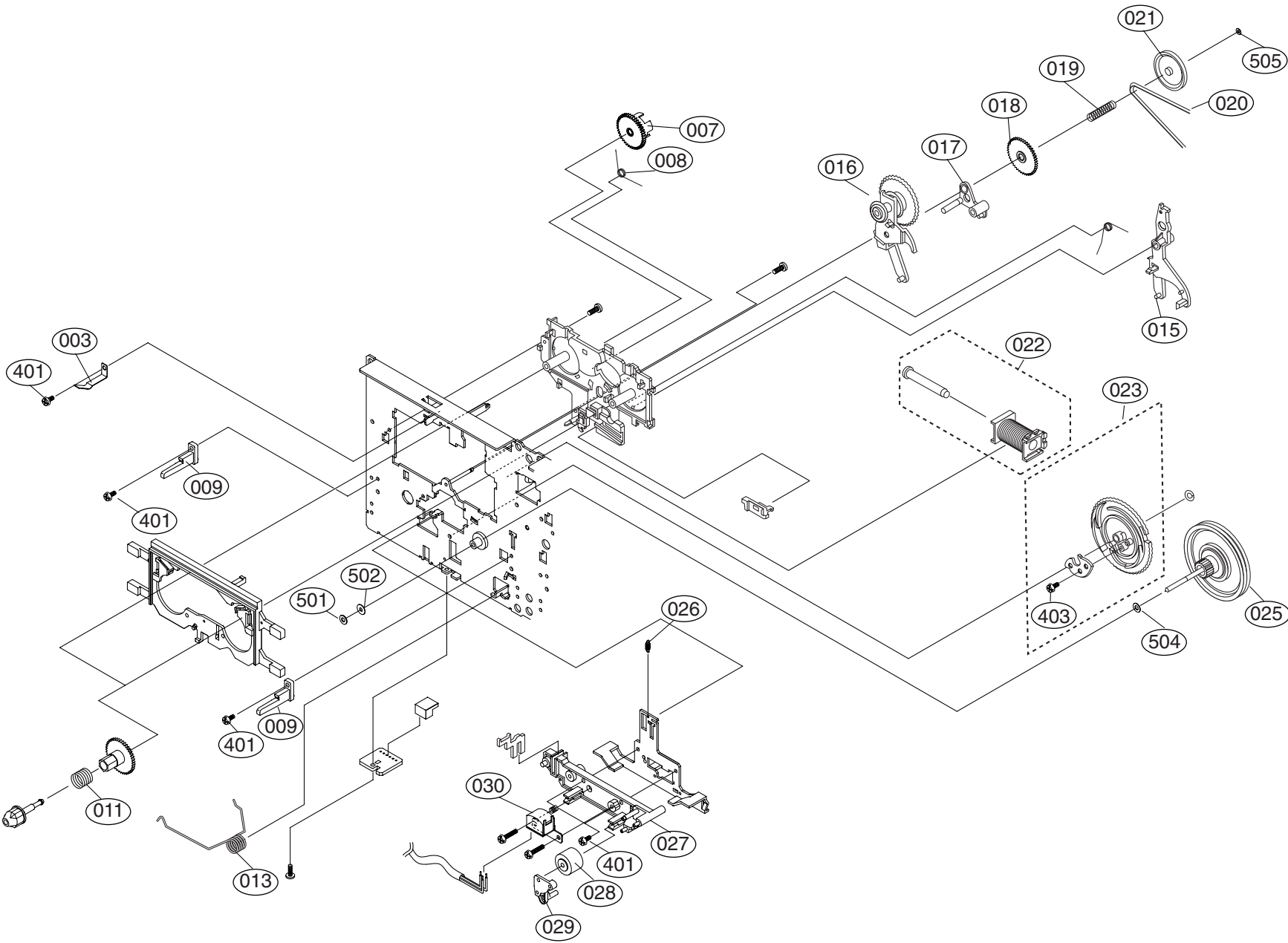


TP801	F4
TP802	F5
TP804	F5
TP805	F4
TP806	F5
TP807	F4
TP809	F4
TP810	F5
TP811	E4
TP812	E5
TP813	E4
TP814	E5
TP815	F1
TP816	F1
TP817	F2
TP818	F2
TP819	F5
TP820	F4
TP821	F5
TP834	E1
TP835	E1
TP840	A2
TP841	A2
TP842	A2
TP843	A2
TP844	A2
TP845	A2
TP846	A2
TP873	D5
TP874	D5
TP875	D5
TP876	D5
TP877	F3
TP878	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

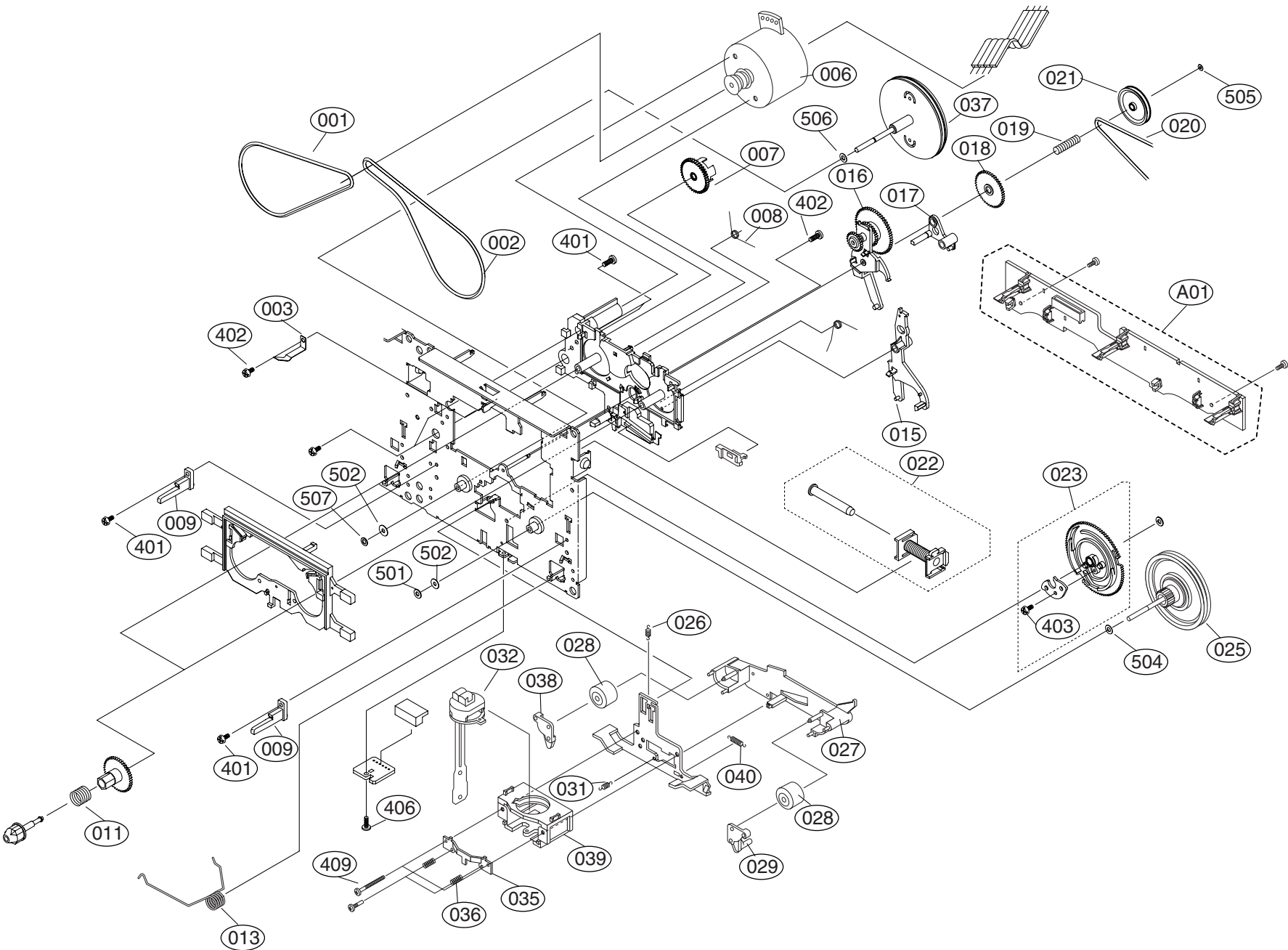
CABINET AND MAIN FRAME SECTION



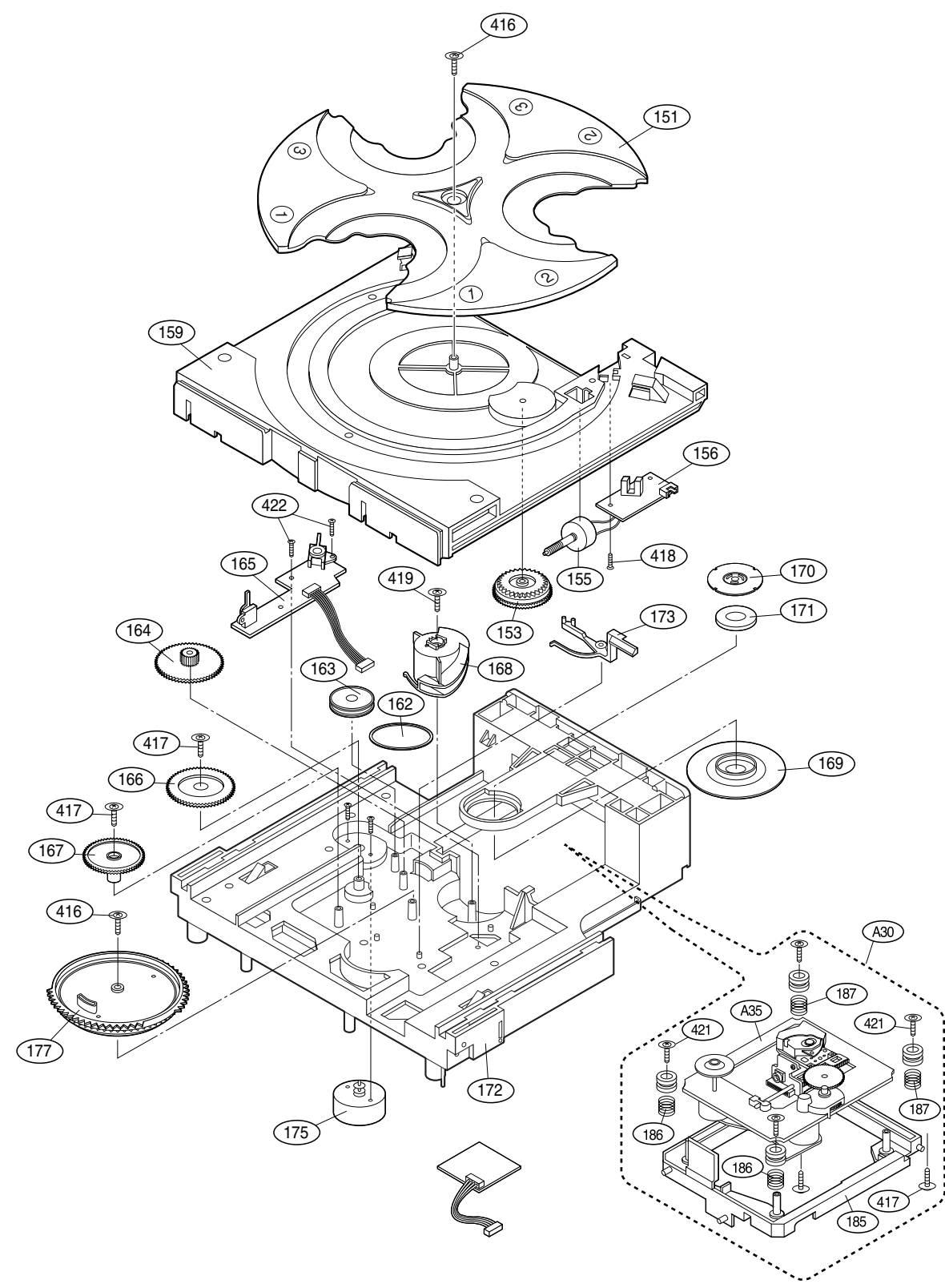
• TAPE DECK MECHANISM (A/R & A/S : LEFT A/S DECK)



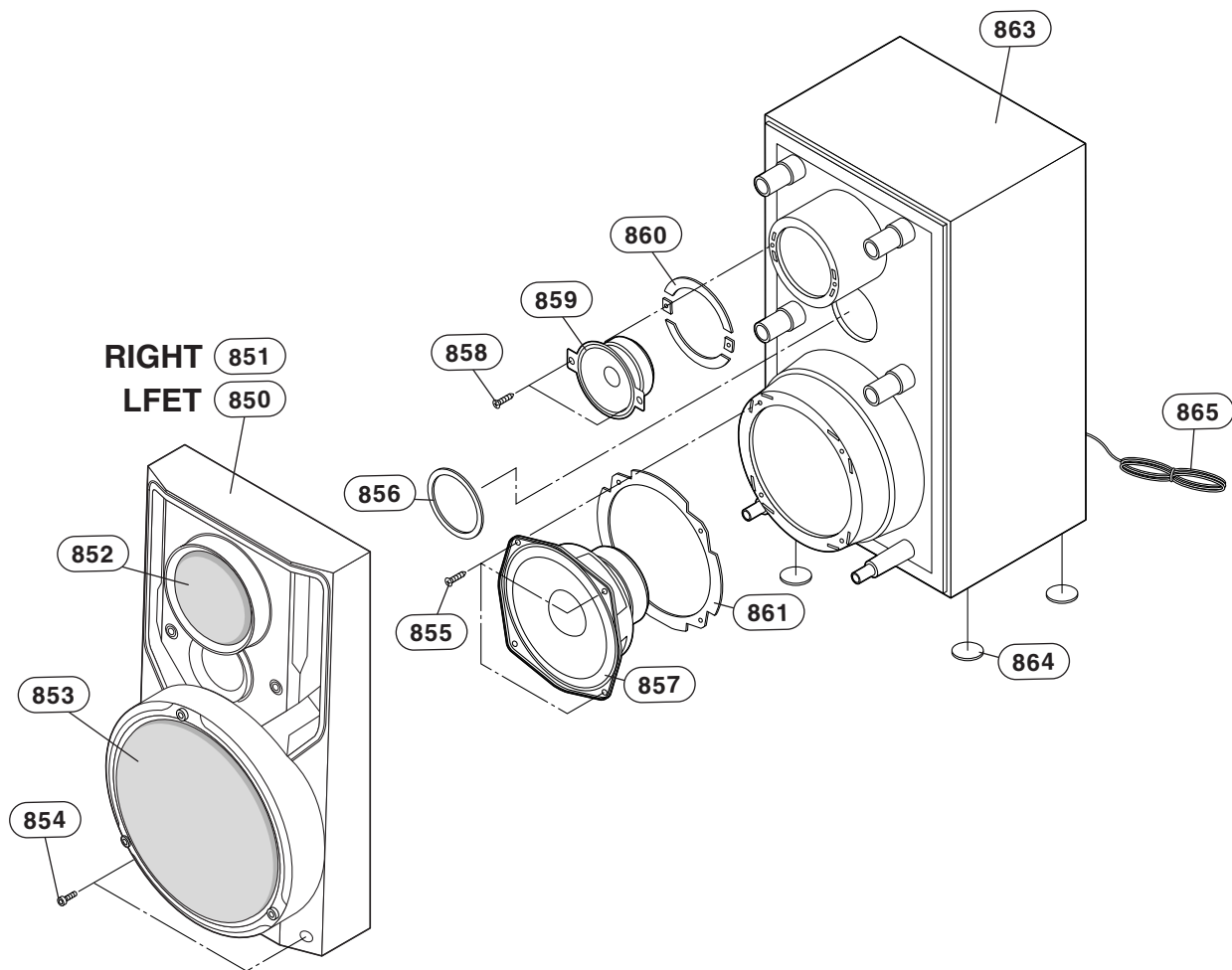
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• CD MECHANISM



SECTION 4. SPEAKER SECTION



MEMO

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.