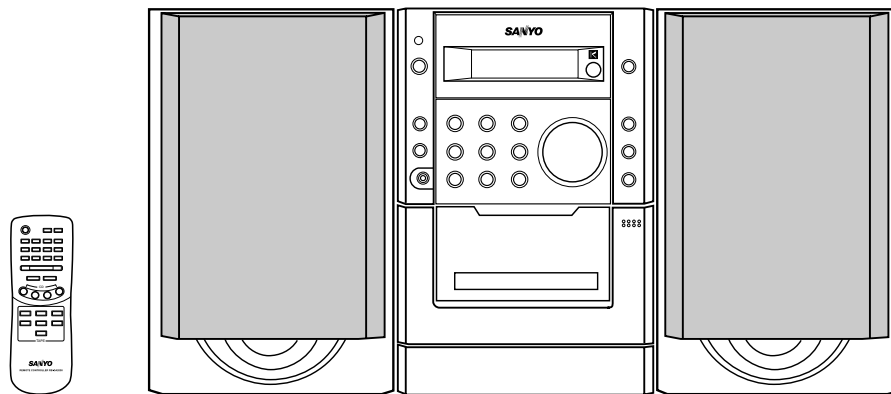


## Service Manual      Micro Component System

**DC-DA2000 (XE)**



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**PRODUCT CODE No.**  
**129 662 01**

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This service manual consists of "DC-DA2000U/XE" (Main unit : 129 661 01) and "SX-DA2000/XE" (Speaker system : 165 074 01).

## LASER BEAM SAFETY PRECAUTION

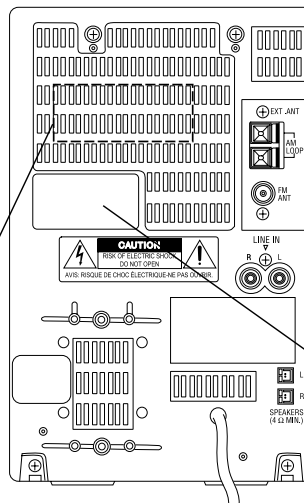
- Pick-up that emits a laser beam is used in this CD player section.

### CAUTION :

USE OF CONTROLS OR ADJUSTMENTS  
OR PERFORMANCE OF PROCEDURES  
OTHER THAN THOSE SPECIFIED HEREIN  
MAY RESULT IN HAZARDOUS RADIATION  
EXPOSURE

LASER OUTPUT ..... 0.6 mW Max. (CW)  
WAVELENGTH ..... 790 nm

CAUTION - INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.  
ADVARSEL - USYNLIG LASER STRÅLING VED ÅBNING. NÅR SIKKERHEDSÅFBRYDERE ER UDE AF FUNKTION, UNDGÅ UDSÆTTELSE FOR STRÅLING.  
VARNING - OSYNLIG LASER STRÅLNING NÅR DENNA DEL ÅR ÖPPNAD OCH SPÅRR ÅR URKOPPLAD. STRÅLEN ÅR FÄRLIG.  
VORSICHT - UNSICHTBARE LASERSTRAHLUNG TRITTS AUS. WENN DECKEL GEÖFFNET UND WENN SICHERHEITVERRIEGELUNG ÜBERBRÜCKT IST, NICHT, DEM STRAHL AUSSETZEN.  
VARO - AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.



CLASS 1 LASER PRODUCT  
LUOKAN 1 LASERLAITE  
KLASS 1 LASERAPPARAT

## TAPE ADJUSTMENTS

### 1. Azimuth Adjustment

- Be sure to clean the heads before attempting to make any adjustment.
- Be sure both channels (1 and 2) are the same level.  
(Using a dual-channel oscilloscope)
- Be sure both channel's waveform are same for the phase matching.
- After completion of the adjustment, use the threadlock (TB-1401B) to secure the azimuth adjustment screws.

- Remove the cover deck as Fig.1.
- Load a test tape (VTT-738 etc. : 10kHz) in the Deck.
- Press the PLAY button. (Normal playback)
- Use a + tip screwdriver to turn the screw for normal azimuth adjustment so that the left and right outputs are maximized at the same phase during normal playback. See Fig.2.
- Adjust so that the waveforms for the left and right channels are in alignment.

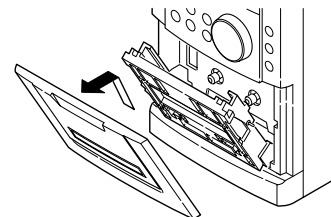


Fig.1

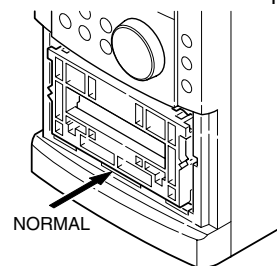


Fig.2

### 2. Tape Speed Adjustment

- Connect the Frequency Counter to TAPE OUT.

- Insert the test tape (MTT-111N, etc.; 3,000Hz) into the DECK.
- Press the PLAY button.
- Adjust a hole on the motor bottom so that a frequency counter reading of 3,000 ±5Hz is obtained. See Fig.3.
- Press the STOP button, and eject the test tape.

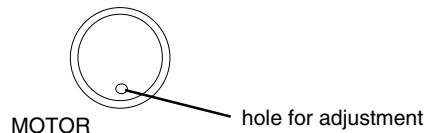


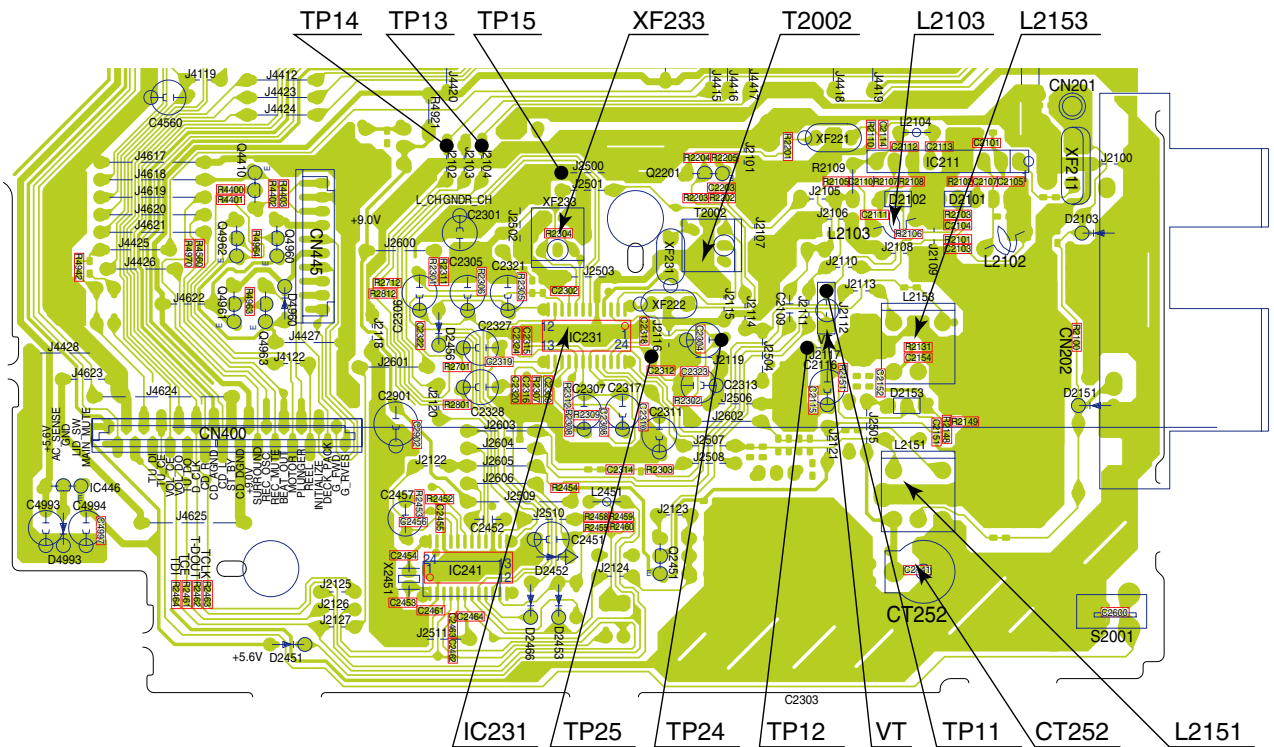
Fig.3

### 3. Torque Measurement

Item	Take-up Torque	Back tention	Pully tention
Test Cassette	PLAY:TW2111A(FWD)	PLAY:TW2112A(FWD)	Driving power cassette: TW-2412(PLAY)
PLAY/REV.	30~65 grcm	2~6 grcm	>50 grcm
F.FWD/REW	55~140 grcm	-	-

# TUNER ADJUSTMENTS

- Use a plastic screw driver for adjustments.
  - MODE : TUNER
  - Speaker impedance : 4 ohm
- TUNING  
 FM : 87.5 - 108MHz  
 AM : 522 - 1611kHz, 520 - 1610kHz



Antenna : 75Ω unbalanced, Modulation : 1 KHz  
 Dev. : ±22.5kHz

## 1. FM

RF Level : dBuV EMF, Output Level : about 30mV at TP13, TP14, TP15

Step	Adjusting Circuit	Connection		SG Frequency	Adjustment	Remark
		Input	Output			
1	IF(0V) Adjustment	FM Antenna SG=66dBuV/EMF	Alignment voltage IC231 3-22pin(TP24,25) is 0.0±0.05V	98MHz	XF233	Alignment voltage IC231 3-22pin is 0.0±0.05V
2	Cover Voltage	L2103	Connect Digital DC voltmeter to TP11(H), TP12(E).	87.5MHz	---	1.00±0.05V
		---		108.0MHz	---	5.50±0.50V Check Only

Antenna : IRE Loop(SG), Modulation : 1kHz, 30%

## 2. AM

RF Level : dBuV EMF, Output Level : about 30mV at TP13, TP14, TP15

Step	Adjusting Circuit	Connection		SG Frequency	Adjustment	Remark
		Input	Output			
1	IF Adjustment	Loop Ant	Connect to VTVM point TP13(L) or TP14(R) and TP15(E).	450KHz at 999kHz	T2002	Maximum
2	Cover Voltage	---	Connect Digital DC voltmeter to TP11(H) and TP12(E).	522kHz	L2153	1.00±0.05V
		---		1611kHz(XE)	---	7.10±0.50V Check Only
3	Tracking	Loop Ant	Connect to VTVM point TP13(L) or TP14(R) and TP15(E).	603kHz	L2151	Maximum
				1404kHz	CT252	

# CD PICK-UP MAINTENANCE

## About pick-up (Optical lens) Cleaning

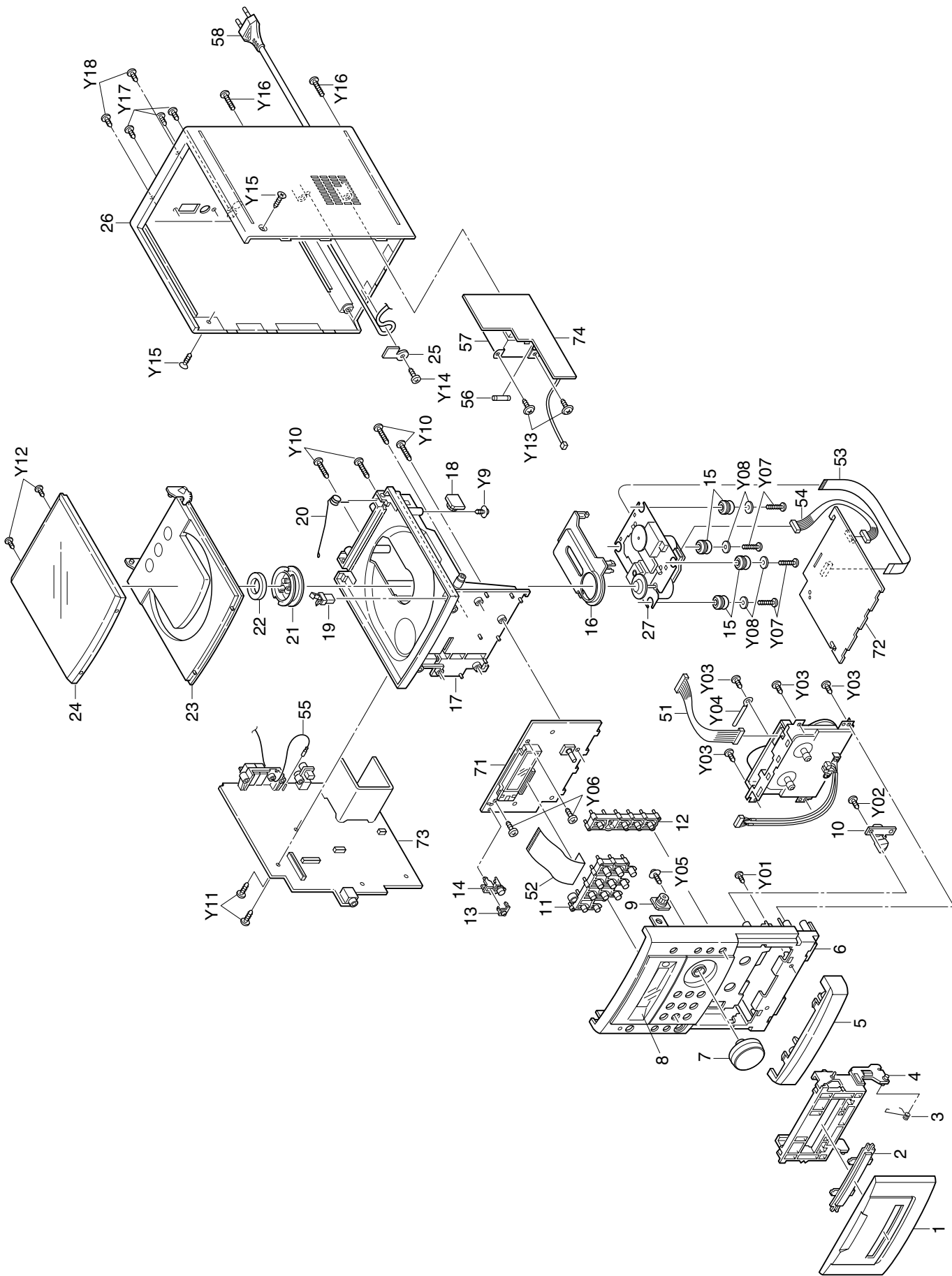
Clean a lens with swab of the cotton which moistened it with alcohol, cleaning paper or cleaning disc appointed.

Specified cleaning disc : LC-1 (Part code : 645 026 1961 ..... manufactured by SANYO.)

Show a clean procedure in the following in reference by swab of cotton.

1. Cotton swab is wrapped with Cleaning paper.
2. Add the isopropyl alcohol.
3. Gently move the tip of cotton swab just like a draw a whirlpool from inside to outside on the surface of lens.

**EXPLODED VIEW (CABINET & CHASSIS)**



## PARTS LIST

### PRODUCT SAFETY NOTICE

EACH PRECAUTION IN THIS MANUAL SHOULD BE FOLLOWED DURING SERVICING. COMPONENTS IDENTIFIED WITH THE IEC SYMBOL  $\Delta$  IN THE PARTS LIST AND THE SCHEMATIC DIAGRAM DESIGNATED COMPONENTS IN WHICH SAFETY AND PERFORMANCE CAN BE OF SPECIAL SIGNIFICANCE. WHEN REPLACING A COMPONENT IDENTIFIED BY  $\Delta$ , USE ONLY THE REPLACEMENT PARTS DESIGNATED, OR PARTS WITH THE SAME RATINGS OF RESISTANCE, WATTAGE OR VOLTAGE THAT ARE DESIGNATED IN THE PARTS LIST IN THIS MANUAL. LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS MUST BE MADE TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE PRODUCT TO THE CUSTOMER.

**CAUTION :** Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.  
Regular type resistors are less than 1/4 W carbon type and 0 ohm chip resistors.

Regular type capacitors are less than 50 V and less than 1000  $\mu$ F type of Ceramic type and Electrical type.

**N.S.P :** Not available as service parts.

### PACKING & ACCESSORIES

REF.NO.	PART NO.	DESCRIPTION
	614 325 8056	CARTON CASE
	614 319 7430	CUSHION,REAR
	614 319 7447	CUSHION,FRONT
	614 325 8094	INSTRUCTION MANUAL
	614 325 8421	INSTRUCTION SHEET
	645 047 0516	POLY SHEET-0900X0300*NC
or	645 005 1227	ASSY,ANTENA,LOOP
	645 046 8322	ASSY,ANTENA,LOOP
	614 318 9404	LID,BATTERY,SERVICE
	645 057 4696	REMOCON,RB-DA2000
	614 325 7875	ASSY,BOX,SPEAKER,SPEAKER(L,R)

### CABINET & CHASSIS

REF.NO.	PART NO.	DESCRIPTION
1	614 325 7981	COVER,DECK
2	614 326 3043	DEC,WINDOW,DECK
3	614 320 3520	SPRING,WIRE,DOOR DECK
4	614 319 7096	LID,CASSETTE
5	614 323 2230	PANEL
6	614 325 7967	ASSY,PANEL,FRONT
7	614 319 7072	KNOB,VOLUME
8	614 326 3050	DEC,WINDOW,LCD
9	614 309 7969	ASSY,GEAR,LID,CASSETTE
10	614 303 1277	LATCH,CAM,DECK,DOOR,LOCKING
11	614 323 2162	BUTTON,OPERATION,11 KEYS
12	614 319 6945	BUTTON,RIGHT,4 KEYS
13	614 325 7974	BUTTON,POWER
14	614 325 8025	REFLECTOR,STANDBY,LED
15	614 310 3899	SPACER,MECHA,MTG CD+DA11
16	614 307 2072	COVER,PICK-UP
17	614 319 7119	MOUNTING,CD
18	614 322 2125	ASSY,GEAR,LID CD
19	614 303 0263	LATCH,PUSH,CD DOOR LOCKING
20	614 319 7201	SPRING,WIRE,DOOR CD
21	614 307 8821	PULLEY
22	614 303 0256	LATCH,MAGNET
23	614 319 7102	LID,CD
24	614 325 8230	DEC,WINDOW,CD
25	614 316 1172	STOPPER
26	614 325 7929	ASSY,CABINET,REAR
27	614 325 6014	ASSY,MECHA,DA11T3CN-SASH

### FIXING PARTS

REF.NO.	PART NO.	DESCRIPTION
Y01	411 156 2105	SCR S-TPG BIN 2.3X6, PANEL+PANEL FRONT
Y02	411 021 3503	SCR S-TPG BIN 3X10, F-PANEL+LATCH,CAM
Y03	411 021 3503	SCR S-TPG BIN 3X10, F-PANEL+DECK MECHA
Y04	614 129 9136	LUG,LEAD FIX
Y05	411 020 8905	SCR S-TPG BRZ+FLG 3X10, F-PANEL+ASSY.GEAR,DECK
Y06	411 021 3503	SCR S-TPG BIN 3X10, SWITCH,PWB+MTG CD
Y07	411 021 1806	SCR S-TPG BIN 2.6X10, MTG CD+DA11
Y08	411 092 0906	WASHER Z 2.6X10X0.5, MTG CD+DA11
Y09	411 020 8905	SCR S-TPG BRZ+FLG 3X10, F-PANEL+ASSY.GEAR,CD
Y10	411 021 4906	SCR S-TPG BIN 3X20, F-PANEL+MOUNTING,CD
Y11	411 021 3503	SCR S-TPG BIN 3X10, MAIN PCB+MTG CD
Y12	411 184 0906	SCR S-TPG BIN 2.3X10, LID CD+DEC WINDOW CD
Y13	412 032 6408	SPECIAL SCREW,REAR+P-TRANS
Y14	411 021 3503	SCR S-TPG BIN 3X10, REAR+STOPPER
Y15	411 098 7800	SCR S-TPG FLT 3X12, REAR+MTG(L/R)
Y16	411 021 4906	SCR S-TPG BIN 3X20, REAR+PANEL,FRONT
Y17	411 021 3503	SCR S-TPG BIN 3X10, REAR+ANT TERMINAL, REAR+AUDIO TERMINAL
Y18	411 021 3503	SCR S-TPG BIN 3X10, REAR+MTG CD

### ELECTRICAL PARTS

REF.NO.	PART NO.	DESCRIPTION
51	614 322 2279	ASSY,WIRE,AMP-TAPE MECHA
52	614 326 3760	FLEXIBLE FLAT CABLE, FRONT-AMP
or	614 327 0874	FLEXIBLE FLAT CABLE, FRONT-AMP
53	614 326 2794	FLEXIBLE FLAT CABLE, CD-CD MECHA
or	614 327 0836	FLEXIBLE FLAT CABLE, CD-CD MECHA
54	614 316 8041	ASSY,WIRE,CD-CD MECHA
55	614 274 2013	CORD,ID CONNECTOR,FM ANT
56	$\Delta$ 423 016 7908	FUSE 250V 2.5A
57	$\Delta$ 645 050 7373	TRANS,POWER
58	$\Delta$ 645 016 9939	CORD,POWER-1.74MK

# PARTS LIST

## FRONT P.W.BOARD ASSY

REF.NO.	PART NO.	DESCRIPTION
71	614 325 7219	ASSY,PWB,FRONT(Only Initial)
AC601	614 320 3469	COVER,LED,COVER_LED
AH601	614 320 3483	HOLDER,LCD,HOLDER_LCD
AS601	614 314 9286	DEC,SHEET,LCD,DEC_SHEET_LCD
CN601	645 009 8482	SOCKET,FFC 28P
or	645 012 5324	SOCKET,FPC 28P
D6010	407 012 4406	DIODE 1SS133
D6110	407 012 4406	DIODE 1SS133
D6111	407 012 4406	DIODE 1SS133
D6112	407 225 7300	LED LT03B3-43-URE1
D6113	407 012 4406	DIODE 1SS133
D6301	408 032 5404	LED SLP-9118C-51H-S-T1, STAND-BY-LED
IC601	410 469 0709	IC LC867232A-51D2
L6010	645 001 5441	INDUCTOR,2.2U K
LCD60	645 050 7397	LCD
Q6107	405 019 3804	TR 2SC536-G-NP
or	405 019 2708	TR 2SC536-F-NP
or	405 141 3208	TR KTC3198-Y
or	405 141 3307	TR KTC3198-GR
Q6108	405 017 9709	TR 2SC3330-U
or	405 017 9600	TR 2SC3330-T
or	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 143 8706	TR KTC3199-GR
Q6301	405 146 1209	TR KRC104M
or	405 000 6104	TR DTC144ES
Q6302	405 000 6104	TR DTC144ES
or	405 146 1209	TR KRC104M
S6001	645 054 1230	SWITCH,ROTARY(ENCODER)
S6110	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6111	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6112	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH 1P-1T
S6113	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6114	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6115	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6116	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6117	614 240 1002	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH 1P-1T
or	614 220 5471	SWITCH,TACT
S6210	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6211	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6212	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6213	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH 1P-1T
S6214	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6215	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6216	645 006 5958	SWITCH,PUSH 1P-1T

REF.NO.	PART NO.	DESCRIPTION
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6217	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
SE601	407 217 1101	PHOTO DIODE SPS-442-1G
X6102	645 018 6103	OSC,CERAMIC 6.000MHZ
or	645 057 1138	OSC,CERAMIC 6.0MHZ

## CD P.W.BOARD ASSY

REF.NO.	PART NO.	DESCRIPTION
72	614 325 7202	ASSY,PWB,CD(Only Initial)
CN111	645 059 0498	SOCKET,FPC 16P
or	645 026 2470	SOCKET,FFC 16P
or	645 033 8168	SOCKET,FPC 16P
CN113	614 310 2472	PLUG,6P
or	645 005 8127	PLUG,6P
D1402	407 099 5204	ZENER DIODE MTZJ5.1B
D1403	407 012 4406	DIODE 1SS133
D1404	407 012 4406	DIODE 1SS133
D1405	407 012 4406	DIODE 1SS133
D1410	△407 098 3300	DIODE RL153-BF-S2
D1482	407 012 4406	DIODE 1SS133
IC101	409 503 5701	IC LA9242M-MPB
IC102	409 539 9704	IC LC78629E
IC103	△409 486 8706	IC MM1469XH
L1451	645 001 4550	INDUCTOR,10U K
PR140	△645 014 2499	PROTECTOR,0.4A 125V
Q1301	405 008 7301	TR 2SB810-F
or	405 008 7202	TR 2SB810-E
or	405 008 6809	TR 2SB808-F-SPA
Q1401	△405 009 5207	TR 2SB927-S
or	△405 009 5306	TR 2SB927-T
or	△405 141 3604	TR KTA1273-Y
X1451	614 231 2667	RESONATOR
or	645 057 1145	OSC,CERAMIC 16.93MHZ

## AMPLIFIER & TUNER P.W.BOARD ASSY

REF.NO.	PART NO.	DESCRIPTION
73	614 326 2442	ASSY,PWB,AMP-TU
C2457	403 259 0508	NP-ELECT 1U M 50(Only Initial)
C4601	403 057 3503	POLYESTER 0.1U K 50V
C4605	403 061 3605	POLYESTER 0.039U J 50V
C4606	403 061 7702	POLYESTER 4700P J 50V
C4607	403 059 3204	POLYESTER 2200P J 50V
C4608	403 060 2807	POLYESTER 0.027U K 50V
C4734	403 058 4608	POLYESTER 0.15U J 50V
C4834	403 058 4608	POLYESTER 0.15U J 50V
C4913	403 329 5907	ELECT 3300U M 25V
CN201	614 221 8273	TERMINAL
CN202	645 038 7715	TERMINAL
or	645 025 4703	TERMINAL,ANTENNA
CN400	645 009 8482	SOCKET,FFC 28P
or	645 012 5324	SOCKET,FPC 28P
CN401	645 006 1875	PLUG,2P,SPEAKER
CN402	645 006 1875	PLUG,2P,SPEAKER
CN440	614 310 2472	PLUG,6P
or	645 005 8127	PLUG,6P
CN441	614 310 2731	PLUG,2P,POWER
or	645 004 2881	PLUG,2P,POWER
CN442	614 276 6835	SOCKET,JACK
CN443	645 011 6384	JACK,PHONE D3.6,HEADPHONE
CN445	614 310 2519	PLUG,10P
or	645 005 8158	PLUG,10P
CT252	645 032 5663	TRIMMER,7PF
D2101	407 157 8109	VARACTOR DI SVC211-B
D2102	407 157 8109	VARACTOR DI SVC211-B
D2103	407 012 4406	DIODE 1SS133

# PARTS LIST

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
D2151	407 012 4406	DIODE 1SS133	or	405 143 0007	TR KRC107M
D2153	407 105 1602	VARACTOR DI SVC342M-V	Q4801	405 000 3806	TR DTC114YS
or	407 105 1305	VARACTOR DI SVC342L-V	or	405 143 0007	TR KRC107M
D2451	407 012 4406	DIODE 1SS133	Q4851	405 033 6706	TR 2SD1468S-R
D2452	407 153 7502	ZENER DIODE GZS3.0B	or	405 033 6805	TR 2SD1468S-S
D2453	407 012 4406	DIODE 1SS133	or	405 021 0600	TR 2SD1012-G-SPA
D2456	407 012 4406	DIODE 1SS133	or	405 021 0204	TR 2SD1012-F-SPA
D2466	407 012 4406	DIODE 1SS133	or	405 151 4400	TR KTD1303
D4951	△ 407 099 6102	ZENER DIODE MTZJ10B	Q4930	405 141 3307	TR KTC3198-GR
D4953	407 012 4406	DIODE 1SS133	or	405 141 3208	TR KTC3198-Y
D4954	407 012 4406	DIODE 1SS133	or	405 019 2708	TR 2SC536-F-NP
D4960	407 012 4406	DIODE 1SS133	or	405 019 3804	TR 2SC536-G-NP
D4961	407 012 4406	DIODE 1SS133	Q4931	405 000 0508	TR DTA114ES
D4993	407 012 4406	DIODE 1SS133	or	405 110 5400	TR KRA102M-A
HS401	614 319 7065	HEAT SINK,HEATSINK	Q4951	△ 405 138 6403	TR KTD2058Y
IC211	409 016 0200	IC LA1186N-AUDIO	△ 405 095 1602	TR 2SD2061-E	
IC231	409 474 3201	IC LA1844ML	or	△ 405 095 1701	TR 2SD2061-F
IC241	409 439 4502	IC LC72121M-D	Q4960	405 155 0002	TR MP5A56
IC440	409 451 7406	IC AN7348K	Q4961	405 155 0002	TR MP5A56
IC441	409 474 6103	IC LC75342M	Q4962	405 000 3806	TR DTC114YS
IC442	△ 409 295 7402	IC TA8229K	or	405 143 0007	TR KRC107M
IC443	409 189 3404	IC BA7755A	Q4963	405 000 3806	TR DTC114YS
IC446	△ 409 039 9204	IC NJM78L05A	or	405 143 0007	TR KRC107M
L2102	645 040 2753	INDUCTOR,AIR —	Q4992	405 141 3703	TR KTA1271-Y
L2103	645 040 2746	COIL,AIR —	or	405 008 2405	TR 2SB698-F
L2104	645 002 1534	INDUCTOR,8.2U K	or	405 008 2504	TR 2SB698-G
L2151	645 040 2685	TRANS,ANT,796KHZ	Q4993	405 000 3806	TR DTC114YS
L2153	645 040 2708	TRANS,OSC,796KHZ	or	405 143 0007	TR KRC107M
L2451	645 031 7842	INDUCTOR,100U K	Q4995	405 141 3703	TR KTA1271-Y
or	645 001 4581	INDUCTOR,100U K	or	405 008 2405	TR 2SB698-F
L4600	645 006 1523	INDUCTOR,470U J	or	405 008 2504	TR 2SB698-G
L4601	645 006 1523	INDUCTOR,470U J	R4940	△ 402 081 0205	FUSIBLE RES 27 JA 1/4W
L4602	645 037 2858	CORE,PIPE	S2001	645 023 5795	SWITCH,LEVER
L4603	645 006 1523	INDUCTOR,470U J	SA401	411 021 6405	SCR S-TPG BIN 3X8
L4604	645 037 2858	CORE,PIPE	SA402	411 021 6405	SCR S-TPG BIN 3X8
L4781	645 002 1459	INDUCTOR,22U K	T2002	645 046 2023	FILTER,450KHZ
L4782	645 002 1459	INDUCTOR,22U K	X2451	645 023 4965	OSC,CRYSTAL 7.2MHZ
L4881	645 002 1459	INDUCTOR,22U K	XF211	645 059 0047	FILTER,BP
L4882	645 002 1459	INDUCTOR,22U K	or	645 026 2975	FILTER,BP 108MHZ
L4981	645 002 1459	INDUCTOR,22U K	or	614 252 1045	FILTER,LC
PR495	△ 645 042 2621	PROTECTOR,1.5A 125V	XF221	645 054 1223	CERAMIC FILTER 10.70MHZ
PR496	△ 645 042 2621	PROTECTOR,1.5A 125V	or	645 010 7665	CERAMIC FILTER 10.70MHZ
Q2201	405 151 4301	TR KTC3195-Y	or	614 240 2917	FILTER,CERAM
or	405 151 4806	TR KTC3195-O	XF222	645 054 1223	CERAMIC FILTER 10.70MHZ
Q2451	405 036 3702	TR 2SA1564	or	645 010 7665	CERAMIC FILTER 10.70MHZ
or	405 151 5209	TR KRA107M	or	614 240 2917	FILTER,CERAM
or	405 000 0904	TR DTA114YS	XF231	645 059 0054	CERAMIC FILTER 450KHZ
or	405 078 2404	TR BN1A4P	or	645 041 9324	CERAMIC FILTER 450KHZ
Q4410	405 141 3406	TR KTA1266-GR	XF233	645 039 9923	TRANS,IF 10.7MHZ
or	405 141 3505	TR KTA1266-Y	or	645 040 9981	TRANS,IF 10.7MHZ
or	405 004 4502	TR 2SA608-F-NP			
or	405 004 5004	TR 2SA608-G-NP			
Q4600	405 155 0002	TR MP5A56			
Q4601	405 000 3806	TR DTC114YS			
or	405 143 0007	TR KRC107M			
Q4602	405 019 3804	TR 2SC536-G-NP			
or	405 019 2708	TR 2SC536-F-NP			
or	405 141 3307	TR KTC3198-GR			
or	405 141 3208	TR KTC3198-Y			
Q4603	405 019 2708	TR 2SC536-F-NP			
or	405 019 3804	TR 2SC536-G-NP			
or	405 141 3208	TR KTC3198-Y			
or	405 141 3307	TR KTC3198-GR			
Q4700	405 000 3806	TR DTC114YS			
or	405 143 0007	TR KRC107M			
Q4701	405 000 3806	TR DTC114YS			
or	405 143 0007	TR KRC107M			
Q4751	405 151 4400	TR KTD1303			
or	405 021 0204	TR 2SD1012-F-SPA			
or	405 021 0600	TR 2SD1012-G-SPA			
or	405 033 6706	TR 2SD1468S-R			
or	405 033 6805	TR 2SD1468S-S			
Q4800	405 000 3806	TR DTC114YS			

## POWER TRANSFORMER P.W.BOARD ASSY

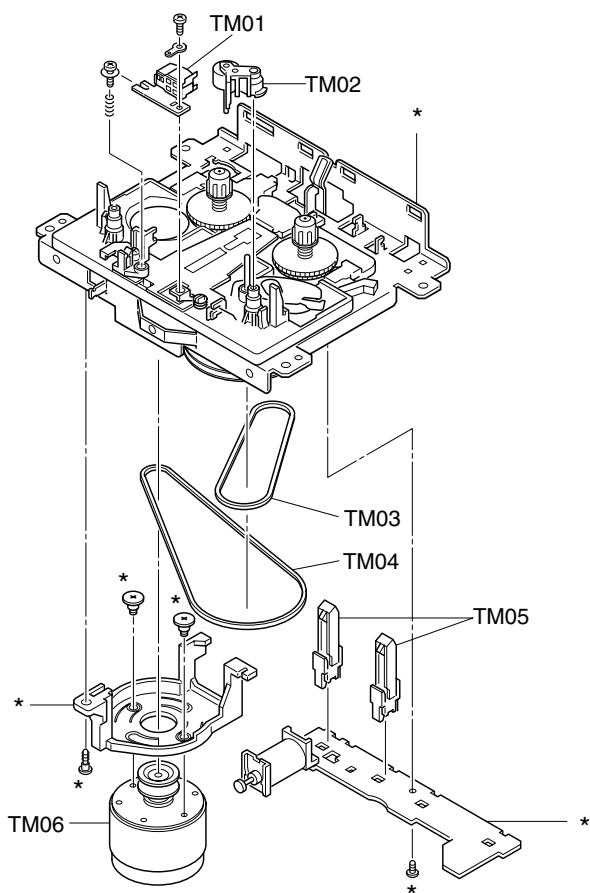
REF.NO.	PART NO.	DESCRIPTION
74	614 325 7196	ASSY,PWB,DG(Only Initial)
CN420	614 020 1215	SOCKET,2P
CN421	614 322 2262	ASSY,WIRE,PT-AMPWIRE
CN422	614 017 8203	TERMINAL BOARD
CN423	614 017 8203	TERMINAL BOARD
D4280	△ 407 098 3300	DIODE RL153-BF-S2
D4281	△ 407 098 3300	DIODE RL153-BF-S2
D4282	△ 407 098 3300	DIODE RL153-BF-S2
D4283	△ 407 098 3300	DIODE RL153-BF-S2
FCL41	△ 645 006 4760	HOLDER,FUSE
or	△ 645 031 7903	HOLDER,FUSE
FCL42	△ 645 006 4760	HOLDER,FUSE
or	△ 645 031 7903	HOLDER,FUSE
L4291	△ 645 017 8061	INDUCTOR,181M
or	△ 645 038 6053	INDUCTOR,181U
or	△ 645 041 3087	INDUCTOR,180U

# EXPLODED VIEW & PARTS LIST (TAPE MECHANISM)

## TAPE MECHANISM

REF.NO.	PART NO.	DESCRIPTION
TM01	614 320 4213	ASSY,MECHA,TM-DA280TN-SH
TM02	645 052 2888	RP HEAD C-9142-BD-1025
TM03	645 010 9447	PINCH ROLLER(F) ASSY
TM04	645 045 1959	RF BELT
TM05	645 052 4158	MAIN BELT
TM06	645 045 2048	DETECT SWITCH MXS01190
TM06	645 052 2864	ASSY,MOTOR

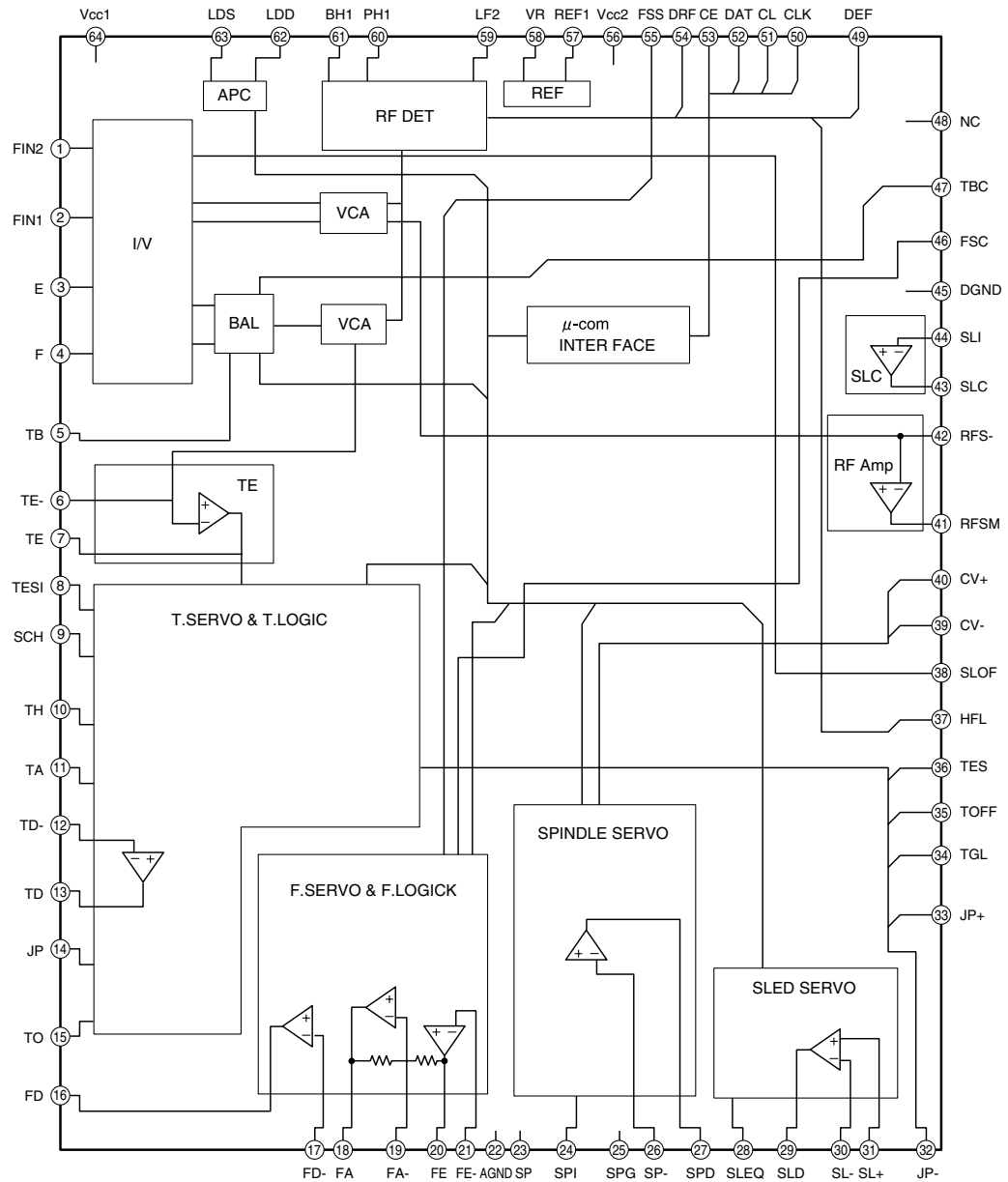
★N.S.P : Not supplied as service parts.



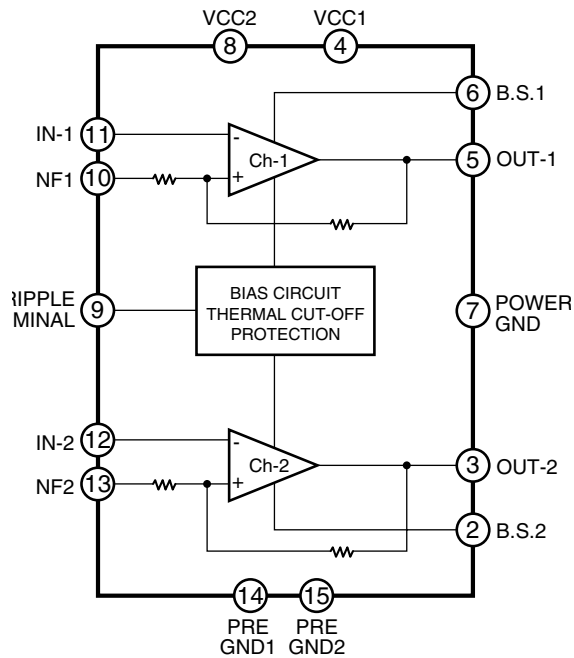


# IC BLOCK DIAGRAM & DESCRIPTION

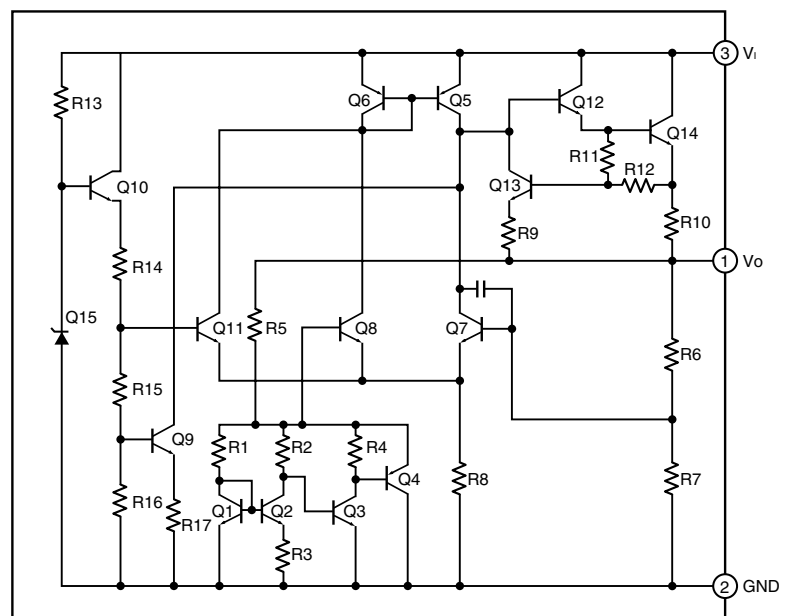
## IC101 LA9242M-MPB (Servo Signal Processor)



## IC442 TA8229K (Power Amplifier)

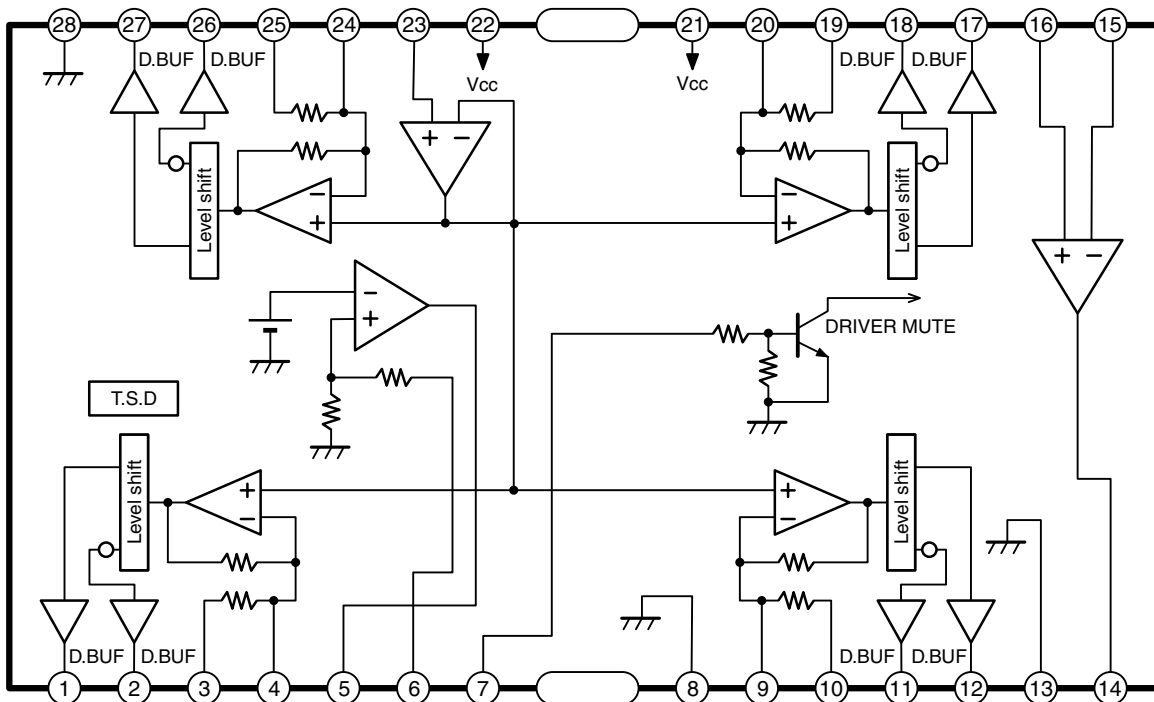


## IC446 NJM78L05A (Stabilized Power Supply)

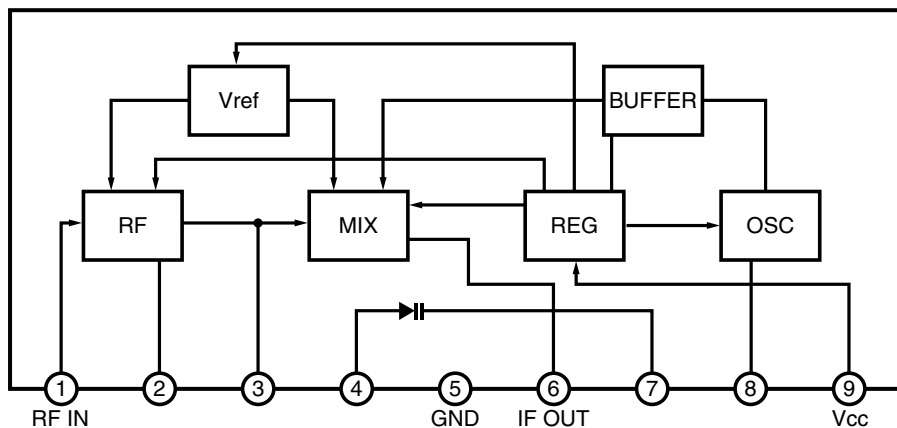


# IC BLOCK DIAGRAM & DESCRIPTION

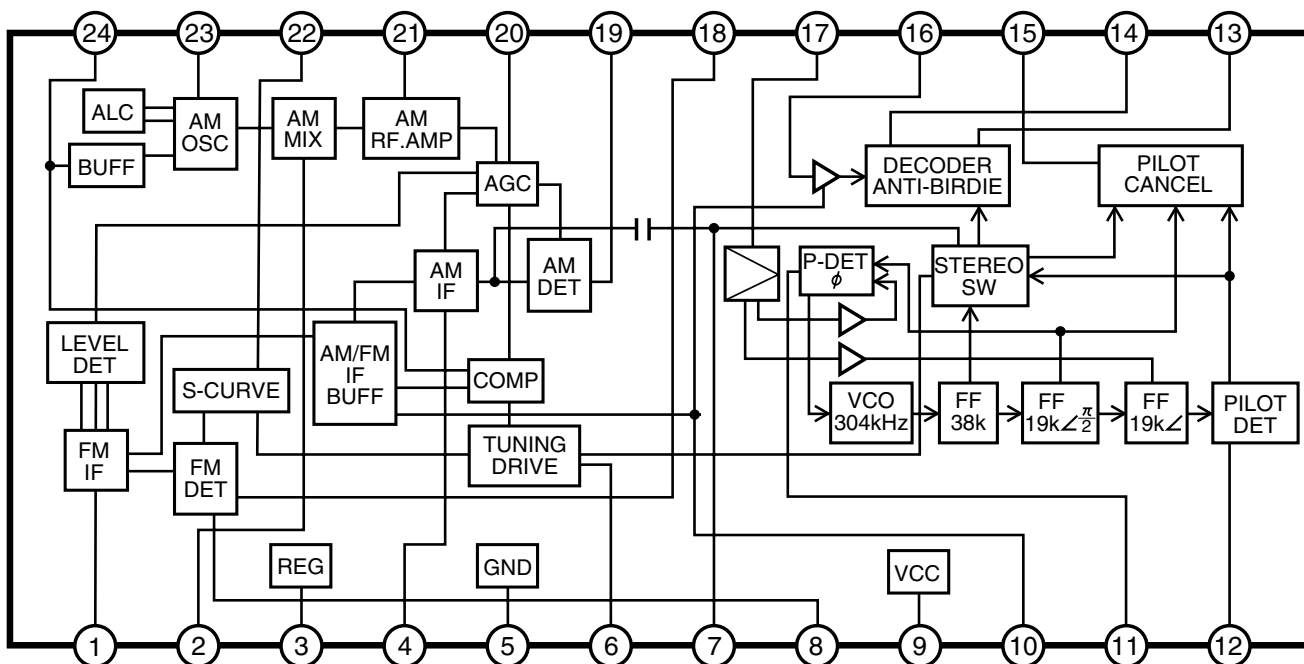
## IC103 MM1469XH (CD Driver)



## IC211 LA1186N-AUDIO (FM Front End)

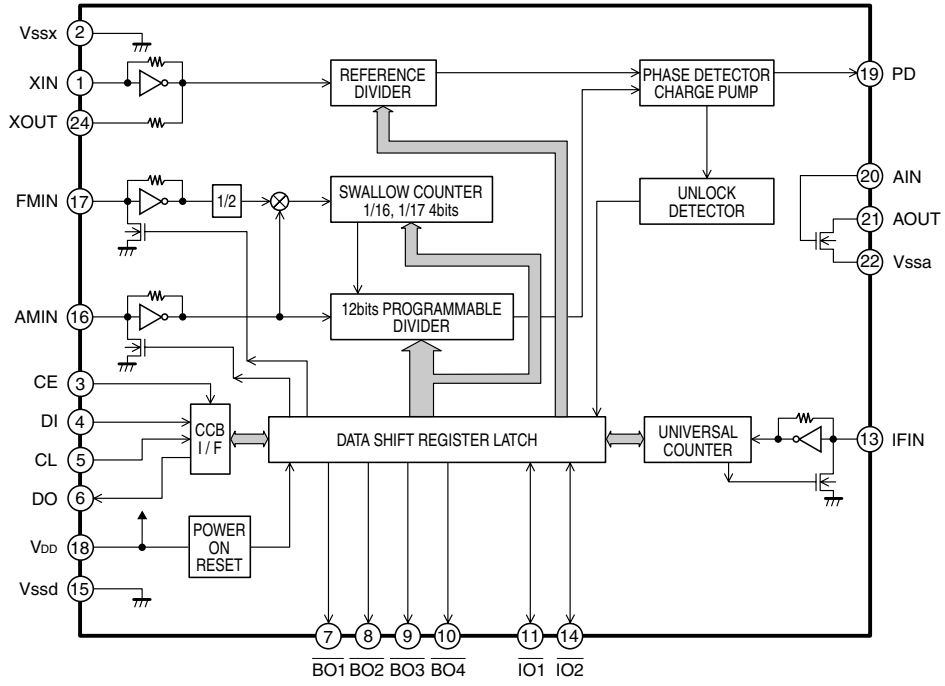


## IC231 LA1844ML (Tuner System)

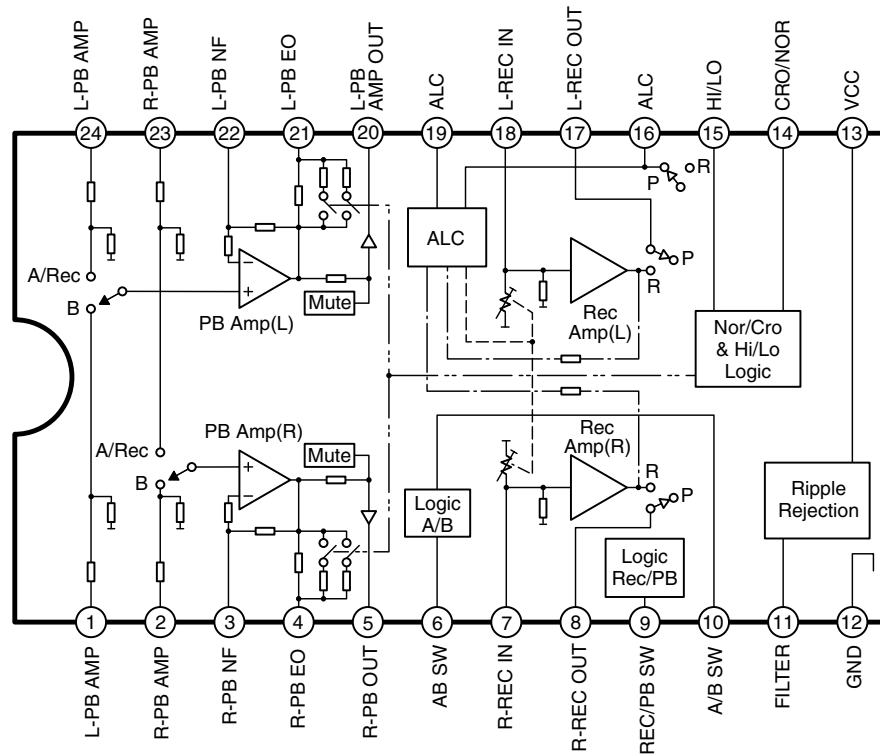


# IC BLOCK DIAGRAM & DESCRIPTION

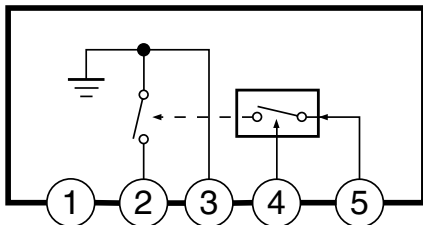
## IC241 LC72121M-D (PLL Synthesizer)



## IC440 AN7348K (Play/Rec Pre Amp)

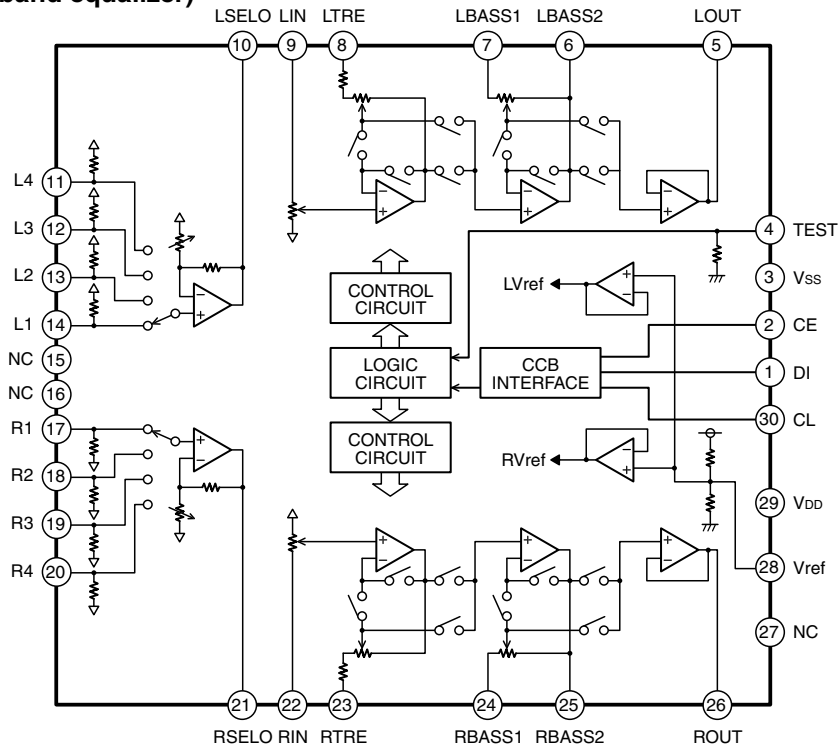


## IC443 BA7755A (Head Switch)

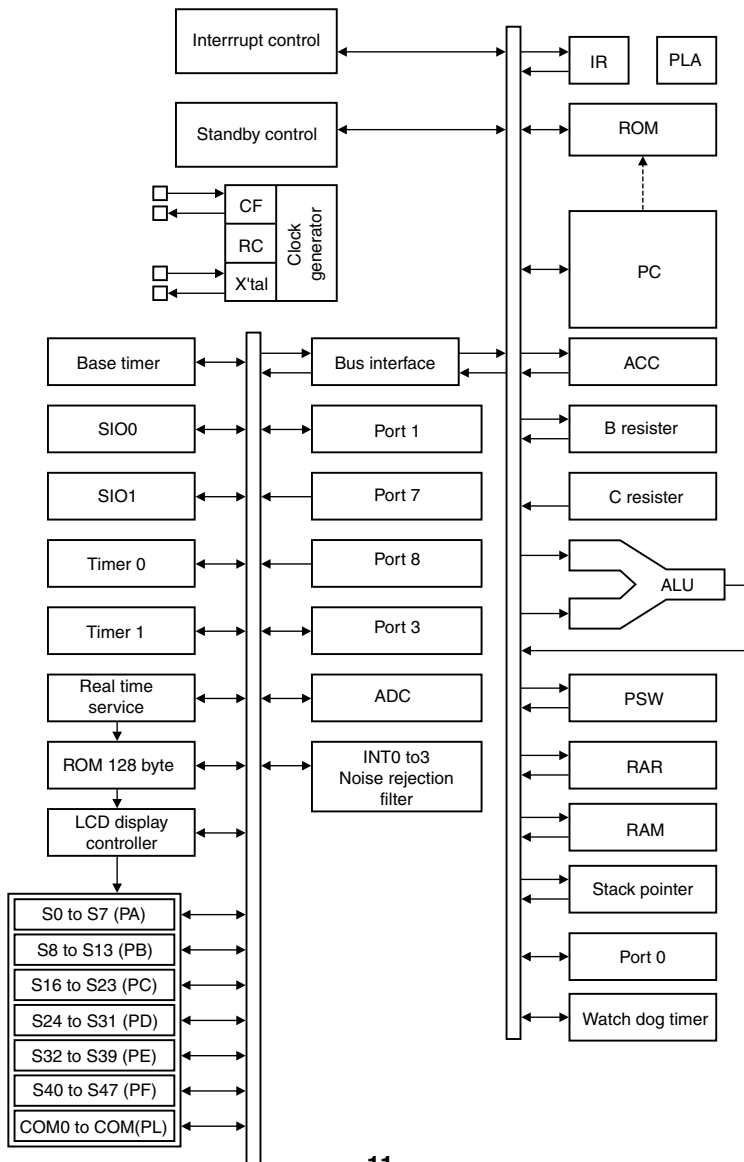


## IC BLOCK DIAGRAM & DESCRIPTION

### IC441 LC75342M (2 band equalizer)

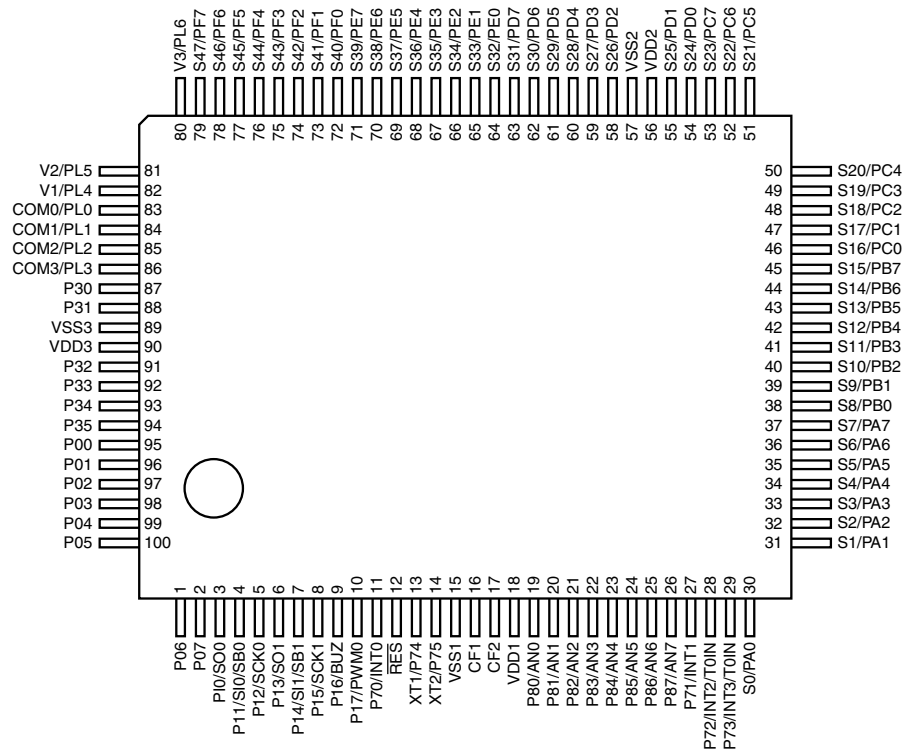


### IC601 LC867232A-51D2 (Micro Processor)



# IC BLOCK DIAGRAM & DESCRIPTION

## IC601 LC867232A-51D2 (Micro Processor)

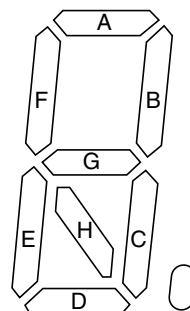
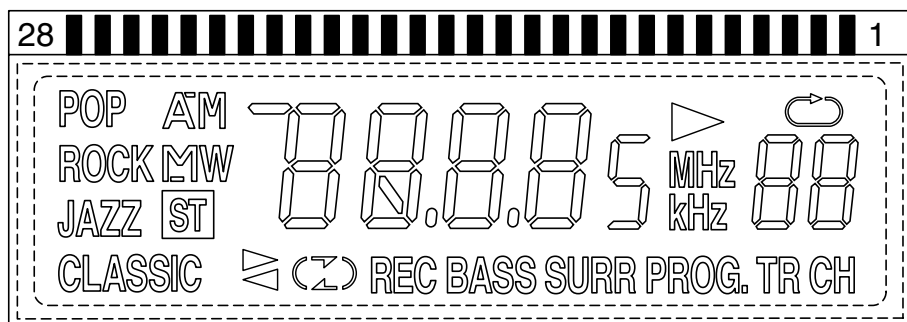


Pin Name	I/O	Function description																																			
VSS1 VSS2 VSS3	-	Negative power supply pin																																			
VDD1 VDD2 VDD3	-	Positive power supply pin																																			
Port 0 P00 to P07	I/O	<ul style="list-style-type: none"> <li>• 8 bits input/output port</li> <li>• Data direction can be specified in 4 bits unit</li> <li>• HOLD-release input</li> <li>• Input for port 0 interrupt</li> </ul>																																			
Port 1 P10 to P17	I/O	<ul style="list-style-type: none"> <li>• 8 bits input/output port</li> <li>• Data direction can be specified for each bit</li> <li>• Pin function</li> <li>P10 : SIO0 data output</li> <li>P11 : SIO0 data input/bus input/output</li> <li>P12 : SIO0 clock input/output</li> <li>P13 : SIO1 data output</li> <li>P14 : SIO1 data input/bus input/output</li> <li>P15 : SIO1 clock input/output</li> <li>P16 : Buzzer output</li> <li>P17 : Timer 1 output (PWM output)</li> </ul>																																			
Port 3 P30 to P35	I/O	<ul style="list-style-type: none"> <li>• 6 bits input/output port</li> <li>• Data direction can be specified for each bit</li> </ul>																																			
Port 7 P70 P71 to P73	I/O	<ul style="list-style-type: none"> <li>• 6 bits input port</li> <li>• Other functions</li> <li>P70 : INTO input/HOLD release input/ Nch-Tr. output for watchdog timer</li> <li>P71 : INT1 input/HOLD release input</li> <li>P72 : INT2 input/timer 0 event input</li> <li>P73 : INT3 input (with noise rejection filter)/ timer 0 event input</li> <li>Interrupt receiver format: vector address</li> </ul> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th></th> <th>Rise</th> <th>Fall</th> <th>Rise/ Fall</th> <th>H-level</th> <th>L-level</th> <th>Vector</th> </tr> </thead> <tbody> <tr> <td>INT0</td> <td>O</td> <td>O</td> <td>X</td> <td>O</td> <td>O</td> <td>03H</td> </tr> <tr> <td>INT1</td> <td>O</td> <td>O</td> <td>X</td> <td>O</td> <td>O</td> <td>0BH</td> </tr> <tr> <td>INT2</td> <td>O</td> <td>O</td> <td>O</td> <td>X</td> <td>X</td> <td>13H</td> </tr> <tr> <td>INT3</td> <td>O</td> <td>O</td> <td>O</td> <td>X</td> <td>X</td> <td>1BH</td> </tr> </tbody> </table>		Rise	Fall	Rise/ Fall	H-level	L-level	Vector	INT0	O	O	X	O	O	03H	INT1	O	O	X	O	O	0BH	INT2	O	O	O	X	X	13H	INT3	O	O	O	X	X	1BH
	Rise	Fall	Rise/ Fall	H-level	L-level	Vector																															
INT0	O	O	X	O	O	03H																															
INT1	O	O	X	O	O	0BH																															
INT2	O	O	O	X	X	13H																															
INT3	O	O	O	X	X	1BH																															
$\overline{P74}$ ,75	I	<ul style="list-style-type: none"> <li><math>\overline{P74}</math> : XT1 X'tal oscillation pin</li> <li>P75 : XT2 X'tal oscillation pin</li> </ul>																																			

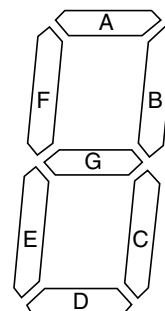
Pin Name	I/O	Function description
Port 8 P80 to P87	I	<ul style="list-style-type: none"> <li>• 8 bits input port</li> <li>• Other functions</li> <li>AD input port (eight pins)</li> </ul>
S0/PA0 to S7/PA7	I/O	<ul style="list-style-type: none"> <li>• Segment output pin for LCD display</li> <li>• General-purpose input/output ports (PA) possible used</li> </ul>
S8/PB0 to S15/PB7	I/O	<ul style="list-style-type: none"> <li>• Segment output pin for LCD display</li> <li>• General-purpose input/output ports (PB) possible used</li> </ul>
S16/PC0 to S23/PC7	I/O	<ul style="list-style-type: none"> <li>• Segment output pin for LCD display</li> <li>• General-purpose input/output ports (PC) possible used</li> </ul>
S24/PD0 to S31/PD7	I/O	<ul style="list-style-type: none"> <li>• Segment output pin for LCD display</li> <li>• General-purpose input/output ports (PD) possible used</li> </ul>
S32/PE0 to S39/PE7	I/O	<ul style="list-style-type: none"> <li>• Segment output pin for LCD display</li> <li>• General-purpose input/output ports (PE) possible used</li> </ul>
S40/PF0 to S47/PF7	I/O	<ul style="list-style-type: none"> <li>• Segment output pin for LCD display</li> <li>• General-purpose input/output ports (PF) possible used</li> </ul>
COM0/PL0 to COM3/PL3	I/O	<ul style="list-style-type: none"> <li>• Common output pin for LCD display</li> <li>• General-purpose input/output ports (PL) possible used</li> </ul>
V1/PL4 to V3/PL6	I	<ul style="list-style-type: none"> <li>• Bias power supply pin for LCD driver</li> <li>• General-purpose input/output ports (PL) possible used</li> </ul>
$\overline{RES}$	I	Reset pin
XT1/ $\overline{P74}$	I	<ul style="list-style-type: none"> <li>• Input pin for 32.768kHz crystal oscillation</li> <li>When not in use, connect to VDD.</li> <li>• Other function</li> <li>General-purpose input port <math>\overline{P74}</math></li> </ul>
XT2/P75	O (I)	<ul style="list-style-type: none"> <li>• Output pin for 32.768kHz crystal oscillation</li> <li>When not in use, set it to oscillation mode and leave it open.</li> <li>• Other function</li> <li>General-purpose input port P75</li> </ul>
CF1	I	Input pin for ceramic oscillator
CF2	O	Output pin for ceramic oscillator

# LCD DISPLAY DESCRIPTION

LCD60



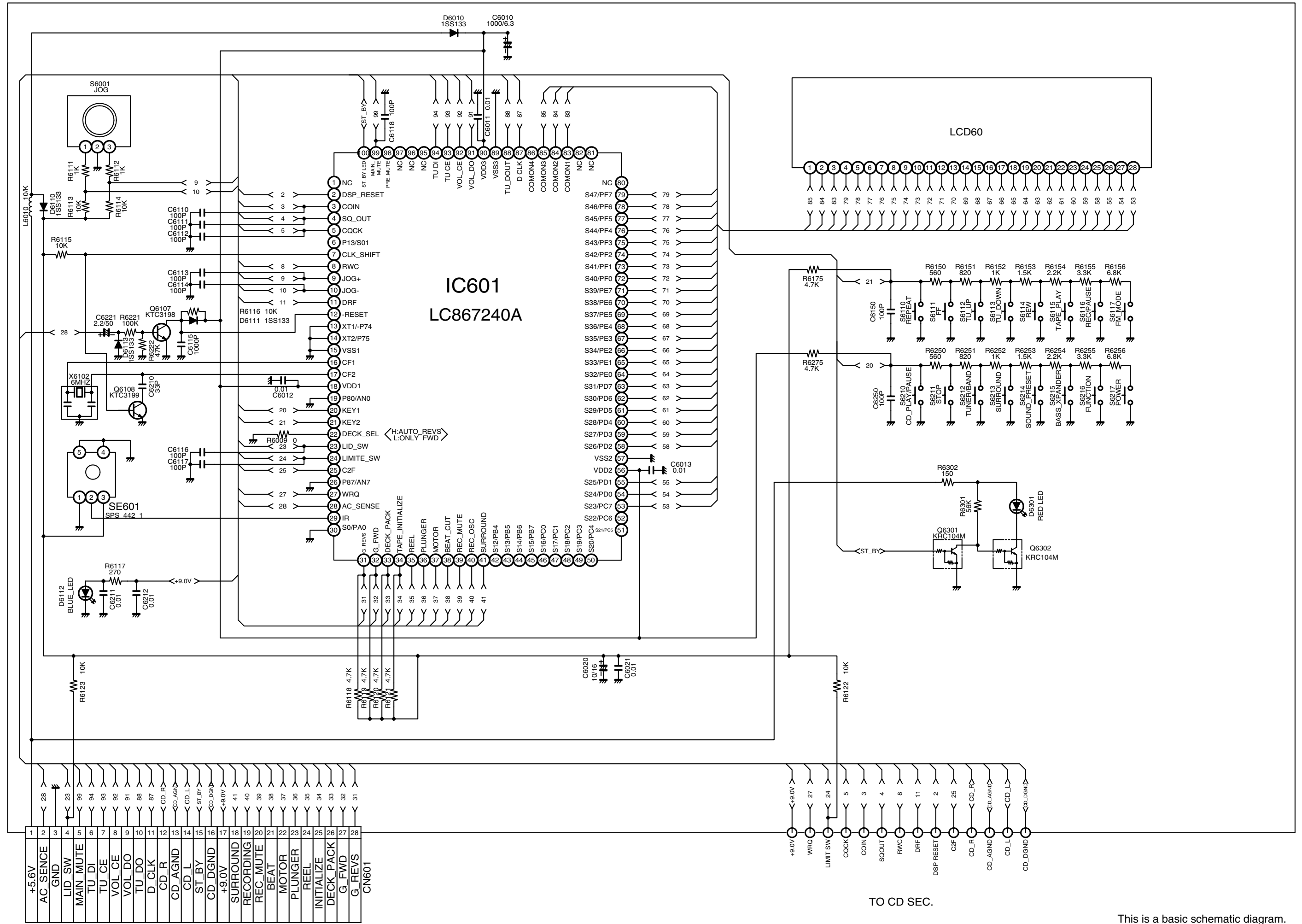
(DIGIT 2)



(DIGIT 1,3,4)

PAD NO.	IC NO.	COM1	COM2	COM3
1	C3	--	--	COM3
2	C2	--	COM2	--
3	C1	COM1	--	--
4	S1	7A	7F	7E
5	S2	7B	7G	7D
6	S3	T8	7C	CH
7	S4	6A	6F	6E
8	S5	6B	6G	6D
9	S6	JAZZ	6C	TR
10	S7	T1	MHZ	KHZ
11	S8	5	PROG.	REC
12	S9	T5	T6	ST
13	S10	4A	4F	4E
14	S11	4B	4G	4D
15	S12	4h	4C	SURR
16	S13	3A	3F	3E
17	S14	3B	3G	3D
18	S15	3h	3C	BASS
19	S16	2A	2F	2E
20	S17	2B	2G	2D
21	S18	2h	2C	CLASSIC
22	S19	REV PLAY	T9	FWD PLAY
23	S20	1A	1F	1E
24	S21	1B	1G	1D
25	S22	1h	1C	T4
26	S23	T2	--	T3
27	S24	POP	T10	--
28	S25	ROCK	T11	T7

**SCHEMATIC DIAGRAM (FRONT)**

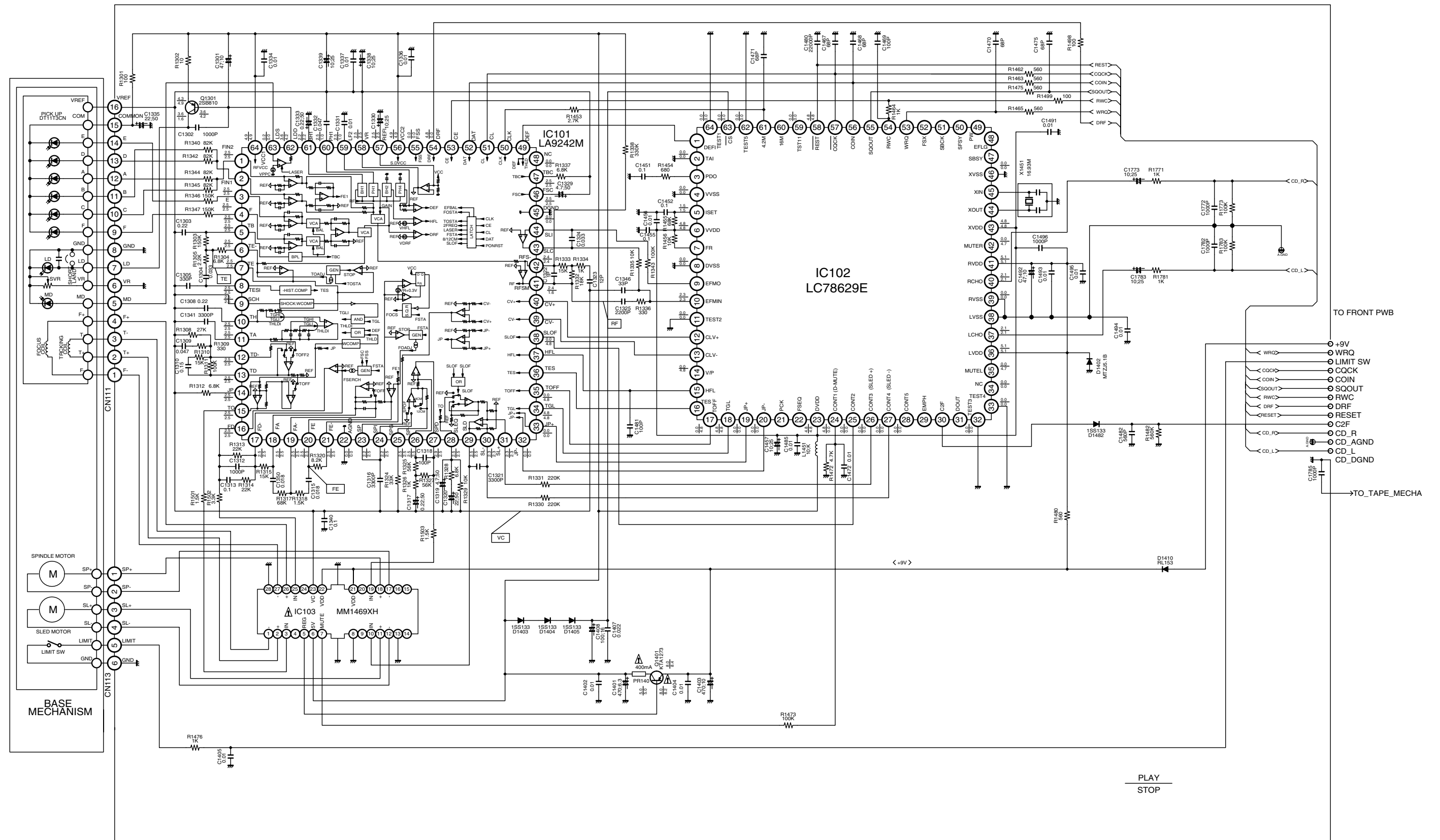


TO AMP SEC.

TO CD SEC.

This is a basic schematic diagram.

**SCHEMATIC DIAGRAM (CD)**



**PRODUCT SAFETY NOTICE**

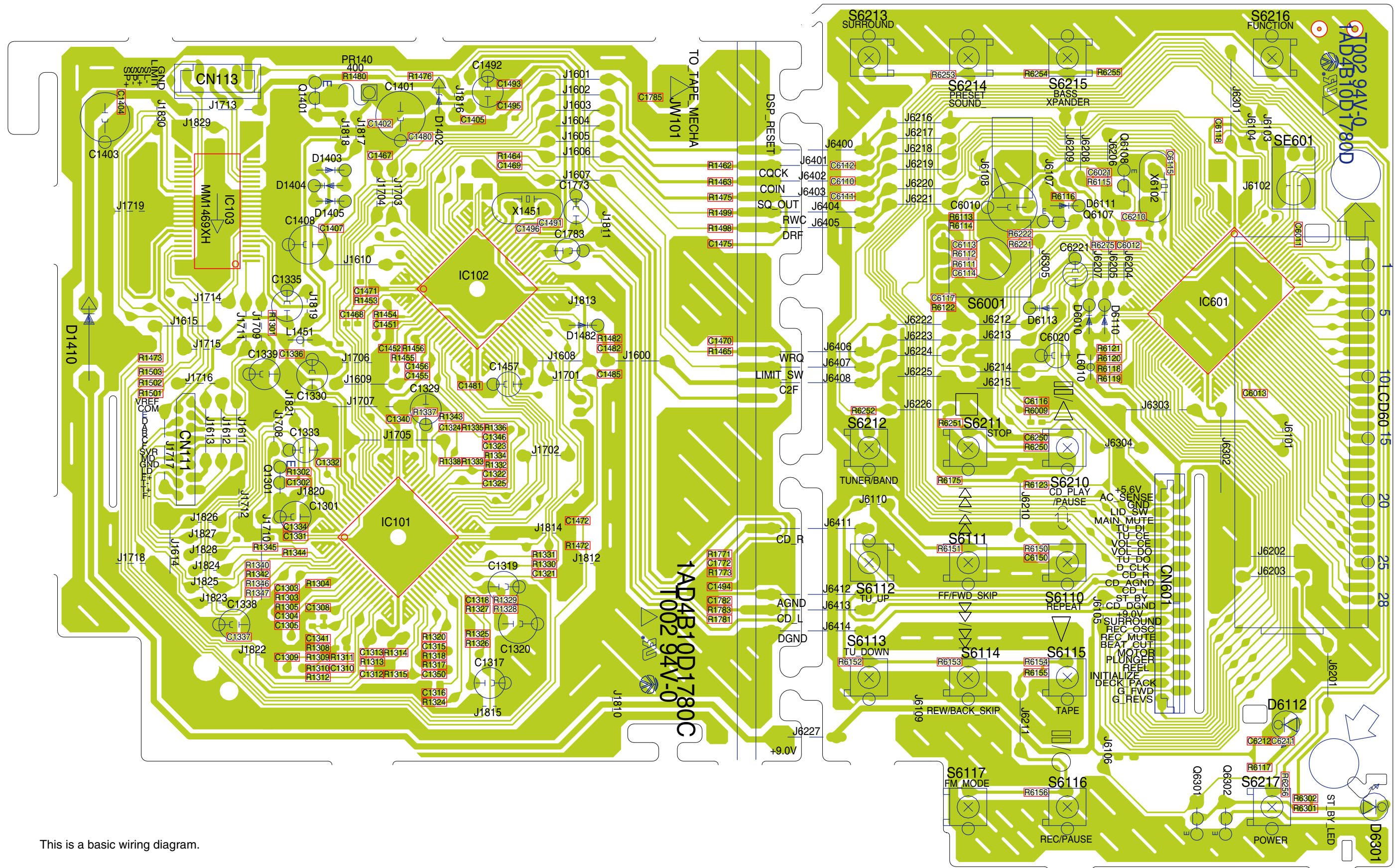
Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol  $\Delta$  and  $\triangle$  mark in the parts list and the schematic diagram designated components in which safety and performance can be of special significance. When replacing a component identified by  $\Delta$  and  $\triangle$ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

This is a basic schematic diagram.



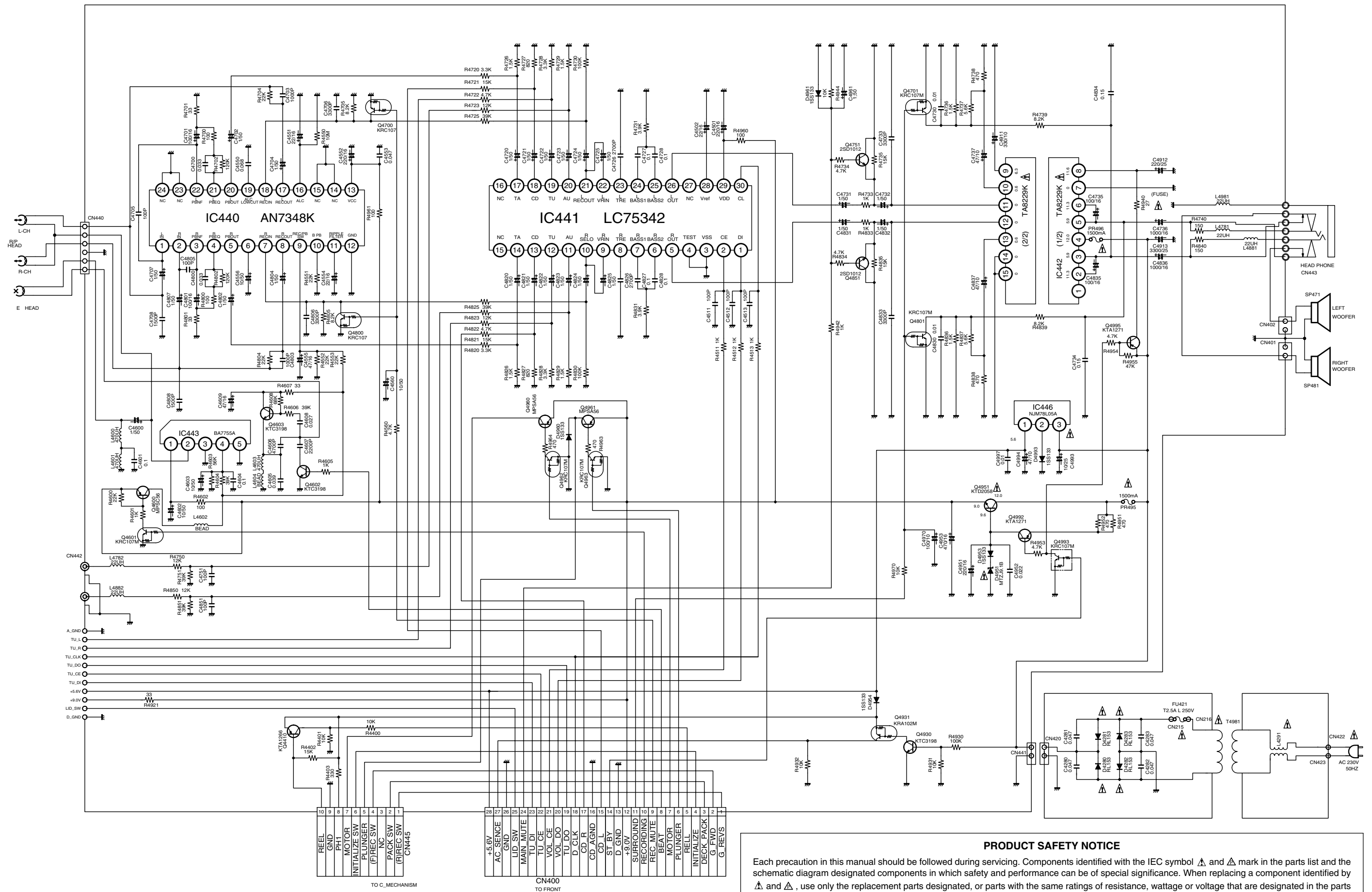
CD P.W.BORD

FRONT P.W.BORD



This is a basic wiring diagram.

# SCHEMATIC DIAGRAM (AMPLIFIER)

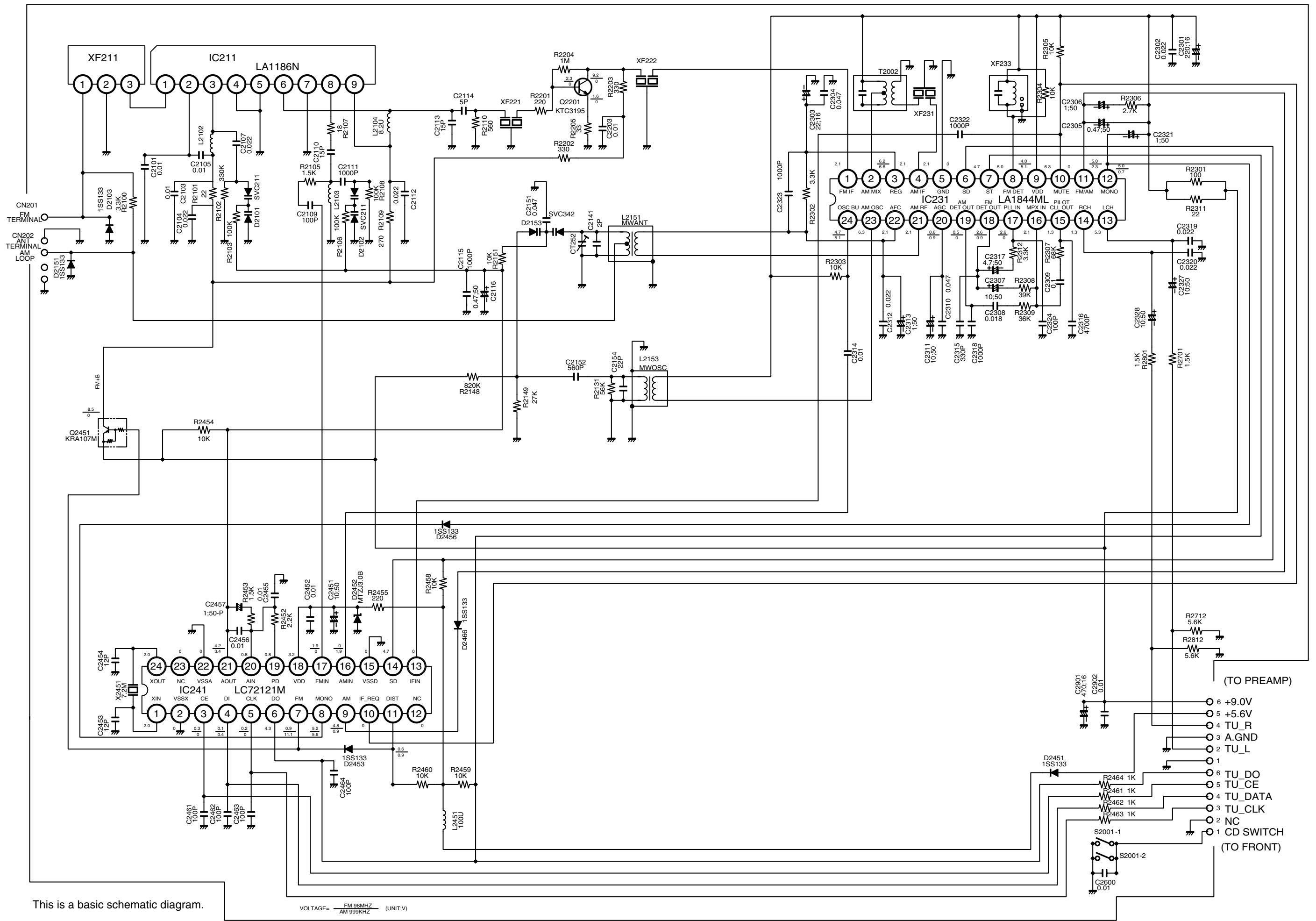


### PRODUCT SAFETY NOTICE

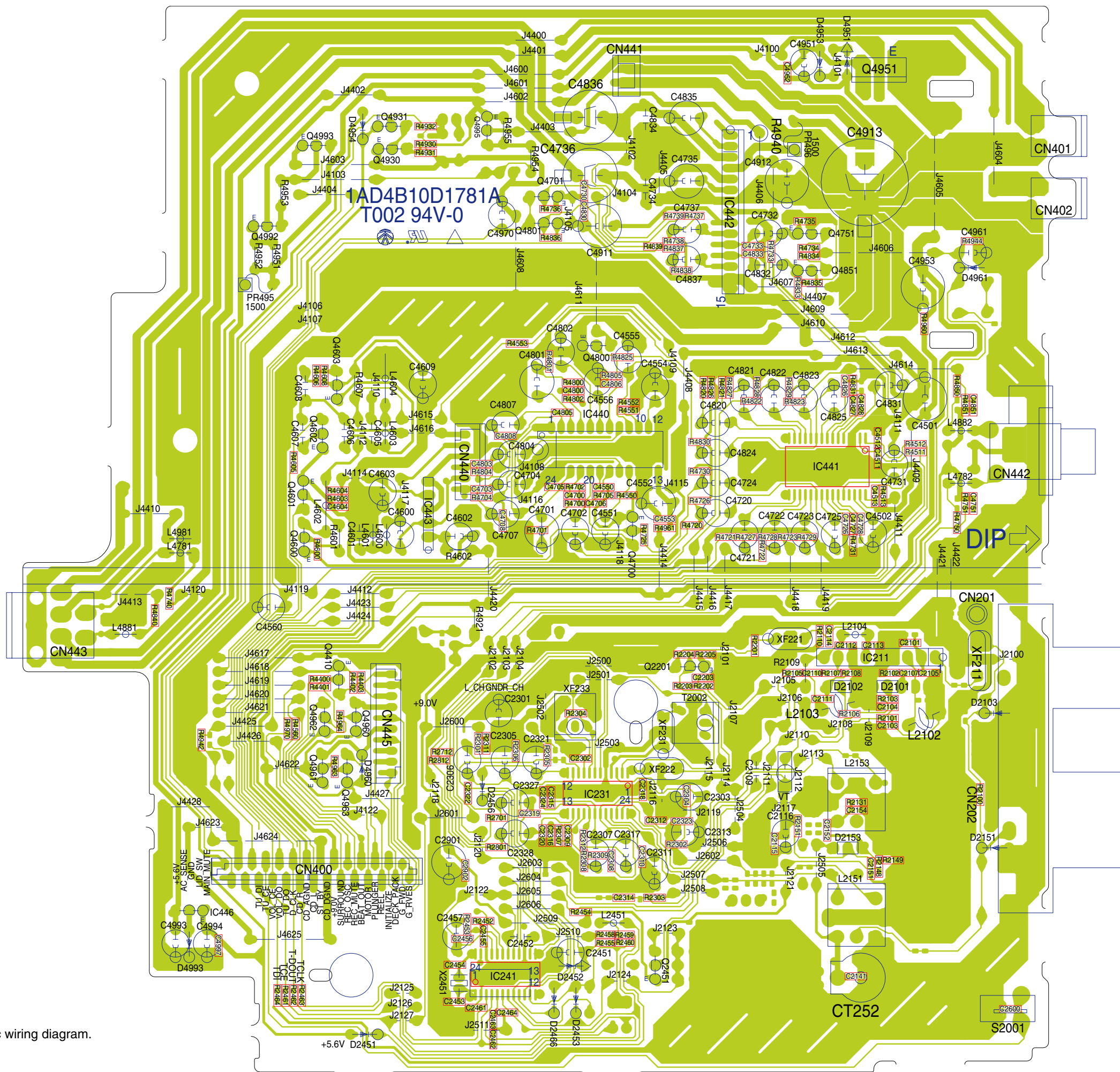
Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol  $\Delta$  and  $\triangle$  mark in the parts list and the schematic diagram designated components in which safety and performance can be of special significance. When replacing a component identified by  $\Delta$  and  $\triangle$ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

This is a basic schematic diagram.

**SCHEMATIC DIAGRAM (TUNER)**

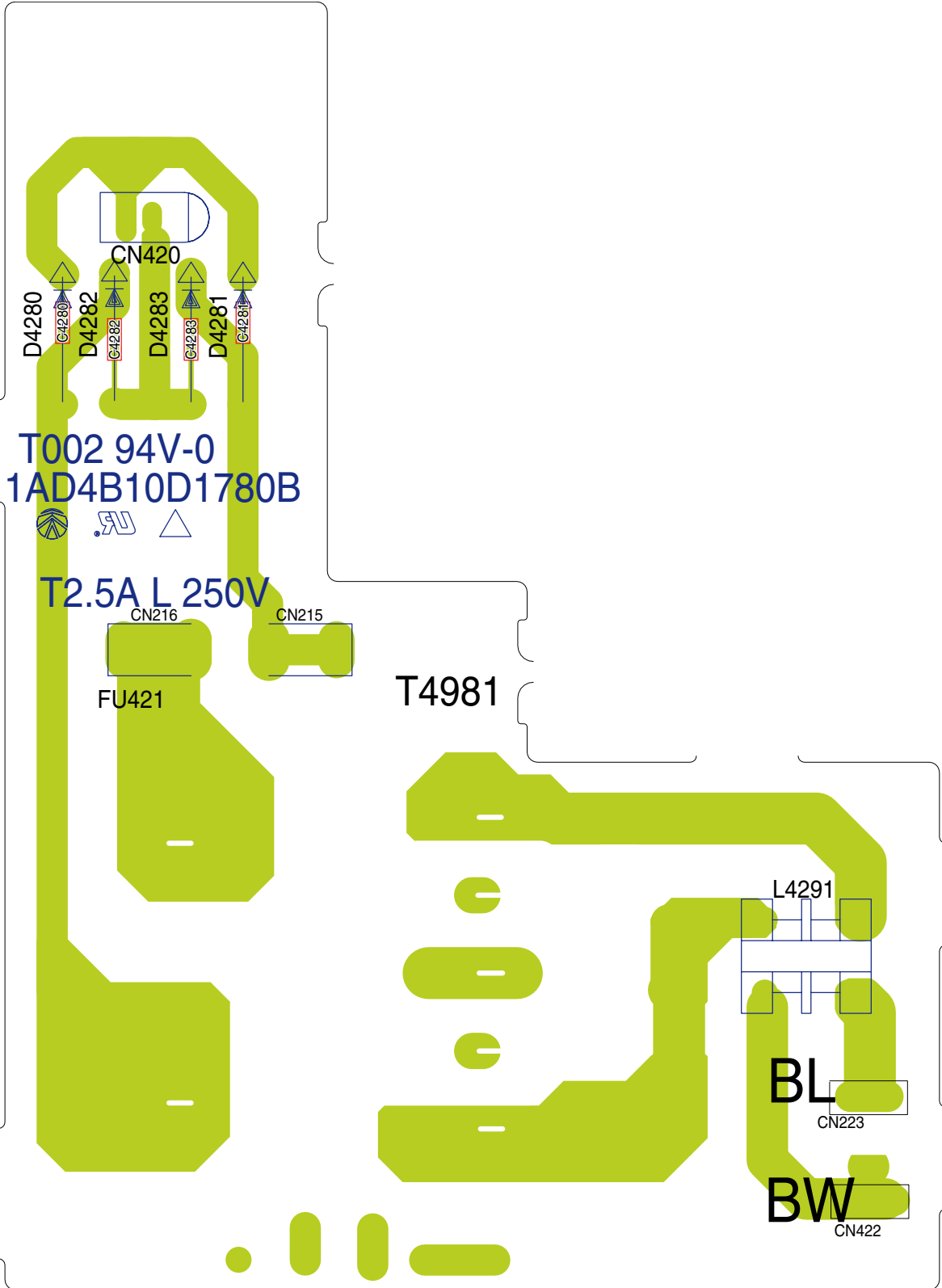


WIRING DIAGRAM (AMPLIFIER & TUNER)



This is a basic wiring diagram.

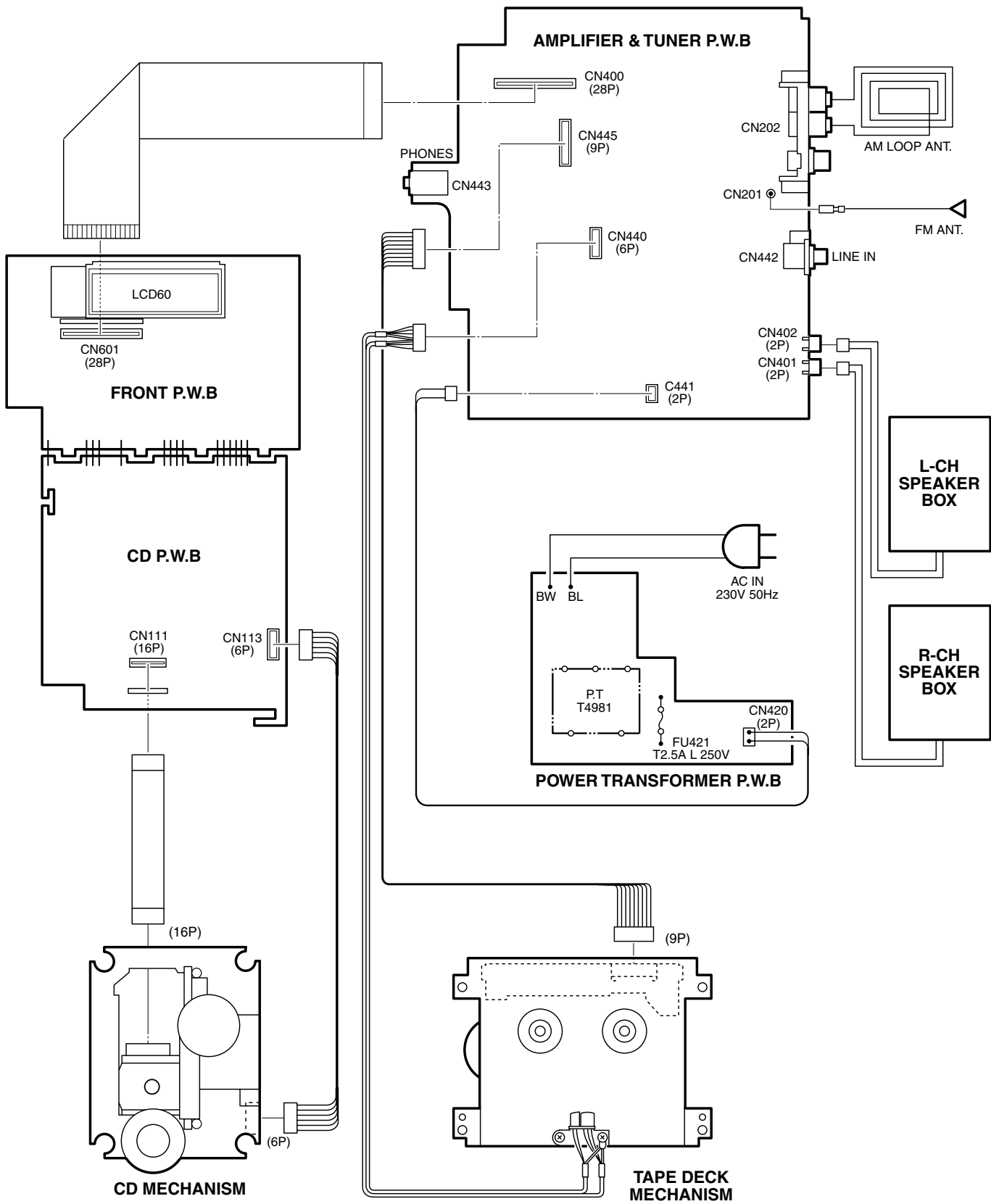
**WIRING DIAGRAM (POWER TRANSFORMER)**



This is a basic wiring diagram.



# WIRING CONNECTION



This is a basic wiring connection.

# SANYO

SANYO Electric Co., Ltd.  
Osaka, Japan