

CDX-2250/3500

SERVICE MANUAL

US Model

Canadian Model

CDX-2250

E Model

CDX-3500



Photo: CDX-2250

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
14 watts per channel minimum continuous average power into
4 ohms, 4 channels driven from 20 Hz to 20 kHz with no more
than 1 % total harmonic distortion.

Other specifications

CD player section

System	Compact disc digital audio system
Signal-to-noise ratio	90 dB
Frequency response	10 - 20,000 Hz
Wow and flutter	Below measurable limit
Laser Diode Properties	
Material	GaAlAs
Wavelength	780 nm
Emission Duration	Continuous
Laser output power	Less than 44.6 μW*

* This output is the value measured at a distance
of 200 mm from the objective lens surface on
the Optical Pick-up Block.

Tuner section

FM	
Tuning range	87.5 - 107.9 MHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	9 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.7 % (stereo), 0.4 % (mono)
Separation	35 dB at 1 kHz
Frequency response	30 - 15,000 Hz

AM

Tuning range	530 - 1,710 kHz
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	30 μV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 - 8 ohms
Maximum power output	35 W x 4 (at 4 ohms)

Model Name Using Similar Mechanism	CDX-2180
CD Drive Mechanism Type	MG-363X-121
Optical Pick-up Name	KSS-521A

General	
Outputs	Power antenna relay control Telephone ATT control lead
Tone controls	Bass ±8 dB at 100 Hz Treble ±8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 178×50×185 mm (7 1/8" x 2 x 7 1/8 in.) (w/h/d)
Mounting dimensions	Approx. 182×53×162 mm (7 1/4" x 2 1/8" x 6 1/2 in.) (w/h/d)
Mass	Approx. 1.2 kg (2 lb. 10 oz.)
Supplied accessories	Parts for installation and connections (1 set) Cleaning cloth XP-CD1
Optional accessories	Compact disc single adapter CSA-8

Design and specifications are subject to change without notice.

FM/AM COMPACT DISC PLAYER



MICROFILM

SONY®

SECTION 4 DIAGRAMS

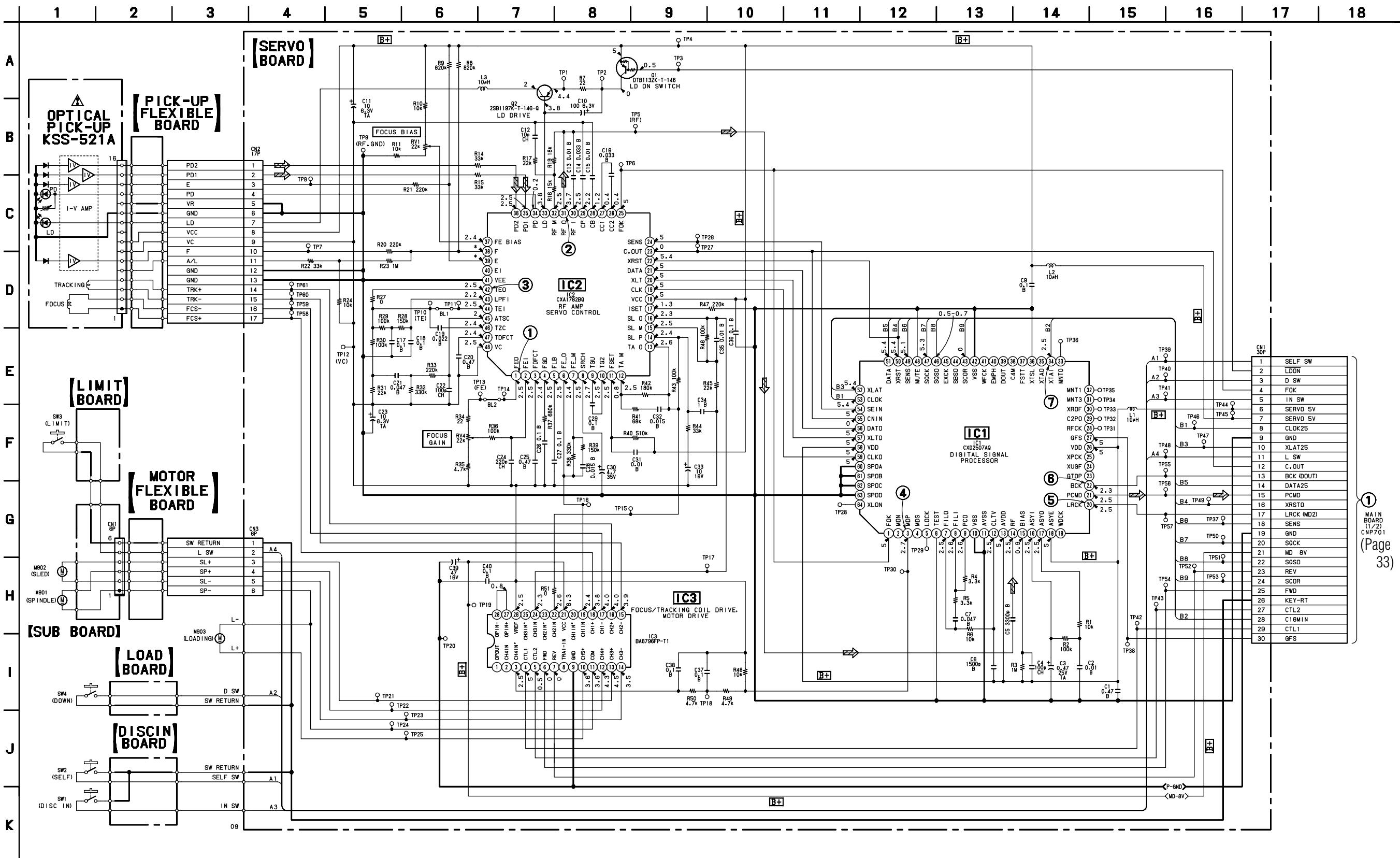
4-1. IC PIN DESCRIPTION

• IC801 µPD17705GC-537-3B9 (SYSTEM CONTROL)

Pin No.	Pin Name	I/O	Pin Description
1	SIRCS	I	SIRCS input (A/D)
2	<u>IN-SW</u>	I	CD mechanism position detection
3	<u>D-SW</u>	I	CD mechanism position detection
4	<u>SELF-SW</u>	I	CD mechanism position detection
5	<u>L-SW</u>	I	LIMIT switch
6	LM-EJ	O	Loading motor control (Eject direction)
7	LM-LOD	O	Loading motor control (Loading direction)
8	AMP/ANT-ON	O	Power control for amplifier.
9	MONO	O	Force MONO output
10	SD	I	SD signal input
11	BAND-SW	I	Initialize switch input terminal
12	AREA1-SW	I	Initialize switch input terminal
13	AREA2-SW	I	Initialize switch input terminal
14, 15	RE1, 2	I	Rotary encoder input 1, 2
16	<u>SEEK</u>	O	SEEK output
17	<u>CD-ON</u>	I/O	Servo drive power
18	<u>FM-ON</u>	I/O	FM select output
19	<u>TU-ON</u>	I/O	AM select output
20	NC	—	Not used.
21	GND3	—	Ground
22	KEYIN3	I	Not used (Connect to ground)
23, 24	KEYIN2, 1	I	A/D key input 2, 1
25	ROT-IN	I	Rotary commander input
26	S-METER	I	FM and AM common signal meter A/D conversion input
27	<u>TEST-SW</u>	I	TEST mode select input
28	AM-IFC	I	AM center frequency input
29	FM-IFC	I	FM center frequency input
30	VDD2	—	Power supply (+5 V)
31	VCOH-FM	I	Local oscillation frequency input (FM)
32	VCOL-AM	I	Local oscillation frequency input (AM)
33	GND2	—	Ground
34	NC	—	Not used.
35	EO1-PDOUT	O	Error out output
36	TESTO	—	Connect to ground
37	AM-ON(TU-ON)	O	AM power output (AM select)
38	FM-ON(FM/AM)	O	FM power output (FM select)
39	<u>LCL/DX</u>	O	LOCAL/ <u>DX</u> select ("H" : LOCAL, "L" : DX)
40	BEEP	O	BEEP output
41	<u>ACC-IN</u>	I	Accessory input
42	SCOR	I	SUBQ data read request
43	MUTE	O	System mute output
44	<u>AMP-MUTE</u>	O	Power amplifier mute output
45	TEL-MUTE	O	Telephone mute output
46	NC	—	Fixed at "H" in this set.
47	VOL-CE	O	Electric volume chip select
48	VOL-CLK	O	Electric volume serial clock
49	VOL-DATA	O	Electric volume serial data
50	EMPHO	O	De-emphasis control output
51	PW-ON	O	System power control
52	MD-ON	O	Loading motor power
53	CD-ON	O	Servo drive power

Pin No.	Pin Name	I/O	Pin Description
54	ILL-ON	O	Illumination output
55	C.ALARM	I	Caution alarm select input (Used/Not used)
56	NC	I	Not used (Connect to ground)
57	NC	—	Fixed at "H" in this set.
58	LCD-CE	O	LCD drive chip select output
59	EZ-SEL	I	SHIFT + input
60	SENS	I	Information input from servo IC.
61	FOK	I	Focus OK input
62	<u>LD-ON</u>	O	Laser diode control
63	NC	—	Not used. (Connect to ground)
64	[IN] ST/MONO [OUT] MONO	I/O	Used for both STEREO indicator display input and force MONO output. (FM)
65	LCD-CKO	O	LCD driver serial clock output
66	LCD-So	O	LCD driver serial data output
67	<u>INH</u>	O	INHbit output
68	SQ-CKo	O	Q data read serial clock output
69	CD-RST	O	Servo IC/DAC reset output
70	SQ-SI	I	Q data input
71	CD-SO	O	Serial data output to servo IC.
72	CD-LAT	O	Data latch output to servo IC.
73	CD-CKO	O	Serial clock output to servo IC.
74	VREF	—	Not used.
75	GND1	—	Ground
76	X-OUT	—	Crystal oscillator connection (4.5 MHz)
77	X-IN	I	Crystal oscillator connection (4.5 MHz)
78	BU-IN	I	Back-up detection
79	VDD1	—	Power supply (+5 V)
80	RESET	I	RESET input

4-4. SCHEMATIC DIAGRAM — CD MECHANISM SECTION — • Refer to page 22 for Waveforms and Note and page 37 for IC Block Diagrams.

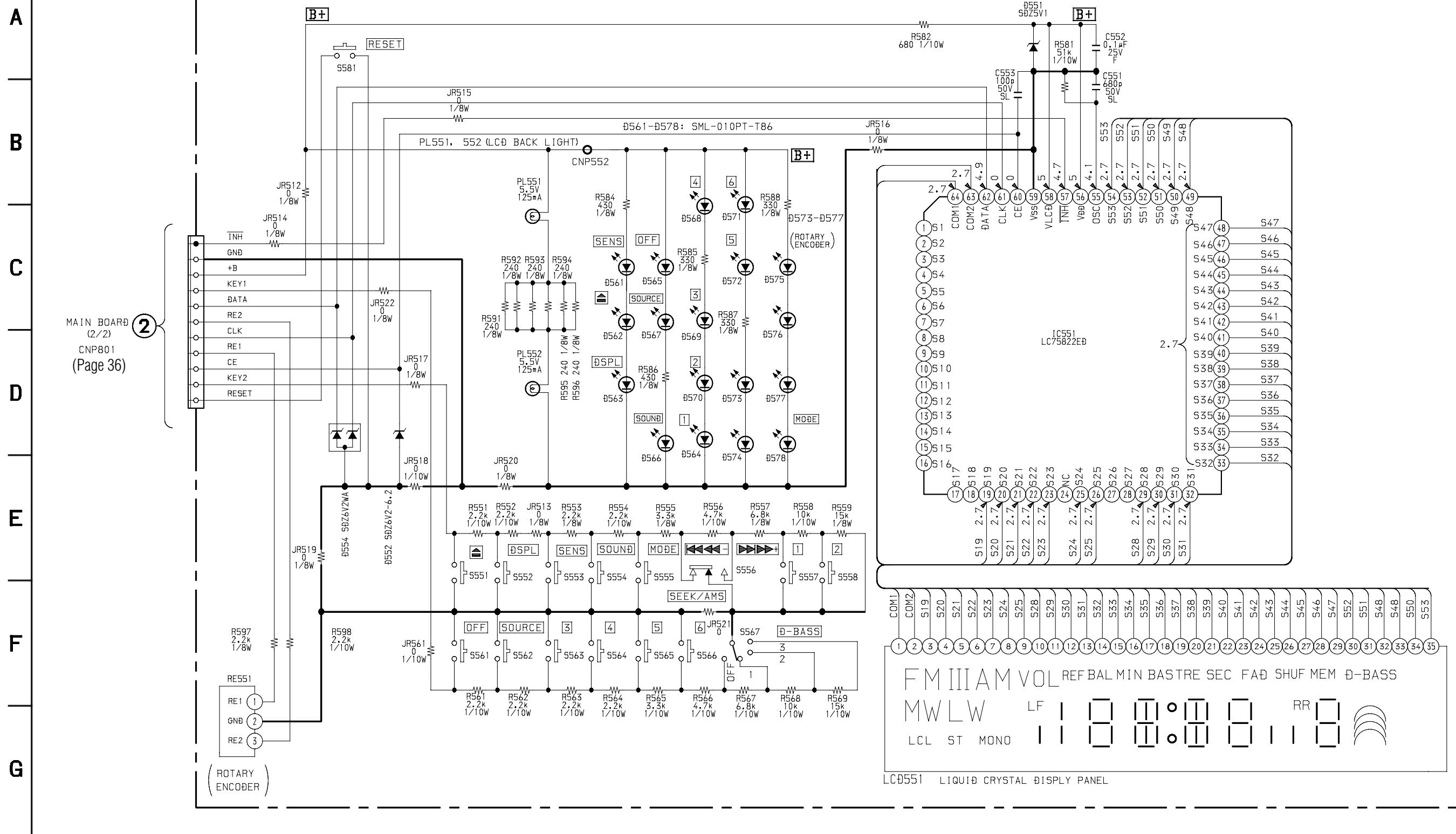


MAIN BOARD
(CNP701)
(Page
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4-6. SCHEMATIC DIAGRAM — DISPLAY SECTION —

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

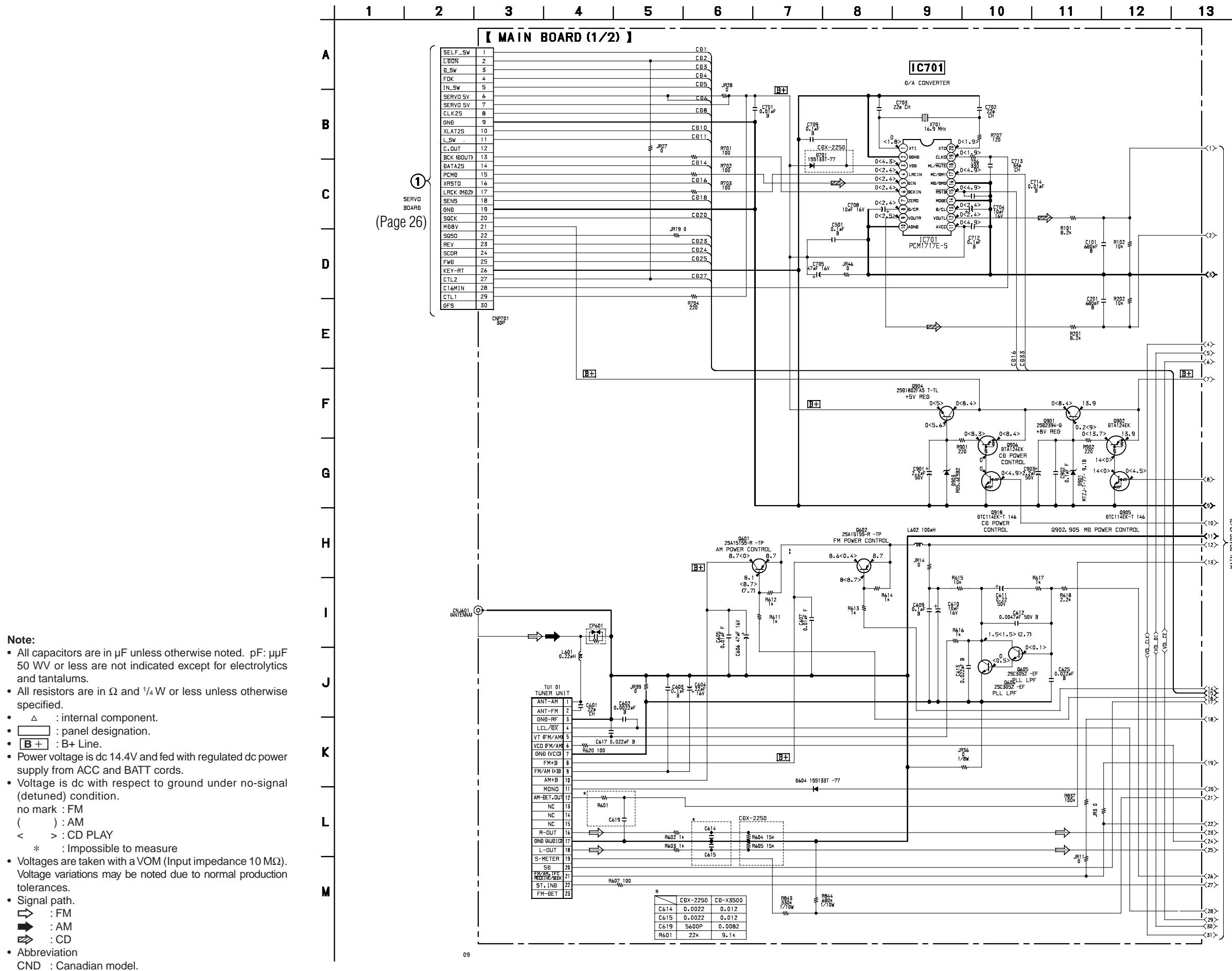
【DISPLAY BOARD】



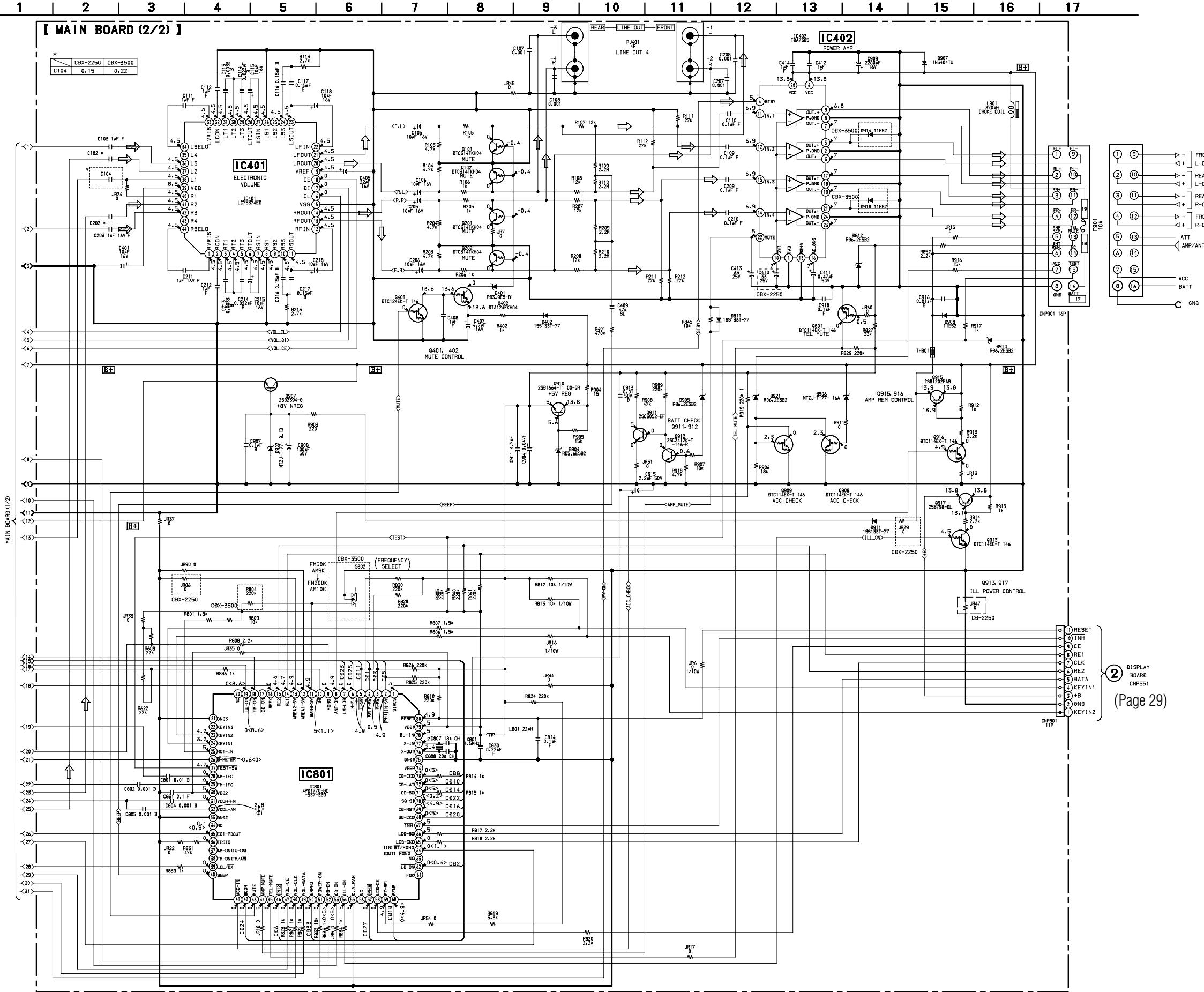
Note:

- All capacitors are in μF unless otherwise noted. pF: $\mu\mu\text{F}$ 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- [B+]**: B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Panel designation:** [] : panel designation.
- Voltage is dc with respect to ground under no-signal (detuned) condition.
no mark : FM
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.

4-8. SCHEMATIC DIAGRAM — MAIN SECTION (1/2) —

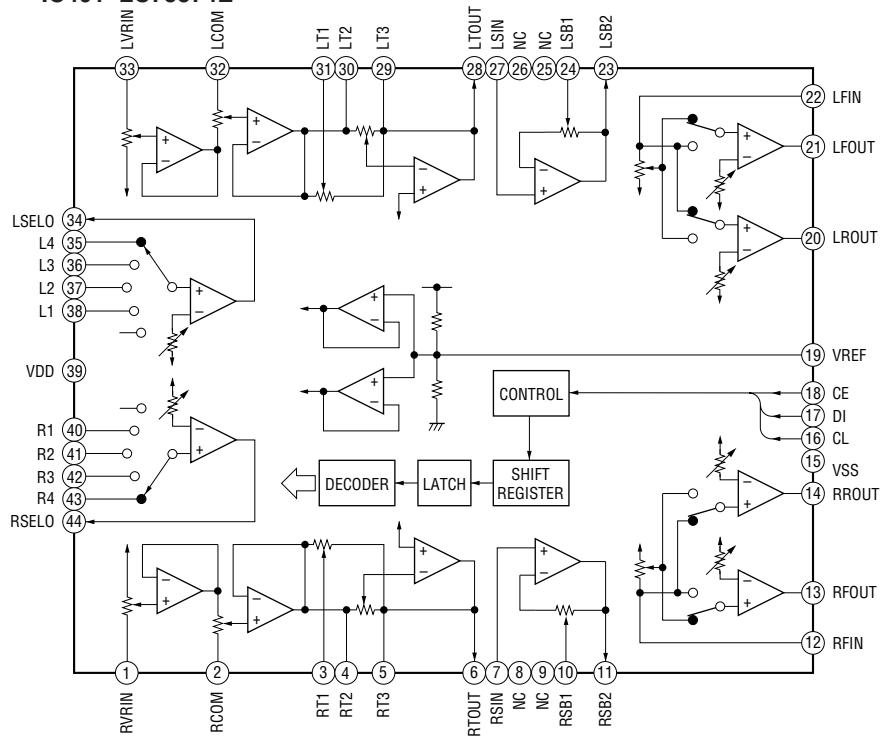


4-8. SCHEMATIC DIAGRAM — MAIN SECTION (2/2) — • Refer to page 37 for IC Block Diagrams.

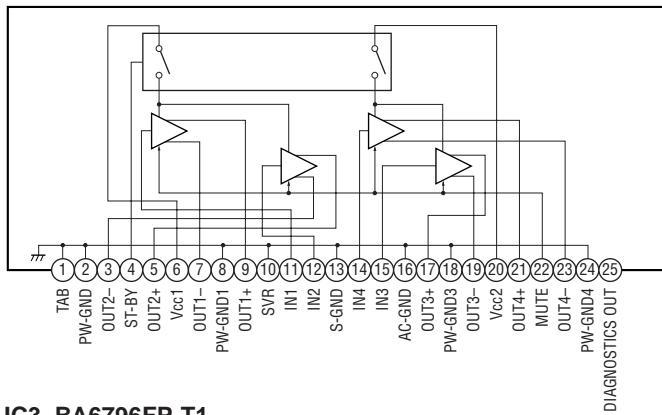


• IC Block Diagrams

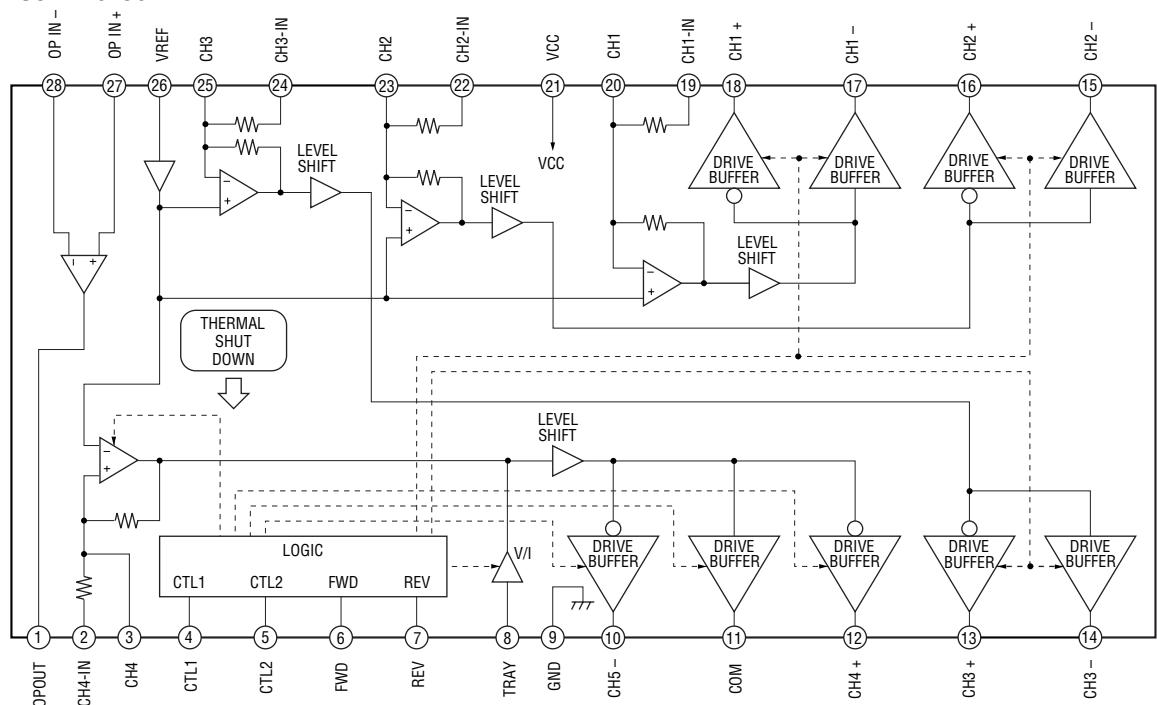
IC401 LC75374E



IC402 TDA7385



IC3 BA6796FP-T1



IC2 CXA1782BQ

