

XR-5880R/5890R

SERVICE MANUAL

AEP Model
UK Model



Photo: XR-5890R

Model Name Using Similar Mechanism	XR-C6100R
Tape Transport Mechanism Type	MG-25G-136

SPECIFICATIONS

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.08 % (WRMS)
Frequency response	30 - 18,000 Hz
Signal-to-noise ratio	

Cassette type

TYPE II, IV	61 dB
TYPE I	58 dB

Tuner section

FM

Tuning range	87.5 - 108.0 MHz
Aerial terminal	External aerial 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

MW/LW

Tuning range	MW: 531 - 1,602 kHz LW: 153 - 281 kHz
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz/450 kHz
Sensitivity	MW: 30 μ V LW: 50 μ V

Power amplifier section

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

General

Outputs	Power aerial relay control lead Telephone ATT control lead (XR-5890R/4890 only)
Tone controls	Bass \pm 8 dB at 100 Hz Treble \pm 8 dB at 10 kHz
Power requirements	12 V DC car battery (negative earth)
Dimensions	Approx. 188 \times 58 \times 181 mm (w/h/d)
Mounting dimensions	Approx. 182 \times 53 \times 164 mm (w/h/d)
Mass	Approx. 1.2 kg
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)
Optional accessories	Rotary commander RM-X4S

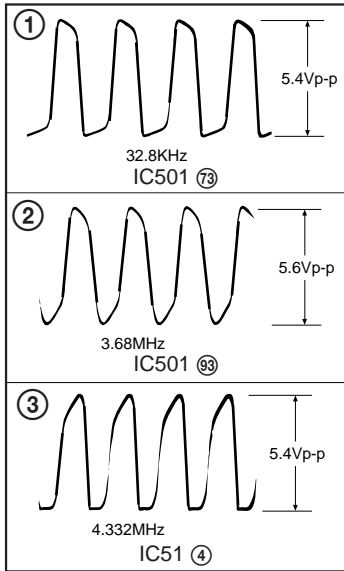
Design and specifications are subject to change without notice.

FM/MW/LW CASSETTE CAR STEREO



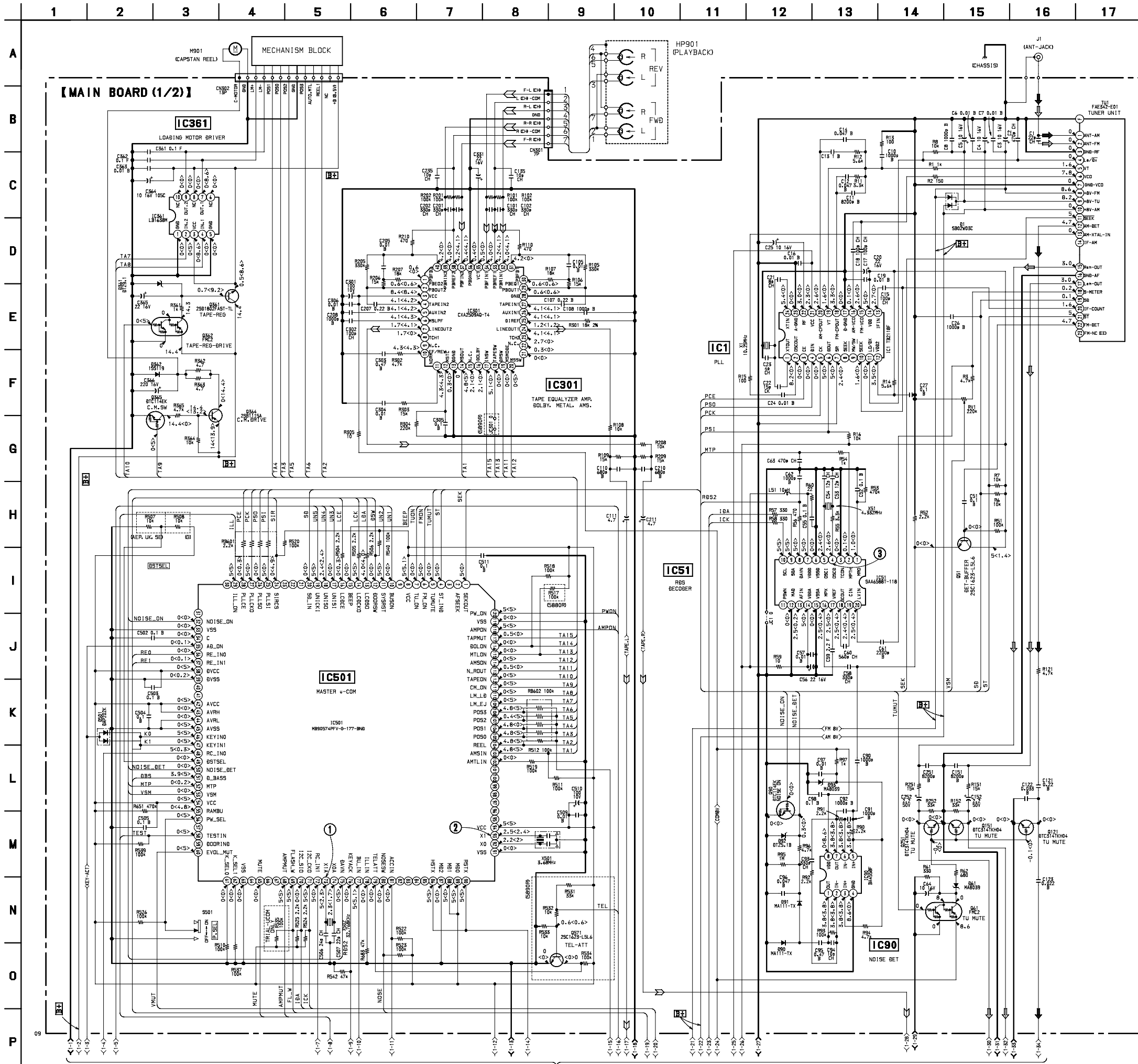
SONY®

• Waveforms



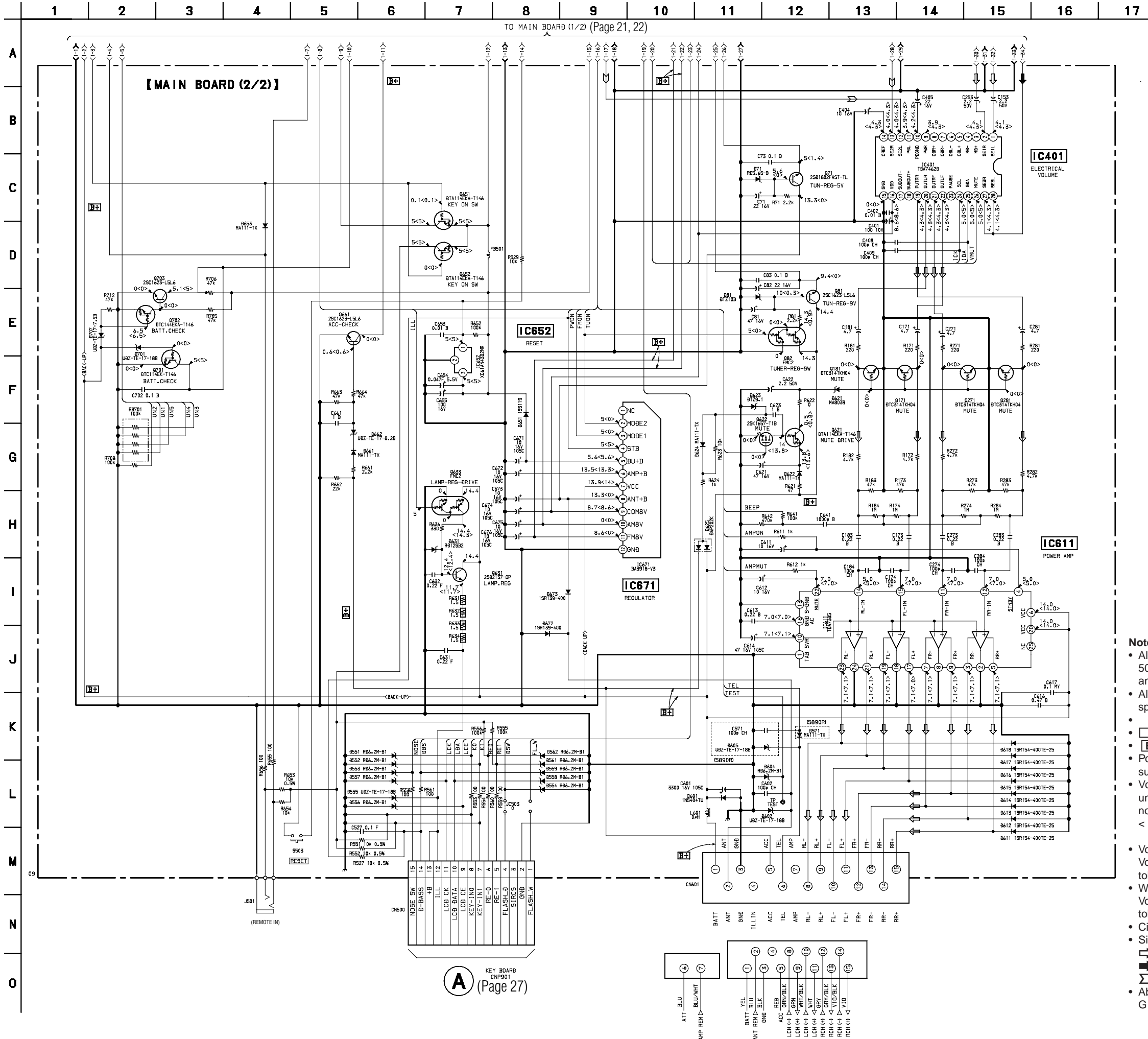
Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF : μF F 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4$ W or less unless otherwise specified.
- Δ : internal component.
- \square : panel designation.
- $\square +$: B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark : FM
- $<$ $>$: TAPE PLAYBACK
- * : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 - \rightarrow : FM
 - \rightarrow : AM (MW)
 - \rightarrow : TAPE PLAYBACK
- Abbreviation
- G : German model.



TO MAIN BOARD (2/2) (Page 23, 24)

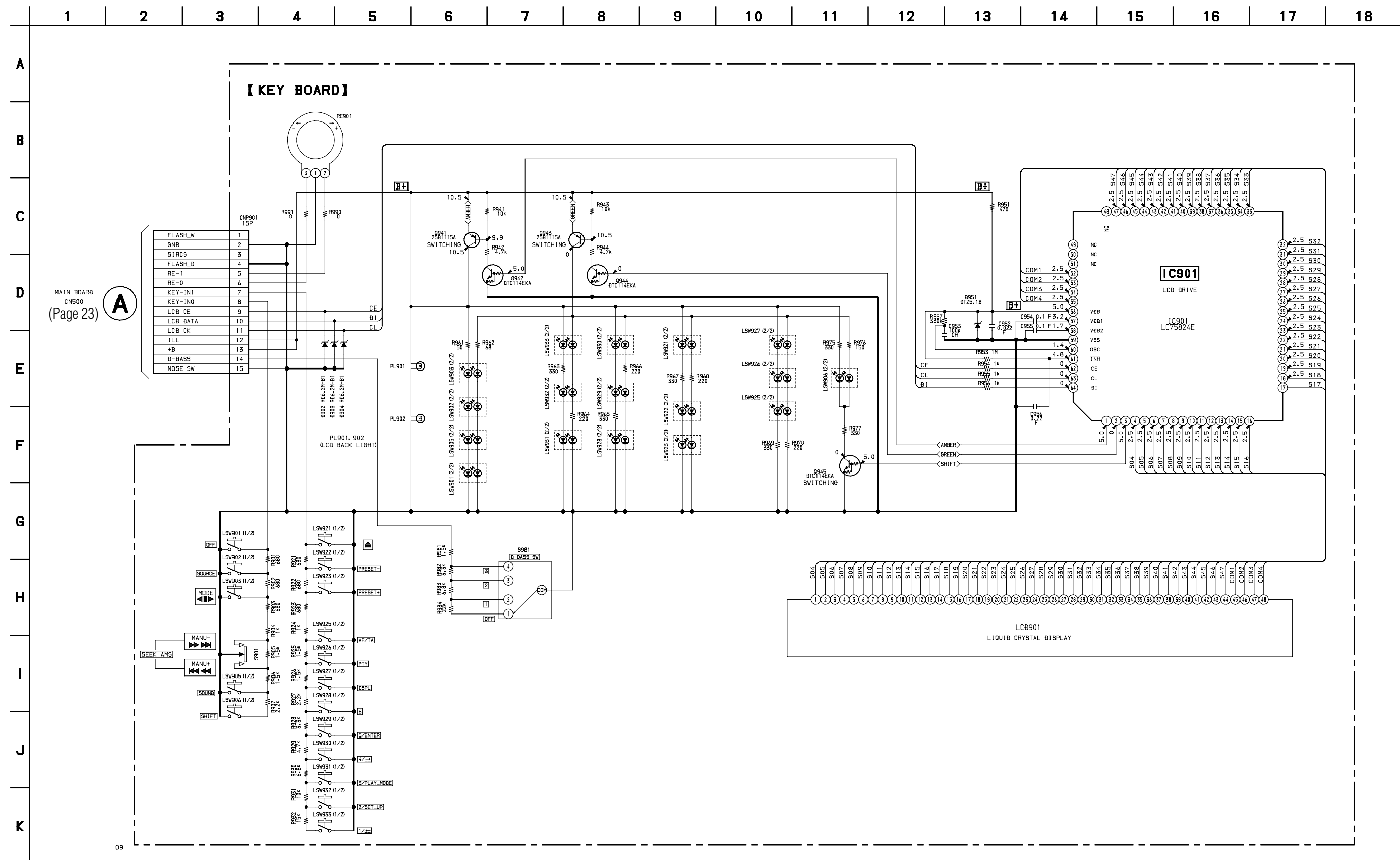
6-3. SCHEMATIC DIAGRAM — MAIN (2/2) SECTION — • Refer to page 29 for IC Block Diagrams.



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6-5. SCHEMATIC DIAGRAM — PANEL SECTION —

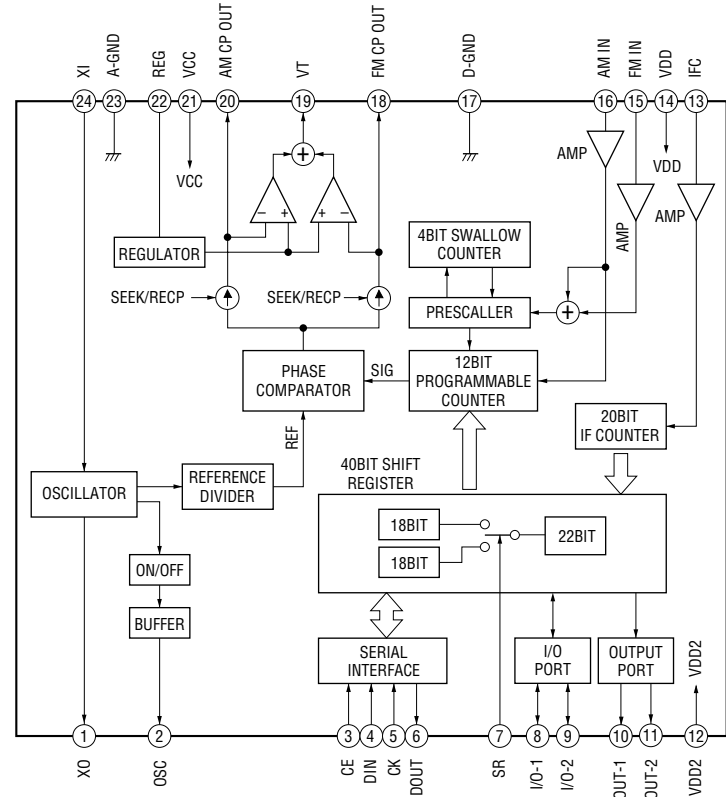


Note on Schematic Diagram:

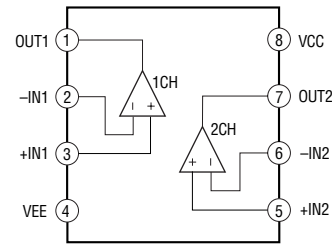
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• IC Block Diagrams – MAIN Board –

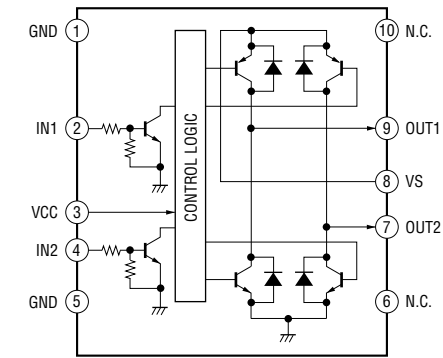
IC1 TB2118F (EL)



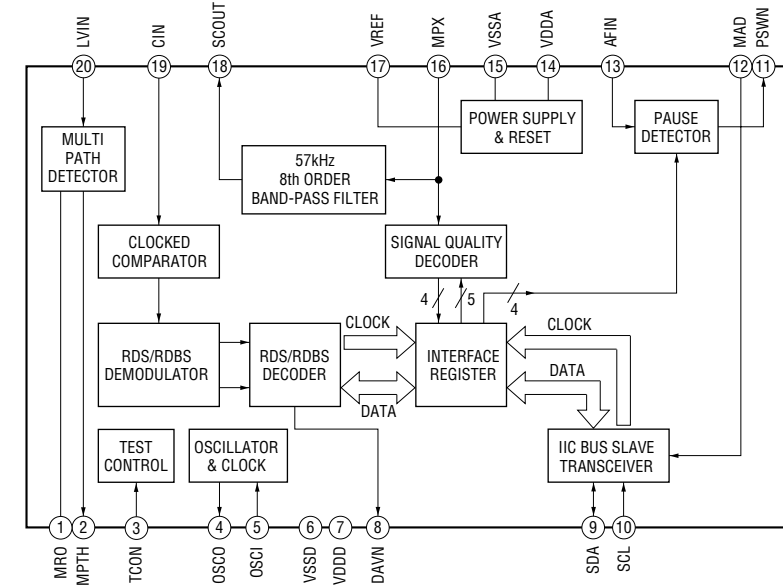
IC90 BA4558F



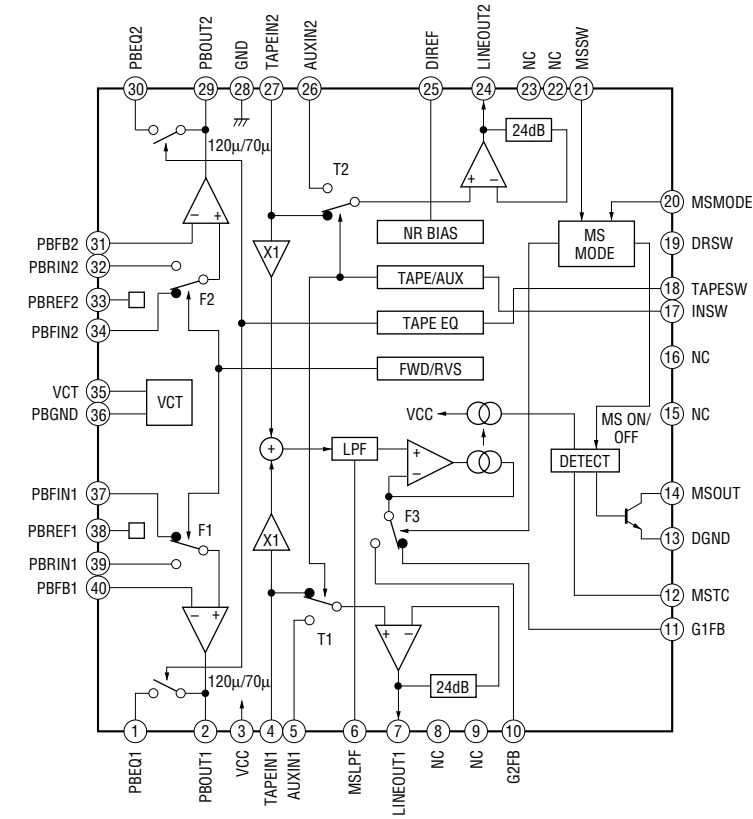
IC361 LB1638M



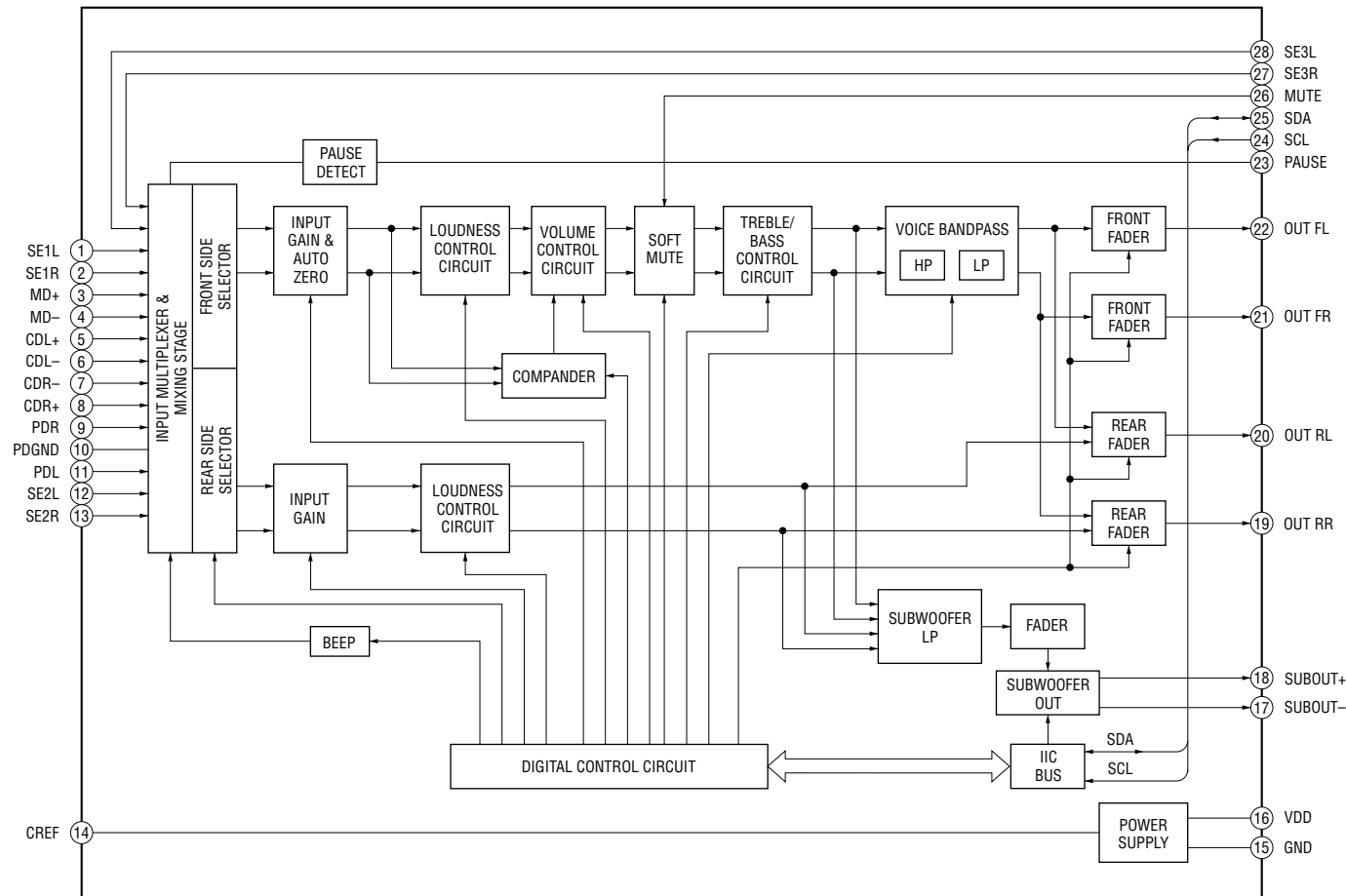
IC51 SAA6588T-118



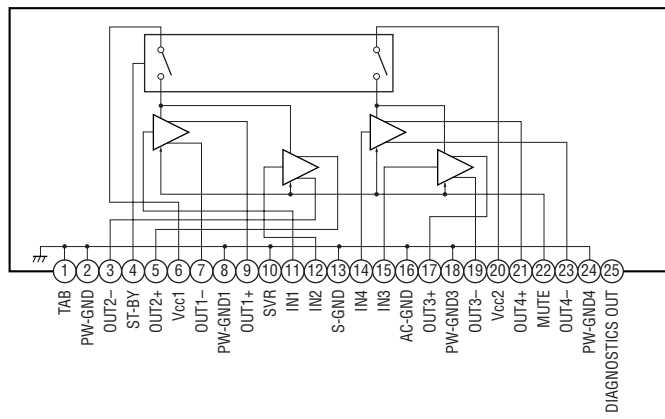
IC301 CXA2509AQ-T4



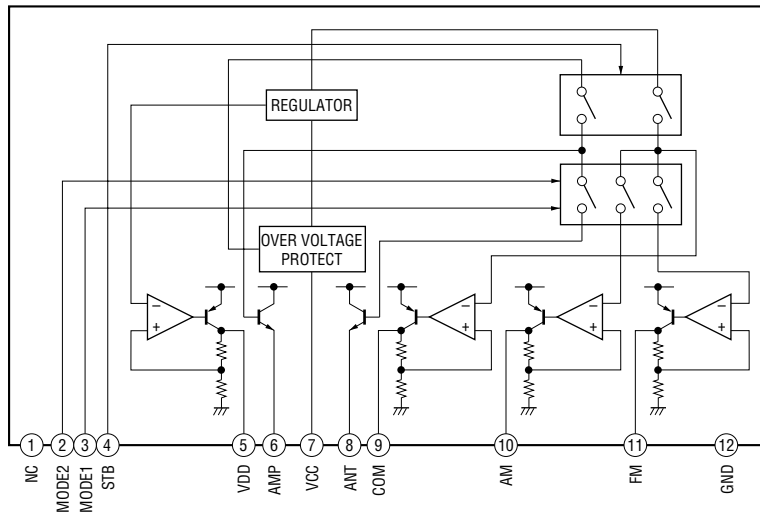
IC401 TDA7462D



IC611 TDA7385



IC671 BA3918-V3



6-6. IC PIN FUNCTION DESCRIPTION

• IC501 MASTER U-COM (MB90574PFV-G-177-BND)

Pin No.	Pin Name	I/O	Function
1	SEKOUT	O	Seek out
2	AFSEEK	O	AF seek
3	–	–	Not used
4	ST IND	I/O	Stereo display input and control MONO output
5	TUMUTE	O	Tuner mute output
6	FM ON	O	FM_ON output
7	TU ON	O	TUNER_ON output
8	VCC	–	Power supply terminal +5V
9	–	–	Not used
10	BUSON	O	Bus ON control output
11	SYSRST	O	SYSTEM RESET output
12	DOORSW	I	Door OPEN/CLOSE detection input
13	LCDSO	O	LCD serial data output
14	LCDCO	O	LCD serial clock output
15	BEEP	O	BEEP output
16	LCDCE	O	LCD chip enable output
17	UNISI	I	BUS serial data input
18	UNISO	O	BUS serial data output
19	UNICKI	I	BUS serial clock input
20	SD IN	I	Signal detection input
21 to 23	–	–	Not used
24	SIRCS	I	Remote commander (infrared) input
25	PLLSI	I	PLL data input
26	PLLSO	O	PLL data output
27	PLLCKO	O	PLL clock output
28	PLLCE	O	PLL chip enable output
29	ILL ON	O	Illumination power control output
30 to 31	–	–	Not used
32	NOISE ON	O	NOISE DET discharge control output
33	VSS	–	Ground
34	C	–	Capacity connection terminal for power supply stabilization
35	AD ON	O	AD conversion power supply control output
36	RE IN0	I	Rotary encoder input 0
37	RE IN1	I	Rotary encoder input 1
38	DVcc	–	Power supply input for D/A
39	DVss	–	Ground for D/A
40, 41	–	–	Not used
42	AVcc	–	Power supply input for analog
43	AVRH	–	A/D converter VRef + input
44	AVRL	–	A/D converter VRef – input
45	AVss	–	Ground for analog
46	KEYIN0	I	KEY input 0
47	KEYIN1	I	KEY input 1
48	RC INO	I	Rotary commander input
49	DSTSEL	I	Destination setting
50	NOISE DET	I	NOISE DET, Noise level input for SEEK
51	D BASS	I	D_BASS KEY input
52	MTP	I	Tuner multipath input
53	VSM	I	S_meter voltage detection input

Pin No.	Pin Name	I/O	Function
54	Vcc	–	Power supply terminal +5V
55	RAMBU	I	RAM reset detection input (Non RDS)
56	PW SEL	I	Power select initial setting input
57	–	–	Not used
58	TESTIN	I	Test mode detection input
59	DOORIND	O	Not used
60	–	–	Not used
61	COLOR SW	I	Color switching, L:2 color, H:Single color
62	COLER SEL	I	Color selection, L:AMBER, H:GREEN
63	VSS	–	Ground
64	–	–	Not used
65	MUTE	O	System mute output terminal
66	COSTOM FILE	I	Custom file, L:Non, H:Yes
67	CD-TEXT	I	CD text, L:Non, H:Yes
68	AMPMUT	O	Power amplifier mute control output terminal
69	FLASH W	I	Flash memory writing mode detection input
70	I2C SIO	I/O	Electronic Vol & RDS serial data input/output
71	I2O CKO	O	Electronic Vol & RDS serial clock output
72	RC IN1	I	Rotary commander input
73	X1A	–	Low speed oscillator connection terminal (32.768 KHz)
74	X0A	–	Low speed oscillator connection terminal (32.768 KHz)
75	DAVN	I	RDS signal quality detection input
76	KEYACK	I	Keyack knowledge input
77	BU IN	I	Backup detection input terminal
78	ILLIN	I	ILLIN signal detection input terminal (VAG only)
79	TELATT	I	Telephone ATT detection input
80	NOSESW	I	Front panel detachment/attachment detection input terminal
81	ACCIN	I	ACC detection input terminal
82 to 85	–	–	Not used
86	HSTX	–	Hardware standby input terminal
87	MD2	–	To Vss
88	MD1	–	To Vcc
89	MD0	–	To Vcc
90	RSTX	I	Microprocessor reset input terminal
91	Vss	–	Ground
92	X0	–	High speed oscillator connection terminal (MHz)
93	X1	–	High speed oscillator connection terminal (MHz)
94	Vcc	–	To Vcc
95 to 99	–	–	Not used
100	9K/10K	I	9K/10K step switching detection terminal
101	–	–	Not used
102	AMTLIN	I	Auto metal detection terminal
103	AMSIN	I	Song presence/absence detection input during AMS
104	REEL	I	Reel rotation detection input
105	POS0	I	Position signal detection input 0
106	POS1	I	Position signal detection input 1
107	POS2	I	Position signal detection input 2
108	POS3	I	Position signal detection input 3
109	LM EJ	O	Loading motor control output (EJECT)
110	LM LD	O	Loading motor control output (LOAD)
111	CM ON	O	Tape capstan motor control output

Pin No.	Pin Name	I/O	Function
112	TAPEON	O	TAPE power supply control output
113	N ROUT	O	FOR/REV control output
114	AMSON	O	AMS control output
115	MTLON	I/O	Metal control input/output
116	DOLON	I/O	DOLBY control input/output
117	TAPMUT	O	Audio signal selection control output terminal
118	AMPON	O	Power IC standby control output
119	Vss	–	Ground
120	PW ON	O	System power supply control output