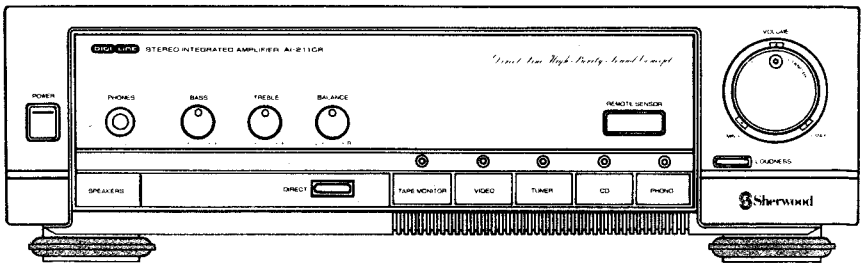
SERVICE MANUAL

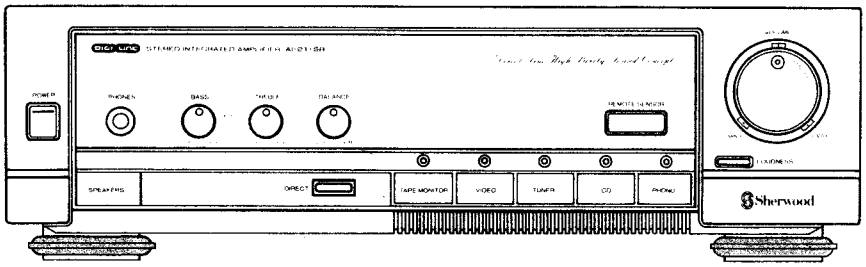
AI-2110R

STEREO INTEGRATED AMPLIFIER



AI-2115R

STEREO INTEGRATED AMPLIFIER



■ CONTENTS

Safety Precaution 2
Specifications 3
Block Diagram 5
Circuit Description 7
P.C. Boards (Top & Bottom Views) 9
Wiring Diagram (I) 14
Wiring Diagram (II) 15
Exploded View (I) 17
Exploded View (II) 19
Electrical Parts List 22
Mechanical Parts List 26
Schematic Diagram (Remocon Part) 27
Schematic Diagram ..... Separate Sheet

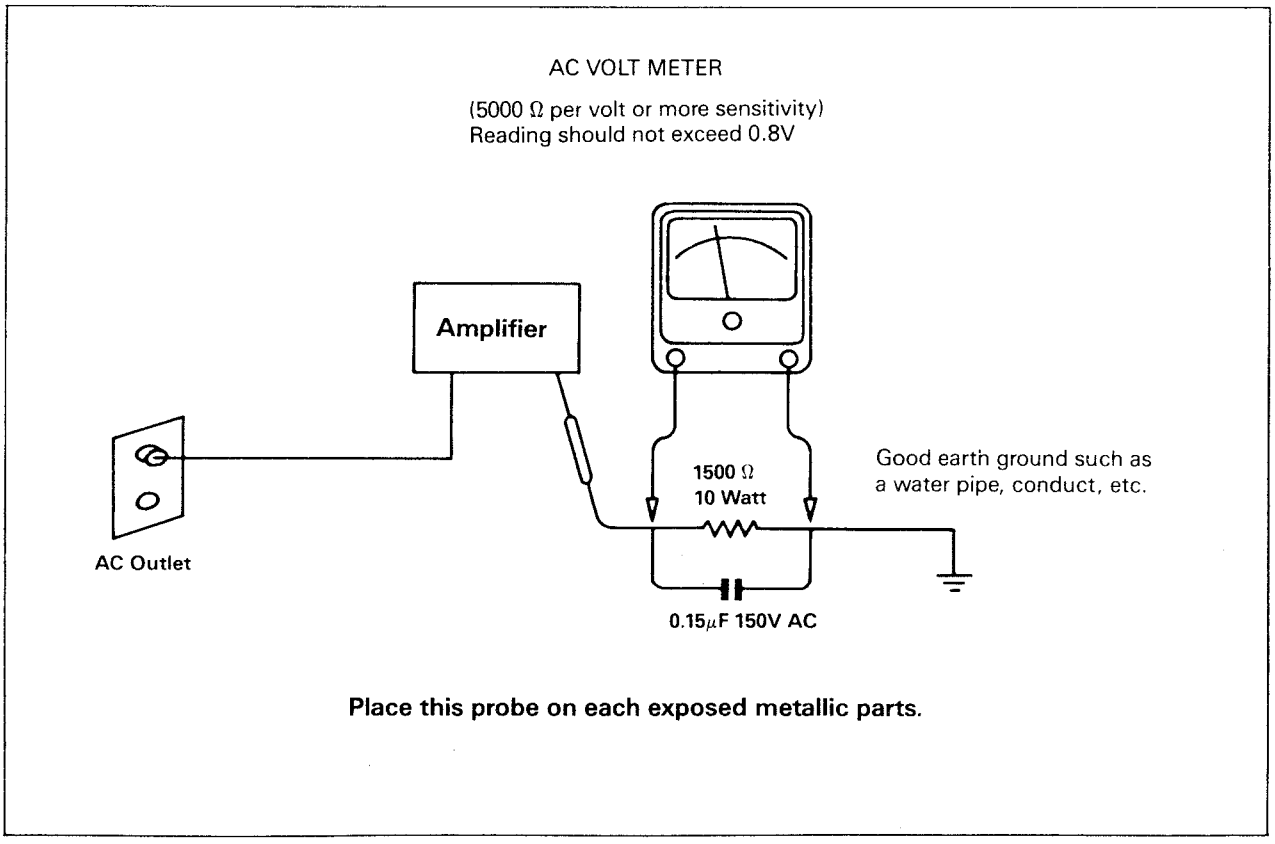
Sherwood

Safety Precaution

WARNING

Service should not be attempted by anyone unfamiliar with the necessary precautions on this player. The following precautions are necessary during servicing.

1. Many electrical and mechanical parts in this player have special characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristic are identified in this manual and its supplements: electrical components having such features are identified by a ⚠ in the schematic diagram and the parts list.
   Before replacing any of these components, read the parts list in this manual carefully.
   The use of substitute replacement parts that do not have the some safety characteristics as specified in the parts list may create shock, fire or other hazards.
2. Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as terminals, screwheads, metal overlays, etc. to be sure the set is safe to operate without danger of electrical shock. Plug the AC line cord directly into a 120V AC outlet. (Do not use a line isolation transformer during this check.) Use an AC voltmeter having 5000 Ω per volt or more sensitivity in the following manner:
   Connect a 1500 Ω 10 watt resistor paralleled by a 0.15μF, 150V AC capacitor, between a known good earth ground (water pipe, conduct, etc) and the exposed metallic parts, one at a time. Measure The AC voltage across the combination of 1500 Ω resistor and 0.15μF capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.3volts RMS. This corresponds to 0.2mA AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



Specifications

USA/Canadian version

Power output/ch.
Minimum continuous average both channels driven with no more than 0.3% THD.
at 8 ohms 1kHz ..... 52W for AI2110R
73W for AI2215R
at 8 ohms 20Hz to 20kHz ..... 50W for AI2215R
70W for AI2215R
Intermodulation Distortion, 60Hz: 7kHz=4:1 SMPTE
50W for AI2110R (100W for AI2115R), output into 8 ohms 0.04%
Damping Factor at 1 kHz into 8 ohms 50
Input Sensitivity for 100W output, 8 ohms at 1 kHz
Phono 2.5mV
Aux/Tuner 150mV
Phono Preamp input overload;
at 1 kHz, 0.1% THD. 150mV
at 10 kHz, 0.1% THD. 600mV
Signal to Noise ratio, IHF "A" wtd./unwtd.;
Phono 74/66dB
CD/Video (Aux (CD/Video) for AI2115R) 94/88dB
Frequency Response
Phono, RIAA 40-20,000 Hz ..... ±0.5dB
CD at 1W, −3dB ..... 20Hz — 50kHz
Loudness Contour
at 100 Hz ..... +7dB
Tone Control;
Bass at 100Hz ..... ±10dB
Treble at 10kHz ..... ±10dB
Channel Separation at Aux
at 100 Hz 50dB
at 1 kHz 45dB
at 10kHz 40dB
Power Consumption ..... Typical 90W (min. 16W, max. 220W) for AI2110R
Typical 102W (min. 13W, max. 290W) for AI2115R
Power requirements;
A: 120V 50Hz for USA/Canadian version
B: 120/220V 60/50Hz for multi-voltage version(switchable)
C: 220V 50Hz for general Europian version
D: 220V 50Hz for Germanian & Italian version
E: 240V 50Hz for British & Australian version
F: 220V 50Hz for Swiss & Scandinabian version
Dimensions (W×H×D) ..... 350×90×280mm, 13.8×3.5×11.0 inch
Weight (net) ..... 6.5kg (14 lbs, 4.8oz)

Europian version

Power output/ch.
- IEC standard 63Hz to 12.5kHz 8 ohms ..... 57W for AI2110R
  77W for AI2115R
- DIN standard 1kHz 8 ohms ..... 65W for AI2110R
  82W for AI2115R

Total Harmonic Distortion at −6dB rated output 1kHz 8 ohms 0.03%
Intermodulation Distortion at −6dB rated output 8 ohms 0.04%
Damping Factor at 1 kHz into 8 ohms 50
Input Sensitivity for 100W output at 1 kHz 8 ohms
- Phono 2.5mV
- Aux/Tuner 150mV

Phono Preamp input overload;
- at 1 kHz, 0.1% THD. 150mV
- at 10 kHz, 0.1% THD. 600mV

Signal to Noise ratio, IEC "A" wtd./unwtd.;
- Phono : 5mV input 2.2kohm shorted and vol. adj. to 100W 74/66dB
- AUX : 500mV input 2.2kohm shorted and vol. adj. to 100W 94/88dB

Frequency Response
- Phono, RIAA 40-20,000 Hz ..... ±0.5dB
- Aux at 1W, −3dB ..... 20Hz — 50kHz

Loudness Contour
- at 100 Hz ..... +7dB

Tone Control;
- Bass at 100Hz ..... ± 10dB
- Treble at 10kHz ..... ± 10dB

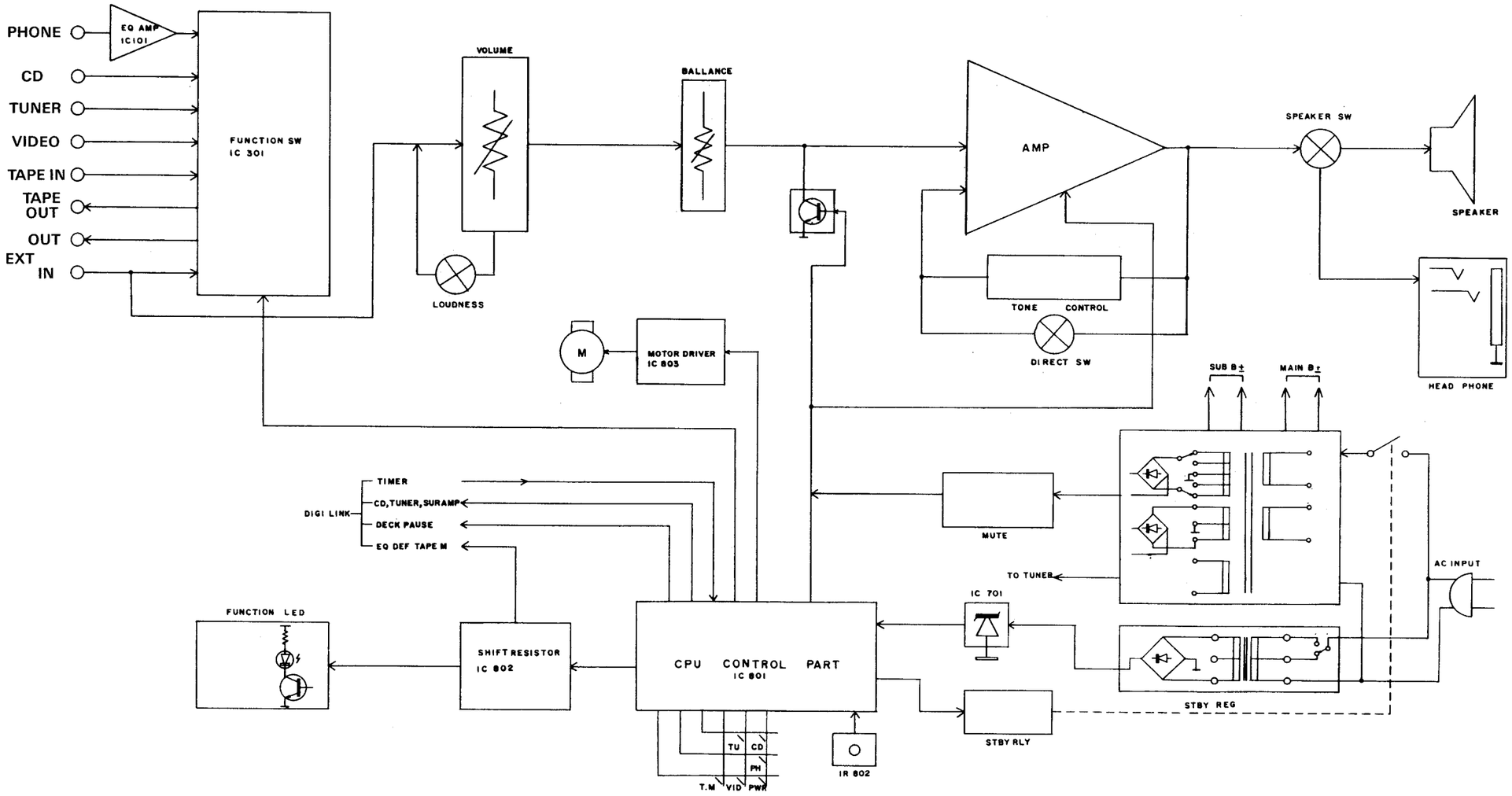
Power Consumption ..... Max. 220W, min 27W for AI2110R
Max. 290W, min 13W for AI2115R

Power requirements;
- A: 120V 50Hz for USA/Canadian version
- B: 120/220V 60/50Hz for multi-voltage version (switchable)
- C: 220V 50Hz for general Europian version
- D: 220V 50Hz for Germanian & Italian version
- E: 240V 50Hz for British & Australian version
- F: 220V 50Hz for Swiss & Scandinabian version

Dimensions (W×H×D) ..... 350×90×280mm, 13.8×3.5×11.0inch
Weight(net) ..... 6.5kg (14 lbs, 4.8oz)

Note: Specifications and design subject to change without notice for improvements. Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on the American(A) standard, and provides information on regional circuit modification through use of aletrnate schematic or wiring diagram,and information on regional component variations through use of parts list.

Block Diagram

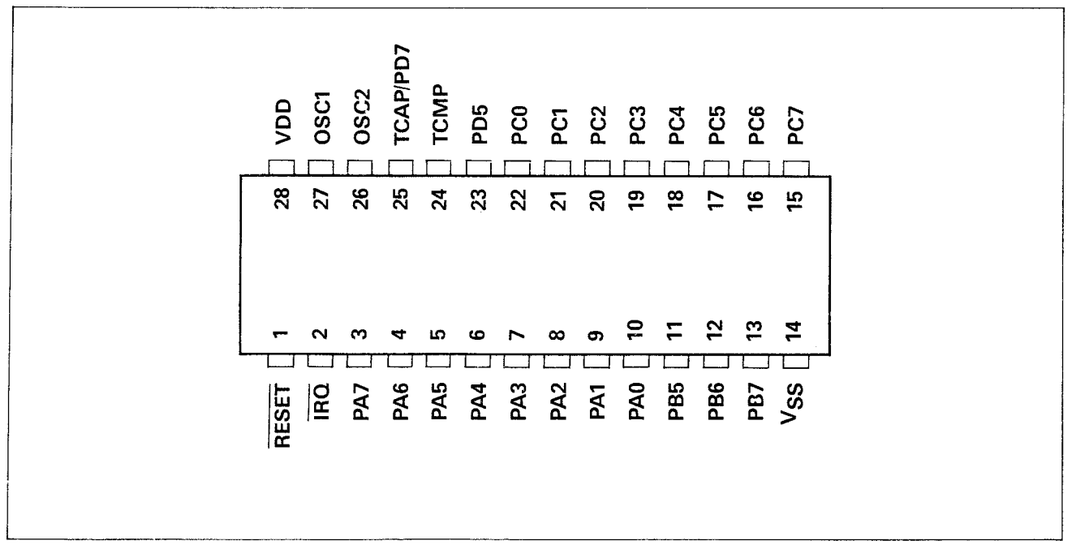


Circuit Description

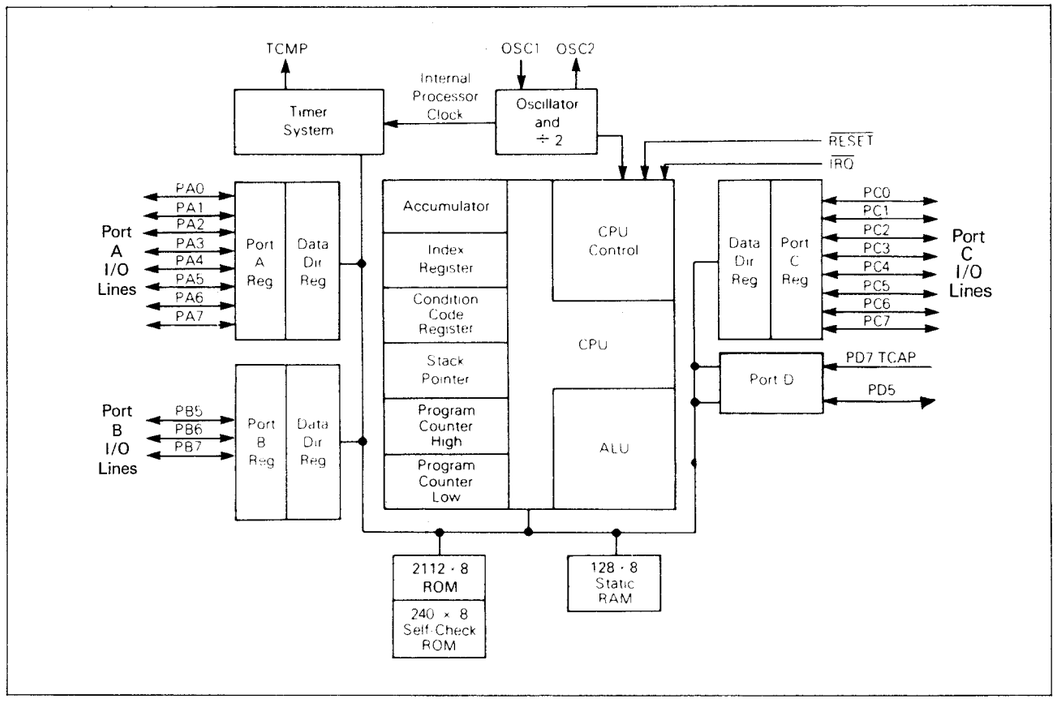
Function Assigned (MC68HC05P: IC801)

No.	Terminal	Operating	Remark
1	$\overline{\text{RESET}}$		Q804
2	$\overline{\text{IRQ}}$	5V	
3	PA7 (Power on/off)	0V	Q802
4	PA6 (Deck Pause)		Q803
5	PA5 (Strobe)		IC802
6	PA4 (Data)		IC802, IC301
7	PA3 (Clock)		IC802, IC301
8	PA2 (Strobe)		IC301
9	PA1 (Standby LED)		Q804
10	PA0 (Mute)		Q812
11	PB5 (Vol. Down)		IC803
12	PB6 (Vol. Down)		IC803
13	PB7 (Philips Generator)		Q805 for CD, Tuner only
14	Vss		
15	PC7 (AC Cord off)	0V	
16	PC6		
17	PC5 (Key scan 3)		Key Matrix
18	PC4 (Key scan 2)		"
19	PC3 (Key scan 1)		"
20	PC2 (Key in 3)	5V	"
21	PC1 (Key in 2)	0V	"
22	PC0 (Key in 1)		"
23	PD5 (Timer in)		
24	NC		Ground
25	PD7 (Remocon in)		Q806
26	X		OSC
27	EX		4MHz
28	Vdd		

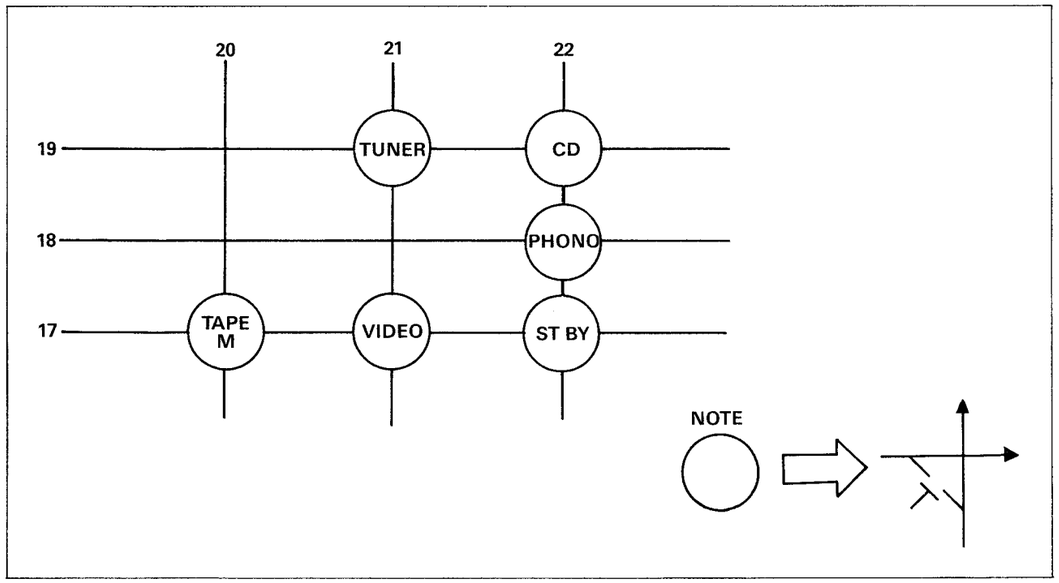
Pin Assignment (IC801)



Block Diagram



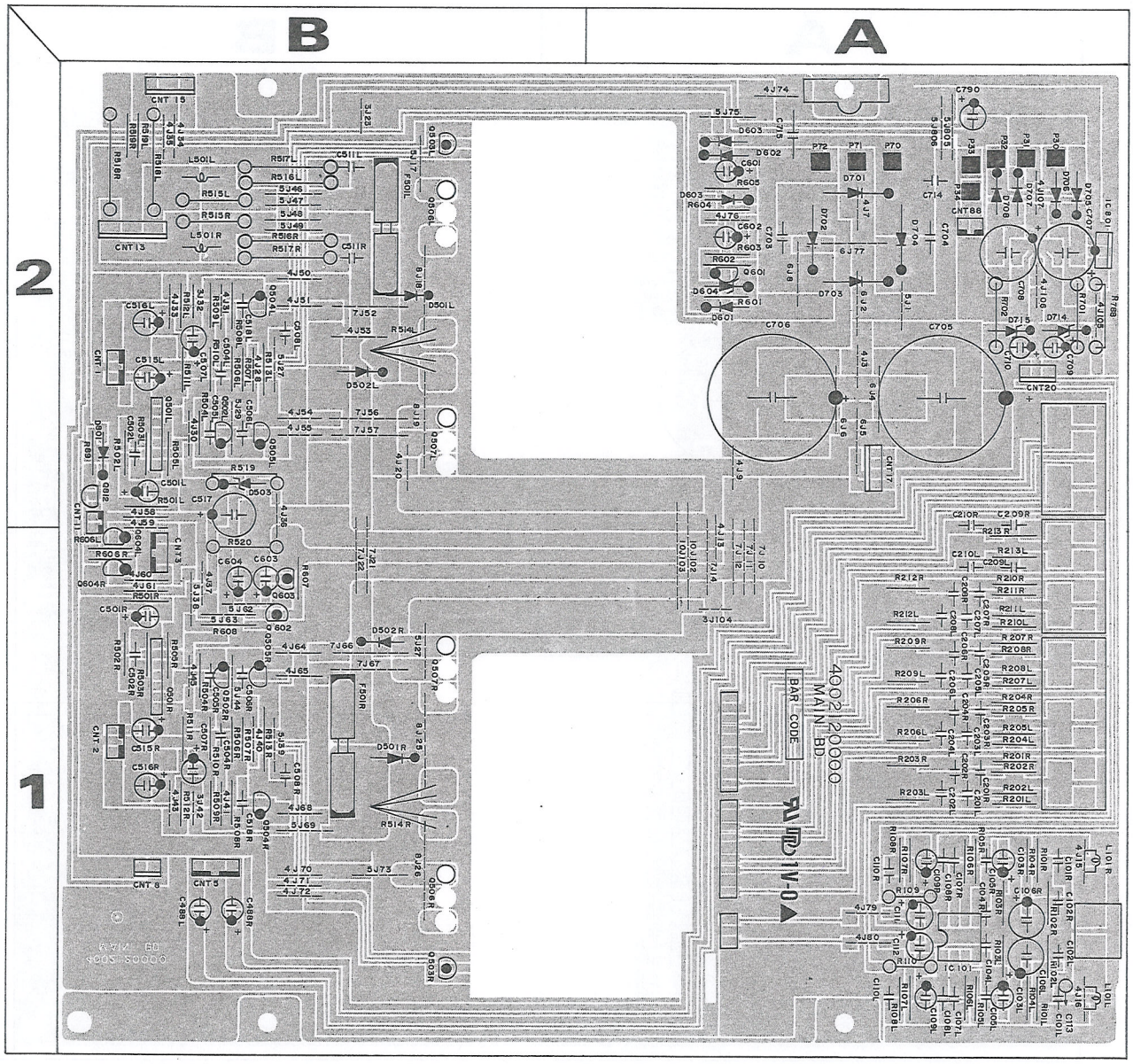
Key Matrix (IC801)



P.C. Boards (Top & Bottom Views)

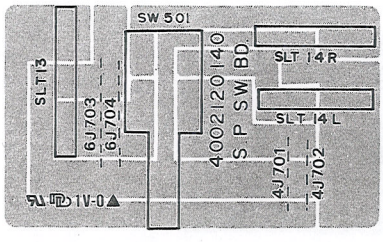
MAIN P.C. BOARD 4002120000

(TOP VIEW)

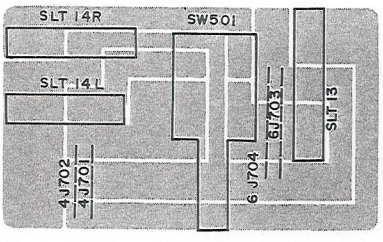


SPKR SW P.C. BOARD 4002120140

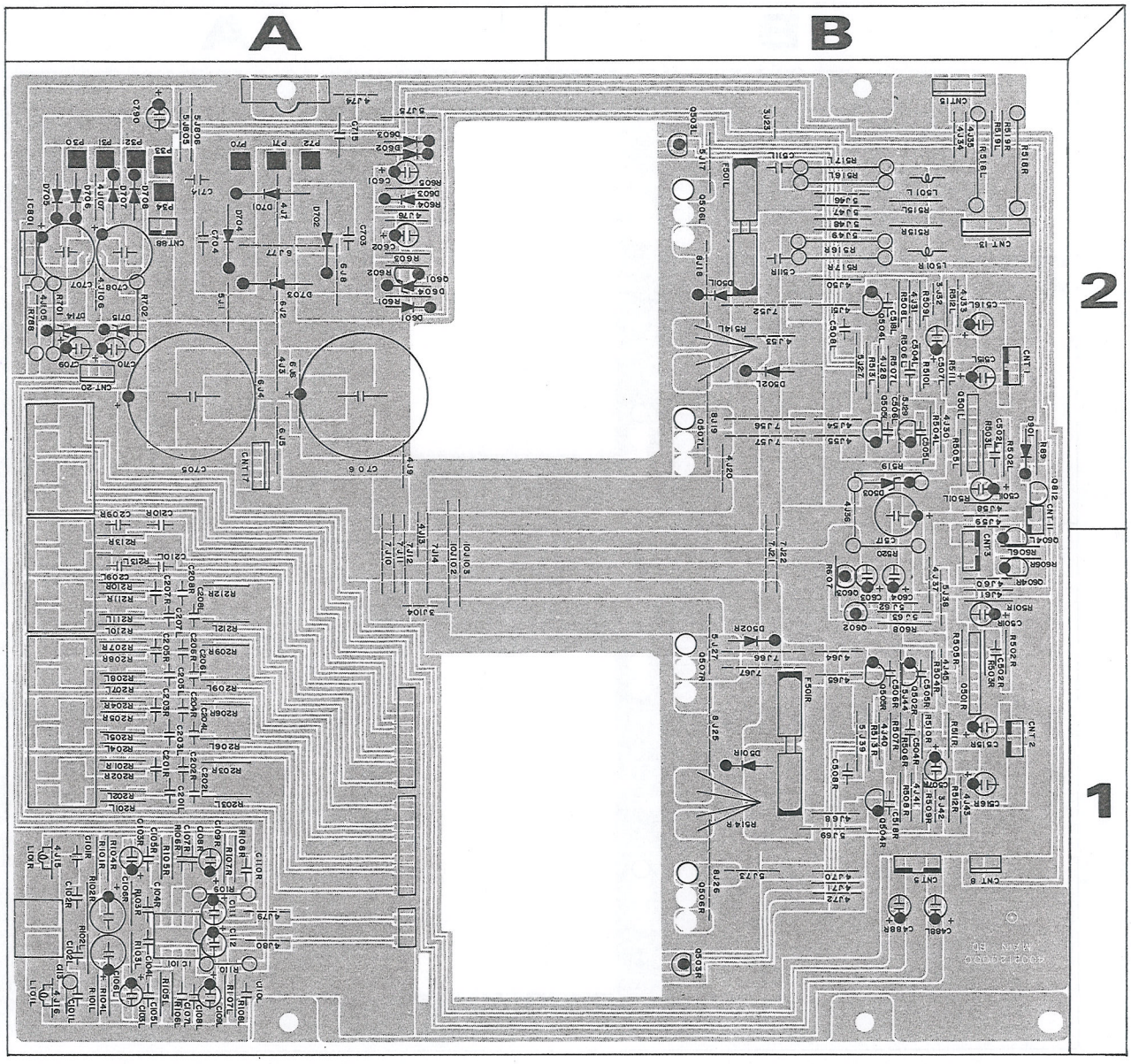
(TOP VIEW)



(BOTTOM VIEW)

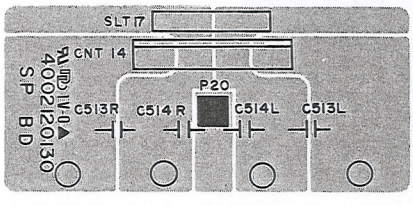


(BOTTOM VIEW)

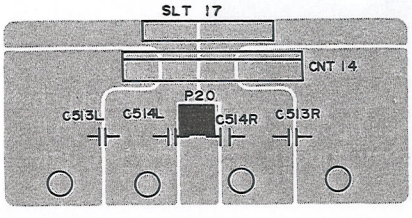


S.P P.C. BOARD 4002120130

(TOP VIEW)

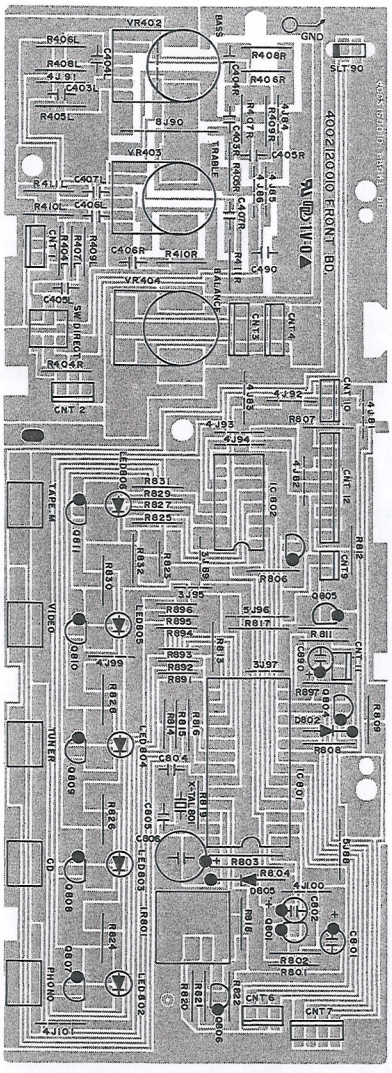


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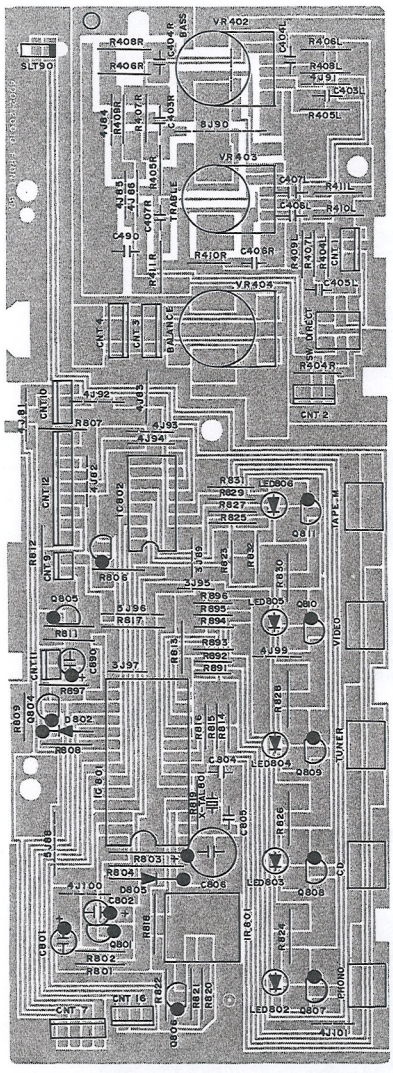


FRONT P.C. BOARD 4002120010

(TOP VIEW)

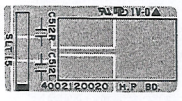


(BOTTOM VIEW)

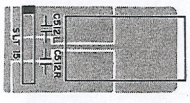


H.P P.C. BOARD 4002120020

(TOP VIEW)

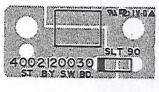


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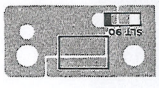


ST BY SW P.C. BOARD 4002120030

(TOP VIEW)

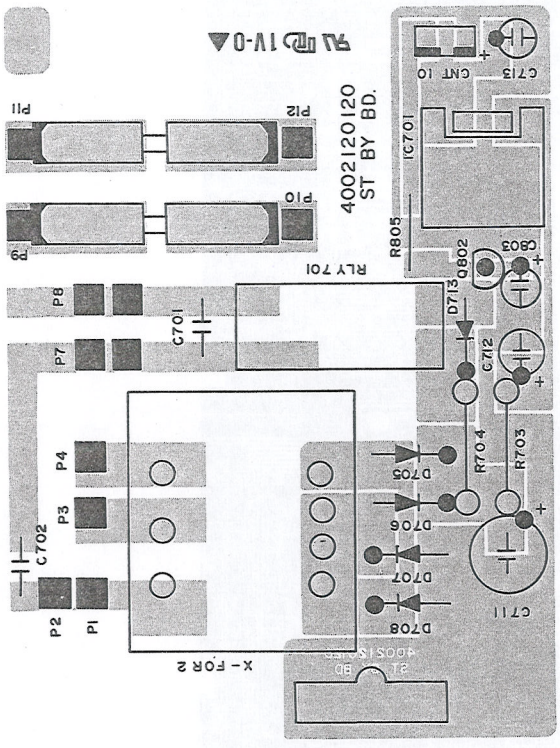


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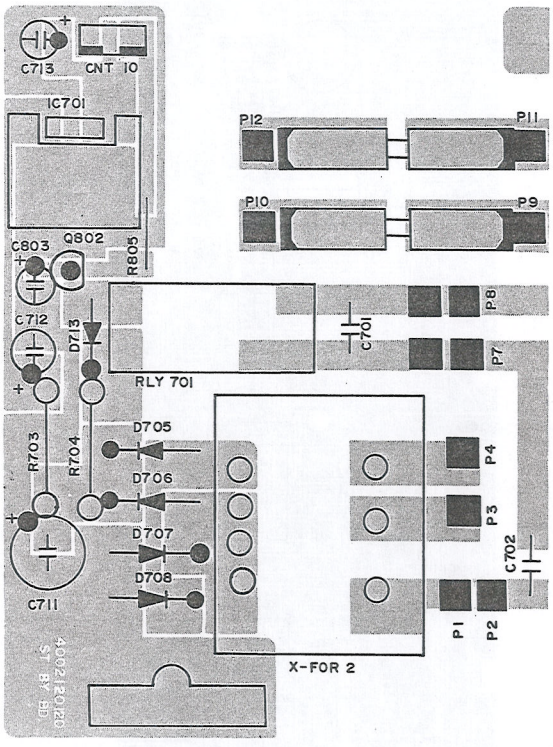


ST BY P.C BOARD 4002120120

(TOP VIEW)

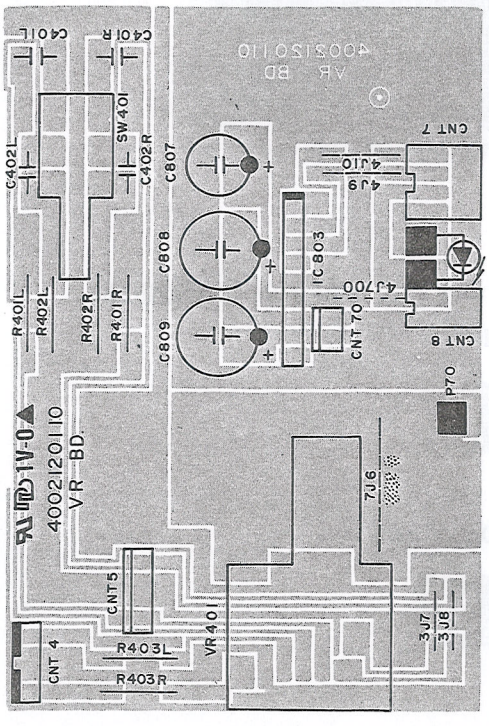


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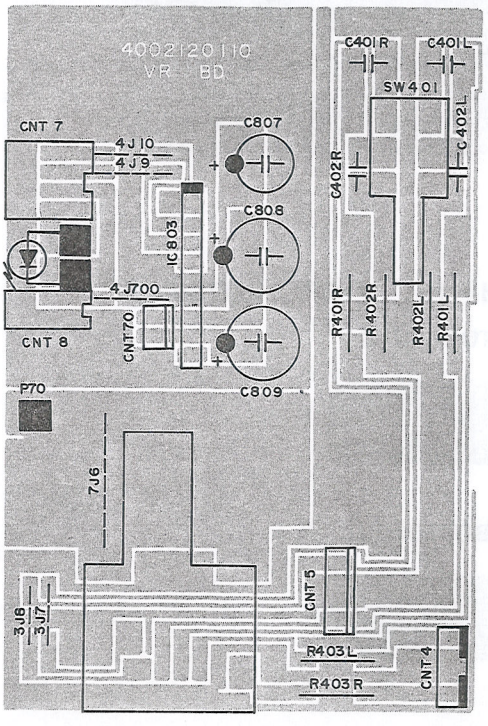


VR P.C. BOARD 4002120110

(TOP VIEW)

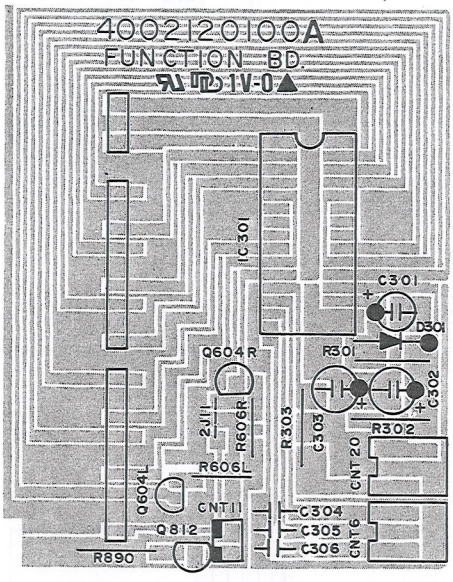


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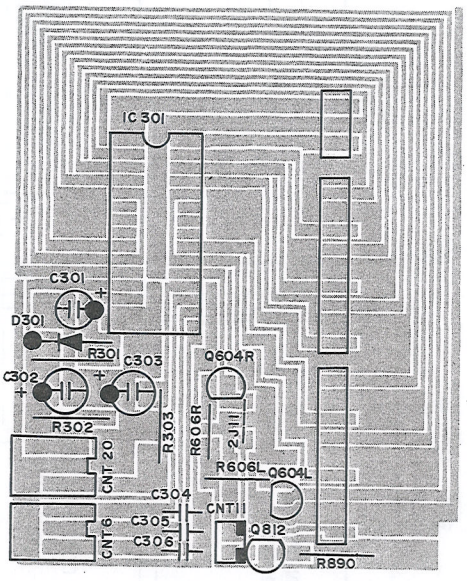


FUNCTION P.C. BOARD 4002120100

(TOP VIEW)

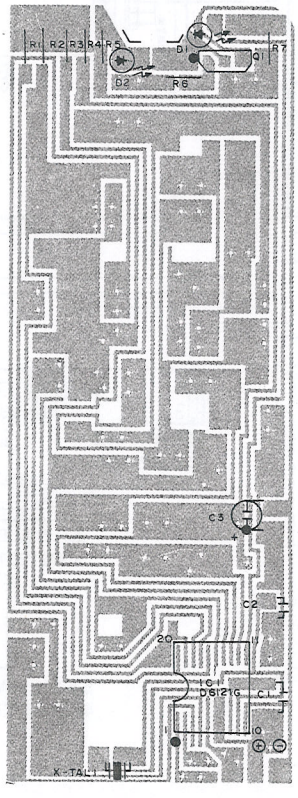


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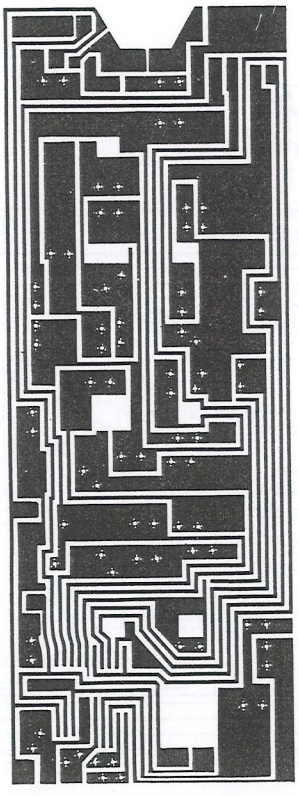


REMOCON P.C. BOARD 4005212100

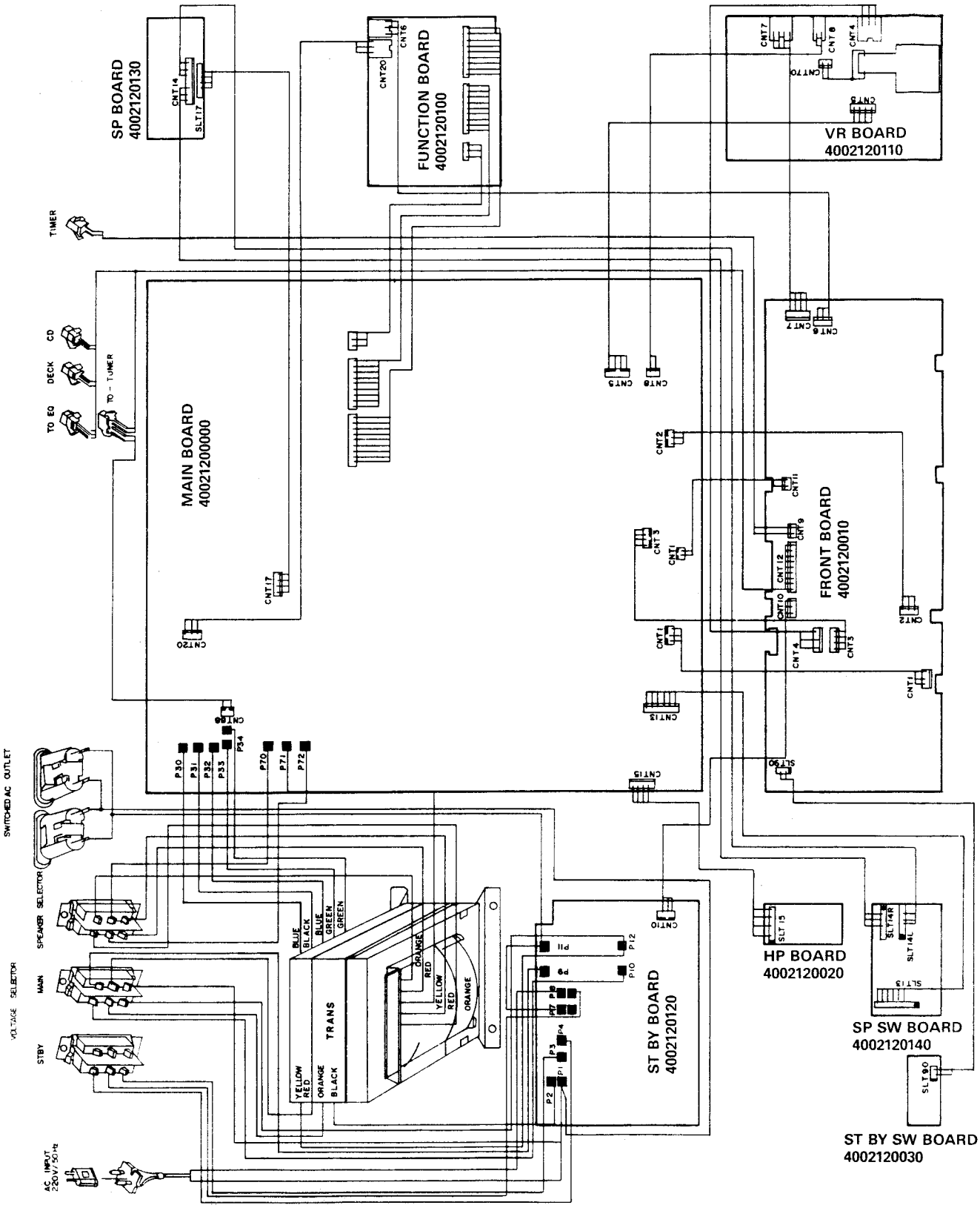
(TOP VIEW)



(BOTTOM VIEW)

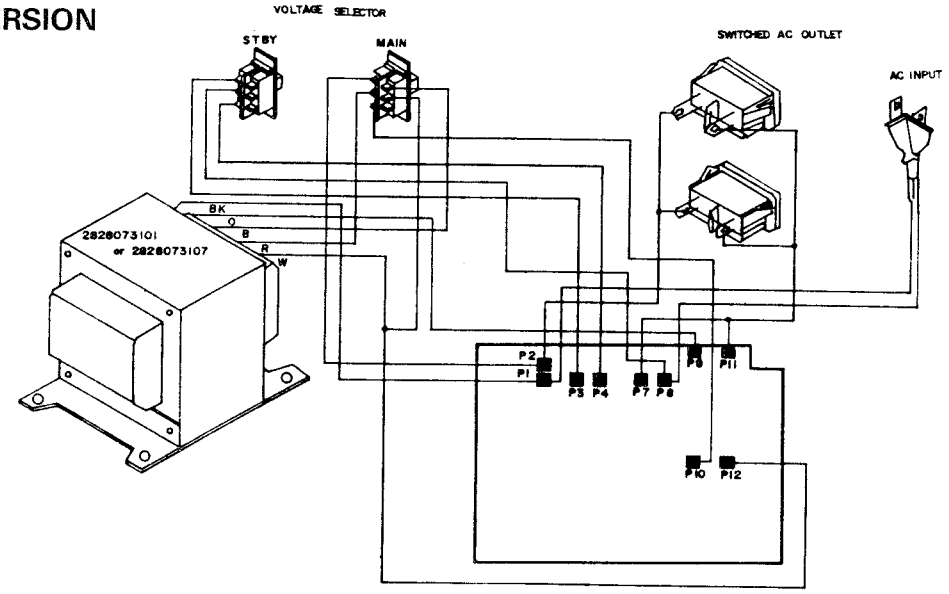


Wiring Diagram(I)

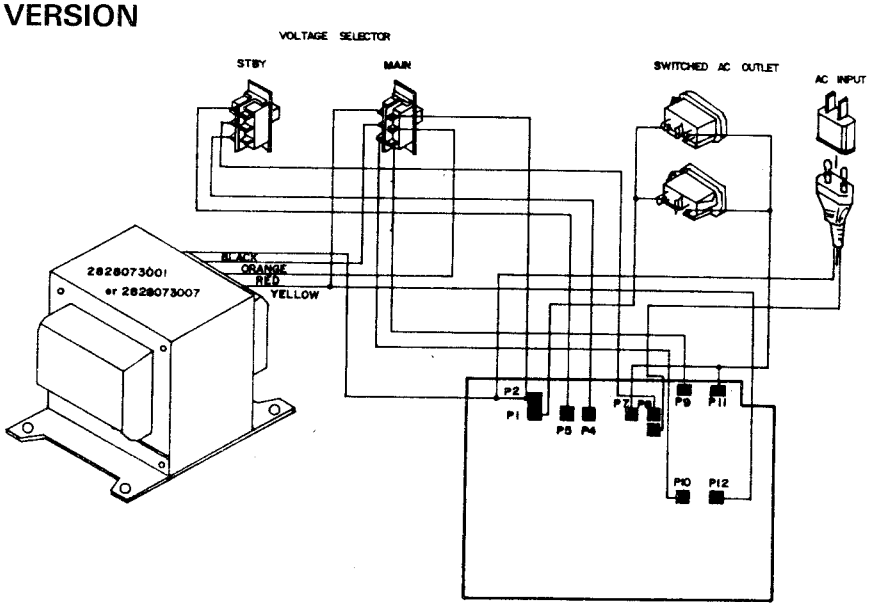


Wiring Diagram (II)

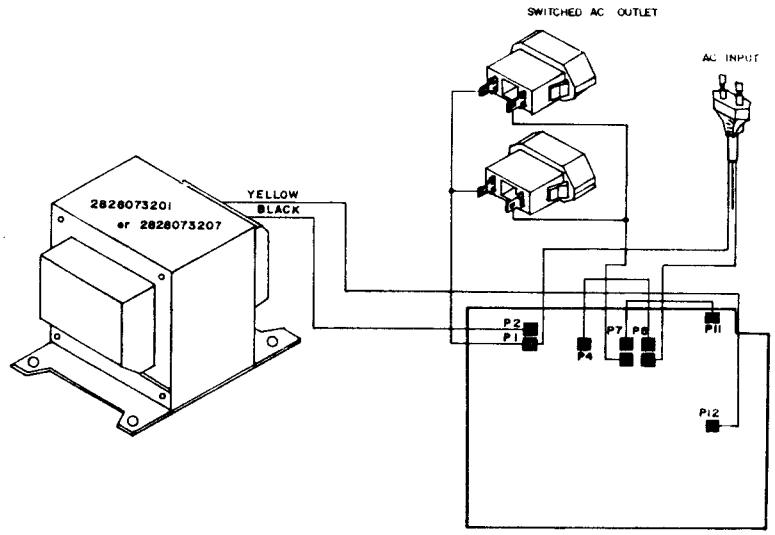
B-VERSION



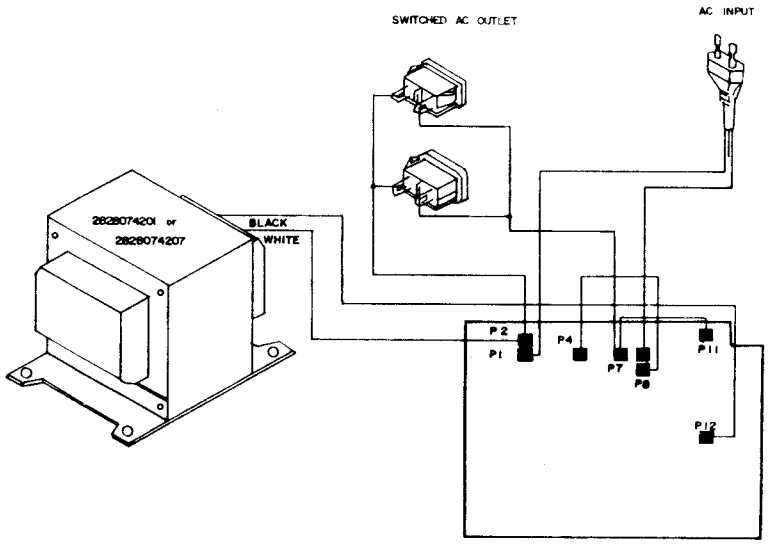
K.S-VERSION



C.D.F-VERSION

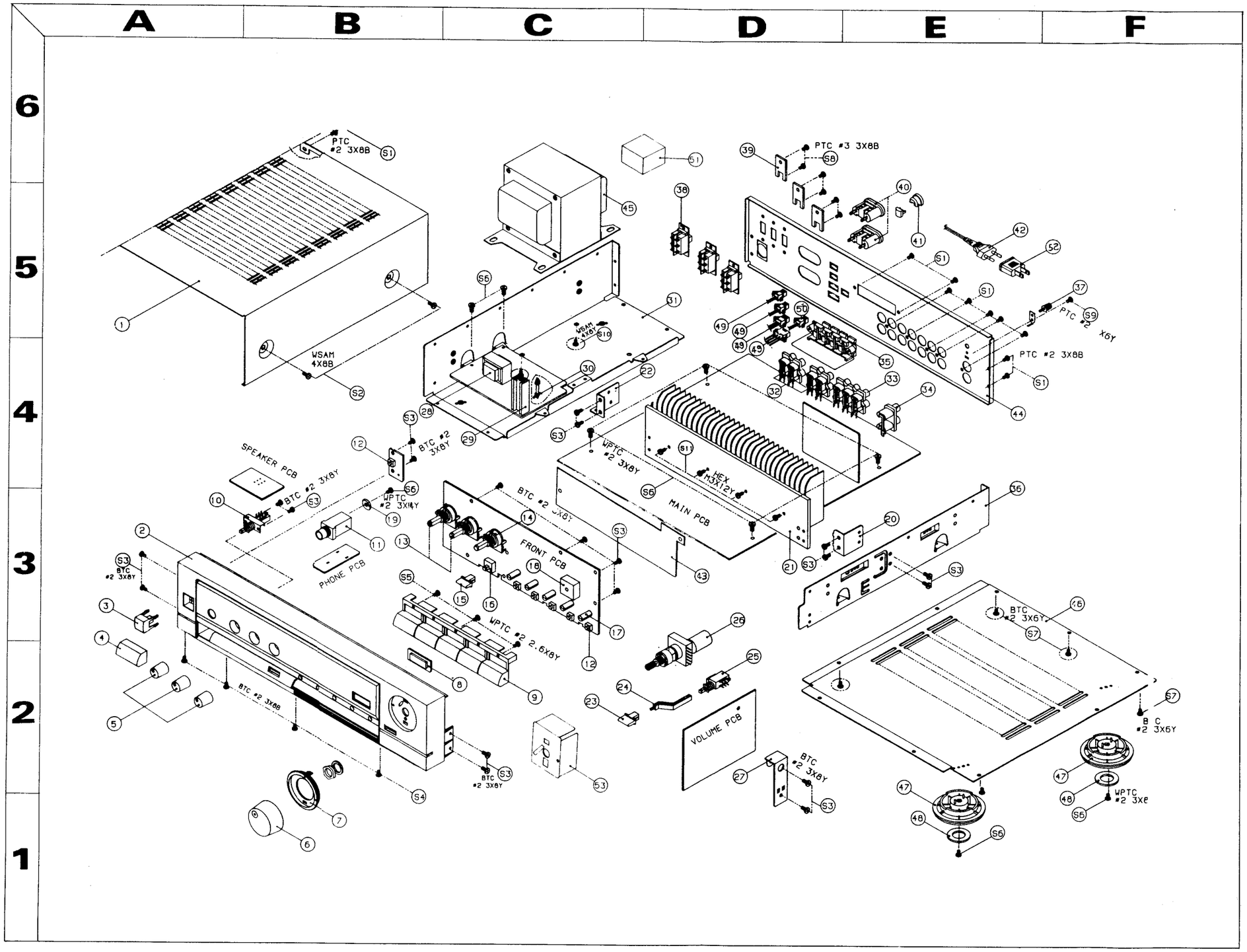


E-VERSION



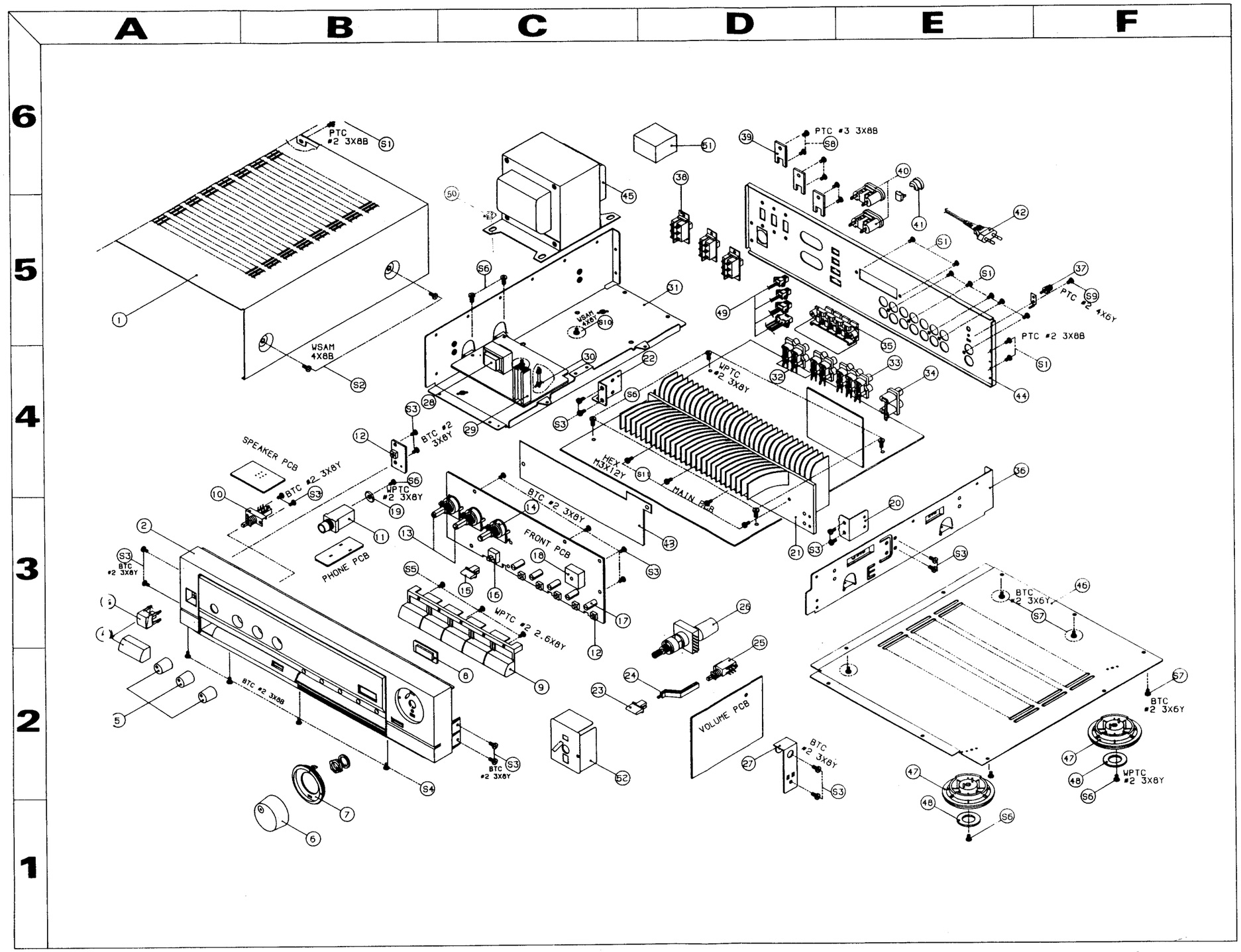
Exploded View (I)

Model No.: AI-2110R

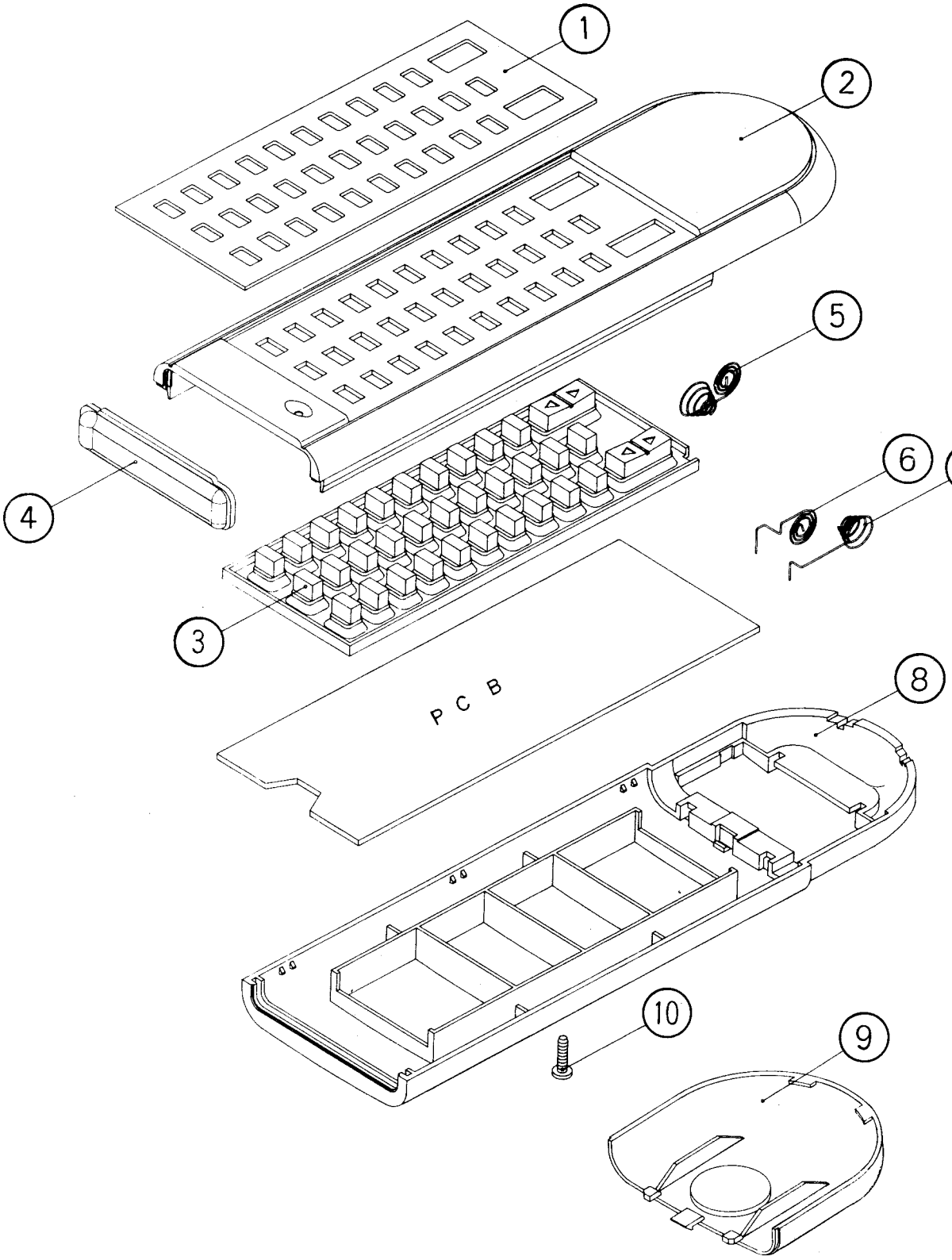


Exploded View(Ⅱ)

Model No.: AI-2115R



Ass'y-Remocon



Electrical Parts List

PRODUCT SAFETY NOTICE: Products marked with ⚠ have special characteristicsimportant to safety. If yo replace any of these components, carefully readthe product safety notice of this manual. Don't degraded th safety of theproduct through improper servicing.Resistors & Capacitors tolerance, D: ±0.5%, J: ±5%, K: ±10%, M: ±20%, Z: +80%, −20%.

Ref. No	Part No.	Description	Position	Remark
Main Board 4002120000				
Capacitors				
C101L/R	3579820030	Ceramic 82pF 50V J	1A	
C102L/R	3579680030	Ceramic 68pF 50V J	1A	
C103L/R	3479247971	Electric SA 4.7μF 50V M	1A	
C104L/R	3579100030	Ceramic 10pF 50V J	1A	
C105L/R	3579101130	Ceramic 100pF 50V J	1A	
C106L/R	3409210131	Electric SA 100μF 16V M	1A	
C107L/R	3679182120	Mylar 0.0018μF 100V J	1A	
C108L/R	3679562120	Mylar 0.0056μF 100V J	1A	
C109L/R	3479268871	Electric SA 0.68μF 50V M	1A	
C110L/R	3675562120	Mylar 0.0056μF 50V J	1A	
C111/C112	3479247041	Electric SA 47μF 25V M	1A	
C113	3579101130	Ceramic 0.047μF 50V J	1A	
C201L/R -C210L/R	3579101130	Ceramic 100pF 50V J	1A	
C488L/R	3479247971	Electric SA 4.7μF 50V M	1B	
C501L/R	3479247971	Electric SA 4.7μF 50V M	2B/1B	
C502L/R	3579820030	Ceramic 82pF 50V J	2B/1B	
C503L/R	3579101030	Ceramic 100pF 50V J	2B/1B	
C504L/R	3579473030	Ceramic 0.047μF 50V J	2B/1B	
C505L/R	3579100030	Ceramic 10pF 50V J	2B/1B	
C506L/R	3579101030	Ceramic 100pF 50V J	2B/1B	
C507L/R	3479222061	Electric SA 22μF 35V M	2B/1B	
C508L/R	3579473030	Ceramic 0.047μF 50V J	2B/1B	
C509-C510	·	Not used !		
C511L/R	3679473120	Mylar 0.047μF 100V J	2B	
C512	·	See Headphone Board		
C513/C514	·	See Speaker Board		
C515L/R	3479222031	Electric SA 22μF 16V M	2B/1B	
C516L/R	3479222031	Electric SA 22μF 16V M	2B/1B	
C517	3409210171	Electric SA 100μF 50V M	2B	
C601/C602	3479210071	Electric SA 10μF 50V M	2A	
C603/C604	3479222071	Electric SA 22μF 50V M	1B	
C703/C704	3609224120	Mylar 0.22μF 100V M	2A	D
⚠ C705/C706	3419547225	Electric SA 4700μF 50V M	2A	
C707/C708	3409247161	Electric SA 470μF 35V M	2A	
C709/C710	3479247041	Electric SA 47μF 25V M	2A	
C714/C715	3609224120	Mylar 0.22μF 100V J	2A	D
Connectors				
CNT1/CNT2	4428517610	Plug 3P	2B/1B	
CNT3/CNT5	4428517710	Plug 4P	1B	
CNT8	4358502121	Ass'y 2P To Volume Board 120mm	1B	
CNT11	4428517510	Plug 2P	2B	
CNT13	4428522610	Plug 6P	2B	
CNT15/CNT17	4428522410	Plug 4P	2B/2A	
CNT20	4358503160	Ass'y 3P To Function Board 160mm	2A	

Ref. No	Part No.	Description	Position
CNT88	4428517510	Plug 2P	2A
Coils			
L101L/R	2648601470	Inductor 50μH	1A
L501L/R	2648001010	Inductor 0.5mH	2B
Diodes			
⚠ D503	2058599112	Zener, DZ 20BM AI2110R only	2B
⚠ (D503)	(2058599115)	Zener, DZ 27BM for AI2115R only	2B
D601-D603	2058106100	1N4002 Rectifier	2A
⚠ D604	2058599109	Zener, DZ 15BH for AI2110R only	2A
⚠ (D604)	(2058599113)	Zener, DZ 24BM for AI2115R only	2A
D701-D704	2058100105	1N5402 Rectifier	2A
D705/D708	2058106100	1N4002 Rectifier	2A
D714/D715	2058599109	Zener, DZ 15BH	2A
Fuses			
⚠ F501L/R	5508203030	NB 5A 250V, 5.1×20mm	
⚠ (F501L/R)	(5508403035)	FB 5A 250V, 5.1×20mm	
ICs			
IC101	2168020106	NJM 2068DD	1A
IC702	2168601110	GD7806	2A
Resistors: All resisitors are 1/4W Metal film ±5% tolerance, unless otherwise s M. O is metal oxide and C. is cement type.			
R101L/R	3069272270	2.7kΩ	1A
R102L/R	3069913270	91kΩ	1A
R103L/R	3069913270	91kΩ	1A
R104L/R	3069911270	910Ω	1A
R105L/R	3069564270	560kΩ	1A
R106L/R	3069433270	43kΩ	1A
R107L/R	3069471270	470Ω	1A
R108L/R	3069104270	100kΩ	1A
R109/R110	3069101270	100Ω	1A
R201L/R	3069121270	120Ω	1A
R202L/R	3069102270	1kΩ	1A
R203L/R	3069473270	47kΩ	1A
R204L/R	3069121270	120Ω	1A
R205L/R	3069102270	1kΩ	1A
R206L/R	3069473270	47kΩ	1A
R207L/R	3069121270	120Ω	1A
R208L/R	3069102270	1kΩ	1A
R209L/R	3069473270	47kΩ	1A
R210L/R	3069121270	120Ω	1A
R211L/R	3069102270	1kΩ	1A
R212L/R	3069473270	47kΩ	1A
R213L/R	3069102270	1kΩ	1A
R502L/R	3069471270	470Ω	2B/1B

Ref. No	Part No.	Description	Position	Remark
R503L/R	3069334270	330kΩ	2B/1B	
⚠ R504L/R	3069122270	1.2kΩ	2B/1B	
⚠ R505L/R	3069103270	10kΩ	2B/1B	
⚠ R506L/R	3069182270	1.8kΩ	2B/1B	
⚠ R507L/R	3069123270	12kΩ	2B/1B	
⚠ R508L/R	3069392270	3.9kΩ	2B/1B	
R509L/R	3069562270	5.6kΩ	2B/1B	
⚠ R510L/R	3069152270	1.5kΩ	2B/1B	
⚠ R511L/R	3069152270	1.5kΩ	2B/1B	
⚠ R512L/R	3069104270	100kΩ	2B/1B	
⚠ R513L/R	3069271270	270Ω	2B/1B	
⚠ R514L/R	3069278686	C, 0.27Ω 3W	2B/1B	
R515L/R	3039100472	M.O, 10Ω 1W	2B	
R516L/R	3039220472	M.O, 22Ω 1W	2B	
R517L/R	3039220472	M.O, 22Ω 1W	2B	
R518L/R	3039221572	M.O, 220Ω 1W	2B	
R519/R520	303939242	M.O, 3.9kΩ 1W	2B/1B	
R601	3069332270	3.3kΩ	2A	
R602	3069823270	82kΩ	2A	
R603	3069103270	10kΩ	2A	
R604	3069470270	47Ω	2A	
R605	3069103270	10kΩ	2A	
R606L/R	3069332270	3.3kΩ	1B	
R607	3069333270	33kΩ	1B	
R608	3069224270	220kΩ	1B	
R701/R702	3039391472	M.O, 390Ω 1W	2A	
R788	3039101472	M.O, 100Ω 1W	2A	
Transistors				
Q501L/R	2008613115	PNP μPA 75HA	2B/1B	
Q502L/R	2008606107	NPN KTC2229Y	2B/1B	
⚠ Q503L/R	2008609101	NPN MPS A05 for AI2110R only	2B/1B	
⚠ (Q503L/R)	(2008609102)	NPN MPS A06 for AI2115R only	2B/1B	
⚠ Q504L/R	2028406120	NPN KTC2235Y for AI2110R only	2B/1B	
⚠ (Q504L/R)	(2028607113)	NPN KTC3421 for AI2115R only	2B/1B	
⚠ Q505L/R	2028106107	PNP KTA965Y for AI2110R only	2B/1B	
⚠ (Q505L/R)	(2028207106)	NPN 2SC3855 for AI2115R only	2B/1B	
⚠ Q506L/R	2028416107	NPN 2SC3854	2B/1B	
⚠ Q507L/R	2028116104	PNP 2SA1490 for AI2110R only	2B/1B	
⚠ (Q507L/R)	(2028116103)	PNP 2SA1491 for AI2115R only	2B/1B	
Q601	2200206105	PNP KTA1015Y	2A	
⚠ Q602	2008609101	NPN MPS A05	1B	
⚠ (Q602)	(2008609102)	NPN MPS A06	1B	
⚠ Q603	2008609101	NPN MPS A05	1B	
(Q603)	2008609102	NPN MPS A06	1B	
Q604	(2008609102)	NPN 2SD1302S for AI2110R only	1B	
Q812	2208206105	PNP KTA1015Y for AI2115R only	2B	
Others				
X-FOR1	2828073901 or 2828073907	Main Transformer for AI2110R only 120V 50Hz, Alternative		A
(X-FOR1)	2828074001 or 2828074007	Main Transformer for AI2110R only 120V/220V 60/50Hz, Alternative		B
(X-FOR1)	2828074101 or 2828074107	Main Transformer for AI2110R only 220V 50Hz, Alternative		C,D,F
(X-FOR1)	2828074201 or 2828074207	Main Transformer for AI2110R only 240V 50Hz, Alternative		E

Ref. No	Part No.	Description	Positi
(X-FOR1)	2828073001 or 2828073007	Main Transformer for AI2110R only 110V/220V 60Hz, Alter native	
X-FOR1	2828073301	Main Transformer for AI2115R only	
(X-FOR1)	(2828073101)	Main Transformer for AI2115R only	
(X-FOR1)	(2828073201)	Main Transformer for AI2115R only	

Front Board 4002120010

Capacitors

C401/C402	·	See Volume Board			
C403L/R	3679683120	Mylar	0.068μF	100V	J
C404L/R	3679153120	Mylar	0.015μF	100V	J
C405L/R	3579309030	Ceramic	3pF	50V	J
C406L/R	3679223120	Mylar	0.022μF	100V	J
C407L/R	3679472120	Mylar	0.0047μF	100V	J
C490	3579102130	Ceramic	1000pF	50V	J
C801	3479210071	Electric SA	10μF	50V	M
C802	3479210971	Electric SA	1μF	50V	M
C803	·	See Stand-by Board			
C804/C805	3579470130	Ceramic	47pF	50V	J
C806	3439147312	Electric SA	0.047μF	5.5V	M
C890	3479222031	Electric SA	22μF	16V	M

Connectors

CNT1	4358503122	Ass'y 3P To Main Board 120mm
CNT2	4358503181	Ass'y 3P To Main Board 180mm
CNT3	4358504201	Ass'y 4P To Main Board 200mm
CNT4	4358504260	Ass'y 4P To Volume Board 260mm
CNT6	4358503351	Ass'y 3P To Function Board 350mm
CNT7	4358504160	Ass'y 4P To Main Board 160mm
CNT9	4358502405	Ass'y 2P To Back Chassis 400mm
CNT10	4358503160	Ass'y 3P To Stand By Board 160mm
CNT11	4358502121	Ass'y 2P To Main Board 120mm
CNT12	4358509400	Ass'y 9P To Back Chassis 400mm
SLT90	4119102106	Wafer 2P
SLT90	(4428525060)	Wire slat 2P

Diodes

D802/D805	2058306101	1N4148 Switching
LED802 –LED805	2308060304	KIG 226 Green
	2308010304	KIG 226 Green
LED806	2308060105	KLR 226E Green
IC801	2138309126	IC, DWP-103 CPU
IC802	2138009115	IC, MC14094

Resistors

R401-R403	·	See Volume Board
R404L/R	3069224270	220kΩ

Ref. No	Part No.	Description	Position	Remark
R405L/R	3069332270	3.3kΩ		
R406L/R	3069153270	15kΩ		
R407L/R	3069473270	47kΩ		
R408L/R	3069154270	150kΩ		
R409L/R	3069393270	39kΩ		
R410L/R	3069821270	820Ω		
R411L/R	3069152270	1.5kΩ		
R801	3069103270	10kΩ		
R802	3069102270	1kΩ		
R803	3069104270	100kΩ		
R804	3069473270	47kΩ		
R805	·	See Stand-by Board		
R806	3069472270	4.7kΩ		
R807	3069103270	10kΩ		
R808	3069472270	4.7kΩ		
R809	3069202270	2kΩ		
R810	3069103270	10kΩ		
R811	3069473270	47kΩ		
R812/R813	3069103270	10kΩ		
R814-R816	3069474270	470kΩ		
R817	3069104270	100kΩ		
R818	3069331270	330Ω		
R819	3069106270	10MΩ		
R820	3069103270	10kΩ		
R821	3069472270	4.7kΩ		
R822	3069103270	10kΩ		
R823/R825	3069332270	3.3kΩ		
R824	3069202270	2kΩ		
R826/R828	3069202270	2kΩ		
R827/R829	3069332270	3.3kΩ		
R830/R832	3069202270	2kΩ		
R831	3069332270	3.3kΩ		
R891-R893	3069224270	220kΩ		
R894-R896	3069105270	1MΩ		
R897	3069224270	220kΩ		
Transistors				
Q801-Q811	2208606104	NPN KTC1815Y		
Others				
IR801	2138099103	Infrared Receiver IL-007		
X-TAL801	3908101140	Resonator 4MHz		

ST-by SW Board 4002120030

Ref. No	Part No.	Description	Position	Remark
Connectors				
SLT90	4428525060	Slat Wire 2P		
(SLT90)	(4119102105)	Wafer 2P		

Headphone Board 4002120020

Ref. No	Part No.	Description	Position	Remark
Capacitor				
C512L/R	3579102130	Ceramic 1000pF 50V J		D
Connectors				
SLT15	4428525080	Slat Wire 4P		
(SLT15)	(4119104156)	Wafer 4P		

Function Board 4002120100

Ref. No	Part No.	Description	Position	Remark
Capacitor				
C301	3479210971	Electric SA 1μF 50V M		
C302/C303	3479247041	Electric SA 47μF 25V M		
Connectors				
CNT6	4428519310	Plug 3P		
CNT20	4428519310	Plug 3P		
·	4428525520	Plug 3P		
·	4428525510	Plug 9P		
·	4428525510	Plug 9P		
Diode				
D301	2058306101	1N4148		
IC				
IC301	2168017132	LC7821		
Resistors				
R301	3069104270	100kΩ		
R302/R303	3069101270	100Ω		

Stand By Board 4002120120

Ref. No	Part No.	Description	Position	Remark
Capacitor				
C701/C702	3549472407	Ceramic 0.0047μF 400V K		
C711	3409247131	Electric SA 470μF 16V M		
C712	3479247031	Electric SA 47μF 16V M		
C713	3479210071	Electric SA 10μF 50V M		
C803	3479210971	Electric SA 1μF 50V M		
Connector				
CNT10	4428517710	Plug 4P From Front Board		
Diodes				
D709-D713	2058106100	1N4002 Rectifier		
Fuses				
F701	5508202921	NB 4A 125V 5.1 x 20mm		A
F702	5508302435	TL 2A 250V 5.1 x 20mm		B
(F701)	5508302435	TL 2A 250V 5.1 x 20mm		C,D,F

Ref. No	Part No.	Description	Position	Remark
IC				
IC701	2168601101	GD 7805		
Resistors				
R703/R704	3039100472	M.O 10Ω 1W		
R805	3069332270	3.3kΩ		
Q802	2008609101	TR, NPN MPS A05		
Others				
X-FOR2	2828065701 or 2828066207	Stand By Transformer (alterative)		A
(X-FOR2)	2828073401 or 2828073407	Stand By Transformer (alterative)		B
(X-FOR2)	2828069801 or 2828069807	Stand By Transformer (alterative)		C,D,F
(X-FOR2)	2828069901 or 2828069907	Stand By Transformer (alterative)		E
(X-FOR2)	2828072601 or 2828072607	Stand By Transformer (alterative)	2A	Domestic
RLY7	5528001250	Relay, VS12Ms-NR-UL2		

Volume Board 4002120110

Ref. No	Part No.	Description	Position	Remark
Capacitor				
C401L/R	3619171110	Poly 170pF 50V J		
C402L/R	3609563120	Mylar 0.056μF 100V J		
C807-C809	3409210131	Electric SA 100μF 16V M		
Connectors				
CNT4	4428519410	Plug 4P		
CNT5	4358504101	Ass'y 4P To Main Board 100mm		
CNT7	4428519410	Plug 4P		
CNT8	4428519210	Plug 2P		
CNT70	4358502101	Ass'Y 2P To Volume Board 100mm		
IC803	2168022107	IC, BA6208		
LED801	2308060105	LED, KLR226E ,Red		
Resistors				
R401L/R	3069154270	150kΩ		
R402L/R	3069562270	5.6kΩ		
R403L/R	3069102270	1kΩ		

Speaker Board 4002120130

Ref. No	Part No.	Description	Position	Remark
Capacitor				
C513L/R	3579223030	Ceramic 0.022μF 50V J		D
C514L/R	3579473030	Ceramic 0.047μF 50V J		D
Connectors				
CNT14	4428522810	Plug 8P From Speaker SW Board		
SLT17	4119104126	Wire Slat 4P To Main Board 120mm		
SLT17	4428523080	Wafer 4P		

Speaker Switch Board 400212014

Ref. No	Part No.	Description	Position	Remark
Connectors				
SLT13	4119106156	Wire Slat 6P To Main Board 150mm		
(SLT13)	(4428525100)	Wafer 6P		
SLT14L/R	4119104406	Wire Slat 4P To Speaker B'D 400mm		
(SLT14L/R)	(4428525080)	Wafer 4P		

Remocon Board 4005212100

Ref. No	Part No.	Description	Position	Remark
Capacitors				
C1/C2	3509101130	Ceramic 100pF 50V J		
C3	3409247022	Electric SA 47μF 10V M		
Diodes				
D1	2308220127	LED, SLR34URC		
D2	2408001100	EL240KEC		
Resistors				
R1-R4	3009224973	220kΩ		
R5	3009102970	1kΩ		
R6	3009339973	3.3Ω		
R7	3009102973	1kΩ		
Others				
Q1	2008610102	TR, NPN 2SD1302S, Switching		
X-TAL1	3938001001	Ceramic Resonator CSB455E		

Mechanical Parts List

No.	Part No.	Description	Q'ty	Position	Remark
1	046122019911	Top Cover, Dark Gary	1	A5	
2	048501015713	Panel Front, Dark Gary	1	A3	
(2)	(048501015715)	Panel Front, Dark Gary, AI2110R only	1	A2	Domestic
(2)	(048501015711)	Panel Front, Dark Gary, AI2115R only	1	A2	
3	048545066811	Knob Power, Dark Gary	1	A3	
4	048545068211	Knob Speaker, Dark Gary	1	A3	
5	048545067211	Knob Rotary, Bass/Treble/Balance	3	A2	
6	048543024011	Knob Rotary, Main	1	B1	
7	8523010910	Decoration Ring	1	B1	
8	8555027310	Remote Acryl	1	C2	
9	048543024311	Tact Knob, 5key	1	C2	
10	4628055310	Speaker Switch, 1key	1	A4	
11	4438004420	Phone Jack, 3P	1	B3	
12	4658002020	Tact Switch	6	C2/B4	
13	3208049510	Volume Switch 100KC×2	2	B3	
14	3208052010	Volume Switch 100KSW	1	C3	
15	8543026410	Push Knob, Direct	1	C3	
16	4628050110	Push Switch, 1key	1	C3	
17	6705008320	LED Spacer	5	C3	
18	2138099103	Sensor Remote	1	C3	
19	8305001620	Washer	1	B3	
20	6505099210	Bracket Heatsink, Right	1	E3	
21	7503011410	Power Heatsink	1	D3	
(21)	7503011510	Power Heatsink for AI2115R only	1	D3	
22	6505096410	Bracket Heatsink	1	D5	
23	8543024410	Push Knob, Loudness	1	C2	
24	6303001410	Shaft Knob	1	D2	
25	4628044010	Push Switch, 1key	1	D2	
26	3208054310	V/R 100KA×2, Motor	1	D3	
27	6505098610	Volume Bracket	1	D1	
28	2828072701	Stand-By Transformer for AI2110R only	1	B4	A
(28)	(2828065701)	Stand-By Transformer for AI2115R only	1	B4	A
29	7505206220	Regulator TR Heatsink	1	C4	
30	6528300310	Spacer Support	1	C5	
31	6122619910	Side Frame, Left	1	D5	
32	4438103010	RCA Jack, 4P	2	D4	
33	4438103210	RCA Jack, 6P	1	E5	
34	4438103110	RCA Jack, 2P	1	E4	
35	4408000910	Speaker Terminal, 4P	1	E5	
36	6122620010	Side Frame, Right	1	F4	
37	4408104910	Ground Screw	1	F5	
38	4628000410	Voltage Selector, AI2110R only	3	D6	Domestic, B
(38)	(4628000410)	Voltage Selector	1	D6	A,C,D,E,F
39	6515000630	Voltage Holder, AI2110R only	3	D6	Domestic, B
(39)	(6515111630)	Voltage Holder	1	D6	A,C,D,E,F
40	4448100410	Out Let, Black, AI2110R only	2	E6	Domestic
(40)	(4448102110)	Out Let, Black	2	E6	A,B
(40)	(4448103110)	Out Let, Black	2	E6	C,D,F
41	6513000310	Cord Stopper AC, Black AI2110R only	1	E6	Domestic
(41)	(6518000710)	Cord Stopper AC, Black	1	E6	A,B
(41)	(6518000111)	Cord Stopper AC, Black	1	E6	C,D,F
(41)	(6513000210)	Cord Stopper AC, Black	1	E6	E
42	4308001610	Cord AC Power, Black AI2110R only	1	F6	Domestic
(42)	(4308001410)	Cord AC Power, Black	1	F6	A,B
(42)	(4308000430)	Cord AC Power, Black	1	F6	C,D,F
(42)	(4308000610)	Cord AC Power, Black	1	F6	E
43	6163108310	Shield Cover	1	D3	
44	(046102027216)	Back Chassis, Black, AI2110R only	1	F4	Domestic
(44)	(046102027226)	Back Chassis, Black, AI2110R only	1	F4	A
(44)	(046102027236)	Back Chassis, Black, AI2110R only	1	F4	B
(44)	(046102027246)	Back Chassis, Black, AI2110R only	1	F4	C
(44)	(046102027256)	Back Chassis, Black, AI2110R only	1	F4	D
(44)	(046102027266)	Back Chassis, Black, AI2110R only	1	F4	E

No.	Part No.	Description	Q'ty	Position	R
(44)	(046102027276)	Back Chassis, Black, AI2110R only	1	F4	F
(44)	(046102027286)	Back Chassis, Black, AI2110R only	1	F4	Fuk
44	(046102027221)	Chassis Back, Black AI2115R only	1	F4	A
(44)	(046102027231)	Chassis Back, Black AI2115R only	1	F4	B
(44)	(046102027241)	Chassis Back, Black AI2115R only	1	F4	C
(44)	(046102027251)	Chassis Back, Black AI2115R only	1	F4	D
(44)	(046102027261)	Chassis Back, Black AI2115R only	1	F4	E
(44)	(046102027271)	Chassis Back, Black AI2115R only	1	F4	F
45	2828073901	Main Transformer for AI2110R only	1	F4	A
(45)	(2828073301)	Main Transformer for AI2115R only	1	F4	A
46	6122414720	Bottom Cover	1	F3	
47	046035102111	Foot Base, Gold	4	E1/F1	
48	6725002510	Cushion Foot, Black	4	E1/F1	
49	4358509400	Terminal Remote for CD, Deck, EQ,Tuner	1	D5	
50	4358502405	Terminal Remote for Timer, AI2110R only	1	D5	Dor
(50)	(8209540011)	Nut Flange M4 ZNY for AI2115R only	4	B6	All
51	6715017320	Rubber Sponge	1	D6	
52	4428300310	AC Adaptor for AI2110R only	1	F6	Dor
(52)	6163108410	Shield Fence for AI2115R only	1	C1	All
53	6163108410	Shiled Fence	1	C1	
(53)	·	Not used for AI2115R only	·	·	
Screws					
S1	8119230083	PTC #2 3×8 ZNB	11		
S2	8159440083	WSAM 4×8 ZNB	4		
S3	8109230081	BTC #2 6 3×8 ZNY	12		
S4	8109230083	BTC #2 3×8 ZNB	4		
S5	8159226081	WPTC #2 6×8 ZNY	3		
S6	8159230081	WPTC #2 3×8 ZNY	11		
S7	8109230061	BTC #2 3×6 ZNY	7		
S8	8119330083	PTC #3 3×8 ZNB	6		Dor
(S8)	8119330083	PTC #3 3×8 ZNB	2		A,C
S9	8119240061	PTC #2 4×6 ZNY	1		
S10	8159440081	WSAM 4×8 ZNY	4		
S11	8059130121	HEXM 3×12 ZNY	4		

Remocon Parts

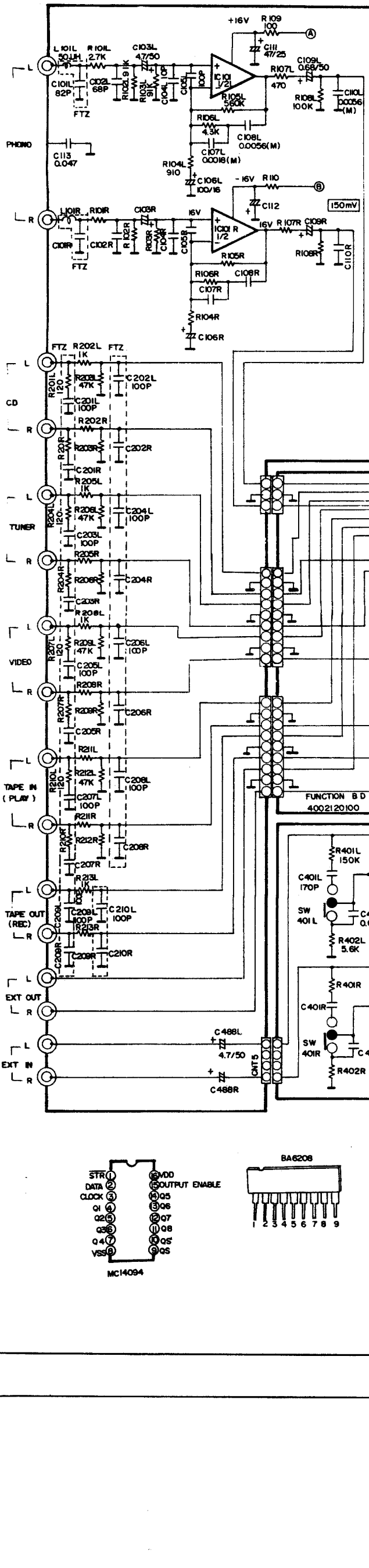
No.	Part No.	Description	Q'ty	Position	R
1	048535024711	Function Plate, Black	1		
2	048582000711	Top Cover, Dark Gray	1		
3	048723000111	Rubber Tact	1		
4	8555028310	Upper Cover, P.C. Acryl	1		
5	6555604610	Spring (A)	1		
6	6555604810	Spring (C)	1		
7	6555604710	Spring (B)	1		
8	048582000811	Buttom Cover, Dark Gray	1		
9	048583003311	Battery Cover, Dark Gray	1		
10	8119620084	Screw #2 PM 2×10 ZNB	1		

A B C D

1 2 3 4 5

Schematic Dia

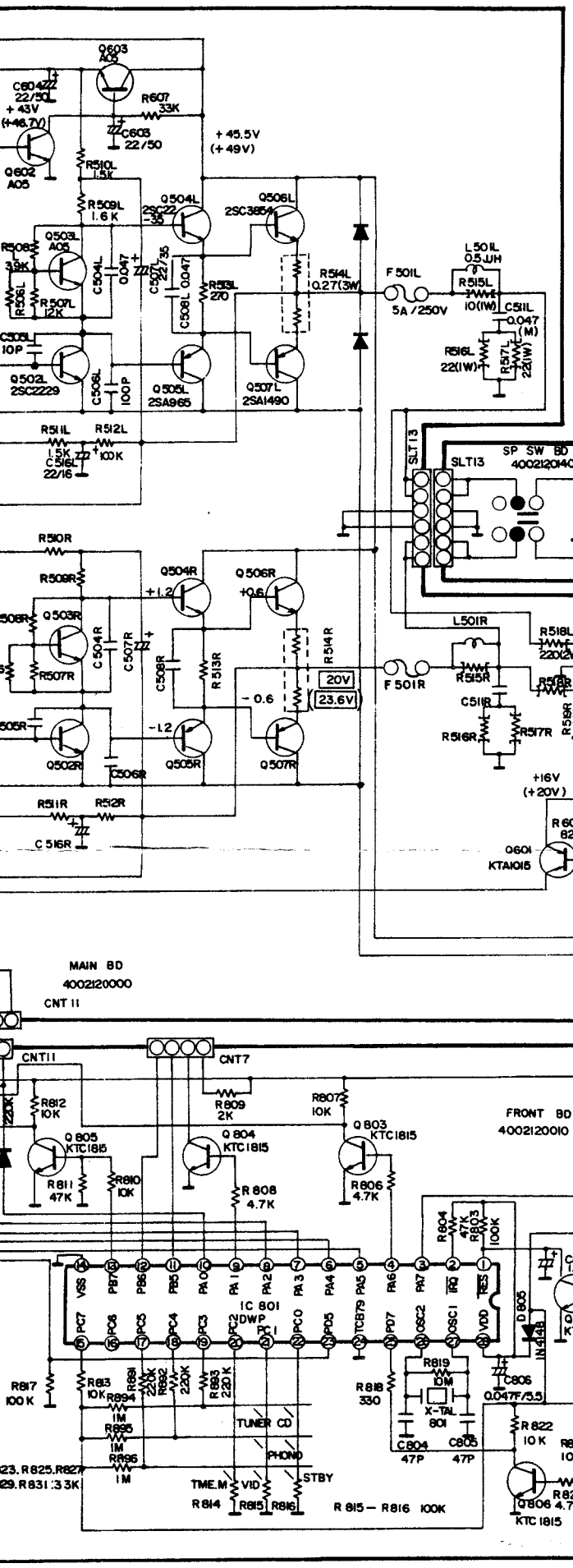
AI 2110R/AI 2

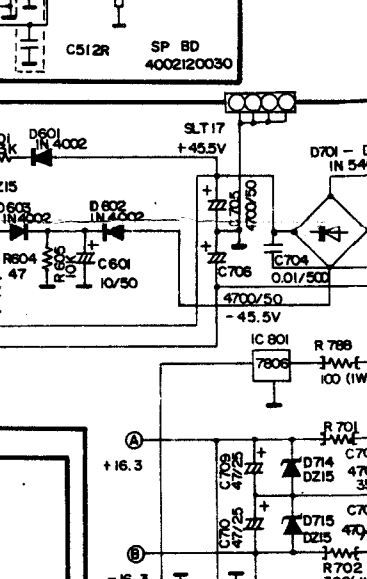


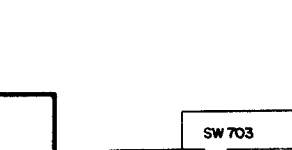
D E F G

ematic Diagram

I10R/AI2115R

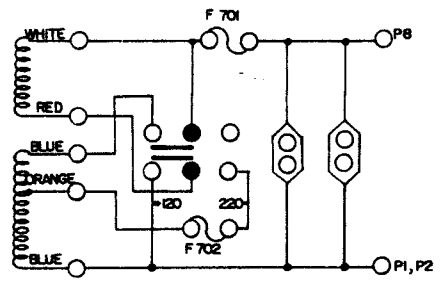


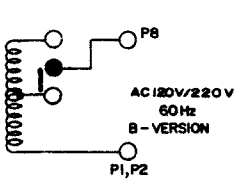


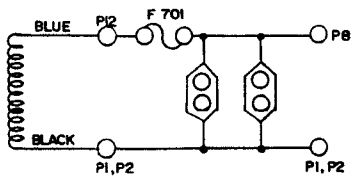


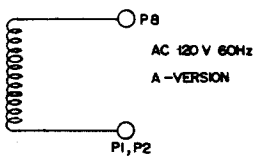
Ref. NO \ MODEL	AI 2110R	AI 2115 R	AI 2105R
Q504 L/R	2SC2235	2SC3423	
Q505 L/R	2SA 958	2SA 1358	
Q506 L/R	2SC 3854	2SC 3855	
Q507 L/R	2SA 1490	2SA 1491	
D503	DZ 20	DZ 27	
D 602	DZ 15	DZ 24	
R504 L/R	1.2K	1.5K	
R505 L/R	10 K	27 K	
R506 L/R	1.8 K	620	
R507 L/R	12K	–	
R508 L/R	3.9K	1.5 K	
R509 L/R	5.6K	4.7K	
R510 L/R	1.5 K	2.2K	
R511 L/R	1.5 K	1.2K	
R512 L/R	100K	150K	
R513 L/R	270	390	
R514 L/R	0.27 (3W)	0.27(5W)	
R518 L/R	220 (2W)	390(2W)	
C 705	4700/50	6800/63	
C 706	4700/50	6800/63	

VERSION	A	B	CDF	E	D	A	B	CDF	E	D	
F 501 L/R	NB5A /250V	NB5A /250V	F 5A /250	F 5A /250V	NB5A /250V	NB5A /250V	NB5A /250V	F 5A /250V	F 5A /250V	NB5A /250V	
F 701	NB4A /250V	NB4A /250V	T 2A /250V	T 2A /250V	NB4A /250V	NB5A /250V	NB5A /250V	T25A /250V	T25A /250V	NB5A /250V	
F 702	–	NB 2.5A /250V	–	–	NB 2.5A /250V	–	NB 2.5A /250V	–	–	NB 2.5A /250V	







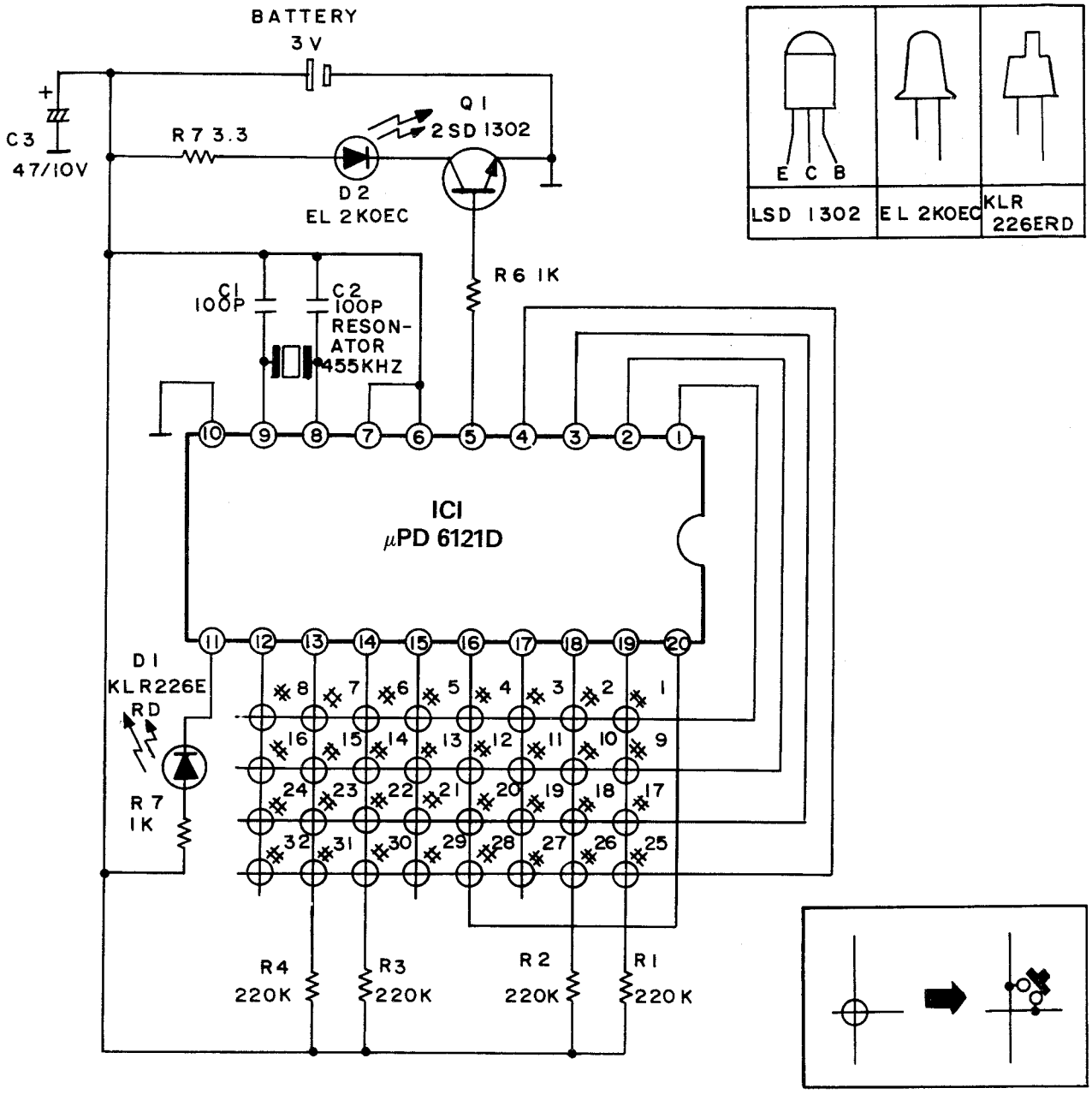


CAUTION : Safety precautions to be followed during servicing

1) Since those parts marked with ⚠ are critical parts for safety use the one described parts list.
2) Before returning the receiver to the customer make appropriate leakage current or resistance measurements to determine that exposed parts are properly insulated from the supply circuit.

NOTES 1. Resistance values are indicated in ohms unless otherwise specified (K = 1,000 M = 1,000,000)
2. Capacitance values are shown in microfarads unless otherwise noted (P = micro-micro farads.)
3. Values of ( ) are indicated in AI2115R

Schematic Diagram (Remocon Part)



#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
0	5	VIDEO	3	DECK PAUSE	CD PLAY	CD REPEAT	MAST V.UP	9	6	4	TAPE

#13	#14	#15	#16	#17	#18	#19	#20	#21	#22	#23	#24
MUTE	CD PAUSE	SD SKIP +	MAST-V.DN	POWER	7	1	CD	MAIN V.UP	CD STOP	CD SKIP −	EQ DEPEAT

#25	#26	#27	#28	#29	#30	#31	#32
PHONO	8	2	TUNER	MAIN V.DN	CD RANDOM	SURR MODE	EQ TAPE MONITOR

