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Service Manual

Digital AV Mixer

WJ-AVE7

SPECIFICATIONS

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Models:	WJ-AVE7/A; for Australia
	WJ-AVE7/B; for U.K. (United Kingdom)
	WJ-AVE7/G; for Europe Others
	WJ-AVE7/C; for PAL other countries
Source Input:	X2 (SOURCE 1/2)
Video Input:	1.0Vp-p/75ohms PAL composite signal, pin-jacks
Y/C Input:	Y signal; 1.0Vp-p/75ohms, C signal; 0.3Vp-p/75ohms Mini Din 4 pin connector
Audio Input:	–6dBs/20kohms pin jacks (L/R)
External Camera Input:	X1 (EXT CAMERA)
Video Input:	1.0Vp-p/75ohms PAL composite signal, pin-jack
Y/C Input:	Y signal; 1.0Vp-p/75ohms, C signal; 0.3Vp-p/75ohms Mini Din 4 pin connector
External Sound Input:	
Mic Input:	X1 (MIC); –60dBv/600ohms, unbalanced, tip-ring-sleeve type phone jack
Aux.Input:	X1 (AUX); –6dBs/20kohms, pin jacks (L/R)
Character Input:	X1 (TITLE); 10-pin connector for optional Character Generator WJ-TTL5
Recording Output:	X2 (REC OUT 1/2)
Video Output:	1.0Vp-p/75ohms PAL composite signal, pin-jacks
Y/C Output:	Y signal; 1.0Vp-p/75ohms, C signal; 0.3Vp-p/75ohms Mini Din 4 pin connector
Audio output:	–6dBV/1kohms, pin jacks (L/R)
Monitor Output:	X2 (MONITOR OUT); 1.0Vp-p/75ohms PAL composite signal, pin-jacks
Headphone Output:	X1 (HEADPHONE); –20dBv - –80dBv, 8ohms unbalanced, tip-ring-sleeve type phone-jack

Panasonic

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Effects:	
Video:	Still, Strobe, Mosaic, Paint, Negative, Wipe, Mix, Superimpose, Fade, Picture-In-Picture, Colour Correction
Audio:	Mix, Fade
Back Colour:	White, Yellow, Cyan, Green, Magenta, Red, Blue, Black
Wipe Patterns:	96 patterns
Others:	One-way, Reverse, Multi, Position
Video Gain:	Unity
S/N (typical):	Video; 48dB (composite), 48dB (Y/C) Audio; 60dB
Power Source:	220-240VAC, 50Hz
Power Consumption:	Approx. 18 Watts
Ambient Operating Temperature:	0°C - 40°C
Ambient Operating Humidity:	Less than 90%
Dimensions:	480(W) X 85(H) X 320(D) mm [18-7/8"(W) X 3-3/8"(H) X 12-5/8"(D)]
Weight:	3.0 kg (6.6 lbs.)

Weight and dimensions indicated above are approximate.
Specifications are subject to change without notice.

Standard Accessory

Power Cord ..... 1pc.

Optional Accessory

Character Generator WJ-TTL5

This symbol warns the user that uninsulated voltage within the unit may have suificient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.

This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included.
Therefore, it should be read carefully in order to avoid any problems.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are shaded on the schematic diagram and on the replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

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CONTENTS

MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS 3
CIRCUIT DESCRIPTION 9
ADJUSTMENT PROCEDURE
1. Required Test Equipment 16
2. Disassembling Procedure 16
3. Setting up for Adjustment 16
4. Adjustment Procedure 17
5. Test Mode 21
LOCATION OF TEST POINT AND ADJUSTING CONTROLS 21
APPEARANCE OF IC, TRANSISTOR AND DIODE 22
CHIP COMPONENTS 23
BLOCK DIAGRAM
WIRING DIAGRAM 24
SWITCH BOARD (1/2) 25
SWITCH BOARD (2/2) 26
MAIN BOARD (1/3) 27
MAIN BOARD (2/3, 3/3) 28
SCHEMATIC DIAGRAM
MAIN BOARD (1/3) 29
MAIN BOARD (3/3) 30
MAIN BOARD (2/3) 32
SWITCH BOARD (1/2) 33
SWITCH BOARD (2/2) 34
POWER BOARD 35
REAR BOARD 35
CONDUCTOR VIEW
MAIN (COMPONENT SIDE) AND JACK BOARD 36
MAIN (PATTERN SIDE) BOARD 37
SWITCH AND POSITIONER BOARD 38
POWER AND INLET BOARD 39
REAR BOARD 40
EXPLODED VIEW 41
REPLACEMENT PARTS LIST 42

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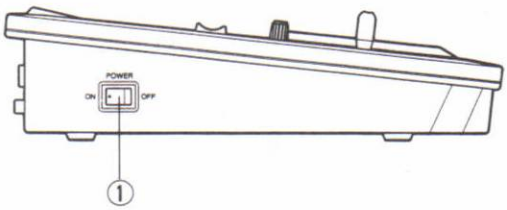
MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS

■ Side View

(1) Power Switch (POWER ON/OFF)



■ Indicator Section

(2) Power Indicator (POWER)

(3) Audio Level Indicator (AUDIO LEVEL)

This indicator shows the audio output level of REC OUT 1 and REC OUT 2 on the rear panel.

Note: REC OUT 1 and REC OUT 2 provide the same audio signal.

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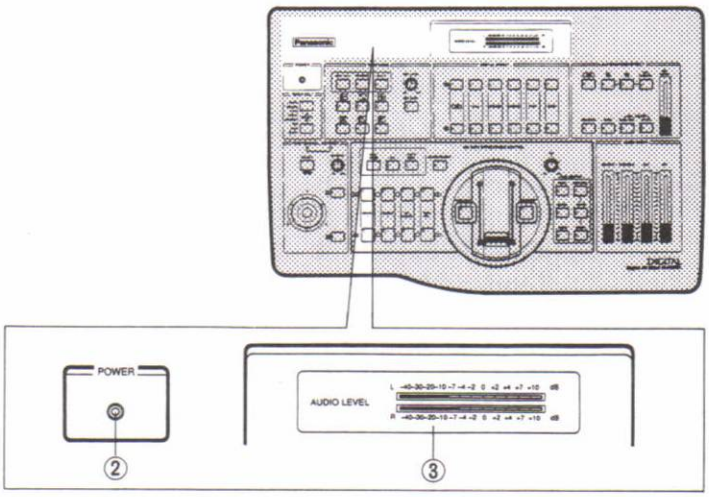
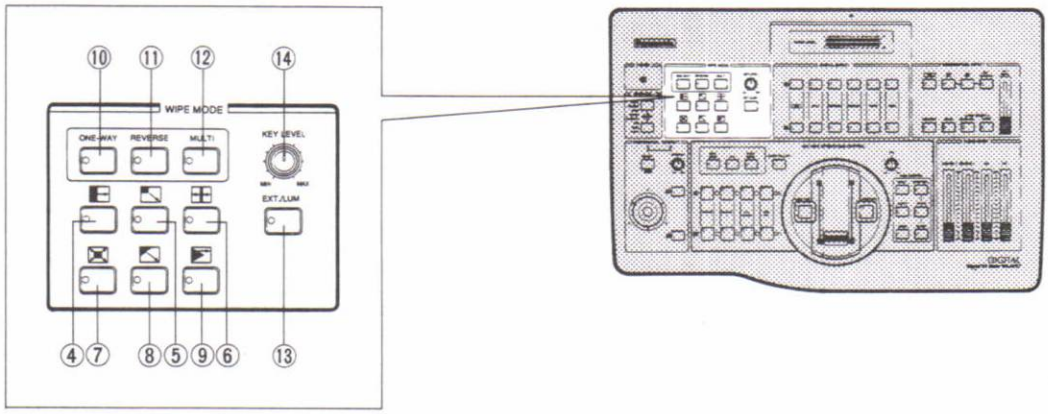


■ Wipe Mode Section (WIPE MODE)



(4) Straight Wipe Button

(5) Corner Wipe Button

(6) Split Wipe Button

(7) Square Wipe Button

(8) Diagonal Wipe Button

(9) Triangle Wipe Button

(10) One-way Wipe Button (ONE-WAY)

(11) Reverse Wipe Button (REVERSE)

(12) Multiple Wipe Button (MULTI)

(13) External/Luminance Key Button (EXT/LUM)

Used to select either the External Key or the Luminance Key function.

(14) Key Level Control (KEY LEVEL)

For adjusting the External Key Level and Luminance Key Level.

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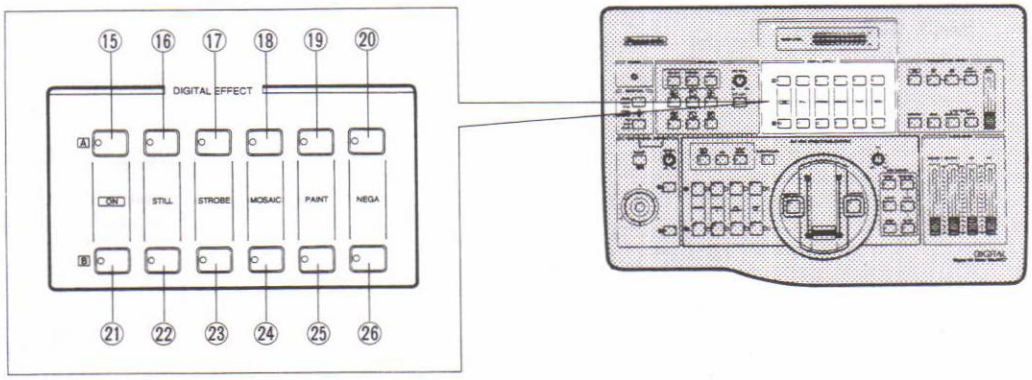
■ Digital Effect Section (DIGITAL EFFECT)



(15) A-bus ON/OFF Button (ON - A)
For adding Digital Effects to the A-bus picture except Back Colour (BACK COL) (42).

(16) Still Button (STILL)

(17) Strobe Button (STROBE)

(18) Mosaic Button (MOSAIC)

(19) Paint Button (PAINT)

(20) Negative Button (NEGA)
Note: Buttons (16) to (20) are for the A-bus.

(21) B-bus ON/OFF Button (ON - B)
For adding Digital Effects to the B-bus picture except Back Colour (BACK COL) (43).

(22) Still Button (STILL)

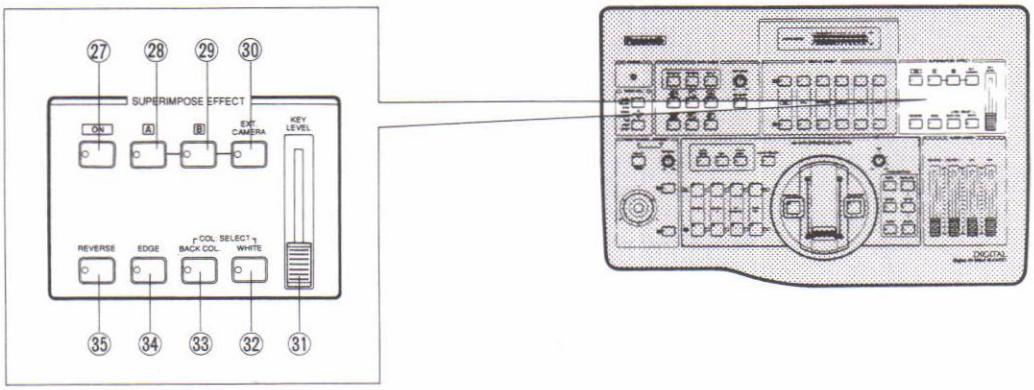
(23) Strobe Button (STROBE)

(24) Mosaic Button (MOSAIC)

(25) Paint Button (PAINT)

(26) Negative Button (NEGA)
Note: Buttons from (22) to (26) are for the B-bus.

■ Superimpose Effect Section (SUPERIMPOSE EFFECT)



(27) Superimpose ON/OFF Button (ON)
For activating the Superimpose Effect function.

(28) A-bus Button (A)
Used to select the A-bus picture as a key signal.

(29) B-bus Button (B)
Used to select the B-bus picture as a key signal.

(30) External Camera Button (EXT CAMERA)
Used to select an external camera picture as a key signal.

(31) Key Level Control (KEY LEVEL)
The key level (slice level) of a superimposed scene can be adjusted.

(32) White Button (COL. SELECT/WHITE)
Used to make a white superimposed scene

(33) Back Colour Button (COL.SELECT/BACK COL.)
Used to add a colour to a superimposed scene.

(34) Edge Button (EDGE)
Used to add an edge to a superimposed scene.

(35) Reverse Button (REVERSE)
The superimposed scene and the background scene become opposite in position.

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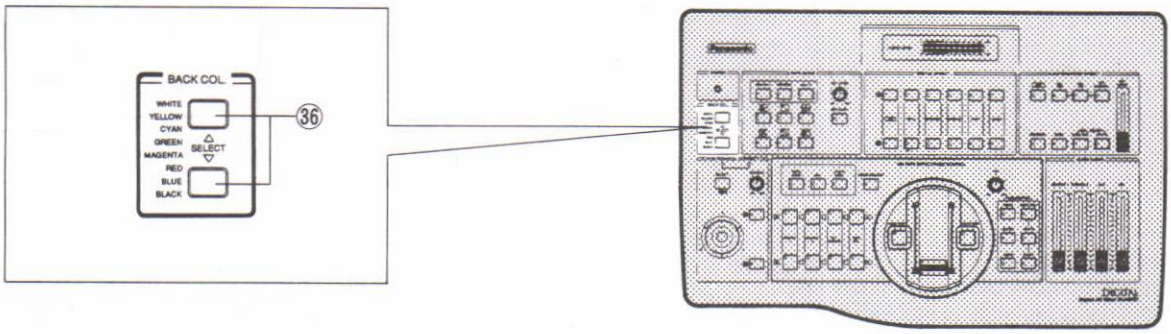
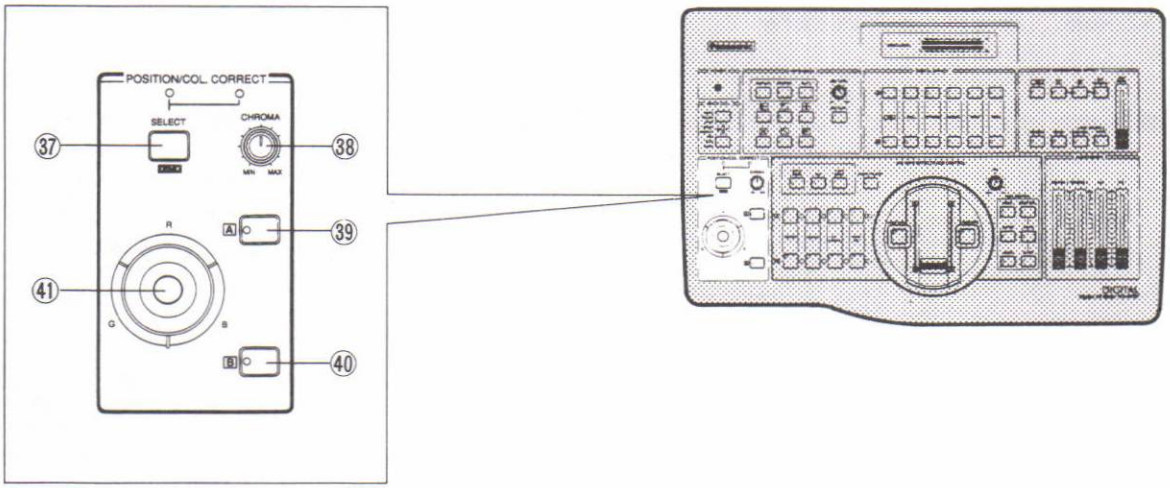
■ Back Colour Section (BACK COL.)

(36) Back Colour Selection Button (BACK COL. SELECT)

A back colour can be selected by pressing either of these buttons.



■ Positioner/Colour Correction Section (POSITION/COL.SELECT)



(37) Positioner/Colour Correction Selection Button (SELECT/DEMO)

Used to select either the POSITION function or COL. CORRECT function. Also used to start the preprogrammed demonstration.

(38) Chroma Level Control (CHROMA)

For adjusting the colour level.

(39) A-bus Button (A)

Colour correction can be made for the A-bus picture except Back Colour (BACK COL) (42)

(40) B-bus Button (B)

Colour correction can be made for the B-bus picture except Back Colour (BACK COL) (43).

(41) Joystick Control

This Joystick Control has two functions - setting the position of the Diagonal Wipe Pattern (7)/P-IN-P Picture (46) and correcting the colour of A-bus/B-bus.

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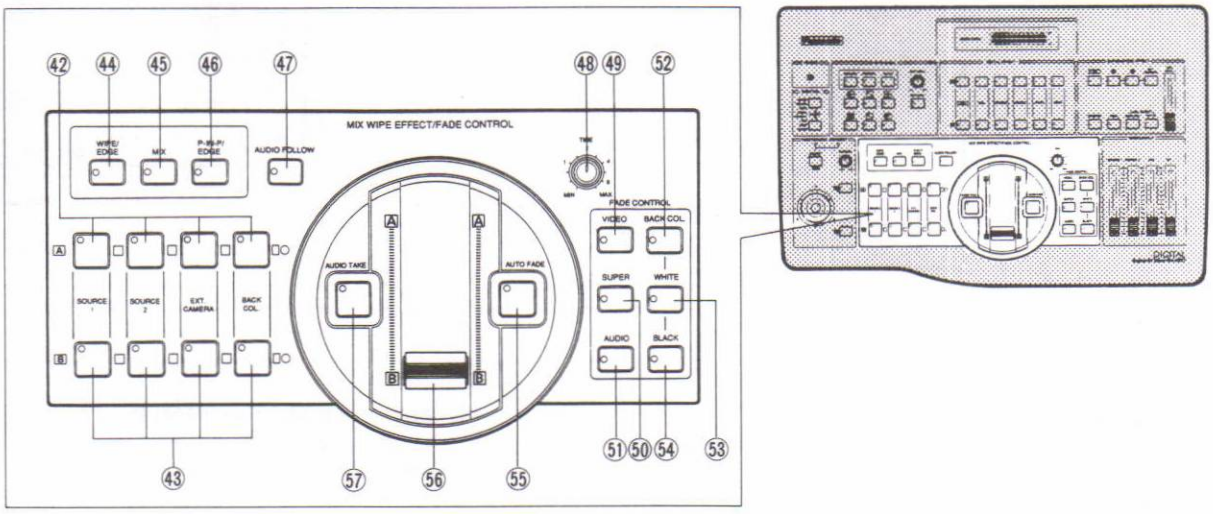
■ Mix Wipe Effect/Fade Control Section (MIX WIPE EFFECT/FADE CONTROL)



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(42) A-bus Selection Buttons (A)

SOURCE 1:
Used to select Source 1 Audio/Video Signals (66) (67) (68) supplied to the rear panel.

SOURCE 2:
Used to select Source 2 Audio/Video Signals (70) (71) (72) supplied to the rear panel.

EXT CAMERA:
Used to select External Camera Signal (74) (75) supplied to the rear panel.

BACK COL.:
Used to select the Back Colour (36).

(43) B-bus Selection Buttons (B)
Same selection can be available as mentioned in the A-bus Selection Buttons (42).

(44) Wipe Button (WIPE/EDGE)
For selecting the Wipe Effect.

(45) Mix Button (MIX)
For the Mix Effect.

(46) Picture-In-Picture Button (P-IN-P/EDGE)
For the Picture-In-Picture Effect.

(47) Audio Follow Button (AUDIO FOLLOW)
When this button is pressed, the audio on the A-bus and B-bus can be changed according to the relative percentage position of the Mix/Wipe Control (56).

(48) Time Control (TIME)
For adjusting the transition time of Auto Fade Function (55) and Auto Take Function (57).

(49) Video Button (VIDEO)
Used to fade-in/out the video, but not audio.

(50) Superimpose Button (SUPER)
Used to fade-in/out the superimposed picture.

(51) Audio Button (AUDIO)
Used to fade-in/out the audio.

(52) Back Colour Button (BACK COL)
For fading out to the Back Colour scene.

(53) White Button (WHITE)
For fading out to the white scene.

(54) Black Button (BLACK)
For fading out to the black scene.

(55) Auto Fade Button (AUTO FADE)
Automatic fade can be executed according to the time set by TIME Control (48).

(56) Mix/Wipe Control (MIX WIPE EFFECT)
Mix and wipe can be performed by operating this control.

(57) Auto Take Button (AUTO TAKE)
Automatic wipe or mix can be executed accoring to the time set by TIME Control (48).

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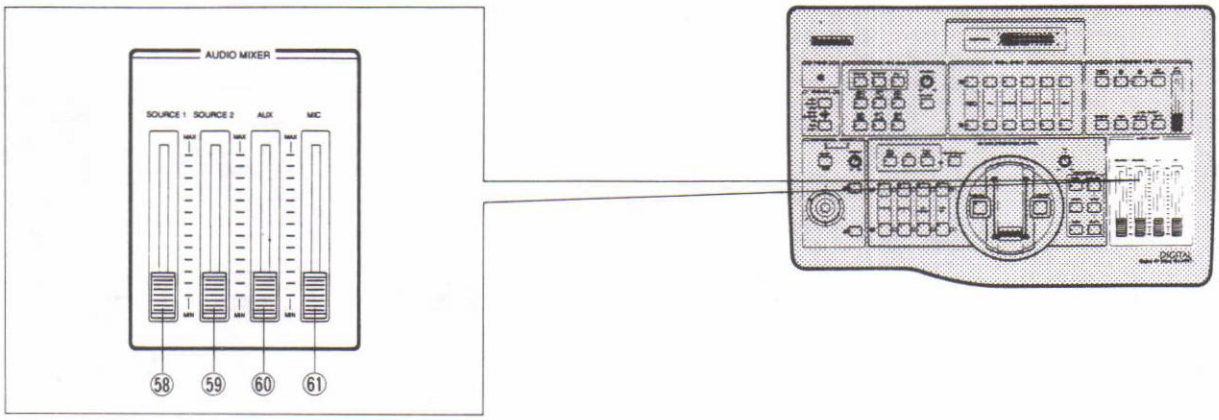
■ Audio Mixer Section (AUDIO MIXER)



(58) Source 1 Audio Fader (SOURCE 1)
Used to adjust the level of Source 1 Audio Signal supplied to Source 1 Audio Input Jack (66).

(59) Source 2 Audio Fader (SOURCE 2)
Used to adjust the level of Source 2 Audio Signal supplied to Source 2 Audio Input Jack (70).

(60) Auxiliary Audio Fader (AUX)
Used to adjust the level of Auxiliary Audio Signal supplied to Auxiliary Audio Input Jack (76).

(61) Mic Audio Fader (MIC)
Used to adjust the level of Microphone Audio Signal supplied to Microphone Jack (64).

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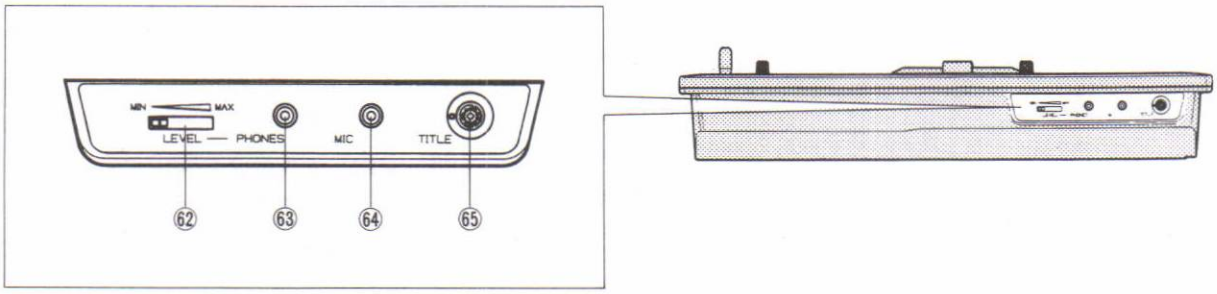
■ Front Panel



(62) Headphone Audio Level Control (LEVEL)

(63) Headphone Jack (PHONES)

(64) Microphone Jack (MIC)

(65) Titler Connector (TITLE)

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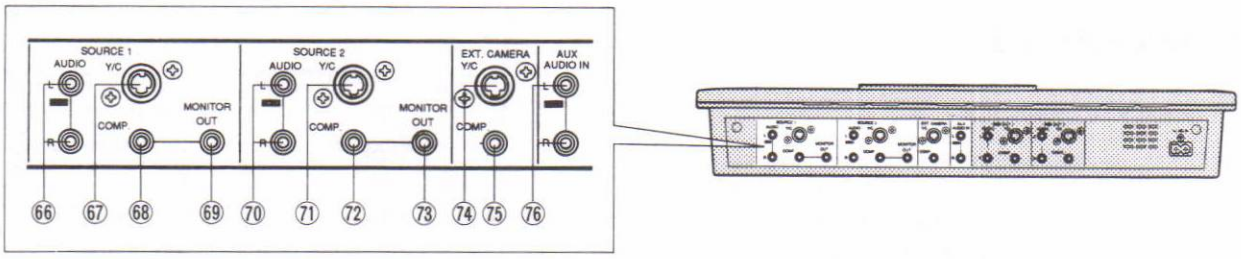
■ Rear Panel 1



(66) Source 1 Audio Input Jack (SOURCE 1 AUDIO)

(67) Source 1 S-Video Input Connector (SOURCE 1 Y/C)

(68) Source 1 Composite Video Signal Input Jack (SOURCE 1 COMP.)
For connecting PAL standard video signal.

(69) Source 1 Monitor Output Jack (SOURCE 1 MONITOR OUT)
For monitoring Source 1 Composite Video Signal.

(70) Source 2 Audio Input Jack (SOURCE 2 AUDIO)

(71) Source 2 S-Video Input Connector (SOURCE 2 Y/C)

(72) Source 2 Composite Video Signal Input Jack (SOURCE 2 COMP.)
For connecting PAL standard video signal.

(73) Source 2 Monitor Output Jack (SOURCE 2 MONITOR OUT)
For monitoring Source 2 Composite Video Signal

(74) External Camera S-Video Input Connector (EXT CAMERA Y/C)

(75) External Camera Composite Video Input Jack (EXT CAMERA COMP.)
For connecting PAL standard camera signal.
Notes:
1. If both an S-video signal and a composite video signal are supplied to Source 1 (Source 2 or External Camera) at the same time, only the S-video signal is used as Source 1 (Source 2 or External Camera) input signal.
2. A jittery external camera signal from a VTR, for example, can cause a disturbance in synchronization or colour.

(76) Auxiliary Audio Input Jack (AUX AUDIO IN)

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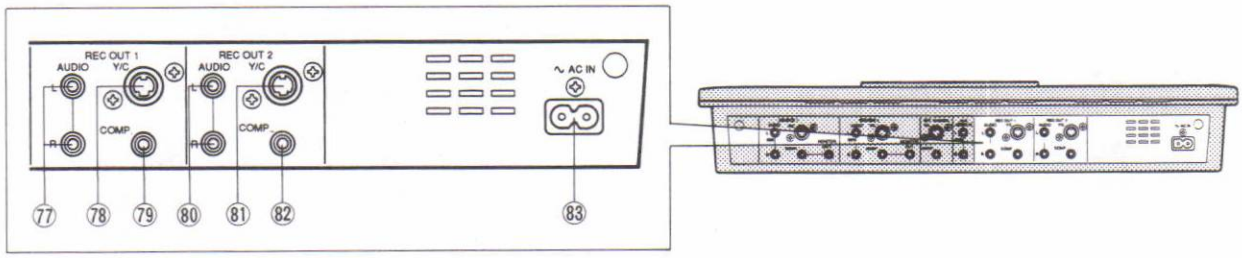
■ Rear Panel 2



(77) Recording Out 1 Audio Output Jack (REC OUT 1 AUDIO)

(78) Recording Out 1 S-Video Output Connector (REC OUT 1 Y/C)

(79) Recording Out 1 Composite Video Output Jack (REC OUT 1 COMP.)

(80) Recording Out 2 Audio Output Jack (REC OUT 2 AUDIO)

(81) Recording Out 2 S-Video Output Connector (REC OUT 2 Y/C)

(82) Recording Out 2 Composite Video Output Jack (REC OUT 2 COMP.)
Note: The same audio and video signals are supplied to both Recording Out 1 and Recording Out 2.

(83) Power Socket (AC IN)
Connect the Power Cord (provided) to this socket.

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CIRCUIT DESCRIPTION

IC Description

1. Main Board

1-1 IC100, IC102, IC201, IC203

This IC (YWNJM2246M) is used for selecting source signal.

- IC100 ... Selector of source signal (luminance) supplied to A-bus circuit.
- IC102 ... Selector of source signal (chrominance) supplied to A-bus circuit.
- IC201 ... Selector of source signal (luminance) supplied to B-bus circuit.
- IC203 ... Selector of source signal (chrominance) supplied to B-bus circuit.

The pin identifications of this IC are as follows.

Pin No	Name	IN/Out	Description
1	Vin1	In	Signal input 1
2	CTL1	In	Control input 1
3	Vin2	In	Signal input 2
4	CTL2	In	Control input 2
5	Vin3	In	Signal input 3
6	VDD	In	+5V
7	V OUT	Out	Signal output
8	GND	-	Ground

Truth table

CTL1	CTL2	V OUT
L	L	Vin 1
H	L	Vin 2
L/H	H	Vin 3

1-2 IC105, IC205

This IC (YWM51271FP) is used for making R-Y and B-Y signals. The pin identifications of this IC are as follows.

Pin No	Name	IN/Out	Description
1	BFG	Out	Burst gate pulse position output
2	BFGW	In	Burst gate pulse width adjust input
3	C OUT	Out	Chroma signal output
4	C CONT	In	Chroma saturation control input
5	C IN+	-	Chroma signal input
6	IN -	-	Input bypass capacitor connecting terminal
7	ACC	-	ACC filter connecting terminal
8	REF	-	Reference voltage
9	APC	-	APC filter connecting terminal
10	VCXO OUT	Out	VCXO output (17.73 MHz)
11	TINT	In	Tint control signal input
12	VCXO IN	In	VCXO input (17.73 MHz)
13	GND	-	Ground
14	B-Y IN	In	B-Y signal input
15	VCC	In	+5V
16	R-Y IN	In	R-Y signal input
17	N/P	In	NTSC/PAL mode select
18	SC	Out	Subcarrier signal output
19	B-Y OUT	Out	B-Y signal output
20	R-Y OUT	Out	R-Y signal output
21	KIL	-	Killer filter capacitor connecting terminal
22	KIL REF	-	Killer reference filter capacitor connecting terminal
23	BLK IN	In	Wide horizontal drive pulse input
24	HD IN	In	Wide horizontal drive pulse input
25	VIDEO IN	In	Luminance (Y) signal input
26	SEP	-	Sync separator feed back capacitor connecting terminal
27	SEP LEV	In	Sync separator slice level input
28	SYNC OUT	Out	Sync signal output

1-3 IC111, IC211

This IC (MC74HC4053F) is used for multiplexing R-Y and B-Y signals

The pin identifications of this IC are as follows.

Pin No	Name	IN/Out	Description
1	Y1B	In	B-Y signal input
2	Y0B	In	R-Y signal input
3	Y1C	-	Ground
4	ZC	-	Not used
5	Y0C	-	Ground
6	1NH	-	Ground
7	GND	-	Ground
8	GND	-	Ground
9	SC	-	Ground
10	SB	In	Signal select control
11	SA	-	Ground
12	Y0A	-	Ground
13	Y1A	-	Ground

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14	ZA	-	Not used
15	ZB	Out	Signal output
16	VCC	In	+5V

1-4 IC120-121, IC220-221

This IC (YWMN6550BS) is used for converting signal from analog to digital.
The pin identification of this IC are as follows.

Pin No	Name	IN/Out	Description
1	NC	-	Not used
2	VDD	In	+5V
3	VRT	In	Top voltage
4	VSS	-	Ground
5	NC	-	Not used
6-10	DO2-DO6	Out	Data output
11	VDD	In	+5V
12	VSS	-	Ground
13	CLK	In	Clock input
14-15	D00-D01	Out	Data output
16-17	NC	-	Not used
18	VRB	In	Bottom voltage
19	NC	-	Not used
20	VDD	In	+5V
21	VSS	-	Ground
22	SI	In	Signal input

1-5 IC310

This IC (YWLM1881M) is used for separating composite sync signal from External luminance signal.
The pin identification of this IC are as follows.

Pin No	Name	IN/Out	Description
1	C. SYNC	Out	Composite sync signal output
2	V in	In	External luminance signal input
3	V. SYNC	-	Not used
4	GND	-	Ground
5	BG	-	Ground
6	R SET	-	Pulse timing control
7	O/E OUT	-	Not used
8	VCC	In	+5V

1-6 IC360

This IC (YWUPC664GS) is used for converting signal from digital (8 bits data) to analog.
The pin identification of this IC are as follows.

Pin No	Name	IN/Out	Description
1-8	DY1-DY8	In	Y. data input
9-16	DC1-DC8	In	C. data input
17	C. CLK	In	C. clock pulse input
18	Y. CLK	In	Y. clock pulse input
19	GND	-	Ground
20	DVCC	In	+5V
21	COMP	-	Phase comparator terminal
22	AVCC	In	+5V
23	VR OUT	Out	Reference voltage output
24	V REF	In	Reference voltage input
25	VR SET	In	Reference voltage setting input
26	GND	-	Ground
27	C. OUT	Out	C. signal output
28	GND	-	Ground
29	Y. OUT	Out	Y. signal output
30	GND	-	Ground
31	AVCC	In	+5V
32	DVCC	In	+5V
33-36	NC	-	Not used

1-7 IC552

This IC (YWMD027AN004) is used for mixing A and B-bus signal data and also encodes the R-Y/B-Y data into C data.
The pin identifications of this IC are as follows.

Pin No	Name	IN/Out	Description
1-2	NC	-	Not used
3	VDD	In	+5V
4	VSS	-	Ground
5	PAL	In	mode select
6	BLK	In	Blanking input
7	BFP	In	Burst flag pulse input
8	BSC	In	Subcarrier input
9	LSW	In	Line switch input
10	VDD	In	+5V
11	F4SC	In	Subcarrier input (17.73 MHz)
12	VSS	-	Ground
13	H	In	Wide horizontal drive pulse input
14	V	In	Vertical drive pulse input
15-19	REG0-REG4	In	Register input
20	VDD	In	+5V
21	VSS	-	Ground
22	VDD	In	+5V
23	ST2	In	Strobe input
24-31	D0-D7	In	data input
32	VDD	In	+5V
33	VSS	-	Ground
34-36	BCD0-BCD2	In	Back colour data input

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37	A0RB	In	Double P in P select input
38	VSS	-	Ground
39-42	NC	-	Not used
43	VDD	In	+5V
44	ABSUP	In	Super impose signal input
45	ASS	-	Ground
46-49	GRA0-GRA3	In	Graduation data input
50	VSS	-	Ground
51-54	GRA4-GRA7	In	Graduation data input
55	VDD	In	+5V
56-63	MD0-MD7	In	Mixed data input
64	VDD	In	+5V
65-68	MDD0-MDD3	In	Key data input
69	VDD	In	+5V
70	VSS	-	Ground
71	BOD	In	Border signal input
72	CHR	In	Character signal input
73	BCHR	In	Character edge signal input
74	SHGA	In	Shadow gate for A-bus
75	SHGB	In	Shadow gate for B-bus
76-78	TES0-TES2	-	Ground
79-82	NC	-	Not used
83	TES3	-	Ground
84	TESA	-	Ground
85	EXWP	In	External character signal input
86	YC2D	-	Not used
87	VSS	-	Ground
88	YCLK2	In	Y. clock2 input
89	VDD	In	+5V
90	TYCLK	-	Ground
91	TRCLK	-	Ground
92	RCLK	In	R. clock input
93	YCLK	In	Y. clock input
94	VSS	-	Ground
95	KBB	In	Character colour signal (blue) input
96	KBR	In	Character colour signal (red) input
97	KBG	In	Character colour signal (green) input
98	VSS	-	Ground
99	PC7	-	Ground
100	VDD	-	+5V
101-107	PC6-PC7	-	Ground
108	VDD	In	+5V
109-116	A7-A0	In	A-bus data input
117	VDD	In	+5V
118	VSS	-	Ground
119-122	NC	-	Not used
123	VDD	In	+5V
124	VSS	-	Ground
125-129	B7-B3	In	B-bus data input
130	VSS	-	Ground
131-133	B2-B0	In	B-bus data input
134	VDD	In	+5V
135	EXCAMH	In	External signal (Y) input
136	EXCAML	In	External signal (Y) input
137	VSS	-	Ground
138-145	RECC7-RECC0	Out	C. data output
146	VDD	In	+5V
147-149	RECY7-RECY5	Out	Y. data output
150	VSS	-	Ground
151-155	RECY4-RECY0	Out	Y. data output
156	VDD	In	+5V
157	SP100	In	+5V
158	VSS	-	Ground
159-160	NC	-	Not used

1-8 IC580

This IC (YWMD016AN005) generates wipe pattern data and graduation data which are supplied to IC552.
The pin identifications of this IC are as follows.

Pin No	Name	IN/Out	Description
1-2	NC	-	Not used
3	VSS	-	Ground
4-8	WP0-WP4	In/Out	Wipe edge signal input/output
9	WRST	Out	Write reset control output
10	CK19I	Out	Write clock input
11-15	CH0-CH4	In/Out	Character edge signal input/output
16	H	In	Wide horizontal drive pulse input
17	V	In	Vertical drive pulse input
18-19	SD0-SD1	-	Ground
20	VDD	In	+5V
21	VSS	-	Ground
22-31	SD2-SD11	-	Ground
32	PAL	In	Mode select
33	HIGH	-	Ground
34	PCO	Out	Phase comparator output
35	NC	-	Not used
36	OSCO	Out	Oscillator output
37	OSCI	In	Oscillator input
38	VDD	In	+5V
39-42	NC	-	Not used
43	VSS	-	Ground
44	AD2	In	+5V
45	AD4	-	Not used
46	AD8	In	+5V
47	SB16	In	+5V
48-49	TD0-TD1	-	Ground
50	VSS	-	Ground

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51-58	TD2-TD9	-	Ground
59	TST7	In	+5V
60-61	TST8-TST9	-	Ground
62-69	D0-D7	In	Data input
70	VSS	-	Ground
71-76	REG0-REG5	In	Register input
77	ST1	In	Strobe input
78	VDD	In	+5V
79-82	NC	-	Not used
83-84	VSS	-	Ground
85-93	TED9-TED0	-	Not used
94	VSS	-	Ground
95	VDD	In	+5V
96	RST	In	+5V
97-99	TST6-TST4	-	Ground
100	VDD	In	+5V
101-104	TST3-TST0	-	Ground
105	KEY	-	Ground
106	CHC	In	Character signal input
107	CHBU	In	External signal (Y) input
108	CHBL	-	Ground
109	EXWP	Out	External character signal input
110	VDD	In	+5V
111	WPA	In	Double P in P gate pulse
112	VSS	-	Ground
113	WPB	In	Double P in P gate pulse
114	HRST	Out	Horizontal reset pulse output
115	VSS	-	Ground
116	YCLK	Out	Y. clock output
117	YCLK2	Out	Y. clock 2 output
118	VDD	In	+5V
119-122	NC	-	Not used
123	VSS	-	Ground
124	BCHR	Out	Character edge signal output
125	CHR	Out	Character signal output
126	BOD	Out	Border signal output
127-128	MOD3-MOD2	Out	Key data output
129	VDD	In	+5V
130	VSS	-	Ground
131-132	MOD1-MOD0	Out	Key data output
133-135	MD7-MD5	Out	Mixed data output
136	VSS	-	Ground
137-141	MD4-MD0	Out	Mixed data output
142	GRAD7	Out	Graduation data output
143	VSS	-	Ground
145-149	GRAD6-GRAD2	Out	Graduation data output
150	VSS	-	Ground
151-152	GRAD1-GRAD0	Out	Graduation data output
153	CHA	In	Super impose signal input
154	AORB	Out	Double P in P select output
155	BCD2	Out	Back colour data output
156-157	BCD1-BCD0	Out	Back colour data output
158	VDD	In	+5V

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1-9 IC581

This IC (YWUPD42102G3) generates delayed signals which are used for wipe edge and character edge.
The pin identifications of this IC are as follows.

Pin No	Name	IN/Out	Description
1-4	DO0-DO3	Out	Data output
5	$\overline{RE}$	-	Ground
6	$\overline{RSTR}$	In	Read reset input
7	VSS	-	Ground
8	RCK	In	Read clock input
9-12	D04-DO7	Out	Data output
13-16	DI7-DI4	In	Data input
17	WCK	In	Write clock input
18	VDD	In	+5V
19	$\overline{RSTW}$	In	Write reset input
20	$\overline{WE}$	-	Ground
21-24	DI3-DI0	In	Data input

1-10 IC600, IC700

This IC (MN53060LBZ) is used for reading and writing datas into the memory (IC602~605 for A-bus, IC702-IC705 for B-bus). The data from memory are sent to A/B bus mixing IC (IC552).
The pin identifications of this IC are as follows.

Pin No	Name	IN/Out	Description
1	VSS	-	Ground
2	OSCO	-	Not used
3	WPCO	Out	Phase comparator output
4	EXI	In	C. Sync signal input
5	EXSYNCI	In	C. Sync signal input
6	NWHBLKO	Out	Wide horizontal drive pulse output
7	CLMPO	Out	Burst flag pulse output
8	DOCI	-	Ground
9	HI	In	Wide horizontal drive pulse input
10	VI	In	Vertical drive pulse input
11	VSS	-	Ground
12-13	TEST3-TEST2	-	Ground
14	HRST	In	Horizontal reset pulse input
15	YCLKI	In	Y. clock input
16	YCLK0	-	Not used
17	RCLK0	-	Not used

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18	VDD	In	+5V
19	RSTI	In	+5V
20	VSS	-	Ground
21	BI	In	Chip selec (A/B)
22	HIGHI	-	Ground
23-24	VSS	-	Ground
25	VDD	In	+5V
26-33	YCD0-YCD7	Out	Y/C data output
34	RGO	Out	Double P in P gate pulse
35-36	D0-D1	In	Data input
37	VDD	In	+5V
38	VSS	-	Ground
39-44	D2-D7	In	Data input
45-50	REG0-REG5	In	Register input
51	STI	In	Strobe input
52-54	RHS0-RHS2	In	Read horizontal start pulse
55	VSS	-	Ground
56	PAL	In	Mode select
57	VDD	In	+5V
58	RHS3	In	Read horizontal start pulse
59-62	MC3-MC0	In	Mixed C. data input
63-70	MY7-MY0	In	Mixed Y. data input
71	RGOD	Out	Shadow gate output
72	RGI	In	+5V
73	VSS	-	Ground
74	VDD	In	+5V
75	VSS	-	Ground
76	OE3	-	Not used
77-78	OE2-OE1	Out	Output enable
78	SOC3	-	Not used
80-81	SOC2-SOC1	Out	Serial out clock
82	VDD	In	+5V
83	VSS	-	Ground
84	SIC3	-	Not used
85-86	SIC2-SIC1	Out	Serial in clock
87	RAS	Out	Row address strobe
88	CAS	Out	Column address strobe
89-91	A0-A2	Out	Address output
92	VSS	-	Ground
93	TEST0	-	Ground
94-95	VDD	In	+5V
96-100	A3-A7	Out	Adress output
101-102	VDD	In	+5V
103-104	VSS	-	Ground
105-108	CTM3-CTM0	Out	C.data output
109-110	YTM7-YTM6	Out	Y.data output
111	VDD	In	+5V
112	VSS	-	Ground
113-118	YTM5-YTM0	Out	Y.data output
119	CSEL	Out	C. select output
120	CADCK	-	Not used
121-127	CAD7-CAD1	In	C. data input
128	CAD0	-	Ground
129	VDD	In	+5V
130	TEST1	-	Ground
131	VSS	-	Ground
132	VDRP	-	Not used
133	HDRP	-	Not used
134-140	YAD7-YAD1	In	Y. data input
141	YAD0	-	Ground
142	SD1	-	Not used
143	SD0	-	Not used
144	WHRST	-	Not used
145	YADCK	Out	Y. AD clock output
146	VSS	-	Ground
147	OSC	In	Oscillator input
148	VDD	In	+5V

1-11 IC602~605, IC702~705

This IC (YWM5M4C500AV) is a field memory (320(H)×256(V)×6=491, 520 bits and used to perform digital effect functions.
The pin identifications of this IC are as follows.

Pin No	Name	IN/Out	Description
1-3	SOD4-SOD6	Out	Serial out data
4-6	SID4-SID6	In	Serial in data
7-14	A7-A0	In	Address input
15	$\overline{CAS}$	In	Column address strobe
16	$\overline{RAS}$	In	Row address strobe
17	SIC	In	Serial in clock
18	SOC	In	Serial out clock
19	$\overline{SIE}$	In	Serial in enable
20	$\overline{SOE}$	In	Serial out enable
21	VCC	In	+5V
22	VSS	-	Ground
23-25	SID1-SID3	In	Serial in data
26-28	SOD1-SOD3	Out	Serial out data

1-12 IC800

This IC (MN676021PPS) is a sync generator which generates Necessary pulses and also automatically changed to external timing mode when external signal is supplied through Y/C or COMP input connector on the rear panel.

Pin No	Name	IN/Out	Description
1	VDD	In	+5V
2	VSS	-	Ground
3	X4SC	In	Subcarrier signal input (17.73MHz)
4	OSCI	-	Ground
5	OSCO	-	Not used
6	SCB	Out	Subcarrier signal output (4.43 MHz)

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7	SCR	-	Not used
8	BSC	-	Not used
9	VPC	-	Not used
10	EXT	In	EXT/$\overline{\text{INT}}$ mode select
11	LSC	In	Line switch control input
12	LSW	Out	Line switch
13	VR	In	Vertical reset pulse input
14	XFH	In	Oscillator input
15	HOSO	In	+5V
16	HOSI	In	+5V
17	HPC	In	+5V
18	SBL	In	+5V
19	BFP	Out	Burst flag pulse output
20	WBL	-	Not used
21	CP2	-	Not used
22	CP1	-	Not used
23	CBLK	Out	Composite blanking pulse output
24	WHD	Out	Wide horizontal drive pulse output
25	VP	Out	Vertical drive pulse output
26	SYNC	Out	Composite sync signal output
27	VSS	-	Ground
28	VDD	In	+5V

1-13 IC803

This IC (MN53007LVW1) is a sync separator and pin identifications of this IC are as follows.

Pin No	Name	IN/Out	Description
1	OSCO	Out	Oscillator output
2	NC	-	Not used
3	4FSC	Out	Subcarrier output (17.73 MHz)
4-5	NC	-	Not used
6	FREQ	-	Not used
7	PCR	-	Not used
8	HO4	-	Not used
9	HO5	-	Not used
10	HREF	-	Not used
11-13	NC	-	Not used
14	EXSYNC	In	External composite sync signal input
15	PAL	In	Mode select
16	RST	In	Reset control input
17	VDD	In	+5V
18	NC	-	Not used
19	VI	In	Vertical drive pulse input
20	WHD	In	Wide horizontal drive pulse input
21	IN	In	Wide horizontal drive pulse input
22	NOUT	-	Not used
23	HS	In	Phase comparator input
24	HPCO	Out	Phase comparator output
25	NC	-	Not used
26	VR	Out	Vertical reset pulse output
27	LSWCNT	Out	Line switch control output
28	EXT	Out	EXT/$\overline{\text{INT}}$ mode select
29-30	NC	-	Not used
31-33	MONIT3-MONIT1	-	Not used
34-35	NC	-	Not used
36-38	TEST3-TEST1	-	Ground
39	VSS	-	Ground
40	NC	-	Not used
41	SC1135	-	Not used
42	NC	-	Not used
43	HSCPCO	Out	Phase comparator output
44	OSCI	In	Oscillator input

1-14 IC900

This IC (YWH7337F0AV0) is a 8 bit system control microprocessor, which performs key scanning of all front panel switches to detect any switch operation.
This IC also controls the operation of the LEDS and also controls the operation of all digital signal processing ICs.

Pin No	Name	IN/Out	Description
1	$\overline{\text{RES}}$	In	Reset pulse input
2	XTAL	In	Oscillator input
3	EXTAL	In	Oscillator input
4-5	MD1-MD0	In	+5V
6	$\overline{\text{NMI}}$	-	Ground
7	$\overline{\text{STBY}}$	In	+5V
8	VCC	In	+5V
9	MASK	Out	Mask DC Output
10-11	A/B SEL1-A/B SEL2	Out	A/B bus select control output
12	VSS	-	Ground
13	P97	Out	Key scan output
14	P96	-	Not used
15-17	P95-P93	Out	Key scan output
18	P92	-	Not used
19-20	K/LSW1-K/L SW2	Out	Key scan switch output
21	H. BLK	In	Wide horizontal drive pulse input
22-23	P61-P62	Out	Source signal select output
24	P63	Out	Auto take LED control output

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25	P64	Out	Auto fade LED control output
26	P65	-	Not used
27	PAL/NTSC	In	PAL/NTSC select input
28	V. BLK	In	Vertical drive pulse input
29	VCC	In	+5V
30	AN0	In	Time control input
31	AN1	In	Key level control input
32	AN2	In	Chroma level control input
33	AN3	In	Key level control input
34	AN4	In	Mix/Wipe control input
35	AN5	In	R-Y/Positioner control input
36	AN6	In	B-Y/Positioner control input
37	AN7	-	Not used
38	VSS	-	Ground
39-46	P40-P47	Out	Key scan/LED drive output
47	VSS	-	Ground
48-55	P27-P20	Out	Key scan/LED drive output
56	VSS	-	Ground
57-64	P17-P10	Out	Data output
65-67	ST1-ST3	Out	Strobe output
68	ST4	-	Not used
69	P34	Out	Clock output
70-72	P35-P37	Out	Fade strobe output
73	VSS	-	Ground
74-75	P80-P81	-	Not used
76	P82	-	Not used
77	P83	In	Titler ID input
78	P84	-	Not used
79	P85	In	Titler ID input
80	P86	-	Not used

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ADJUSTMENT PROCEDURE

1.Required Test Equipment

The following test equipments are required for adjustment.

- Oscilloscope
- Frequency Counter
- Digital Voltmeter
- Vectorscope
- Waveform Monitor
- Color Video Monitor (With Underscan Mode)
- Video Signal Generator
- Audio Signal Generator
- Extension Flat Cable (Part No. : YWVOEA0270AN)

2. Disassembling Procedure

2-1. Disassembling Procedure for Adjustment

- Remove eleven screws which fixing the upper cover and open the upper cover.

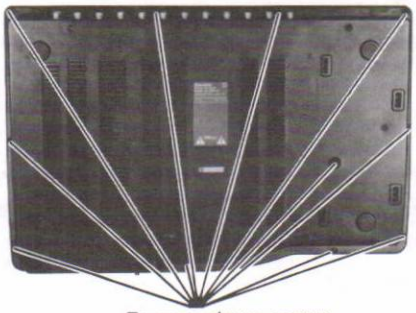

Fig. 2-1-1

2-2. Disassembling Procedure for Main PCB Board Check

- Remove eleven screws which fixing the upper cover and open the upper cover.
- Remove five screws which fixing the upper shield case and remove the upper shield case.
- Remove two screws which fixing the Main PCB Board and remove two screws which fixing the Jack Board.

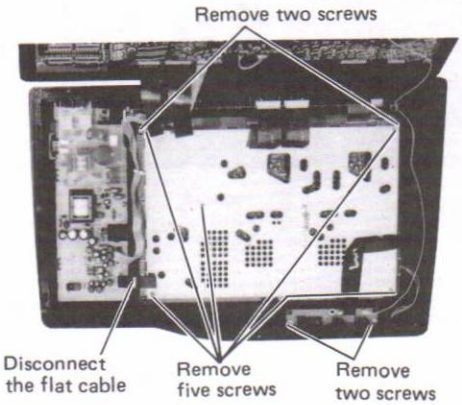

Fig. 2-2-1

- Disconnect the Flexible cable between CN3 on the Power board and CN1 on the Main Board, and connect the extension flat cable between these connectors CN3 and CN1.
- Disconnect the Title Input Connector CN6 on the Main PCB Board and stand the Main PCB Board.
- Remove the bottom shield case.

Fig. 2-2-2

3.Setting up for Adjustment

Connection

- Connect the Color Video Monitor to the REC OUT 1 COMP Jack on the rear panel of WJ-AVE7 through the Waveform Monitor and Vectorscope using the coaxial cables.
- Terminate the input connector of Color Video Monitor with 75ohms.

Note: Keep the connection of output side throughout the adjustment.

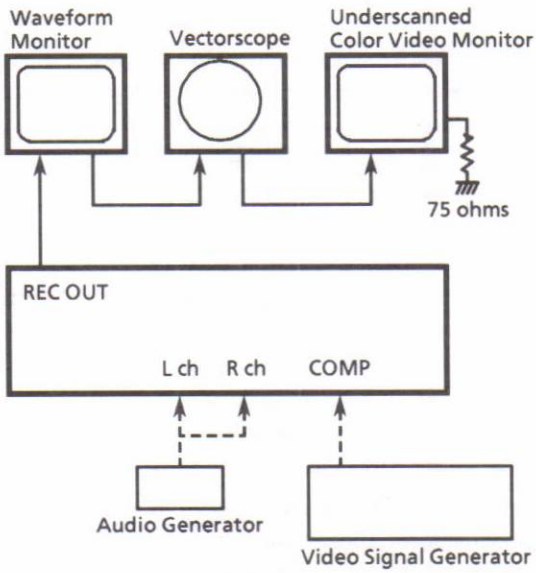

Fig. 3-1

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4. Adjustment Procedure

- Refer to the LOCATIONS OF TEST POINTS AND ADJUSTING CONTROLS FOR ADJUSTMENT

(1) +5V Adjustment

Test Point : TP1 (+5V) Main Board
Adjustment : VR1 (+5V ADJ.) Power Board
M.Equipment: Digital Voltmeter
Input Signal: None

- Do not connect any equipment to input jack of this unit.
- Connect the digital voltmeter to TP1 (+5V) on the main board.
- Adjust VR1 (+5V ADJ.) on the power board so that voltage becomes +5.0V ± 0.02V.

(2) FSC (Sub Carrier Frequency) Adjustment

Test Point : TP2 (FSC) Main Board
Adjustment : VR800 (FSC ADJ.) Main Board
M.Equipment: Frequency Counter
Input Signal: None

- Do not connect any equipment to input jack of this unit.
- Connect the frequency counter to TP2 (FSC) on the main board.
- Adjust VR800 (FSC ADJ.) on the main board so that frequency becomes 4.433619MHz ± 5Hz.

(3) Read VCO (Read Voltage Controlled Oscillator) Adjustment

Test Point : TP580 (READ VCO) Main Board
Adjustment : L581 (READ VCO ADJ.) Main Board
M.Equipment: Digital Voltmeter
Input signal: None

- Do not connect any equipment to input jack of this unit.
- Connect the digital voltmeter to TP580 (READ VCO) on the main board.
- Adjust L581 (READ VCO ADJ.) on the main board so that voltage becomes 2.8V ± 0.1V.

(4) Write VCO (Write Voltage Controlled Oscillator) Adjustment

Test Points: TP600 (WRITE A VCO) Main Board
TP700 (WRITE B VCO) Main Board
Adjustments: L602 (WRITE A VCO ADJ.) Main Board
L702 (WRITE B VCO ADJ.) Main Board
M.Equipment: Digital Voltmeter
Input Signal: Color Bar Signal

- Connect the video signal generator to source 1 composite video signal input jack (SOURCE 1 COMP.) and supply the color bar signal.
- Press the A-BUS button of SOURCE 1.
- Set the MIX/WIPE CONTROL to A-BUS position (Upper side).
- Connect the digital voltmeter to TP600 (WRITE A VCO) on the main board.
- Adjust L602 (WRITE A VCO ADJ.) on the main board so that voltage becomes 2.8V ± 0.1V.

- Connect the video signal generator to source 2 composite video signal input jack (SOURCE 2 COMP.) and supply the color bar signal.
- Press the B-BUS button of SOURCE 2.
- Set the MIX/WIPE CONTROL to B-BUS position(Lower side).
- Connect the digital voltmeter to TP700 (WRITE B VCO) on the main board.
- Adjust L702 (WRITE B VCO ADJ.) on the main board so that voltage becomes 2.8V ± 0.1V.

(5) REC OUT Y Gain Adjustment

Test Point : REC OUT 1 COMP.Jack Rear Panel
Adjustment : VR19 (REC OUT Y ADJ.) Main Board
M.Equipment: Waveform Monitor
Input Signal: None

- Do not connect any equipment to input jack of this unit.
- Turn the power switch of this unit to turned "ON" while pressing the "A" and "B" buttons of "SUPERIMPOSE EFFECT" section to set the <TEST MODE 1>.
- While observing waveform monitor, Adjust VR19 (REC OUT Y GAIN) on the main board so that white level of internal color bar signal becomes 700mV ±14mV.

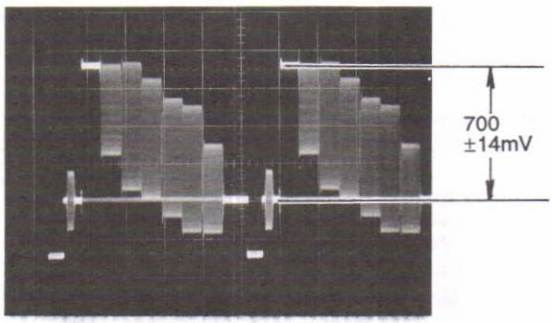

Fig. 4-1

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(6) REC OUT C Gain Adjustment

Test Point :	**REC OUT 1 COMP.Jack**	**Rear Panel**
Adjustment :	**VR20 (REC OUT C ADJ.)**	**Main Board**
M.Equipment:	**Waveform Monitor**	
Input Signal:	**None**	

- Keep the <TEST MODE 1>.
- While observing waveform monitor, adjust VR20 (REC OUT C GAIN) on the main board so that burst level of internal color bar signal becomes 0.3V.

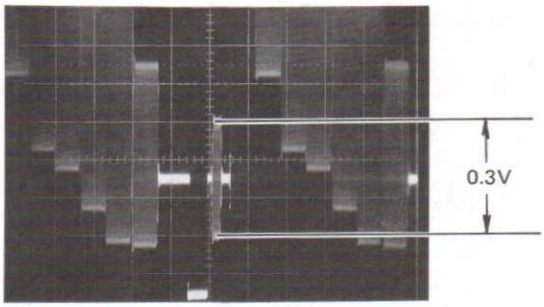

Fig. 4-2

(7) F VCXO Adjustment

Test Points:	**TP100 (Ach F VCXO)**	**Main Board**
	TP200 (Bch F VCXO)	**Main Board**
Adjustments:	**CT100 (Ach F VCXO ADJ.)**	**Main Board**
	CT200 (Bch F VCXO ADJ.)	**Main Board**
M.Equipment:	**Frequency Counter**	
Input Signal:	**None**	

- Turned OFF the power of this unit to exit the <TEST MODE 1> and turned ON the power of this unit again.
- Do not connect the equipment to input jack of this unit.
- Connect the frequency counter to TP100 (Ach F VCXO) on the main board.
- Adjust CT100 (Ach F VCXO ADJ.) on the main board so that frequency becomes 4.433619MHz ± 10Hz.

- Connect the frequency counter to TP200(Bch F VCXO) on the main board.
- Adjust CT200 (Bch F VCXO ADJ.) on the main board so that frequency becomes 4.433619MHz ± 10Hz.

(8) BGP (Burst Gate Pulse) Width Adjustment

Test Points:	**TP101 (Ach BGP)**	**Main Board**
	TP201 (Bch BGP)	**Main Board**
Adjustments:	**VR100 (Ach BGP ADJ.)**	**Main Board**
	VR200 (Bch BGP ADJ.)	**Main Board**
M.Equipment:	**Oscilloscope**	
Input Signal:	**Color Bar Signal**	

- Connect the video signal generator to source 1 composite video signal input jack (SOURCE 1 COMP.) and supply the color bar signal.
- Press the A-BUS button of SOURCE 1.
- Set the WIPE/MIX CONTROL to A-BUS position (Upper side).
- Connect the oscilloscope to TP3 for trigger and TP101 (Ach BGP).
- Trigger the oscilloscope to TP3, and set the oscilloscope to H rate then expand the horizontal blanking period.
- Adjust VR100 (Ach BGP ADJ.) on the main board so that pulse width becomes 7.8μsec ± 0.1μsec.

- Connect the video signal generator to source 2 composite video signal input jack (SOURCE 2 COMP.) and supply the color bar signal.
- Press the B-BUS button of SOURCE 2.
- Set the WIPE/MIX CONTROL to B-BUS position (Lower side).
- Connect the oscilloscope to TP3 for trigger and TP201 (Bch BGP).
- Trigger the oscilloscope to TP3, and set the oscilloscope to H rate then expand the horizontal blanking period.
- Adjust VR200 (Bch BGP ADJ.) on the main board so that pulse width becomes 7.8μsec ± 0.1μsec.

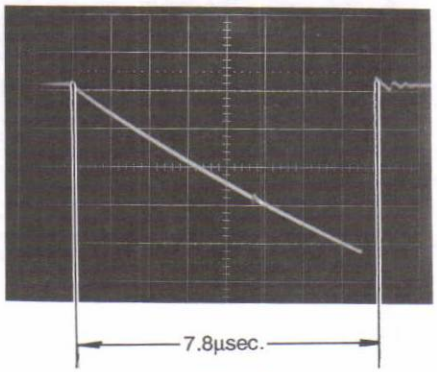

Fig. 4-3

(9) Carrier Balance Adjustment

Test Point :	**REC OUT 1 COMP.Jack**	**Rear Panel**
Adjustments:	**VR302 (Ach Carrier Bal.)**	**Main Board**
	VR304 (Ach Carrier Bal.)	**Main Board**
	VR301 (Bch Carrier Bal.)	**Main Board**
	VR303 (Bch Carrier Bal.)	**Main Board**
M.Equipment:	**Vectorscope & Waveform Monitor**	
Input Signal:	**Color Bar Signal**	

- Connect the video signal generator to source 1 composite video signal input jack (SOURCE 1 COMP.) and supply the color bar signal.

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- Press the A-BUS button of SOURCE 1.
- Set the WIPE/MIX CONTROL to A-BUS position (Upper side).
- Set the GAIN control of vectorscope to maximum.
- While observing vectorscope and waveform monitor, adjust VR302 and VR304 on the main board so that the vector position becomes on the center on the vectorscope and the carrier leaks of the video signal becomes minimum on the waveform monitor.

- Connect the video signal generator to source 2 composite video signal input jack (SOURCE 2 COMP.) and supply the color bar signal.
- Press the B-BUS button of SOURCE 2.
- Set the WIPE/MIX CONTROL to B-BUS position(Lower side).
- Set the GAIN control of vectorscope to maximum.
- While observing vectorscope and waveform monitor, adjust VR301 and VR303 on the main board so that the vector position becomes on the center on the vectorscope and the carrier leaks of the video signal becomes minimum on the waveform monitor.

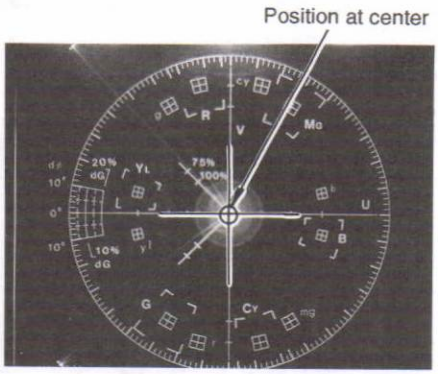

Fig. 4-4

(10) Pedestal Adjustment

Test Point :	**REC OUT 1 COMP.Jack**	**Rear Panel**
Adjustments:	**VR306 (Ach PEDESTAL)**	**Main Board**
	VR305 (Bch PEDESTAL)	**Main Board**
M.Equipment:	**Waveform Monitor**	
Input Signal:	**Ramp Signal**	

- Connect the video signal generator to source 1 composite video signal input jack (SOURCE 1 COMP.) and supply the ramp signal.
- Press the A-BUS button of SOURCE 1.
- Set the WIPE/MIX CONTROL to A-BUS position (Upper side).
- While observing waveform monitor, adjust VR306 on the main board so that pedestal level becomes 0V +17mV/-0mV.

- Connect the video signal generator to source 2 composite video signal input jack (SOURCE 2 COMP.) and supply the ramp signal.
- Press the B-BUS button of SOURCE 2.
- Set the WIPE/MIX CONTROL to B-BUS position (Lower side).
- While observing waveform monitor, adjust VR305 on the main board so that pedestal level becomes 0V +17mV/-0mV.

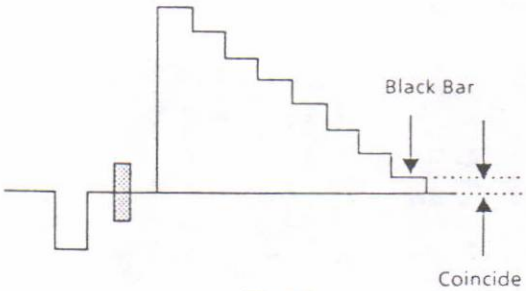

Fig. 4-5

(11) Y Gain Adjustment

Test Point :	**REC OUT 1 COMP.Jack**	**Rear Panel**
Adjustments:	**VR120 (Ach Y GAIN ADJ.)**	**Main Board**
	VR220 (Bch Y GAIN ADJ.)	**Main Board**
M.Equipment:	**Waveform Monitor**	
Input Signal:	**Color Bar Signal**	

- Connect the video signal generator to source 1 composite video signal input jack (SOURCE 1 COMP.) and supply the color bar signal.
- Press the A-BUS button of SOURCE 1.
- Set the WIPE/MIX CONTROL to A-BUS position (Upper side).
- While observing waveform monitor, adjust VR120 (Ach Y GAIN) on the main board so that white level of video signal becomes 700mV ± 21mV.

- Connect the video signal generator to source 2 composite video signal input jack (SOURCE 2 COMP.) and supply the color bar signal.
- Press the B-BUS button of SOURCE 2.
- Set the WIPE/MIX CONTROL to B-BUS position (Lower side).
- While observing waveform monitor, adjust VR220 (Bch Y GAIN) on the main board so that white level of video signal becomes 700mV ± 21mV.

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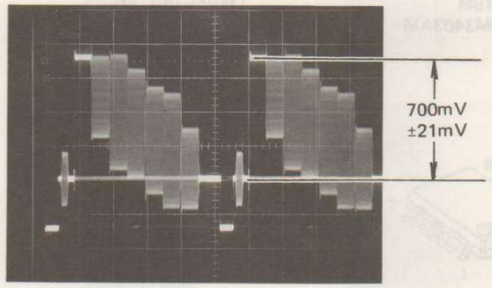


Fig. 4-6

(12) Chroma Phase and Gain Adjustment

Test Point :	**REC OUT 1 COMP.Jack**	**Rear Panel**
Adjustments:	**VR101 (Ach C GAIN)**	**Main Board**
	VR102 (Ach C PHASE)	**Main Board**
	VR201 (Bch C GAIN)	**Main Board**
	VR202 (Bch C PHASE)	**Main Board**
M.Equipment:	**Vectorscope**	
Input Signal:	**Color Bar Signal**	

- Connect the video signal generator to source 1 composite video signal input jack (SOURCE 1 COMP.) and supply the color bar signal.
- Press the A-BUS button of SOURCE 1.
- Set the WIPE/MIX CONTROL to A-BUS position (Upper side).
- While observing vectorscope, adjust VR101 (Ach CHROMA GAIN) and VR102 (Ach CHROMA PHASE) so that each color vector are into their respective box.

- Connect the video signal generator to source 2 composite video signal input jack (SOURCE 2 COMP.) and supply the color bar signal.
- Press the B-BUS button of SOURCE 2.
- Set the WIPE/MIX CONTROL to B-BUS position (Lower side).
- While observing vectorscope, adjust VR201 (Bch CHROMA GAIN) and VR202 (Bch CHROMA PHASE) so that each color vector are into their respective box.

- Set the wipe mode to horizontal wipe (Press CORNER WIPE Button once.).
- Set the WIPE/MIX CONTROL to center position.
- Readjust the VR101 (Ach CHROMA GAIN) and VR201 (Bch CHROMA GAIN) so that difference of chroma gain becomes within 3% (Level of Ach- Level of Bch = 3%).
- Readjust the VR102 (Ach CHROMA PHASE) and VR202 (Bch CHROMA PHASE) so that difference of chroma phase becomes within 3° (Phase of Ach - Phase of Bch = 3°).

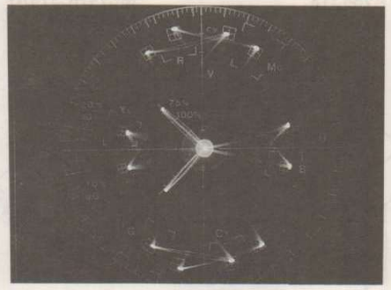


Fig. 4-7

(13) Ach/Bch H Phase Adjustment

Test Point :	**REC OUT 1 COMP.Jack**	**Rear Panel**
Adjustment :	**VR110 (H PHASE)**	**Main Board**
M.Equipment:	**Waveform Monitor**	
Input Signal:	**Cross Hatch Pattern Signal**	

- Connect the video signal generator to source 1 composite video signal input jack (SOURCE 1 COMP.) and to source 2 composite video signal input jack (SOURCE 2 COMP.).
- Supply the cross hatch pattern signal to each input jack.
- Press the A-BUS button of SOURCE 1 and the B-BUS button of SOURCE 2.
- Keep the wipe mode of horizontal wipe.
- Set the waveform monitor to 1H/MAG mode.
- Adjust VR110 so that difference of horizontal phase of Ach and Bch becomes coincides.

(14) Audio Output Level Adjustment

Test Point :	---	
Adjustments:	**VR6 (Audio Lch)**	**Switch Board**
	VR7 (Audio Rch)	**Switch Board**
M.Equipment:	---	
Input signal:	**Audio Signal**	

- Connect the audio signal generator to Lch (MONO) of source 1 audio input jack (SOURCE 1 AUDIO) and supply the audio signal (1kHz, -12dBs).
- Set the fader of "AUDIO MIX" section as follows.

SOURCE 1 FADER :	MAXIMUM
SOURCE 2 FADER :	MINIMUM
AUX FADER :	MINIMUM
MIC FADER :	MINIMUM

- Adjust VR6 (Audio Lch) so that 0dB of R channel level indicator becomes turned ON and +2dB of level indicator just turned OFF.

- Connect the audio signal generator to Rch of source 1 audio input jack (SOURCE 1 AUDIO) and supply the audio signal (1kHz, -12dBs).
- Adjust VR7 (Audio Rch) so that 0dB of L channel level indicator becomes turned ON and +2dB of level indicator just turned OFF.

5.Test mode

- The built-in 2 types of <TEST MODE> is helpful to check the LED, contact of operation switches (buttons) and controls.

5-1.Test mode 1 (LED/Switch Test)

1. Turn the power of this unit while pressing the "A" and "B" buttons of "SUPERIMPOSE" section to enter the <TEST MODE 1>.
2. The LEDs of Wipe Mode (WIPE MODE), Digital Effect (DIGITAL EFFECT) and Superimpose (SUPERIMPOSE EFFECT) sections are lit.
3. Push the corresponding button or switch and confirm that LED goes OFF. Also push the Back Color Selection Buttons (BACK COL. SELECT) to check the contact of each buttons.
4. When the above confirmation is finished, the LEDs of Positioner/Color Correction (POSITION/COL.SELECT) and Mix Wipe Effect/Fade Control (MIX WIPE EFFECT/FADE CONTROL) Sections are lit.
5. Push corresponding button and confirm that LED goes OFF.
6. When the TEST MODE 1 is completed, the TEST MODE automatically changed to TEST MODE 2.

Note : the color bar signal is obtained at REC OUTPUT connectors during TEST MODE 1.

5-2.Test mode 2 (CONTROL/Volume TEST)

1. In the TEST MODE 2, following LEDs are blinking to check the CONTROLS (Volumes).

Blinking LED	CONTROL to be checked
EXT/LUM	KEY LEVEL
POSITION/COL.	Chroma
COL.CORRECT A	POSITION-Y
COL.CORRECT B	POSITION-X
AUTO TAKE	MIX/WIPE LEVER
EXT.CAMERA	SUPERIMPOSE KEY LEVEL
AUTO FADE	TIME

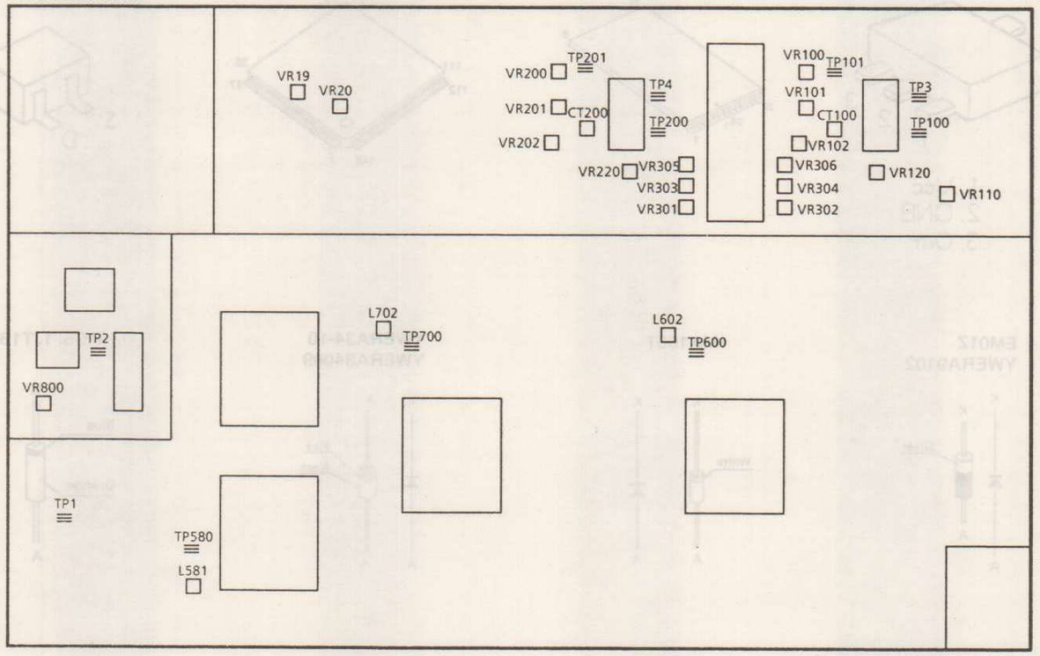
2. Turn or move the each CONTROL to clockwise or counterclockwise, or move to upwards or downwards. While observing monitor, line of level indicator moves from bottom to top or top to bottom to show the position contact of each controls.

Note : When push the blinking button before checking the control, the <TEST MODE 2> can not be performed correctly.

3. when the <TEST MODE 2> is completed turn OFF the power switch of this unit.

LOCATION OF TEST POINT AND ADJUSTING CONTROLS

MAIN BOARD



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APPEARANCE OF IC, TRANSISTOR AND DIODE

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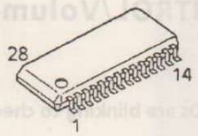

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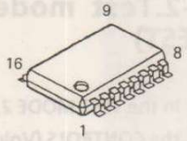

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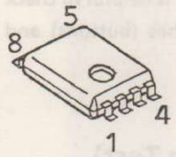

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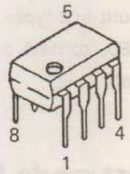

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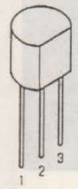

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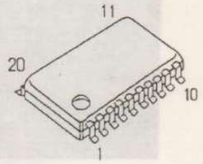

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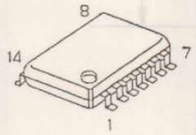

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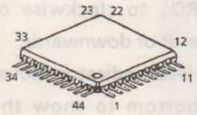

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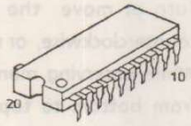

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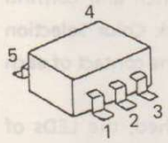

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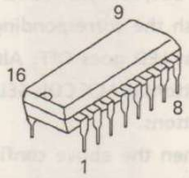

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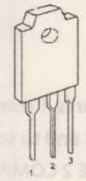

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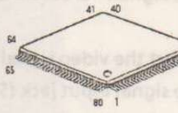

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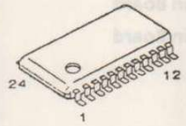

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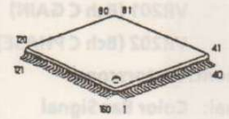

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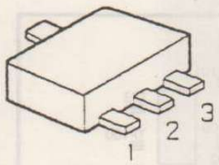

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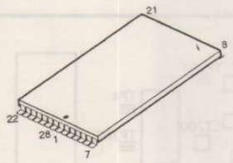

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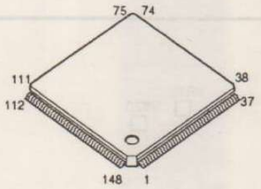

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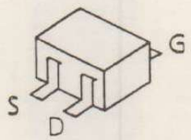

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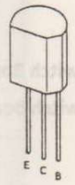

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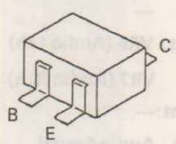

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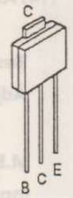

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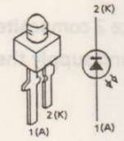

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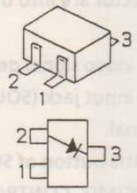

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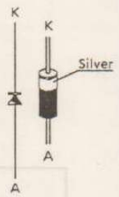

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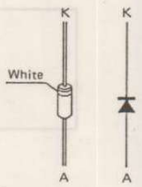

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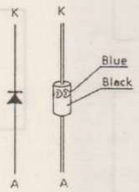

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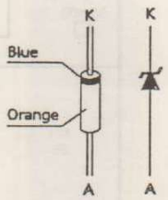

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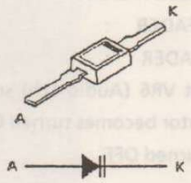
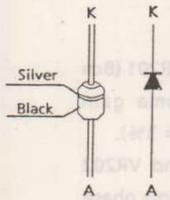
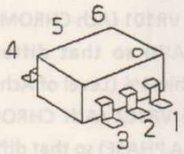


ERC81-004



YWPC111LY



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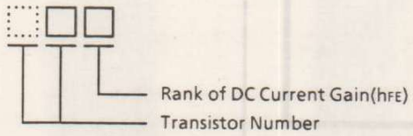
CHIP COMPONENTS

1. Chip Transistor

The transistor number is indicated on the top surface of the chip transistor using two alphabet letters or one numerical and two alphabet letters.



Transistor Number

(Chip Transistor)

Letter	Transistor No.	Letter	Transistor No.
A	2SB709	X	2SD602A
B	2SB709A	Y	2SD601
C	2SB710	Z	2SD601A
D	2SB710A	1A	2SB799
E	2SA1022	1B	2SB814
F	2SA1034	1C	2SB902
H	2SA1035	1F	2SK321
I	2SB792	1K	2SK316
K	2SC2778	1L	2SK247
P	2SD814	1M	2SJ84
Q	2SD813	1N	2SK199
R	2SC2480	1O	2SK198
S	2SC2405	1T	2SC3077
T	2SC2406	1X	2SC2845
U	2SC2404	1Z	2SD1030
V	2SC2295	2B	2SK374
W	2SD602	2C	2SK116

(Small Chip Transistor)

Letter	Transistor No.
A	2SB1218
U	2SC3931
W	2SD1820
Y	2SD1819
E3	2SA1226
OS	2SB1219
UC	2SA1532
YU	2SC3938

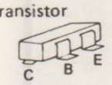
(Pair Transistor)

Letter	Transistor No.
5C	XN4601
5N	XN6501
5O	XN6401

Example :
WQ ⟶ 2SD602 - Q
YQ ⟶ 2SD601 - Q
1BS ⟶ 2SB814 - S

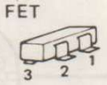
Appearance and Symbols

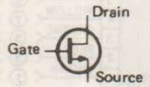
Transistor



C: Collector
B: Base
E: Emitter

FET

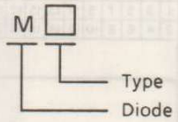




	1	2	3
Except 2SK199	Drain	Source	Gate
2SK199	Gate	Drain	Source

2. Chip Diode

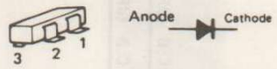
The diode number is indicated on the top surface of the chip diode using Two alphabet letters.



Diode Number

Letter	Diode No.	Letter	Diode No.
MA	MA151A	MI	MA152K
MB	MA152A	MK	MA28W-B
MC	MA153	ML	MA28T-A
MD	MA28-A	MN	MA151WA
ME	MA28-B	MO	MA152WA
MF	MA28W-A	MT	MA151WK
MH	MA151K	MU	MA152WK

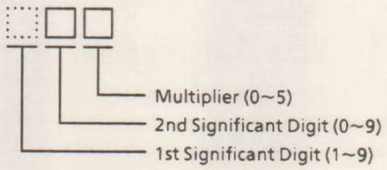
Appearance and Symbols



	1	2	3
MA28/MA28W/MA28T	-	Anode	Cathode
MA151K/MA152K	-	Anode	Cathode
MA151A/MA152A	-	Cathode	Anode
MA151WK/MA152WK	Anode	Anode	Cathode
MA151WA/MA152WA	Cathode	Cathode	Anode
MA153	Cathode	Anode	Common

3. Chip Resistor

The resistor value is indicated on the bottom surface of the chip resistor using three digit numbers.



Example :
330 ⟶ 33×10^0 = 33 ohms
561 ⟶ 56×10^1 = 560 ohms
123 ⟶ 12×10^3 = 12 ohms

Note : Zero ohm resistor (jumper chip) is colored red or green.

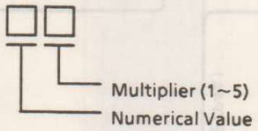
4. Chip Capacitor

The capacitive value of replacement chip capacitors is indicated on the bottom surface. Original parts do not have value indication.

If the capacitive value is less than 100 pF, the value will be indicated by one or two digit number expressing the capacity directly in pF.

Example :
0.5 ⟶ 0.5 pF 2.5 ⟶ 2.5 pF
75 ⟶ 0.75 pF 33 ⟶ 33 pF
1 ⟶ 1 pF 82 ⟶ 82 pF

If the capacitive value is 100 pF or greater, the value will be indicated by an alpha-numeric code. The letter precedes the number and expresses a numerical value to be multiplied by the number which follows.



Numerical Value

Letter	Value	Letter	Value
A	10	N	33
B	11	P	36
C	12	O	39
D	13	R	43
E	15	S	47
F	16	T	51
G	18	U	56
H	20	V	62
J	22	W	68
K	24	X	75
L	27	Y	82
M	30	Z	91

*Letters I and O are not used

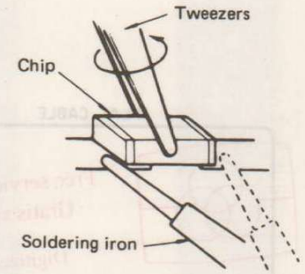
Example :
A1 ⟶ 10×10^1 = 100 pF
N2 ⟶ 33×10^2 = 3300 pF
S3 ⟶ 47×10^3 = 47000 pF

5. Precautions in replacing the chip component

1. Make sure that the unit is turned OFF when replacing the chip.
2. Use tweezers to prevent any damage to the chip surface.
3. Do not re-use the chips after removal.
4. Do not rub the electrode of chips.
5. Do not subject the chips to excessive stress.
6. It is recommended that a pencil-type soldering iron to be used.
7. The solder whose diameter is less than 0.5 mm is recommended.
8. Do not heat the chip beyond 3 seconds.
9. Maintain temperature control under 260°C (500°F) when soldering.

5-1 Removal (Transistor, Diode, Resistor and Capacitor)

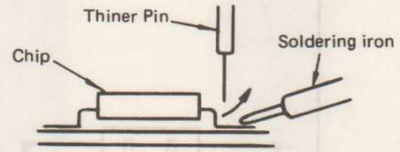
1. Add the solder to both ends of the chip (three leads for chip transistor).
2. While attaching the soldering iron to both ends of the chip (three leads for chip transistor) as shown below, remove the chip by turning it with tweezers.
   Note : Be careful not to damage other chips.



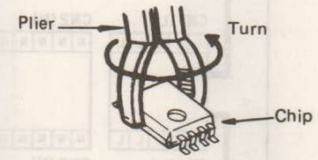
5-2 Removal (IC)

1. Add the solder wick and solder iron to each lead of the IC and remove solder.

2. Add the solder iron to each lead of the IC and left each lead of the IC using thiner pin.

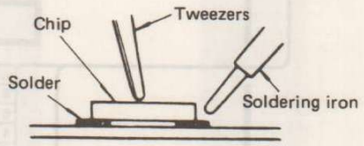


3. Remove IC turning it with plier.

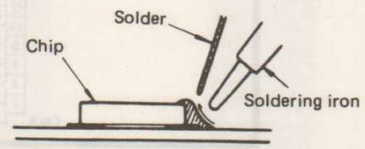


5-3 Mounting

1. Place the solder thinly on the chip mounting foil.
2. Solder the chip temporarily while holding the chip with the tweezers.



3. Solder both ends of chip (three leads for chip transistor).



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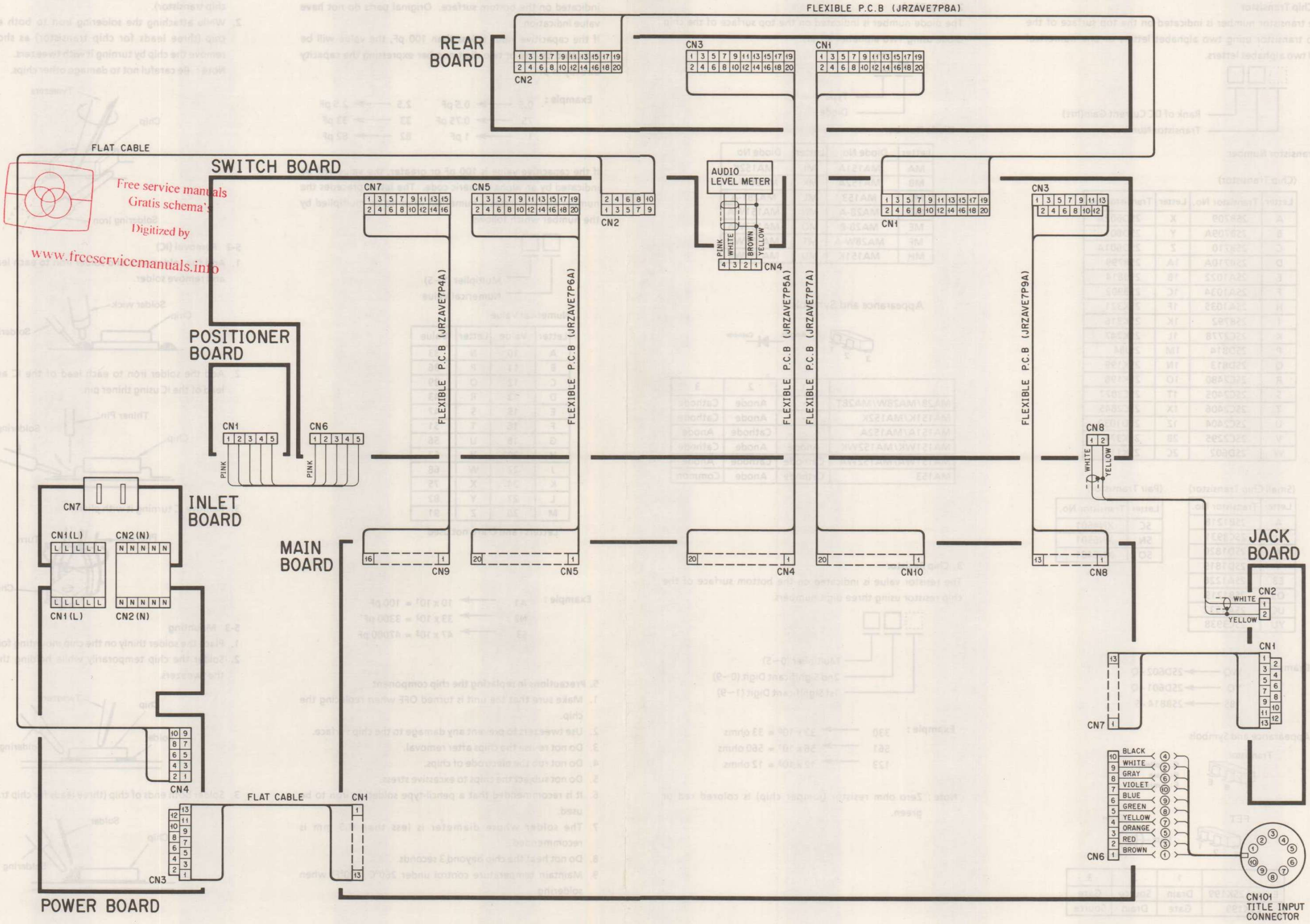
WIRING DIAGRAM



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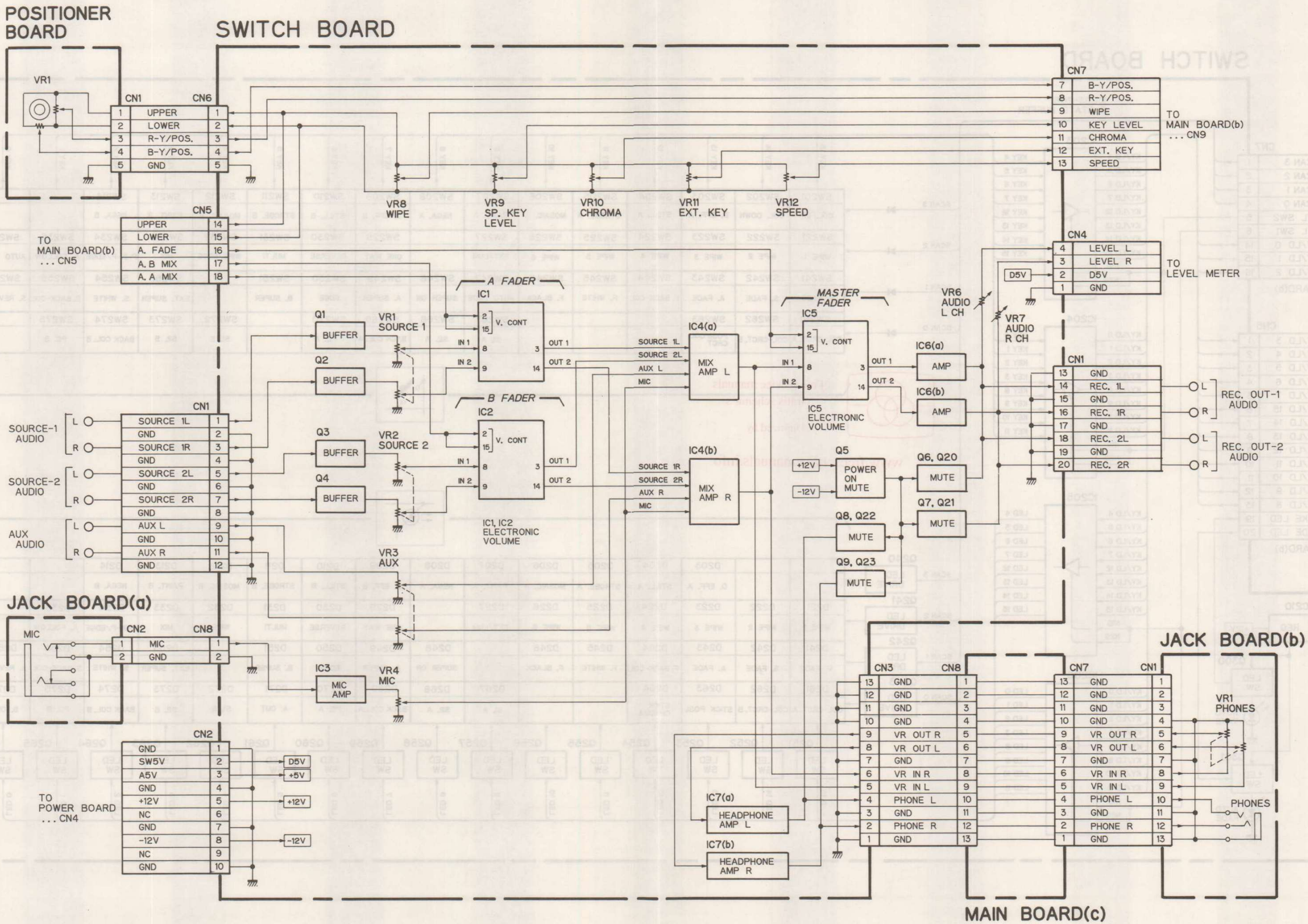
BLOCK DIAGRAM OF SWITCH BOARD (1/2)



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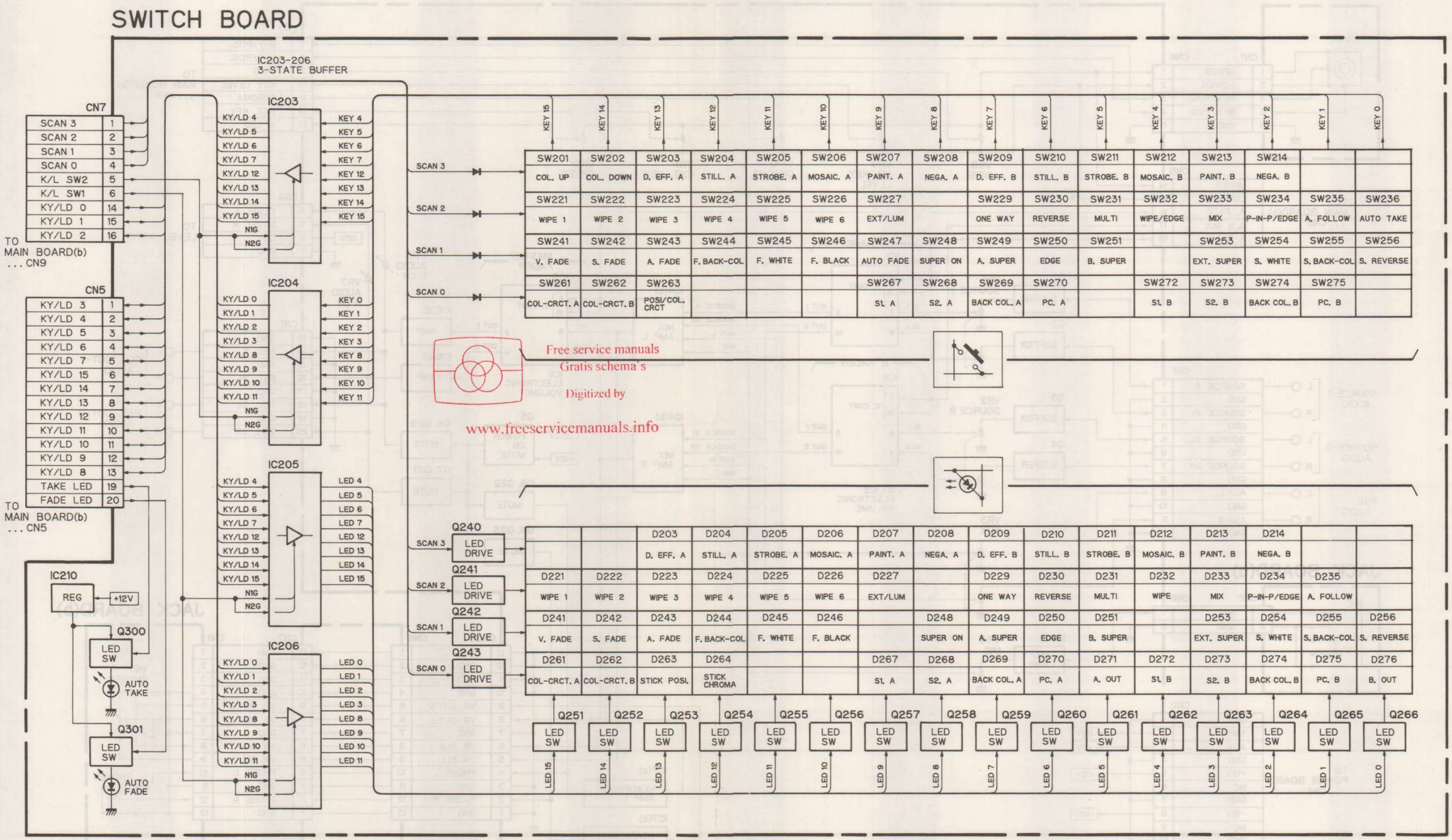
BLOCK DIAGRAM OF SWITCH BOARD (2/2)



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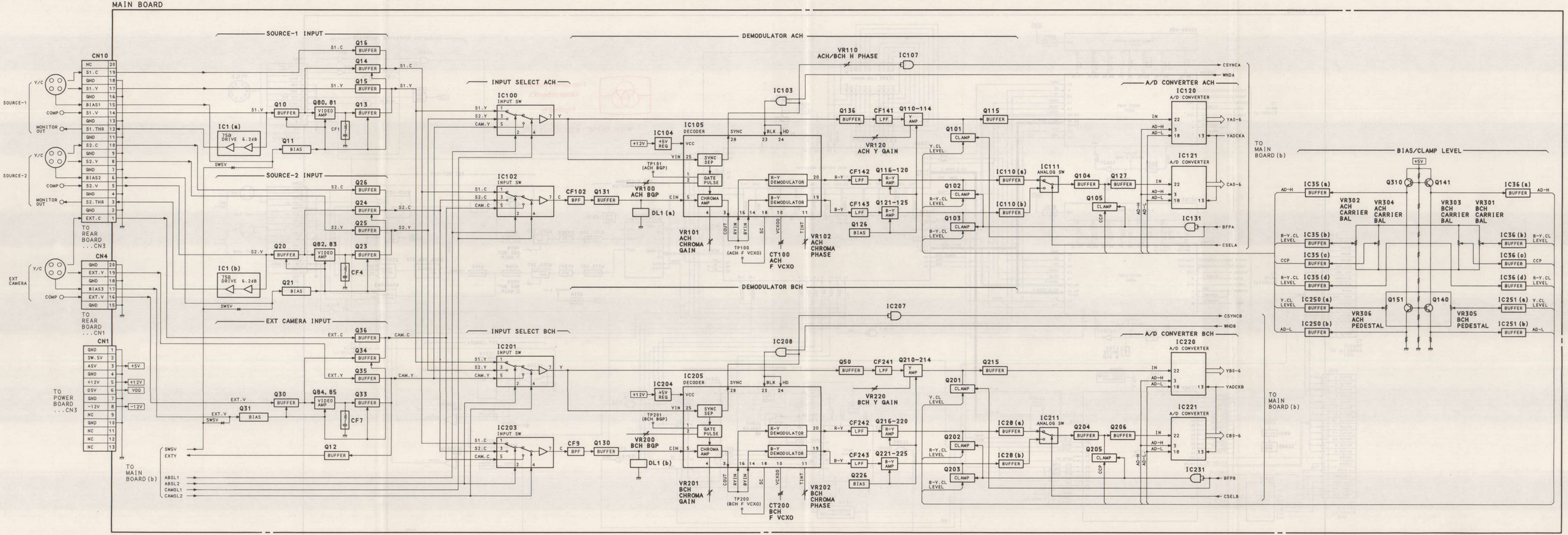
BLOCK DIAGRAM OF MAIN BOARD (1/3)



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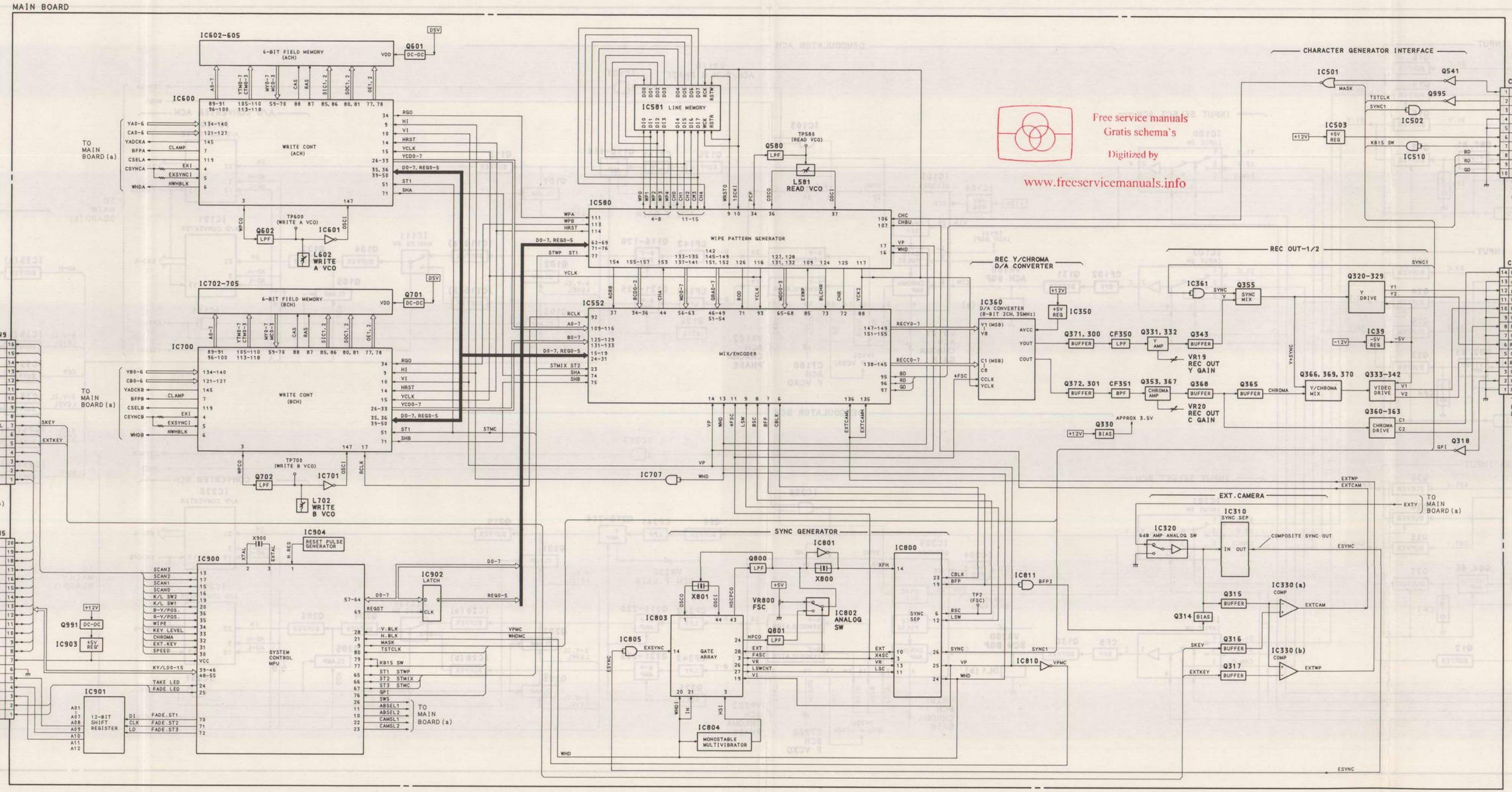
BLOCK DIAGRAM OF MAIN BOARD (2/3, 3/3)



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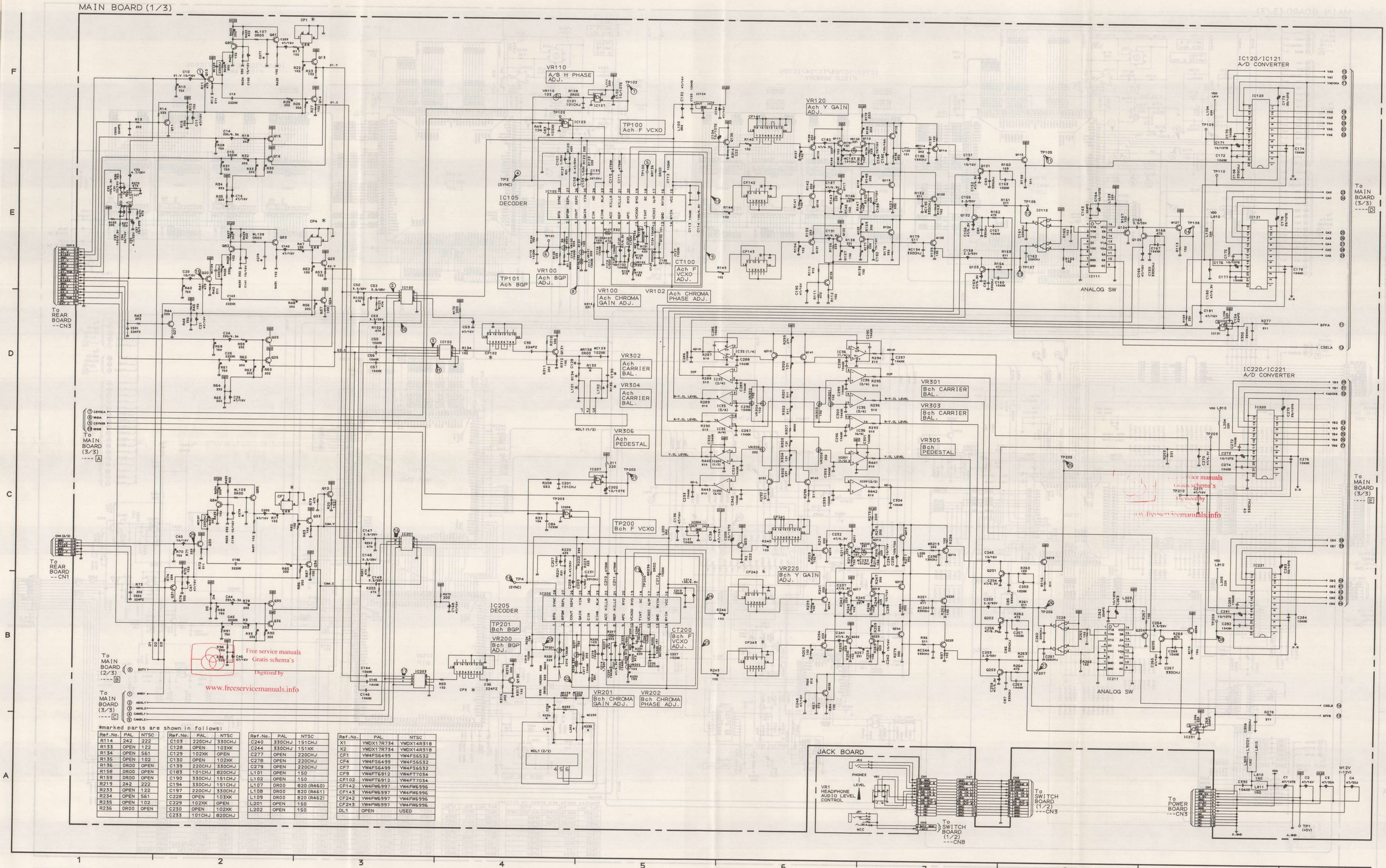
SCHEMATIC DIAGRAM OF MAIN BOARD (1/3)



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Gratis schema's
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*marked parts are shown in follows:

Ref.No.	PAL	NTSC
R114	242	222
R133	OPEN	122
R134	OPEN	561
R135	OPEN	102
R136	0R00	OPEN
R158	0R00	OPEN
R159	0R00	OPEN
R219	242	222
R233	OPEN	122
R234	OPEN	561
R235	OPEN	102
R236	0R00	OPEN

Ref.No.	PAL	NTSC
C103	220CHJ	330CHJ
C128	OPEN	103XK
C129	102XK	OPEN
C130	OPEN	102XK
C139	220CHJ	330CHJ
C183	101CHJ	820CHJ
C190	330CHJ	151CHJ
C194	330CHJ	151CHJ
C197	220CHJ	330CHJ
C228	OPEN	103XK
C229	102XK	OPEN
C230	OPEN	102XK
C233	101CHJ	820CHJ

Ref.No.	PAL	NTSC
C240	330CHJ	151CHJ
C244	330CHJ	151XK
C277	OPEN	220CHJ
C278	OPEN	220CHJ
C279	OPEN	220CHJ
L101	OPEN	150
L102	OPEN	150
L107	0R00	820 (R460)
L108	0R00	820 (R461)
L109	0R00	820 (R462)
L201	OPEN	150
L202	OPEN	150

Ref.No.	PAL	NTSC
X1	YWDX17R734	YWDX14R318
X2	YWDX17R734	YWDX14R318
CF1	YW4FS6499	YW4FS6532
CF4	YW4FS6499	YW4FS6532
CF7	YW4FS6499	YW4FS6532
CF9	YW4FT6912	YW4FT7034
CF102	YW4FT6912	YW4FT7034
CF142	YW4FW6997	YW4FW6996
CF143	YW4FW6997	YW4FW6996
CF242	YW4FW6997	YW4FW6996
CF243	YW4FW6997	YW4FW6996
DL1	OPEN	USED

<Index>

MAIN BOARD (1/3)

IC1	E1
IC28	B8
IC35	D5
IC36	D6
IC100	E3
IC102	D4
IC103	F4
IC104	F5
IC105	E4
IC107	F5
IC110	E8
IC111	E8
IC120	F9
IC121	E9
IC131	D9
IC201	C3
IC203	B3
IC204	C5
IC205	B4
IC207	C5
IC208	C4
IC211	B8
IC220	D9
IC221	C9
IC231	A9
IC250	C5
IC251	C6
Q10	F2
Q11	F2
Q12	C3
Q13	F3
Q14	F3
Q15	F2
Q16	E2
Q20	E2
Q21	D2
Q23	E3
Q24	D3
Q25	D2
Q26	D2
Q30	C2
Q31	B2
Q33	C3
Q34	C3
Q35	B2
Q36	B2
Q50	C6
Q80	F2
Q81	F2
Q82	E2
Q83	E2
Q84	C2
Q85	C2
Q101	E7
Q102	E7
Q103	E7
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Q219	B7
Q220	B7
Q221	B6
Q222	B6
Q223	B7
Q224	B7
Q225	B7
Q226	B6
Q310	D6
D1	B1
D2	B2
D3	B2
D4	B2
D5	B2

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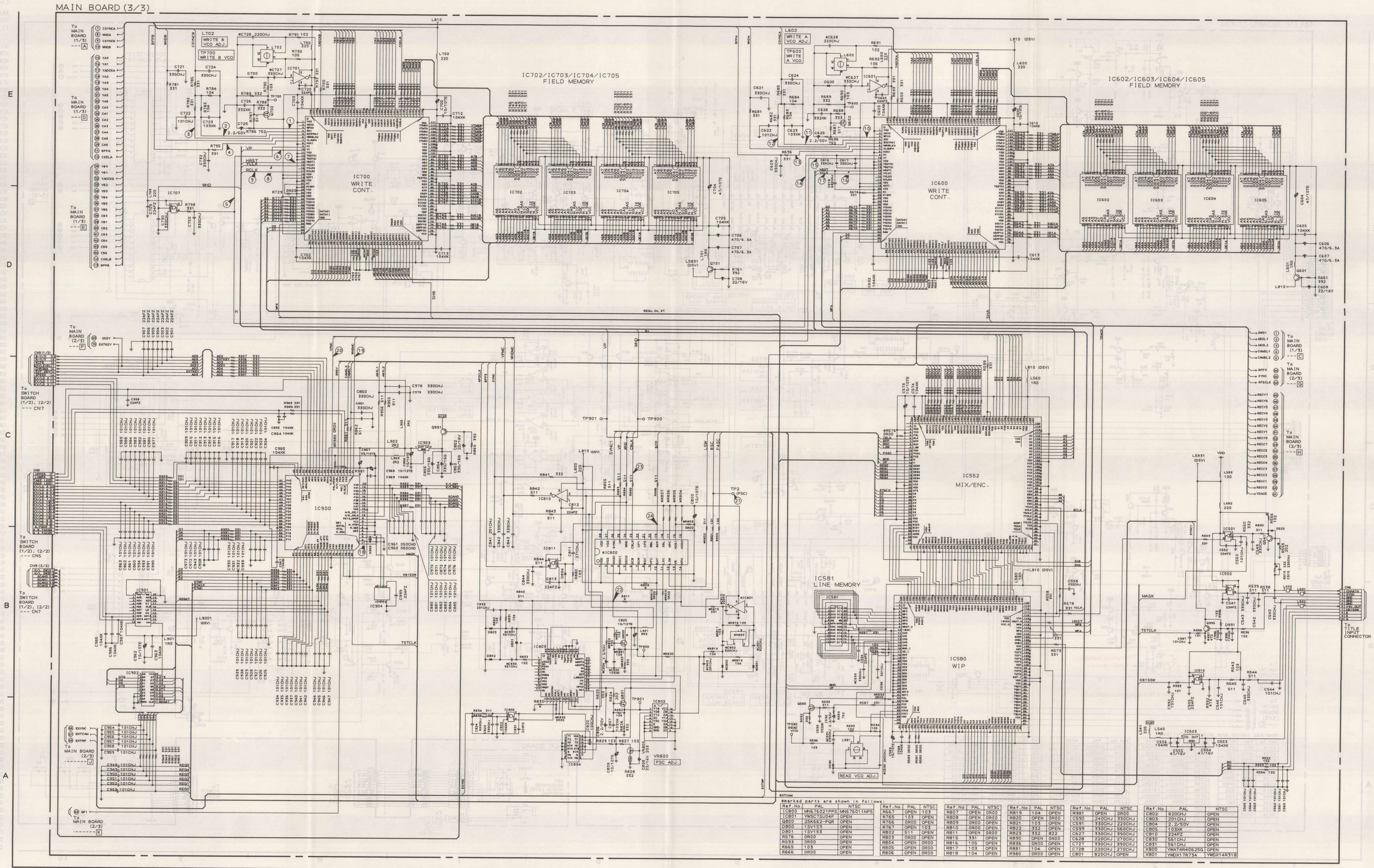
SCHEMATIC DIAGRAM OF MAIN BOARD (3/3)



<Index>

MAIN BOARD (3/3)

IC501 C8
IC502 B8
IC503 A7
IC510 B7
IC552 C6
IC580 B6
IC581 B5
IC600 E6
IC601 E5
IC602 D7
IC603 D7
IC604 D7
IC605 D8
IC700 E2
IC701 E2
IC702 D3
IC703 D4
IC704 D4
IC705 D4
IC707 D1
IC800 B4
IC801 B5
IC802 A4
IC803 B4
IC804 A4
IC805 A3
IC810 C4
IC811 B4
IC900 C2
IC901 B1
IC902 B1
IC903 C3
IC904 B3
Q541 B8
Q580 A5
Q601 D8
Q602 E5
Q701 D5
Q702 E2
Q800 B4
Q801 B4
Q991 C3
Q995 B7
D550 C8
D590 A5
D600 E5
D700 E2
D800 B5
D801 B5
D802 B3
D803 B3
D804 B4
D991 B8

Marked parts are shown in follows:

Ref.No.	PAL	NTSC
IC800	MN676021PPS	MN676011NPS
IC801	YWSC7SU04F	OPEN
Q800	2SK662-PQR	OPEN
D800	1SV153	OPEN
D801	1SV153	OPEN
R576	0R00	OPEN
R595	0R00	OPEN
R665	103	OPEN
R666	0R00	OPEN

Ref.No.	PAL	NTSC
R667	OPEN	103
R765	103	OPEN
R766	0R00	OPEN
R767	OPEN	103
R802	511	OPEN
R803	0R00	OPEN
R804	OPEN	0R00
R805	OPEN	0R00
R806	OPEN	0R00

Ref.No.	PAL	NTSC
R807	OPEN	0R00
R808	OPEN	0R00
R809	0R00	OPEN
R810	0R00	OPEN
R811	OPEN	0R00
R815	331	OPEN
R816	105	OPEN
R817	103	OPEN
R818	104	OPEN

Ref.No.	PAL	NTSC
R819	104	OPEN
R820	OPEN	0R00
R821	103	OPEN
R822	332	OPEN
R823	332	822
R830	OPEN	0R00
R856	0R00	OPEN
R881	104	OPEN
R980	0R00	OPEN

Ref.No.	PAL	NTSC
R981	OPEN	0R00
C590	240CHJ	330CHJ
C591	330CHJ	220CHJ
C599	330CHJ	560CHJ
C627	330CHJ	390CHJ
C628	220CHJ	270CHJ
C727	330CHJ	390CHJ
C728	220CHJ	270CHJ
C801	820CHJ	OPEN

Ref.No.	PAL	NTSC
C802	820CHJ	OPEN
C803	201CHJ	OPEN
C804	2.2/50V	OPEN
C805	103XK	OPEN
C810	224FZ	OPEN
C830	561CHJ	OPEN
C831	561CHJ	OPEN
X800	YWA74R40625Q	OPEN
XB01	YWDX17R734	YWDX14R318

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WJ-AVE7(PAL) Main 1/3

1. 10 μsec/DIV. 0.2V/DIV
2. 10 μsec/DIV. 0.1V/DIV
3. 10 μsec/DIV. 0.1V/DIV
4. 10 μsec/DIV. 1.0V/DIV
5. 10 nsec/DIV. 0.1V/DIV
6. 10 μsec/DIV. 0.5V/DIV
7. 10 μsec/DIV. 2.0V/DIV
8. 10 μsec/DIV. 0.1V/DIV
9. 10 μsec/DIV. 0.1V/DIV
10. 10 μsec/DIV. 0.1V/DIV
11. 10 μsec/DIV. 0.5V/DIV
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16. 10 μsec/DIV. 0.1V/DIV
17. 10 μsec/DIV. 0.1V/DIV
18. 10 μsec/DIV. 1.0V/DIV
19. 10 nsec/DIV. 0.1V/DIV
20. 10 μsec/DIV. 0.5V/DIV
21. 10 μsec/DIV. 2.0V/DIV
22. 10 μsec/DIV. 0.1V/DIV
23. 10 μsec/DIV. 0.1V/DIV
24. 10 μsec/DIV. 0.1V/DIV
25. 10 μsec/DIV. 0.5V/DIV
26. 10 μsec/DIV. 0.5V/DIV
27. 10 μsec/DIV. 0.5V/DIV
28. 10 μsec/DIV. 0.5V/DIV
29. 10 μsec/DIV. 0.2V/DIV
30. 10 μsec/DIV. 0.1V/DIV
31. 10 μsec/DIV. 0.1V/DIV

MAIN BOARD(1/3)

Pin 1	IC1	IC28	IC35	IC36	IC100	IC102	IC103	IC104	IC105	IC107	IC110	IC111	IC120	IC121	IC131
1	1.7	5.0	3.3	3.3	1.9	2.6	4.2	5.0	0.2	5.0	5.0	2.0	0	0	5.0
2	0	2.6	3.0	3.0	0	0	0.1	0	3.6	0.1	2.6	2.0	4.7	4.7	0.1
3	1.9	2.0	3.0	3.0	1.9	2.7	0	12.0	2.3	0	2.0	0	3.0	3.0	0
4	1.2	5.0	5.0	5.0	0	0	0		2.4	0	5.0	0	0	0	0.2
5	1.2	2.6	2.6	2.6	1.9	2.7	5.0		3.0	5.0	2.6	0	0	0	5.0
6	1.4	2.0	2.6	2.6	4.5	4.5			3.0		2.0	0	0	4.7	
7	4.7		2.6	2.6	1.3	1.9			4.7			0	0	0.1	
8	1.7		2.6	2.6	0	0			3.0			0	0	0.1	
9			2.6	2.6					3.0			0	0	0.1	
10			2.6	2.6					2.8			2.3	0	0.1	
11			0	0					2.4			0	4.7	4.7	
12			2.6	2.6					3.3			0	0	0	
13			2.6	2.6					0			0	2.3	2.3	
14			2.6	2.6					2.9			0	0	0.1	
15									5.0			2.0	0	0.1	
16									2.9			5.0	0	0	
17									0				0	0	
18									4.1				1.0	1.0	
19									2.1				0	0	
20									2.1				4.7	4.7	
21									0				0	0	
22									2.8				1.0	2.0	
23									0						
24									0						
25									2.9						
26									2.5						
27									2.5						
28									0.1						

	B	C	E		B	C	E		B	C	E		B	C	E
Q10	2.9	5.0	2.3	Q33	3.4	5.0	2.8	Q101	0.1	1.6	1.6	Q120	5.8	11.3	5.1
11	5.0	0	3.4	34	3.4	5.0	2.8	102	-0.1	2.6	2.6	121	1.0	0	1.7
12	2.8	5.0	2.2	35	2.0	5.0	2.8	103	-0.1	2.6	2.6	122	3.1	5.0	2.5
13	3.4	5.0	2.8	36	2.0	5.0	2.8	104	2.0	0	2.6	123	3.1	6.4	2.5
14	3.4	5.0	2.8	50	1.2	5.0	0.7	105	-0.1	2.6	2.6	124	6.4	11.3	5.8
15	2.0	5.0	2.8	80	3.4	5.8	2.8	110	0.3	0	1.0	125	5.8	11.3	5.1
16	2.0	5.0	2.8	81	5.8	12.0	5.1	111	3.1	5.0	2.5	126	3.8	11.3	3.2
20	2.9	5.0	2.3	82	3.4	5.9	2.8	112	3.1	6.4	2.5	127	2.6	5.0	2.0
21	5.0	0	3.4	83	5.9	12.0	5.3	113	6.4	11.3	5.8	130	2.5	5.0	1.9
23	3.4	5.0	2.8	84	3.4	6.0	2.8	114	5.8	0	6.4	131	2.5	5.0	1.8
24	3.4	5.0	2.8	85	6.0	12.0	5.3	115	1.6	5.0	1.0	136	1.3	5.0	0.7
25	2.0	5.0	2.8					116	1.0	0	1.7	140	1.6	3.0	1.0
26	2.0	5.0	2.8					117	3.1	5.0	2.5	141	3.6	5.0	3.0
30	3.2	5.0	2.5					118	3.1	6.4	2.5	151	1.6	3.0	1.0
31	5.0	0	3.4					119	6.4	11.3	5.8				

Pin 1	IC201	IC203	IC204	IC205	IC207	IC208	IC211	IC220	IC221	IC231	IC250	IC251
1	1.9	2.7	5.0	0.2	5.0	4.2	2.0	0	0	5.0	1.6	1.6
2	4.8	4.8	0	3.6	0.1	0.1	2.0	4.7	4.7	0.1	1.6	1.6
3	1.9	2.7	12.0	2.3	0	0	0	3.0	3.0	0	1.6	1.6
4	0	0		2.4	0	0	0	0	0	0.2	0	0
5	1.9	2.7		3.0	5.0	5.0	0	0	0	5.0	1.0	1.0
6	4.5	4.5		3.0			0	0	4.7		1.0	1.0
7	1.2	1.9		4.7			0	0	0.1		0.8	0.8
8	0	0		3.0			0	0	0.1		5.0	5.0
9				3.0			0	0	0.1			
10				2.8			2.4	0	0.1			
11				2.4			0	4.7	4.7			
12				3.3			0	0	0			
13				0			0	2.3	2.3			
14				2.9			0	0	0.1			
15				5.0			2.0	0	0.1			
16				2.9			5.0	0	0			
17				0				0	0			
18				4.1				1.0	1.0			
19				2.1				0	0			
20				2.1				4.7	4.7			
21				0				0	0			
22				2.8				1.0	2.0			
23				0								
24				0								
25				2.9								
26				2.5								
27				2.5								
28				0.1								

	B	C	E		B	C	E
Q201	0.1	1.6	1.6	Q220	5.8	11.3	5.1
202	-0.1	2.6	2.6	221	1.0	0	1.7
203	-0.1	2.6	2.6	222	3.1	5.0	2.5
204	2.0	0	2.6	223	3.1	6.4	2.5
205	-0.1	2.6	2.6	224	6.3	11.3	5.7
206	2.6	5.0	2.0	225	5.7	11.3	5.1
210	0.3	0	1.0	226	3.8	11.3	3.2
211	3.1	5.0	2.0	310	3.6	5.0	3.0
212	3.1	6.4	2.5				
213	6.4	11.3	5.8				
214	5.8	0	6.4				
215	1.6	5.0	1.0				
216	1.0	0	1.7				
217	3.1	5.0	2.5				
218	3.1	6.4	2.5				
219	6.4	11.3	5.8				

MAIN BOARD(3/3)

IC552

Pin 1	0	Pin41	0	Pin81	0	Pin121	0
2	0	42	0	82	0	122	0
3	4.8	43	4.8	83	0	123	4.8
4	0	44	0	84	0	124	0
5	4.8	45	0	85	0	125	2.3
6	1.2	46	2.1	86	2.2	126	0
7	0.2	47	2.1	87	0	127	0
8	2.4	48	2.1	88	2.3	128	0
9	2.4	49	2.1	89	4.8	129	0
10	4.8	50	0	90	0	130	0
11	2.3	51	2.0	91	0	131	0
12	0	52	2.0	92	2.3	132	0
13	0.8	53	2.0	93	2.3	133	0
14	0.1	54	2.0	94	0	134	4.8
15	4.6	55	4.8	95	4.8	135	4.2
16	4.6	56	0	96	4.8	136	4.2
17	0.1	57	0	97	4.8	137	0
18	0.1	58	0	98	0	138	4.8
19	4.6	59	0	99	0	139	0.1
20	4.8	60	0	100	4.8	140	0.2
21	0	61	0	101	0	141	0
22	4.8	62	0	102	0	142	0
23	0	63	0	103	0	143	0
24	0.1	64	4.8	104	0	144	0
25	0.1	65	4.9	105	0	145	0
26	0.1	66	4.9	106	0	146	4.8
27	0.1	67	4.9	107	0	147	0
28	0	68	4.9	108	4.8	148	0
29	0	69	4.8	109	2.3	149	0
30	0	70	0	110	0	150	0
31	0	71	0	111	0	151	0
32	4.8	72	0	112	0	152	0
33	0	73	0	113	0	153	0
34	2.2	74	0	114	0	154	0
35	2.2	75	0	115	0	155	0
36	2.2	76	0	116	0	156	4.8
37	2.2	77	0	117	4.8	157	4.8
38	0	78	0	118	0	158	0
39	0	79	0	119	0	159	0
40	0	80	0	120	0	160	0

IC580

Pin 1	0	Pin41	0	Pin81	0	Pin121	0
2	0	42	0	82	0	122	0
3	0	43	0	83	0	123	0
4	4.9	44	4.9	84	0	124	0
5	3.8	45	0	85	0	125	0
6	3.8	46	4.9	86	0	126	0
7	3.8	47	4.9	87	0	127	4.9
8	3.8	48	0	88	0	128	4.9
9	4.4	49	0	89	0	129	4.9
10	2.3	50	0	90	0	130	0
11	0	51	0	91	0	131	4.9
12	0	52	0	92	0	132	4.9
13	0	53	0	93	0	133	0
14	0	54	0	94	0	134	0
15	0	55	0	95	4.9	135	0
16	0.8	56	0	96	4.9	136	0
17	0	57	0	97	0	137	0
18	0	58	0	98	0	138	0
19	0	59	4.9	99	0	139	0
20	1.7	60	0	100	4.9	140	0
21	0	61	0	101	0	141	0
22	0	62	0.1	102	0	142	2.0
23	0	63	0.1	103	0	143	0
24	0	64	0.1	104	0	144	4.9
25	0	65	0.1	105	0	145	2.0
26	0	66	0	106	0	146	2.0
27	0	67	0	107	0.2	147	2.0
28	0	68	0	108	0	148	2.1
29	0	69	0	109	0	149	2.1
30	0	70	0	110	4.9	150	0
31	0	71	4.7	111	4.7	151	2.1
32	4.9	72	4.7	112	0	152	2.1
33	0	73	0.1	113	4.7	153	0
34	2.4	74	0.1	114	4.8	154	2.2
35	0	75	4.6	115	0	155	2.2
36	2.4	76	4.6	116	2.2	156	2.2
37	2.4	77	0	117	2.3	157	2.2
38	4.9	78	4.9	118	4.9	158	4.9
39	0	79	0	119	0	159	0
40	0	80	0	120	0	160	0

Pin 1	3.8
2	3.8
3	3.8
4	3.8
5	0
6	4.4
7	0
8	2.3
9	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	2.3
18	4.9
19	4.4
20	0
21	3.8
22	3.8
23	3.8
24	4.9

IC581

	B	C	E
Q541	0	4.9	0
	G	D	S
Q580	2.4	4.8	2.8

Pin 1	IC501	IC502	IC503	IC510
1	4.9	4.9	8.9	4.9
2	1.0	4.5	0	4.0
3	0	0	12.0	0
4	0	4.5		4.9
5	4.9	4.9		4.9

	B	C	E
Q701	4.2	4.9	4.9
	G	D	S
Q702	4.6	4.7	4.6

IC600

Pin 1	0	Pin31	0	Pin61	0	Pin91	0.1	Pin121	4.7
2	2.2	32	0	62	0	92	0	122	0.1
3	4.6	33	2.3	63	0	93	0	123	0.1
4	0	34	4.7	64	0	94	4.8	124	0.1
5	0	35	0.1	65	0	95	4.8	125	0.1
6	4.2	36	0.1	66	0	96	0.2	126	0.1
7	0.1	37	4.8	67	0	97	0.1	127	0.1
8	0	38	0	68	0	98	0.2	128	0
9	0.8	39	0.1	69	0	99	0.2	129	4.7
10	0	40	0.1	70	0	100	0.2	130	0
11	0	41	0	71	0	101	4.8	131	0
12	0	42	0	72	4.8	102	4.8	132	4.7
13	0	43	0	73	0	103	0	133	4.7
14	4.9	44	0	74	4.8	104	0	134	0
15	2.2	45	4.7	75	0	105	2.4	135	0
16	2.3	46	4.7	76	3.7	106	0.1	136	0
17	2.4	47	0.1	77	3.7	107	0.1	137	0
18	4.8	48	0.1	78	3.7	108	0.1	138	0
19	4.8	49	4.6	79	1.0	109	0	139	0
20	0	50	4.6	80	1.0	110	0	140	0
21	0	51	0	81	1.0	111	4.8	141	0
22	0	52	4.4	82	4.8	112	0	142	0
23	0	53	4.4	83	0	113	0	143	0
24	0	54	0	84	0.9	114	0	144	4.7
25	4.8	55	0	85	0.9	115	0	145	2.3
26	0	56	4.8	86	0.9	116	0	146	0
27	0	57	4.8	87	4.5	117	0	147	2.4
28	0	58	4.4	88	4.5	118	0	148	4.8
29	0	59	2.0	89	0.1	119	2.4		
30	0	60	0	90	0.2	120	2.3		

Pin 1	IC801	IC802	IC803	IC804	IC805
1	0	0	0	0	0
2	2.4	0	0	0	0
3	0	0	0	2.0	2.0
4	2.4	0	0	0.1	0.1
5	4.9	0	0	0.1	0.1
6	0	0	2.4	2.4	2.4
7	0.2	0.2	0.2	0.2	0.2
8	0.2	0.2	0.2	0.2	0.2
9	0.2	0.2	0.2	0.2	0.2
10	0.1	0.1	0.1	0.1	0.1
11	0.2	0.2	0.2	0.2	0.2
12	0.1	0.1	0.1	0.1	0.1
13	0.2	0.2	0.2	0.2	0.2
14	0.1	0.1	0.1	0.1	0.1
15	4.5	4.5	4.5	4.5	4.5
16	4.5	4.5	4.5	4.5	4.5
17	1.0	1.0	1.0	1.0	1.0
18	1.0	1.0	1.0	1.0	1.0
19	0	0	0	0	0
20	3.7	3.7	3.7	3.7	3.7
21	4.8	4.8	4.8	4.8	4.8
22	0	0	0	0	0
23	0	0	0	0	0
24	0	0	0	0	0
25	0	0	0	0	0
26	0	0	0	0	0
27	0	0	0	0	0
28	0	0	0	0	0

	B	C	E
Q801	4.2	4.8	4.8
	G	D	S
Q802	4.6	4.7	4.6

IC800

Pin 1	4.9	0	4.7
2	0	2.4	1.8
3	2.3	0	0
4	0	2.5	0
5	4.8	4.9	0
6	2.4		0
7	2.4		0
8	0.1		0
9	0		0
10	0		0
11	0		0
12	2.4		0
13	4.9		0
14	2.5		0
15	4.9		1.8
16	0		4.8
17	4.8		
18	4.1		
19	0.2		
20	3.2		
21	0.2		
22	0.1		
23	1.2		
24	0.8		
25	0.1		
26	4.4		
27	0		
28	4.8		

	G	D	S
Q800	1.3	4.8	1.7
801	4.7	4.8	4.7
	B	C	E
Q991	11.3	11.9	12.0
995	4.9	0	4.9

IC801

Pin 1	0	Pin41	0.1
2	0	42	0
3	0	43	1.3
4	2.3	44	2.3

IC802

Pin 1	2.5
2	0
3	2.3
4	0
5	0
6	2.9
7	0
8	1.9
9	4.8
10	3.0
11	0
12	0
13	0
14	0
15	4.9
16	4.9
17	4.9
18	0
19	0
20	0.8
21	0.8
22	0.8
23	4.8
24	4.7
25	0
26	4.9
27	0
28	0
29	0
30	0
31	4.9
32	0
33	4.8
34	0
35	0
36	0
37	0
38	0
39	0
40	0

IC803

Pin 1	0	Pin41	4.8
2	0	42	0
3	0	43	1.3
4	0	44	2.3
5	0	45	0
6	0	46	2.4
7	5.0	47	5.0
8	5.0	48	1.2
9	1.0	49	0
10	5.0	50	1.3
11	0	51	0
12	0	52	0
13	1.3	53	1.2
14	2.5	54	1.3
15	1.2	55	0
16	1.3	56	0
17	1.2	57	0
18	0	58	0
19	5.0	59	0.1
20	0	60	0
21	0.8	61	0.1
22	0	62	0.1
23	0	63	0.1
24	0	64	0.1
25	0	65	0
26	0	66	0
27	5.0	67	0
28	4.8	68	0
29	5.0	69	0
30	0	70	5.0
31	0.3	71	0
32	2.4	72	0
33	0	73	0
34	0	74	0.1
35	5.0	75	0.1
36	4.3	76	0
37	0.1	77	4.9
38	0	78	0.1
39	0	79	4.9
40	2.4	80	0

IC900

Pin 1	5.0	Pin41	0
2	2.3	42	1.3
3	2.2	43	1.2
4	5.0	44	1.3
5	5.0	45	0
6	0	46	2.4
7	5.0	47	5.0
8	5.0	48	1.2
9	1.0	49	0
10	5.0	50	1.3
11	0	51	0
12	0	52	0
13	1.3	53	1.2
14	2.5	54	1.3
15	1.2	55	0
16	1.3	56	0
17	1.2	57	0
18	0	58	0
19	5.0	59	0.1
20	0	60	0
21	0.8	61	0.1
22	0	62	0.1
23	0	63	0.1
24	0	64	0.1
25	0	65	0
26	0	66	0
27	5.0	67	0
28	4.8	68	0
29	5.0	69	0
30	0	70	5.0
31	0.3	71	0
32	2.4	72	0
33	0	73	0
34	0	74	0.1
35	5.0	75	0.1
36	4.3	76	0
37	0.1	77	4.9
38	0	78	0.1
39	0	79	4.9
40	2.4	80	0

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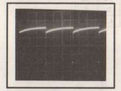
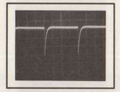
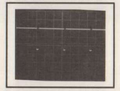
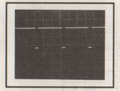
WJ-AVE7(PAL) Main 3/3

1. 20 µsec/DIV. 0.5V/DIV

2. 5 msec/DIV. 0.2V/DIV

3. 20 µsec/DIV. 2.0V/DIV

4. 20 µsec/DIV. 2.0V/DIV

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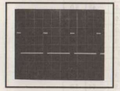
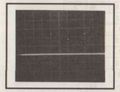
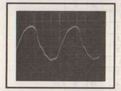
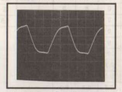
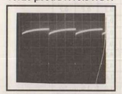
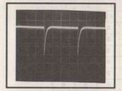
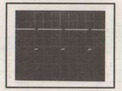
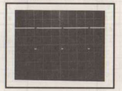

6. 5 msec/DIV. 2.0V/DIV

7. 20 nsec/DIV. 0.01V/DIV

8. 20 nsec/DIV. 1.0V/DIV

9. 50 nsec/DIV. 0.2V/DIV

10. 20 µsec/DIV. 0.5V/DIV

11. 5 msec/DIV. 0.2V/DIV

12. 20 µsec/DIV. 2.0V/DIV

13. 20 µsec/DIV. 2.0V/DIV

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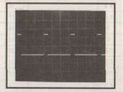
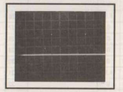
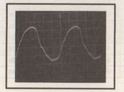
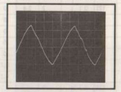
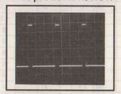
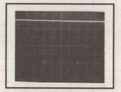
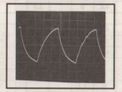
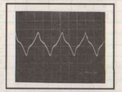

15. 5 msec/DIV. 2.0V/DIV

16. 20 nsec/DIV. 0.01V/DIV

17. 20 nsec/DIV. 1.0V/DIV

18. 20 nsec/DIV. 0.1V/DIV

19. 20 µsec/DIV. 1.0V/DIV

20. 5 msec/DIV. 1.0V/DIV

21. 50 nsec/DIV. 1.0V/DIV

22. 20 nsec/DIV. 0.5V/DIV

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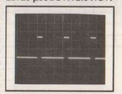
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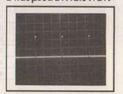
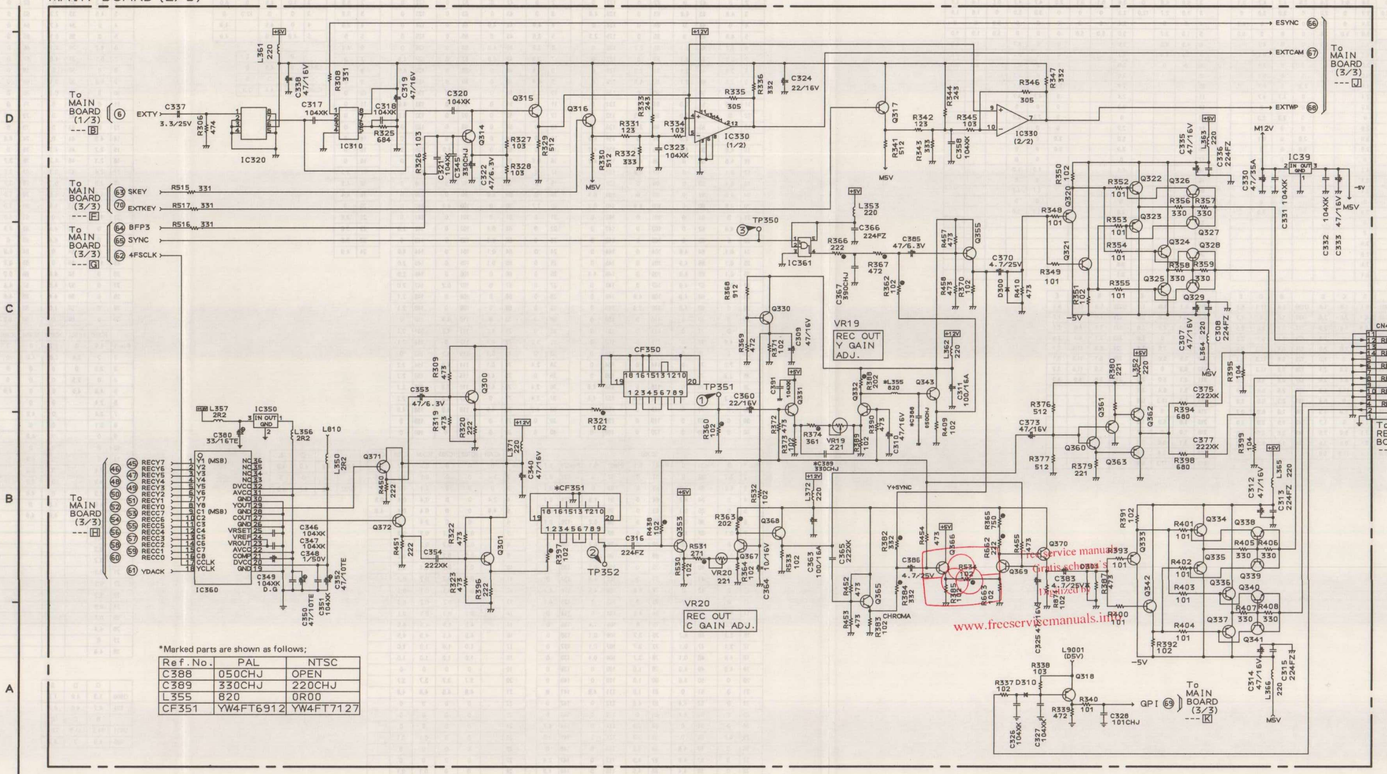


SCHEMATIC DIAGRAM OF MAIN BOARD (2/3)

MAIN BOARD (2/3)



*Marked parts are shown as follows;

Ref. No.	PAL	NTSC
C388	050CHJ	OPEN
C389	330CHJ	220CHJ
L355	820	0R00
CF351	YW4FT6912	YW4FT7127

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MAIN BOARD (2/3)

IC39	D7
IC310	D2
IC320	D2
IC330	D4, D6
IC350	B2
IC360	B1
IC361	C5
Q300	C3
Q301	B3
Q314	D3
Q315	D3
Q316	D3
Q317	D5
Q318	A6
Q320	D6
Q321	C6
Q322	D6
Q323	D6
Q324	C7
Q325	C7
Q326	D7
Q327	C7
Q328	C7
Q329	C7
Q330	C4
Q331	C5
Q332	C5
Q333	B6
Q334	B7
Q335	B7
Q336	B7
Q337	A7
Q338	B7
Q339	B7
Q340	B7
Q341	A7
Q342	B6
Q343	C5
Q353	B4
Q355	C5
Q360	B6
Q361	B6
Q362	B6
Q363	B6
Q365	B5
Q366	B5
Q367	B4
Q368	B4
Q369	B6
Q370	B6
Q371	B2
Q372	B2
D300	C6
D301	B6
D310	A6

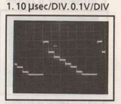
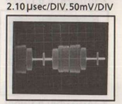
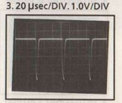
MAIN BOARD(2/3)

	IC39	IC310	IC320	IC330	IC350	IC361
Pin 1	0	0	2.0	0	5.1	4.5
2	-12.0	1.6	0	0	0	5.0
3	-5.0	0	0	0	12.0	0
4		0	0	1.0		4.6
5		4.8	0	1.9		5.0
6		1.3	4.8	0		
7		0.1	1.4	4.3		
8		4.8	0	0		
9				1.9		
10				1.2		
11				12.0		
12				0.2		
13				0		
14				0		

IC360			
Pin 1	0.1	Pin19	0
2	0.1	20	4.9
3	0.1	21	3.3
4	0	22	5.1
5	0	23	4.1
6	0	24	4.1
7	0	25	3.7
8	0	26	0
9	4.8	27	4.6
10	0.1	28	0
11	0.2	29	4.1
12	0	30	0
13	0	31	5.1
14	0	32	4.9
15	0	33	0
16	0	34	0
17	2.3	35	0
18	2.3	36	0

	B	C	E		B	C	E		B	C	E
Q300	5.7	11.9	5.1	Q328	0.2	0.8	0.2	Q343	6.7	11.9	6.0
301	5.8	11.9	5.2	329	0.2	-0.4	0.2	353	3.4	5.0	2.8
314	0	2.5	2.5	330	4.0	11.9	3.4	355	5.6	11.9	5.1
315	2.5	4.8	1.9	331	3.1	5.0	2.5	360	2.5	4.9	1.8
316	0	4.8	-0.6	332	3.1	6.7	2.5	361	2.5	0	3.1
317	0.3	4.8	-0.3	333	0.2	-4.9	0.8	362	3.1	4.9	2.5
318	4.9	0	4.9	334	0.8	4.9	0.2	363	1.8	0	2.5
320	0.2	-4.9	0.8	335	-0.4	-4.9	0.2	365	5.7	11.9	5.1
321	0.2	4.9	-0.4	336	0.8	4.9	0.2	366	3.1	5.0	2.5
322	0.8	4.9	0.2	337	-0.4	-4.9	0.2	367	3.4	6.1	2.8
323	-0.4	-4.9	0.2	338	0.2	0.8	0.2	368	6.1	11.9	5.5
324	0.8	4.9	0.2	339	0.2	-0.4	0.2	369	3.1	6.3	2.6
325	-0.4	-4.9	0.2	340	0.1	0.8	0.1	370	6.2	11.9	5.7
326	0.2	0.8	0.2	341	0.1	-0.4	0.1	371	4.0	11.9	3.4
327	0.2	-0.4	0.2	342	0.2	4.9	-0.4	372	4.5	11.9	4.0

Main 2/3

1. 10 µsec/DIV. 0.1V/DIV

2. 10 µsec/DIV. 50mV/DIV

3. 20 µsec/DIV. 1.0V/DIV


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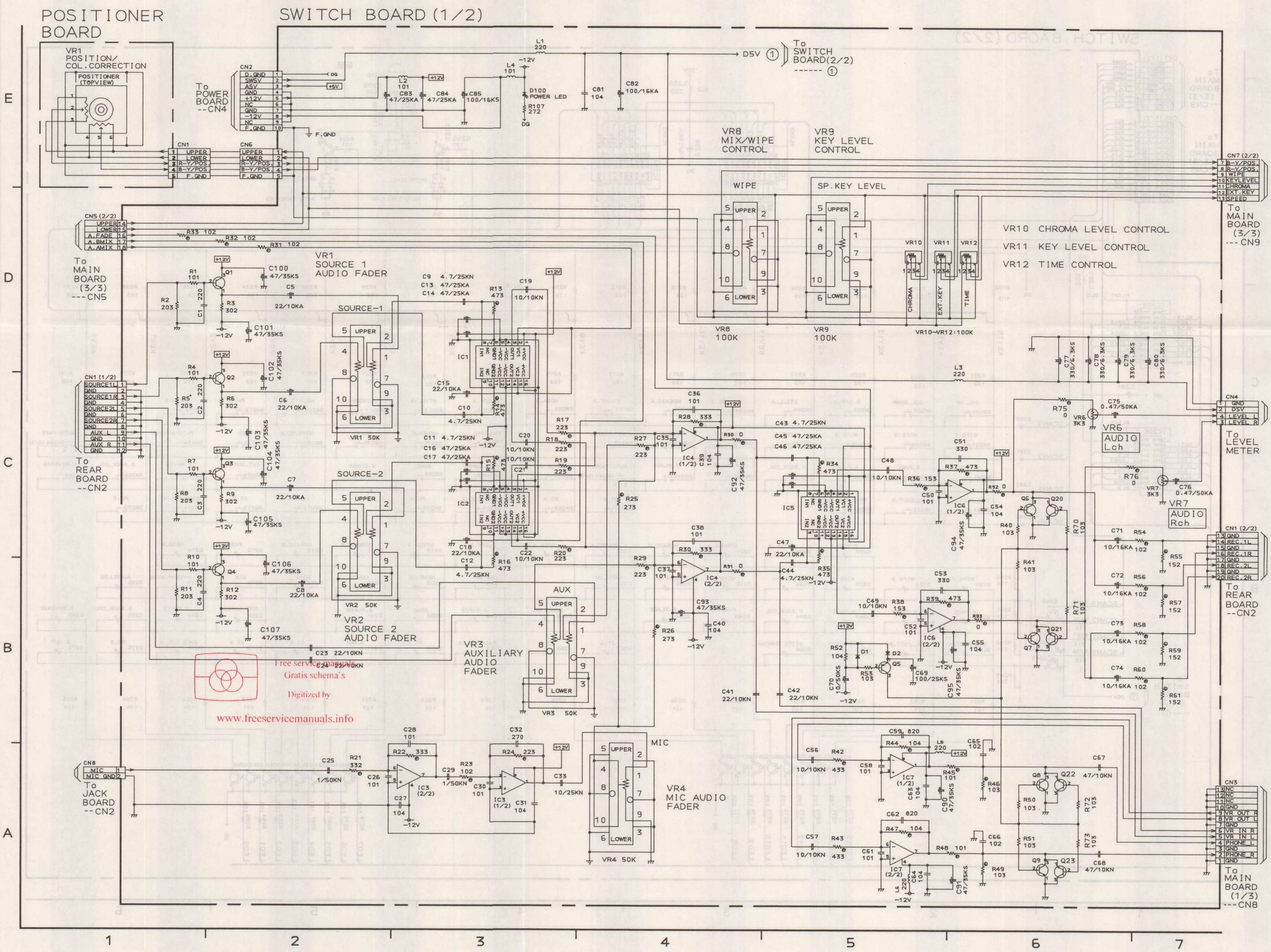
SCHEMATIC DIAGRAM OF SWITCH BOARD (1/2)



<Index>

SWITCH BOARD(1/2)

IC1	D3	Q6	C6
IC2	C3	Q7	B6
IC3	A3	Q8	A6
IC4	C4,B4	Q9	A6
IC5	C5	Q20	C6
IC6	B5,C6	Q21	B6
IC7	A5	Q22	A6
Q1	D2	Q23	A6
Q2	C2	D1	B5
Q3	C2	D2	B5
Q4	B2	D100	E3
Q5	B5		

<Voltages>

SWITCH BOARD

	IC1	IC2	IC3	IC4	IC5	IC6	IC7
Pin 1	11.7	11.7	0	0	11.7	0	0
2	4.9	0	0	0	4.9	0	0
3	0	0	0	0	0	0	0
4	-11.7	-11.7	-11.7	-11.7	-11.7	-11.7	-11.7
5	-11.7	-11.7	0	0	-11.7	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	11.7	11.7	0	11.7	11.7
9	0	0			0		
10	0	0			0		
11	0	0			0		
12	-11.7	-11.7			-11.7		
13	-11.7	-11.7			-11.7		
14	0	0			0		
15	4.9	0			4.9		
16	11.7	11.7			11.7		

	B	C	E		B	C	E
Q1	-0.4	11.7	-1.0	Q8	-0.2	0	0
2	-0.4	11.7	-1.0	9	-0.2	0	0
3	-0.4	11.7	-1.0	20	-0.2	0	0
4	-0.4	11.7	-1.0	21	-0.2	0	0
5	11.5	-0.2	11.4	22	-0.2	0	0
6	-0.2	0	0	23	-0.2	0	0
7	-0.2	0	0				

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SCHEMATIC DIAGRAM OF SWITCH BOARD (2/2)

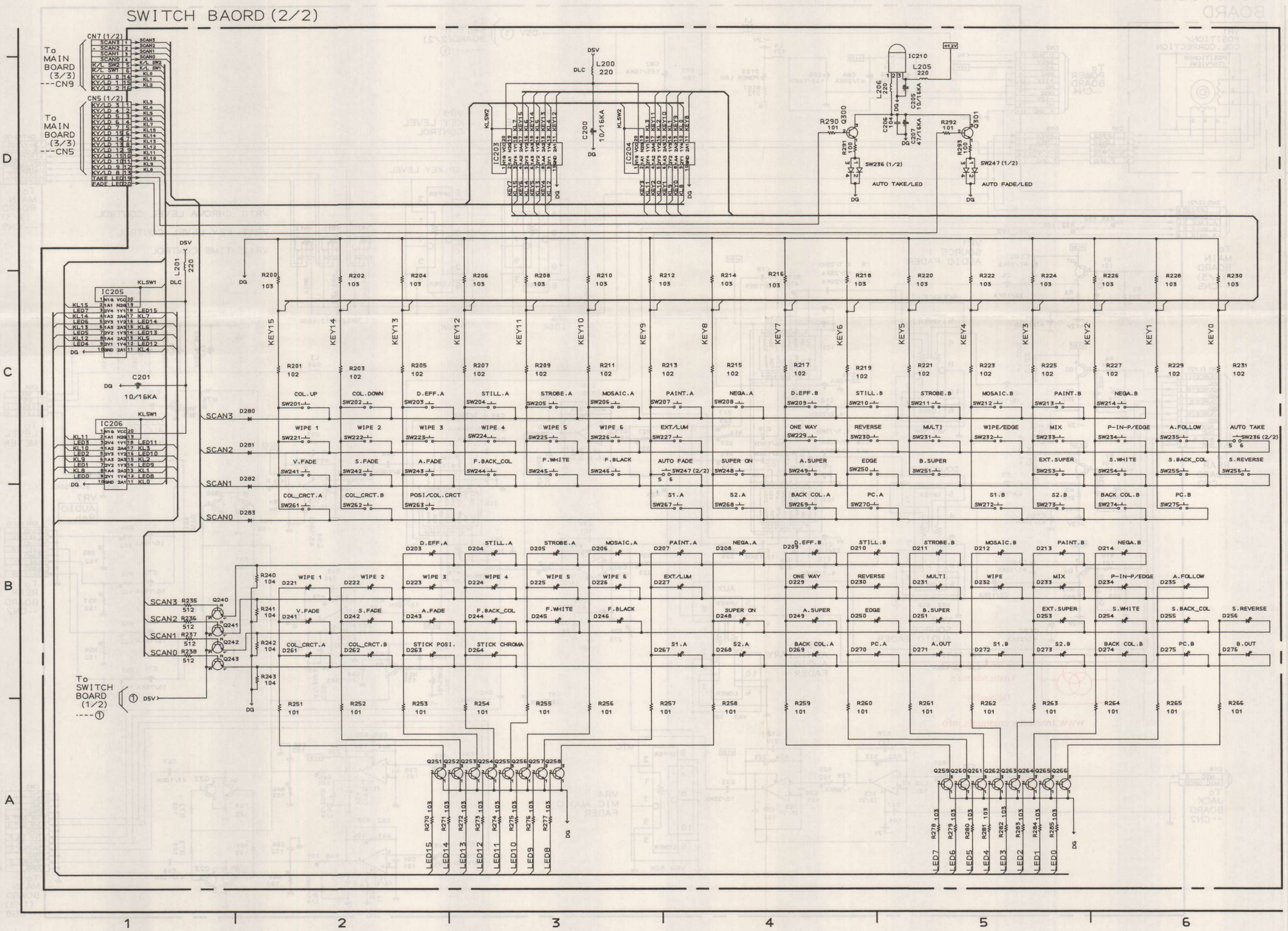
<Index>

SWITCH BOARD (2/2)

IC203	D3	D225	B3
IC204	D3	D226	B3
IC205	C1	D227	B4
IC206	C1	D229	B4
IC210	D5	D230	B4
Q240	B1	D231	B5
Q241	B1	D232	B5
Q242	B1	D233	B5
Q243	B1	D234	B6
Q251	A2	D235	B6
Q252	A3	D241	B2
Q253	A3	D242	B2
Q254	A3	D243	B2
Q255	A3	D244	B3
Q256	A3	D245	B3
Q257	A3	D246	B3
Q258	A3	D248	B4
Q259	A5	D249	B4
Q260	A5	D250	B4
Q261	A5	D251	B5
Q262	A5	D253	B5
Q263	A5	D254	B6
Q264	A5	D255	B6
Q265	A5	D256	B6
Q266	A5	D261	B2
Q300	D4	D262	B2
Q301	D5	D263	B2
D203	B2	D264	B3
D204	B3	D267	B4
D205	B3	D268	B4
D206	B3	D269	B4
D207	B4	D270	B4
D208	B4	D271	B5
D209	B4	D272	B5
D210	B4	D273	B5
D211	B5	D274	B6
D212	B5	D275	B6
D213	B5	D276	B6
D214	B6	D280	C2
D221	B2	D281	C2
D222	B2	D282	B2
D223	B2	D283	B2
D224	B3		

	IC203	IC204	IC205	IC206	IC210
Pin 1	5.0	5.0	0	0	4.9
2	0	0	1.2	0	0
3	1.2	0	2.4	1.3	11.6
4	0	0	0	1.2	
5	0	1.2	0	0	
6	0	0	1.3	1.3	
7	1.3	1.3	1.3	2.4	
8	0	0	0	0	
9	0	0	1.2	0	
10	0	0	0	0	
11	0	0	1.2	0	
12	1.2	0	0	0	
13	0	0	1.3	2.4	
14	1.3	2.4	1.3	1.3	
15	0	0	0	0	
16	0	0	0	1.2	
17	0	0	2.4	1.3	
18	2.4	1.3	1.2	0	
19	5.0	5.0	0	0	
20	5.1	5.1	5.1	5.1	

	B	C	E		B	C	E
Q240	1.3	5.1	1.2	Q258	0	1.9	0
241	0.9	5.1	0.8	259	0.4	1.3	0
242	0.9	5.1	0.8	260	0	2.2	0
243	1.0	5.1	0.8	261	0.2	1.7	0
251	0.2	1.3	0	262	0.2	1.4	0
252	0	1.5	0	263	0.2	1.7	0
253	0.2	1.7	0	264	0	2.2	0
254	0	2.3	0	265	0.3	0.6	0
255	0	1.8	0	266	0	0.9	0
256	0.2	1.3	0	300	0	4.9	0.2
257	0.2	1.4	0	301	0	4.9	0.2



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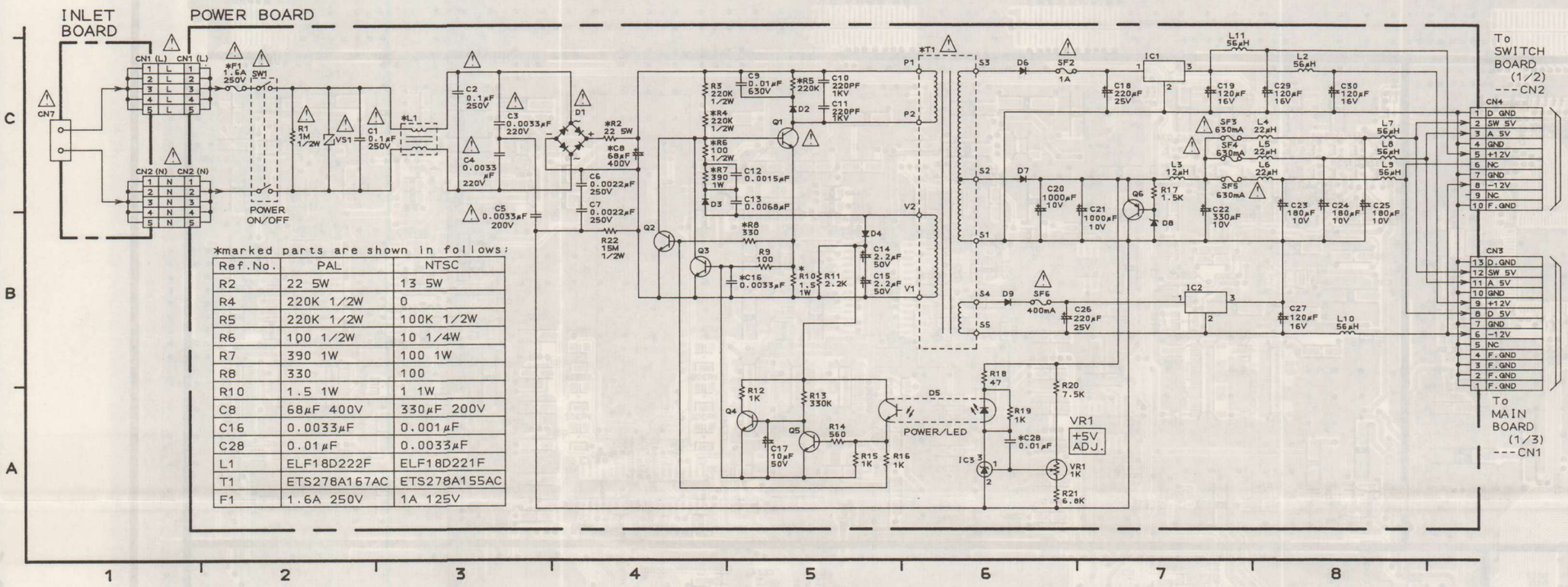
SCHEMATIC DIAGRAM OF POWER BOARD



*marked parts are shown in follows:

Ref.No.	PAL	NTSC
R2	22 5W	13 5W
R4	220K 1/2W	0
R5	220K 1/2W	100K 1/2W
R6	100 1/2W	10 1/4W
R7	390 1W	100 1W
R8	330	100
R10	1.5 1W	1 1W
C8	68μF 400V	330μF 200V
C16	0.0033μF	0.001μF
C28	0.01μF	0.0033μF
L1	ELF18D222F	ELF18D221F
T1	ETS278A167AC	ETS278A155AC
F1	1.6A 250V	1A 125V

<Index>

POWER BOARD

IC1	C7
IC2	B7
IC3	A6
Q1	C5
Q2	B4
Q3	B4
Q4	A5
Q5	A5
Q6	C7
D1	C4
D2	C5
D3	C4
D4	B5
D5	A6
D6	C6
D7	C6
D8	B7
D9	B6

<Voltages>

POWER BOARD

	IC1	IC2	IC3
Pin 1	13.6	3.1	2.5
2	0	-12.0	0
3	12.1	0	3.9

	B	C	E
Q1	-34.7	153.0	-34.8
2	-34.4	-34.6	-34.7
3	-34.6	-34.6	-34.7
4	-34.6	-28.6	-34.6
5	-34.1	-34.5	-34.6
6	5.0	0	5.2

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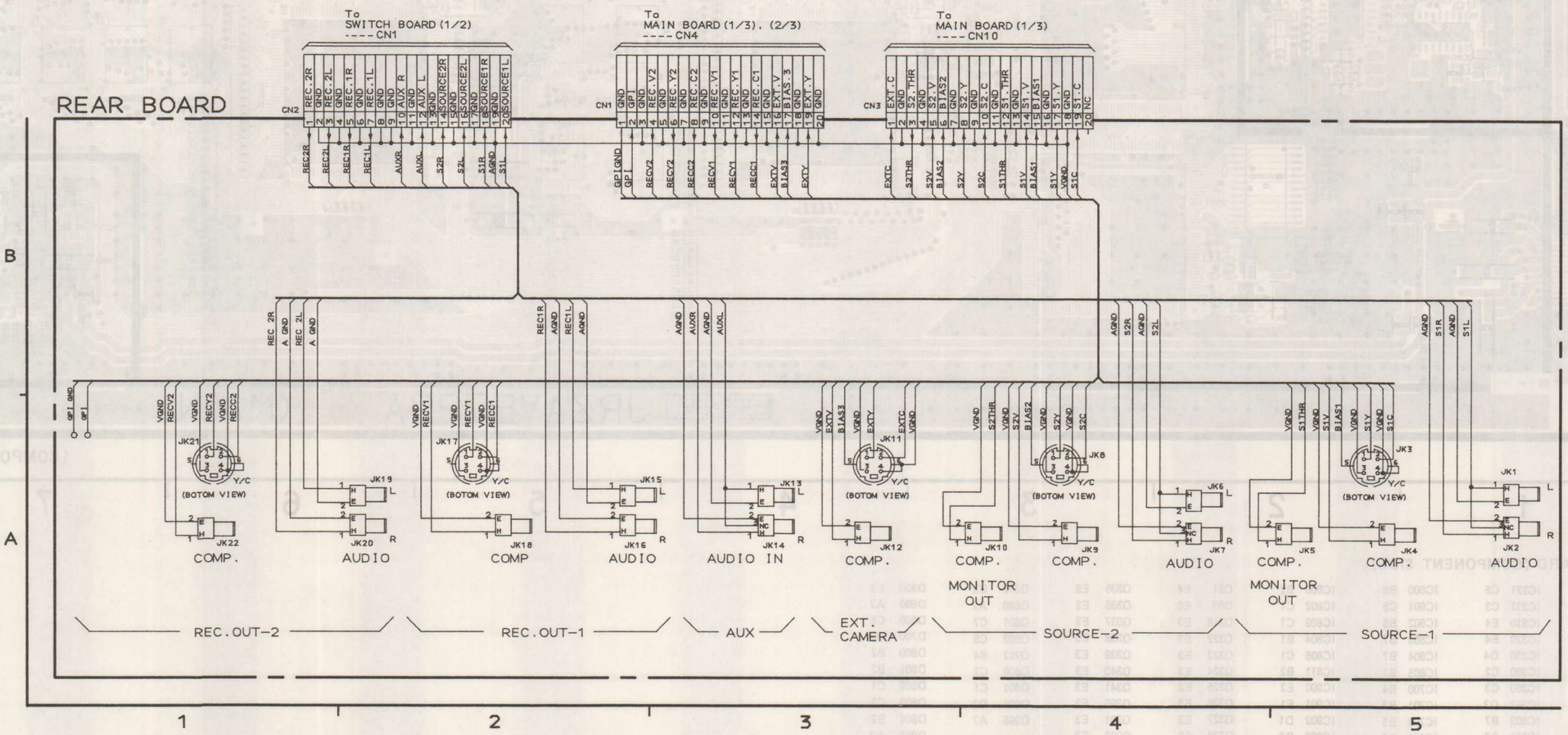
SCHEMATIC DIAGRAM OF REAR BOARD



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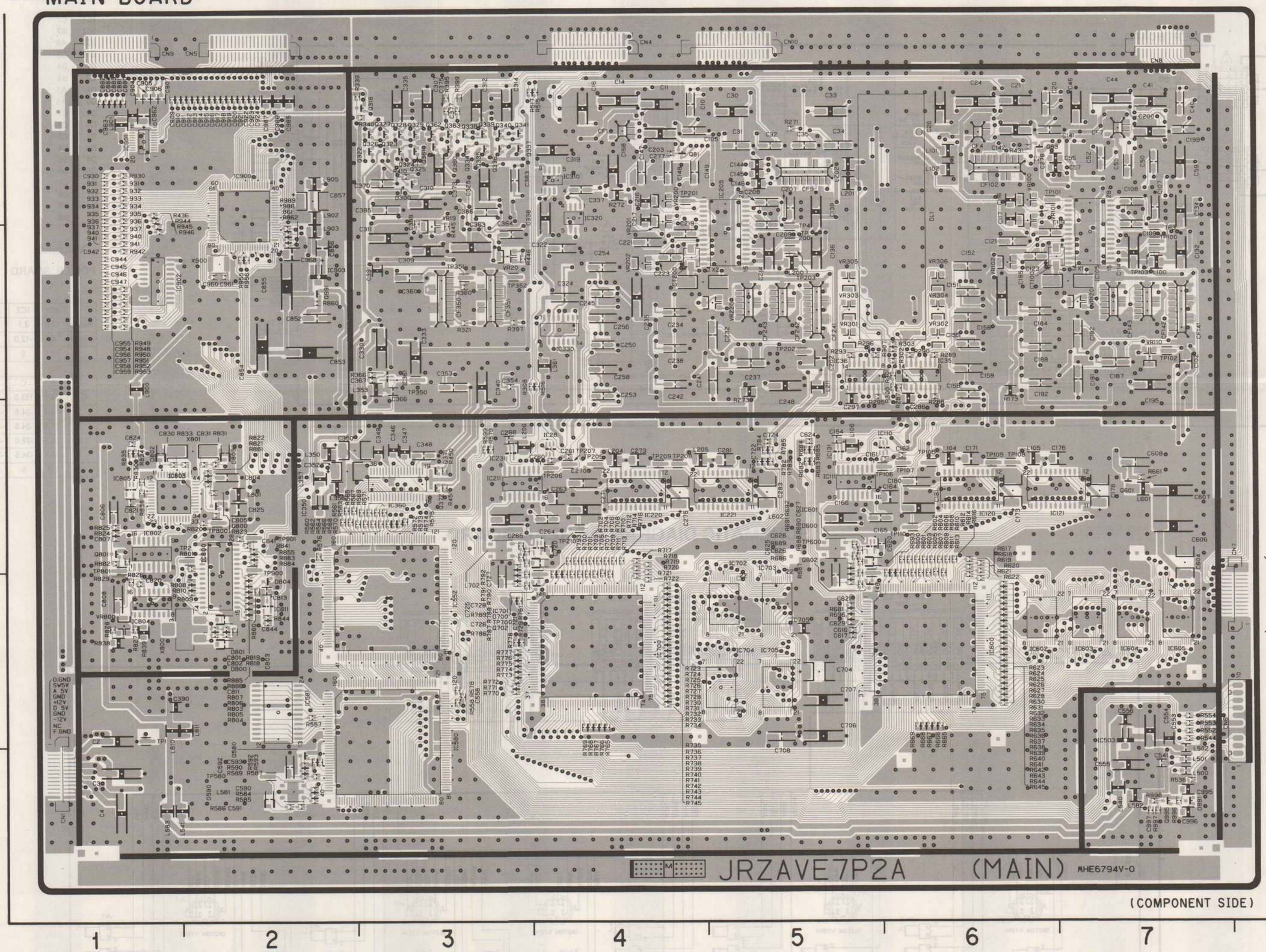
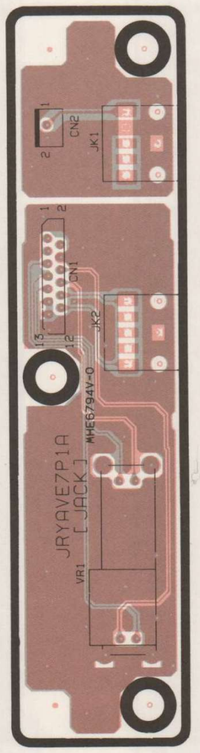
CONDUCTOR VIEW OF MAIN BOARD (COMPONENT SIDE)

MAIN BOARD



COMPONENT SIDE
PATTERN SIDE

JACK BOARD



(COMPONENT SIDE)

<Index>

MAIN BOARD (COMPONENT SIDE)

IC28	C4	IC221	C5	IC600	B6	IC800	B2	Q81	E4	Q335	E3	Q372	C3	D300	E3
IC35	D6	IC231	C3	IC601	C5	IC802	C1	Q83	E6	Q336	E3	Q580	A2	D590	A2
IC36	D5	IC310	E4	IC602	B6	IC803	C1	Q318	E3	Q337	E3	Q601	C7	D600	C5
IC105	D7	IC320	E4	IC603	B7	IC804	B1	Q322	E3	Q338	E3	Q602	C5	D700	B3
IC110	C5	IC330	D4	IC604	B7	IC805	C1	Q323	E3	Q339	E3	Q702	B4	D800	B2
IC111	C5	IC350	C2	IC605	B7	IC811	B2	Q324	E3	Q340	E3	Q800	C2	D801	B2
IC120	C6	IC360	C3	IC700	B4	IC900	E2	Q325	E3	Q341	E3	Q801	C1	D802	C1
IC121	C6	IC361	D3	IC701	B3	IC901	E1	Q326	E3	Q360	E3	Q991	D2	D803	C2
IC131	C5	IC503	B7	IC702	B5	IC902	D1	Q327	E3	Q361	E3	Q995	A7	D804	B2
IC205	E5	IC552	B3	IC703	B5	IC903	D2	Q328	E3	Q362	E3			D991	A7
IC211	C3	IC580	B3	IC704	B5			Q329	E3	Q363	E3				
IC220	C4	IC581	B2	IC705	B5			Q334	E3	Q371	C3				

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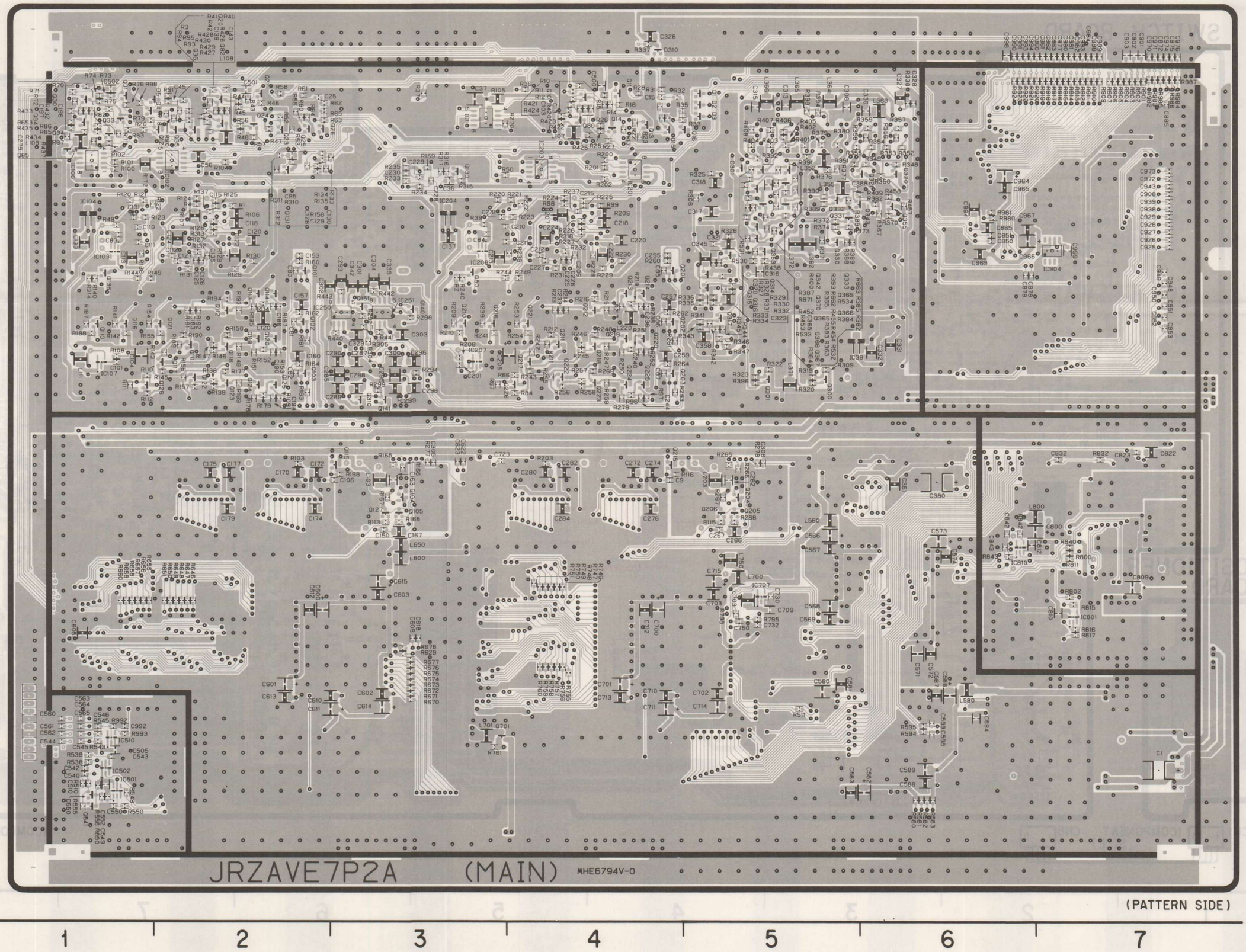
CONDUCTOR VIEW OF MAIN BOARD (PATTERN SIDE)

MAIN BOARD



<Index>

MAIN BOARD
(PATTERN SIDE)

IC1	E3	Q216	D3
IC39	D5	Q217	D4
IC100	E1	Q218	D4
IC102	E2	Q219	D4
IC103	D1	Q220	D4
IC104	E1	Q221	D4
IC107	D1	Q222	D4
IC201	E4	Q223	D4
IC203	E4	Q224	D4
IC204	E3	Q225	D4
IC207	D3	Q226	D4
IC208	D3	Q300	D5
IC250	D3	Q301	D5
IC251	D3	Q310	C3
IC501	A1	Q314	D5
IC502	A1	Q315	D5
IC510	B1	Q316	D5
IC707	B5	Q317	D5
IC801	B7	Q320	E6
IC810	C6	Q321	E6
IC904	D7	Q330	D5
Q10	E4	Q331	E5
Q11	E4	Q332	E5
Q12	E2	Q333	D5
Q13	E4	Q342	D5
Q14	E4	Q343	E6
Q15	E4	Q353	D5
Q16	E5	Q355	E6
Q20	E2	Q365	D5
Q21	E2	Q366	D5
Q23	E2	Q367	D5
Q24	E2	Q368	D5
Q25	E2	Q369	D5
Q26	E2	Q370	D5
Q30	E1	Q541	A1
Q31	E1	Q701	B3
Q33	E1	D1	E5
Q34	E1	D2	E5
Q35	E2	D3	E5
Q36	E2	D4	E1
Q50	D3	D5	E1
Q80	E4	D301	E5
Q82	E2	D310	E4
Q84	E1	D550	A1
Q85	E1		
Q101	D2		
Q102	D2		
Q103	D2		
Q104	C3		
Q105	C3		
Q110	D1		
Q111	D2		
Q112	D2		
Q113	D2		
Q114	D2		
Q115	C3		
Q116	D1		
Q117	D2		
Q118	D2		
Q119	D2		
Q120	D2		
Q121	D2		
Q122	D2		
Q123	D2		
Q124	D2		
Q125	D2		
Q126	D2		
Q127	C3		
Q130	E3		
Q131	E2		
Q136	D1		
Q140	D3		
Q141	C3		
Q151	D3		
Q201	D4		
Q202	D4		
Q203	D4		
Q204	C5		
Q205	C5		
Q206	C5		
Q210	D3		
Q211	D4		
Q212	D4		
Q213	D4		
Q214	D4		
Q215	C4		

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CONDUCTOR VIEW OF SWITCH BOARD

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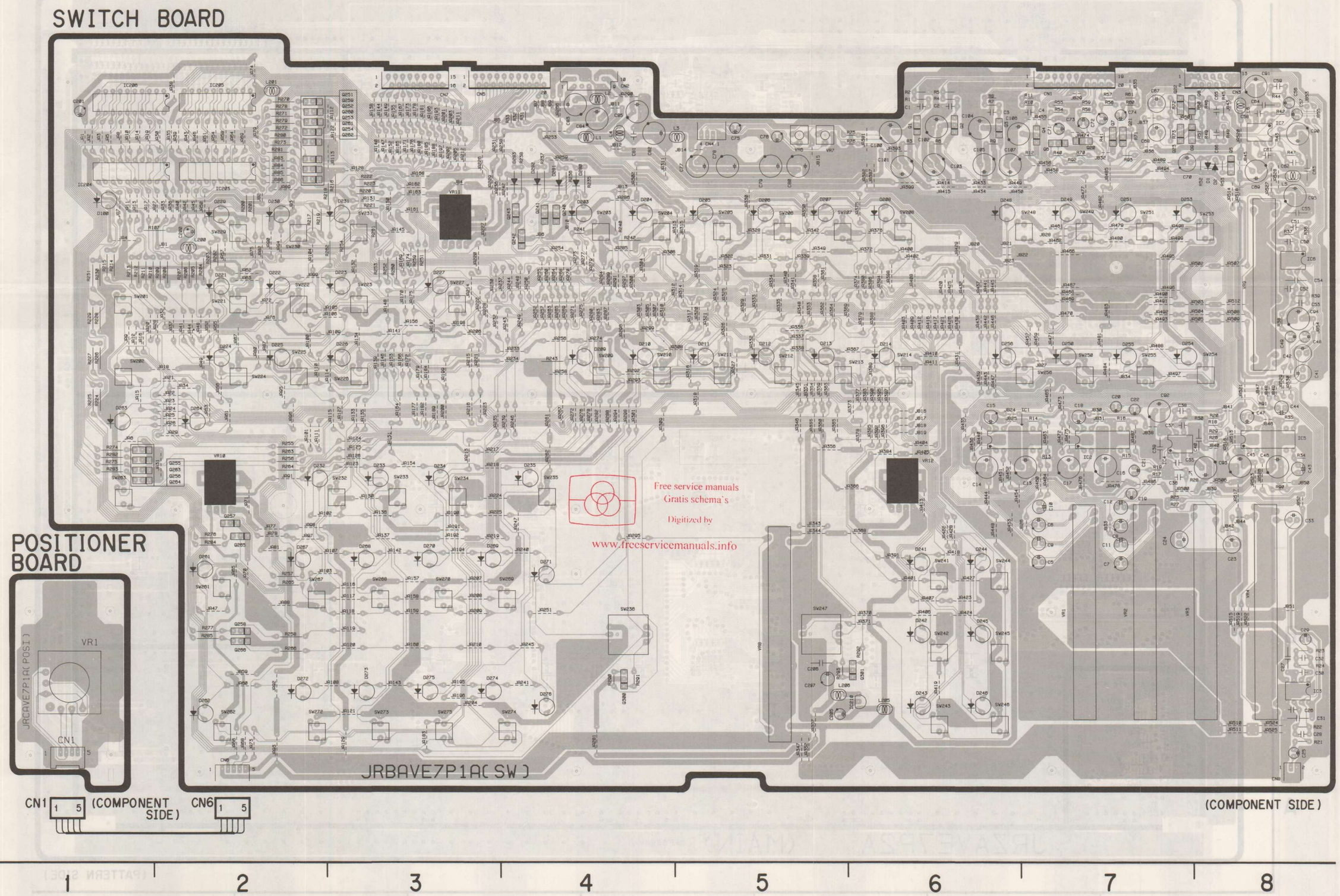
<Index>

SWITCH BOARD

IC1	C7	D256	C6
IC2	C7	D261	B2
IC3	B8	D262	A2
IC4	C7	D263	C1
IC5	C8	D264	C2
IC6	D8	D267	B2
IC7	E8	D268	B3
IC203	D1	D269	B3
IC204	D2	D270	B3
IC205	E2	D271	B4
IC206	E1	D272	B2
IC210	A6	D273	B3
Q1	E6	D274	B3
Q2	E6	D275	B3
Q3	E6	D276	A4
Q4	E7	D280	D4
Q5	E8	D281	D4
Q6	E7	D282	D4
Q7	E7	D283	D4
Q8	E7		
Q9	E7		
Q20	E7		
Q21	E7		
Q22	E7		
Q23	E7		
Q240	D3		
Q241	D3		
Q242	D3		
Q243	D3		
Q251	E3		
Q252	E3		
Q253	E3		
Q254	E3		
Q255	C2		
Q256	C2		
Q257	B2		
Q258	B2		
Q259	E3		
Q260	E3		
Q261	E3		
Q262	E3		
Q263	C2		
Q264	C2		
Q265	B2		
Q266	B2		
Q300	A4		
Q301	B6		
D1	E8		
D2	E8		
D100	D1		
D203	D4		
D204	D4		
D205	D5		
D206	D5		
D207	D5		
D208	D6		
D209	C4		
D210	C4		
D211	C5		
D212	C5		
D213	C5		
D214	C6		
D221	D2		
D222	D2		
D223	D3		
D224	C2		
D225	C2		
D226	C3		
D227	D3		
D229	D2		
D230	D2		
D231	D3		
D232	C2		
D233	C3		
D234	C3		
D235	C4		
D241	B6		
D242	B6		
D243	A6		
D244	B6		
D245	B6		
D246	A6		
D248	D6		
D249	D7		
D250	C7		
D251	D7		
D253	D7		
D254	C7		
D255	C7		



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CONDUCTOR VIEW OF POWER BOARD

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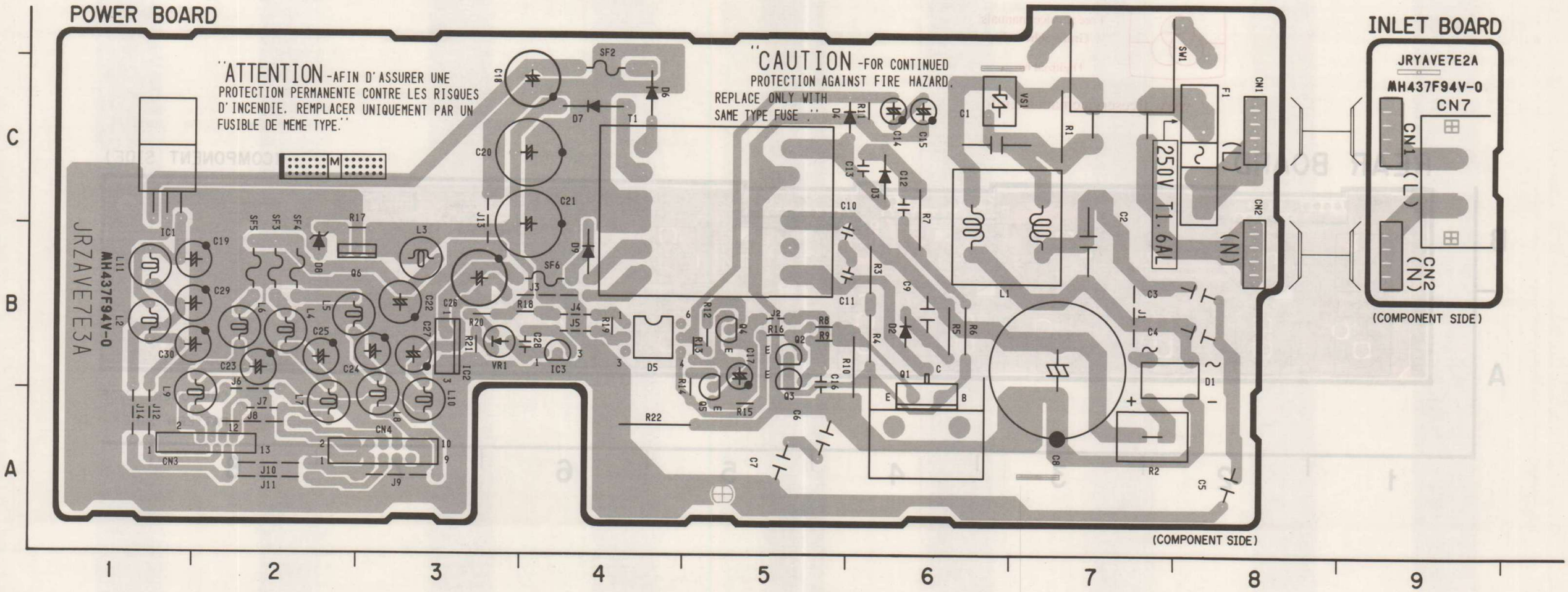

<Index>

POWER BOARD

IC1	B1	D1	B8
IC2	B3	D2	B6
IC3	B4	D3	C6
Q1	B6	D4	C5
Q2	B5	D5	B4
Q3	B5	D6	C4
Q4	B5	D7	C4
Q5	A5	D8	B2
Q6	B2	D9	B4

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CONDUCTOR VIEW OF REAR BOARD

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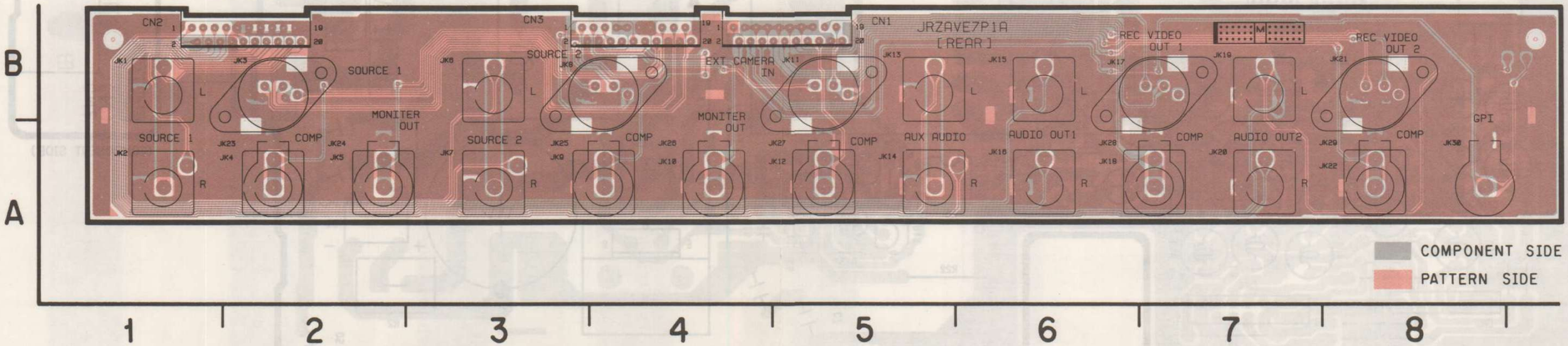
REAR BOARD

(COMPONENT SIDE)



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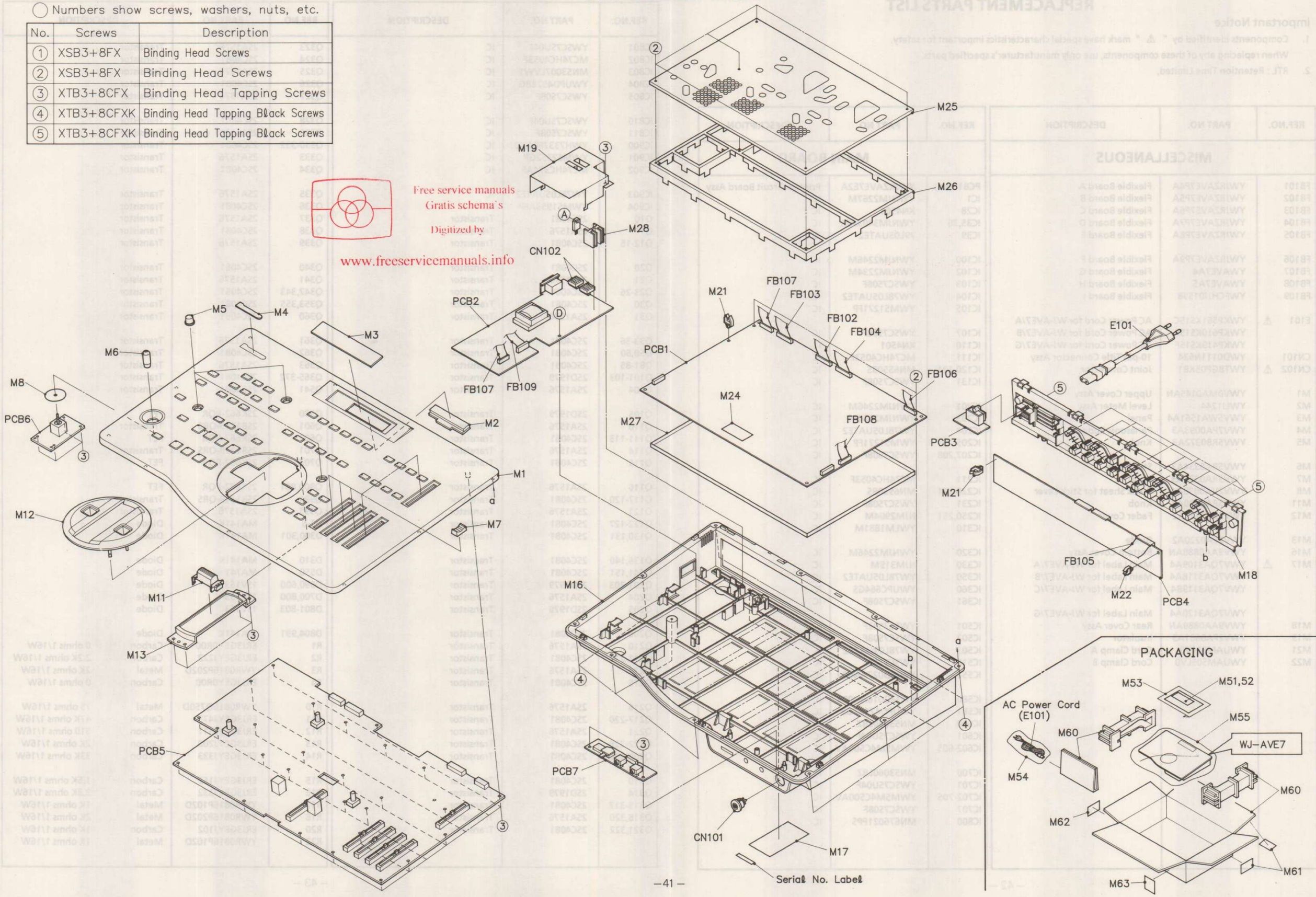
EXPLODED VIEW

◯ Numbers show screws, washers, nuts, etc.

No.	Screws	Description
①	XSB3+8FX	Binding Head Screws
②	XSB3+8FX	Binding Head Screws
③	XTB3+8CFX	Binding Head Tapping Screws
④	XTB3+8CFXK	Binding Head Tapping Black Screws
⑤	XTB3+8CFXK	Binding Head Tapping Black Screws



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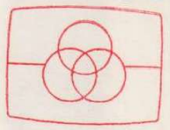
CONDUCTOR VIEW OF POWER BOARD



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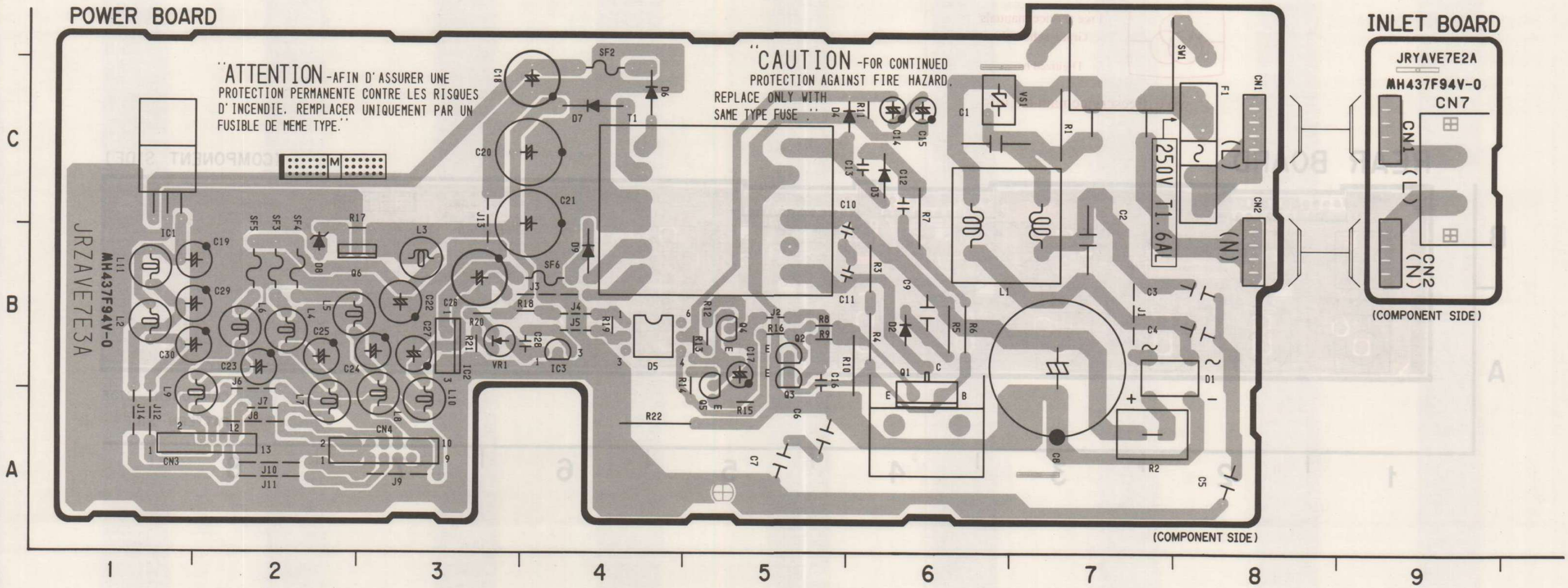

<Index>

POWER BOARD

IC1	B1	D1	B8
IC2	B3	D2	B6
IC3	B4	D3	C6
Q1	B6	D4	C5
Q2	B5	D5	B4
Q3	B5	D6	C4
Q4	B5	D7	C4
Q5	A5	D8	B2
Q6	B2	D9	B4

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REF.NO.	PART NO.	DESCRIPTION	
R23	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R25,26	YWR0816P202D	Metal	2K ohms 1/16W
R27	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R28	YWR0816Q750D	Metal	75 ohms 1/16W
R30	YWR0816P202D	Metal	2K ohms 1/16W
R31	YWR0816Q750D	Metal	75 ohms 1/16W
R32,33	YWR0816P202D	Metal	2K ohms 1/16W
R34	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R35	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R36,37	ERJ3GEYJ750	Carbon	75 ohms 1/16W
R39	ERJ3GEYJ104	Carbon	100K ohms 1/16W
R40	YWR0816Q750D	Metal	75 ohms 1/16W
R41	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R42	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R43	ERJ3GEYJ202	Carbon	2K ohms 1/16W
R44	ERJ3GEYJ333	Carbon	33K ohms 1/16W
R45	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W
R46	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R47	YWR0816P102D	Metal	1K ohms 1/16W
R48	YWR0816P202D	Metal	2K ohms 1/16W
R49	ERJ3GEYJ104	Carbon	100K ohms 1/16W
R50	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R52	YWR0816P102D	Metal	1K ohms 1/16W
R53	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R55,56	YWR0816P202D	Metal	2K ohms 1/16W
R57	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R58	YWR0816Q750D	Metal	75 ohms 1/16W
R60	YWR0816P202D	Metal	2K ohms 1/16W
R61	YWR0816Q750D	Metal	75 ohms 1/16W
R62,63	YWR0816P202D	Metal	2K ohms 1/16W
R64	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R65	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R66	ERJ3GEYJ912	Carbon	9.1K ohms 1/16W
R67	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R70	YWR0816Q750D	Metal	75 ohms 1/16W
R71	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R72	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R73	ERJ3GEYJ202	Carbon	2K ohms 1/16W
R74	ERJ3GEYJ333	Carbon	33K ohms 1/16W
R75	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W
R76	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R77	YWR0816P102D	Metal	1K ohms 1/16W
R78	YWR0816P202D	Metal	2K ohms 1/16W
R79	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R82	YWR0816P102D	Metal	1K ohms 1/16W
R83,84	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R85,86	YWR0816P202D	Metal	2K ohms 1/16W
R87	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R88	YWR0816Q750D	Metal	75 ohms 1/16W
R90	YWR0816P202D	Metal	2K ohms 1/16W
R91	YWR0816Q750D	Metal	75 ohms 1/16W
R93	YWR0816P202D	Metal	2K ohms 1/16W
R94	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R95	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R96	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R97	ERJ3GEYJ102	Carbon	1K ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION	
R98,99	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R100-102	ERJ3GEYJ474	Carbon	470K ohms 1/16W
R103	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R104	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R105	ERJ8GEYJ200	Carbon	20 ohms 1/8W
R106,107	L311J103J332	Carbon	10K ohms
R108	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R109	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R110	ERJ3GEYJ912	Carbon	9.1K ohms 1/16W
R111	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R112	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R113	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W
R114	ERJ3GEYJ242	Carbon	2.4K ohms 1/16W
R115	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W
R116	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R120	ERJ3GEYJ433	Carbon	43K ohms 1/16W
R121	ERJ3GEYJ821	Carbon	820 ohms 1/16W
R122	ERJ3GEYJ393	Carbon	39K ohms 1/16W
R123	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R124	ERJ3GEYJ754	Carbon	750K ohms 1/16W
R125	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R126	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R127	ERJ3GEYJ474	Carbon	470K ohms 1/16W
R128	ERJ3GEYJ512	Carbon	5.1K ohms 1/16W
R129	YWR0816P912D	Metal	9.1K ohms 1/16W
R130	YWR0816P183D	Metal	18K ohms 1/16W
R131	ERJ3GEYJ620	Carbon	62 ohms 1/16W
R132	ERJ3GEYJ151	Carbon	150 ohms 1/16W
R136	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R137	ERJ3GEYJ183	Carbon	18K ohms 1/16W
R138	YWR0816P331D	Metal	330 ohms 1/16W
R139-141	YWR0816P102D	Metal	1K ohms 1/16W
R142	ERJ3GEYJ202	Carbon	2K ohms 1/16W
R143	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R144,145	YWR0816P102D	Metal	1K ohms 1/16W
R146	YWR0816P331D	Metal	330 ohms 1/16W
R147	YWR0816P102D	Metal	1K ohms 1/16W
R148	YWR0816P202D	Metal	2K ohms 1/16W
R149	YWR0816P102D	Metal	1K ohms 1/16W
R150	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R151	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R152	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R153	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R154	YWR0816P102D	Metal	1K ohms 1/16W
R155	ERJ3GEYJ202	Carbon	2K ohms 1/16W
R156	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R157	YWR0816P102D	Metal	1K ohms 1/16W
R158,159	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R160	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R161	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R162	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R163	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R164	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R165-167	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R168	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W

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REF.NO.	PART NO.	DESCRIPTION	
R169	YWR0816P202D	Metal	2K ohms 1/16W
R172,173	ERJ8GEYJ200	Carbon	20 ohms 1/8W
R177	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R178	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R179	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R187	YWR0816P102D	Metal	1K ohms 1/16W
R188	ERJ3GEYJ202	Carbon	2K ohms 1/16W
R189	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R190	YWR0816P102D	Metal	1K ohms 1/16W
R191	YWR0816P151D	Metal	150 ohms 1/16W
R192	YWR0816P102D	Metal	1K ohms 1/16W
R193	YWR0816P202D	Metal	2K ohms 1/16W
R194	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R195	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R197	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R198	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R200-202	ERJ3GEYJ474	Carbon	470K ohms 1/16W
R203	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R206,207	L311J103J332	Carbon	3.3K ohms 1/16W
R208	ERJ3GEYJ562	Carbon	5.6K ohms 1/16W
R209	YWR0816P102D	Metal	1K ohms 1/16W
R210	ERJ3GEYJ202	Carbon	2K ohms 1/16W
R211	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R212	YWR0816P102D	Metal	1K ohms 1/16W
R213	YWR0816P151D	Metal	150 ohms 1/16W
R214	YWR0816P102D	Metal	1K ohms 1/16W
R215	YWR0816P202D	Metal	2K ohms 1/16W
R216	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R217	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R219	ERJ3GEYJ242	Carbon	2.4K ohms 1/16W
R220	ERJ3GEYJ433	Carbon	43K ohms 1/16W
R221	ERJ3GEYJ821	Carbon	820 ohms 1/16W
R222	ERJ3GEYJ393	Carbon	39K ohms 1/16W
R223	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R224	ERJ3GEYJ754	Carbon	750K ohms 1/16W
R225	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R226	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R227	ERJ3GEYJ474	Carbon	470K ohms 1/16W
R228	ERJ3GEYJ512	Carbon	5.1K ohms 1/16W
R229	YWR0816P912D	Metal	9.1K ohms 1/16W
R230	YWR0816P183D	Metal	18K ohms 1/16W
R231	ERJ3GEYJ620	Carbon	62 ohms 1/16W
R232	ERJ3GEYJ151	Carbon	150 ohms 1/16W
R236	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R237	ERJ3GEYJ183	Carbon	18K ohms 1/16W
R238	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R239,240	YWR0816P102D	Metal	1K ohms 1/16W
R241	ERJ3GEYJ202	Carbon	2K ohms 1/16W
R242	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R243,244	YWR0816P102D	Metal	1K ohms 1/16W
R245	YWR0816P331D	Metal	330 ohms 1/16W
R246	YWR0816P102D	Metal	1K ohms 1/16W
R247	YWR0816P202D	Metal	2K ohms 1/16W
R248	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R249	YWR0816P102D	Metal	1K ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION	
R250	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R251	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R252	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R253	YWR0816P102D	Metal	1K ohms 1/16W
R254	ERJ3GEYJ202	Carbon	2K ohms 1/16W
R255	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R256	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R257	YWR0816P331D	Metal	330 ohms 1/16W
R258	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R259	YWR0816P202D	Metal	2K ohms 1/16W
R260	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R261	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R262	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R263	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R264	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R265-267	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R268	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R269	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R270,271	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R272,273	ERJ8GEYJ200	Carbon	20 ohms 1/8W
R277,278	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R279	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R287-290	ERJ3GEYJ510	Carbon	51 ohms 1/16W
R292	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R293-296	ERJ3GEYJ510	Carbon	51 ohms 1/16W
R298	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R299	YWR0816P271D	Metal	270 ohms 1/16W
R300	YWR0816P101D	Metal	100 ohms 1/16W
R301,302	YWR0816P511D	Metal	510 ohms 1/16W
R303,304	YWR0816P121D	Metal	120 ohms 1/16W
R305	YWR0816P221D	Metal	220 ohms 1/16W
R306	ERJ3GEYJ474	Carbon	470K ohms 1/16W
R307	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R308	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R309	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R310,311	ERJ3GEYJ202	Carbon	2K ohms 1/16W
R312	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R313	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R314	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R315,316	ERJ3GEYJ202	Carbon	2K ohms 1/16W
R317	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R318	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R319	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R320	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R321	YWR0816P102D	Metal	1K ohms 1/16W
R322,323	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R325	ERJ3GEYJ684	Carbon	680K ohms 1/16W
R326-328	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R329,330	ERJ3GEYJ512	Carbon	5.1K ohms 1/16W
R331	ERJ3GEYJ123	Carbon	12K ohms 1/16W
R332	ERJ3GEYJ333	Carbon	33K ohms 1/16W
R333	ERJ3GEYJ243	Carbon	24K ohms 1/16W
R334	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R335	ERJ3GEYJ305	Carbon	3M ohms 1/16W
R336	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W

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REF.NO.	PART NO.	DESCRIPTION	
R337	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R338	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R339	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R340	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R341	ERJ3GEYJ512	Carbon	5.1K ohms 1/16W
R342	ERJ3GEYJ123	Carbon	12K ohms 1/16W
R343	ERJ3GEYJ333	Carbon	33K ohms 1/16W
R344	ERJ3GEYJ243	Carbon	24K ohms 1/16W
R345	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R346	ERJ3GEYJ305	Carbon	3M ohms 1/16W
R347	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R348,349	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R350,351	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R352-355	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R356-359	ERJ3GEYJ330	Carbon	33 ohms 1/16W
R360,362	YWR0816P102D	Metal	1K ohms 1/16W
R363	YWR0816P202D	Metal	2K ohms 1/16W
R364	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R365	YWR0816Q750D	Metal	75 ohms 1/16W
R366	YWR0816P222D	Metal	2.2K ohms 1/16W
R367	YWR0816P472D	Metal	4.7K ohms 1/16W
R368	ERJ3GEYJ912	Carbon	9.1K ohms 1/16W
R369	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R370,371	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R372	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R373	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R374	YWR0816P361D	Metal	360 ohms 1/16W
R376,377	ERJ3GEYJ512	Carbon	5.1K ohms 1/16W
R379,380	ERJ3GEYJ221	Carbon	220 ohms 1/16W
R382	YWR0816P332D	Metal	3.3K ohms 1/16W
R383	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R384	YWR0816P332D	Metal	3.3K ohms 1/16W
R385	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R387	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R388	YWR0816P202D	Metal	2K ohms 1/16W
R389	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R390	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R391,392	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R393	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R394	ERJ3GEYJ680	Carbon	68 ohms 1/16W
R395	ERJ3GEYJ104	Carbon	100K ohms 1/16W
R396	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R397	YWR0816P102D	Metal	1K ohms 1/16W
R398	ERJ3GEYJ680	Carbon	68 ohms 1/16W
R399	ERJ3GEYJ104	Carbon	100K ohms 1/16W
R400-404	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R405-408	ERJ3GEYJ330	Carbon	33 ohms 1/16W
R409	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R410	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R420	YWR0816P202D	Metal	2K ohms 1/16W
R421	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R422	YWR0816P202D	Metal	2K ohms 1/16W
R423	ERJ3GEYJ822	Carbon	8.2K ohms 1/16W
R424	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R425	ERJ3GEYJ102	Carbon	1K ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION	
R426,427	YWR0816P202D	Metal	2K ohms 1/16W
R428	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R429	ERJ3GEYJ822	Carbon	8.2K ohms 1/16W
R430	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R431	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R432	YWR0816P202D	Metal	2K ohms 1/16W
R433	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R434	YWR0816P202D	Metal	2K ohms 1/16W
R435	ERJ3GEYJ822	Carbon	8.2K ohms 1/16W
R436	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R437	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R438	YWR0816P102D	Metal	1K ohms 1/16W
R440-443	ERJ3GEYJ510	Carbon	51 ohms 1/16W
R450,451	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R452-455	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R457,458	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R510	YWR0816P222D	Metal	2.2K ohms 1/16W
R511,515	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R516,517	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R530	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R531	YWR0816P271D	Metal	270 ohms 1/16W
R532,533	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R534	YWR0816P102D	Metal	1K ohms 1/16W
R536	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R538,539	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R543	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R544,545	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R549	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R550	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R552-554	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R555	YWR0816P202D	Metal	2K ohms 1/16W
R556	YWR0816P102D	Metal	1K ohms 1/16W
R557,558	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R560-575	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R576	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R578,579	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R580,581	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R583	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R584	ERJ3GEYJ105	Carbon	1M ohms 1/16W
R585	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R586	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R587	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R589	ERJ3GEYJ752	Carbon	7.5K ohms 1/16W
R590	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R592	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R593	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R594	ERJ3GEYJ202	Carbon	2K ohms 1/16W
R595	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R599-614	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R616-628	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R630-651	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R653	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R655-660	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R661	ERJ3GEYJ392	Carbon	3.9K ohms 1/16W

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REF.NO.	PART NO.	DESCRIPTION	
R662	YWR0816P222D	Metal	2.2K ohms 1/16W
R663	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R665	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R666	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R668,669	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R670-677	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R678	ERJ3GEYJ221	Carbon	220 ohms 1/16W
R681,682	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R683,684	ERJ3GEYJ104	Carbon	100K ohms 1/16W
R685	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R686	ERJ3GEYJ752	Carbon	7.5K ohms 1/16W
R687	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R688	ERJ3GEYJ333	Carbon	33K ohms 1/16W
R689	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R690	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R691	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R692	ERJ3GEYJ105	Carbon	1M ohms 1/16W
R693,696	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R700-714	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R716-728	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R729	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R730-751	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R755-760	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R761	ERJ3GEYJ392	Carbon	3.9K ohms 1/16W
R765	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R766	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R768,769	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R770-777	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R781,782	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R783,784	ERJ3GEYJ104	Carbon	100K ohms 1/16W
R785	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R786	ERJ3GEYJ752	Carbon	7.5K ohms 1/16W
R787	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R788	ERJ3GEYJ333	Carbon	33K ohms 1/16W
R789	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R790	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R791	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R792	ERJ3GEYJ105	Carbon	1M ohms 1/16W
R793,795	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R798	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R800	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R801	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R802	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R803,809	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R810	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R815	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R816	ERJ3GEYJ105	Carbon	1M ohms 1/16W
R817	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R818,819	ERJ3GEYJ104	Carbon	100K ohms 1/16W
R821	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R822,823	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R824,825	ERJ3GEYJ202	Carbon	2K ohms 1/16W
R826	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R827	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R828	L311J103J332	Carbon	3.3K ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION	
R829	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R831,832	ERJ3GEYJ104	Carbon	100K ohms 1/16W
R833	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R834	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R835	ERJ3GEYJ104	Carbon	100K ohms 1/16W
R836	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R840	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R841	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R842-844	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R855	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R860	ERJ3GEYJ392	Carbon	3.9K ohms 1/16W
R861,862	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R871	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R880	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R881,882	ERJ3GEYJ104	Carbon	100K ohms 1/16W
R883-886	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R890	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R901-907	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R909-924	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R930-937	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R940-942	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R944-946	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R948-953	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R955,956	ERJ3GEYJ511	Carbon	510 ohms 1/16W
R980	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R982-989	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R992	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R993	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R996	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R997	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R998	ERJ3GEYJ101	Carbon	100 ohms 1/16W
VR19,20	EVM1DSW30BE2	Variable Resistor	2.2K ohms
VR100	EVM1DSW30B54	Variable Resistor	50K ohms
VR101	EVM1DSW30B24	Variable Resistor	20K ohms
VR102,110	EVM1DSW30B14	Variable Resistor	10K ohms
VR120	EVM1DSW30BY2	Variable Resistor	330 ohms
VR200	EVM1DSW30B54	Variable Resistor	50K ohms
VR201	EVM1DSW30B24	Variable Resistor	20K ohms
VR202	EVM1DSW30B14	Variable Resistor	10K ohms
VR220	EVM1DSW30BY2	Variable Resistor	330 ohms
VR301-304	EVM1DSW30B13	Variable Resistor	1K ohms
VR305,306	EVM1DSW30B23	Variable Resistor	2K ohms
VR800	EVM1DSW30B24	Variable Resistor	20K ohms
C1	ECST1AD476ZR	Tantalum	47 µF 10V
C2	ECEV1CV470	Electrolytic	47 µF 16V
C3,4	ECEV1VA470	Electrolytic	47 µF 35V
C9	YW5CH330J5VB	Ceramic	33 pF
C10	ECEV1CV100	Electrolytic	10 µF 16V
C11	ECEV1CV470	Electrolytic	47 µF 16V
C13	YW5X222K5VB	Ceramic	2200 pF
C14	ECEV0JA331	Electrolytic	330 µF 6.3V
C15	YW5X222K5VB	Ceramic	2200 pF
C16	ECEV1CV470	Electrolytic	47 µF 16V
C20	ECEV1CV100	Electrolytic	10 µF 16V
C21	ECEV1CV470	Electrolytic	47 µF 16V

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REF.NO.	PART NO.	DESCRIPTION	
C24	ECEV0JA331	Electrolytic	330 µF 6.3V
C25	YW5X222K5VB	Ceramic	2200 pF
C26	ECEV1CV470	Electrolytic	47 µF 16V
C30	ECEV0JV101	Electrolytic	100 µF 6.3V
C31	ECEV1CV220	Electrolytic	22 µF 16V
C32	ECEV1EV4R7	Electrolytic	4.7 µF 25V
C33	ECEV0JV101	Electrolytic	100 µF 6.3V
C34	ECEV1CV220	Electrolytic	22 µF 16V
C35	ECEV1EV4R7	Electrolytic	4.7 µF 25V
C37	ECST1AX106ZR	Tantalum	10 µF 10V
C40	ECEV1CV100	Electrolytic	10 µF 16V
C41	ECEV1CV470	Electrolytic	47 µF 16V
C44	ECEV0JA331	Electrolytic	330 µF 6.3V
C45	YW5X222K5VB	Ceramic	2200 pF
C46	ECEV1CV470	Electrolytic	47 µF 16V
C50	ECEV1EN3R3S	Electrolytic	3.3 µF 25V
C52,53	ECEV1EN3R3S	Electrolytic	3.3 µF 25V
C55-57	YWT316B104MT	Ceramic	0.1 µF
C59	ECEV1CV470	Electrolytic	47 µF 16V
C80-82	YW5CH330J5VB	Ceramic	33 pF
C83,84	YW5X103K2VB	Ceramic	0.01 µF
C85-87	YW5CH330J5VB	Ceramic	33 pF
C95,96	YF400224FZT	Ceramic	0.22µ F
C101	YW5CH101J5VB	Ceramic	100 pF
C102	ECST1AX106ZR	Tantalum	10 µF 16V
C103	YW5CH220J5VB	Ceramic	22 pF
C104	ECST1AX106ZR	Tantalum	10 µF 16V
C105	ECEV1CV100	Electrolytic	10 µF 16V
C106	YW5CH330J5VB	Ceramic	33 pF
C107	ECEV1HV010	Electrolytic	1 µF 50V
C108	ECEV1HVR47SR	Electrolytic	0.47 µF 50V
C109	ECEV1HV010	Electrolytic	1 µF 50V
C110,111	YW5F473Z2VB	Ceramic	0.047 µF
C112	YW5X102K5VB	Ceramic	1000 pF
C113	YWT316B104MT	Ceramic	0.1 µF
C114	ECEV0JV101	Electrolytic	100 µF 6.3V
C115	YW5X102K5VB	Ceramic	1000 pF
C116-118	YWT316B104MT	Ceramic	0.1 µF
C119	ECEV1HV010	Electrolytic	1 µF 50V
C120	YWT316B104MT	Ceramic	0.1 µF
C121	ECEV0JV470S	Electrolytic	47 µF 6.3V
C122	YWT316B104MT	Ceramic	0.1 µF
C123	ECEV1HV010	Electrolytic	1 µF 50V
C124	YWT316B104MT	Ceramic	0.1 µF
C125	YW5CH050D5VB	Ceramic	5 pF
C126	YW5CH561J5VB	Ceramic	560 pF
C127,129	YW5X102K5VB	Ceramic	1000 pF
C131	YW5CH201J5VB	Ceramic	200 pF
C132	ECEV1CV470	Electrolytic	47 µF 16V
C133	YWT316B104MT	Ceramic	0.1 µF

REF.NO.	PART NO.	DESCRIPTION	
C134	ECEV1CV470	Electrolytic	47 µF 16V
C135	YW5CH060D5VB	Ceramic	6 pF
C136	ECEV1CV470	Electrolytic	47 µF 16V
C137	YWT316B104MT	Ceramic	0.1 µF
C138	ECEV1CV470	Electrolytic	47 µF 16V
C139	YW5CH220J5VB	Ceramic	22 pF
C141	ECEV1CV100	Electrolytic	10 µF 16V
C142	ECEV1CV470	Electrolytic	47 µF 16V
C143	YW5X222K5VB	Ceramic	2200 pF
C144-146	YWT316B104MT	Ceramic	0.1 µF
C147-149	ECEV1EN3R3S	Electrolytic	3.3 µF 25V
C150	YW5CH330J5VB	Ceramic	33 pF
C151	ECEV1CV100	Electrolytic	10 µF 16V
C152	ECEV0JV470S	Electrolytic	47 µF 6.3V
C153	YW5X102K5VB	Ceramic	1000 pF
C154	YF400224FZT	Ceramic	0.22 µF
C155	ECEV1HV2R2	Electrolytic	2.2 µF 50V
C156	ECEV0JV470S	Electrolytic	47 µF 6.3V
C157	YWT316B104MT	Ceramic	0.1 µF
C158	ECEV1HV2R2	Electrolytic	2.2 µF 50V
C159	ECEV0JV470S	Electrolytic	47 µF 6.3V
C160	YWT316B104MT	Ceramic	0.1 µF
C161,162	YW5CH220J5VB	Ceramic	22 pF
C163	YF400224FZT	Ceramic	0.22 µF
C164	ECST1AX106ZR	Tantalum	10 µF 10V
C165	ECEV1EN3R3S	Electrolytic	3.3 µF 25V
C166	ECEV1CV470	Electrolytic	47 µF 16V
C167	YWT316B104MT	Ceramic	0.1 µF
C168	ECEV1CV470	Electrolytic	47 µF 16V
C170	YWT316B104MT	Ceramic	0.1 µF
C171	ECST1AX106ZR	Tantalum	10 µF 10V
C172	YWT316B104MT	Ceramic	0.1 µF
C173	TAJD336M010	Electrolytic	33 µF 10V
C174,175	YWT316B104MT	Ceramic	0.1 µF
C176	ECST1AX106ZR	Tantalum	10 µF 10V
C177	YWT316B104MT	Ceramic	0.1 µF
C178	TAJD336M010	Electrolytic	33 µF 10V
C179	YWT316B104MT	Ceramic	0.1 µF
C180	ECEV0JV470S	Electrolytic	47 µF 6.3V
C181	ECEV1CV470	Electrolytic	47 µF 16V
C182	ECEV0JV470S	Electrolytic	47 µF 6.3V
C183	YW5CH101J5VB	Ceramic	100 pF
C184	ECEV1CV100	Electrolytic	10 µF 16V
C185	ECEV1CA101	Electrolytic	100 µF 16V
C186	YW5CH130J5VB	Ceramic	13 pF
C187	ECEV0JV470S	Electrolytic	47 µF 6.3V
C188	ECEV1CV100	Electrolytic	10 µF 16V
C190	YW5CH330J5VB	Ceramic	33 pF
C191	ECEV0JV470S	Electrolytic	47 µF 6.3V
C192	ECEV1CV100	Electrolytic	10 µF 16V
C194	YW5CH330J5VB	Ceramic	33 pF
C195	ECEV1CV470	Electrolytic	47 µF 16V
C196	YW5X222K5VB	Ceramic	2200 pF
C197	YW5CH220J5VB	Ceramic	22 pF
C199	ECEV1CV100	Electrolytic	10 µF 16V

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REF.NO.	PART NO.	DESCRIPTION	
C200	ECEV1CV470	Electrolytic	47 µF 16V
C201	YW5CH101J5VB	Ceramic	100 pF
C202	ECST1AX106ZR	Tantalum	10 µF 10V
C203	ECEV1CV470	Electrolytic	47 µF 16V
C205	ECST1AX106ZR	Tantalum	10 µF 10V
C206	YW5CH060D5VB	Ceramic	6 pF
C207	ECEV1HV010	Electrolytic	1 µF 50V
C208	ECEV1HVR47SR	Electrolytic	0.47 µF 50V
C209	ECEV1HV010	Electrolytic	1 µF 50V
C210,211	YW5F473Z2VB	Ceramic	0.047 µF
C212	YW5X102K5VB	Ceramic	1000 pF
C213	YWT316B104MT	Ceramic	0.1 µF
C214	ECEV0JV101	Electrolytic	100 µF 6.3V
C215	YW5X102K5VB	Ceramic	1000 pF
C216-218	YWT316B104MT	Ceramic	0.1 µF
C219	ECEV1HV010	Electrolytic	1 µF 50V
C220	YWT316B104MT	Ceramic	0.1 µF
C221	ECEV0JV470S	Electrolytic	47 µF 6.3V
C222	YWT316B104MT	Ceramic	0.1 µF
C223	ECEV1HV010	Electrolytic	1 µF 50V
C224	YWT316B104MT	Ceramic	0.1 µF
C225	YW5CH050D5VB	Ceramic	5 pF
C226	YW5CH561J5VB	Ceramic	560 pF
C227,229	YW5X102K5VB	Ceramic	1000 pF
C231	YW5CH201J5VB	Ceramic	200 pF
C232	ECEV0JV470S	Electrolytic	47 µF 6.3V
C233	YW5CH101J5VB	Ceramic	100 pF
C234	ECEV1CV100	Electrolytic	10 µF 16V
C235	ECEV1CA101	Electrolytic	100 µF 16V
C236	YW5CH130J5VB	Ceramic	13 pF (CH)
C237	ECEV0JV470S	Electrolytic	47 µF 6.3V
C238	ECEV1CV100	Electrolytic	10 µF 16V
C240	YW5CH330J5VB	Ceramic	33 pF
C241	ECEV0JV470S	Electrolytic	47 µF 6.3V
C242	ECEV1CV100	Electrolytic	10 µF 16V
C244	YW5CH330J5VB	Ceramic	33 pF
C245	ECEV1CV100	Electrolytic	10 µF 10V
C248	ECEV1CV470	Electrolytic	47 µF 10V
C250,253	ECEV1HV2R2	Electrolytic	2.2 µF 50V
C254	ECEV0JV470S	Electrolytic	47 µF 6.3V
C255	YW5X102K5VB	Ceramic	1000 pF
C256	ECEV0JV470S	Electrolytic	47 µF 6.3V
C257	YWT316B104MT	Ceramic	0.1 µF
C258	ECEV0JV470S	Electrolytic	47 µF 6.3V
C259	YWT316B104MT	Ceramic	0.1 µF
C260,261	YW5CH220J5VB	Ceramic	22 pF
C262	YF400224FZT	Ceramic	0.22 µF
C263	ECST1AX106ZR	Tantalum	10 µF 10V
C264	ECEV1EN3R3S	Electrolytic	3.3 µF 25V
C265	ECEV1CV470	Electrolytic	47µF 16V
C266	YWT316B104MT	Ceramic	0.1 µF
C267	YW5CH330J5VB	Ceramic	33 pF
C268	YF400224FZT	Ceramic	0.22 µF
C270	ECEV0JV470S	Electrolytic	47 µF 6.3V
C271	ECEV1CV470	Electrolytic	47 µF 16V

REF.NO.	PART NO.	DESCRIPTION	
C272	YWT316B104MT	Ceramic	0.1 µF
C273	ECST1AX106ZR	Tantalum	10 µF 10V
C274	YWT316B104MT	Ceramic	0.1 µF
C275	TAJD336M010	Electrolytic	33 µF 10V
C276,280	YWT316B104MT	Ceramic	0.1 µF
C281	ECST1AX106ZR	Tantalum	10 µF 16V
C282	YWT316B104MT	Ceramic	0.1 µF
C283	TAJD336M010	Electrolytic	33 µF 10V
C284-290	YWT316B104MT	Ceramic	0.1 µF
C293,295	YWT316B104MT	Ceramic	0.1 µF
C296-304	YWT316B104MT	Ceramic	0.1 µF
C305,306	YW5CH330J5VB	Ceramic	33 pF
C307	ECEV1CV470	Electrolytic	47 µF 16V
C308	YF400224FZT	Ceramic	0.22 µF
C309,310	ECEV1CV470	Electrolytic	47 µF 16V
C311	ECEV1CA101	Electrolytic	100 µF 16V
C312	ECEV1CV470	Electrolytic	47 µF 16V
C313	YF400224FZT	Ceramic	0.22 µF
C314	ECEV1CV470	Electrolytic	47 µF 16V
C315,316	YF400224FZT	Ceramic	0.22 µF
C317,318	YWT316B104MT	Ceramic	0.1 µF
C319	ECEV1CV470	Electrolytic	47 µF 16V
C320,321	YWT316B104MT	Ceramic	0.1 µF
C322	ECEV0JV470S	Electrolytic	47 µF 6.3V
C323	YWT316B104MT	Ceramic	0.1 µF
C324	ECEV1CV220	Electrolytic	22 µF 16V
C325	ECEV1CV470	Electrolytic	47 µF 16V
C326,327	YWT316B104MT	Ceramic	0.1 µF
C328	YW5CH101J5VB	Ceramic	100 pF
C329	YWT316B104MT	Ceramic	0.1 µF
C330	ECEV1VA470	Electrolytic	47 µF 35V
C331,332	YWT316B104MT	Ceramic	0.1 µF
C333,335	ECEV1CV470	Electrolytic	47 µF 16V
C336	YF400224FZT	Ceramic	0.22 µF
C337	ECEV1EN3R3S	Electrolytic	3.3 µF 25V
C338	ECEV1CV470	Electrolytic	47 µF 16V
C339	YWT316B104MT	Ceramic	0.1 µF
C340	ECEV1CV470	Electrolytic	47 µF 16V
C342	YWT316B104MT	Ceramic	0.1 µF
C345	YW5CH330J5VB	Ceramic	33 pF
C346,347	YWT316B104MT	Ceramic	0.1 µF
C348	ECEV1HV010	Electrolytic	1 µF 50V
C349	YWT316B104MT	Ceramic	0.1 µF
C350	ECST1AD476ZR	Electrolytic	47 µF 10V
C351	YWT316B104MT	Ceramic	0.1 µF
C352	ECST1AD476ZR	Electrolytic	47 µF 10V
C353	ECEV0JV470S	Electrolytic	47 µF 6.3V
C354	YW5X222K5VB	Ceramic	2200 pF
C358	YWT316B104MT	Ceramic	0.1 µF
C360	ECEV1CV220	Electrolytic	22 µF 16V
C363	ECEV1CA101	Electrolytic	100 µF 16V
C364	ECEV1CV100	Electrolytic	10 µF 16V
C365	YW5X222K5VB	Ceramic	2200 pF
C366	YF400224FZT	Ceramic	0.22 µF
C367	YW5CH390J5VB	Ceramic	39 pF

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REF.NO.	PART NO.	DESCRIPTION	
C370	ECEV1EV4R7	Electrolytic	4.7 µF 25V
C373	ECEV1CV470	Electrolytic	47 µF 16V
C375,377	YW5X222K5VB	Ceramic	2200 pF
C380	ECST1CD336	Tantalum	33 µF 16V
C383	ECEV1EV4R7	Electrolytic	4.7 µF 25V
C385	ECEV0JV470S	Electrolytic	47 µF 6.3V
C386	ECEV1EV4R7	Electrolytic	4.7 µF 25V
C388	YW5CH050D5VB	Ceramic	5 pF
C389	YW5CH330J5VB	Ceramic	33 pF
C390,391	YWT316B104MT	Ceramic	0.1 µF
C500-502	YF400224FZT	Ceramic	0.22 µF
C505	YF400224FZT	Ceramic	0.22 µF
C510	YW5CH220J5VB	Ceramic	22 pF
C540	YW5CH330J5VB	Ceramic	33 pF
C541	YF400224FZT	Ceramic	0.22 µF
C542,543	YW5CH330J5VB	Ceramic	33 pF
C544	YW5CH101J5VB	Ceramic	100 pF
C545	YW5CH330J5VB	Ceramic	33 pF
C546	YW5CH101J5VB	Ceramic	100 pF
C549	YW5CH330J5VB	Ceramic	33 pF
C550	YW5CH101J5VB	Ceramic	100 pF
C552	YF400224FZT	Ceramic	0.22 µF
C553	YWT316B104MT	Ceramic	0.1 µF
C554,555	ECEV1CV470	Electrolytic	47 µF 16V
C556	YWT316B104MT	Ceramic	0.1 µF
C558	YW5CH330J5VB	Ceramic	33 pF
C560-565	YW5CH101J5VB	Ceramic	100 pF
C573	ECST1AX106ZR	Tantalum	10 µF 10V
C574,588	YWT316B104MT	Ceramic	0.1 µF
C589	ECST1AX106ZR	Tantalum	10 µF 10V
C590	YW5CH240J5VB	Ceramic	24 pF 50V
C591	YW5CH330J5VB	Ceramic	33 pF
C592	ECEV1HV2R2	Electrolytic	22 µF 50V
C593	YW5X332K5VB	Ceramic	3300 pF
C594	YF400224FZT	Ceramic	0.22 µF
C598	YW5CH561J5VB	Ceramic	560 pF
C599	YW5CH330J5VB	Ceramic	33 pF
C600	ECST1AX106ZR	Tantalum	10 µF 10V
C602,603	YWT316B104MT	Ceramic	0.1 µF
C604	ECST1AD476ZR	Tantalum	47 µF 10V
C605	YWT316B104MT	Ceramic	0.1 µF
C606,607	ECEV0JA471	Electrolytic	470 µF 6.3V
C608	ECEV1CV220	Electrolytic	22 µF 16V
C612,613	YWT316B104MT	Ceramic	0.1 µF
C616,617	YW5CH330J5VB	Ceramic	33 pF
C618	YW5CH680J5VB	Ceramic	68 pF
C620	YF400224FZT	Ceramic	0.22 µF
C621	YW5CH330J5VB	Ceramic	33 pF
C622	YW5CH101J5VB	Ceramic	100 pF
C623	YW5X103K2VB	Ceramic	0.01 µF
C624	YW5CH330J5VB	Ceramic	33 pF
C625	ECEV1HV2R2	Electrolytic	2.2 µF 50V
C626	YW5X332K5VB	Ceramic	3300 pF
C627	YW5CH330J5VB	Ceramic	33 pF
C628	YW5CH220J5VB	Ceramic	22 pF

REF.NO.	PART NO.	DESCRIPTION	
C629	YW5CH330J5VB	Ceramic	33 pF
C700	ECST1AX106ZR	Tantalum	10 µF 10V
C702,703	YWT316B104MT	Ceramic	0.1 µF
C704	ECST1AD476ZR	Tantalum	47µ F 10V
C705	YWT316B104MT	Ceramic	0.1 µF
C706,707	ECEV0JA471	Electrolytic	470 µF 6.3V
C708	ECEV1CV220	Electrolytic	22 µF 16V
C709	YF400224FZT	Ceramic	0.22 µF
C712,713	YWT316B104MT	Ceramic	0.1 µF
C720	YF400224FZT	Ceramic	0.22 µF
C721	YW5CH330J5VB	Ceramic	33 pF
C722	YW5CH101J5VB	Ceramic	100 pF
C723	YW5X103K2VB	Ceramic	0.01 µF
C724	YW5CH330J5VB	Ceramic	33 pF
C725	ECEV1HV2R2	Electrolytic	2.2 µF 50V
C726	YW5X332K5VB	Ceramic	3300 pF
C727	YW5CH330J5VB	Ceramic	33 pF
C728	YW5CH220J5VB	Ceramic	22 pF
C730,732	YW5CH330J5VB	Ceramic	33 pF
C750	YW5CH330J5VB	Ceramic	33 pF
C800	ECST1AX106ZR	Tantalum	10 µF 10V
C801,802	YW5CH820J5VB	Ceramic	82 pF
C803	YW5CH201J5VB	Ceramic	200 pF
C804	ECEV1HV2R2	Electrolytic	2.2 µF 50V
C805	YW5X103K2VB	Ceramic	0.01 µF
C806	ECEV1HV2R2	Electrolytic	2.2 µF 50V
C807	YW5X103K2VB	Ceramic	0.01 µF
C808	ECEV1CV220	Electrolytic	22 µF 16V
C809	ECST1AX106ZR	Tantalum	10 µF 10V
C810	YF400224FZT	Ceramic	0.22 µF
C811	YW5CH271J5VB	Ceramic	270 pF
C812,813	YF400224FZT	Ceramic	0.22 µF
C820	YW5CH100J5VB	Ceramic	10 pF
C821	YF400224FZT	Ceramic	0.22 µF
C822	YWT316B104MT	Ceramic	0.1 µF
C823,824	YW5CH330J5VB	Ceramic	33 pF
C825	ECST1AX106Z	Tantalum	10 µF 10V
C830,831	YW5CH561J5VB	Ceramic	560 pF
C832,841	YW5CH201J5VB	Ceramic	200 pF
C842-844	YW5CH330J5VB	Ceramic	33 pF
C850,851	YW5CH330J5VB	Ceramic	33 pF
C852	ECEV1CV220	Electrolytic	22 µF 16V
C853-855	ECEV1CG331	Electrolytic	330 µF 16V
C856	ECST1AX106Z	Tantalum	10 µF 10V
C857	TAJD336M010	Electrolytic	33 µF 10V
C860-863	YW5CH101J5VB	Ceramic	100 pF
C864,865	YWT316B104MT	Ceramic	0.1 µF
C872,880	YW5CH101J5VB	Ceramic	100 pF
C881-885	YW5CH101J5VB	Ceramic	100 pF
C901-907	YF400224FZT	Ceramic	0.22 µF

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REF.NO.	PART NO.	DESCRIPTION	
C908-959	YW5CH101J5VB	Ceramic	100 pF
C960,961	YW5CH050D5VB	Ceramic	5 pF
C962	ECST1AX106Z	Tantalum	10 µF 10V
C963,965	YWT316B104MT	Ceramic	0.1 µF
C967	YWT316B104MT	Ceramic	0.1 µF
C968	ECST1AX106Z	Tantalum	10 µF 10V
C969	YWT316B104MT	Ceramic	0.1 µF
C970-977	YW5CH101J5VB	Ceramic	100 pF
C978,979	YW5CH330J5VB	Ceramic	33 pF
C980-984	YW5CH101J5VB	Ceramic	100 pF
C985-987	YWT316B104MT	Ceramic	0.1 µF
C988-994	YW5CH101J5VB	Ceramic	100 pF
C995,996	YWT316B104MT	Ceramic	0.1 µF
C997	YW5CH101J5VB	Ceramic	100 pF
C998,999	YF400224FZT	Ceramic	0.22 µF
CT100,200	YWTZBX4Z06AA	Trimmer Capacitor	
L100	YWNL322R2J	Coil	2.2 µH
L103-106	YWNL32220J	Coil	22 µH
L111	YWNL32220J	Coil	22 µH
L120	YWNL32101J	Coil	100 µH
L200	YWNL322R2J	Coil	2.2 µH
L203-206	YWNL32220J	Coil	22 µH
L211	YWNL32220J	Coil	22 µH
L220	YWNL32101J	Coil	100 µH
L350	YWNL322R2J	Coil	2.2 µH
L352,353	YWNL32220J	Coil	22 µH
L355	YWNL32820J	Coil	82 µH
L356,357	YWNL322R2J	Coil	2.2 µH
L361-366	YWNL32220J	Coil	22 µH
L371,372	YWNL32220J	Coil	22 µH
L500-502	YWBLM21A05PT	Coil	
L540	YWNL321R0J	Coil	1 µH
L541	YWNL32220J	Coil	22 µH
L560,580	YWNL321R0J	Coil	1 µH
L581	YW5206JPS052	Coil	
L582	YWNL32220J	Coil	22 µH
L583	YWNL32100J	Coil	10 µH
L600	YWNL32220J	Coil	22 µH
L601	YWNL321R0J	Coil	1 µH
L602	YW5206JPS052	Coil	
L650,700	YWNL32220J	Coil	22 µH
L701	YWNL321R0J	Coil	1 µH
L702	YW5206JPS052	Coil	
L703,750	YWNL32220J	Coil	22 µH
L800	YWNL32220J	Coil	22 µH
L801	YWNL328R2J	Coil	8.2 µH
L810,811	YWNL321R0J	Coil	1 µH
L900,901	YWNL321R0J	Coil	1 µH
L902,903	YWNL322R2J	Coil	2.2 µH
L905	YWNL322R2J	Coil	2.2 µH
L107-109	ERJ8GCS0R00	Carbon	0 ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION
X1,2	YWDX17R734	Crystal Oscillator
X800	YWAT4R40625G	Crystal Oscillator
X801	YWDX17R734	Crystal Oscillator
X900	YWCSAC16MX04	Oscillator
CF1,4	YW4FS6499	Filter
CF7	YW4FS6499	Filter
CF9,102	YW4FT6912	Filter
CF141	YW4FT7021	Filter
CF142,143	YW4FW6997	Filter
CF241	YW4FT7021	Filter
CF242,243	YW4FW6997	Filter
CF350	YW4FT7021	Filter
CF351	YW4FT6912	Filter
CN1	YW526101390	13-pin Connector
CN4,5	YW526102090	20-pin Connector
CN6	YW530141010	10-pin Connector
CN7,8	YW526101390	13-pin Connector
CN9	YW526101690	16-pin Connector
CN10	YW526102090	20-pin Connector
E1	YWL3071A07A5	Cable
TP1-4	YWRCT2125TPV	Test-pin
TP100-103	YWRCT2125TPV	Test-pin
TP105-110	YWRCT2125TPV	Test-pin
TP200-203	YWRCT2125TPV	Test-pin
TP205-210	YWRCT2125TPV	Test-pin
TP350-352	YWRCT2125TPV	Test-pin
TP580,600	YWRCT2125TPV	Test-pin
TP700,800	YWRCT2125TPV	Test-pin
TP801,900	YWRCT2125TPV	Test-pin
TP901	YWRCT2125TPV	Test-pin
M24	YWV2PA0614A4	Insulater Sheet
M25	YWV2HA1153A1	Shield Parts
M26	YWV2HA1156A1	Shield Part
M27	YWV2HA1157B1	Shield Part

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POWER BOARD

REF.NO.	PART NO.	DESCRIPTION	
PCB2 (RTL)	YWJKZAVE7E3A	Printed Circuit Board Assy	
IC1	YWUPC24M12HF	IC	
IC2	YWUPC78N12H	IC	
IC3	YWTA76431S	IC	
Q1 ⚠	2SC3866	Transistor	
Q2,3	2SC3377	Transistor	
Q4,5	2SD2132	Transistor	
Q6	2SA1244Y	Transistor	
D1 ⚠	S1WBA60	Diode	
D2	YWERA34-10	Diode	
D3	EM01Z	Diode	
D4	YWERA9102	Diode	
D5	YWPC111LY	Diode	
D6	YWERA84009	Diode	
D7	ERC81-004	Diode	
D8	RD5.1JB2	Diode	
D9	YWERA84009	Diode	
VS1 ⚠	ERZC07DK471U	ZNR	
R1 ⚠	ERC12ZGM105	Solid Resistor	100K ohms
R2	ERF5TJ220	Wire Wound	22 ohms 5W
R3-5	ERD25FJ224	Carbon	220K ohms 1/4W
R6	ERD25FJ101	Carbon	100 ohms 1/4W
R7	ERG1SJ391	Metal	390 ohms 1W
R8	ERDS2TJ331	Carbon	330 ohms 1/4W
R9	ERDS2TJ101	Carbon	100 ohms 1/4W
R10	ERX1SJ1R5	Metal	1.5 ohms 1W
R11	ERDS2TJ222	Carbon	2.2K ohms 1/4W
R12	ERDS2TJ102	Carbon	1K ohms 1/4W
R13	ERDS2TJ334	Carbon	330K ohms 1/4W
R14	ERDS2TJ561	Carbon	560 ohms 1/4W
R15,16	ERDS2TJ102	Carbon	1K ohms 1/4W
R17	ERDS2TJ152	Carbon	1.5K ohms 1/4W
R18	ERDS2TJ470	Carbon	47 ohms 1/4W
R19	ERDS2TJ102	Carbon	1K ohms 1/4W
R20	ER0S2CKF7501	Metal	7.5K ohms 1/4W
R21	ER0S2CKF6801	Metal	6.8K ohms 1/4W
R22	ERC12ZGM156	Solid Resistor	15M ohms 1/2W
VR1	YWH0621A1K	Variable Resistor	1K ohms
C1,2 ⚠	ECQU2A104MV	Plastic	0.1 μF
C3-5 ⚠	ECKDRS332ME	Ceramic	3300 pF
C6,7	ECKDRS222ME	Ceramic	2200 pF
C8	EC0S2GA680CB	Electrolytic	68 μF 4V
C9	ECQE6103KZ	Plastic	0.01 μF
C10,11	ECKD3A221KBP	Ceramic	220 pF
C12	ECQB1H152JZ	Plastic	1500 pF 50V
C13	ECQB1H682JF	Plastic	6800 pF 50V
C14,15	ECEA1HKG2R2	Electrolytic	2.2 μF 50V
C16	ECQB1H332JZ	Plastic	3300 pF 50V
C17	ECEA1HKG100	Electrolytic	10 μF 50V
C18	ECA1EFQ221	Electrolytic	220 μF 25V
C19	ECA1CFQ121	Electrolytic	120 μF 16V
C20,21	ECA1AFQ102	Electrolytic	1000 μF 10V
C22	ECA1AFQ331	Electrolytic	330 μF 10V
C23-25	ECA1AFQ181	Electrolytic	180 μF 10V
C26	ECA1EFQ221	Electrolytic	220 μF 25V
C27	ECA1CFQ121	Electrolytic	120 μF 16V
C28	ECQB1H103JZ	Plastic	0.01 μF
C29,30	ECA1CFQ121	Electrolytic	120 μF 16V
L1	ELF18D222F	Coil	2200 μH
L2	YWPC7560K	Coil	56 μH
L3	YWPC7120K	Coil	12 μH
L4-6	YWPC7220K	Coil	22 μH
L7-11	YWPC7560K	Coil	56 μH
T1 ⚠	ETS27BA167AC	Power Transformer	
SW1 ⚠	YWSJP4A01BBM	Power Switch	
CN1,2	YWTBGP05PC4	5-pin Connector	
CN3	YW520301310	13-pin Connector	
CN4	YWF794P010LA	10-pin Connector	
F1 ⚠	XBA2C16ET0A	Current Fuse	1.6A 250V
SF2 ⚠	YWSSFR1AF002	Current Fuse	0.1A
SF3-5 ⚠	SSFR630F002	Current Fuse	0.63A
SF6 ⚠	SSFR400F002	Current Fuse	0.4A
E1,2	S-N5057	Fuse Holder	
E3,4	YW851248	Insulator	
E5,6	YW851040	Insulator	
M28	YWDBA21.5	Heat Sink	

INLET BOARD

REF.NO.	PART NO.	DESCRIPTION
PCB3 (RTL)	YWJKYAVE7P2A	Printed Circuit Board Assy
CN1,2	YWTBGP05PC4	5-pin Connector
CN7 ⚠	YWM1779D	Socket

REAR BOARD

REF.NO.	PART NO.	DESCRIPTION
PCB4 (RTL)	YWJKZAVE7P1A	Printed Circuit Board Assy
CN1,2	YW524922020	20-pin Connector
CN3	YW524922020	20-pin Connector
JK3	YWD4183J200	4-pin Connector
JK8,11	YWD4183J200	4-pin Connector
JK17,21	YWD4183J200	4-pin Connector

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SWITCH BOARD

REF.NO.	PART NO.	DESCRIPTION	
PCB5 (RTL)	YWJKBAVE7P1A	Printed Circuit Board Assy	
IC1,2	YWM5283P	IC	
IC3,4	YWNJM2068DD	IC	
IC5	YWM5283P	IC	
IC6	YWNJM2068DD	IC	
IC7	YWM5216P	IC	
IC203-206	YWHD74HC244P	IC	
IC210	NJM78L05A	IC	
Q1-4	2SD1992A	Transistor	
Q5	2SB1320A	Transistor	
Q6-9	2SD1992A	Transistor	
Q20-23	2SD1992A	Transistor	
Q240-243	2SD1992A	Transistor	
Q251-266	2SD1992A	Transistor	
Q300,301	2SD1992A	Transistor	
D1,2	MA165	Diode	
D100,203	YWSLR305LCA	LED	
D204-214	YWSLR305LCA	LED	
D221-227	YWSLR305LCA	LED	
D229-235	YWSLR305LCA	LED	
D241-246	YWSLR305LCA	LED	
D248-251	YWSLR305LCA	LED	
D253-256	YWSLR305LCA	LED	
D261-264	YWSLR305LCA	LED	
D267-276	YWSLR305LCA	LED	
D280-283	MA165	Diode	
R1	ERDS2TJ101	Carbon	100 ohms 1/4W
R2	ERDS2TJ203	Carbon	20K ohms 1/4W
R3	ERDS2TJ302	Carbon	3K ohms 1/4W
R4	ERDS2TJ101	Carbon	100 ohms 1/4W
R5	ERDS2TJ203	Carbon	20K ohms 1/4W
R6	ERDS2TJ302	Carbon	3K ohms 1/4W
R7	ERDS2TJ101	Carbon	100 ohms 1/4W
R8	ERDS2TJ203	Carbon	20K ohms 1/4W
R9	ERDS2TJ302	Carbon	3K ohms 1/4W
R10	ERDS2TJ101	Carbon	100 ohms 1/4W
R11	ERDS2TJ203	Carbon	20K ohms 1/4W
R12	ERDS2TJ302	Carbon	3K ohms 1/4W
R13-16	ER0S2CKF4702	Metal	47K ohms 1/4W
R17-20	ER0S2CKF2202	Metal	22K ohms 1/4W
R21	ER0S2CKF3301	Metal	3.3K ohms 1/4W
R22	ER0S2CKF3302	Metal	33K ohms 1/4W
R23	ER0S2CKF1001	Metal	1K ohms 1/4W
R24	ER0S2CKF2202	Metal	22K ohms 1/4W
R25,26	ER0S2CKF2702	Metal	27K ohms 1/4W
R27	ER0S2CKF2202	Metal	22K ohms 1/4W
R28	ER0S2CKF3302	Metal	33K ohms 1/4W
R29	ER0S2CKF2202	Metal	22K ohms 1/4W
R30	ER0S2CKF3302	Metal	33K ohms 1/4W
R31-33	ER0S2CKF1001	Metal	1K ohms 1/4W
R34,35	ER0S2CKF4702	Metal	47K ohms 1/4W

REF.NO.	PART NO.	DESCRIPTION	
R36	ER0S2CKF1502	Metal	15K ohms 1/4W
R37	ER0S2CKF4702	Metal	47K ohms 1/4W
R38	ER0S2CKF1502	Metal	15K ohms 1/4W
R39	ER0S2CKF4702	Metal	47K ohms 1/4W
R40,41	ERDS2TJ103	Carbon	10K ohms 1/4W
R42,43	ER0S2CKF4302	Metal	43K ohms 1/4W
R44	ER0S2CKF1003	Metal	100K ohms 1/4W
R45	ER0S2CKF1000	Metal	100 ohms 1/4W
R46	ER0S2CKF1002	Metal	10K ohms 1/4W
R47	ER0S2CKF1003	Metal	100K ohms 1/4W
R48	ER0S2CKF1000	Metal	100 ohms 1/4W
R49	ER0S2CKF1002	Metal	10K ohms 1/4W
R50,51	ERDS2TJ103	Carbon	10K ohms 1/4W
R52	ERDS2TJ104	Carbon	100K ohms 1/4W
R53	ERDS2TJ103	Carbon	10K ohms 1/4W
R54	ER0S2CKF1001	Metal	1K ohms 1/4W
R55	ER0S2CKF1501	Metal	1.5K ohms 1/4W
R56	ER0S2CKF1001	Metal	1K ohms 1/4W
R57	ER0S2CKF1501	Metal	1.5K ohms 1/4W
R58	ER0S2CKF1001	Metal	1K ohms 1/4W
R59	ER0S2CKF1501	Metal	1.5K ohms 1/4W
R60	ER0S2CKF1001	Metal	1K ohms 1/4W
R61	ER0S2CKF1501	Metal	1.5K ohms 1/4W
R70-73	ERDS2TJ103	Carbon	10K ohms 1/4W
R107	ERDS2TJ272	Carbon	2.7K ohms 1/4W
R200	ERDS2TJ103	Carbon	10K ohms 1/4W
R201	ERDS2TJ102	Carbon	1K ohms 1/4W
R202	ERDS2TJ103	Carbon	10K ohms 1/4W
R203	ERDS2TJ102	Carbon	1K ohms 1/4W
R204	ERDS2TJ103	Carbon	10K ohms 1/4W
R205	ERDS2TJ102	Carbon	1K ohms 1/4W
R206	ERDS2TJ103	Carbon	10K ohms 1/4W
R207	ERDS2TJ102	Carbon	1K ohms 1/4W
R208	ERDS2TJ103	Carbon	10K ohms 1/4W
R209	ERDS2TJ102	Carbon	1K ohms 1/4W
R210	ERDS2TJ103	Carbon	10K ohms 1/4W
R211	ERDS2TJ102	Carbon	1K ohms 1/4W
R212	ERDS2TJ103	Carbon	10K ohms 1/4W
R213	ERDS2TJ102	Carbon	1K ohms 1/4W
R214	ERDS2TJ103	Carbon	10K ohms 1/4W
R215	ERDS2TJ102	Carbon	1K ohms 1/4W
R216	ERDS2TJ103	Carbon	10K ohms 1/4W
R217	ERDS2TJ102	Carbon	1K ohms 1/4W
R218	ERDS2TJ103	Carbon	10K ohms 1/4W
R219	ERDS2TJ102	Carbon	1K ohms 1/4W
R220	ERDS2TJ103	Carbon	10K ohms 1/4W
R221	ERDS2TJ102	Carbon	1K ohms 1/4W
R222	ERDS2TJ103	Carbon	10K ohms 1/4W
R223	ERDS2TJ102	Carbon	1K ohms 1/4W
R224	ERDS2TJ103	Carbon	10K ohms 1/4W
R225	ERDS2TJ102	Carbon	1K ohms 1/4W
R226	ERDS2TJ103	Carbon	10K ohms 1/4W
R227	ERDS2TJ102	Carbon	1K ohms 1/4W
R228	ERDS2TJ103	Carbon	10K ohms 1/4W
R229	ERDS2TJ102	Carbon	1K ohms 1/4W

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REF.NO.	PART NO.	DESCRIPTION	
R230	ERDS2TJ103	Carbon	10K ohms 1/4W
R231	ERDS2TJ102	Carbon	1K ohms 1/4W
R235-238	ERDS2TJ512	Carbon	5.1K ohms 1/4W
R240-243	ERDS2TJ104	Carbon	100K ohms 1/4W
R251-266	ERDS2TJ101	Carbon	100 ohms 1/4W
R270-285	ERDS2TJ103	Carbon	10K ohms 1/4W
R290	ERDS2TJ101	Carbon	100 ohms 1/4W
R291	ERDS2TJ100	Carbon	10 ohms 1/4W
R292	ERDS2TJ101	Carbon	100 ohms 1/4W
R293	ERDS2TJ100	Carbon	10 ohms 1/4W
R75	ERDS2TJ0R00	Carbon	0 ohms 1/4W
R76	ERDS2TJ0R00	Carbon	0 ohms 1/4W
R90	ERDS2TJ0R00	Carbon	0 ohms 1/4W
R91	ERDS2TJ0R00	Carbon	0 ohms 1/4W
R92,93	ERDS2TJ0R00	Carbon	0 ohms 1/4W
VR1-3	EWAQA1X05C54	Variable Resistor	50K ohms
VR4	EWAQFEX05C54	Variable Resistor	50K ohms
VR6,7	EVNDXAA03B33	Variable Resistor	3K ohms
VR8	EWAQFEX05B15	Variable Resistor	100K ohms
VR9	EWAPFEX05B15	Variable Resistor	100K ohms
VR10,11	EVJ02AF20B15	Variable Resistor	100K ohms
VR12	EVJ02AF20A15	Variable Resistor	100K ohms
C1-4	YWUP05S220JN	Ceramic	22 pF
C5-8	ECEA1AKA220	Electrolytic	22 µF 10V
C9-12	ECEA1EKN4R7	Electrolytic	4.7 µF 25V
C13,14	ECEA1EKA470	Electrolytic	47 µF 25V
C15	ECEA1AKA470	Electrolytic	47 µF 10V
C16,17	ECEA1EKA470	Electrolytic	47 µF 25V
C18	ECEA1AKA470	Electrolytic	47 µF 10V
C19-22	ECEA1AKN100	Electrolytic	10 µF 10V
C23,24	ECEA1AKN220	Electrolytic	22 µF 10V
C25	ECEA1HKN010	Electrolytic	1 µF 50V
C26	YWUP05B101KN	Ceramic	100 pF
C27	YWUP05F104ZA	Ceramic	0.1 µF
C28	YWUP05B101KN	Ceramic	100 pF
C29	ECEA1HKN010	Electrolytic	1 µF 50V
C30	YWUP05B101KN	Ceramic	100 pF
C31	YWUP05F104ZA	Ceramic	0.1 µF
C32	YWUP05S270JN	Ceramic	27 pF
C33	ECEA1EKN100	Electrolytic	10 µF 25V
C35-38	YWUP05B101KN	Ceramic	100 pF
C39,40	YWUP05F104ZA	Ceramic	0.1 µF
C41,42	ECEA1AKN220	Electrolytic	22 µF 10V
C43,44	ECEA1EKN4R7	Electrolytic	4.7 µF 25V
C45,46	ECEA1EKA470	Electrolytic	47 µF 25V
C47	ECEA1AKA220	Electrolytic	22 µF 10V
C48,49	ECEA1AKN100	Electrolytic	10 µF 10V
C50	YWUP05B101KN	Ceramic	100 pF
C51	YWUP05S330JN	Ceramic	33 pF
C52	YWUP05B101KN	Ceramic	100 pF
C53	YWUP05S330JN	Ceramic	33 pF
C54,55	YWUP05F104ZA	Ceramic	0.1 µF
C56,57	ECEA1AKN100	Electrolytic	10 µF 10V
C58	YWUP05B101KN	Ceramic	100 pF
C59	YWUP05B820KN	Ceramic	82 pF

REF.NO.	PART NO.	DESCRIPTION	
C61	YWUP05B101KN	Ceramic	100 pF
C62	YWUP05B820KN	Ceramic	82 pF
C63,64	YWUP05F104ZA	Ceramic	0.1 µF
C65,66	YWUP05B102KN	Ceramic	1000 pF
C67,68	ECEA1AKN470	Electrolytic	47 µF 10V
C69	YWRC325T1015	Electrolytic	10 µF 25V
C70	ECEA1HKS100	Electrolytic	10 µF 50V
C71-74	ECEA1CKA100	Electrolytic	10 µF 16V
C75,76	ECEA1HKAR47	Electrolytic	0.47 µF 50V
C77-80	ECEA0JKS331	Electrolytic	330 µF 6.3V
C81	YWUP05F104ZA	Ceramic	0.1 µF
C82	ECEA1CKA101	Electrolytic	100 µF 16V
C83,84	ECEA1EKA470	Electrolytic	47 µF 25V
C85	ECEA1CKS101	Electrolytic	100 µF 16V
C90-95	ECEA1VKS470	Electrolytic	47 µF 35V
C100-107	ECEA1VKS470	Electrolytic	47 µF 35V
C200,201	ECEA1CKA100	Electrolytic	100 µF 16V
C205	ECEA1CKA100	Electrolytic	100 µF 16V
C206	YWUP05F104ZA	Ceramic	0.1 µF
C207	ECEA1CKA470	Electrolytic	47 µF 16V
L1	ELESE220KA	Coil	22 µH
L2	ELESE101KA	Coil	100 µH
L3	ELESE220KA	Coil	22 µH
L4	ELESE101KA	Coil	100 µH
L5,6	ELESE220KA	Coil	22 µH
L200,201	ELESE220KA	Coil	22 µH
L205,206	ELESE220KA	Coil	22 µH
SW201-214	EVQQTU05R	Push Switch	
SW221-227	EVQQTU05R	Push Switch	
SW229-235	EVQQTU05R	Push Switch	
SW236	YWEP3301R01	Push Switch	
SW241-246	EVQQTU05R	Push Switch	
SW247	YWEP3301G01	Push Switch	
SW248-251	EVQQTU05R	Push Switch	
SW253-256	EVQQTU05R	Push Switch	
SW261-263	EVQQTU05R	Push Switch	
SW267-270	EVQQTU05R	Push Switch	
SW272-275	EVQQTU05R	Push Switch	
CN1	YW524922020	20-pin Connector	
CN2	YWF795P010LA	10-pin Connector	
CN3	YW524921320	13-pin Connector	
CN4	YW530150410	4-pin Connector	
CN5	YW524922020	20-pin Connector	
CN6	YW530150510	5-pin Connector	
CN7	YW524921620	16-pin Connector	
CN8	YW530150210	2-pin Connector	

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REF.NO.	PART NO.	DESCRIPTION
POSITIONER BOARD		
PCB6 (RTL)	YWJKCAVE7P1A	Printed Circuit Board Assy
VR1	YWVL201104L	Variable Resistor 100K ohms
CN1	YW530150510	5-pin Connector
JACK BOARD		
PCB7 (RTL)	YWJKYAVE7P1A	Printed Circuit Board Assy
VR1	YWS152KGD10	Variable Resistor
CN1	YW520301310	13-pin Connector
CN2	YW53014-0210	2-pin Connector
JK1	YWHSJ0912020	Jack
JK2	YWHSJ0912040	Jack

REF.NO.	PART NO.	DESCRIPTION
ACCESSORY PARTS/PACKAGING PARTS		
M51	YWV8QA3133AN	Operating Instructions
M52	YWV8RA0362AN	Printed Matters
M53	XZB26X40C05	Polyethylene Bag
	YWPE26X40C05	Polyethylene Bag for WJ-AVE7/G
M54	YWT25X60X3	Polyethylene Bag
	YWPE25X60X3	Polyethylene Bag for WJ-AVE7/G
M55	XZB55X71C1	Polyethylene Bag
	YWPE55X71C1	Polyethylene Bag for WJ-AVE7/G
M60	YWV9CA2104BN	Packaging Assy for WJ-AVE7/A
	YWV9CB2104BN	Packaging Assy for WJ-AVE7/B
	YWV9CC2104BN	Packaging Assy for WJ-AVE7/C
	YWV9CD2104BN	Packaging Assy for WJ-AVE7/G
M61	YWV8FA0200A4	Packaging Label A
M62	YWS-SNPRB06	Packaging Label B
M63	YWV7SA1848A3	Bar Code Label for WJ-AVE7/B
	YWV7SA1850A3	Bar Code Label for WJ-AVE7/G

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