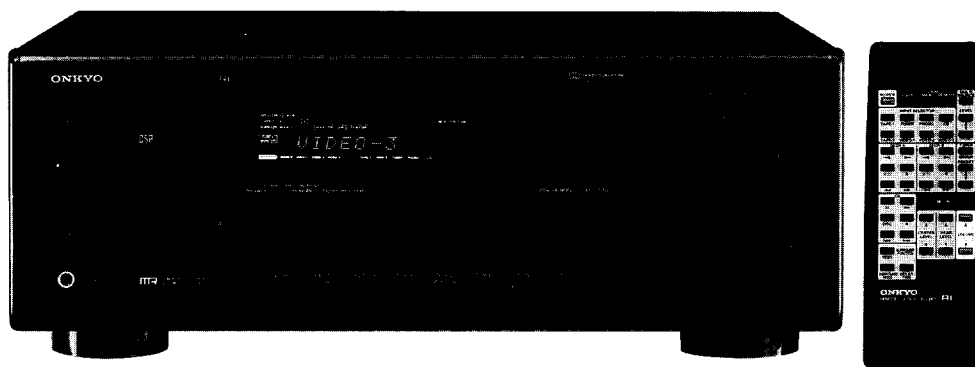



ONKYO® SERVICE MANUAL

AUDIO VIDEO CONTROL AMPLIFIER MODEL A-SV620



Black model

BMD, BMDN	120V AC, 60Hz
BMP	230V AC, 50Hz
BMW	120V or 220V AC, 50/60Hz

SAFETY-RELATED COMPONENT WARNING!!
COMPONENTS IDENTIFIED BY MARK  ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

TABLE OF CONTENTS

Specifications	2
Service procedures	3
Packing view	3
Exploded view (120V/Worldwide model)	4
Parts list (120V/Worldwide model)	5
Exploded view (230V models)	6
Parts list (230V models)	7
Microprocessor connection diagram	8
Microprocessor descriptions	9
IC block diagrams and descriptions	10
Schematic diagram	17
Printed circuit board view	21
Schematic diagram	25
Printed circuit board view	29
Printed circuit board-parts list	31
Schematic diagram	33
Printed circuit board-parts list	35
Block diagram	37
Notes	39

ONKYO
AUDIO COMPONENTS

SPECIFICATIONS

AMPLIFIER SECTION

Power Output:

Stereo mode

Front L/R channels

120 watts per channel min. RMS. at 8 ohms, both channels driven, from 20 Hz to 20,000 Hz, with no more than 0.08% total harmonic distortion.

Continuous power output:
2 × 140 watts at 8 ohms (DIN)

Surround mode and Multi source mode

Front L/R and center channels
75 W + 75 W + 75 W (1 kHz 0.08% 8 ohms)

Rear channels (Rear only driven)
25 W + 25 W (1 kHz 0.8% 8 ohms)

Remote channels
75 W + 75 W (1 kHz 0.1% 8 ohms)

IM Distortion: 0.08% at rated power (FRONT)

Damping Factor: 60 at 8 ohms (FRONT)

Input sensitivities and impedance:

Phono: 2.5 mV/50 kohms

CD/Tuner/Tape play/Video in:
150 mV/50 kohms

Output level and impedance:

Tape rec/Video out: 150 mV/2.2 kohms

Pre out (SUBWOOFER): 1 V/2.2 kohms

Phono Overload: 120 mV RMS. at 1,000 Hz, 0.5% THD.
Frequency Response: 20 to 30,000 Hz, +/-1 dB
RIAA Deviation: 20 to 20,000 Hz, +/-0.8 dB
Tone Control:
BASS: +/-10 dB at 100 Hz
TREBLE: +/-10 dB at 10,000 Hz
Signal to Noise Ratio: PHONO: 80 dB (IHF A, 5 mV input)
CD/TAPE: 100 dB (IHF A)
Muting: -∞ dB

VIDEO SECTION

Signal sensitivity and impedance: Input, output: 1 Vp-p, 75 ohms


GENERAL


Power Supply: USA & Canadian models
AC120 V, 60 Hz
European models
AC230 V, 50 Hz
Worldwide models
120 and 220 V switchable, 50/60 Hz
Dimensions (W × H × D): 455 × 170 × 389 mm
17-15/16" × 6-11/16" × 15-5/16"
Mass: 12.1 kg (26.7 lbs)

Specifications and features are subject to change without notice.

SERVICE PROCEDURES

1. Replacing the fuses

 This symbol located near the fuse indicates that the fuse used is fast operating type. For continued protection against fire hazard, replace with same type fuse. For fuse rating refer to the marking adjacent to the symbol.

 Ce symbole indique que le fusible utilise est rapide. Pour une protection permanente, n'utiliser que des fusibles de meme type. Ce dernier est indique la qu le present symbol est appose.

CIRCUIT NO.	PART NO.	DESCRIPTION
F901	252166Y	6.3A-UL/T-237, Primary <D/W>
F902	252076	3.15A-TSC, Primary <P/W>
F903	252075	2.5A-SE-EAK, Primary <P>

NOTE: <D> :120V model only

<P> :230V model only

<W> :Worldwide model only

2. To Initialize the unit

This device employs a microprocessor to perform various functions and operations. If interference generated by an external power supply, radio wave, or other electrical source results in accident which causes the specified operations and functions to operate abnormally.

To perform a result, please follow the procedure below.

1. Press and hold down the VIDEO-1 button, then press the POWER button.
2. After "clear" is displayed, the preset memory and each mode stored in the memory, such as surround, are initialized and will return to the factory settings.

3. Safety-check out

(Only U.S.A. model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer. Connect the insulating-resistance tester between the plug of power supply cord and the screw on the back panel.

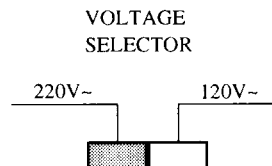
Specifications: 3.3 Mohm±10% at 500V.

4. Change of voltage

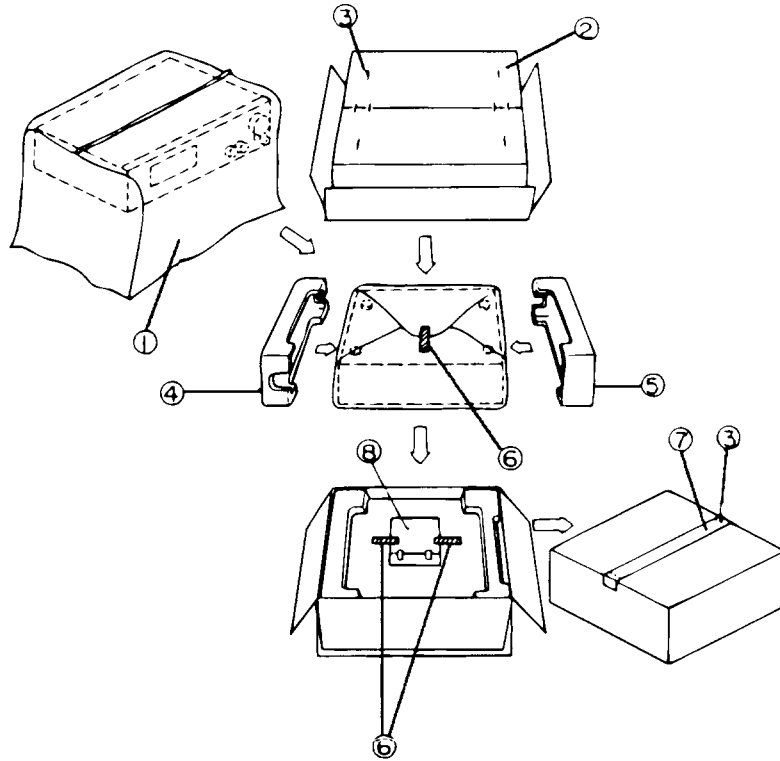
Worldwide models are equipment with a voltage selector to conform with local power supplies. This switch is located on the back panel.

Be sure to set this switch to match the voltage of the power supply in your area before turning the power switch on.

This switch is set to 220V at the factory. Voltage is changed by sliding the groove in the switch with the screwdriver to the right or left. Confirm that the switch has been moved all the way to the right or left before turning the power switch on.



PACKING VIEW

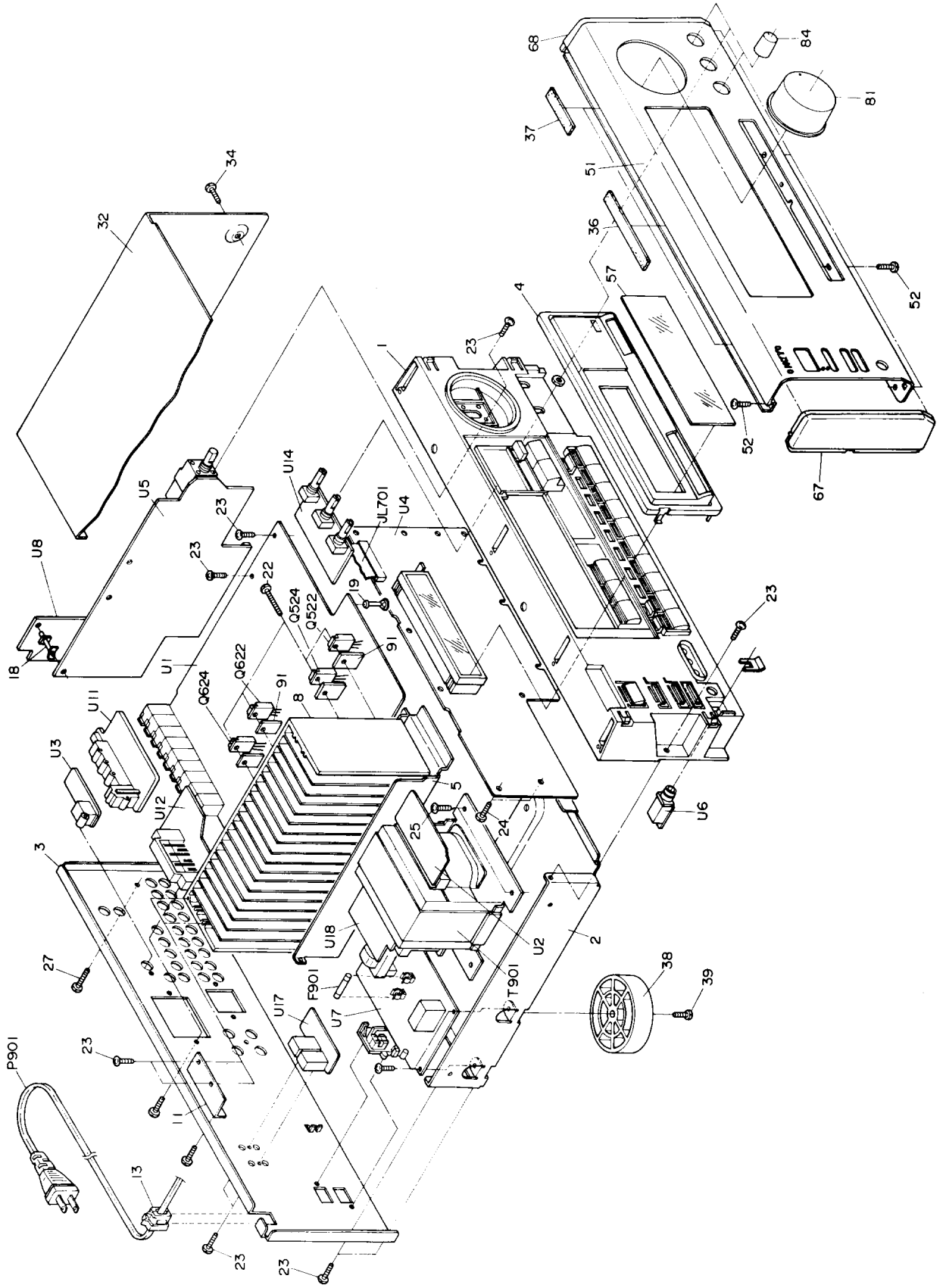


REF.NO.	PART NO.	DESCRIPTION
1	29100034-1Y	Styren bag
2	29052824Y	Carton box
3	282301	Staple
4	29091615BY	Pad R
5	29091614CY	Pad L
6	261504	Paper tape
7	29110071	PP tape
8	Accessory bag ass'y	
	29100097-1Y	Styren bag
	24140287	RC-287S, Remote control transmitter
	3010054	UM-3, Battery
	29342058Y	Instruction manual
	29342059Y	Instruction manual <P>
	29342060Y	Instruction manual <W>
	2010200	Cord RI
	29365019B	Warranty card <N>
	29358002K	Service station list <N>
	29361776Y	Label UPC <N>
	29360778Y	Label FLASH <N>
	25055018	CV-K-1, Conversion plug <W>

NOTE:

- <D>:120 V model only
- <P>:230 V model only
- <N>:U.S.A. model only
- <W>:Worldwide model only

EXPLODED VIEW
120V model

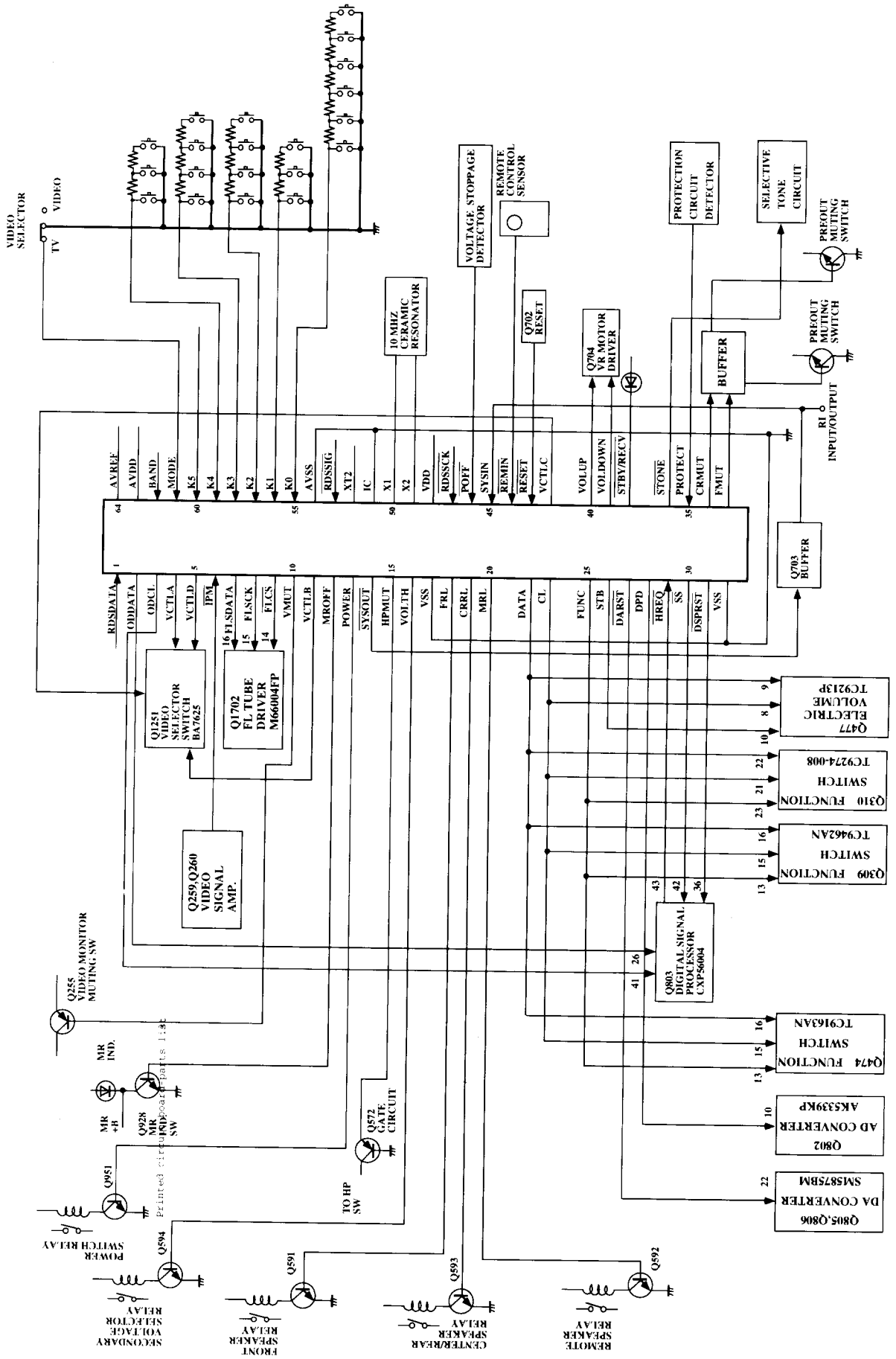


PARTS LIST

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
1	27110834AY	Front bracket	Q521	2201482	2SC3821-R
2	27100291Y	Chassis	Q522	2201483	2SC3821-O
3	27121988Y	Rear panel <D>		2202822 or	2SC5200-R or
4	27215255Y	Rear panel <W>	Q523	2202823	2SC5200-O, Transistors
5	27130743AY	Decorative frame	Q524	2201472	2SA1492-Y
6	27262583Y	Bracket H		2201473	2SA1492-P
7	27160347Y	Plate T		2202812 or	2SA1962-R or
8	27130742Y	Radiator	Q621	2202813	2SA1962-O, Transistors
9	27130742Y	Bracket C	Q622	2202882	2SD2387-R
11	271416007AY	Retainer H		2202883	2SD2387-O
13	27300750	△ Cord bushing		2202903	2SD2389-O
18	27190896	△ KGL-S-10S, Holder		2202904 or	2SD2389-Y or
20	27190926	KGPS-18RF, Holder		2202906	2SD2389-P, Transistors
22	801433	3SMS8W.SW+14B(BC), Special screw	Q623	2202872	2SB1558-R
23	838130088	3TTB+8B, Self-tapping screw	Q624	2202873	2SB1558-O
24	833430080	3TTP+8P(BC), Self-tapping screw		2202893	2SB1559-O
25	830440089	4TTC+8B(BC), Self-tapping screw		2202894 or	2SB1559-Y or
26	834430108	3TTS+10B(BC), Self-tapping screw		2202896	2SB1559-P, Transistors
27	834230108	3TTS+10B(Ni), Self-tapping screw	T901	2301068Y	△ NPT-1229D, Power transformer <D>
32	28184540Y	Top cover		2301070Y	△ NPT-1228DG, Power transformer <W>
33	838130088	3TTB+8B, Self-tapping screw	U1	1A558521-2Y	NAAR-5121-2, Main circuit pc board ass'y <D>
34	838440089	4TTB+8C(BC), Self-tapping screw		1A558521-2AY	NAAR-5121-2A, Main circuit pc board ass'y <W>
36	28140680	0.5x180x8, Cushion	U2	1A558522-2Y	NAETC-5122-2, Secondary circuit pc board ass'y
37	28141305Y	0.8x57x8, Cushion	U3	1A558523-2Y	NAETC-5123-2, Pre. output terminal pc board ass'y
38	27175300Y	Leg	U4	1A558524-2Y	NAETC-5124-2, Display circuit pc board ass'y
39	838130088	3TTB+8B, Self-tapping screw	U5	1A558525-2Y	NAAF-5125-2, Master volume circuit pc board ass'y <D>
51	1A558121Y	Front panel ass'y	U6	1A558525-2AY	NAAF-5125-2A, Master volume circuit pc board ass'y <W>
52	838130088	3TTB+8B, Self-tapping screw	U7	1A558526-2Y	NAETC-5126-2, Headphone terminal pc board ass'y
54	8910301	CS-3, CS ring		1A558527-2Y	NAPS-5127-2, Primary circuit pc board ass'y <D>
57	28191699Y	Clear plate		1A558527-2BY	NAPS-5127-2B, Primary circuit pc board ass'y <W>
59	28198813Y	Facet	U9	1A558529-2Y	NAETC-5129-2, Tuner terminal pc board ass'y <D>
61	28135199Y	Badge		1A558531-2Y	NAETC-5129-2A, Tuner terminal pc board ass'y <W>
67	28125268Y	End cap L	U11	1A558531-2Y	NAETC-5131-2, Video circuit pc board ass'y
68	28125267Y	End cap R	U12	1A558533-2AY	NAETC-5133-2, Speaker terminal pc board ass'y <D>
81	28325057	Knob, Volume	U14	1A558533-2AY	NAETC-5133-2A, Speaker terminal pc board ass'y <W>
84	28325055Y	Knob, Tone	U17	1A558534-2Y	NAAF-5134-2, Tone control circuit pc board ass'y
91	223021	△ Isolation sheet		1A558537-2Y	NAETC-5137-2, MR/RI terminal pc board ass'y <D>
92	223023	△ Isolation sheet		1A558537-2AY	NAETC-5137-2A, MR/RI terminal pc board ass'y <W>
99	260208	Wire ties	U18	1A558538-2Y	NAETC-5138-2, Transformer terminal pc board ass'y
F901	252166Y	△ 6.3A-UL/T-237, Primary fuse	NOTE:		<D>:120 V model only
F902	252076	△ 3.15A-SE-EAK, Primary fuse <W>			<W>: Worldwide model only
JL701	2047402012Y	NCFC7-402012, Flexible flat cable			
P901	253192HIT	△ AS-UC-6#18, Power supply cord <D>			
	253092-1A or	△ AS-CEE-2, Power supply cord			
	253172	△ <W>			

NOTE: THE COMPONENTS IDENTIFIED BY MARK Δ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

MICROPROCESSOR CONNECTION DIAGRAM

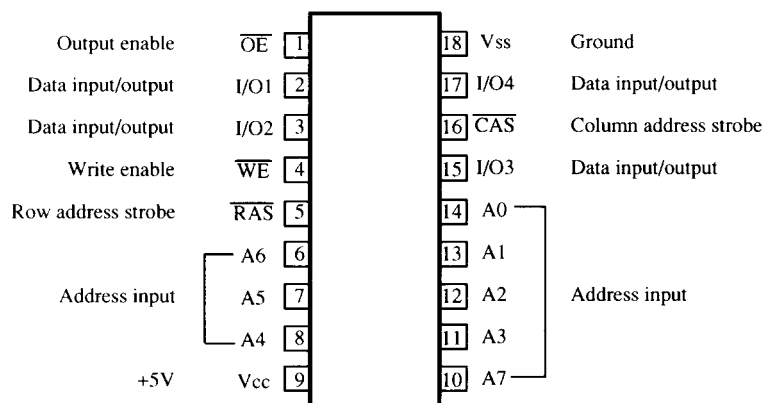


MICROPROCESSOR TERMINAL DESCRIPTIONS

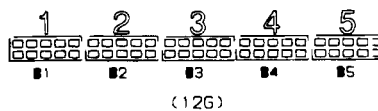
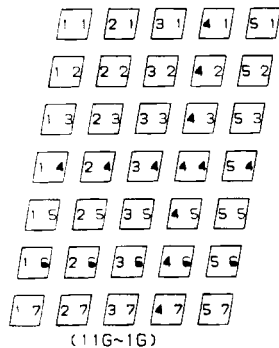
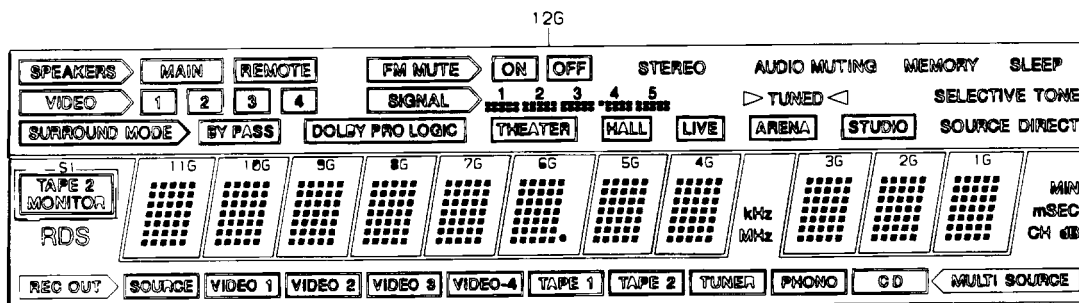
Pin No.	Function	I/O	Description
1	RDSDATA	I	Not used.
2	ODDATA	O	Connect to the terminal SIN of DSP IC.
3	ODCL	O	Connect to the terminal SCK of DSP IC.
4	VCTLA	O	Video selector switch control output pin
5	VCTLD	O	Video selector switch control output pin
6	IPM	I	Detector input pin for intelligent power management
7	FLSDATA	O	Data output pin for FL tube driver M66004FP
8	FLSCK	O	Clock output pin for FL tube driver M66004FP
9	FLCS	O	Chip select output pin for FL tube driver M66004FP
10	VMUT	O	Muting control output pin for video signal
11	VCTLB	O	Video selector switch control output pin
12	MROFF	O	Multi room indicator and control output pin
13	POWER	O	Power source control output pin
14	SYSOUT	O	System code output pin
15	HPMUT	O	Muting control output pin for headphone signal
16	VOLTH	O	Secondary voltage control output pin
17	VSS		Ground pin
18	FRL	O	Relay control pin for front speaker
19	CRRL	O	Relay control pin for center and rear speakers
20	MRL	O	Relay control pin for multi source
21	TUMUT	O	Not used.
22	DATA	O	Data output pin. Connect to the terminals DATA of function switch ICs, and electric volume IC.
23	CL	O	Clock output pin. Connect to the terminals CK of function switch ICs, and electric volume IC.
24	PLL	O	Not used.
25	FUNC	O	Connect to terminal ST of function switches and terminal STB of TC9274N.
26	STB	O	Connect to the terminal STB of electric volume.
27	DARST	O	Reset output pin for DA converter.
28	DPD	O	Control output pin for digital power down.
29	HREQ	I	Connect to the terminal HREQ of DSP IC.
30	SS	O	Connect to the terminal SS of DSP IC.
31	DSPRST	O	Reset output pin for DSP IC.
32	VSS		Ground pin
33	FMUT	O	Not used.
34	CRMUT	O	Muting output pin for center and rear amplifiers
35	PROTECT	I	Detector input pin of protection circuit. H:On
36	STONE	O	Selective tone circuit control output pin. L:On

Pin No.	Function	I/O	Description
37	SD	I	Not used.
38	STBY/RECV	O	Stand-by and received indicator output pin
39	VOLDOWN	O	Volume control output pin
40	VOLUP	O	Refer table I.
41	STEREO	I	Not used.
42	VCTLC	O	Video selector switch control output pin
43	RESET	I	System reset input pin
44	REMIN	I	Remote control signal input pin
45	SYSIN	I	System code input pin
46	POFF	I	Power stoppage detector input pin
47	RDSSCK	I	Not used.
48	VDD		Power supply pin (+5V)
49	X2		Resonator connection terminal for main system clock
50	X1		Connect the ceramic resonator 10MHz.
51	IC		Internal connection pin. Connect to the ground terminal.
52	XT2		Crystal connection pin for sub system clock resonator
53	RDSSIG	I	Not used.
54	AVSS		Ground pin of A/D converter
55	K0	I	Operation key connection pin
56	K1	I	Operation key connection pin
57	K2	I	Operation key connection pin
58	K3	I	Operation key connection pin
59	K4	I	Operation key connection pin
60	K5	I	Operation key connection pin
61	MODE	I	Initializing input of operation mode
62	BAND	I	Initializing input of band region and RDS function.
63	AVDO		Analogue power supply of A/D converter
64	AVREF		Reference voltage input pin of A/D converter

LH2464-10 (DRAM)



13-BT-138GK (FL TUBE)



PIN NO.	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	4
CONNECTION	F	F	N	N	P	P	P	P	P	P	P	P	P	P	P	P
PIN NO.	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3
CONNECTION	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1
PIN NO.	3	3	3	2	2	2	2	2	2	2	2	2	2	1	1	1
CONNECTION	P	P	P	P	P	3	P	P	N	N	N	N	N	N	N	1
PIN NO.	1	1	1	1	1	1	1	9	8	7	6	5	4	3	2	1
CONNECTION	1	1	1	9	8	7	6	5	4	3	2	1	N	N	F	F

NOTE: F1,F2...Filament
 NP.....No pin
 NC...No connection
 1G ~ 13G....Grid

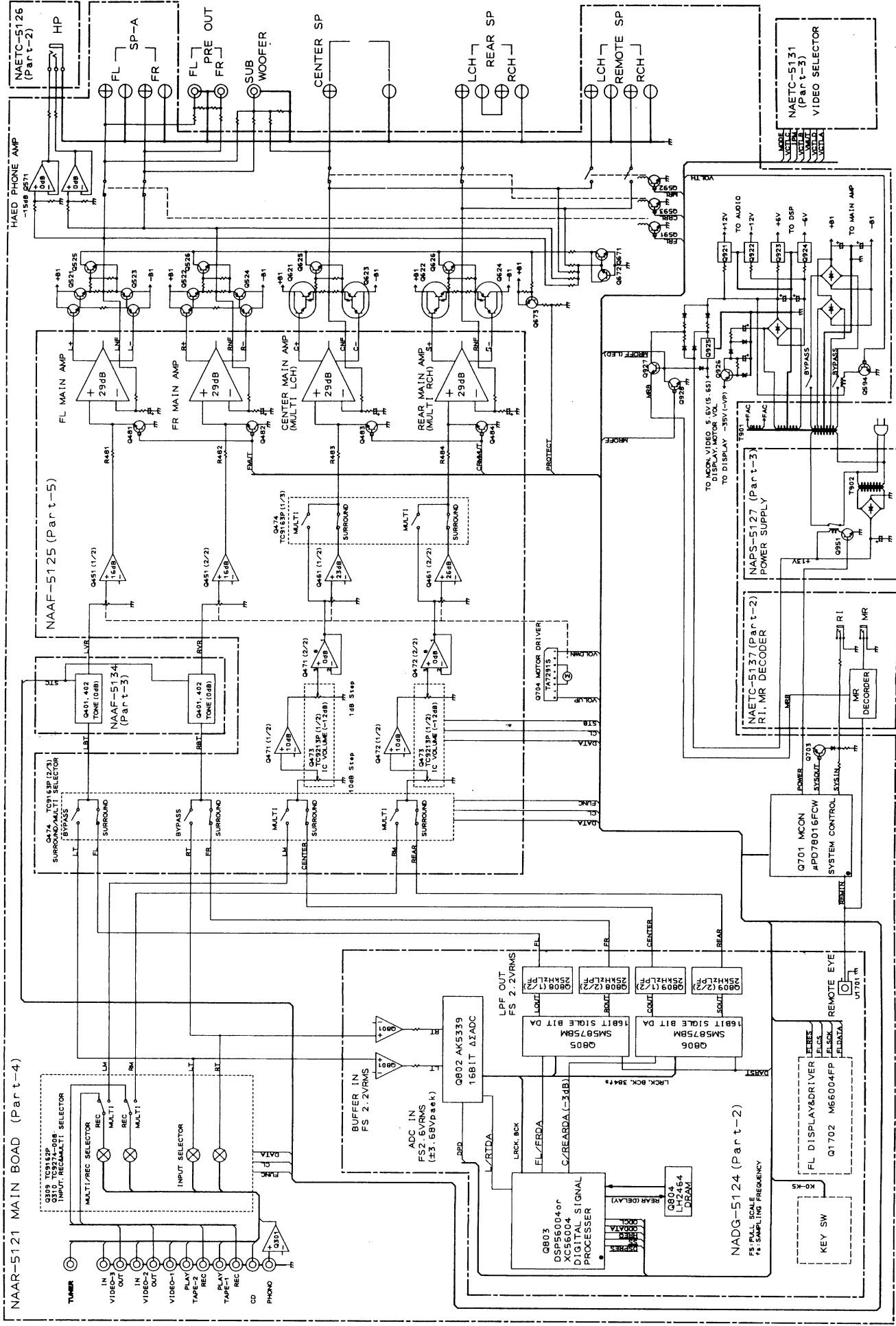
XC56004FJ50 (DSP)

Pin No.	Symbol	Description
1	AGND	GND:EMI control output buffer pin
2	AMC0	This output is Chip selector 0 for SRAM accesses.
3	MA15/MCS3	Address Line 15/Chip Selector 3
4	MA14	Address output for DRAM access
5	MA13	Address output for DRAM access
6	AVCC	Vcc:EMI address/control output buffer pin
7	MA12	Address output for DRAM access
8	AGND	GND:EMI address output buffer pin
9	QVCC	Vcc:Internal Logic supply pin
10	QGND	GND:Internal Logic supply pin
11	MA11	Address output for DRAM access
12	MA10	Address output for DRAM access
13	MA9	Address output for DRAM access
14	MA8	Address output for DRAM access
15	AGND	GND:EMI address output buffer pin
16	MA7	Address output for DRAM access
17	AVCC	Vcc:EMI address/control output buffer pin
18	MA6	Address output for DRAM access
19	MA5	Address output for DRAM access
20	MA4	Address output for DRAM access
21	AGND	GND:EMI address output buffer pin
22	MA3	Address output for DRAM access
23	MA2	Address output for DRAM access
24	MA1	Address output for DRAM access
25	MA0	Address output for DRAM access
26	SCK/SCL	SPI Serial Clock/I C Serial clock
27	EXTAL	This input should be connected to an external clock source.
28	QVCC	Vcc:Internal Logic supply pin
29	QGND	GND:Internal Logic supply pin
30	PINIT	PLL Initialization pin
31	PGND	GND:PLL supply pin
32	PCAP	Off-chip capacitor connection pin for PLL filter
33	PVCC	Vcc:PLL supply pin
34	SGND	GND:SAI,SHI & ONCE output buffer supply pin
35	MISO/SDA	SPI Master-In-Slave-Out/I C Data and Acknowledge
36	RESET	This input is a direct hardware reset of the processor.
37	MODA/IRQA	Mode Select A/External Interrupt Request A/STOP Recovery
38	MODB/IRQB	Mode Select B/External Interrupt Request B
39	MODC/NMI	Mode Select C/Non-Maskable Interrupt Request
40	SVCC	Vcc:SAI,SHI & ONCE output buffer supply pin

Pin No.	Symbol	Description
41	MOSI/HA0	SPI Master-Out-Slave-In/I C Slave Address 0
42	SS/HA2	SPI Slave Selector/I C Slave Address 2
43	HREQ	Host Request
44	SGND	GND:SAI,SHI & ONCE output buffer supply pin
45	SDO2	Serial Data Output 2
46	SDO1	Serial Data Output 1
47	SDO0	Serial Data Output 0
48	SVCC	Vcc:SAI,SHI & ONCE output buffer supply pin
49	SCKT	Transmit Serial Clock
50	WST	Transmit Word Select
51	SCKR	Receive Serial Clock
52	QGND	GND:Internal Logic supply pin
53	QVCC	Vcc:Internal Logic supply pin
54	SGND	GND:SAI,SHI & ONCE output buffer supply pin
55	WSR	Receive Word Select
56	SDI1	Serial Data Input 1
57	SDI0	Serial Data Input 0
58	DSO	Debug Serial Output
59	DSI/OSO	Debug Serial Input/Chip Status 0
60	DSCK/OS1	Debug Serial Clock/Chip Status 1
61	DR	Debug Request Input
62	MD7	Data Bus input/output pin
63	MD6	Data Bus input/output pin
64	MD5	Data Bus input/output pin
65	MD4	Data Bus input/output pin
66	DGND	GND:EMI data bus & GPIO output buffer pin
67	MD3	Data Bus input/output pin
68	MD2	Data Bus input/output pin
69	MD1	Data Bus input/output pin
70	DVCC	Vcc:EMI data bus & GPIO output buffer pin
71	MDO	Data Bus input/output pin
72	DGND	GND:EMI data bus & GPIO output buffer pin
73	GPIO3	General Purpose Input/Output 3
74	GPIO2	General Purpose Input/Output 2
75	GPIO1	General Purpose Input/Output 1
76	GPIO0	General Purpose Input/Output 0
77	MRD	Data Read Strobe
78	MWR	Data Write Strobe
79	MA17/MCS1/MRAS	Address Line 17/Chip selector 1/Row Address Strobe
80	MA16/MCS2/MCAS	Address Line 16/Chip selector 2/Column Address Strobe

SCHEMATIC DIAGRAM

Part 1



SCHEMATIC DIAGRAM

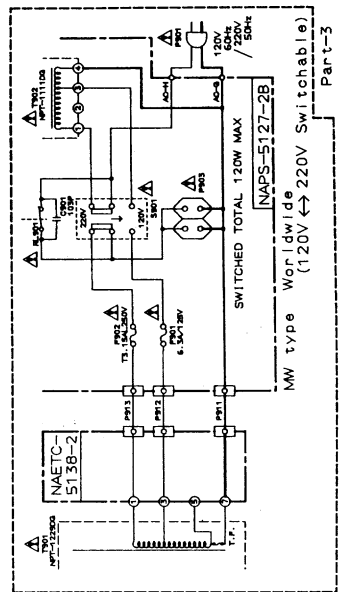
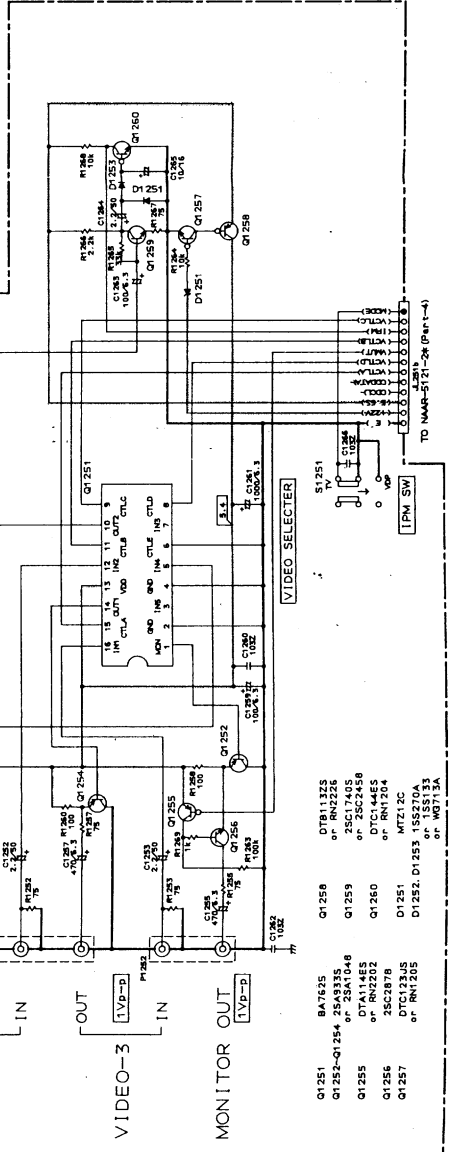
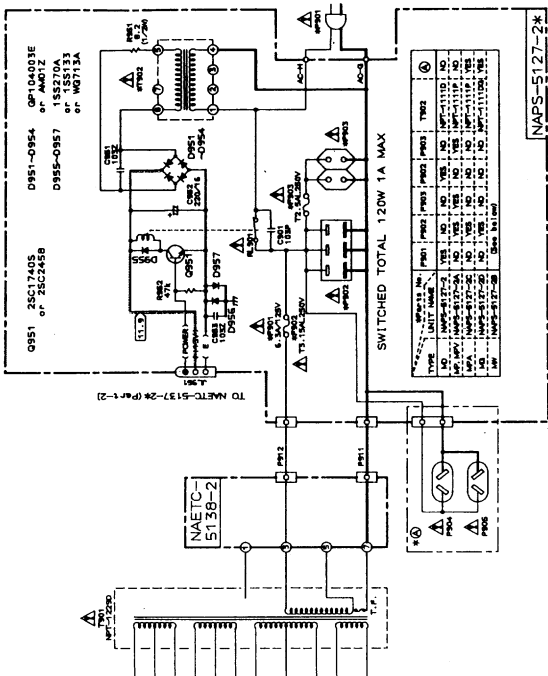
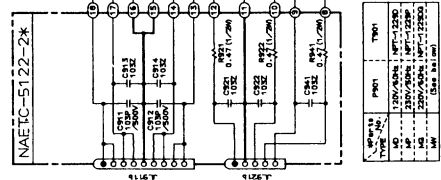
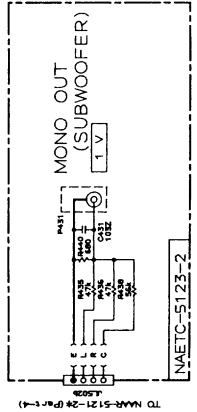
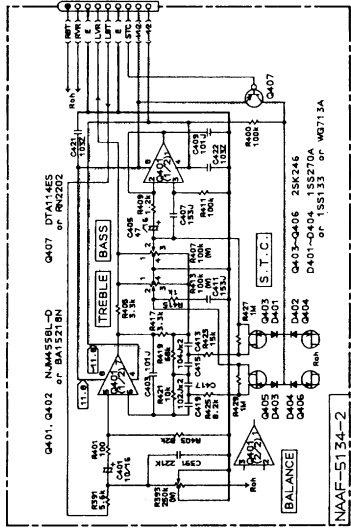
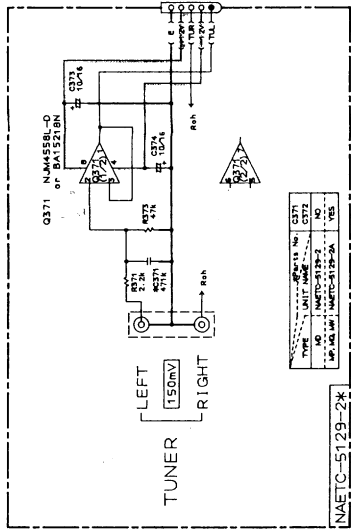
Part 3

MD type : 120V/60Hz Area
 MDN type : U.S.A.
 MDC type : Canada

MP type : 230V/50Hz Area
 MPV type : Europe
 MPV type : Germany
 MPA type : Australia

MG type : 220V/60Hz Area
 MGK type : South Korea

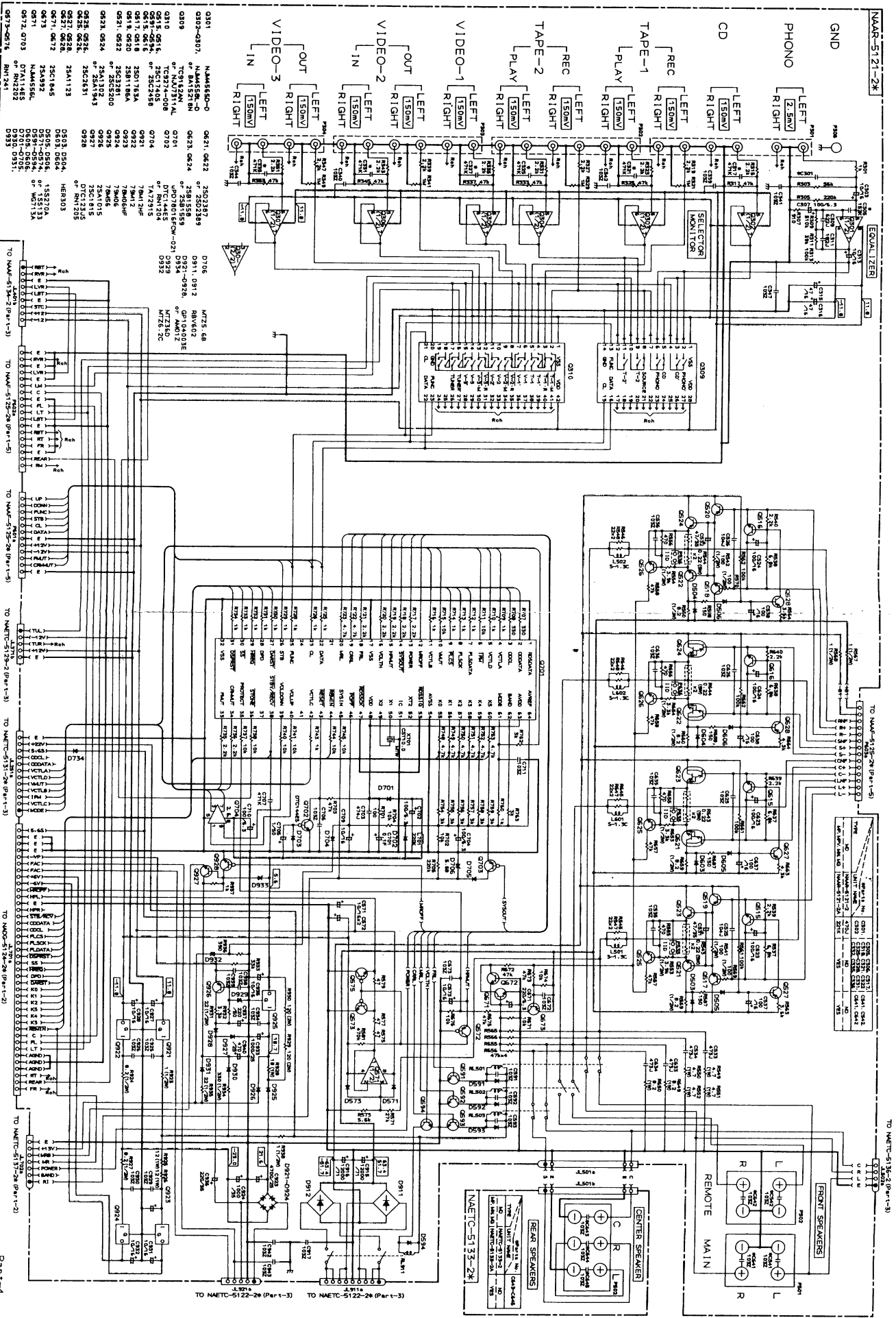
MW type : 120V or 220V Switchable
 MW type : Worldwide
 MMX type : For PX



SCHEMATIC DIAGRAM

Part 4

A B C D E F G



PRINTED CIRCUIT BOARD-PARTS LIST

NOTE: <D>:120 V model only
<P>:230 V model only
<W>:Worldwide model only

MAIN CIRCUIT PC BOARD (NAAR-5121-2/2A)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q301	22240191	NJM4565D-D
Q302-Q307	22240293 or 22240247	NJM4558L-D or BA15218N
Q309	22240798	TC9162AN
Q310	22240829	TC9274N-008
Q571	22240752	NJM4556L
Q701	22240827	μ PD78016FCW-021
Q704	22240239	TA7291S
Q921	222780125NEC	78M12HF
Q922	222790125	79M12HF
Q923	222780065JRC	78M06HF
Q924	222790065JRC	79M06HF
Q925	222780565JRC	78M56
	Transistors	
Q515,Q516	2213284 or	2SC1740S-R or
Q591-Q594	2212115	2SC2458-GR
Q517,Q518	2203010	2SC5171
Q519,Q520	2203000	2SA1930
Q521,Q522	2201482, 2201483, 2202822 or 2202823	* 2SC3821-R, * 2SC3821-O, * 2SC5200-R or * 2SC5200-O
Q523,Q524	2201472, 2201473, 2202812 or 2202813	* 2SA1492-Y, * 2SA1492-P, * 2SA1962-R or * 2SA1962-O
Q525,Q526	2214984 or	2SC2631-R or
Q625,Q626	2214985	2SC2631-S
Q527,Q528	2214974 or	2SA1123-R or
Q627,Q628	2214975	2SA1123-S
Q572,Q703	2213510 or 2214350	DTA114ES or RN2202
Q573-Q576	2213631 or 2213632	RN1241-A or RN1241-B
Q615,Q616	2213284 or 2212115	2SC1740S-R or 2SC2458-GR
Q621,Q622	2202882, 2202883, 2202903, 2202904 or 2202906	* 2SD2387-R, * 2SD2387-O, * 2SD2389-O, * 2SD2389-Y or * 2SD2389-P, Transistors
Q623,Q624	2202872, 2202873, 2202893, 2202894 or 2202896	* 2SB1558-R, * 2SB1558-O, * 2SB1559-O, * 2SB1559-Y or * 2SB1559-P, Transistors
Q671,Q672	2211732 or 2211733	2SC1845-F or 2SC1845-E
Q673	2211792 or 2211793	2SA992-F or 2SA992-E
Q702	221282 or 2213560	DTC144ES or RN1204
Q926	2211455	2SA1015-GR
Q927	2211255	2SC1815-GR
Q928	2213640 or 2214660	DTC123JS or RN1205
	Diodes	
D503,D504	22380012F	HER303F
D505,D506	223205	ISS270A
D571-D574	223163 or	ISS133 or
D591-D594	223222	WG713A
D603,D604	22380012F	HER303F
D605,D606	223205	ISS270A

CIRCUIT NO.	PART NO.	DESCRIPTION
D701-D705	223163 or	ISS133 or
D930,D931	223222	WG713A
D706	224450562	MTZ5.6B
D911,D912	22380038	RBV602
D921-D928	22380046 or	AM01Z or
D934	22380035	GP104003E
D929	224453604	MTZ36D
D932	224450623	MTZ6.2C
D933	223205	ISS270A
	223163 or	ISS133 or
	223222	WG713A
	Coils	
L501,L502	231176S	S-1.3C
L601,L602	231176S	S-1.3C
L701	233454K220	NCH-1452 220K
	Resonator	
X701	3010239Y	CST10.0MTW
	Capacitors	
C303,C304	354741009	10μ F,16V,Elect
C307,C308	354721019	100μ F,6.3V,Elect
C309,C310	374726224	6200pF±5%,50V,Plastic
C311,C312	374721824	1800pF±5%,50V,Plastic
C313,C314	354741009	10μ F,16V,Elect
C315,C316	354744709	47μ F,16V,Elect
C523,C524	354741019	100μ F,16V,Elect
C525,C526	374721044	0.1μ F±5%,50V,Plastic
C531,C532	354764709	47μ F,35V,Elect
C533,C534	374724734	0.047μ F±5%,50V,Plastic
C537,C538	354741019	100μ F,16V,Elect
C571-C573	354741009	10μ F,16V,Elect
C623,C624	354741019	100μ F,16V,Elect
C633,C634	374724734	0.047μ F±5%,50V,Plastic
C637,C638	354741019	100μ F,16V,Elect
C671	354722219	220μ F,6.3V,Elect
C701	3000076 or 3000078	EEC55R5T104 or DX-5R5L104,Super
C702,C704	354721019	100μ F,6.3V,Elect
C703	375524744	0.47μ F±5%,50V,Plastic
C705,C709	354741009	10μ F,16V,Elect
C710	354721019	100μ F,6.3V,Elect
C915,C916	3504259	12000μ F,71V,Elect
C923	354754729	4700μ F,25V,Elect
C924	354761029	1000μ F,35V,Elect
C927,C928	354741009	10μ F,16V,Elect
C931,C932	354741009	10μ F,16V,Elect
C933	354751029	1000μ F,25V,Elect
C935	354741009	10μ F,16V,Elect
C936	354762219	220μ F,35V,Elect
C937	354782219	220μ F,50V,Elect
C940	354754719	470μ F,25V,Elect
C944	354761019	100μ F,35V,Elect
	Resistors	
R541,R542	443521014	100 Ohm±5%, 1/2W, Metal oxide
R543,R544	4000132	RGC55 0.22OHMK,Metal plate
R549-R552	453630474	4.7 Ohm±5%, 1W, Metal
R553,R554	443523924	3.9 kohm±5%, 1/2W, Metal oxide
R559,R560	453530824	8.2 Ohm±5%, 1/2W, Metal
R567,R568	453530104	1 Ohm±5%, 1/2W, Metal
R569,R570	443521014	100 Ohm±5%, 1/2W, Metal oxide
R643,R644	4000132	RGC55 0.22OHMK,Metal plate
R649,R650	453630824	8.2 Ohm±5%, 1W, Metal
R653,R654	443522724	2.7 kohm±5%, 1/2W, Metal oxide
R659,R660	453530824	8.2 Ohm±5%, 1/2W, Metal
R923	453530104	1 Ohm±5%, 1/2W, Metal
R924	453530824	8.2 Ohm±5%, 1/2W, Metal

CAUTION: Replacement of the transistor of mark *, if necessary, must be made from the same beta group (Hrz) as the original type.

NOTE: THE COMPONENTS IDENTIFIED BY MARK Δ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CIRCUIT NO.	PART NO.	DESCRIPTION
R925,R926	443621204	12 Ohm \pm 5%, 1W, Metal oxide
R927	453530824	8.2 Ohm \pm 5%, 1/2W, Metal
R928	443621804	18 Ohm \pm 5%, 1W, Metal oxide
R929,R930	443621214	120 Ohm \pm 5%, 1W, Metal oxide
R931	443522204	22 Ohm \pm 5%, 1/2W, Metal oxide
R934	443523314	330 Ohm \pm 5%, 1/2W, Metal oxide
R935	443522204	22 Ohm \pm 5%, 1/2W, Metal oxide
R938	453530104	1 Ohm \pm 5%, 1/2W, Metal
Relaies		
RL501-RL503	25065339	NRL-2P5A-DC24-046
RL911	25065339	Δ NRL-2P5A-DC24-046
Plugs		
P535,P536	25055038	NPLG-2P29
P601a	25055651	NPLG-12P607
P602a	25055654	NPLG-18P610
P603a	25055652	NPLG-14P608
P635,P636	25055038	NPLG-2P29
Terminals		
P301-P303	25045300	NPJ-6PDBL159
P304	25045303	NPJ-4PDBL162
P501	25060211	NTM-4PDMN133,Speaker
P502	25060212Y or 25060230Y	NTM-4PDML134 or NTM-4PDML152
Wire clamper		
P921	260224	CP-1S
Wire holders		
JL251a	25051096	NSCT-12P883
JL371b	25050269	NSCT-5P97
JL501a	25051108	NSCT-4P895
JL502a	25051088	NSCT-4P875
JL702a	25051091	NSCT-7P878
JL911a	25051113	NSCT-9P900
JL921a	25051109	NSCT-5P896
Wire traps		
JL401b	25055630	NPLG-9P592
JL701a	25050980	NSCT-40P767
Radiators		
Q921a	27160209	RAD-67
Q923a	27160211	RAD-68

SECONDARY CIRCUIT PC BOARD (NAETC-5122-2)

CIRCUIT NO.	PART NO.	DESCRIPTION
Resistors		
R921,R922	453534794	0.47 Ohm \pm 5%,1/2W, Metal
R941	453534794	0.47 Ohm \pm 5%,1/2W, Metal
Wire holders		
JL911b	25051113	NSCT-9P900
JL921b	25051109	NSCT-5P896

PRE. OUTPUT TERMINAL PC BOARD (NAETC-5123-2)

CIRCUIT NO.	PART NO.	DESCRIPTION
P431	25045302	NPJ-1PDBL161,Terminal
JL502b	25051088	NSCT-4P875,Wire holder

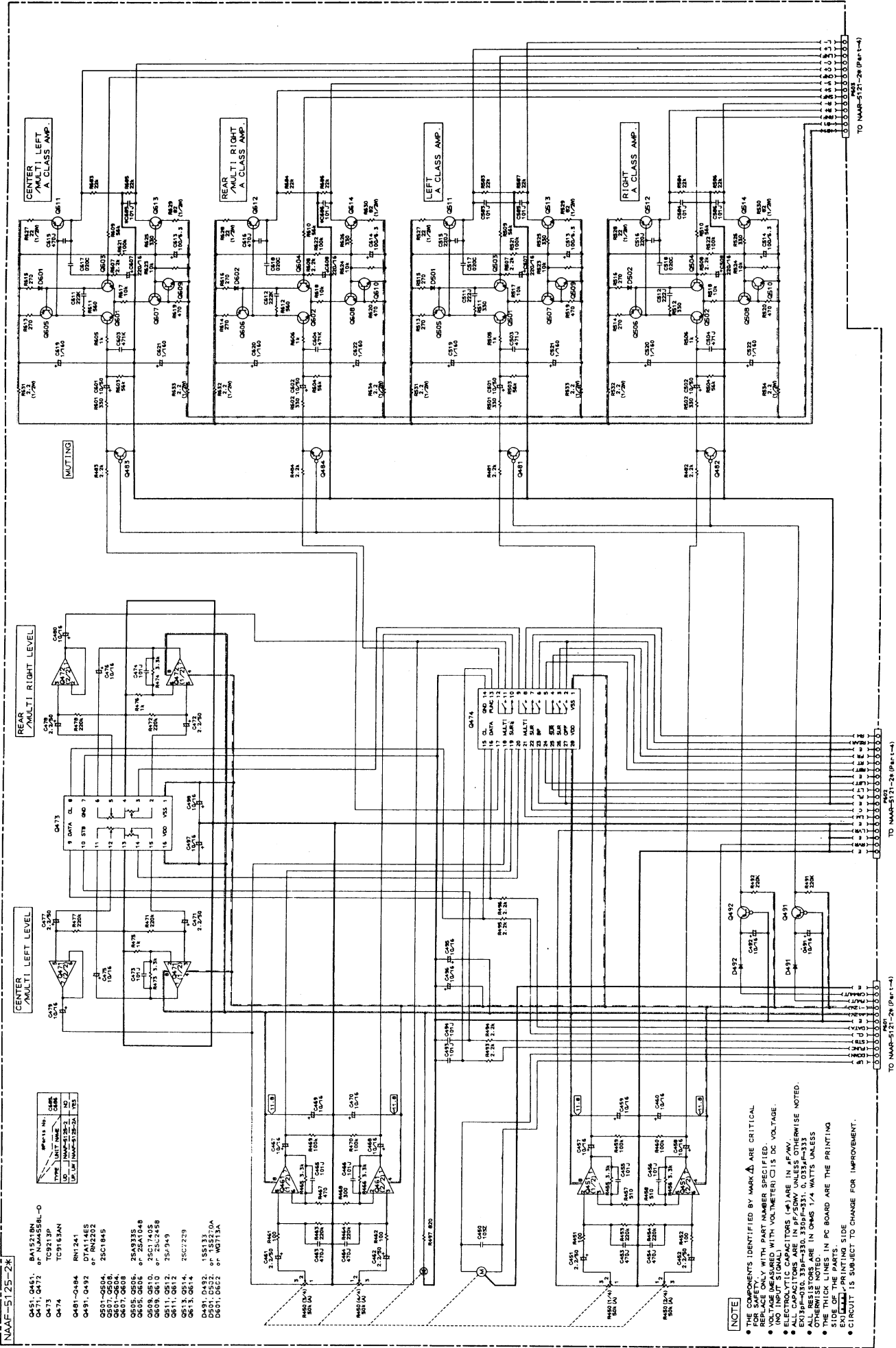
DISPLAY CIRCUIT PC BOARD (NADIS-5124-2)

CIRCUIT NO.	PART NO.	DESCRIPTION
Remote sensor		
U1701	24130010	HC-312
FL tube		
Q1701	212138	13-BT-138GK
ICs		
Q1702	22240685R9	M66004FP
Q801	22240293 or	NJM4558L-D or
Q808,Q809	22240247	BA15218N

CIRCUIT NO.	PART NO.	DESCRIPTION
Q802	22240524	AK5339-VP or CS5339-KP AK5339-VP and CS5339-KP are same IC.
Q803	22240831R3	XC56004FJ50
Q804	22240720 or 22240867	LH2464-10 or LC32464P-80
Q805,Q806	22240832R9	SM5875BM
Transistors		
Q1703	221282 or 2213560	DTC144ES or RN1204
Q1704,Q1705	2213284 or 2212115	2SC1740S-R or 2SC2458-GR
LEDs		
D1701,D1702	225291D	SEL4910D-D
Diodes		
D1703,D1711	223205	1SS270A
D1713,D1714	223163 or	1SS133 or
D803-D806	223222	WG713A
D1712	224451303	MTZ13C
D802	22380046 or 22380035	AM01Z or GP104003E
Core		
L801	230906	BL02RN2-R62
Coils		
L811	233454K220	NCH-1452 220K
L818-L820	233454K220	NCH-1452 220K
Resonator		
X801	3010112	KD6586FFB
Capacitors		
C1702,C1711	353741009	10 μ F,16V,Elect
C1714,C825	375524744	0.47 μ F \pm 5%,50V,Plastic
C1716	353781009	10 μ F,50V,Elect
C1717	353721019	100 μ F,6.3V,Elect
C1718,C1719	375524744	0.47 μ F \pm 5%,50V,Plastic
C803,C804	353741009	10 μ F,16V,Elect
C805,C806	374721034	0.01 μ F \pm 5%,50V,Plastic
C807-C810	353721019	100 μ F,6.3V,Elect
C815,C818	353721019	100 μ F,6.3V,Elect
C816	353741009	10 μ F,16V,Elect
C824,C829	353721019	100 μ F,6.3V,Elect
C841,C850	353721019	100 μ F,6.3V,Elect
C853	353721019	100 μ F,6.3V,Elect
C861-C864	353780109	1 μ F,50V,Elect
C867-C870	374723924	3900pF \pm 5%,50V,Plastic
C873-C876	374722224	2200pF \pm 5%,50V,Plastic
C879-C882	374721524	1500pF \pm 5%,50V,Plastic
C885-C888	370132214	220pF \pm 5%,100V,APS
C891-C894	353741009	10 μ F,16V,Elect.
Resistor		
R1705	49163103413	10k \times 13 RM1/101J, Array
Push switches		
S701-S706	25035652	NPS-111-S604
S709-S711	25035652	NPS-111-S604
S717-S720	25035652	NPS-111-S604
S725-S729	25035652	NPS-111-S604
S733-S735	25035652	NPS-111-S604
Holder		
	27190913Y	
Wire holders		
JL701b	25050946	NSCT-40P733
JL801b	25051087	NSCT-3P874

SCHEMATIC DIAGRAM

Part 5



- NAAAF-5125-24
- | REF ID | DESCRIPTION | VALUE | TYPE | MARKING |
|------------|-------------|--------|------|---------|
| Q471, Q472 | TRANSISTOR | 2N2906 | PNP | 2N2906 |
| Q473 | TRANSISTOR | 2N2907 | PNP | 2N2907 |
| Q474 | TRANSISTOR | 2N2906 | PNP | 2N2906 |
| Q481-Q484 | TRANSISTOR | 2N2906 | PNP | 2N2906 |
| Q491, Q492 | TRANSISTOR | 2N2906 | PNP | 2N2906 |
| Q501-Q504 | TRANSISTOR | 2N2906 | PNP | 2N2906 |
| Q505-Q508 | TRANSISTOR | 2N2906 | PNP | 2N2906 |
| Q509-Q510 | TRANSISTOR | 2N2906 | PNP | 2N2906 |
| Q511-Q512 | TRANSISTOR | 2N2906 | PNP | 2N2906 |
| Q513, Q514 | TRANSISTOR | 2N2906 | PNP | 2N2906 |
| D491, D492 | DIODE | 1N4148 | SI | 1N4148 |
| D501, D502 | DIODE | 1N4148 | SI | 1N4148 |
| D503, D504 | DIODE | 1N4148 | SI | 1N4148 |

NOTE

- THE COMPONENTS IDENTIFIED BY MARK Δ ARE CRITICAL
- REPLACE ONLY WITH PART NUMBER SPECIFIED
- VOLTAGE MEASURED WITH VOLTMETER \square IS DC VOLTAGE
- ALL CAPACITORS ARE IN PFD UNLESS OTHERWISE NOTED
- EXCEPT FOR 330P, 330F, 331, 0.033, 0.033F, 333
- OTHERWISE NOTED
- THE THICK LINES IN PCB ARE THE PRINTING
- SIDE OF THE PARTS
- TO NAAAF-5125-24 (Part 1-4)

PRINTED CIRCUIT BOARD-PARTS LIST

NOTE: <D>:120 V model only
<P>:230 V model only
<W>:Worldwide model only

MASTER VOLUME CIRCUIT PC BOARD (NAAF-5125-2/2A)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q451,Q461	22240293 or	NJM4558L-D or
Q471,Q472	22240247	BA15218N
Q473	22240266	TC9213P
Q474	22240799	TC9163AN
	Transistors	
Q481-Q484	2213631 or 2213632	RN1241-A or RN1241-B
Q491,Q492	2213510 or 2214350	DTA114ES or RN2202
Q501-Q504	2211732 or	*2SC1845-F or
Q601-Q604	2211733	*2SC1845-E
Q505,Q506	2213354 or	2SA933S-R or
Q605,Q606	2212125	2SA1048-GR
Q507,Q508	2211732 or	2SC1845-F or
Q607,Q608	2211733	2SC1845-E
Q509,Q510	2213284 or	2SC1740S-R or
Q609,Q610	2212115	2SC2458-GR
Q511,Q512	2211353 or	2SA949-O or
Q611,Q612	2211354	2SA949-Y
Q513,Q514	2211633 or	2SC2229-O or
Q613,Q614	2211634	2SC2229-Y
	Diodes	
D491,D492	223205	1SS270A
D501,D502	223163 or	1SS133 or
D601,D602	223222	WG713A
	Capacitors	
C451,C452	354780229	2.2 μ F,50V,Elect
C457-C460	354741009	10 μ F,16V,Elect
C461,C462	354780229	2.2 μ F,50V,Elect
C467-C470	354741009	10 μ F,16V,Elect
C471,C472	354780229	2.2 μ F,50V,Elect
C475,C476	354741009	10 μ F,16V,Elect
C477,C478	354780229	2.2 μ F,50V,Elect
C479,C480	354741009	10 μ F,16V,Elect
C491,C492	354741009	10 μ F,16V,Elect
C495-C498	354741009	10 μ F,16V,Elect
C501,C502	354781009	10 μ F,50V,Elect
C503,C504	374724714	470pF \pm 5%,50V,Plastic
C507,C508	354742219	220 μ F,16V,Elect
C511,C512	374722224	2200pF \pm 5%,50V,Plastic
C513,C514	354721019	100 μ F,6.3V,Elect
C519-C522	354700109	1 μ F,160V,Elect
C601,C602	354781009	10 μ F,50V,Elect
C607,C608	354742219	220 μ F,16V,Elect
C613,C614	354721019	100 μ F,6.3V,Elect
C619-C622	354700109	1 μ F,160V,Elect
	Resistors	
R450	5104348AY or 5104349AY	N16RQL50KA25F Variable
R527,R528	443522204	22 Ohm \pm 5%,1/2W,Metal oxide
R529,R530	443528204	82 Ohm \pm 5%,1/2W,Metal oxide
R531-R534	453530224	2.2 Ohm \pm 5%,1/2W,Metal
R627,R628	443522204	22 Ohm \pm 5%,1/2W,Metal oxide
R629,R630	443528204	82 Ohm \pm 5%,1/2W,Metal oxide
R631-R634	453530224	2.2 Ohm \pm 5%,1/2W,Metal
	Sockets	
P601	25050985	NSCT-12P772
P602	25050988	NSCT-18P775
P603	25050986	NSCT-14P773

HEADPHONE TERMINAL PC BOARD (NAETC-5126-2)

CIRCUIT NO.	PART NO.	DESCRIPTION
JL801a	25051087	NSCT-3P874,Wire holder
P503	25045255	YKB26-5009,Headphone jack

PRIMARY CIRCUIT PC BOARD (NAPS-5127-2/2A/2B/2C/2D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistor	
Q951	2213284 or 2212115	2SC1740S-R or 2SC2458-GR
	Diodes	
D951-D954	22380046 or 22380035	AM01Z or GP104003E
D955-D957	223205 223163 or 223222	1SS270A 1SS133 or WG713A
	Power transformer	
T901	2300670AY Δ 2300671AY Δ 2300672AY Δ	NPT-1111D <D> NPT-1111P <P> NPT-1111DG <W>
	Capacitors	
C901	3500065A Δ	DE7150FZ103P AC400/125V,IS
C952	354742219	220 μ F,16V,Elect
	Resistor	
R951	453530824 Δ	8.2 Ohm \pm 5%,1/2W,Metal
	Relay	
RL901	25065248 Δ 25065483 Δ	NRL-1P15A-DC12-29 <D/W> NRL-1P15A-DC12-084 <P>
	Plug	
P901a	25055675	NPLG-2P631 <W>
	AC outlet	
P902	25051124 Δ 25051125 Δ	NSCT-6P911 <D> NSCT-4P912 <P/W>
	Fuseholders	
F901a	25050065 Δ	YSH403T <D/W>
F902a	25050065 Δ	YSH403T <P/W>
F903a	25050065 Δ	YSH403T <P>
	Fuse	
F901	252166Y Δ	6.3A-UL/T-237, Primary <D/W>
F902	252076 Δ	3.15A-SE-EAK, Primary <P/W>
F903	252075 Δ	2.5A-SE-EAK, AC outlet <P>
	Wire holder	
JL961a	25051087	NSCT-3P874
	Switch	
S901	25065437 Δ	NSS-22157P, Voltage selector <W>

TUNER TERMINAL PC BOARD (NAETC-5129-2)

CIRCUIT NO.	PART NO.	DESCRIPTION
Q371	22240293 or 22240247	NJM4558L-D or BA15218N,IC
C373,C374	354741009	10 μ F,16V,Elect. capacitors
P371	25045360	NPJ-2PDWH206,Terminal
JL371a	25051109	NSCT-5P896,Wire holder

VIDEO CIRCUIT PC BOARD (NAETC-5131-2)

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q1251	22240373	BA7625
	Transistors	
Q1252-Q1254	2213354 or 2212125	2SA933S-R or 2SA1048-GR
Q1255	2213510 or 2214350	DTA114ES or RN2202
Q1256	2212285 or 2212286	2SC2878-A or 2SC2878-B

CAUTION: Replacement of the transistor of mark *, if necessary, must be made from the same beta group (Hrr) as the original type.

NOTE: THE COMPONENTS IDENTIFIED BY MARK Δ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
Q1257	2213640 or 2214660	DTC123JS or RN1205	Q1763	221282 or 2213560	DTC144ES or RN1204 <D>
Q1258	2213830 or 2214690	DTB113ZS or RN2226	Q1764	2213510 or 2214350	DTA114ES or RN2202 <D>
Q1259	2213284 or 2212115	2SC1740S-R or 2SC2458-GR	Q1765	24120043	Photo coupler ON3131 <D>
Q1260	221282 or 2213560	DTC144ES or RN1204			Diodes
D1251	224451203	MTZ12C	D1761,D1763	223205	1SS270A
D1252,D1253	223205	1SS270A		223163 or 223222	1SS133 or WG713A
	223163 or 223222	1SS133 or WG713A	D1762	223205	1SS270A
	Capacitors			223163 or 223222	1SS133 or WG713A <D>
C1251-C1253	354780229	2.2 μ F,50V,Elect	D1764	223205	1SS270A
C1255-C1257	354724719	470 μ F,6.3V,Elect		223163 or 223222	1SS133 or WG713A <P/W>
C1259	354721019	100 μ F,6.3V,Elect		Capacitors	
C1261	354721029	1000 μ F,6.3V,Elect	C1761	354721019	100 μ F,6.3V,Elect
C1263	354721019	100 μ F,6.3V,Elect	C1762	374724724	4700pF \pm 5%,50V,Plastic
C1264	354780229	2.2 μ F,50V,Elect		Terminals	
C1265	354741009	10 μ F,16V,Elect	P1761	25045172	HSJ-1003-01-020,RI
	Switch		P1762	25045433	HSJ-1003-01-013,XANTECH <D>
S1251	25065286	NSS-22112		25045293	HSJ-1003-01-012,MR <P/W>
	Terminals			Wire trap	
P1251	25045339	NPJ-4PDYE190	JL702b	25055628	NSCT-7P590
P1252	25045395	NPJ-2PDYE221		Wire holder	
	Wire trap		JL961b	25051087	NSCT-3P874
JL251c	25055633	NPLG-12P595		Switch	
			S1761	250650286	NSS-22112, Band step <W>

SPEAKER TERMINAL PC BOARD (NAETC-5133-2/2A)

CIRCUIT NO.	PART NO.	DESCRIPTION
P1503	25060191	NTM6DML113,Speaker terminal
JL501c	25050268	NSCT-4P96, Wire trap

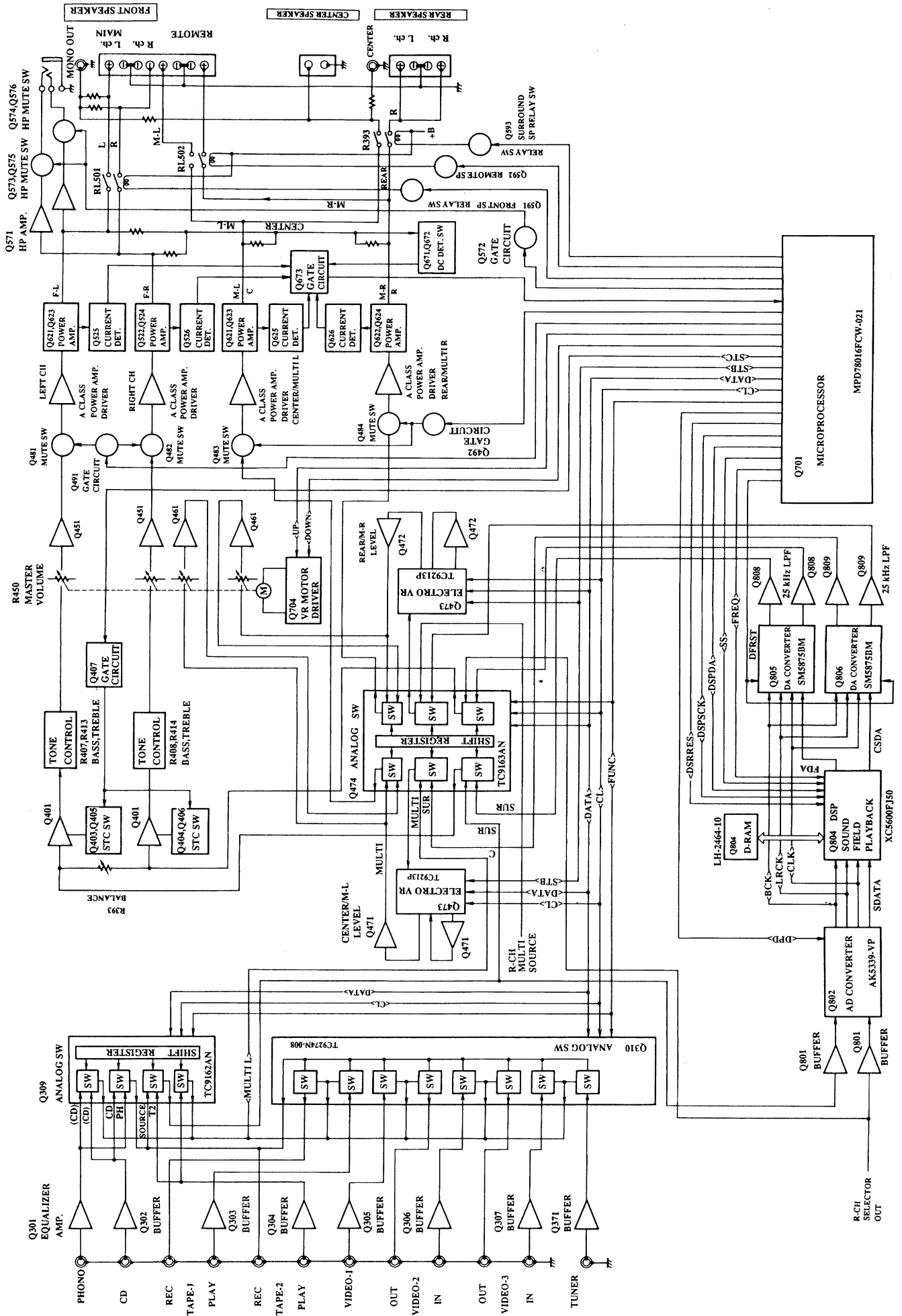
TONE CONTROL CIRCUIT PC BOARD (NAAF-5134-2)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q401,Q402	22240293 or 22240247	NJM4558L-D or BA15218N
	Transistors	
Q403-Q406	2211945	2SK246-GR
Q407	2213510 or 2214350	DTA114ES or RN2202
	Diodes	
D401-D404	223205	1SS270A
	223163 or 223222	1SS133 or WG713A
	Capacitors	
C401,C402	354741009	10 μ F,16V,Elect
C405,C406	354744709	47 μ F,16V,Elect
C407,C408	374721534	0.015 μ F \pm 5%,50V,Plastic
C411,C412	374721534	0.015 μ F \pm 5%,50V,Plastic
C413-C416	374721044	0.1 μ F \pm 5%,50V,Plastic
C417-C420	374721024	1000pF \pm 5%,50V,Plastic
	Resistors	
R393	5104225	N11RGLC250KW22Z, Variable
R407,R413	5104230	N14RLC100KWT22Z,Variable
	Wire holder	
JL401a	25051093	NSCT-9P880

MR/RI TERMINAL PC BOARD (NAETC-5137-2/2A)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q1761,Q1762	221282 or	DTC144ES or

CK DIAGRAM



NOTES

The A-SV620(B)MGK type (Korean model) is the same as the A-SV620(B)MP type (230V model) with the exception of the following sections.

REF.NO.	PART NAME	MGK type		MP type	
		PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
3	Rear panel	27121989Y		27121986Y	
F903	Fuse	Not used		252075	2.5A-SE-EAK
P90.1	Power supply cord	253213WSE	KS-AS	253193HIT	AS-CEE
P904,5	AC outlet	25051266	NSCT-2P1056	Not used	
T901	Power transformer	2301070Y	NPT-1229DG	2301069Y	NPT-1229P
U7	Pc board ass'y	1A558527-2DY	NAPS-5127-2D	1A558527-2AY	NAPS-5127-2A
	Instruction manual	29355221		29342059Y	

ONKYO CORPORATION

Sales Planning & Promotion Dept. : 2-1, Nisshin-cho, Neyagawa-shi, OSAKA 572, JAPAN

Tel: 0720-31-8111 Fax: 0720-33-5222

ONKYO U.S.A CORPORATION

200 Williams Drive, Ramsey, N.J. 07446, U.S.A.

Tel: 201-825-7950 Fax: 201-825-8150

ONKYO DEUTSCHLAND GMBH ELECTRONICS

Industriestrasse 18-20, 82110 Germering, GERMANY

Tel: 089 84 20 Fax: 089 84 93 226

ONKYO FRANCE

Immeuble Le Diamant, Domaine Technologique de Saclay, 4 Rue Rene Razel,

91892 SACLAY, FRANCE Tel: (1) 69 33 1400 Fax: (1) 69 41 35 84