

ONKYO® SERVICE MANUAL

Integrated Stereo Amplifier MODEL A-9911

Black, Silver and Golden color models

BUP/SUP	230V AC, 50Hz
BUW/GUW	120V/220V AC, 50Hz/60Hz
BUD/GUD	120V AC, 60Hz



SPECIFICATIONS

Power Output:	90 watts per channel, min. RMS, at 8 ohms, both channels driven from 20 Hz to 20 kHz, with no more than 0.06% Total harmonic distortion.	Tone Control (Vol -22 dB):	TREBLE (Turnover: 7 kHz) ±10 dB at 20 kHz BASS (Turnover: 200 Hz) +15 / -6 dB at 20 Hz MIDBASS PRESENCE ±6 dB at 200 Hz / 300 Hz
Dynamic Power:	160 watts per channel, RMS, at 4 ohms, both channels driven at 1 kHz, with no more than 1% Total harmonic distortion. (DIN)	Subsonic Filter:	15 Hz (12 dB / oct.)
Total Harmonic Distortion:	283 watts at 2 ohms 185 watts at 4 ohms 108 watts at 8 ohms	High Cut Filter:	TREBLE min. 6 kHz (6 dB / oct.)
Intermodulation Distortion:	0.06% at rated power	Attenuator:	-20 dB
Damping Factor:	130 at 8 ohms (1 kHz)	Signal to Noise Ratio (IHF-A):	PHONO (MM) 5 mV input 87 dB PHONO (MC) 0.5 mV input 70 dB CD, TUNER, LINE, TAPE-PLAY (TONE) 105 dB CD, TUNER, LINE, TAPE-PLAY (SOURCE) 117 dB POWER AMP DIRECT 117 dB European & U.K. & Australian models AC 230 V, 50 Hz U.S.A. & Canadian models AC 120 V, 60 Hz Worldwide models AC 120 V and AC 220-230 V switchable, 60 / 50 Hz
Input Sensitivity / Impedance:	PHONO (MM) 3 mV / 47 kohms PHONO (MC) 300 μ V / 100 ohms CD, TUNER, LINE, TAPE-PLAY (TONE) 300 mV / 25 kohms CD, TUNER, LINE, TAPE-PLAY (SOURCE) 450 mV / 25 kohms POWER AMP DIRECT 450 mV / 25 kohms	Power Supply:	
Output Level / Impedance:	TAPE-REC 300 mV / 1.5 kohms (PHONO)	Dimensions (W x H x D):	435 x 165 x 444 mm 17-1/8" x 6-1/2" x 17-1/2"
Phono Overload:	MM: 1 kHz / 10 kHz at 0.05% THD 100 mV / 480 mV MC: 1 kHz / 10 kHz at 0.1 % THD 10 mV / 48 mV	Weight:	19.7 kg, 43.4 lbs.
Frequency Response:	CD, TUNER, LINE, TAPE-PLAY (SOURCE) 2 Hz — 50 kHz (+0, -1 dB) PHONO (MM) (RIAA Deviation) ±0.3 dB, 20 Hz — 20 kHz		

SERVICE SAFETY PRECAUTIONS

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 a rapide.

Pour une protection permanents, 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	252077	4A-SE-EAK <P><T>
	252154	8A-TSC <D><W>
F902	252070	1A-SE-EAK <P><T>
	252077	4A-SE-EAK <W>

2. 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

3. Voltage Selector (Rear Panel)

Worldwide models are equipped with a voltage selector to conform to local power supplied.

Be sure to set this switch to match the voltage of the power supply in your area before plugging in the unit. Models without a voltage selector can only be used in area where the power supply is the same as that of the unit.

VOLTAGE SELECTOR



Setting the voltage selector

1. Determine the proper for voltage for your area : 220V or 120V.
2. If the preset voltage is not proper for your area, insert a screwdriver into the groove in the switch. Slide the switch all the way to the right (120V) or to the left (220V), which-ever is proper.

ADJUSTMENT PROCEDURES

1. Preparations

- 1) Place the unit on the workbench. (There should be about 15 mm of space between the base plate of the unit and the work surface.)
- 2) Set up the unit as follows.
 - (1) No load
 - (2) No signal
 - (3) Volume turned all the way down
 - (4) Speaker switch OFF
 - (5) Power switch OFF

Note) Check the following points before making adjustments

- (1) The power switch should be OFF.
- (2) The interior of the unit should not be warm.

2. Idling current adjustment

- 1) Turn the power switch ON and allow the unit to warm up for about 10 minutes.
 - (1) Adjust R617(R618) so that the voltage at test point IID-ID P621(P622) on the NAAF-5536 circuit board is $6.5\text{mV} \pm 2\text{mV}$.
- NOTE) Semi-fixed resistors enclosed in parentheses () are for the right channel.

3. Check of operation of protection circuitry

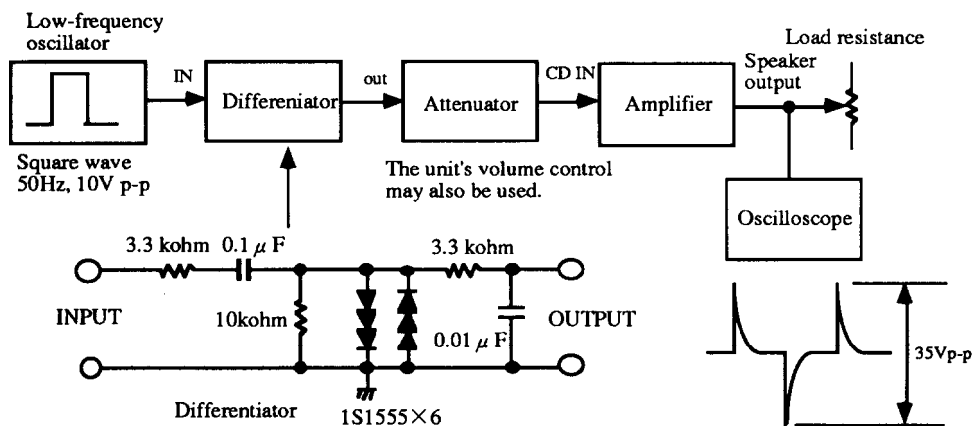
- 1) Check of operation of protection relay.
 - (1) Confirm that the relay turns ON approximately 8 seconds after the power switch is turned ON.
 - (2) The relay should turn OFF approximately 0.5 seconds after the power switch is turned OFF.
- 2) Check of DC detection
 - (1) Turn the power on with no load.
 - (2) After the speaker relay turns ON, apply DC +400 mV to the line input terminals. Confirm that the relay turns OFF.
 - (3) Confirm that operation is the same as (2) above when an input of DC -400 mV is applied.

Note) Under no circumstances connect a load or short the speaker terminals when performing the above test.

3) Confirmation of current detection operation

- (1) Signal input from the circuit illustrated below with no load.
- (2) Confirm that the speaker relay does not turn OFF even when a 2 ohm load is connected when a peak value of 35Vp-p is output.
- (3) Next, confirm that when a 1 ohm load is connected the speaker relay switches OFF and ON a couple of times and then stays OFF.

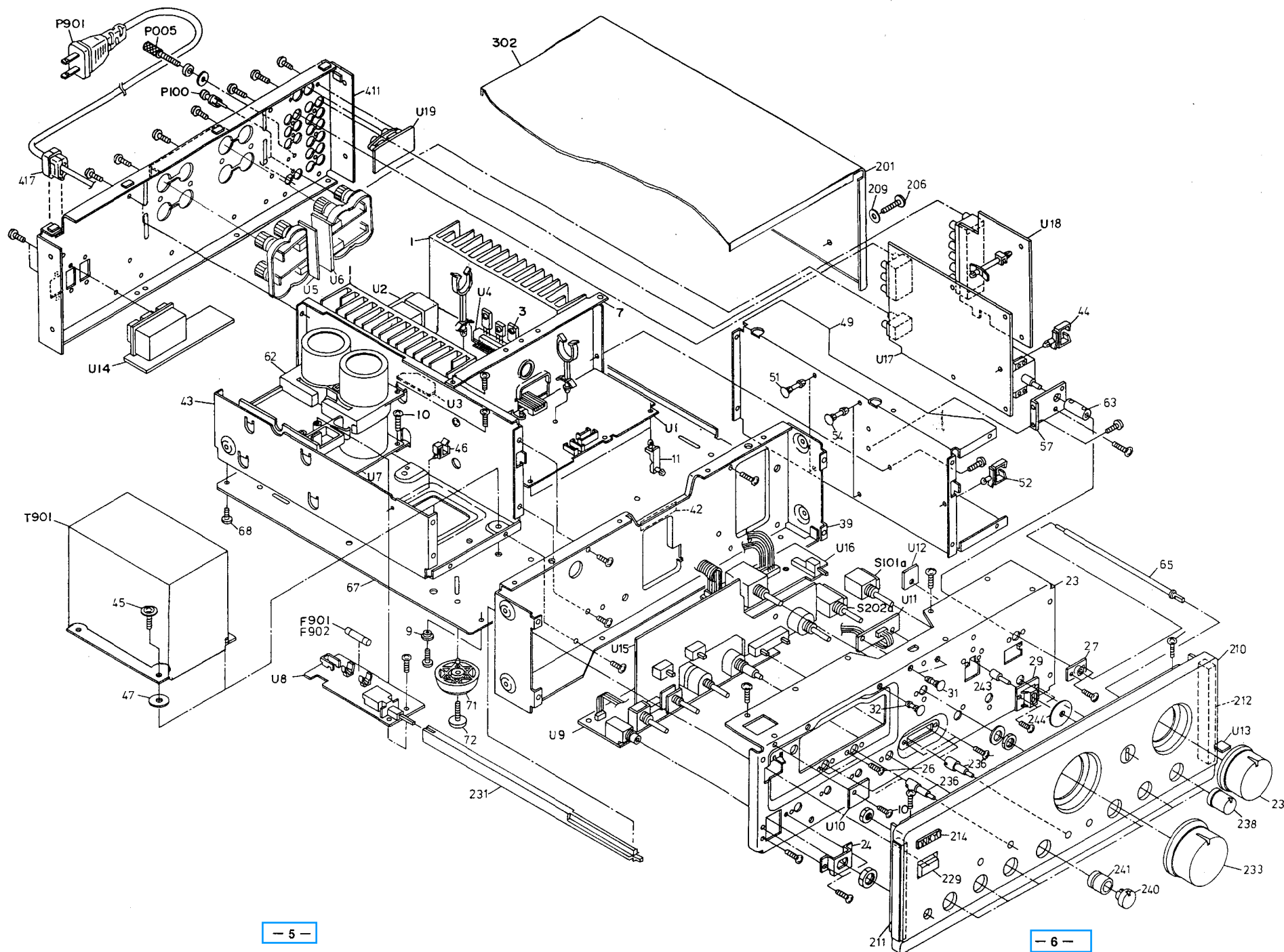
Note) The period before that relay stays OFF should not last for more than 10 second. Relay OFF status can be canceled by switching the power OFF.



CHASSIS EXPLODED VIEW PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	27160363	Heat sink	Q617, Q618	2202514 or	* 2SA1695-Y or
3	801433	Self-tapping screw 3SMS8W.SW+14B(BC)		2202516 or	* 2SA1695-P or
7	27130756B	Bracket (FH)		2202513	* 2SA1695-O, Power transistor
9	800529	Bushing	Q619, Q620	2202524 or	* 2SC4468-Y or
10	838130088	Self-tapping screw 3TTB+8B		2202526 or	* 2SC4468-P or
11	27190966	Holder (PC)		2202523	* 2SC4468-O, Power transistor
23	27110889A	Front bracket	F901	252077	△ 4A-SE-EAK, Fuse <P><T>
24	27141649	Retainer (HP)		252154	△ 8A-TSC, Fuse <D><W>
26	838430107	Self-tapping screw 3TTB+10S(BC)	F902	252070	△ 1A-SE-EAK, Fuse <P><T>
27	27267871	Guide (SEL)		252077	△ 4A-SE-EAK, Fuse <W>
29	27267878	Guide (D)	P005	25060151	Terminal (GND)
31	27190503A	Holder, KGLS-8RF	P100	250153	P-0107, Short pin
32	27190657	Holder, KGLS-18RF	P901	253192HIT	△ AS-UC-6#18, (SPT-2), AC Cord <D>
39	27130758B	Bracket (SHLD)		253193HIT	△ AS-CEE, AC Cord <P>
42	28141319	Cushion, 5x15x30		253198HIT	△ AS-BS, AC Cord <P>
43	27130759A	Bracket (PT)		253193HIT	△ AS-CEE, AC Cord <T>
44	27190608-1	Holder, UAMS-09-0		253233KAW	△ AS-CEE-2, AC Cord <W>
45	830440109	Self-tapping screw, 4TTC+10C(BC)	S101	25030383A	NRSF-102-30BU, Rotary (Cartridge)
46	27190964	Holder (PT)	S202	25030384B	NRSF-106-30BU, Rotary (Rec. selector)
47	27270307	Spacer (PT) t=2	T901	2301165	NPT-1259DG, Power transformer <W>
49	27130760	Bracket (R)		2301166	NPT-1259P, Power transformer <P><T>
51	27190965	Holder, KGPS-12RF		2301167	NPT-1259D, Power transformer <D>
52	27300833	Clamp, WS-2NS	U-1	1A635535-3A	NAAF-5535-3A, Main pc board ass'y <D>
54	27190266	Holder, KGLS-12RF		1A635535-3B	NAAF-5535-3B, Main pc board ass'y <P><T><W>
57	27141648	Retainer (INP)	U-2	1A635536-3A	NAAF5536-3A, Power Amp. pc board ass'y <D>
62	27190962	Holder (CH)		1A635536-3B	NAAF5536-3B, Power Amp. pc board ass'y <P><T><W>
63	27273156A	Joint (SEL)	U-3	1A635537-3A	NAETC-5537-3A, Driver L pc board ass'y <D>
65	27260336	Shaft (SEL)AS		1A635537-3B	NAETC-5537-3B, Driver L pc board ass'y <P><T><W>
67	27170307	Bottom Board	U-4	1A635537-3B	NAETC-5537-3A, Driver R pc board ass'y <D>
68	801525	Self-tapping screw 3TTB+8B(BC)		1A635537-3B	NAETC-5537-3B, Driver R pc board ass'y <P><T><W>
71	27175308B	Leg ass'y	U-5	1A635538-3A	NAETC-5538-3A, Speaker terminal L pc board ass'y <D>
72	837440169	Self-tapping screw 4TTT+16C(BC)		1A635538-3B	NAETC-5538-3B, Speaker terminal L pc board ass'y <P><T><W>
201	28184631	Top Cover 	U-6	1A635541-3A	NAETC-5541-3A, Speaker terminal R pc board ass'y <D>
	28184638	Top Cover <S>		1A635541-3B	NAETC-5541-3B, Speaker terminal R pc board ass'y <P><T><W>
	28184630	Top Cover <G>	U-7	1A635549-3A	NAPS-5549-3A, Power supply board ass'y <D>
206	838440089	Self-tapping screw 4TTB+8C(BC) 		1A635549-3B	NAPS-5549-3B, Power supply board ass'y <P><T>
	838240089	Self-tapping screw 4TTB+8C(NI) <S><G>		1A635549-3C	NAPS-5549-3C, Power supply board ass'y <W>
209	28170044A	Bushing (COV)	U-8	1A635550-3A	NASW-5550-3A, Power switch pc board ass'y <D>
210	1A635121	Front Panel ass'y 		1A635550-3B	NASW-5550-3B, Power switch pc board ass'y <P><T>
	1A636121	Front Panel ass'y <S>		1A635550-3C	NASW-5550-3C, Power switch pc board ass'y <W>
	1A637121	Front Panel ass'y <G>	U-9	1A635552-3A	NAAF-5552-3A, Direct tone pc board ass'y <D>
211	28125317	End Cap (L) 		1A635552-3B	NAAF-5552-3B, Direct tone pc board ass'y <P><T>
	28125319	End Cap (L) <S>		1A635552-3C	NAAF-5552-3C, Direct tone pc board ass'y <W>
	28125299A	End Cap (L) <G>	U-10	1A635553-3A	NADIS-5553-3A, Power indicator pc board ass'y <D>
212	28125318	End Cap (R) 		1A635553-3B	NADIS-5553-3B, Power indicator pc board ass'y <P><T>
	28125320	End Cap (R) <S>		1A635553-3C	NADIS-5553-3C, Power indicator pc board ass'y <W>
	28125300A	End Cap (R) <G>	U-11	1A635554-3A	NADIS-5554-3A, Volume indicator pc board ass'y <D>
229	28325264	Knob (POW)AS 		1A635554-3B	NADIS-5554-3B, Volume indicator pc board ass'y <P><T>
	28325265	Knob (POW)AS <S>		1A635554-3C	NADIS-5554-3C, Volume indicator pc board ass'y <W>
	28325238	Knob (POW)AS <G>	U-12	1A635555-3A	NADIS-5555-3A, Connector pc board ass'y <D>
231	27273160	Joint (POW)		1A635555-3B	NADIS-5555-3B, Connector pc board ass'y <P><T>
233	28325284	Knob (VOL)AS 		1A635555-3C	NADIS-5555-3C, Connector pc board ass'y <W>
	28325285	Knob (VOL)AS <S>	U-13	1A635556-3A	NADIS-5556-3A, Input selector indicator pc board ass'y <D>
	28325182A	Knob (VOL)AS <G>		1A635556-3B	NADIS-5556-3B, Input selector indicator pc board ass'y <P><T>
234	28325286	Knob (SEL)AS 		1A635556-3C	NADIS-5556-3C, Input selector indicator pc board ass'y <W>
	28325287	Knob (SEL)AS <S>	U-14	1A635551-3A	NAETC-5551-3A, AC outlet pc board ass'y <D><P><W>
	28325288	Knob (SEL)AS <G>		1A635551-3B	NAETC-5551-3B, AC outlet pc board ass'y <D><P><W>
236	28325274	Knob (PUSH) 		1A635551-3C	NAETC-5551-3C, AC outlet pc board ass'y <D><P><W>
	28325275	Knob (PUSH) <S>	U-15	1A635542-3A	NAAF-5542-3A, Tone control pc board ass'y <D><W>
	28325184A	Knob (PUSH) <G>		1A635542-3B	NAAF-5542-3B, Tone control pc board ass'y <P><T>
238	28325278	Knob (TONE)AS 	U-16	1A635543-3A	NAAF-5543-3A, Volume pc board ass'y <D><W>
	28325279	Knob (TONE)AS <S>		1A635543-3B	NAAF-5543-3B, Volume pc board ass'y <P><T>
	28325185B	Knob (TONE)AS <G>	U-17	1A635544-3A	NAAF-5544-3A, Equalizer pc board ass'y <D><W>
240	28325280	Knob (T-1) 		1A635544-3B	NAAF-5544-3B, Equalizer pc board ass'y <P><T>
	28325281	Knob (T-1) <S>	U-18	1A635545-3A	NASW-5545-3A, Recording selector pc board ass'y <D><W>
	28325186B	Knob (T-1) <G>		1A635545-3B	NASW-5545-3B, Recording selector pc board ass'y <P><T>
241	28325282	Knob (T-2) 	U-19	1A635547-3A	NAETC-5547-3A, Direct CD pc board ass'y <D><W>
	28325283	Knob (T-2) <S>		1A635547-3B	NAETC-5547-3B, Direct CD pc board ass'y <P><T>
	28325187A	Knob (T-2) <G>			
243	28325193	Knob (D)			
244	28141314	Cushion (D)			
411	27122171	Rear Panel <G> <D>			NOTE: <S> Silver Color
	27122173	Rear Panel <G> <W>			 Black Color
	27122172	Rear Panel <S><G> <P><T>			<G> Golden Color
417	27300750	△ Cord Bushing #2271			<D> U.S.A. and Canada model
Q613, Q614	2202514 or	* 2SA1695-Y or			<P> 230V model
	2202516 or	* 2SA1695-P or			<W> Worldwide model
	2202513	* 2SA1695-O, Power transistor			<T> Taiwanese model
Q615, Q616	2202524 or	* 2SC4468-Y or			
	2202526 or	* 2SC4468-P or			
	2202523	* 2SC4468-O, Power transistor			

CHASSIS EXPLODED VIEW



PRINTED CIRCUIT BOARD PARTS LIST

U-1 MAIN PC BOARD (NAAF-5535)

CIRCUIT NO. PART NO. DESCRIPTION

Q571,Q572	ICs	
	222570	NJM4560D-X
Q501,Q502	Transistors	
	2212805 or 2212806 or 2212807	2SK389-GR or 2SK389-BL or 2SK389-V
Q503-Q508	2211732 or 2211733	2SC1845-F or 2SC1845-E
	2211255	2SC1815-GR
Q509,Q510	2211455	2SA1015-GR
Q511-Q516	2213334	2SK373-Y
Q517,Q518	2211792 or 2211793	2SA992-F or 2SA992-E
Q519-Q524	2211732 or 2211733	2SC1845-F or 2SC1845-E
Q525,Q526	2211634	2SC2229-Y
Q527-Q530	2211354	2SA949-Y
Q531-Q534	2211945	2SK246-GR
Q971,Q972	2211255	2SC1815-GR
Q973	2211455	2SA1015-GR
Q974	2211863 or 2215173	2SB647-C or 2SB647-A-C
Q975	2211853 or 2215163	2SD667-C or 2SD667-A-C
Q976	Diodes	
	224472204	MTZJ22D, Zener
D971,D972	Capacitors	
	373631514	KP92-100V, 151J, Plastic
C501,C502	374491054	MKS92 63V, 105J, Plastic
C507,C508	393081007	CE04W50V, 10M, Elect.
C577-C580	393354717	CE04W25V, 470M, Elect.
C581-C584	393374717	CE04W63V, 470M, Elect.
C591-C594	393374717	CE04W63V, 470M, Elect.
C971,C972	393364707	CE04W35V, 47M, Elect.
C973,C974	Resistors	
R527,R528	443522234	RS1/2WBJ, 22K, Metal oxide film
R529-R534	443528214	RS1/2WBJ, 820, Metal oxide film
R535,R536	443522714	RS1/2WBJ, 270, Metal oxide film
R537-R540	443525604	RS1/2WBJ, 56, Metal oxide film
R541,R542	443528214	RS1/2WBJ, 820, Metal oxide film
R543,R544	443528224	RS1/2WBJ, 8.2K, Metal oxide film
R545,R546	443522714	RS1/2WBJ, 270, Metal oxide film
R547-R550	443525604	RS1/2WBJ, 56, Metal oxide film
R565,R566	442521814	RS1/2WBJ, 180, Metal oxide film <D>
R591-594	453630564	RNU1WCJ, 5.6, Metal
R971-R974	443526814	RS1/2WBJ, 680, Metal oxide film
P222a	Plugs	
	25055134	NPLG-4P118
P231a	25055135	NPLG-5P119
P321a	25055138	NPLG-8P122
P331a	25055134	NPLG-4P118
P503a	25055715	NPLG-3P671
P504a	25055100	NPLG-3P84
P505	25055879	NPLG-10P835
P505a	Socket	
	25051566	NSCT-10P1353
P506	Terminal	
	25060061	1P-5

U-2 POWER AMP PC BOARD (NAAF-5536)

CIRCUIT NO. PART NO. DESCRIPTION

Q851	IC	
	222584	TA7317P
Q603-Q606	Transistors	
	2212654	2SC3421-Y
Q607,Q608	2212644	2SA1358-Y
Q621,Q622	2211792 or 2211793	2SA992-F or 2SA992-E

CIRCUIT NO. PART NO. DESCRIPTION

Q623,Q624	2214984 or 2214985	2SC2631-R or 2SC2631-S
D851,D853	Diodes	
	223163 or 223205 or 223222	1SS133 or 1SS270A or WG713A
D854	224470623	MTZJ6.2C, Zener
D855	223163 or 223205 or 223222	1SS133 or 1SS270A or WG713A
L601-L604	Coils	
	5597-45502	
C601,C602	Capacitors	
	393042217	CE04W16V, 220M, Elect.
C603,C604	374491044	MKS92 63V, 104J, Plastic
C605,C606	393054707	CE04W25V, 47M, Elect.
C607,C608	374491044	MKS92 63V, 104J, Plastic
C621-C624	374432234	MKS92 100V, 223J, Plastic
C637,C638	374434734	MKS92 100V, 473J, Plastic
C651-C654	393391007	CE04W100V, 10M, Elect.
C851	393322217	CE04W6.3V, 220M, Elect.
C852	393363307	CE04W35V, 33M, Elect.
C853	393384797	CE04W50V, 0.47M, Elect.
C855	393343317	CE04W16V, 330M, Elect.
C857,C858	374721044	ECQ-V50V, 104J, Plastic
R609-612	Resistors	
	443521004	RS1/2WBJ, 10, Metal oxide film
R613-R616	443521014	RS1/2WBJ, 100, Metal oxide film
R617,R618	5210255	N06HR, 200BC, Variable
R621-R624	443521504	RS1/2WBJ, 15, Metal oxide film
R625-R628	443521014	RS1/2WBJ, 100, Metal oxide film
R633-636	443523304	RS1/2WBJ, 33, Metal oxide film
R637-R640	443521004	RS1/2WBJ, 10, Metal oxide film
R641-R644	453532294	RNU1/2WCJ, 0.22, Metal
R651-R658	4000145	MPC78-2WK-0.1, Metal Plate
R683,R684	452830474	RNU3WCJ, 4.7, Metal
R691,R692	443623914	RS1WBJ, 390, Metal oxide film
P621,P622	Plugs	
	25055038	NPLG-2P29
P631,P632	25055872	NPLG-8P828
P753a,P754a	25055882	NPLG-3P838
P831a	25055132	NPLG-2P116
P503	Socket AS	
	2009990387	NSAS-6P0524
P504	2009990388	NSAS-6P0525
P631a	Socket	
	25051559	NSCT-8P1346
RL851,RL852	Relays	
	25065316	NRL-2P7A-DC12-043
RL853	25065469	NRL-2P1A-DC12-078
	27160357	Heat sink (S3)

U-3 DRIVER L PC BOARD (NAETC-5537)

CIRCUIT NO. PART NO. DESCRIPTION

Q601	Transistors	
	2212864	2SC3419-Y
Q609	2202684 or 2202683	* 2SA1859-Y or * 2SA1859-O
Q611	2202694 or 2202693	* 2SC4883-Y or * 2SC4883-O

U-4 DRIVER R PC BOARD (NAETC-5537)

CIRCUIT NO. PART NO. DESCRIPTION

Q601	Transistors	
	2212864	2SC3419-Y
Q609	2202684 or 2202683	* 2SA1859-Y or * 2SA1859-O

CIRCUIT NO. PART NO. DESCRIPTION

Q611 2202694 or 2202693 * 2SC4883-Y or * 2SC4883-O

U-5 SPEAKER TERMINAL L (NAETC-5538)

CIRCUIT NO. PART NO. DESCRIPTION

P653 Terminal 25060237 NTM4PDMN159

U-6 SPEAKER TERMINAL R (NAETC-5541)

CIRCUIT NO. PART NO. DESCRIPTION

P654 Terminal 25060237 NTM4PDMN159

U-7 POWER SUPPLY PC BOARD (NAPS-5549)

CIRCUIT NO. PART NO. DESCRIPTION

D921 Diodes 22380270F Δ D5FB60
D922,D923 223208F 6A2
D931,D941 22380039 Δ 1D4B42

Capacitors
C921,C922 3504262 CE62W63V, 15000M, Elect.
C923,C924 374503345S ME93M125V, 334K, Plastic
C926 374501055S ME93M125V, 105K, Plastic
C931,C932 374722235 ECQ-B50V, 223K, Plastic
C933 393341027S CE04W16V, 1000M, Elect.
C941,C942 393381027S CE04W50V, 1000M, Elect.
C943,C944 374722235 ECQ-B50V, 223K, Plastic
C945 374732234 ECQ-V100V, 223J, Plastic

Resistors
R921 443525604 RS1/2WBJ, 56, Metal oxide film
R941 453530104 RNU1/2WCJ, 1, Metal
R943,R944 453530104 RNU1/2WCJ, 1, Metal

Plugs
P906 25055675 NPLG-2P631
P921 25055167 NPLG-4P151
P931 25055165 NPLG-2P149
P941 25055166 NPLG-3P150
P961a 25055715 NPLG-3P671

Socket AS
P831 2009990374 NSAS-4P0511
P922 2009990371A NSAS-12P0508

U-8 POWER SWITCH PC BOARD (NCSW-5550)

CIRCUIT NO. PART NO. DESCRIPTION

Capacitors
C901 3500191 Δ DE7150F103M, IS C
C903 3500191 Δ DE7150F103M, IS C <D>
3500163 Δ WY2472MCMCFOK, IS C <P><W>
C904 3500163 Δ WY2472M, CMCFOK, IS C <W>

Fuse holders
F901a 25050065 YSH403T
F902a 25050065 YSH403T <P><W>

Switch
S901 25035614 Δ NPS-121-L576P, Push (Power)

Terminals
P904 25060103 2P-10 <P>
25060104 3P-10 <W>
P905 25065425 GND

U-9 DIRECT TONE PC BOARD (NCAF-5552)

CIRCUIT NO. PART NO. DESCRIPTION

Transistors
Q871 2211504 2SA950-Y
Q872 2213510 DTA114ES

Diode

CIRCUIT NO. PART NO. DESCRIPTION

Capacitors
C331,C332 374721524 ECQ-B50V, 152J, Plastic
C333,C334 374431534 MKS92 100V, 153J, Plastic
C335,C336 374491544 MKS92 63V, 154J, Plastic
C337,C338 374432234 MKS92 100V, 223J, Plastic

Resistors
R331 5100001 N16RGMCMC100K 30F, Variable
R332 5144019 N16RQMC70K 88K30F, Variable
R479 5142016A N16RGMCMC20KT 30F, Variable

Plugs
P401 25055703 NPLG-7P659
P431 25055411 NPLG-9P393

Jack
P871 25045337 HLJ4317-01-3120 (Phones)

Switch
S871 25030380 NRSF-125-30YW-S, Rotary (Speakers)

U-10 POWER INDICATOR PC BOARD (NADIS-5553)

CIRCUIT NO. PART NO. DESCRIPTION

Diodes
D872 225324D or 225324C SEL6910A-D, LED or SEL6910A-C, LED
D873 225321 SLR-342VR, LED

U-11 VOLUME INDICATOR PC BOARD (NADIS-5554)

CIRCUIT NO. PART NO. DESCRIPTION

Diode
D801 225291D SEL4910D-D, LED
Capacitor
C801 374724734 ECQ-V50V, 473J, Plastic

U-12 CONNECT PC BOARD (NADIS-5555)

CIRCUIT NO. PART NO. DESCRIPTION

Capacitors
C802 374724734 ECQ-V50V, 473J, Plastic
C871 374724734 ECQ-V50V, 473J, Plastic

Plug
P801a 25055183 NPLG-2P167

U-13 INPUT SELECTOR PC BOARD (NADIS-5556)

CIRCUIT NO. PART NO. DESCRIPTION

Diode
D802 225324D or 225324C SEL6910A-D, LED or SEL6910A-C, LED

Socket AS
P801 2009990384 NSAS-4P0521

U-14 AC OUTLET PC BOARD (NAETC-5551)

CIRCUIT NO. PART NO. DESCRIPTION

Switch
S904 25065437 Δ NSS-22157P, Slide (Voltage selector) <W>

Sockets
P903 25051121 Δ NSCT-6P908, AC Outlet <D>
25051572 NSCT-2P1359 <P>
25051121 NSCT-6P908 <W>

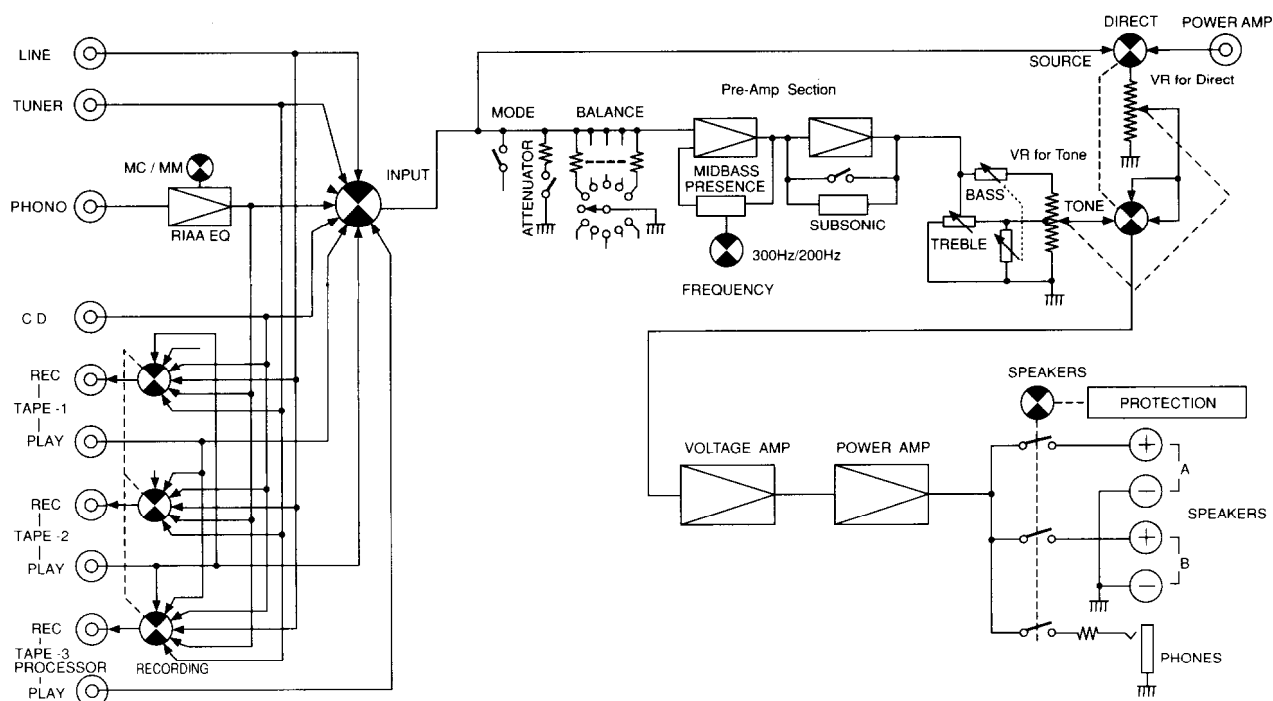
U-15 TONE CONTROL PC BOARD (NAAF-5542)

CIRCUIT NO. PART NO. DESCRIPTION

Transistors
Q431,Q432 2211732 or 2211733 2SC1845-F or 2SC1845-E
Q433,Q434 2211792 or 2211793 2SA992-F or 2SA992-E
Q435,Q436 2211732 or 2211733 2SC1845-F or 2SC1845-E

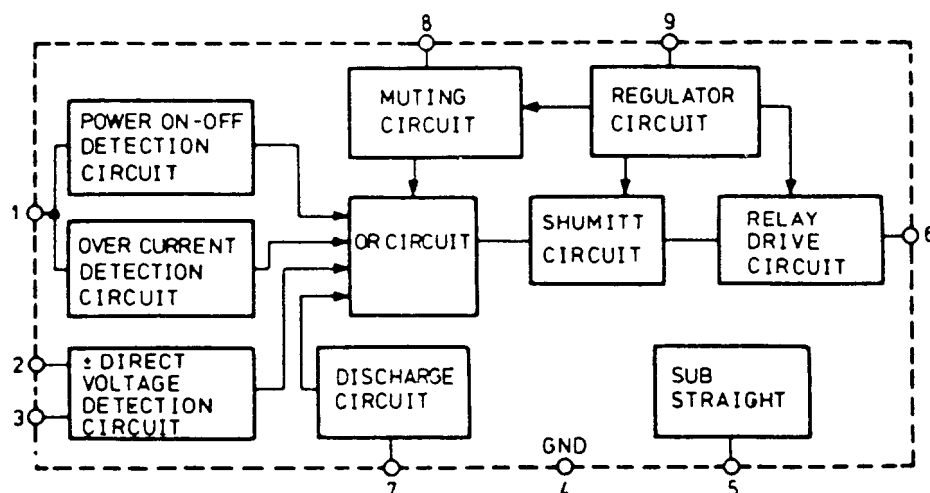
CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION	
Q437-Q440	2211733	2SC1845-E	C101,C102 C101,C102 C103,C104 C105,C106 C107,C108 C109,C110 C111,C112 C113,C114 C115,C116 C117,C118 C119,C120 C151,C152 C153,C154 C191,C192 C195,C196	Capacitors		
	2211792 or 2211793	2SA992-F or 2SA992-E		372121014S	ST09 50V, 101J, Plastic <D>	
Q441-Q444	2211732 or 2211733	2SC1845-F or 2SC1845-E		372122214S	ST09 50V, 221J, Plastic <P>	
Q445-Q448	2211792 or 2211793	2SA992-F or 2SA992-E		372121014	ST09 50V, 101J, Plastic	
Q449,Q450	2211732 or 2211733	2SC1845-F or 2SC1845-E		373302224	PP09 125V, 222J, Plastic	
Q961	2202716 or 2202715	2SB1565-F or 2SB1565-E		393354717	CE04W25V, 470M, Elect.	
Q962	2202706 or 2202705	2SD2394-F or 2SD2394-E		391654717	CE04W25V, 470M, Elect.	
Q963,Q964	2211945	2SK246-GR		374724724	ECQ-B50V, 472J, Plastic	
Q965	2211255	2SC1815-GR		374721015	ECQ-B50V, 101K, Plastic	
Q966	2211455	2SA1015-GR		374721524	ECQ-B50V, 152J, Plastic	
				391680227	CE04W50V, 2.2M, Elect.	
				374722224	ECQ-B50V, 222J, Plastic	
				372121014S	ST09 50V, 101J, Plastic <P>	
				374724714S	ECQ-B50V, 471J, Plastic <P>	
				393361027S	CE04W35V, 1000M, Elect.	
				393354717	CE04W25V, 470M, Elect.	
	Diodes				Resistors	
D961,D962	224473004	MTZJ30D, Zener		R191,R192	443523304	RS1/2WBJ, 33, Metal oxide film
	Capacitors				Coils	
C431,C432	391641017	CE04W16V, 100M, Elect.		L101,L102	231133	NCH-1188 <P>
C435,C436	393344707	CE04W16V, 47M, Elect.			Jacks	
C451,C452	391641007	CE04W16V, 10M, Elect.		P101	25045311	NPJ-2PDBL168
C453-C456	374721544	ECQ-V50V, 154J, Plastic		P201	25045468	NPJ-6PDBL286
C461-C464	393341007	CE04W16V, 10M, Elect.			Socket AS	
C471,C472	374721544	ECQ-V50V, 154J, Plastic		P231	2009990385	NSAS-10P0522
C473,C474	374723324	ECQ-B50V, 332J, Plastic			Plug	
C475,C476	374724734	ECQ-V50V, 473J, Plastic	P191a	25055234	NPLG-3P218	
C481,C482	391644707	CE04W16V, 47M, Elect.		Switches		
C491,C494	393364717	CE04W35V, 470M, Elect.	S101	25065399	NSS-43151, Slide (Cartridge)	
C961,C962	393380477	CE04W50V, 4.7M, Elect.	S201	25030381	NRSM-227-20BA, Rotary (Input selector)	
C963,C964	393361027	CE04W35V, 1000M, Elect.		U-18 RECORDING SELECTOR PC BOARD (NASW-5545)		
	Resistors			CIRCUIT NO. PART NO. DESCRIPTION		
R471-R474	442522204	RS1/2WBJ, 22, Metal oxide film		Jacks		
R489-R492	443526824	RS1/2WBJ, 6.8K, Metal oxide film	P251-P253	25045316	NPJ-4PDBL173	
R961,R962	443523314	RS1/2WBJ, 330, Metal oxide film		Switch		
R967,R968	443523314	RS1/2WBJ, 330, Metal oxide film	S251	25065398	NSS-66150, Slide (Rec. selector)	
	Socket AS			U-19 DIRECT PC BOARD (NAETC-5547)		
P191	2009990372	NSAS-6P0509		CIRCUIT NO. PART NO. DESCRIPTION		
P961	2009990373	NSAS-6P0510		Jack		
	Sockets		P211	25045161	NPJ-2PDBL58	
P401a	25051232	NSCT-7P1022		Socket AS		
P431a	25050677	NSCT-9P481	P222	2009990375	NSAS-8P0512	
	Switches			NOTE: <S> Silver Color		
S401,S402	25035591	NPS-222-L553, Push (Attenuator, Mode)		 Black Color		
S403	25030382	NRSF-1111-30SRM, Rotary (Balance)		<G> Golden Color		
S431,S481	25035584	NPS-122-L546, Push (Sub sonic, Frequency)		<D> U.S.A. and Canada model		
	27160211Y	RAD-68, Heat sink		<P> 230V model		
				<W> Worldwide model		
				<T> Taiwanese model		
U-16 VOLUME PC BOARD (NAAF-5543)			NOTE: THE COMPONENTS IDENTIFIED BY MARK  ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.			
CIRCUIT NO. PART NO. DESCRIPTION						
R321	5104331	N20DQL41C50K T25F, Variable (Volume)				
	Resistor					
P321	2009990377	NSAS-16P0514				
P331	2009990376	NSAS-8P0513				
	Socket AS					
S321	25040075	NLS-143-915-L048, Lever (Source direct)				
	Switch					
U-17 EQUALIZER PC BOARD (NAAF-5544)						
CIRCUIT NO. PART NO. DESCRIPTION						
	ICs					
Q109	222902	NJM5532D-D				
Q191	222780153	78L15				
Q192	222790153	79L15				
	Transistors					
Q101-Q104	2212185 or 2212186	* 2SK170-GR or * 2SK170-BL				
			</			

BLOCK DIAGRAM

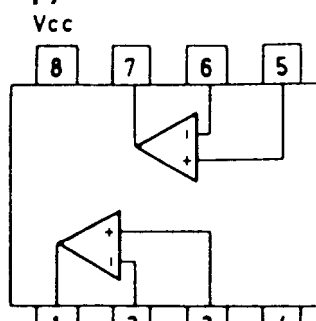


IC BLOCK DIAGRAMS

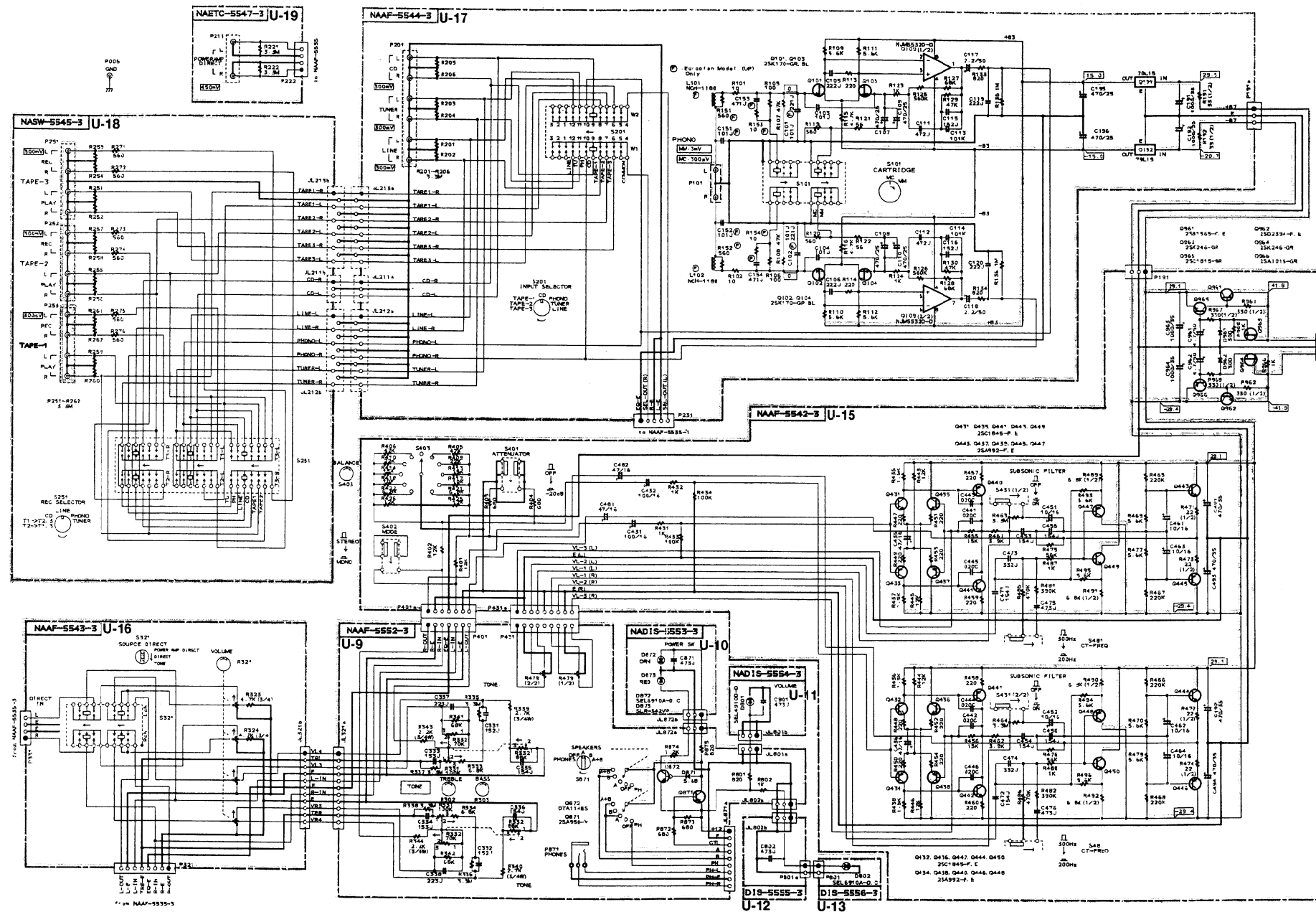
TA7317P (PROTECTIVE CIRCUIT)



NJM4560DX (OPamp)



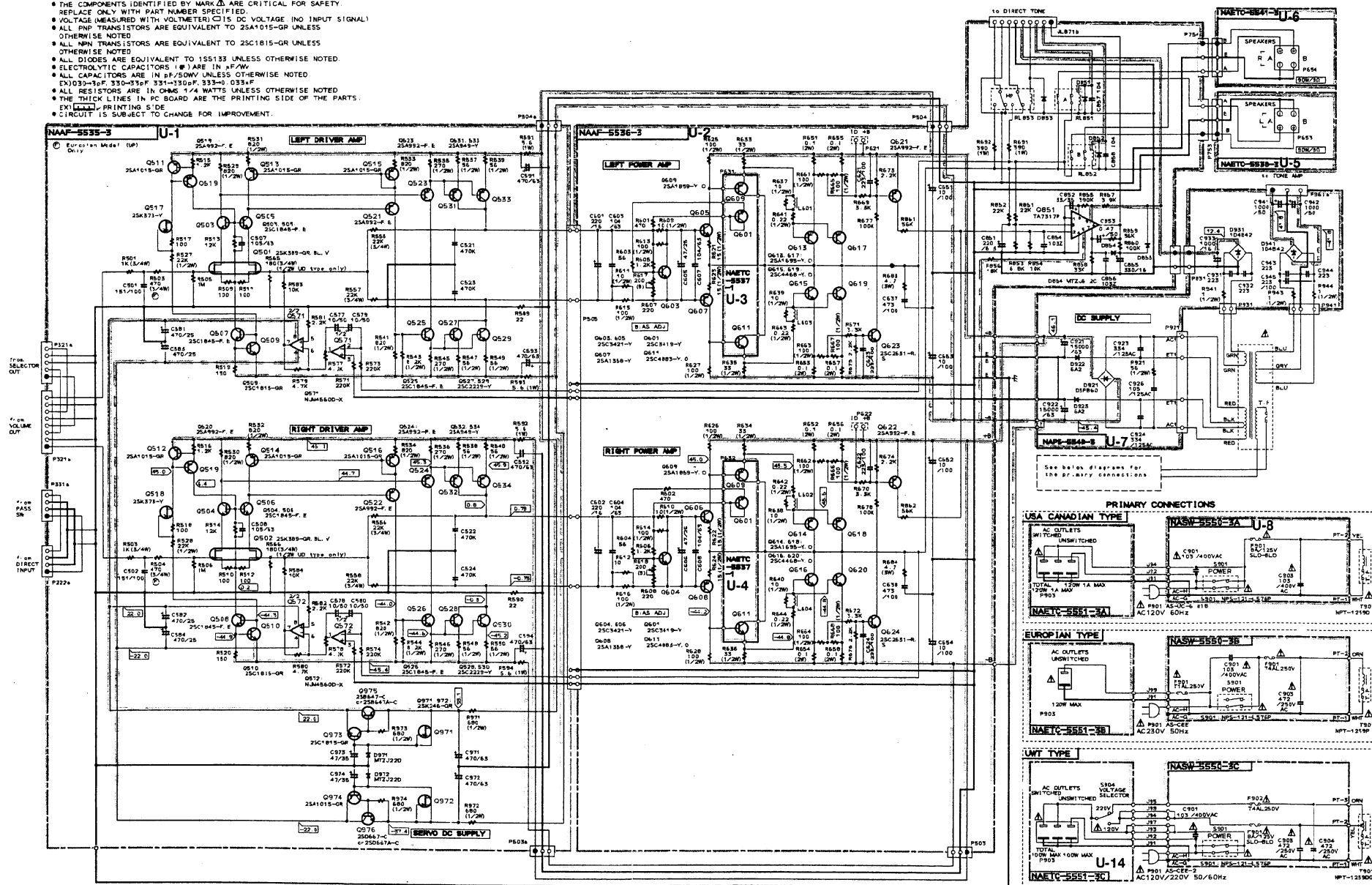
SCHEMATIC DIAGRAMS (1/2)



CHEMATIC DIAGRAMS (2/2)

NOTE

- THE COMPONENTS IDENTIFIED BY MARK Δ ARE CRITICAL FOR SAFETY.
- REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH VOLTMETER) Δ IS DC VOLTAGE (NO INPUT SIGNAL).
- ALL PNP TRANSISTORS ARE EQUIVALENT TO 2SA1015-GR UNLESS OTHERWISE NOTED.
- ALL NPN TRANSISTORS ARE EQUIVALENT TO 2SC1815-GR UNLESS OTHERWISE NOTED.
- ALL DIODES ARE EQUIVALENT TO 155133 UNLESS OTHERWISE NOTED.
- ELECTROLYTIC CAPACITORS Δ ARE IN μ F.
- ALL CAPACITORS ARE IN P.F./50MV UNLESS OTHERWISE NOTED.
- EX1030-30P 330-330P 331-330P 333-0 033P.
- ALL RESISTORS ARE IN OHMS 1/4 WATT UNLESS OTHERWISE NOTED.
- THE THICK LINES IN PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
- EX1030-30P 330-330P 331-330P 333-0 033P.
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.



PACKING PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
601	29052966	Carton Box
	29052967	Carton Box <S>
	29052968	Carton Box <G>
602	29360404	SN Sheet
603	29091425E	Pad (L)
604	29091426F	Pad (R)
605	29091731	Pad (SP)
607	261504	Paper Tape W=30
613	29100035A	Poly Bag
614	282301	Staple
615	29110071	PP Tape W=50
	29100097-1AY	Poly Bag 350x250
	29355133A	Insert Sheet (DBP) <S> <P>
	29361934	UPC Label <D>
	29361946	UPC Label <G> <D>
	29358002K	SS List <D>
	29365019B	Warranty Card <D>
	29342259A	Instruction manual, E <D>
	29342260	Instruction manual, U6 <P>
	29342262	Instruction manual, T <W><T>
	25055018	△ CV-K-1, CV Plug <W>

NOTE: <S> Silver Color
 Black Color
 <G> Golden Color
 <D> U.S.A. and Canada model
 <P> 230V model
 <W> Worldwide model
 <T> Taiwanese model