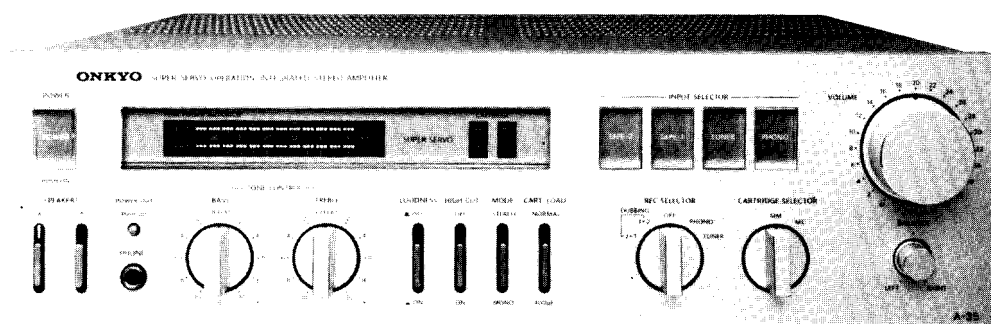


# ONKYO® SERVICE MANUAL

## SUPER SERVO INTEGRATED STEREO AMPLIFIER

### MODEL A-35



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## SPECIFICATIONS

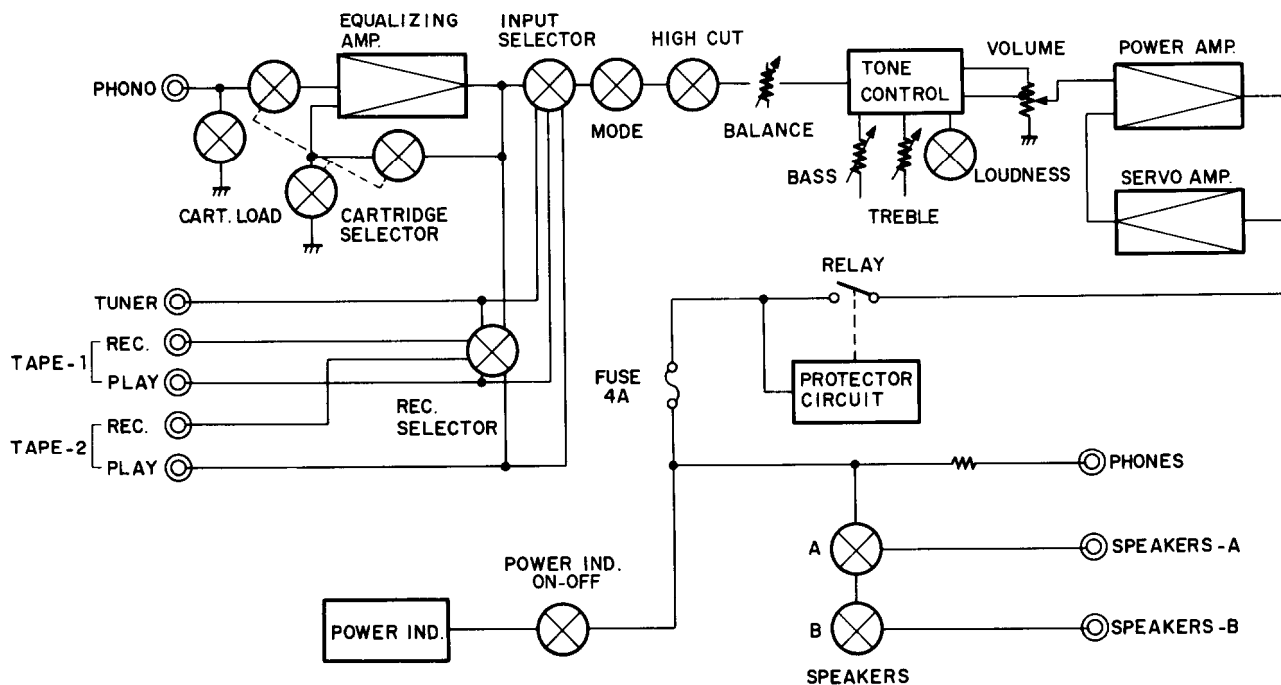
Power Output:	55 watts per channel min. RMS, at 8 ohms both channels driven, from 20 Hz to 20 kHz, with no more than 0.02% THD.
Total Harmonic Distortion:	0.02% at rated power
IM Distortion:	0.02% at rated power
Damping Factor:	40 at 8 ohms
Frequency Response:	2 – 50,000 Hz $\pm$ 1 dB
RIAA Deviation (MM):	20 – 20,000 Hz $\pm$ 0.5 dB
Sensitivity and Impedance:	Phono (MM): 2.5 mV/50 kohms (MC): 350 $\mu$ V/330 ohms Tuner: 150 mV/50 kohms Tape Play: 150 mV/50 kohms Tape Rec: 150 mV/1 kohms (phono)
Phono Overload:	180 mV RMS at 1 kHz, 0.02% THD.
Bass Control:	$\pm$ 8 dB at 70 Hz
Treble Control:	$\pm$ 8 dB at 10,000 Hz
Signal to Noise Ratio:	Phono (MM): 80 dB (IHF A-202, 5 mV input, 1 watt output) (MC): 67 dB (IHF A-202, 0.5 mV input, 1 watt output) Tuner & Tape: 84 dB (IHF A-202, 0.5 V input, 1 watt output)
Loudness:	+7 dB at 70 Hz +5 dB at 10 kHz
High Cut Filter	6 kHz (6 dB/oct)

### General

Semiconductors:	6 ICs, 32 transistors, 27 diodes, 28 LEDs
Dimensions:	418(W) x 125(H) x 392(D) mm 16-1/2" x 4-15/16" x 15-7/16"
Weight:	8.8 kg. (19.4 lbs.)
Power Supply:	AC 220 V, 50 Hz (G model) AC 120 V, 60 Hz (D model) AC 120/220 V, 50/60 Hz (Universal model)

Specifications and features are subject to change without notice.

## BLOCK DIAGRAM



## PRECAUTIONS

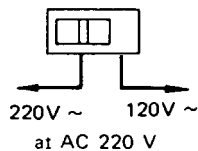
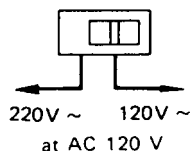
1. For continued protection against fire hazard, replace only with same type and same rating fuse.

CIRCUIT NO.	PARTS NO.	DESCRIPTION	REMARKS
F301, F401	252059	4A (SS-2), Speaker protection fuse	120/220V model
F901	252049	4A (ST-6), AC fuse	120V model
F901	252074	2A-SE-EAK, AC fuse	220V model
F903, F904	252078	5A-SE-EAK, AC fuse	220V model
F301, F401	252014	4A-T, Speaker protection fuse	Universal model
F901	252014	4A-T, AC fuse	Universal model
F902	252002	2A-T, AC fuse	Universal model

2. Replacement for differential, driver, complementary and power amplifier transistors, if necessary, must be made from the same beta ( $h_{FE}$ ) group as the original type.

3. Voltage Selector (rear panel)

Some models are equipped with a voltage selector to conform with local power supplies. Be sure to set this switch to match the voltage of the power supply in your area before turning the power switch on. Voltage is changed by sliding the groove in the switch with a screwdriver or similar instrument to the right or left position. Confirm that the switch has been moved all the way to the right or left before turning the power switch on. If there is no voltage selector switch on the unit you have purchased, it can only be used in areas where the power supply voltage is the same as that of the unit.



## CIRCUIT DESCRIPTION

### Dual Super-Servo

Onkyo's super-servo amp using ultralow frequency feedback servo circuits consisting of high-performance operational amplifiers has completely done away with a number of problems that have heretofore plagued amplifiers. These include distortion caused by capacitors used in the signal path, internally generated noise in the ultralow frequency range, and a lack of frequency response in the low ranges caused by record warp and tonearm resonance. Frequency response and tonal quality is as never before. The newly developed dual super-servo system has an additional function over our previous super-servo amp. That additional function may be noted by looking at the accompanying series of illustrations. First note the commonly used unbalanced NF amp depicted in Fig. 1 where the signal is input at point A as referenced to point B, and output at point C as referenced to point B. Common input/output reference in amplifiers is an ideal, but in fact difficult to attain. This is particularly true in power amps with high output current; unless impedances are matched, it is next to impossible. In Fig. 2, very small impedances are present at the same time return current is flowing from other circuits, thus the circuit in Fig. 2 may be considered equivalent to that of Fig. 3. Up to now, in order to lower these unnecessary impedances, large diameter wiring and busbar grounds have been used with some

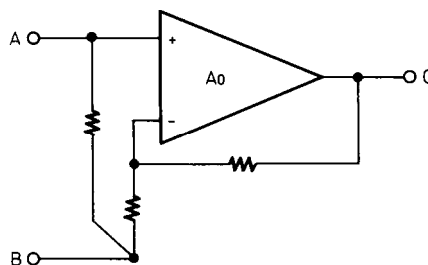


Fig. 1

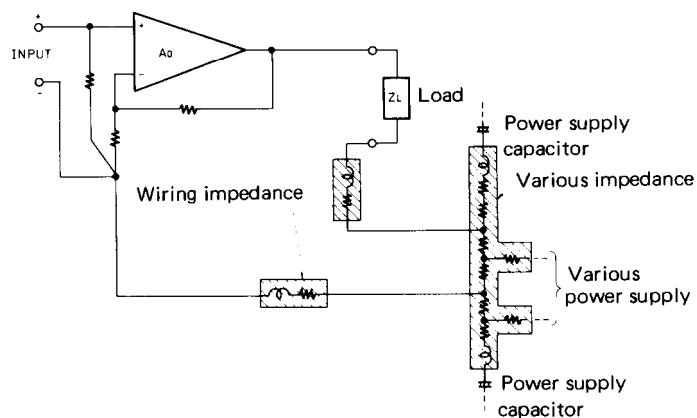


Fig. 2

degree of effectiveness, however we have improved upon these methods. Looking at the problem from another angle, the dual super-servo solves the problem without improvisations. As noted in Fig. 4, by applying a super-servo to the positive side, and with a servo return on the negative side, unnecessary signal components are equalized, consequently cancelled. And because the same potential exists, ground potential between input and output is the same. Put another way, in Fig. 5 and 6 the unnecessary components generated between input and output are short-circuited by the servo-circuit. Next, with separate amps, generally the preamp and main amp have been thought of as separate entities. A number of amp combinations have been used, but here again compatibility, or the lack of, may be attributed to ground potential in most cases. Also in the cables connecting 2 amps, there is cord impedance, contact resistance at the pin connector and wiring impedance to contend with, and even though the pin connectors are separated left from right, they became common via the power amp ground. This results in crosstalk between the left and right channel, poor channel separation, duller sound resolution and presence. And any difference in the ground potential between the preamp and power amp is detected and equalized by the servo. This is equal to the grounds of both amps being directly connected.

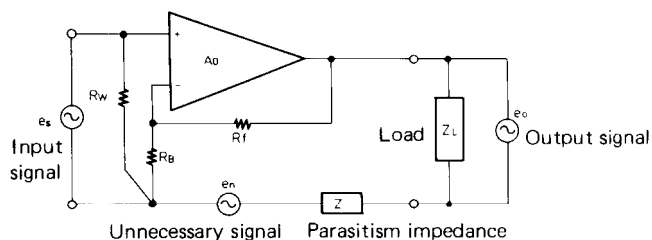


Fig. 3

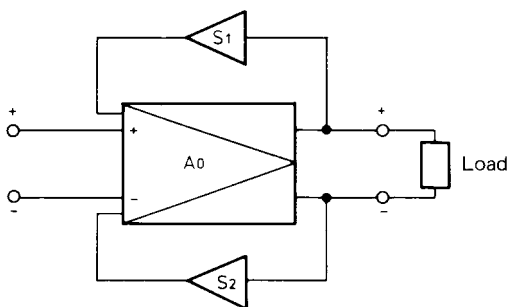


Fig. 4

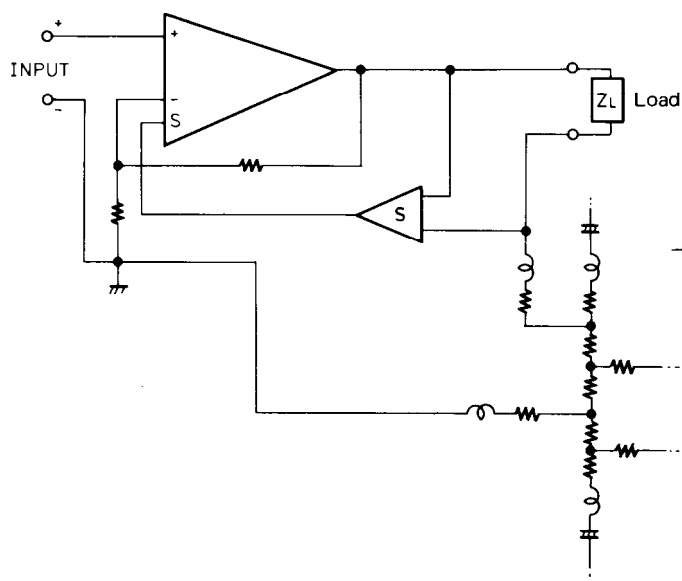


Fig. 5

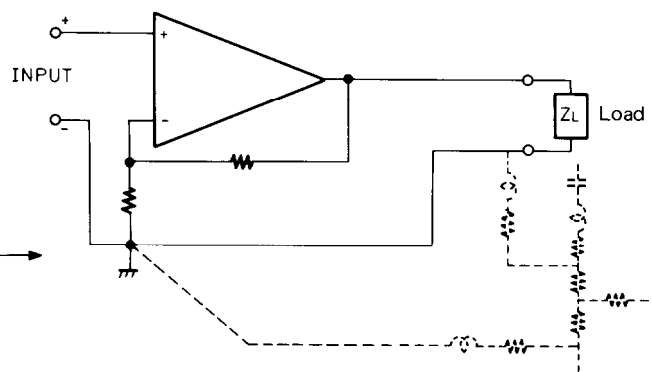
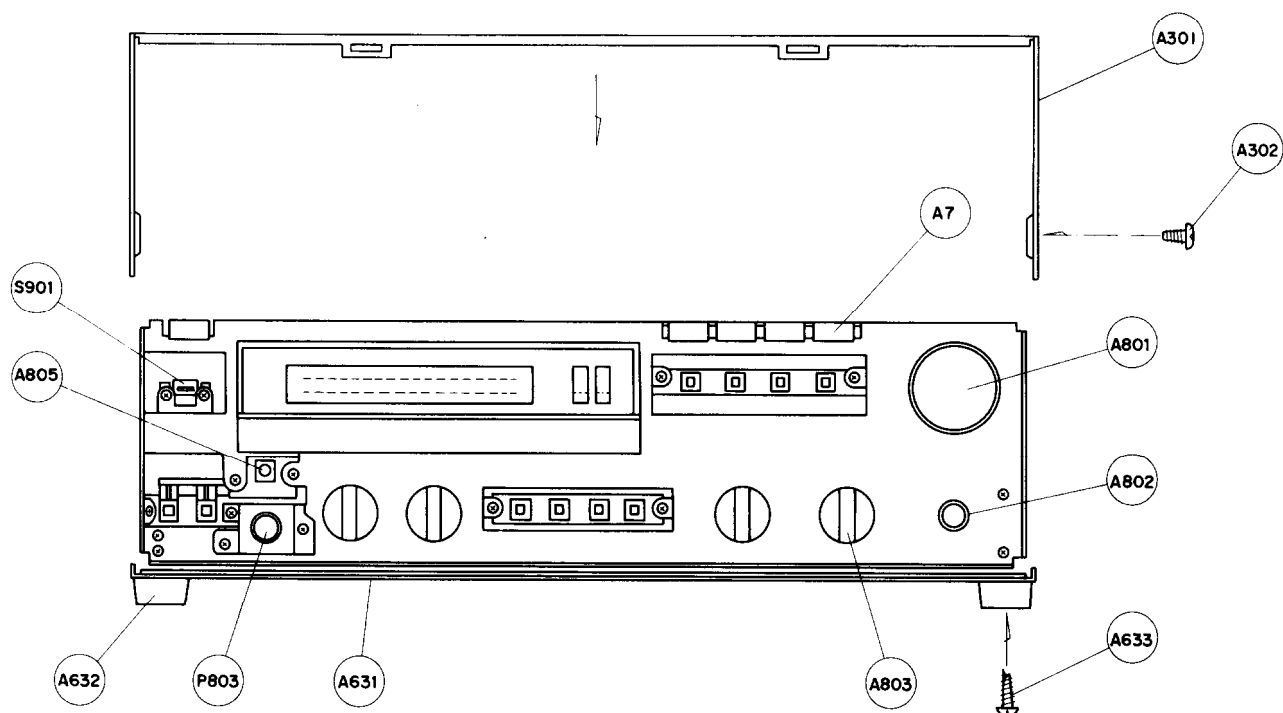
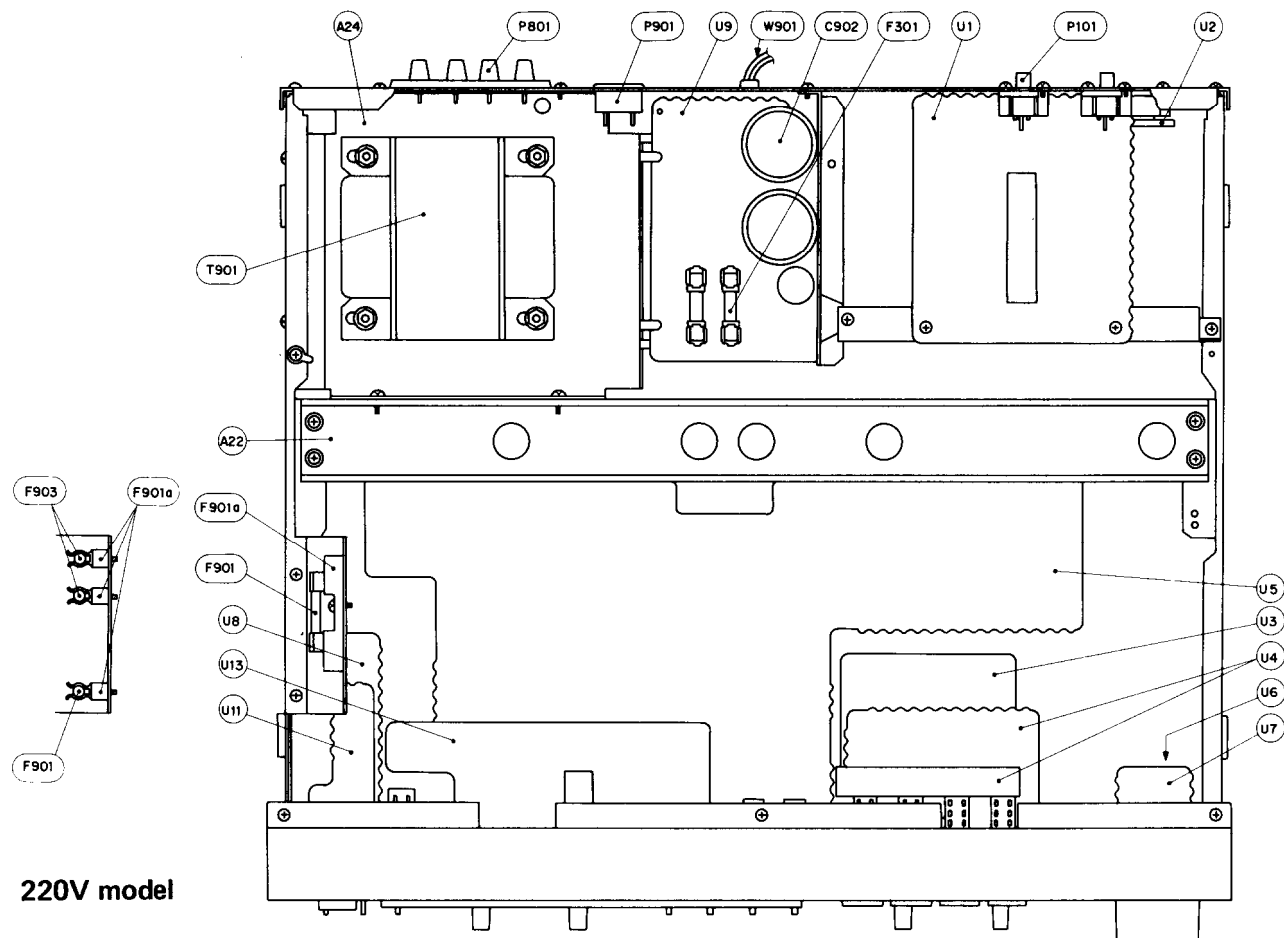
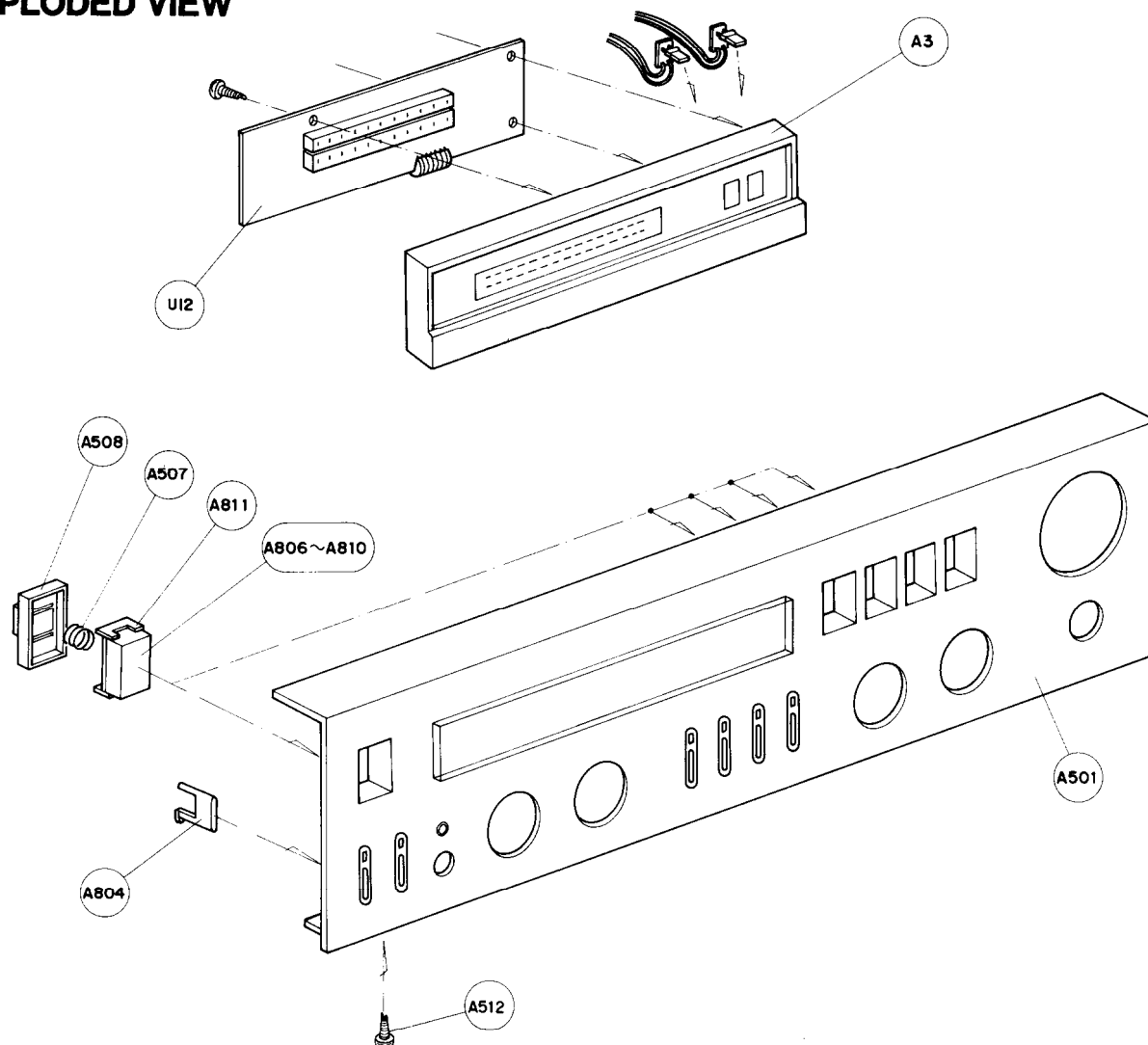


Fig. 6

# COMPONENT LOCATION



## EXPLODED VIEW



## PARTS LIST

### D model (120V model)

CIRCUIT NO.	PARTS NO.	DESCRIPTION	CIRCUIT NO.	PARTS NO.	DESCRIPTION
A1	27110131	Bracket, front	A43	834130102	3STS+10BQ, Tapping screw
A2	27140489	Bracket, headphone	A48	27120288	Back panel
A3	12549901	Holder ass'y	A49	834130062	3STS+6BQ, Tapping screw
A7	27300402	Guide, lamp	A50	834130102	3STS+10BQ, Tapping screw
A9	27150130	Plate, shielded	A51	834230202	3STS+20BQ(NI), Tapping screw
A10	28199049	Film	A301	28184111	Top cover
A11	82113006	3P+6F-N, Pan head screw	A302	838440089	4TTB+8C(BC), Tap screw
A12	834130062	3STS+6BQ, Tapping screw	A303	834130082	3STS+8BQ, Tapping screw
A13	833130080	3TTP+8P, Tap screw	A304	28140020	4x10x40mm, Cushion
A14	831130082	3STW+8BQ, Tapping screw	A501-A506	12549121	Front panel ass'y
A20	27115043D	Bracket, side	A502	28191081	Clear plate
A21	27115086	Bracket, side	A503	27267101	Guide, speaker
A22	27160089	Radiator	A504	27267102	Guide, push
A23	223012	Bracket, transistor	A505	27267103	Guide, switch
A24	27130148	Bracket, power transformer	A506	27267104	Guide, knob
A25	27150096C	Plate, shielded	A507	28180079	Spring
A26	27140490	Bracket, pc board	A508	27267105A	Guide, cover
A27	27140491	Bracket, fuse	A509	28199045	16x10mm, Film
A35	831130082	3STW+8BQ, Tapping screw	A512	834130062	3STS+6BQ, Tapping screw
A36	834130062	3STS+6BQ, Tapping screw	A631	27170102	Bottom board
A37	834140102	4STS+10BQ, Tapping screw	A632	27175009A	Leg
A38	838440109	4TTB+10C(BC), Tap screw	A633	834130162	3STS+16BQ, Tapping screw
A39	871440	SW-4, Washer	A634	831130082	3STW+8BQ, Tapping screw
A40	86414010	WN4x10FN, Nut	A801	28320527	Knob, volume
A41	833130062	3STP+6BQ, Tapping screw	A802	28320528	Knob, balance
A42	82113010	3P+10FN, Pan head screw	A803	28320529	Knob, selector

CIRCUIT NO.	PARTS NO.	DESCRIPTION	CIRCUIT NO.	PARTS NO.	DESCRIPTION
A803a	801146	Screw	A7	27300402	Guide, lamp
A804	28320530	Knob, push	A9	27150130	Plate, shielded
A805	28320536	Knob, switch	A10	28199049	Film
A806	28320531	Knob, power	A11	82113006	3P+6F-N, Pan head screw
A807	28320532	Knob, phono	A12	834130062	3STS+6BQ, Tapping screw
A808	28320533	Knob, tuning	A13	833130080	3TTP+8P, Tap screw
A809	28320534	Knob, tape 1	A14	831130082	3STW+8BQ, Tapping screw
A810	28320535	Knob, tape 2	A20	27115043D	Bracket, side
A811	28320537	Knob, base	A21	27115086	Bracket, side
C901, C902	3504157	15,000 $\mu$ F, 50V, Elect. capacitor	A22	27160089	Radiator
C921	3500060	0.01 $\mu$ F, 125V, Capacitor, CS	A23	223012	Bracket, transistor
C921a	27300080	Cover for C921	A24	27130148	Bracket, power transformer
F301, F401	252059	4A (SS-2), Speaker protection fuse	A25	27150096C	Plate, shielded
F901	252049	4A (ST-6), AC fuse	A26	27140490	Bracket, pc board
F901a	25050050	H0438A, Fuseholder	A27	27140491	Bracket, fuse
F901b	29360467	Label, fuse	A35	831130082	3STW+8BQ, Tapping screw
P801, P802	25060038	NTM-4PRMN09, Speaker terminal	A36	834130062	3STS+6BQ, Tapping screw
P803	250450067	HLJ-0279-01-070, Stereo headphone jack	A37	834140102	4STS+10BQ, Tapping screw
P804	25060044	Terminal, ground	A38	838440109	4TTB+10C(BC), Tap screw
P901, P902	25050046A	NSCT-2P-15, AC outlet	A39	871440	SW-4, Washer
Q308, Q408	2211255 or 2211256	2SC1815(GR) or 2SC1815(BL), Transistor, thermal detector	A40	86414010	WN4x10FN, Nut
Q310, Q410	2201103 or 2201102	2SD845(O) or 2SD845(Y), Transistor, power amplifier	A41	833130062	3STP+6BQ, Tapping screw
Q311, Q411	2201093 or 2201092	2SB755(O) or 2SB755(Y), Transistor, power amplifier	A42	82113010	3P+10FN, Pan head screw
S101b	25030189	NRSM-102-30UB, Cartridge selector switch	A43	834130102	3STS+10BQ, Tapping screw
S801	25035257	NPS-122-L221, Power indicator switch	A48	27120289	Back panel(G)
S901	25035047	NPS-111-L12P, Power switch		27120291	Back panel(W)
T901	230481	NPT-739D, Transformer, power	A49	834130062	3STS+6BQ, Tapping screw
U1	12549573	NAEQ-1073, Equalizer amplifier pc board ass'y	A50	834130102	3STS+10BQ, Tapping screw
U2	12549574	NAPJ-1074, Tape input/output terminal pc board ass'y	A51	834230202	3STS+20BQ(NI), Tapping screw
U3	12549575	NASW-1075, Rec. selector switch pc board ass'y	A301	28184111	Top cover
U4	12549576	NASW-1076, Input selector pc board ass'y	A302	838440089	4TTB+8C(BC), Tap screw
U5	12549577	NAAF-1077, Pre., and power amplifier pc board ass'y	A303	834130082	3STS+8BQ, Tapping screw
U6	12549578	NAVR-1078, Balance control pc board ass'y	A304	28140020	4x10x40mm, Cushion
U7	12549579	NAVR-1079, Volume control pc board ass'y	A501-A506	12549121	Front panel ass'y
U8	12549580	NASW-1080, Speaker selector pc board ass'y	A502	28191081	Clear plate
U9	12549581	NAPS-1081, Power supply pc board ass'y	A503	27267101	Guide, speaker
U10	12549582	NALED-1082, Speaker indicator pc board ass'y	A504	27267102	Guide, push
U11	12549583	NASW-1083, Switch circuit pc board ass'y	A505	27267103	Guide, switch
U12	12549585	NADIS-1085, Output power indicator pc board ass'y	A506	27267104	Guide, knob
U13	12549586	NAME-1086, Output power indicator driver circuit pc board ass'y	A507	28180079	Spring
U14	12549587	NALED-1087, Cartridge selector indicator pc board ass'y	A508	27267105A	Guide, cover
W901	253099A	AS-UC-3, Power supply cable	A509	28199045	16x10mm, Film
W901a	270025	SR-3P-4, Strainrelief	A512	834130062	3STS+6BQ, Tapping screw
			A631	27170102	Bottom board
			A632	27175009-1	Leg
			A633	834130162	3STS+16BQ, Tapping screw
			A634	831130082	3STW+8BQ, Tapping screw
			A801	28320527	Knob, volume
			A802	28320528	Knob, balance
			A803	28320529	Knob, selector
			A803a	801146	Screw
			A804	28320530	Knob, push
			A805	28320536	Knob, switch
			A806	28320531	Knob, power
			A807	28320532	Knob, phono
			A808	28320533	Knob, tuning
			A809	28320534	Knob, tape 1
			A810	28320535	Knob, tape 2
			A811	28320537	Knob, base
			C901, C902	3504157	15,000 $\mu$ F, 50V, Elect. capacitor
			C921	3500058	PME265MB510, Capacitor, IS(G)
			C921, C922	3500058	PME265MB510, Capacitor, IS(W)
			F301, F401	252059	4A(SS-2), Speaker protection fuse(G)
			F301, F401	252014	4A-T, Speaker protection fuse (W)
			F901	252074	2A-SE-EAK, AC fuse(G)
			F903, F904	252078	5A-SE-EAK, AC fuse(G)
			F901	252014	4A-T, AC fuse(W)
			F902	252002	2A-T, AC fuse(W)
			F901a	25065096	NPF073, Fuseholder(G)
			F901a, F902a	25050050	H0438A, Fuseholder(W)
			F901b	29360364	Label, fuse(G)
			F903b, F904b	29360419	Label, fuse(G)
			F901b	29360467	Label, fuse(W)
			F902b	29360435	Label, fuse(W)

## G/W model

CIRCUIT NO.	PARTS NO.	DESCRIPTION
A1	27110131	Bracket, front
A2	27140489	Bracket, headphone
A3	12549901	Holder ass'y



CIRCUIT NO.	PARTS NO.	DESCRIPTION
P801, P802	25060038	NTM-4PRMN09, Speaker terminal
P803	250450067	HLJ-0279-01-070, Stereo headphone jack
P804	25060044	Terminal, ground
P903	25055040	CV-K-2, Conversion plug(W)
Q308, Q408	2211255 or 2211256	2SC1815(GR) or 2SC1815(BL), Transistor, thermal detector
Q310, Q410	2201103 or 2201102	2SD845(O) or 2SD845(Y), Transistor, power amplifier
Q311, Q411	2201093 or 2201092	2SB755(O) or 2SB755(Y), Transistor, power amplifier
S101b	25030189	NRSM-102-30UB, Cartridge selector switch
S801	25035257	NPS-122-L221, Power indicator switch
S901	25035176	NPS-111-L140P, Power switch
S902	25065109	NSS-22557, Voltage selector switch
T901	230482	NPT-739G, Transformer, power (G)
	230483	NPT-739DG, Transformer, power(W)
U1	12549573	NAEQ-1073, Equalizer amplifier pc board ass'y
U2	12549574	NAPJ-1074, Tape input/output terminal pc board ass'y
U3	12549575	NASW-1075, Rec. selector switch pc board ass'y
U4	12549576	NASW-1076, Input selector pc board ass'y
U5	12549577	NAAF-1077, Pre., and power amplifier pc board ass'y
U6	12549578	NAVR-1078, Balance control pc board ass'y
U7	12549579	NAVR-1079, Volume control pc board ass'y
U8	12549580	NASW-1080, Speaker selector pc board ass'y
U9	12549581	NAPS-1081, Power supply pc board ass'y
U10	12549582	NALED-1082, Speaker indicator pc board ass'y
U11	12549583	NASW-1083, Switch circuit pc board ass'y
U12	12549585	NADIS-1085, Output power indicator pc board ass'y
U13	12549586	NAME-1086, Output power indicator driver circuit pc board ass'y
U14	12549587	NALED-1087, Cartridge selector indicator pc board ass'y
W901	253083	AS-CEE, Power supply cable
W901a	270280	SR-4K-4, Strainrelief

(G): Only 220V model  
(W): Only 120/220V model

## PRINTED CIRCUIT BOARD-PARTS LIST EQUALIZER AMPLIFIER PC BOARD (NAEQ-1073) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	<b>ICs</b>	
Q101, Q201	222594	HA12017
	<b>Capacitors</b>	
C102, C202	352751009	10 $\mu$ F, 25V, Elect.
C105, C205	352724719	470 $\mu$ F, 6.3V, Elect.
C108, C208	379126824	6,800pF $\pm$ 5%, 50V, DEW
C109, C209	379122034	0.022 $\mu$ F $\pm$ 5%, 50V, DEW
C110, C210	352780109	1 $\mu$ F, 50V, Elect.
C112, C213	352780109	1 $\mu$ F, 50V, Elect.

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	<b>Switch</b>	
S101A	25065156	NSS-8371, MC/MM selector
	<b>Terminals</b>	
P101	25045087	NPJ-2PDBL44, Phono input
P301	25045087	NPJ-2PDBL44, Tuner input

## TAPE INPUT/OUTPUT TERMINAL PC BOARD (NAPJ-1074) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
P302, P303	25045074	NPJ-4PDBL37, Tape input/output terminal

## REC. SELECTOR SWITCH PC BOARD (NASW-1075) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
S301	25030190	NRSM-145-305S, Rec. selector switch

## INPUT SELECTOR SWITCH PC BOARD (NASW-1076) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
S302	25035247	NPS-442-L211, Input selector switch
PL301–PL304	210080	PL14V0.06AE-0.5, Input indicator lamp

## PRE., POWER AMPLIFIER AND PROTECTOR CIRCUIT PC BOARD (NAAF-1077) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	<b>IC</b>	
Q313, Q413	222502 or 222597	NJM4558DX or NJM4559DN
	<b>Transistors</b>	
Q301, Q401	2211915 or 2211916	2SK240(GR) or 2SK240(BL)
Q302, Q402	2211255 or 2211256	2SC1815(GR) or 2SC1815(BL)
Q303, Q403	2211515 or 2211516	2SA995(F) or 2SA995(G)
Q304, Q404	2211454 or 2211455	2SA1015(Y) or 2SA1015(GR)
Q305, Q405	2211742	2SA915(L)
Q306, Q406	2211762	2SC1940(L)
Q307, Q407	2211256 or 2211255	2SC1815(BL) or 2SC1815(GR)
Q308, Q408	2211924 or 2211923	2SC2824(Y) or 2SC2824(O)
Q309, Q409	2211934 or 2211933	2SA1184(Y) or 2SA1184(O)
Q310, Q410	2201103 or 2201102	2SD845(O) or 2SD845(R)
Q311, Q411	2201093 or 2201092	2SB755(O) or 2SB755(R)
Q312, Q412	2200664 or 2200663	2SC1626(Y) or 2SC1626(O)
Q901	2200674 or 2200673	2SA816(Y) or 2SA816(O)
Q902	2211255 or 2211256	2SC1815(GR) or 2SC1815(BL)
Q903, Q905	2211455 or 2211454	2SA1015(GR) or 2SA1015(Y)
Q904	2211164 or 2211544	2SC2120(Y) or 2SC1959(Y)
	<b>Diodes</b>	
D302, D303	4000068	VD1222



CIRCUIT NO.	PARTS NO.	DESCRIPTION
D402, D403 D304, D909 D910, D912 D907, D908	4000068 223133 or 223105 224065	VD1222 DS442X or 1S1555 05Z18U, Zener
	<b>Lamp</b> 210121	PL14V0.06AW2.5
	<b>Capacitors</b>	
C312, C412 C317, C417 C319, C419 C322, C422 C323, C423 C326-C331 C426-C429 C906, C907 C908-C911 C912 C913 C914 C915	379121035 379121025 379121035 352781009 352781009 352751009 352751009 352761019 352751019 352742219 352743309 352741029 352741009	0.01 $\mu$ F $\pm$ 10%, 50V, DEW 0.001 $\mu$ F $\pm$ 10%, 50V, DEW 0.01 $\mu$ F $\pm$ 10%, 50V, DEW 10 $\mu$ F, 50V, Elect. 10 $\mu$ F, 50V, Elect. 10 $\mu$ F, 25V, Elect. 10 $\mu$ F, 25V, Elect. 100 $\mu$ F, 35V, Elect. 100 $\mu$ F, 25V, Elect. 220 $\mu$ F, 16V, Elect. 33 $\mu$ F, 16V, Elect. 1,000 $\mu$ F, 16V, Elect. 10 $\mu$ F, 16V, Elect.
	<b>Resistors</b>	
R309, R409 R311, 315 R411, R415 R312, R412 R318, R418	431421565 5148070 431421565 5148069	15M $\Omega$ , 1/4W, Solid N16RGM-11C-110K180K30M, Bass control variable 15M $\Omega$ , 1/4W, Solid N16RGM-11C-220K30M, Treble control variable
R320, R420 R321, R421 R339, R439 R341, R441 R342, R442 R344, R444 R345, R445 R346, R446 R901 R902 R903, R904 R911 R913	431421565 431421565 5225072 441522214 441720104 4000047 4000047 441621004 441521514 441522214 441523324 441522204 441521004	15M $\Omega$ , 1/4W, Solid 15M $\Omega$ , 1/4W, Solid N10HR4.7KBDM, Semi-fixed 220 $\Omega$ , 1/2W, Metal oxide film 1 $\Omega$ , 2W, Metal oxide film 0.47 $\Omega$ , 5W, Metal plate 0.47 $\Omega$ , 5W, Metal plate 10 $\Omega$ , 1W, Metal oxide film 150 $\Omega$ , 1/2W, Metal oxide film 220 $\Omega$ , 1/2W, Metal oxide film 3.3k $\Omega$ , 1/2W, Metal oxide film 22 $\Omega$ , 1/2W, Metal oxide film 10 $\Omega$ , 1/2W, Metal oxide film
	<b>Switches</b>	
S303-S306	25035246	NPS-422-L210, Load/Mode/ Hi-filter/Loudness
	<b>Relay</b>	
RL901	25065140	NRL-2P5A-DC12-06
	<b>Lamp</b> 210081	PL14V0.06AW2.4

### BALANCE CONTROL PC BAORD (NAVR-1078) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
R310, R410	5148068	N16RGM-C-500KMN-30, Balance control variable resistor

### VOLUME CONTROL PC BOARD (NAVR-1079) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
R322, R422	5148067	N16RGM-41C-100KBTP35, Volume control variable resistor

### SPEAKER SWITCH PC BAORD (NASW-1080) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
L301, L401 R351, R451	231001 441520564	S-1.3B, Coil 5.6 $\Omega$ , 1/2W, Metal oxide film resistor

CIRCUIT NO.	PARTS NO.	DESCRIPTION
R352, R452	441623314	330 $\Omega$ , 1W, Metal oxide film resistor
S307, S308	25035250	NPS-142-162-L214, Speaker selector switch

### POWER SUPPLY PC BOARD (NAPS-1081) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	<b>Diodes</b>	
D901-D904 D905, D906	223863 223804 or 223843	GP30DL SR1K-2 or GP08B
	<b>Capacitor</b>	
C905	352742229	2,200 $\mu$ F, 16V, Elect.
	<b>Fuses</b>	
F301, F401	252059	4A (ST-6), Speaker protection
	<b>Fuseholder</b>	
F301a, F401a	250113	SN5051

### SPEAKER INDICATOR PC BOARD (NALED-1082) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	225047	SLP251B, L.E.D

### SWITCH PC BOARD (NASW-1083) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
R353, R453	431526815	680 $\Omega$ , 1/2W, Solid resistor

### OUTPUT POWER INDICATOR PC BOARD (NADIS-1085) – PARTS LIST

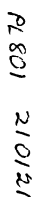
CIRCUIT NO.	PARTS NO.	DESCRIPTION
Q502, Q602 D506, D606	222621 225068	IR2431, IC GL-112V13, L.E.D

### OUTPUT POWER INDICATOR DRIVER PC BOARD (ANME-1086) – PARTS LIST

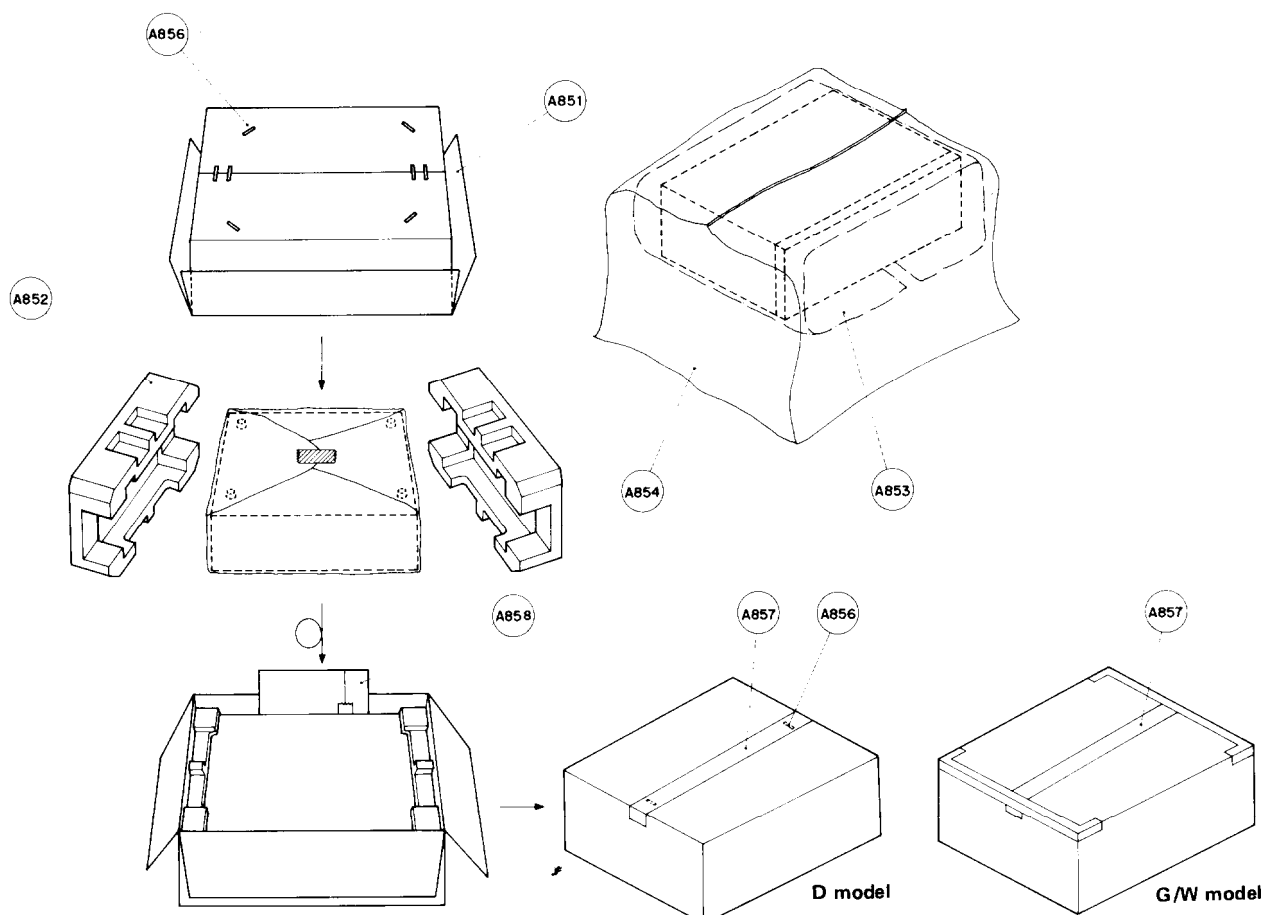
CIRCUIT NO.	PARTS NO.	DESCRIPTION
	<b>IC</b>	
Q501, Q601	222502	NJM-4558DX
	<b>Diodes</b>	
D501, D503 D507 D504, D505 D601-D603	223133 or 223105 224096 or 224041 223133 or 223105	DS442X or 1S1555 GZA5.6-U or 05Z5.6-U DS442X or 1S1555
	<b>Capacitors</b>	
C502, C602 C503 C504, C505 C506 C508	352780109 352734709 352754709 352780339 352780479	1 $\mu$ F, 50V, Elect. 47 $\mu$ F, 10V, Elect. 47 $\mu$ F, 25V, Elect. 3.3 $\mu$ F, 50V, Elect. 4.7 $\mu$ F, 50V, Elect.
	<b>Resistor</b>	
R502	5215021	N08HR10KBD, Semi-fixed

### CARTRIDGE SELECTOR INDICATOR PC BOARD (NALED-1087) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	225082	SLP-155B-01, L.E.D.



# PACKING PROCEDURES



## D model

REF. NO.	PARTS NO.	DESCRIPTION
A851	29050439	Master carton box
A852	29090398A	Pad
A853	29095012-1	500x800, Protection sheet
A854	29100036	850x550mm, Poly bag
A856	282301	Sealing hook
A857	260012	50x180cm, Tape, damplon
A858	29100006	250x350mm, Poly bag
	29340494	Instruction manual
	29365006	Warranty card (N)
	29358002	List, service station (N)

(N): Only U.S.A. model

## G/W model

REF. NO.	PARTS NO.	DESCRIPTION
A851	29050439	Master carton box
A852	29090398A	Pad
A853	29095012-1	500x800, Protection sheet
A854	29100036	850x550mm, Poly bag
A855	261504	30x150mm, Tape
A856	282301	Sealing hook
A857	260012	50x180cm, Tape, damplon
A858	29100006	250x350mm, Poly bag
A881	29340495	Instruction manual
	29365005-2	Warranty card (G)
	29358002	CV-K-1, Conversion plug (W)

(W): Only 120/220V model

(G): Only Germany model

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