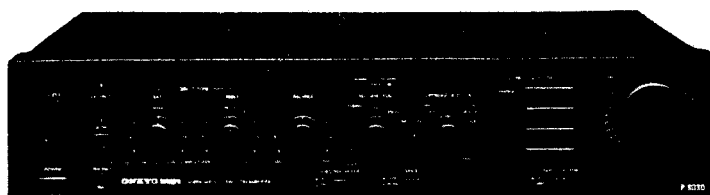


# ONKYO SERVICE MANUAL

## SUPER SERVO STEREO PREAMPLIFIER

### MODEL P-3030



UDN, UD	120V AC, 60Hz
UGV, UG	220V AC, 50Hz
UW	120V/220V AC, 50/60Hz

#### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  $\triangle$  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 PARTS 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.

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# SPECIFICATIONS

**Input Sensitivity and Impedance:**

PHONO MC: 150  $\mu$ V/(100/220 $\Omega$ )  
 78 EQ: 2.5 mV  
 (47 k $\Omega$ )  
 PHONO MM: 2.5 mV/(47 k $\Omega$ /  
 100 k $\Omega$ )  
 TUNER: 150 mV/47 k $\Omega$   
 TAPE PLAY: 150 mV/47 k $\Omega$   
 CD/AUX: 150 mV/47 k $\Omega$

**Rated Output and Impedance:**

TAPE REC: 150 mV/2.2 k $\Omega$   
 (PHONO)  
 OUTPUT: 1.0 V/220 $\Omega$   
 Max. 13 V

**RIAA Deviation:  
 Frequency Response  
 (TUNER):**

$\pm 0.2$  dB, 20 - 20,000 Hz

**Phono Overload:**

+0, -3 dB, 0.8 Hz - 170 kHz  
 PHONO MM: 300 mV RMS at  
 1 kHz, THD. 0.01%  
 1400 mV RMS at  
 10 kHz, THD. 0.01%  
 PHONO MC: 17 mV RMS at  
 1 kHz, THD. 0.01%  
 82 mV RMS at  
 10 kHz, THD. 0.01%

**Total Harmonic  
 Distortion:**

0.004% at PHONO MM, 3 V output  
 0.006% at PHONO MC, 3 V output  
 0.006% at PHONO 78 EQ, 3 V  
 output  
 0.003% at TUNER, CD/AUX,  
 TAPE, 3 V output

**Intermodulation  
 Distortion:**

0.003% (70 Hz: 7 kHz = 4:1)

**Signal to Noise Ratio:**

PHONO MC: 76 dB  
 (IHF A-202)  
 PHONO MM: 82 dB  
 (IHF A-202)  
 TUNER: 93 dB  
 (IHF A-202)

**Tone Control:  
 (Vol, -20 dB)  
 Filters:**

BASS:  $\pm 8$  dB at 70 Hz  
 TREBLE:  $\pm 8$  dB at 20 kHz  
 HIGH CUT: 6 dB/oct. 6 kHz  
 (Vol. min.)  
 SUBSONIC: 6 dB/oct. 15 Hz

**Rated Output  
 Voltage:  
 Power Supply:**

1.0 V/220  $\Omega$   
 European model AC 220 V, 50 Hz  
 U.S.A. & Canadian model AC  
 120 V, 60 Hz  
 Universal model AC 120/220 V,  
 50/60 Hz

**Inputs:**

PHONO  
 TUNER  
 TAPEPLAY 1 & 2  
 CD/AUX

**Outputs:**

TAPE REC OUT 1 & 2  
 OUTPUT  
 HEADPHONES  
 AC OUTLET (SWITCHED  $\times 2$ ,  
 UNSWITCHED  $\times 1$ ) (U.S. &  
 Canadian models)

**Semiconductors:**

46 Transistors, 35 Diodes, 6 FETs,  
 5 ICs

**Dimensions:**

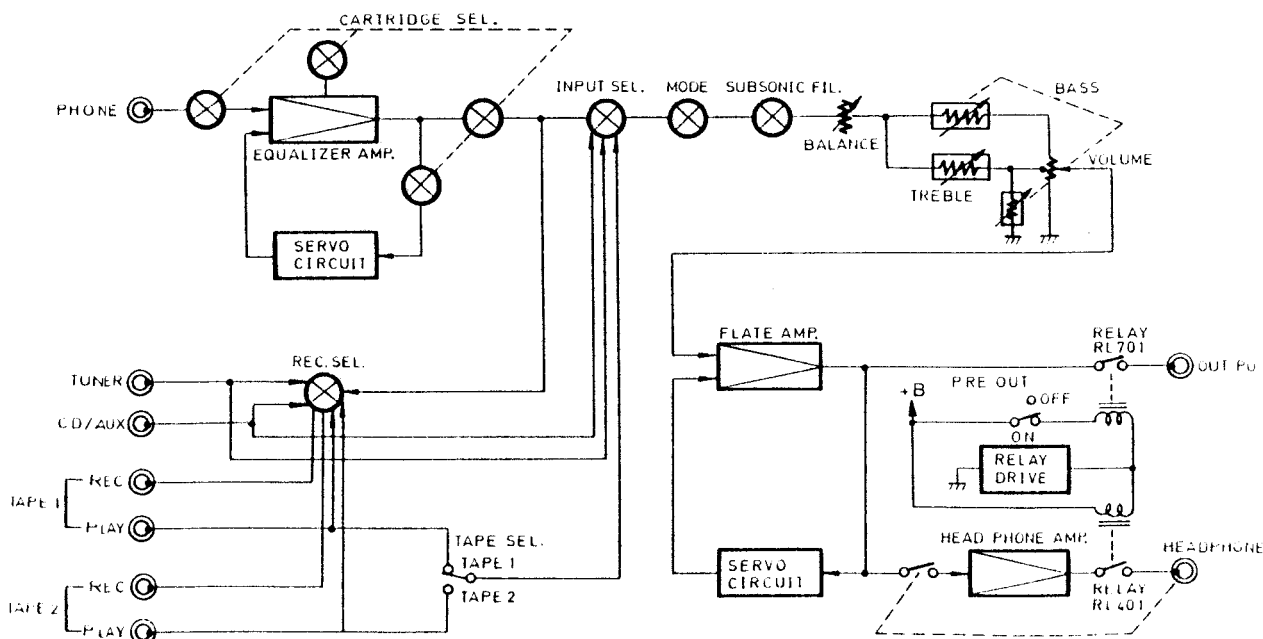
450(W)  $\times$  99(H)  $\times$  403(D) mm  
 (17-3/4"  $\times$  3-15/16"  $\times$  15-3/4")

**Weight:**

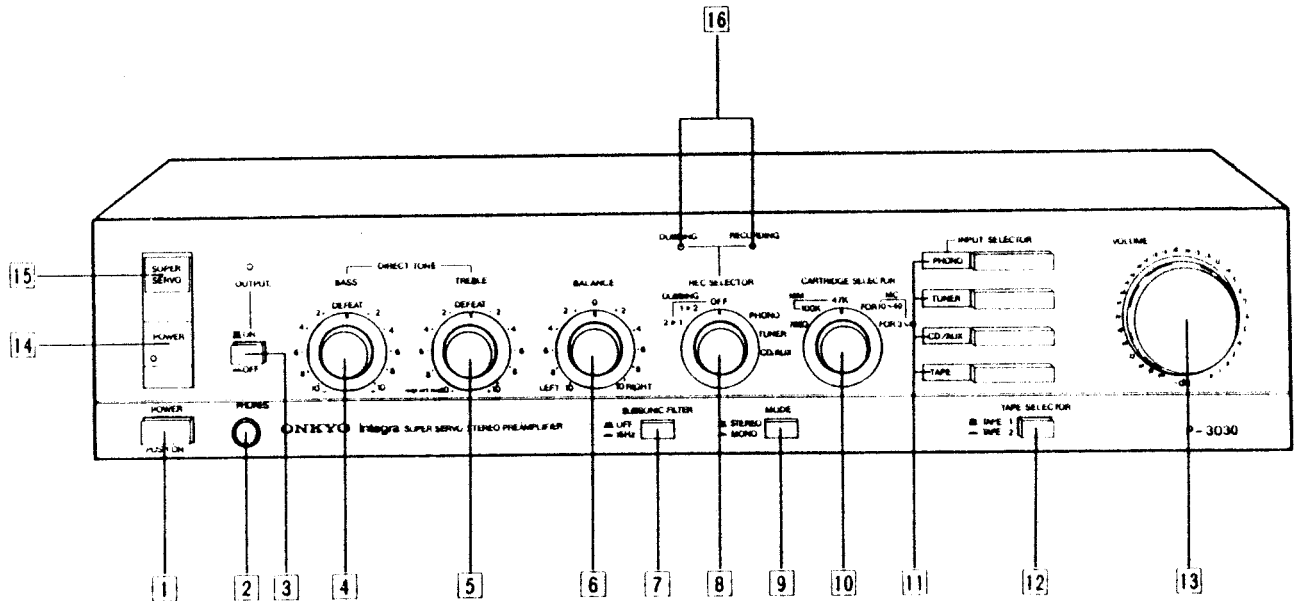
7.0 kg. (15.4 lbs.)

Specifications and features are subject to change without notice.

# BLOCK DIAGRAM



# FRONT PANEL

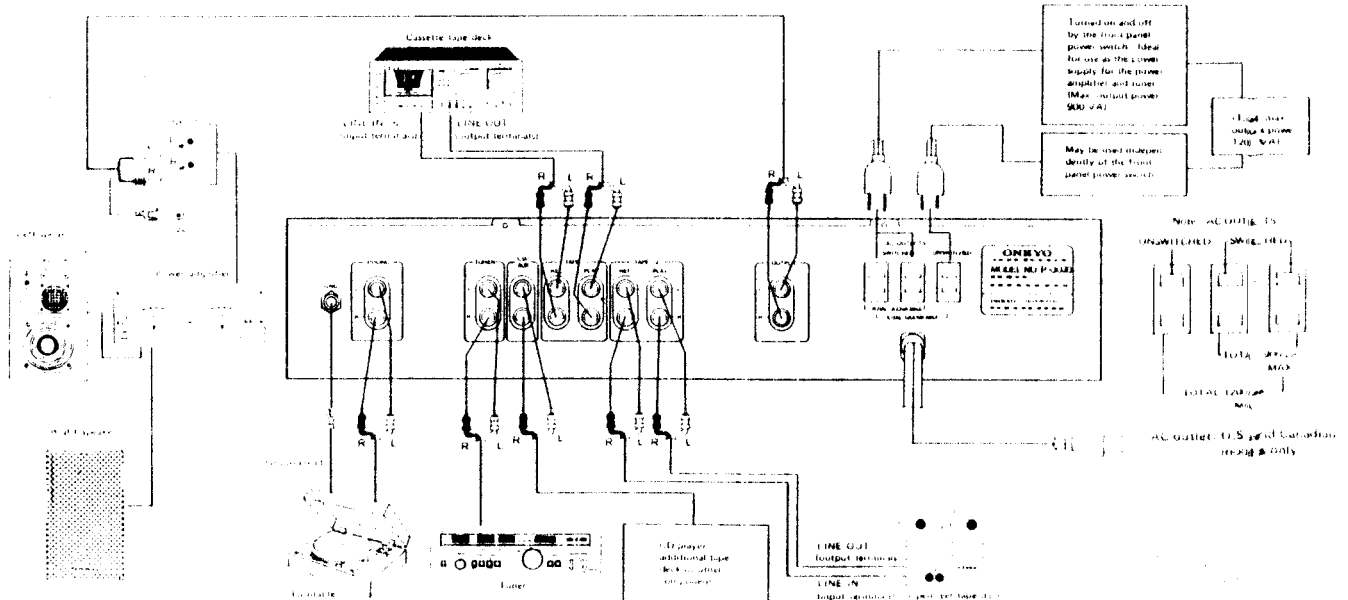


- |                              |                                      |
|------------------------------|--------------------------------------|
| 1. Power switch              | 9. Mode selector                     |
| 2. Phones jack               | 10. Cartridge selector               |
| 3. Output switch             | 11. Input selector and indicators    |
| 4. Bass control              | 12. Tape selector                    |
| 5. Treble control            | 13. Volume control                   |
| 6. Balance control           | 14. Power lamp                       |
| 7. Subsonic filter switch    | 15. Super servo lamp                 |
| 8. Recording source selector | 16. Recording source indicator lamps |

# SYSTEM CONNECTIONS

[www.manualscenter.com](http://www.manualscenter.com)

- Confirm that all pin plugs are firmly secured. If a plug becomes loose and proper grounding is lost, a loud booming noise is generated.
- Always handle cables with adequate care, holding the plug at its base - not the cable itself - when connecting and disconnecting.
- Keep the pin type cables as far away as possible from the power cord and power transformer area. Otherwise, hum and other unwanted noise may be generated.



## ADJUSTMENT PROCEDURES

### 1. Preparations

- Place the unit with the feet pointing downward so that it is parallel with the bench. The bottom ventilation openings should not be directly against the surface of the bench.
- The unit should not be under any load or signal.
- During adjustment, the unit and other instrument should not be exposed to any wind since this could cause readings to be unstable.

#### d) Control knob positions

INPUT SEL . . . . . AUX  
 CART SEL . . . . . MM (47k $\Omega$ )  
 REC SEL . . . . . PHONO  
 VOLUME . . . . . MIN

### 2. Instrument

High sensitivity DC voltmeter.

### 3. Equalizer amp. center voltage adjustment

- Adjust R191(R192) so that the DC voltage of the REC terminal is  $0 \pm 200\mu\text{V}$ .
- Switch the CART SET to MC (10-40) and confirm that the DC voltage is  $0 \pm 2\text{mV}$ .

## PRECAUTIONS

### 1. Replacing the fuses

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

CIRCUIT NO.	PARTS NO.	DESCRIPTION
F1	252088	0.25A-SE-EAWK, Primary fuse, 120V/220V model
F901	252095	0.5A (ST-6), Primary fuse, 120V model
F901	252088	0.25A-SE-EAWK, Primary fuse, 220V model
F901	252023	0.5A-T, Primary fuse, 120V/220V model
F902-F905	252063	0.5A-SE-EAWK, Secondary fuse, 220V model

### 2. Replacing the lamps

This unit uses the lamps listed below.

CIRCUIT NO.	PARTS NO.	DESCRIPTION
PL704, PL705	210156	PL14V0.06AW-1.5, Rec. selector indicator
PL706-PL709	210110	PL14V0.06AW-1, Input selector indicator
PL701	210084	PL14V0.06AW-1.5, Power indicator
PL702	210138	PL14V0.08AW-1.5, Servo indicator
PL703	210156	PL14V0.06AW-1.5, Preout indicator

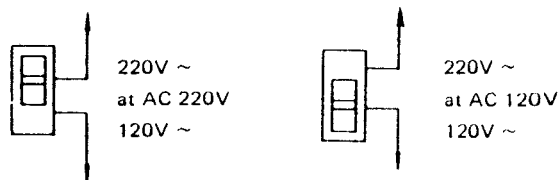
### 3. Insulation resistance measurement

Connect the insulating-resistance tester between the plug of power supply cable and the terminal GND on the back panel.

Specification; 500V, more than 10m $\Omega$

### 4. Voltage Selector (Back panel)

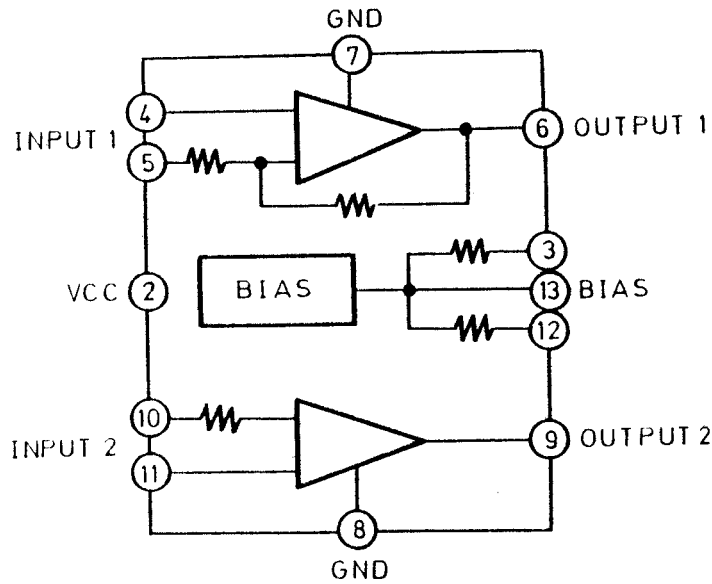
Worldwide models are equipped with a voltage selector to conform with local power supplies. Be sure to set this switch to match the voltage of the power supply in your area before turning the power switch on. Voltage is changed by sliding the groove in the switch with a screwdriver or similar instrument to the up or down position. Confirm that the switch has been moved all the up or down before turning the power switch on. If there is no voltage selector switch on the unit you have purchased, it can 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.



# IC BLOCK DIAGRAM

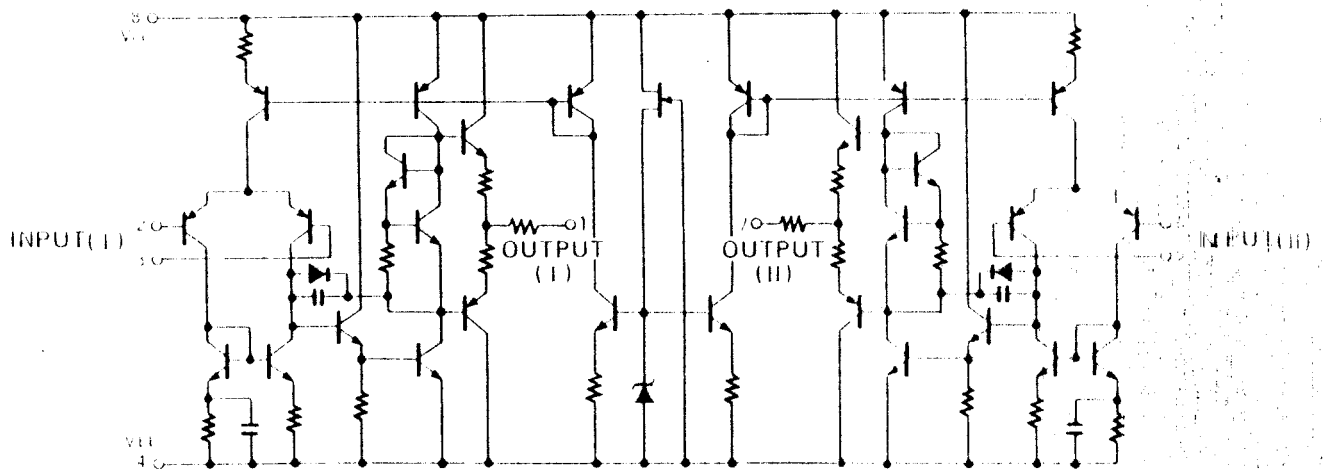
LA4170

Dual Headphone Amplifier



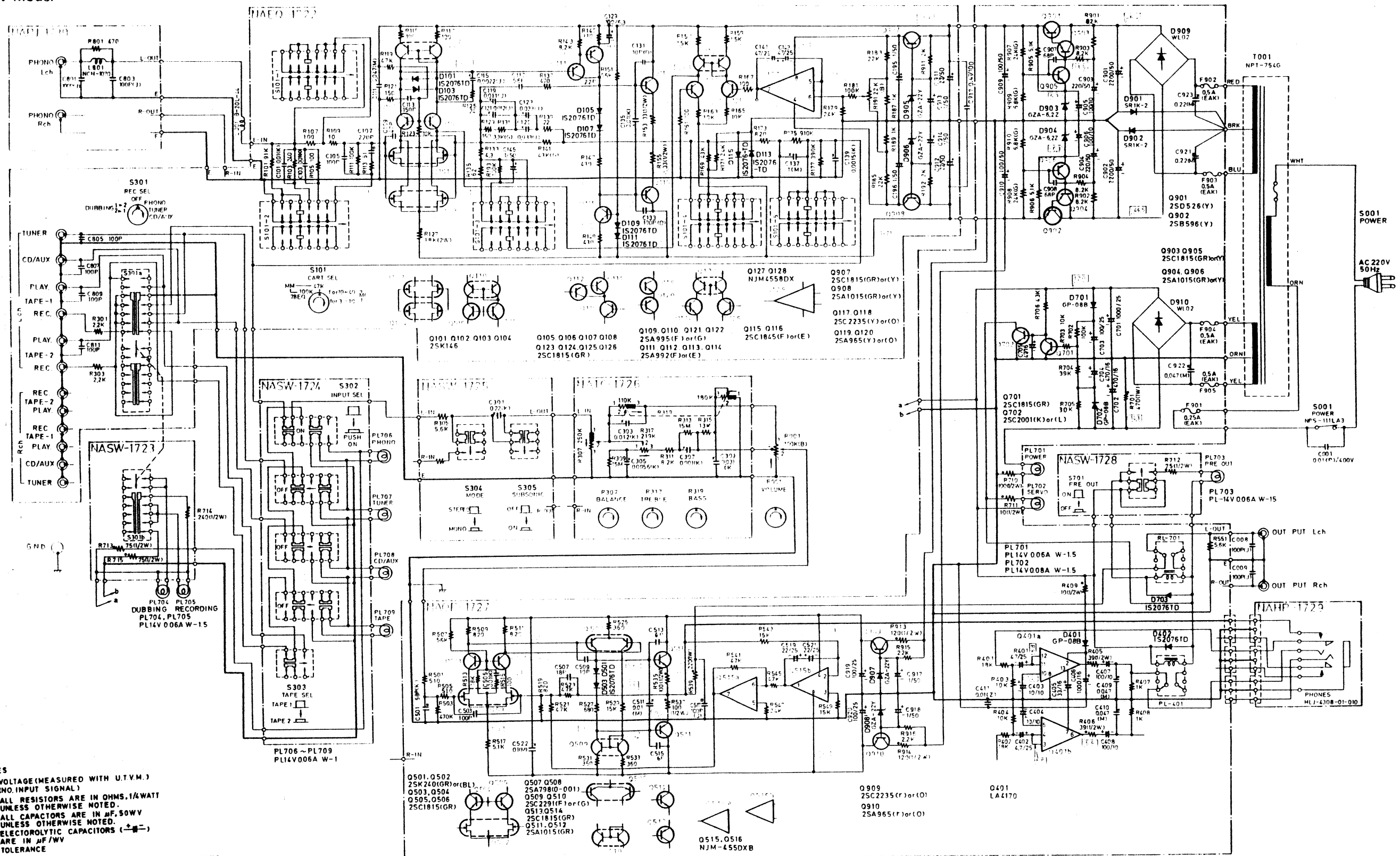
NJM4568DX

[www.manualscenter.com](http://www.manualscenter.com)

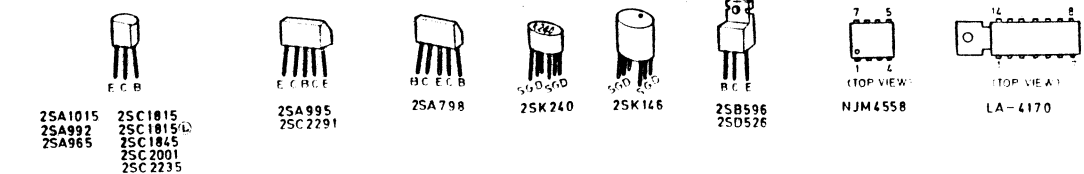


# SCHEMATIC DIAGRAM

220V Model



- NOTES**
- VOLTAGE (MEASURED WITH U.T.V.M.) (NO. INPUT SIGNAL)
  - ALL RESISTORS ARE IN OHMS, I/WATT UNLESS OTHERWISE NOTED.
  - ALL CAPACITORS ARE IN  $\mu$ F, 50V UNLESS OTHERWISE NOTED.
  - ELECTROLYTIC CAPACITORS (  $\pm$  ) ARE IN  $\mu$ F/WV
  - TOLERANCE
- | G         | J         | K          | M          | P                  | D                |
|-----------|-----------|------------|------------|--------------------|------------------|
| $\pm 2\%$ | $\pm 5\%$ | $\pm 10\%$ | $\pm 20\%$ | $+100\%$<br>$-0\%$ | $\pm 1\text{PF}$ |
- SYMBOL
    - NON-INDUCTIVE POLYESTER FILM CAPACITORS.
    - POLYSTYRENE FILM CAPACITORS.
    - FIXED METAL OXIDE FILM RESISTORS.
  - CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.



**ONKYO CORPORATION**

# PRINTED CIRCUIT BOARD PARTS LIST

## EQUALIZER AMPLIFIER PC BOARD (NAEQ-1722) PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
<b>Transistors &amp; FETs</b>		
Q101, Q102	2211530	2SK146, FET
Q103, Q104		
Q105, Q106	2211895	2SC1815 (L) GR
Q107, Q108		
Q123, Q124		
Q109, Q110	2211516 or	2SA995(G) or
Q121, Q122	2211515	2SA995(F)
Q111, Q112	2211792 or	2SA992(F) or
Q113, Q114	2211793	2SA992(E)
Q115, Q116	2211732 or	2SC1845(F) or
	2211733	2SC1845(E)
Q117	2211654 or	2SC2235(Y) or
	2211653	2SC2235(O)
Q119, Q120	2211644 or	2SA965(Y) or
	2211643	2SA965(O)
Q907	2211255 or	2SC1815(GR) or
	2211254	2SC1815(Y)
Q908	2211455 or	2SA1015(GR) or
	2211454	2SA1015(Y)
<b>ICs</b>		
Q127, Q128	222502	NJM4558DX
<b>Diodes</b>		
D101-D116	223145	1S2076TD
D905, D906	2241232	GZA-22Y
<b>Capacitors</b>		
C101-C104	379121035	0.01 $\mu$ F, 50V, DEW
C135, C136		
C107, C108	372122214	220pF, 50V, ST
C111, C112	379124737	0.047 $\mu$ F, 50V, DEW
C115, C116	379122225	2200pF, 50V, DEW
C119, C120	379121134	0.011 $\mu$ F, 50V, DEW
C121, C122	379121234	0.012 $\mu$ F, 50V, DEW
C123-C126	379123334	0.033 $\mu$ F, 50V, DEW
C129, C130	35271019	100 $\mu$ F, 6.3V, Elect.
C137, C138	379121057	1 $\mu$ F, 50V, DEW
C139, C140	379121525	1500pF, 50V, DEW
C141-C144	352754709	47 $\mu$ F, 25V, Elect.
C145, C146	3500075	1.5 $\mu$ F, 50V, SH
C911, C912	352782209	22 $\mu$ F, 50V, Elect.
C913-C916	352780109	1 $\mu$ F, 50V, Elect.
C917	379134747	0.47 $\mu$ F, 100V, DEW
<b>Resistors</b>		
R127, R128	441721824	1.8k $\Omega$ , 2W, Metal oxide film
R153, R154	442523304	33 $\Omega$ , 1/2W, Metal oxide film
R919, R912	5225070	N10HR2. 2KBM, Semi fixed
<b>Switches</b>		
S101e	25065101	NSS-10652, CART. SEL.
S301a	25065079	NSS-4643, REC. SEL.
<b>etc.</b>		
	25060031B	P-2, Plate
	27300152	Case
	25045041	NPJ-6PDBL18, Terminal

## REC. LAMP PC BOARD (NASW-1723) PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
PL704, PL705	210156	PL14V0.06AW-1.5, Lamp
R713, R715	442527504	75 $\Omega$ , 1/2W, Metal oxide film
R714	442522514	250 $\Omega$ , 1/2W, Metal oxide film
S301b	25030235	NRSM-146-25ZV, Switch

## INPUT SELECTOR SWITCH PC BOARD (NASW-1724) PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
PL706-PL709	210110	PL14V0.06AW-1, Lamp
S302	25035392	NPS-442-L356, Input selector switch
S303	25035391	NPS-122-L355, Tape selector switch

## MODE/SUBSONIC SWITCH PC BOARD (NASW-1725) PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
C301, C302	379122245	0.22 $\mu$ F, 50V, Capacitors, DEW
S304, S305	25035266	NPS-122-L230, Switches

## TONE CONTROL PC BOARD (NATC-1726) PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
<b>Capacitors</b>		
C303, C304	379121235	0.012 $\mu$ F, 50V, DEW
C305, C306	379125625	5600pF, 50V, DEW
C307, C308	379121025	0.001 $\mu$ F, 50V, DEW
C309, C310	379123335	0.033 $\mu$ F, 50V, DEW
<b>Resistors</b>		
R307	5148090	N16RGM250KMN25M, Volume control variable
R317	5148091	N16RGM11C219K25M, Treble control variable
R319	5148092	N16RGM11C110K180K25M, Bass control variable

## OUTPUT AMPLIFIER PC BOARD (NAOP-1727) PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
<b>Transistors &amp; FETs</b>		
Q501, Q502	221916 or 2211915	2SK240(BL) or 2SK240(GR), FET
Q503-Q506	2211255	2SC1815(GR)
Q513, Q514		
Q701		
Q507, Q508	2211140	2SA798(0-001)
Q509, Q510	2211445 or 2211446	2SC2291(F) or 2SC2291(G)
Q511, Q512	2211455	2SA1015(GR)
Q702	2211771 or 2211772	2SC2001(K) or 2SC2001(L)
Q901	2200744	2SD526(Y)
Q902	2200413	2SB596(Y)
Q903, Q905	2211255 or 2211254	2SC1815(GR) or 2SC1815(Y)
Q904, Q906	2211455 or 2211454	2SA1015(GR) or 2SA1015(Y)
Q909	2211654 or 2211653	2SC2235(Y) or 2SC2235(O)
Q910	2211644 or 2211643	2SA965(Y) or 2SA965(O)
<b>ICs</b>		
Q515, Q516	222585	NJM4558DXB
Q401	222543	LA4170
<b>Diodes</b>		
D501-D504	223145	1S2076TD
D402, D703		
D401, D701	223848	GP-08B
D702		

CIRCUIT NO.	PARTS NO.	DESCRIPTION
D901, D902	223804	SR1K-2
D903, D904	2240973	GZA6. 2Z
D907, D908	2241232	GZA22Y
D909, D910	223867	WL-02
<b>Lamps</b>		
PL701	210084	PL14V0. 06AW-1.5
PL702	210138	PL14V0. 08AW-1.5
<b>Capacitors</b>		
C501, C502	372126805	680pF, 50V, ST
C505, C506	379121035	0.01μF, 50V, DEW
C511, C512	379121037	0.01μF, 50V, DEW
C517, C518	372121014	100pF, 50V, ST
C519-C522	352752209	22μF, 25V, Elect.
C523, C524	379121047	0.1μF, 50V, DEW
C401, C402	352750479	4.7μF, 25V, Elect.
C403, C404	352741009	10μF, 16V, Elect.
C405	352743309	33μF, 16V, Elect.
C406	352741029	1000μF, 16V, Elect.
C407, C408	352731019	100μF, 10V, Elect.
C905, C906		
C409, C410	379124737	0.047μF, 50V, DEW
C922		
C701	352751029	1000μF, 25V, Elect.
C702, C704	352744719	470μF, 16V, Elect.
C703, C919	352751019	100μF, 25V, Elect.
C920		
C705	352744709	47μF, 16V, Elect.
C901, C902	3504182	2200μF, 50V, Elect.
C903, C904	352782219	220μF, 50V, Elect.
C909, C910	352781019	100μF, 50V, Elect.
C917, C918	352780109	1μF, 50V, Elect.
C921, C923	379122245	0.22μF, 50V, DEW
<b>Resistors</b>		
R535-R538	442521014	100Ω, 1/2W, Metal oxide film
R710		
R539, R540	441622214	220Ω, 1W, Metal oxide film
R405, R406	441523904	39Ω, 1/2W, Metal oxide film
R409, R711	441521004	10Ω, 1/2W, Metal oxide film
R701	441624714	470Ω, 1W, Metal oxide film
R913, R914	441521214	120Ω, 1/2W, Metal oxide film
<b>Relays</b>		
RL401, RL701	25065139	NRL-2P0. 3ADC12-05
<b>Fuseholders</b>		
F901a	250113	S-N5051
<b>etc.</b>		
	25060031B	Plate
	29360430	0.5A/125V, Label
	27160048A	RAD-05B, Radiator
	25050140	NJPS-3P-S, Socket
	27140804	Bracket, lamp

**OUTPUT AMPLIFIER PC BOARD (NAOP-1727a) PARTS LIST**

CIRCUIT NO.	PARTS NO.	DESCRIPTION
<b>Transistors &amp; FETs</b>		
Q501, Q502	2211916 or 2211915	2SK240(BL) or 2SK240(GR)
Q503-Q506	2211255	2SC1815(GR)
Q513, Q514		
Q701		
Q507, Q508	2211140	2SA798(0-001)
Q509, Q510	2211445 or 2211446	2SC2291(F) or 2SC2291(G)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
Q511, Q512	2211455	2SA1015(GR)
Q702	2211771 or 2211772	2SC2001(K) or 2SC2001(L)
Q901	2200744	2SD526(Y)
Q902	2200413	2SB596(Y)
Q903, Q905	2211255 or 2211254	2SC1815(GR) or 2SC1815(Y)
Q904, Q906	2211455 or 2211454	2SA1015(GR) or 2SA1015(Y)
Q909	2211654 or 2211653	2SC2235(Y) or 2SC2235(O)
Q910	2211644 or 2211643	2SA965(Y) or 2SA965(O)
<b>ICs</b>		
Q515, Q516	222585	NJM4558DXB
Q401	222543	LA4170
<b>Diodes</b>		
D501-D504	223145	1S2076TD
D402, D703		
D401, D701	223848	GP-08B
D702		
D901, D902	223804	SR1K-2
D903, D904	2240973	GZA6. 2Z
D907, D908	2241232	GZA22Y
D909, D910	223867	WL-02
<b>Lamps</b>		
PL701	210084	PL14V0. 06AW-1.5
PL702	210138	PL14V0. 08AW-1.5
<b>Capacitors</b>		
C501, C502	372126805	680pF, 50V, ST
C505, C506	379121035	0.01μF, 50V, DEW
C511, C512	379121037	0.01μF, 50V, DEW
C517, C518	372121014	100pF, 50V, ST
C519-C522	352752209	22μF, 25V, Elect.
C523, C524	379121047	0.1μF, 50V, DEW
C401, C402	352750479	4.7μF, 25V, Elect.
C403, C404	352741009	10μF, 16V, Elect.
C405	352743309	33μF, 16V, Elect.
C406	352741029	1000μF, 16V, Elect.
C407, C408	352731019	100μF, 10V, Elect.
C905, C906		
C409, C410	379124737	0.047μF, 50V, DEW
C922		
C701	352751029	1000μF, 25V, Elect.
C702, C704	352744719	470μF, 16V, Elect.
C703, C919	352751019	100μF, 25V, Elect.
C920		
C705	352744709	47μF, 16V, Elect.
C901, C902	3504182	2200μF, 50V, Elect.
C903, C904	352782219	220μF, 50V, Elect.
C909, C910	352781019	100μF, 50V, Elect.
C917, C918	352780109	1μF, 50V, Elect.
C921, C923	379122245	0.22μF, 50V, DEW
<b>Resistors</b>		
R535-R538	442521014	100Ω, 1/2W, Metal oxide film
R710		
R539, R540	441622214	220Ω, 1W, Metal oxide film
R405, R406	441523904	39Ω, 1/2W, Metal oxide film
R409, R711	441521004	10Ω, 1/2W, Metal oxide film
R701	441624714	470Ω, 1W, Metal oxide film
R913, R914	441521214	120Ω, 1/2W, Metal oxide film
<b>Relays</b>		
RL401, RL701	25065139	NRL-2P0. 3ADC12-05
<b>Fuseholder</b>		
F901a	25050065	YSH4031



**CIRCUIT NO. PARTS NO. DESCRIPTION**

etc.

25060031B	Plate
29360430	0.5 A/125V, Label
27160048A	RAD-05B, Radiator
25050140	NJPS-3P-S, Socket
27140804	Bracket, lamp

**PRE OUT SWITCH PC BOARD (NAOP-1728) PARTS LIST**

**CIRCUIT NO. PARTS NO. DESCRIPTION**

PL703	210156	PL14V0. 06AW-1.5, Lamp
R712	441527504	75Ω, 1/2W. Metal oxide film
S701	25035266	NPS-122-L230, Switch
	27140803	Bracket

**HEADPHONE JACK PC BOARD (NAHP-1729) PARTS LIST**

**CIRCUIT NO. PARTS NO. DESCRIPTION**

	25045130	HLJ4308-01-010, Stereo jack
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**PHONO INPUT TERMINAL PC BOARD (NAPJ-1730) PARTS LIST**

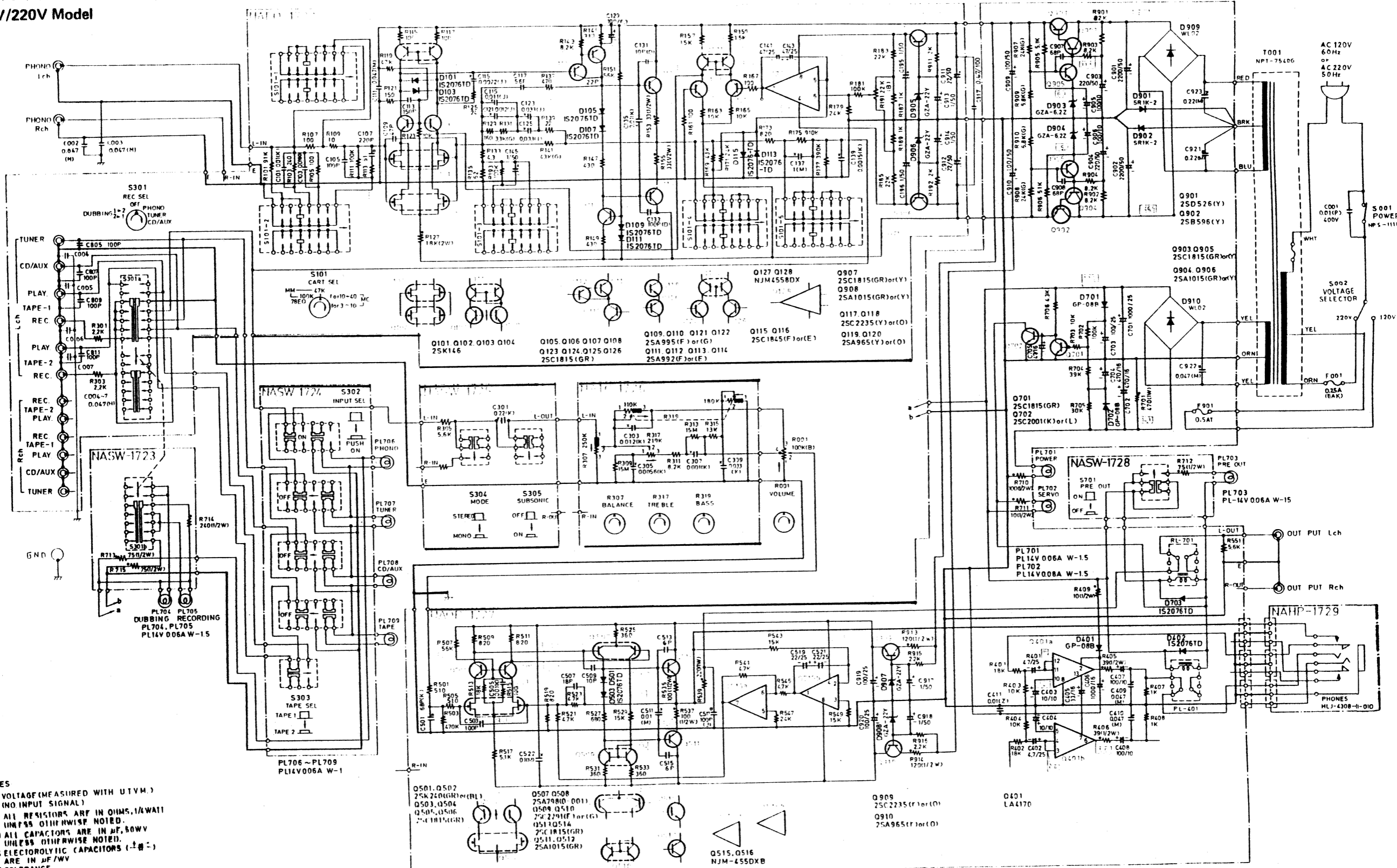
**CIRCUIT NO. PARTS NO. DESCRIPTION**

L801. L802	231030	NCH-1070. Coil
	25045080	NPJ-2PDBL40, Terminal

# SCHEMATIC DIAGRAM

## 120V/220V Model

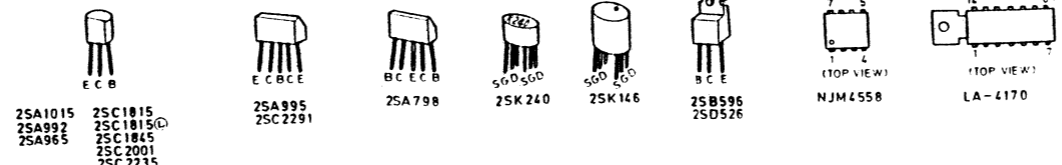
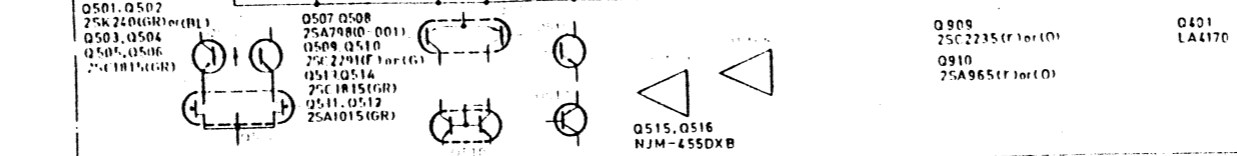
1  
2  
3  
4  
5



- NOTES**
- VOLTAGE (MEASURED WITH UTVM.) (NO INPUT SIGNAL)
  - ALL RESISTORS ARE IN OHMS, UNLESS OTHERWISE NOTED.
  - ALL CAPACITORS ARE IN  $\mu$ F, UNLESS OTHERWISE NOTED.
  - ELECTROLYTIC CAPACITORS (E) ARE IN  $\mu$ F/WV
  - TOLERANCE

G	J	K	M	P	D
$\pm 2\%$	$\pm 5\%$	$\pm 10\%$	$\pm 20\%$	+100% -0%	$\pm 1\%$

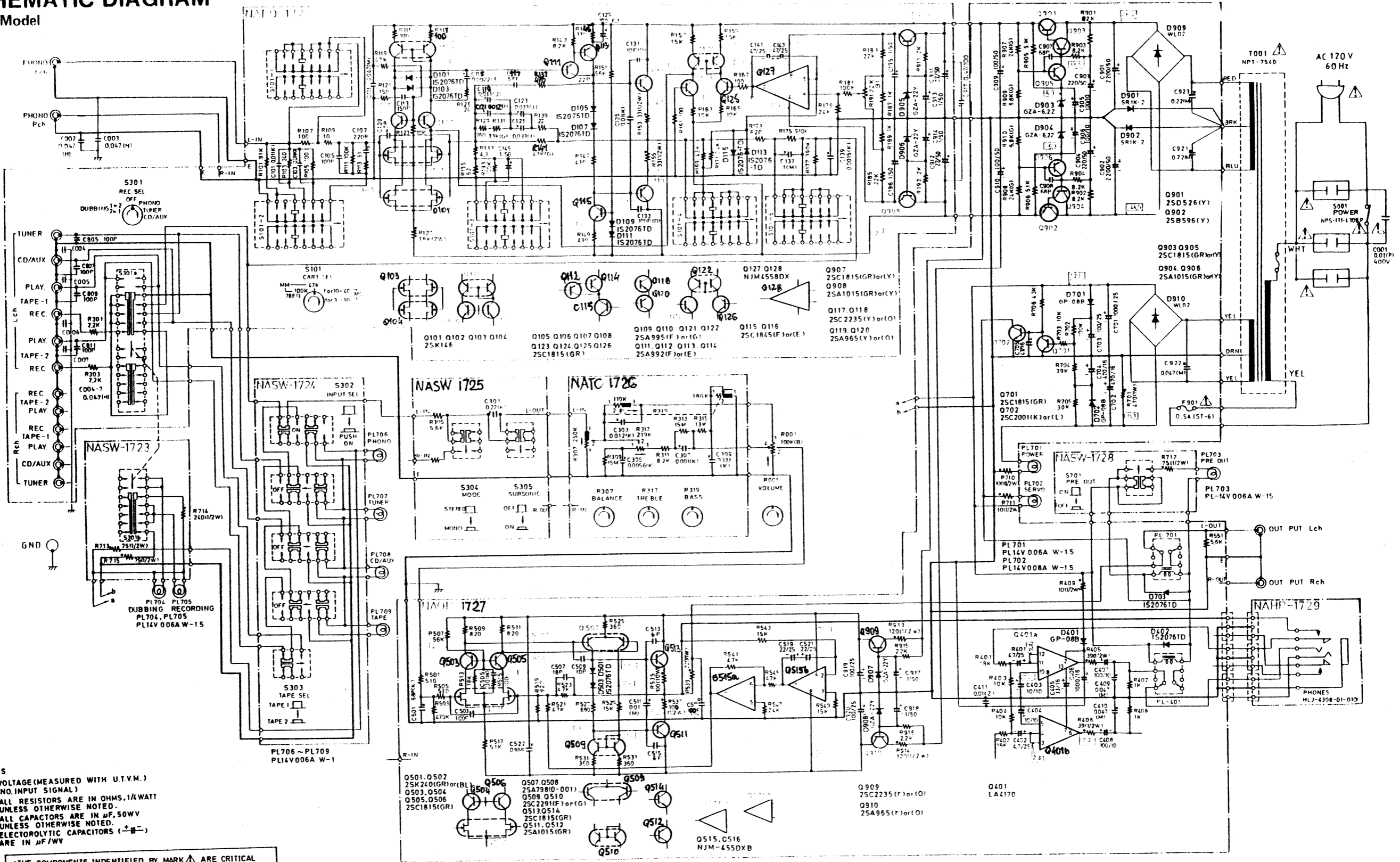
- SYMBOL**
- NON-INDUCTIVE POLYESTER FILM CAPACITORS.
  - POLYSTYRENE FILM CAPACITORS.
  - FIXED METAL OXIDE FILM RESISTORS.
  - CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.





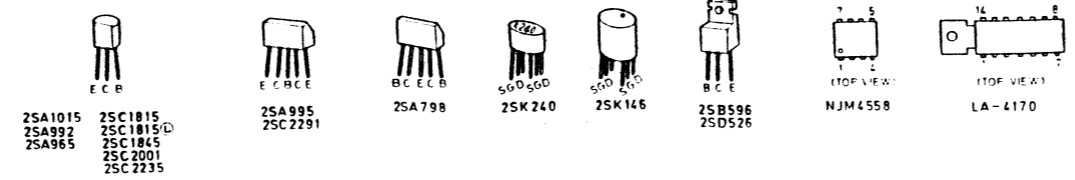
# SCHEMATIC DIAGRAM

## 120V Model

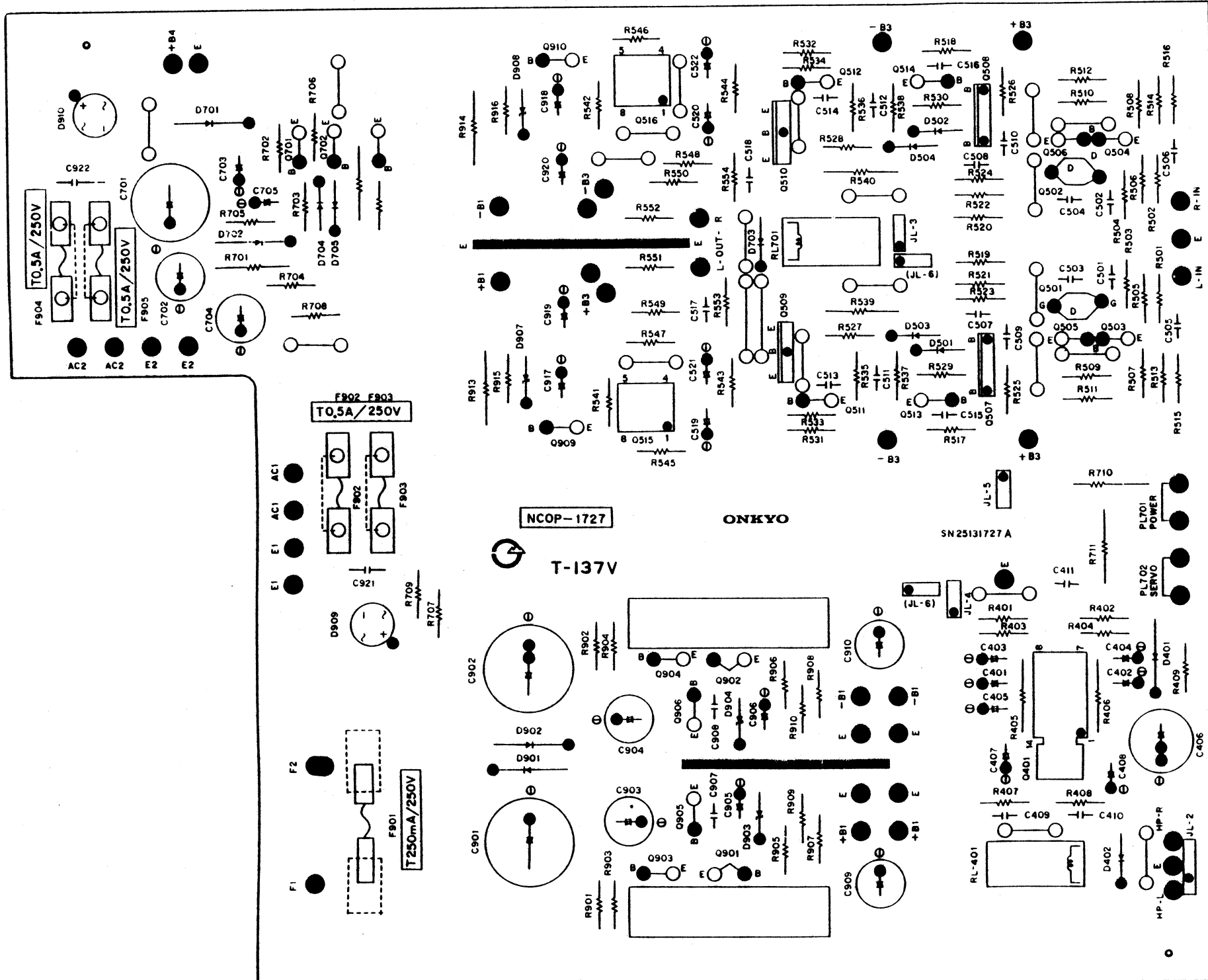


- NOTES**
1. VOLTAGE (MEASURED WITH U.T.V.M.) (NO INPUT SIGNAL)
  2. ALL RESISTORS ARE IN OHMS, 1/WATT UNLESS OTHERWISE NOTED.
  3. ALL CAPACITORS ARE IN  $\mu$ F, 50V UNLESS OTHERWISE NOTED.
  4. ELECTROLYTIC CAPACITORS ( $\frac{\pm}{\mu}$ ) ARE IN  $\mu$ F/WV
  5. \*THE COMPONENTS IDENTIFIED BY MARK  $\Delta$  ARE CRITICAL FOR SAFETY REPLASE ONLY WITH PART NUMBER SPACI FIED.

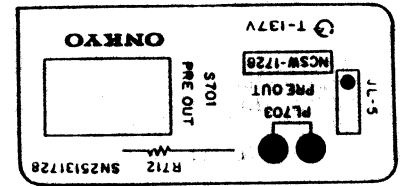
- 6. SYMBOL**
- NON-INDUCTIVE POLYESTER FILM CAPASITORS.
  - POLYSTYRENE FILM CAPASITORS.
  - FIXED MATAI OXIDE FILM RESISTORS.
7. CIRCUIT IS SUBJECT TO CANGE FOR IMPROVEMENT.



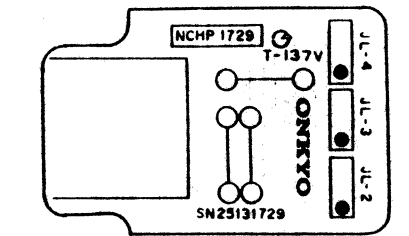
NAOP-1727



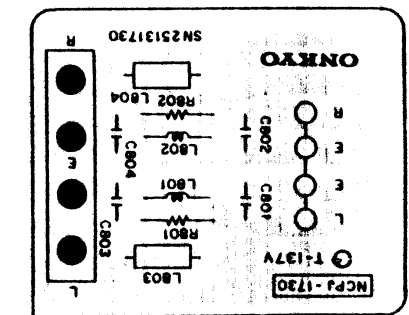
NASW-1728



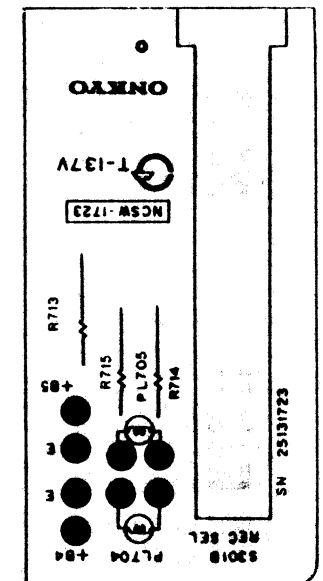
NAHP-1729



NAPJ-1730

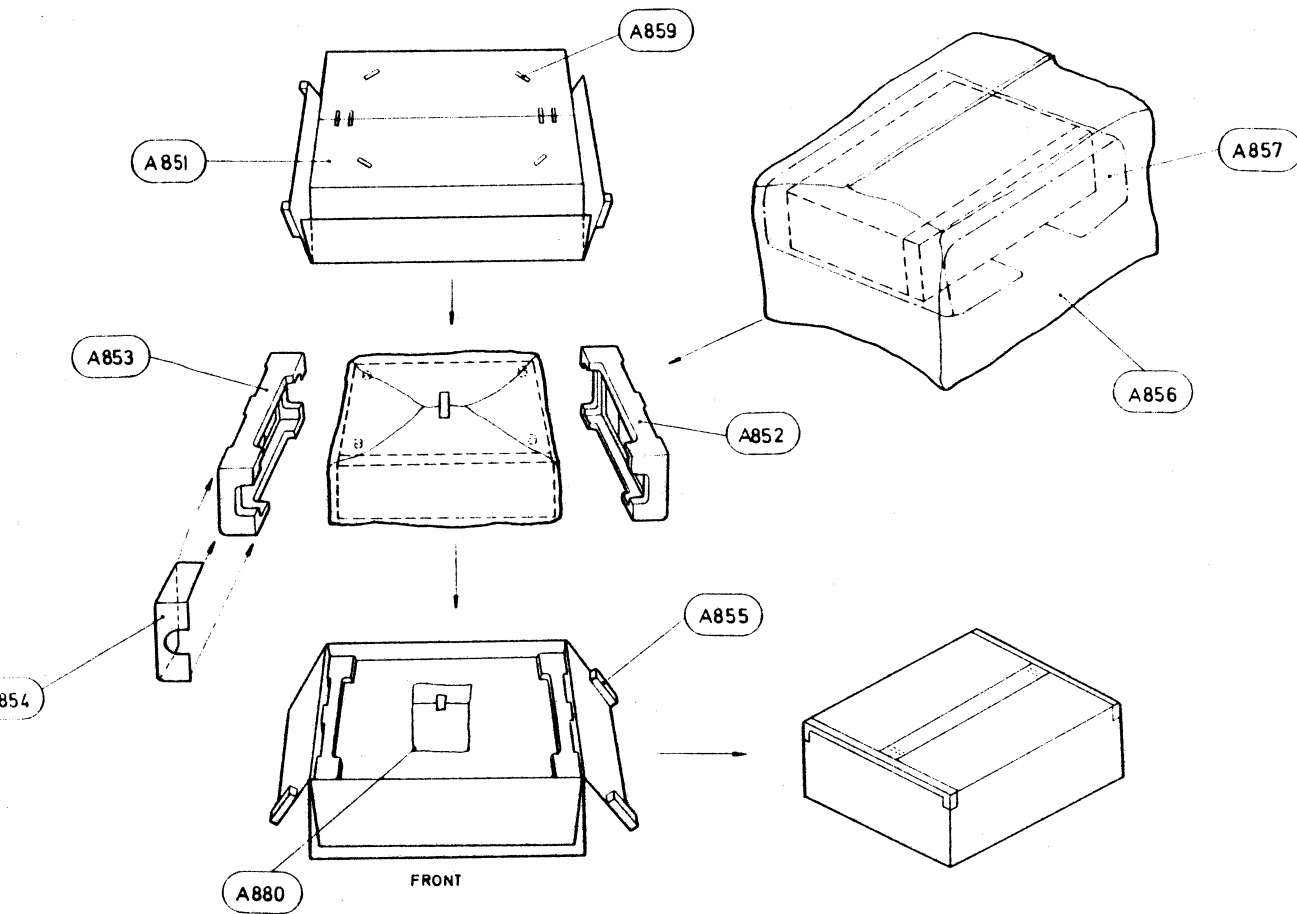


NASW-1723





## PACKING PROCEDURES



REF. NO.	PARTS NO.	DESCRIPTION
851	29050786	Master carton box
852	29090452	Pad L
853	29090453	Pad R
854	29090663	Pad
855	29090659	Pad
856	29100038A	720 x 950 mm, Poly bag
857	29095012-1	500 x 800 mm, Protection sheet
859	282301	Sealing hook
<b>Accessory bag ass'y</b>		
	29340708	Instruction manual (D) (U)
	29340709	Instruction manual (G) (V) (W)
	29365006-5	Warranty card (U)
	29365005-3A	Warranty card (V)
	29358002	Service station list (U)
	29358004	Service station list (V)
	29360657	Caution label (U)
	29365010	Label (U)
	29355093	Caution sheet (V)
	29100006	350 x 250 mm, Poly bag
	25055040	CV-K-2, Conversion plug (W)

## NOTE

- (U): Only U.S.A. model  
(V): Only West Germany model  
(D): Only 120V model  
(G): Only 220V model  
(W): Only 120V/220V model

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