

# YTA-45/95

GUITAR AMPLIFIER

 **YAMAHA SERVICE MANUAL**

006305

① 2 © Printed in Japan 10-77

## YTA-45 Specifications

<b>1. CONTROLS</b>	VOLUME, BASS, MIDDLE, TREBLE, REVERB, TREMLO INTENSITY, TREMLO SPEED, FOOT SW REVERB, TREMLO
<b>2. OTHER FITTINGS</b>	PILOT LAMP, POWER SW, AC OUTLET (MAX 250W) CHANNEL 2 INPUT HIGH, LOW SIGNAL OUT 1
<b>3. SPEAKERS</b>	JA3052A X 1
<b>4. POWER AMPLIFIER</b>	SOLID STATE (OCL TYPE)
<b>5. ELECTRICAL RATINGS</b>	TRANSISTORS 27 IC 1 OUTPUT POWER 45W RMS POWER CONSUMPTION 120W 100V/110V/117V/125V/220V/240V/ AC 50/60 Hz
<b>6. DIMENSIONS</b>	HEIGT 495m/m WIDTH 550m/m PEPTH 250m/m
<b>7. WEIGHT</b>	17kg
<b>8. FINISH</b>	GREY LEATHERETTE

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**NOTE: Abbreviations of wire colors**

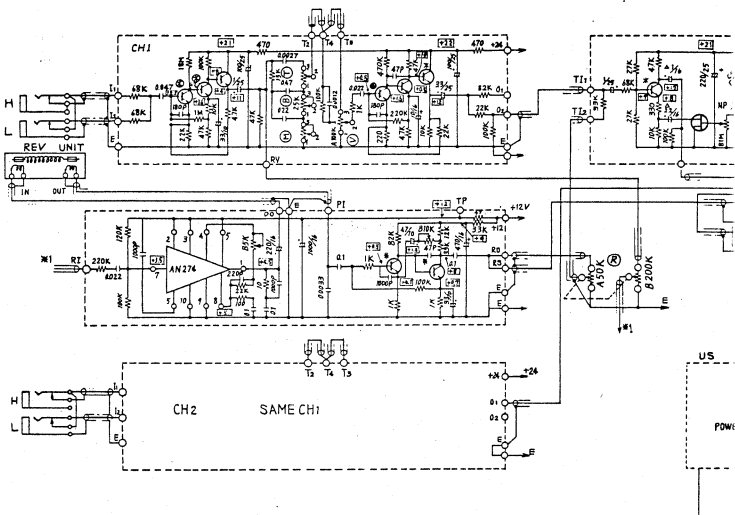
BL : Black	GR : Green	GG : Grass Green
BR : Brown	BE : Blue	SB : Sky Blue
RE : Red	VI : Violet	PK : Pink
OR : Orange	QY : Gray	TR : Transparent
YE : Yellow	WH : White	PT : Tin Plated Wire

Wire colors in the circuit diagrams are indicated as above.

## YTA-95 Specifications

<b>1. CONTROLS</b>	VOLUME, BASS, MIDDLE, TREBLE, REVERB. INTENSITY (TREMLO/WAW WAW) SPEED (TREMLO/WAW WAW) BRILLIANCE (I, II, OFF) TREMLO/WAW WAW (TREMLO, WAW WAW, OFF) FOOT SW REVERB. TREMLO/WAW WAW
<b>2. OTHER FITTINGS</b>	PILOT LAMP, POWER SW AC OUTLET (MAX. 250W) CHANNEL 2 INPUT HIGH, LOW OUTPUT JACK 1 (TO AMPLIFIER)
<b>3. SPEAKERS</b>	JA3052A X 2
<b>4. POWER AMPLIFIER</b>	SOLID STATE (OCL TYPE)
<b>5. ELECTRICAL RATINGS</b>	TRANSISTORS 35 IC 1 DIODES 11 OUTPUT POWER 90W RMS POWER CONSUMPTION 250W 100V/110V/117V/125V/220V/240V, AC50/60Hz
<b>6. DIMENSIONS</b>	HEIGHT: 516mm WIDTH: 713mm DEPTH: 260mm
<b>7. WEIGHT</b>	27kg
<b>8. FINISH</b>	GREY LEATHERETTE

## YTA-45 Overall Circuit Diagram



- Notes.
1. Transistor  $\text{\textcircled{T}}$  Marked (8 pcs.): 25C732(BL)  
 $\text{\textcircled{I}}$  Marked (7 pcs.): 25C644(O)  
 Others (3 pcs.): 25C828(P)  
 FET. (1 pcs.): 25K30(Y)
  2.  $\Delta$  Marked: Solid Aluminum ( $\emptyset$ )
  3. Variable Resistor  $\text{\textcircled{V}}$ : VOLUME  
 $\text{\textcircled{M}}$ : MIDDLE  
 $\text{\textcircled{T}}$ : TREBLE  
 $\text{\textcircled{B}}$ : BASS  
 $\text{\textcircled{R}}$ : REVERB  
 $\text{\textcircled{I}}$ : INTENSITY  
 $\text{\textcircled{S}}$ : SPEED
  4. AC OUTLET: except for North Europe, South Africa  
 Europe Spec.
  5. POWER SW.: North Europe & Australia Spec.  
 Shown Fig. 1.
  6.  $\square$  Marked: Voltage at Tester

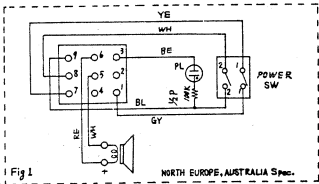
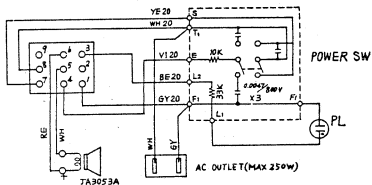
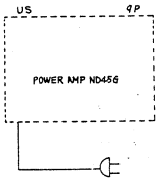
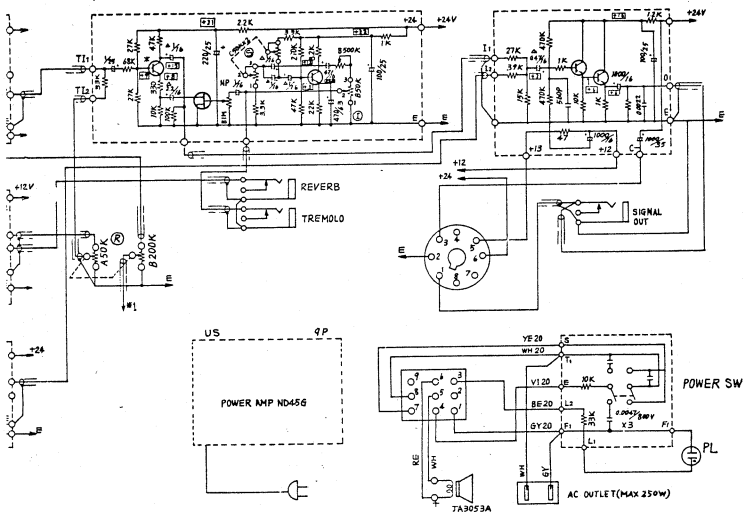
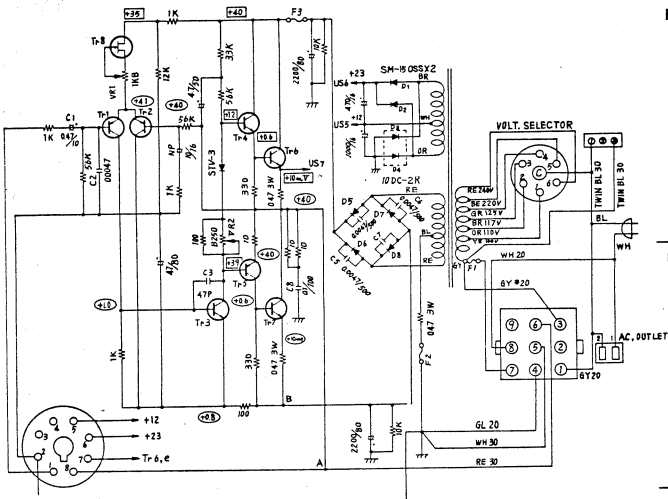


Fig 1

NORTH EUROPE, AUSTRALIA Spec.

# YTA-45 Power Amplifier Circuit Diagram

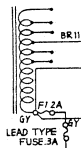


- Notes:
1. Transistor Tr1, Tr2 : 2SA502(12~16)  
Tr3, Tr4 : 2SC484(Y)  
Tr5 : 2SA484(Y)  
Tr6, Tr7 : 2SC898 red mark  
Tr8 : 2SK-30(Y)
  2. Diode D1, D2 : SM150SS  
D3, D4 : 1000-2R red  
D5, D6 : 10DC-4 black  
D7, D8 : 10DC-4R red
  3. Fuse F1, F2, F3: 250V 2A
  4. Capacitor C1 : Solid AL Capacitor  
C2, C8 : mylar capacitor  
C3~ C7 : Ceramic Capacitor 500V
  5. Power Transformer GA0198
  6. Voltage at Tester  
 □ marked: from A point  
 ○ marked: from B point

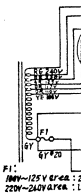
## North Europe



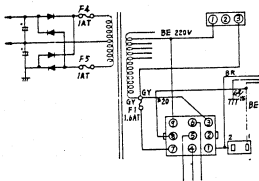
## UL, CSA Spe



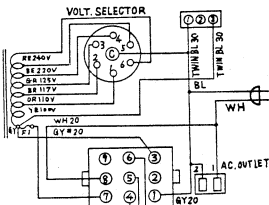
## Europe, Sou



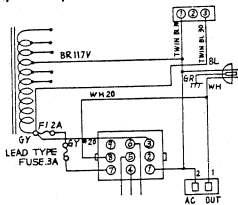
### North Europe (SEMKO, NEMKO) Spec.



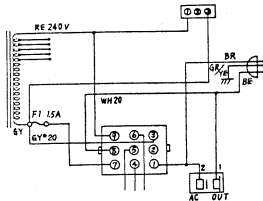
### General Spec.



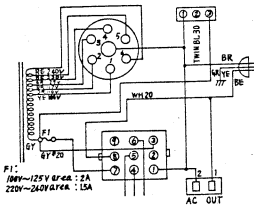
### UL, CSA Spec.



### Australia Spec.



### Europe, South Africa Spec.



(12-16)

(Y)

(Y)

3 red mark

(Y)

SS

R red

black

R red

3A

L Capacitor

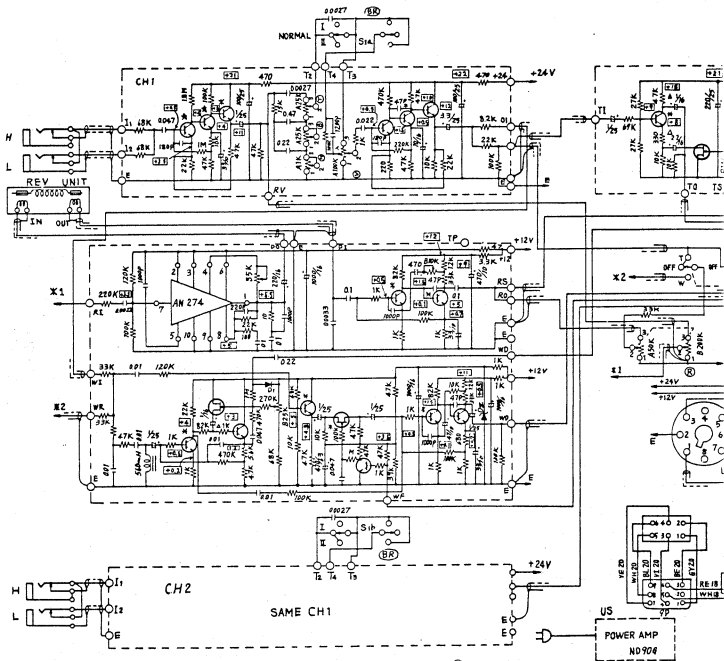
capacitor

Capacitor 500V

B

F1:  
100V~125V 6rca.: 2A  
220V~240V 6rca.: 15A

# YTA-95 Overall Circuit Diagram



Notes. 1. Transistor ☆ Marked (4 pcs.)  
 = Marked (13 pcs.): 2S0732 (BL)  
 Others: (7 pcs.): 2S0828 (P)  
 Diode  
 D1: IS1555  
 D2: WZ-090  
 FET  
 2S3K30(Y) (3 pcs.)  
 2. △ Marked: Solid AL Capacitor (8 pcs.)

3. Variable Resistor  
 ① TREBLE  
 ② BASS  
 ③ MIDDLE  
 ④ REVERSY  
 ⑤ INTENSITY  
 ⑥ SPEED  
 ⑦ W: TREMOLO/WAW/WAV  
 ⑧ BRILLIANCE

4. AC OUTLET: except for North Europe, Europe, South Africa & Australia Spec.  
 5. POWER SW.: North Europe & Australia Spec.: Fig. 1.  
 6. □ Marked: Voltage at Tester



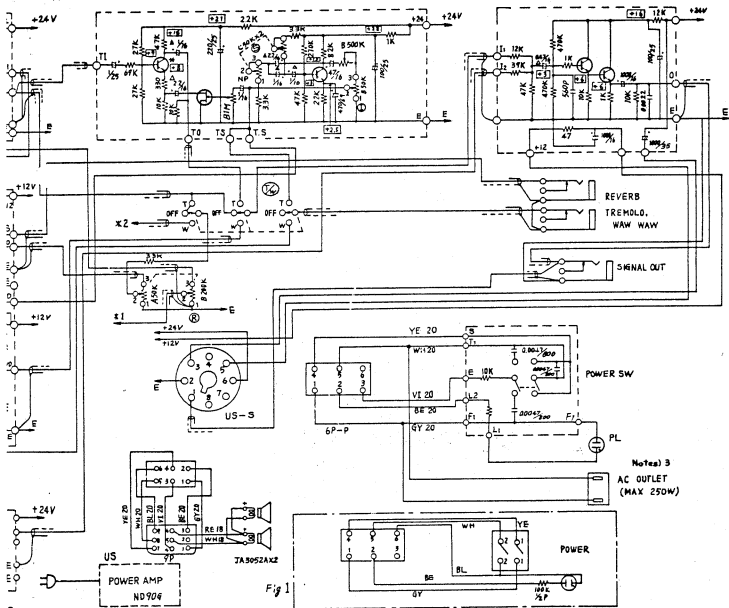


Fig 1

E

B

SITY

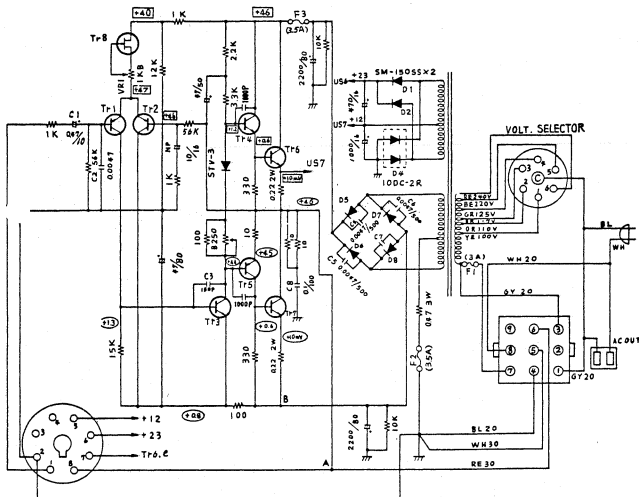
MOLO/WAW WAW

LLIANCE

h Europe, Europe, South Africa & Australia Spec.

. Australia Spec : Fig. 1.

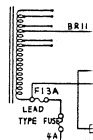
# YTA-95 Power Amplifier Circuit Diagram



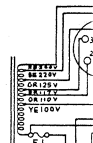
North Eu



UL,CSA Sp



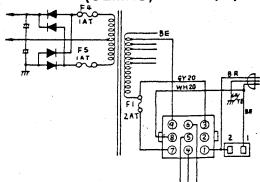
Europe, Sou



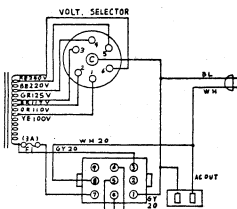
- Notes
- 1.) Transistor Tr1, Tr2 : 2SA002 (12-18)  
Tr3 : 2SC484 (Y)  
Tr5 : 2SA483 (Y)  
Tr6, Tr7 : 2S01080  
Tr8 : 2SK-30 (Y)  
Tr4 : 2SC783 (Y)
  - 2.) Diode D1, D2 : SM1505S  
D3, D4 : 100C-2R  
D5, D6, D7, D8 : M9235
  - 3.) Fuse F1 : 3A F2 : 3.5A F3 : 3.5A  
North Europe, Europe. : F2, F3 : 3.0A
  - 4.) Capacitor C1 : Solid AL capacitor  
C2, C8 : Mylar capacitor  
C3 - C7 : Ceramic capacitor
  - 5.) Power Transformer : GA0199
  - 6.) Voltage at Tester  
 □ marked: from A point  
 ○ marked: from B point

F1:  
100V-125V AREA 3A  
200V-240V AREA 2A

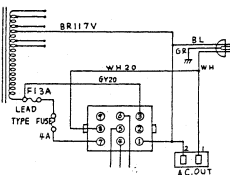
### North Europe (SEMKO, NEMKO) Spec.



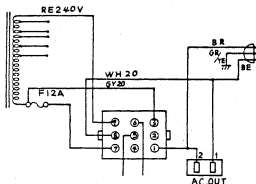
### General Spec.



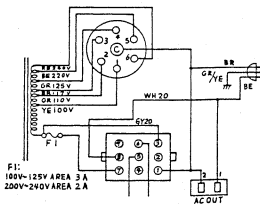
### UL, CSA Spec.



### Australia Spec.



### Europe, South Africa Spec.



1, Tr2 : 2SA02 (12-10)

3, : 2SC484 (Y)

5, : 2SA483 (Y)

5, Tr7, : 2SC1080

3, : 2SK-30 (Y)

1, : 2SC783 (Y)

.02 : SM150SS

.04 : 1000-2R

.06, .07, .08 : M9235

.3A F2: 3.5A F3: 3.5A

North Europe, Europe, : F2, F3: 3.0A

.08 : Solid AL capacitor

.08 : Mylar capacitor

.07 : Ceramic capacitor

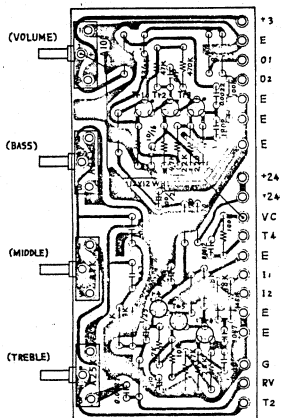
former : GA0100

star

c: from A point

d: from B point

Preamp Circuit (Tone Controls)  
 PA Circuit Board No. 1187 (NA2243)  
 YTA-45, YTA-95

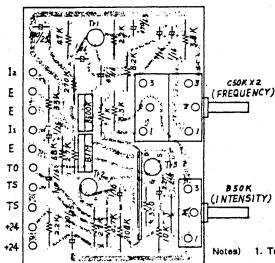


Notes) Transistor Tr1, 4 : 2S0044(G)  
 Tr2, 3, 5, 6: 2S0732(BL)

## Tremolo Oscillator & Modulator Circuit

TRM Circuit Board No. 1216 (NA2244)

YTA-45, YTA-95

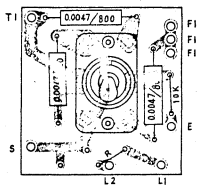


- Notes) 1. Transistor Tr1 : 2SC828(P)  
 Tr2 : 2SC844(Q)  
 Tr3 : FET 29K 30(Y)  
 2.  $\Delta$  Marked : Solid Aluminium Capacitor

## Power Switch Circuit

SW Circuit Board No. 1185 (NA2220)

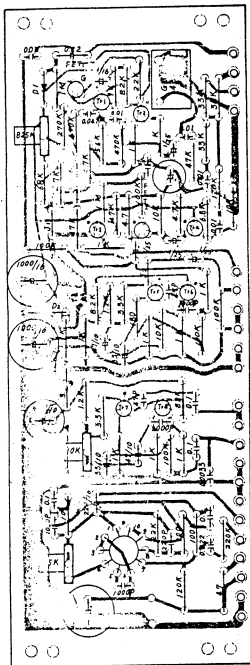
YTA-45, YTA-95



- Notes) R: U.L. CSA Spec: 47k  $\frac{1}{2}$  P  
 General, North Europe.  
 Australia, South Africa  
 Europe Spec: 150k  $\frac{1}{2}$  P



Reverb & Waw Waw Circuit  
 RW Circuit Board No. 1190 (NA2238)  
 YTA-95



- Notes)
1. Transistor  
 Tr2, Tr3 : 2SC828 (P)  
 Tr1, 4, 5, 6, 7, 8: 2SC644 (Q)
  2. FET: 2SK30 (Y)
  3. Diode  
 D1 : 1S155  
 D2 : WZ-000

## YTA-45, YTA-95 Parts List

Parts No.	Parts Name	Description	Remarks
AA2436	Back Panel	YTA-45	
AA2386	Back Panel	YTA-95	
CB0166	Pilot Lens		
CB1868	Knob # 1868		
CB1869	Knob # 1869		
CB1870	Knob # 1870		
CB0777	Lamp Holder		
LA0128	AC Socket	Miyama # 503B	
LA0109	Color Terminal Board		
LA0029	Earth Lug Board		
JA3052A	Speaker		
JB0026	Neon Lamp	NE-2P	
KA0197	Power SW	MARQUARDT D145-1301	
NB0198	Foot SW (Black)		
	Foot SW (Gray)		
ND4501G	Power Amplifier	45W	General Spec.
ND4502G	Power Amplifier	45W	except for General Spec.
NB1661	Reverb. Unit		
NA2243	Circuit Board # 1187	YTA-45, YTA-95	
NA2244	Circuit Board # 1216	YTA-45, YTA-95	
NA2258	Circuit Board # 1226	YTA-45	
NA2259	Circuit Board # 1227-2	YTA-45	
NA2250	Circuit Board # 1227-1	YTA-95	
NA2220	Circuit Board # 1185-3	YTA-45, YTA-95	100V area
NA2238	Circuit Board # 1185-4	YTA-45, YTA-95	200V area
NA2238	Circuit Board # 1190-2	YTA-95	
HC0305	Variable Resistor A50K + B200K	HS320150	

### CIRCUIT BOARD PARTS LIST

	Transistor 2SC732 (BL)		
	Transistor 2SC644 (O)		
	Transistor 2SC828 (P)		
	FET 2SK30 (Y)		
	IC AN274		
	Diode 1S1555		
	Zener Diode WZ-090		
KA0198	Toggle Switch	S-7B	
	Variable Resistor B5K	18K-3-1	
	Variable Resistor B10K	18K-3-1	
	Variable Resistor B25K	18K-3-1	
	Variable Resistor B500K	10K-5	
	Variable Resistor B1M	10K-5	
HC0301	Variable Resistor A1K	HS320010	24# e=20mm
HC0302	Variable Resistor A25K	HS320040	24# e=20mm
HC0303	Variable Resistor A100K	HS320070	24# e=20mm
HC0304	Variable Resistor B50K	HS320100	24# e=20mm
HC0306	Variable Resistor C50K X 2	HS320130	24# e=20mm
	Heat Sink # 0512		



**Power Amplifier Parts List (except for Circuit Board)**

Parts No.	Parts Name	Description	Remarks
	Lug Terminal Type Electrolytic Capacitor 2200 $\mu$ /80V		
GA0198	Power Transformer	YTA-45	
GA0199	Power Transformer	YTA-95	
	Fuse 1.5A 250V		Australia, South Africa
	Fuse 2A 250V		except for Europe, North Europe
	Fuse 3A 250V		
	Fuse 3.5A 250V		
	Lead Type Fuse 3A	UL approved	UL, CSA
	Lead Type Fuse 4A		
	Miniature Fuse 1AT	SEMKO approved	North Europe
	Miniature Fuse 1.6AT	SEMKO approved	North Europe, Europe
	Miniature Fuse 2AT	SEMKO approved	North Europe, Europe
LB0082	Voltage Selector	MITSUMI	General, Europe, South Africa
LB0086	Fuse Holder	SEMKO approved	North Europe
LB0128	AC Socket	MIYAMA # 503B	
MZ0562	9P Socket Wires		
MZ0613	Connector Unit		
MZ0666	AC Cord	3.3m	General
MZ0438	AC Cord	3.3m 3 core	South Africa
MZ0484	AC Cord	Miniature Cord	Australia
MZ0555	AC Cord	SEMKO approved 3.3m	North Europe
MZ0623	AC Cord	UL, CSA approved	UL, CSA
NA2203-1	Circuit Board # 1136		except for Europe, North Europe
NA2203-2	Circuit Board # 1136		Europe, North Europe

**Power Amplifier Parts List (Circuit Board)**

	Variable Resistor B-250	18K-3-1	
	Variable Resistor B-1K	18K-3-1	
	Cement Resistor 0.47 3P		
	Transistor 2SA502 (12-16)	TOSHIBA	
	2SA484 (Y)	TOSHIBA	YTA-45 (ND-45G)
	2SC484 (Y)	TOSHIBA	
	2SC898 (A) or (B)	HITACHI	YTA-45 (ND-45G)
	2SA483 (O.R)	TOSHIBA	YTA-95 (ND-90G)
	2SC783 (O.R)	TOSHIBA	YTA-95 (ND-90G)
	2SC1080 (Y)	TOSHIBA	YTA-95 (ND-90G)
FET	2SK30 (Y)		
Diode	10DC-4	Nippon International	
	10DC-4R	Nippon International	
	10DC-2R	Nippon International	
	SM-150SS	ORIGIN	
Varistor	STV-3		