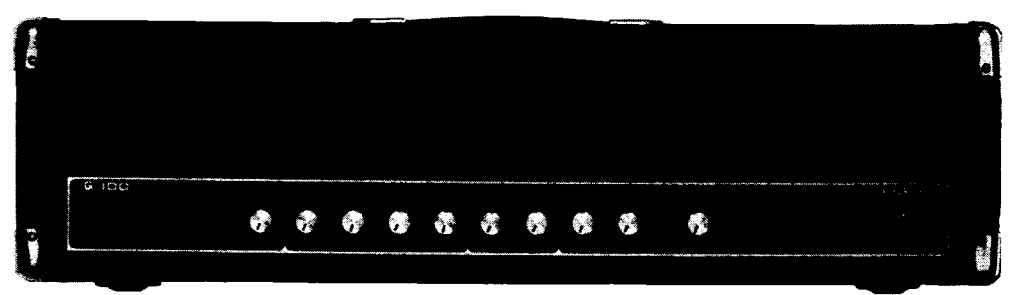


G100

GUITAR AMPLIFIER



 **YAMAHA SERVICE MANUAL**

SPECIFICATIONS

FREQUENCY RESPONSE	See Fig. 1
EQUALIZATION	
TREBLE	18 dBm @ 7 kHz
MIDDLE	6 dBm @ 400 Hz
BASS	13 dBm @ 70 Hz
CONTROL	
BRIGHT	8 dBm @ 7 kHz
DISTORTION	26 dBm @ -50dBm/400Hz at input
TREMOLO	Speed 2 ~ 20 Hz, Depth 0 ~ 70%
NOISE	Less than -20dBm @ Volume at maximum
INPUT SENSITIVITY & IMPEDANCE	
HIGH	-38dBm/1MΩ
LOW	-32dBm/130KΩ
OUTPUT LEVEL & IMPEDANCE	
TO SPEAKERS (HIGH)	25 dBm/4 Ω @ -30 dBm/400Hz at input
(LOW)	19 dBm/4 Ω @ -30 dBm/400Hz at input
REC OUT (HIGH)	-10 dBm/3KΩ @ -30 dBm/400Hz at input
OUTPUT POWER	100 Watts /4 Ω @ 400Hz, 10% THD
POWER SUPPLY	110, 117, 130, 220, 240V AC, 50 - 60 Hz 250 Watts
FINISH	Leatherette
DIMENSIONS (W X D x H)	708 mm x 300 mm x 212 mm
WEIGHT	15.5 kg

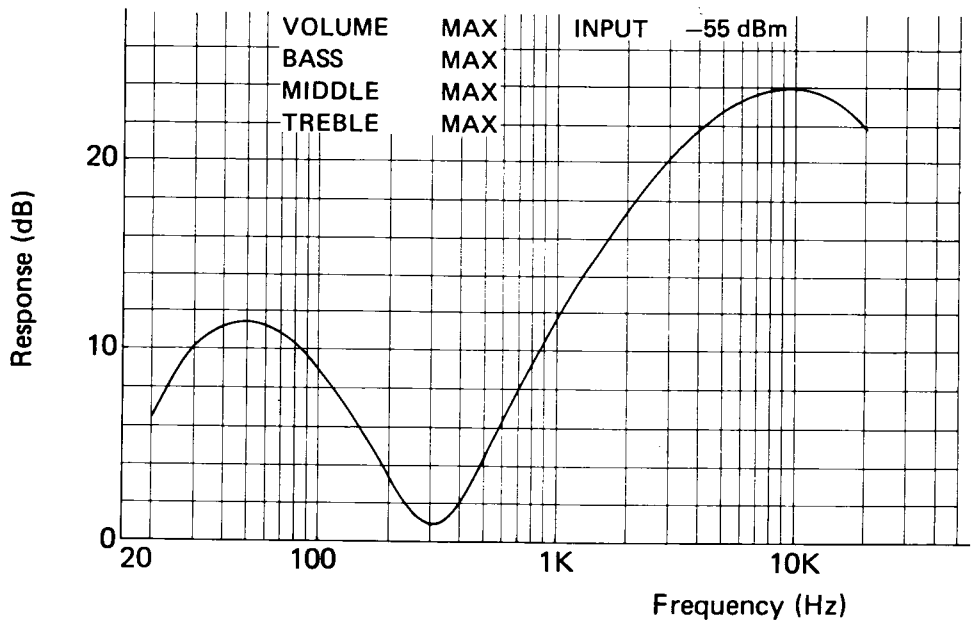
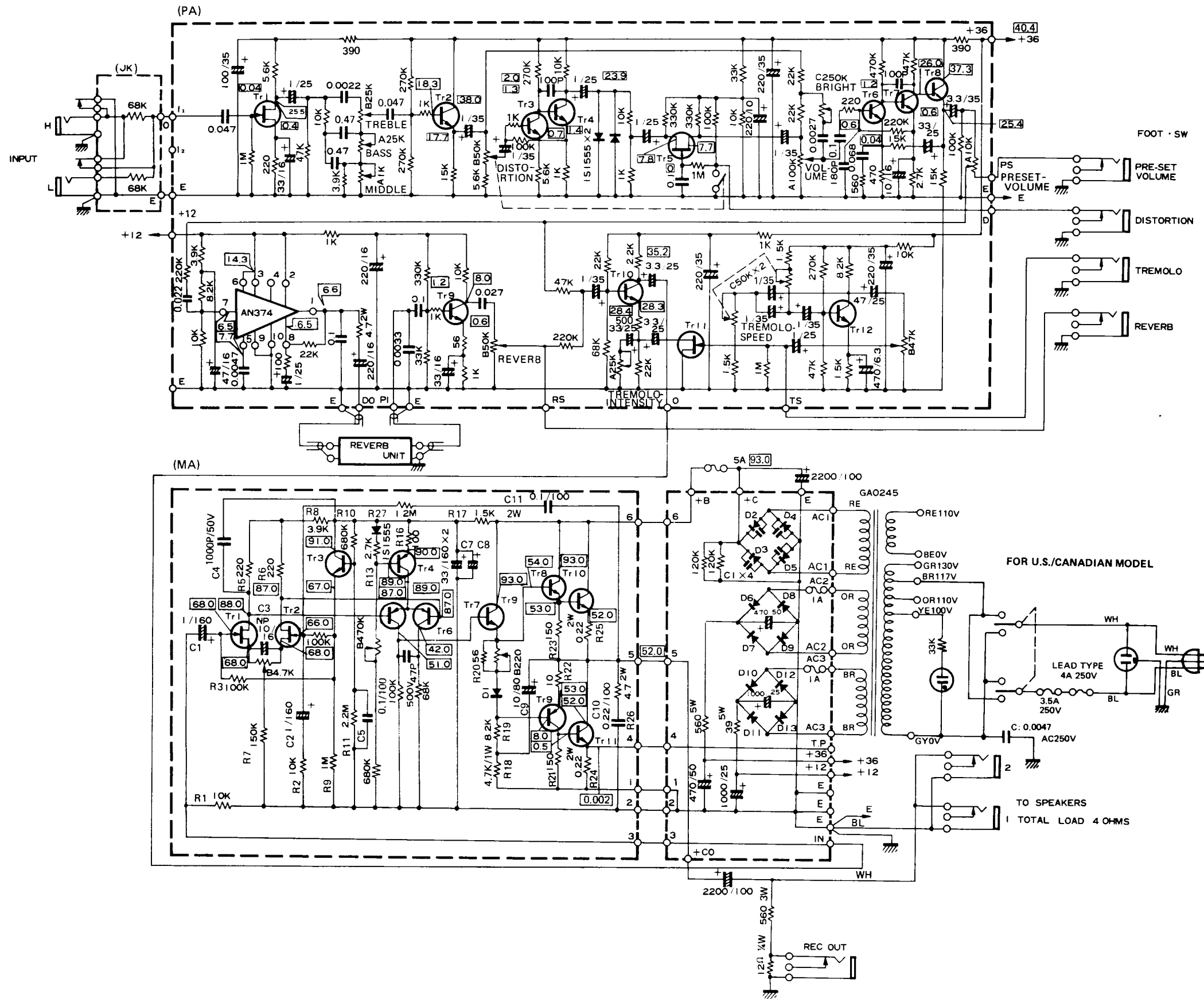


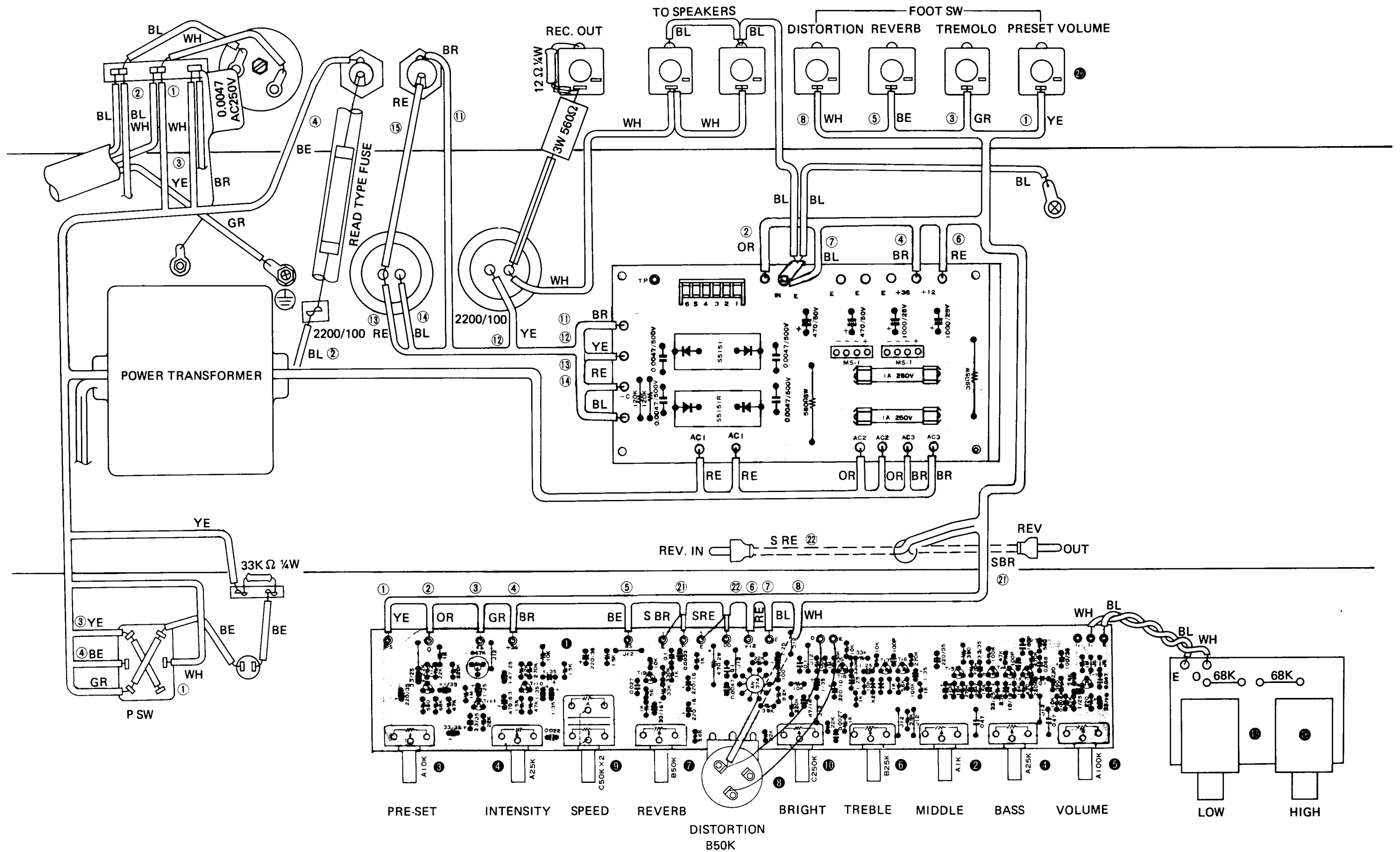
Fig: 1 Frequency Response Curve

SCHEMATIC DIAGRAM



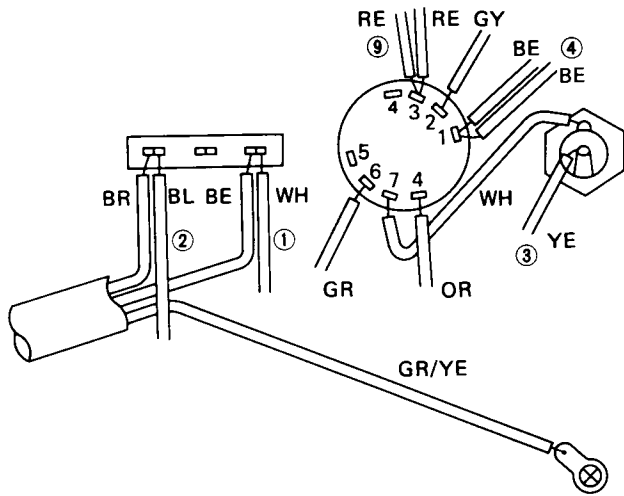
- NOTES:
1. ALL RESISTORS IN OHMS & WATT UNLESS OTHERWISE NOTED.
 2. ALL CAPACITORS IN MFD. UNLESS OTHERWISE NOTED.
 3. ALL VOLTAGES MEASURED WITH A VTVM, WITH ALL CONTROLS SET AT MINIMUM.
 4. WIRE COLOR ABBREVIATIONS
 BL: BLACK GR: GREEN GG: LIGHT GREEN
 BR: BROWN BE: BLUE SB: LIGHT BLUE
 RE: RED VI: VIOLET PK: PINK
 OR: ORANGE GY: GRAY TR: TRANSPARENT
 YE: YELLOW WH: WHITE TP: TIN PLATED
 5. TRANSISTORS
 PA Tr1: 2SK30A (GR)
 Tr2 ~ 4: 2SC1000 (GR)
 6 ~ 11,12:
 Tr5, 11: 2SK30A (Y)
 MA Tr1, 2: 2SK30A (Y)
 Tr3: 2SC1000 (GR)
 Tr4: 2SA561 (Y)
 Tr5, 6: 2SA818 (Y)
 Tr7, 8: 2SC783 (Y)
 Tr9: 2SA483 (Y)
 Tr10, 11: 2SC1586
 6. DIODES
 D1: STV-3H
 D2, 3: S-5151
 D4, 5: S-5151R
 D6~13: MS-1
 7. SEMICONDUCTOR LEAD IDENTIFICATION
- | | | | | |
|--------|---------|--------|---------|--------|
| | | | | |
| 2SA561 | 2SC1000 | 2SA818 | 2SC783 | 2SK30A |
| | | | 2SC1586 | |

WIRING DIAGRAM

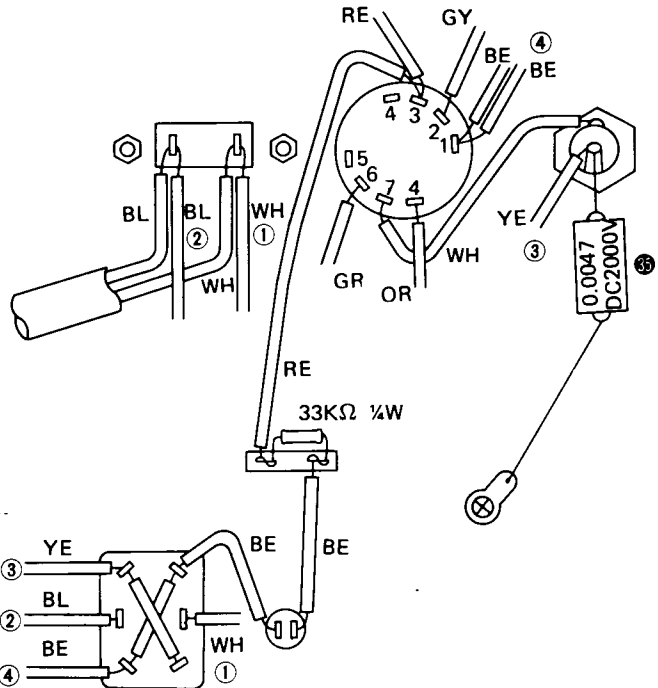


POWER SUPPLY WIRING DIAGRAM

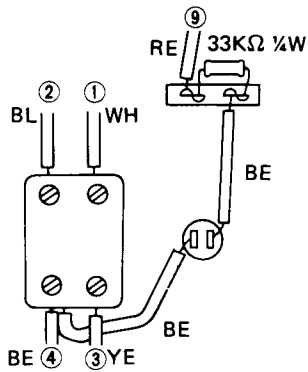
FOR NORTH EUROPEAN/SOUTH AFRICAN MODEL



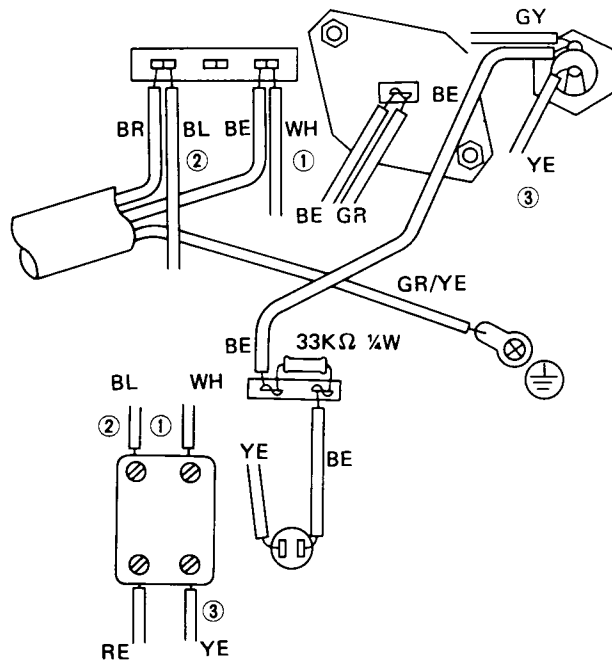
FOR GENERAL MODEL



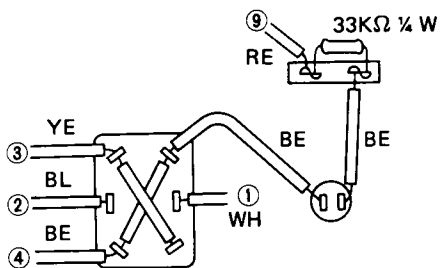
NORTH EUROPEAN



FOR AUSTRALIAN MODEL



SOUTH AFRICAN



PARTIAL DISASSEMBLY

Top Case Removal

1. Remove the 2 screws on each side of the top case, as shown in Figure 1.

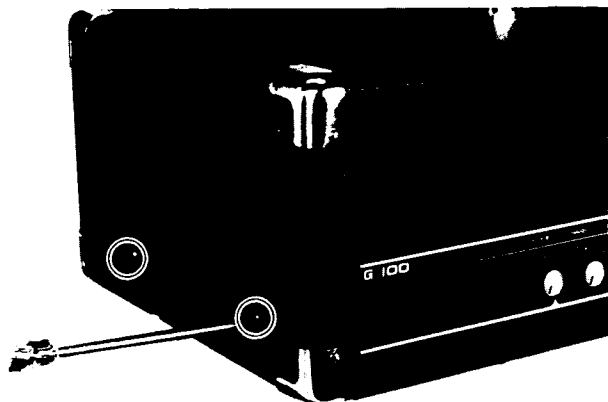


Fig. 1

2. Lift off the top case as shown in Figure 2.

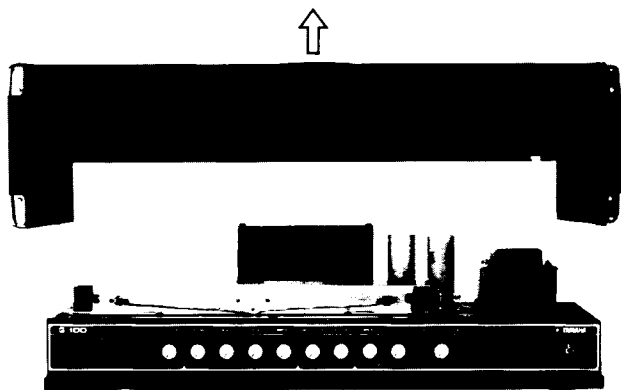


Fig. 2

MA (Main Amp.) Circuit Board Removal

1. Remove the top case.
2. Remove the 2 screws holding the MA circuit board to the chassis, as shown in Figure 4, and pull it up.

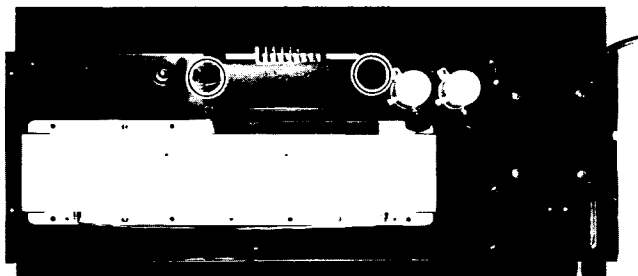


Fig. 4

Bottom Board Removal

1. Unfasten the 2 screws on each side of the top case, as shown in Figure 1.
2. Remove the 4 screws shown in Figure 3.

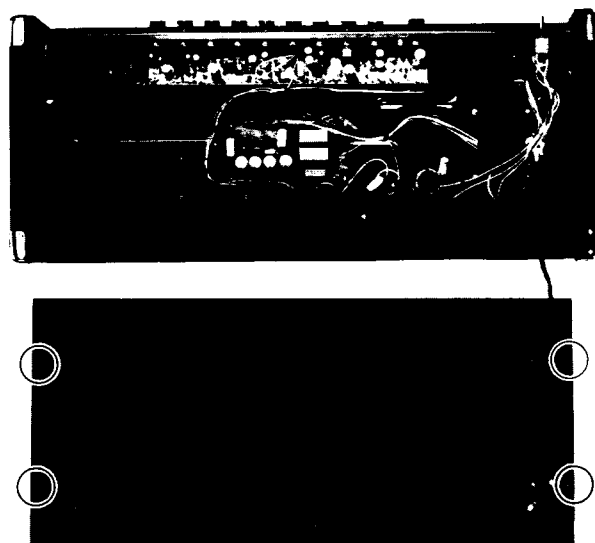


Fig. 3

Note: Setting the shield film on the PA circuit board while fixing the bottom board.

MAIN AMP ADJUSTMENTS

Equipment Requirements

1. The output impedance of the signal generator should be less than 1kohm.
2. The input impedance of the oscilloscope, level meter, etc. should be more than 100kohms.

When adjusting the main amp follow the proper order: waveform adjustment, center voltage adjustment and last, idling current adjustment.

Waveform Adjustment

1. Connect an 8-ohm dummy load to the output terminal.
2. Feed a $-6\text{dBm}/1\text{kHz}$ signal to the input terminal (between the DC circuit board IN and the E terminal).
3. Adjust the VR3 as shown in Figure 2 to achieve a waveform which is symmetrically rounded like that shown in Figure 1.

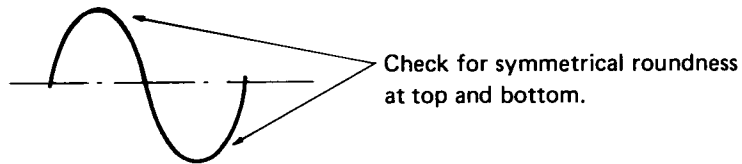


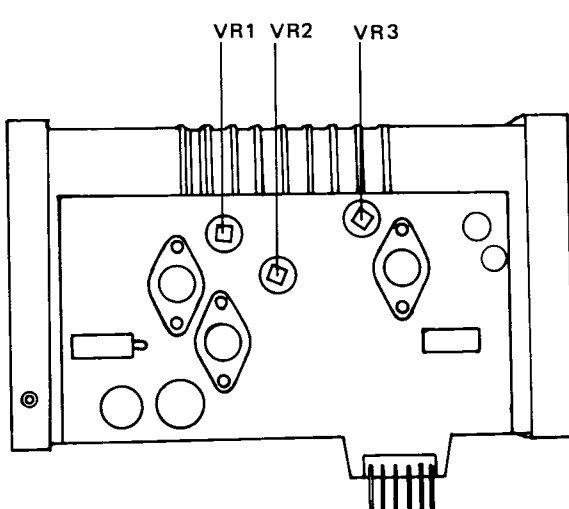
Fig. 1 Output waveform

Center Voltage Adjustment

4. Adjust VR2 so that the DC circuit board +CO terminal voltage is $45 \pm 1\text{V}$.
- NOTE: Only after steps 1 to 4 have been successfully carried out should you continue to idling current adjustment.

Idling Current Adjustment

5. Adjust VR1 so that the DC circuit board TP terminal voltage is $10 \pm 1\text{mV}$ at no signal.



- VR1: Idling Current Adjustment
- VR2: Center Voltage Adjustment
- VR3: Waveform Adjustment

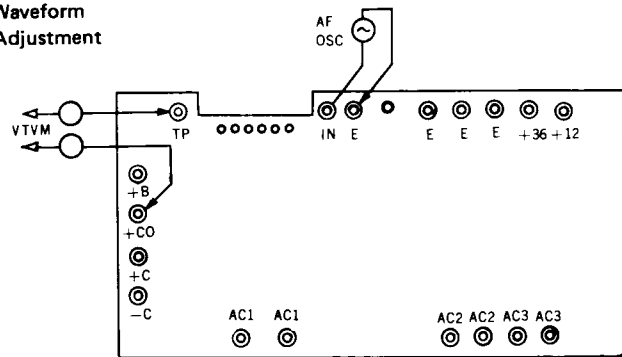
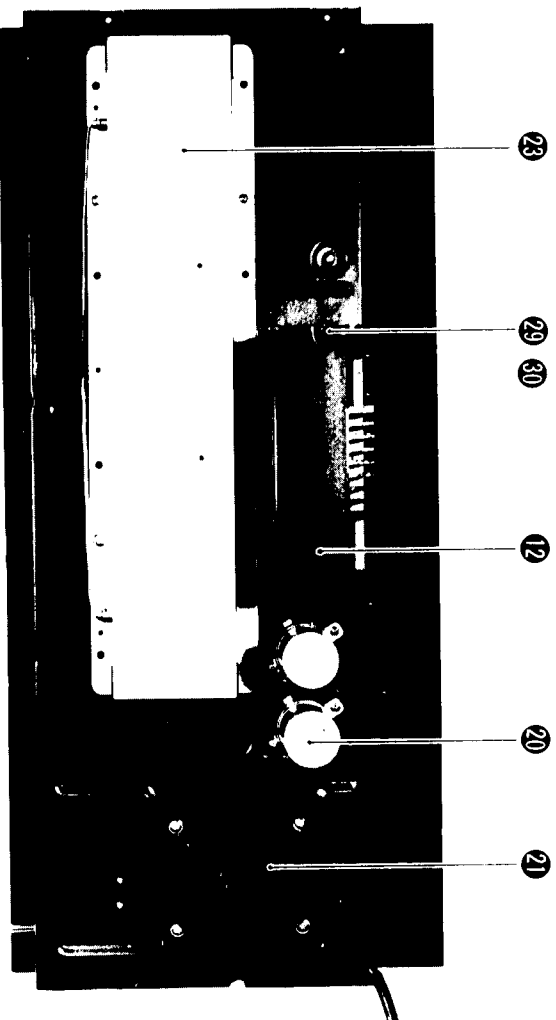
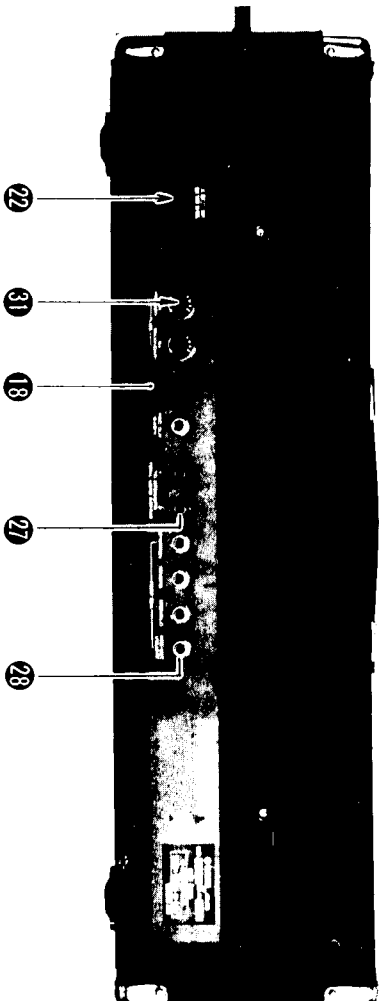
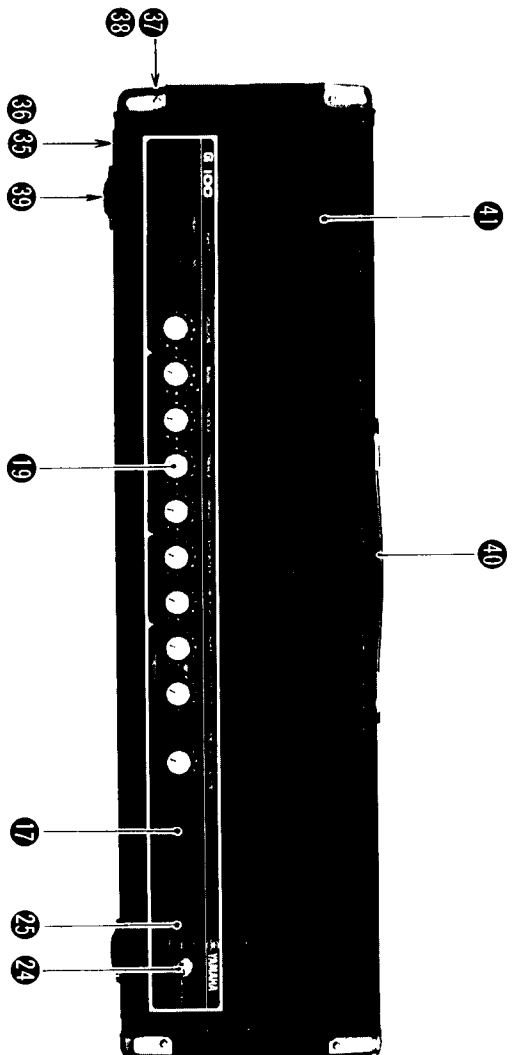


Fig. 2 MA Circuit Board

Fig. 3 DC Circuit Board

PARTS LIST



Ref. No.	Part No.	Description	Remarks	Common Models
①	30 54 00 NA 80 09 60	PA Circuit Board	P A シ ー ト	
	40 10 00 IC 10 00 10	Transistor 2SC1000	トランジスター	
	40 10 00 IE 00 00 10	FET 2SK30A	F E T	
	40 10 00 IG 00 01 50	IC AN374	I C	
	40 10 00 IF 00 00 40	Diode 1S1555	ダイオード	
②	40 10 00 HS 32 03 00	Variable Resistor A1K Ω	ポ リ ュ ー ム	
③	40 10 00 HS 32 03 20	-do.- A10K Ω	-do.-	
④	40 10 00 HS 32 02 60	-do.- A25K Ω	-do.-	
⑤	40 10 00 HS 32 02 50	-do.- A100K Ω	-do.-	
⑥	40 10 00 HS 32 02 70	-do.- B25K Ω	-do.-	
⑦	40 10 00 HS 32 02 20	-do.- B50K Ω	-do.-	
⑧	40 10 00 HS 32 02 80	-do.- B50K Ω with Switch	-do.-	
⑨	40 10 00 HS 32 03 30	-do.- C50K Ω x 2	-do.-	
⑩	40 10 00 HS 32 02 90	-do.- C250K Ω	-do.-	
	40 10 00 HT 41 01 40	Solid Volume B47K Ω	ソ リ ッ ド V R	
	40 10 00 HM 52 34 70	Cement Molded Resistor 4.7 Ω 2W	セ メ ン ト 抵 抗	
	40 10 00 FP 15 63 30	Tantalum Capacitor 3.3 μ F 35V	タンタルコンデンサー	
	40 10 00 FP 15 61 00	-do.- 1 μ F 35V	do.	
⑪	30 54 00 NA 80 09 10	MA Circuit Board	M A シ ー ト	
	40 10 00 A 05 61 70	Transistor 2SA561	トランジスター	
	40 10 00 A 04 83 20	-do.- 2SA483	-do.-	
	40 10 00 A 08 18 20	-do.- 2SA818	-do.-	
	40 10 00 IC 07 83 20	-do.- 2SC783	-do.-	
	40 10 00 IC 15 86 00	-do.- 2SC1586	-do.-	
	40 10 00 IC 10 00 10	-do.- 2SC1000	-do.-	
	40 10 00 IE 00 00 10	FET 2SK30A	F E T	
	40 10 00 IF 00 00 40	Diode 1S1555	ダイオード	
	40 10 00 IF 00 04 50	Varistor STV-3H-0	バリスター	
	40 10 00 HT 41 00 10	Solid Volume B220 Ω	ソ リ ッ ド V R	
	40 10 00 HT 41 00 40	-do.- B4.7K Ω	-do.-	
	40 10 00 HT 41 01 10	-do.- B470K Ω	-do.-	
	40 10 00 HM 52 22 20	Cement Molde Resistor 0.22 Ω 2W	セ メ ン ト 抵 抗	
	40 10 00 HL 31 64 70	Metal Oxide Film Resistor 4.7K Ω 1W	酸化金属皮膜抵抗	
	40 10 00 HL 31 68 20	-do.- 8.2K Ω 1W	-do.-	
	40 10 00 HL 32 34 70	-do.- 4.7 Ω 2W	-do.-	
	40 10 00 HL 32 61 50	-do.- 1.5K Ω 2W	-do.-	
	40 10 00 FJ 18 71 00	Electrolytic Capacitor 10 μ F 80V	電解コンデンサー	
	40 10 00 FJ 20 61 00	-do.- 1 μ F 160V	-do.-	
	40 10 00 FJ 20 73 30	-do.- 33 μ F 160V	-do.-	
	40 10 00 FM 09 71 00	Electrolytic Capacitor (NP) 10 μ F 16V	N P コ ン デ ン サ ー	
	40 10 00 FH 11 14 70	Ceramic Capacitor 47pF 500V	セラミックコンデンサー	
	40 10 00 FC 02 51 00	Mylar Capacitor 0.1 μ F 100V	マイラーコンデンサー	
	40 10 00 FC 02 52 20	-do.- 0.22 μ F 100V	-do.-	
	30 54 00 AA 80 07 30	Circuit Board Holder	シ ー ト ホ ル ダ ー	MA Circuit Board
	30 54 00 AA 80 07 40	Transistor Cover	T R カ バ ー	
⑫	30 54 00 AA 80 18 60	Circuit Board Cover	保 護 カ バ ー	
	30 54 00 BA 00 81 30	Heat - Sink	放 熱 板	
	40 10 00 LB 30 01 10	Transistor Socket	T R ソ ケ ッ ト	

Ref. No.	Part No.	Description	Remarks	Common Models
	40 10 00 EA 03 00 80	⊕ Pan Head Screw 3 x 8	ナベ小ネジ	2SC783, 2SA483
	40 10 00 EA 33 01 50	-do.- 3 x 15	-do.	2SC1586
	40 10 00 EV 10 00 30	Hexagon Nut 3S	六角ナット	2SC783, 2SA483
	40 10 00 EV 41 00 30	Toothed Washer A3S	歯付座金	-do.-
	40 10 00 EJ 30 08 00	Bind Tapping Screw 3 x 8	バインドタッピングネジ	TR cover, CCT cover
	40 10 00 EJ 30 10 00	-do.- 3 x 10	do.	STV-3H-O
	40 10 00 EA 03 00 60	⊕ Pan Head Screw 3 x 6	ナベ小ネジ	CCT
	40 10 00 EA 33 01 00	-do.- 3 x 10	do.	CCT holder
	40 10 00 EV 20 10 30	Flat Washer A3S	平座金	STV-3H-O
①	30 54 00 NA 80 03 60	DC Circuit Board	D C シート	U.S. & Canadian
	30 54 00 NA 02 91 80	-do.-	-do.-	General, S. African & Australian
	30 54 00 NA 80 03 70	-do.-	-do.-	North European
	40 10 00 IH 00 01 20	Diode MS-1	ダイオード	
	40 10 00 IH 00 02 10	-do.- S5151	-do.	
	40 10 00 IH 00 02 20	-do.- S5151R	do.	
	40 10 00 HM 55 43 90	Cement Molded Resistor 39Ω 5W	セメント抵抗	
	40 10 00 HM 55 55 60	-do.- 560Ω 5W	do.	
	40 10 00 FJ 14 91 00	Electrolytic Capacitor 1000 μF 25V	電解コンデンサー	
	40 10 00 FJ 16 84 70	-do.- 470 μF 50V	do.	
	40 10 00 FH 12 34 70	Ceramic Capacitor 0.0047 μF 500V	セラミックコンデンサー	
②	40 10 00 LB 60 05 20	6P Connector Socket Housing	コネクタ 6 P	
	40 10 00 KB 00 03 30	Fuse 1A 250V	耐ラッシュヒューズ	N. European
	40 10 00 KB 00 07 30	-do.- 1AT 250V	タイムラグヒューズ	N. European
③	30 54 00 NA 80 09 20	JK Circuit Board	J K シート	
④	40 10 00 LB 30 03 60	Phone Jack with Switch	ホーンジャック	インポート
⑤	30 54 00 AA 80 17 20	Panel	表パネル	
⑥	40 10 00 CB 80 43 50	Back Panel	バックパネル	
⑦	30 54 00 CB 80 08 20	Knob	ツマミ	
⑧	40 10 00 FL 49 92 20	Electrolytic Capacitor 2200 μF 100V	電解コンデンサー	
⑨	40 10 00 GA 02 45 00	Power Transformer	電源トランス	
	40 10 00 LB 30 02 50	AC Socket 3P	A C ソケット 3 P	U.S. & Canadian
⑩	40 10 00 LB 20 03 00	AC Socket 2P	A C ソケット 2 P	General
	40 10 00 LB 00 02 50	Voltage Adjust	電圧切換器	General, S. African & N. European
⑪	40 10 00 JH 00 01 00	Reverb Unit 4B2C1B	リバーブユニット	
⑫	40 10 00 KA 30 02 10	Power Switch	トグルスイッチ	General, U.S., Canadian & S. African
	40 10 00 KA 30 00 10	-do.-	-do.	N. European & Australian
⑬	40 10 00 JB 00 03 60	Neon Lamp	ネオンランプ	
⑭	40 10 00 LB 20 06 30	Phone Jack	ホーンジャック	インポート
⑮	30 56 00 CB 06 20 10	Phone Jack Nut	ホーンナット	
⑯	30 56 00 LX 20 00 60	-do.- 9S	-do.	
⑰	40 10 00 EG 35 10 70	⊕ Pan Head Screw 5 x 107S	ナベ小ネジ	
⑱	40 10 00 EV 43 00 50	Toothed Washer AB5S	歯付座金	
	40 10 00 LB 20 05 90	Fuse Holder	ヒューズホルダー	N. European
⑲	40 10 00 LB 20 04 80	-do.-	-do.	Other's
	40 10 00 KB 00 03 50	Fuse 2.0A 250V	耐ラッシュ	General, S. African & Australian
	40 10 00 KB 00 03 70	-do.- 3.5A 250V	-do.	General, U.S., Canadian & S. African

