

SERVICE MANUAL

PM-430 PA-MIXER



SINCE 1887



YAMAHA

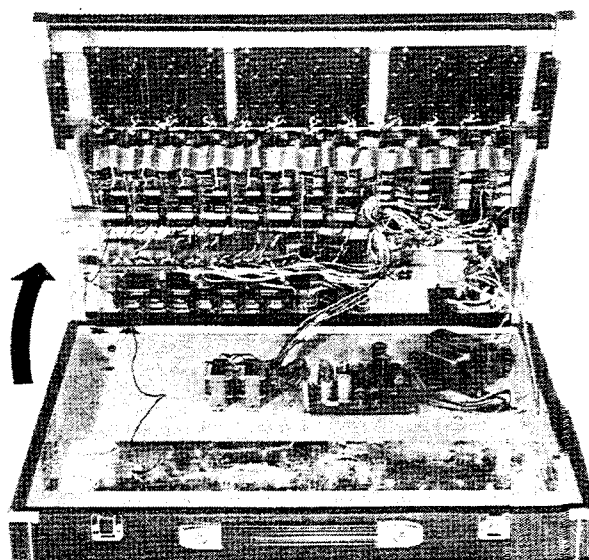
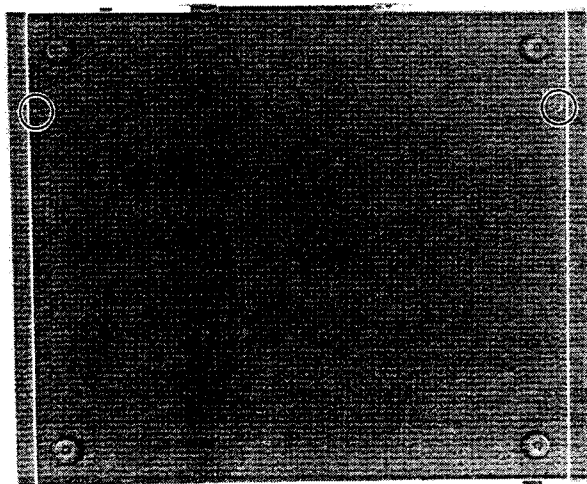
NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN

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REMOVING THE PM-430 UNIT

1. Remove the 2 mounting screw located on the back of the unit.
2. Raise the control panel portion as shown by the arrow and lock in upright position by means of the hinge on the right side of the unit.



1. SPECIFICATIONS

Frequency Response	± 0.5dB @50Hz ~ 15KHz
Total Harmonic Distortion	Less than 0.1% @ + 20dBm 30Hz ~ 30KHz
Hum and Noise	-123dBm Equivalent Input Noise.
(20Hz ~ 20KHz)	-69dBm @Master Fader & One Input Fader at nominal level.
Maximum Voltage Gain	PROGRAM 66dB MONITOR-1 72dB MONITOR-2 66dB AUX IN 36dB SUB IN 6dB
Equalization	Low ± 15dB @100Hz High ± 15dB @10KHz
Crosstalk	-60dB @1KHz Adjacent Input
Inputs	8 x Channel Inputs (Microphone and Line Sources) 2 x High Level Input 1 x Aux In (Line and Instruments) 2 x Sub In (Submixer Input) 1 x From Echo (Echo Machine)
Outputs	2 x Program Out A (L & R) 2 x Program Out B (L & R) 2 x Monitor Out 1 x To Echo (Echo Machine) 2 x Aux Out (L & R) 1 x Stereo Headphone (Console Operator's Monitor)
Mixing Buses	2 x Master Program Fader 2 x Master Monitor Fader 2 x Master EQ (High & Low) 1 x AUX IN & AUX PAN 8 x Channel Fader 8 x Channel EQ (High & Low) 8 x Monitor -1 8 x Monitor -2 8 x Pan 8 x Input Level Switch (-20/-40/-50dBm) 1 x Phones Volume 2 x VU Meters 2 x VU Meter Select Switch
Power Supply	110, 117, 130, 220 or 240V, AC 50/60Hz 23W (117V 0.3A CSA Model)
Dimensions	Wide 59.5cm (23.4") x High 18.8cm (7.4") x Depth 51.6cm (20.3")
Weight	16kg (35.3 lbs)

INPUT LEVEL · IMPEDANCE

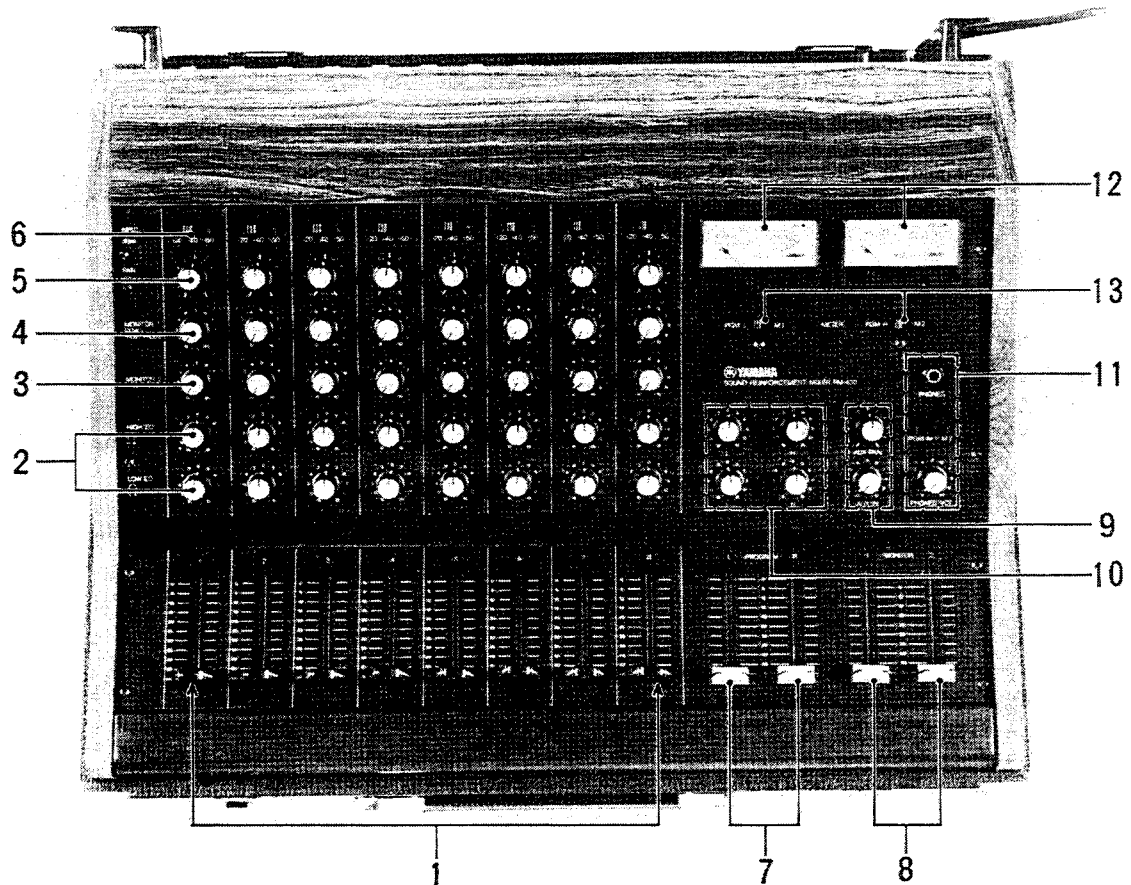
Connection	IMPEDANCE		*SENSITIVITY		INPUT LEVEL		Connector In Console
	Actual	Nominal Source	(At Max. Gain)	Nominal	Max. before Clip		
Inputs (1-8)	-50	850 Ω	150~ 600 Ω	-66 dBm (0.4mV)	-50 dBm (2.5mV)	-20 dBm (78mV)	XLR-3-31
	-40	2.5K Ω	Mics & Lines	-56 dBm (1.2mV)	-40 dBm (7.8mV)	-10 dBm (250mV)	
	-20	5K Ω		-36 dBm (12mV)	-20 dBm (78mV)	+10 dBm (2.5V)	
Inputs (7, 8)	-50	10K Ω	600 Ω Lines	-38 dBm (9.8mV)	-26 dBm (39mV)	+4 dBm (1.23V)	2P Phone Jack
	-40	10K Ω	& Instruments	-28 dBm (31mV)	-16 dBm (123mV)	+14 dBm (3.88V)	
	-20	10K Ω		-8 dBm (310mV)	+4 dBm (1.23V)	+34 dBm (38.8V)	
Aux In	30K Ω	5K Ω	Lines & Instruments	-32 dBm (19mV)	-20 dBm (78mV)	+20 dBm (78mV)	2P Phone Jack
Sub In	60K Ω	5K Ω	Lines & Instruments	-2 dBm (620mV)	+4 dBm (1.23V)	+47 dBm (173V)	2P Phone Jack
From Echo	50K Ω	5K Ω	Lines & Instruments	-36 dBm (12mV)	-30 dBm (25mV)	-10 dBm (250mV)	2P Phone Jack

OUTPUT LEVEL · IMPEDANCE

Connection	IMPEDANCE		POWER OUTPUT LEVEL			Connector In Console
	Actual	Nominal Load	Nominal	Max. before Clipping		
PGM A (L, R)	+4 dBm	120 Ω	600 Ω	+4 dBm (1.23V)	+24 dBm (12.3V)	XLR-3-31
	-50 dBm	80 Ω	600 Ω	-50 dBm (2.5mV)	-30 dBm (25mV)	
PGM B (L, R)		5 Ω	600 Ω	+4 dBm (1.23V)	+24 dBm (12.3V)	2P Phone Jack
		5 Ω	600 Ω	+4 dBm (1.23V)	+24 dBm (12.3V)	
MON 1, 2		5 Ω	600 Ω	+4 dBm (1.23V)	+24 dBm (12.3V)	2P Phone Jack
To Echo		100 Ω	10K Ω	-20 dBm (78mV)	+0 dBm (775mV)	2P Phone Jack
Aux Out (L, R)		5 Ω	600 Ω	+4 dBm (1.23V)	+24 dBm (12.3V)	2P Phone Jack
Headphones		4.7 Ω	8 Ω or greater	-10 dBm (250mV)	+4 dBm (1.23V)	Stereo Phone Jack

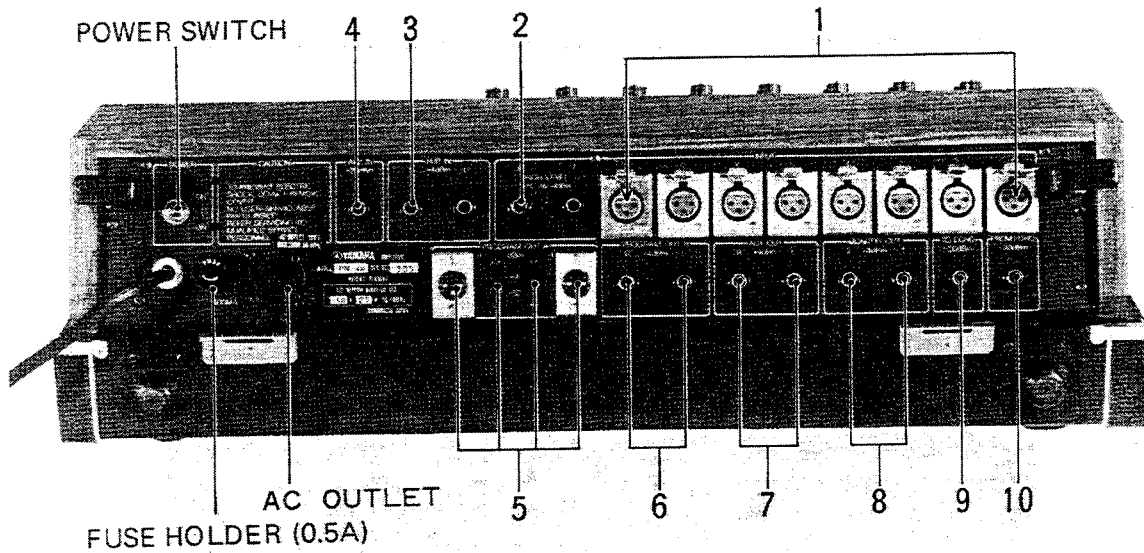
* This is the level required to produce on output of +4 dBm (1.23V).

2. CONTROL PANEL OPERATIONS



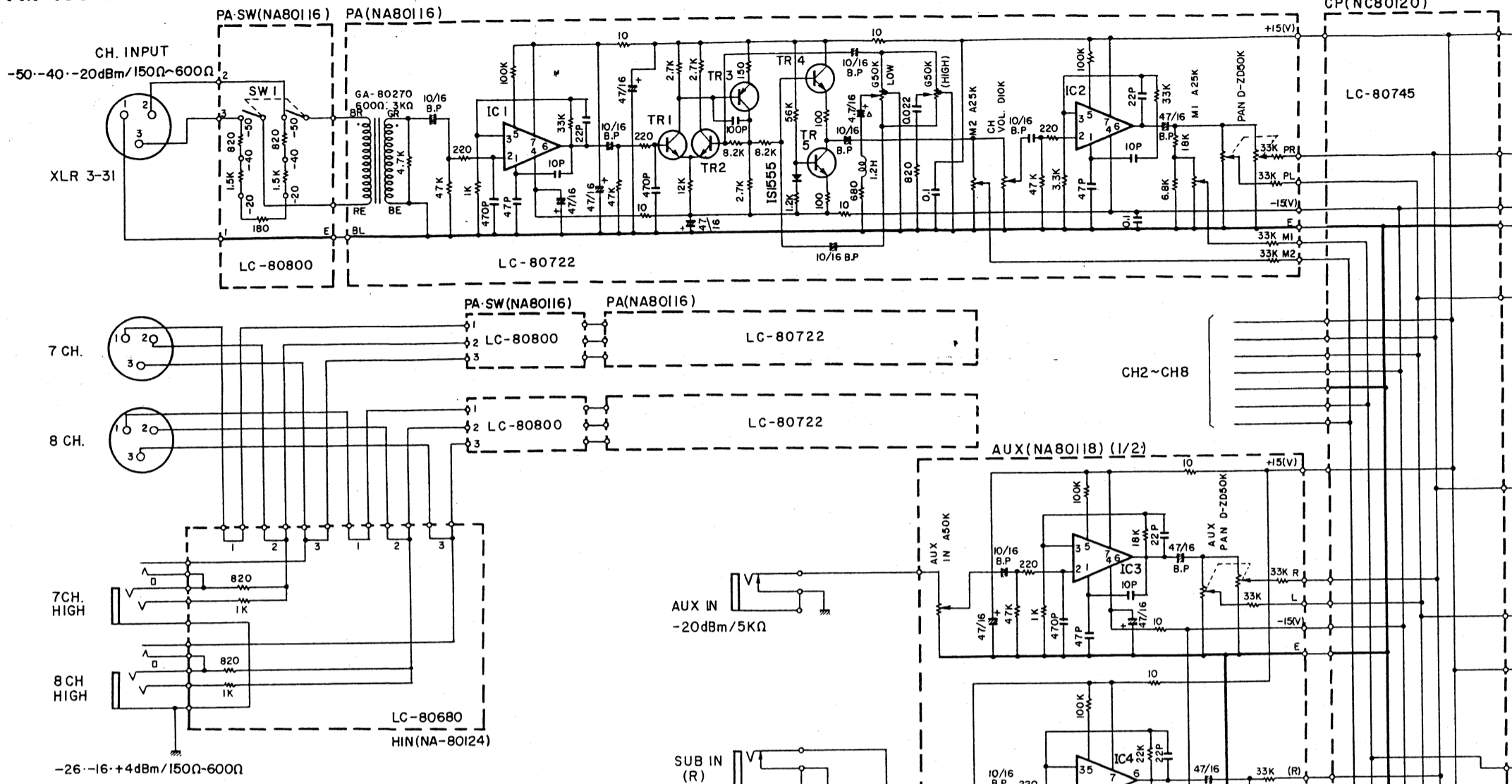
1. **CHANNEL FADER:** Volume control for each channel. (Ch. 1 - 8)
2. **LOW EQ AND HIGH EQ:** Tone control for the high and low ranges in each channel (Ch. 1 - 8)
3. **MONITOR 2:** Obtains signals from the stage previous to the Channel Fader and controls signals sent to MONITOR OUT 2.
4. **MONITOR 1:** Obtains signals from the stage following the Channel Fader and controls the signals sent to MONITOR OUT 1.
5. **PAN:** Separates the input signals to Left and Right Channel signals.
6. **INPUT:** Input level changeover switch.
7. **PROGRAM FADER:** This is the master program control.
8. **MONITOR FADER:** This is the master monitor control.
9. **AUX IN, AUX PAN:** Level control for AUX IN signals. Separates AUX IN signals to Right and Left Channels.
10. **MASTER LOW EQ AND HIGH EQ:** Overall tone control for the high and low ranges.
11. **HEADPHONE:** Monitor headphone terminals. MONITOR 1 or 2 program signals may be monitored by means of a changeover switch. PHONES VOL is to adjust the headphone volume.
12. **VU METER:** Indicates the output level of Program Out (L and R channels) or Monitors (1 and 2). (Will light when peak indication is +14dBm for Program Out)
13. **VU METER SELECT SWITCH:**

3. REAR PANEL OPERATIONS

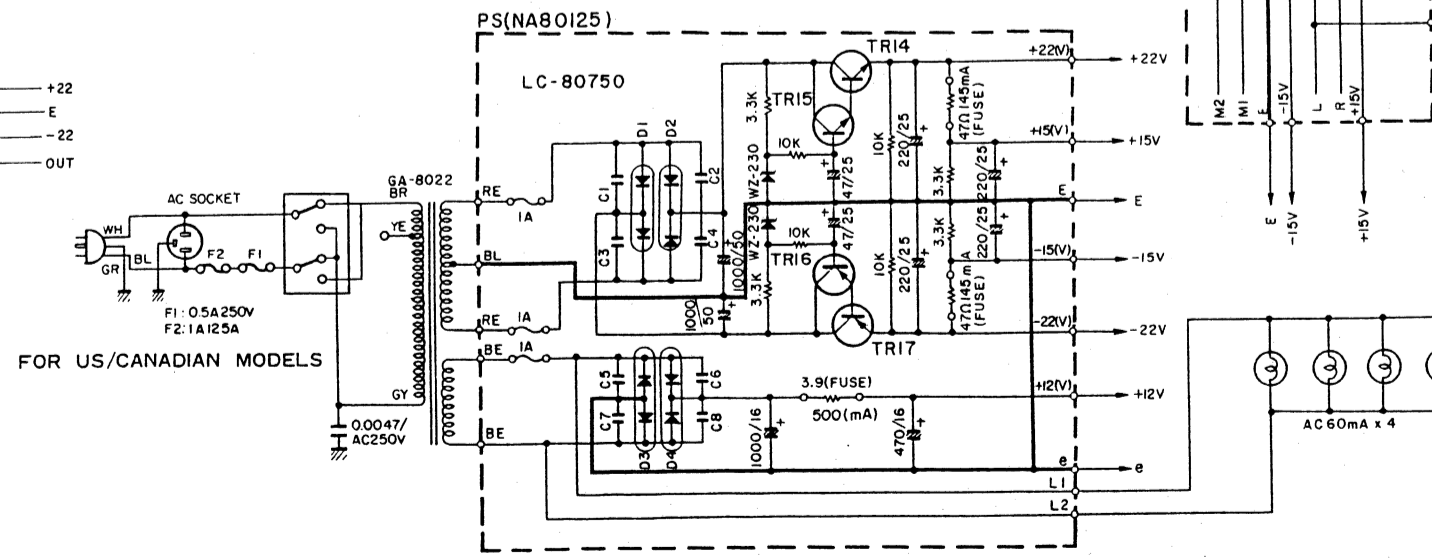
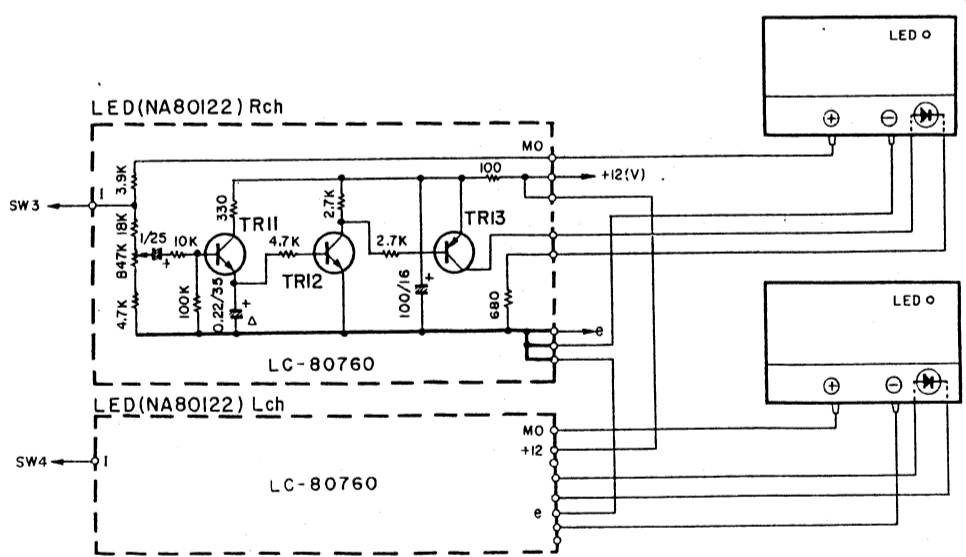
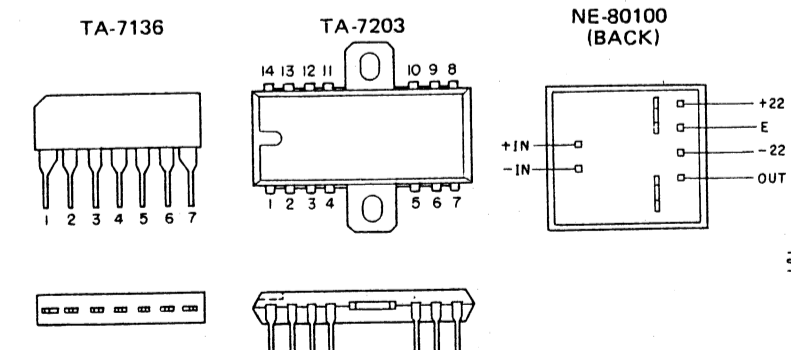


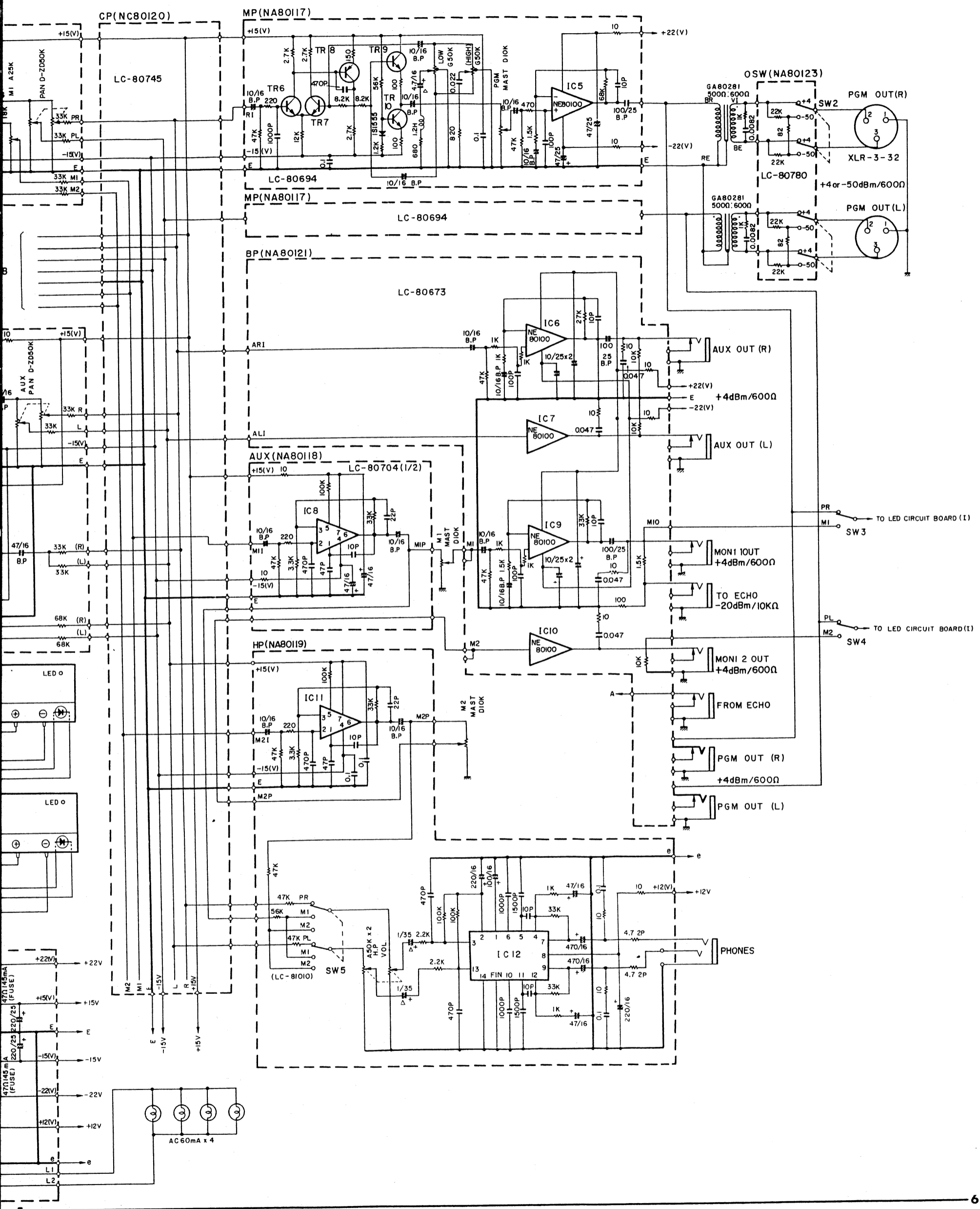
1. INPUT: Input terminal for microphone or line.
2. HIGH LEVEL INPUT: Input terminal for tape deck or high impedance microphone.
3. SUB IN: Submixer input terminal for additional channels.
4. AUX IN: Terminal to connect tape deck, echo machine, etc, for checking sound.
5. PROGRAM OUT A and LEVEL CHANGE OVER SWITCH: Front main speaker output signal terminal (Balanced Type)
6. PROGRAM OUT B: Output terminal (Unbalanced Type)
7. AUX OUT: Output terminal for use in recording or submixing.
8. MONITOR OUT 1, 2: Output terminal for stage foldback.
9. TO ECHO: Output terminal for echo unit.
10. FROM ECHO: Input terminal from the echo unit.

PM-430 PAMIXER SCHEMATIC DIAGRAM



- NOTES:**
- ALL RESISTORS IN OHMS 1/4 WATT UNLESS OTHERWISE NOTED.
 - ALL CAPACITORS IN MFD. UNLESS OTHERWISE NOTED.
 - 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
 - TRANSISTORS
 Tr. 1,2,4,5,6,7,9,10,11,12 : 2SC1681 (BL)
 Tr. 3,8,13,16 : 2SA561 (Y)
 Tr. 15 : 2SC734 (Y)
 Tr. 14 : 2SD526 (R)
 Tr. 17 : 2SB596 (R)
 - DIODES
 Di. 1,3 : 10DC-2R
 Di. 2,4 : 10DC-2
 - INTEGRATED CIRCUITS
 IC. 1 : TA-7136P,N
 IC. 2,3,4,8,11 : TA-7136P
 IC. 5,6,7,9,10 : YAMAHA NE-80100
 IC. 12 : TA-7203P
 - SWITCH
 SW. 1 : ATT SW
 SW. 2 : OUTPUT LEVEL CONTROL SW
 SW. 3 : METER SW. (PROGRAM-R & MONITOR-1)
 SW. 4 : METER SW. (PROGRAM-L & MONITOR-2)
 SW. 5 : HEAD PHONE SW.
 SW. 6 : POWER SW.

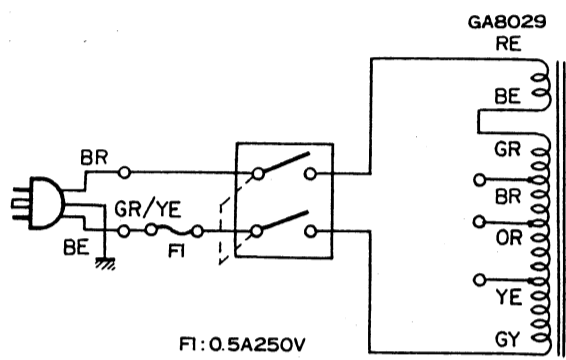




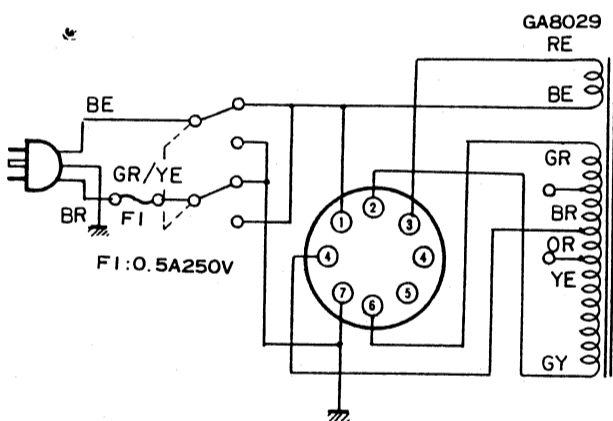
POWER CIRCUIT ARRANGEMENTS

BLOCK DIAGRAM &

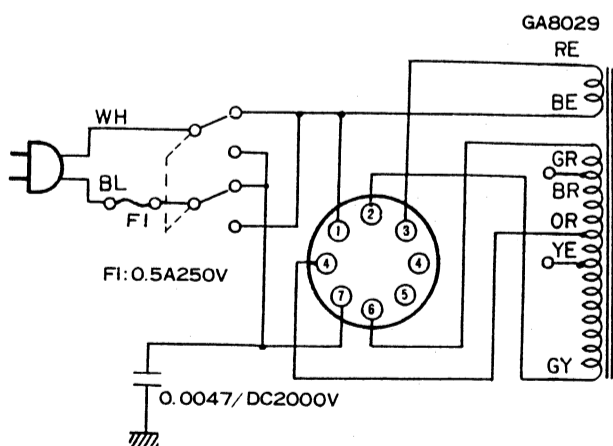
FOR AUSTRALIAN MODEL



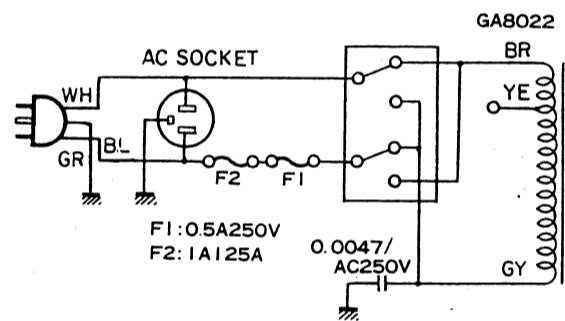
FOR SOUTH AFRICAN MODEL



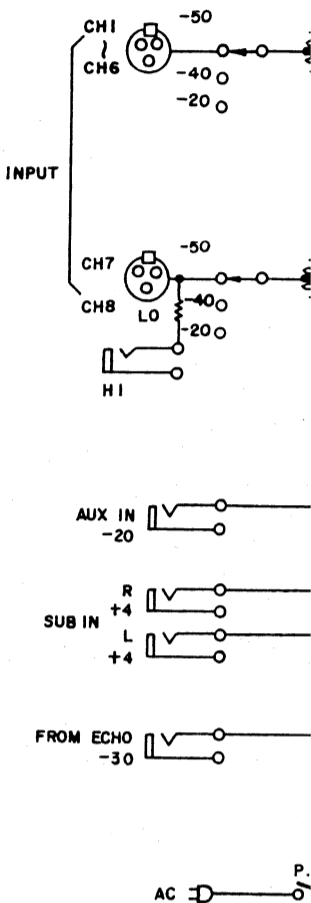
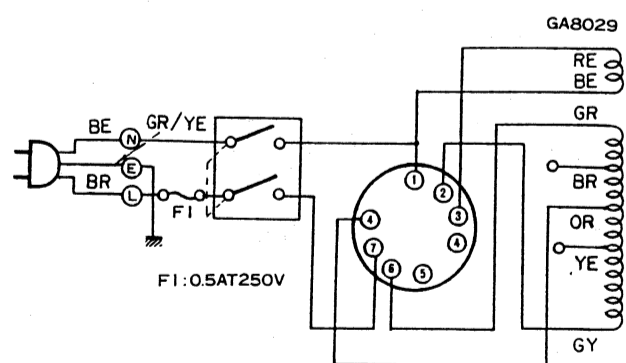
FOR GENERAL MODEL



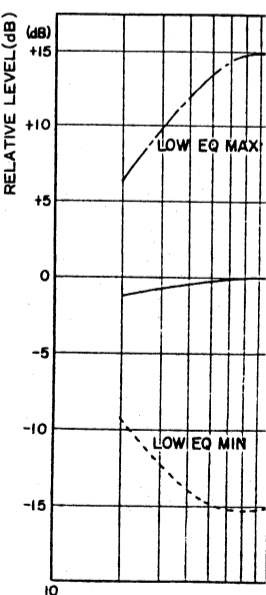
FOR US./CANADIAN MODELS



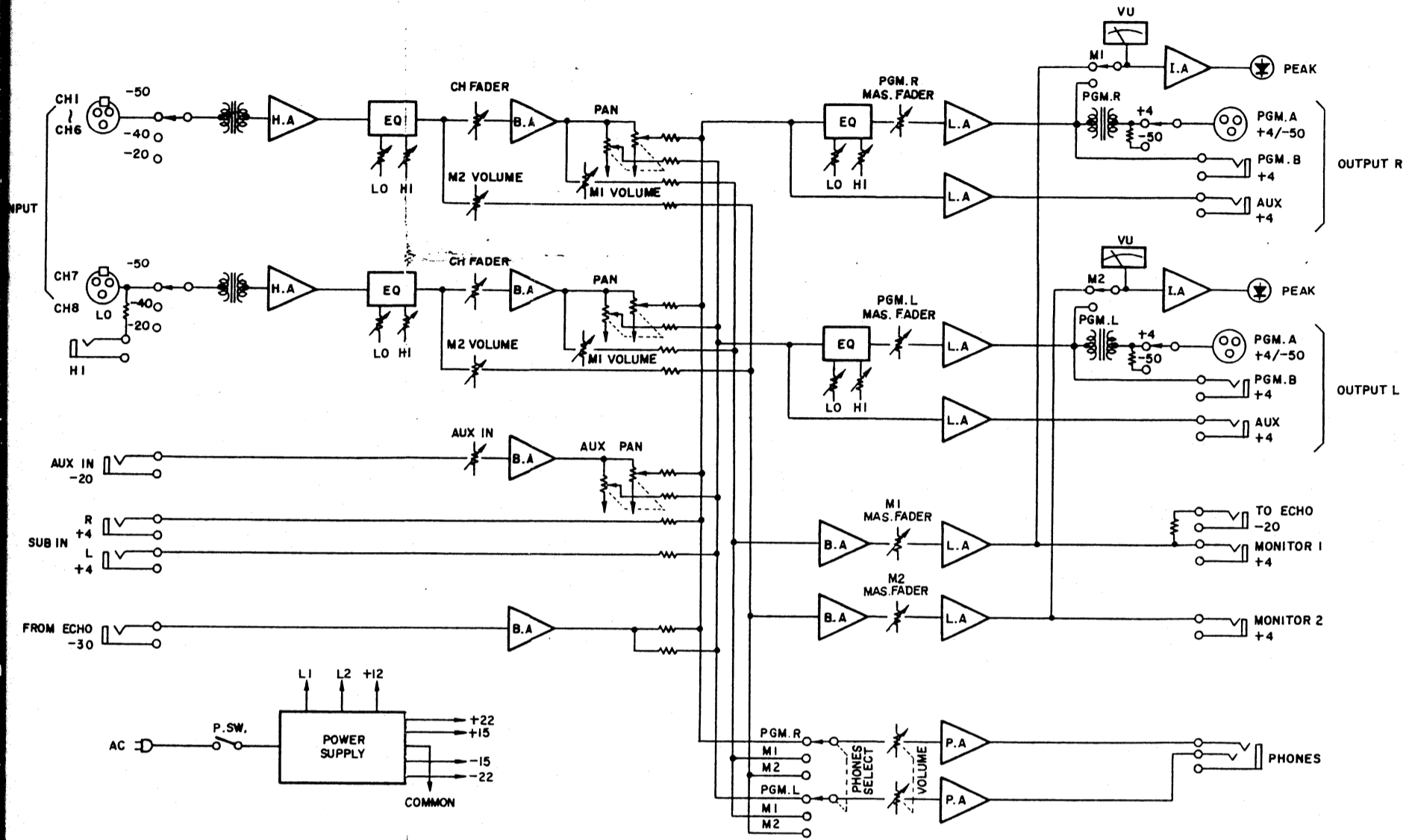
FOR BS/EUROPEAN MODELS



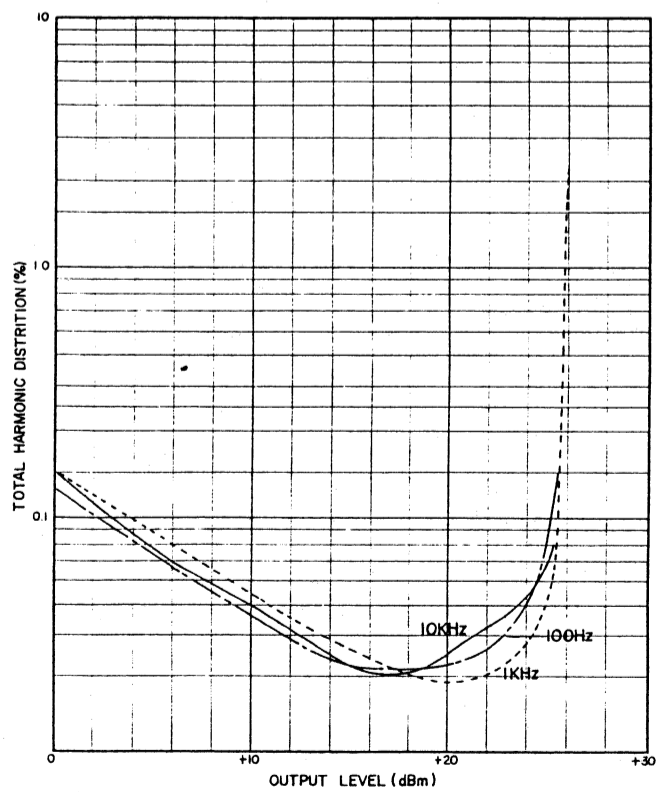
TYPICAL



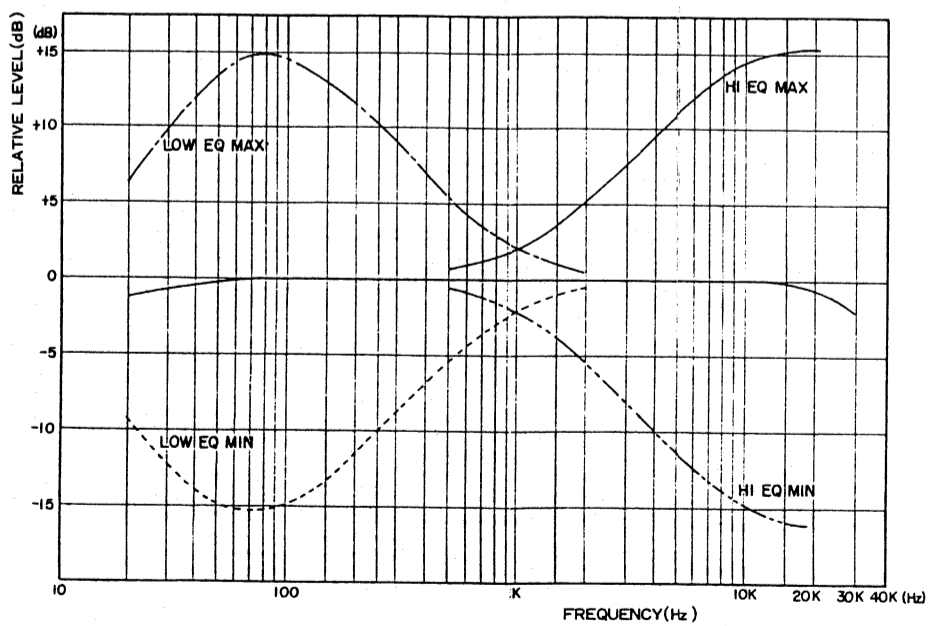
BLOCK DIAGRAM & LEVEL DIAGRAM



TOTAL HARMONIC DISTORTION



TYPICAL FREQUENCY RESPONSE



PM-430 CHECK AND ADJUSTMENT & SPECIFICATIONS

1. AMPLIFICATION CHARACTERISTICS

1.1) Gain

Gain is satisfactory if the outputs of the respective terminals are as shown in Table 2 when a -50 dBm / 1 kHz signal is fed to the input with the various controls set as in Table 1.

Connect a 600 ohm load resistor to the respective output terminals PGM, AUX and MONITOR (For each channel)

(Table - 1)

Control Knobs	Control Position
CHANNEL FADER	Ch. 1 - 8 Maximum
HIGH- LOW EQ.	Ch. 1 - 8 Center
MONITOR 1 & 2	Ch. 1 - 8 Minimum (Maximum at time of measurement only)
INPUT ATT.	Ch. 1 - 8 -50 dBm
PAN.	Ch. 1 - 8 Center
MASTER FADER	L & R Channel Maximum
MONITOR MASTER FADER	Ch. 1 & 2 Minimum (Maximum at time of measurement only)
MASTER HIGH-LOW EQ.	L & R Channel Center
AUX VOLUME	Minimum
AUX PAN.	Center
OUT SWITCH	+ 4 dBm
PHONES VOLUME	Minimum
PHONES SELECT	PGM

(Table - 2)

INPUT ATT	PGM OUT	AUX OUT	MON 1 OUT	MON 2 OUT
-50	dBm 16 ± 2	dBm 12 ± 2	dBm 22 ± 2	dBm 16 ± 2
-40	dBm 6 ± 2	dBm 2 ± 2	dBm 12 ± 2	dBm 6 ± 2
-20	dBm -14 ± 2	dBm -18 ± 2	dBm -8 ± 2	dBm -14 ± 2
ch 7 & 8 HIGH-50	dBm -12 ± 2	dBm -16 ± 2	dBm -6 ± 2	dBm -12 ± 2

Note: L & R channels of PGM-AUX to be of equal value. However, level difference between L & R to be within 2 dB.

1.2) AUX IN

With conditions as in 1.1, +16 dBm ± 2 dBm to be obtained from PGM OUT with a -20 dBm / 1 KHz signal applied to AUX IN (For both L & R) AUX VOLUME to be maximum.

1.3) SUB IN

With conditions as in 1.1, +10 dBm ± 2 dBm output to be obtained from terminal PGM with a +4 dBm / 1 KHz signal applied to SUB IN. (Both L & R)

1.4) Distortion

With conditions as in 1.1, distortion must be within 0.3% with an output of +4 dBm. (For each channel)

1.5) Frequency Characteristics

With conditions as in 1.1, and with 1 KHz as the standard, it must be +1, -3 dB at 50 Hz and within +1, -3 dB at 15 KHz. (For each channel)

1.6) Tone Control Characteristics

With conditions as in 1.1, readings should be within the ranges shown in Table 3 when the Equalizer (EQ) Control knob is varied. (For each channel)

However, these readings are those when MASTER EQ and CHANNEL EQ are operated separately.

(Table - 3)

EQ	100Hz	1 KHz	10 KHz
HIGH	dB	dB	dB
LOW	0	0	0
HIGH	dB	dB	dB
LOW	14 ± 3	1 ± 3	14 ± 3
HIGH	dB	dB	dB
LOW	-14 ± 3	-1 ± 3	-14 ± 3

Note: All standard values shall be 1 KHz at flat response (center). Constant input but at a signal level where the output is not clipped. Standard characteristics are shown under TYPICAL FREQUENCY RESPONSE on the back of the overall circuit diagram.

1.-7) Maximum Output

With conditions as in 1.-1, the output levels of both PGM OUT and MONI OUT must be over +24 dBm at the point where the output wave form is clipped (3% distortion) when the 1 KHz signal is increased. (For L, R and 1, 2)

Note: To be over +22 dBm for AUX OUT.

1.-8) VU Meter

When PGM Out is set for +4 dBm with conditions as in 1.-1, the VU meter indications must be within the range of 0 ± 1 VU. (For both L & R) Further, MONITOR OUT to be the same when Meter SW is switched to M1 or M2.

1.9) ECHO (FROM ECHO, TO ECHO)

(a) With conditions as in 1.-1, an output of +10 ± 3 dBm to be obtained from PGM OUT when a -30 dBm / 1 KHz signal is applied to FROM ECHO.

(b) With both CHANNEL and MASTER VOLUME CONTROLS of MONITOR 1 set to maximum and, with MONITOR 1 OUT set for an output of +4 dBm, a signal of -20 dBm ± 1 dBm to be obtained from TO ECHO.

1.-10) PGM OUT B

With conditions as in 1.-1, an output of +4 dBm ± 1 dBm to be obtained from PGM OUT B when PGM OUT A is set for an output of +4 dBm. (Both L & R)

1.-11) Output Changeover Switch

With each output changeover switch set to +4 and, with PGM OUT set for +4 dBm, the output level must be within the range of -50 dBm ± 3 dBm when the switch is set to -50.

1.-12) HEADPHONE

With conditions as in 1.-1, connect an 8 ohm load resistor across the HEADPHONE terminals and set headphone volume to maximum. An output of +2 ± 3 dBm to be obtained across the load resistor when a -50 dBm / 1 KHz signal is applied to the input. (Both L & R) Also an output of +1 ± 3 dBm to be obtained across the load resistor when the changeover switch is set to MON 1 or MON 2 and the CHANNEL and MASTER MONITOR volume controls are set to maximum. However, the input signal to be set to -56 dBm / 1 KHz when measuring MON 1.

1.-13) Separation

(a) PGM OUT

With conditions as in 1.-1, set CHANNEL FADER to maximum Inly on the channel to be measured and set all others to minimum. The signal level on the R side of PGM OUT to be under -45dBm with the L side of PAN VOL set for an output level of +4dBm. The same value must also be obtained when PAN VOL is set to R. (at 1KHz)

(b) MONITOR OUT

With conditions as in 1.-1, and with CHANNEL MONITOR 1 VOL and MASTER MONITOR 1 FADER set to maximum and MONITOR 1 OUT set for +4dBm, the signal level at MONITOR 2 OUT to be under -35dBm when the FADER of MASTER MONITOR 2 is set to maximum. The same readings must also be obtained when CHANNEL MONITOR 2 VOL and MASTER MONITOR 2 FADER are set to maximum.

1.-14) Noise Level

With conditions as in 1.-1, the noise levels of both PGM and AUX MONITOR outputs to be under -35dBm when 1 and 2 Vol. of CHANNEL MONITOR 1 and the MASTER MONITOR FADER are set to maximum. Noise level to be under -40dBm when only the CHANNEL FADER in the channel being measured is set to maximum and all others are set to minimum.

1.-15) Residual Noise Level

Noise levels of both PGM OUT and MONI OUT to be under -70dBm when MASTER PGM FADER and MASTER MONITOR FADER are set to minimum. Also, the noise level at PGM OUT to be under -55dBm when MASTER OUT FADER and MASTER MONI FADER are set to maximum and CHANNEL FADER and CHANNEL NOMI VOL is set to minimum. MONI OUT to be under -40dBm at this time.

1.-16) LED Lightng Level

With conditions as in 1.-1, the LED in the meter should light when the signal level of PGM OUT is within the range of +14 ± 1 dBm. (Both L & R) Change over meter SW and adjust semi-fixed volume control B47K ohm until the same results are obtained with MON 1 and 2.

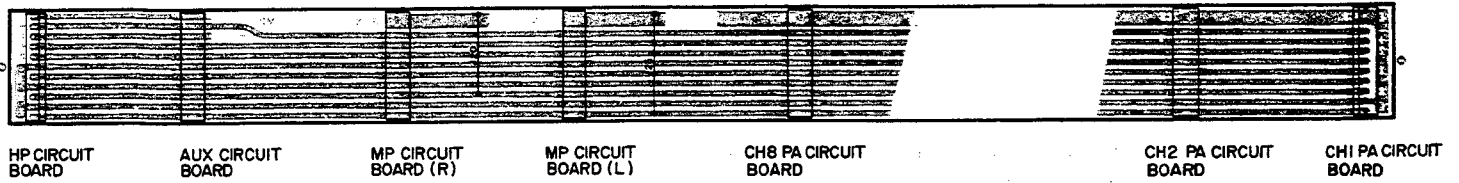
2.) Stability

- 2.-1) Operation to be stable when power supply voltage is varied $\pm 10\%$ of the rated value.
- 2.-2) Operation to be stable with ambient temperatures of between $0-50^{\circ}\text{C}$.

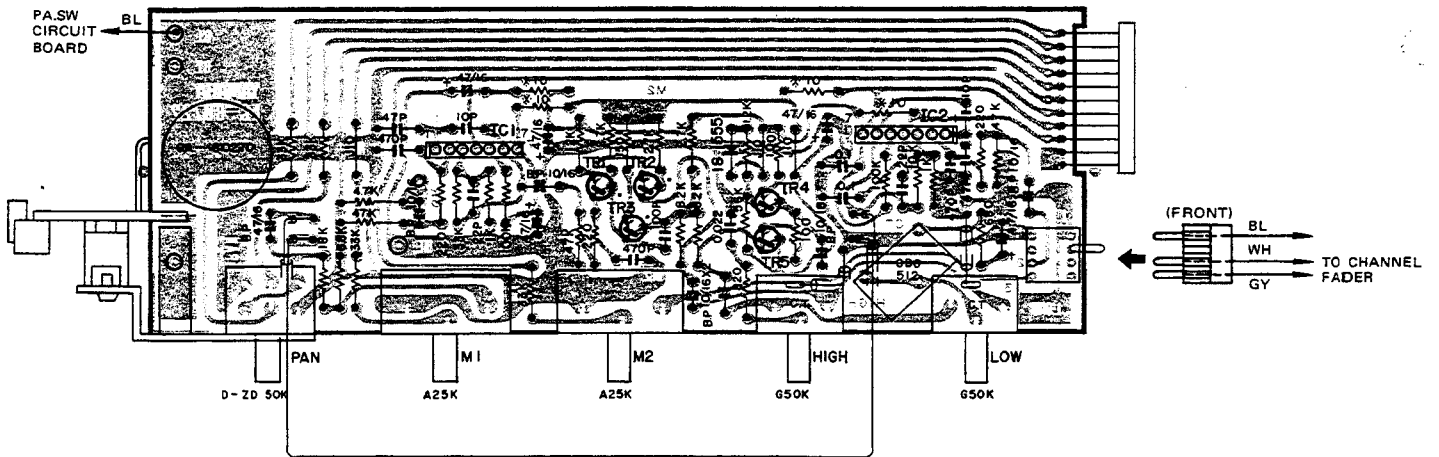
3.) Measuring Instrument

- 3.-1) An oscillator with an output impedance of under 600 ohms and distortion under 0.05% is desirable.
- 3.-2) Input impedanced of over 100K ohms are desirable for oscilloscope voltmeters etc.

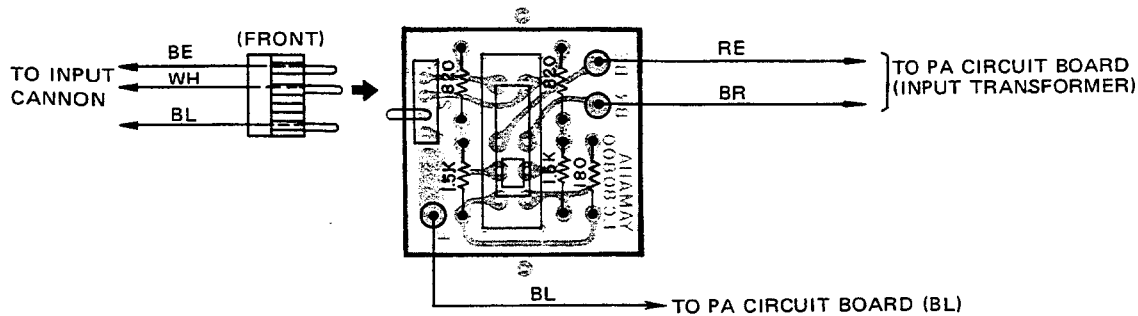
1. CP CIRCUIT BOARD (NA80120) # 80745



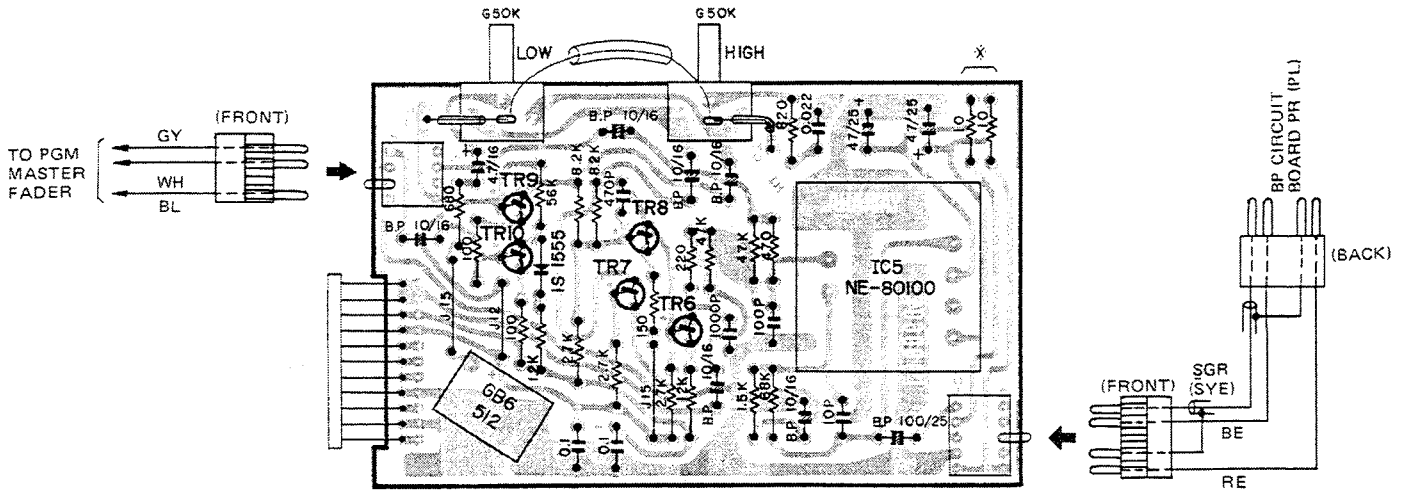
2. PA CIRCUIT BOARD (NA80116) # 80722



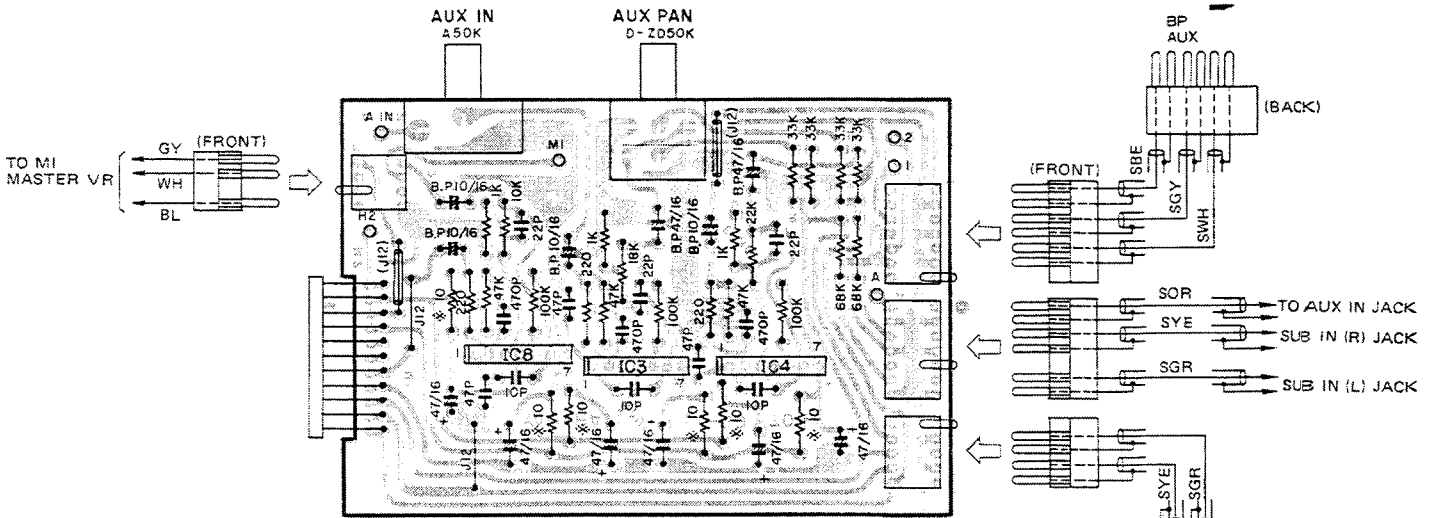
3. PA SW CIRCUIT BOARD (NA80116) # 80800



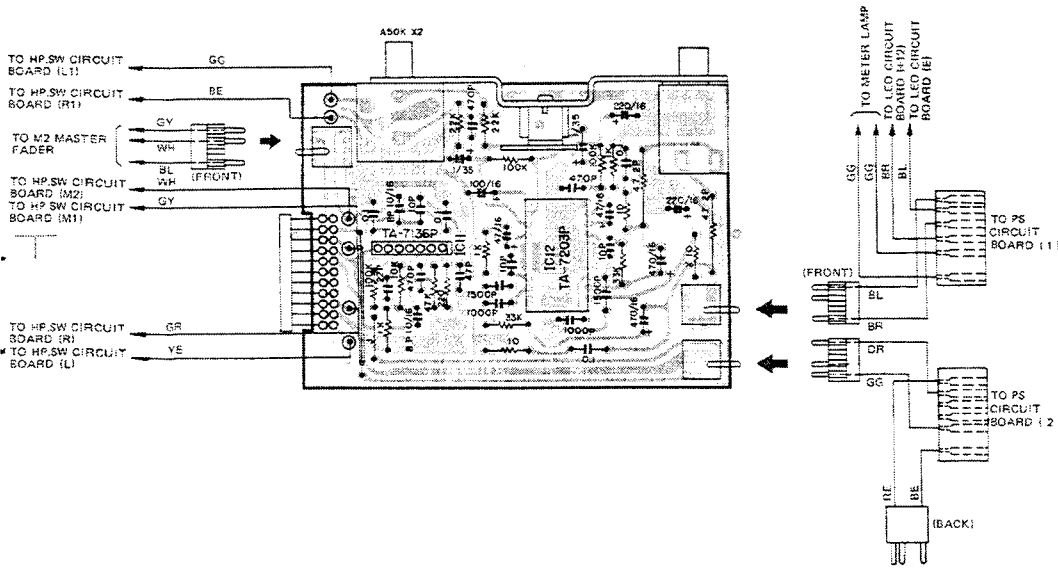
4. MP CIRCUIT BOARD (NA80117) # 80694



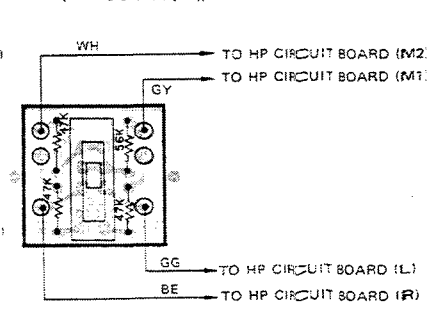
5. AUX CIRCUIT BOARD (NA80118) # 80704



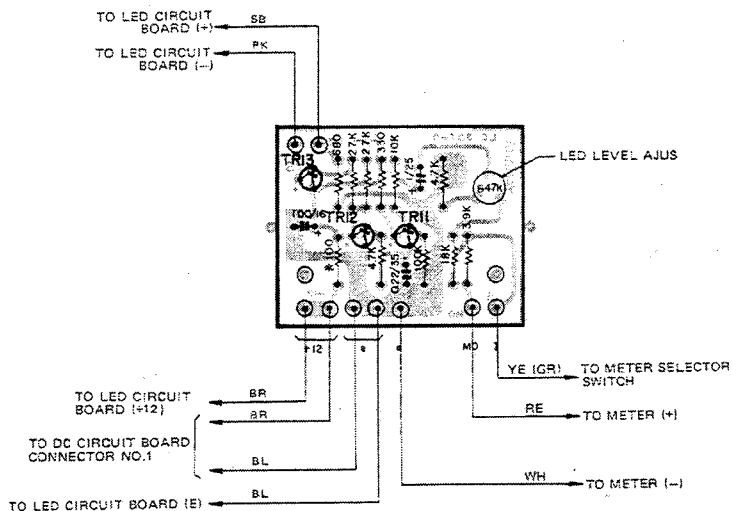
6. HP CIRCUIT BOARD (NA80119) # 80711



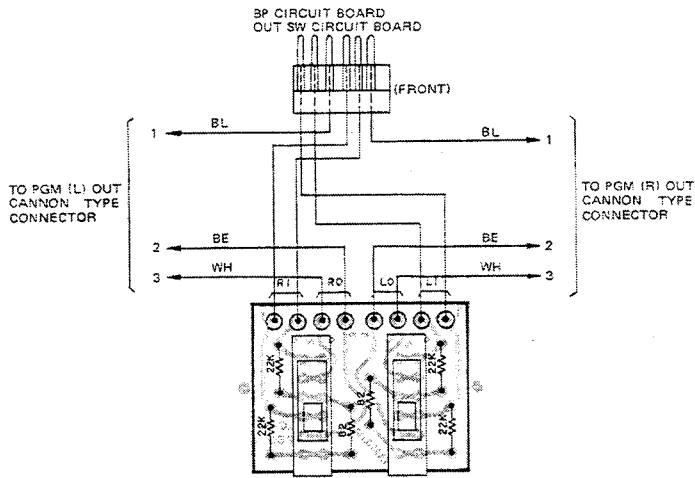
7. HP SW CIRCUIT BOARD (NA80119) # 81010



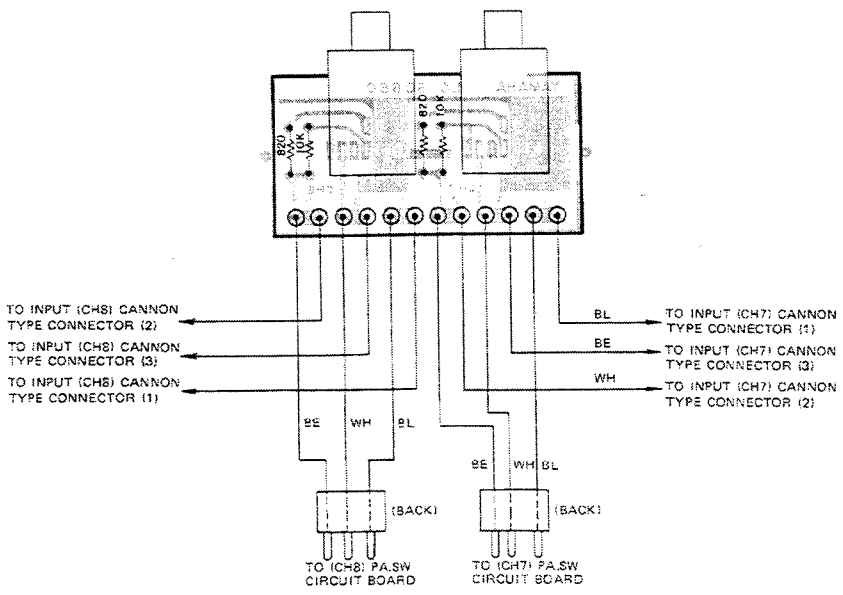
8. LED CIRCU. BOARD (NA80122) # 80760



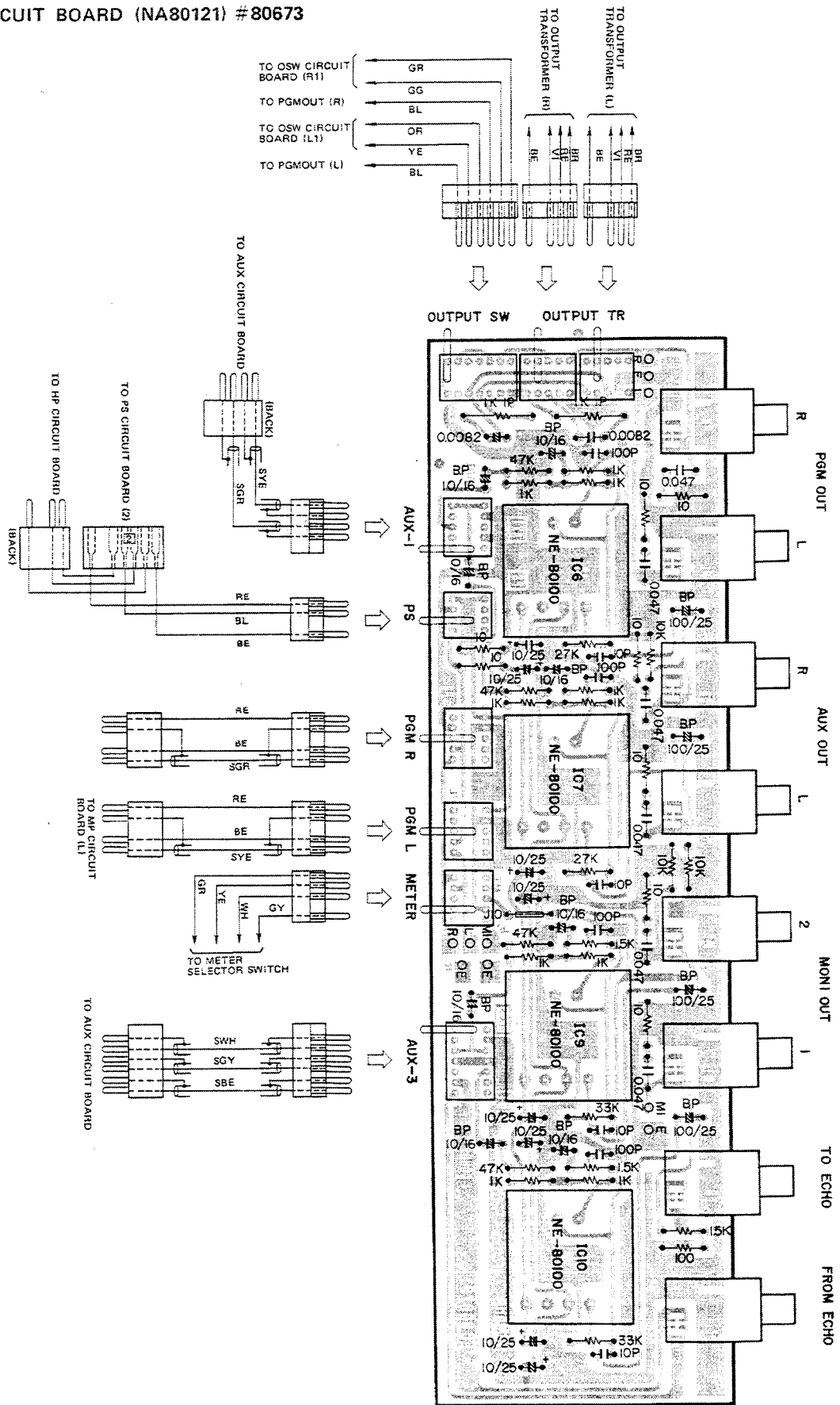
9. OSW CIRCUIT BOARD (NA80123) # 80780



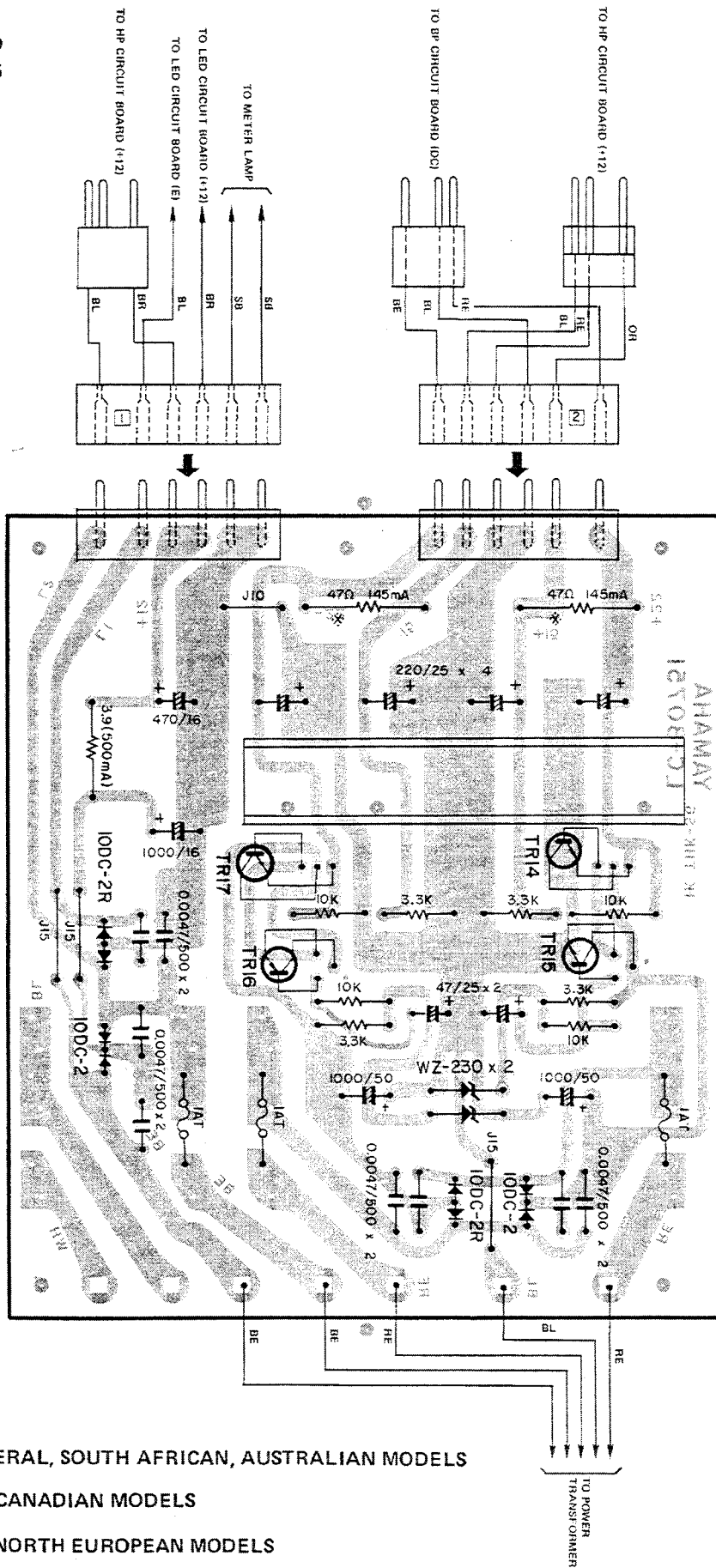
10. HIN CIRCUIT BOARD (NA80124) # 80680



11. BP CIRCUIT BOARD (NA80121) # 80673



12. PS CIRCUIT BOARD
(NA80125) # 80125

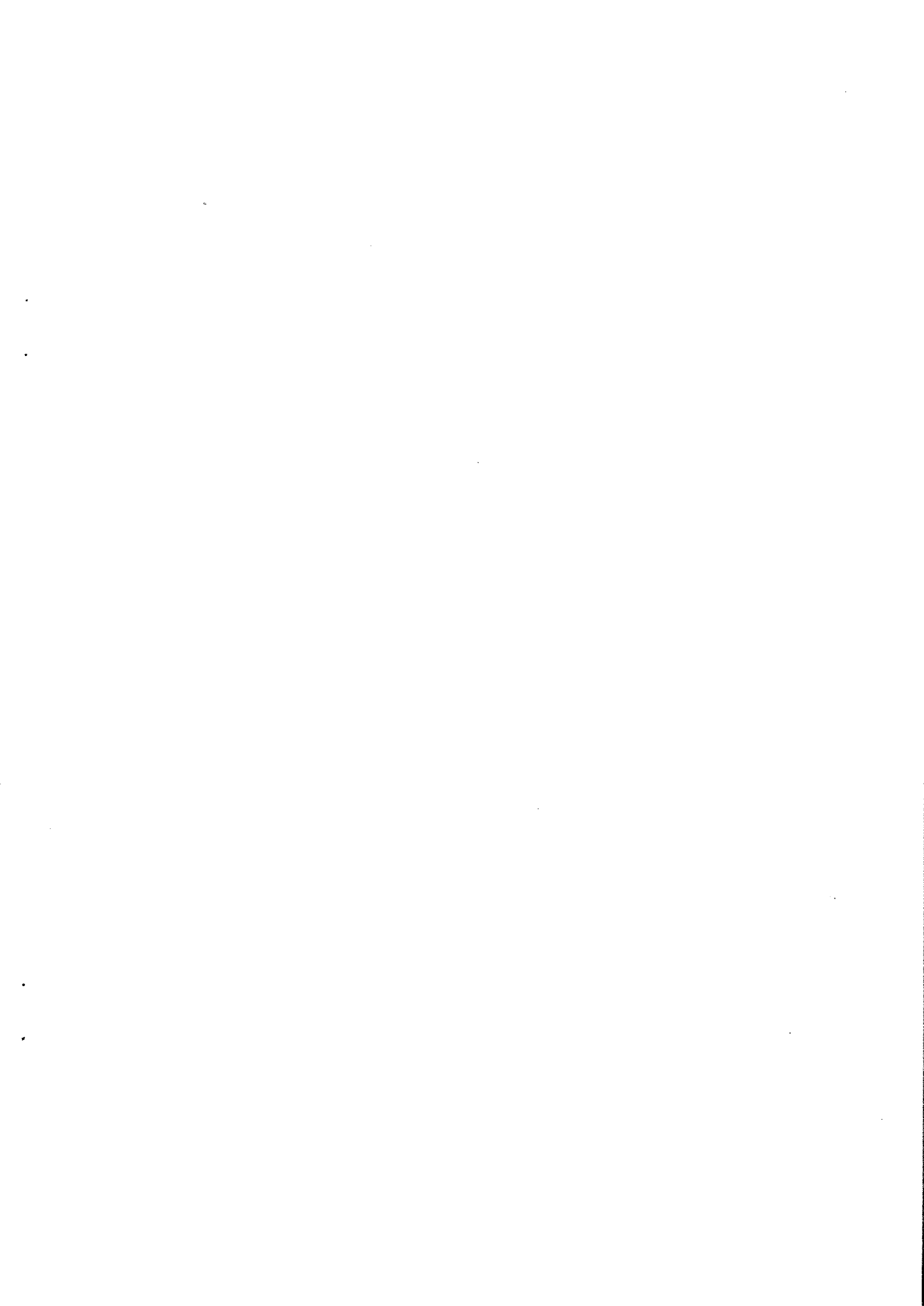


(NA80125) # 80125

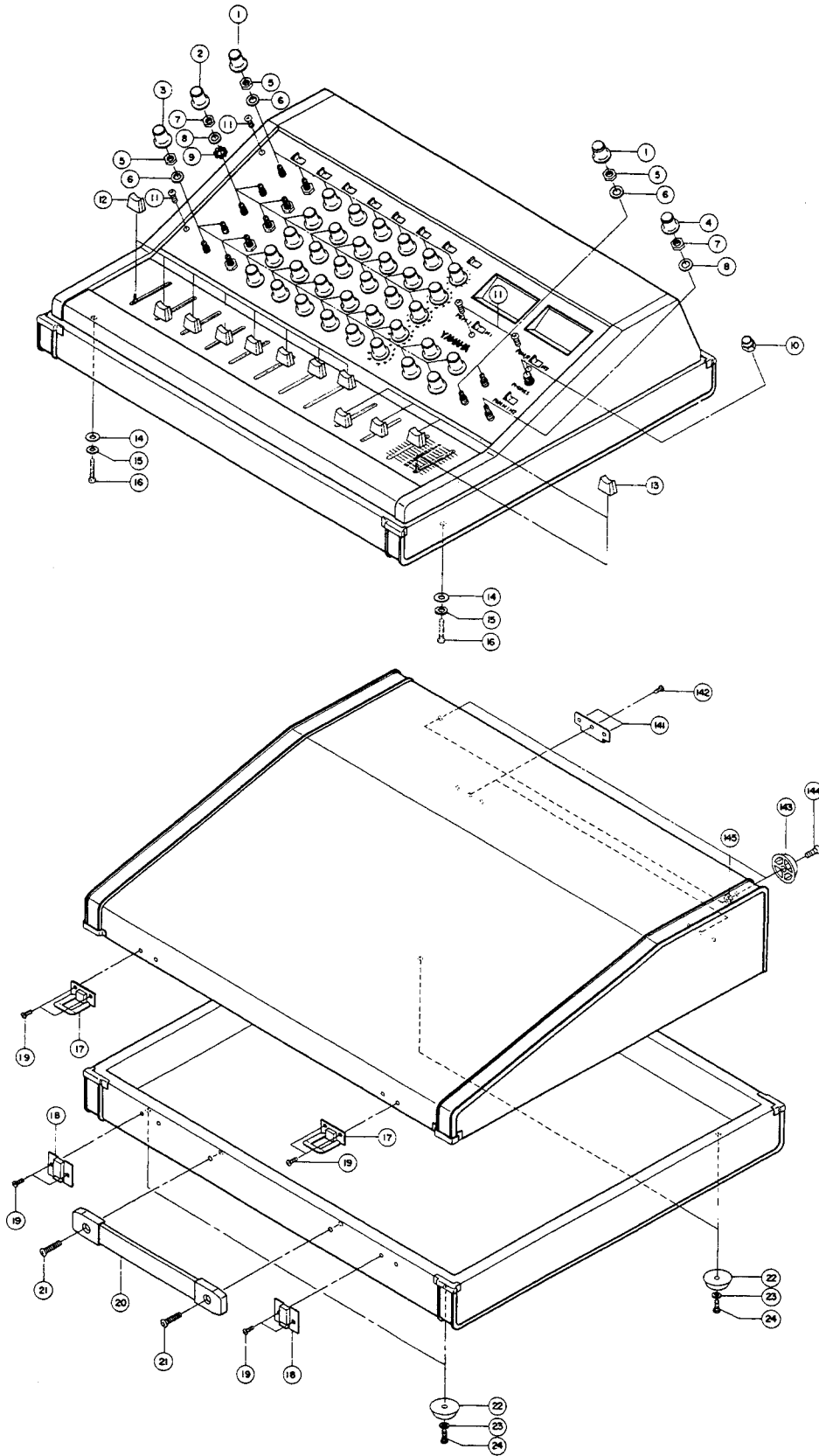
(NA80125) For GENERAL, SOUTH AFRICAN, AUSTRALIAN MODELS

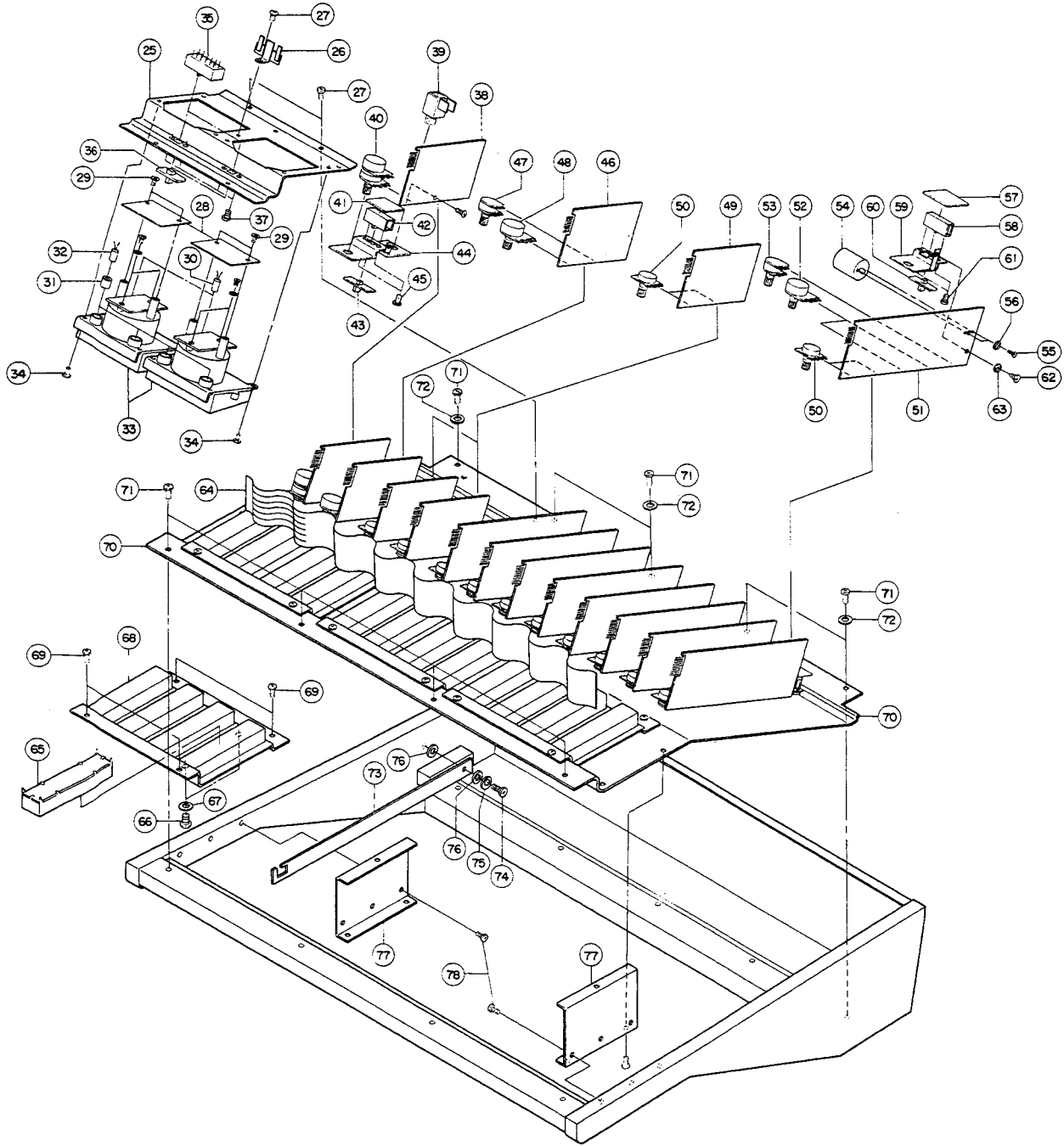
(NA80126) For U.S./CANADIAN MODELS

(NA80127) For B.S./NORTH EUROPEAN MODELS

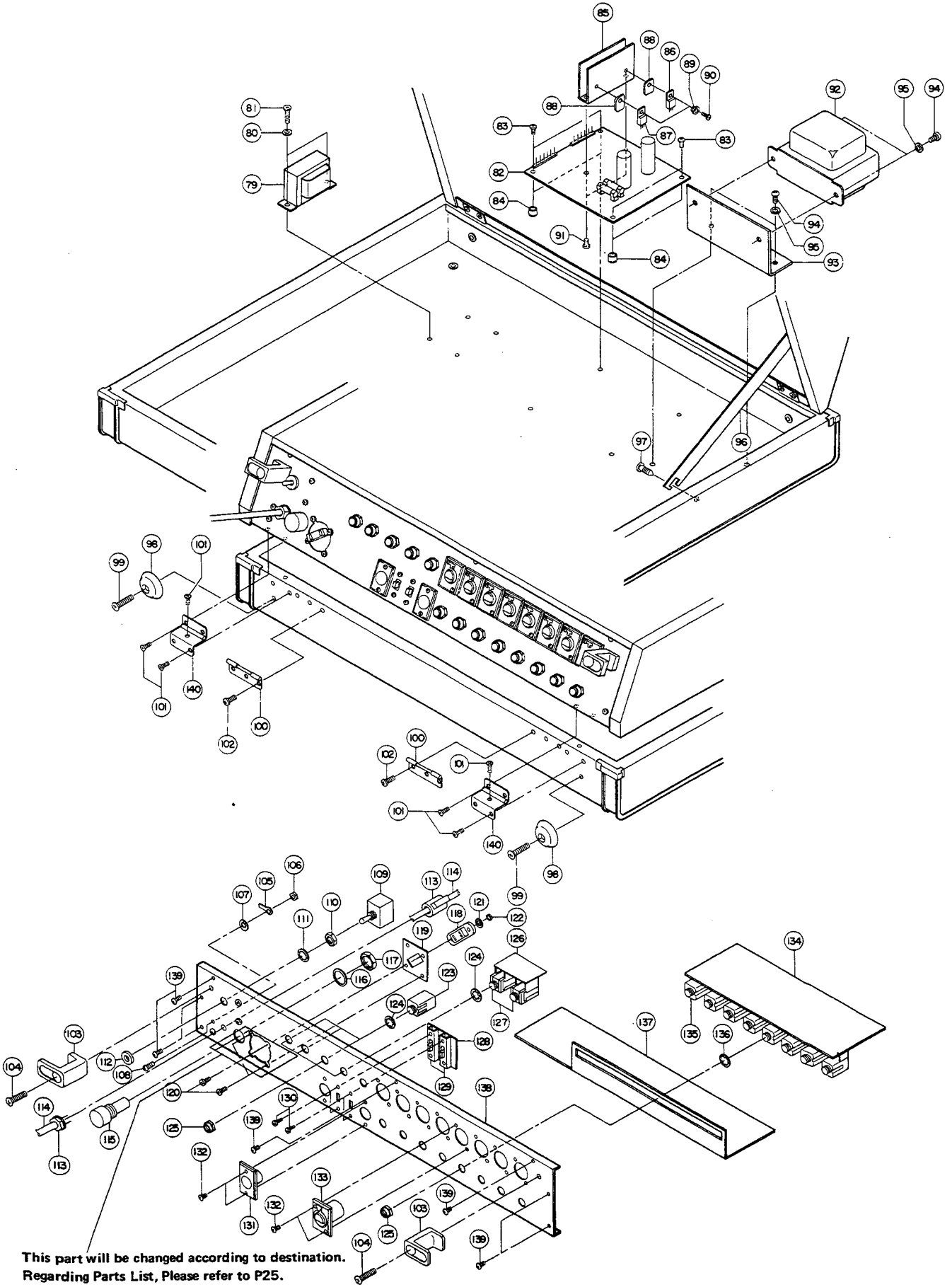


PARTS LIST





Ref. No.	Parts No.	Description	Remarks	Common Models
25	30:54:00:AA:80:23:30	Meter Slib Panel	メーターサブパネル	
26	40:10:00:LA:00:00:80	Lug Terminal 2P-1L	ラグ端子 2P 1L	
27	40:10:00:EA:13:00:60	Binding Tapping Screw 3 x 6	バインドタッピングネジ 3 x 6	ZMC2-Y
28	30:54:00:NA:80:12:20	LED Circuit Board	LED シート	
29	40:10:00:EA:13:00:60	Binding Tapping Screw 3 x 6	バインドタッピングネジ 3 x 6	ZMC2-Y
30	40:10:00:MZ:80:16:50	LED A'ssy	LED A Assy	
31	30:54:00:CB:06:86:20	Holder Lamp	ランプホルダー	
32	40:10:00:JB:00:02:30	Lamp with Lead Wire	リード付ランプ	
33	40:10:00:J:00:03:90	VU Meter	VU メーター	
34	40:10:00:EA:03:00:80	Binding Tapping Screw 3 x 8	バインドタッピングネジ 3 x 8	
35	40:10:00:KA:40:03:70	Slide Switch	スライドスイッチ	
36	30:54:00:CB:80:52:30	Knob	ツマミ	
37	40:10:00:EA:32:60:50	Pan Head Screw 2.6 x 5	ナベ小ネジ 2.6 x 5	ZMC-BL
38	30:54:00:NA:80:11:90	HP Circuit Board	HP シート	
39	40:10:00:LB:30:03:70	Phone Jack	ヘッドホンジャック	
40	40:10:00:HS:32:03:60	Variable Resistor A50K x 2	ボリューム A50K x 2	
41	40:10:00:LC:81:01:00	Printed Circuit Board	プリント基板	
42	40:10:00:KA:40:03:60	Slide Switch	スライドスイッチ	
43	30:54:00:CB:80:52:30	Knob	ツマミ	
44	30:54:00:AA:80:23:90	SW Holder Plate	SW 取付金具	
45	40:10:00:EA:32:60:50	Pan Head Screw 2.6 x 5	ナベ小ネジ 2.6 x 5	ZMC-BL
46	30:54:00:NA:80:11:80	AUX Circuit Board	AUX シート	
47	40:10:00:HS:31:30:90	Variable Resistor	ボリューム	
48	40:10:00:HS:32:02:10	-do- A50K	" A50K	
49	30:54:00:NA:80:11:70	MP Circuit Board (LC 866740)	MP シート	
50	40:10:00:HS:31:01:00	Variable Resistor G50KCT	ボリューム付 G50KCT	
51	30:54:00:NA:80:11:60	PA Circuit Board (LC 86722)	PA シート	
52	40:10:00:HS:32:02:60	Variable Resistor A25K	ボリューム A25K	
53	40:10:00:HS:3:00:80	-do- D50K + ZD50K	ボリューム D50K + ZD50K	
54	40:10:00:GA:80:27:00	Input Transformer	インプットトランス	
55	40:10:00:EA:32:60:50	Pan Head Screw 2.6 x 5	ナベ小ネジ 2.6 x 5	ZMC3-BL
56	40:10:00:EV:41:00:30	Teethed Locked Washer 3S	歯付座金 3S	ZMC2-Y
57	40:10:00:LC:80:80:10	Printed Circuit Board	プリント基板	
58	40:10:00:KA:40:03:60	Slide Switch	スライドスイッチ	
59	30:54:00:AA:80:23:80	SW Holder Plate	SW 取付金具	
60	30:54:00:CB:80:52:30	Knob	ツマミ	
61	40:10:00:EA:32:60:50	Pan Head Screw 2.6 x 5	ナベ小ネジ 2.6 x 5	ZMC3-BL
62	40:10:00:EA:03:00:60	-do- 3 x 6	" 3 x 6	ZMC2-Y
63	40:10:00:EV:41:00:30	Teethed Locked Washer 3S	歯付座金 3S	-do-
64	30:54:00:NA:80:12:00	CP Circuit Board	CP シート	
65	40:10:00:HQ:20:01:90	Slide Variable Resistor	スライドボリューム	
66	40:10:00:EA:33:00:60	Pan Head Screw 3 x 6	ナベ小ネジ 3 x 6	FCM-BL
67	40:10:00:EV:41:00:30	Teethed Locked Washer 3S	歯付座金 3S	ZMC-ZY
68	30:54:00:AA:80:23:20	Sub Panel	サブパネル	
69	40:10:00:EA:13:00:60	Binding Tapping Screw 3 x 6	バインドタッピングネジ 3 x 6	ZMC2-Y
70	30:54:00:AA:80:23:10	Panel	パネル	
71	40:10:00:EQ:03:10:60	Round Head Wooden Screw 3.1 x 6	丸木ネジ 3.1 x 6	ZMC2-Y
72	40:10:00:EV:41:00:30	Teethed Locked Washer 3S	歯付座金 3S	-do-
73	40:10:00:AA:80:24:20	Stay	ステ	



This part will be changed according to destination.
Regarding Parts List, Please refer to P25.

Ref. No.	Parts No.	Description	Remarks	Common Models
74	40:10:00:EO:04:11:60	Round Head Wooden Screw 4.1 x 16	丸木ネジ 4.1×16	ZMC2-Y
75	40:10:00:EV:41:00:30	Teethed Locked Washer 4S	歯付座金 4 S	-do.-
76	40:10:00:EV:20:00:40	Plain Washer 4S	平座金 4 S	-do.-
77	30:54:00:AA:80:24:00	Fixing Metal	固定金具	
78	40:10:00:EO:03:11:60	Round Head Wooden Screw 3.1 x 16	丸木ネジ 3.1×16	ZMC2-Y
79	40:10:00:GA:80:28:10	Output Transformer	アウトプットトランス	
80	40:10:00:EV:43:00:40	Teethed Locked Washer 4S	歯付座金 4 S	ZMC2-Y
81	40:10:00:EA:04:01:00	Pan Head Screw 4 x 10	ナベ小ネジ 4×10	-do.-
82	30:54:00:NA:80:12:50	PS Circuit Board	P S シ ー ト	
83	40:10:00:EO:03:11:60	Round Head Wooden Screw 3.1 x 16	丸木ネジ 3.1×16	ZMC2-Y
84	30:56:00:CB:01:09:80	Spacer	ス ペ ー サ ー	
85	30:54:00:BA:80:08:10	Heat Sink	放 熱 板	
86	40:10:00:ID:05:26:10	Transistor 2SD526	2 S D 5 2 6	
87	40:10:00:IB:05:96:20	-do.- 2SB596	2 S B 5 9 6	
88	40:10:00:IL:00:02:70	Base AC229	マイカ・ベース A C 2 2 9	
89	30:54:00:CB:07:28:80	Insulation Bush	絶縁ブッシュ	
90	40:10:00:EA:02:60:60	Pan Head Screw 2.6 x 6	ナベ小ネジ 2.6×6	ZMC2-Y
91	40:10:00:EI:13:00:60	Binding Tapping Screw 3 x 6	バインドタッピングネジ 3 × 6	-do.-
92	40:10:00:GA:80:22:00	Power Transformer	電源トランス	For U.S./Canadian models
	40:10:00:GA:80:29:10	-do.-	"	For General, South African, Australian, BS/North European models
93	30:54:00:AA:80:31:00	Fixture Transformer	トランス取付金具	
94	40:10:00:EA:04:01:00	Pan Head Screw 4 x 10	ナベ小ネジ 4×10	ZMC2-Y
95	40:10:00:EV:43:00:40	Teethed Locked Washer 4S	歯付座金 4 S	-do.-
96	30:54:00:AA:80:24:20	Stay	ス テ ー	
97	40:10:00:EO:04:11:60	Pan Head Screw 4.1 x 16	丸木ネジ 4.1×16	ZMC2-Y
98	30:10:00:CB:02:32:00	Slip Fitting (Black)	スベリ座 (黒)	
99	40:10:00:EB:34:03:00	Round Head Wooden Screw 4 x 30	皿木ネジ 4×30	ZMC-BL
100	30:54:00:AA:80:24:60	Releaseable Hinge	引掛ねじ	
101	40:10:00:ER:32:11:60	Oval Head Wooden Screw 2.1 x 20	丸皿木ネジ 2.1×20	FCM-BL
102	40:10:00:EH:33:01:60	Truss Tapping Screw 3 x 16	トラスタッピングネジ 3 × 16	FNM3-3g
103	30:54:00:CB:02:25:70	Cord Column	コード巻付コラム	
104	40:10:00:EB:34:02:50	Flat Head Screw 4 x 25	皿小ネジ 4×25	FCM-BL
105	40:10:00:LA:00:02:90	Lug Terminal	ア ー ス ラ グ	
106	40:10:00:EV:10:00:40	Hexagonal Nut 4S	六角ナット 4 S	ZMC2-Y
107	40:10:00:EV:43:00:40	Teethed Locked Washer 4S	歯付座金 4 S	-do.-
108	40:10:00:EA:34:01:00	Pan Head Screw 4 x 10	ナベ小ネジ 4×10	ZMC2-BL
109	40:10:00:KA:30:02:10	Toggle Switch	トグルスイッチ	
110	40:10:00:KA:30:00:10	For Toggle Switch	特殊六角ナット	
111		-do.-	特殊座金	
112		-do.-	特殊ナット	
113	40:10:00:CB:07:06:90	Cord Stopper	コードストッパー	
114	40:10:00:MG:00:02:30	AC Cord	電源コード	
115	40:10:00:LB:20:04:90	Fuse Holder	ヒューズホルダー	
116		For Fuse Holder	特殊平座金	
117		-do.-	特殊六角ナット	
118	40:10:00:LB:20:03:00	AC Socket	A C ソ ケ ッ ト	
119	30:54:00:AA:80:00:80	Metal, AC Socket Holder	A C ソ ケ ッ ト 取付金具	
120	40:10:00:EA:33:00:80	Pan Head Screw 3 x 8	ナベ小ネジ 3×8	FCM3-BL
121	40:10:00:EV:41:00:30	Teethed Locked 3S	歯付座金 3 S	ZMC2-Y

Ref. No.	Parts No.	Description	Remarks	Common Models
NORTH EUROPEAN MODEL				
40:10:00:KB:00:07:10		Fuse Miniature 0.5AT 250V	ミニヒューズ 0.5AT 250V	
40:10:00:LB:20:05:90		Fuse Holder	ヒューズホルダー	
40:10:00:AA:03:15:80		Fuse Holder Washer	ヒューズホルダー ワッシャー	
40:10:00:CA:80:03:80		Blind Fold Plate (For Chassis)	盲板	
40:10:00:LB:20:02:50		Voltage Selector	電圧切替器	
40:10:00:LA:00:10:40		Terminal	ボイボ端子	
30:54:00:AA:00:27:40		Terminal Fixture	ボイボ端子取付金具	
40:10:00:EA:40:06:70	⊖ Pan Head Screw M4 x 6	⊖ ナベ小ネジ M4 x 6	FCM-BL	
40:10:00:EA:03:02:00	-do.- M3 x 20	+ ナベ小ネジ M3 x 20	ZMC2-Y	
40:10:00:EV:10:00:30	Hexagonal Nut A3S	六角ナット	ZMC2-Y	
40:10:00:EV:41:00:30	Teethed Locked Washer A3S	歯付座金 A3S	ZMC2-Y	
40:10:00:EA:33:00:80	⊖ Pan Head Screw M3 x 8	+ ナベ小ネジ M3 x 8	FCM 3	
B.S. MODEL				
40:10:00:KB:00:07:10		Fuse Miniature 0.5AT 250V	ミニヒューズ 0.5AT 250V	
40:10:00:LB:20:05:90		Fuse Holder	ヒューズホルダー	
40:10:00:AA:03:15:80		Fuse Holder Washer	ヒューズホルダー ワッシャー	
40:10:00:LB:20:02:50		Voltage Selector	電圧切替器	
40:10:00:LA:00:10:40		Terminal		
30:54:00:AA:80:27:40		Terminal Fixture	ボイボ端子 取付金具	
40:10:00:EA:40:06:70	⊖ Pan Head Screw M4 x 6	+ ナベ小ネジ M4 x 6	FCM-BL	
40:10:00:EA:03:02:00	-do.- M3 x 20	+ ナベ小ネジ	ZMC2-Y	
40:10:00:CA:80:03:80		Blind Fold Plate (For Chassis)	盲板	
40:10:00:EV:10:00:30		Hexagonal Nut	六角ナット	ZMC2-Y
40:10:00:EV:41:00:30		Teethed Locked Washer A3S	歯付座金 A3S	ZMC2-Y
40:10:00:EA:33:00:80	⊖ Pan Head Screw M3 x 8	+ ナベ小ネジ	FCM 3	
FOR US/CANADIAN MODEL				
40:10:00:KB:00:11:50		UL Fuse 0.5A 250V	ULヒューズ 0.5A 250V	
40:10:00:LB:20:04:80		Fuse Holder	ヒューズホルダー	
40:10:00:LB:30:02:50		AC Socket	3PACコンセント	
40:10:00:EV:10:00:30		Hexagonal Nut	六角ナット	ZMC2-Y
40:10:00:EV:41:00:30		Teethed Locked Washer A3S	歯付座金 A3S	ZMC2-Y
40:10:00:EA:33:00:80	⊖ Pan Head Screw M3 x 8	+ ナベ小ネジ M3 x 8	FCM 3	
FOR AUSTRALIAN MODEL				
40:10:00:KB:00:03:10		Fuse 0.5A 250V	ヒューズ	
40:10:00:LB:20:04:80		Fuse Holder	ヒューズホルダー	
40:10:00:LA:00:10:00		Color Terminal	カラー端子板	
30:54:00:AA:80:29:70		Blind Fold Plate (For Chassis)	盲板	
40:10:00:EA:33:00:60	⊖ Pan Head Screw M3 x 6	+ ナベ小ネジ M3 x 6	FCM-BL	
40:10:00:EA:33:00:80	-do.- M3 x 8	+ ナベ小ネジ M3 x 8	FCM 3	
FOR SOUTH AFRICAN MODEL				
40:10:00:KB:00:03:10		Fuse 0.5A 250V	ヒューズ 0.5A 250V	
40:10:00:LB:20:04:80		Fuse Holder	ヒューズホルダー	
40:10:00:LB:20:02:50		Voltage Selector	電圧切替器	
40:10:00:CA:80:03:80		Blind Fold Plate (For Chassis)	盲板	
40:10:00:EV:10:00:30		Hexagonal Nut	六角ナット	ZMC2-Y
40:10:00:EV:41:00:30		Teethed Locked Washer	歯付座金	ZMC2-Y

Ref. No.	Parts No.	Description	Remarks	Common Models
	40:10:00:EA:33:00:80	⊕ Pan Head Screw M3 x 8	⊕ ナベ小ネジ M3 x 8	FCM 3
FOR GENERAL MODEL				
	40:10:00:KB:00:03:10	Fuse 0.5A 250V	ヒューズ 0.5A 250V	
	40:10:00:LB:20:04:80	Fuse Holder	ヒューズホルダー	
	40:10:00:LB:20:02:50	Voltage Selector	電圧切替器	
	40:10:00:LA:80:03:80	Blind Fold Plate (For Chassis)	盲板	
	40:10:00:EV:10:00:30	Hexagonal Nut	六角ナット	ZMC2-Y
	40:10:00:EV:41:00:30	Teethed Locked Washer	歯付座金 A 3 S	-do.-
	40:10:00:EA:33:00:80	⊕ Pan Head Screw M3 x 8	⊕ ナベ小ネジ M3 x 8	FCM 3
PARTS LIST OF CIRCUIT BOARD				
	30:54:00:NA:80:11:60	PA Circuit Board	P A シート	
	40:10:00:FM:09:71:00	Bipolar Electrolytic Cap 10 μ 16V	B P ケミコン 10 μ 16V	
	40:10:00:FM:09:74:70	-do.- 47 μ 16V	B P ケミコン 47 μ 16V	
	40:10:00:FP:13:64:70	Tantalum Capacitor 4.7 μ 16V	タンタルコン 4.7 μ 16V	
	40:10:00:GA:80:27:00	Input Transformer	インプットトランス	
	40:10:00:GB:06:51:20	Filter Coil 1.2H	フィルターコイル 1.2H	
	40:10:00:HS:31:01:00	Variable Resistor 16 ϕ G50K	ポリューム 16 ϕ G50K	
	40:10:00:HS:31:00:90	-do.- 16 ϕ D50K + ZD50K	ポリューム 16 ϕ D50K + ZD50K	
	40:10:00:HS:32:02:60	-do.- 24 ϕ A25K	ポリューム 24 ϕ A25K	
	40:10:00:IA:05:61:70	Transistor 2SA561	トランジスター 2SA561	
	40:10:00:IC:16:81:10	-do.- 2SC1681	トランジスター 2SC1681	
	40:10:00:IF:00:00:40	Diode 1S1555	ダイオード 1S1555	
	40:10:00:IG:00:13:30	IC TA7136P	IC TA7136P	
	40:10:00:KA:40:03:60	Slide Switch	スライドスイッチ	
	40:10:00:LB:10:01:60	CIS Keying Pin	CISキーイングプラグ	
	40:10:00:LB:40:01:10	CIS 4P Socket	CIS 4P サイドエントリー型	
	40:10:00:LB:60:13:50	CIS 11P Socket Top	CIS 11P 基板用雄接触子	
	40:10:00:LB:40:02:90	CIS 4P Socket	CIS 4P ボトムエントリー型	
	30:54:00:AA:80:23:80	SW Holder Plate	S W 取付金具	
	30:54:00:NA:80:11:70	MP Circuit Board	M P シート	
	40:10:00:FM:09:71:00	Bipolar Electrolytic Cap 10 μ 16V	B P ケミコン 10 μ 16V	
	40:10:00:FM:22:81:00	-do.- 100 μ 25V	B P ケミコン 100 μ 25V	
	40:10:00:FP:13:64:70	Tantalum Capacitor 4.7 μ 16V	タンタルコン 4.7 μ 16V	

Ref. No.	Parts No.	Description	Remarks	Common Models
	40:10:00:GB:06:51:20	Filter Coil 1.2H	フィルターコイル 1.2H	
	40:10:00:HS:31:01:00	Variable Resistor G50KCT	ポリユーム G50KCT付	
	40:10:00:IA:05:61:70	Transistor 2SA561	トランジスター 2SA561	
	40:10:00:IC:16:81:10	-do.- 2SC1681	トランジスター 2SC1681	
	40:10:00:IF:00:00:40	Diode 1S1555	ダイオード 1S1555	
	40:10:00:LB:10:01:60	CIS Keying Pin	CISキーイングプラグ	
	40:10:00:LB:40:01:10	CIS 4P Socket	CIS 4P サイドエントリ-型	
	40:10:00:LB:50:00:50	CIS 5P Socket	CIS 5P サイドエントリ-型	
	40:10:00:LB:60:13:50	CIS 11P Socket	CIS 11P 基板用雄接端子	
	30:54:00:NE:80:10:00	IC Module #80100	ICモジュール #80100	
	30:54:00:NA:80:11:80	AUX Circuit Board	AUXシート	
	40:10:00:FM:09:71:00	Bipolar Electrolytic Cap 10 μ 16V	BPケミコン 10 μ 16V	
	40:10:00:FM:09:74:70	-do.- 47 μ 16V	BPケミコン 47 μ 16V	
	40:10:00:HS:31:00:90	Variable Resistor 16 ϕ D50K + ZD50K	ポリユーム 16 ϕ D50K + ZD50K	
	40:10:00:HS:32:02:10	-do.- 24 ϕ A50K	ポリユーム 24 ϕ A50K	
	40:10:00:IG:00:13:30	IC TA7136P	IC TA7136P	
	40:10:00:LB:10:01:60	CIS Keying Pin	CISキーイングピン	
	40:10:00:LB:40:01:10	CIS 4P Socket	CIS 4P サイドエントリ-型	
	40:10:00:LB:50:00:50	CIS 5P Socket	CIS 5P サイドエントリ-型	
	40:10:00:LB:60:13:70	CIS 7P Socket	CIS 7P サイドエントリ-型	
	40:10:00:LB:60:13:50	CIS 11P Socket Top	CIS 11P 基板用雄接端子	
	30:54:00:NA:80:11:90	HP Circuit Board	HPシート	
	40:10:00:FM:09:71:00	Bipolar Electrolytic Cap 10 μ 16V	BPケミコン 10 μ 16V	
	40:10:00:FP:15:61:00	Tantalum Capacitor 1 μ 35V	タンタルコン 1 μ 35V	
	40:10:00:HL:32:34:70	Metal Oxide Film Resistor 4.7 Ω 2P	酸化金属抵抗 4.7 Ω 2P	
	40:10:00:HS:32:03:60	Variable Resistor 24 ϕ A50K x 2	ポリユーム 24 ϕ A50K x 2	
	40:10:00:IG:00:13:30	IC TA7136P	IC TA7136P	
	40:10:00:IG:00:13:40	IC TA7203P	IC TA7203P	
	40:10:00:KA:40:03:60	Slide Switch	スライドスイッチ	
	40:10:00:LB:10:01:60	CIS Keying Pin	CISキーイングピン	

Ref. No.	Parts No.	Description	Remarks	Common Models
	40:10:00:LB:40:01:10	CIS 4P Socket	C I S 4 P サイドエントリー型	
	40:10:00:LB:60:13:50	CIS 11P Socket Top	C I S 11 P 基板用雄端子	
	40:10:00:LB:30:03:70	Phone Jack	ヘッドホンジャック	
	30:54:00:AA:80:23:90	SW Holder Plate	S W 取付金具	
	30:54:00:NA:80:12:10	BP Circuit Board	B P シート	
	40:10:00:FM:09:71:00	Bipolar Electrolytic Cap 10 μ 16V	B P ケミコン 10 μ 16V	
	40:10:00:FM:22:81:00	-do.- 100 μ 25V	B P ケミコン 100 μ 25V	
	30:54:00:NE:80:01:00	IC Module # 80100	I C モジュール # 8 0 1 0 0	
	40:10:00:LB:20:08:60	Jack	ジャック	
	40:10:00:LB:10:01:60	CIS Keying Pin	C I S キーイングピン	
	40:10:00:LB:40:01:10	CIS 4P Socket	C I S 4 P サイドエントリー型	
	40:10:00:LB:50:00:50	CIS 5P Socket	C I S 5 P サイドエントリー型	
	40:10:00:LB:60:13:70	CIS 7P Socket	C I S 7 P サイドエントリー型	
	30:54:00:NA:80:12:00	CP Circuit Board	C P シート	
	40:10:00:CB:80:62:30	Reinforcement Board	フィルム	
	40:10:00:LB:60:13:60	CIS 11P Socket	C I S 11 P トップエントリー型	
	30:54:00:NA:80:12:20	LED Circuit Board	L E D シート	
	40:10:00:FP:15:52:20	Tantalum Capacitor 0.22 μ 35V	タンタルコン 0.22 μ 35V	
	40:10:00:HT:41:01:40	Variable Resistor B47K	ソリッドポリウム B 47 K	
	40:10:00:IA:05:61:70	Transistor 2SA561	トランジスター 2 S A 5 6 1	
	40:10:00:IC:16:81:10	-do.- 2SC1681	トランジスター 2 S C 1 6 8 1	
	30:54:00:NA:80:12:30	OSW Circuit Board	O S W シート	
	40:10:00:KA:40:02:60	Slide Switch	スライドスイッチ	
	30:54:00:NA:80:12:40	H1 Circuit Board	H 1 シート	
	40:10:00:LB:30:03:10	Stereo Jack	ステレオジャック	
	30:54:00:NA:80:12:70	PS Circuit Board	P S シート	BS/North European model

