YAMAHA

EM-150 Ensemble Mixer

SERVICE MANUAL

006340 5 Printed in Japan 5.80

SPECIFICATIONS

Number of Inputs	6-input channels (each switchable for MIC, INST or LINE). 2-auxiliary stereo input (AUX and REC OUT). 1-auxiliary monaural input (FROM ECHO).
Input Channel Controls	VOLUME, BASS & TREBLE tone (±12dB of low and high frequency equalization), REVERB/ECHO, BALANCE (stereo pan), MIC/INST/LINE (Input Selector).
Mixing Buses	2-Program (stereo Left and Right), 1-Reverb/Echo.
Number of Outputs	2-SPEAKER, 2-MONITOR OUT, 2-RECORD OUT, 1-PHONES, 1-TO ECHO.
Master Controls	MASTER VOLUME, MONITOR VOLUME, MASTER REVERB/ECHO, AUX VOLUME, graphic equalizer ON/OFF (Left & Right).
Echo and Reverb	Built-in Accutronics spring-type reverberation unit; provisions for connection of external reverb, echo delay, or other effects devices.
Power Output	150-Watts RMS (2 X 75-W) amplifier. For 8-ohm speakers.
Graphic Equalizer	7-Band, for SPEAKER and PHONES outputs; 12dB of boost or cut at: 60Hz, 150Hz, 400Hz, 1kHz, 2.5kHz, 5kHz & 10kHz.
Level Indicators	2-illuminated VU meters; 0 VU=37.5 Watts (8-ohm termination).
Amplifier Type	All solid state, discrete and integrated circuit.
Power Requirements	110, 117, 130, 220 or 240 VAC, 50/60Hz.
Physical Dimensions	Width 24¼" (61.5cm) X Height 7¼" (18.2cm) X Depth 16¼" (41.0cm), Weight 39.7lbs. (18kg).
Finish	Black, with protective aluminum trim.
Additional Features	Integral carrying strap, rubber feet, 2-way power switch to minimize hum, power ON indicators in VU meters, color-coded control knobs.

Connector, Level & Impedance Information

Circuit	Type Connector*	Nominal Level	Impedance
Inputs:			
LINE	standard phone (x6)	-27dBm(35mV)	50 kohms
INST	(same jack)	-33dBm(17mV)	50 kohms
MIC	(same jack)	-52dBm(2mV)	10 kohms
AUX	pin jack (x2)	-21dBm(69mV)	50 kohms
FROM ECHO	standard phone (x2)	-31dBm(22mV)	50 kohms
Outputs:			
SPEAKER	standard phone (x2)	75-Watts RMS	8 ohms
MONITOR OUT	standard phone (x2)	+4dBm (1.23V)	5 kohms
TO ECHO	standard phone	-20dBm(78mV)	50 kohms
RECORD OUT	pin jack (x2)	-22dBm(62mV)	50 kohms
PHONES	stereo phone	(varies w/SPEAKER)	8 ohms

**All connections are unbalanced.*

TOP CASE REMOVAL

1. Set the unit up on its side and remove the 6 wood screws, as shown in Figure 1.
2. Reset the unit in its normal position and lift up the top case, as shown in Figure 2.

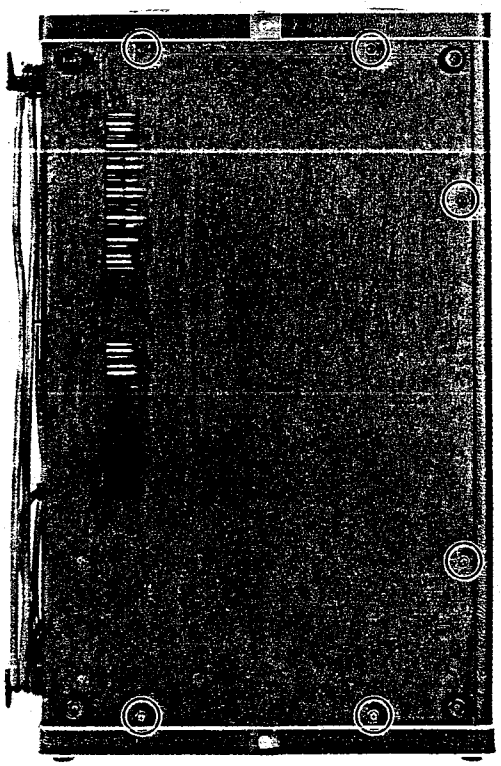


Figure 1

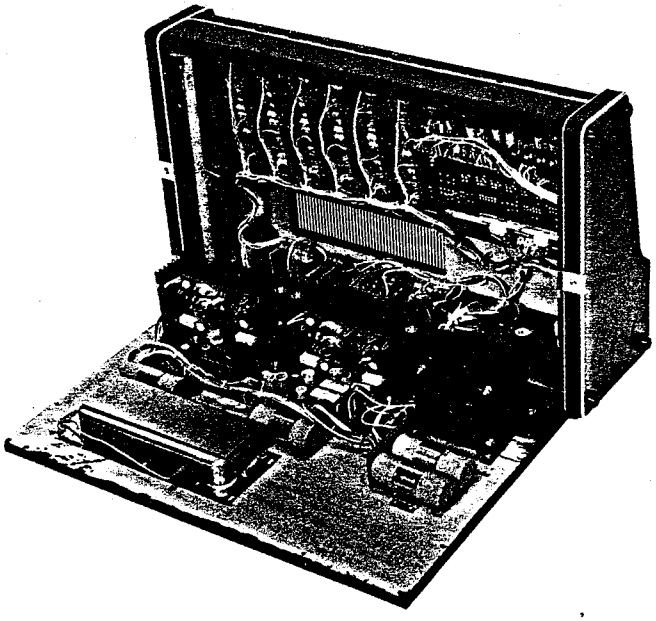


Figure 2

ELECTRICAL CHECKS AND ADJUSTMENTS

GENERAL NOTICE

Procedures for checks and adjustment, unless otherwise indicated, are for the left channel. The same procedures are to be applied to the right channel.
Value of "dBm" in this manual refers to 0dBm = 0.775V, except where specified.

Equipment Requirements

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

Main Amp Idling Current

1. Connect an 8-ohm dummy load to the Speaker jack.
2. Adjust VR1 so that the voltage between the MA circuit board TP1 and TP2 terminals is 11 ± 1mV at no signal.

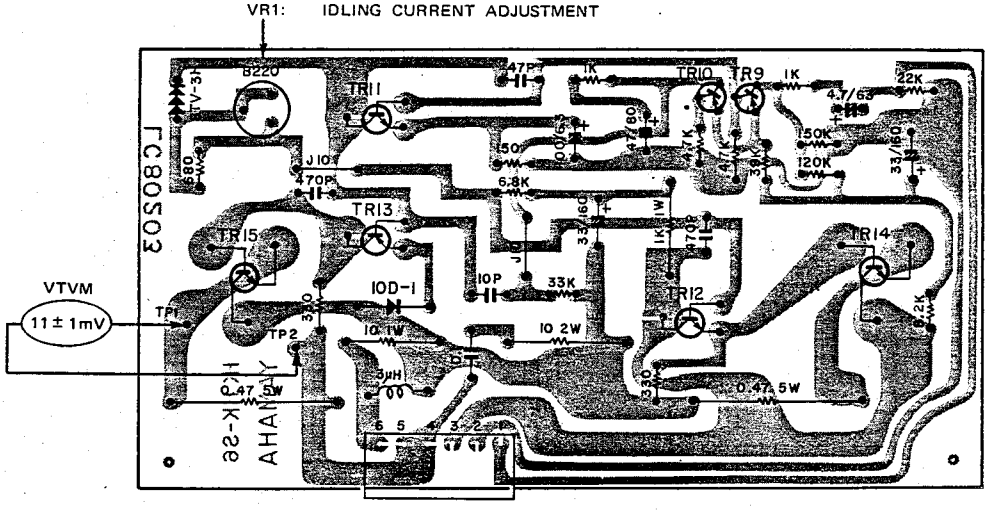


Figure 3

VU Meter Calibration

3. Feed a 1kHz signal through the input jack. Set the input level so that the output level at the Speaker jack is +27dBm (37.5 W).
4. Adjust VR2/3 for 0 VU reading on the VU meters.

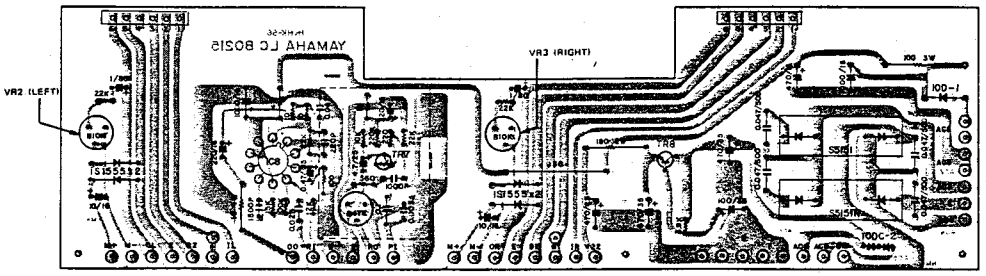


Figure 4

Gain

1. Connect an 8-ohm dummy load to the Speaker jack.
2. Set up the various controls as shown in Table 1.

VOLUME	Max. (all channels)
REVERB/ECHO	Min. (all channels)
BALANCE, BASS, TREBLE	Center (all channels)
AUX VOLUME	Min.
EQUALIZER Switch	Off (L, R)
MASTER VOLUME	Max.
MASTER REVERB/ECHO	Min.

Table 1

3. Feed a −60dBm/1kHz signal through the input jack for that channel.
4. The output level at each channel should be within the limits indicated in Table 2.

Input Selector	Output Level (in dBm)
MIC	+21.5 ± 3
INST	+2.5 ± 3
LINE	−3.5 ± 3

Table 2

Distortion (THD)

5. With all other settings as shown in Table 1, set the Volume control for the channel to be measured to maximum, all other channels to minimum.
6. Feed a 1kHz signal through the input jack. Set the input level so that the output level at the Speaker jack is +27dBm (37.5 W).
7. The distortion factor should be less than 1% on each channel (L, R).
8. At an output of +30dBm (75 W) distortion factor should be less than 3%.

Frequency Response

9. Feed −60dBm signals from 20kHz down to 20Hz observing the output on a level meter.
10. **The indicated response should be within ±3dB of the specified response curves.**

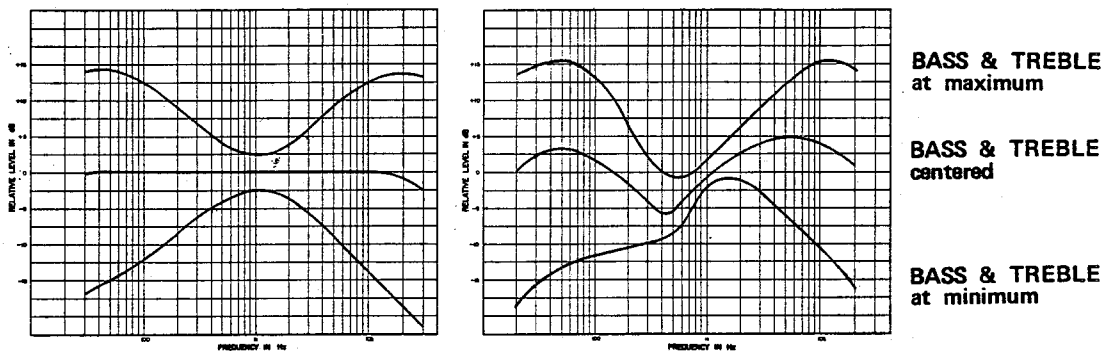


Figure 5 Frequency Response Curves

Treble Control

11. Feed a 10kHz signal through the input jack.
12. When the Treble knob is turned from maximum to minimum, variation must be 26 ± 3 dB.

Bass Control

13. Feed a 100Hz signal through the input jack.
14. When the Bass knob is turned from maximum to minimum, variation must be 24 ± 3 dB.

Graphic Equalizer

15. Set the Equalizer switch to ON.
16. Feed a −65dBm signal through the input jack.
17. Slide that frequency level control from maximum to minimum. The variation should be within the limits indicated in Table 3.

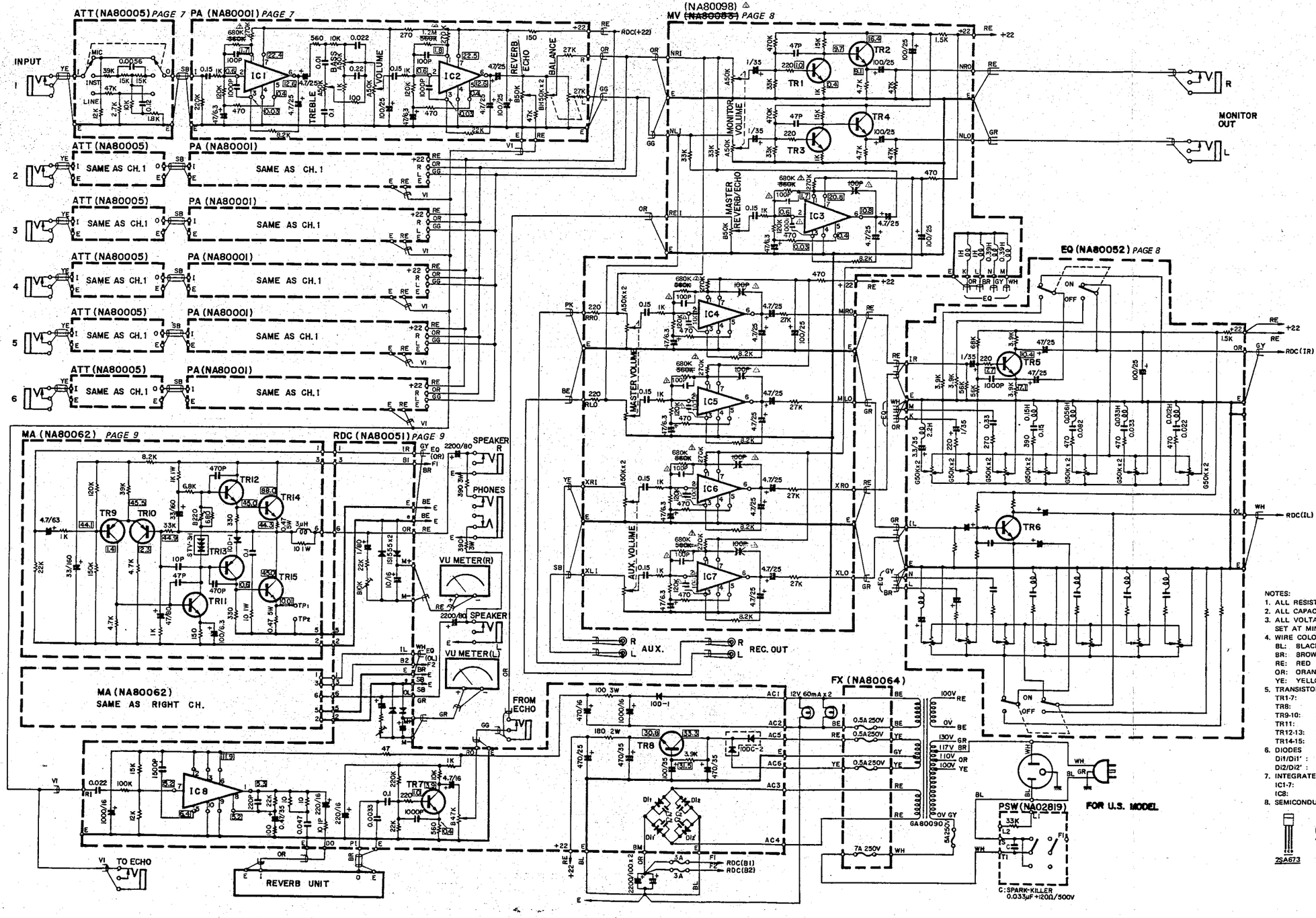
Level Controls / Settings	60Hz	150Hz	400Hz	1kHz	2.5kHz	5kHz	10kHz
Max. (+12)	+12±3	+12±3	+12±3	+12±3	+12±3	+12±3	+12±3
Min. (−12)	−12±3	−12±3	−12±3	−12±3	−12±3	−12±3	−12±3

Table 3

Noise Level

18. Set the Input Selector switch to MIC.
19. At no input condition noise level should be below −25dBm. During this check, make sure the power switch is set to the On position which provides the lower hum level.

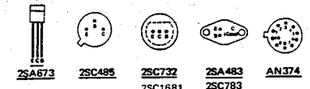
REVISIONS		
REF	DATE	UNITS AFFECTED
⚠1	9/20/75	S/# 2881 ~ up
⚠2	12/24/75	S/# 3061 ~ up
⚠3	4/26/76	S/# 5066 ~ up



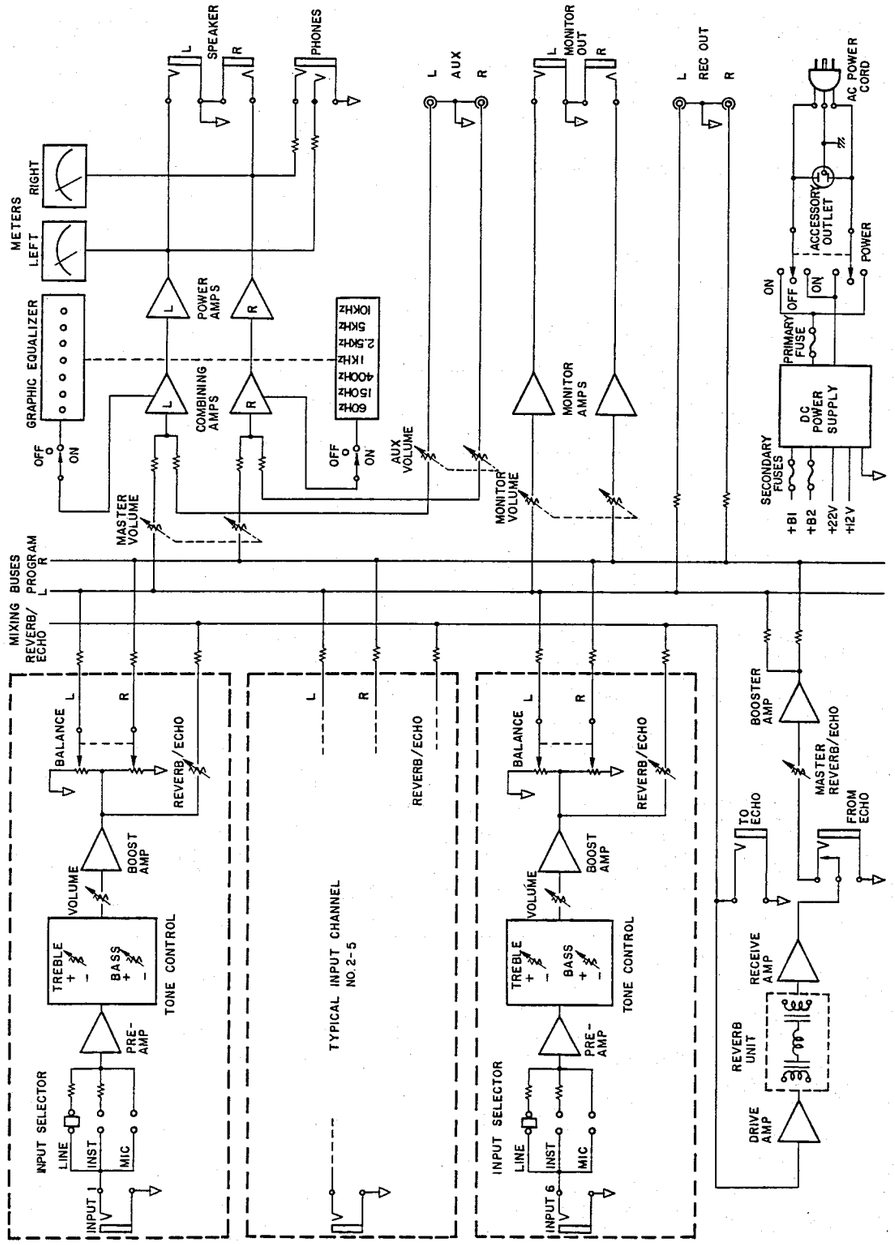
NOTES:
1. ALL RESISTORS IN OHMS ¼ WATT UNLESS OTHERWISE NOTED.
2. ALL CAPACITORS IN MFD. UNLESS OTHERWISE NOTED.
3. ALL VOLTAGES MEASURED WITH A VTVM, WITH ALL CONTROLS SET AT MINIMUM.
4. WIRE COLOR ABBREVIATIONS

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
   TR1-7: ~~2SC732~~ 2SC1681 ⚠
   TR8: 2SC485
   TR9-10: 2SA673
   TR11: 2SA483
   TR12-13: 2SC783
   TR14-15: 2SC1079
6. DIODES
   DI1/DI1' : S5151
   DI2/DI2' : S5151R
7. INTEGRATED CIRCUITS
   IC1-7: BA311(F)
   IC8: AN374
8. SEMICONDUCTOR LEAD IDENTIFICATION

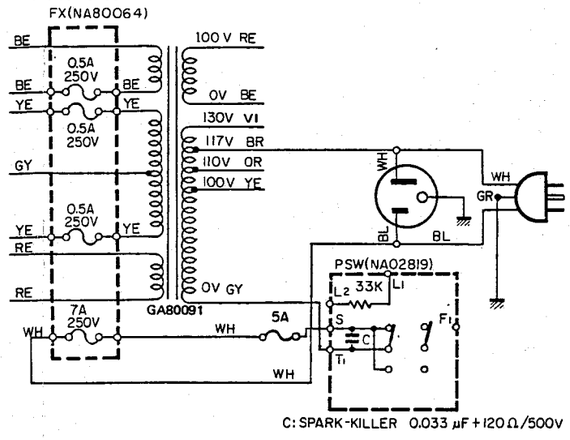


YAMAHA EM-150 ENSEMBLE MIXER SCHEMATIC DIAGRAM

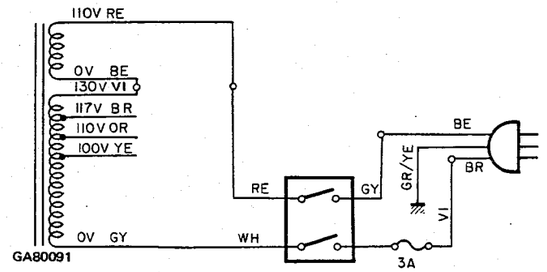


BLOCK DIAGRAM

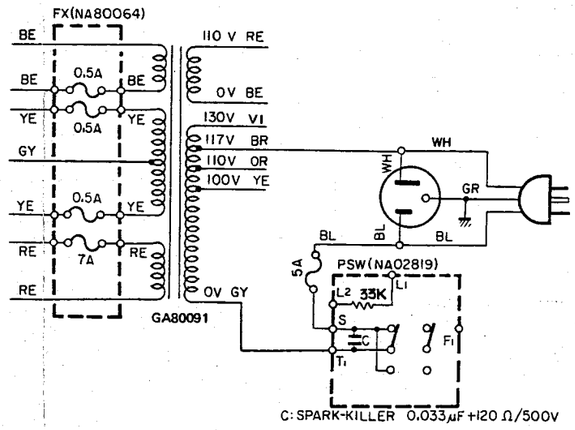
▼ FOR U.S. MODEL



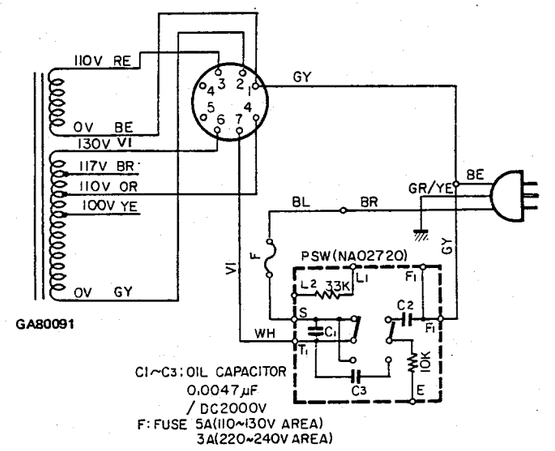
▼ FOR AUSTRALIAN MODEL



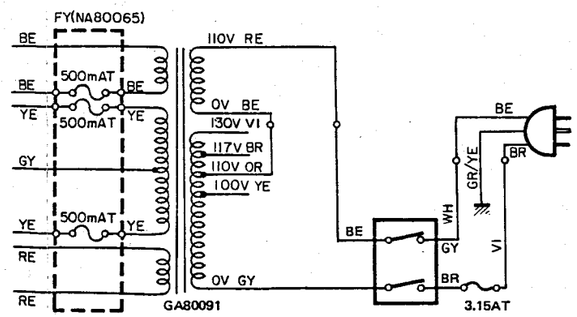
▼ FOR CANADIAN MODEL



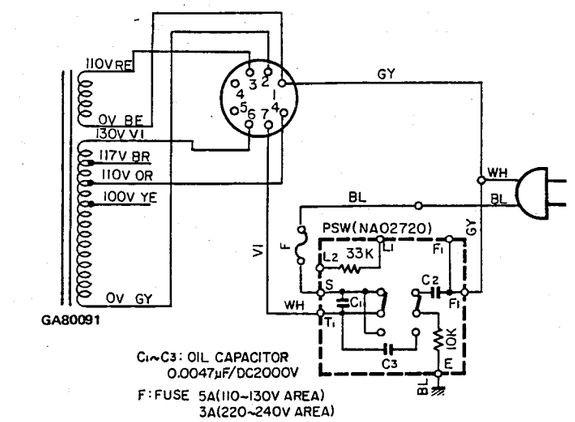
▼ FOR SOUTH AFRICAN MODEL



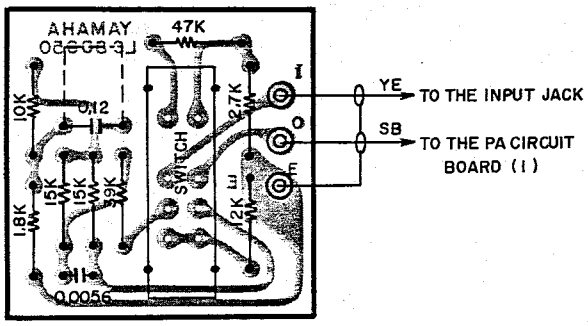
▼ FOR EUROPEAN MODEL



▼ FOR GENERAL MODEL

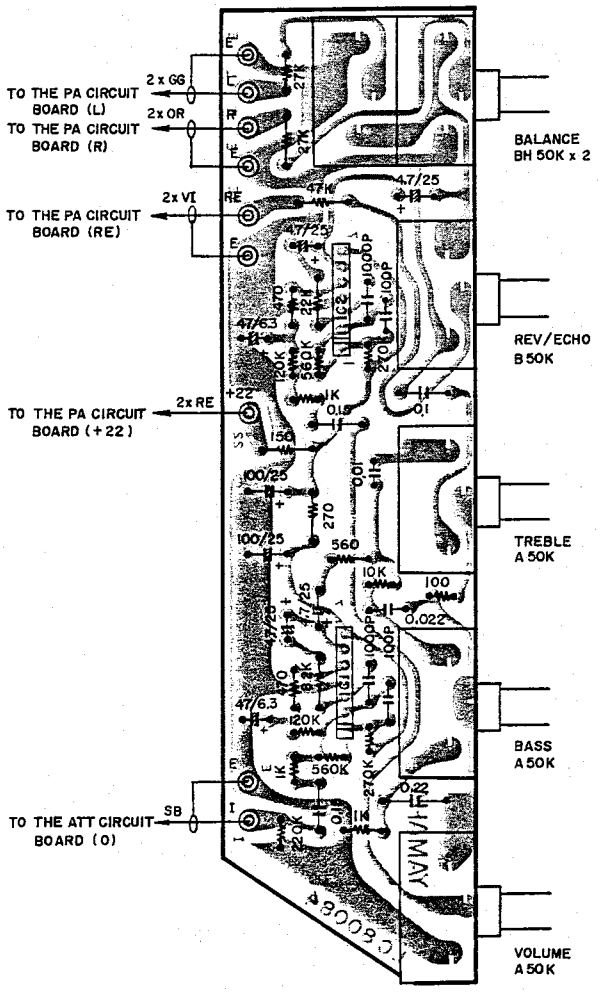


POWER CIRCUIT ARRANGEMENTS



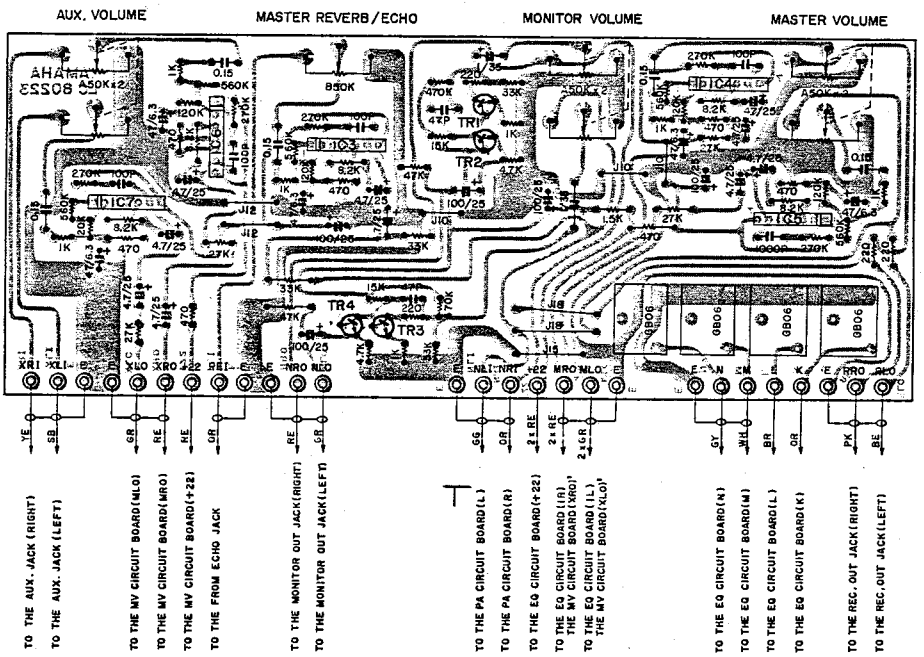
Part No.	Description
305600NA800050	ATT Circuit Board Ass'y #80050
401000KA400070	Slide Switch

ATT CIRCUIT BOARD



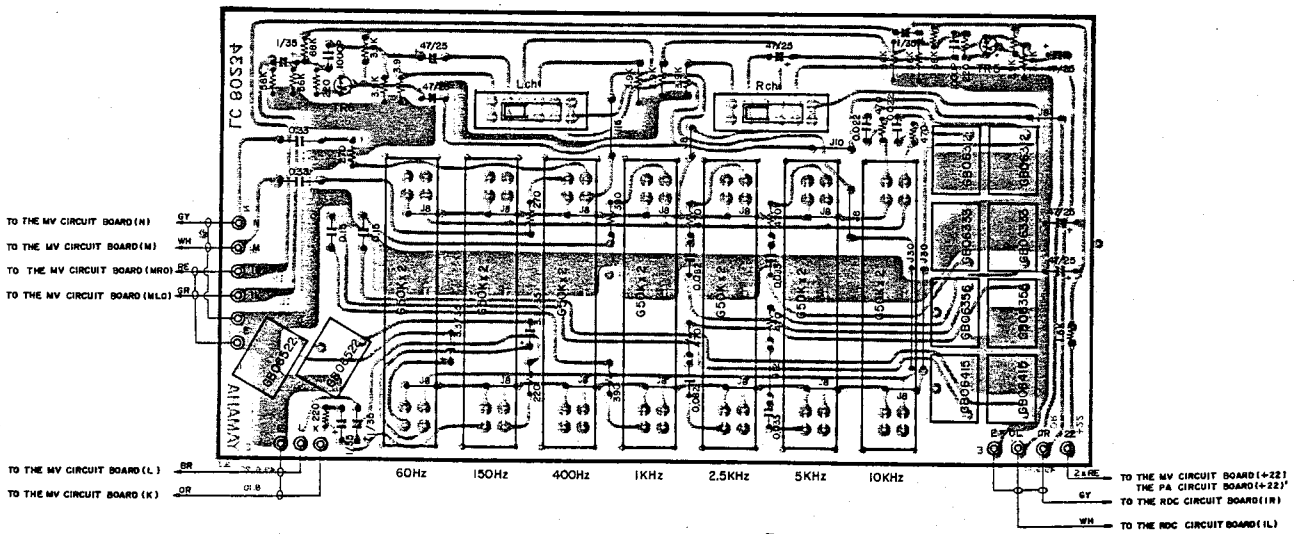
Part No.	Description
305600NA800010	PA Circuit Board Ass'y #80084
401000IG000470	IC BA311 (F)
401000HS320210	Variable Resistor A50kΩ
401000HS320220	Variable Resistor B50kΩ
401000HS320230	Variable Resistor BH50kΩ x 2

PA CIRCUIT BOARD



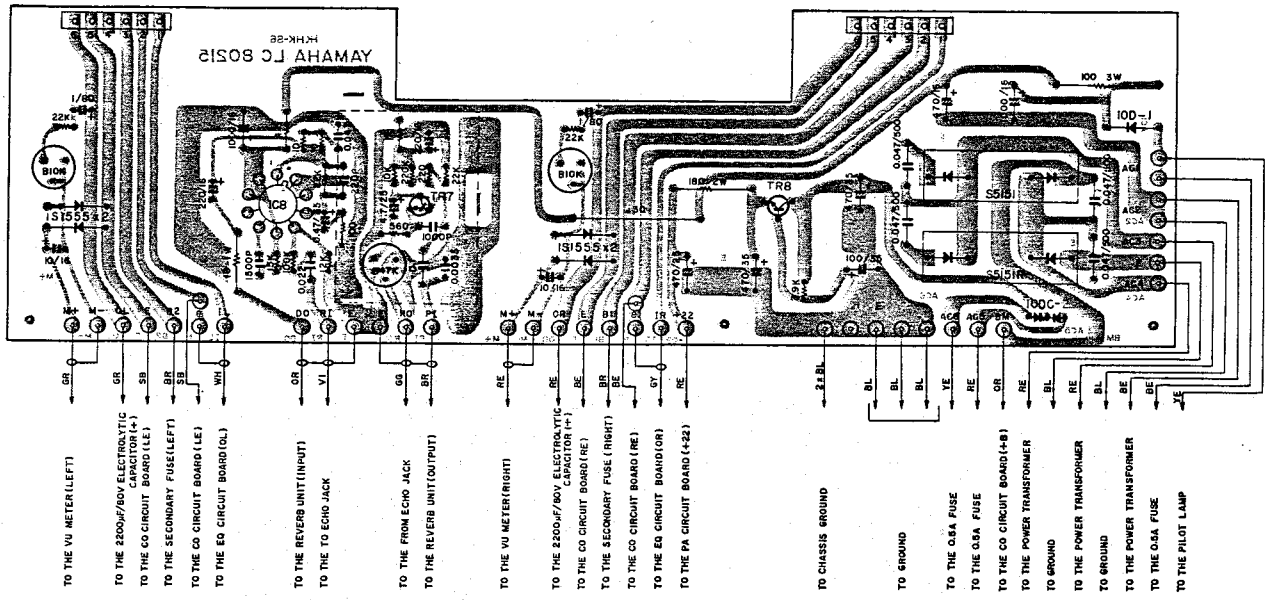
MV CIRCUIT BOARD

Part No.	Description
305600NA800530	MV Circuit Board Ass'y #80223
401000IC073240	Transistor 2SC732
401000IG000470	IC BA311(F)
401000GB065100	Filter Coil 1.0H
401000GB064390	Filter Coil 0.39H
401000HS320240	Variable Resistor A50kΩ x 2
401000HS320220	Variable Resistor B50kΩ
401000FP156100	Tantalum Capacitor 1μF/35V



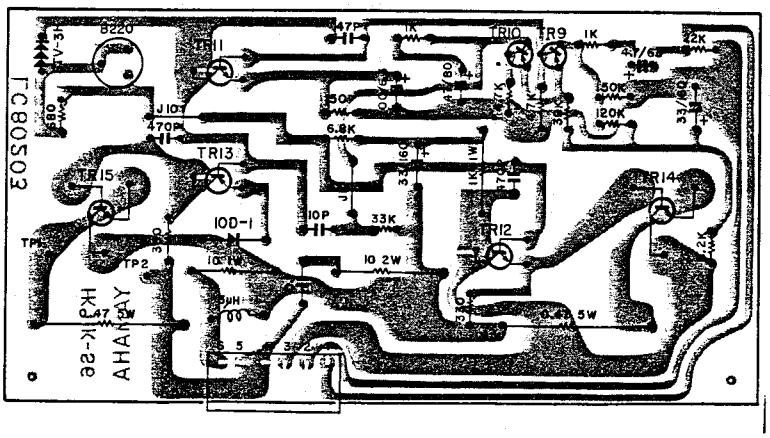
EQ CIRCUIT BOARD

Part No.	Description
305600NA800520	EQ Circuit Board Ass'y #80234
401000IC073240	Transistor 2SC732
401000GB065220	Filter Coil 2.2H
401000GB064150	Filter Coil 0.15H
401000GB063560	Filter Coil 0.056H
401000GB063330	Filter Coil 0.033H
401000GB063120	Filter Coil 0.012H
401000HQ100030	Slide Variable Resistor G50kΩ x 2
401000FP156100	Tantalum Capacitor 1μF/35V
401000FP156330	Tantalum Capacitor 3.3μF/35V
401000KA400340	Slide Switch



RDC CIRCUIT BOARD

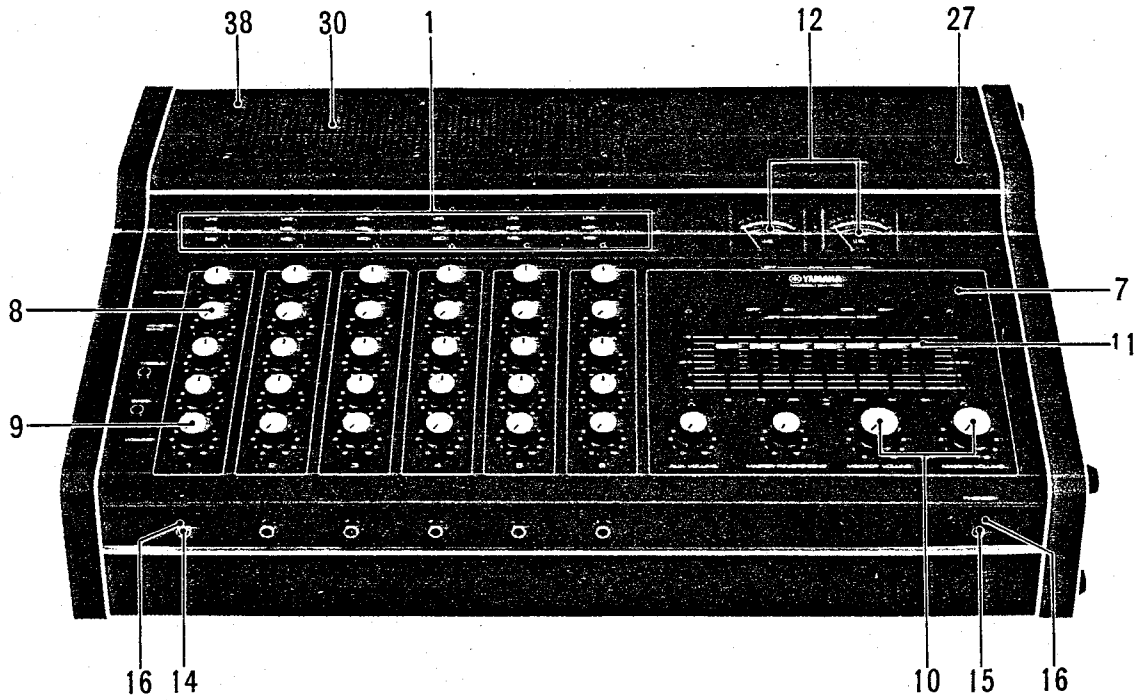
Part No.	Description
305600NA800510	RDC Circuit Board Ass'y #80215
401000IC048520	Transistor 2SC485
401000IC073240	Transistor 2SC732
301000BA005120	Heat-sinker (for 2SC485)
401000IG000150	IC AN374
401000IF000040	Diode 1S1555
401000IH000040	Diode 10DC-2
401000IH000030	Diode 10DC-1
401000IH000210	Diode S5151
401000IH000220	Diode S5151R
401000HL31410	Metal Oxide Resistor 10Ω 1P
401000HL325180	Metal Oxide Resistor 180Ω 2P
401000HM535100	Cement Molded Resistor 100Ω 3P
401000HT410070	Trimmer B10kΩ
401000HT410140	Trimmer B47kΩ
401000FP155470	Tantalum Capacitor 0.47μF/35V
401000LB600270	6P Connector Plug

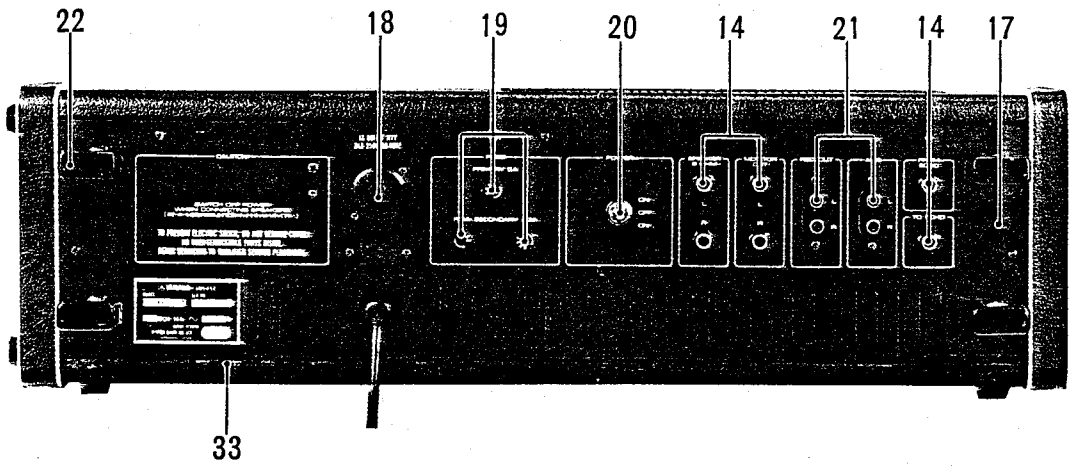


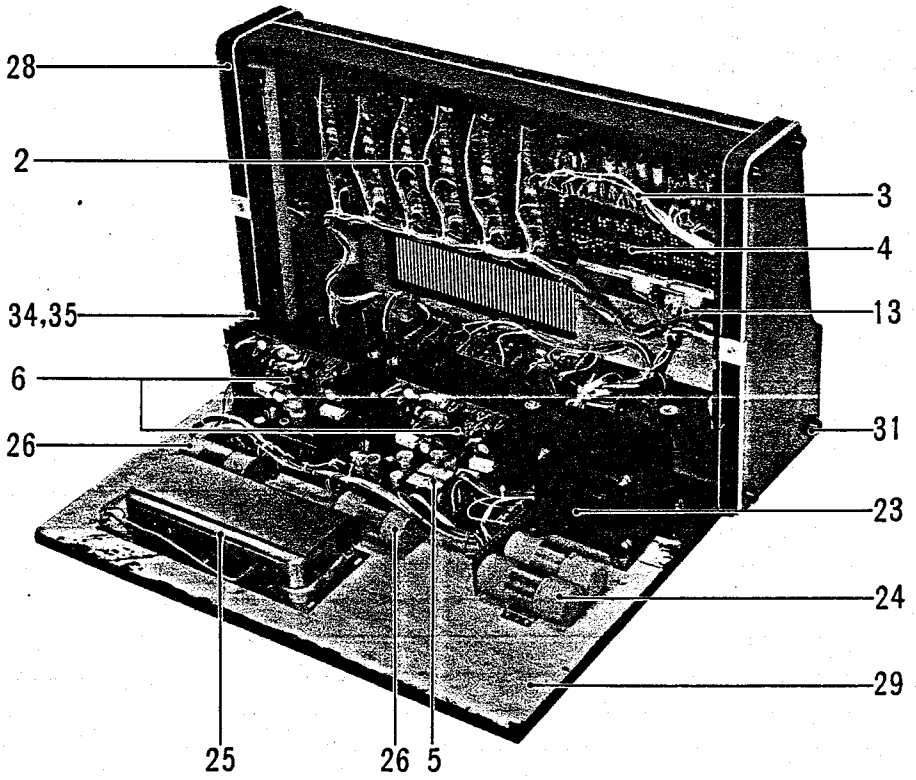
MA CIRCUIT BOARD

Part No.	Description
305600NA800620	MA Circuit Board Ass'y #80203
401000IA076370	Transistor 2SA763
401000IA048320	Transistor 2SA483
401000IC078320	Transistor 2SC783
401000IC107920	Transistor 2SC1079
401000LB300110	Transistor Socket (for 2SC1079)
401000IH000030	Diode 10D-1
401000IF000450	Varistor STV-3H
401000HL314100	Metal Oxide Resistor 10Ω 1P
401000HL316100	Metal Oxide Resistor 1kΩ 1P
401000HL324100	Metal Oxide Resistor 10Ω 2P
401000HM552470	Cement Molded Resistor 0.47Ω 5P
401000HT410010	Trimmer B220Ω
401000GD900050	Coil 3μH
401000LB600280	6P Connector Socket
305400BA008130	Heat-sinker

PARTS LIST



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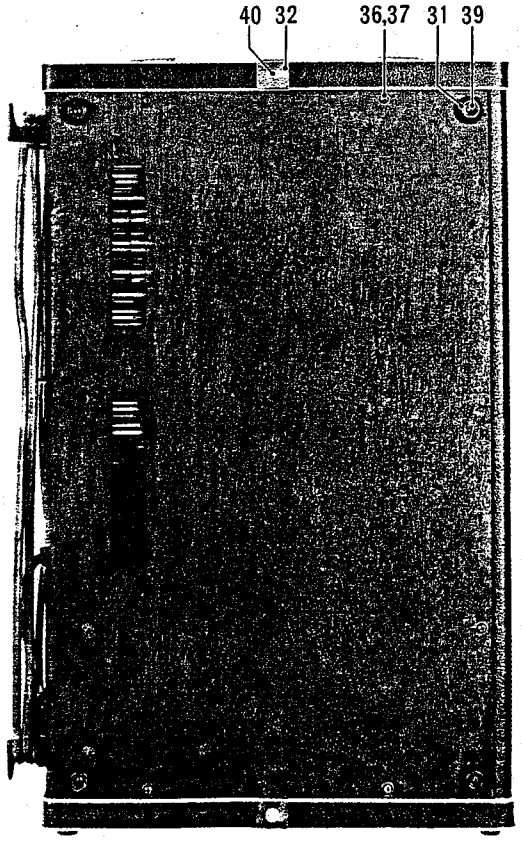
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Ref. No.	Part No.	Description		Remarks	Common Models	
1	305600NA800050	ATT Circuit Board # 80050	ＡＴＴ シート			
2	305600NA800010	PA Circuit Board # 80084	ＰＡ シート			
3	305600NA800530	MV Circuit Board # 80223	ＭＶ シート			
4	305600NA800520	EQ Circuit Board # 80234	ＥＱ シート			
5	305600NA800510	RDC Circuit Board # 80215	ＲＤＣ シート			
6	305600NA800620	MA Circuit Board # 80203	ＭＡ シート			
7	305600AA801050	Panel	パネル			
8	305600CB801080	Knob, Light Blue	ツマミ、ライトブルー			
9	305600CB800780	Knob, White	ツマミ、アイボリー			
10	305600CB800760	Knob, Orange	ツマミ、オレンジ			
11	305400CB018340	Knob	ツマミ			
	305400CB024190	Spacer, Circuit Boards	スペーサー			
12	401000JI000210	VU Meter	レベルメータ			
13	401000JB000020	Lead Type Lamp 12V 60mA	リード付ランプ			
14	401000LB200630	Jack	ジャック			
15	401000LB300060	Jack, Phones	ジャック			
16	305600CB062010	Phone Nut	ホーンナット			
17	305600AA801110	Rear Panel	リアパネル			
18	401000LB300250	3P AC Outlet	3P ACコンセント	U.S./Canadian Model only		
	401000LB200250	Voltage Selector	電圧切換器	General & South African Models		
19	401000LB200480	Fuse Holder	ヒューズホルダー	except for European Model		
19	401000LB200590	Fuse Holder	ヒューズホルダー	European Model only		
	401000KB001040	Fuse 3A 250V	ヒューズ	except for European Model		
	401000KB001100	Fuse 5A 250V	ヒューズ	U.S./Canadian, General & South African Models (110~130V area) only		
	401000KB000360	Miniature Fuse 3AT	ミニヒューズ	European Model only		
20	305400NA028190	PSW (Power Switch) Circuit Board #15681	ＰＳＷ シート	U.S./Canadian Model only		
20	305400NA027200	PSW (Power Switch) Circuit Board #14990	ＰＳＷ シート	General & South African Models only		
20	401000KA300010	Power Switch	トグルスイッチ	European & Australian Models only		
21	401000LB200190	Pin Jack	ピンジャック			
22	305400CB022570	Power Cord Holder	コード巻付コラム			
23	401000GA800900	Power Transformer	電源トランス			
	305600NA800640	FX (Fuse) Circuit Board #80290	ＦＸ シート	U.S./Canadian Model only		
	305600NA800650	FY (Fuse) Circuit Board #80290	ＦＹ シート	European Model only		
24	305600NA800630	CO (Capacitor) Circuit Board #80281	ＣＯ シート			
25	401000JH000070	Reverb Unit	リバーブユニット			
26	401000FM259220	Electrolytic Capacitor 2200μF/80V	電解コンデンサ			
27	30560900000010	Cabinet Ass'y	外装組立			
28	30560900000020	Top Case	上ケース			
29	30560900000030	Bottom Cover	底板			
30	305600AA801140	Grille	放熱グリル			
	305400NB801550	Carrying Strap Ass'y	把手 Ass'y			
31	401000CB801180	Foot	スベリ座			
32	305600AA801130	Trim Holder	サッシ押え金具			
33	305600AA801120	Hinge	蝶番			
34	401000EG051090	⊕ Pan Head Screw M5 x 109, MA Circuit Board	ナベ小ネジ			
35	401000EV430050	Toothed Washer AB 5S, MA Circuit Board	歯付座金			
36	401000EQ341320	⊕ Round Head Screw 4.1 X 32, Bottom Cover	丸木ネジ	FCM-BL		
37	401000EV200040	Washer 4S, Bottom Cover	平座金	FCM-BL		
38	401000EZ980130	⊕ Tapping Screw 3 x 12S, Grille	トラスタッピンネジ1種	FCM3-BL		

Ref. No.	Part No.	Description		Remarks	Common Models	
	401000EF340400	⊕Oval Head Screw M4 x 40S, Carrying Strap Ass'y	丸皿小ネジ	FCrM3		
	401000EV200040	Washer 4S, Carrying Strap Ass'y	平座金	ZMC2-Y		
39	401000EQ335160	⊕Round Head Wood Screw 3.5 x 16, Foot	丸木ネジ	FCM3-BL		
40	401000ER131160	⊕Oval Head Wood Screw 3.1 x 16, Trim Holder	丸皿木ネジ	FCrM		
	KA400340	EQ ON-OFF SW ﾜｲﾔｰﾊｰﾈｽ				
	KA400260	EQ ON OFF SW				

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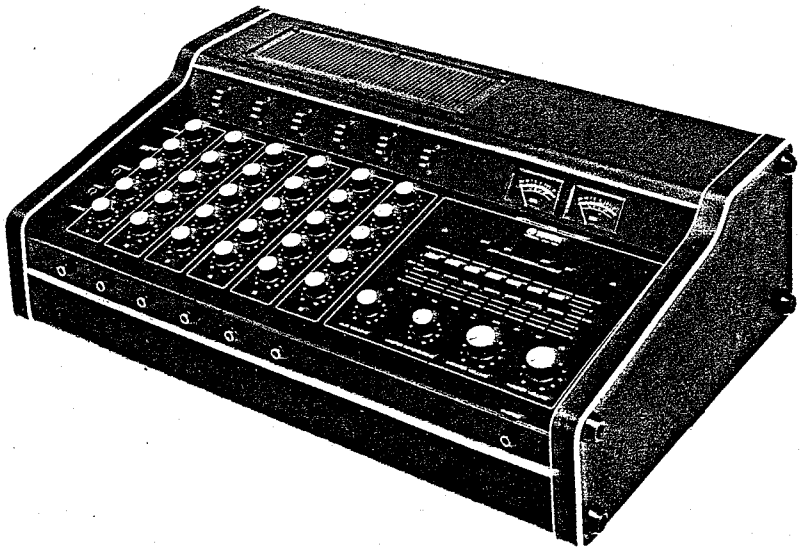
YAMAHA ENSEMBLE MIXER

EM-150 部品表



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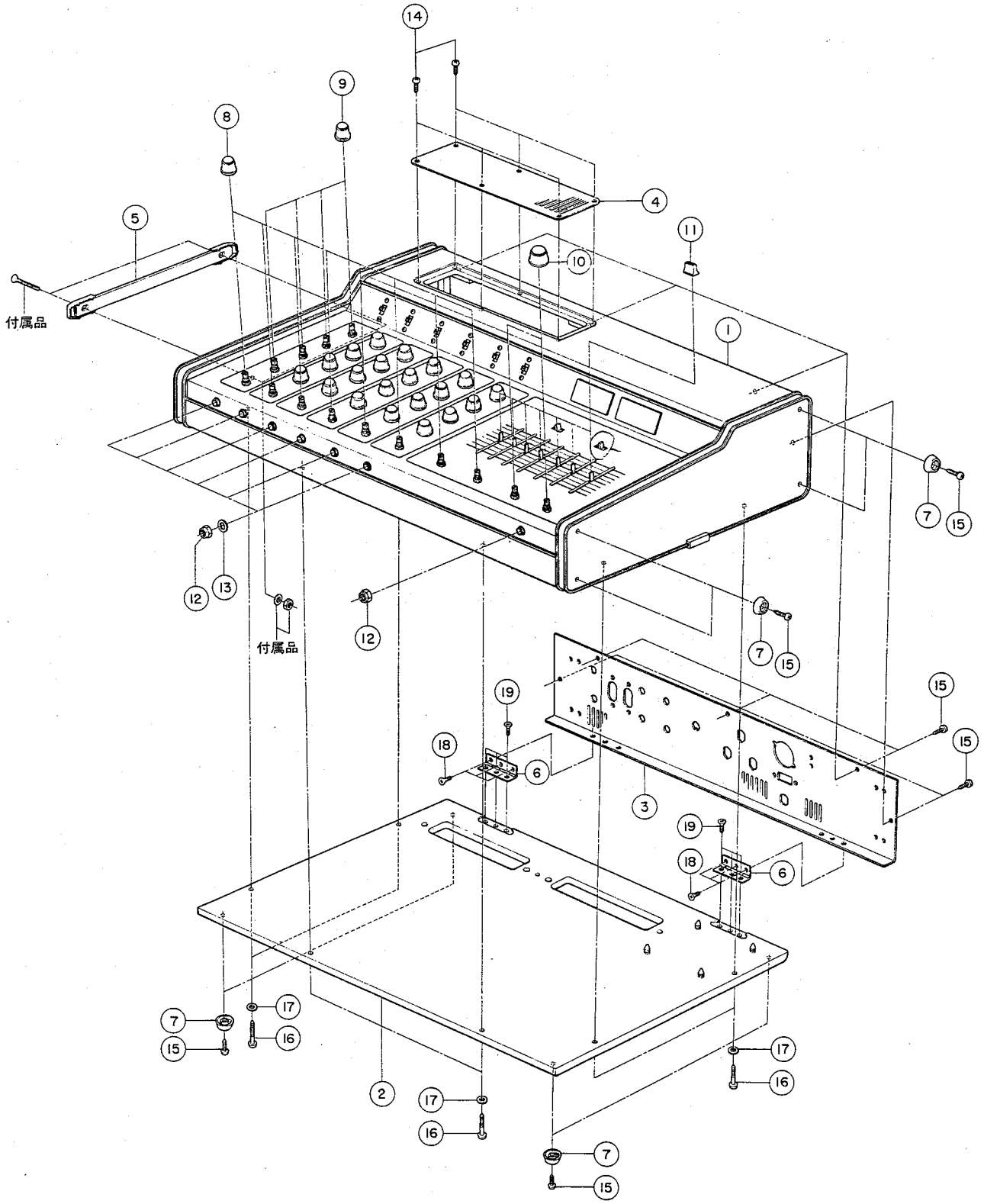
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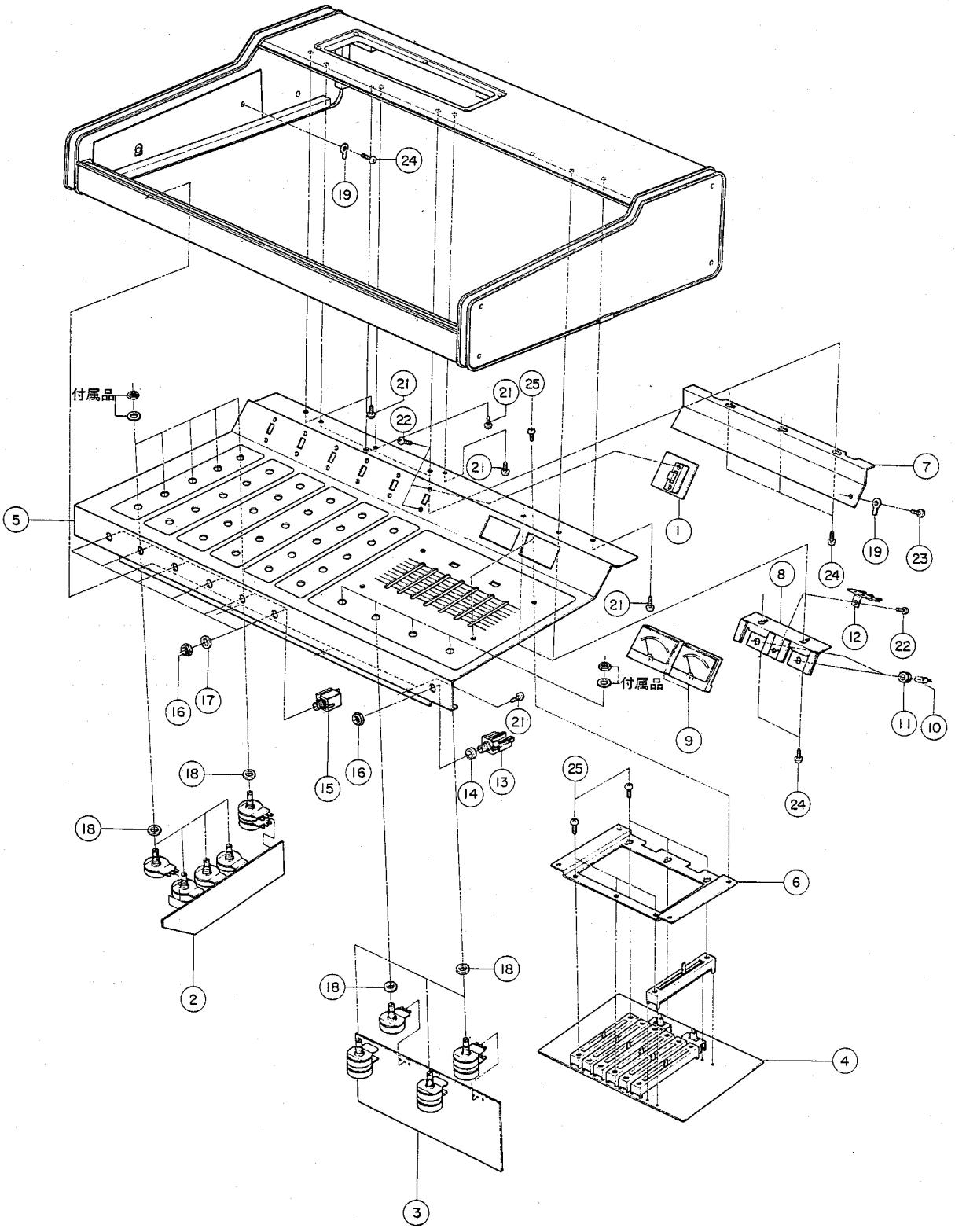
No.	コード No.	品名	備考	卸価	小売価
1	30 56 09 OO 00 00 10	外装組上がり		5,250	7,000
2	30 56 09 OO 00 01 00	底板		1,800	2,400
3	30 56 00 AA 80 11 10	リヤパネル		750	1,000
4	30 56 00 AA 80 11 40	放熱グリル		300	400
5	30 54 00 NB 80 15 50	取手 Ass'y		600	800
6	30 56 00 AA 80 11 20	蝶番		45	60
7	30 56 00 CB 80 11 80	滑り座, C, H, G, NO-4130(黒)	EM-80共通	30	40
8	30 56 00 CB 80 07 80	ツマミ(小), アイボリー		30	40
9	30 56 00 CB 80 10 80	ツマミ(小), ラクトグレー		30	40
10	30 56 00 CB 80 07 60	ツマミ(大), オレンジ		30	40
11	30 54 00 CB 01 83 40	ツマミ	スライドVR用	23	30
12	30 56 00 CB 06 20 10	ホーンナット, SK-6003		15	20
13	40 10 00 EK 00 23 70	ファイバーワッシャー	入力ジャック用	4	5
14	40 10 00 EC 33 01 20	トラスタッピングネジ1種, 3×12S	FMC3-Bl, 放熱グリル取付	4	5
15	40 10 00 EQ 33 51 60	丸木ネジ, 3.5×16, FCM3-Bl	リヤパネル, 滑り座取付	4	5
16	40 10 00 EQ 34 13 20	丸木ネジ, 4.1×32, FCM3-Bl	底板取付	8	10
17	40 10 00 EV 20 00 40	平座金, 4S, FCM3-Bl	底板取付	4	5
18	40 10 00 EB 33 00 60	皿小ネジ, M3×6, ZMC2-Bl	蝶番取付	4	5
19	40 10 00 EB 33 11 00	皿木ネジ, 3.1×10, ZMC2-Bl	蝶番取付	4	5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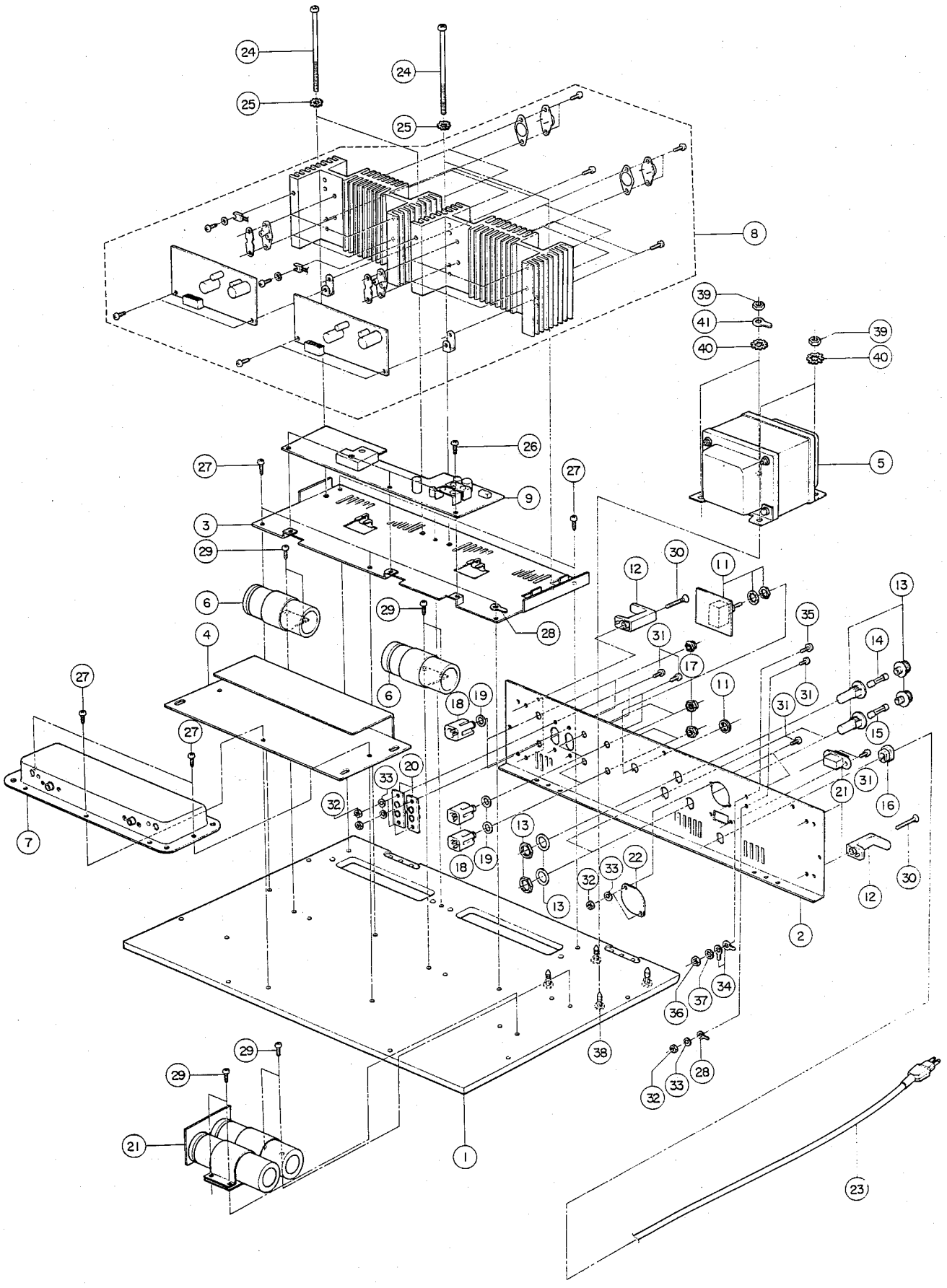
No.	コード No.	品名	備考	卸価	小売価
1	30 56 00 NA 80 00 50	ATTシート		450	600
2	30 56 00 NA 80 00 10	PAシート		2,250	3,000
3	30 56 00 NA 80 05 30	MVシート		3,750	5,000
4	30 56 00 NA 80 05 20	EQシート		4,500	6,000
5	30 56 00 AA 80 10 50	パネル		1,800	2,400
6	30 56 00 AA 80 10 70	サブパネル		90	120
7	30 56 00 AA 80 10 40	シールド板	ATTシートシールド用	75	100
8	30 56 00 AA 80 10 60	メーター押え金具		90	120
9	40 10 00 JI 00 02 10	レベルメーター		1,125	1,500
10	40 10 00 JB 00 00 20	ランプ，12V 60mA	リード付	113	150
11	40 10 00 CB 06 02 30	ゴムブッシュ，＃0		4	5
12	40 10 00 LA 00 00 80	ラグ板	2P1L　P=10	8	10
13	40 10 00 LB 30 00 60	ヘッドホーンジャック，JH-5020F		113	150
14	40 10 00 CA 00 59 80	インシュレーター	ヘッドホーン用	8	10
15	40 10 00 LB 20 06 30	ジャック	入力用	75	100
16	30 56 00 CB 06 20 10	ホーンナット，SK-6003	入力ジャック，ヘッドホーンジャック用	15	20
17	40 10 00 EK 00 23 70	ファイバーワッシャー	入力ジャック用	4	5
18	30 54 00 CB 02 41 90	スペーサー		8	10
19	40 10 00 LA 00 02 90	アースラグ，4φ		4	5
20	40 10 00 LA 00 02 80	アースラグ，3φ		4	5
21	40 10 00 EQ 33 51 30	丸木ネジ，3.5×13，ZMC2-Bl	パネル取付	4	5
22	40 10 00 EA 33 00 50	ナベ小ネジ，M3×5，FCM-Bl	ラグ板取付	4	5
23	40 10 00 EA 04 00 60	ナベ小ネジ，M4×6，ZMC2-Y	アースラグ取付	4	5
24	40 10 00 EQ 03 11 30	丸木ネジ，3.1×13，ZMC2-Y	アースラグ，シールド板メーター押え取付	4	5
25	40 10 00 EC 33 00 50	トラス小ネジ，M3×5，FCM-Bl	サブパネル取付	4	5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No.	コード No.							品名	備考	卸価	小売価
1	30	56	09	OO	00	01	00	底板		1,800	2,400
2	30	56	00	AA	80	11	10	リヤパネル		750	1,000
3	30	56	00	AA	80	10	90	フレーム		375	500
4	30	56	00	AA	80	00	60	シールド板		225	300
5	40	10	00	GA	80	09	00	電源トランス		5,625	7,500
6	40	10	00	FM	25	92	20	ケミコン，2,200μ，180V		375	500
7	40	10	00	JH	00	00	70	リバーブユニット		3,750	5,000
8	30	56	00	NA	80	06	20	MAシート		5,250	7,000
9	30	56	00	NA	80	05	10	RDCシート		3,300	4,400
10	30	56	00	NA	80	06	30	COシート		1,500	2,000
11	30	54	00	NA	02	72	00	P,SWシート		1,050	1,400
12	30	54	00	CB	02	25	70	コード巻付コラム		135	180
13	40	10	00	LB	20	04	90	ヒューズホルダー，SN2052	ネジ付	113	150
14	40	10	00	KB	00	10	40	ヒューズ耐ラッシュ，3A 250V		60	80
15	40	10	00	KB	00	11	00	ヒューズ耐ラッシュ，5A 250V		60	80
16	40	10	00	CB	00	44	10	コードストッパー(大)		23	30
17	30	56	00	CB	06	20	10	ホーンナット，SK-6003		15	20
18	40	10	00	LB	20	06	30	ジャック		75	100
19	40	10	00	EK	00	23	70	ファイバーワッシャー		4	5
20	40	10	00	LB	20	01	90	ピンジャック，2P，P=15mm		45	60
21	40	10	00	LB	20	03	00	ACソケット		30	40
22	30	54	00	AA	02	43	10	電圧切換器盲板		75	100
23	40	10	00	MG	00	02	30	電源コード，#0066，3.3m		225	300
24	40	10	00	EG	05	10	90	ナベ小ネジ，M5×109，ZMC2-Y	MAシート取付	12	15
25	40	10	00	EV	43	00	50	歯付座金、AB5S，ZMC2-Y	MAシート取付	4	5
26	40	10	00	EL	03	00	60	セルフタッピングネジ２種 3×6，ZMC2-Y	RDCシート取付	4	5
27	40	10	00	EQ	03	51	30	丸木ネジ，3.5×13，ZMC2-Y	フレーム取付	4	5
28	40	10	00	LA	00	02	80	アースラグ，3φ	束線附属品	4	5
29	40	10	00	EQ	03	11	30	丸木ネジ，3.1×13，ZMC2-Y	コンデンサー，Coシート取付	4	5
30	40	10	00	EB	34	02	50	皿小ネジ，M４×25，クロブロ	コラム取付	4	5
31	40	10	00	EA	33	01	00	ナベ小ネジ，M３×10，クロブロ	ピンジャック取付	8	10
32	40	10	00	EV	10	00	30	六角ナット，3S，ZMC2-Y	ピンジャック取付	4	5
33	40	10	00	EV	41	00	30	歯付座金，A3S，ZMC2-Y	ピンジャック取付	4	5
34	40	10	00	LA	00	02	90	アースラグ，4φ		4	5
35	40	10	00	EA	13	01	00	ナベ小ネジ，M４×10，FCM-Bl	アースラグ取付	4	5
36	40	10	00	EV	10	00	40	六角ナット，4S，ZMC2-Y	アースラグ取付	4	5
37	40	10	00	EV	41	00	40	歯付座金，A4S，ZMC2-Y	アースラグ取付	4	5
38	40	10	00	EV	66	02	50	ヒレ付ボルト，M６×25，ZMC2-Bl	トランス取付	8	10
39	40	10	00	EV	10	00	60	六角ナット，M６，ZMC2-Y	トランス取付	4	5
40	40	10	00	EV	43	00	60	歯付座金，AB6S，ZMC2-Y	トランス取付	4	5
41	40	10	00	LA	00	14	80	アースラグ，6φ	束線附属品	8	10

No.	コード No.	品名	備考	卸価	小売価
	30 56 00 NA 80 00 50	ATTシート		450	600
	40 10 00 KA 40 00 70	スライドスイッチ		135	180
	30 56 00 NA 80 00 10	PAシート		2,250	3,000
	40 10 00 IG 00 04 70	IC BA311F		225	300
	40 10 00 HS 32 02 10	ボリューム A50kΩ	VOLUME BASS·TREBLE	113	150
	40 10 00 HS 32 02 20	ボリューム B50kΩ	REV/ECHO	113	150
	40 10 00 HS 32 02 30	ボリューム BH50kΩ×2	BALANCE	225	300
	30 56 00 NA 80 09 80	MVシート		3,750	5,000
	40 10 00 IC 16 81 10	トランジスター 2SC1681		75	100
	40 10 00 IG 00 04 70	IC BA311F		225	300
	40 10 00 GB 06 51 00	フィルターコイル 1.0H		150	200
	40 10 00 GB 06 43 90	フィルターコイル 0.39H		150	200
	40 10 00 HS 32 02 40	ボリューム A50kΩ×2	MASTER AUX MONITOR	225	300
	40 10 00 HS 32 02 20	ボリューム B50kΩ	REVERB	113	150
	40 10 00 FP 15 61 00	タンタルコンデンサ 1/35		45	60
	30 56 00 NA 80 05 20	EQシート		4,500	6,000
	40 10 00 IC 07 32 40	トランジスター 2SC732		75	100
	40 10 00 GB 06 52 20	フィルターコイル 2.2H		150	200
	40 10 00 GB 06 41 50	フィルターコイル 0.15H		150	200
	40 10 00 GB 06 35 60	フィルターコイル 0.056H		150	200
	40 10 00 GB 06 33 30	フィルターコイル 0.033H		150	200
	40 10 00 GB 06 31 20	フィルターコイル 0.012H		150	200
	40 10 00 HQ 10 00 30	スライドボリューム G50kΩ×2		300	400
	40 10 00 FP 15 61 00	タンタルコンデンサ 1/35		45	60
	40 10 00 FP 15 63 30	タンタルコンデンサ 3.3/35		60	80
	40 10 00 KA 40 03 40	スライドスイッチ		150	200
	30 56 00 NA 80 05 10	RDCシート		3,300	4,000
	40 10 00 IC 04 85 20	トランジスター 2SC485		188	250
	40 10 00 IC 16 81 10	トランジスター 2SC1681		75	100
	30 54 00 BA 00 51 20	放熱板(2SC485用)		23	30
	40 10 00 IG 00 01 50	IC AN374		375	500
	40 10 00 IF 00 00 40	ダイオードIS1555		23	30
	40 10 00 IH 00 01 40	ダイオード10DC-2	10DC-4でサービス	75	100
	40 10 00 IH 00 01 40	ダイオード10DC-1	10DC-4でサービス	75	100
	40 10 00 IH 00 02 10	ダイオードS5151		338	450
	40 10 00 IH 00 02 20	ダイオードS5151R		338	450
	40 10 00 HL 31 41 00	酸化金属皮膜抵抗 10Ω 1P		12	15
	40 10 00 HL 32 51 80	酸化金属皮膜抵抗 180Ω 2P		15	20
	40 10 00 HM 53 51 00	セメント抵抗 100Ω 3P		38	50
	40 10 00 HT 41 00 70	ソリッドボリューム B10kΩ		53	70
	40 10 00 HT 41 01 40	ソリッドボリューム B47kΩ		53	70
	40 10 00 FP 15 54 70	タンタルコンデンサ 0.47/35		45	60
	40 10 00 LB 60 02 70	6P コネクタープラグ		38	50
	30 56 00 NA 80 06 20	MAシート		5,250	7,000
	40 10 00 IA 07 63 30	トランジスター 2SA763		113	150

No.	コード No.	品名	備考	卸価	小売価
	40 10 00 IA 04 83 20	トランジスター 2SA483		375	500
	40 10 00 IC 07 83 20	トランジスター 2SC783		188	250
	40 10 00 IC 10 79 20	トランジスター 2SC1079		525	700
	40 10 00 LB 30 01 10	トランジスターソケット(2SC1079用)		60	80
	40 10 00 IH 00 01 40	ダイオード10DC-1	10DC-4でサービス	75	100
	40 10 00 IF 00 04 50	バリスターSTV-3H		150	200
	40 10 00 HL 31 41 00	酸化金属皮膜抵抗 10Ω, 1P		12	15
	40 10 00 HL 32 41 00	酸化金属皮膜抵抗 10Ω, 2P		15	20
	40 10 00 HL 31 61 00	酸化金属皮膜抵抗 1kΩ, 1P		12	15
	40 10 00 HM 55 24 70	セメント抵抗 0.47Ω, 5P		45	60
	40 10 00 HT 41 00 10	ソリッドボリューム B220Ω		53	70
	40 10 00 GD 90 00 50	コイル 3μF		75	100
	40 10 00 LB 60 02 80	6Pコネクターソケット		75	100
	30 54 00 BA 00 81 30	放熱板		1,875	2,500
	40 10 00 HW 11 43 30	ヒューズ抵抗 330Ω, 1W(55mA)		45	60
	40 10 00 EA 03 00 60	⊕ナベ小ネジ 3×6	シート取付用	4	5
	40 10 00 EA 03 01 00	⊕ナベ小ネジ 3×10	シートホルダー 2SC783 2SA483取付用	4	5
	40 10 00 EA 03 01 50	⊕ナベ小ネジ 3×15	2SC783 2SA483 取付用	4	5
	40 10 00 EV 41 00 30	歯付座金 A3S	2SC783 2SA483 取付用	4	5
	40 10 00 EI 03 01 00	バインドタッピング 3×10	STV-3H-O 取付用	4	5
	40 10 00 EV 20 00 30	平座金 A3S	STV-3H-O 取付用	4	5