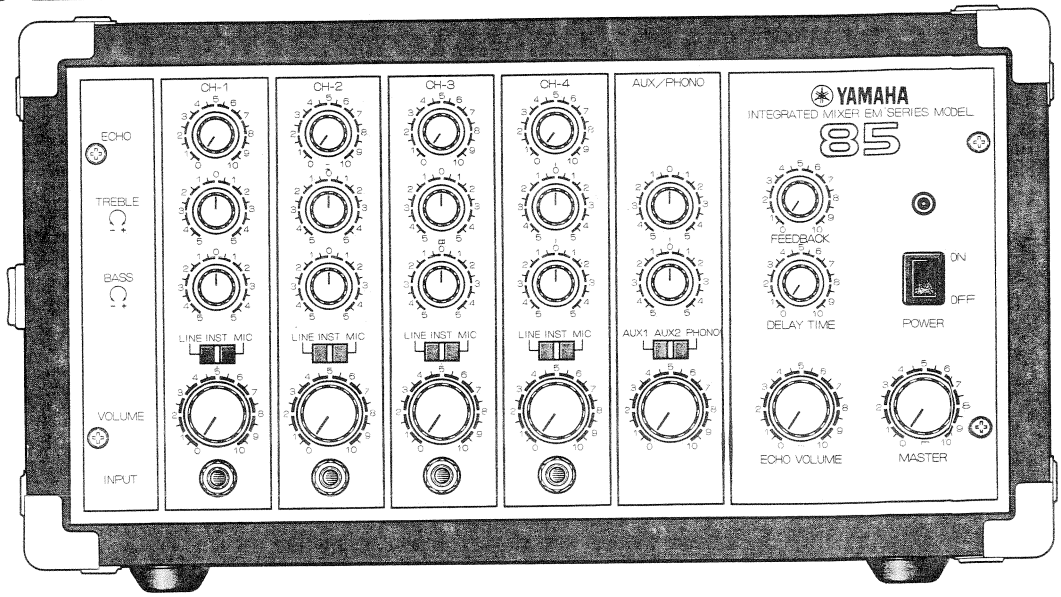
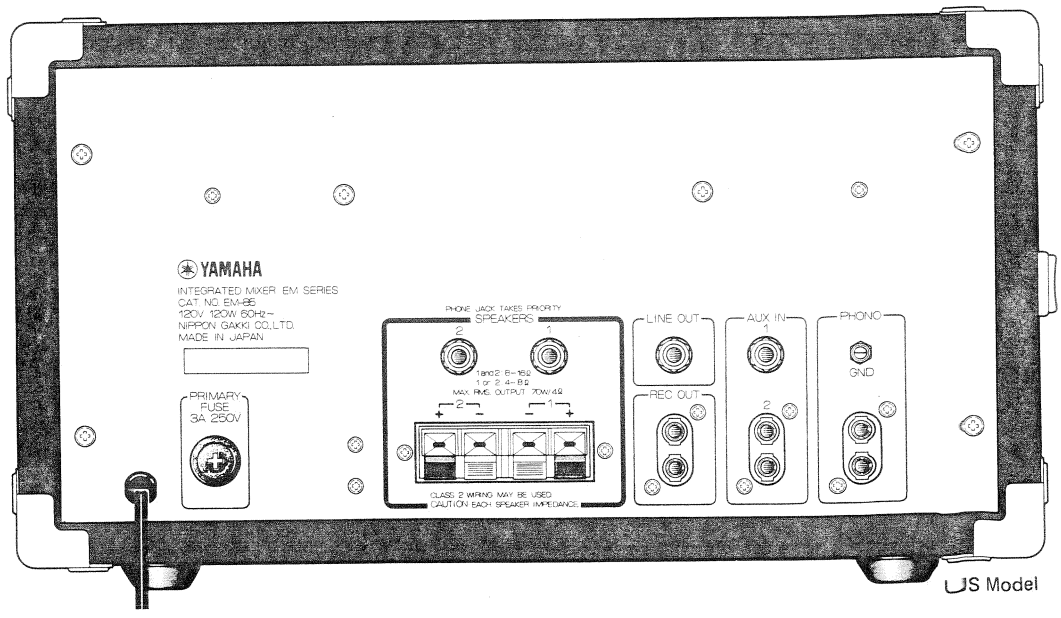
EM-85

SERVICE MANUAL

■ Front Panel



■ Rear Panel



US Model

■CONTENTS

006443

SINCE 1887 YAMAHA
NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN
'80 Oct. 2.7K Printed in Japan

SPECIFICATIONS

Channel controls (CH 1 ~ CH 4)	VOLUME INPUT LEVEL : (MIC/INST/LINE) BASS, TREBLE ECHO
AUX/PHONO Controls	VOLUME INPUT : (AUX 1/AUX 2/PHONO) BASS, TREBLE
Master controls	MASTER ECHO VOLUME DELAY TIME: (70 ~ 200msec) FEED BACK
Power	70W (4Ω, 1kHz, @ 0.5%) 50W (8Ω, 1kHz, @ 0.5%)
Frequency response	30Hz ~ 10kHz ± 1dB @ 35W, 4Ω 20Hz ~ 20kHz ± 1/3dB @ 35W, 4Ω
Total Harmonic distortion	Less than 0.5% (50Hz ~ 15kHz @ 35W, 4Ω) Less than 0.2% (1kHz @ 35W, 4Ω)
Intermodulation distortion	Less than 0.5% (70Hz : 70kHz = 4 : 1 @ 35W, 4Ω)
*Hum & noise level	−116dB (Equivalent Input Noise) −38dB (65dB S/N) INPUT LEVEL → MIC MASTER → MAX measurement CH VOL. → MAX −42dB (69dB S/N) INPUT LEVEL → MIC MASTER → MAX ALL CH VOL. → MIN
Maximum output gain	
SPEAKER	77dB (CH IN → SPEAKER OUT)
LINE OUT	50dB (CH IN → LINE OUT)
REC OUT	47dB (CH IN → REC OUT)
AUX IN 1 & 2	47dB (AUX IN → SPEAKER OUT)
PHONO	77dB (PHONO → SPEAKER OUT)
Tone control	
TREBLE	± 12dB (10kHz)
BASS	± 12dB (100Hz)
Channel separation	−60dB
Power Requirements	US & Canadian models 120V, 50/60Hz General model 110, 120 220 or 240V, 50/60Hz
Power Consumptions	US model 120W Canadian model 120W General model 185W
Dimensions (W x D x H)	410 x 242 x 225 mm (16-1/8" x 9-1/2" x 8-3/4")
Weight	7.8 kg (17.2 lbs)

** Measured with −6dB/oct filter @12.7kHz equivalent to a 20kHz filter with infinite dB/oct attenuation.*

- *Specifications subject to change without notice.*
- *0dB = 0.775V r.m.s.*

INPUT/OUTPUT SPECIFICATIONS

INPUT CHARACTERISTICS

Connection	Actual Load Impedance	Source Impedance	Sensitivity	Input Level		Connector
				Nominal	Max. before clip	
INPUTS (1 – 4CH)						
MIC	50kΩ	150 ~ 3kΩ	−50dB (2.5mV)	−50dB (2.5mV)	−22dB (62mV)	
INST.			−35dB (14mV)	−35dB (14mV)	− 7dB (346mV)	Phone Jack
LINE			−20dB (78mV)	− 20dB (78mV)	+ 8dB (1.93V)	
(Ch – 5)						
AUX IN 1	30kΩ	5kΩ	−20dB (78mV)	−20dB (78mV)		Phone Jack
AUX IN 2	30kΩ	5kΩ	−20dB (78mV)	−20dB (78mV)		Pin Jack
PHONO	47kΩ		−50dB (2.5mV)	−50dB (2.5mV)	−22dB (62mV)	Pin Jack

OUTPUT CHARACTERISTICS

Connection	Output Impedance	Load Impedance	Output Level		Connector
			Nominal	Max. before clip	
SPEAKER	0.2Ω	4Ω 8Ω	70W 50W		Phone Jack Terminals
LINE OUT	100Ω	10kΩ	0dB (775mV)		Phone Jack
REC. OUT	2.2kΩ	10kΩ	−3dB (550mV)	+15dB (4.4V)	Pin Jack

0dB = 0.775V r.m.s.

■GENERAL ADJUSTMENT AND CHECK SPECIFICATIONS

** Use an osilloscope and AC/dB meter with an input impedance of over 500kΩ for measurement.*

I. GENERAL ADJUSTMENT (SM circuit board)

- **Idling Current Adjustment**
  Adjust VR1 pot (BIAS ADJ: B200Ω) so that the voltage across the test points TP1 and TP2 is set to DC15 ± 3mV.

* Be sure to perform this idling current adjustment within 30 seconds after setting the POWER switch ON. The normal variation in the idling current after adjustment is $15 \pm \frac{15}{10}$ mV across the 15° to 45°C temperature range of the radiator.

- **DC Output Offset**
  Check that the DC voltage across the test points OUT and E is within 0 ± 200mV under no signal condition.

- **Power Supply Voltage Check**
  Check with each of the test points TP5 ~ TP8 for the respective voltages specified in Table 1.

- **Table 1**

Test point	Output voltage
TP 5 (+15V)	+15 ± 1.5V
TP 6 (+30V)	+30 ± 1.5V
TP 7 (+B)	+42 ± 3V
TP 8 (—B)	—42 ± 3V

- **Clock Frequency Adjustment (SM circuit board)**

1. Connect the frequency counter to the test points CP1 ~ TP4.
2. Set the DELAY TIME control knob to the maximum position.
3. Adjust VR2 (B50kΩ) so that the clock frequency will be 10.5 ± 0.3kHz (Delay time 195msec.).
4. Check to ensure that the clock frequency exceeds 20kHz when the DELAY TIME control knob is set to the minimum position.

- **Adjustment to eliminate bias and clock in BBD IC**
  Apply 700Hz signal to input jack, connect an oscilloscope to TP9 and then adjust VR3 (BBD BIAS: B4kΩ) so that the top and the bottom of the output wave are clipped simultaneously.
  Also adjust VR4 (CLK, CNACEL: B5kΩ) so that the clock pulse under no signal condition will be minimized.

SM C. BOARD TEST POINT

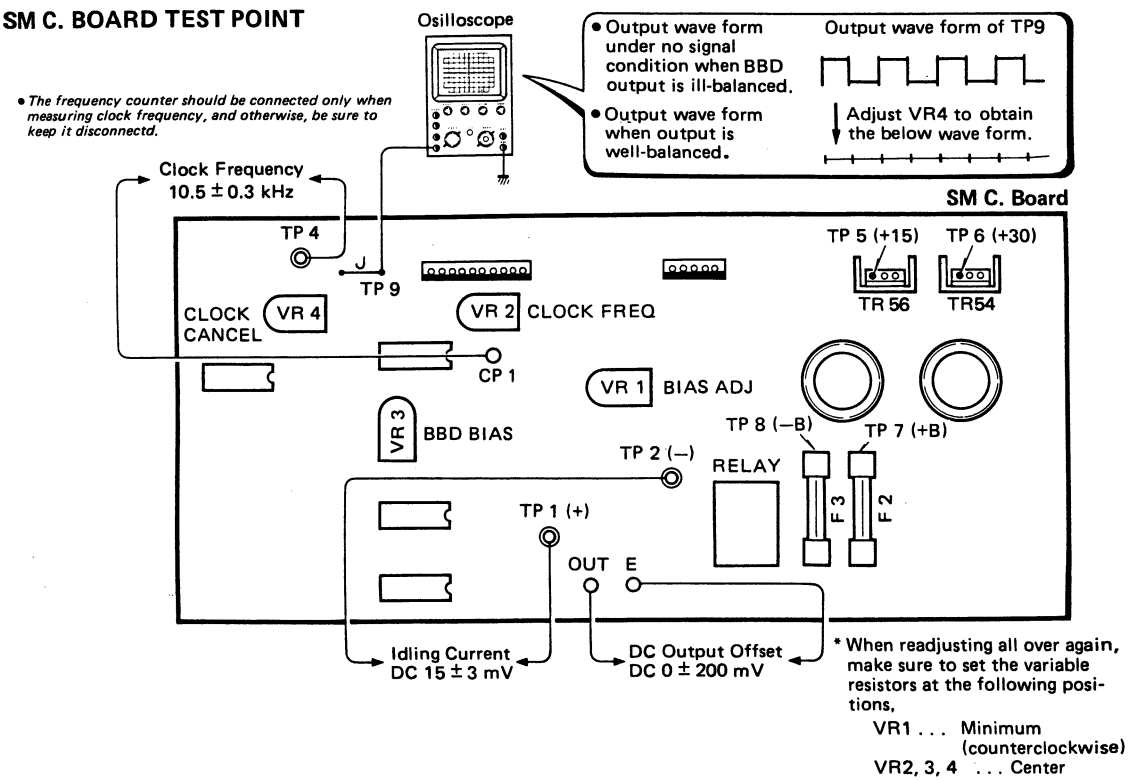


Fig. 1

II. CHECK SPECIFICATIONS

	Check item	Set position of control	Measurement conditions	Specifications	Remarks
1	Gain	Table 2	Apply a −55dB 1kHz sine wave signal to each of the INPUT jacks.	Out put level listed in Tables 3-a and 3-b.	• Connect a 47kΩ load resistance to the LINE OUT and REC OUT jacks and a 4Ω load resistance to the SPEAKERS jacks. • The difference in level between the channels for all the outputs must be within 2dB.
2	T.H.D.	Table 2	Apply a 1kHz sine wave signal to the INPUT jacks and set the output level of the SPEAKERS jack to +23.5dB (35W).	THD Less than 1%	
3	Frequency response	Table 2	Apply −55dB 40Hz ~ 10Hz sine wave signal to the INPUT jack and PHONO input jack, and 70Hz ~ 10kHz one in case of PHONO input, and measure the output level at the SPEAKERS jack.	Within ± 3dB of the curve given in Fig. 2 in the range of 40 Hz 40Hz ~ 10kHz with 1kHz as a standard. In case of PHONO input, within ± 2dB of the curve given in Fig. 3 in the range of 70Hz ~ 10kHz.	Fig. 2 Fig. 3
4	Tone control	Table 2 BASS min. → max. TREBLE min. → max.	Apply 100Hz, 1kHz, 10kHz/ −70dB sine wave signals to the INPUT jacks and measure the output levels when the BASS and TREBLE controls are turned between the maximum and minimum positions.	Table 4	The standard is the output level of 1kHz with the BASS and TREBLE controls at their center position.
5	Maximum output power	Table 2	Apply a 1kHz sine wave signal to the CH-1 INPUT jack.	26.7dB (70W) output level with T.H.D. less than 3%..	Set the AUX/PHONO INPUT switch to PHONO.
6	Noise level	Table 2, 5	Keep each input jack free from any connection, short the PHONO input jack and check for the output level at the SPEAKERS jacks.	Table 5	• Set the AUX/PHONO INPUT switch to PHONO. • Measure the noise level with 12.47kHz, −6dB/ oct L.P.F. equivalent to a 20kHz filter with infinite dB/oct attenuation.
7	ECHO	Set the ECHO and ECHO VOLUME controls of CH-1 to their maximum position.	Apply a music signal to CH-1 INPUT jack.	When the FEED BACK control is turned clockwise gradually, a signal with the FEED BACK effect should be obtained. When the DELAY TIME control is turned clockwise gradually, the delay time should vary smoothly.	

** 0dB = 0.775V r.m.s.*
** The output level should be measured at the SPEAKERS jacks unless other wise specified.*

● Table 2 Measurement Conditions

	Knob	Set Position
CH INPUT	VOLUME	Max for measurement channel only, all others to minimum position.
	TREBLE	Center
CH1 ~ 4	BASS	Center
AUX/ PHONO	ECHO	min.
	INPUT Switch	CH1 ~ 4 → MIC AUX/PHONO → AUX IN 1 * Only when a changeover is necessary.
ECHO	FEED BACK	min.
	DELAY TIME	min.
	ECHO VOLUME	min.
MASTER		max.

● Table 3-a Output Level (CH1 ~ CH4)

Connection / INPUT Switch	REC OUT	LINE OUT	SPEAKER
MIC	− 8 ± 2	− 5 ± 2	+21.7 ± 2
INST	−23 ± 2	−20 ± 2	+ 6.7 ± 2
LINE	−38 ± 3	−35 ± 3	− 8.3 ± 3

(UNIT: dB, 0dB = 0.775V r.m.s.)

● Table 3-b Output Level (AUX/PHONO)

Connection / INPUT Switch	REC OUT	LINE OUT	SPEAKER
AUX IN 1	−38 ± 2	−35 ± 2	− 8.3 ± 2
AUX IN 2	−38 ± 2	−35 ± 2	− 8.3 ± 2
PHONO	− 8 ± 3	− 5 ± 3	+21.7 ± 3

(UNIT: dB, 0dB = 0.775V r.m.s.)

● Table 4 Variable Range (Tone control)

INPUT / Set position	100Hz	1kHz	10kHz
BASS TREBLE center	−1 ± 1.5	0	− 4 ± 2
BASS TREBLE min.	−12 ± 2	−3 ± 1	−18 ± 2
BASS TREBLE max.	+11 ± 2	+2 ± 1	+ 8 ± 2

(UNIT : dB)

● Table 5 Noise Level (Speaker terminal)

MASTER min.	CH-VOLUME min. MASTER max.	Only CH-1 VOLUME max. MASTER max.	CH1~CH4 VOLUME max. MASTER max.	Only VOLUME (AUX/ PHONO) max. MASTER max.
Less than −62dB	Less than −42dB	Less than −38dB	Less than −32dB	Less than −34dB

(UNIT: dB,0dB = 0.775V r.m.s.)

Frequency Response (Tone Control)

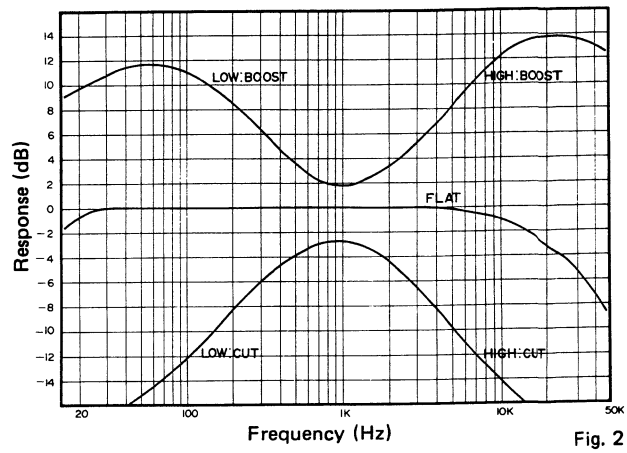


Fig. 2

Frequency Response (Equarizer)

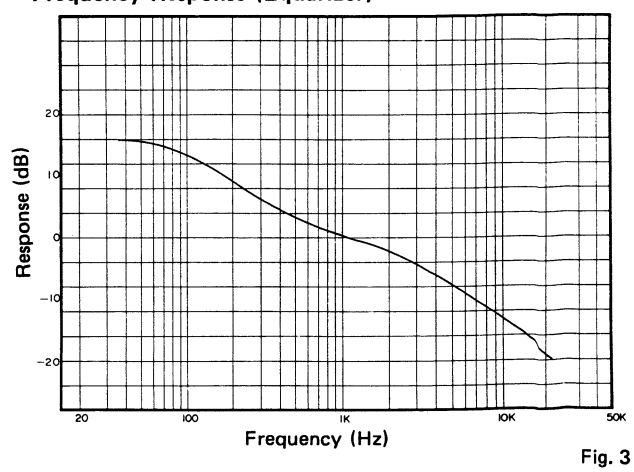
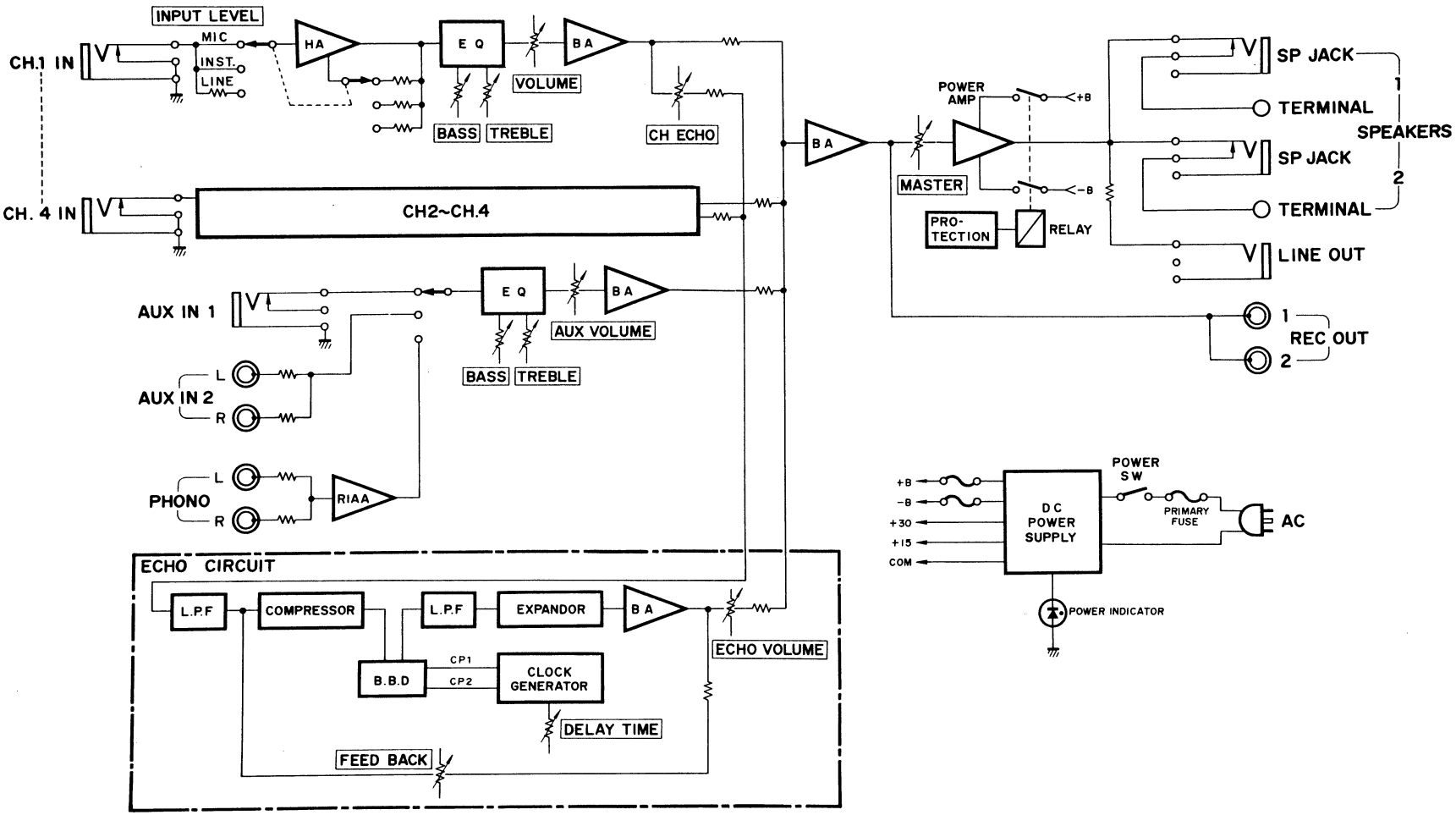
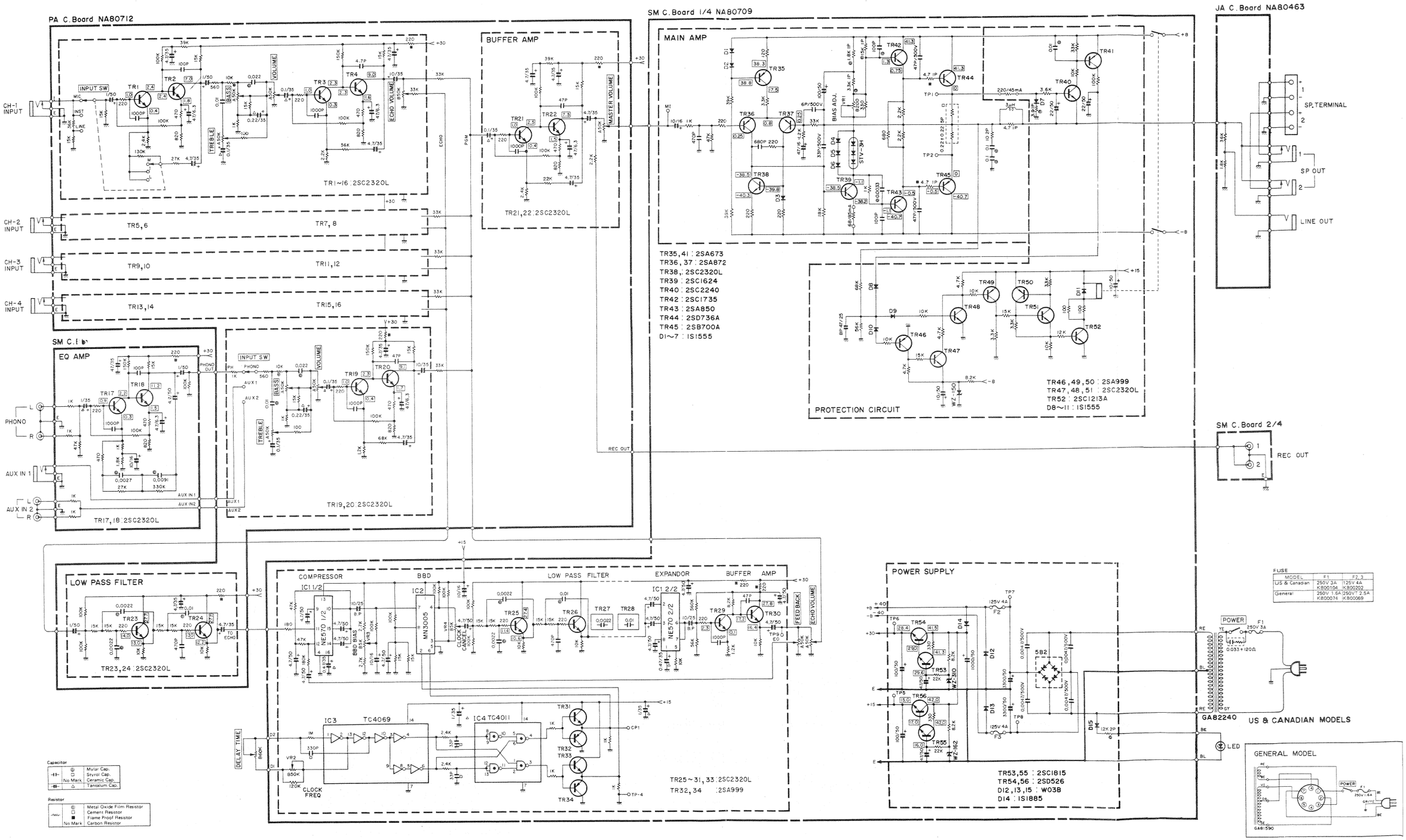


Fig. 3

BLOCK DIAGRAM

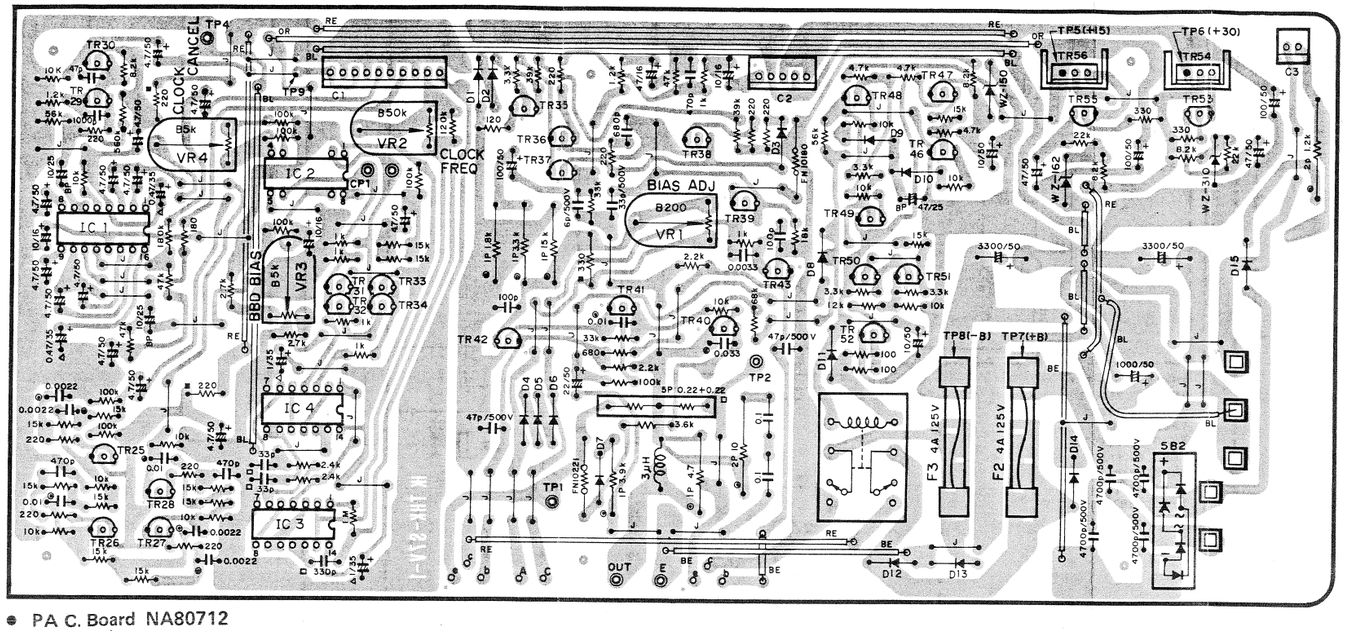


SCHEMATIC DIAGRAM

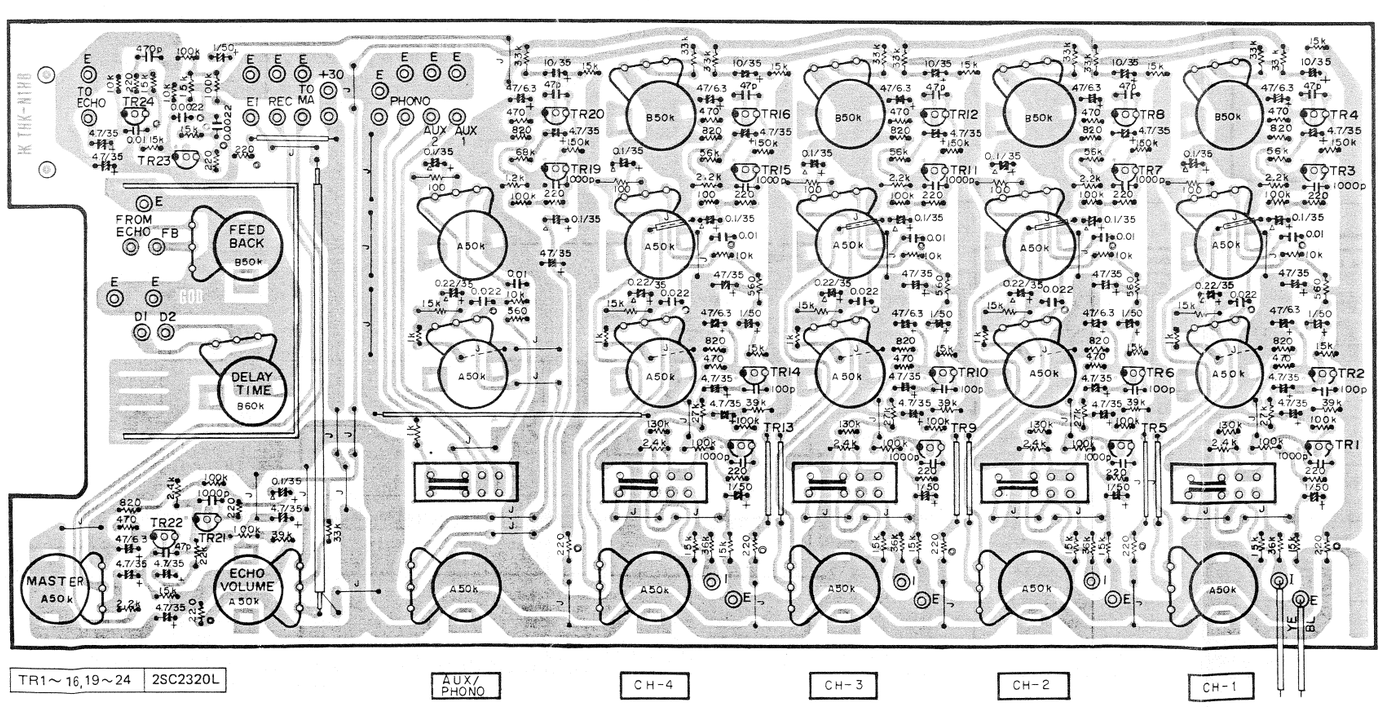


PRINTED CIRCUIT BOARDS

- SM C. Board 1/4 US & Canadian Models NA80709
  (Parts Side) General Model NA80710



- PA C. Board NA80712
  (Parts Side)



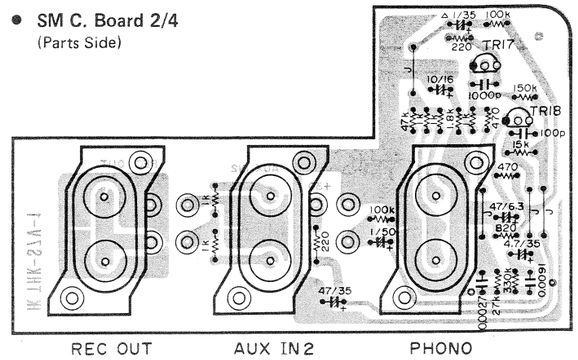
TR1～16, 19～24	2SC2320L

IC1	NE570
IC2	MN3005
IC3	TC4069
IC4	TC4011
TR25～31, 33, 38 TR47, 48, 51	2SC2320L
TR32, 34, 46, TR49, 50	2SA999
TR35, 41	2SA673
TR36, 37	2SA872
TR39	2SC1624
TR40	2SC2240
TR42	2SC1735
TR43	2SA850
TR44	2SD736A
TR45	2SB700A
TR52	2SC1213A
TR53, 55	2SC1815
TR54, 56	2SD526
D1～11	1S1555
D12, 13, 15	W03B
D14	1S1885

FUSE

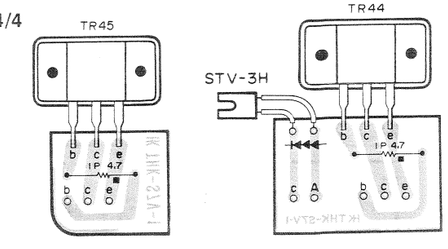
MODEL	F2, F3	Parts No.
US & Canadian	125V 4A	KB00202
General	250V T2.5A	KB00069

- SM C. Board 2/4
  (Parts Side)



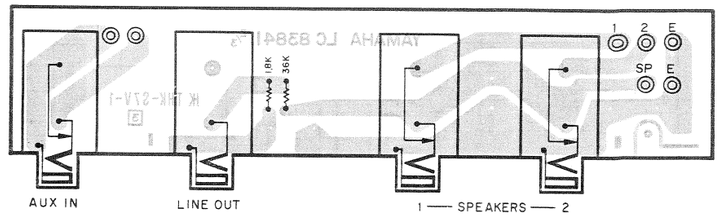
TR17, 18	2SC2320L

- SM C. Board 3/4, 4/4
  (Parts Side)

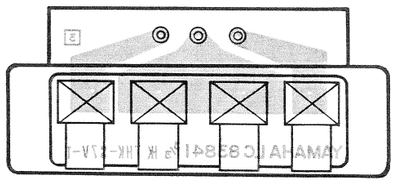


- JA C. Board 1/3 NA80463 (INPUT Jacks)
  (Parts Side)

- JA C. Board 2/3



- JA C. Board 3/3 (Speaker Terminal)



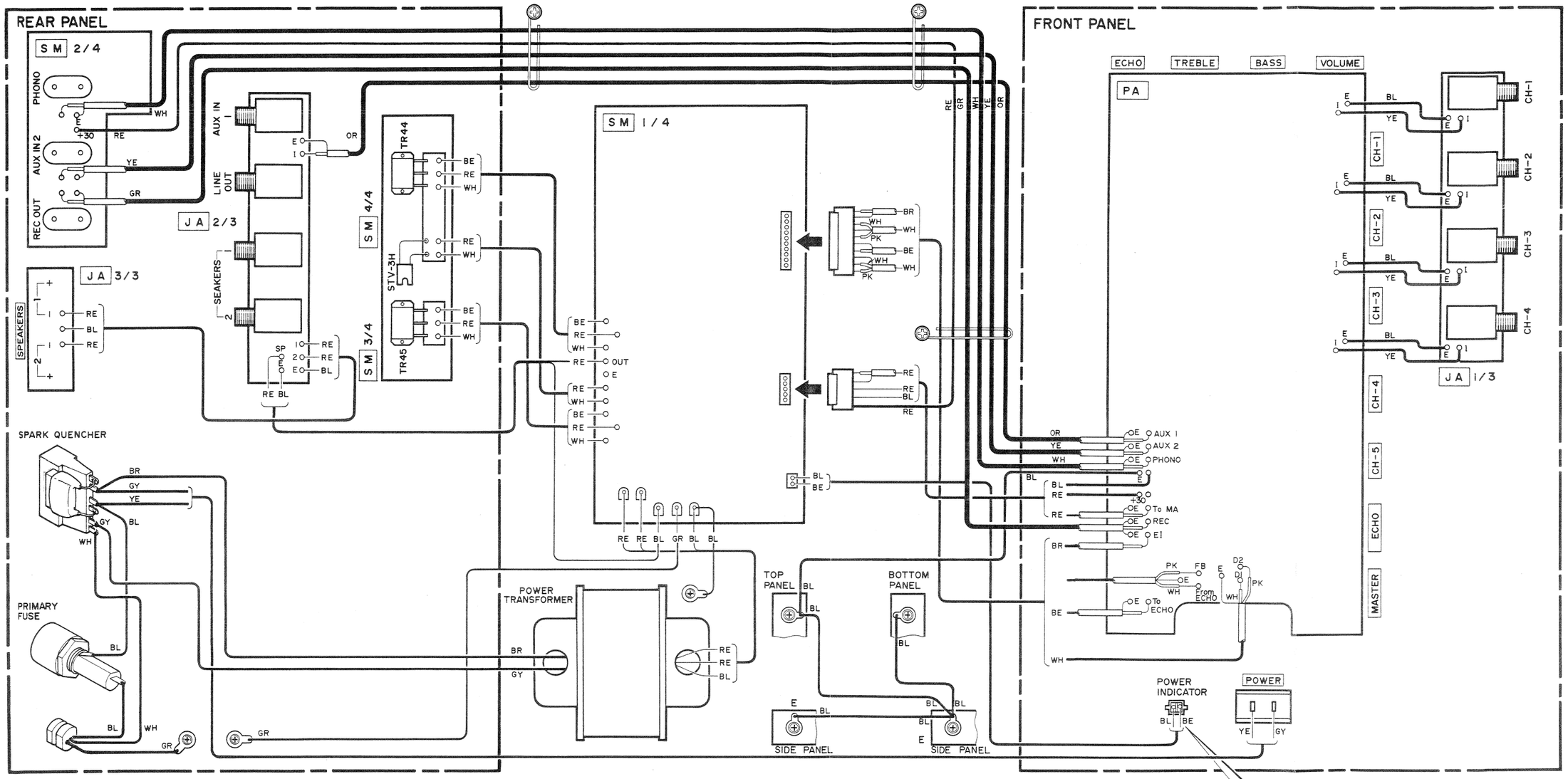
Capacitor

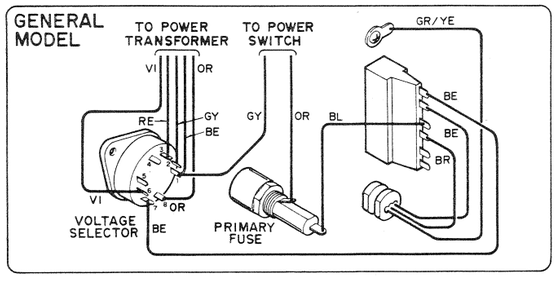
	Ⓜ	Mylar Cap.
	□	Styrol Cap.
	No Mark	Ceramic Cap.
	△	Tantalum Cap.

Resistor

	Ⓜ	Metal Oxide Film Resistor
	□	Cement Resistor
	■	Flame Proof Resistor
	No Mark	Carbon Resistor

WIRING





- WIRE COLOR ABBREVIATIONS

BL ▶ Black		VI ▶ Violet	
BR ▶ Brown		GY ▶ Gray	
RE ▶ Red		WH ▶ White	
OR ▶ Orange		GG ▶ Light Green	
YE ▶ Yellow		SB ▶ Light Blue	
GR ▶ Green		PK ▶ Pink	
BE ▶ Blue			

PARTS LIST

EM-85

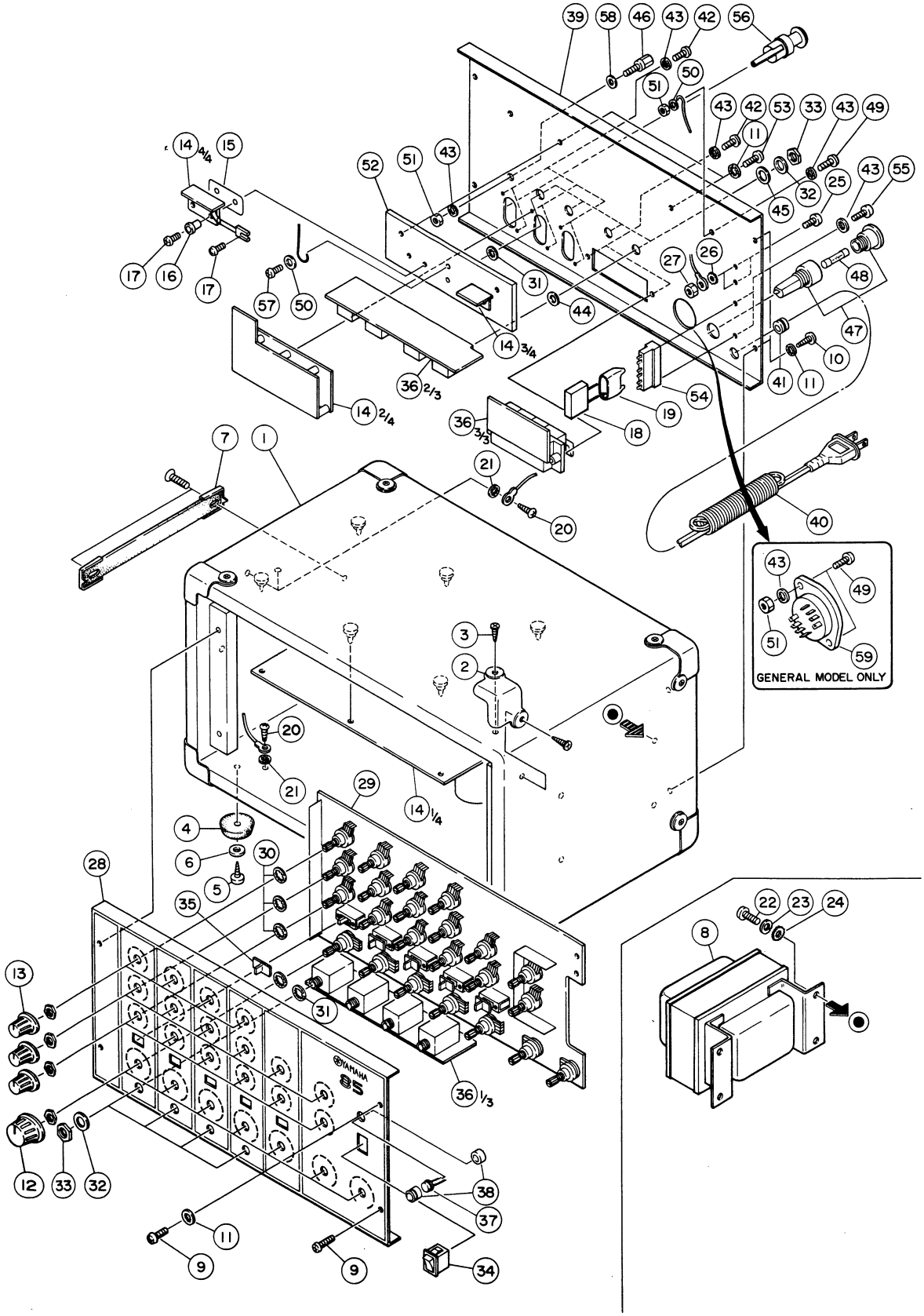
■ CONTENTS

SINCE 1887 YAMAHA
NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN

006443

'80 Oct. 2.7K Printed in Japan

■EXPLODED VIEW



EM-85

■PARTS LIST

U : US C : Canadian
G : General

	Ref No.	Part No.	Description	(部品名)	Remarks	Common model		
※	1	30 56 05 00 00 00 10	Cabinet	外装組上り				
	2	30 54 00 AA 80 25 50	Corner Angle	コーナー金具				
	3	40 10 00 EP 33 51 30	Flat Head Wood Screw 3.5x13 (FCM3-3g)	皿木ネジ				
	4	30 54 00 CB 80 12 70	Leg	ゴム足				
	5	40 10 00 Ei 34 02 00	Bind Head Tapping Screw 4x20 (FCM3-Bℓ)	バインドタッピングネジ				
	6	40 10 00 EV 20 30 40	Flat Washer φ4 (ZMC2-Bℓ)	平座金				
	7	30 54 00 NB 81 12 70	Handle Ass'y	取手 Ass'y				
※	8	40 10 00 GA 82 24 00	Power Transformer	電源トランス	U,C			
※	〃	40 10 00 GA 81 59 00	〃	〃	G			
	9	40 10 00 ED 34 01 60	Bind Head Screw 4 x 16 (FCM3-Bℓ)	バインド小ネジ				
	10	40 10 00 Ei 34 01 20	Bind Head Tapping Screw 4 x 12 (FCM3-Bℓ)	バインドタッピングネジ				
	11	40 10 00 EV 31 44 00	Toothed Lock Washer A4S (ZMC2-Bℓ)	歯付座金				
	12	30 56 00 CB 81 01 00	Knob VOLUME, MASTER	ツマミ				
	13	30 56 00 CB 81 01 20	〃 EQ, ECHO	〃				
※	14	30 56 00 NA 80 70 90	SM C. Board	SMシート	U,C			
※	〃	30 56 00 NA 80 71 00	〃	〃	G			
	15	40 10 00 iL 00 05 30	Mica Base	マイカベース				
	16	40 10 00 iL 00 05 40	Insulation Bushing	絶縁ブッシュ				
	17	40 10 00 ED 03 00 80	Bind Head Screw 3 x 8 (ZMC2-Y)	バインド小ネジ				
	18	40 10 00 FZ 00 01 10	Spark Quencher	スパークキラー	U			
	〃	40 10 00 FZ 00 09 50	〃	〃	C			
	19	40 10 00 CB 07 21 90	Condenser Cover	コンデンサカバー	U			
	〃	40 10 00 CB 07 98 90	〃	〃	C			
	20	40 10 00 EJ 04 01 30	Pan Head Tapping Screw 4 x 13 (ZMC2-Y)	ナベタッピングネジ				
	21	40 10 00 EV 41 04 00	Toothed Lock Washer A4S (ZMC2-Y)	歯付座金				
	22	40 10 00 ED 35 01 60	Bind Head Screw 5 x 16 (FCM3-Bℓ)	バインド小ネジ				
	23	40 10 00 EV 30 00 50	Spring Lock Washer φ5 (ZMC2-Y)	バネ座金				
	24	40 10 00 EV 43 00 50	Toothed Lock Washer AB5S (ZMC2-Y)	歯付座金				
	25	40 10 00 ED 34 01 00	Bind Head Screw 4 x 10 (FCM3-Bℓ)	バインド小ネジ				
	26	40 10 00 EV 42 00 40	Toothed Lock Washer B4S (ZMC2-Y)	歯付座金				
	27	40 10 00 EK 80 06 20	Flange Nut M4	六角フランジナット				
※	28	30 56 00 AA 80 95 70	Front Panel	フロントパネル	U,G			
※	〃	30 56 00 AA 81 51 90	〃	〃	C			
※	29	30 56 00 NA 80 71 20	PA C. Board	PAシート				
	30	40 10 00 EV 41 07 00	Toothed Lock Washer A7S (ZMC2-Y)	歯付座金				
	31	40 10 00 EV 41 09 00	〃 A9S (ZMC2-Y)	〃				
	32	40 10 00 LX 20 00 10	Flat Washer 9S (FNM3-3g)	特殊平座金				
	33	40 10 00 LX 20 00 60	Hexagonal Nut 9S (FNM3-3g)	特殊六角ナット				
	34	40 10 00 KA 10 09 40	Switch	シーソースイッチ	U,G			
	〃	40 10 00 KA 30 05 50	Toggle Switch	トグルスイッチ	C			
	35	30 54 00 CB 80 52 30	Knob	ツマミ				
※	36	40 10 00 LC 83 84 30	JA P. C. Board	JAシートプリント基板				
	37	40 10 00 iF 00 15 60	LED	LED				
	38	40 10 00 iL 00 05 50	LED Socket	LEDソケット				
	39	30 56 00 BA 80 50 20	Rear Panel	リアパネル	U,C			
	〃	30 56 00 BA 80 50 30	〃	〃	G			
	40	40 10 00 MG 00 02 70	AC Cord	電源コード	U,C			
	〃	40 10 00 MG 00 04 50	〃	〃	G			
	41	40 10 00 CB 80 68 50	Cord Stopper	コードストッパー	U,C			
	〃	40 10 00 CB 03 28 40	〃	〃	G			
	42	40 10 00 Ei 33 00 80	Bind Head Tapping Screw 3 x 8 (FCM3-Bℓ)	バインドタッピングネジ				
	43	40 10 00 EV 41 30 30	Toothed Lock Washer A3S (ZMC2-Bℓ)	歯付座金				
	44	40 10 00 EK 00 23 70	Fiber Washer (SPEAKERS JACK)	ファイバーワッシャー				

※ NEW PARTS

Ref No.	Part No.	Description	(部品名)	Remarks	Common model		
45	30 56 00 CB 81 00 90	Insulation Nut	絶縁ナット				
46	30 56 00 NB 08 14 80	Ground Terminal	ターミナルユニット				
47	40 10 00 LB 20 04 90	Fuse Holder	ヒューズホルダー	U,C			
〃	40 10 00 LB 20 05 90	〃	〃	G			
48	40 10 00 KB 00 10 40	Fuse 250V 3A	ヒューズ	U,C			
〃	40 10 00 KB 00 07 40	〃 250V T 1.6A	〃	G			
49	40 10 00 ED 33 01 00	Bind Head Screw 3 x 10 (FCM3-Bℓ)	バインド小ネジ				
50	40 10 00 EV 20 00 30	Flat Washer φ3 (ZMC2-Y)	平座金				
51	40 10 00 EV 10 00 30	Hexagonal Nut M3 (ZMC2-Y)	六角ナット				
※ 52	30 56 00 BA 80 50 40	Radiator	トランジスタ取付板				
53	40 10 00 ED 34 00 80	Bind Head Screw 4 x 8 (FCM3-Bℓ)	バインド小ネジ				
54	40 10 00 LA 00 10 00	Terminal	カラー端子板				
55	40 10 00 ED 33 00 60	Bind Head Screw 3 x 6 (FCM3-Bℓ)	バインド小ネジ				
56	40 10 00 LB 10 01 80	Short Plug	ショートプラグ				
57	40 10 00 ED 03 00 60	Bind Head Screw 3 x 6 (ZMC2-Y)	バインド小ネジ				
58	40 10 00 EV 20 10 30	Flat Washer φ3 (FCM3-3g)	平座金				
59	40 10 00 LB 20 02 50	Voltage Selector	電圧切換器	G			

※ NEW PARTS

	Ref No.	Part No.	Description	(部品名)	Remarks	Common model		
※		30 56 00 NA 80 71 20	PA C. Board	PA シート				
		40 10 00 FP 35 51 00	Tantalum Cap. 0.1μF 35V	タンタルコン				
		40 10 00 FP 35 52 20	〃 0.22μF 35V	〃				
		40 10 00 iC 23 20 30	Transistor 2SC2320L (E, F)	トランジスタ				
		40 10 00 HS 31 04 30	Variable Resistor A50kΩ	可変抵抗器				
		40 10 00 HS 31 04 40	〃 B50kΩ	〃				
※		40 10 00 HS 31 09 20	〃 B60kΩ	〃				
※		40 10 00 KA 40 06 30	Slide Switch	スライドスイッチ				
※		30 56 00 AA 80 95 80	Shield Plate	シールド板				
		40 10 00 HV 35 52 20	Flame Proof Resistor 220Ω	不燃化カーボン抵抗				
※		30 56 00 NA 80 70 90	SM C. Board	SM シート	U, C			
※		30 56 00 NA 80 71 00	〃	〃	G			
		40 10 00 HV 55 53 30	Flame Proof Resistor 330Ω	不燃化カーボン抵抗				
		40 10 00 HV 35 52 20	〃 220Ω	〃				
		40 10 00 HW 90 46 80	Fuse Resistor FN10680	ヒューズ抵抗				
		40 10 00 HW 90 52 20	〃 FN10221	〃				
		40 10 00 HL 41 34 70	Metal Oxide Film Resistor 1P 4.7Ω	酸金抵抗				
		40 10 00 HL 31 61 80	〃 1P 1.8kΩ	〃				
		40 10 00 HL 31 63 30	〃 1P 3.3kΩ	〃				
		40 10 00 HL 31 63 90	〃 1P 3.9kΩ	〃				
		40 10 00 HL 41 71 50	〃 1P 15kΩ	〃				
		40 10 00 HL 32 41 00	〃 2P 10Ω	〃				
		40 10 00 HL 32 61 20	〃 1.2kΩ	〃				
		40 10 00 HZ 00 15 60	Metal Plate Resistor 0.22Ω + 0.22Ω	金属板抵抗				
		40 10 00 HZ 00 07 10	Flame Proof Metal Film Resistor 1P 4.7Ω	不燃性金属被膜抵抗				
		40 10 00 FJ 26 91 00	Electrolytic Cap. 1000μF 50V	ケミコン				
		40 10 00 FM 27 93 30	〃 3300μF 50V	〃				
		40 10 00 UK 34 71 00	Bipolar Electrolytic Cap. 10μF 25V	バイポーラケミコン				
		40 10 00 UK 34 74 70	〃 47μF 25V	〃				
		40 10 00 FD 15 13 30	Styrol Cap. 33pF 50V	スチコン				
		40 10 00 FD 15 23 30	〃 330pF 50V	〃				
		40 10 00 FP 35 54 70	Tantalum Cap. 0.47μF 35V	タンタルコン				
		40 10 00 FP 35 61 00	〃 1μF 35V	〃				
		40 10 00 iA 06 73 10	Transistor 2SA673A (C, D)	トランジスタ				
		40 10 00 iA 08 72 00	〃 2SA872	〃				
		40 10 00 iA 09 99 10	〃 2SA999 (E, F)	〃				
		40 10 00 iC 12 13 10	〃 2SC1213A (C, D)	〃				
		40 10 00 iC 16 24 00	〃 2SC1624 (O, Y)	〃				
		40 10 00 iC 18 15 70	〃 2SC1815 (O, Y)	〃				
		40 10 00 iC 22 40 00	〃 2SC2240 (GR, BL)	〃				
		40 10 00 iC 23 20 30	〃 2SC2320L (E, F)	〃				
		40 10 00 iD 05 26 30	〃 2SD526 (O, Y)	〃				
		40 10 00 iA 08 50 00	〃 2SA850	〃				
		40 10 00 iC 17 35 00	〃 2SC1735	〃				
		40 10 00 iB 07 00 00	〃 2SB700A (B, C)	〃				
		40 10 00 iD 07 36 00	〃 2SD736A (B, C)	〃				
		40 10 00 iF 00 00 40	Diode 1S1555	ダイオード				
		40 10 00 iH 00 02 40	〃 1S1885	〃				
		40 10 00 iH 00 07 20	〃 W03B	〃				
		40 10 00 iH 00 01 10	〃 5B2	〃				
		40 10 00 iF 00 04 50	Varistor STV-3H	バリスタ				
		40 10 00 iF 00 07 80	Zener Diode WZ-150	ツェナーダイオード				

※ NEW PARTS

	Ref No.	Part No.	Description	(部品名)	Remarks	Common model		
		40 10 00 iF 00 06 50	Zener Diode WZ-162	ツェナーダイオード				
		40 10 00 iF 00 02 20	〃 WZ-310	〃				
		40 10 00 iG 00 12 40	IC TC4011	IC				
		40 10 00 iG 00 17 20	〃 TC4069	〃				
		40 10 00 iG 03 13 00	〃 NE570	〃				
		40 10 00 iG 03 12 00	〃 MN3005	〃				
		40 10 00 HT 19 01 40	Semi Variable Resistor B200Ω	半固定抵抗				
		40 10 00 HT 19 00 40	〃 B5kΩ	〃				
		40 10 00 HT 19 00 70	〃 B50kΩ	〃				
		40 10 00 GD 90 00 50	Coil 3μH	コイル				
		40 10 00 LB 20 13 90	Connector 2P	2.5 ピッチベースピン				
		40 10 00 LB 50 02 50	〃 5P	〃				
		40 10 00 LB 60 24 70	〃 10P	〃				
		40 10 00 LB 10 01 10	〃	ダイアモンドコネクタ				
		40 10 00 KB 00 20 20	Fuse 125V 4A	ヒューズ	U,C			
		40 10 00 KB 00 06 90	〃 250V T2.5A	〃	G			
		40 10 00 LB 20 15 30	Fuse Holder Pin	ヒューズホルダーピン				
		30 54 00 BA 01 18 70	Heat Sink	放熱板				
		40 10 00 LB 20 11 50	Pin Jack	ピンジャック				
		40 10 00 ED 03 00 80	Bind Head Screw M3 x 8 (ZMC2-Y)	バインド小ネジ				
		40 10 00 EV 10 00 30	Hexagonal Nut 3S (ZMC2-Y)	六角ナット				
		40 10 00 EV 20 00 30	Flat Washer 3S (ZMC2-Y)	平座金				
※		40 10 00 KC 00 11 20	Relay	リレー				
		40 10 00 ED 03 01 20	Bind Head Screw M3 x 12 (ZMC2-Y)	バインド小ネジ				
※		30 54 00 NA 80 46 30	JA C. Board	JA シート				
		40 10 00 LA 00 29 60	Push Terminal 4P	4Pプッシュターミナル				
※		40 10 00 LB 10 05 00	Jack	ジャック				
		40 10 00 LC 83 84 30	JA P. C. Board	JAシートプリント基板				

※ NEW PARTS