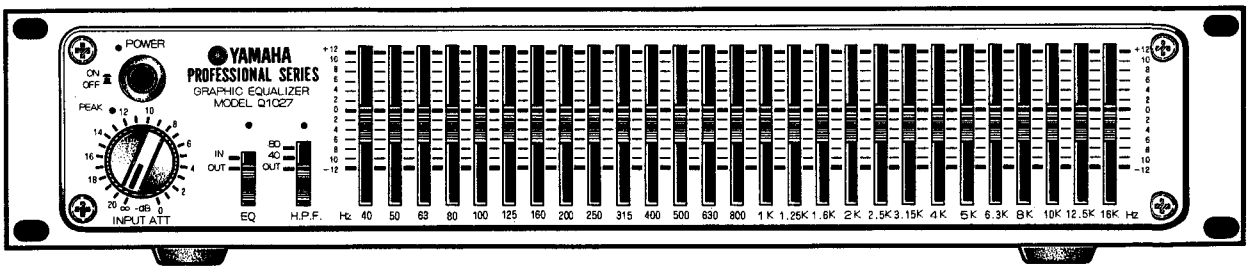
1CMC1224

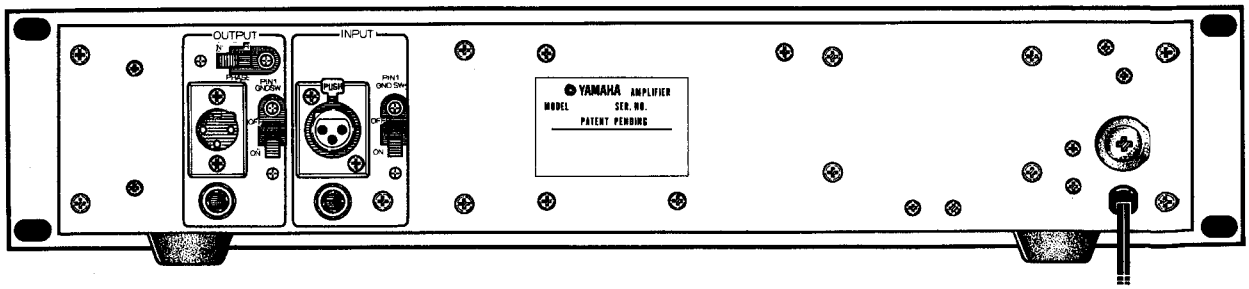
Q1027

SERVICE MANUAL

■ FRONT PANEL



■ REAR PANEL (U.S Model)



SINCE 1887 YAMAHA

NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN
'80 Apl. 2.5K Printed in Japan

006434

CONTENTS

SPECIFICATIONS

Frequency Response	PHONE JACK 20Hz ~ 20kHz (0 ± 0.5dB) XLR 20Hz ~ 20kHz (0 ± 1.5dB)
Total Harmonic Distortion	PHONE JACK less than 0.02% (20Hz ~ 20kHz) XLR less than 0.5% (20Hz ~ 20kHz)
***Hum & Noise**	−100dB (EQ flat, 600 Ω load)
Gain	0dB (EQ by-pass)
Maximum Output Level	+24dB (600 Ω load)
Center Frequencies	40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400, 500, 630, 800 1k, 1.25k, 1.6k, 2k, 2.5k, 3.15k, 4k, 5k, 6.3k, 8k, 10k, 12.5k, 16k(Hz)
Frequency Accuracy	Less than ±5%
Range of Boost/Cut	Boost 0 ~ +12dB, Cut 0 ~ −12dB
High Pass Filter	18dB/oct 40Hz ± 10%, 80Hz ± 10%
Input Impedance	PHONE JACK 10kΩ (unbalanced) XLR 8kΩ (balanced)
Output Impedance	PHONE JACK 40 Ω (unbalanced) XLR 40 Ω (balanced)
Power Source	U.S. & Canadian Models 120V AC 60Hz General Models 110-130 or 220-240AC Selectable, 50/60Hz
Power Consumption	U.S. Model 18W Canadian Model 24VA General Models 20W
Dimensions (W x D x H)	480 x 305 x 95.5 mm (18-7/8" x 12" x 3-3/4") (When security cover mounted 480 x 318 x 95.5 mm, 18-7/8" x 12-1/2" x 3-3/4")
Weight	8 kg (17.6 lbs)

* Measured with −6 dB/oct filter @12.47kHz equivalent to a 20kHz filter with infinite dB/oct attenuation.
● 0 dB is referenced to 0.775 V r.m.s.

Specifications subject to change without notice.

■GENERAL ADJUSTMENT AND CHECK SPECIFICATIONS

- Use an oscilloscope and AC voltmeter with an input impedance of over 500kΩ for measurement.
- To measure the noise level, use an AC voltmeter with a bandwidth of over 20Hz to 20kHz.

I. GENERAL ADJSUTMENT

1. DC Voltage Check

Check that the specified voltages are obtained at the tests points on LC and HK circuit boards as given below.

	Test point	Output voltage
LC circuit board	+ 15	+ 15 ± 1V
	− 15	− 15 ± 1V
HK circuit board	+ 24	+ 24 ± 1.5V
	− 24	− 24 ± 1.5V

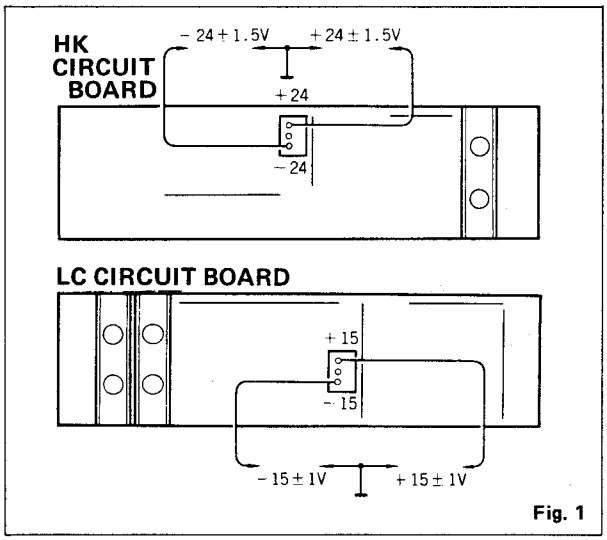


Fig. 1

2. 27 Bands EQ Center Frequency Adjustment (LC circuit board)

Set the controls as follows.

INPUT ATT . . . . . 0 (max.)
EQ . . . . . IN
H.P.F. . . . . OUT
PHASE . . . . . N
PIN 1 GND SW . . . . . ON

a. Connect measurement instruments as shown in Fig. 2.
b. Apply a 40Hz sine wave signal so that 0 dBm output voltage is obtained.
   *Check frequency with a frequency counter and perform adjustment on the oscillator so that the specified frequency (40Hz in this case) is attained.
c. Turn 40 EQ control down to −12.
d. Adjust and set 40Hz semi-fixed resistor on LC circuit board so as to make output voltage minimum.
e. Perform the same adjustment as above on all 26 bands from 50Hz to 16kHz.
f. When every adjustment is completed, check each band that its frequency agrees with its specified frequency as follows.
   Set EQ control at maximum (+12) or minimum (−12) position, take a reading on the frequency counter at the point where output voltage is maximum or minimum while changing frequency of the oscillator and compare it with the specified frequency.

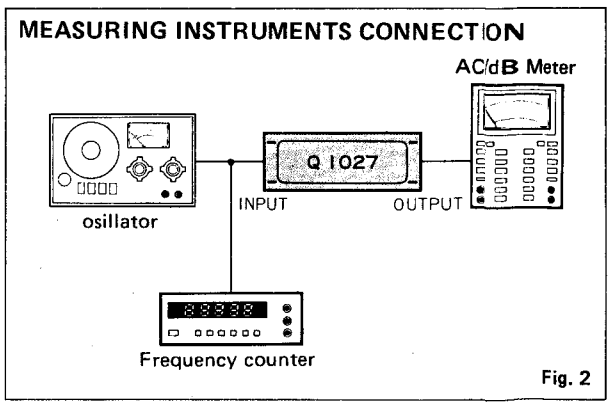


Fig. 2

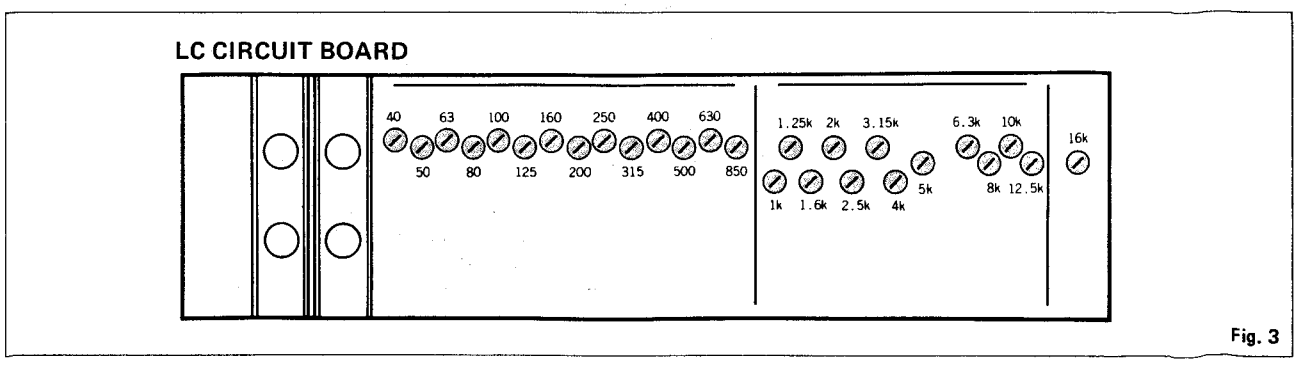


Fig. 3

II. CHECK SPECIFICATIONS

- Set the controls as follows unless otherwise specified.
  - INPUT ATT . . . . . 0 (max.)
  - EQ . . . . . OUT
  - H.P.F. . . . . OUT
  - EQ Volume (27 bands) . Center
  - PHASE . . . . . N
  - PIN 1 GND . . . . . ON
- Use XLR for input and output jacks unless otherwise specified.
- Connect 600Ω load and perform measurement.

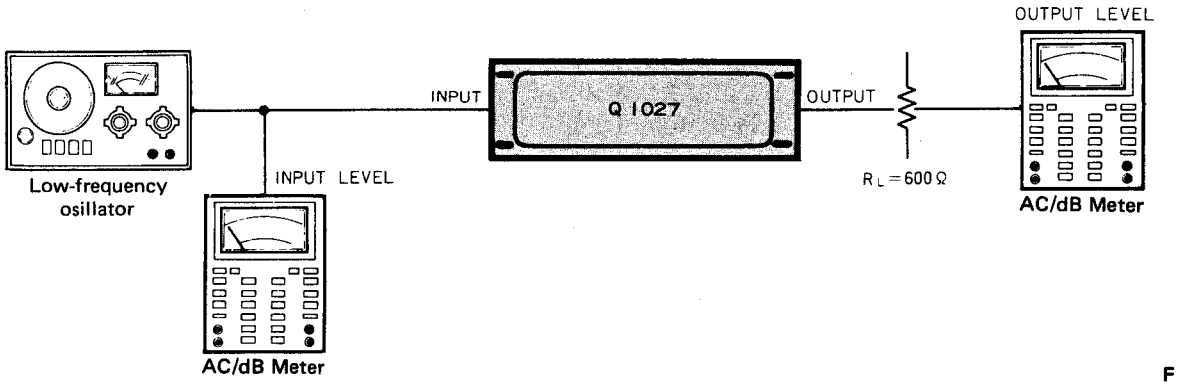


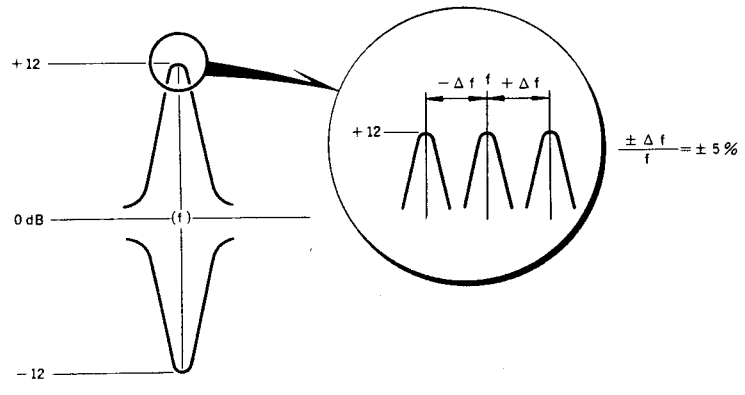
Fig. 4

	Check item	Measurement conditions	Specifications	Remarks
1	Gain	Apply a +4 dB 1kHz sine wave signal to each of the INPUT jacks.	Output : EQ OUT 4 ± 0.5 dB EQ IN 4 ± 1.5 dB	The difference in level between PHONE JACK and XLR must be within 1 dB.
2	Distortion	Apply a +4 dB sine wave signal to the INPUT jacks. Frequency : 100Hz, 1kHz, 10kHz	T.H.D. less than 0.1% for each frequency.	The same when EQ IN.
3	Frequency response (EQ OUT)	Apply a +4 dB 20Hz to 20kHz sine wave signal to the INPUT jack.	0 ± 1.5 dB with 1kHz as a standard.	
4	Frequency response (EQ IN)	Set all EQ Volume controls to flat (CENTER) and apply a +4 dB 20Hz to 20kHz sine wave signal to the INPUT jacks.	0 ± 1.5 dB with 1kHz as a standard.	
5	Equalizer response	Apply a +4 dB sine wave signal with the specified frequency for each EQ volume control to the INPUT jack and set the EQ volume control to the maximum and minimum positions.	Variation range : +12 ± 0.8 dB −12 ± 0.8 dB with the output when FLAT as a standard.	Check at each frequency from 40Hz to 16kHz. Center frequency error must be within ±5% (See Fig. 5)
6	H.P.F. response (H.P.F. 80)	Apply a +4 dB sine wave signal to the INPUT jack and turn the control between 1kHz and 20Hz.	With 1kHz output as a standard, attenuation is −3 ± 1 dB when frequency is 80Hz and 18 dB/oct when frequency is less than 80Hz.	Refer to Fig. 6.

	Check item	Measurement conditions	Specifications	Remarks
7	H.P.F. response	Apply a +4 dB sine wave signal to the INPUT jack and turn the control between 1kHz and 20Hz.	With 1kHz output as a standard, attenuation is −3 ± 1 dB when frequency is 40Hz and 18 dB/oct when frequency is less than 40Hz.	Refer to Fig. 6.
8	Maximum output power	Apply a 1kHz sine wave signal to the INPUT jack and increase the applied voltage.	±24 dB output power with the T.H.D. less than 0.5%	The same when EQ IN.
9	Noise level	Short the INPUT jack with a 150Ω resistance.	Noise level : less than −98 dB both when EQ IN and EQ OUT (SN ratio 102 dB)	Voltage should be measured through the L.P.F. of 12.47 kHz −6 dB/oct.
10	Peak indicator lighting level	Apply a 1kHz sine wave signal to the INPUT jack and increase the applied voltage.	Peak indicator lights at +21 ± 1 dB output power.	
11	INPUT ATT	Apply a 1kHz sine wave signal to the INPUT jack so that 0 dB output is obtained. Turn down INPUT ATT control by one click.	Attenuation accuracy 0 to 10 : Within ± 0.7 dB of the specified value 11 to 20 : Within ± 1 dB of the specified value	

0 dB is referenced to 0.775V r.m.s.

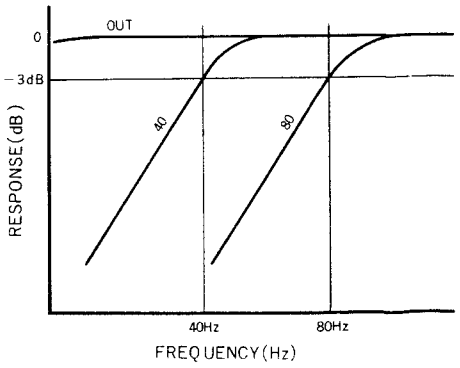
GEQ CENTER FREQUENCY



(GEQ)

Fig. 5

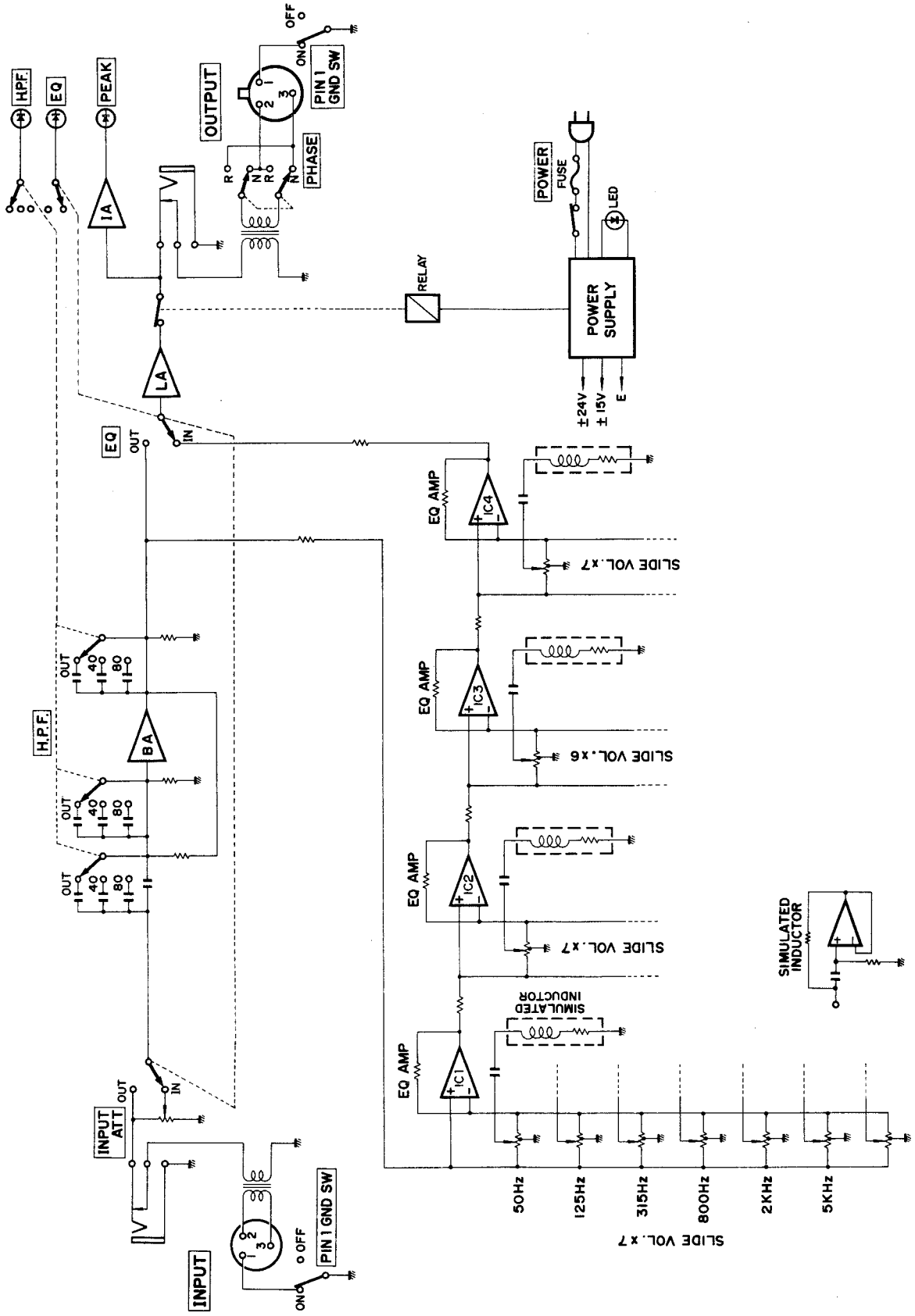
H.P.F. RESPONSE



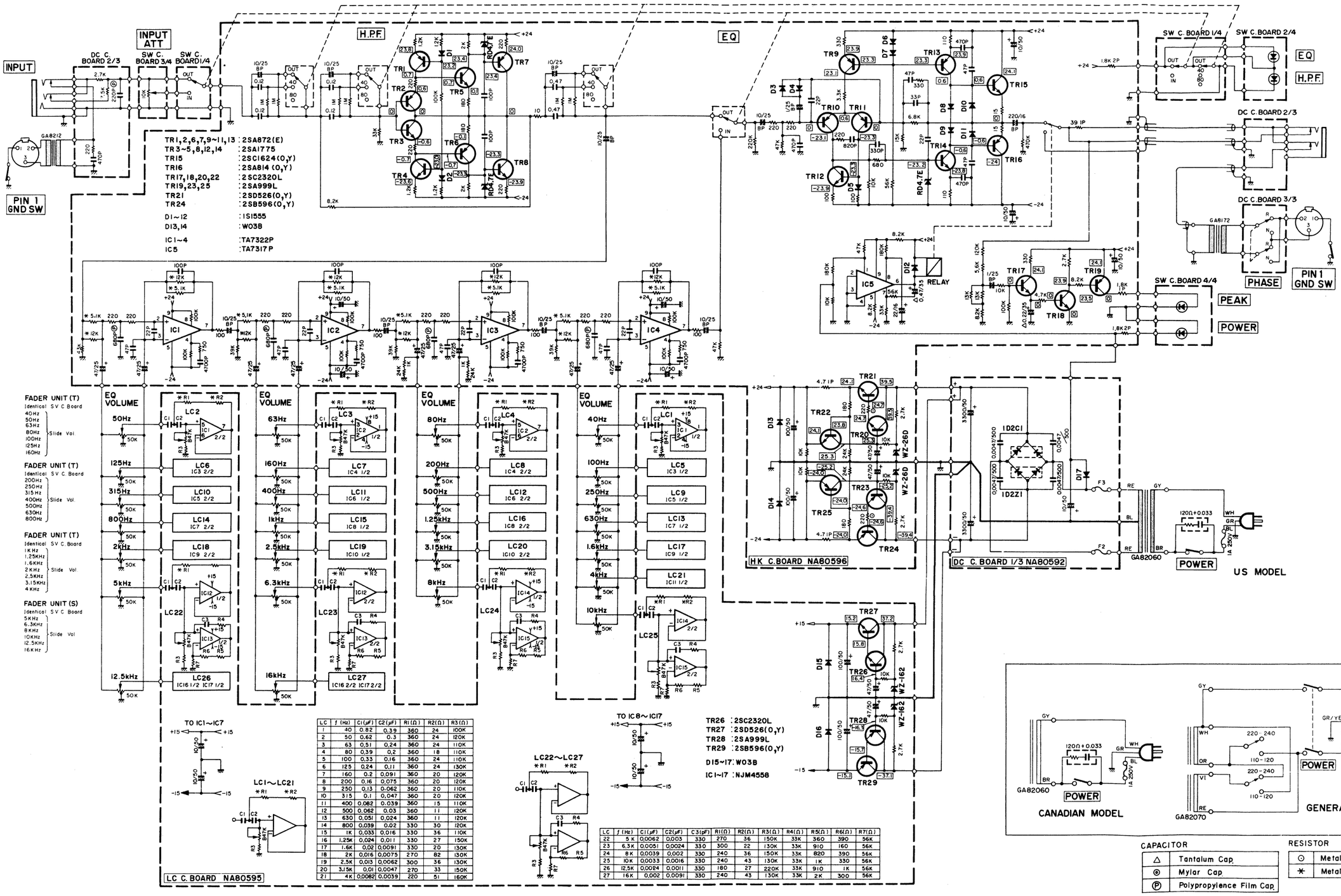
(H.P.F.)

Fig. 6

BLOCK DIAGRAM



■SCHEMATIC DIAGRAM



LC	f (Hz)	C1(μF)	C2(μF)	R1(Ω)	R2(Ω)	R3(Ω)
1	40	0.82	0.39	360	24	100K
2	50	0.62	0.3	360	24	120K
3	63	0.51	0.24	360	24	110K
4	80	0.39	0.2	360	18	110K
5	100	0.33	0.16	360	24	110K
6	125	0.24	0.11	360	24	130K
7	160	0.2	0.091	360	20	120K
8	200	0.16	0.075	360	20	120K
9	250	0.13	0.062	360	20	110K
10	315	0.1	0.047	360	20	120K
11	400	0.082	0.039	360	15	110K
12	500	0.062	0.03	360	11	120K
13	630	0.051	0.024	360	11	120K
14	800	0.039	0.02	330	30	120K
15	1K	0.033	0.016	330	36	110K
16	1.25K	0.024	0.011	330	27	150K
17	1.6K	0.02	0.0091	330	20	130K
18	2K	0.016	0.0075	270	82	130K
19	2.5K	0.013	0.0062	300	36	130K
20	3.15K	0.01	0.0047	270	33	150K
21	4K	0.0082	0.0039	220	51	160K

LC	f (Hz)	C1(μF)	C2(μF)	C3(pF)	R1(Ω)	R2(Ω)	R3(Ω)	R4(Ω)	R5(Ω)	R6(Ω)	R7(Ω)
22	5 K	0.0062	0.003	330	270	36	150K	33K	360	390	56K
23	6.3K	0.0051	0.0024	330	300	22	130K	33K	910	160	56K
24	8 K	0.0039	0.002	330	240	36	150K	33K	820	390	56K
25	10K	0.0033	0.0016	330	240	43	130K	33K	1K	330	56K
26	12.5K	0.0024	0.0011	330	180	27	220K	33K	910	1K	56K
27	16K	0.002	0.0091	330	240	43	130K	33K	2K	300	56K

CAPACITOR

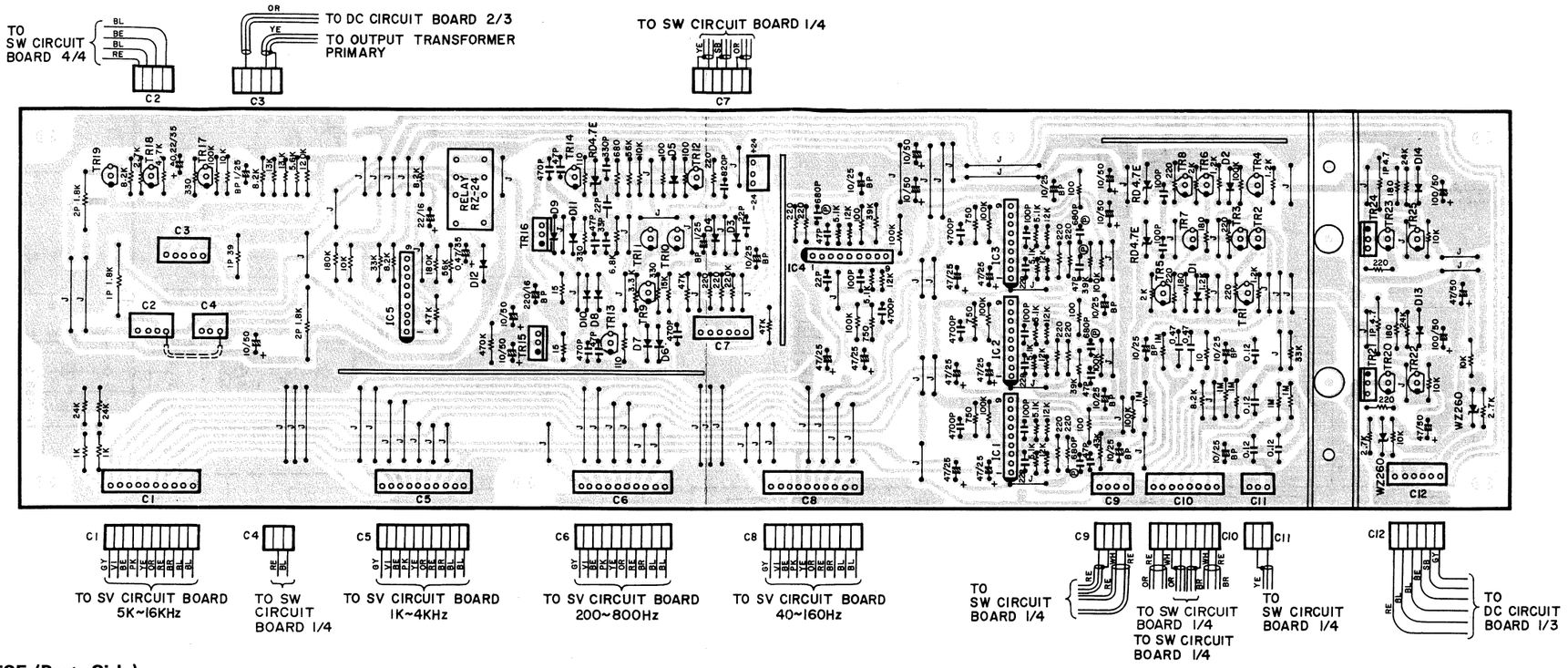
△	Tantalum Cap.
◎	Mylar Cap.
Ⓟ	Polypropylene Film Cap.

RESISTOR

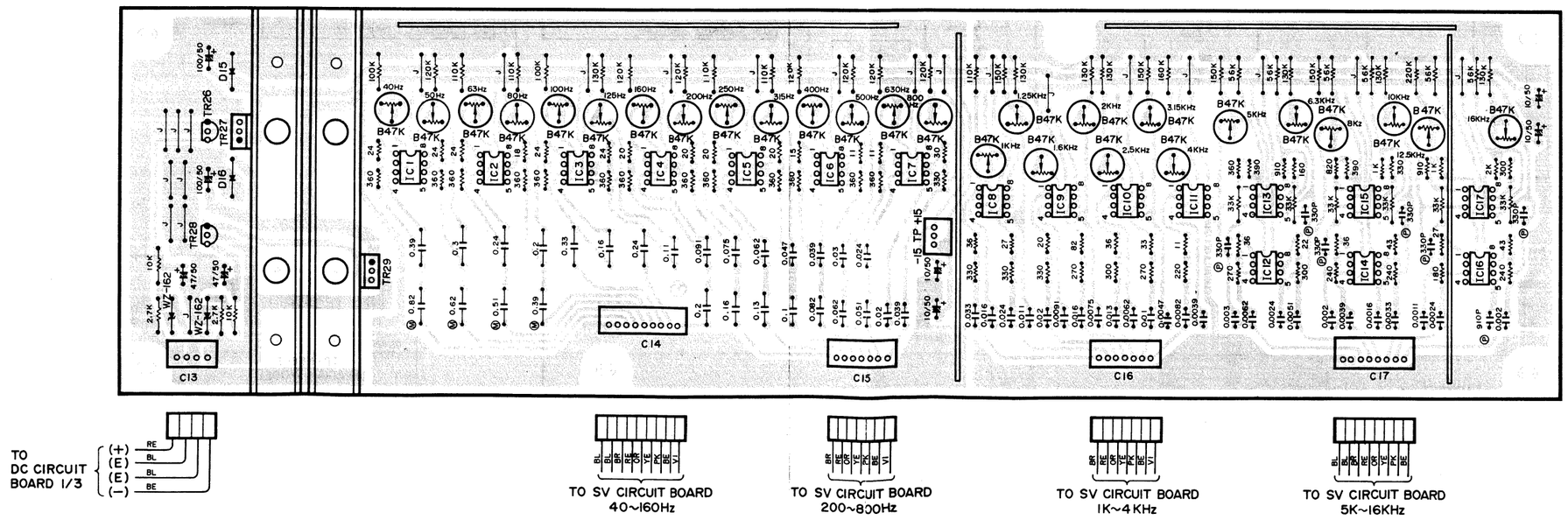
⊙	Metal Plate Resistor
*	Metal Film Resistor

■PRINTED CIRCUIT BOARDS

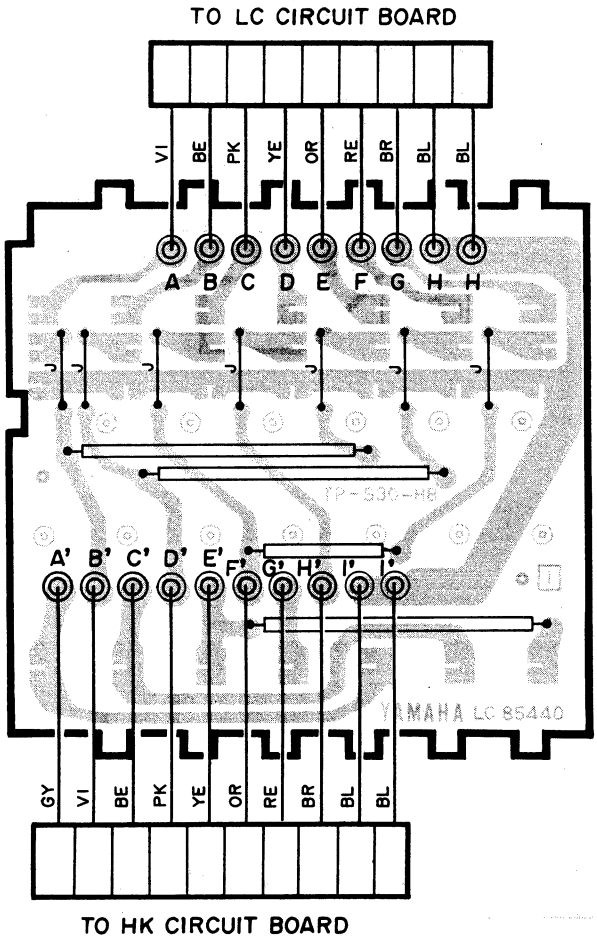
- HK CIRCUIT BOARD NA80596 (Parts Side)



- LC CIRCUIT BOARD NA80595 (Parts Side)



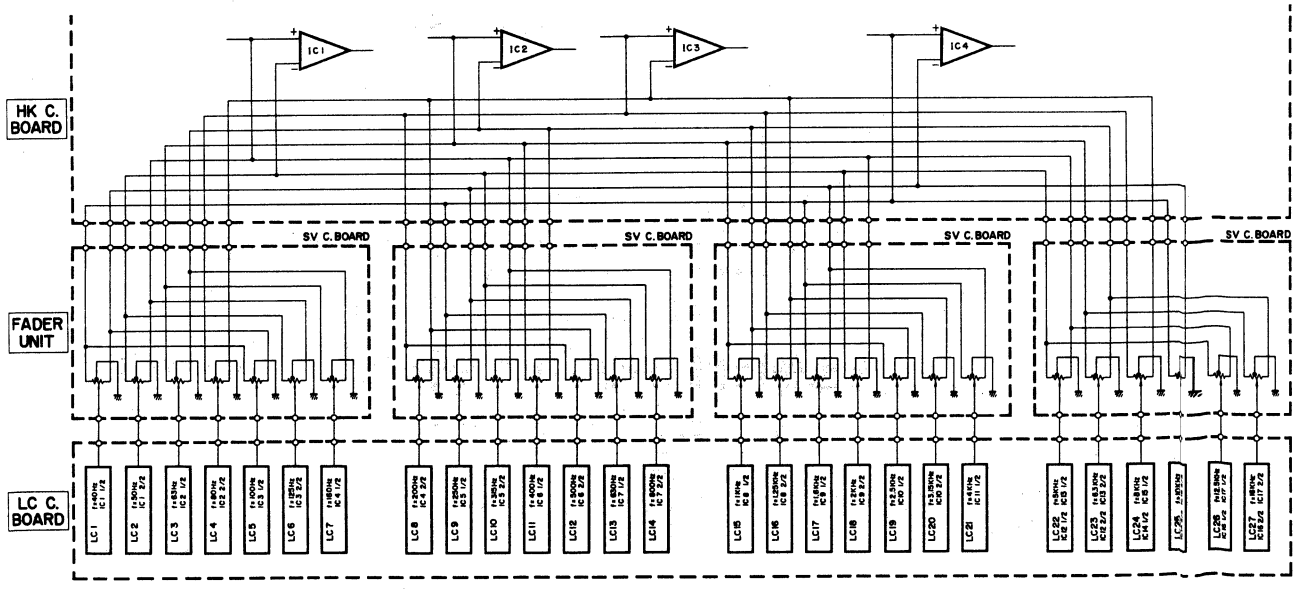
• SV CIRCUIT BOARD NA80597 (Pattern Side)



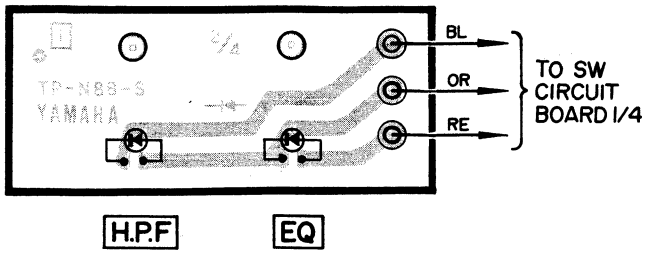
FADER UNIT	A	B	C	D	E	F	G	H	H
40~160Hz	VI	BE	PK	YE	OR	RE	BR	BL	BL
200~800Hz	VI	BE	PK	YE	OR	RE	BR		
1K~4KHz	VI	BE	PK	YE	OR	RE	BR		
5K~16KHz		BE	PK	YE	OR	RE	BR	BL	BL

FADER UNIT	HK CIRCUIT BOARD	LC CIRCUIT BOARD
40~160Hz	C8	C14
200~800Hz	C6	C15
1K~4KHz	C5	C16
5K~16KHz	C1	C17

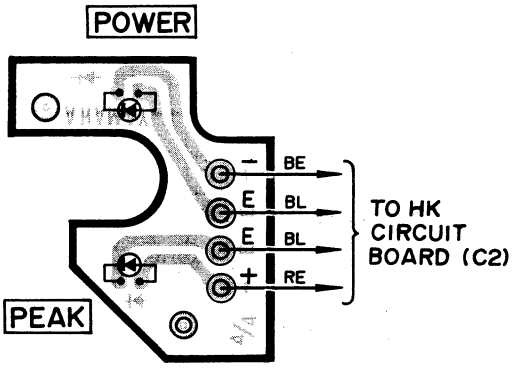
• 27 Band EQ Connection



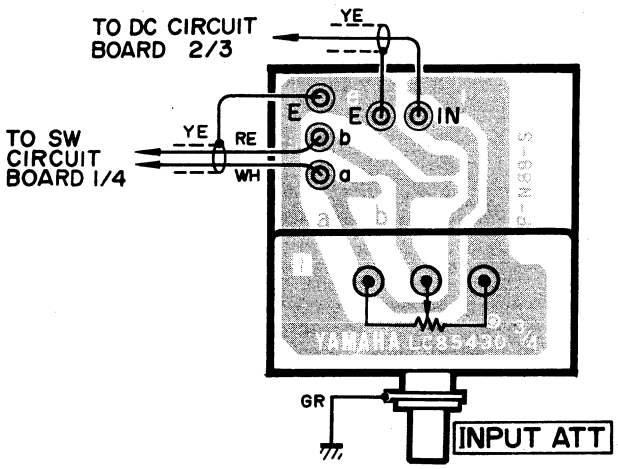
- SW CIRCUIT BOARD 2/4 NA80594 (Pattern Side)



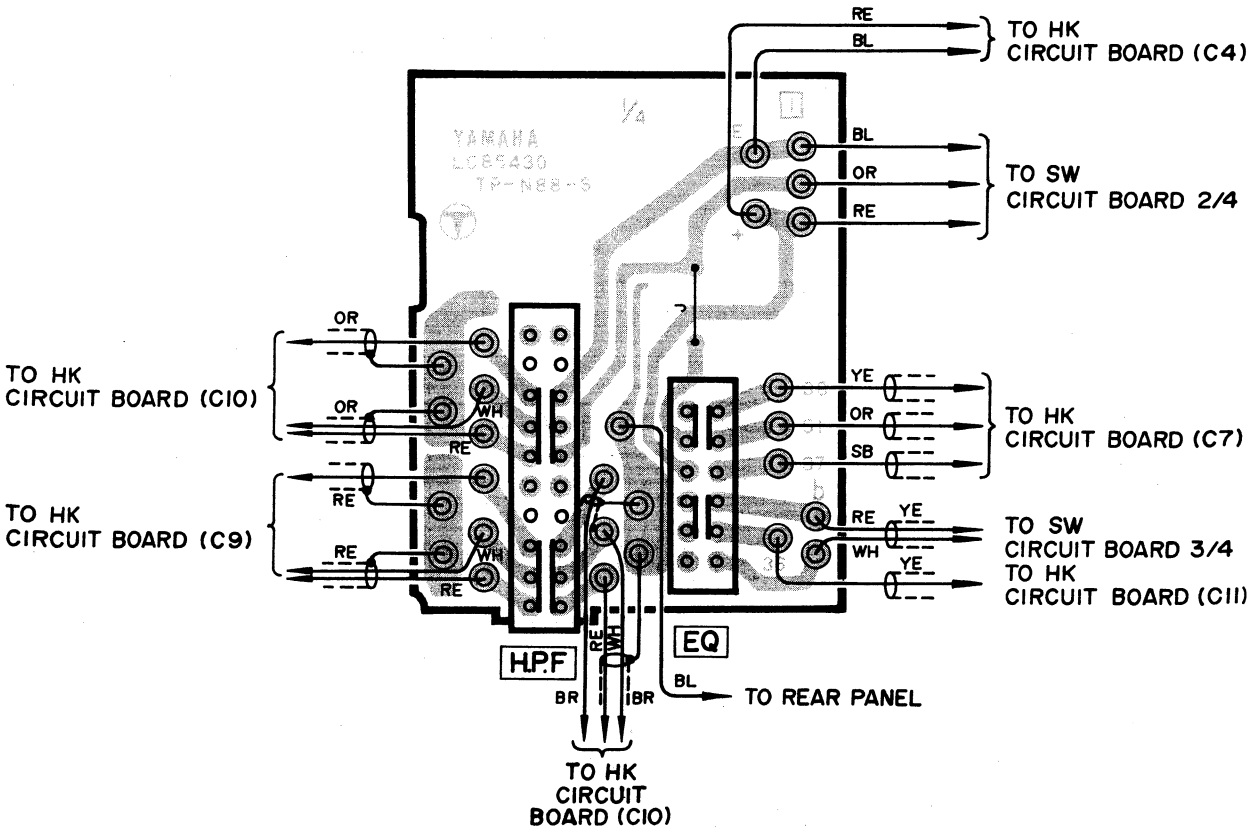
- SW CIRCUIT BOARD 4/4 NA80594 (Pattern Side)



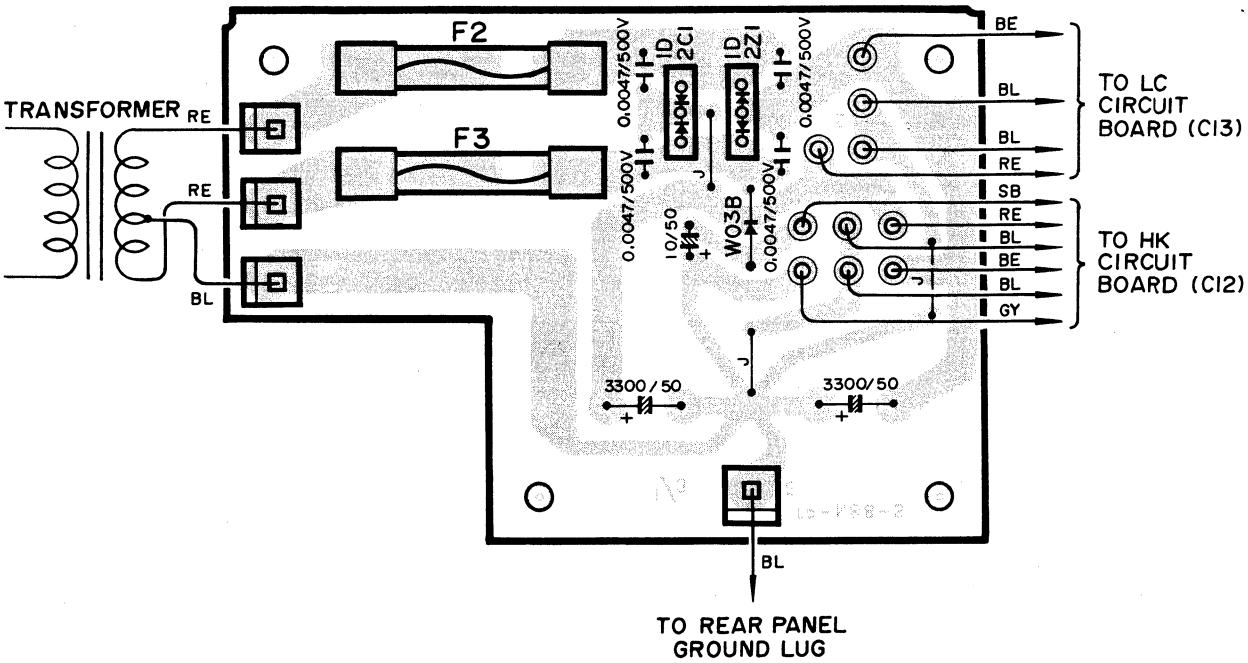
- SW CIRCUIT BOARD 3/4 NA80594 (Pattern Side)



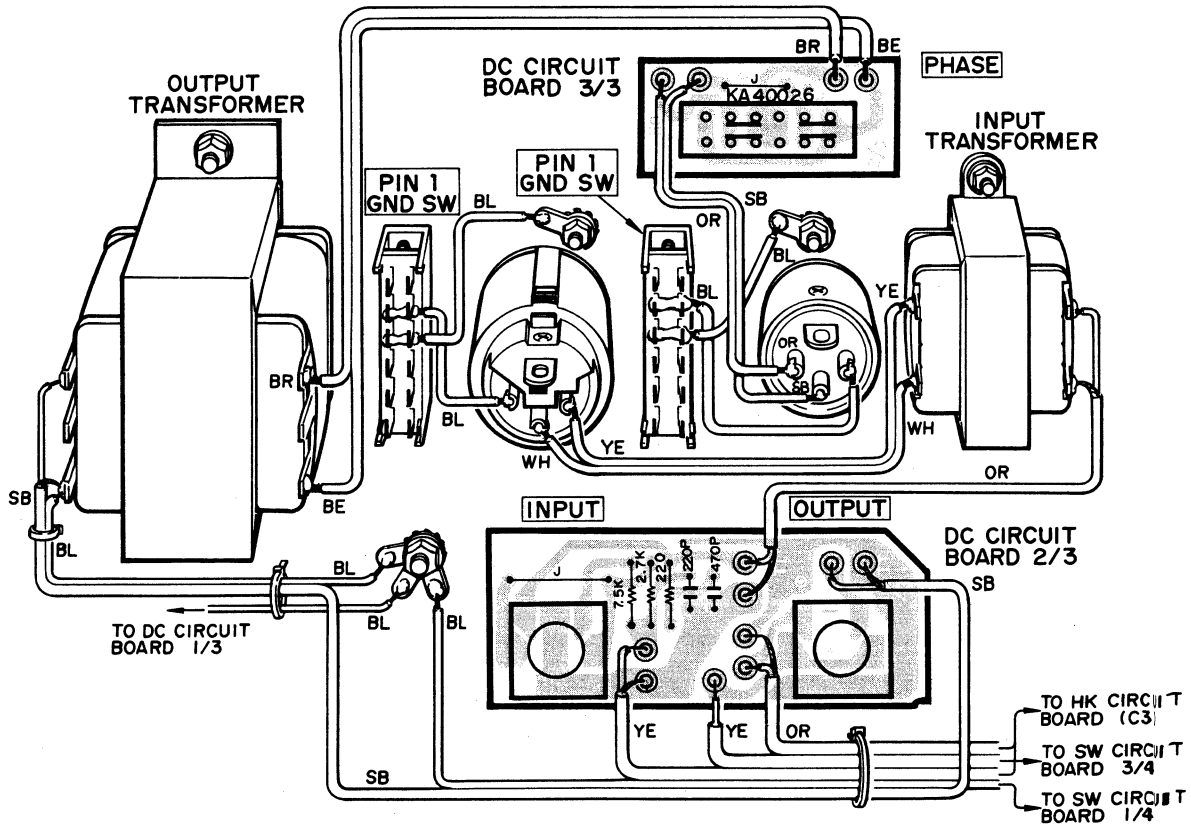
- SW CIRCUIT BOARD 1/4 NA80594 (Pattern Side)



- **DC CIRCUIT BOARD 1/3 NA80591 (Parts Side)**



- **WIRING CIRCUIT BOARD 2/3, 3/3 NA80591 (Pattern Side)**



PARTS LIST

Q1027

■ CONTENTS

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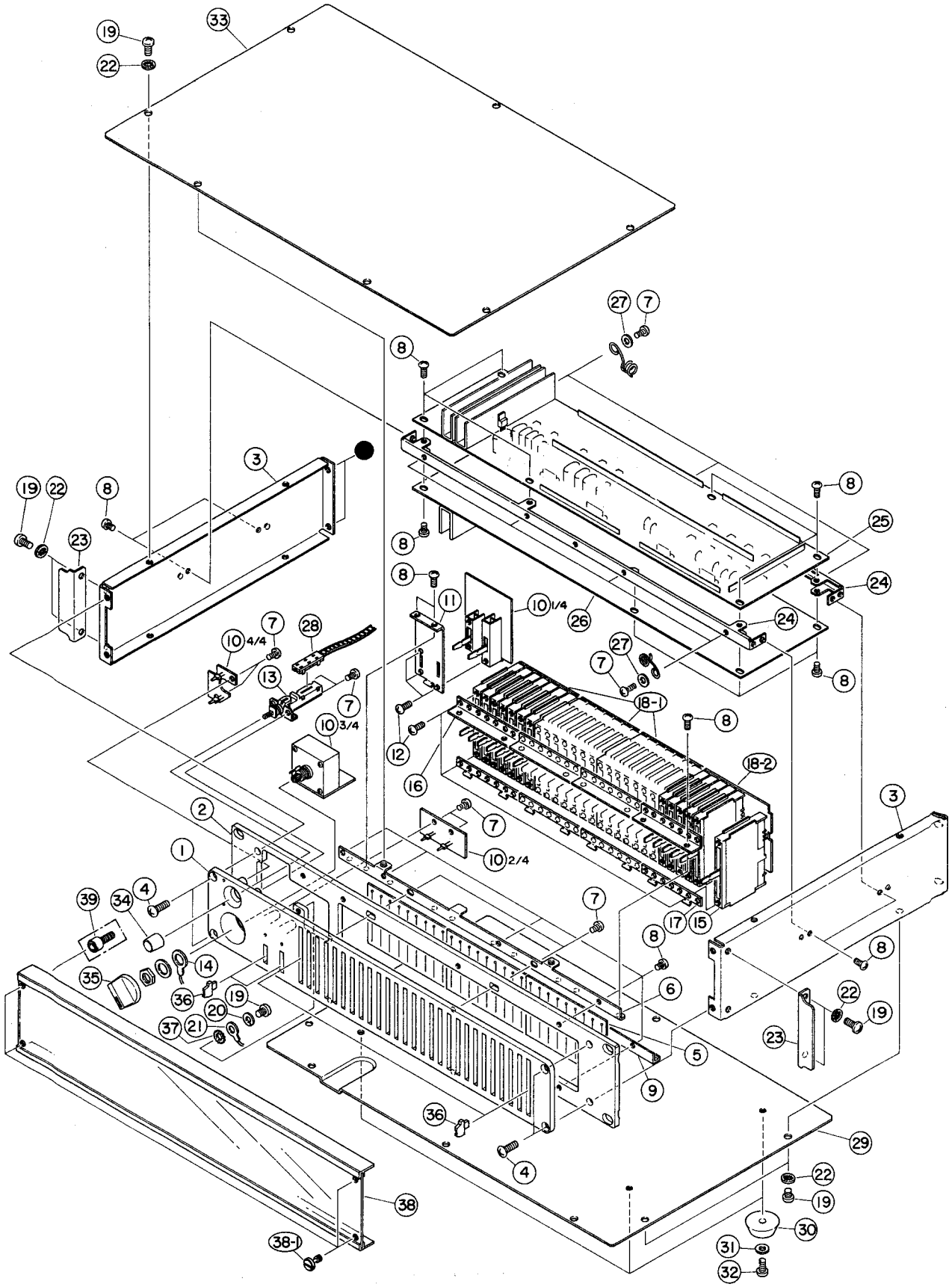
SINCE 1887 YAMAHA

NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN

■EXPRODED VIEW



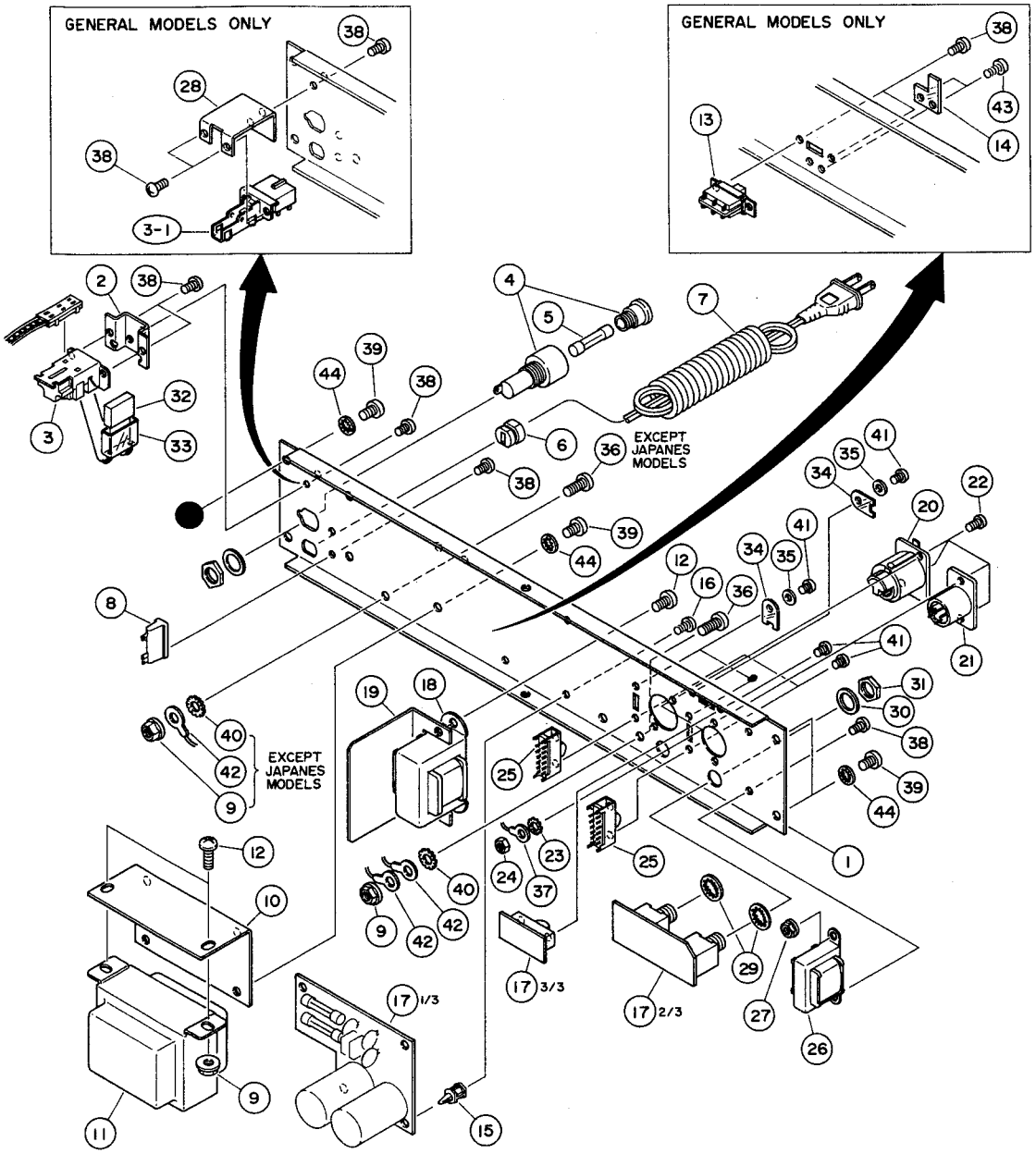
■PARTS LIST

DESTINATION ABBREVIATIONS
G : General C : Canadian
U : US J : Japan

	Ref No.	Part No.	Description	(部品名)	Remarks	Common model		
※	1	30 54 00 CB 81 54 30	Panel Escutcheon	パネルエスカッション				
※	2	30 54 00 BA 80 42 30	Panel	パネル				
※	3	30 54 00 AA 81 32 30	Side Cover	サイドカバー				
	4	40 10 00 EF 34 01 50	Oval Head Screw M4 x 15 FCM3-Bℓ	丸皿小ネジ				
※	5	40 10 00 CB 81 61 20	Dust Cover	防塵カバー				
※	6	30 54 00 AA 81 32 50	Top Angle	トップアングル				
	7	40 10 00 Ei 33 00 60	Bind Head Tapping Screw 3 x 6 FCM3-Bℓ	バインドタッピングネジ				
	8	40 10 00 ED 33 00 50	Bind Head Screw M3 x 5 FCM3-Bℓ	バインド小ネジ				
※	9	30 54 00 AA 81 32 60	Bottom Angle	ボトムアングル				
※	10	30 54 00 NA 80 59 40	SW C. Board	SWシート				
※	11	30 54 00 AA 81 32 90	Switch Subchassis	スイッチサブシャージ				
	12	40 10 00 EA 02 60 40	Pan Head Screw M2.6 x 4 FCM3-Bℓ	ナベ小ネジ				
※	13	40 10 00 KA 90 14 80	Remote Switch (Control)	リモートスイッチ(操作部)				
	14	40 10 00 LA 00 17 70	Ground Lug φ8.2	アースラグ				
※	15	40 10 00 HQ 41 00 20	Slide Variable Resistor	スライドボリューム				
※	16	30 54 00 AA 81 32 70	Fader Angle (T)	フェーダーアングル				
※	17	30 54 00 AA 81 32 80	〃 (B)	〃				
※	18-1	30 54 00 NB 81 49 40	Fader Unit (T)	フェーダーユニット				
※	18-2	30 54 00 NB 81 49 50	〃 (S)	〃				
	19	40 10 00 ED 34 00 80	Bind Head Screw M4 x 8 FCM3-Bℓ	バインド小ネジ				
	20	40 10 00 EV 30 30 40	Spring Lock Washer φ4 FCM3-Bℓ	バネ座金				
	21	40 10 00 LA 00 02 90	Ground Lug φ4	アースラグ				
	22	40 10 00 EV 41 30 40	Toothed Lock Washer A4S FCM3-Bℓ	歯付座金				
※	23	30 54 00 AA 81 36 50	Side Angle	サイドアングル				
※	24	30 54 00 AA 81 32 00	P. C. Board Support Angle	シート受けアングル				
※	25	30 54 00 NA 80 59 50	LC C. Board	LCシート				
※	26	30 54 00 NA 80 59 60	HK C. Board	HKシート				
	27	40 10 00 EV 20 00 30	Flat Washer φ3 ZMC2-Y	平座金				
※	28	40 10 00 KA 90 14 90	Remote Switch (Wire) 173 mm	リモートスイッチ(ワイヤー部)	J, U, C			
※	28	40 10 00 KA 90 15 30	〃 155 mm	〃	G			
※	29	30 54 00 AA 81 32 10	Bottom Cover	ボトムカバー				
	30	30 54 00 CB 80 12 70	Leg	ゴム脚				
	31	40 10 00 EV 20 30 40	Flat Washer φ4 ZMC2-Bℓ	平座金				
	32	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				
※	33	30 54 00 AA 81 32 20	Top Cover	トップカバー				
	34	30 54 00 CB 06 65 10	Push Button	プッシュボタン				
	35	30 54 00 CB 81 23 70	Knob (ATT)	ツマミ				
※	36	30 54 00 CB 81 54 40	〃 (EQ)	ツマミ				
	37	40 10 00 EV 42 30 40	Toothed Lock Washer B4S FCM3-Bℓ	歯付座金				
※	38	30 54 82 NB 81 49 20	Security Cover Ass'y	セキュリティカバー				
※	38-1	30 54 00 AA 81 33 00	Setscrew	止めネジ				
	39	30 54 00 AA 81 32 40	Mountingscrew	メネジ付皿小ネジ				

※ NEW PARTS

■EXPRODED VIEW (REAR PANEL)



	Ref No.	Part No.	Description	(部 品 名)	Remarks	Common model		
※	1	30 54 00 AA 81 31 20	Rear Panel	リ ア パ ネ ル	J			
※	1	30 54 00 AA 81 31 30	〃	〃	U			
※	1	30 54 00 AA 81 31 40	〃	〃	C			
※	1	30 54 00 AA 81 31 50	〃	〃	G			
※	2	30 54 00 AA 81 33 10	Power Switch Subchassis	パワースイッチサブシャージ	J, U, C			
※	3	40 10 00 KA 90 15 00	Remote Switch (Switch)	リモートスイッチ (スイッチ部)	J			
※	3	40 10 00 KA 90 15 10	〃	〃	U, C			
※	3-1	40 10 00 KA 90 15 20	〃	〃	G			
	4	40 10 00 LB 20 04 90	Fuse Holder	ヒ ュ ー ズ ホ ル ダ ー	J, U, C			
	4	40 10 00 LB 20 05 90	〃	〃	G			

※ NEW PARTS

	Ref No.	Part No.	Description	(部品名)	Remarks	Common model		
	5	40 10 00 KB 00 03 30	Fuse 1A250V	ヒューズ	J, C			
	5	40 10 00 KB 00 10 60	〃 1A250V	〃	U			
	5	40 10 00 KB 00 06 70	〃 630mAT 250V	〃	G			
	6	40 10 00 CB 06 86 30	Cord Stopper	コードストッパー	J			
	6	40 10 00 CB 80 68 50	〃	〃	U, C			
	6	40 10 00 CB 03 28 40	〃	〃	G			
	7	40 10 00 MG 00 06 00	AC Cord	電源コード	J			
	7	40 10 00 MG 00 02 70	〃	〃	U, C			
	7	40 10 00 MG 00 04 50	〃	〃	G			
	8	40 10 00 LA 00 07 60	Lug Terminal	ラグ端子板				
	9	40 10 00 EK 80 06 20	Hexagonal Flange Nut M4	六角フランジナット				
※	10	30 54 00 AA 81 33 20	Transformer Angle	トランス取り付けアングル				
※	11	40 10 00 GA 82 05 00	Power Transformer	電源トランス	J			
※	11	40 10 00 GA 82 06 00	〃	〃	U, C			
※	11	40 10 00 GA 82 07 00	〃	〃	G			
	12	40 10 00 ED 34 01 00	Bind Head Screw M4 x 10 FCM3-Bℓ	バインド小ネジ				
	13	40 10 00 KA 40 04 10	Slide Switch	スライドスイッチ	G			
	14	40 10 00 CB 81 42 50	Stopper	ストッパー	G			
	15	40 10 00 CB 03 54 10	Tapping Support	タッピングサポート				
	16	40 10 00 Ei 33 50 80	Bind Head Tapping Screw 3.5 x 8 FCM3-Bℓ	バインドタッピングネジ				
※	17	30 54 00 NA 80 59 10	DC C. Board	DC シート	J, C			
※	17	30 54 00 NA 80 59 20	〃	〃	U			
※	17	30 54 00 NA 80 59 30	〃	〃	G			
※	18	40 10 00 GA 81 72 00	OUTPUT Transformer	OUTPUTトランス				
※	19	30 54 00 AA 81 36 70	Shield Plate	シールド板				
	20	40 10 00 LB 30 01 50	Cannon Socket XLR-3-31	キャノンソケット				
	21	40 10 00 LB 30 01 60	Cannon Socket XLR-3-32	〃				
	22	40 10 00 EM 23 01 00	Oval Head Tapping Screw 3 x 10 FNM3-3g	丸皿タッピングネジ				
	23	40 10 00 EV 42 00 30	Toothed Lock Washer B3S ZMC2-Y	歯付座金				
	24	40 10 00 EK 00 35 50	Hexagonal Nut M3 ZMC2-Y	特殊六角ナット				
	25	40 10 00 KA 40 02 50	Slide Switch	スライドスイッチ				
※	26	40 10 00 GA 82 12 00	INPUT Transformer	INPUT スランス				
	27	40 10 00 EK 80 06 30	Hexagonal Flange Nut M3	六角フランジナット				
※	28	30 54 00 AA 81 33 30	Power Switch Subchassis	パワースイッチサブシャージ	G			
	29	40 10 00 EV 43 00 90	Toothed Lock Washer A9S ZMC2-Y	歯付座金				
	30	40 10 00 LX 20 00 10	Flat Washer 9S FNM3	特殊平座金				
	31	40 10 00 LX 20 00 60	Hexagonal Nut M9 FNM3	特殊六角ナット				
	32	40 10 00 FZ 00 01 10	Spark Quencher 0.033μF 500V	スパークキラーコンデンサ	J, U			
	32	40 10 00 FZ 00 09 50	〃 0.033μF	〃	C			
	33	40 10 00 CB 07 21 90	Condenser Cover	コンデンサカバー	J, U			
	33	40 10 00 CB 07 98 90	〃	〃	C			
	34	40 10 00 CB 02 24 30	Stopper (Slide Switch)	スライドスイッチストッパー				
	35	40 10 00 EV 20 30 30	Flat Washer φ3 FCM3-Bℓ	平座金				
	36	40 10 00 ED 34 01 20	Bind Head Screw M4 x 12 FCM3-Bℓ	バインド小ネジ				
	37	40 10 00 LA 00 02 80	Ground Lug φ3	アースラグ				
	38	40 10 00 ED 33 00 50	Bind Head Screw M3 x 5 FCM3-Bℓ	バインド小ネジ				
	39	40 10 00 ED 34 00 80	〃 M4 x 8 FCM3-Bℓ	〃				
	40	40 10 00 EV 42 30 40	Toothed Lock Washer B4S FCM3-Bℓ	歯付座金				
	41	40 10 00 EA 02 60 40	Pan Head Screw M2.6 x 4 FCM3-Bℓ	ナベ小ネジ				
	42	40 10 00 LA 00 02 90	Ground Lug φ4	アースラグ				
	43	40 10 00 Ei 33 00 60	Bind Head Tapping Screw 3 x 6 FCM3-Bℓ	バインドタッピングネジ				
	44	40 10 00 EV 41 30 40	Toothed Lock Washer A4S FCM3-Bℓ	歯付座金				

※NEW PARTS

■PARTS LIST (ELECTRICAL PARTS)

	Ref No.	Part No.	Description	(部品名)	Remarks	Common model		
※		30 54 00 NA 80 59 10	DC C. Board #84861	DCシート	J, C			
※		30 54 00 NA 80 59 20	〃 #85451	〃	U			
※		30 54 00 NA 80 59 30	〃 #84861	〃	G			
		40 10 00 FT 55 22 20	Polypropylence Film Cap. 220pF	ポリプロピレンコン				
		40 10 00 FH 22 34 70	Ceramic Cap. 4,700pF 500V	セラコン				
※		40 10 00 FZ 00 22 90	Electrolytic Cap. 3,300μF 50V	ケミコン				
		40 10 00 iH 00 07 20	Diode W03B	ダイオード				
		40 10 00 iH 00 02 80	〃 1D2C1	〃				
		40 10 00 iH 00 02 90	〃 1D2Z1	〃				
		40 10 00 KA 40 02 60	Slide Switch	スライドスイッチ				
		40 10 00 KB 00 03 30	Fuse 250V 1A	ヒューズ	J, C			
		40 10 00 KB 00 10 60	〃 250V 1A	〃	U			
		40 10 00 KB 00 06 70	〃 250V 630mAT	〃	G			
		40 10 00 LB 20 15 40	Jack	ジャック				
		40 10 00 LB 20 15 30	Fuse Holder Pin	ヒューズ受け金具				
		30 54 00 NA 80 59 70	SV C. Board	SVシート				
※		30 54 00 NA 80 59 40	SW C. Board #85431	SWシート				
		40 10 00 iF 00 17 20	LED LN222RP	LED				
※		40 10 00 HY 00 09 20	Detento Variable Resistor 10KΩ	ディテントボリューム				
※		40 10 00 KA 40 07 10	Slide Switch	スライドスイッチ				
※		40 10 00 KA 40 07 20	〃	〃				
※		30 54 00 NA 80 59 50	LC C. Board #84841	LCシート				
※		40 10 00 FC 21 53 90	Metalized Polypropylence Cap. 0.39μF	MMHコン				
※		40 10 00 FC 21 55 10	〃 0.51μF	〃				
※		40 10 00 FC 21 56 20	〃 0.62μF	〃				
※		40 10 00 FC 21 58 20	〃 0.82μF	〃				
※		40 10 00 FT 46 31 11	Polypropylene Polyester Film Cap. 0.0011μF	AWSコンデンサー				
※		40 10 00 FT 46 31 60	〃 0.0016μF	〃				
※		40 10 00 FT 46 32 00	〃 0.002μF	〃				
※		40 10 00 FT 46 32 40	〃 0.0024μF	〃				
※		40 10 00 FT 46 33 00	〃 0.003μF	〃				
※		40 10 00 FT 46 33 30	〃 0.0033μF	〃				
※		40 10 00 FT 46 33 90	〃 0.0039μF	〃				
※		40 10 00 FT 46 34 70	〃 0.0047μF	〃				
※		40 10 00 FT 46 35 10	〃 0.0051μF	〃				
※		40 10 00 FT 46 36 20	〃 0.0062μF	〃				
※		40 10 00 FT 46 37 50	〃 0.0075μF	〃				
※		40 10 00 FT 46 38 20	〃 0.0082μF	〃				
※		40 10 00 FT 46 39 10	〃 0.0091μF	〃				
※		40 10 00 FT 46 41 00	〃 0.01μF	〃				
※		40 10 00 FT 46 41 10	〃 0.011μF	〃				
※		40 10 00 FT 46 41 30	〃 0.013μF	〃				
※		40 10 00 FT 46 41 60	〃 0.016μF	〃				
※		40 10 00 FT 46 41 20	〃 0.02μF	〃				
※		40 10 00 FT 46 42 40	〃 0.024μF	〃				
※		40 10 00 FT 46 43 00	〃 0.03μF	〃				
※		40 10 00 FT 46 43 30	〃 0.033μF	〃				
※		40 10 00 FT 46 43 90	〃 0.039μF	〃				
※		40 10 00 FT 46 44 70	〃 0.047μF	〃				

※ NEW PARTS

	Ref No.	Part No.	Description		(部 品 名)	Remarks	Common model		
※		40 10 00 FT 46 45 10	Polypropylene Polyester Film Cap.	0.051μF	AWSコンデンサー				
※		40 10 00 FT 46 46 20	〃	0.062μF	〃				
※		40 10 00 FT 46 47 50	〃	0.075μF	〃				
※		40 10 00 FT 46 48 20	〃	0.082μF	〃				
※		40 10 00 FT 46 49 10	〃	0.091μF	〃				
※		40 10 00 FT 46 51 00	〃	0.1μF	〃				
※		40 10 00 FT 46 51 10	〃	0.11μF	〃				
※		40 10 00 FT 46 51 30	〃	0.13μF	〃				
※		40 10 00 FT 46 51 60	〃	0.16μF	〃				
※		40 10 00 FT 46 52 00	〃	0.2μF	〃				
※		40 10 00 FT 46 52 40	〃	0.24μF	〃				
※		40 10 00 FT 46 53 00	〃	0.3μF	〃				
※		40 10 00 FT 46 53 30	〃	0.33μF	〃				
※		40 10 00 FT 66 23 30	Polypropylene Cap.	330PF	APSコンデンサー				
※		40 10 00 FT 66 29 10	〃	910PF	〃				
		40 10 00 HU 07 41 10	Metal Film Resistor RE35	11Ω	金属被膜抵抗				
		40 10 00 HU 07 41 50	〃	15Ω	〃				
		40 10 00 HU 07 41 80	〃	18Ω	〃				
		40 10 00 HU 07 42 00	〃	20Ω	〃				
		40 10 00 HU 07 42 20	〃	22Ω	〃				
		40 10 00 HU 07 42 40	〃	24Ω	〃				
		40 10 00 HU 07 42 70	〃	27Ω	〃				
		40 10 00 HU 07 43 00	〃	30Ω	〃				
		40 10 00 HU 07 43 60	〃	36Ω	〃				
		40 10 00 HU 07 44 30	〃	43Ω	〃				
		40 10 00 HU 07 45 10	〃	51Ω	〃				
		40 10 00 HU 07 48 20	〃	82Ω	〃				
		40 10 00 HU 07 51 80	〃	180Ω	〃				
		40 10 00 HU 07 52 40	〃	240Ω	〃				
		40 10 00 HU 07 52 70	〃	270Ω	〃				
		40 10 00 HU 07 53 00	〃	300Ω	〃				
		40 10 00 HU 07 53 30	〃	330Ω	〃				
		40 10 00 HU 07 53 60	〃	360Ω	〃				
		40 10 00 HU 07 53 90	〃	390Ω	〃				
		40 10 00 HU 07 51 60	〃	160Ω	〃				
		40 10 00 HU 07 52 20	〃	220Ω	〃				
		40 10 00 HU 07 58 20	〃	820Ω					
		40 10 00 HU 07 59 10	〃	910Ω					
		40 10 00 HU 07 61 00	〃	1KΩ	〃				
		40 10 00 HU 07 62 00	〃	2KΩ					
		40 10 00 HU 07 43 30	〃	33Ω	〃				
		40 10 00 HT 41 01 40	Semi Fixed Variable Resistor	B47KΩ	半固定抵抗				
		40 10 00 iA 09 99 30	Transistor	2SA999L	トランジスタ				
		40 10 00 iB 05 96 30	〃	2SB596 (O, Y)	〃				
		40 10 00 iC 23 20 30	〃	2SC2320L (E, F)	〃				
		40 10 00 iD 05 26 30	〃	2SD526 (O, Y)	〃				
		40 10 00 iF 00 06 50	Zener Diode	WZ162	ツェナーダイオード				
		40 10 00 iH 00 07 20	〃	W03B	〃				
		40 10 00 iG 00 13 90	IC	NJM4558DV	IC				
		40 10 00 LB 30 07 30	Connector	3P (T, E)	コネクター				
		40 10 00 LB 40 05 70	〃	4P 〃	〃				
		40 10 00 LB 60 24 60	〃	7P 〃	〃				
		40 10 00 LB 60 24 90	〃	8P 〃	〃				

※ NEW PARTS

	Ref No.	Part No.	Description	(部品名)	Remarks	Common model		
		40 10 00 LB 60 30 40	Connector 9P (T, E)	コネクター				
		30 54 00 BA 80 42 70	Heat Sink #80427	放熱板				
		30 54 00 CB 07 28 80	Insulator Bush	絶縁ブッシュ				
		40 10 00 iL 00 02 70	Mica Base	マイカベース				
		40 10 00 EL 02 60 80	Sems Bind Head Screw M2.6 x 8 ZMC2-Y	セムス小ネジ				
		40 10 00 ED 33 00 80	Bind Head Screw M3 x 8 FCM3-Bℓ	バインド小ネジ				
		40 10 00 EV 42 30 30	Toothed Lock Washer B3S ZMC2-Bℓ	歯付座金				
		30 54 00 NA 80 59 60	HK C. Board #84851	HKシート				
		40 10 00 FA 15 51 20	Mylar Cap. 0.12μF	マイラーコン				
※		40 10 00 FC 21 54 70	Metalized Polyester Cap. 0.47μF	メタライズドポリエステルコン				
		40 10 00 FM 22 61 00	Bipolar Electrolytic Cap. 1μF 25V	BPケミコン				
		40 10 00 FM 22 71 00	〃 10μF 25V	〃				
		40 10 00 FM 09 82 20	〃 220μF 16V	〃				
		40 10 00 FM 11 71 00	〃 10μF 50V	〃				
		40 10 00 FP 35 52 20	Tantalum Cap. 0.22μF 35V	タンタルコン				
		40 10 00 FP 35 54 70	〃 0.47μF 35V	〃				
		40 10 00 FT 55 26 80	Polypropylene Cap. 680PF 50V	ポリプロピレンコンデンサー				
		40 10 00 HL 31 31 00	Metal Oxide Film Resistor 1W 1Ω	酸化金属被膜抵抗				
		40 10 00 HL 31 43 90	〃 1W 39Ω	〃				
		40 10 00 HL 31 61 80	〃 1W 1.8KΩ	〃				
		40 10 00 HL 32 61 80	〃 2W 1.8KΩ	〃				
		40 10 00 HU 07 65 10	Metal Film Resistor 5.1KΩ	金属被膜抵抗				
		40 10 00 HU 07 71 20	〃 12KΩ	〃				
		40 10 00 HW 79 52 20	Plate Resistor 220Ω 33mA	プレート抵抗				
		40 10 00 HL 31 34 70	Metal Oxide Film Resistor 1W 4.7Ω	酸化金属被膜抵抗				
		40 10 00 iA 08 72 30	Transistor 2SA872E	トランジスタ				
		40 10 00 iA 09 99 30	〃 2SA999L	〃				
		40 10 00 iB 05 96 30	〃 2SAB596 (O, Y)	〃				
		40 10 00 iC 17 75 00	〃 2SC1775	〃				
		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 14 00	〃 2SA814 (O, Y)	〃				
		40 10 00 iC 16 24 00	〃 2SC1624 (O, Y)	〃				
		40 10 00 iF 00 00 40	Diode 1S1555	ダイオード				
		40 10 00 iH 00 07 20	〃 W03B	〃				
		40 10 00 iF 00 02 50	Zener Diode WZ-260	ツェナーダイオード				
		40 10 00 iF 00 08 30	〃 RD4.7E	〃				
		40 10 00 iG 03 48 00	IC TA7317P	IC				
※		40 10 00 iG 03 99 00	〃 TA7322P	〃				
		40 10 00 KC 00 02 00	Relay AE-1324-44	リレー				
		40 10 00 LB 30 07 30	Connector 3P	NHコネクター				
		40 10 00 LB 40 05 70	〃 4P	〃				
		40 10 00 LB 50 02 50	〃 5P	〃				
		40 10 00 LB 60 29 40	〃 6P	〃				
		40 10 00 LB 60 24 90	〃 8P	〃				
		40 10 00 LB 60 24 70	〃 10P	〃				
		30 54 00 BA 80 42 70	Heat Sink #80427	放熱板				
		30 54 00 CB 07 28 80	Insulator Bush	絶縁ブッシュ				
		40 10 00 iL 00 02 70	Mica Base	マイカベース				
		40 10 00 EL 02 60 80	Sems Bind Head Screw 2.6 x 8 ZMC2-Y	セムス小ネジ				
		40 10 00 ED 33 00 80	Bind Head Screw M3 x 8 FCM3-Bℓ	バインド小ネジ				
		40 10 00 EV 42 30 30	Toothed Lock Washer B3S ZMC2-Bℓ	歯付座金				

※ NEW PARTS