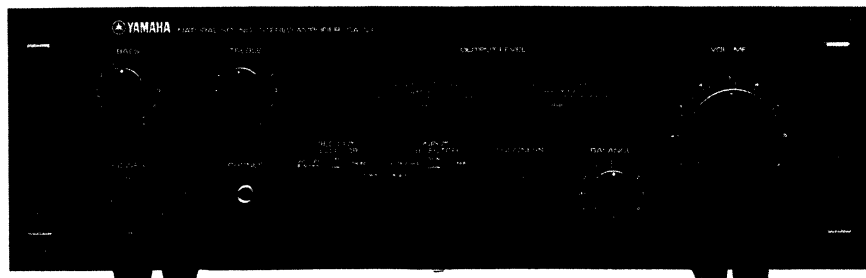
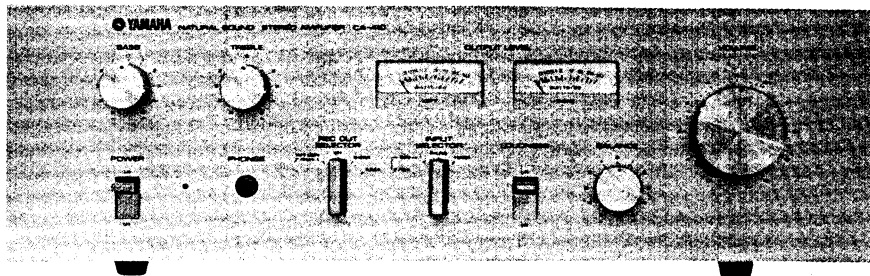


SERVICE MANUAL

CA-410,V1

PRE-MAIN AMPLIFIER



SINCE 1887



YAMAHA

NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN

CONTENTS

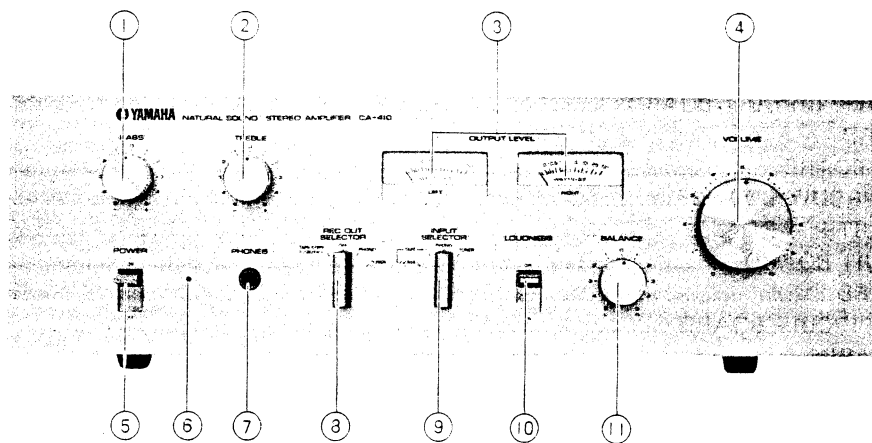
SPECIFICATIONS	1
EXTERNAL VIEW	2
INTERNAL VIEW	4
CIRCUIT DESCRIPTIONS	5
DISASSEMBLY PROCEDURES	8
BLOCK DIAGRAM	9
ADJUSTMENT OF MAIN AMP CIRCUIT BOARD	10
PRINTED CIRCUIT BOARD	
VOLUME CIRCUIT BOARD	11
TONE CONTROL CIRCUIT BOARD	11
EQUALIZER CIRCUIT BOARD	11
PC LIMITER CIRCUIT BOARD	12
LED CIRCUIT BOARD	12
DIN CONNECTOR CIRCUIT BOARD	12
MAIN CIRCUIT BOARD	15
OVERALL SCHEMATIC DIAGRAM	13
PARTIAL CHANGES MADE ACCORDING TO DESTINATION	17
PACKAGE	19
PARTS LIST	20

SPECIFICATIONS

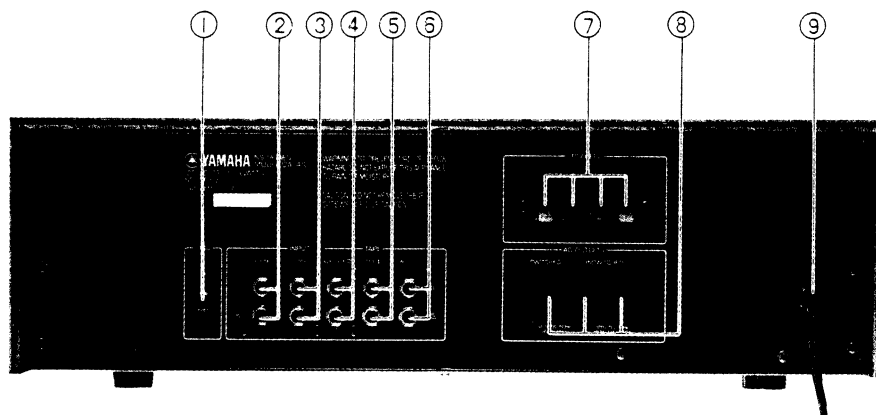
Dynamic Power (IHF, 8Ω, 1kHz)	85W
Continuous RMS Power	
(20Hz ~ 20kHz both channels driven)	
8Ω, 0.05% T.H.D.	25W + 25W
(1kHz both channels driven) 8Ω	27W+27W
4Ω	33W+33W
Power Bandwidth (IHF 0.05% T.H.D.)	10Hz~50kHz
Total Harmonic Distortion (8Ω)	Less than 0.05%
(8Ω, 15W, 1kHz) ...	Less than 0.005%
Intermodulation Distortion (8Ω)	Less than 0.05%
Damping Factor (8Ω, 1kHz)	50
Frequency Response (AUX → SP OUT)	20Hz~20kHz ±0.5dB
Input Sensitivity/Impedance	
Phono	2.5mV, 50kΩ
Tuner, AUX/Tape 2	150mV, 50kΩ
Tape PB 1	150mV, 50kΩ
Maximum Input Capacity (Phono)	
.....	120mV at 1kHz, 0.05% T.H.D.
Output Level/Impedance	
Tape REC OUT	150mV, 1kΩ
Tone Controls	
Basse	50Hz, ±10dB
Treble	10kHz, ± 9dB
Loudness ..	-30dB, VOL down +9dB at 50Hz, +6.5dB at 10kHz
S/N Ratio (IHF A Network)	
Phono → SP OUT	77dB
AUX → SP OUT	100dB
Residual Noise	0.13mV
Auxiliary Circuits	
Output Level Meter	
REC OUT Selector	
Speaker Protection Circuit	
Power Transistor Protection Circuit	
■ OTHERS	
Semiconductors Used	Transistors 40
	Diodes 26
	Zener Diode 1
■ GENERAL	
Power Source	AC110V~240V, 50/60Hz
Power Consumption	150W: US & Canadians
	Models
	240W: Australian
	European
	British
	80W: General Models
Dimensions	435(W) x 137(H) x 340(D) mm
	(110.7" x 34.87" x 86.6")
Weight	8.0kg
	(3.65 lbs.)
CA-V1 is equipped with grips.	

EXTERNAL VIEW

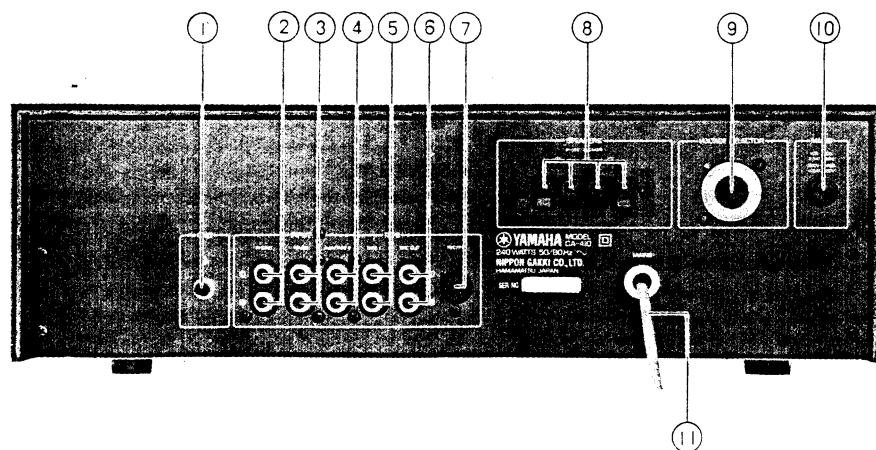
FRONT PANEL



REAR PANEL(U.S. & CANADIAN MODELS)



REAR PANEL(EUROPEAN MODEL)



FRONT PANEL

- ❶ BASS TONE CONTROL
- ❷ TREBLE TONE CONTROL
- ❸ OUTPUT LEVEL METERS
- ❹ VOLUME CONTROL
- ❺ POWER SWITCH
- ❻ POWER INDICATOR LAMP
- ❼ HEADPHONE JACK
- ❽ REC. OUT SELECTOR SWITCH
- ❾ INPUT SELECTOR SWITCH
- ❿ LOUDNESS SWITCH
- ⓫ BALANCE CONTROL

REAR PANEL(U.S.& CANADIAN MODELS)

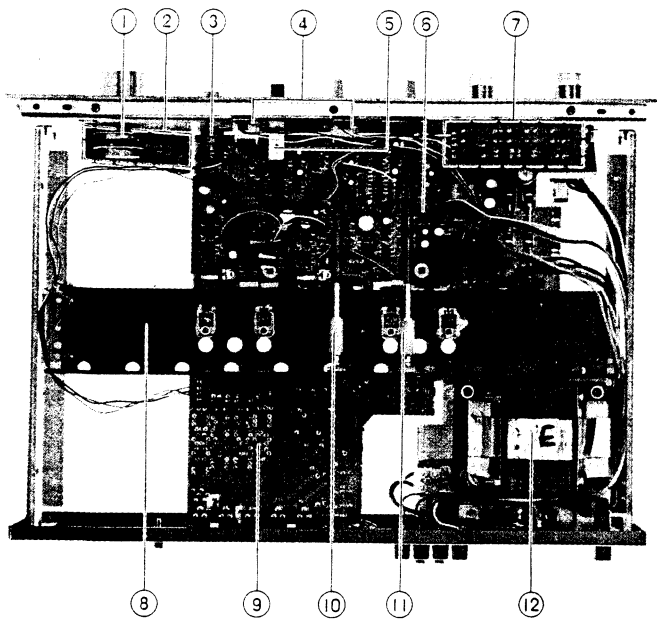
- ❶ GROUND TERMINAL
- ❷ PHONO INPUT JACKS
- ❸ TUNER INPUT JACKS
- ❹ AUX/TAPE 2 INPUT JACKS
- ❺ TAPE 1 INPUT JACKS
- ❻ REC OUT JACKS
- ❼ SPEAKER TERMINALS
- ❽ AC OUTLETS
- ❾ AC CORD

REAR PANEL(EUROPEAN MODEL)

- ❶ GROUND TERMINAL
- ❷ PHONO INPUT JACKS
- ❸ TUNER INPUT JACKS
- ❹ AUX/TAPE 2 INPUT JACKS
- ❺ TAPE 1 INPUT JACKS
- ❻ REC. OUT JACKS
- ❼ REC/PB CONNECTOR
- ❽ SPEAKER TERMINALS
- ❾ VOLTAGE SELECTOR
- ❿ PRIMARY FUSE
- ⓫ AC CORD

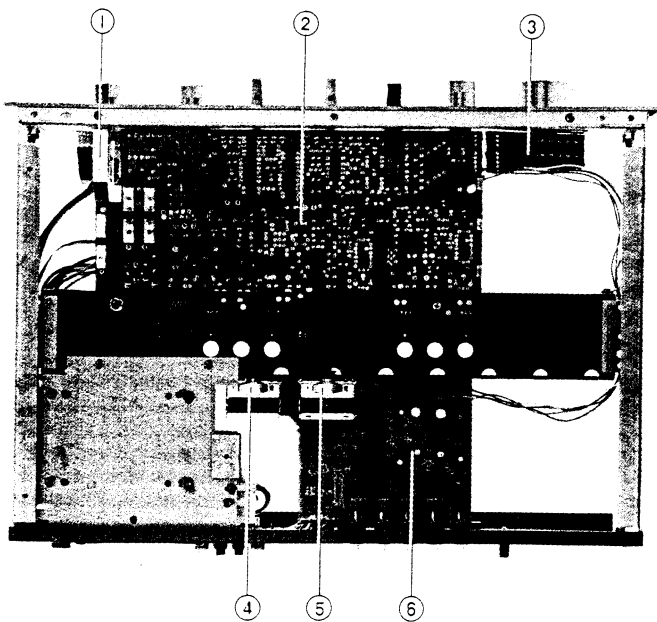
INTERNAL VIEW

TOP VIEW



- ① VOLUME CONTROL
- ② VOLUME CONTROL CIRCUIT BOARD
- ③ BALANCE CONTROL
- ④ OUTPUT LEVEL METERS
- ⑤ LOUDNESS SWITCH
- ⑥ MAIN CIRCUIT BOARD
- ⑦ TONE CONTROL CIRCUIT BOARD
- ⑧ HEAT SINK
- ⑨ EQUALIZER CIRCUIT BOARD
- ⑩ INPUT SELECTOR SWITCH
- ⑪ REC. OUT SELECTOR SWITCH
- ⑫ POWER TRANSFORMER

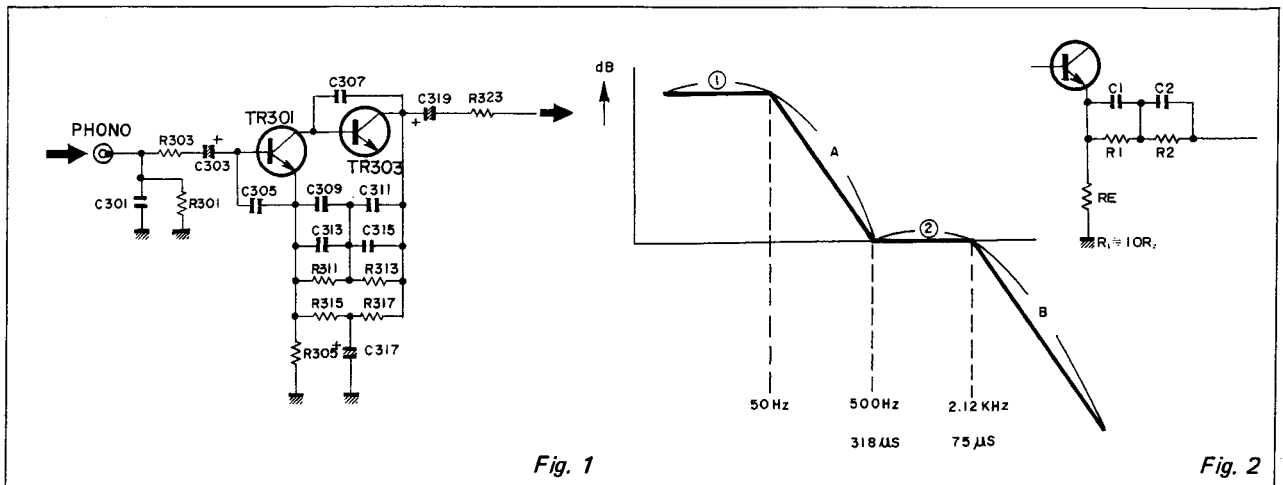
BOTTOM VIEW



- ① POWER SWITCH
- ② MAIN CIRCUIT BOARD
- ③ VOLUME CONTROL CIRCUIT BOARD
- ④ REC. OUT SELECTOR SWITCH
- ⑤ INPUT SELECTOR SWITCH
- ⑥ EQUALIZER CIRCUIT BOARD

CIRCUIT DESCRIPTIONS

1. EQUALIZER CIRCUIT

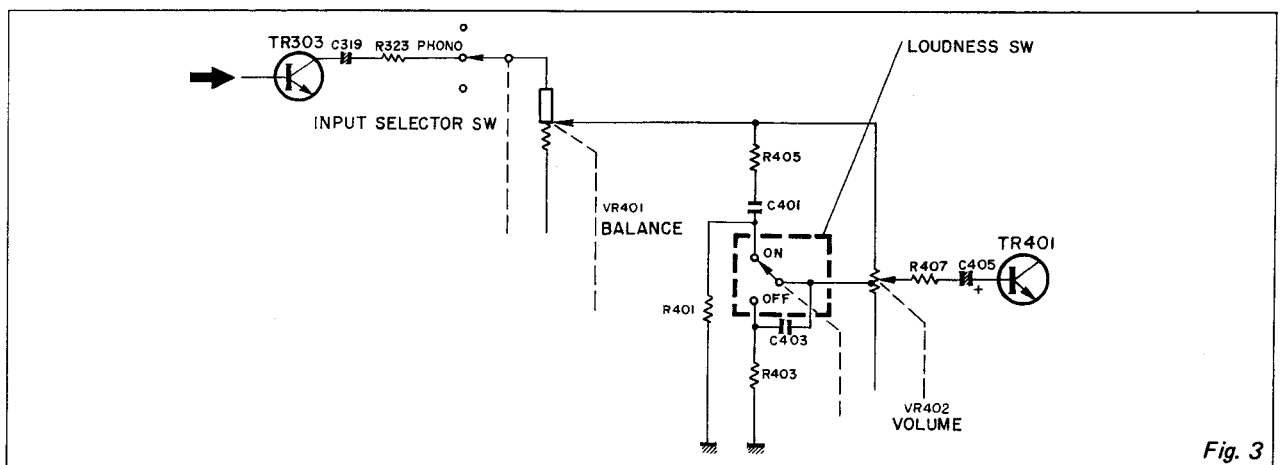


The very small input signal (2.5mV) from turntable enters the base of TR301 and is taken out from its collector. This signal then enters the base of TR303, and is taken out from its collector. Some portion of this output goes through the RIAA element composed of C309, C313, C311, C315, R311 and R313, and returns to the emitter of TR301 to compensate for the RIAA. Fig. 2 shows the RIAA compensation curve.

In this figure, the level of gain (1) is determined by R_e , R_1 , R_2 and $(\frac{R_1 + R_2}{R_e})$, while that of gain (2) is determined by R_e , R_2 and $(\frac{R_2}{R_e})$.

The gradient of the curve a is determined by C1, while the curve c by C2. In CA410, C311 and C315, respectively, correspond to C1, and C309 and C311 correspond to C2. Meanwhile, R311 corresponds to R1 and R311 to R2.

2. LOUDNESS CIRCUIT

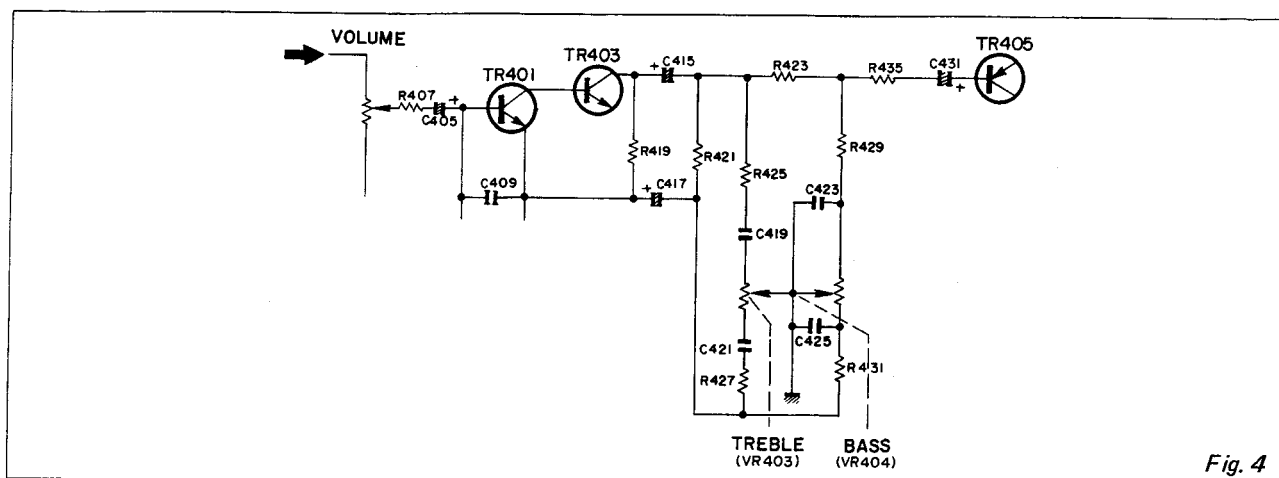


The collector output of TR303 goes through the balance control via the PHONO terminal of INPUT SELECTOR, and finally enters the base of TR401. The loudness shows an effectiveness in the minimum state of the volume control (VR-402). Therefore, when the loudness switch is on, the levels of resistance of R405 and C401 are lower than that of R407, and consequently, the signal flows to R405 and C401.

In this case, the highband portion of the signal is passed and heightened by C401 (560PF). Meanwhile the lowband is heightened because the intermediate-range band is decreased by C403. This results in a high loudness effect.

When the loudness switch is off, the signal flows to the balance volume due to a high level of resistance (R401, 1M-ohm), and consequently, it enters the base of TR401.

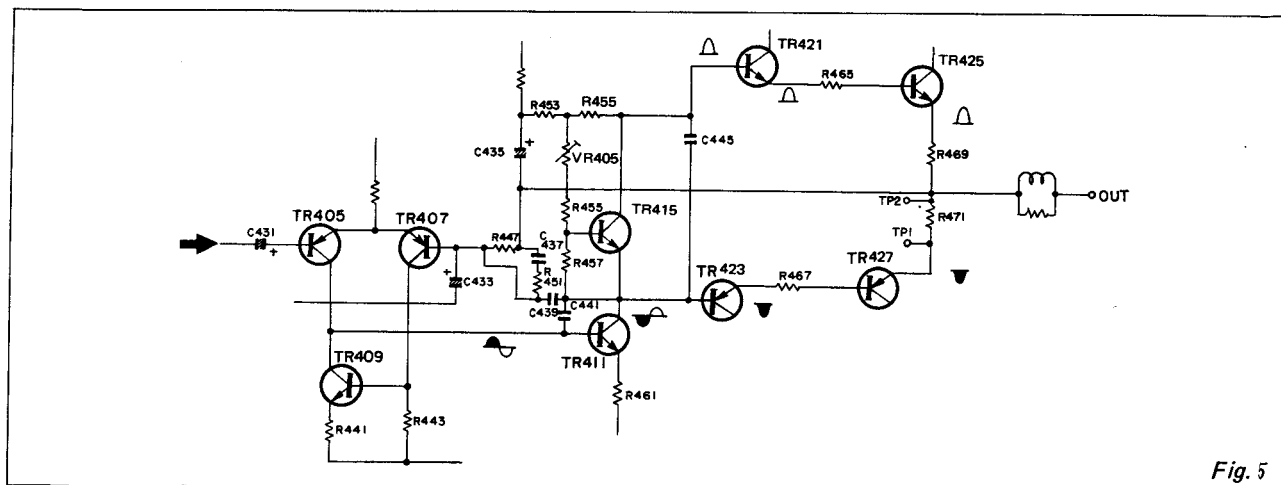
3. TONE CONTROL CIRCUIT



For controlling a tone level, we employ the YAMAHA CR-NF type tone control circuit. TR401 and TR402 are the tone amplifiers. The collector output of TR403 enters the control block via R423. C423 and R429 are designed for cutting a low audio level (NF increases, gain reduces), C425 and R431 for boosting an low

audio level (NF reduces, gain increases), R425 and C419 for cutting a high audio level (NF increases, gain reduces) and C421 and R427 for boosting a high audio level (NF reduces, gain increases). The NF enters the emitter of TR401, via C417.

4. OUTPUT STEP



In order to improve the distortion rate and the gain of the tone control circuit's output, we incorporate a current mirror which consists of the differential amplifiers of TR405 and TR407, and the differential amplifier's active loads, the TR409 and R443. The output from the differential amplifier is applied to the base of TR411. Imagine a negative collector output of TR411, now. As the impedance of TR415 decreases, the base potential of TR421 is likely head for the minus side, turning off TR421 and TR425. When a negative voltage is applied to the base of TR423, the PNP TR425 is turned on, and the base potential of

TR427, too, is likely to head for the minus side to turn on TR427. Consequently, the output of TR427 has a negative signal. When TR411's collector output is positive, the impedance of TR415 and the base of TR421 increase to turn on TR421. In this case, the base potential of TR425 also increases to turn it on. This gives a positive signal to the output. When the collective output of TR411 is positive, the PNP TR423 is turned off, and the base of TR427, too, becomes high. TR427 is consequently turned off and there is no positive output.

5. METER CIRCUIT

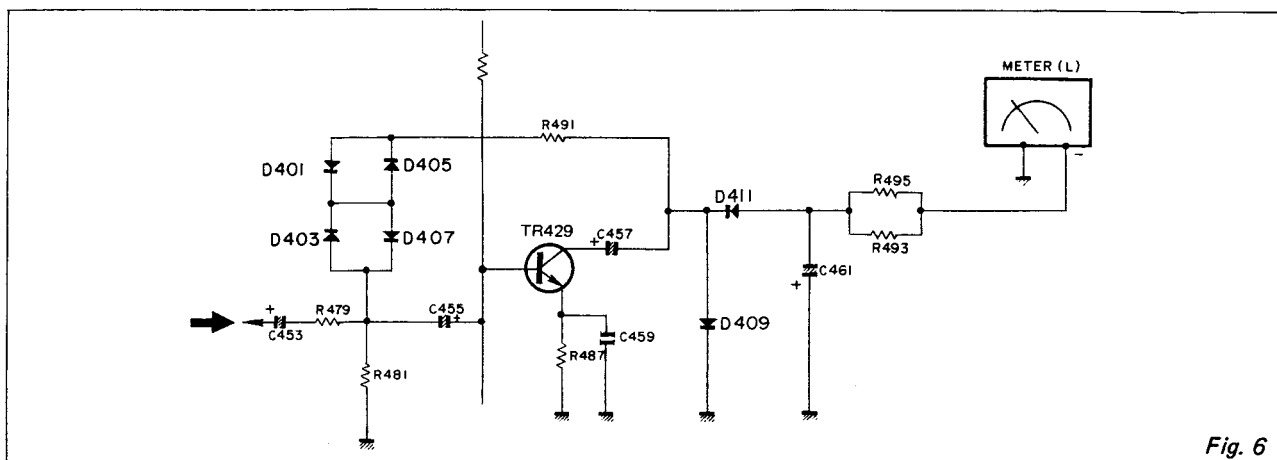


Fig. 6

The output of TR429 is taken out from the collector. This output signal is attenuated by D411 and D409, and the meter is actuated by a negative portion of the D411 signal. Some portion of the collector output goes through D401, 405, 403 and 407 to apply the

NF to the base of TR429. With this application of the NF, even if a linearly variable signal is applied to the level meter's circuit, the signal is compressed with the NF which is squared-modulated by the diode. Then, the meter's vibration varies on a square basis.

6. PROTECTION CIRCUIT

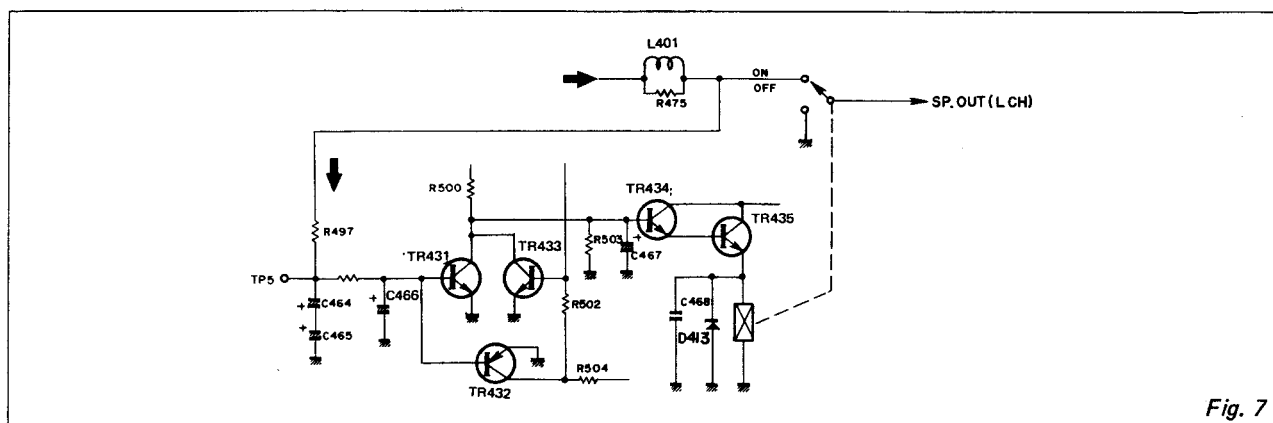


Fig. 7

When the DC portion of the speaker terminal has a (+) potential, TR432 is turned on and then the base potential of TR434 drops. As a result of it, the base potential of TR435, too, drops to turn off the relay, and not to apply the DC portion to the speakers.

The speakers are thus protected. On the other hand, when the DC portion has a (–) potential, TR426 is turned on, and the base potential of TR433 is increased to turn it on. Therefore, no DC is applied to the speakers.

7. BIAS/TEMPERATURE COMPENSATION CIRCUITS

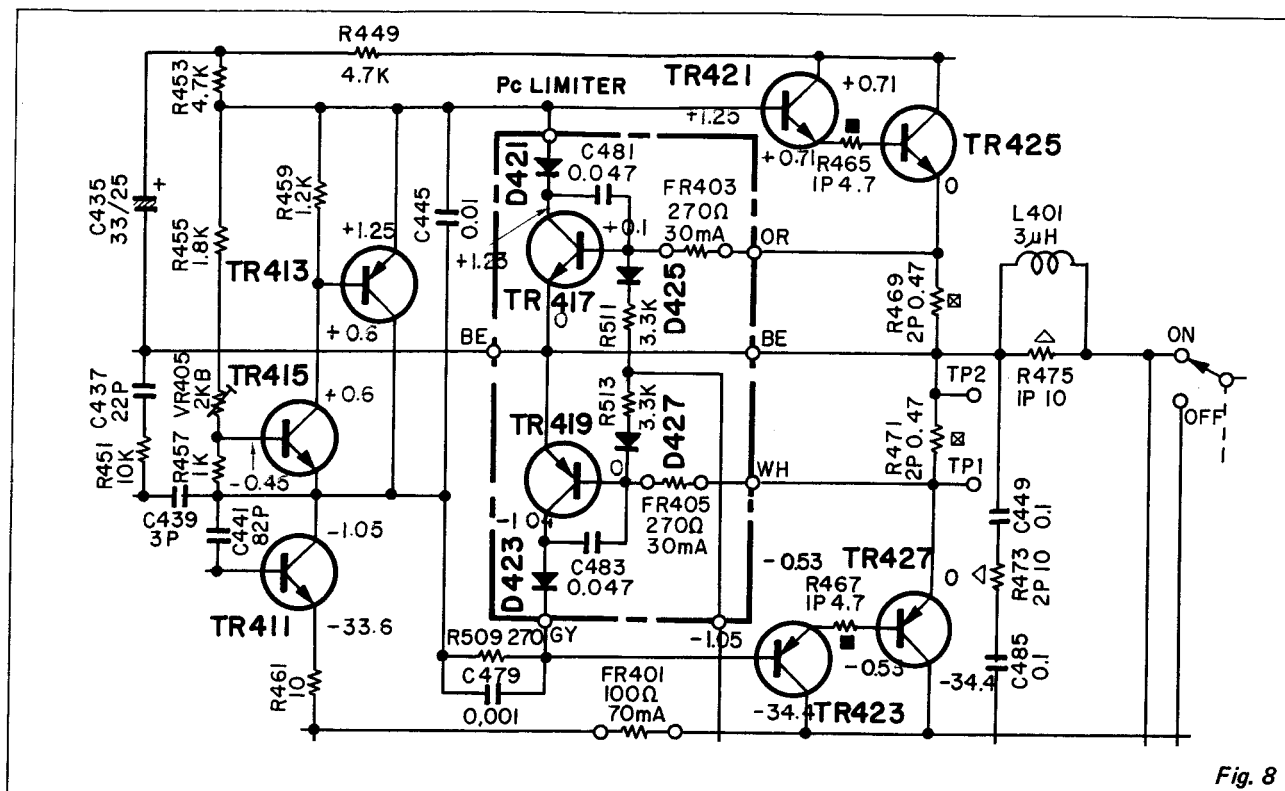


Fig. 8

Both TR413 and TR415 connected to the collector of TR411 pre-drive are the base bias transistors for the driver step. +B voltage divided by R453, 455, 457, 439 and VR405 is applied to the base of TR415. When TR415 starts to apply current, there exists a voltage drop due to R459 connected to the base of TR413, and TR413 starts to apply current. These two transistors help to drop the voltage in R453 and 509, and then determine the level of bias to be applied to the base of TR421 and 423. C479, on the other hand, functions to bypass the AC audio signals, while R509 alters the DC current to be applied to the base of TR423. When

TR425 and 427 generate heat under some conditions, in the final step, we employ TR415 thermo-coupled to a heat sink to protect against a rush of heat. This heat generation is inherent to a transistor. When the heat sink is further heated, TR415 is also heated and then applies greater current. Due to this the voltage drop in R459 becomes larger, and the flow of current from TR413 is by a margin of this voltage drop. These two transistors help to enlarge the voltage drops in R453 and 509, thereby remove the base bias of TR421 and 423 to the (-) side. Consequently, the heat generation in the final step can be eliminated.

DISASSEMBLY PROCEDURES

CABINET REMOVAL

Unscrew 2 retaining screws (1) and (2) on both sides of the unit under services as shown in Photo 1, and pull gently the case-cover out backward of the unit.

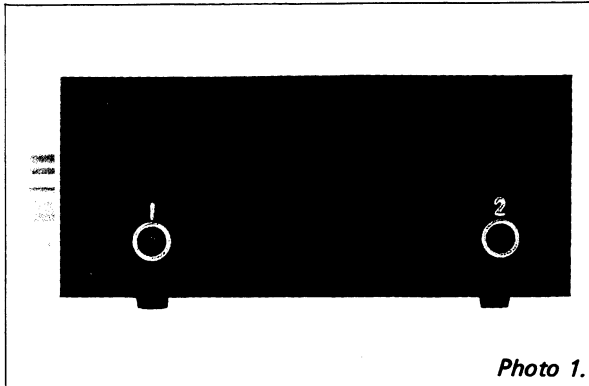


Photo 1.

BOTTOM PANEL REMOVAL

The bottom panel will easily be removed when unscrewed all the 7 screws (1) to (7) as in Photo 2 away from the unit bottom.

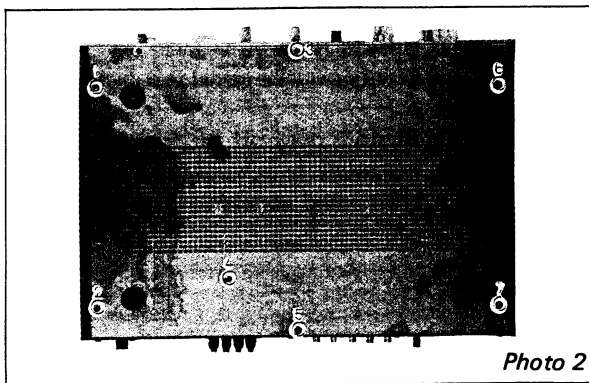


Photo 2

FRONT OPERATION CONSOLE PANEL

a) Refer to the Step 1, perform first, the dress case-cover removal.

b) Pull all the knobs of function switches and controls out from the Front panel.

** Before doing the job, do not forget to loosen set screws held each knob of INPUT Selector, and REC OUT Selector switches by using the supplied hexagonal wrench corresponded in size.

** For the rest of knobs, just pull gently out from each function shaft.

c) Remove each retaining screw of (1) and (2) shown in Photo 3, (1) & (2) in Photo 4 and then, draw the Front panel carefully toward you.

d) Separate an acrylic cover on the panel from the Output level meter with paying attention so as not to break wire leads connected to the meter.

Although an L.E.D. (light emitting diode for power-

on indicator) is protected by mounting in a rubber grommet holder, be careful so as not to make any damage on it in removing this front panel.

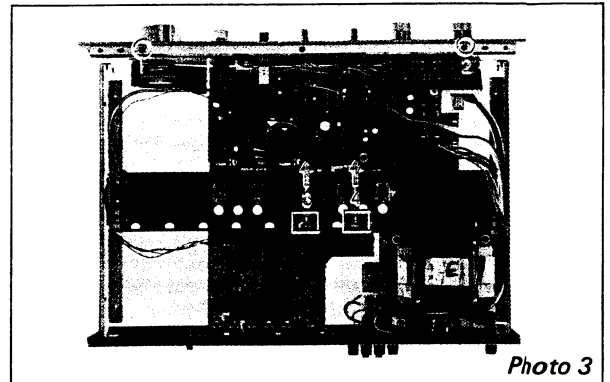


Photo 3

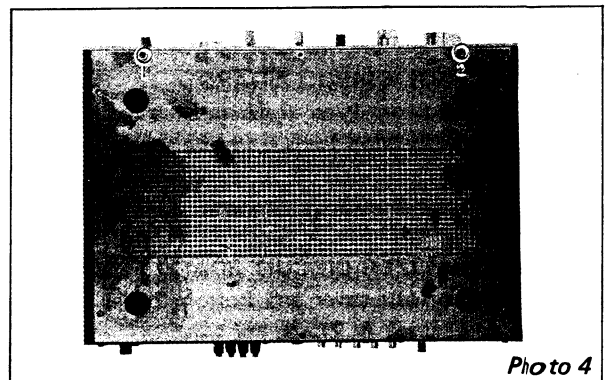


Photo 4

MAIN CIRCUIT BOARD REMOVAL

a) Perform first, the removal of Front panel and Bottom panel (refer to Steps 2 and 3).

b) Remove 3 fastening nuts (1) to (3) as shown in Photo 5, lever switch knob (4) and 2 retaining screws (5) & (6).

c) Unsolder all the wiring leads away from the level meter, a pilot lamp and from the LED.

d) Also unsolder each connection lead to the circuit board adjoined.

e) Remove all the connection leads (1) to (4) terminals for the power transistors as shown in Photo 6.

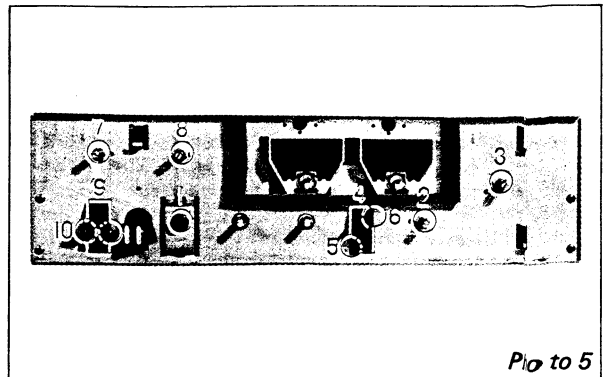


Photo 5

- f) Take the circuit board card away from the unit carefully with also removing 3 retaining screws (5) to (7).
 ** Pay attention to the jumper wires connected to the volume control circuit board which is removable together with the subjected main circuit board.

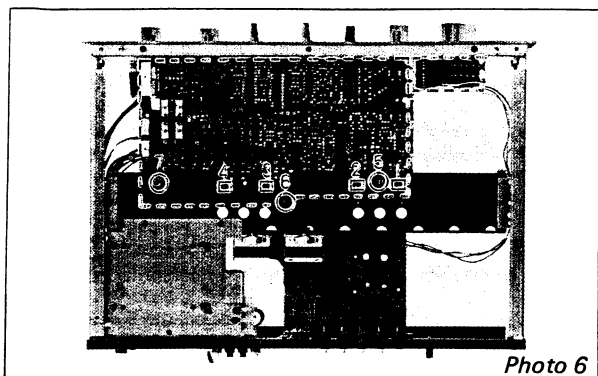


Photo 6

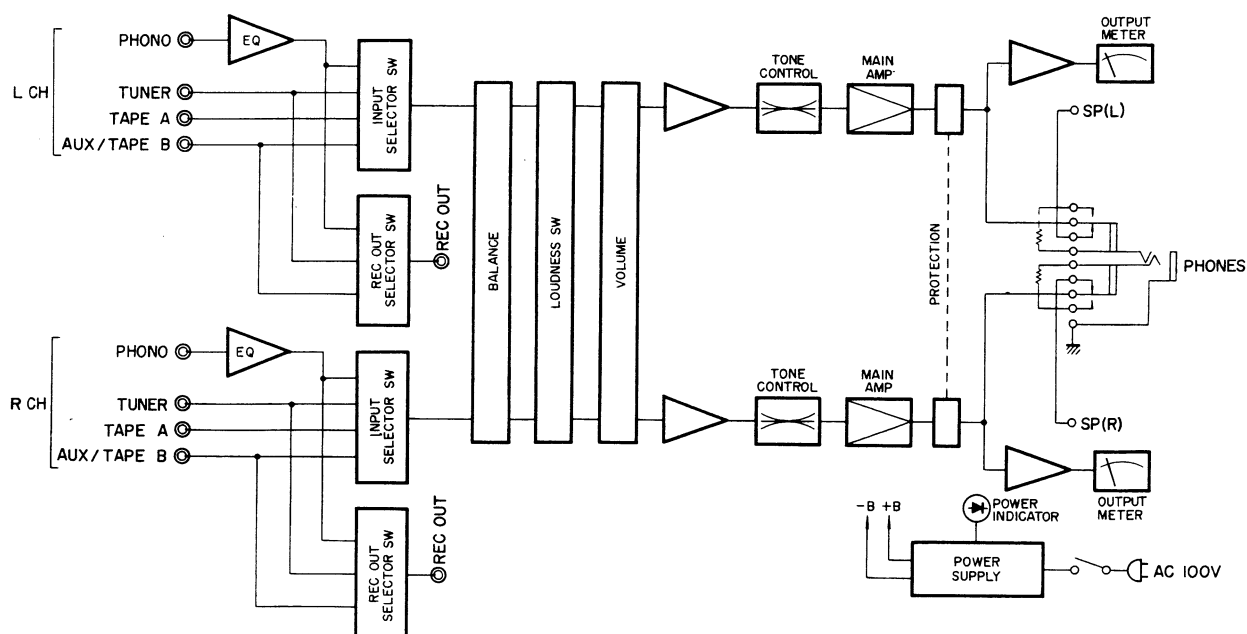
TONE CONTROL CIRCUIT BOARD

- Remove the Front Panel (refer to Step 3).
- Unsolder connection leads from the sheet.
- Loosen 2 nuts (7) and (8) as shown in Photo 5, and take the sheet away from the unit.

PHONO EQUALIZER CIRCUIT BOARD REMOVAL

- Conduct the case-cover and Bottom panel removals (refer to Steps 1 & 2).
- Try to prepare loosening the joints of extension shaft for INPUT Selector and REC OUT Selector in the arrowed direction as in Photo 5.

BLOCK DIAGRAM



- Unscrew 2 retaining screws (3) and (4) in Photo 3.
- Unsolder connection leads from the circuit board.
- With removed 7 retaining screws (1) to (7) shown in Photo 7, bend then, connection wires to the I/O (input and output) terminals into behind the Rear connection panel to avoid any damages in this removal.
- Pull out the circuit board carefully from the unit.

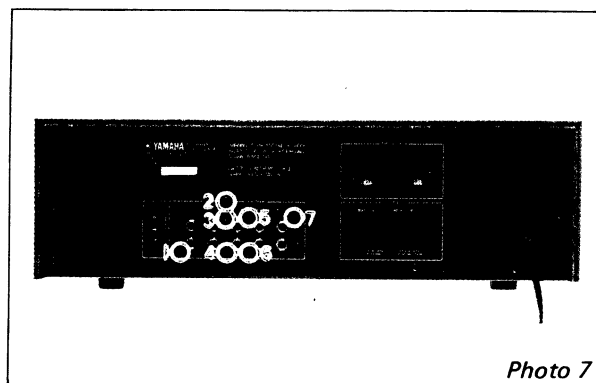


Photo 7

POWER SWITCH REMOVAL

- Remove the Front operation panel first (refer to Step 3).
- As shown in Photo 5 draw off the lever switch knob (9) and pull the power switch out from the unit with unscrewing 2 retaining screws (10) and (11), also shown in the Photo.

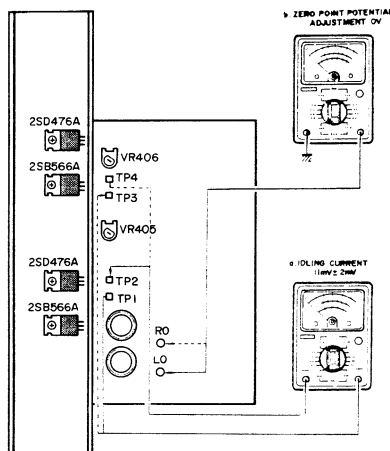
ADJUSTMENT OF MAIN AMP CIRCUIT BOARD

Precautions at Adjustment

- Never conduct adjustments or checks without a unit warm up time of at least 3 to 4 minutes prior to the unit is steady and accurate in turning the power on.
- Remain the open condition across SP terminals with no load (e.g., speakers or dummy load resistors) shunted.
- Prepare to set the Main (Master) volume controls (L and R) to allowable minimized position prior to turn the power switch on.

a) Adjusting the Idling Current

- Connect a (+) lead of multi-tester to TP 1, a (–) lead to TP 2.
- Adjust then, VR405 so as to obtain a d.c. 11mV ± 2 mV specified value standard between TP 1 and TP 2 of the Main circuit board.
- Next, change connection, the (+) lead to TP 3, the (–) lead to TP 4, and adjust VR405 for a 11mV ± 2 mV standard.
- Repeat above adjustment steps for avoiding the amount of errors toward allowable deviation.



Notices at Adjustment

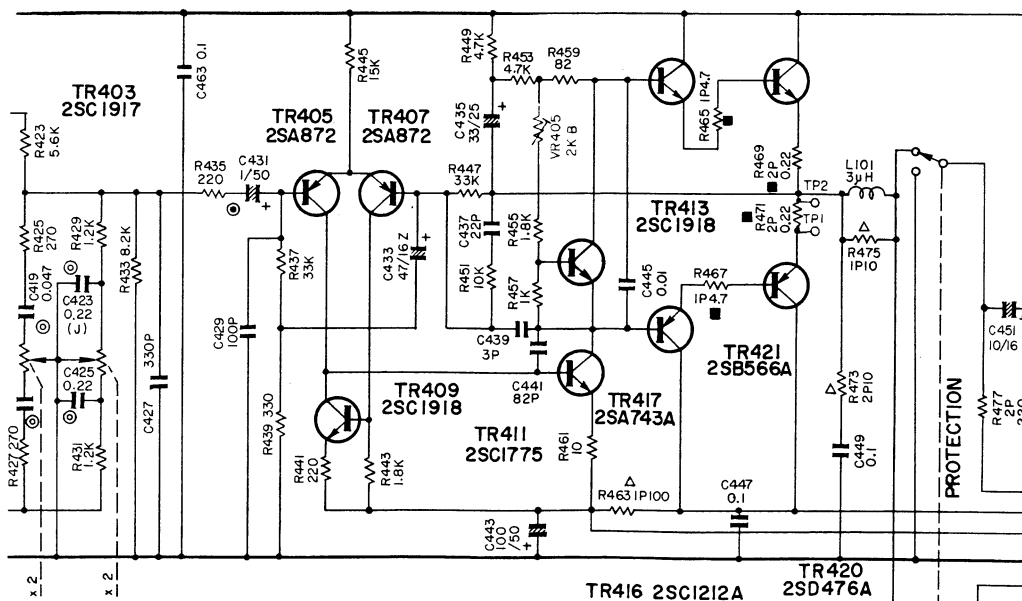
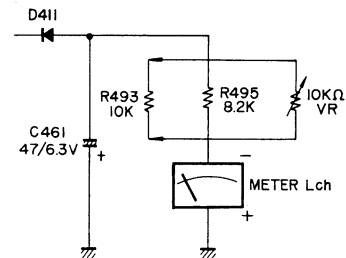
- Adjustable resistors (VR's specified) must always be turned gently to easy determination for the correct amount of desired value.
- Polarities of each test point should also be paid by special attention.

b) Calibrating OUTPUT Level Meter

When determined deviations in meter pointer indications, unsolder R493 (10k Ω) away and connect temporarily a test variable resistor (pot) to obtain the optimum amount of resistance values required by adjusting this tentative adjuster.

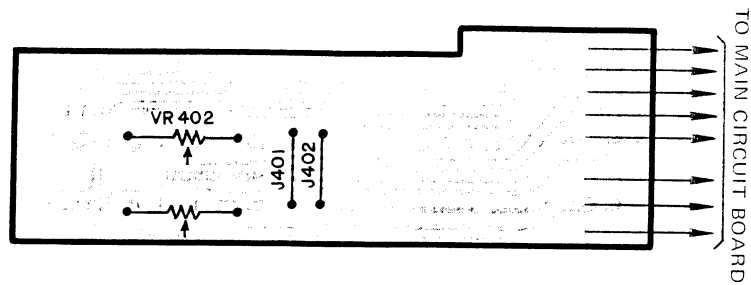
Replace then, with a solid resistor of which the closest resistance values of tested adjuster obtained.

- For the R-channel, the resistor to be compensated should be R-494 in the same manner of above steps.

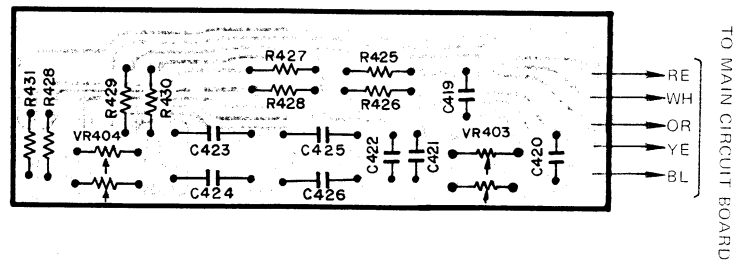


PRINTED CIRCUIT BOARD

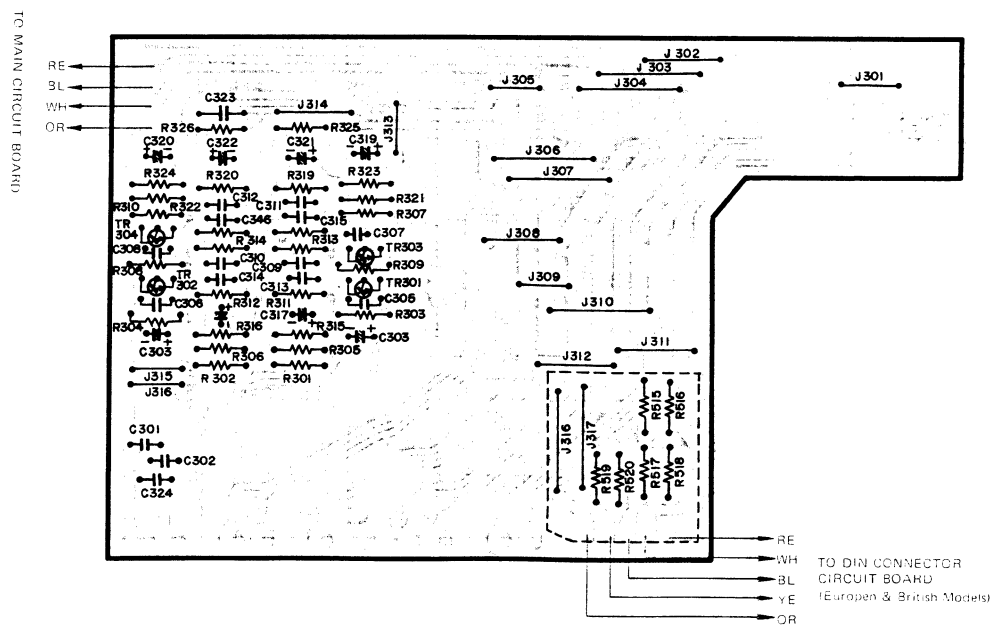
VOLUME CONTROL CIRCUIT BOARD



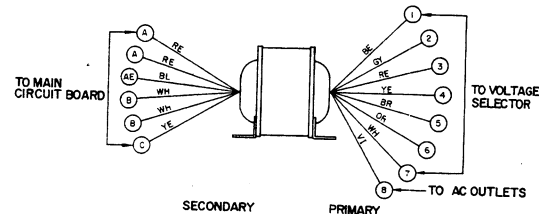
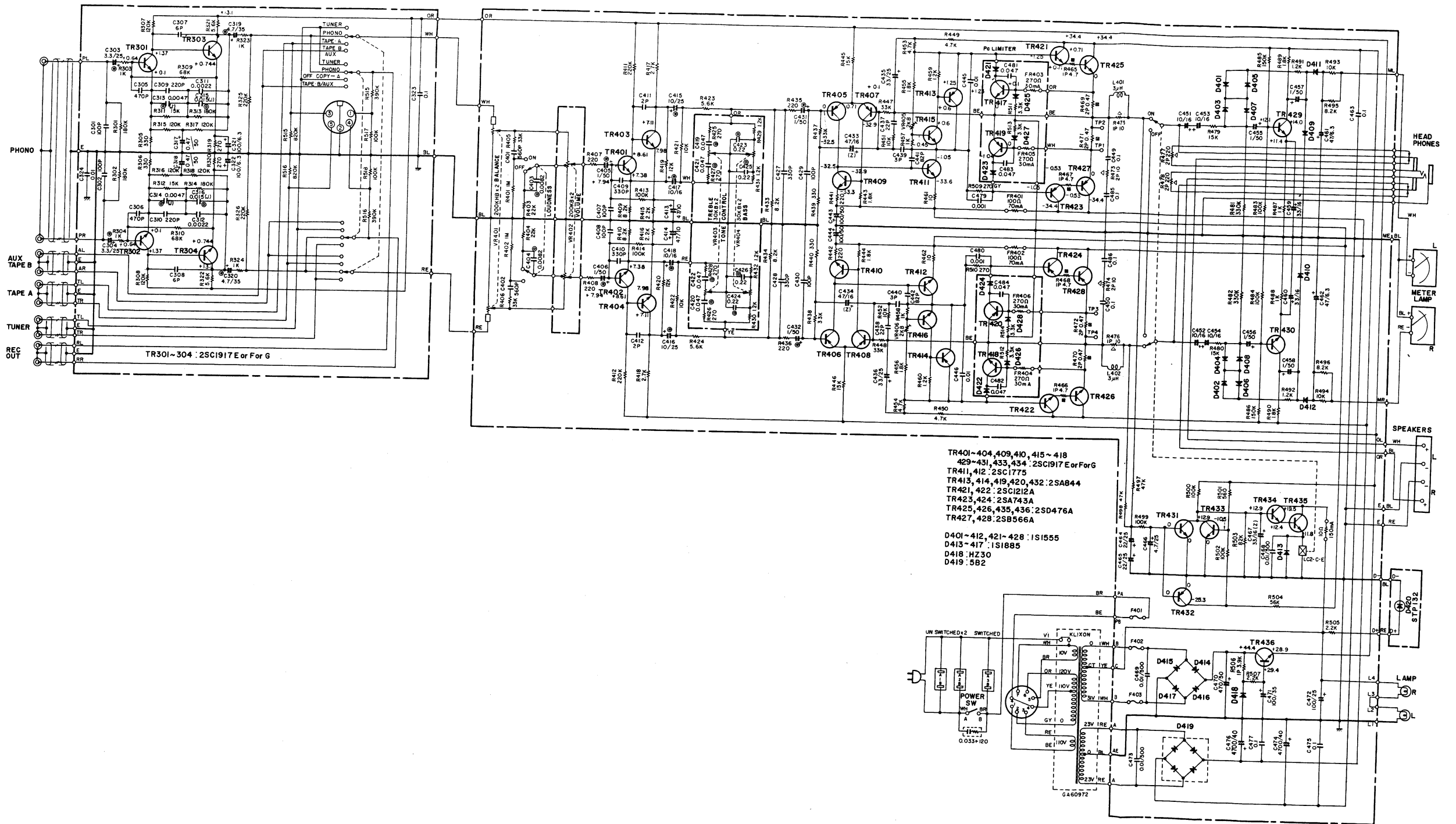
TONE CONTROL CIRCUIT BOARD








EQUALIZER CIRCUIT BOARD







OVERALL SCHEMATIC DIAGRAM



● RESISTOR

SYMBOL	PART NAME
	FUSE RESISTOR
	METALIZED OXIDATION RESISTOR
	CEMENT RESISTOR
NO MARK	CARBON RESISTOR
	CEMENT MOLDED RESISTOR
	METALIZED FILM RESISTOR

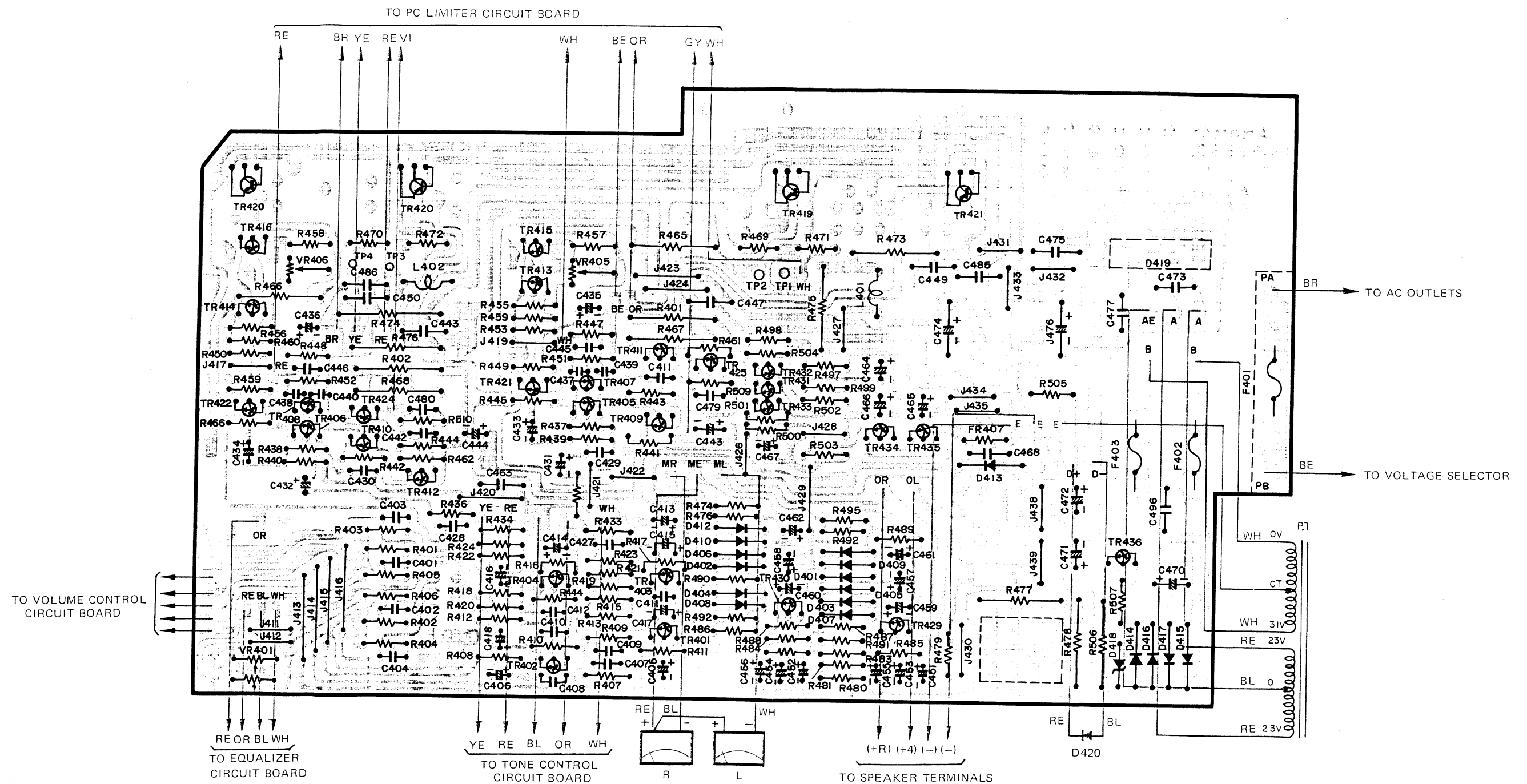
● CAPACITOR

SYMBOL	PART NAME	REMARKS
	MYLAR CAPACITOR	— —
NO MARK	CERAMIC CAPACITOR	
	POLYSTYRENE CAPACITOR	—N—
NO MARK	(BI-POLAR) ELECTROLYTIC CAPACITOR	
	LOW-NOISE ELECTROLYTIC CAPACITOR	
	TANTALUM CAPACITOR	

● WIRE COLOR ABBREVIATIONS

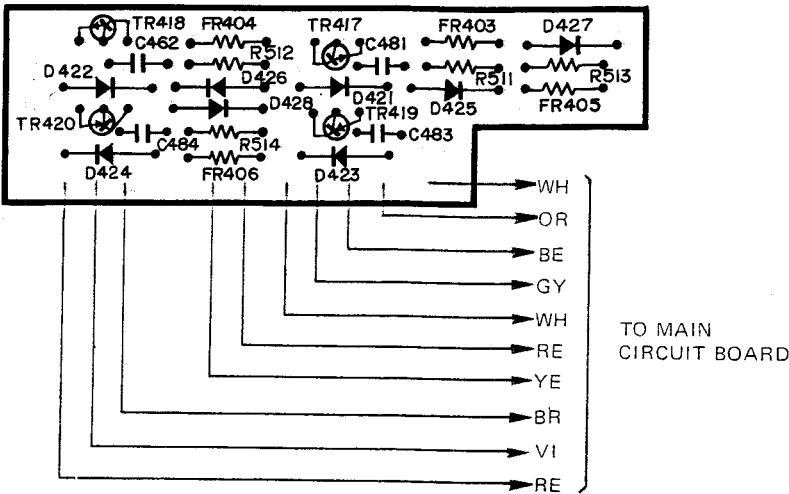
BL ▶ Black	VI ▶ Violet
BR ▶ Brown	GY ▶ Gray
RE ▶ Red	WH ▶ White
OR ▶ Orange	GG ▶ Light Green
YE ▶ Yellow	SB ▶ Light Blue
GR ▶ Green	PK ▶ Pink
BE ▶ Blue	

MAIN CIRCUIT BOARD

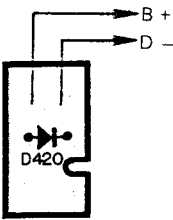


Models Fuse	General, Australian	European, British	US & Canadian
F401	1.5AT 250V	1.25AT 250V	3.0AT 250V
F402, F403	1.0AT 250V	1.0AT 250V	1.0AT 250V

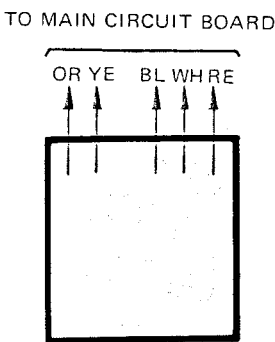
PC LIMITER CIRCUIT BOARD



LED CIRCUIT BOARD

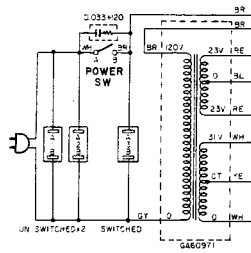


DIN CONNECTER CIRCUIT BOARD

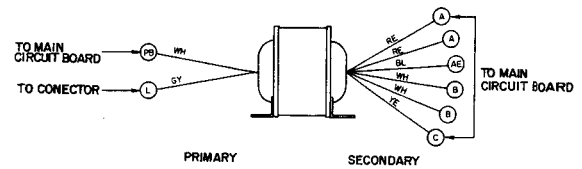
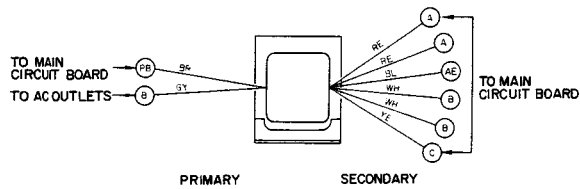
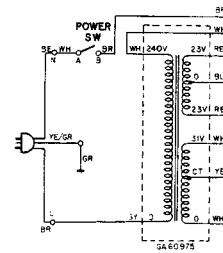


PARTIAL CHANGES MADE ACCORDING TO DESTINATION

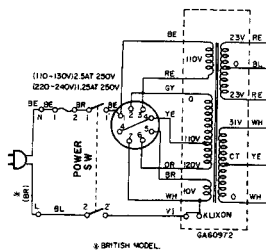
▼ US & CANADIAN MODELS



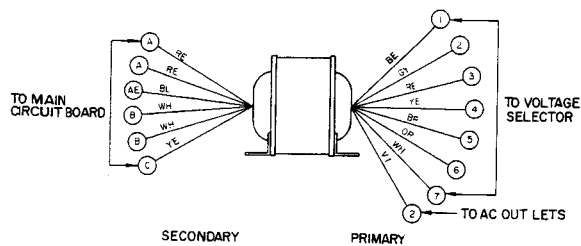
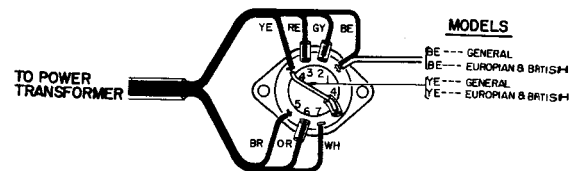
▼ AUSTRALIAN MODELS



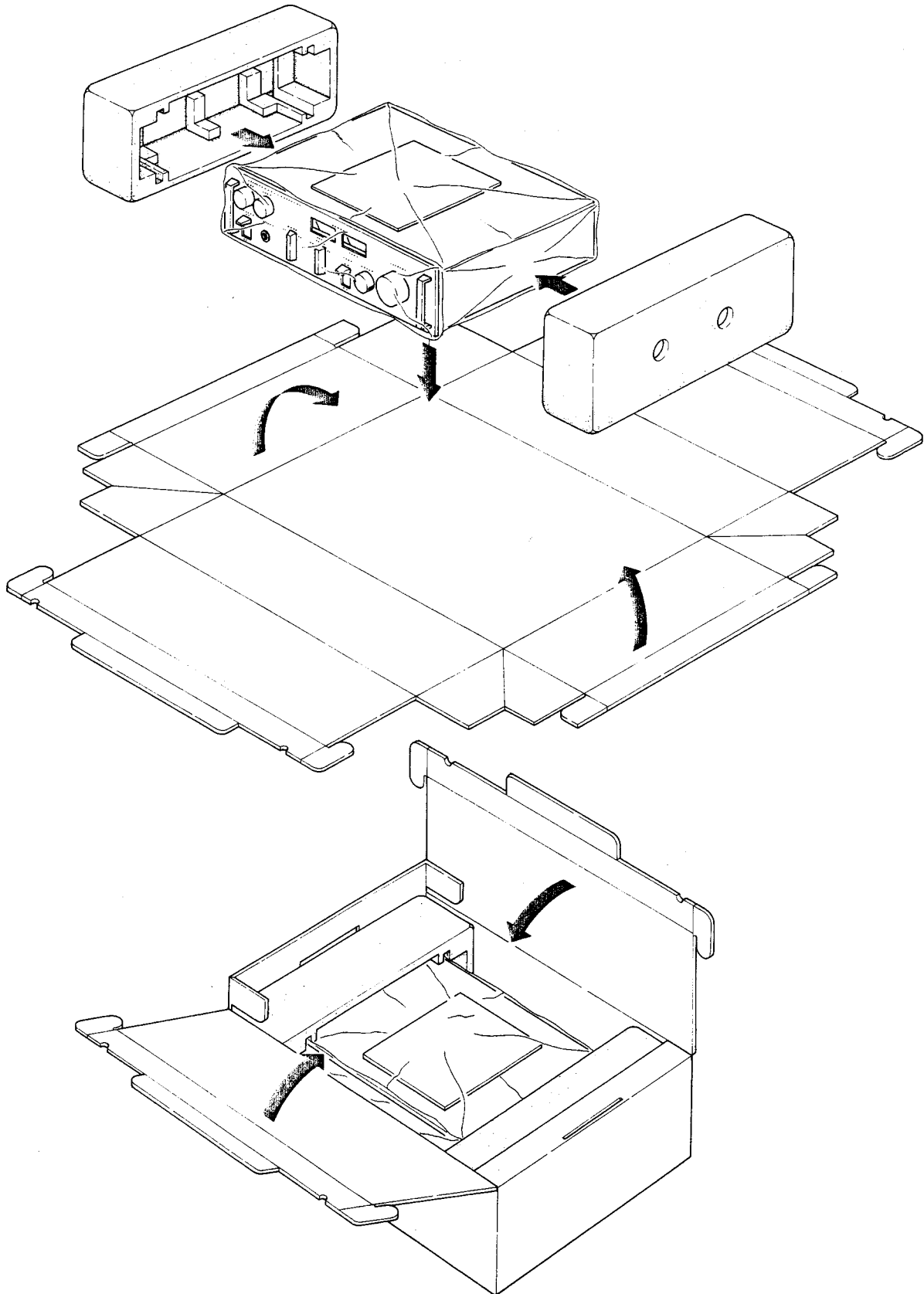
▼ EUROPEAN & BRITISH MODELS



▼ VOLTAGE SELECTOR



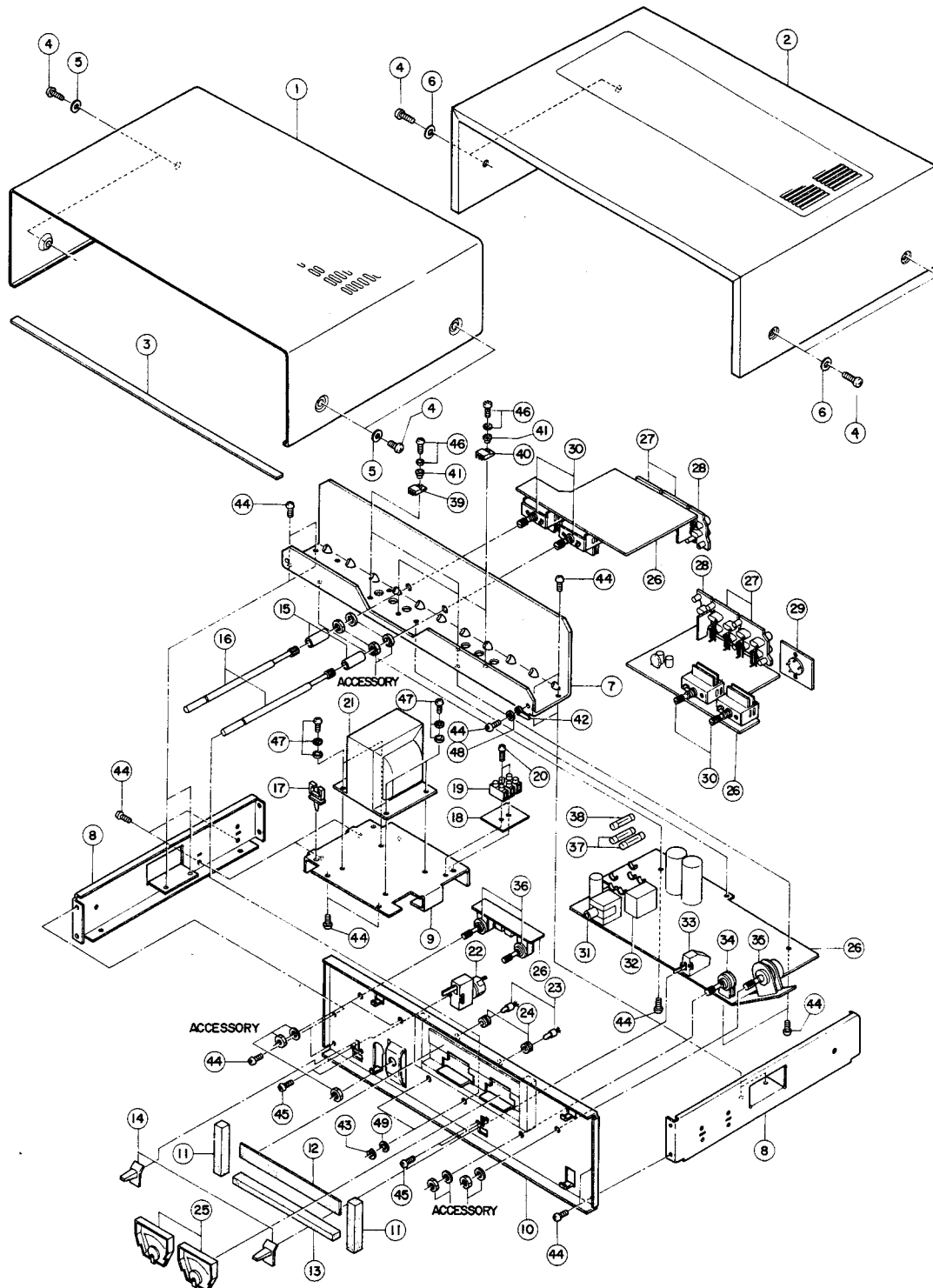
PACKAGE



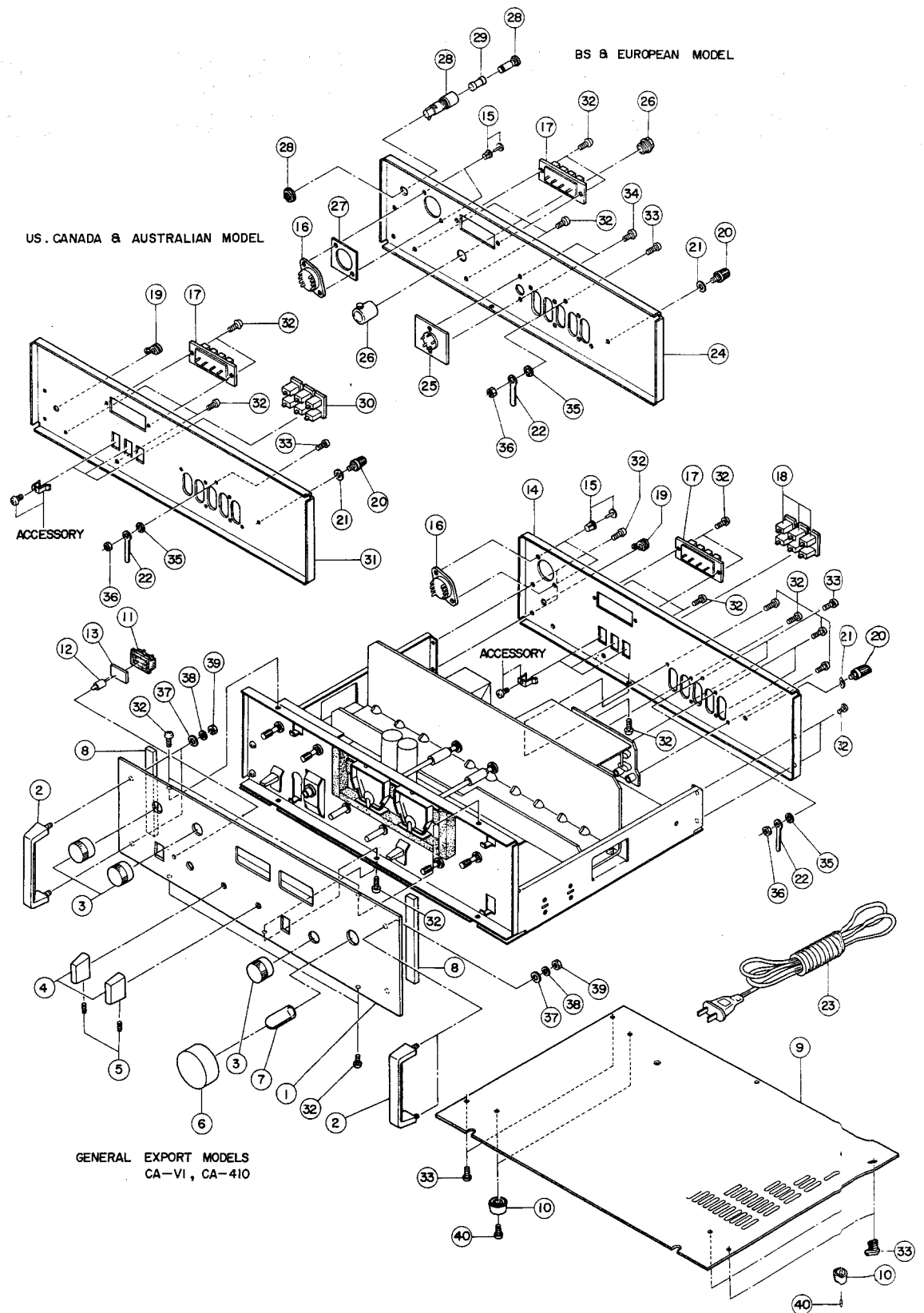
PARTS LIST

Remarks Description

- * No indication (blank) implies common parts for every model.
- * Mark "CA-VI" implies parts used for CA-VI model only.
- * "Stecific export zone" implies parts used for the stecific zone model only.



Ref. No.	Parts No.	Description			Remarks	Common Models
1	32:00:00 AA:08:23:50	Top Cover		トップカバー	CA-VI	
2	32:00:00 DC:61:39:10	Cabinet		キャビネット外装	CA-410	
3	42:00:00 CB:07:58:90	Tape		防振テープ		
4	42:00:00 ED:45:01:00	Binding Head Screw	5 x 10 FCM3-BL	バインド小ネジ		
5	42:00:00 CB:07:59:60	Mylar Washer		マイラーワッシャ		AU Common
6	42:00:00 EV:20:35:00	Flat Washer	5φ FCM3-BL	平座金ミガキ丸		
7	32:00:00 BA:06:82:80	Heat Sink		放熱板		
8	32:00:00 AA:08:11:50	Side Frame		サイドフレーム		
9	32:00:00 AA:08:24:10	Transholder		トランスホルダー		
10	32:00:00 AA:08:23:40	Sub Chassis		サブシャーシ		
11	42:00:00 CB:07:60:40	Tape No. 217	64 x 12 x 12t	遮光テープ	Except U	
11	42:00:00 CB:07:80:20	-do.-	64 x 10 x 10t	"	U	
12	42:00:00 CB:07:58:80	Meter Holder	120 x 20 x 2t	メーター押え		CA-XI
12	42:00:00 CB:07:71:10	Tape	150 x 6 x 12t	"	Except U	
13	42:00:00 CB:07:80:10	-do.-	150 x 6 x 10t	遮光テープ	U	
14	32:00:00 CB:07:66:00	Knob (Lever)		レバーツマミ	CA-VI	CT-VI
14	32:00:00 CB:75:80:00	-do.-		"	CA-410	CA-XI
15	32:00:00 CB:07:13:80	Joint	L = 25	ジョイント		CA-400
16	32:00:00 BA:06:83:10	Shaft, extension		延長シャフト		
17	42:00:00 CB:06:94:80	Wire Supporter		ワイヤークリップ		
18	32:00:00 CB:07:34:90	Insulator		絶縁板	A, E, B	
19	42:00:00 LA:00:10:40	Board, Terminal	3P	3P中継端子台	-do.-	
20	42:00:00 ED:03:01:60	Binding Head Screw	3 x 16 ZMC2-Y	バインド小ネジ	-do.-	
21	42:00:00 GA:60:97:10	Power Transformer		電源トランス	U, C	CT-VI
21	42:00:00 GA:60:97:20	-do.-		"	R, E, B	
21	42:00:00 GA:60:97:50	-do.-		"	A	
22	42:00:00 KA:20:03:40	Lever Switch	AC125V 5A SY02-2 (U74SF-O)	レバスイッチ	C	
22	42:00:00 KA:20:04:60	-do.-	TV-3	"	R, U, A	
23	42:00:00 JB:00:04:00	Pilot Lamp	12V-60mA	ランプ		
24	32:00:00 CB:07:58:70	Screening Bush		遮光ブッシュ		CAXI
25	42:00:00 JI:00:04:50	Level Meter	43A	レベルメーター	CA-VI	
25	42:00:00 JI:00:04:60	-do.-	43A	"	CA-410	
26	32:00:00 NA:06:80:60	Main Circuit Board		総合シート	C	
26	32:00:00 NA:06:80:70	-do.-		"	E, B	
26	32:00:00 NA:06:80:80	-do.-		"	U	
26	32:00:00 NA:06:81:90	-do.-		"	R, A	
27	42:00:00 LB:40:03:10	Pin Jack	4P	4Pピンジャック		
28	42:00:00 LB:20:10:10	-do.-	2P	2Pピンジャック		
29	42:00:00 LB:50:01:90	DIN Socket	5P	DINソケット	E, B	
30	42:00:00 KA:50:08:20	Rotary Switch	SRA-124	ロータリースイッチ		
31	42:00:00 LB:30:04:40	Phone Jack	LJ213-I-I	ホーンジャック		
32	42:00:00 KC:00:03:30	Relay	LC2-C-E	リレー		
33	42:00:00 KA:20:04:40	Lever Switch	SX-15	レバースイッチ		
34	42:00:00 HS:41:03:90	Variable Resistor	200KHB x 2 16 mm	ポリウム		
35	42:00:00 HS:42:00:20	-do.-	200KB x 2 24 mm	"		
36	42:00:00 HS:41:03:80	-do.-	30KW x 2 16 mm	"		
37	42:00:00 KB:00:03:30	Fuse	1.0AT 250V	ヒューズ耐ラッシュ	R, A	
37	42:00:00 KB:00:07:30	Miniature Fuse	1.0AT 250V	④ ヒューズ	E, B	
38	42:00:00 KB:00:10:60	Fuse UL ST-4	1.0AT 250V	ヒューズタイムラグ	U, C	



Ref. No.	Parts No.	Description	Remarks	Common Models
1	32:00:00:BA:06:82:70	Panel	パネ ル CA-VI	
	32:00:00:BA:06:87:10	-do.-	" CA-410	
2	32:00:00:CB:07:66:50	Handle	把 手 CA-VI	CT-VI
3	32:00:00:BA:06:83:00	Knob, Tone	ト ーン ツ マ ミ -do.-	
	32:00:00:BA:06:76:30	-do.-	" CA-410	
4	32:00:00:BA:06:85:50	Knob, Switch	S W ツ マ ミ CA-VI	CT-VI
	32:00:00:BA:06:80:60	-do.-	" CA-410	CT-410
5	42:00:00:EZ:00:01:90	Screw, Knob Holder 4 x 5	ソ ケ ッ ト セ ッ ト ス ク リ ュ	CA-1000
6	32:00:00:BA:06:82:90	Knob, VR	V O L ツ マ ミ CA-VI	
	32:00:00:BA:06:87:20	-do.-	" CA-410	
7	32:00:00:CB:07:51:00	Bush	セ レ ー シ ョ ン ブ ッ シ ュ	
8	42:00:00:CB:07:28:50	Dunper 10 x 110 x 10t	遮 光 ダ ン パ ー CA-VI	CR-400
9	32:00:00:AA:08:29:90	Bottom Cover	ボ ト ム カ バ ー	
10	42:00:00:CB:07:66:70	Leg	ト ラ ン レ ッ グ J CA-VI	CT-VI
10	42:00:00:CB:07:28:70	-do.-	ア シ CA-410	CT-410
11	32:00:00:CB:07:75:00	LED Holder	L E D ホ ル ダ ー	
12	42:00:00:IF:00:06:80	LED SLP-132B	L E D	
13		(A Part of Main Circuit Sheet)	総 合 シ ー ト L E D 部	
14	32:00:00:AA:08:23:70	Rear Panel	リ ャ バ ネ ル R	
15	42:00:00:CB:06:88:80	Plastic Rivet	プ ラ ス チ ッ ク リ ベ ッ ト R, E, B	
16	42:00:00:LB:20:02:60	Voltage Selector SWP033-3023	電 圧 切 換 器 -do.-	
17	42:00:00:LA:00:15:60	Push Terminal 4P	4 P プ ッ シ ュ タ ー ミ ナ ル	AU Common
18	42:00:00:LB:20:09:10	AC Socket	A C ソ ケ ッ ト R	-do.-
19	42:00:00:CB:06:86:30	Coard Stopper SR-3P-4	コ ー ド ス ト ッ パ ー R, U, C	
20	42:00:00:LA:00:10:70	Earth Terminal	ア ー ス 端 子	CA-1000
21	42:00:00:EV:90:13:60	Toothed Locked Washer 3.6 x 10.0 x 0.8t FNM3	セ ム ス 平 座 金	
22	42:00:00:LA:00:16:00	Earth Terminal 3.5 mm 36L T = 0.5 NI	ア ー ス ラ グ	AU Common
23	42:00:00:MG:00:05:00	AC Cord SA-1 L = 3.3 m	電 源 コ ー ド A	CA-610
23	42:00:00:MG:00:02:90	-do.-	" E	-do.-
23	42:00:00:MG:00:03:40	-do.- POT-64 8F Black	" R, U, C	
23	42:00:00:MZ:06:78:40	AC Coard Ass'y for BS	B S 用 電 源 コ ー ド Ass'y B	
24	32:00:00:AA:08:24:00	Rear Panel	リ ャ バ ネ ル	
25	42:00:00:LB:50:01:90	DIN Socket	D I N ソ ケ ッ ト	
26	42:00:00:CB:07:06:90	Cord Stopper EA-5	コ ー ド ス ト ッ パ ー	
27	32:00:00:CB:07:65:60	Insulator, VS	V S 絶 縁 板 E, B	CA-800II
28	42:00:00:LB:20:05:90	Fuse Holder FEB 031-1401	ヒ ュ ー ズ ホ ル ダ ー E, B	CT-7000
29	42:00:00:KB:00:06:80	Miniature Fuse 250V 1.25 AT	タ イ ム ラ グ ヒ ュ ー ズ E, B	
30	42:00:00:LB:20:07:10	AC Socket SI-6429 Spring Type	A C ソ ケ ッ ト (パ ネ 式) U, C	CA-400
31	32:00:00:AA:08:23:80	Rear Panel	リ ャ バ ネ ル U, C	
31	32:00:00:AA:08:23:90	-do.-	" A	
32	42:00:00:EI:43:00:80	Binding Tapping Screw 3 x 8 FCM3-BL	バ イ ン ド タ ッ ピ ン グ ネ ジ	
33	42:00:00:EI:43:00:80	-do.- 3 x 8 FCM3-BL	"	
34	42:00:00:ED:43:00:60	Binding Head Screw 3 x 6 FCM3-BL	バ イ ン ド 小 ネ ジ E, B	
35	42:00:00:EV:41:00:30	Toothed Locked Washer A3S ZMC2-Y	内 歯 歯 付 座 金	
36	42:00:00:EV:10:03:00	Hexagonal Nut M3 ZMC2-Y	6 角 ナ ッ ト	
37	42:00:00:EV:20:34:00	Plain Washer φ 4 ZMC2-BL	平 座 金	
38	42:00:00:EV:30:34:00	Spring Washer φ 4 ZMC2-BL	バ ネ 座 金	
39	42:00:00:EV:10:34:00	Hexagonal Nut M4 ZMC2-BL	6 角 ナ ッ ト	
40	42:00:00:EI:03:00:80	Binding Tapping Screw 3 x 8 ZMC2-Y	バ イ ン ド タ ッ ピ ン グ ネ ジ	

Ref. No.	Parts No.	Description		Remarks	Common Models	
	32:00:00:NA:06:80:60	Main Circuit Board	総 合 シ ー ト	C		
	32:00:00:NA:06:80:70	-do.-	"	E, B		
	32:00:00:NA:06:80:80	-do.-	"	U		
	32:00:00:NA:06:81:90	-do.-	"	R, A		
	42:00:00:KA:20:04:40	Lever Switch SX-15	レバースイッチ			
	42:00:00:KA:50:08:20	Rotary Switch SRA-124	ロータリースイッチ			
	42:00:00:KC:00:03:30	Relay LC2-C-E	リ レ ー			
	42:00:00:LB:20:10:10	Pin Jack PC 2P	ピンジャック			
	42:00:00:LB:40:03:10	-do.- PC 4P	"			
	42:00:00:LB:30:04:40	Phone Jack LJ213-I-I	ホーンジャック			
	42:00:00:LB:50:01:90	DIN Socket	D I N ソ ケ ッ ト	E, B		
	32:00:00:AA:08:29:10	Shield Cover	シ ー ル ド 板		NS-351	
	32:00:00:BB:06:30:80	TR-Rusher	T R プ ッ シ ャ ー		CA-1000	
	42:00:00:IA:07:43:00	Transistor 2SA 743A	トランジスター			
	42:00:00:IA:08:44:00	-do.- 2SA 844	"			
	42:00:00:IA:08:72:00	-do.- 2SA 872	"			
	42:00:00:IC:12:12:00	-do.- 2SC 1212A	"			
	42:00:00:IC:17:75:00	-do.- 2SC 1775	"			
	42:00:00:IC:19:17:00	-do.- 2SX 1917	"			
	42:00:00:IC:19:18:00	-do.- 2SC 1918	"			
	42:00:00:ID:04:76:10	-do.- 2SD 476	"			
	42:00:00:IF:00:00:40	Diode IS-1555	ダ イ オ ー ド			
	42:00:00:IF:00:06:60	Zener Diode HZ-30	ツェナーダイオード			
	42:00:00:IF:00:06:80	LED SLP-132B	L E D			
	42:00:00:IH:00:01:10	Diode 5B-2	ダ イ オ ー ド			
	42:00:00:IH:00:00:60	-do.- IS-1885	"	Substitution Part		
	42:00:00:HS:41:03:80	Variable Resistor 30KW x 2 16 mm	ボ リ ュ ー ム			
	42:00:00:HS:41:03:90	-do.- 200KHB x 2 16 mm	"			
	42:00:00:HS:42:00:20	-do.- 200KB x 2 24 mm	"			
	42:00:00:HT:17:00:60	-do.- 2K-B V8K4-I	半 固 定 V R			
	42:00:00:FM:38:94:70	Electrolytic Capacitor 4700μF 40V LUG	ケミコン基板型			
	42:00:00:FH:23:41:00	Ceramic Capacitor 500V 0.01μF YZ (P)	セ ラ コ ン			
	42:00:00:GD:90:00:50	Coil 3μF	コ イ ル		NS Common	
	42:00:00:HW:29:41:00	Fuse Resistor 150mA 10Ω	ヒ ュ ー ズ 抵 抗			
	42:00:00:HL:61:41:00	Metal Oxide Film Resistor 1W 10Ω	酸 金 抵 抗			
	42:00:00:HL:61:63:90	-do.- 1W 3.9KΩ	"			
	42:00:00:HL:42:41:00	-do.- 2W 10Ω	"			
	42:00:00:HL:42:52:00	-do.- 2W 220Ω	"			
	42:00:00:HZ:00:00:30	Metal Film Resistor 2W 0.47Ω	"			
	42:00:00:HZ:00:07:10	Fire-Proof Resistor 1P 4.7Ω	"			
	42:00:00:HW:10:51:00	Fuse Resistor 70mA 100Ω	ヒ ュ ー ズ 抵 抗	C, E, B, A, R		
	42:00:00:HW:20:51:00	-do.- 70mA 100Ω	"	U		
	42:00:00:HW:19:52:70	-do.- 30mA 270Ω	"	C, E, B, A, R		
	42:00:00:HW:29:52:70	-do.- 30mA 270Ω	"	U		
	42:00:00:HW:19:41:00	-do.- 150mA 10Ω	"	C, E, B, A, R		
				R : General Export Model		
				A : Australian Model		
				E : European Model		
				B : British Model		
				U : USA Model		
				C : Canadian Model		