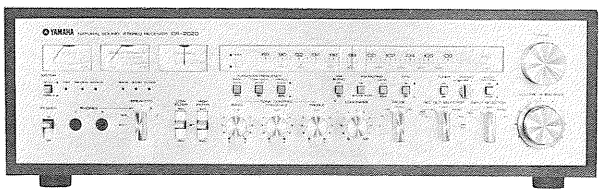
43

SERVICE MANUAL

CR-2020

FM/AM STEREO RECEIVER



SINCE 1887

YAMAHA

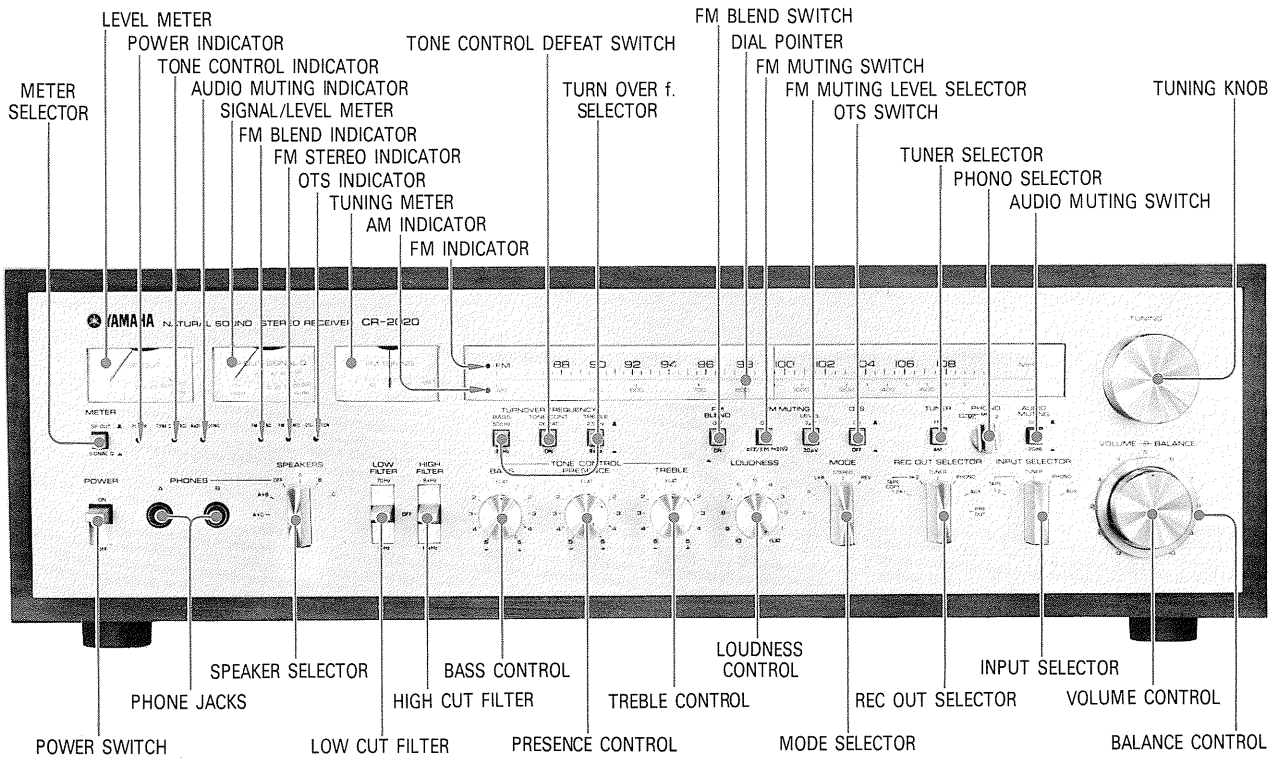
NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN

KY. Printed in Japan, 12.76, 2000

CONTENTS

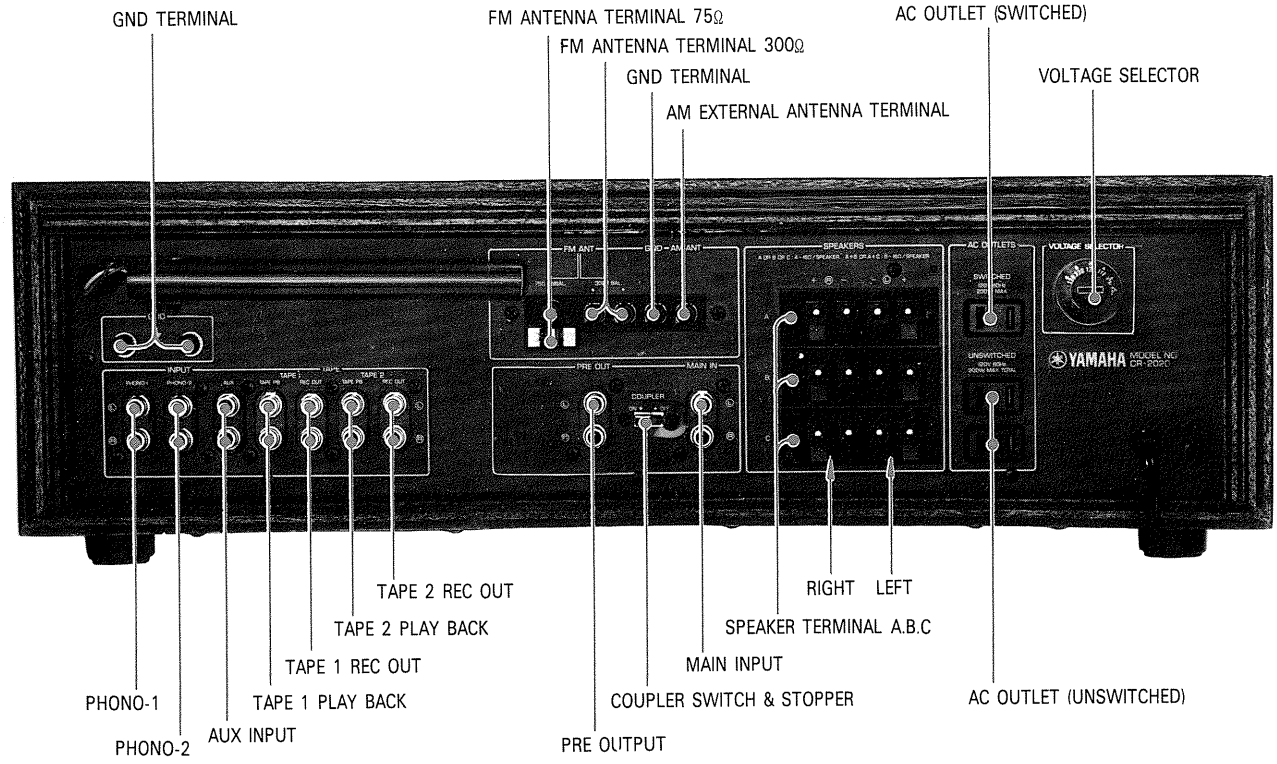
PANEL OPERATION

FRONT PANEL



REAR PANEL

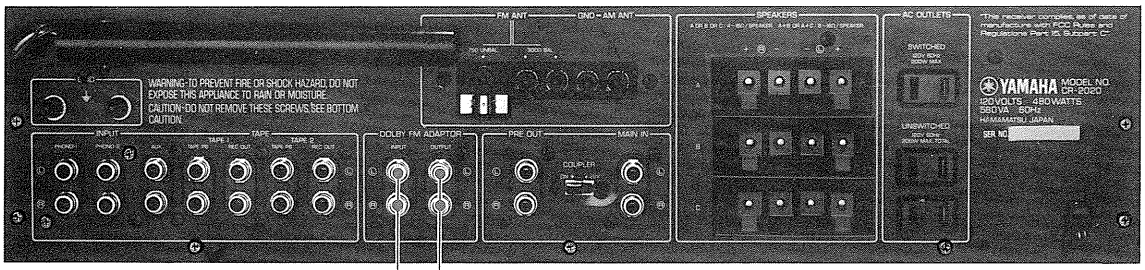
GENERAL MODEL



PANEL OPERATION

REAR PANEL

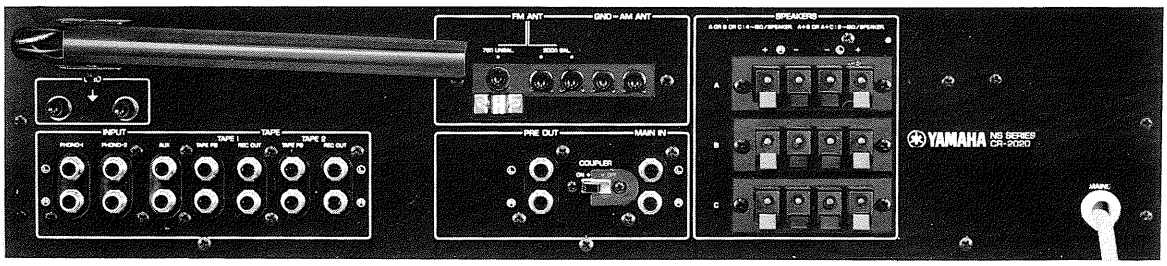
US & CANADIAN MODEL



INPUT OUTPUT

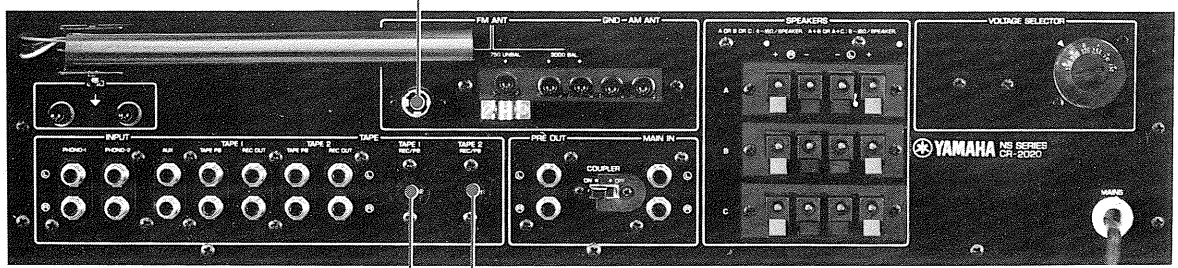
DOLBY FM ADAPTOR

UK & AUSTRALIAN MODEL



EUROPEAN MODEL

FM ANTENNA TERMINAL
(75Ω COAXIAL)



TAPE 2 DIN CONNECTOR

TAPE 1 DIN CONNECTOR

SPECIFICATIONS

AMPLIFIER SECTION

Input Sensivity/Impedance
- Phono 1, 2(MM) : 2mV-1kHz/47kΩ, max. 230V
- Phono 1(MC) : 50μV-1kHz/10Ω, max. 5mV
- AUX, Tape 1, 2 : 120mV/45kΩ
- DIN 1, 2 : 120V/45kΩ(European model only)
- Main In : 775mV/100kΩ

Output Level/Impedance
- REC. OUT 1.2 : 120mV/500Ω(Phono) 6kΩ(Tuner) max. 15V(Phono, 1kHz)
- DIN OUT 1, 2 : 30mV/52kΩ(European model only)
- PRE OUT : 775mV (0 to 2kΩ) max. 5V

Frequency Response
- Phono 1(MM, MC), 2 RIAA Deviation: ±0.2dB
- AUX, Tape 1, 2 to SP. out: ±2.5dB(10Hz to 100kHz)
- Main in to SP. out: ±2.5dB(10Hz to 100kHz)

Tone Control Characteristics
- BASS : Turnover 125,500Hz Variable Range ±15dB/50Hz
- TREBLE : Turnover 8, 2.5kHz Variable Range ±10dB/20kHz
- PRESENCE : Center 3kHz 2kHz±6dB

Filter Characteristics
- Low Filter : fc=15Hz, 70Hz 12dB/oct
- High Filter : fc=8kHz, 12kHz 12dB/oct

Loudness Characteristics
- According to the Fletcher and Munson curve

Signal-to-Noise Ratio and Noise Level
- Phono 1(MM), 2 : (2mV) 81dB (IHF A Network, Input Short Circuited)
- AUX : 100dB (IHF A Network, 5.1kΩ Short Circuited)
- Tape : 100dB (-do.-)
- Main : 112dB (-do.-)
- Residual Noise : 100μV (IHF A Network, Vol. min)

Total Harmonics Distortion
- Phono 1(MM), 2 : 0.01%(20 to 20kHz) REC OUT 7.5V
- Phono 1 (MC) : 0.05%(-do.-) REC OUT 3.0V
- AUX, Tape : 0.02%(-do.-) SP. OUT 50W/8Ω
- Main In : 0.015%(-do.-) SP. OUT 50W/8Ω
- Phono 1(MM), 2 : 0.1%(0.1 to 100W/8Ω) Vol. −20dB
- IM Distortion AUX: 0.02% SP. OUT 50W/8Ω

Rating Output and etc.
- 8Ω Both ch. driven: 100W (20 to 20kHz) 0.05% T.H.D
  110W (1kHz) 0.05% T.H.D
- 4Ω Both ch. driven: 120W (20 to 20kHz) 0.05% T.H.D
  (Except E & BS) 140W (1kHz) 0.05% T.H.D
- Power Band Width: 10 to 50kHz
- Dumping Factor: 40 or more, 1kHz/8Ω

TUNER SECTION-FM

Tuning Range
- 88 to 108MHz

Usable Sensitivity. 98MHz
- IHF mono : 1.8μV (300Ω) 10.3dBf
  0.9μV (75Ω) 10.3dBf
- DIN mono : 1.3μV (Dev: 40kHz, S/N: 26dB)
  stereo : 40μV (Dev: 40kHz, S/N: 46dB)

50-dB Quieting Sensitivity
- mono : 3.2μV, 15.3dBf
- stereo : 40μV, 37.2dBf

Signal-to-Noise Ratio
- mono : 77dB, DIN (Dev: 40kHz) 71dB
- stereo : 73dB, DIN (Dev: 40kHz) 67dB

Image Interference Ratio (98MHz) : 85dB
IF Interference Ratio (98MHz): 90dB
Spurious Interference Ratio (98MHz): 100dB
Amplitude Suppression Ratio IHF: 65dB
Capture Ratio: 1dB
Alternate-Channel Selectivity 80dB
DIN (Dev: ±300kHz, 40kHz): 60dB

Total Harmonics Distortion
- mono : 100Hz, 0.08%
  1kHz, 0.08%
  6kHz, 0.15%
- stereo : 100kHz, 0.15%
  1kHz, 0.1%
  6kHz, 0.2%

Cross Modulation Distortion
- IHF mono : 0.05%
  stereo : 0.1%

Stereo Separation 50Hz : 35dB
1KHz : 50dB
10kHz: 45dB

Frequency Response 50 to 10kHz : ±0.3dB
30 to 15kHz : ±0.5dB
10 to 18kHz : +0.5 −3dB

Sub Carrier Suppression 60dB

Muting Signal Level 3μV (14.8dBf), 30μV (34.8dBf)

TUNER SECTION-AM

Tuning Range 525 to 1605kHz

Usable Sensitivity (Used Bar antenna)
- IHF: 300μV/m (49dB/m)
- 1000kHz: 30dB

Selectivity
Signal-to-Noise Ratio 80dB/m: 50dB
Image Interference Ratio 1000kHz: 55dB
IF Interference Ratio 1000kHz: 40dB
Sprious Interference Ratio 1000kHz: 55dB
Total Harmonics Distortion 80dB/m: 0.4%

Output Level/Impedance
- FM(Mod. 100%) : 450mV/6.5KΩ(REC OUT)
- FM(Mod. 30%) : 120mV/6.5KΩ(REC OUT)

GENERAL

Used Semi Conductors

109 Transistors	58 Diodes
6 ICs	7 Zener Diodes
3 FETs	5 LEDs
	4 CFs

Rated Voltage
- 120V/60Hz (US. and CANADA)
- 240V/50Hz, (UK. and AUSTRALIA)
- 110, 120, 130, 220, 230 and 240V/50, 60Hz (EUROPE and General export models)

Rated Power Consumption
- 480W, 580VA (US., CANADA and General export models)
- 690W (UK., EUROPE and AUSTRALIA)

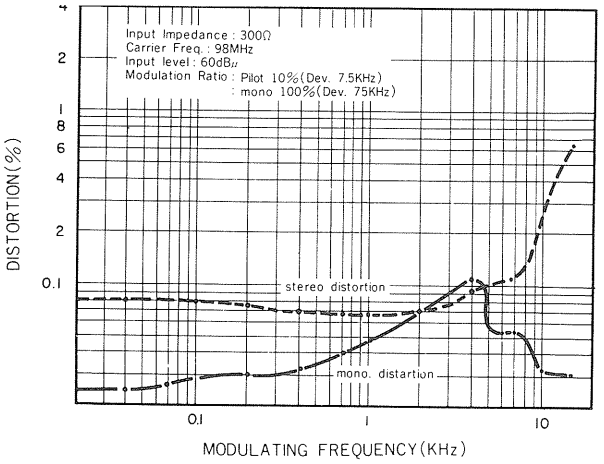
Dimensions
- 540(W) x 167(H) x 415(D)mm
- 21-1/4 x 6-9/16 x 16-5/16 in (US., CANADA and General export models)
- 521(W) x 146.5(H) x 415(D)mm
- 20-1/2 x 5-3/4 x 16-5/16 in (UK. and EUROPE)

Weight
- 19.3kg 42.5 lbs (US., CANADA, AUSTRALIA and General export models)
- 18.6kg 40.9 lbs (UK. and EUROPE)

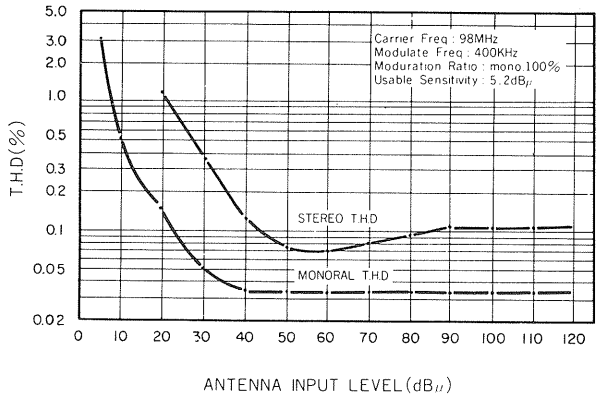
CHARACTERISTIC CHARTS

TUNER SECTION-FM

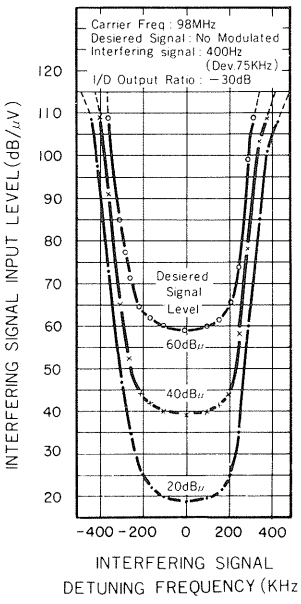
DISTORTION V. MODULATING FREQUENCY



T.H.D. V. INPUT LEVEL

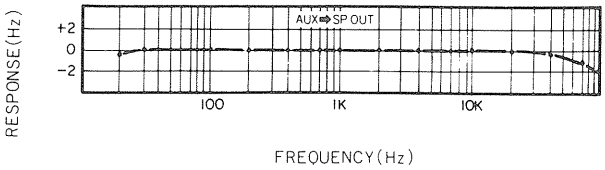


FM 2 SIGNALS EFFECTIVE SELECTIVITY

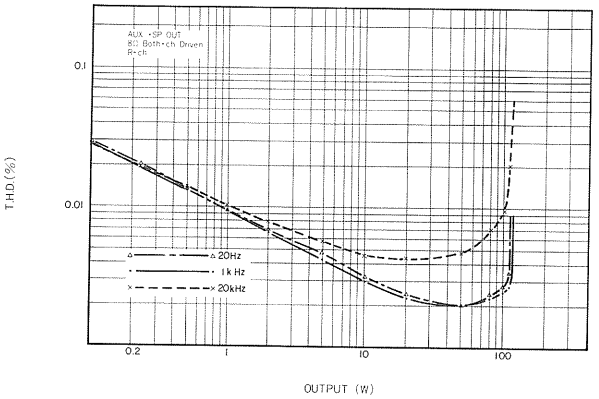


AMPLIFIER SECTION

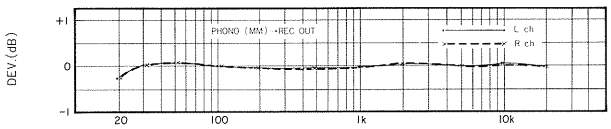
FREQUENCY RESPONSE



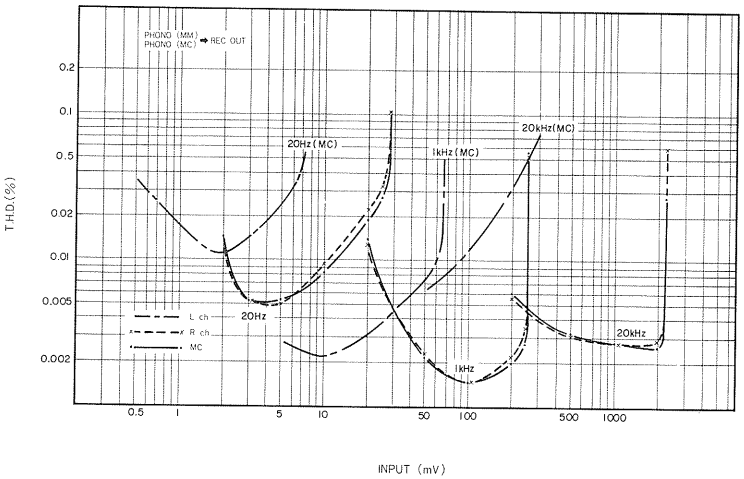
T.H.D.V. OUTPUT



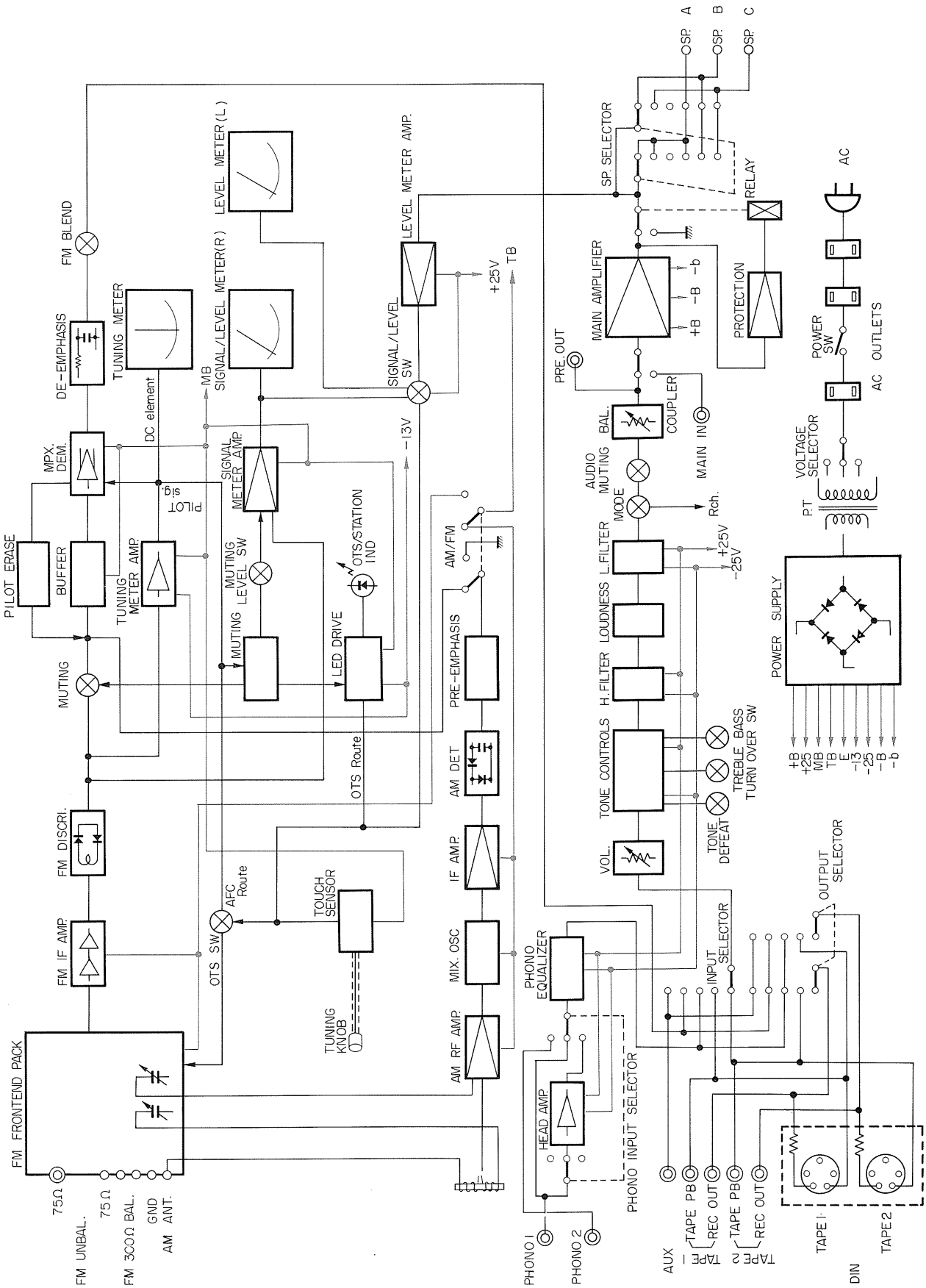
RIAA DEVIATION



T.H.D. V. PHONO INPUT

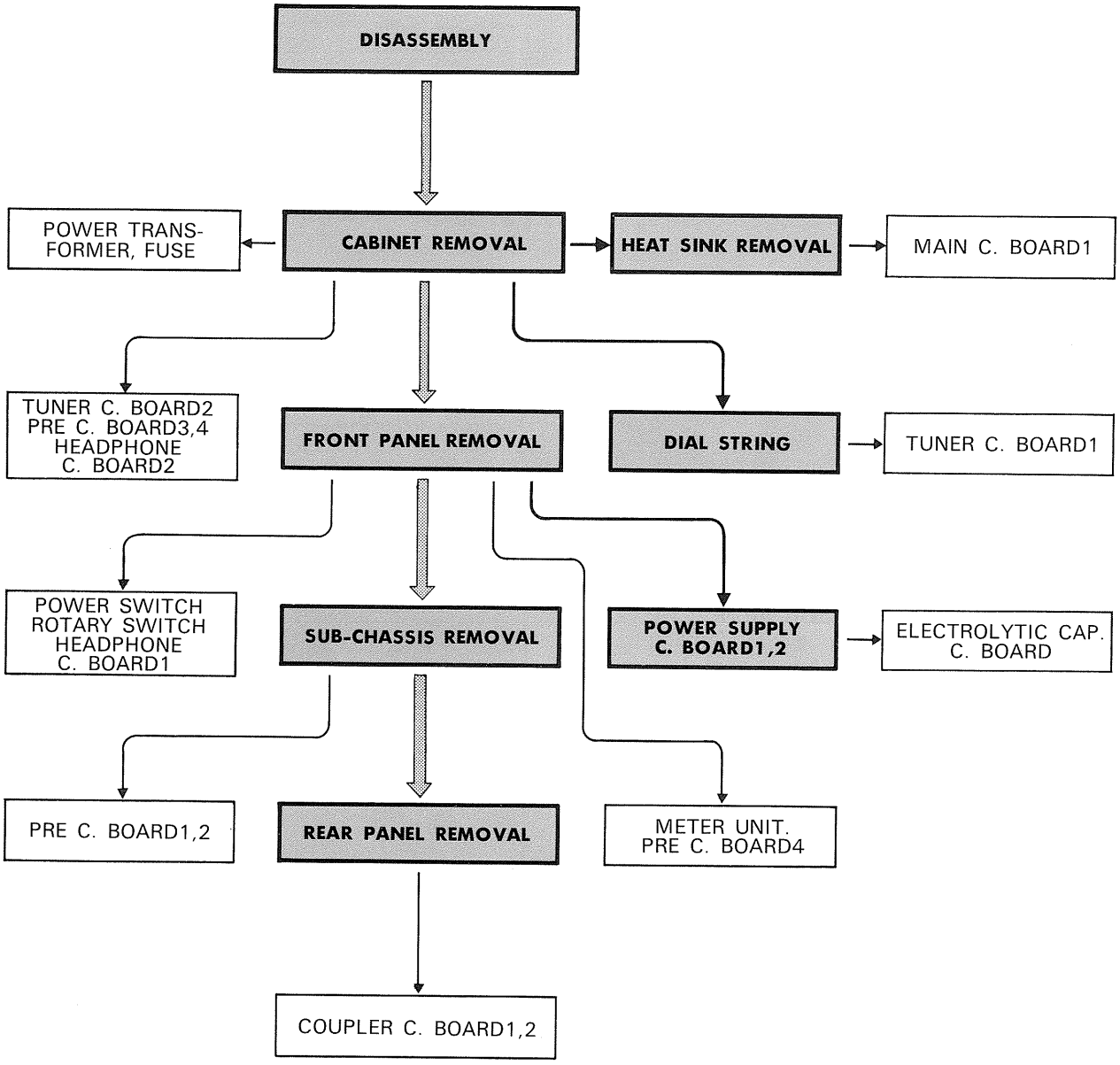


BLOCK DIAGRAM



FLOW CHART FOR DISASSEMBLY PROCEDURES

Disassembly procedures are shown in accordance with U.S. model.



Note

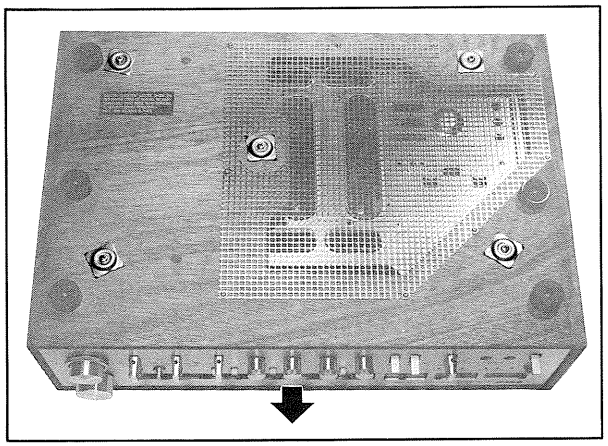
TUNER C. BOARD 2:	FM BLEND, FM MUTING, OTS AND AM-FM SWITCHES
PRE C. BOARD 1:	LOW AND HIGH FILTER SWITCHES, TONE AND LOUDNESS CONTROLS, MODE, REC OUT AND INPUT SELECTORS
PRE C. BOARD 2:	VOLUME AND BALANCE CONTROLS
PRE C. BOARD 3:	AUDIO MUTING SWITCH
PRE C. BOARD 4:	TURNOVER FREQUENCY SWITCHES
HEADPHONE C. BOARD 1:	HEADPHONE JACKS
HEADPHONE C. BOARD 2:	AM-FM INDICATORS
COUPLER C. BOARD 1:	ANTENNA TERMINALS
COUPLER C. BOARD 2:	COUPLER SWITCH AND PIN JACKS
POWER SUPPLY C. BOARD 2:	METER SELECTOR

DISASSEMBLY PROCEDURES

1. CABINET REMOVAL

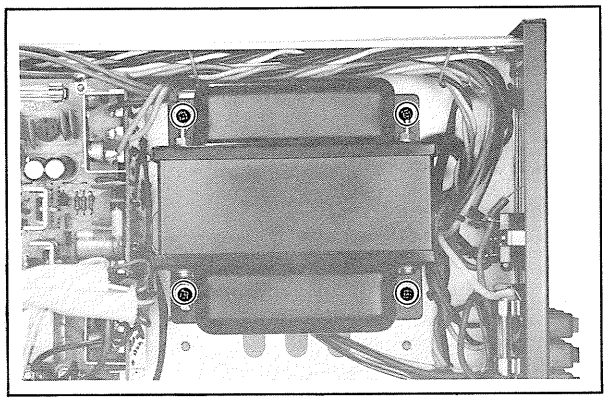
Remove 5 screws, then pull out the chassis in arrow direction.

Since the cabinet used for UK and European models are different from the photo shown below, refer to "EXPLODED VIEW" as shown in page 1 of the PARTS LIST.



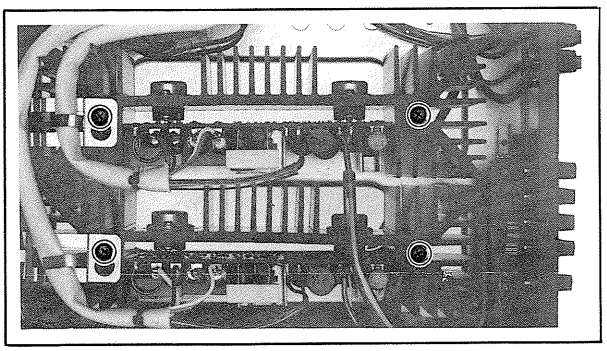
2. POWER TRANSFORMER REMOVAL

Remove 4 screws.

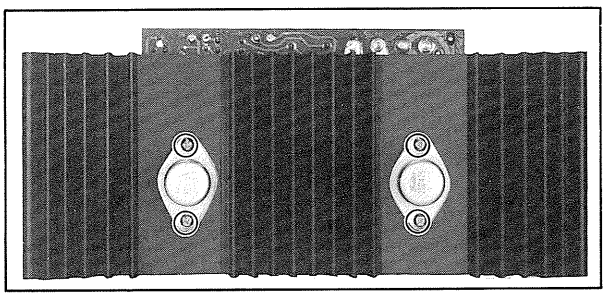


3. HEAT SINK AND MAIN CIRCUIT BOARD 1 REMOVAL

Step 1. Remove 4 screws, then dismantle the heat sink.



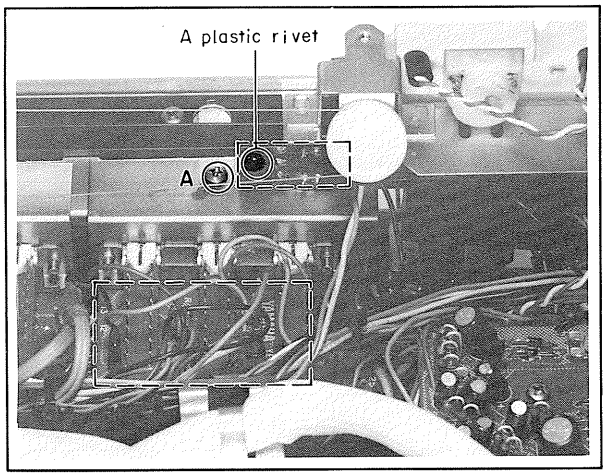
Step 2. Remove 4 screws fixing 2 power transistors.



4. HEADPHONE CIRCUIT BOARD 2 and PRE CIRCUIT BOARD 4 REMOVAL

Remove a plastic rivet, then detach the Headphone Circuit Board 2 from dial scale.

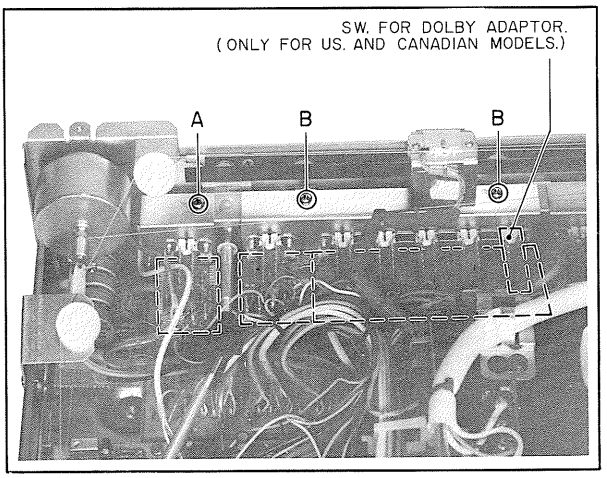
Remove a screw shown in A.



5. PRE CIRCUIT BOARD 3 AND TUNER CIRCUIT BOARD 2 REMOVAL

Screw **A** is for fixing the Pre Circuit Board 3.

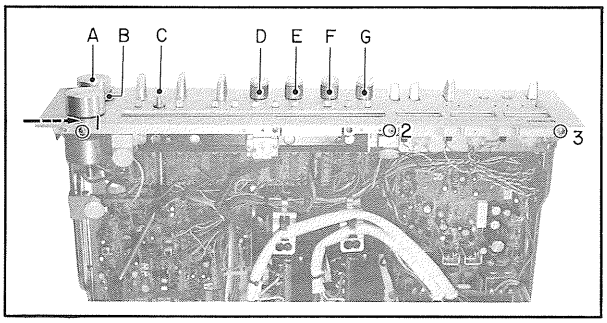
Screws **B** are for fixing the Tuner Circuit Board 2.



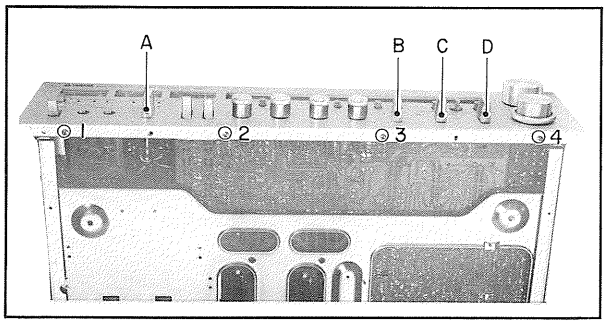
DISASSEMBLY PROCEDURES

6. FRONT PANEL REMOVAL

Step 1. 1) Remove 3 screws 1 to 3, and pull off 7 knobs **A** to **G**.
2) Insert a hexagonal allen wrench in arrow direction and loosen 2 screws fixing the tuning knob, then withdraw the knob.

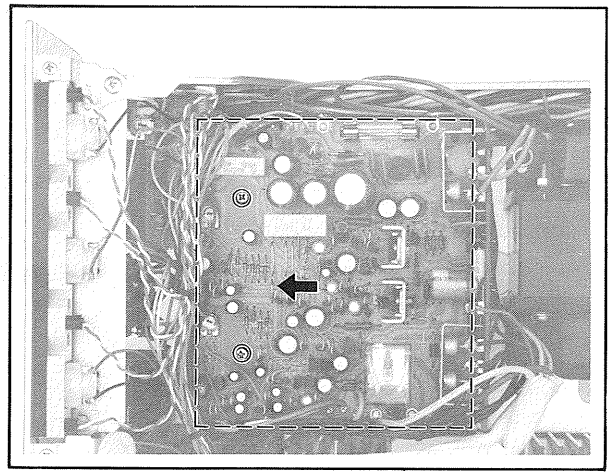


Step 2. 1) Remove 4 screws 1 to 4.
2) Loosen 4 screws **A** to **D** fixing each knob with a hexagonal allen wrench, then withdraw the knobs.



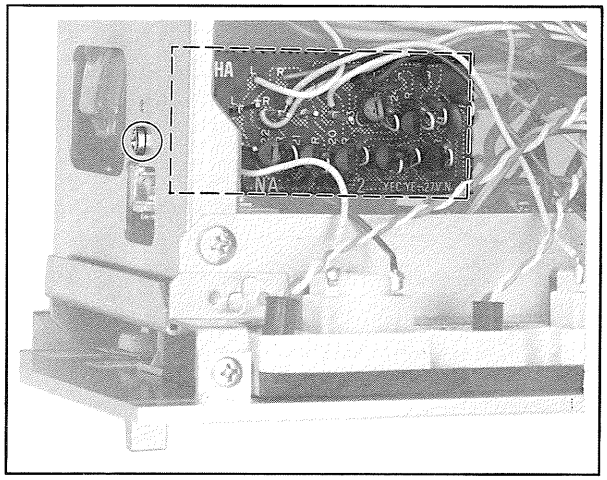
7. POWER SUPPLY CIRCUIT BOARD 1 REMOVAL

Remove 2 screws, then pull off the Power Supply Circuit Board 1 in arrow direction.



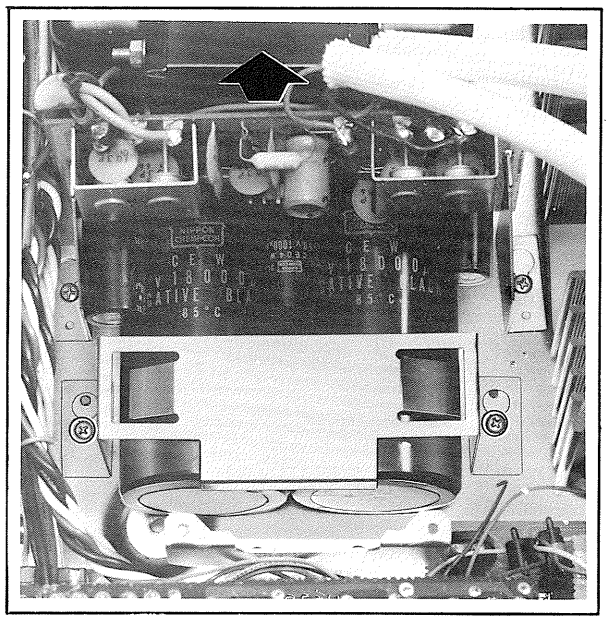
8. POWER SUPPLY CIRCUIT BOARD 2 REMOVAL

Remove a screw.



9. ELECTROLYTIC CAPACITOR CIRCUIT BOARD REMOVAL

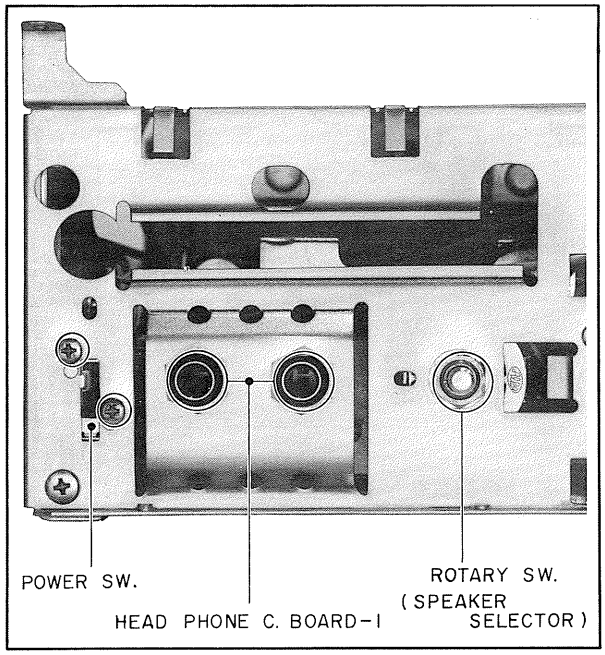
1) Remove 2 screws, then dismantle the holder securing 2 electrolytic capacitors.
2) Slide up the Electrolytic Capacitor Circuit Board in arrow direction.



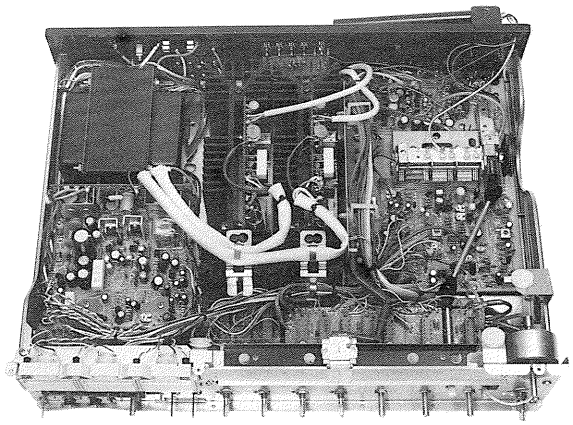
DISASSEMBLY PROCEDURES

10. POWER SWITCH, HEADPHONE CIRCUIT BOARD 1 AND ROTARY SWITCH REMOVAL

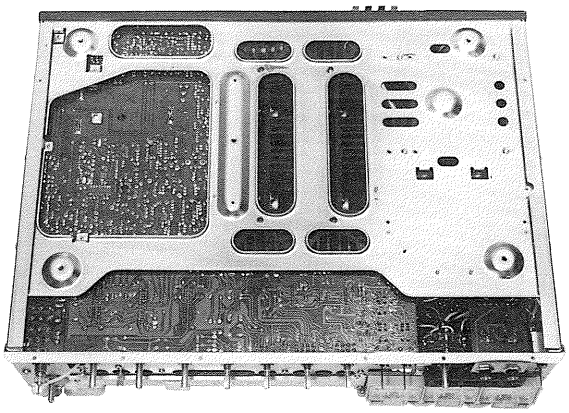
1) Pull off the knob of the power switch.
2) Remove 2 screws and 3 hexagonal nuts.



TOP VIEW

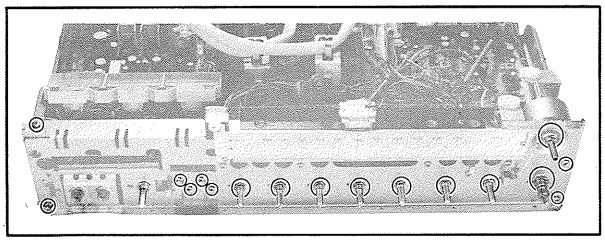


BOTTOM VIEW



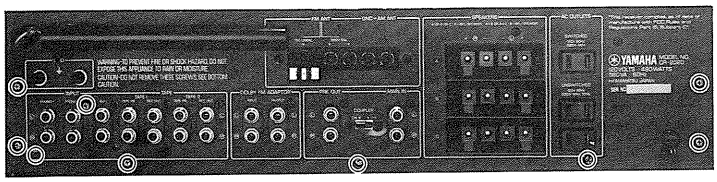
11. SUB-CHASSIS REMOVAL

1) Pull the knobs off.
2) Remove 8 screws and 9 hexagonal nuts.

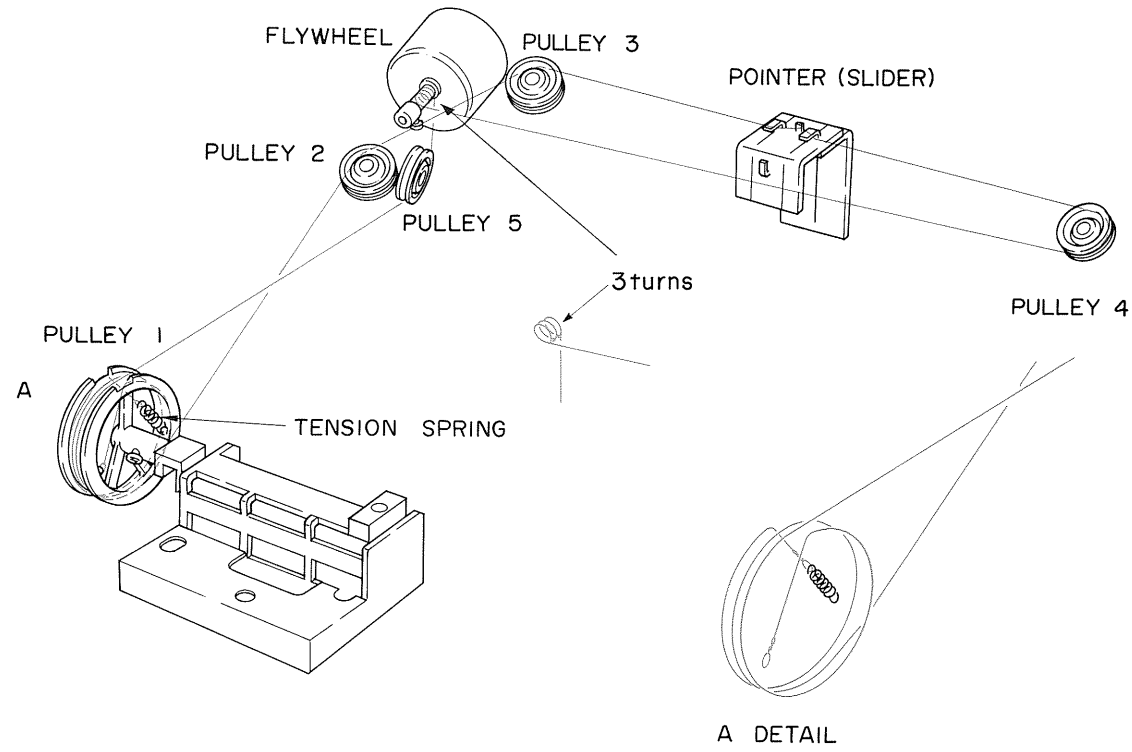


12. REAR PANEL REMOVAL

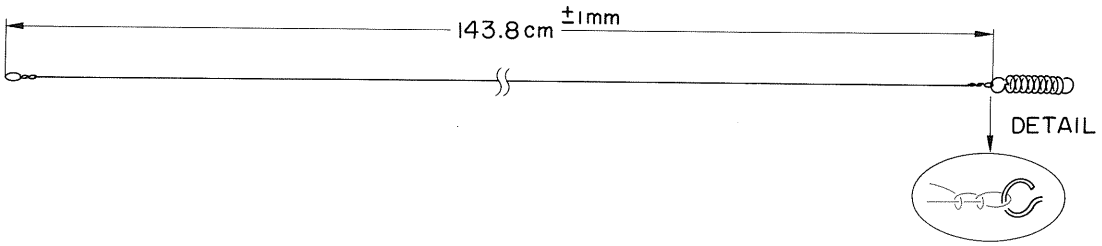
Remove 9 screws.

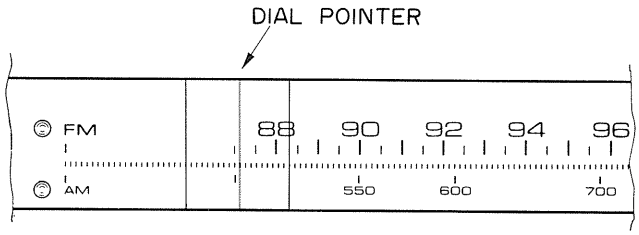


DIAL CORD STRINGING



DIAL CORD LENGTH

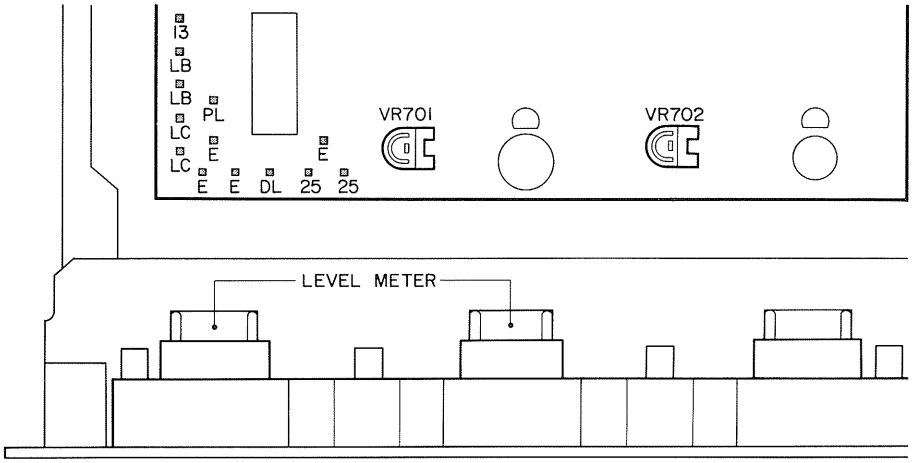




After stringing the dial cord, turn the tuning knob fully counterclockwise and set the pointer to lower end indication of the scale as illustrated above. Then hook the string to the pointer assembly and lock by painting.

ADJUSTMENT OF LEVEL METER

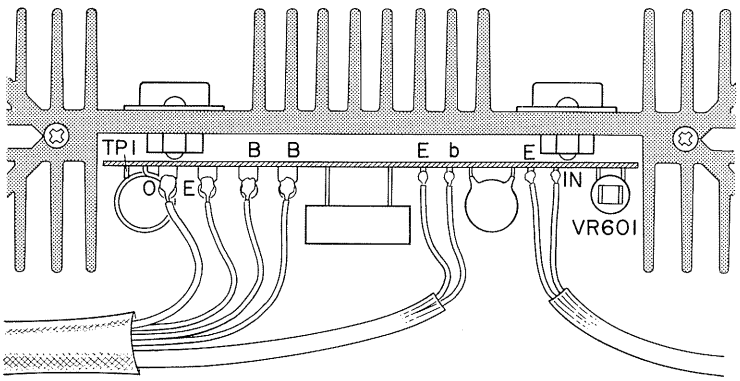
ADJUSTING POINTS



ITEM	AD-JUSTING POINTS	CON-NECTING POINT	EQUIPMENT	METHOD	INDI-CATION
LEVEL METER	VR-701 VR-702	—	50W/8Ω (1kHz)	Turn VR-701, 702 so that the wattage becomes rated value as shown on right hand side.	50W (±1m/m)

ADJUSTMENT OF MAIN C.BOARD

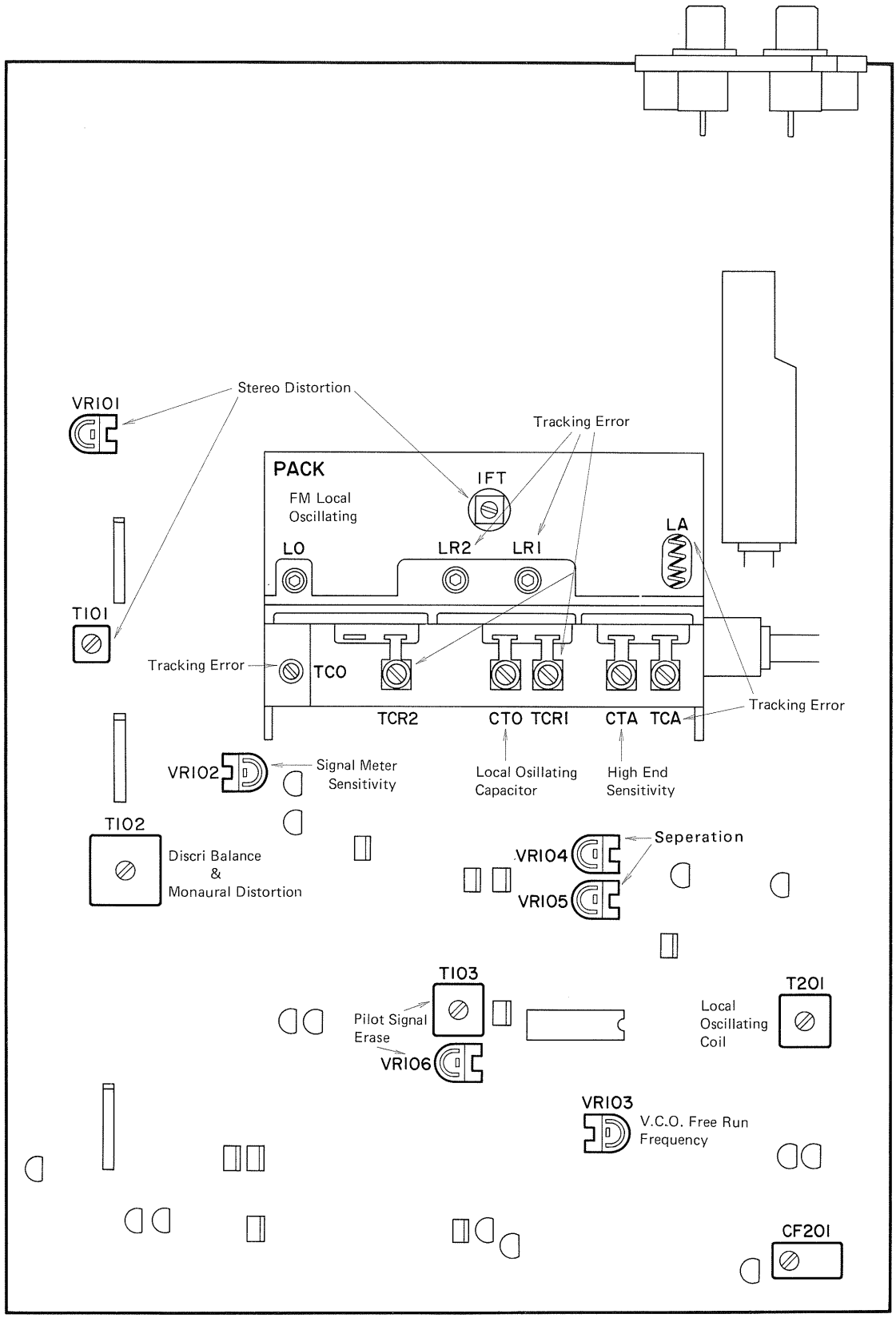
ADJUSTING POINTS



ADJUSTMENT FOR IDLING CURRENT

ITEM	AD-JUSTING POINT	CON-NECTING POINT	EQUIPMENT	METHOD	INDI-CATION
IDLING CURRENT	VR-601	TP1 — 0	VTVM or Digital Volt Meter	Turn VR601, so that the voltage between TP1 and TP0 becomes rated value as shown on right hand side.	10±1mV

ADJUSTMENT OF TUNER C.BOARD
ADJUSTING POINTS



ADJUSTMENT

ADJUSTMENT OF TRACKING ERROR OF FM SECTION

Step	ITEMS	ADJUSTING POINTS	CONNECTING INPUT	EQUIPMENT	METHOD	REMARKS
1	POINTER OF THE DIAL	Pointer	FM Ant.	FM SG 98MHz 60dBμ	Tune the receiver to SG, then loosen the pointer from the dial string and set the pointer to 98MHz of the scale.	±1mm or less
2	HIGH END TRACKING ERROR CONFIRMATION		FM Ant.	FM SG 108MHz 60dBμ	Tune the receiver to SG, then confirm so that the pointer is on 108MHz of the scale.	±2mm or less
3	TRACKING ERROR TRIMMING (Only when proper confirmation cannot be made by step 2, proceed to step 3.)	Pointer	FM Ant.	FM SG 88MHz to 108MHz 60dBμ	Reset the pointer, so that the pointer is on within allowance in all range as shown on right hand side.	±2mm or less
4	TRACKING ERROR ADJUSTING (Only when proper adjustment cannot be made by step 3, proceed step 4.)	TC0 (Pack)	FM Ant.	FM SG 98MHz 108MHz 60dBμ	Adjust error by the pointer and TCO alternately. 98MHz – pointer 108MHz – TCO	

ADJUSTMENT OF TRACKING ERROR OF AM SECTION

ADJUST AM SECTION AFTER ADJUSTMENT OF FM SECTION MADE CORRECTLY.

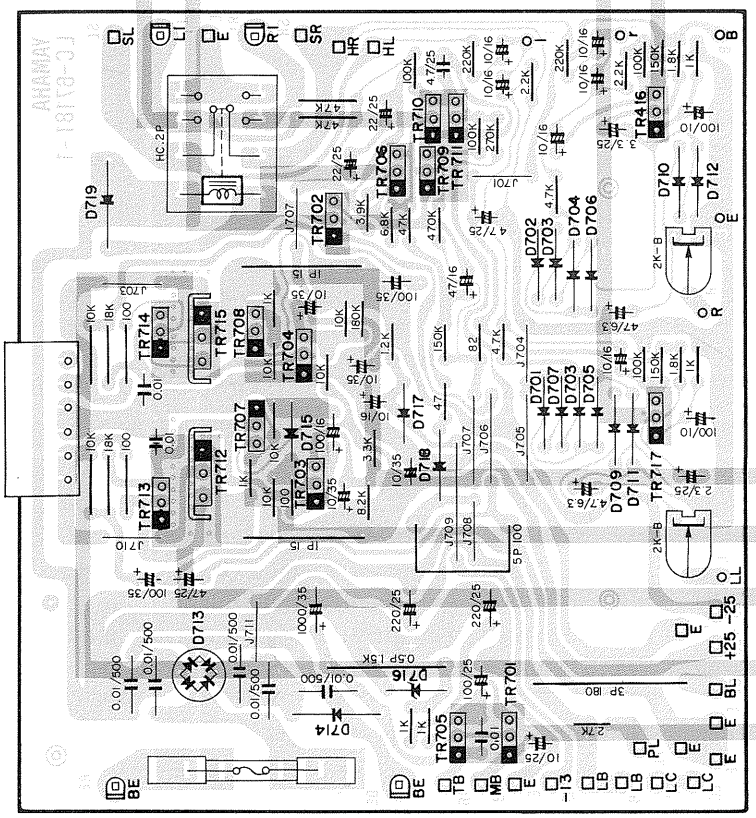
Step	ITEMS	ADJUSTING POINTS	CONNECTING POINTS	EQUIPMENT	METHOD	REMARKS
1	LOCAL OSCILLATING COIL	T201	Bar Ant.	AM SG 600kHz 80dB/m to 100dB/m	Set the pointer to 600kHz of the scale, then turn the core of T201 slowly, so that the signal meter swings to the maximum.	
2	LOW END SENSITIVITY	Core of bar ant.	Bar Ant.	AM SG 600kHz 60dB/m	Turn the cord of the bar antenna coil, so that the signal meter swings to the maximum.	
3	LOCAL OSCILLATING CAPACITOR	CT0 (Pack)	Bar Ant.	AM SG 1350kHz 80dB/m to 100dB/m	Set the pointer to 1350kHz of the scale, then turn the trimmer capacitor CT0, so that the signal meter swings to the maximum.	
4	HIGH END SENSITIVITY	CTA (Pack)	Bar Ant.	AM SG 1350kHz 60dB/m	Turn the trimmer capacitor CTA, so that the signal meter swings to the maximum.	
5	REPEAT			AM SG 600kHz 1350kHz 60dB/m	The above adjustments are necessary to repeat 2 to 3 times to minimize tracking error and differential of sensitivity between 600kHz and 1350kHz.	Tracking error: ±1.5mm or less
6	MID RANGE CONFIRMATION		Bar Ant.	AM SG 950kHz	Tune the receiver to SG, so that the signal meter swings to the maximum, then confirm so that the pointer is on 950kHz of the scale.	±2mm or less

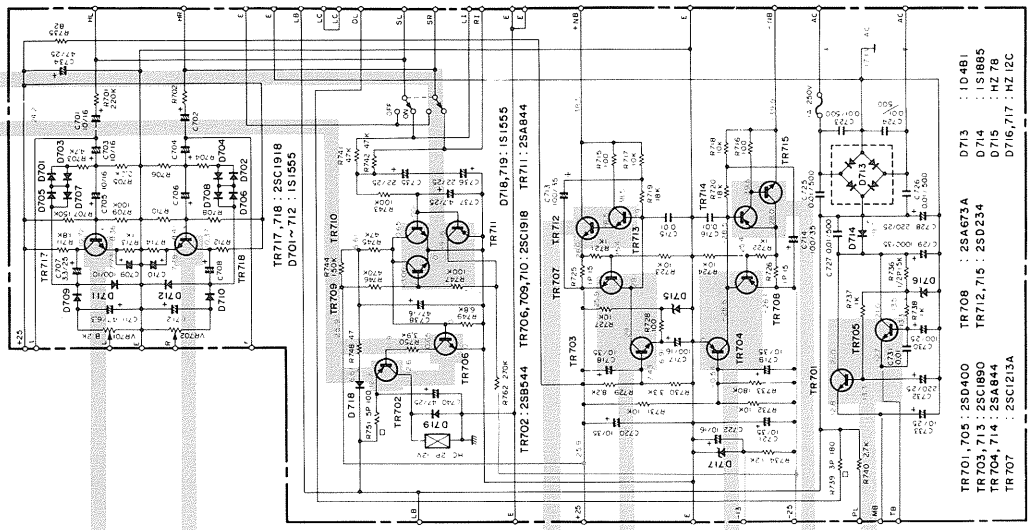
ADJUSTMENT OF TUNER CIRCUIT BOARD

Step	ITEMS	ADJUSTING POINT	CONNECTING INPUT	POINT OUTPUT	EQUIPMENT	METHOD	INDICATION (Typical)
1	DISCRI. BALANCE	T102 (up-side core)	FM Ant.			Turn the pointer to detuning point near by 98MHz, and turn the up-side core of the T102 so that the tuning meter reads zero. Note: Before adjusting, confirm that the meter reads zero when the power SW. is off.	0(zero)
2	TUNING POINT SETTING	Tuning knob	FM Ant.		FM SG 98MHz 60dBμ	Tune the knob so that the tuning meter reads center.	
3	VCO FREE RUN FREQUENCY	VR103	FM Ant.	19kHz TP	FM SG -do.- 0% (mod.) Frequency Counter (FC.)	Adjust VR103 so that FC. reads 19kHz. Confirm that FM SG is set to mono.	19kHz ±20Hz (±5Hz)
4	MONAURAL DISTORTION	T 102 (bottom-side core)	FM Ant.	Output (L or R)	-do.- FM SG mono. 1kHz 100%	Turn the bottom-side core of the T102 so that the distortion becomes minimum.	−60dB or less (−64dB)
5	STEREO DISTORTION	T101 VR 101 IFT (Pack)	FM Ant.	Output (L)	FM SG 98MHz 60dBμ L+R stereo 1kHz 100% Oscilloscope VTVM Distortion Meter (DM.) LPF (17kHz	Turn the core of the T101 IFT (Pack), and adjust VR101 so that the distortion becomes minimum.	−56dB or less (−62dB)
6	SEPARATION	VR 104 VR 105	FM Ant.	Output (L, R)	same as step 5 (except DM)	Adjust VR104 (SEP. BAL) so that the both seperations of L to R and R to L become approximately equal, then adjust VR105 (SEP.) so that the seperation becomes to the maximum. These adjustments should be repeated two or three times.	50dB or more (55dB)
7	PILOT SIGNAL ERASE	VR106 T103	FM Ant.	Output (L, R)	FM SG 98MHz 60dBμ stereo (MD) pilot: 9%	Connect VTVM and OSC to the Output terminal, and adjust VR106 and T103 so that carrier level becomes minimum.	60dB or more (both ch.)
8	SIGNAL METER SESITIVITY	VR102	FM Ant.		FM SG 98MHz 80dBμ 0%	Adjust VR102 so that the signal meter swings 90.	90

CIRCUIT BOARDS

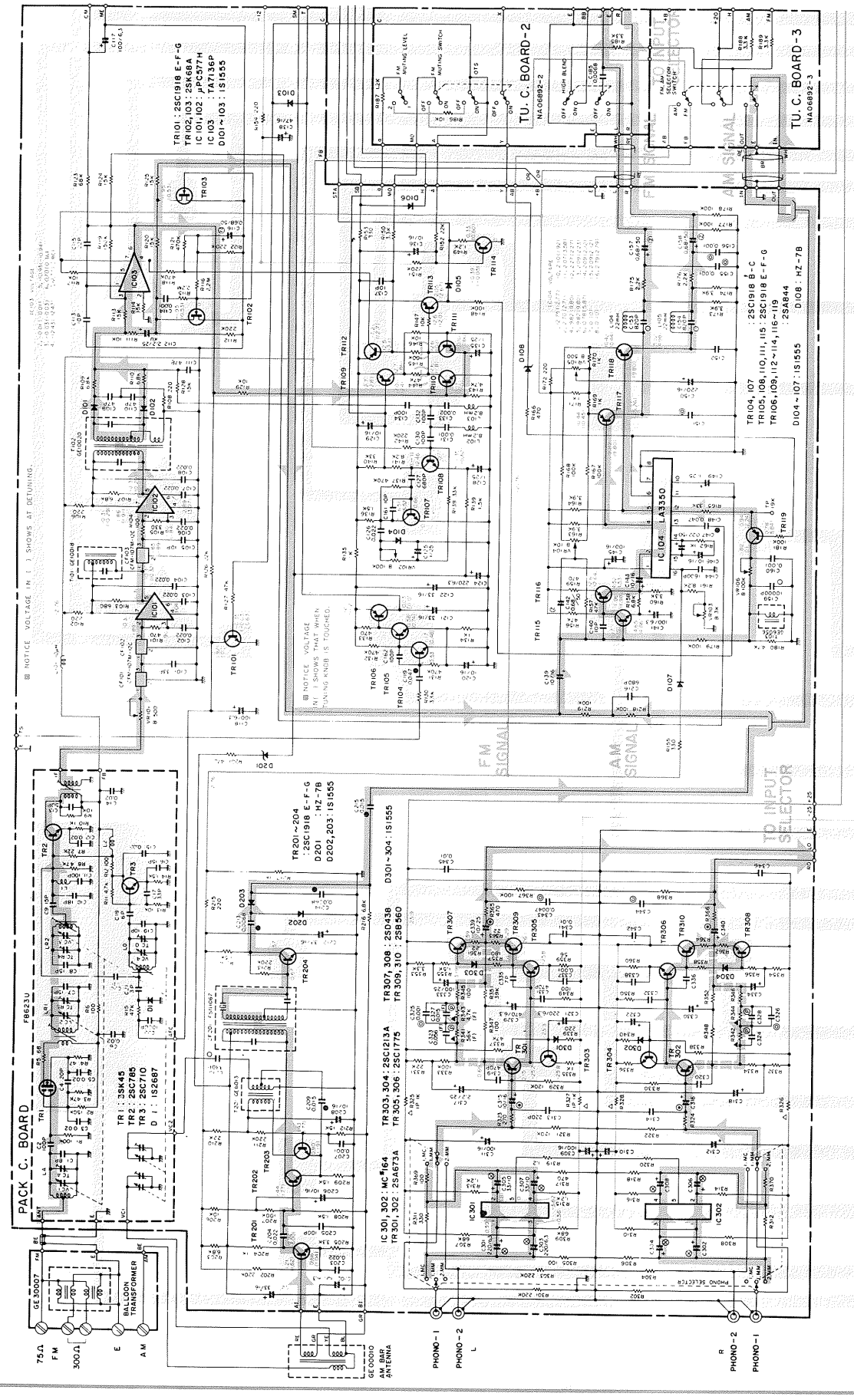
POWER SUPPLY C. BOARD-1

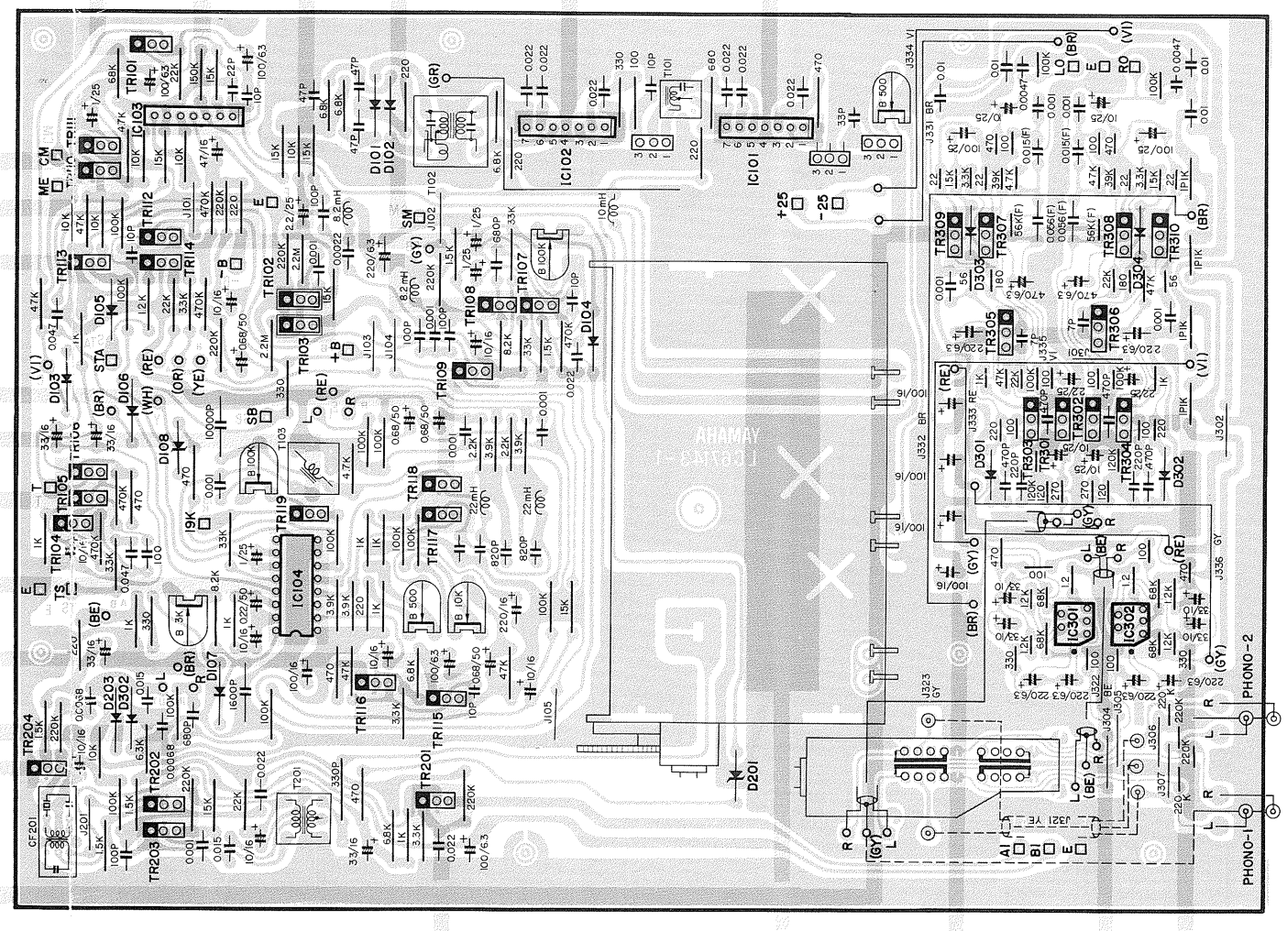




CR-2020

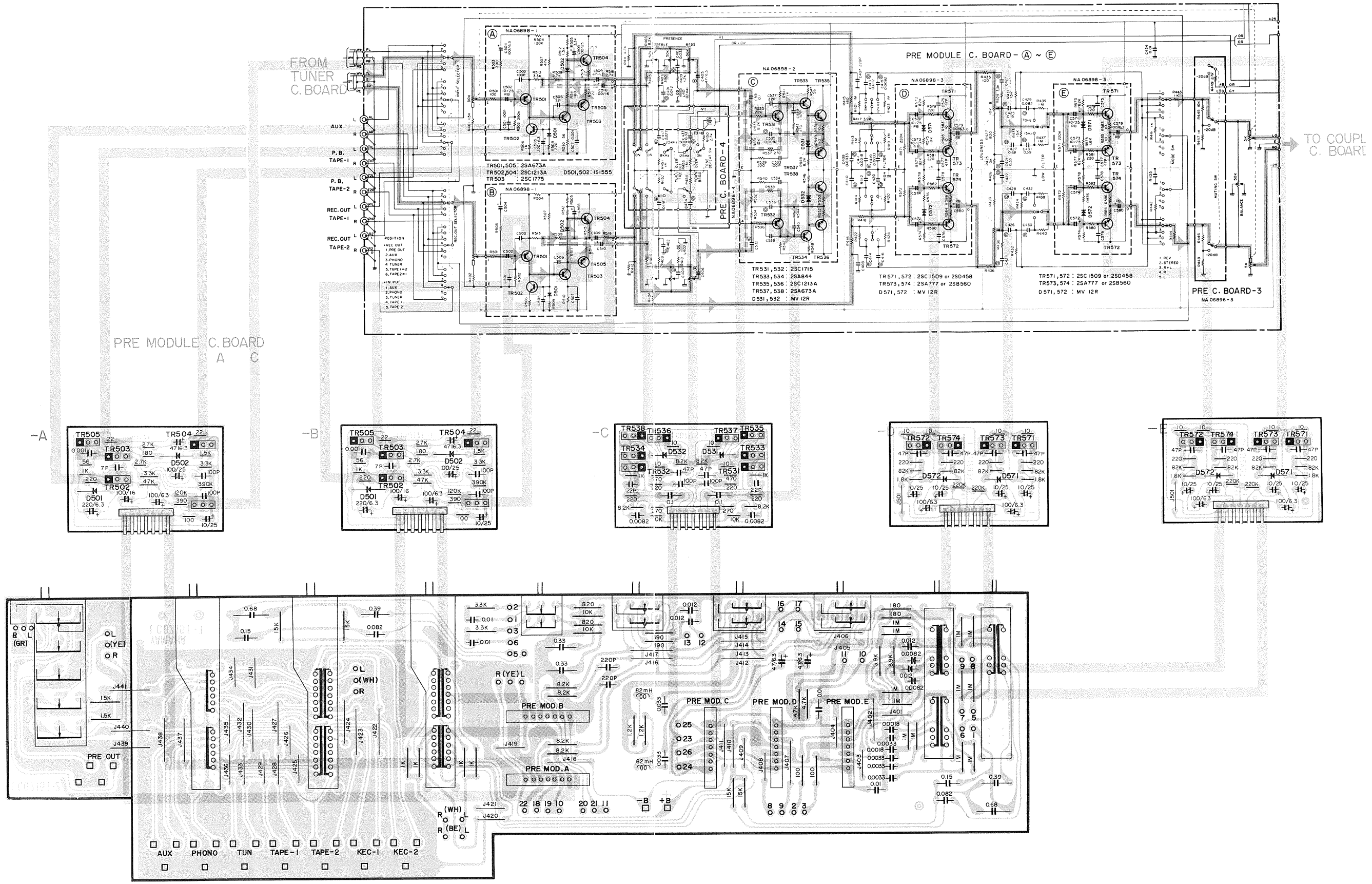
TUNER C.BOARD-1 (Tuner)





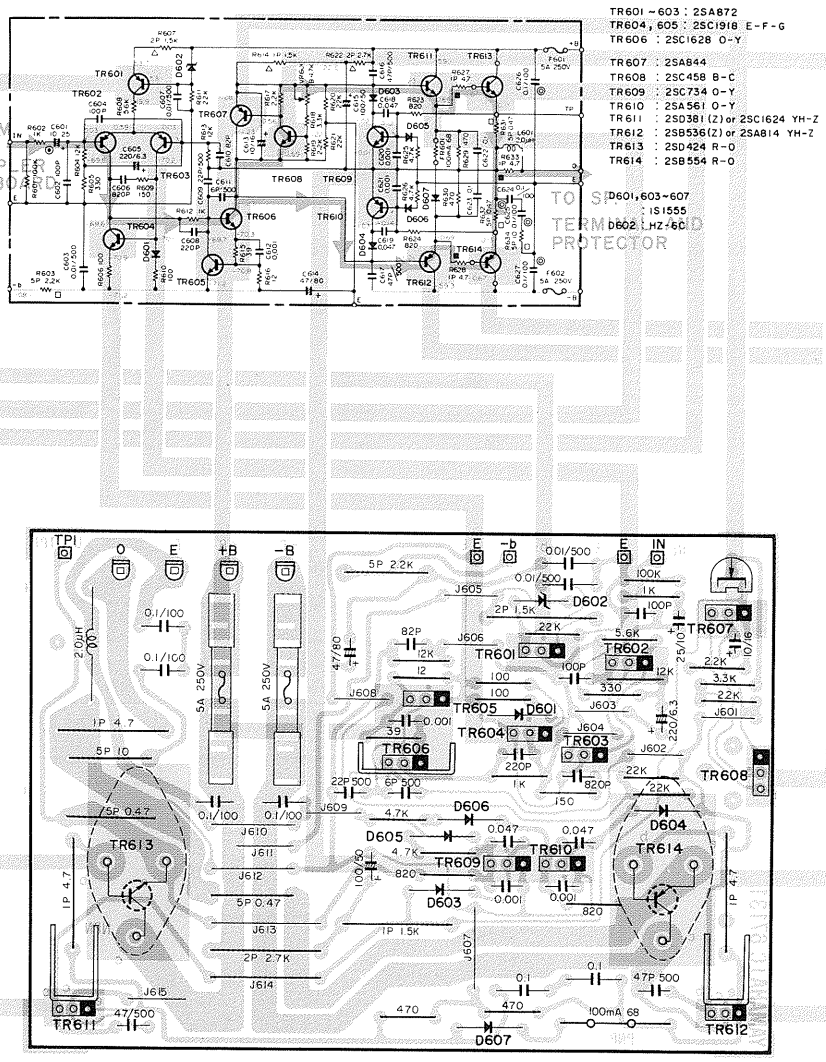
CIRCUIT BOARDS

PRE C.BOARD-1,2 (Equalizer and Tone Control Amp.)

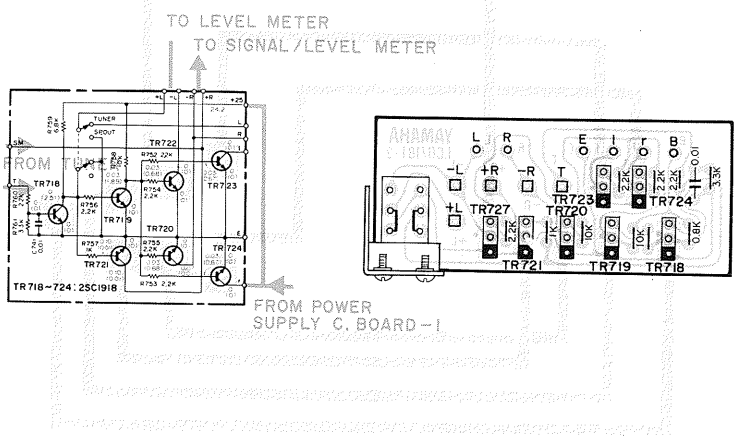


CIRCUIT BOARDS

MAIN C.BOARD

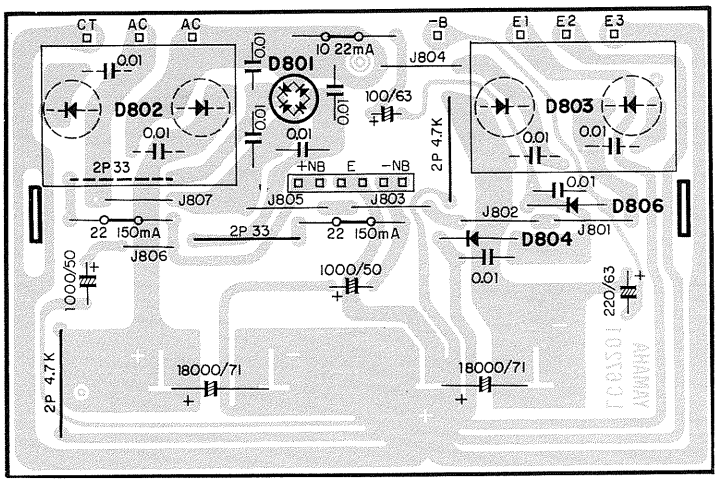


POWER SUPPLY C.BOARD-2

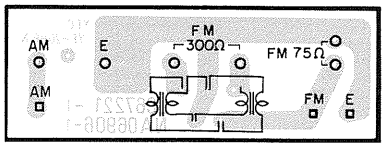


CIRCUIT BOARDS

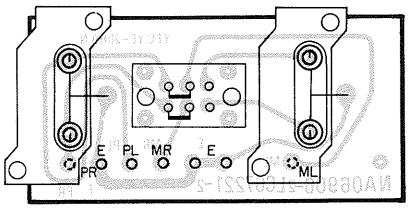
ELECTROLYTIC CAP. C. BOARD



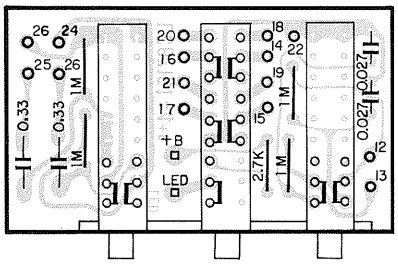
COUPLER C.BOARD-1



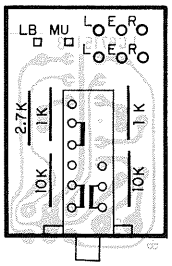
COUPLER C.BOARD-2



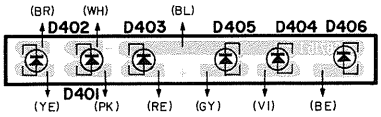
PRE C.BOARD -4



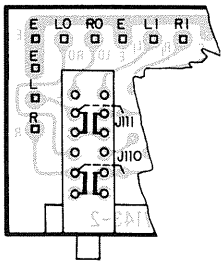
PRE C.BOARD-3



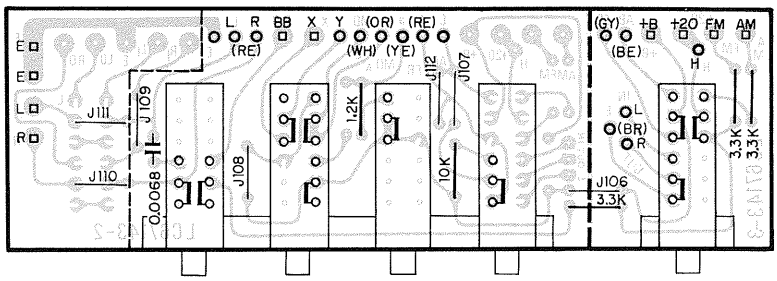
PRE C.BOARD-5



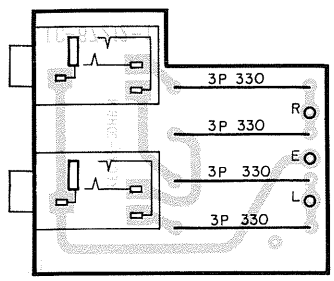
TUNER C.BOARD-2. -3



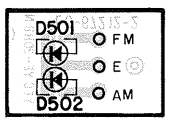
(Only for US. and Canadian models.)



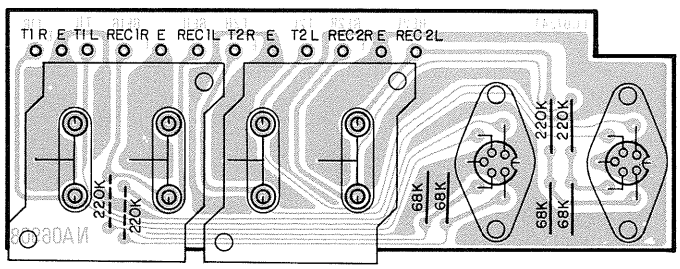
HEAD PHONE C.BOARD-1



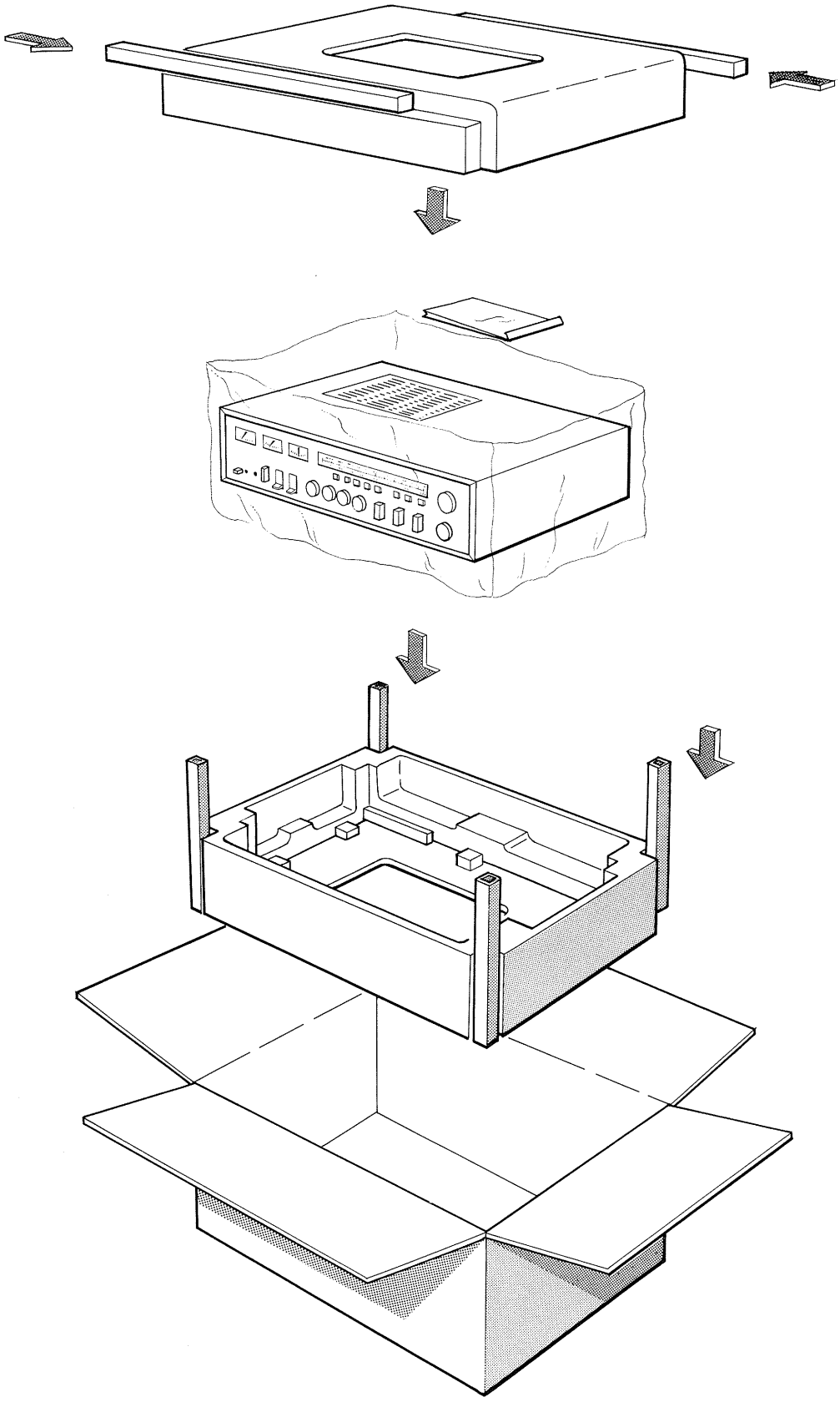
HEAD PHONE C.BOARD-2



DIN C.BOARD (Only for European models)



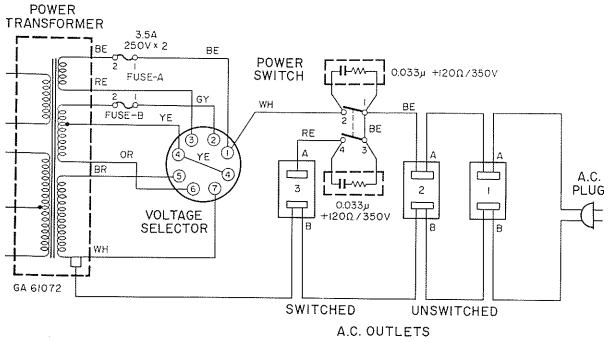
PACKAGE



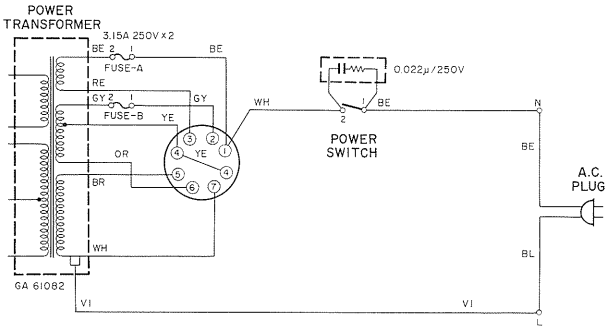
SCHEMATIC DIAGRAM BY EXPORT ZONE

POWER SUPPLY CIRCUIT

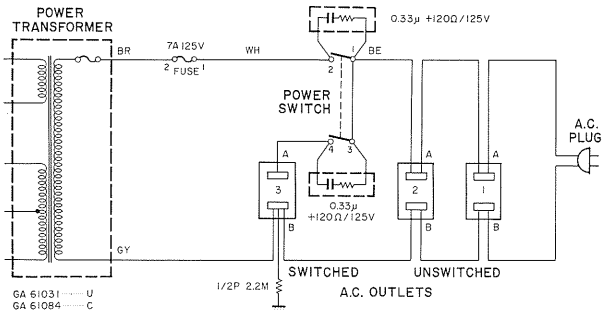
GENERAL EXPORT model



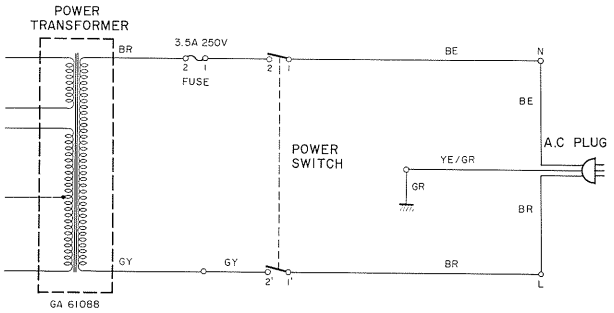
EUROPEAN model



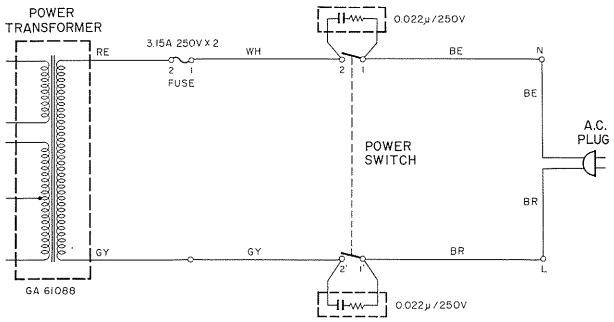
US & CANADIAN model



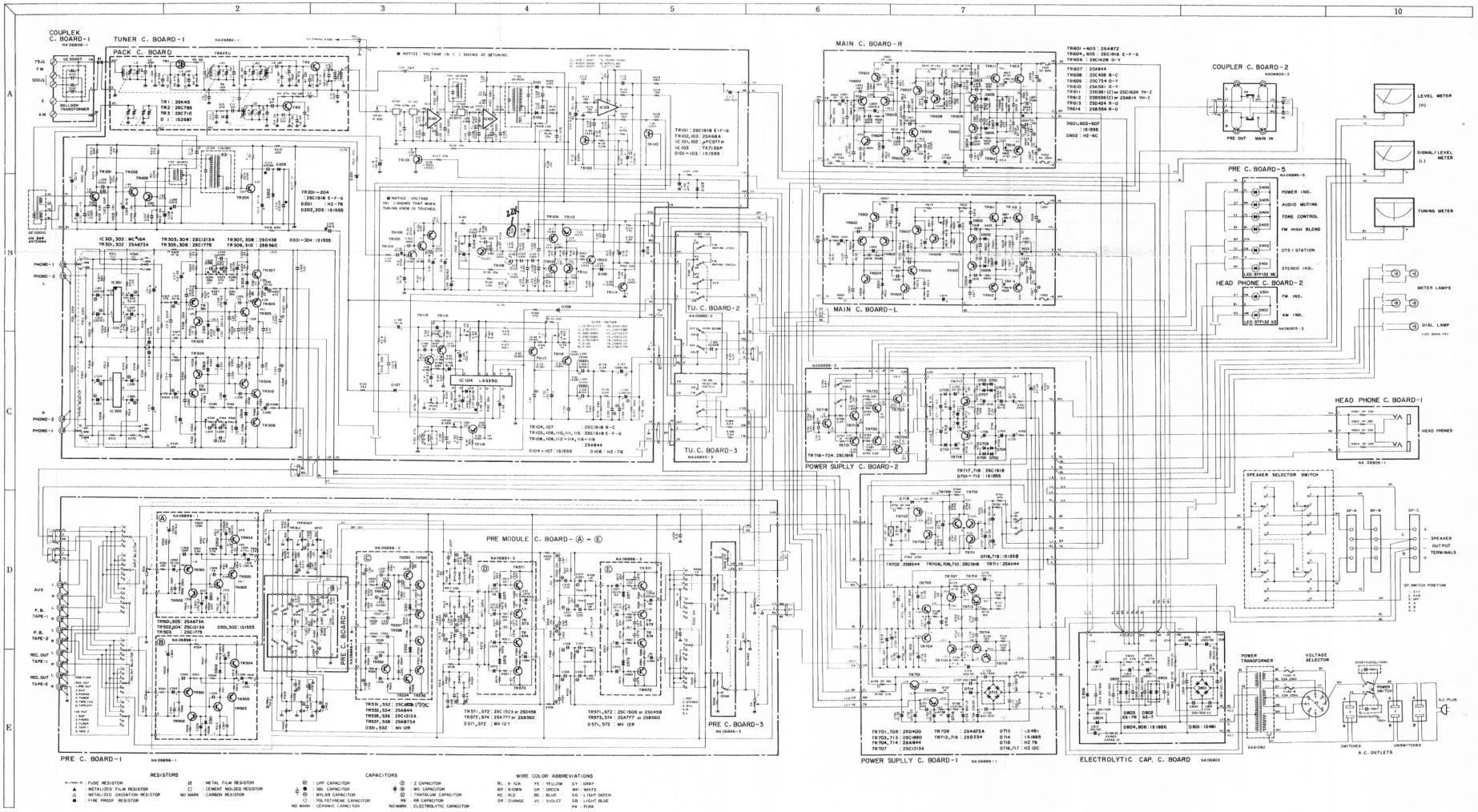
AUSTRALIAN model

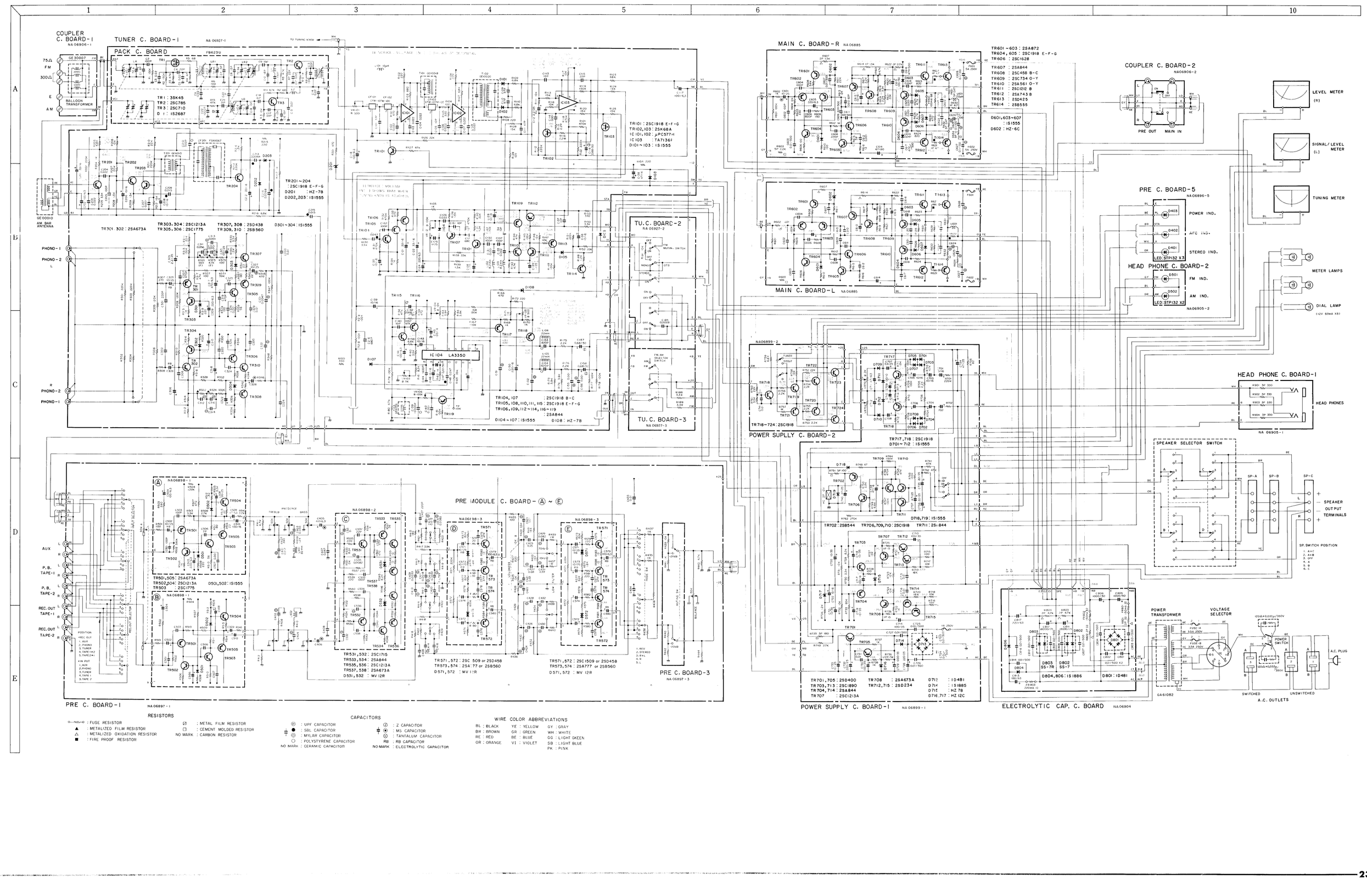


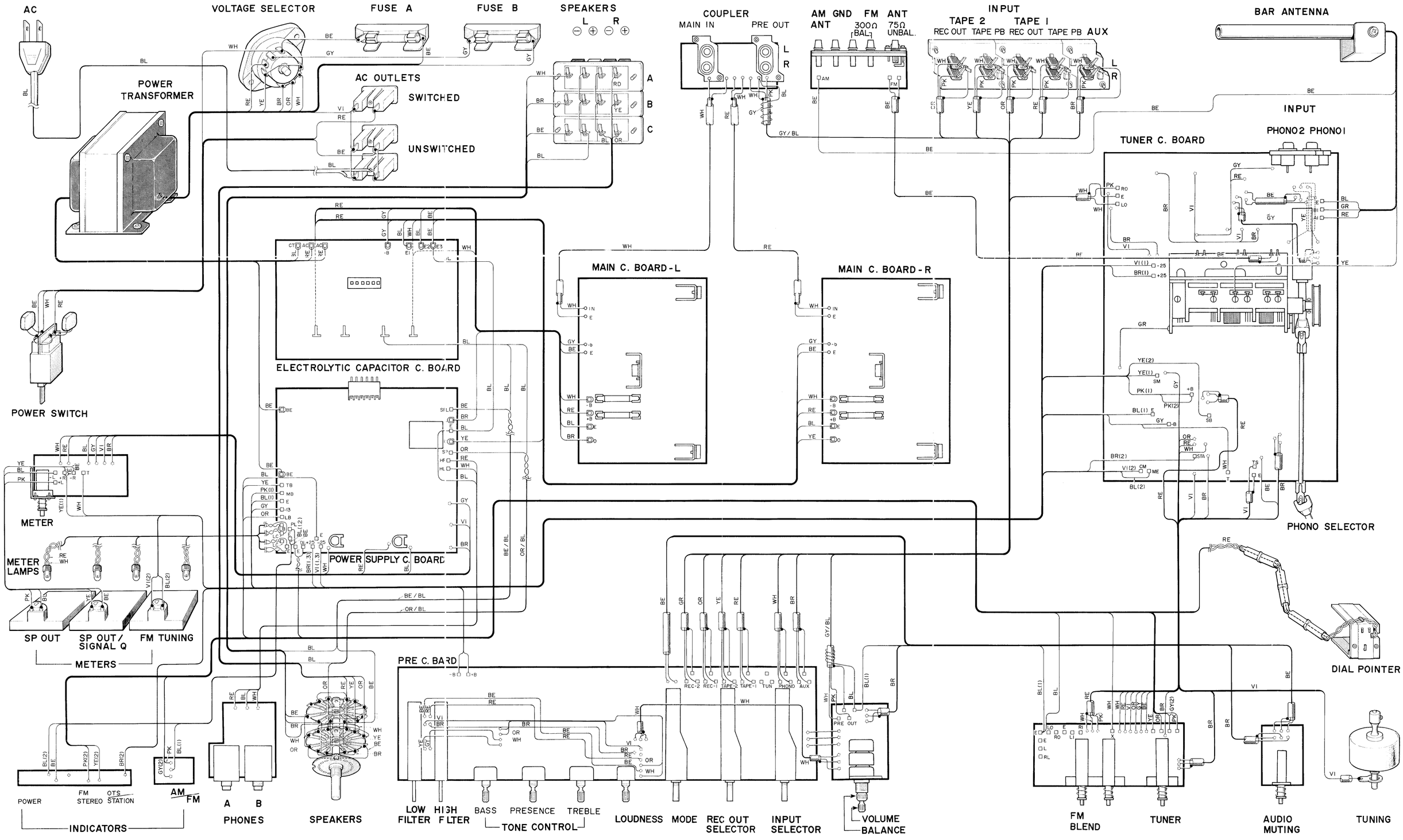
UK model



SCHEMATIC DIAGRAM



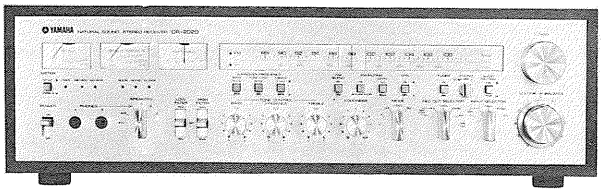

COUPLER C. BOARD-I
NA 06906-1
TUNER C. BOARD-I
NA 06927-1
PACK C. BOARD
FB623U
TR1 : 3SK45
TR2 : 2SC785
TR3 : 2SC710
D1 : 1S2687
TR101 : 2SC1918 E-F-G
TR102,103 : 2SK68A
IC101,102 : μPC577H
IC103 : TA7136F
D101~103 : 1S1555
TR201~204 : 2SC1918 E-F-G
D201 : HZ-7B
D202,203 : 1S1555
TR301 302 : 2SA673A
TR303,304 : 2SC1213A
TR305,306 : 2SC1775
TR307,308 : 2SD438
TR309,310 : 2SB560
D301~304 : 1S1555
IC104 LA3350
TR104,107 : 2SC1918 B-C
TR105,108,110,111,115 : 2SC1918 E-F-G
TR106,109,112~114,116~119 : 2SA844
D104~107 : 1S1555
D108 : HZ-7B
TU.C. BOARD-2
NA 06927-2
TU.C. BOARD-3
NA 06927-3
MAIN C. BOARD-R
NA 06885
MAIN C. BOARD-L
NA 06885
TR601~603 : 2SA872
TR604,605 : 2SC1918 E-F-G
TR606 : 2SC1628
TR607 : 2SA844
TR608 : 2SC458 B-C
TR609 : 2SC734 O-Y
TR610 : 2SA561 O-Y
TR611 : 2SC1212 B
TR612 : 2SA743 B
TR613 : 2SD425
TR614 : 2SB555
D601,603~607 : 1S1555
D602 : HZ-6C
COUPLER C. BOARD-2
NA06906-2
PRE OUT
MAIN IN
LEVEL METER (R)
SIGNAL/LEVEL METER (L)
TUNING METER
PRE C. BOARD-5
NA 06896-5
POWER IND.
AFC IND.
STEREO IND.
LED:STP132 X3
HEAD PHONE C. BOARD-2
FM IND.
AM IND.
LED:STP132 X2
NA06905-2
METER LAMPS
DIAL LAMP
(12V 60mA X5)
HEAD PHONE C. BOARD-1
HEAD PHONES
NA 06905-1
SPEAKER SELECTOR SWITCH
SP-A
SP-B
SP-C
SPEAKER OUTPUT TERMINALS
SP.SWITCH POSITION
1. A+C
2. A+B
3. OFF
4. A
5. B
6. C
POWER SUPPLY C. BOARD-2
TR718~724 : 2SC1918
TR717,718 : 2SC1918
D701~712 : 1S1555
D718,719 : 1S1555
TR702 : 2SB544
TR706,709,710 : 2SC1918
TR711 : 2SA844
POWER SUPPLY C. BOARD-1
NA 06899-1
TR701,705 : 2SD400
TR703,713 : 2SC1890
TR704,714 : 2SA844
TR707 : 2SC1213A
TR708 : 2SA673A
TR712,715 : 2SD234
D712 : 1D481
D714 : 1S1885
D715 : HZ-7B
D716,717 : HZ-12C
ELECTROLYTIC CAP. C. BOARD
NA 06904
D801~804,806 : 1S1886
D801 : 1D481
GA61082
POWER TRANSFORMER
VOLTAGE SELECTOR
POWER SWITCH
SWITCHED
UNSWITCHED
A.C. OUTLETS
A.C. PLUG
PRE C. BOARD-3
NA 06897-3
PRE MODULE C. BOARD-Ⓐ~Ⓔ
NA06898-1
NA06898-2
NA06898-3
TR501,505 : 2SA673A
TR502,504 : 2SC1213A
TR503 : 2SC1775
D501,502 : 1S1555
TR531,532 : 2SC1775
TR533,534 : 2SA844
TR535,536 : 2SC1213A
TR537,538 : 2SA673A
D531,532 : MV 12R
TR571,572 : 2SC 509 or 2SD458
TR573,574 : 2SA 77 or 2SB560
D571,572 : MV 11R
TR571,572 : 2SC1509 or 2SD458
TR573,574 : 2SA777 or 2SB560
D571,572 : MV 12R
PRE C. BOARD-1
NA 06897-1
AUX
P.B. TAPE-1
P.B. TAPE-2
REC.OUT TAPE-1
REC.OUT TAPE-2
PHONO-1
PHONO-2
TUNER
TAPE 1
TAPE 2
REC OUT
AUX
PHONO
RESISTORS
FUSE RESISTOR
METALIZED FILM RESISTOR
METALIZED OXIDATION RESISTOR
FIRE PROOF RESISTOR
METAL FILM RESISTOR
CEMENT MOLDED RESISTOR
NO MARK : CARBON RESISTOR
CAPACITORS
UPF CAPACITOR
SBL CAPACITOR
MYLAR CAPACITOR
POLYSTYRENE CAPACITOR
NO MARK : CERAMIC CAPACITOR
Z CAPACITOR
MS CAPACITOR
TANTALUM CAPACITOR
RB CAPACITOR
NO MARK : ELECTROLYTIC CAPACITOR
WIRE COLOR ABBREVIATIONS
BL : BLACK
BR : BROWN
RE : RED
OR : ORANGE
YE : YELLOW
GR : GREEN
BE : BLUE
VI : VIOLET
GY : GRAY
WH : WHITE
GG : LIGHT GREEN
SB : LIGHT BLUE
PK : PINK


AC
VOLTAGE SELECTOR
FUSE A
FUSE B
SPEAKERS
L R
COUPLER
MAIN IN
PRE OUT
AM GND FM ANT
ANT 300Ω BAL 75Ω UNBAL.
INPUT
TAPE 2 TAPE 1
REC OUT TAPE PB REC OUT TAPE PB AUX
BAR ANTENNA
POWER TRANSFORMER
AC OUTLETS
SWITCHED
UNSWITCHED
INPUT
PHONO2 PHONO1
TUNER C. BOARD
ELECTROLYTIC CAPACITOR C. BOARD
MAIN C. BOARD-L
MAIN C. BOARD-R
POWER SWITCH
METER
METER LAMPS
SP OUT
SP OUT/ SIGNAL Q
FM TUNING
METERS
POWER SUPPLY C. BOARD
PHONO SELECTOR
DIAL POINTER
PRE C. BARD
POWER
FM STEREO
OTS STATION
AM FM
INDICATORS
A B
PHONES
SPEAKERS
LOW FILTER
HIGH FILTER
BASS
PRESENCE
TREBLE
TONE CONTROL
LOUDNESS
MODE
REC OUT SELECTOR
INPUT SELECTOR
VOLUME BALANCE
FM BLEND
TUNER
AUDIO MUTING
TUNING

PARTS LIST

CR-2020

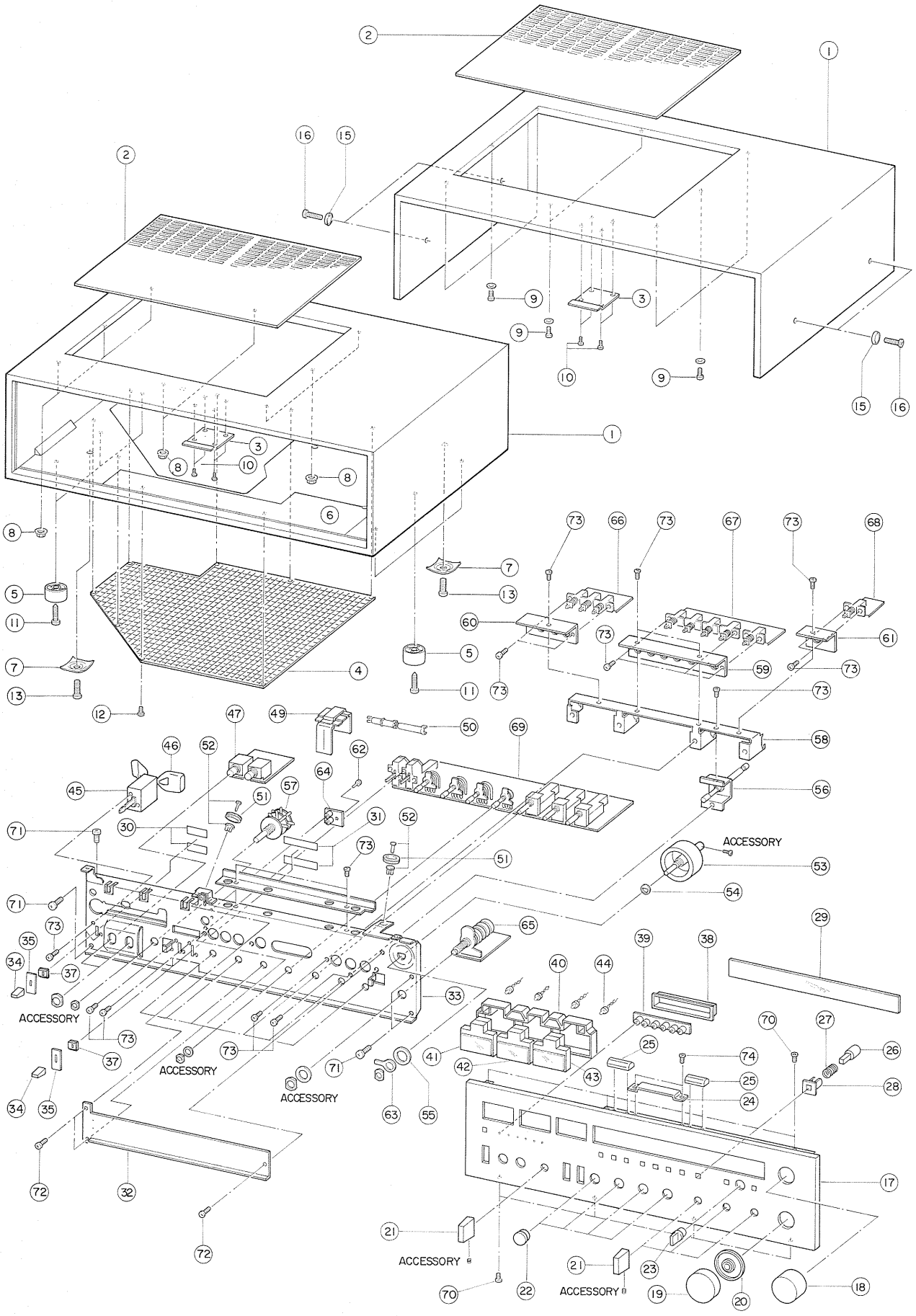
FM/AM STEREO RECEIVER



SINCE 1887

YAMAHA

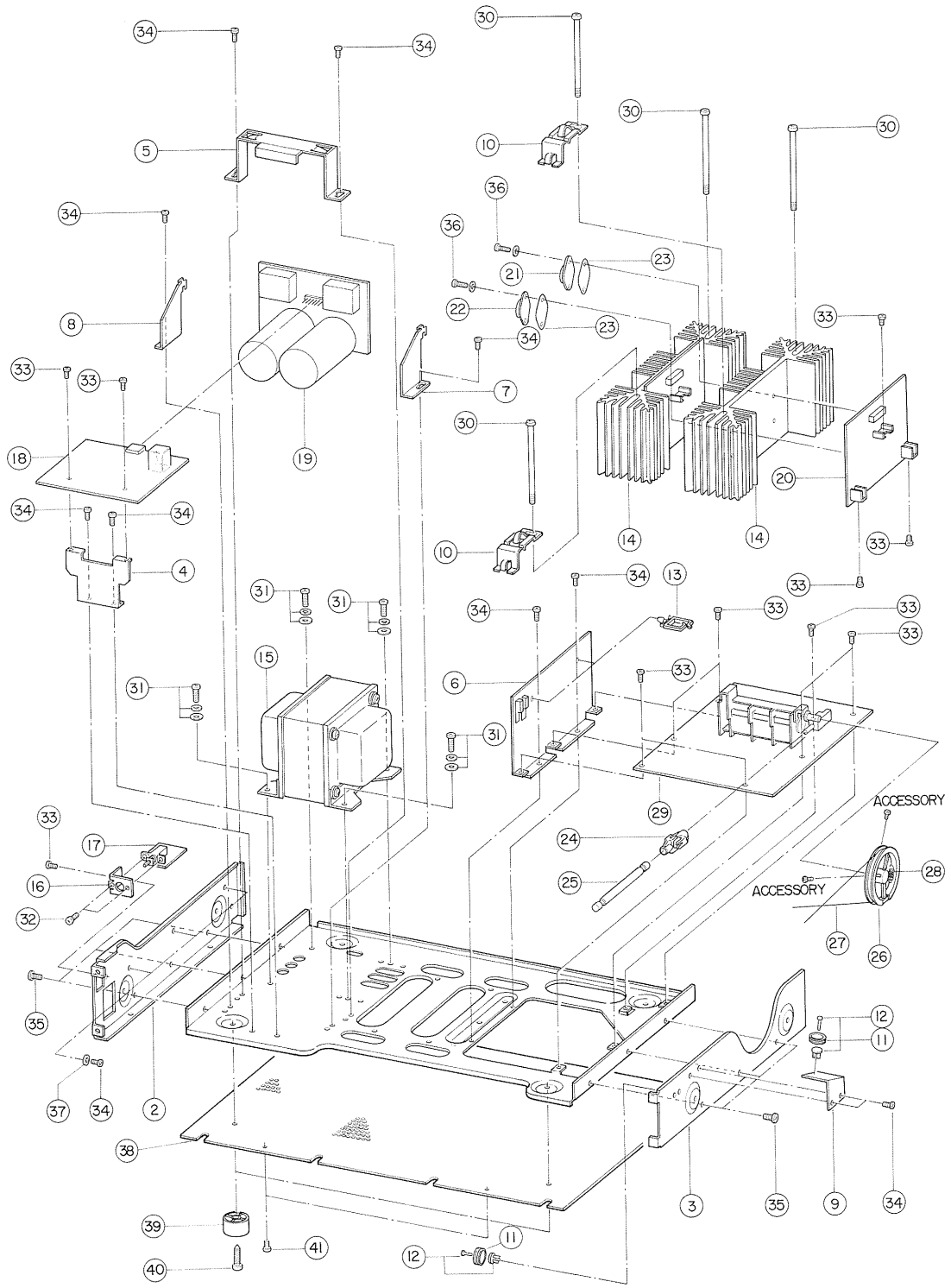
NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN


ACCESSORY
ACCESSORY
ACCESSORY
ACCESSORY
ACCESSORY
ACCESSORY

Ref. No.	Part No.	Description		Remarks	Common Models	
1	3200115	5061511 0	Cabinet	外装組み上り	R,U,C,A	
	3200115	5061521 0	—do.—	〃	E,B	
2	3200000	AA08531 0	Radiator Grille	放熱グリル	R,U,C,A	
	3200000	CB0794000	—do.—	〃	E,B	
3	3200000	AA0853200	Metal, Warp Prevention	反り止め金具	R,U,C,A	
	3200000	AA0853000	—do.—	〃	E,B	
4	3200000	AA0853300	Punching Metal	パンチングメタル	R,U,C,A	
5	4200000	CB0794900	Leg	脚		CR-1020, 620,820
6	4200000	CA0656800	Shield Paper	バリヤ紙	R,U,C,A	
7	3200000	AA0746300	Amp. Setting Washer	アンプ取付ワッシャー	R,U,C,A	CR-400,620, 820,1020
8	4200000	EV9000300	Hexagonal Nut With Washer M3 ZMC2-Y	座付ナット	R,U,C,A	
9	4200000	Ei0301000	Binding Tapping Screw 3×10 ZMC2-Y	バインドタッピングネジ	E,B	
10	4200000	EQ7311000	Wooden Screw 3.1×10 ZMC2-Y	鉄丸木ネジ	R,U,C,A	
11	4200000	EQ7412000	—do.— 4.1×20 ZMC2-Y	〃	R,U,C,A	
12	4200000	EZ0311000	Wooden Cums Screw 3.1×10 ZMC2-Y	鉄丸座付木ネジ	R,U,C,A	
13	4200000	EA0502500	Pan Head Screw 5×25 ZMC2-Y	ナベ小ネジ	R,U,C,A	
14	4200000	EJ0401400	Pan Head Tapping Screw 4×14 ZMC2-Y	ナベタッピングネジ	E,B	
15	3200000	CB0795200	Hole Cap	ホールキャップ	E,B	
16	4200000	ED4501400	Binding Head Screw 5×14 FCM3-BI	バインド小ネジ	E,B	
17	3200000	BA0696500	Panel	パネル	R,A,E,B	
	3200000	BA0696400	—do.—	〃	U,C	
18	3200000	BA0696800	Knob, Tuning	Tuツマミ		CR-1020
19	3200000	BA0696900	—do.—, Volume Control	Vol ツマミ		—do.—
20	3200000	BA0697000	Double Knob	ダブルツマミ		—do.—
21	3200000	BA0697100	Knob, Switch	SWツマミ		—do.—
22	3200000	BA0644500	—do.—, Tone Control	ツマミ		CR-400,620, 820,1020
23	3200000	CB0792700	—do.—, Phono Selector	Phonoツマミ		CR-1020
24	3200000	AA0849400	Metal, Warp Prevention	反り止め金具		CR-1020, 620,820
25	3200000	CB0793200	Spacer, Warp Prevention	反り止めスペーサー	R,U,C,A	—do.—
26	3200000	CB0792400	Button, Push Switch	プッシュボタン		—do.—
27	3200000	AA0849500	Spring, Push Switch	プッシュスプリング		—do.—
28	3200000	CB0792500	Button Frame, Push Switch	プッシュボタン枠		—do.—
29	3200000	CG0604500	Dial Panel	ダイヤルパネル		CR-1020
30	4200000	CB0790200	Film For Aplon	エプロン受けフィルム		CA-1010 CR-1020
31	4200000	CB0791000	—do.—	〃		CA-R1 CR-1020
32	3200000	BA0696600	Dial Scale	ダイヤル目盛板		CR-1020
33	3200000	AA0847200	Sub-Chassis	サブシャーシ		—do.—
34	3200000	CB0797800	Knob, Lever Switch	レバーツマミ		—do.—
35	4200000	CB0795000	Aplon, Lever Switch	SWエプロン		CA-R1 CR-1020
36	4200000	CB0795100	—do.—	〃		—do.—
37	3200000	CB0797700	Bush, Lever Switch	SWブッシュ		CT-R1 CR-1020
38	3200000	CB0792900	Holder For LED	LEDホルダー		CR-1020
39	3200000	NA0689650	**Pre Circuit Board 5**	プリシート5		
A	4200000	iF0006800	LED	LED		
B	3200000	CB0793000	Spacer For LED	LEDスペーサー		CR-1020 620,820
40	3200000	CB0792300	Holder For Meters	メーターホルダー		CR-1020
A	3200000	CB0793100	Colour Plate	カラープレート		CR-1020 620,820
41	4200000	Ji0006400	Level Meter 47B 1mA 650Ω	レベルメーター		
42	4200000	Ji0006500	Signal Meter —do.—	シグナルメーター		
43	4200000	Ji0006700	Tuning Meter 47B 250μA 650Ω	チューニングメーター		
44	3200000	MZ0695600	Lamp Assembly	ランプAss'y		

Ref. No.	Part No.	Description		Remarks	Common Models	
45	4200000	KA2006300	Lever Switch	パワースイッチ	R,U,C	
	4200000	KA2006800	—do.—	〃	E	
	4200000	KA2006900	—do.—	〃	B,A	
46	4200000	FZ0005400	Spark Killer DC500V AC350V 0.033μ+120Ω	スパークキラーコン	R	
	4200000	FZ0001100	—do.— 0.033μ+120Ω	〃	U	
	4200000	FZ0006900	—do.— 0.022μ	〃	E,B	
	4200000	FZ0009500	—do.— 0.33μ+120Ω	〃	C	
A	4200000	CB0721900	Cover For Capacitor 820826	コンデンサーカバー	R,U,B,E	
	4200000	CB0798900	—do.— SB0652a	〃	C	
47	3200000	NA0690501	**Headphone Circuit Board 1**	ヘッドフォーンシート1		
A	4200000	LB3005200	Phone Jack LJ190-1-2	フォーンジャック		
B	4200000	HM5353300	Cement Molded Resistor 3W330Ω	セメント抵抗		
48	3200000	AA0848600	Dial Pointer Rail	ダイヤル指針レール		
49	3200000	NB0787000	Dial Pointer Unit	ダイヤル指針		
A	4200000	JB0005100	Pilot Lamp UL 12V 60mA	パイロットランフ		
B	3200000	AA0736700	Cover For Pointer	指針カバー		CR-400, 620,820
C	3200000	CB0689500	Pointer	ダイヤル指針		CR-620, 820,1000
D	3200000	CB0685900	Holder, Dial Pointer	指針ホルダー		CR-400, 620,820
E	3200000	CB0686000	Colour Plate	指針カラープレート		—do.—
F	4200000	ED0200500	Binding Head Screw 2×5 ZMC2-Y	バインド小ネジ		
50	3200000	CB0792800	Lead Pipe	リードパイフ		CR-1020
51	3200000	CB0758400	Wheel	滑車		CT-1010,CR-620. 820,1020
52	3200000	CB0778900	Pulley Clip	フーリークリップ		—do.—
53	3200000	NB0781400	Tuning Unit	チューニングユニット		CR-820, 1020
54	3200000	CB0778800	Isolation Bush	絶縁ブッシュ		CT-1010 CR-820.1020
55	4200000	CA0651500	Isolation Fiber	絶縁ファイバー		—do.—
56	3200000	AA0847600	Shaft Unit, Selector	シャフトユニット		CR-1020
57	4200000	KA5010200	Rotary Switch Y-246W	ロータリースイッチ		
58	3200000	AA0847500	Switch Stay	SWステイ		CR-1020
59	3200000	AA0848200	Holder C, Push Switch	SWホルダーC		
60	3200000	AA0849100	Holder L, —do.—	〃 L		
61	3200000	AA0849200	Holder R, —do.—	〃 R		
62	4200000	CB0688800	Plastic Rivet φ3.5	プラスチックリベット		
63	4200000	LA0011700	Lug Terminal φ9.5	アースラグ		
64	3200000	NA0690502	**Headphone Circuit Board 2**	ヘッドフォーンシート2		
A	4200000	iF0006800	LED	LED		
B	3200000	CB0793000	Spacer For LED	LEDスペーサー		
65	3200000	NA0689602	**Pre Circuit Board 2**	プリシート2		
A	4200000	HS4201700	Variable Resistor 50K×2+500×2+50K	可変抵抗器		
66	3200000	NA0689604	**Pre Circuit Board 4**	プリシート4		
A	4200000	KA8003100	Push Switch 3×6×3	プッシュスイッチ		
B	4200000	LA0012800	Lapping Pin	ラッピング端子		
C	4200000	FAII42700	Mylar Capacitor 0.027μ	マイラーコン		
	4200000	FAII53300	—do.— 0.33μ	〃		
67	3200000	NA0692602	**Tuner Circuit Board 2**	チューナーシート2	R	
	3200000	NA0689202	—do.—	〃	U,C	
	3200000	NA0689302	—do.—	〃	A,E,B	
A	4200000	KA8003200	Push Switch 4×4×3	プッシュスイッチ	R,A,E,B	
	4200000	KA8003300	—do.— 5×4×3	〃	U,C	
	4200000	KA8002700	—do.— 1×4×3	〃		
B	4200000	LA0012800	Lapping Pin	ラッピング端子		

Ref. No.	Part No.	Description		Remarks	Common Models
C	4 2 0 0 0 0 F S I I 3 6 8 0	BL Ceramic Capacitor 50V 0.0068μ	SBLコン		
68	3 2 0 0 0 0 N A 0 6 8 9 6 3	**Pre Circuit Board 3**	プリシート3		
A	4 2 0 0 0 0 K A 8 0 0 2 7 0	Push Switch 1×4×3	プッシュスイッチ		
B	4 2 0 0 0 0 L A 0 0 1 2 8 0	Lapping Pin	ラッピング端子		
69	3 2 0 0 0 0 N A 0 6 8 9 6 1	**Pre Circuit Board 1**	プリシート1		
A	4 2 0 0 0 0 K A 5 0 0 6 5 0	Rotary Switch SRZ-V045 NS	ロータリースイッチ		
	4 2 0 0 0 0 K A 5 0 0 9 8 0	—do.— SRZ-V046 NS	〃		
	4 2 0 0 0 0 K A 2 0 0 6 7 0	Lever Switch 4×3	レバースイッチ		
B	4 2 0 0 0 0 H S 4 1 0 5 6 0	Variable Resistor B10K×2	可変抵抗器		
	4 2 0 0 0 0 H S 4 1 0 5 4 0	—do.— CT50K×2	〃		
C	4 2 0 0 0 0 G D 9 0 0 2 4 0	Coil, Magnetic Shield Type 82mH	コイル		
D	4 2 0 0 0 0 F Z 0 0 0 8 3 0	Electrolytic Cap., MS 47μ6.3V	MSケミコン		
	4 2 0 0 0 0 F A I I 3 1 8 0	Mylar Cap. 50VMS 0.0018μ	マイラーコン		
	4 2 0 0 0 0 F A I I 3 3 3 0	—do.— 0.0033μ	〃		
	4 2 0 0 0 0 F A I I 3 8 2 0	—do.— 0.0082μ	〃		
	4 2 0 0 0 0 F A I I 4 1 0 0	—do.— 0.01μ	〃		
	4 2 0 0 0 0 F A I I 4 1 2 0	—do.— 0.012μ	〃		
	4 2 0 0 0 0 F A I I 4 3 3 0	—do.— 0.033μ	〃		
	4 2 0 0 0 0 F A I I 4 8 2 0	—do.— 0.082μ	〃		
	4 2 0 0 0 0 F A I I 5 1 5 0	—do.— 0.15μ	〃		
	4 2 0 0 0 0 F A I I 5 3 9 0	—do.— 0.39μ	〃		
	4 2 0 0 0 0 F A I I 5 3 3 0	—do.— 0.33μ	〃		
	4 2 0 0 0 0 F Z 0 0 1 0 0 0	Metallized Polyester Film Cap. 0.68μ	〃		
E	4 2 0 0 0 0 L A 0 0 1 2 8 0	Wire lapping Pin	ラッピング端子		
F	3 2 0 0 0 0 N A 0 6 8 9 8 0	**Pre Module C. Board**	プリモジュールシート		CR-1020
a	4 2 0 0 0 0 F A I I 3 8 2 0	Mylar Capacitor 0.0082μ 50V	マイラーコン		
	4 2 0 0 0 0 F A I I 5 1 0 0	—do.— 0.1μ 50V	〃		
	4 2 0 0 0 0 F Z 0 0 0 9 8 0	Electrolytic Cap., RB 10μ 25V	RBケミコン		
b	4 2 0 0 0 0 i A 0 6 7 3 1 0	Transistor 2SA673A C,D	トランジスター		
	4 2 0 0 0 0 i A 0 8 4 4 1 0	—do.— 2SA844 D,E	〃		
	4 2 0 0 0 0 i C 1 2 1 3 1 0	—do.— 2SC1213A C,D	〃		
	4 2 0 0 0 0 i C 1 7 7 5 1 0	—do.— 2SC1775 D,E	〃		
	4 2 0 0 0 0 i C 1 1 7 5 1 0	—do.— 2SC1175NP E,F	〃		2SC1213A
	4 2 0 0 0 0 i C 1 5 0 9 3 0	—do.— 2SC1509 Q,R	〃		2SD438
	4 2 0 0 0 0 i A 0 7 7 3 0	—do.— 2SA777 Q,R	〃		2SB560
c	4 2 0 0 0 0 i F 0 0 0 0 4 0	Diode 1S1555	ダイオード		
d	4 2 0 0 0 0 i F 0 0 0 7 9 0	Varistor MV-12R	バリスタ		
e	4 2 0 0 0 0 L B 6 0 1 7 8 0	Connector	コネクター		
70	4 2 0 0 0 0 E i 0 3 0 0 8 0	Binding Tapping Screw 3×8 ZMC2-Y	バインドタッピングネジ		
71	4 2 0 0 0 0 E i 0 4 0 0 8 0	—do.— 4×8 ZMC2-Y	〃		
72	4 2 0 0 0 0 E i 2 3 0 0 6 0	—do.— 3×6 FCrM3-3g	〃		
73	4 2 0 0 0 0 E D 0 3 0 0 6 0	Binding Head Screw 3×6 ZMC2-Y	バインド小ネジ		
74	4 2 0 0 0 0 E i 0 3 0 0 6 0	Binding Tapping Screw 3×6 ZMC2-Y	バインドタッピングネジ		

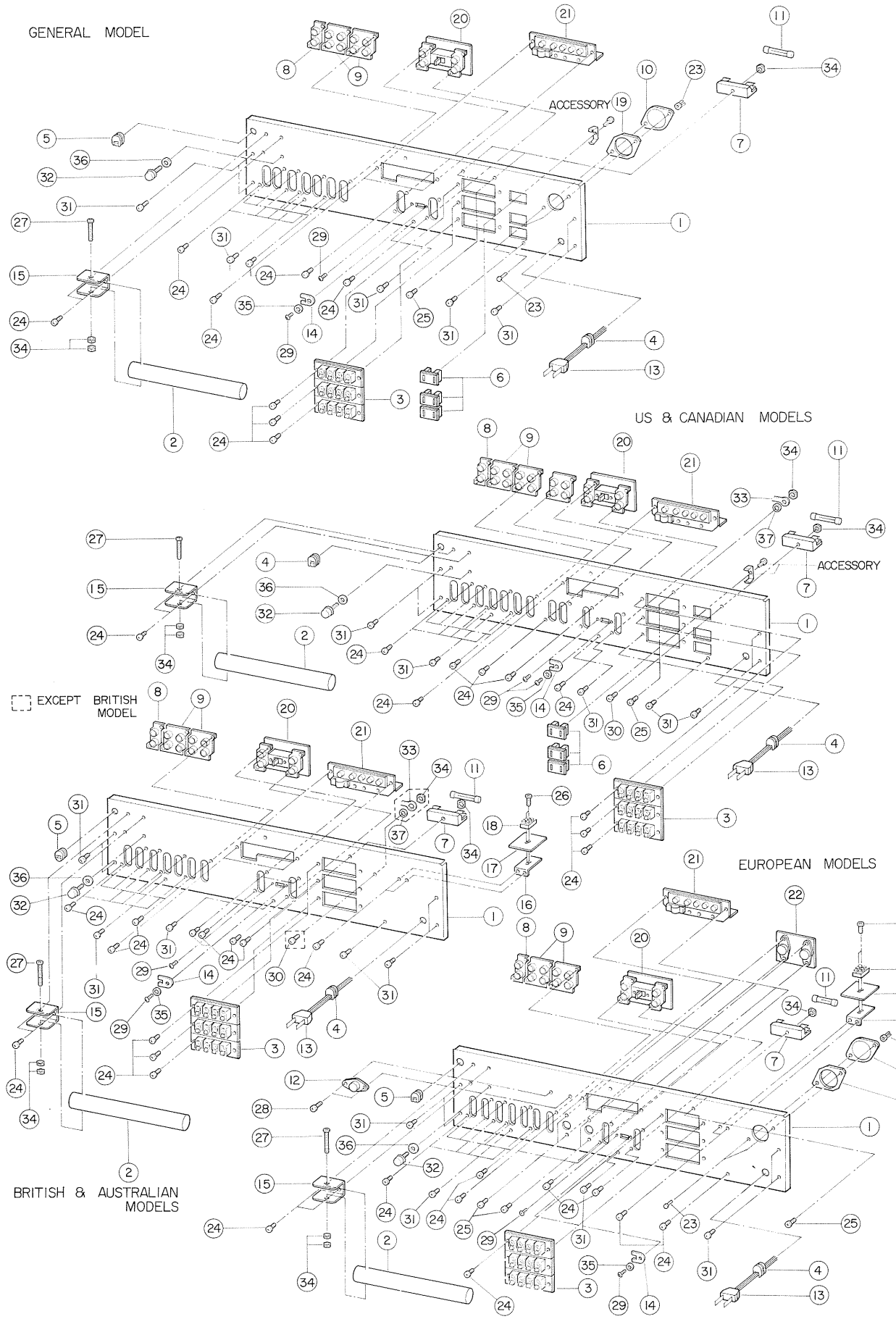


Ref. No.	Part No.	Description		Remarks	Common Models	
1	320000AA084710	Main-Chassis	メインシャーシ		CR-1020	
2	320000AA084730	Side Frame, L	サイドフレームL		—do.—	
3	320000AA084740	Side Frame, R	サイドフレームR		—do.—	
4	320000AA084830	Holder, Power Supply C. Board 1	電源シート1ホルダー		—do.—	
5	320000AA084840	Holder, Electrolytic Cap.	ケミコンホルダー			
6	320000AA084850	Adiabatic Board	断熱板		CR-1020	
7	320000AA084880	Holder R. Electrolytic Cap. C. Board	シートホルダーR		—do.—	
8	320000AA084890	Holder L, Electrolytic Cap. C. Board	シートホルダーL		—do.—	
9	320000AA084930	Holder For Pulley	滑車ホルダー		—do.—	
10	320000AA084870	Plate For Cord	コード押え		—do.—	
11	320000CB075840	Pulley	滑車		CR-620,820, 1020,CT-1010	
12	320000CB077890	Pulley Clip	プーリークリップ		—do.—	
13	320000CB079420	Wire Supporter	ワイヤークリップ		CR-1020	
14	320000BA065750	Heat Sink	放熱板		CR-1020 CA-1000II	
15	420000GA610820	Power Transformer	電源トランス	R,E		
	420000GA610840	—do.—	〃	C		
	420000GA610810	—do.—	〃	U		
	420000GA610880	—do.—	〃	A,B		
16	320000AA084900	Switch Stay	SW取付金具		CR-1020	
17	320000NA068992	**Power Supply Circuit Board 2**	電源シート2	R,U,C,A		
	320000NA069002	—do.—	〃	E,B		
	420000KA800260	Push Switch 1×2×3	プッシュSW			
	420000iC191800	Transistor 2SC1918	トランジスター			
18	320000NA068991	**Power Supply Circuit Board 1**	電源シート1	R,U,C,A		
	320000NA069001	—do.—	〃	E,B		
A	420000iA065910	Transistor 2SA659NP E,F	トランジスター		2SA673A,D	
	420000iA084410	—do.— 2SA844 D,E	〃			
	420000iB054400	—do.— 2SB544	〃			
	420000iC111510	—do.— 2SC1175NP E,F	〃		2SC1213AC,D	
	420000iC189000	—do.— 2SC1890 D,E	〃			
	420000iC191800	—do.— 2SC1918	〃			
	420000iD040000	—do.— 2SD400	〃			
	420000iD023400	—do.— 2SD234	〃			
B	420000iF000040	Diode 1S1555	ダイオード			
	420000iF000240	—do.— 1S1885	〃			
	420000iH000470	—do.— 1D4B1	〃			
	420000iF000640	Zener Diode HZ-7B	ツェナーダイオード			
	420000iF000550	—do.— HZ-12C	〃			
C	420000FH234100	Ceramic Capacitor 0.01μ500VYZ	セラコン			
	420000FJ259100	Electrolytic Cap. 1000μ35V	ケミコン			
	420000FZ000450	—do.— Z Type 47μ16V	Zケミコン			
D	420000HTI70060	Variable Resistor B 2K	半固定抵抗			
	420000HL314150	Metal Oxide Film Resistor 15Ω	酸金抵抗			
	420000HM535180	Cement Molded Resistor 3P 180Ω	セメント抵抗			
	420000HM055100	—do.— 5W100Ω	〃			
E	420000KB001060	Fuse ST-4 1A250V	ヒューズ	R,U,C,A		
	420000KB000730	—do.— Ⓢ 1A250V	〃	E,B		
F	420000KC000350	Relay HC-2P 12V80mA	リレー			
G	420000LA000530	Eyelet	ハトメ			
H	420000LB200900	Fuse Holder	ヒューズホルダー	R,U,C,A		
	420000LB201060	—do.—		E,B		

Ref. No.	Part No.	Description		Remarks	Common Models	
I	420000LB600280	Connector Socket	コネクター			
J	420000LA001280	Wire Lapping Pin	ラッピング端子			
K	320000BA069730	Radiator	放熱板			
19	320000NA069030	**Electrolytic Cap. C. Board**	ケミコンシート	R,C,A,E,B		
	320000NA069010	—do.—	〃	U		
A	420000iH000250	Diode 1S1886	ダイオード			
	420000iH000430	—do.— SS-7	〃			
	420000iH000440	—do.— SS-7R	〃			
	420000iH000470	—do.— ID4B1	〃			
B	420000FH234100	Caramic Capacitor 0.01μ500V	セラコン			
	420000FJ269100	Electrolytic Cap. 1000μ50V	ケミコン			
	420000FZ000800	—do.—, Lug Type 18000μ71V	ケミコンラグ型			
C	420000HL326470	Metal Oxide Film Resistor 2P4.7KΩ	酸金抵抗			
	420000HL424330	—do.— 2P33Ω	〃			
	420000HWI04220	Fuse Resistor 150mA22Ω	ヒューズ抵抗	R,A,E,C,B		
	420000HW204220	—do.—	〃	U		
	420000HWI04100	—do.— 220mA10Ω	〃	R,A,E,C,B		
	420000HW204100	—do.—	〃	U		
D	420000LA000530	Eyelet With Wing	羽根付ハトメ			
	420000LB601760	6P Connector, C. Board Type	コネクターピン			
20	320000NA068880	**Main Circuit Board**	メインシート	R,A		
	320000NA068840	—do.—	〃	U		
	320000NA068860	—do.—	〃	C		
	320000NA068870	—do.—	〃	E,B		
A	420000iA056170	Transistor 2SA561 O~Y	トランジスター			
	420000iA084400	—do.— 2SA844	〃			
	420000iA087200	—do.— 2SA872	〃			
	420000iC045880	—do.— 2SC458 B,C	〃			
	420000iC073430	—do.— 2SC734 O~Y	〃			
	420000iC162800	—do.— 2SC1628 O~Y	〃			
	420000iC191800	—do.— 2SC1918 E,F,G	〃			
	420000iB053610	—do.— 2SB536(2)	〃		2SA814YH-2	
	420000iD038110	—do.— 2SD381(2)	〃			
B	420000iF000040	Diode 1S1555	ダイオード		2SC1624YH-2	
	420000iF000570	Zener Diode Hz-6C	ツェナーダイオード			
C	420000FC025100	Mylar Capacitor 0.1μ100V	マイラーコン			
	420000FH234100	Ceramic Cap. 0.01μ500V	セラコン			
	420000FH610600	—do.— 6P500V	〃			
	420000FH611220	—do.— 22P500V	〃			
	420000FH611470	—do.— 47P500V	〃			
	420000FZ000980	Electrolytic Cap., RB 10μ25V	RBケミコン			
D	420000HT410150	Variable Resistor B4.7K	ソリッドVR			
	420000HL416150	Metal Oxide Film Resistor 1P 1.5KΩ	酸金抵抗			
	420000HL626150	—do.— 2P1.5KΩ	〃			
	420000HL626270	—do.— 2P2.7KΩ	〃			
	420000HM052470	Cement Molded Resistor 5P0.47Ω	セメント抵抗			
	420000HM054100	—do.— 5P10Ω	〃			
	420000HM056220	Cement Molded Resistor 5P2.2KΩ	〃			
	420000HZ000710	Fire Proof Resistor 1P4.7Ω	不燃性抵抗			
	420000HWI14680	Fuse Resistor 100mA68Ω	ヒューズ抵抗	R,C,B,A,E		
	420000HW214680	—do.—	〃	U		

Ref. No.	Part No.	Description		Remarks	Common Models	
E	420000GD9002I0	Coil 2.0μH	コイル			
F	420000KB000590	Fuse, Ⓢ 5A250V	Ⓢヒューズ	B,E		
	420000KB00II00	—do.— UL 5A250V	ULヒューズ	R,U,C,A		
G	320000BA069550	Radiator	放熱板		CA-R1 CR-1020	
	320000BA069670	—do.—	〃		CR-1020	
H	320000BB063080	TR-Pusher	トランジスタープッシャー		CR-620,820, 1020,CA-1000 II	
I	420000LA000370	Pipe-Lug Terminal	パイプラグ			
	420000LA000530	Eyelet With Wing	羽根付ハトメ			
	420000LA000640	Eyelet	ハトメ			
J	420000LB200900	Fuse Holder Pin YSP402P	ヒューズホルダーピン	R,U,C,A		
	420000LB20I060	—do.— YSH403P	〃	B,E		
K	420000LB300II0	Transistor Socket SZ-110B-00	トランジスターソケット	R,B,A,E		
	420000LB300270	—do.— SZ-110M-OL	〃	U,C		
21	420000iB055400	Transistor 2SB554 R~O	トランジスター			
22	420000iD042400	—do.— 2SD424 R~O	〃			
23	420000iL000230	Isolation Base, Mica	マイカベース			
24	320000BA069720	Shaft	延長シャフト		CR-1020	
25	320000CB077940	Joint	ジョイント		CR-1020,820, 620,CA-1010	
26	320000CB079260	V.C Pulley	バリコンプーリー		CR-620, 820,1020	
27	420000CB077070	Dial String φ0.39×1.6m	ダイヤル糸			
28	320000AA080530	Dial Spring	ダイヤルスプリング		CR-620,820, 1020,450	
29	320000NA069261	Tuner Circuit Board I	チューナーシート1	R		
	320000NA068921	—do.—	〃	U,C		
	320000NA068931	—do.—	〃	A,E,B		
A	420000PA000370	RF Pack FB623U	パック		CR-1020	
B	420000GEI00150	OSC Coil	OSCコイル			
	420000GEI00180	FM IFT	FM IFT			
	420000GEI00200	FM Discriminater Coil	FMディスクリコイル			
	420000GE200070	MPX Coil	MPXコイル			
	420000GE200160	—do.— 22mH	MPX固定コイル			
	420000GE300130	RF Inductor Coil 10μH	RFインダクター			
	420000GE300150	—do.— 8.2mH	〃			
C	420000GG000080	Ceramic Filter FSN1067	セラミックフィルター			
	420000GG000170	—do.— CFM-107M-12C	〃			
D	420000FAI53100	Mylar Capacitor(J) 0.001μ50V	マイラーコン			
	420000FAI54150	—do.— (J) 0.015μ50V	〃			
	420000FAI54220	—do.— (J) 0.022μ50V	〃			
	420000FAII3100	—do.— 0.001μ50V	〃			
	420000FAII3470	—do.— 0.0047 50V	〃			
	420000FDI52820	Polystyrene Cap. (J) 820P	スチコン			
	420000FDI52220	—do.— (J) 220P	〃			
	420000FEI52330	—do.— (J) 330P	〃			
	420000FEI53160	—do.— (J) 1600P	〃			
	420000FEI54100	—do.— (J) 10000P	〃			
	420000FSII3680	BL Ceramic Cap. 0.0068μ 50V	SBLコン			
	420000FSII4150	—do.— 0.015μ 50V	〃			
	420000FSI34470	—do.— 0.047μ 50V	〃			
	420000FZ000980	Electrolytic Cap., RB 10μ 25V	RBケミコン			
	420000FZ000720	UPF Cap. 0.015μ 100V	UPFコン			
	420000FZ000730	—do.— 0.056μ 100 V	UPFコン			
	420000FJ546220	Electrolytic Cap., KU 2.2μ 25V	ケミコンKU			

Ref. No.	Part No.	Description		Remarks	Common Models	
	420000FM425680	Electrolytic Cap., Z 0.68μ 50V	Zケミコン			
	420000FZ000710	Tantalum Capacitor 220μ6.3V	タンタルコン			
	420000FP527330	—do.— 33μ10V	〃			
E	420000HTI70020	Variable Resistor B10K	半固定抵抗			
	420000HTI70030	—do.— B100K	〃			
	420000HTI70040	—do.— B500	〃			
	420000HTI70070	—do.— B3K	〃			
	420000HU576470	Metal Film Pesistor(F) 4.7K	金属被膜抵抗			
	420000HU577560	—do.— 56K	〃			
	420000HL4I6I00	Metal Oxide Film Resistor 1P 1K	酸金抵抗			
F	420000iA067310	Transistor 2SA673A C,D	トランジスター			
	420000iA084400	—do.— 2SA844 D,E	〃			
	420000iB056000	—do.— 2SB560	〃			
	420000iCI2I310	—do.— 2SC1213A C,D	〃			
	420000iCI77500	—do.— 2SC1775 D,E	〃			
	420000iCI91800	—do.— 2SC1918 C,D,E	〃			
	420000iD043800	—do.— 2SD438	〃			
	420000iEI005000	FET 2SK68A	FET			
G	420000iF000040	Diode 1S1555	ダイオード			
	420000iF000640	Zener Diode HZ-7B	ツェナーダイオード			
H	420000iG000390	IC μPC577H	IC			
	420000iG00I220	—do.— TA7136P	〃			
	420000iG00I230	—do.— LA3350	〃			
	420000iG00I640	—do.— #164	〃			
I	420000KA50I000	Rotary Switch SRZ-V043	ロータリースイッチ			
J	420000LB400310	4P Pin-Jack	ピンジャック			
K	420000LA00I240	Eyelet 3×1.6×3	ハトメ			
L	420000LA00I280	Wire Lapping Pin	ラッピング端子			
30	420000EA450960	Pan Head Screw 5×96 FCM3-BI	ナベ小ネジ			
31	420000EH040I00	Pan Head Sems Type Screw 3Piecies 4×10ZMC2-Y	セムスナベ小ネジ			
32	420000ED030060	Binding Head Screw 3×6 ZMC2-Y	バインド小ネジ			
33	420000Ei030080	Binding Tapping Screw 3×8 ZMC2-Y	バインドタッピングネジ			
34	420000Ei030060	—do.— 3×6 ZMC2-Y	〃			
35	420000Ei040080	—do.— 4×8 ZMC2-Y	〃			
36	420000EZ330140	BW Head Screw 3×14 FNM3-3M	BWヘッド小ネジ			
37	420000EV200030	Flat Washer 3S ZMC2-Y	平座金ミガキ丸			
38	320000AA084810	Bottom Cover	ボトムカバー	E,B	CR-1020	
39	420000CB079490	Leg	脚	E,B	—do.—	
40	420000EJ040140	Pon Head Tapping Screw 4×14 ZMC2-Y	ナベタッピングネジ	E,B		
41	420000ED030080	Binding Tapping Screw 3×8 ZMC2-Y	バインドタッピングネジ	E,B		



Ref. No.	Part No.	Description		Remarks	Common Models	
1	320000AA084770	Rear Panel	リアパネル	R		
	320000AA086090	—do.—	〃	C		
	320000AA084780	—do.—	〃	U		
	320000AA084790	—do.—	〃	A		
	320000AA084800	—do.—	〃	E		
	320000AA085520	—do.—	〃	B		
2	420000GE000100	AM Bar Antenna	AMバーアンテナ			
3	420000LA001940	4P-Push Terminal	4Pプッシュターミナル			
4	420000CB068630	Cord Stopper SR-3P-4	コードストッパー	R,U,C		
	420000CB070690	—do.— EA-5	〃	A,E,B		
5	320000CB062780	Rubber Spacer	ゴムブッシュ	R,A,E,B	CR-1020, 620,820	
6	420000LB200710	AC Socket S-16428	ACコンセント	R,U,C		
7	420000LB200840	Fuse Holder 1PFH	ヒューズホルダー	R,U,C,A		
	420000LB200940	—do.— 1PFH-M	〃	E,B		
8	420000LB200880	2P-Pin Jack	2Pピンジャック			
9	420000LB400160	4P-Pin Jack	4Pピンジャック			
10	420000LB200260	Voltage Selector SW033-3023	電圧切換器	R,E		
11	420000KB000370	Fuse 3.5A250V	ヒューズ	R,A		
	420000KB000760	Fuse, Ⓢ 3.15A250V	Ⓢヒューズ	E,B		
	420000KB001370	Fuse, UL 7A125V	ULヒューズ	U,C		
12	420000LB200150	75Ω Coaxial Cable Socket	75Ω同軸コネクター	E		
13	420000MG000340	Power Cord	電源コード	R,U,C		
	420000MG000500	—do.—	〃	A		
	420000MG000460	Power Cord Assembly	〃	B	All of Modes	
14	320000CB068680	Stopper, Coupler Switch	カプラーストッパー		CR-1020 CA-1000	
15	320000AA076970	Antenna Holder	アンテナホルダー		CR-1020,820 620,MS-2B	
16	320000AA084620	Stay, 3P-Terminal	端子ステイ	A,E,B	CR-1020 CA-R1	
17	320000CB074970	Isolation Plate	絶縁板	A,E,B	CR-400,620, 820,1020	
18	420000LA001040	Board, 3P-Terminal	3P中継端子台	A,E,B		
19	320000CB076560	Isolation Plate For V.Select.	VS絶縁板	R,E	CR-1020,620, 820,CA-8001I	
20	320000NA069062	**Coupler Circuit Board 2**	カプラーシート2			
A	420000GE300070	Balloon Transformer	バルーントランス			
B	420000LA001950	Antenna Terminal	アンテナ端子			
C	420000LA001280	Wire Lapping Pin	ラッピング端子			
21	320000NA069061	**Coupler Circuit Board 1**	カプラーシート1			
A	420000KA400210	Slide Switch	スライドスイッチ			
B	420000LB200960	2P-Pin Jack	2Pピンジャック			
C	420000LA000430	Eyelet	ハトメ			
22	320000NA069080	**Din Circuit Board**	Dinシート	E		
A	420000LB500190	Din Socket	Dinソケット	E		
B	420000LA000430	Eyelet	ハトメ	E		
23	420000CB068880	Plastic Rivet	プラスチックリベット	R,E		
24	420000Ei430080	Binding Tapping Screw 3×8 FCM3-B1	バインドタッピングネジ			
25	420000ED430080	Binding Head Screw 3×8 FCM3-B1	バインド小ネジ			
26	420000ED030160	—do.— 3×16 ZMC2-Y	〃			
27	420000EA430250	Pan Head Screw 3×25 FCM3-B1	ナベ小ネジ			
28	420000EJ426080	Pan Head Tapping Screw 2.6×8 FCM3-B1	ナベタッピングネジ			
29	420000EC426040	Oval Head Screw 2.6×4 FCM3-B1	トラス小ネジ			
30	420000Ei030080	Binding Tapping Screw(C-1) 3×8 FCM3-B1	バインドタッピングネジ			
31	420000EZ000460	Bonding Tapping Screw 3×8 FCM3-B1	ボンディングタッピングネジ			
32	420000LA001070	Earth Terminal	アース端子			

Ref. No.	Part No.	Description		Remarks	Common Models	
33	4200000LA00028 0	Lug Terminal 3mm	アースラグ	U,C,A		
34	4200000EV104300	Hexagonal Nut M3 FCM3-BI	六角ナット			
35	4200000EV204030	Plain Washer 3S FCM3-BI	平座金ミガキ丸			
36	4200000EV901360	Plain Washer, Sems Type $\frac{\phi 3.6\times\phi 10\times t0.8}{FNM3\text{-}3g}$	//			
37	4200000EV410030	Tooth Locked Washer 3S ZMC2-Y	歯付座金	U,C,A		

YAMAHA CANADA MUSIC LTD.

AUDIO SERVICE Information

BULLETIN NO.: 07-81

DATE: August 1981.

SUBJECT: CR-2020

Problem: Intermittent power supply.
Receiver goes on and off, speaker relay clicking.

Cause: R 801 and R 802 (33 ohm) in electrolytic capacitor circuit board get hot and unsolder themselves.

Remedy: Remove both resistors and install new 33 ohm, 3¼watt wire wound resistors.

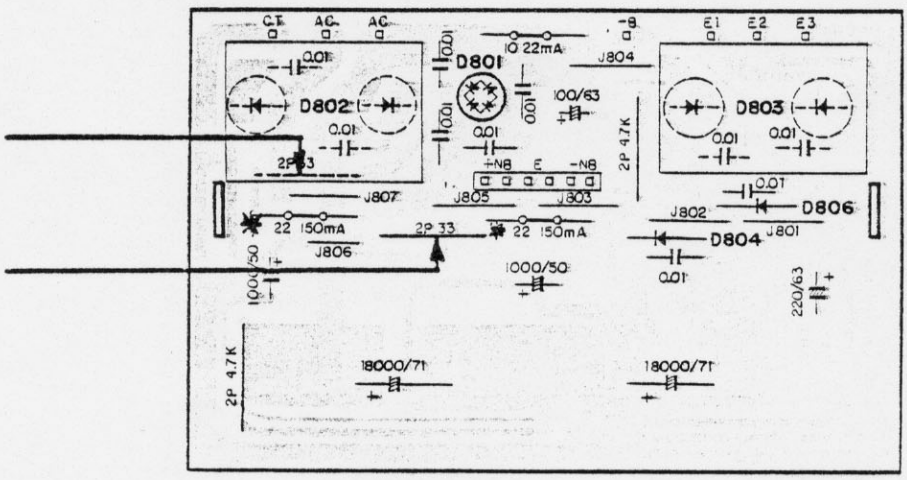
Mount the resistors approximately ¼ inch away from the circuit board.

We suggest to use Ohmite #4374. These resistors are available from Yamaha Canada Music, Parts Department.

* Also replace the 22 ohm 150 mA fuse resistors with Ohmite #4369 22 ohm 3¼ watt resistors.

Location of resistors:

ELECTROLYTIC CAP. C. BOARD



Please file this bulletin with your CR-2020 service manual and perform this modification on all units received for service.

This bulletin supercedes bulletin 2-79 March 28, 1979 and 2-79 Rev. November 10, 1980.

YAMAHA CANADA MUSIC LTD.

AUDIO SERVICE Information

BULLETIN NO.: 08 - 80

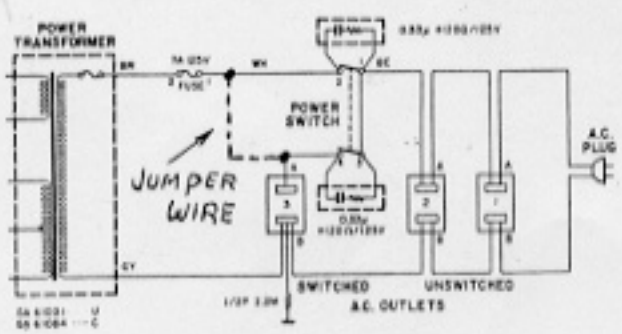
DATE: November 10, 1980.

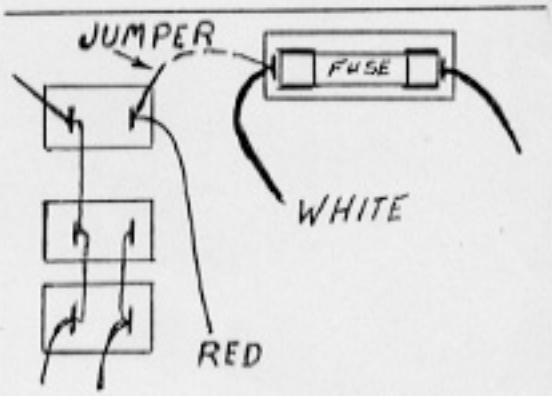
SUBJECT: CR-2020

Problem: Power switch failure.

Cause: Pitting and burning of switch contact due to high current spike when set is switched off. (Back E.M.F. from power transformer).

Remedy: Replace power on/off switch (KA200630).
Install a jumper wire between the fuse holder (white wire) and the switched AC outlet (red wire).





Install the jumper wire on all units received for service that have not been modified.

YAMAHA CANADA MUSIC LTD.

AUDIO SERVICE *Information*

BULLETIN NO.: 08 - 81

DATE: November 1981.

SUBJECT: CR-2020

PROBLEM: Power Supply Failure

CAUSE: R801 and R802 (33 ohm 2 watt resistors)
FR801 and FR802 (150ma 22 ohm fuse resistors)
on electrolytic capacitor circuit board.
R801 and R802 get very hot and unsolder themselves.
FR801 and FR802 change resistance value.

TR712 and TR715 regulator transistors 2SD234 on power supply circuit board breakdown due to overheating.

REMEDY: Remove R801 and R802 resistors and replace with 33 ohm 3¼ watt ohmite resistors #4374.

Remove FR801 and FR802 fuse resistors and replace with 22 ohm 3¼ watt ohmite resistors #4369.

Remove TR712 and TR715 - 2SD234 regulator transistors and replace with 2SD525 transistors.

NOTE: Check and complete this modification on all CR-2020 receivers brought in for service.

Please also refer to service bulletins
"08-80 Power Switch Failure" and
"07-81 Intermittant Power Supply".