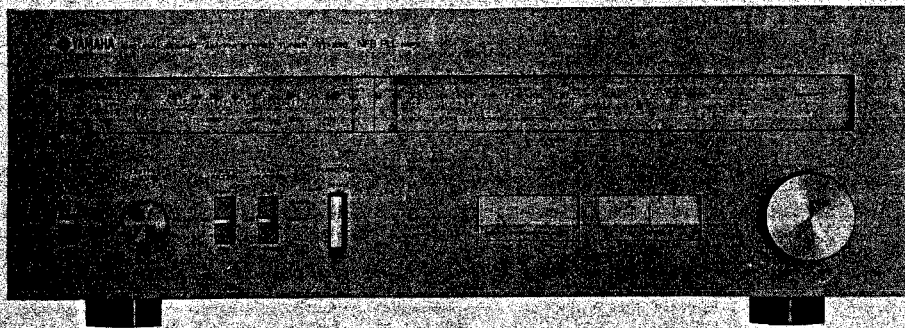


SERVICE MANUAL

CT-1010

NATURAL SOUND AM/FM STEREO TUNER



SINCE 1887



YAMAHA

NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN



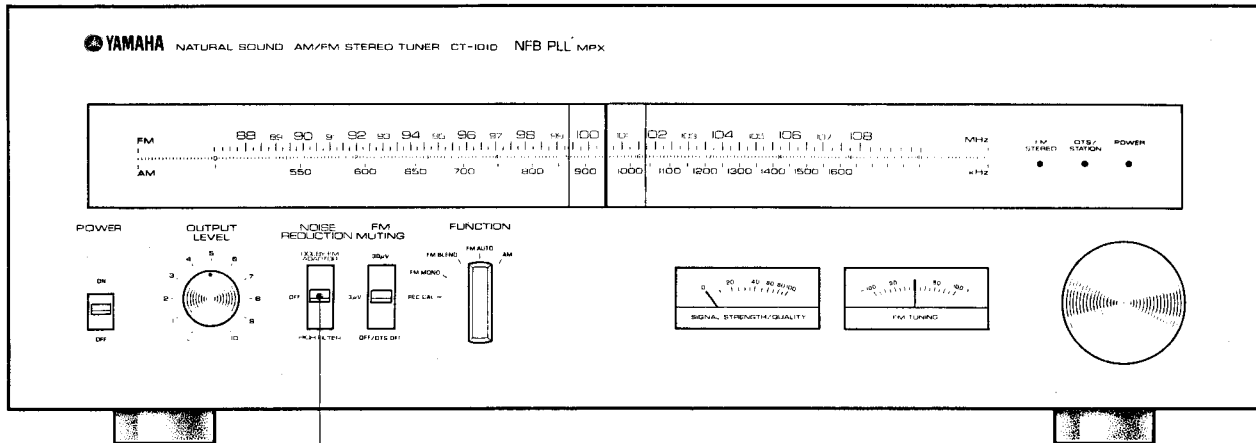
Printed in Japan. 12.76.20

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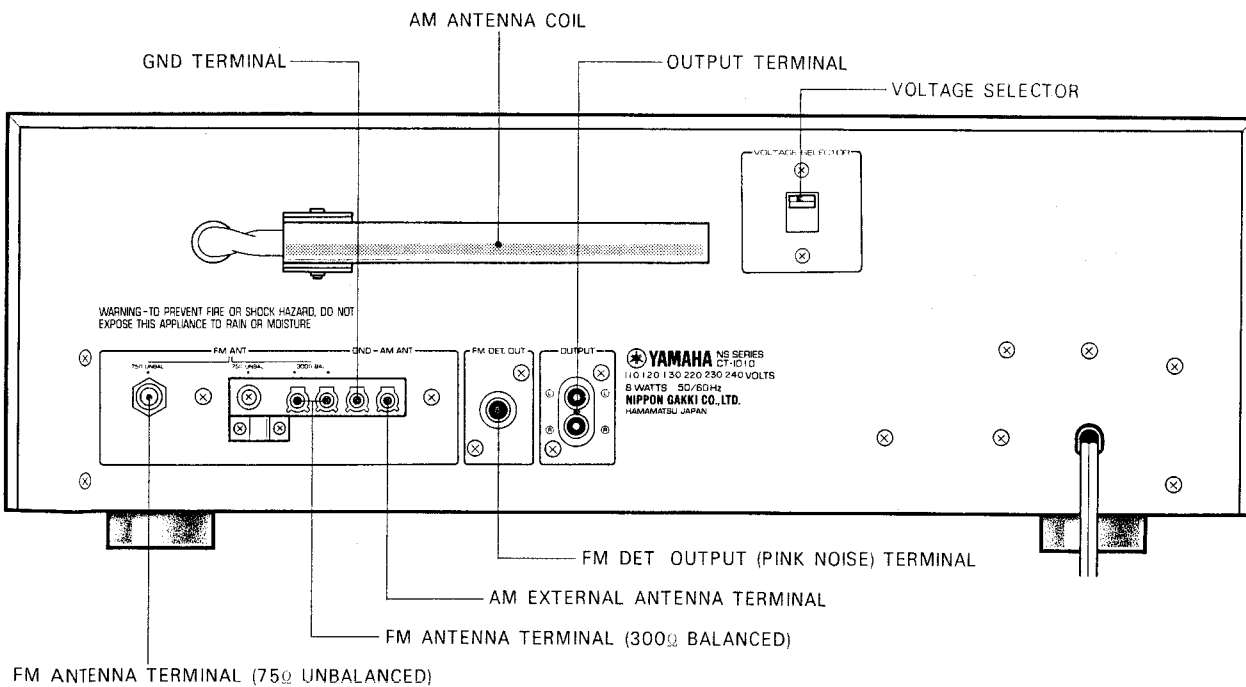
PANEL OPERATION

GENERAL EXPORT, EUROPEAN AND AUSTRALIAN MODEL FRONT PANEL



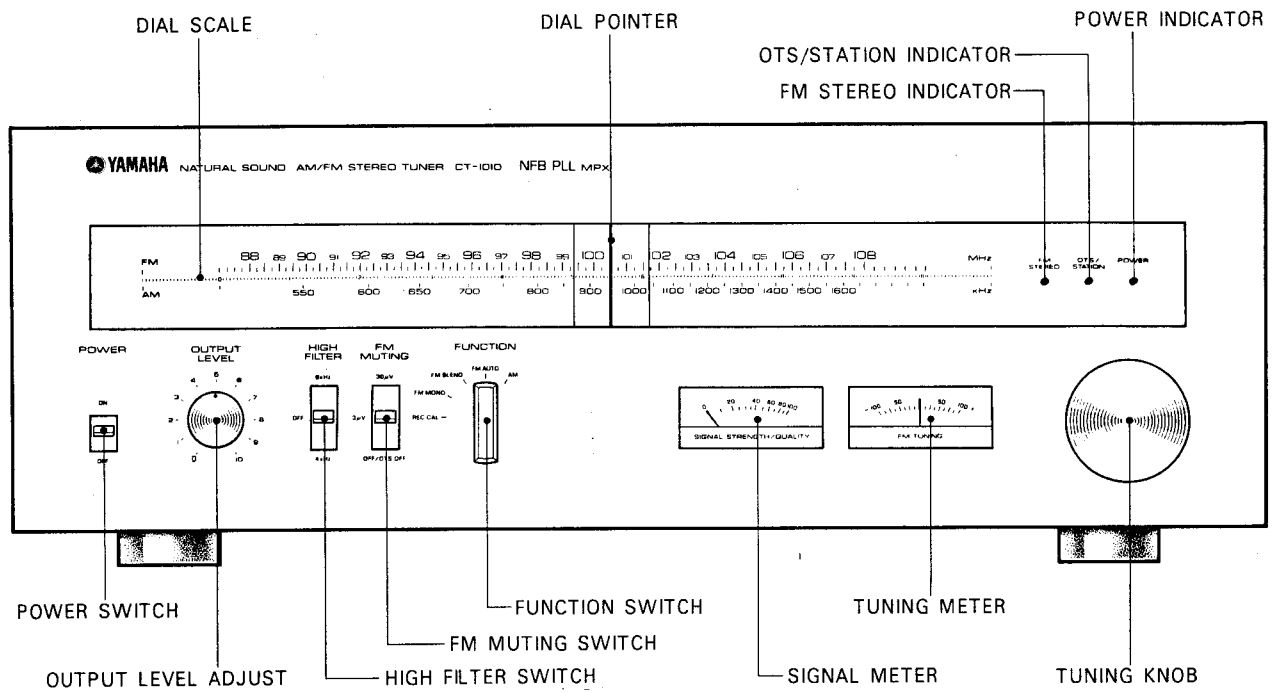
NOISE REDUCTION

REAR PANEL

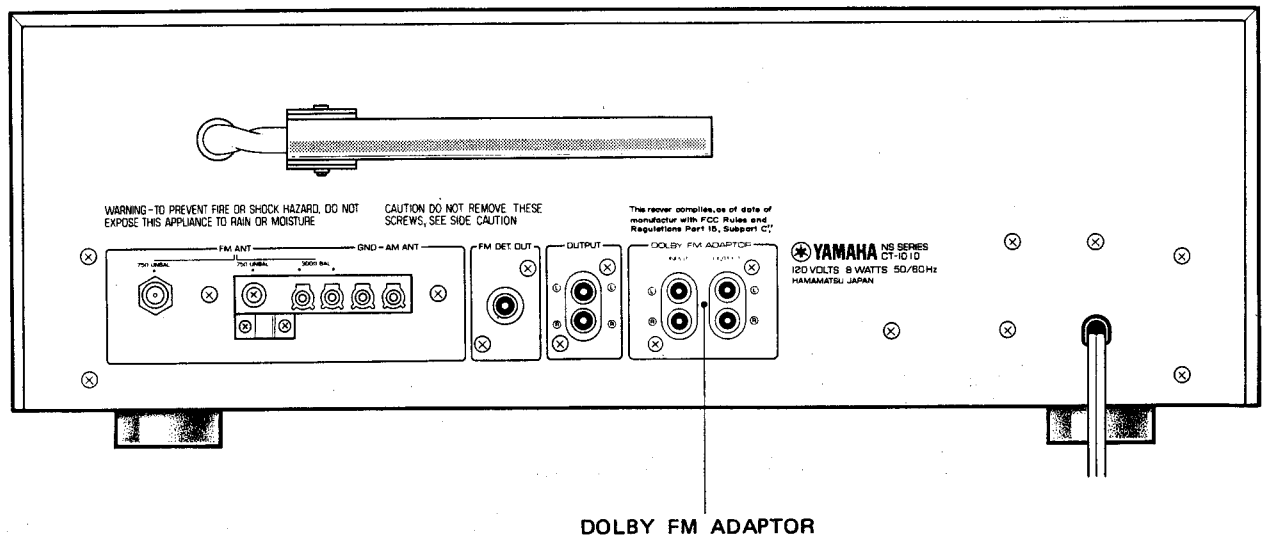


PANEL OPERATION

U.S. AND CANADIAN MODEL FRONT PANEL



REAR PANEL



SPECIFICATION

FM TUNER SECTION

Tuning Range

88MHz to 108MHz

Usable Sensitivity (98MHz)

IHF mono. $1.9\mu\text{V}$ (300Ω) 10.8dBf

0.95 μV (75Ω) 10.8dBf

DIN mono. $1.5\mu\text{V}$ (Dev: 40KHz, S/N: 26dB)

stereo $40\mu\text{V}$ (Dev: 40KHz, S/N: 26dB)

Sensitivity When S/N: 50dB

mono. $3.2\mu\text{V}$ 15.3dBf

stereo $40\mu\text{V}$ 37.2dBf

Signal-to-Noise Ratio

mono. 80dB

stereo 75dB

Image Frequency Rejection (98MHz)

110dB

IF Rejection (98MHz)

110dB

Spurious Response Rejection (98MHz)

110dB

AM Rejection

IHF 65dB

Capture Ratio

1.0dB

Effective Selectivity

85dB

Total High Harmonics Distortion

mono. 100Hz 0.07%

1KHz 0.07%

6KHz 0.15%

stereo 100Hz 0.09%

1KHz 0.07%

6KHz 0.15%

Cross Modulation Characteristics

IHF mono. 0.05%

stereo 0.1%

Stereo Separation

1KHz 52dB

50Hz to 10KHz 45dB

Frequency Response

50Hz to 10KHz $\pm 0.3\text{dB}$

30Hz to 15KHz $+0.3\text{dB}$
 -0.5dB

Sub Carrier Suppression

70dB

Muting Signal Level

$3\mu\text{V}$: 14.8dBf

30dB: 34.8dBf

AM TUNER SECTION

Circuit System

Resonant-less RF Amp. stage, differential convertor, superheterodyne.

Tuning Range

525KHz to 1605KHz

Usable Sensitivity

$300\mu\text{V/m}$ (49dB/m)

Selectivity (1000KHz)

30dB

S/N Ratio (80dB/m)

50dB

Image Interference Ratio (1000KHz)

55dB

IF Interference Ratio (1000KHz)

40dB

Spurious Interference Ratio (1000KHz)

55dB

Total High Harmonics Distortion (80dB/m)

0.4%

AUDIO SECTION

Output Level/Impedance

FM 100% Mod. VRmin. to max. 0.1 to 1V/

$2.5\text{K}\Omega$, VR center 500mV/ $2.5\text{K}\Omega$

AM 30% Mod. VRmin. to max. 25mV to

250mV/ $2.5\text{K}\Omega$, VR center 125mV/

$2.5\text{K}\Omega$

REC. CAL VRmin. to max. 50mV to

500mV/ $2.5\text{K}\Omega$, VR center 250mV/

$2.5\text{K}\Omega$ (Thus equivalent FM 50% Mod.)

CONTROLS

Muting Selector Switch

$3\mu\text{V}/30\mu\text{V/off}$

High Filter Switch (except U.S & CANADIAN models)

8KHz/off/4KHz

Noise Reduction Switch (U.S & CANADIAN models only)

Dolby FM adaptor/off/8KHz

GENERAL

Semi Conductor Used

41 Transistors

5 ICs

2 FETs

12 Diodes, 3 Zenner diodes, 3 LEDs

Rated Voltage

120V 60Hz (U.S) 240V 50Hz (Australia)

110-130V/220-240V 50/60Hz (others)

Rated Power Consumption

8W

Dimensions

461(W) x 170(H) x 408(D)mm

18.3(W) x 6.7(H) x 16.1(D) in.

Weight

7.7Kg

17 lb

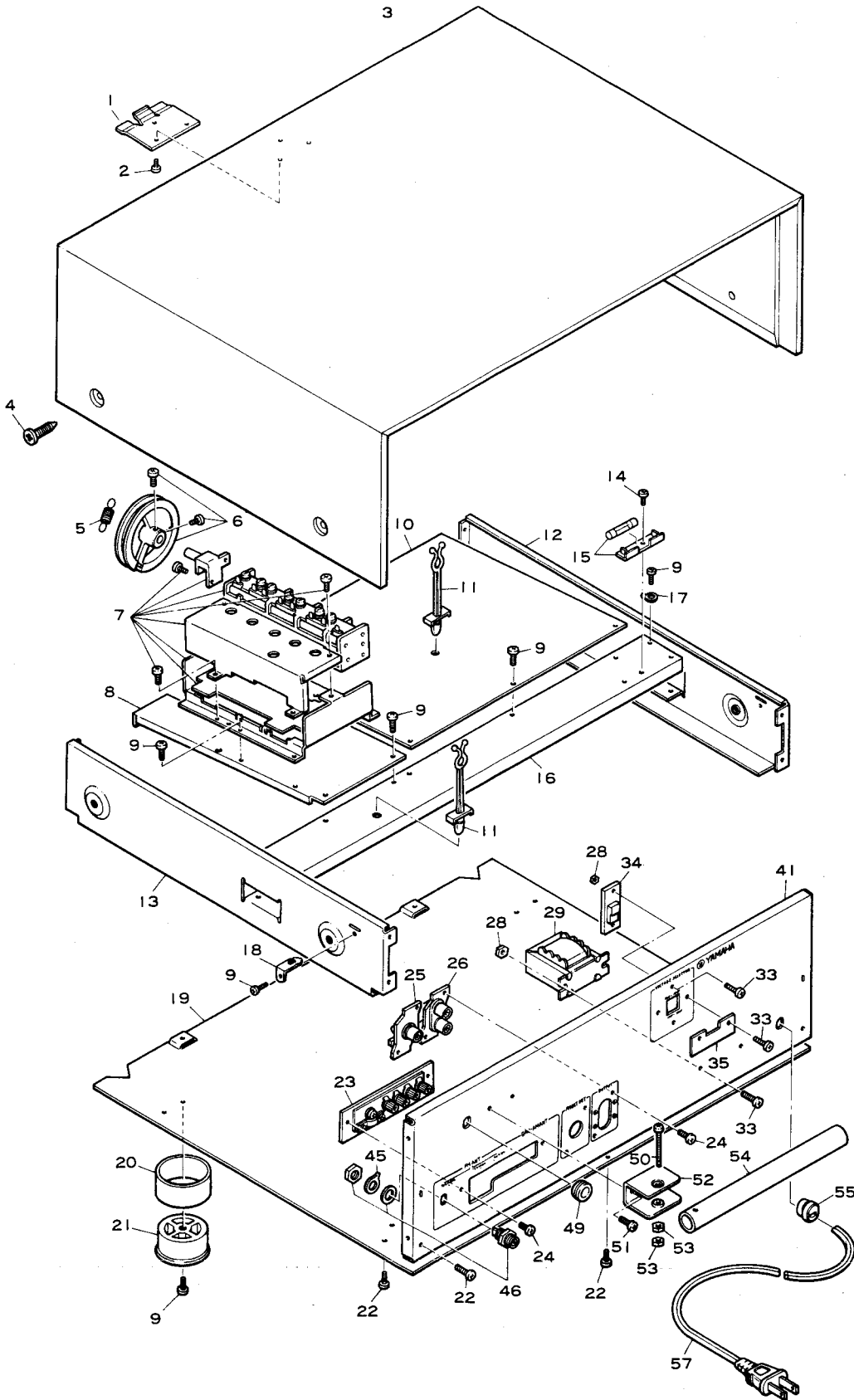
FRONT

-2

FRONT

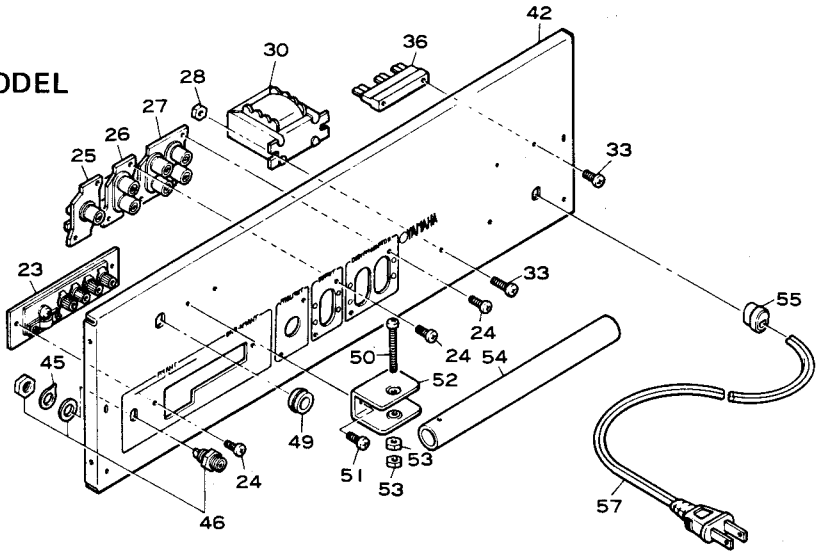
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REAR

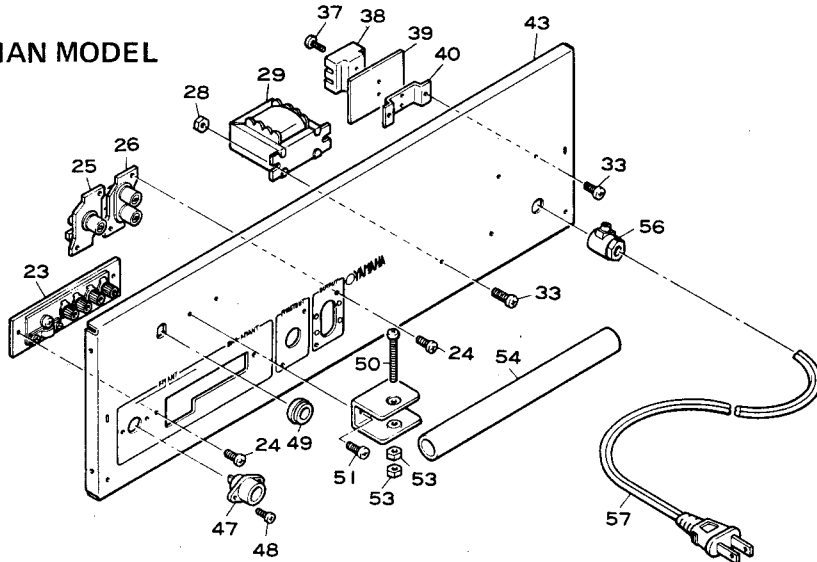


REAR

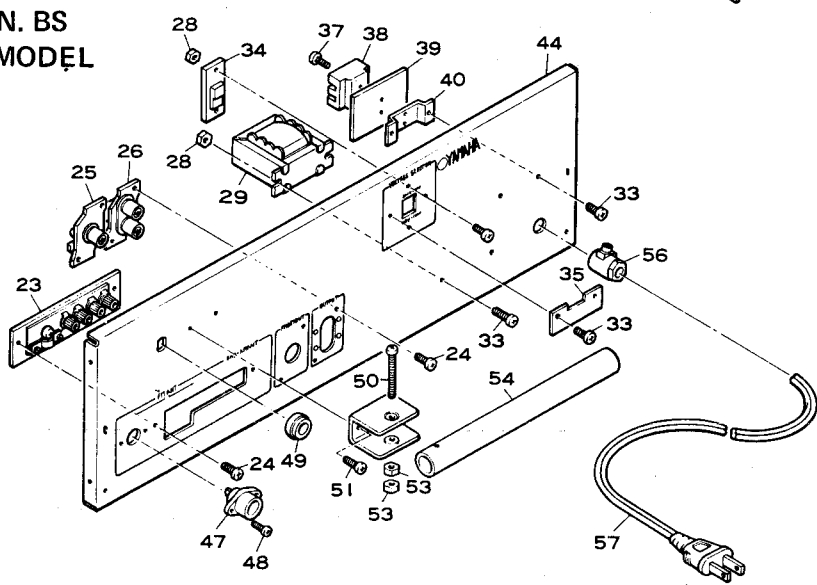
UL.CSA MODEL



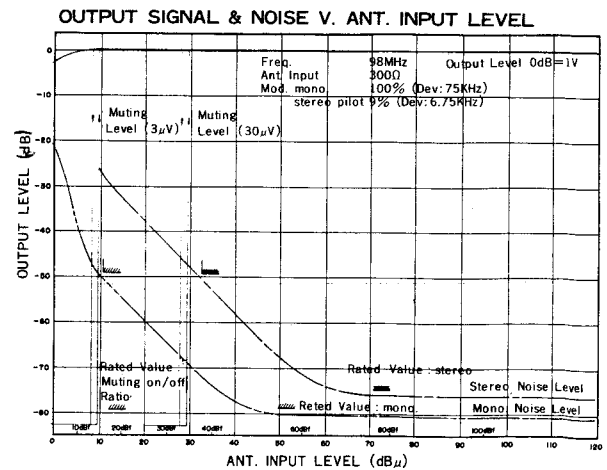
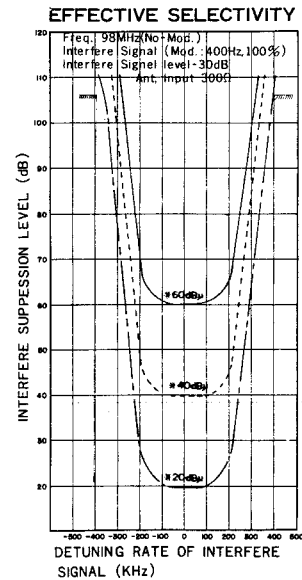
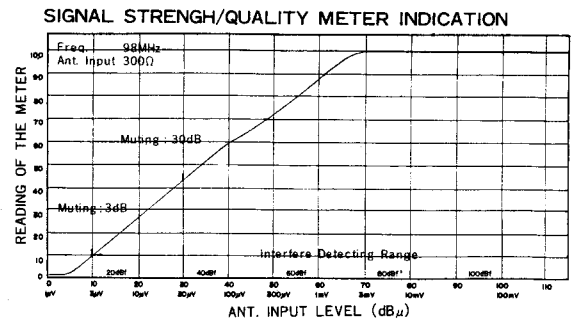
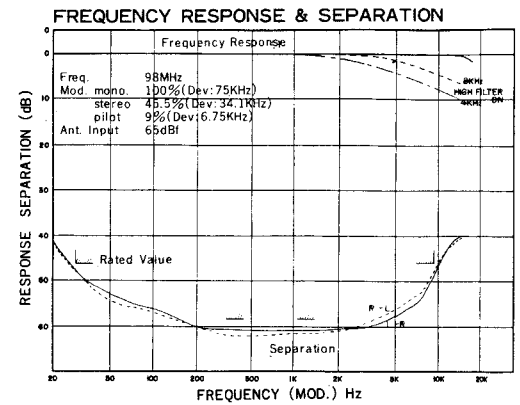
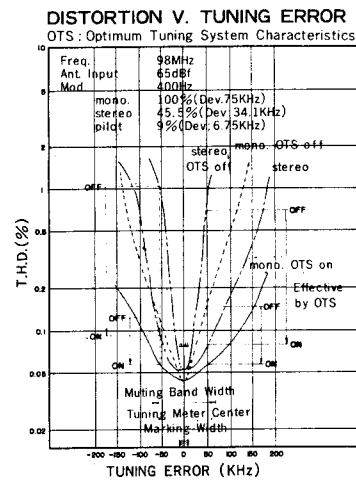
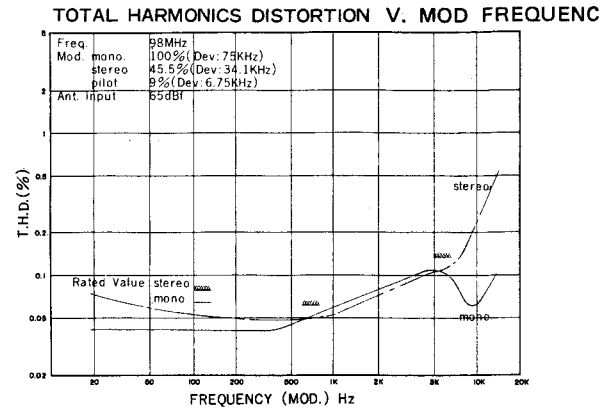
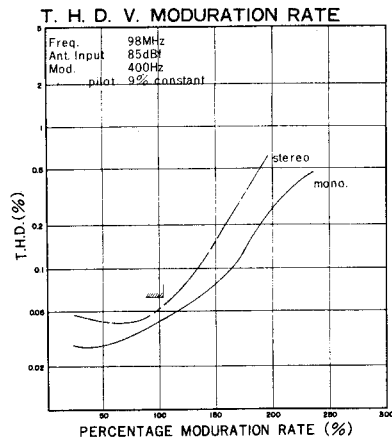
AUSTRALIAN MODEL



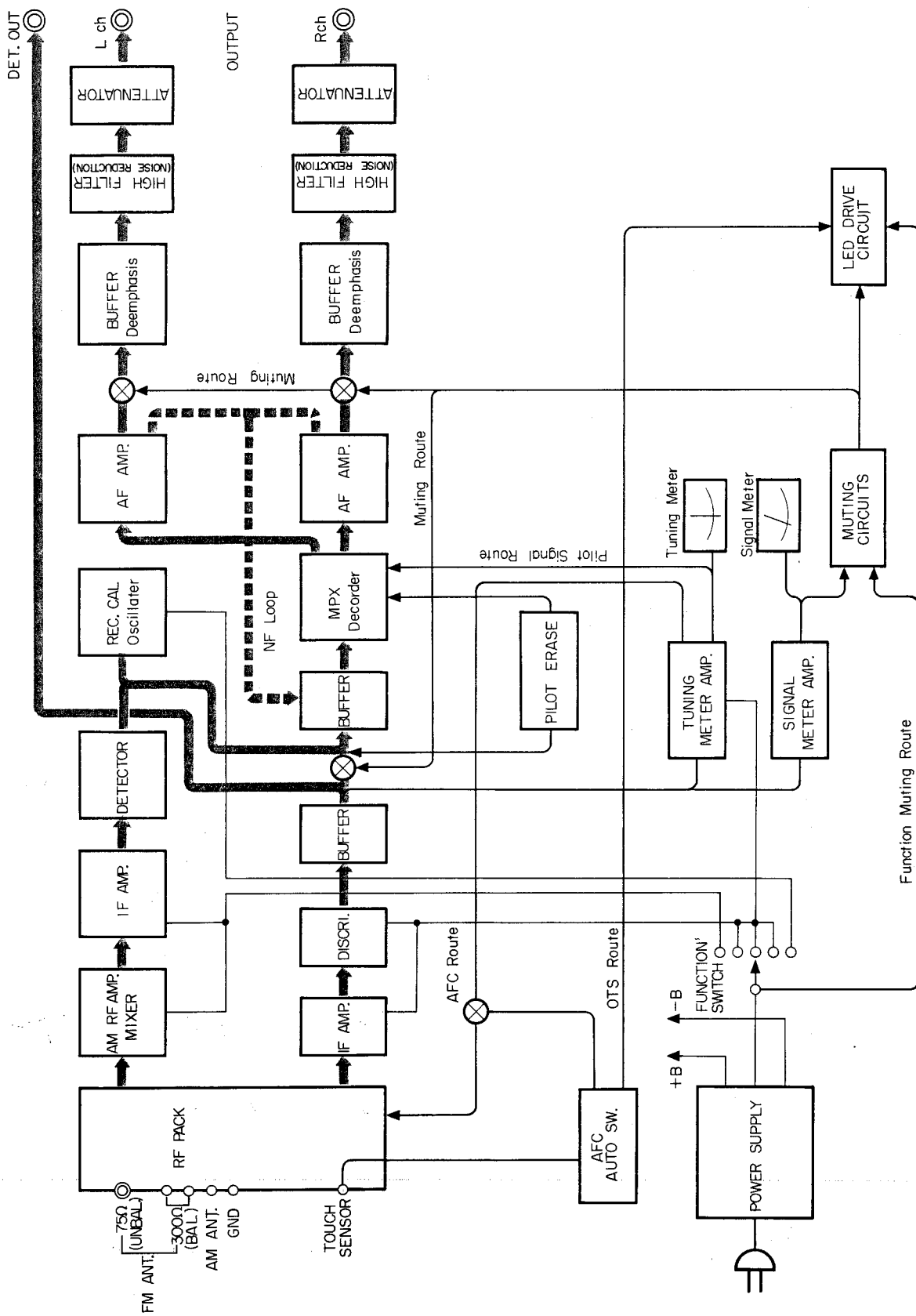
EUROPEAN. BS
MODEL



CHARACTERISTICS



BLOCK DIAGRAM



OUTLINE OF CIRCUIT AS SHOWN SCHEMATIC DIAGRAM

FM FRONT END/IF

At the inlet, a double-tuning circuit is used. And a dual-gate MOS type FET is employed for high frequency amplification and mixing. This FET has high input impedance and small feedback capacity when compared with a transistor, which are suitable for high frequency amplification and mixing. Thanks to the double-tuning circuit and FET, outstanding selectivity, cross modulation characteristics, low noise and high gain can be obtained.

At the local oscillating section, IC is newly adopted for producing stable oscillating frequency and output voltage.

Intermediate frequency (IF) signal of 10.7MHz fed from the front end is transmitted to IC201 for IF amplification through VR201, and CFs 201 and 202. Output from No. 5 pin is further transmitted to IC202 amplitude limiter through CF203.

Generally, in the pass band of ceramic filter, undulation of characteristics occurs. This undulation causes deviation of phase of transfer frequency (FM modulated factor), resulting in phase distortion at detection output. To reduce such phase distortion, VR201 and T201 are added to the inlets of CF201 and CF202 respectively to match the impedance. This circuit is called "phase distortion compensating circuit."

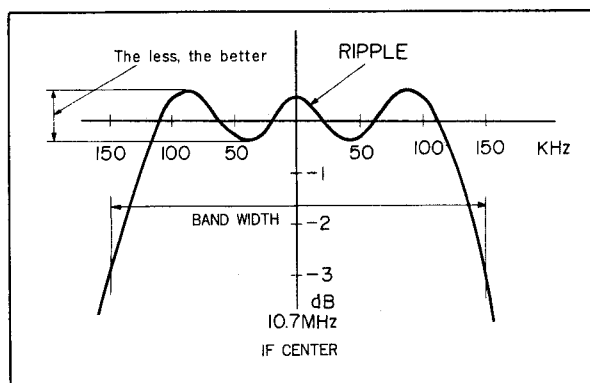


Fig. 1 Band Pass Characteristics of Ceramic Filter

AFC/TUNING METER CIRCUIT

IC203 amplifies DC element of discrimination output which TR203 and TR204 feed to No. 2 pin. This DC element becomes zero when central frequency of IF is 10.7MHz (perfect tuning) or when discrimination output is zero at perfect detuning. When IF shift from 10.7MHz, signal including DC element corresponding to shifting rate.

Part of amplified DC element is divided, and supplied to the varicap diode of RF pack as AFC control voltage in order to adjust the local oscillating frequency so that IF becomes 10.7MHz (now DC element is zero) at all times. At the same time, a pointer of tuning meter swings by this voltage. When DC element of

discrimination output is zero, AFC voltage is also zero and the pointer of meter reads the center. When DC voltage is +, the pointer swings on + side, and when DC voltage is -, the pointer swings on - side.

SIGNAL METER CIRCUIT FM

At detuning, discrimination output delivered from TR204 emitter contains noise signal with a wide band frequency spectrum from low to high frequency. This noise signal is transmitted to the base of TR220 through high-pass filters of C275, C276, C277, C279, L208 and L209, and then amplified at TR220 and TR219. The amplified signal is further rectified at D207, and separated - voltage is returned to the base of TR220 gets in OFF condition. In addition current does not flow from the emitter to the signal meter, so that the pointer of meter does not swing.

At tuning, amplified noise signal is small and voltage which is returned to the base of TR220 is low, so that TR is turned on. As a result, the current flows from the emitter and the pointer of meter swings.

Basic operation of TR217 and TR218 is similar to that of TR220 and TR219, then sensitivity of meter is further graded up due to functions of two circuits.

AM

When the voltage applied to D208 (7V of zenner diode) exceeds 7V, yielding current flows and pointer or meter swings. In other words, D208 detects the variation of collector voltage at TR229 as signal intensity, and transmits it to the meter.

AUTO-TOUCH TUNING CIRCUIT

In case of tuning when AFC actuates, AFC activates in the vicinity of tuning point, thus correct tuning point being hardly distinguished.

To avoid this trouble, it is necessary to turn off AFC when tuning is made. The auto-touch tuning circuit automatically does that.

When the tuning knob is touched with finger, noise factor caught by human being is amplified at TR215 and TR216, and then half-wave rectified. As a result, this noise factor emerges as + voltage. This + voltage turns TR201 on, and earthes AFC route leading to the RF pack. When the finger leaves the knob after tuning, noise factor to be amplified is eliminated, so that TR201 is turned off and earthing of AFC route is released.

OUTLINE OF CIRCUIT

MUTING CIRCUIT

Muting is to shut off the circuit to cut off noise as output produced while tuning from one station to another.

Muting of the machine is made by means of switching function of transistors. The muting system has 10 transistors — TR221, 224, 225, 226, 222, 223, 227, 202, 209 and 210. Of them TR227 actuates at the FUNCTION switch.

Switching transistors that shut down the signal directly are TR202, TR209 and TR210. When these transistors are forward biased (+B flows to the base of TR202 through R364), TR202 is turned on, and discrimination output from TR204 emitter is short-circuited. Similarly, when TR209 and TR210 are turned on, output system of MPX is short-circuited. At this time, muting function is in service. On the contrary, the bases of TR202, TR209 and TR210 are reversely biased, they are turned off and muting is inoperative. TR226 causes reverse bias. When TR226 is turned on, central potential of R301 and R302 becomes —, and — potential appears on the bases of TR202, TR209 and TR210 through the muting switch S2. When TR226 is turned off, — potential does not flow but +B flow, so that TR202, TR209 and TR210 become to be turned on. Fig. 2 and Fig. 3 show on/off conditions of TR226.

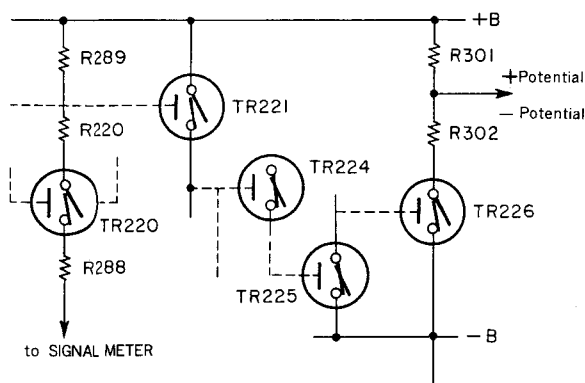


Fig. 2 Muting Action (1)

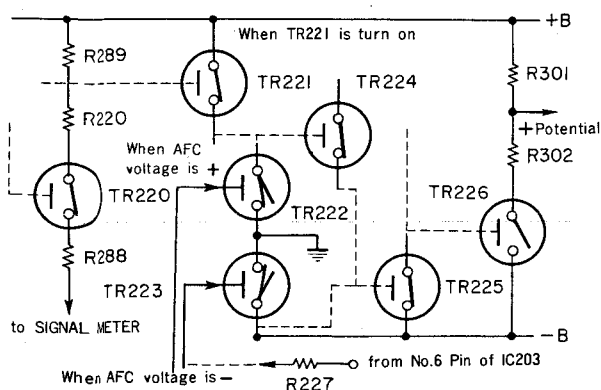


Fig. 3 Muting Action (2)

On/off actions of TR221 depend on the action of TR220 in the signal meter circuit.

At detuning, when TR220 is turned off, current does not flow through R290 connected to the collector of TR220. At this time, current does not flow through the base of TR221, causing off condition. When TR220 is turned on, TR221 is forward biased and turned on.

In other words, when TR220 is under off condition, TR221 is also off condition, and when TR202 is on, TR221 is on.

TR222 and TR223 serves to mute until almost tuning condition. In the vicinity of tuning point, noise factor is reduced and TR220 and TR221 are turned on (while TR224 and TR225 are turned off). Moreover, due to + and — of slight AFC voltage, TR222 or TR223 is turned on, causing muting condition. When AFC voltage is +, TR222 is turned on, and voltage of R294 appears. This voltage turn TR224 on. On the contrary, when AFC voltage is —, TR223 is turned on, and voltage of R296 appears to turn TR225 on. After a series of actions mentioned above, TR226 is turned off, and muting function becomes activated. TR227 performs muting of the function system. When the FUNCTION switch S1b is already set at FM position, B-E potential of TR227 is almost same. At this time, condition is off, and muting is inoperative. When switch is turned, contact is released and base potential is drops, so that TR227 is turned on, +B is fed to the base of TR202, TR209 and TR210 through R303, causing muting. Thereby, noise which is caused when the switch is turned is eliminated.

When the muting switch S2a is under off condition, +B flows to the base of TR221 through S2a, and TR221 is turned off.

When the muting switch S2a is set at 30μV position, R341 is parallel-connected to R289, so that combined resistance value is reduced. Here, to turn TR221 on, it is required to increase current passing through the combined resistance (that is, TR220). In other words, if signal is not so intensified, muting does not become inoperative. This is convenient for use in strong electric field.

32:00:00	N 06:86:10	Tuner C.B	チューナーシート	R.
32:00:00	NA 06:82:10	—do—	"	U.C
32:00:00	NA 06:82:20	—do—	"	A.E.B
42:00:00	FA 15:31:50	Milar Cap 50VMS(J) 0.0015	マイラーコン	
42:00:00	FA 15:33:00	—do— 0.003	"	
42:00:00	FE 15:23:30	Polystyrene Cap 330P	スチコン	
42:00:00	FE 15:31:60	—do— 1600P	"	
42:00:00	FE 15:41:00	—do— 10000P	"	
42:00:00	FJ 54:62:20	Electrolytic Cap. KU Type 2.2/25	ケミコン	
42:00:00	FS 11:36:80	S.B.I Cap 0.0068 μ 50V(K)	S. B. L コン	
42:00:00	FS 11:41:20	—do— 0.012 μ	"	
42:00:00	FS 13:44:70	—do— 0.07 μ	"	
42:00:00	GE 10:01:50	AM. O.S.C Coil GE6013	AM OSCコイル	
42:00:00	GE 10:01:80	FM. I.F.T GE10018	F M J E T	
42:00:00	GE 10:02:00	FM. Discriminator Coil GE10020	FMディスクリコイル	
42:00:00	GE 20:00:70	M.P.X Coil GE6056	M P X コイル	
42:00:00	GE 20:01:10	M.P.X Fixing Coil GE6062	MPX 固定コイル	
42:00:00	GE 20:01:60	—do— GE20016	"	
42:00:00	GE 30:01:30	RF. Induction Coil 10mH	RF インダクター	
42:00:00	GE 30:01:50	—do— 82mH	"	
42:00:00	GG 00:01:70	Ceramic Filter CFM-107M-12C	セラミックフィルタ	
42:00:00	GG 00:00:80	—do— FSN1067	"	
42:00:00	HL 41:53:90	Metal Oxide Film Resistor 1P 390 Ω	酸金抵抗	
42:00:00	HS 41:03:40	Variable Resistor 10KB $\times$ 2	ボリューム	
42:00:00	HT 17:00:20	Variable Resistor 10KB	半固定抵抗	
42:00:00	HT 17:00:30	—do— 100KB		
42:00:00	HT 17:00:40	—do— 500B		
42:00:00	HT 17:00:60	—do— 2KB		
42:00:00	IA 05:81:70	Transistor 2SA561 O.Y	トランジスタ	
42:00:00	IA 08:44:00	—do— 2SA844	"	
42:00:00	IC 19:18:00	—do— 2SC1918 E.F or G	"	
42:00:00	ID 04:00:00	—do— 2SD400	"	
42:00:00	IF 00:00:40	Diode 1S-1555	ダイオード	
42:00:00	IF 00:05:60	Zener Diode HZ-12C	ツェナーダイオード	
42:00:00	IF 00:06:40	—do— HZ-7B	"	
42:00:00	IF 00:06:80	L.E.D SLP-134	L. E. D	
42:00:00	IH 00:02:40	Diode 1S-1885	ダイオード	

[illegible]

OUTLINE OF CIRCUIT

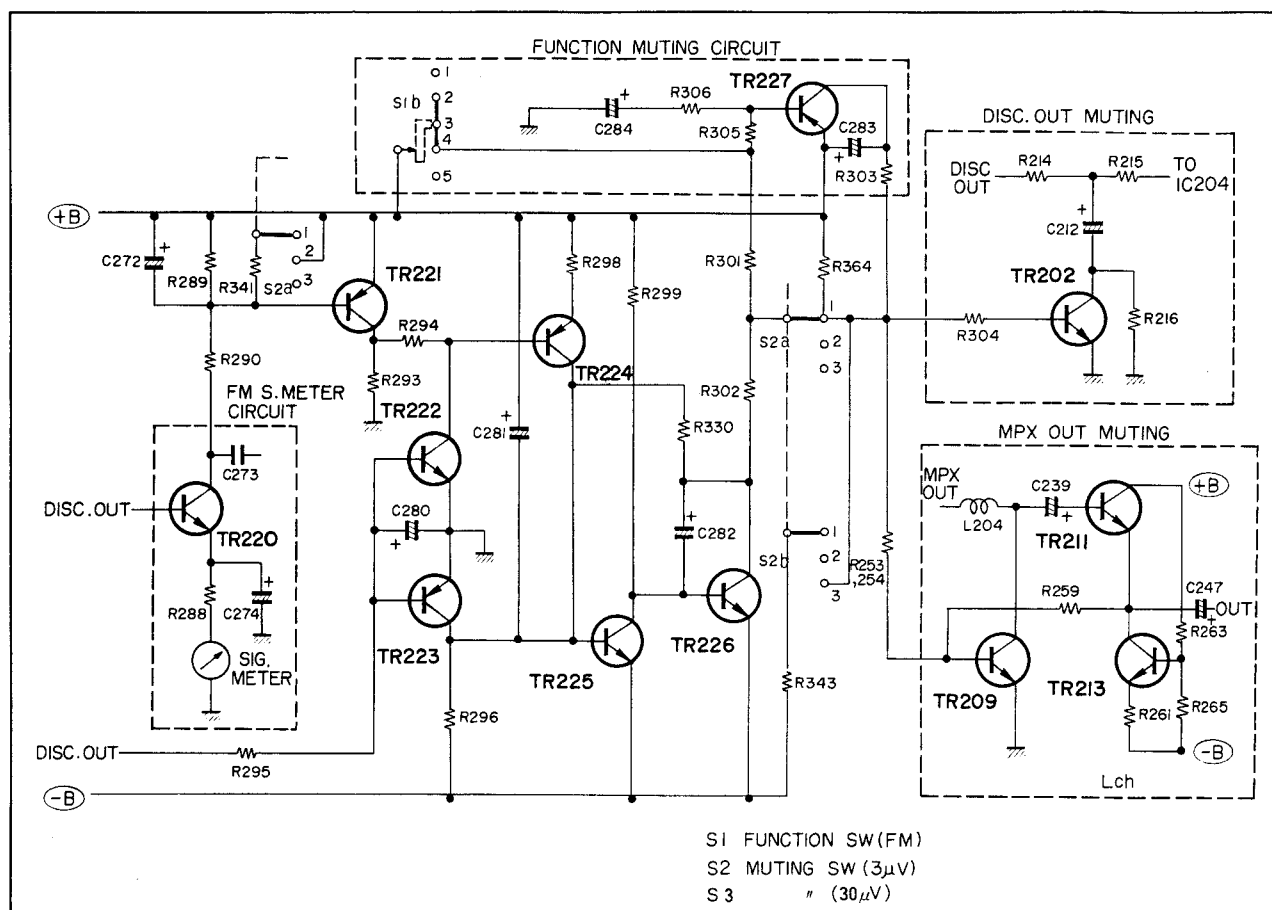


Fig. 4 Muting Circuits

MPX DECODER CIRCUIT

The MPX circuit uses PLL type IC . No. 2 pin (input terminal) of IC204 receives composite signal from the emitter of TR204.

In addition, 19KHz pilot signal is independently supplied to No. 13 pin (phase comparator input terminal) from the meter output stage of IC203 through the high-pass circuit. Thereby, stability of PLL function is improved.

Oscillating frequency of VCO is controlled and stabilized by phase-comparing 19KHz obtained at the VCO block of IC with pilot signal.

Stereo signals from No. 4 and No. 5 pins of IC204 are respectively amplified at TR207 and TR208 and then put out through the filter.

Part of the stereo signals is fed back to the input stage of IC204 from the emitter of TR207 and TR208.

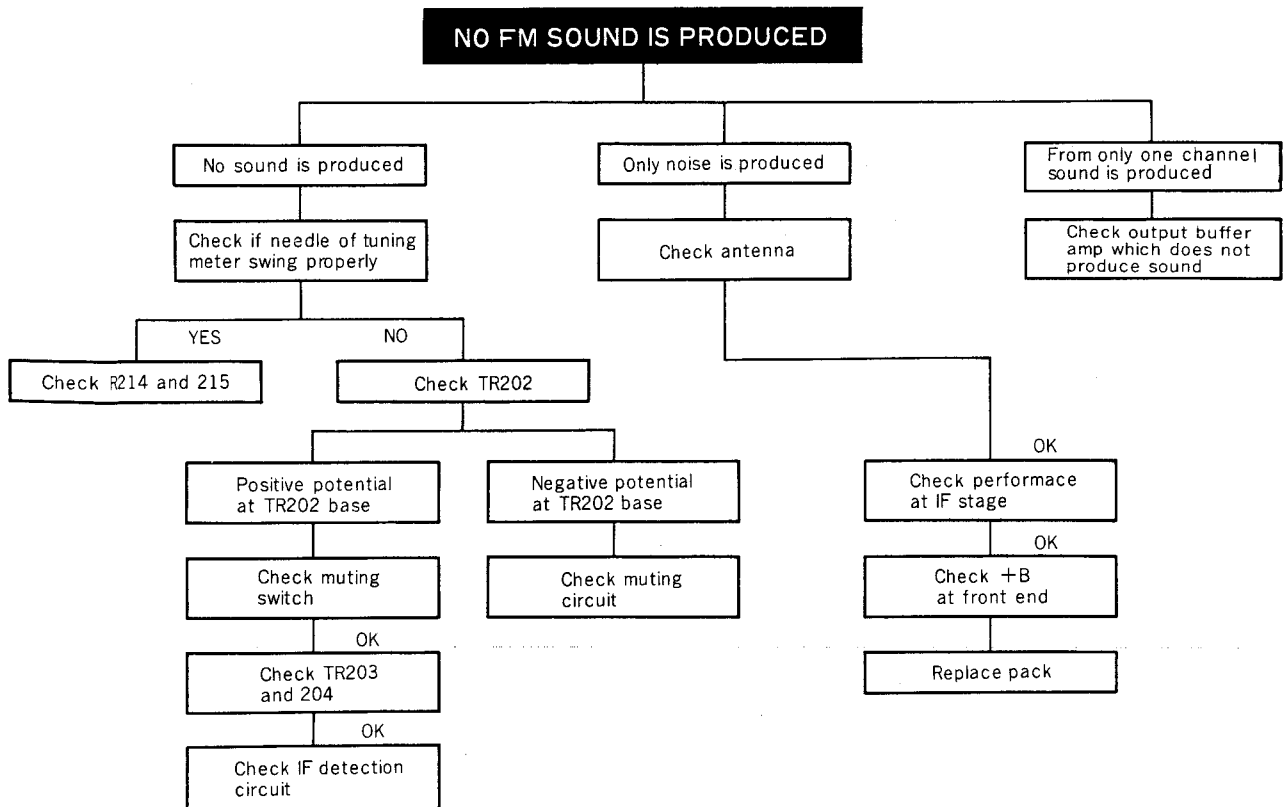
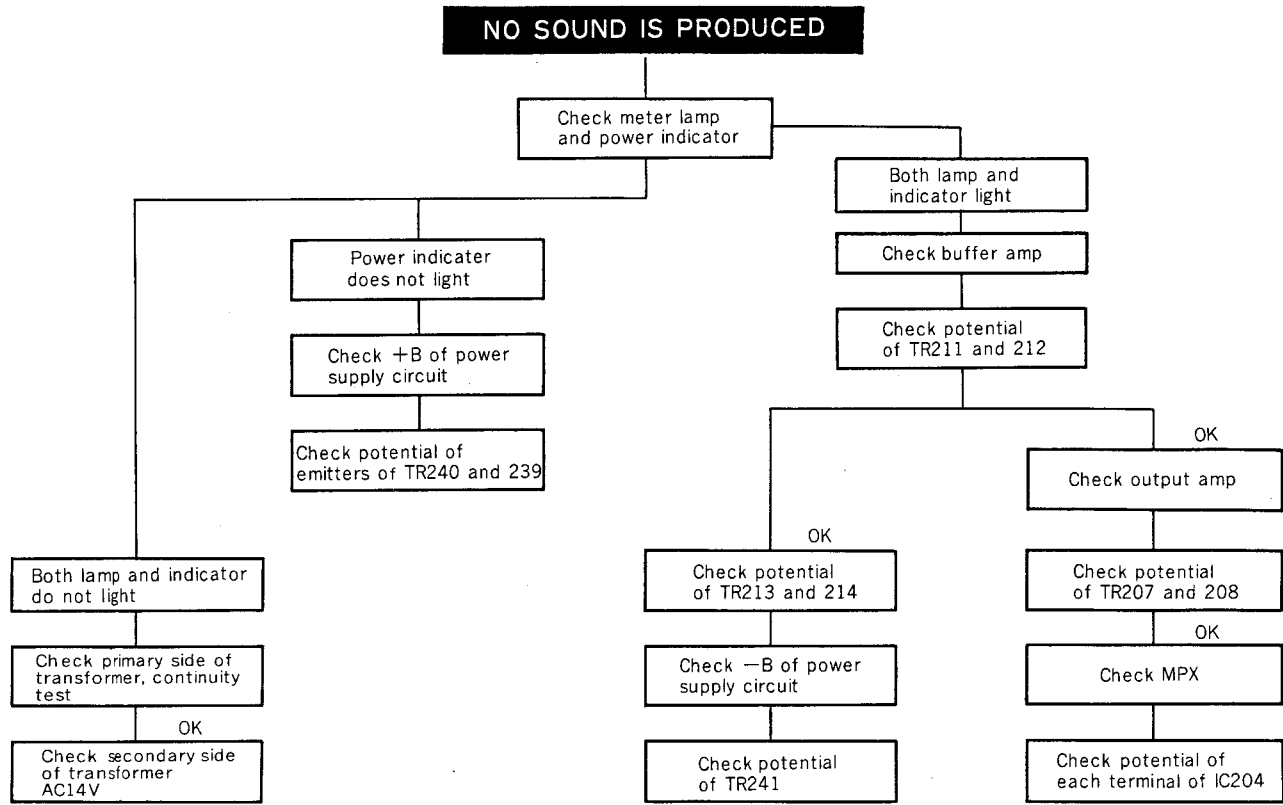
Futhermore, operating point of the switching block

of MPX is controlled with the variation of NF value in order to improve the separation performance. Pilot signal included in the composite which is fed to base of TR205 is not required because the comparator input is obtained from another system. Then, to erase the pilot signal the phase is reversed at TR228 by using 19KHz rectangular wave of VCO output, and the waveform is reshaped to the sine wave through the resonant circuit. After that this pilot signal is given to the composite signal as reversed-phase one.

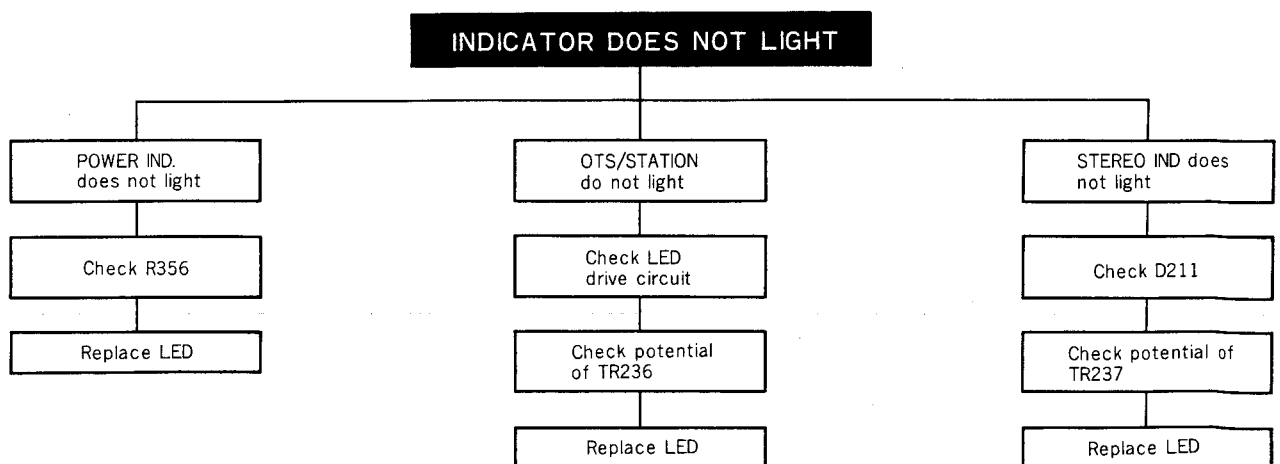
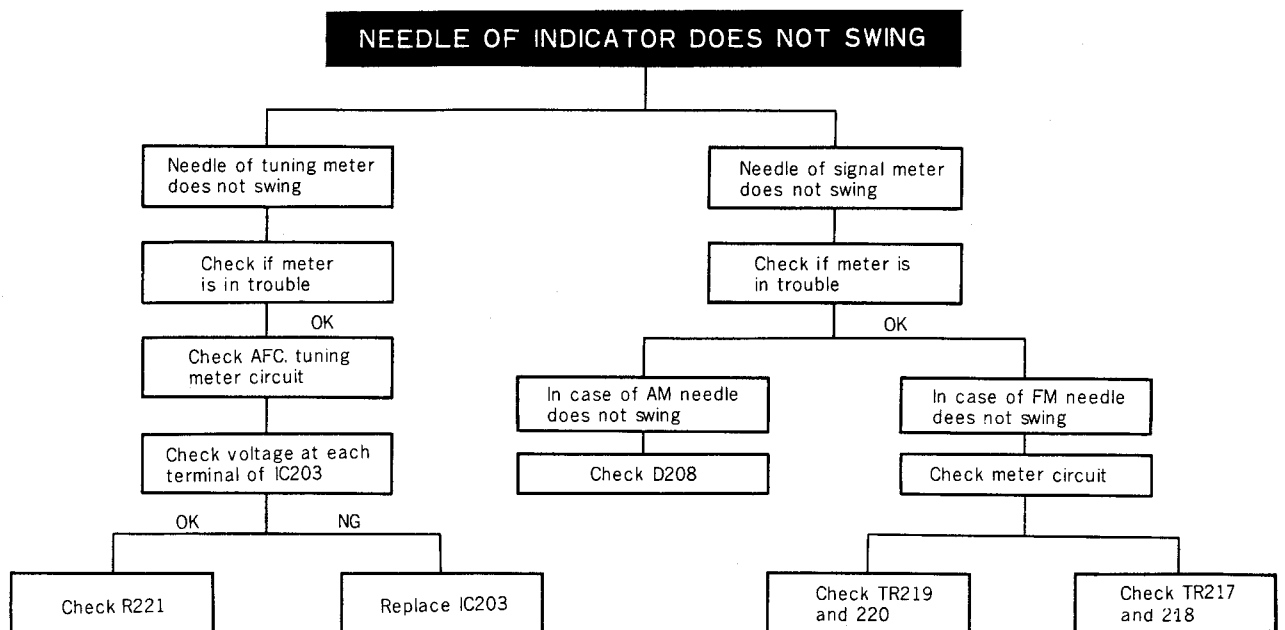
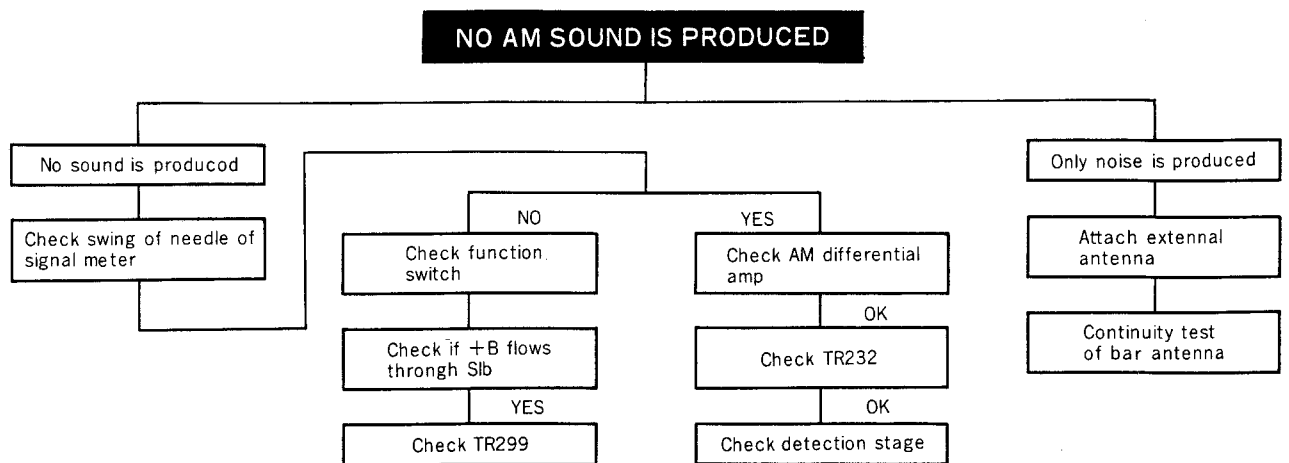
ELECTRICAL ATTENUATOR CIRCUIT

When excessive signal is supplied to the high frequency amplifying stage to voltage-doubler detector, is fed back to the bases of TR229, TR230 and TR231 in order to controlled the base potential. Thereby, amplification of TR229, TR230 and TR231 is reduced, and occurance of distortion is decreased.

TROUBLESHOOTING CHART



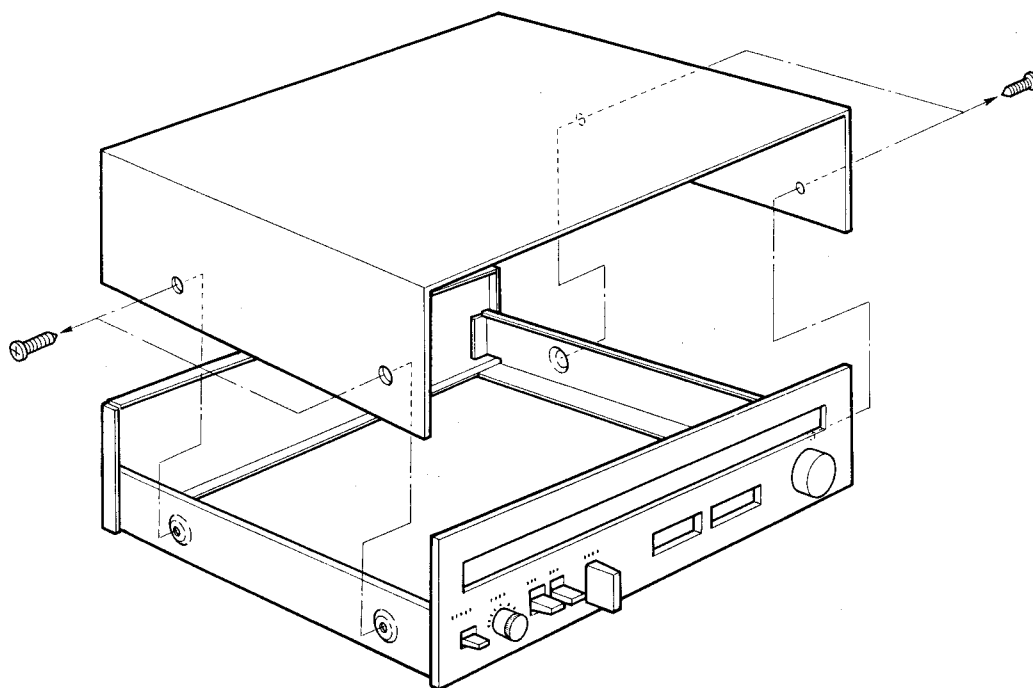
TROUBLESHOOTING CHART



DISASSEMBLY PROCEDURES

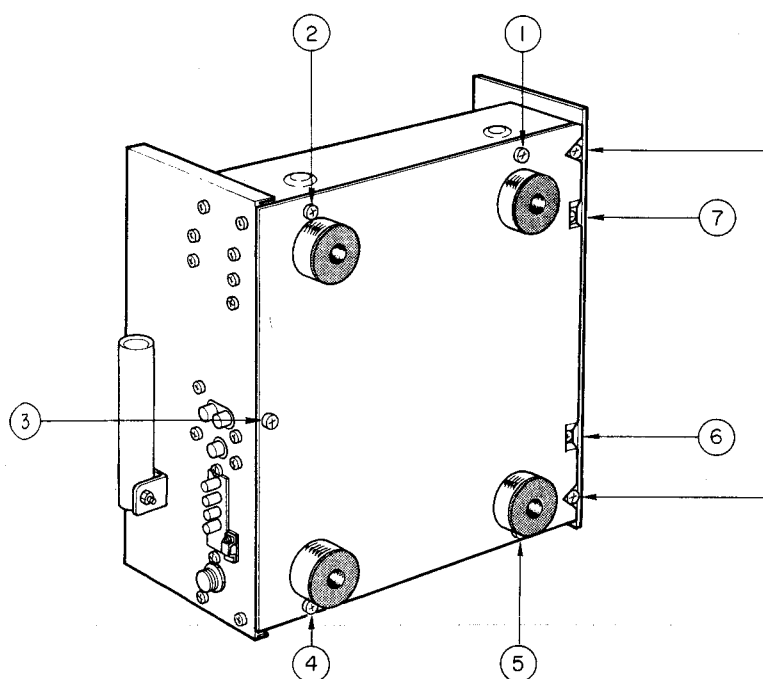
1. TOP COVER REMOVAL

Remove 4 screws



2. BOTTOM COVER REMOVAL

Remove 7 screws shown in ① to ⑦.



These screws are unnecessary to remove "BOTTOM COVER REMOVAL", remove them when step of "FRONT PANEL REMOVAL".

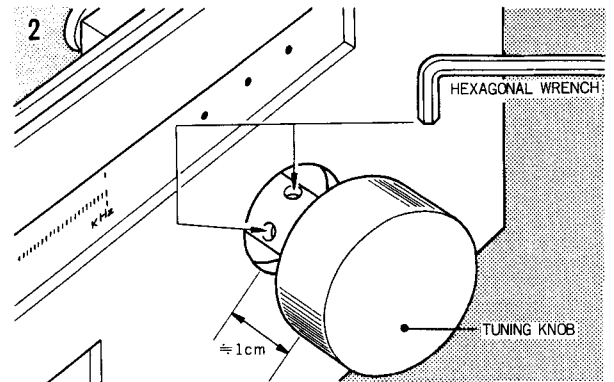
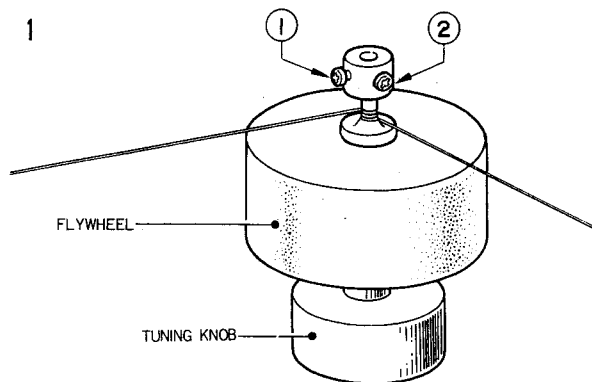
DISASSEMBLY PROCEDURES

3. FRONT PANEL REMOVAL

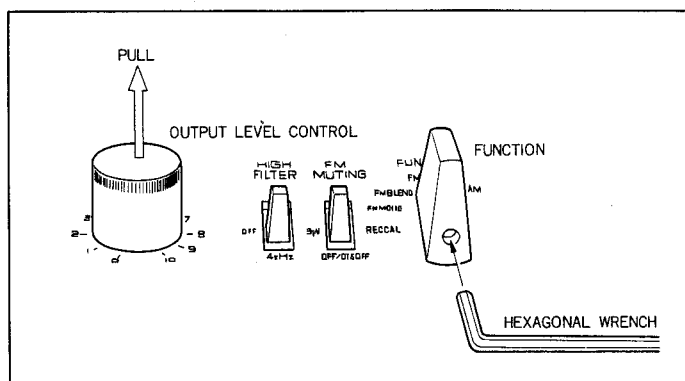
Remove 3 knobs first, then remove 4 screws fixing front panel both of top and bottom as shown in figure.

3-1. Tuning Knob Removal

- Loosen 2 screws shown by ① ②
- Hold the flywheel by hand and pull the tuning knob until approximately 1cm from panel surface.
- Loosen set screws by hexagonal wrench and pull off the tuning knob. The flywheel should stay at sub panel.

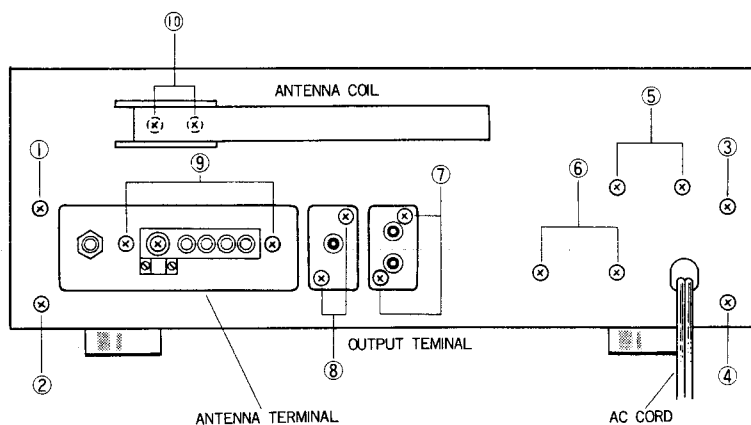


3-2. Function & Output Level Knob Removal



- Output Level Knob: pull off
- Function Knob: set screw

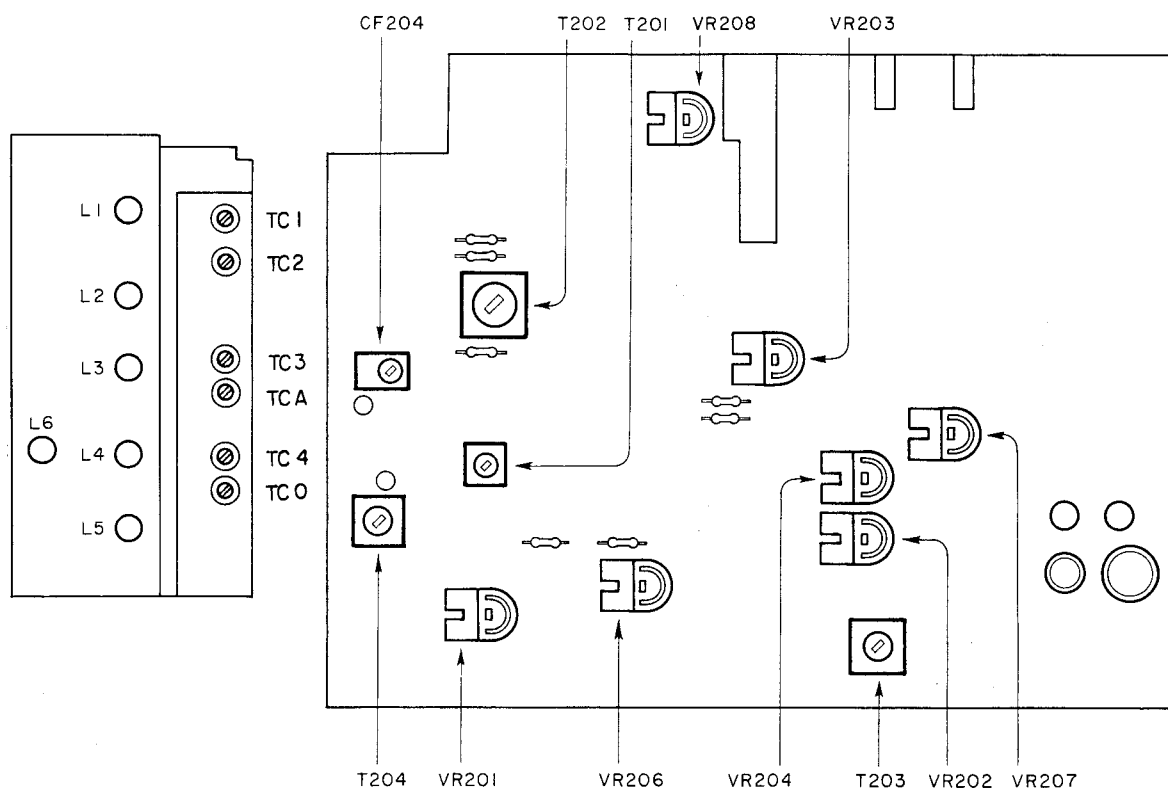
4. REAR PANEL REMOVAL



- Rear Panel fixing screws: ① ④
- Terminal fixing screw: ⑤
- P. Trans. fixing screw: ⑥
- External Terminal fixing screws: ⑦ ⑨
- Antenna Bar fixing screws: ⑩

ADJUSTMENT

ADJUSTING POINTS



SEMI FIXED RESISTORS

VR201 Phase Distortion Compensate
 VR202 Separation Adjusting
 VR203 VCO Free Run Frequency Adjusting
 VR204 Output Level Adjusting
 VR206 Signal Strength Meter Sensitivity
 VR207 Pilot Signal Erase Level Adjusting
 VR208 REC. CAL. Signal Level Adjusting

TRANSFORMERS

T201 Phase Distortion Compensate
 T202 Discriminator Coil
 T203 19KHz Resonant Coil

FM HIGH END TRACKING TRIMMER CAPACITORS

TC1 Antenna Trimmer
 TC2 Antenna Trimmer
 TC3 RF Trimmer
 TC4 RF Trimmer

FM LOW END TRACKING ADJUST CORES

L1 Antenna Coil Core
 L2 Antenna Coil Core
 L3 RF Coil Core
 L4 RF Coil Core
 L5 OSC Coil Core
 L6 IF Coil Core

AM HIGH END TRACKING TRIMMER CAPACITORS

TCA High End Sensitivity
 TCO Local Oscillating Frequency Adjusting

AM LOW END TRACKING ADJUST CORES

T204 OSC Coil Core
 CF204 Low End Sensitivity

ADJUSTMENT

ADJUSTING CIRCUIT BOARD

STEP	ITEMS	POINT	CONNECTING POINT		EQUIPMENT	METHODE	INDICATION
			INPUT	OUTPUT			
1	DISCRI. BALANCE	T202(S)			TUNING METER (built in)	Detuning point (98MHz) Turn the up-side core	0 (zero)
2	TUNING POINT SETTING	Tuning Knob	FM Ant.		FM SG 98MHz 60dBμ	Tune the knob so that TUNING METER read center.	
3	DISCRI. ADJUSTING	T202(P)	FM Ant.	Output Terminal(L)	FM SG —do— mono. 400Hz 100% OSC. VTVM Distortion Meter (DM)	Turn the bottom-side core so that distortion becomes minimum.	—60dB or less
4	VCO FREE RUN FREQUENCY	VR203	FM Ant.	19K Test Point	FM SG —do— Frequency Counter (FC.)	Adjust VR203 so that FC. reads 19KHz (confirm that FM SG is set to mono.)	19KHz±20Hz
5	PHASE DISTORTION	VR201 T201	FM Ant.	Output Terminal(L)	FM SG 98MHz 60dBμ stereo 400Hz 100% OSC. VTVM DM.	Turn VR201 and T201 so that distortion be- comes minimum.	—58dB or less
6	PILOT SIGNAL ERASE	VR207 T203	FM Ant.	TR206 Emitter	FM SG 98MHz 60dBμ stereo pilot:9%	Connect VTVM and OSC to the emitter of TR206, and adjust VR- 207 and T203 so that carrier level becomes minimum.	60dB or more (both ch.)
7	SEPARATION ADJUSTING	VR202 VR204	FM Ant.	Output Terminal	FM SG 98MHz 60dBμ stereo 400Hz 100% VTVM	Turn VR202 first so that output level of L and R are balanced. After that, turn VR204 so that separation be- comes maximum.	50dB or more
8	SIGNAL METER SENSITIVITY	VR206	FM Ant.		FM SG 98MHz 80dBμ Mod:0% SIGNAL METER (built in)	Turn VR206 so that SIGNAL METER reads 90.	

ADJUSTMENT

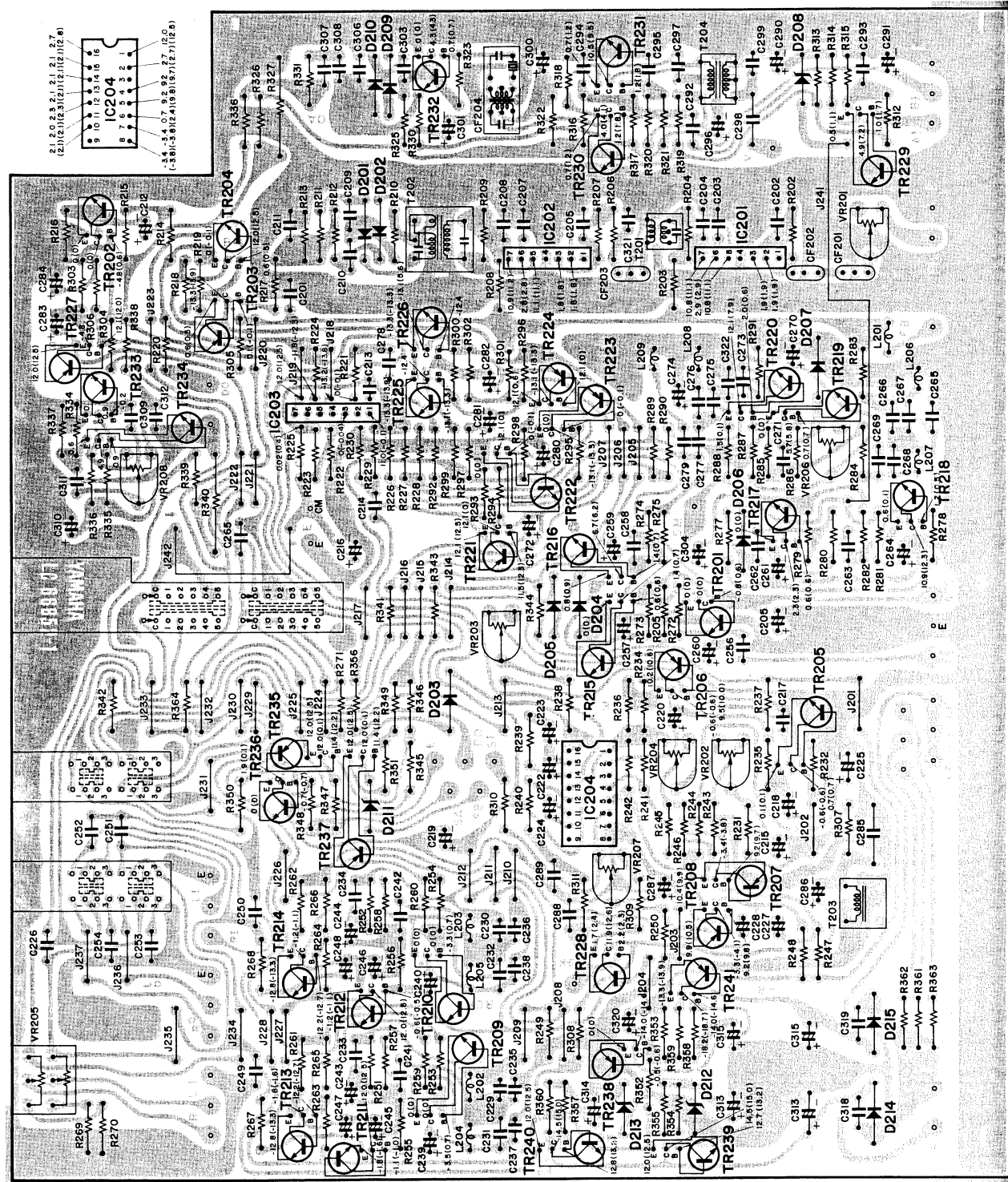
ADJUSTING TRACKING ERROR OF FM SECTION

STEP	ITEMS	ADJUSTING POINT	CONNECTING POINT		METHODE	REMARKS
			INPUT	EQUIPMENT		
1	POINTER OF DIAL CARIBRATION	POINTER	FM Ant.	FM SG 98MHz 60dBμ	Tune the receiver to SG, then, loosen the pointer dial string, and set to 98MHz of the scale.	±1mm or less
2	HIGH END TRACKING-ERROR CONFIRMATION	Check only	FM Ant.	FM SG 108MHz 60dBμ	Tune the receiver to SG, then confirm that the pointer is on 108MHz of the scale.	±2mm or less
3	TRACKING ERROR TRIMMING (When proper confirmation cannot be made by step 2, proceed step 3)	Pointer	FM Ant.	FM SG 88 to 108MHz 60dBμ	Reset the pointer, so that error of reading becomes minimum in all range of the scale.	
4	TRACKING ERROR TRIMMING (When proper adjustment cannot be made by step 3, proceed step 4)	Pointer	FM Ant.	FM SG 98MHz 108MHz	Trim error by the pointer and L5 alternately. 98MHz – pointer of dial 108MHz – L5	
5	HIGH END SENSITIVITY	TC1, 2, 3, 4	FM Ant.	FM SG 108MHz	Turn TC1, 2, 3 and 4 so that SIGNAL METER swings maximum.	
6	LOW END SENSITIVITY	L1, 2, 3, 4	FM Ant.	FM SG 98MHz	Turn the cores of L1, 2, 3 and 4 so that SIGNAL METER swings maximum.	

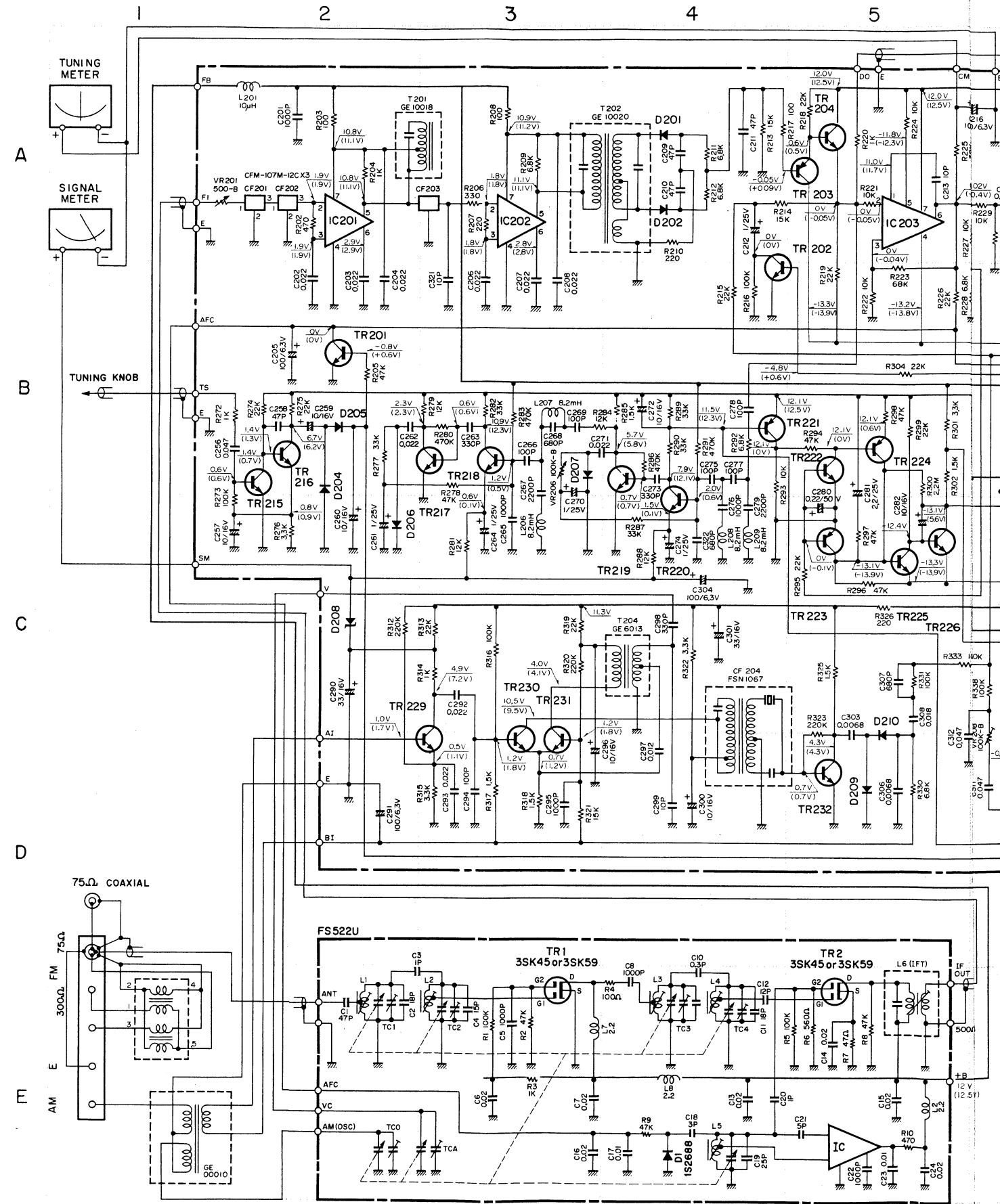
ADJUSTING TRACKING ERROR OF AM SECTION

STEP	ITEMS	ADJUSTING POINT	CONNECTING POINT		METHODE	REMARKS
			INPUT	EQUIPMENT		
1	LOCAL OSCILLATING COIL ADJUSTING	T204	AM Ant.	AM SG 600KHz	Tune the pointer to 600KHz of the scale, then turn the core of T204, so that SIGNAL METER swings maximum.	
2	LOW END SENSITIVITY	Ant. Coil CF204	AM Ant.	AM SG 600KHz	Slide Ant. coil, and turn the core of CF204, so that SIGNAL METER swings maximum.	
3	HIGH END TACKING ERROR TRIMMING	TCO	AM Ant.	AM SG 1350KHz	Tune the pointer to 1350KHz on the saale, then turn TCO, so that SIGNAL METER swings maximum.	
4	HIGH END SENSITIVITY	TCA	AM Ant.	AM SG 1350KHz	Turn TCA and maximize SIGNAL METER.	

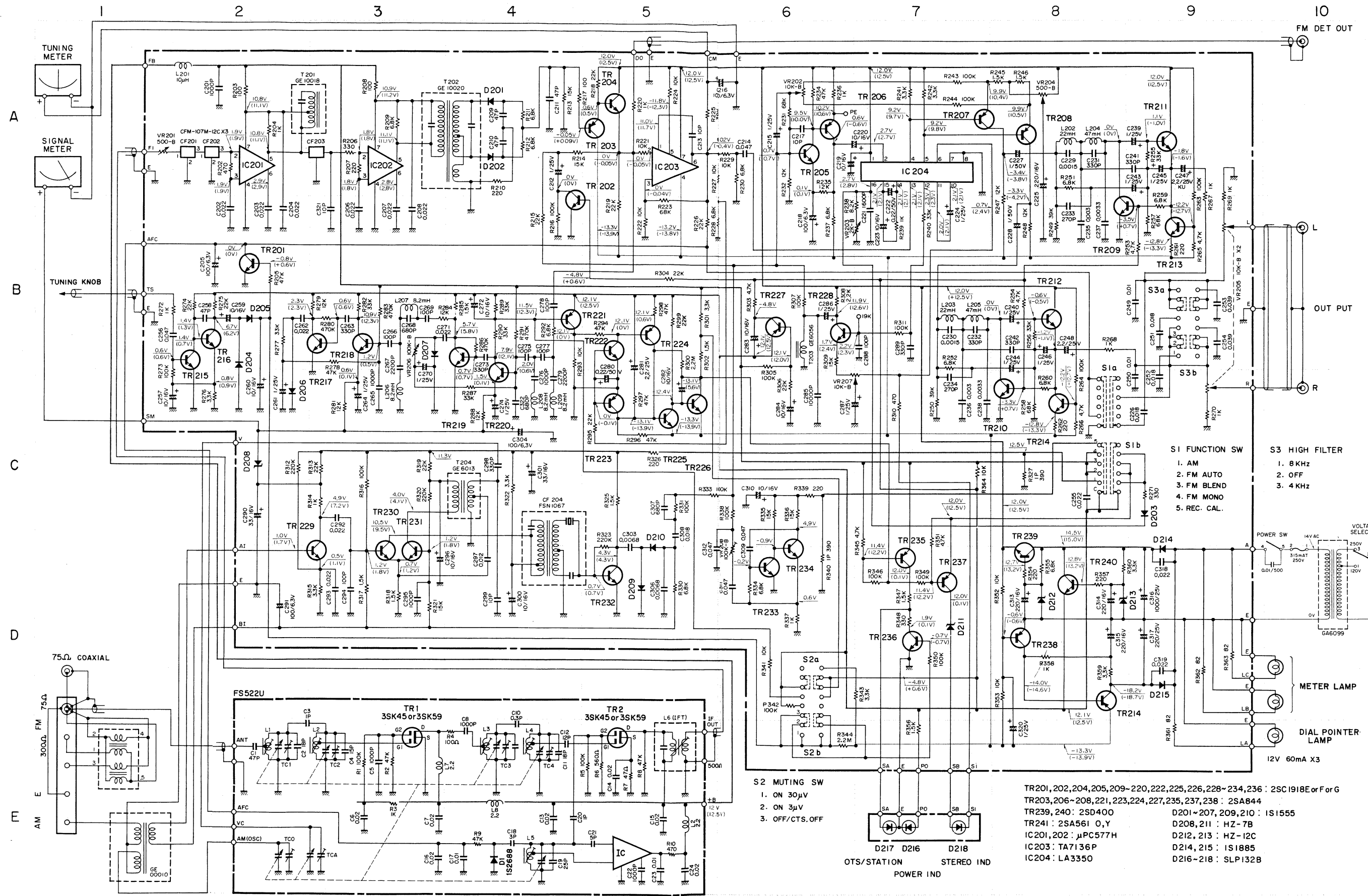
PRINTED CIRCUIT BOARD



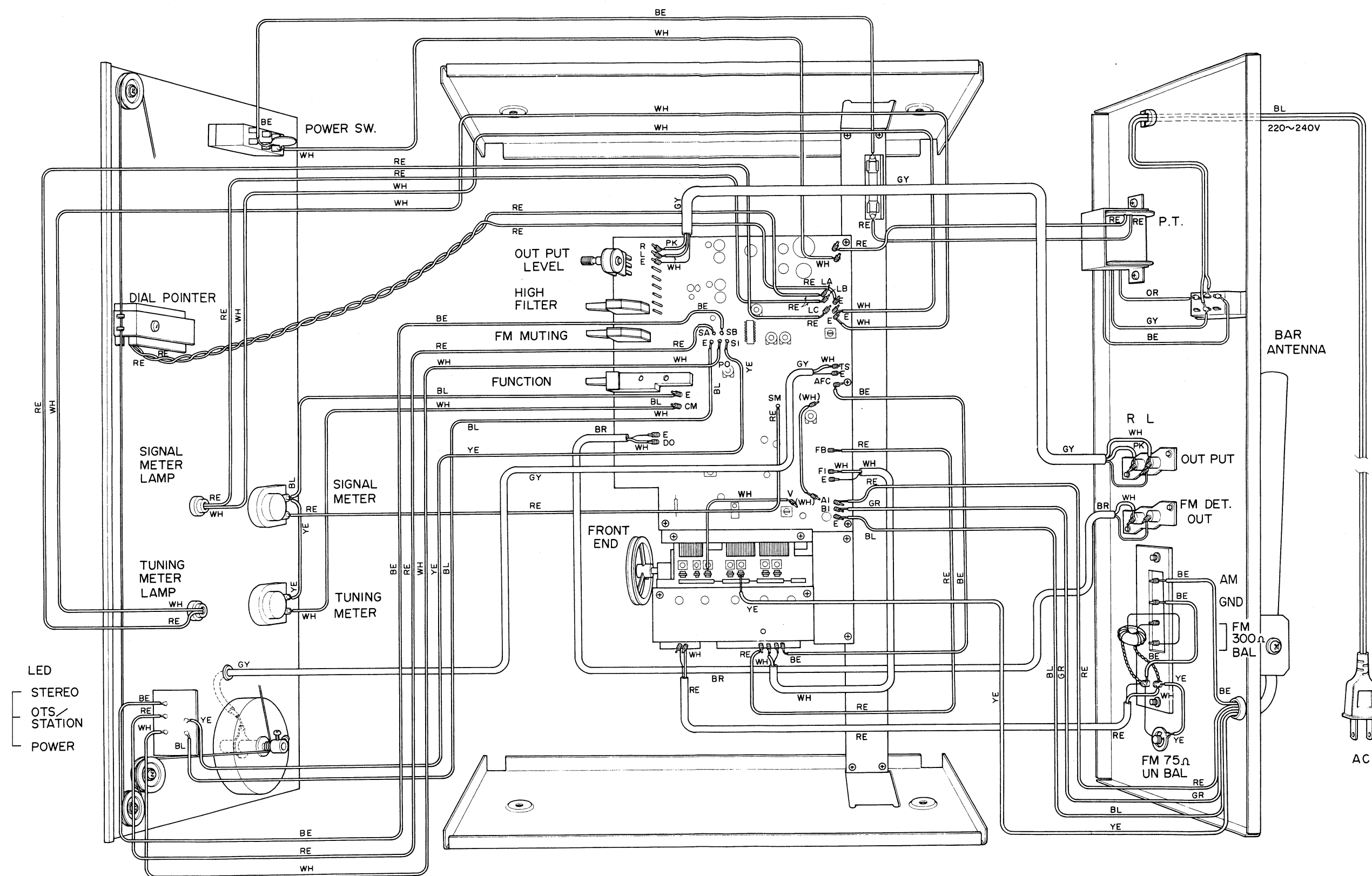
SCHEMATIC DIAGRAM

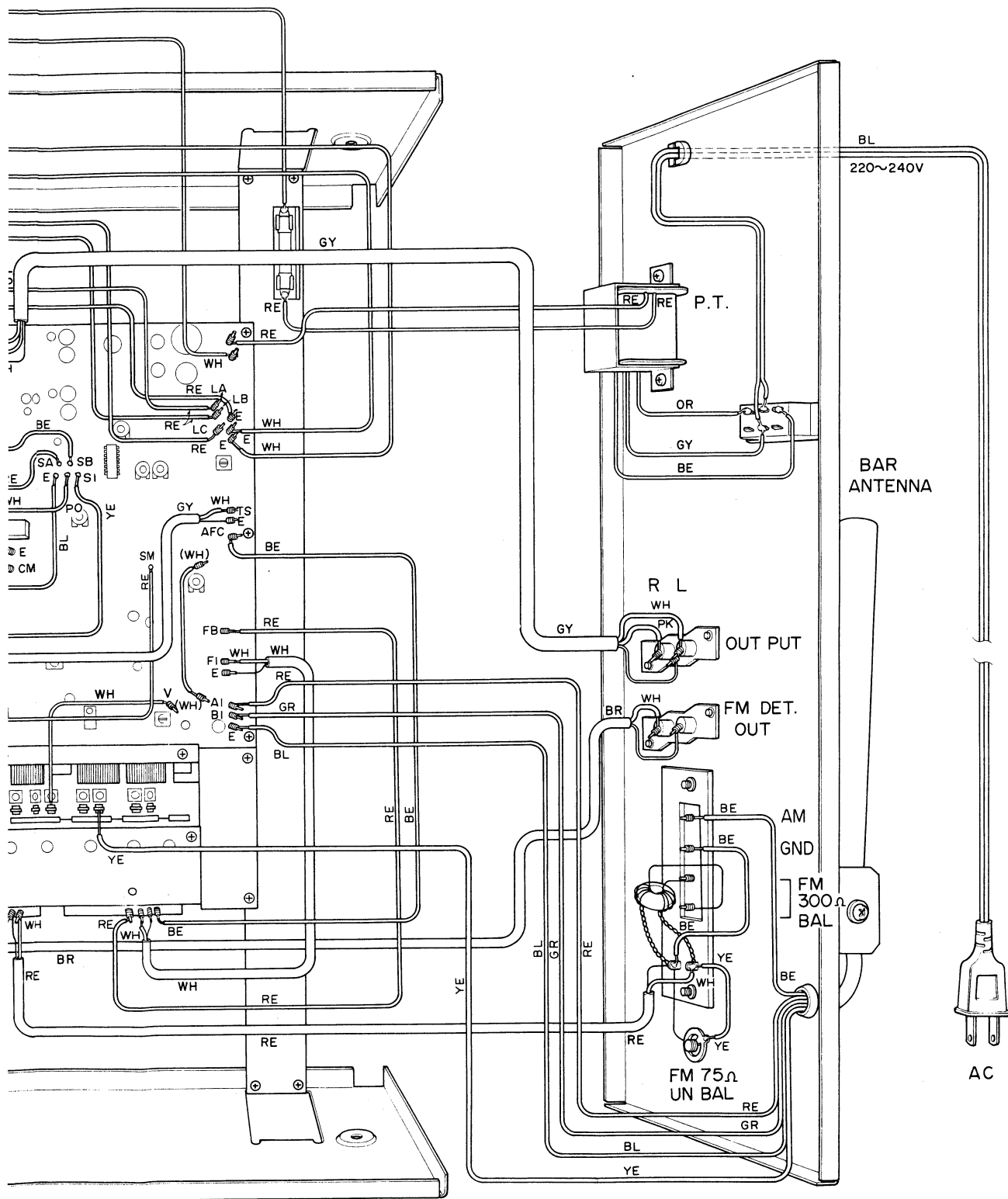


SCHEMATIC DIAGRAM



WIRING

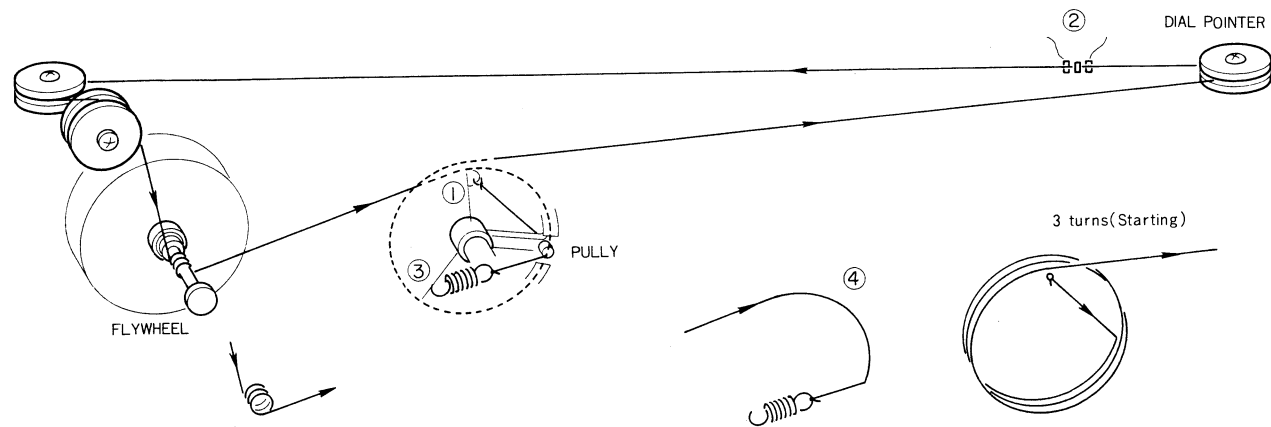




POWER SUPPLY SECTION SHOWS THE GENERAL EXPORT MODELS

DIAL CORD STRINGING

DIAL CORD STRINGING



- STEP**
1. Bind the string to 1 , and lord on arrowed direction as shown in figure.
 2. Set the pointer to 0 position of low end of the scale.
 3. When binding to 3 , while cutting and binding the string, pulling slightly.
 4. When start to lording the string, point 1 of the pulley 4 , set to upper side as shown in figure.

SCHEMATIC DIAGRAM BY EXPORT ZONE

DOLBY FM ADAPTOR CIRCUIT

U.S. & CANADIAN MODEL

These models employ Dolby FM Adoptor so circuit diagram of output section is different from Basic Schematic Diagram as shown at right hand side.

VALUE OF ELEMENTS

The differential of value⁵ of resistors and capacitors used by export zone shows in the following table.

Models Elements	BS., EUROPEAN, AUSTRALIAN	US., CANADIAN, GENERAL
C233, 234	270pF (Ceramic)	680pF (Ceramic)
C235, 236	0.003 μ F (Myler)	0.0047 μ F (Myler)
C237, 238	0.0033 μ F (Myler)	0.0047 μ F (Myler)
C249, 250	0.01 μ F (Myler)	0.011 μ F (Myler)
C251, 252	6.8K Ω (FCR25)	5.6K Ω (FCR25)
R267, 268	9K Ω (FCR25)	1.2K Ω (FCR25)

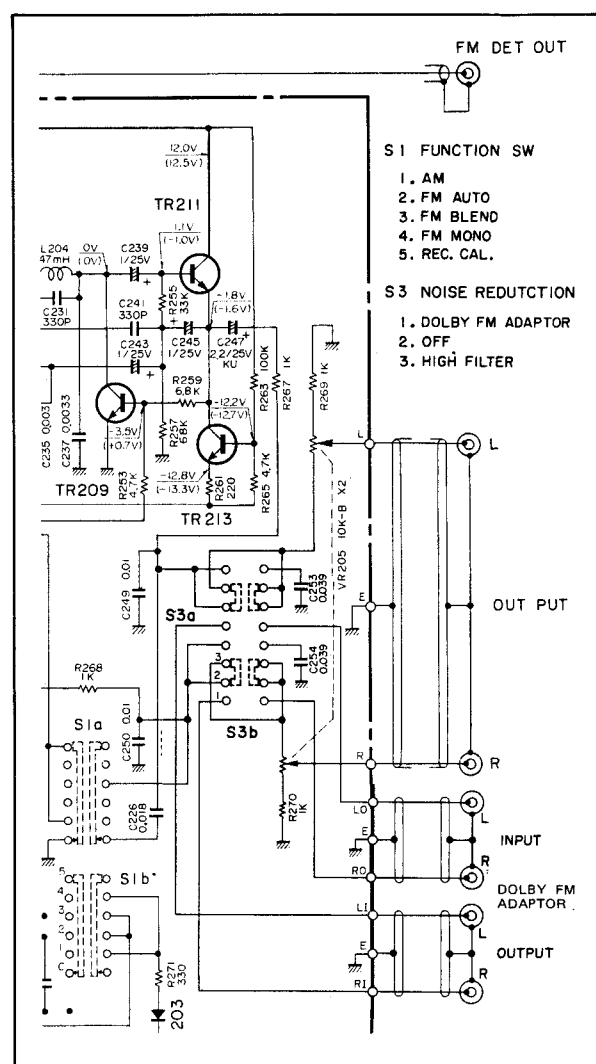
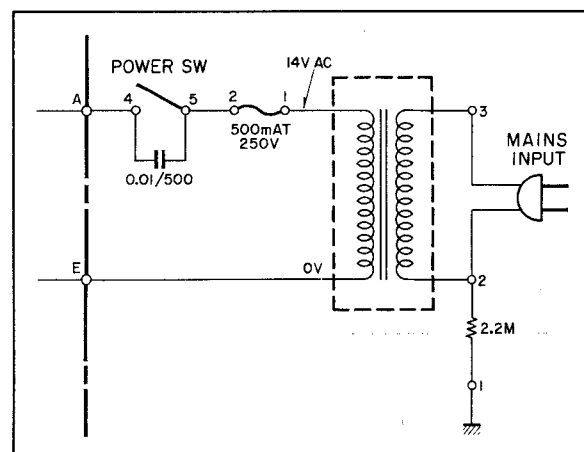
POWER SUPPLY CIRCUIT

The differential of Power Supply Circuits by export zone is shown in following figures.

US., CANADIAN & AUSTRALIAN MODELS

Used Transformer

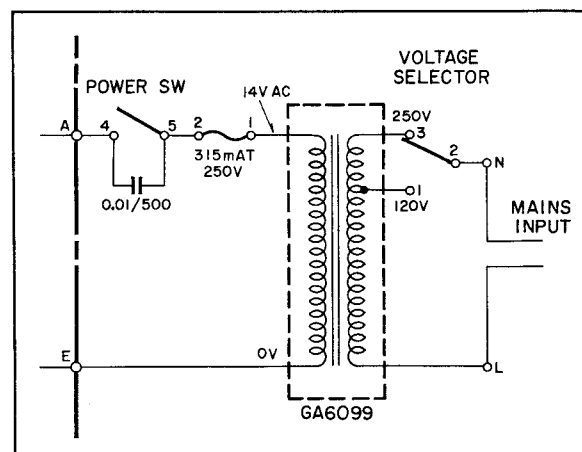
US., CANADIAN	(120V-14V)	GA60991
AUSTRALIAN	(240V-14V)	GA60992



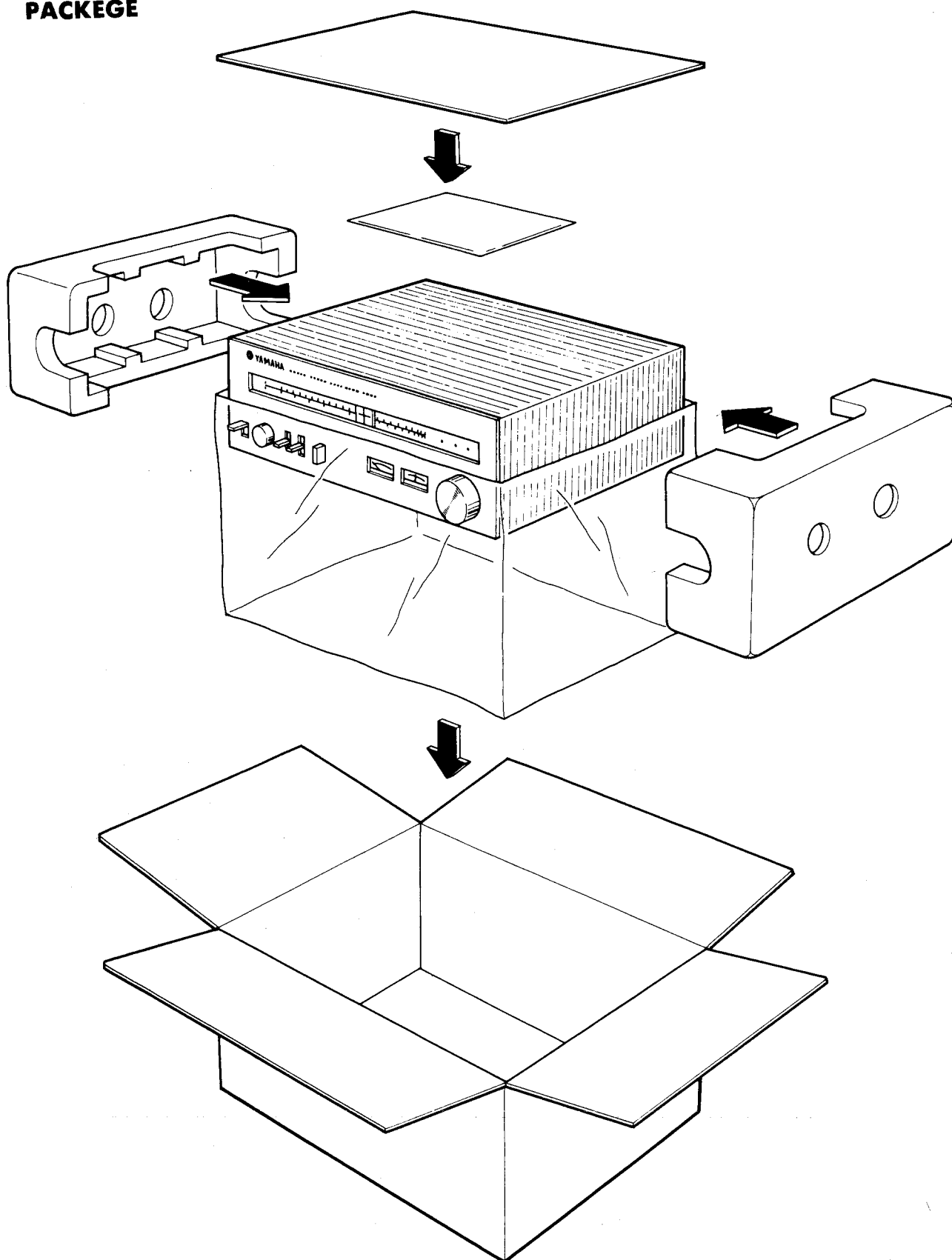
GENERAL, BS. & EUROPEAN MODELS

Used Transformer

(110, 120, 130/220, 230, 240V—14V) GA60992



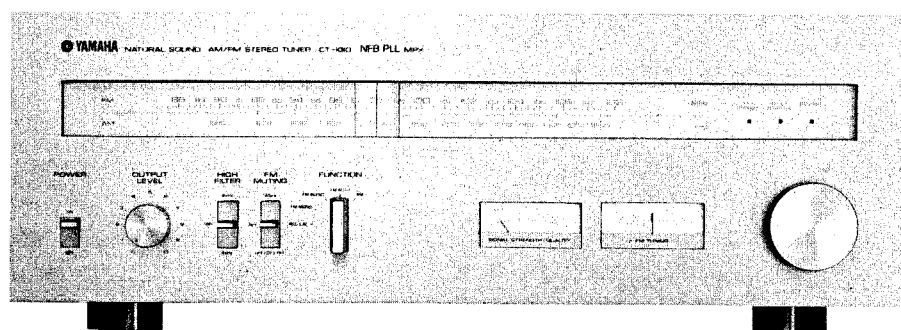
PACKAGE



PARTS LIST

CT-1010

NATURAL SOUND AM/FM STEREO TUNER



YAMAHA

CT-1010

FRONT

