



Service Manual

STEREO RECEIVER

SX-3600
SX-720

 **PIONEER®**

MODEL SX-3600 COMES IN THREE VERSIONS DISTINGUISHED AS FOLLOWS:

Type	Voltage	Remarks
KU	120V only	U.S.A. model
S	110V, 120V, 220V, and 240V (Switchable)	General export model
KC	120V only	Canada model

- This service manual is applicable to the KU type. When repairing the S and KC type, please see the additional service manual (ART-538).

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1. SPECIFICATIONS

Amplifier Section

Continuous power output of 30watts* per channel, min., at 8 ohms from 20Hertz to 20,000 Hertz with no more than 0.05% total harmonic distortion.

Total Harmonic Distortion (20 Hertz to 20,000 Hertz, 8 ohms, from AUX)

continuous rated power output . . . No more than 0.05%
15 watts per channel power output

..... No more than 0.03%

Intermodulation Distortion (50 Hertz: 7,000 Hertz = 4 : 1, 8 ohms, from AUX)

continuous rated power output . . . No more than 0.05%
15 watts per channel power output

..... No more than 0.03%

Damping Factor (20 Hertz to 20,000 Hertz, 8 ohms)

..... 35

Input (Sensitivity/Impedance)

PHONO 2.5mV/50 kilohms

AUX, TAPE PLAY 1, 2 150mV/50 kilohms

Phono Overload Level (T.H.D. 0.1%, 1,000Hz)

PHONO 140mV

Output

TAPE REC 1, 2 150mV

Speaker A, B, A+B

Frequency Response

PHONO (RIAA Equalization)

..... 30Hz to 15,000Hz ± 0.3 dB

AUX, TAPE PLAY 1, 2 10Hz to 50,000Hz $^{+0.5}_{-3.0}$ dB

Tone Control

BASS ± 8 dB (100Hz)

TREBLE ± 8 dB (10,000Hz)

Loudness Contour (Volume control set at -40dB position)

..... +6dB (100Hz)

Hum and Noise (IHF, short-circuited, A network)

PHONO 76dB

AUX, TAPE PLAY 1, 2 96dB

FM Tuner Section

Usable Sensitivity (IHF) 11.2dBf (2.0 μ V)

50dB Quieting Sensitivity

MONO 16.1dBf (3.5 μ V)

STEREO 37.0dBf (39 μ V)

Signal-to-Noise Ratio

MONO 78dB (at 65dBf)

STEREO 72dB (at 85dBf)

Distortion (at 65dBf)

MONO 100Hz 0.1%

1kHz 0.1%

6kHz 0.15%

STEREO 100Hz 0.2%

1kHz 0.15%

6kHz 0.25%

Capture ratio 1.0dB

Alternate Channel Selectivity

400kHz 60dB

Stereo Separation

1kHz 40dB

30Hz to 15kHz 35dB

Frequency Response

..... 20Hz to 15kHz $^{+0.5}_{-1.0}$ dB

Spurious Response Ratio 65dB

Image Response Ratio 65dB

IF Response Ratio 90dB

AM Suppression Ratio 55dB

Subcarrier Product Ratio 40dB

SCA Rejection Ratio 60dB

Muting Threshold 19.2dBf (5 μ V)

Antenna Input 300 ohms balanced,
75 ohms unbalanced.

AM Tuner Section

Sensitivity (IHF, Ferrite Antenna) . 300 μ V/m

(IHF, Ext. antenna) . . . 15 μ V

Selectivity 27dB

Signal-to-Noise Ratio 52dB

Image Response Ratio 32dB

IF Response Ratio 40dB

Antenna Ferrite loopstick antenna

Miscellaneous

Power Requirements AC 120V, 60Hz

Power Consumption 200W

Dimensions 450(W) x 142(H) x 306(D)mm

17-11/16(W) x 5-9/16(H) x 12-1/16(D)in

Weight (without package)

Model for U.S. 8.2kg (18lb 1oz)

Model for Canada 8.5kg (18lb 12oz)

Furnished Parts

Operating instructions 1

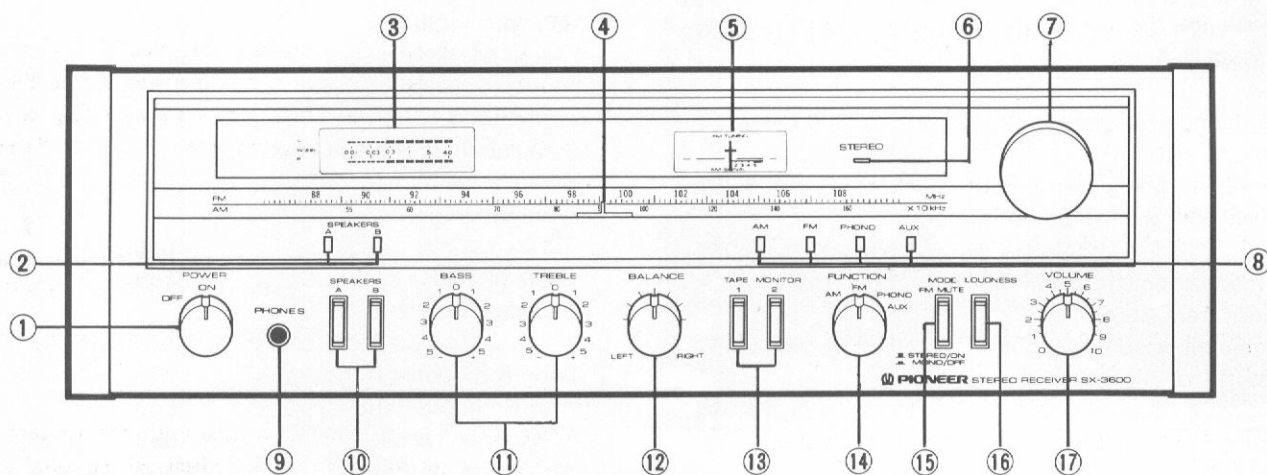
FM T-type antenna 1

**Measured pursuant to the Federal Trade commission's Trade Regulation rule on Power Output Claims for Amplifiers.*

NOTE:

Specifications and the design subject to possible modifications without notice due to improvements.

2. FRONT PANEL FACILITIES



① POWER SWITCH

Set this switch to ON to supply power to the receiver.

② SPEAKER INDICATORS

These lamps light according to the depressed speaker switch.

③ POWER METER

This meter allows you to read out the rated power level on the fluorescent display tube when speakers with a nominal impedance of 8 ohms are connected to the speaker terminals.

④ DIAL POINTER

This pointer indicates the broadcasting stations.

⑤ AM/FM TUNING METER

When an AM program is received, the meter functions as a signal meter. Adjust the tuning knob so that the pointer deflects as far to the right as possible.

When an FM program is received, the meter functions as a tuning meter. Adjust the tuning knob so that the pointer is positioned in the center.

⑥ FM STEREO INDICATOR

This indicator lights up when receiving an FM stereo program.

⑦ TUNING KNOB

Use this knob to select the station. Observe the AM/FM tuning meter, and set the tuning knob to the optimum tuning point when aligning the target broadcast station.

⑧ FUNCTION INDICATORS

These lamps indicate the position of the function selector.

⑨ HEADPHONE JACK

Plug the headphones into this jack when you want to listen through your stereo headphones.

Release both speaker switches if you want to listen to the sound through your headphones only.

⑩ SPEAKER SWITCHES

Depress the switch corresponding to the speakers connected to the SPEAKERS terminals (A or B) on the rear panel.

You can depress both of these buttons to listen to the sound from two pairs of speaker systems at the same time.

⑪ BASS AND TREBLE CONTROLS

Use these controls to adjust the bass and the treble. If you turn the bass control to the right from its center (0) position, you will be able to emphasize the sound in the low-frequency range. Conversely, turning this control to the left from the center (0) position will attenuate the sound. You can use the treble control to adjust the sound in the high-frequency range.

⑫ BALANCE CONTROL

Use this control to balance the volume of the left and right channels. First, however, set the mode/FM muting switch to MONO/OFF. If the sound appears to be louder on the right, it means that the volume of the right channel is higher. Turn the balance control to the left and adjust. Conversely, if the sound appears to be louder on the left, it means that the volume of the left channel is higher. Therefore, turn the balance control to the right and adjust. After adjusting, return the mode/FM muting switch to STEREO/ON.

⑬ TAPE MONITOR SWITCHES

Depress the switch 1 with a tape deck which is connected to the TAPE 1 jacks (REC and PLAY) when you want to monitor the playback or recording of a tape. The tape on a deck which is connected to the TAPE 2 jacks (REC and PLAY) can be similarly monitored by depressing the switch 2.

NOTE:

Set these switches to the released (OFF) position when you listening to records or a broadcasting.

⑭ FUNCTION SELECTOR

Use this selector to select the program source.

AM: Set here when receiving an AM broadcast.

FM: Set here when receiving an FM broadcast.

PHONO: Set here when playing records on a turntable connected to the PHONO jacks.

AUX: Set here when listening to a program source which is connected to the AUX jacks.

⑮ MODE/FM MUTING SWITCH

This switch is a combination of the FM muting switch and the mode selector switch. When the switch is left undepressed (STEREO/ON) the reproduction is in stereo mode, while the FM muting function acts to suppress unpleasant interstation noise while listening to FM broadcasting.

When the switch is depressed (MONO/OFF position), however, reproduction is in mono mode, while the FM muting function does not act, thus enabling suitable reception of weak radio stations when tuning in to the FM broadcasting station.

NOTE:

Recording stereophonically with the mode/FM muting switch in the MONO/OFF position may cause deterioration in channel separation.

⑯ LOUDNESS SWITCH

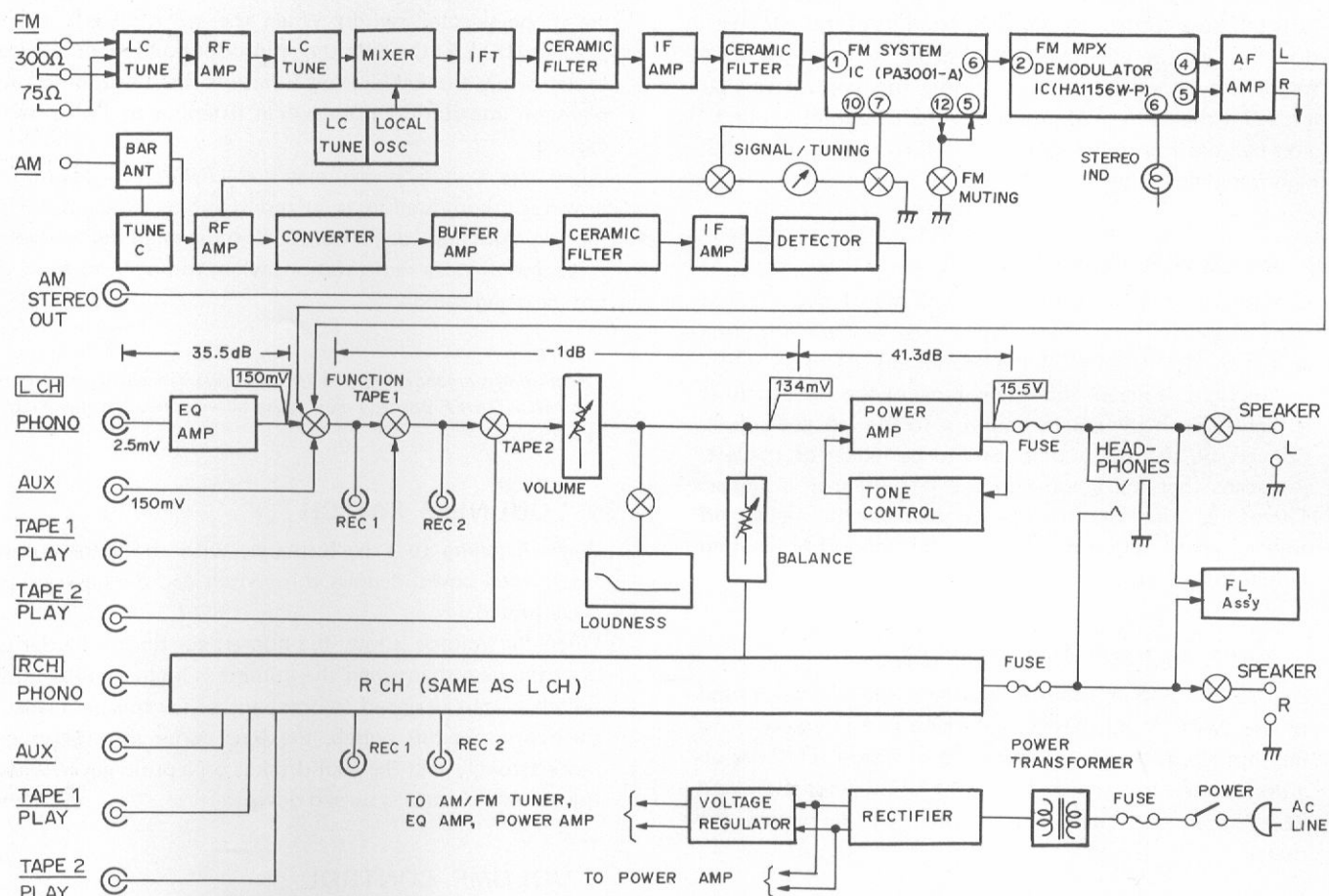
When listening to a performance with the volume control turned down, depress this switch and the bass will be accentuated.

When the volume is low, the human ear finds it harder to hear the bass than when the volume is high. The loudness switch is thus designed to compensate for this deficiency. By depressing this switch, the bass come through much more strongly and the sound takes on a punch even when the volume control is turned down.

⑰ VOLUME CONTROL

Use this control to adjust the output level to the speakers and headphones. Turn it clockwise to increase the output level. No sound will be heard if you set it to "0".

3. BLOCK DIAGRAM



4. CIRCUIT DESCRIPTIONS

AM Tuner

The AM tuner stage employs a 2-ganged tuning capacitor, a single-element ceramic filter, an NPN transistor RF amplifier, a PNP transistor mixer (converter), an NPN transistor buffer amplifier, and an NPN transistor IF amplifier.

FM Tuner

The FM front end is comprised of a J-FET (2SK168) single-stage RF amplifier, an NPN transistor mixer, and an NPN transistor modified Clapp type local oscillator.

The IF stage consists of two dual-element ceramic filters, and an IF system IC (PA3001-A) which incorporates the IF limiter amplifier, FM detector, and the FM muting circuit.

The stereo decoder stage employs an FM stereo demodulator IC (HA1156W-P), while the pilot signal leak (19kHz) and sub-carrier signal (frequencies above 23kHz) are removed by an 18dB/

oct. active filter consisting of a PNP transistor. This active filter also serves as an amplifier for frequencies within its passband, and eliminates cross-talk.

Equalizer Amplifier

The equalizer amplifier is collector-to emitter feed back type 2-stage direct-coupled amplifier, designed with an gain of 35.5dB (at 1kHz), a overload level of 140mV (at 1kHz, THD 0.1%), and equalizer deviation of ± 0.3 dB (30Hz–15kHz).

Power Amplifier

This all-stage direct-coupled pure complementary SEPP circuit features a current mirror load differential amplifier in the first stage, and incorporates the tone control circuits in the NFB loop.

Although the incorporation of the tone control circuits in the power amplifier stage reduces the

number of elements that the signal has to pass through, and thereby further reduces noise, distortion, and cost, the power stage does require a higher gain and a higher degree of stability. In the SX-3600, this high gain and high stability are achieved by a differential amplifier in the first stage and by the use of a bootstrap circuit for the load of the pre-driver stage.

The power stage is a complementary 2-stage Darlington connection, resulting in an output power rating of $30W + 30W$ (8Ω , $20Hz-20kHz$), harmonic distortion of less than 0.05%.

Indicator Circuit

The SX-3600 output power indicators feature fluorescent indicator tube (FL tube). In this tube, thermionic emissions from the cathode are accelerated into the fluorescent substance of the segmental anodes, resulting in the emission of light. This tube is used to indicate numerals, letters, and other symbols.

An outline of the FL tube drive circuit is shown in Fig. 4-1. The output circuit signal is applied to pin no.6 (4) of the IC (TA7318P-A). The IC contains a detector circuit, compressor (40dB), and peak hold circuit for both left and right channels. The dynamic range of the signal is thus contracted by 40dB to obtain a "peak held" DC voltage.

The output power indicator segments of the FL tube are driven by the HA12010 ICs (one for each channel) equipped with 12 pairs of differential amplifiers. These amplifiers are biased at increasing levels, so each amplifier will commence to operate separately as the input level increases. And since these amplifiers apply the voltages to the output power indicator segments, each successive segment will light up in turn as the input level rises.

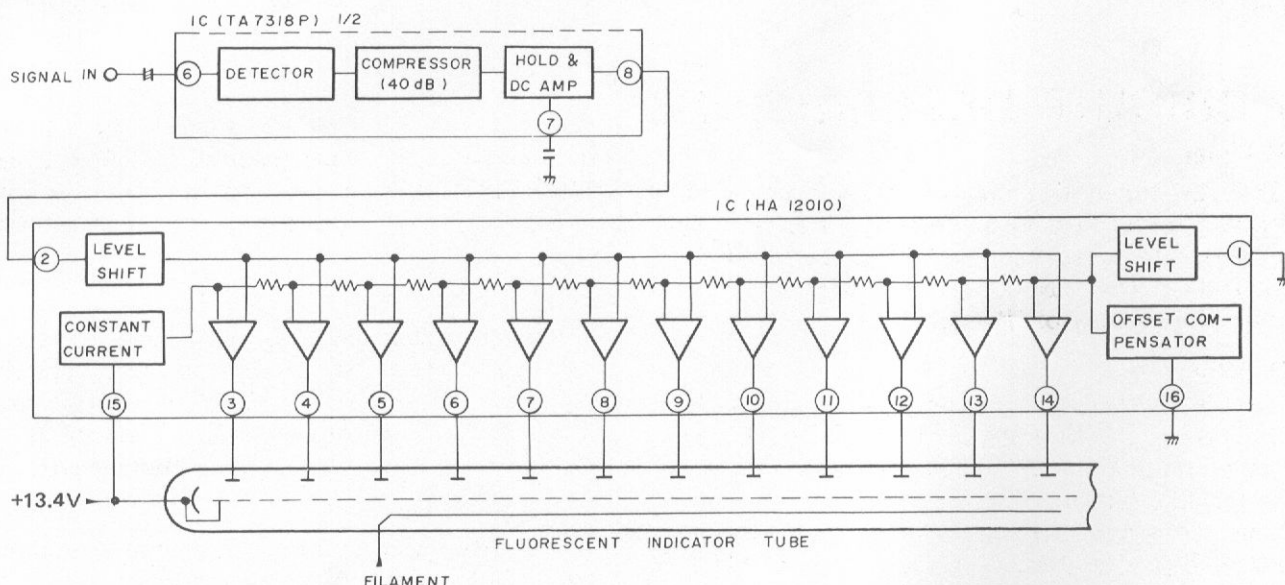


Fig. 4-1 Power indicator circuit

5. DISASSEMBLY

Side Board

Remove the two screws ① on each side board.

Top Plate

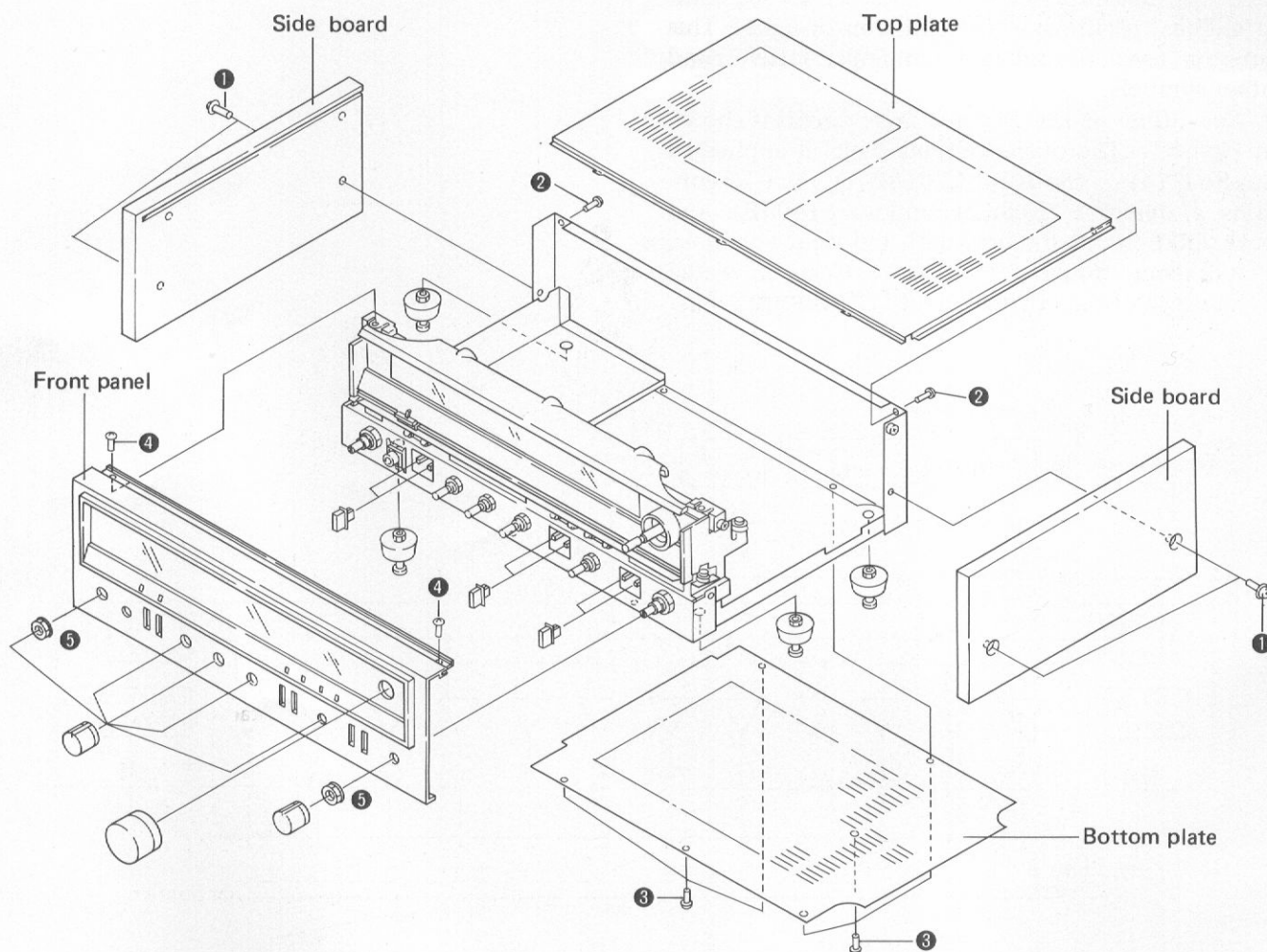
Remove the two screws ② from the rear panel.

Bottom Plate

Remove the six screws ③ to detach the bottom plate.

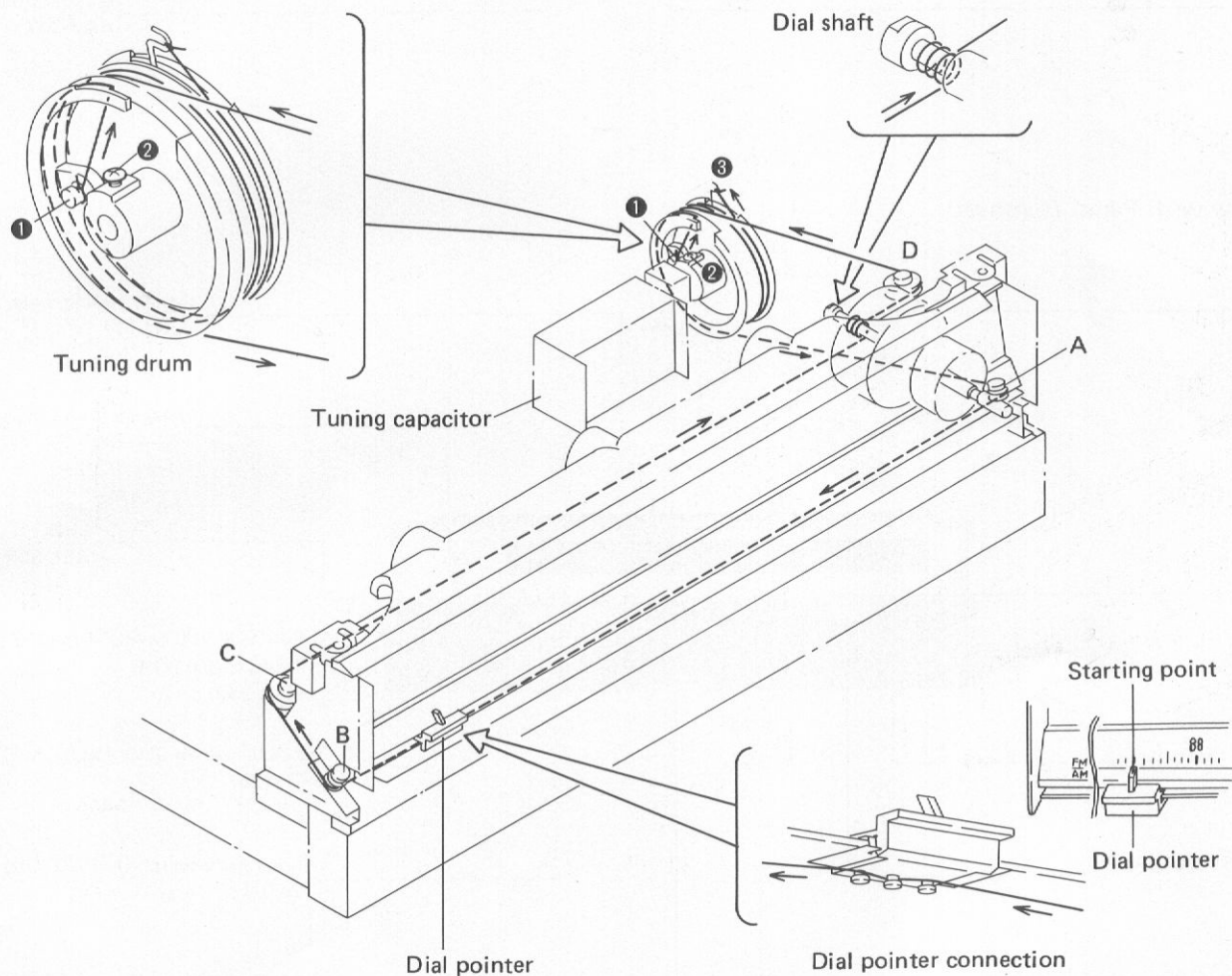
Front Panel

Remove the all control knobs. Remove the two screws ④ and two nuts ⑤ from the front panel.



6. DIAL CORD STRINGING

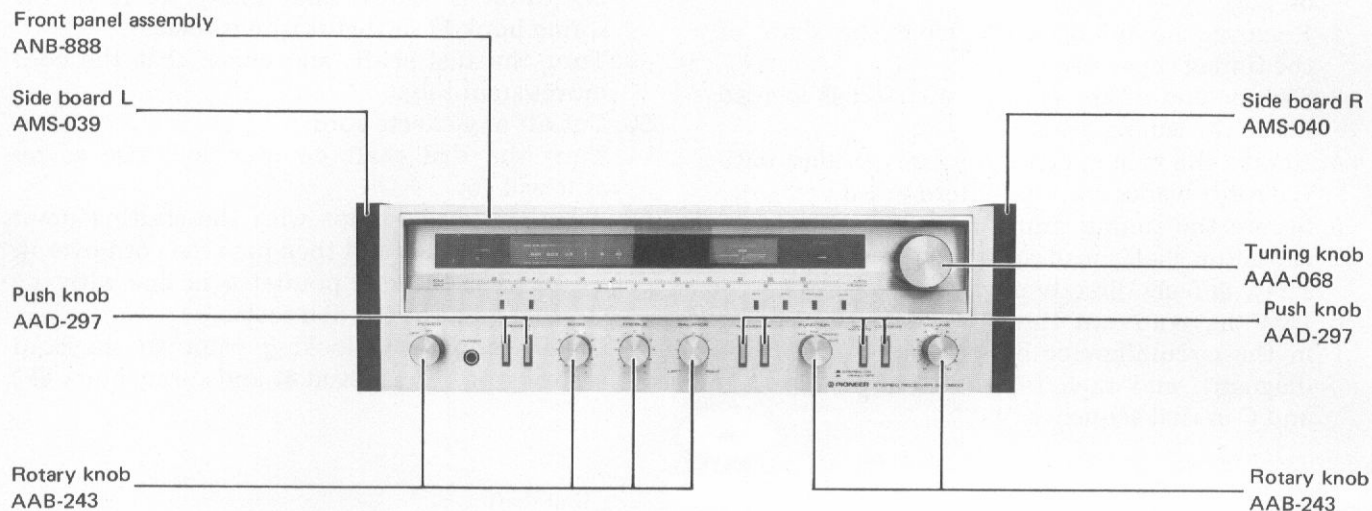
1. Remove the side board, top plate and front panel as described in the "Disassembly" section on page 8.
2. Remove the tuning drum from the shaft of the tuning capacitor.
3. Tie one end of the cord to the stud ❶ located inside the tuning drum.
4. Rotate the tuning capacitor right around until the rotor blades are fully intermeshed.
5. Secure the tuning drum back onto the tuning capacitor shaft, making sure that the securing screw ❷ faces directly upward.
6. Pass the cord out through the small opening in the circumference of the tuning drum (see diagram), and then take it over pulleys A,B and C in that sequence.
7. Wind the cord around the dial shaft 3 times.
8. Pass it over pulley D, wind it around the tuning drum 2 times, and finally tie it to the spring hook ❸ so that it is tensioned.
9. Turn the dial shaft, and check that the cord moves smoothly.
10. Cut off any excess cord.
11. Turn the dial shaft counter-clockwise as far as it will go.
12. Align the dial pointer with the starting point of the dial scale, and then pass the cord over it.
13. Check that the dial pointer is in line with the starting point of the dial scale.
14. Finally apply the locking paint to the cord securing positions (stud ❶ and spring hook ❸).



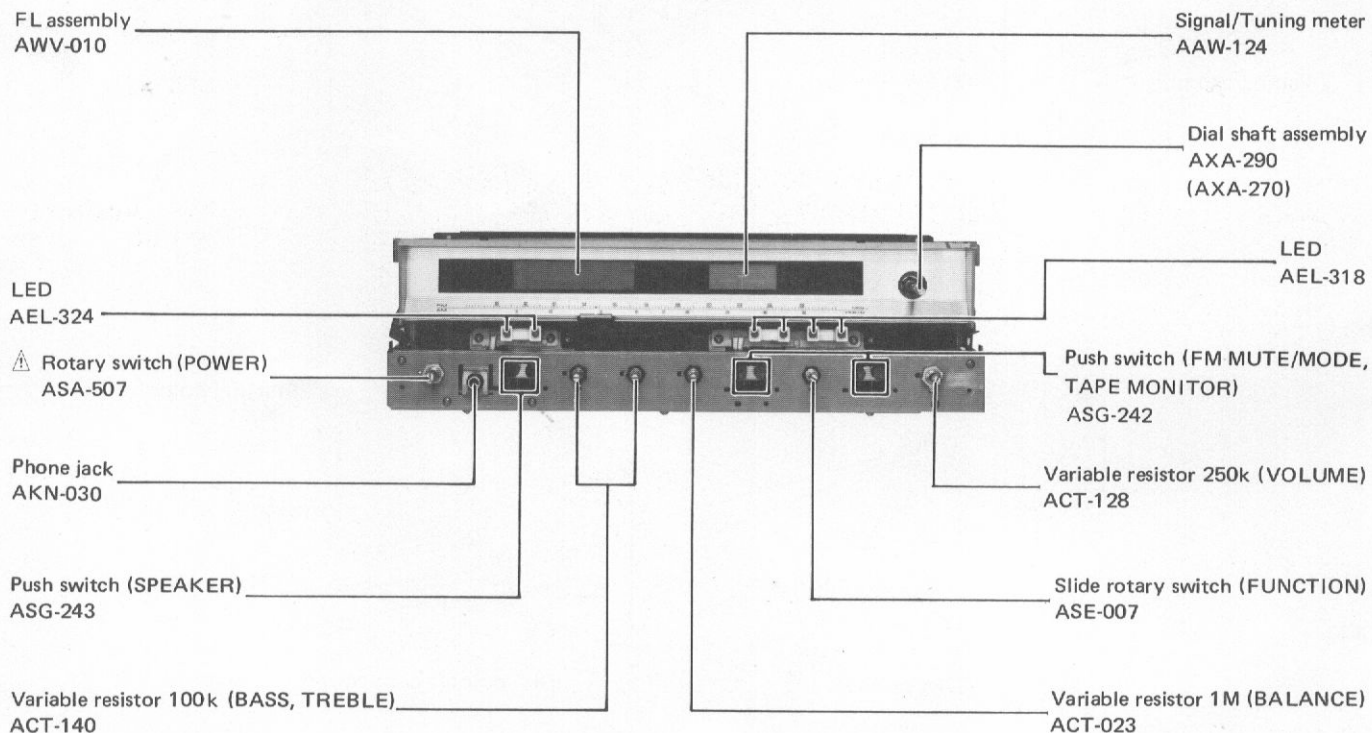
7. PARTS LOCATION

Front Panel View

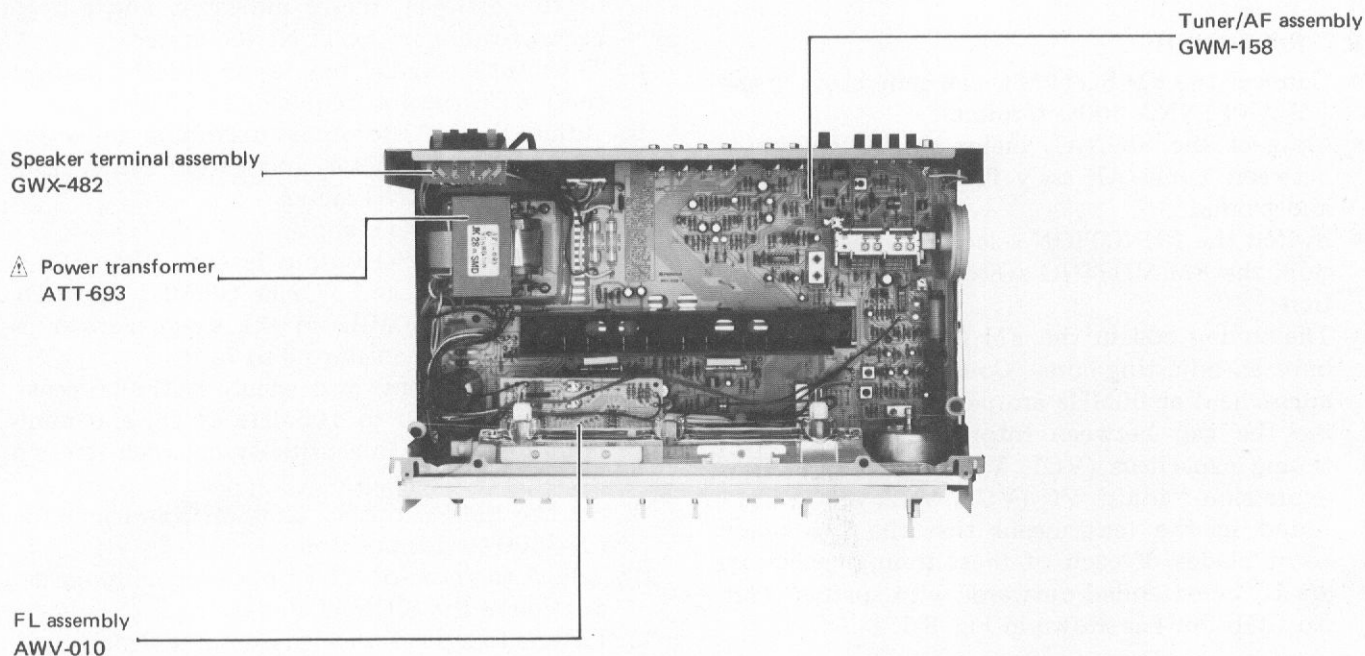
- The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.



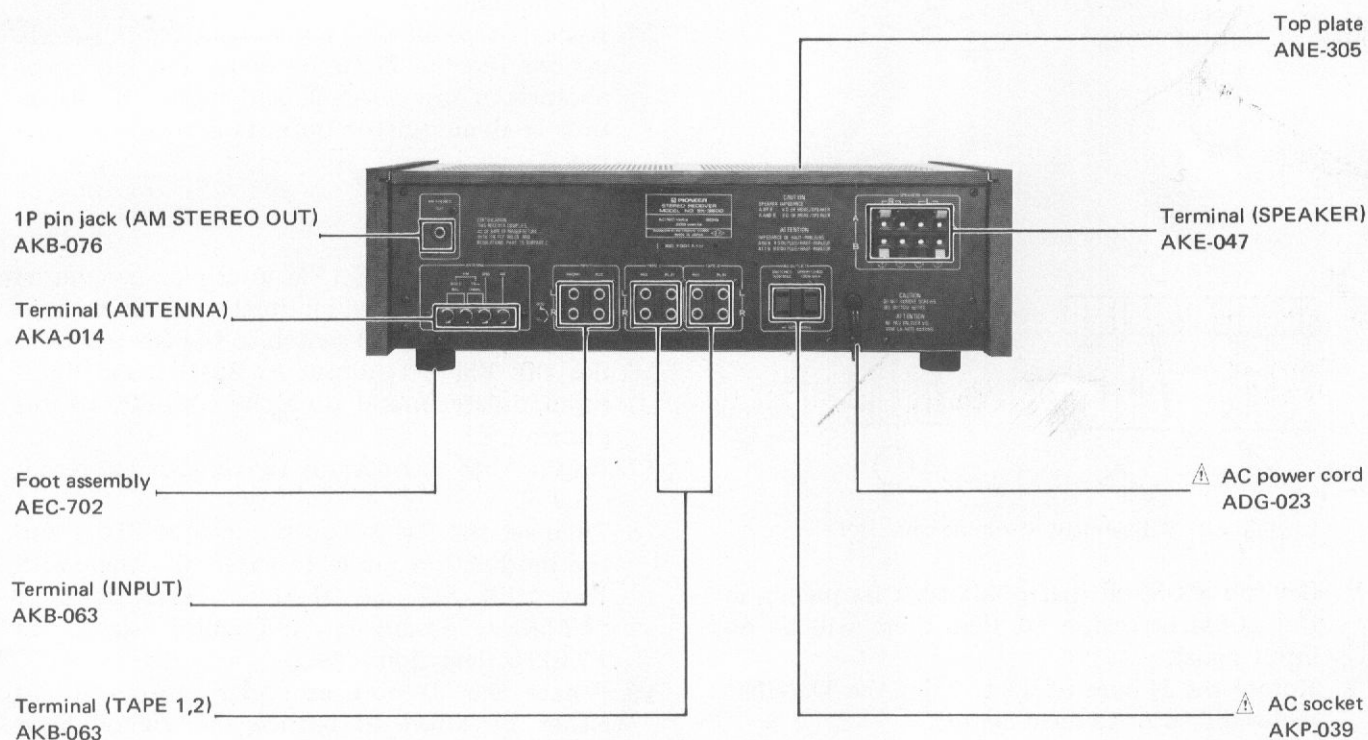
Front View with Panel Removed



Top View with Top plate Removed



Rear Panel View



8. ADJUSTMENTS

8.1 FM TUNER

- Connect the FM SG (FM signal generator) to the FM ANTENNA 300 Ω terminal.
- Connect the SIGNAL meter or DC voltmeter between Tuner/AF ass'y PA3001-A No. 13 pin and ground.
- Switch the FUNCTION selector to the FM position, the FM MUTING switch to the OFF position.
- The tuning coil in the FM front end does not have an adjusting core. Consequently, tracking adjustment at 90MHz are performed by regulating the gap between rotor and stator of the tuning capacitors (VC1, VC2, and VC3). The expression "adjust VC (VC1, VC2, and VC3)" found in the text means that the two outer rotor blades of each of these tuning capacitors are to be extended outwards with spatula (Part No GGK-066) as shown in Fig. 8-1.

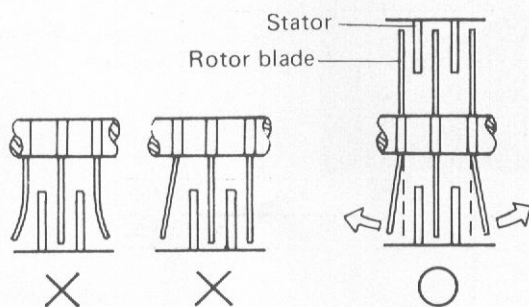
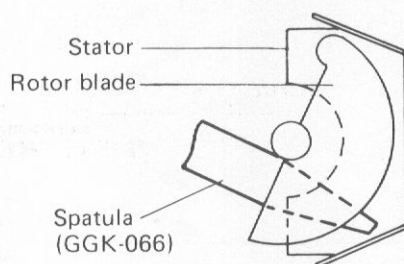


Fig. 8-1 Adjustment of tuning capacitor

1. Set the SX-3600 dial point to a frequency in the 106MHz region so that there will be no input signal.
2. Rotate the N core of T2 to bring the TUNING meter indicator to dead center.
3. Next tune more accurately to 106MHz, and set the FM SG output to 106MHz, 60 to 80dB (modulation-400Hz, ± 75 kHz deviation).

4. Adjust the TC3 to obtain maximum deflection of the SIGNAL meter indicator, and a dead center reading in the TUNING meter.
5. Then tune the dial pointer to 90MHz, and set the FM SG output frequency to 90MHz.
6. Adjust the VC3 to obtain maximum deflection in the SIGNAL meter, and a dead center reading in the TUNING meter.
7. Repeat steps 3 to 6 above.
8. Reset the FM SG output level to 20 – 30dB, and adjust TC1 and TC2 at 106MHz, and VC1 and VC2 at 90MHz in the same manner as described above in steps 3 to 7.
These adjustments will ensure optimum sensitivity in the 90 to 106MHz range, and minimum difference in sensitivity between the two extreme frequencies.
9. Set the FM SG output to 98MHz and tune the SX-3600 to this position.
10. Adjust the core of T1 to obtain maximum deflection in the SIGNAL meter.
11. Retune to a position with no input signal.
12. Rotate the N core of T2 again to set the TUNING meter indicator to dead center.
13. Set the FM SG output to 98MHz and 66dB, and tune the SX-3600 to this position.
14. Then rotate the D core of T2 to reduce distortion in the demodulator output (REC terminal) to a minimum.
15. Repeat steps 11 to 14 above until both specifications (center TUNING meter reading in the absence of input signal, and minimum distortion in demodulator output) are satisfactorily met.

Multiplex Decoder

- Connect the MPX SG (FM multiplex generator) to the FM SG external modulator terminal.
 - Set the FM MUTING switch to the ON position.
16. Set the FM SG output to 98MHz and 66dB (unmodulated), and tune the SX-3600 to this position.
 17. Adjust VR5 to obtain a 19kHz signal at terminal T.P.
 18. Then set the FM SG output level to 85dB, and the modulation mode to external. Then with the MPX SG, set Main to 1kHz, L+R to ± 67.5 kHz deviation, and pilot signal to ± 7.5 kHz deviation.
 19. Rotate the T1 core around by up to 90° in either direction to reduce the demodulator output distortion to a minimum.

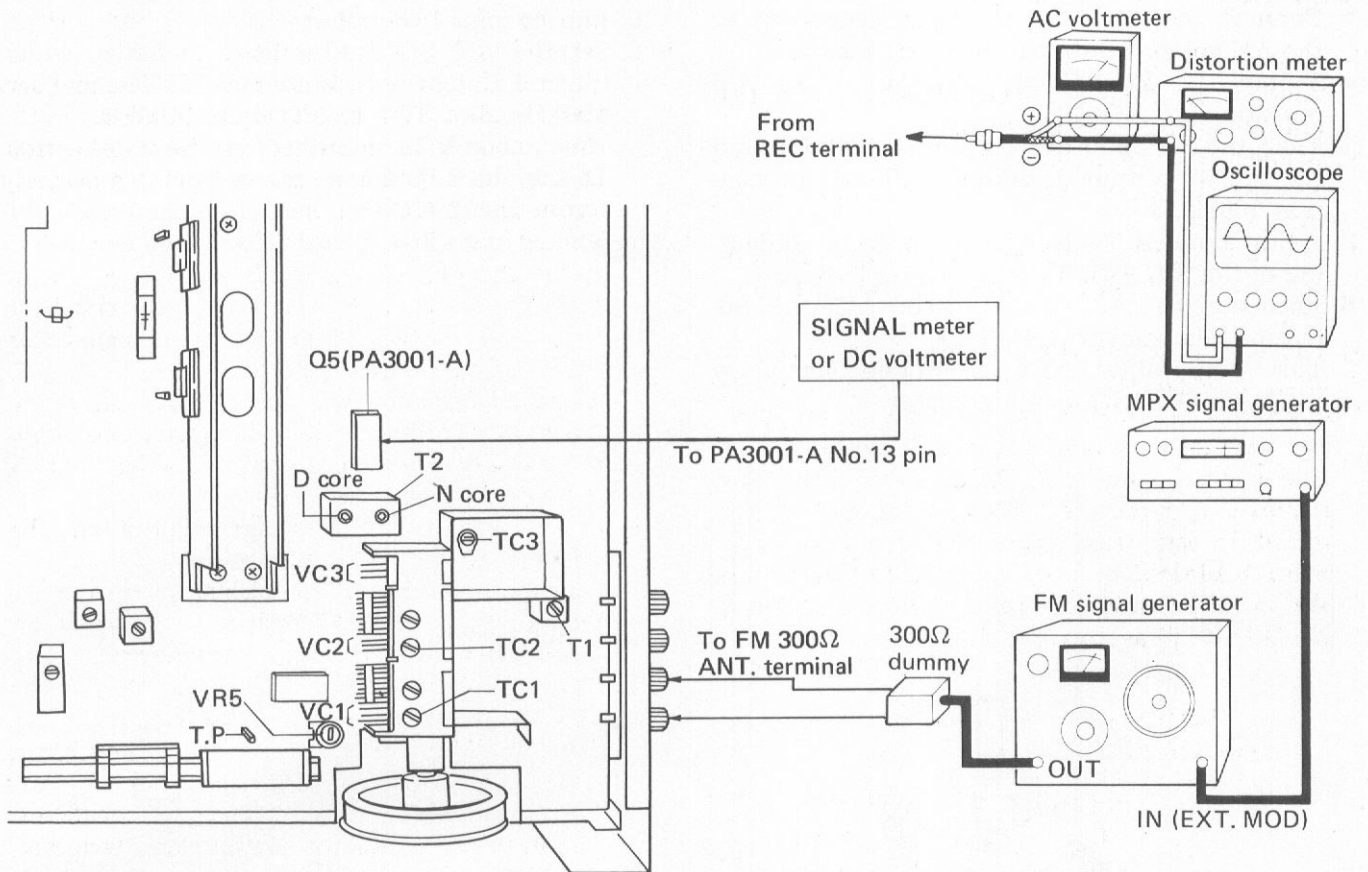


Fig. 8-2 Adjustment of FM tuner

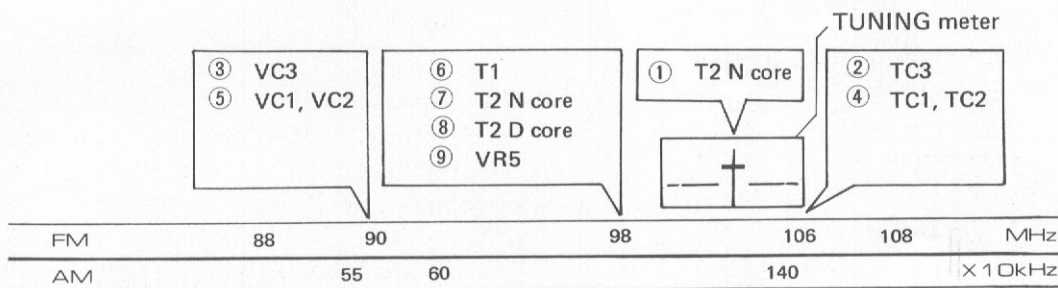


Fig. 8-3 Procedure and adjustment points

8.2 AM TUNER

- Connect the AM SG (AM signal generator) to the AM antenna terminal via a $1k\Omega$ resistor.
 - Switch the FUNCTION selector to the AM position.
1. Tune the SX-3600 dial pointer to 600kHz, and the AM SG output to 600kHz, 100dB (modulation 400Hz, 30%).
 2. Adjust core of T4 to obtain maximum deflection of the SIGNAL/TUNING meter indicator.
 3. Then tune to 1,400kHz, and also set the AM SG output frequency to 1,400kHz.
 4. This time adjust TC5 to obtain maximum SIGNAL/TUNING meter indicator.

5. Repeat steps 1 to 4 above.

6. Set the AM SG output level to 30dB, adjust the coil along the bar-antenna and T4 and T5 at 600kHz, and TC4 and TC5 at 1,400kHz, in the same manner as described in the above steps. This is the adjustment for optimum sensitivity across the frequency band, and minimum difference in sensitivity at different frequencies.

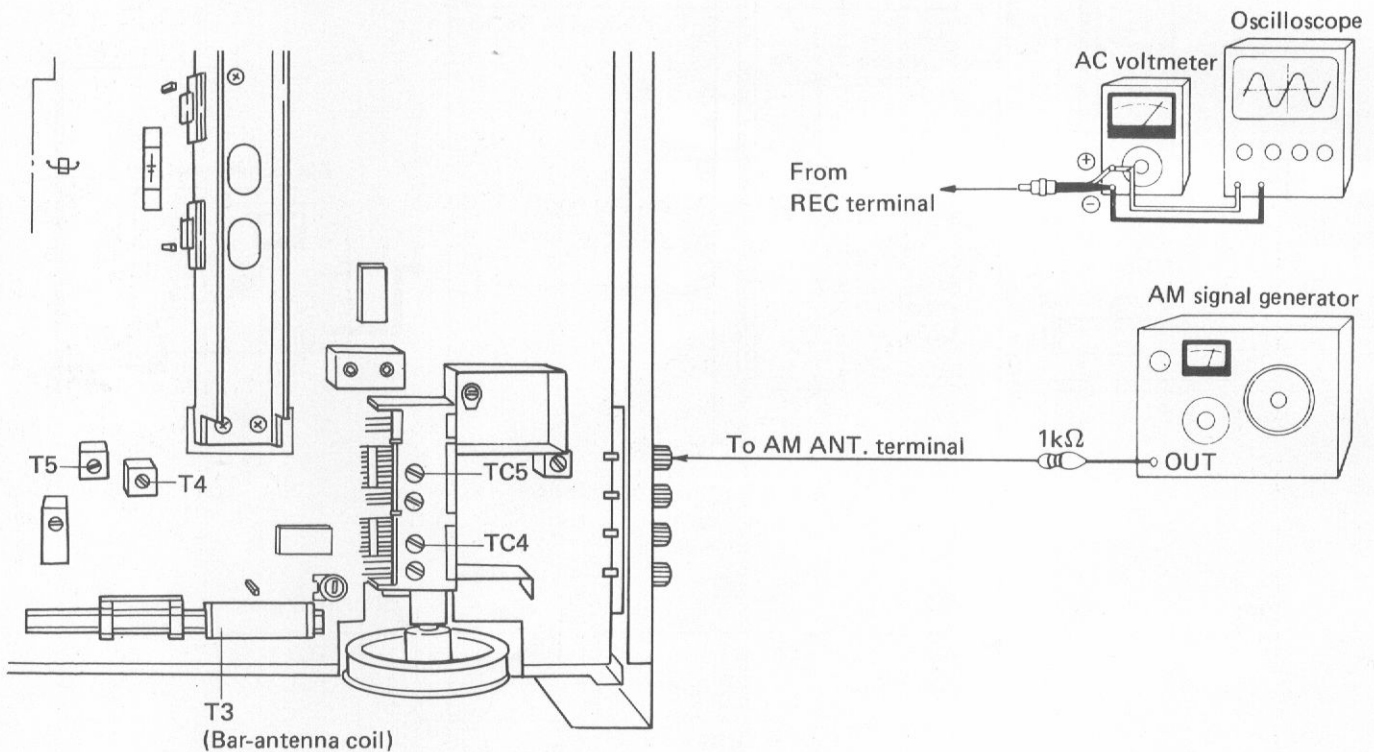


Fig. 8-4 Adjustment of AM tuner

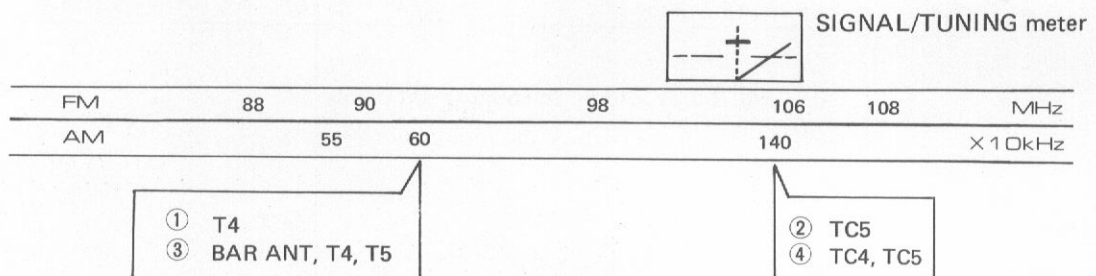


Fig. 8-5 Procedure and adjustment points

8.3 POWER AMPLIFIER

Idle Current Adjustment

1. Turn the VOLUME control down to minimum level, turn the power on, and wait about 10 minutes.
2. Connect a DC voltmeter to the TP terminals (L ch; T1 $\oplus$ and T2 $\ominus$, R ch; T3 $\oplus$ and T4 $\ominus$) of the GWM-158.
3. Check that the voltage between T1 and T2 (L ch) lies within the DC 10mV–100mV range. Then make a similar check for the R ch (between T3 and T4). If the voltage is less than 10mV, cut jumper A (L ch), and jumper B (R ch). If the voltage exceeds 100mV, check for circuit failure.

Output Indicator Adjustment

1. Set the tone control to the flat position.
2. Set the SPEAKERS selector to the A position, and connect an 8 Ω resistor and AC voltmeter to the SPEAKERS A terminals.
3. Set the FUNCTION switch to the AUX position, and apply a 1kHz, 150mV signal to the AUX input terminals.
4. Adjust the VOLUME control so that the voltage reads 12.6V (20W/AC).
5. Adjust the VR1 (L ch) and VR2 (R ch) of the FL Ass'y to the point where the 40W segment of the FL meter goes out.

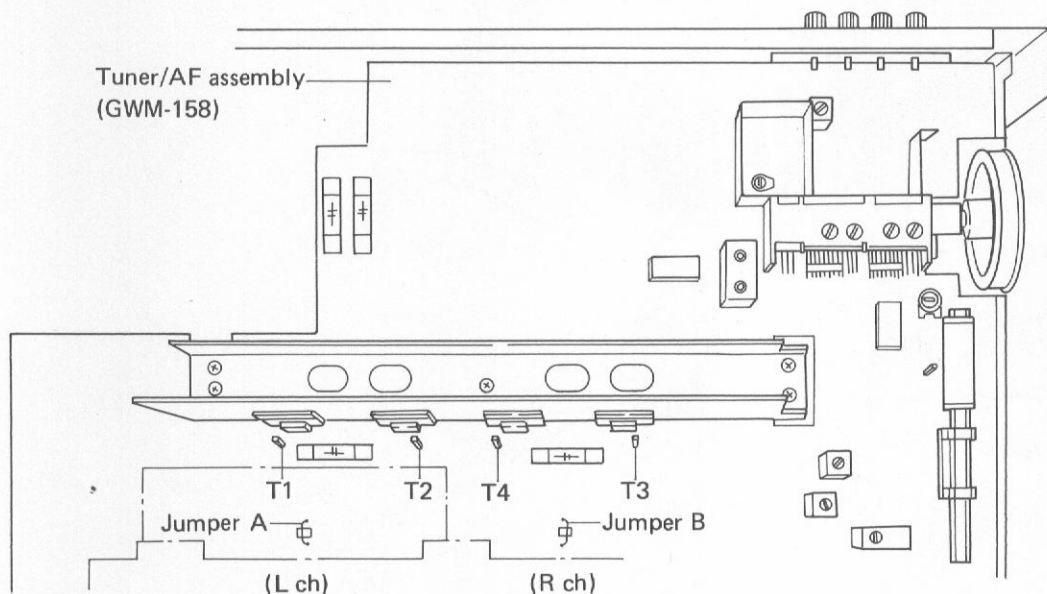


Fig. 8-6 Idle current adjustment

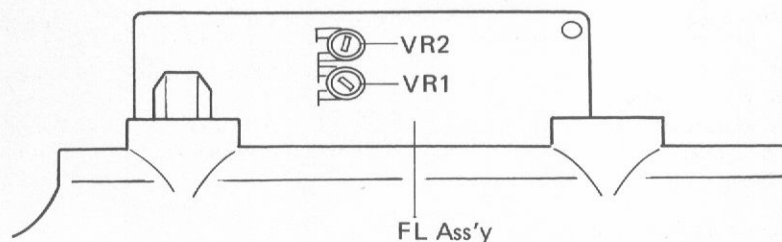
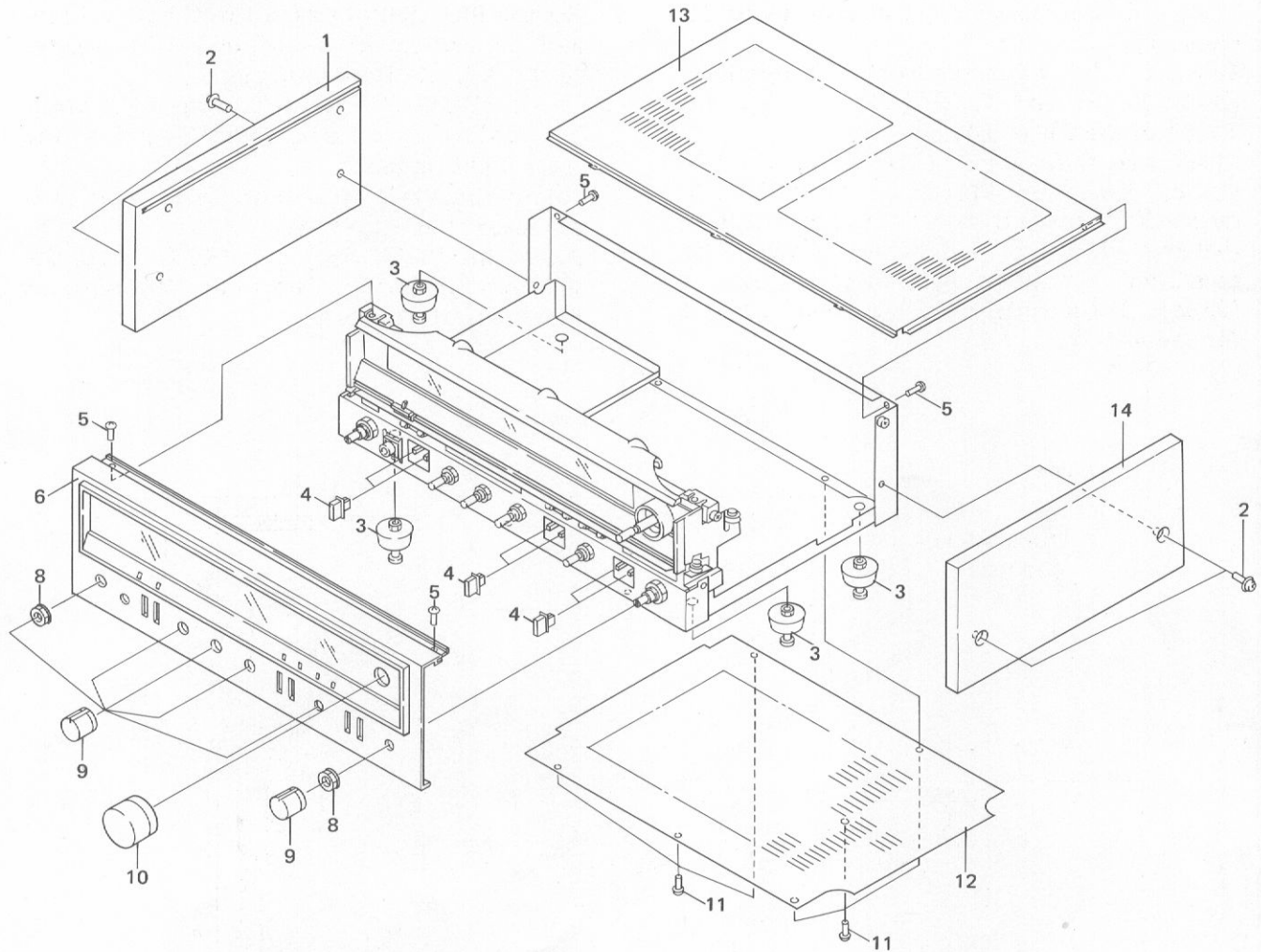


Fig. 8-7 Output indicator adjustment

9. EXPLODED VIEW

Exterior Components



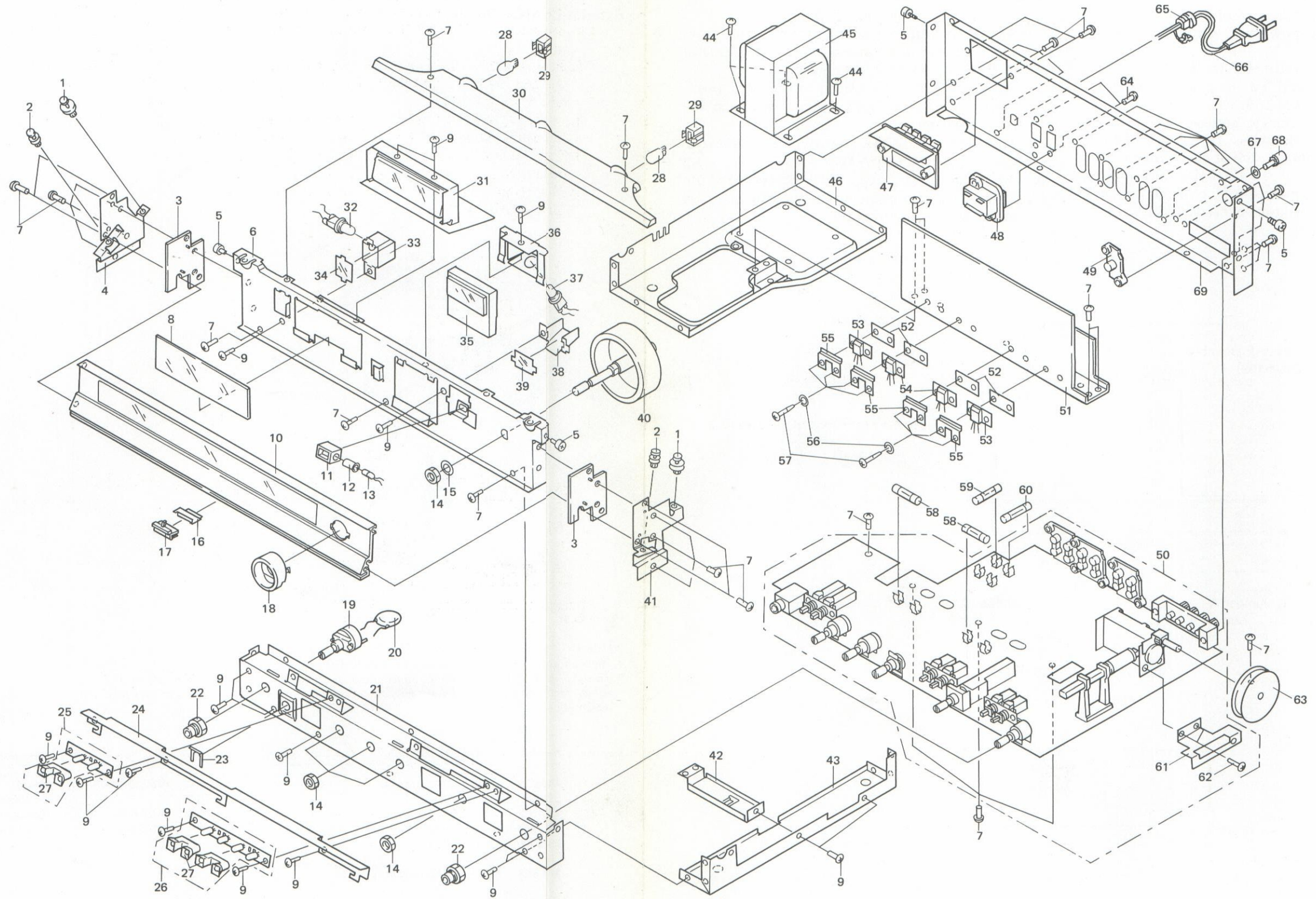
Parts List

NOTES:

- Parts without part number cannot be supplied.
- The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

Key No.	Part No.	Description	Key No.	Part No.	Description
1.	AMS-039	Side board L	11.	VBZ30P060FMC	Screw
2.	DCZ40P150FZK	Screw	12.		Bottom plate
3.	AEC-702	Foot assembly	13.	ANE-305	Top plate
4.	AAD-297	Push knob	14.	AMS-040	Side board R
5.	BBT30P080FZK	Screw			
6.	ANB-888	Front panel assembly			
7.					
8.	ABN-024	Nut M9			
9.	AAB-243	Rotary knob			
10.	AAA-068	Tuning knob			

Interior Components



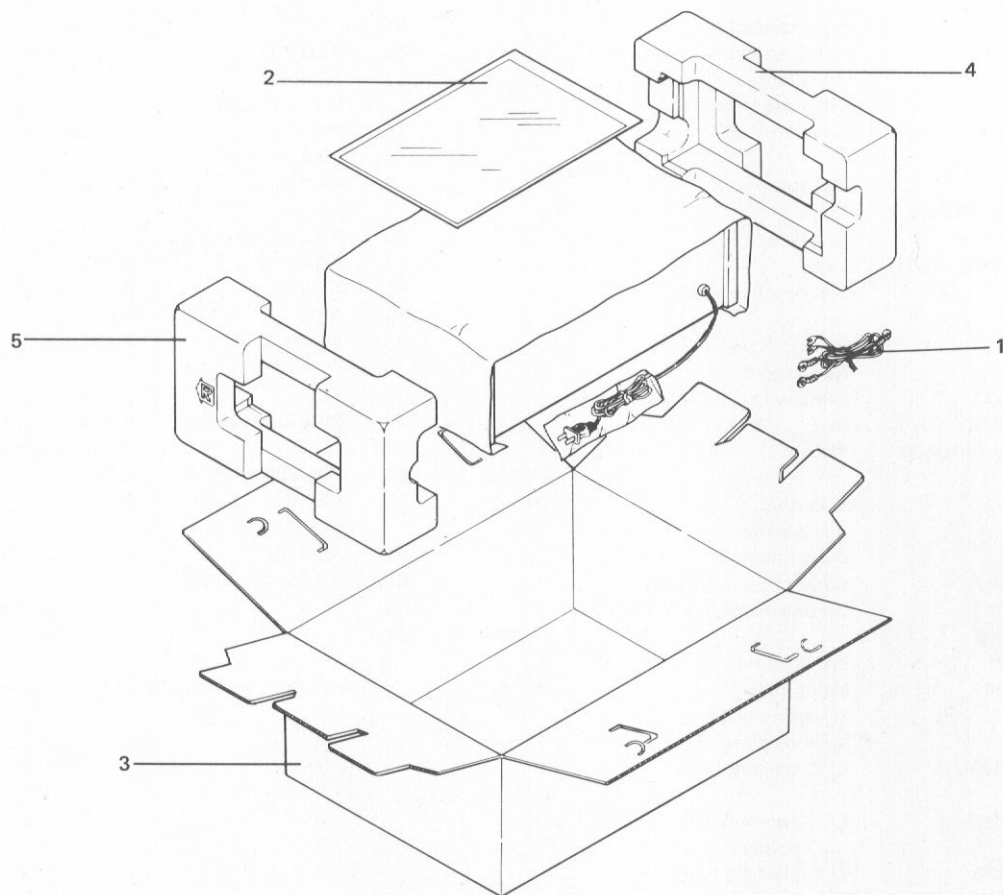
Parts List

Key No.	Part No.	Description
1.		Pulley assembly
2.		Pulley assembly (small)
3.		Side plate
4.		Dial scale holder L
5.	ABA-204	Screw (3 X 6)
6.		Dial stay
7.	BBT30P080FZK	Screw
8.		Acrylic plate
9.	VBZ30P060FMC	Screw
10.		Dial panel assembly
11.		Rubber B
12.		Lamp cap C
13.	AEL-075	Lamp with wire (8V, 50mA)
14.	NK90FUC	Nut
15.	WA92F140U100	Washer
16.		Smoother
17.		Dial pointer
18.		Shaft holder
⚠ 19.	ASA-507	Rotary switch (S 101)
⚠ 20.	ACG-017	Ceramic capacitor (0.01/125V)
21.		Front frame
22.	ABN-047	Union unit
23.		Mounting plate
24.		Masking plate
25.	GWX-484	LED assembly (B)
26.	GWX-483	LED assembly (A)
27.		LED holder
28.	AEL-029	Lamp (wedge type)
29.	AKK-005	Lamp socket
30.		Acrylic board
31.	AWV-010	FL assembly
32.	AEL-119	Wedge lamp assembly (8V, 300mA)
33.		Lamp holder
34.		PC plate B
35.	AAW-124	Signal/Tuning meter
36.		Meter holder
37.	AEL-119	Wedge lamp assembly (8V, 300mA)
38.		Lighting plate
39.		PC plate A
40.	AXA-290 (AXA-270)	Dial shaft assembly
41.		Dial scale holder R
42.		Heat sink holder
43.		Right frame
44.	WTZ40P080FMC	Screw
⚠ 45.	ATT-693	Power transformer
46.		Transformer frame
47.	GWX-482	SP terminal assembly
⚠ 48.	AKP-039	AC socket
49.	AKB-076	1P pin jack
50.	GWM-158	Tuner/AF assembly

Key No.	Part No.	Description
51.		Heat sink
52.	AEC-288	Mica wafer
53.	*2SD883A-Q (2SD883A-R)	Transistor
54.	*2SB773A-Q (2SB773A-R)	Transistor
55.	AKH-008	Spacer
56.	WS35F065M100	Washer
57.	ABA-187	Screw
⚠ 58.	AEK109	Fuse (6A)
⚠ 59.	AEK-101	Fuse (3A)
⚠ 60.	AEK-100	Fuse (4A)
61.		Holder
62.	PMZ30P040FMC	Screw
63.		Tuning drum assembly
64.	MTZ30P100FZK	Screw
65.	AEC-327	Strain relief
⚠ 66.	ADG-023	AC power cord
67.	WA35F100N080	Washer
68.		Ground terminal
69.		Rear panel

*hfe of 2SD883A and 2SB773A should have of same value.

10. PACKING

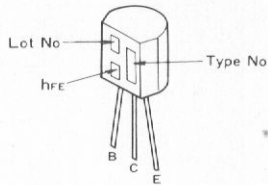


Key No.	Part No.	Description
1.	ADH-004	T-type FM antenna
2.	ARB-361	Operating instructions
3.	AHD-768	Packing case
4.	AHA-197	Side pad L
5.	AHA-198	Side pad R

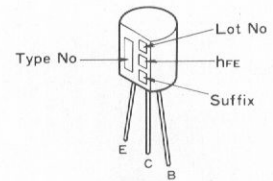
11. SCHEMATIC DIAGRAM,P.C.BOARDS CONNECTION DIAGRAM AND PARTS LIST

External Appearance of Transistors and ICs

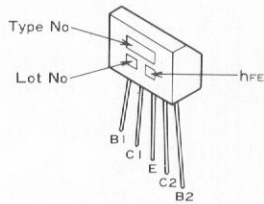
2SA 726S



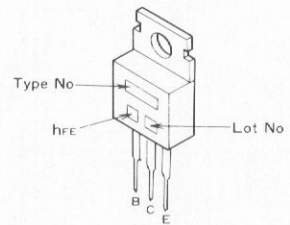
2SC945A
2SC1775A



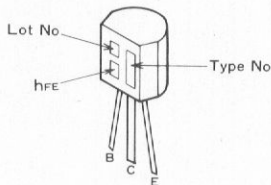
2SA798



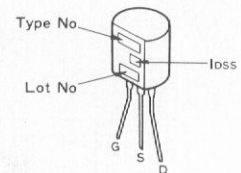
2SCD313
2SD880



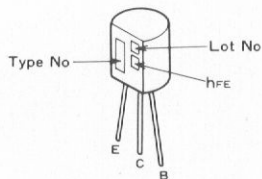
2SA850
2SC1735



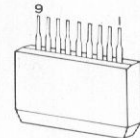
2SK168



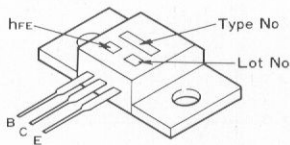
2SA750



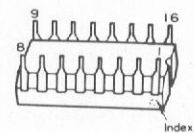
TA7318P-A



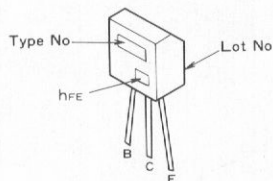
2SB773A
2SD883A



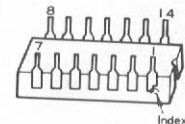
HA12010
PA3001-A



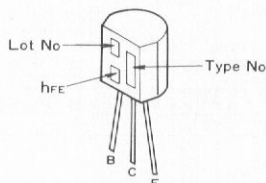
2SC461
2SC535



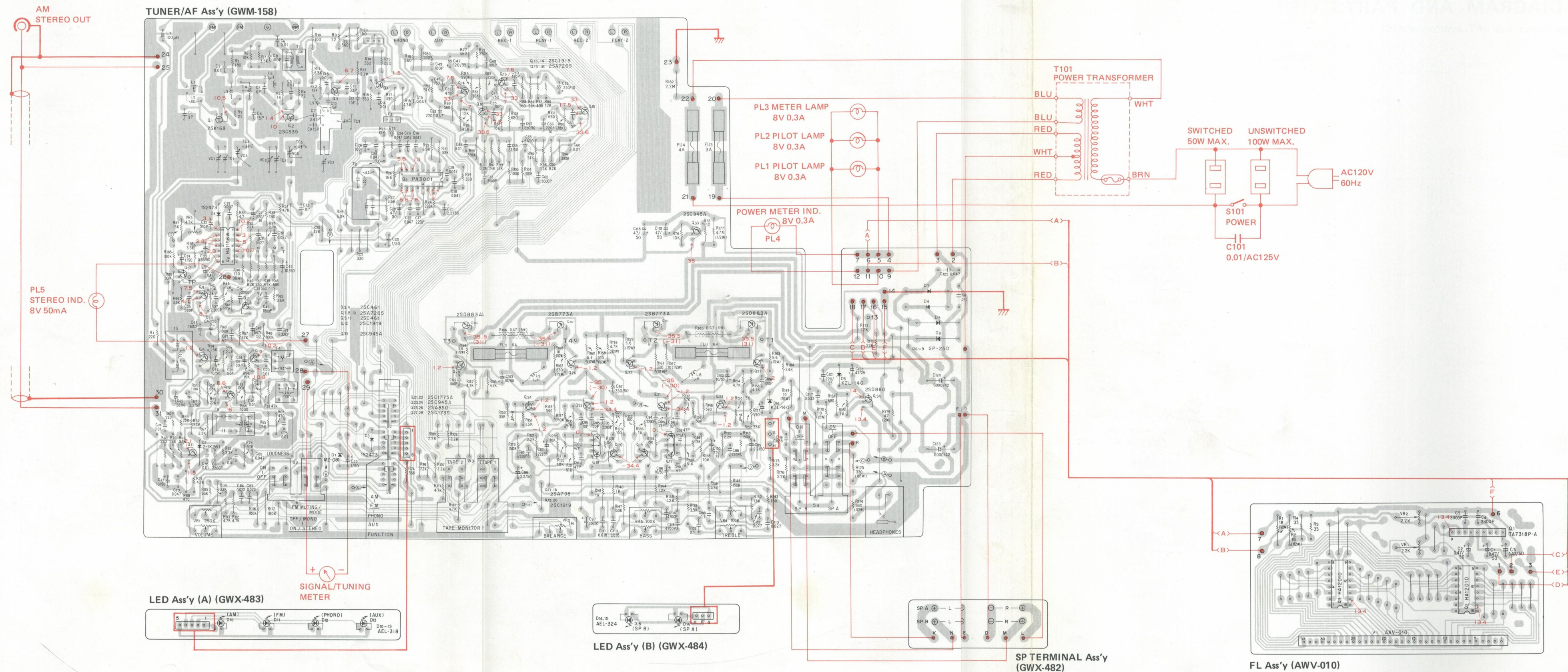
HA1156W-P



2SC1919



11.2 P.C. BOARDS CONNECTION DIAGRAM



11.3 PARTS LIST

NOTES:

- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω — 56 × 10¹ — 561 RD¼PS 561 J

47kΩ — 47 × 10³ — 473 RD¼PS 473 J

0.5Ω — 0R5 RN2H 0R5 K

1Ω — 010 RS1P 010 K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ 562 × 10¹ 5621 RN¼SR 5621 F

- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

Miscellaneous Parts

SEMICONDUCTORS

Part No.	Symbol & Description
2SB773A-Q (2SB773A-R)	Q301, Q302
2SD883A-Q (2SD883A-R)	Q303, Q304

*hfe of Q301—Q304 should have of same value.

FUSES

Part No.	Symbol & Description
Δ AEK-109	FU1, FU2 6A
Δ AEK-101	FU3 3A
Δ AEK-100	FU4 4A

LAMPS

Part No.	Symbol & Description
AEL-029	PL1, PL2 Lamp (wedge type)
AEL-119	PL3, PL4 Wedge lamp assembly
AEL-075	PL 5 Lamp with wire

P.C. BOARD ASSEMBLIES

Part No.	Symbol & Description
GWM-158	Tuner/AF assembly
GWX-482	SP terminal assembly
GWX-483	LED assembly (A)
GWX-484	LED assembly (B)
AWV-010	FL assembly

OTHERS

Part No.	Symbol & Description
Δ ATT-693	T101 Power transformer
Δ ASK-507	S101 Rotary switch (POWER)
Δ ACG-017	C101 Ceramic capacitor (0.01/125V)
Δ AKP-039	AC socket
AKK-005	Lamp socket
Δ ADG-023	AC power cord
AKB-076	1 P pin jack
AAW-124	Signal/Tuning meter

Tuner/AF Assembly (GWM-158)

SWITCHES

Part No.	Symbol & Description
ASE-007	S1 Slide rotary (FUNCTION)
ASG-242	S2,S3 Push (FM MUTE/MODE, TAPE MONITOR)
ASG-243	S4 Push (SPEAKER)

COILS AND TRANSFORMERS

Part No.	Symbol & Description
ATE-008	T1 FM matching transformer
ATE-043	T2 FM detector transformer
ATB-622	T3 Bar antenna assembly
ATB-066	T4 AM oscillator transformer
ATB-069	T5 AM IF coil
ATF-053	F1,F2 FM ceramic filter
ATF-084	F3 AM ceramic filter
T24-028	L6 RF choke coil

CAPACITORS

Part No.	Symbol & Description
ACK-012	VC1 Variable capacitor
ACM-006	TC3 Ceramic trimmer
CCDUJ 090D 50	C1
ACG-009	C125, C126 Ceramic 0.047/150V
ACH-224	C123, C124 Electrolytic 8000/42V
CEANL R33M 50	C33
CEANL R47M 50	C35
CEANL 010M 50	C34, C45, C46, C58, C59
CEANL 2R2M 50	C85, C86
CEANL 100M 50	C96, C97
CEA 100M 50L	C42
CEA R47M 50L	C43, C44
CEA 010M 50L	C20, C72, C127
CEA 2R2M 50L	C21, C67
CEA 4R7M 50L	C28
CEA 100M 50L	C64, C66, C77, C102, C103
CEA 220M 25L	C100, C101
CEA 330M 16L	C65
CEA 470M 25L	C120
CEA 470M 50L	C118, C119
CEA 101M 10L	C26
CEA 221M 10L	C52, C53, C56, C57
CEA 221M 16L	C27
CEA 221M 35L	C47, C121
CEA 331M 50L	C87
CGB R47K 500	C7
CQMA 302J 50	C62, C63
CQSH 331K 50	C71
CQSH 511J 50	C32
CQMA 103J 50	C60, C61
CQMA 183K 50	C110, C111
CQMA 104K 50	C108, C109
CQMA 273K 50	C112, C113
CQMA 333K 50	C116, C117
CCDUJ 150J 50	C4
CCDSL 060D 50	C3
CCDRH 150J 50	C9
CCDCH 080D 50	C10
CCDCH 150J 50	C12
CCDCH 330J 50	C11
CCDSL 101J 50	C8, C48, C49
CCDSL 221J 50	C17, C88, C89
CCDSL 100D 50	C54, C55, C98, C99
△ CCDSL 101K 500	C106, C107
CCDSL 470J 50	C69, C90—C93
CCDXL 080D 50	C73
△ CCDSL 220K 500	C104, C105
CKDYB 472K 50	C114, C115
CKDYF 223Z 50	C83, C84
CKDYX 273M 25	C30, C31
CKDYB 561K 50	C38, C39
CKDYB 182K 50	C40, C41

Part No.	Symbol & Description
CKDYB 222K 50	C36, C37, C80, C94, C95
CKDYB 471K 50	C50, C51
CKDYF 103Z 50	C2, C5, C6, C13, C14, C68, C70, C74—C76, C78, C81

CKDYF 473Z 50	C15, C16, C18, C19, C22, C23—C25, C29, C79, C82
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Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

RESISTORS

Part No.	Symbol & Description
ACT-128	VR1 Variable 250k (VOLUME)
ACT-023	VR2 Variable 1M (BALANCE)
ACT-140	VR3, VR4 Variable 100k (BASS, TREBLE)
ACP-079	VR5 Semi-fixed
ACN-114	R165, R166 Wire wound
△ ACN-029	R182 Carbon compositions
RD1/4PM□□□J	R1—R29, R31—R35, R38—R74, R76—R80, R85—R157, R171, R172, R175, R176, R181, R183, R185, R186
RD1/2PS□□□J	R36, R167—R170, R173, R174, R177, R178
△ RD1/4PMF□□□J	R75, R180
△ RD1/2PSF□□□J	R158—R164
△ RS2P□□□J	R179
RN1/4PQ□□□□F	R37
RD1/4PM□□□JNL	R81—R84

SEMICONDUCTORS

Part No.	Symbol & Description
2SK168	Q1
2SC535	Q2
2SC461	Q3, Q4, Q9, Q11
2SA726S (2SA750)	Q7, Q8, Q10, Q15, Q16
2SC1919	Q12—Q14, Q19, Q20
2SA798	Q17, Q18
2SC1775A	Q21, Q22
2SC945A	Q23, Q24, Q33, Q35
2SA850-D (2SA850-C)	Q25, Q26
2SC1735-D (2SC1735-C)	Q27, Q28
2SD880 (2SD313)	Q34
*hfe of Q25—Q28 should have of same value.	
PA3001-A	Q5
HA1156W-P	Q6

Part No.	Symbol & Description
MZ-081	D1
2-1K261	D2
1S2473	D3, D4
(1S2076)	
⚠ GP-25D	D6—D9
KZL-140	D5, D16

OTHERS

Part No.	Symbol & Description
PMZ30P040FMC	Screw

TERMINALS

Part No.	Symbol & Description
AKN-030	Phone jack
AKA-014	Terminal (ANTENNA)
AKB-063	Terminal (L type 4P)

LED Assembly (A) (GWX-483)

Part No.	Symbol & Description
AEL-318	D10—D13 LED

LED Assembly (B) (GWX-484)

Part No.	Symbol & Description
AEL-324	D14, D15 LED

SP Terminal Assembly (GWX-482)

Part No.	Symbol & Description
AKE-047	Terminal (SPEAKERS)

FL Assembly (AWV-010)

CAPACITORS

Part No.	Symbol & Description
CEA R47M 50L	C1, C2, C3
CKDYF 332Z 50	C4, C5

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

RESISTORS

Part No.	Symbol & Description
ACP-078	VR1, VR2 Semi-fixed
⚠ RD1/2PSF□□□J	R1, R2
RD1/4PM□□□J	R3, R4

SEMICONDUCTORS

Part No.	Symbol & Description
TA7318P-A	Q1
HA12010	Q2, Q3

OTHERS

Part No.	Symbol & Description
AAV-010	V1 Fluorescent indicator tube
VBZ30P060FMC	Screw

ADDITIONAL



Service Manual

STEREO RECEIVER

SX-720 KU

- The basic performance of the SX-720/KU are the same as the SX-3600/KU. The only difference is in appearance.
This additional service manual is applicable to the SX-720/KU. Please refer to the SX-3600/KU service manual with exception of this supplements.

1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- The mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

ASSEMBLY, PACKING AND FURNISHED PARTS

Symbol	Description	Part No.		Remarks
		SX-3600/KU	SX-720/KU	
R301	FL assembly	AWV-010	AWV-014	
	Front panel assembly	ANB-888	ANB-912	
	Signal/Tuning meter	AAW-124	AAW-129	
	Resistor		PS2P221J	
	Operating instructions	ARB-361	ARB-370	
	Packing case	AHD-768	AHD-783	

FL Assembly

Symbol	Description	Part No.		Remarks
		SX-3600/KU	SX-720/KU	
D1,D2	Diode		LZ-018	
C6	Capacitor		CEA 470M 35L	
R5	Resistor		RD1/4 PM101J	

2. SCHEMATIC DIAGRAM,P.C.BOARD PATTERN

FL ASSEMBLY (AWV-014)

