

Fig. 3-2 Fm I-f alignment setup

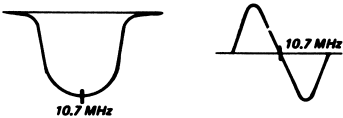


Fig. 3-3

Fig. 3-4

Adjustment Item	Sweep/Marker Generator Coupling	Sweep/Marker Generator Frequency	Oscilloscope Connection	Adjust	Remarks
FM I-f	See Fig. 3-1 and Fig. 3-2	10.7 MHz	MPX OUT jack	IFT F1 IFT F2 IFT F3 IFT F4 IFT F5 IFT F6 IFT F7	Band selector: FM AFC switch: OFF Adjust for maximum amplitude and symmetrical "S" curve on the scope.
VHF WB I-f	- ditto -	- ditto -	- ditto -	IFT101	Band selector: VHF WB Adjust for maximum amplitude on the oscilloscope.

2. Am I-f Alignment

Rf Signal Generator Coupling	Rf Signal Generator Frequency	VTVM Connection	Adjust	Remarks
Loop antenna See Fig. 3-5	455 kHz	MPX OUT jack	CFT A1	Band selector: AM Dial shaft: fully clockwise position Adjust for maximum meter reading.

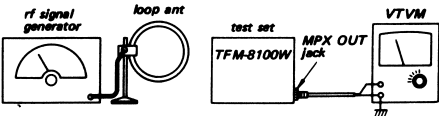


Fig. 3-5 A-m i-f alignment, frequency coverage and tracking adjustment setup

3-2. FREQUENCY COVERAGE AND TRACKING ADJUSTMENT

Preparation: VTVM Connection: To MPX OUT jack
Modulation: FM 400 Hz ± 22.5 kHz frequency-modulated signal
AM 1 kHz 30% amplitude-modulated signal

Adjustment	Rf Signal Generator Coupling	Rf Signal Generator Frequency	Receiver Dial Setting	Adjust	Remarks
FM Frequency Coverage	Telescopic antenna lead (See Fig. 3-6 and Fig. 3-7)	85.5 MHz	Fully downward	FM osc coil L04	Band selector: FM AFC switch: OFF
		109.5 MHz	Fully upward	FM osc trimmer CT2	
FM Tracking		85.5 MHz	Tune to 85.5-MHz signal	FM rf coil L03	Adjust for maximum meter reading on VTVM.
		109.5 MHz	Tune to 109.5-MHz signal	FM rf trimmer CT1	
AM Frequency Coverage	Loop antenna (See Fig. 3-5)	520 kHz	Fully downward	AM osc coil L07	Band selector: AM
		1,680 kHz	Fully upward	AM osc trimmer CT4	
AM Tracking		620 kHz	Tune to 620-kHz signal	AM ant coil L06	Adjust for maximum meter reading on VTVM.
		1,400 kHz	Tune to 1,400-kHz signal	AM ant trimmer CT3	
VHF WB	Telescopic antenna lead (See Fig. 3-6 and Fig. 3-7)	162.55 MHz		VHF WB ant coil L101 VHF WB rf coil L102 VHF WB tripler coil-1 L103 VHF WB tripler coil-2 L104 VHF WB osc coil L107	Band selector: VHF WB Adjust for maximum meter reading on VTVM.

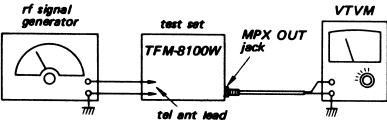


Fig. 3-6 Fm frequency coverage and tracking adjustment setup

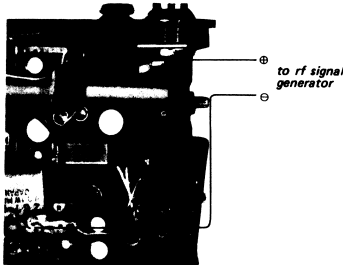
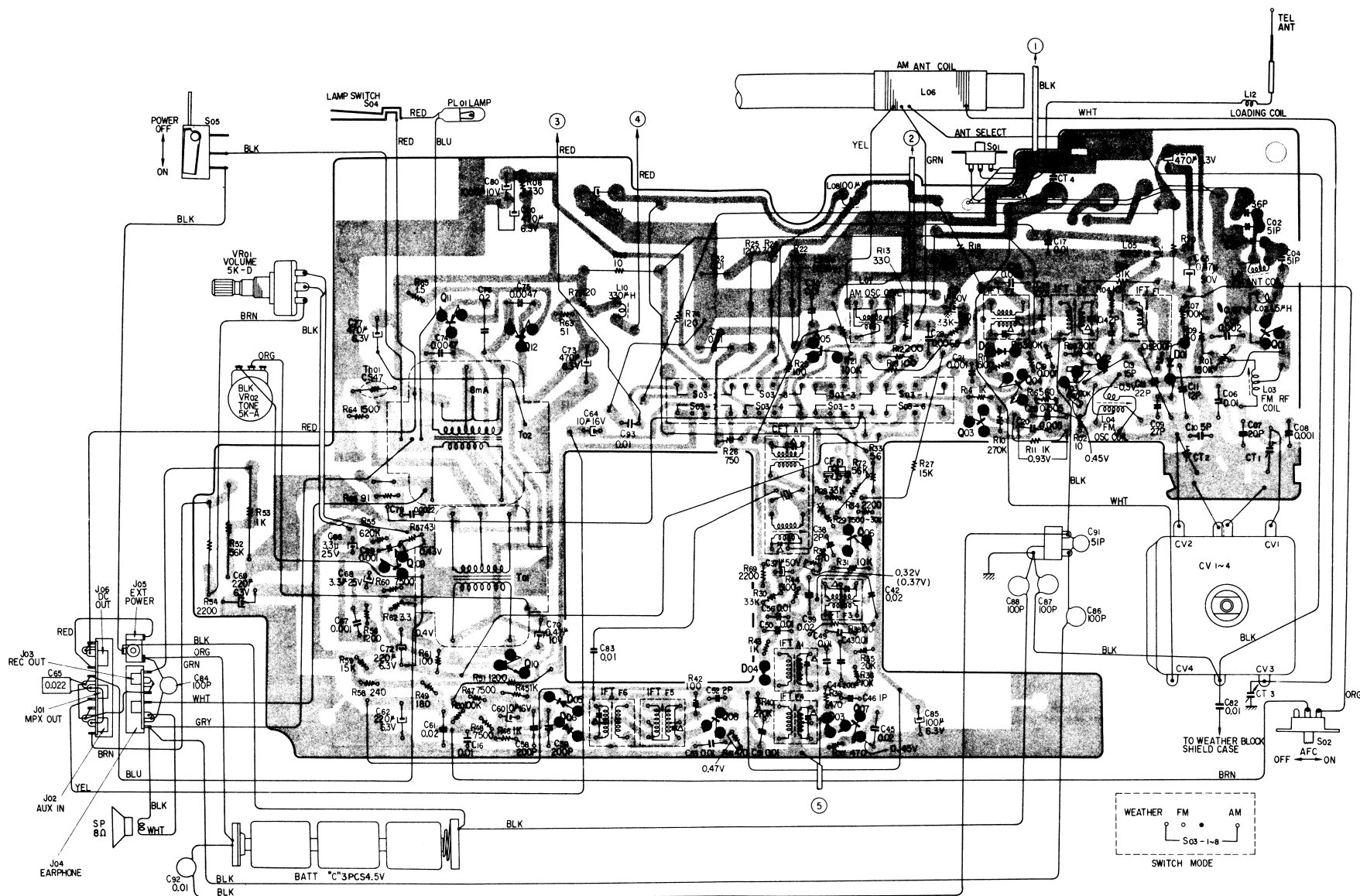
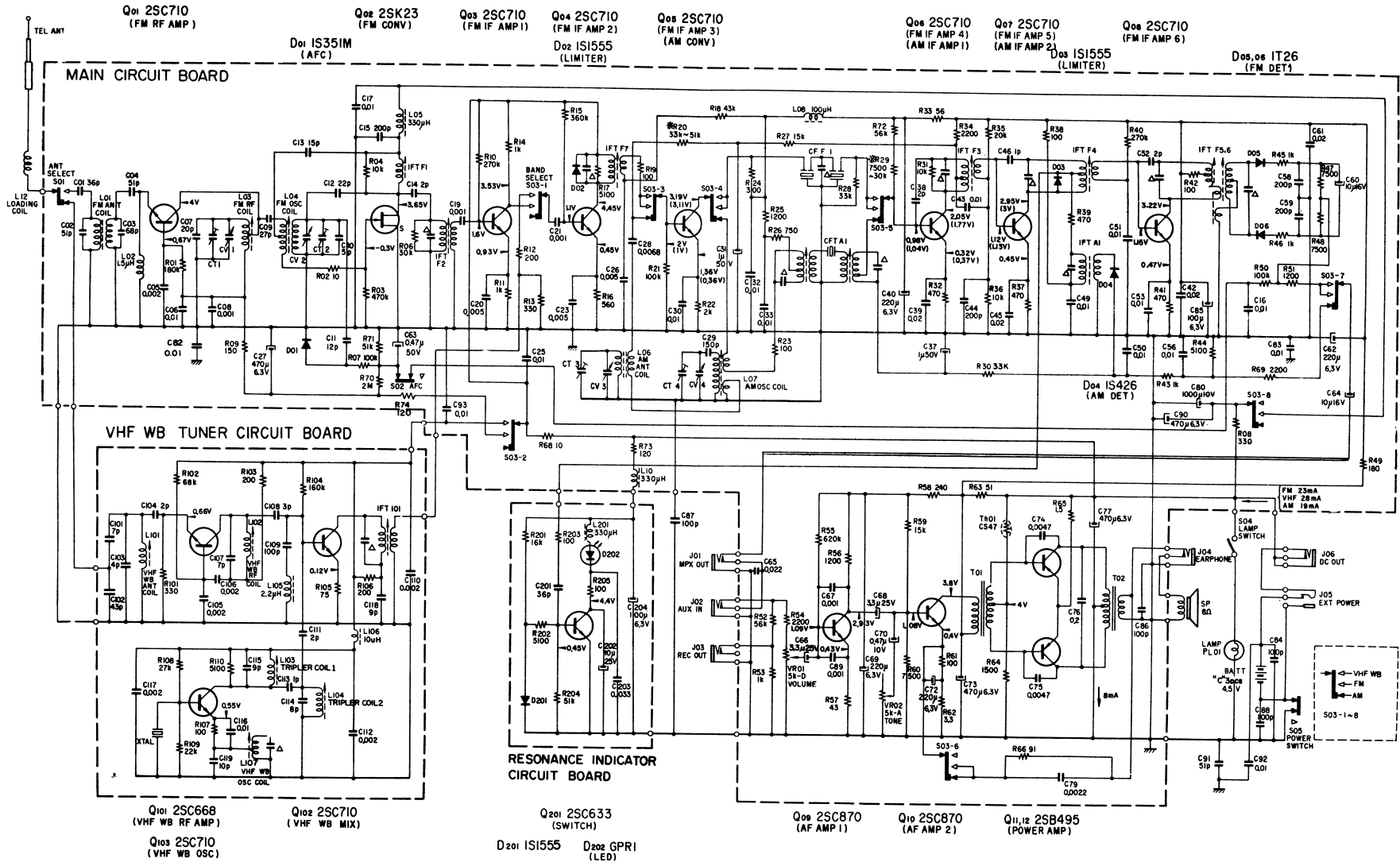


Fig. 3-7 Rf signal generator coupling

**Note:**

1. Printed circuit board, Parts No. 1-539-652-12
2. The following parts are mounted on the conductor side; C42, C75, C89, C90 and R74.
3. * shows grounding to shield case or case of i-f transformers.
4. Capacitors marked Δ are built in i-f transformers or ceramic filters.
5. The symbol \otimes indicates a component whose value is selected to yield specified operating condition.

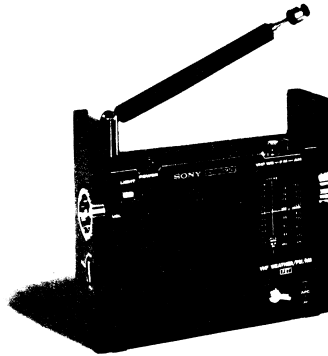


Notes:

1. * shows grounding to shield case or case of i-f transformers.
2. All resistors and capacitors are in Ω and μF , unless otherwise indicated.
3. Capacitors marked Δ are built in i-f transformers or ceramic filters.
4. The symbol \otimes indicates a component whose value is selected to yield specified operating condition.

5. Voltage values are measured to ground circuit with a dc voltmeter (20 k Ω/V) and current value is measured with a dc ammeter.
6. Voltage and current values are taken with no radio signal received and the values shown in () are taken with band selector set to AM.

TFM-8100W



SPECIFICATIONS

Circuit System: 15-transistor (including 1-FET) super-heterodyne, 1 transistor for auxiliary circuit, and 7 diodes (including 1 LED)	Current Drain at zero signal: FM 23 mA, AM 19 mA at 10% distortion: 300 mA
Frequency Coverage: FM 87.5 ~ 108 MHz (3.43 m ~ 2.78 m) AM 530 ~ 1,605 kHz (566 m ~ 187 m) VHF WB 162.55 MHz (1.85 m)	Power Requirement: Three "C" size flashlight batteries 4.5 V in total, or car battery by using SONY DCC-126 car battery cord.
Intermediate Frequency: FM 10.7 MHz AM 455 kHz VHF WB 10.7 MHz	AUX IN Jack impedance: 5 k Ω
Antenna System: FM, VHF WB built-in telescopic antenna AM built-in ferrite bar antenna	MPX OUT Jack impedance: 5 k Ω level: -26 dB (38 mV)
Maximum Sensitivity at 50 mW output: FM 1.25 μ V (2 dB) MW 35.4 μ V/m (31 dB/m) VHF WB 0.8 μ V (-2 dB)	Record Out Jack impedance: 1 k Ω level: -60 dB (0.77 mV) Speaker: 3 $\frac{3}{4}$ " (9 cm) ϕ , PM dynamic, 8 Ω
Selectivity at ± 10 kHz off-resonance: 26 dB at 1,400 kHz	Dimensions: 8 $\frac{7}{16}$ " (W) x 7" (H) x 2 $\frac{3}{16}$ " (D) (214 mm x 178 mm x 56 mm)
Power Output at 10% distortion: 650 mW maximum: 1 W	Weight: 2 lb 15 oz (1,350g)

SONY
SERVICE MANUAL

2-5. DIAL CORD STRINGING

Preparation

1. Remove the chassis.
2. Cut the dial cord by the specified length as shown in Fig. 2-13.

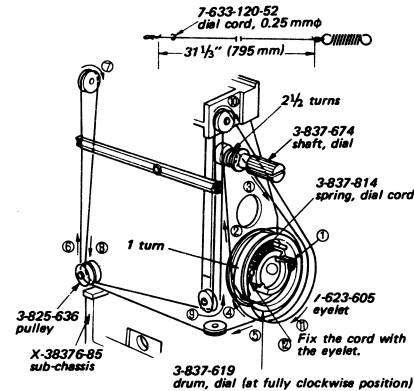


Fig. 2-13

Stringing

1. Fix the dial cord to the protrusion (step ①) and string the cord in numerical order as shown in Fig. 2-13.

Note: Pass through the dial cord at step ④ between the two cords of steps ③ and ⑤ as shown in Fig. 2-14.

2. Fasten the both knots with a contact cement.

Pointer Setting

1. Rotate the dial shaft counterclockwise to the full.
2. Set the pointer to the slit as shown in Fig. 2-15.



Fig. 2-14

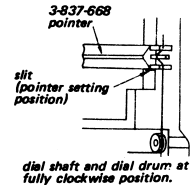


Fig. 2-15

SECTION 3 CIRCUIT ADJUSTMENTS

3-1. IF ALIGNMENT

Test Equipments/Tools Required:

Rf signal generator (for fm and a-m)
 Loop antenna
 VTVM
 Screwdriver for alignment
 Oscilloscope

1. Fm I-f Alignment

Preparation:

Sweep/Marker Generator Connection:
 to the telescopic antenna lead as
 shown in Fig. 3-1.

Oscilloscope Connection: MPX OUT jack
 Sweep Generator Frequency: 10.7 MHz
 Marker Generator Frequency: 10.7 MHz
 Band Selector Setting: FM
 AFC Switch: OFF

Procedure:

1. Turn the core of discriminator transformer (IFT F6) fully counterclockwise.

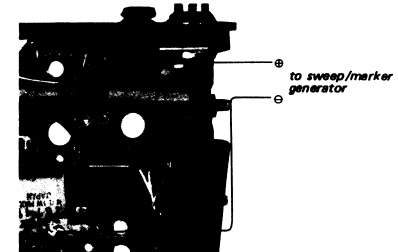


Fig. 3-1 Sweep/marker generator coupling