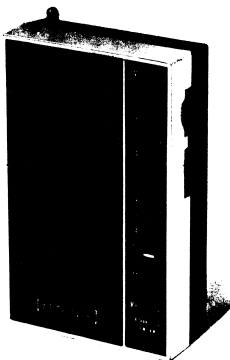


S50-1

Sony 3F-85W



SPECIFICATIONS

Circuit System:	9-transistor 5-diode superheterodyne
Frequency Coverage:	FM 87.5~108 MHz (3.43~2.78 m) AM 530~1,606 kHz (166~187 m)
Intermediate Frequency:	FM 10.7 MHz AM 465 kHz
Antenna System:	FM built-in telescopic antenna AM built-in ferrite bar antenna
Maximum Sensitivity at 50 mW output:	FM 3 μ V (10 dB) AM 150 μ V/m (44 dB/m)
Selectivity at ± 10 kHz off-resonance:	22 dB at 1,400 kHz
Power Output at 10% distortion:	180 mW 300 mW maximum
Current Drain at zero signal:	FM 18 mA AM 16 mA
at 180 mW output:	110 mA
Power Requirement:	Three "AA" size penlight batteries, 4.5 V in total
Speaker:	2 $\frac{3}{4}$ " x 1 $\frac{3}{4}$ " (72 mm x 47 mm) FM dynamic, 8 Ω
Dimensions:	2 $\frac{15}{16}$ " (W) x 4 $\frac{1}{16}$ " (H) x 1 $\frac{7}{16}$ " (D) (75 mm x 119 mm x 37 mm)
Weight:	10.6 oz (300 g)

2-4. DIAL CORD STRINGING

Preparation:

1. Remove the chassis and strip the dial back plate from the chassis.
2. Remove the E-ring and the fiber washer on the dial drum as shown in Fig. 2-6.

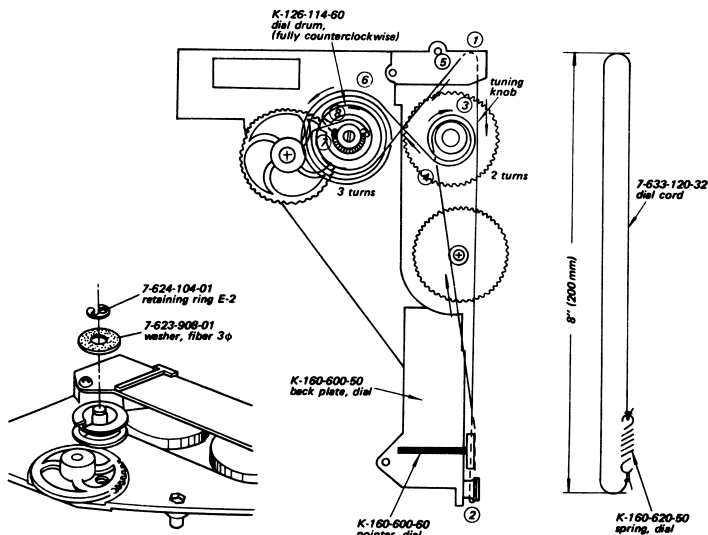


Fig. 2-6

Fig. 2-7 Dial cord stringing

Procedure:

1. Cut the dial cord and make a loop as shown in Fig. 2-7 using the spring.
2. Rotate the dial drum fully counterclockwise to its maximum capacitance position.
3. String the dial cord in numerical order as shown in Fig. 2-7.
4. After stringing, set the dial pointer at pointer setting position shown in Fig. 2-8.

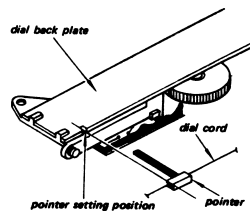


Fig. 2-8 Pointer setting position

3-1. AM IF ALIGNMENT

Test Equipments/Tools Required: Rf signal generator (for a-m)
VTVM
Loop antenna
8 Ω resistor
Screwdriver for alignment

Rf Signal Generator Coupling	Rf Signal Generator Frequency	VTVM Connection	Adjust	Remarks
Loop antenna (See Fig. 3-1.)	455 kHz (1 kHz 30% a-m)	Earphone jack with 8 Ω load resistor in parallel	CFT A1	Band selector: AM Volume control: maximum Tuning knob: fully counterclockwise position Adjust for maximum meter reading.

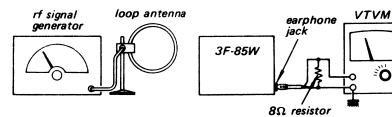


Fig. 3-1 A-m i-f alignment, frequency coverage and tracking adjustment setup

3-2. FM IF ALIGNMENT

Test Equipments/Tools Required:

Sweep generator with 10.7 MHz marker generator
0.01 μ F ceramic capacitor
Oscilloscope
Screwdriver for alignment

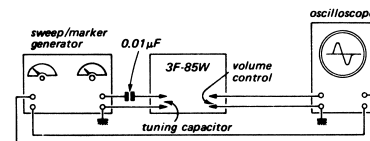


Fig. 3-2 Fm i-f alignment setup

Preparation:

Oscilloscope Connection:

Across the volume control (See Fig. 3-4)

Sweep/Marker Generator Connection:

Across the tuning capacitor (See Fig. 3-3)

Sweep generator Center Frequency: 10.7 MHz

Marker Generator Frequency: 10.7 MHz

Volume Control Setting: Minimum

Band Selector Setting: FM

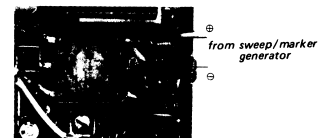


Fig. 3-3 Sweep generator connection

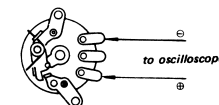


Fig. 3-4 Oscilloscope connection

Procedure:

1. Turn the core of IFT F4 fully counterclockwise.
2. Turn the core of IFT F1, IFT F2 and IFT F3 to obtain the maximum amplitude response curve on the scope shown in Fig. 3-5.
3. Turn the core of IFT F4 to obtain the symmetrical "S" curve shown in Fig. 3-6.

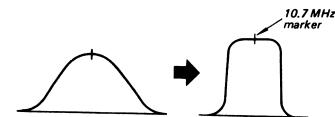


Fig. 3-5 Response curve

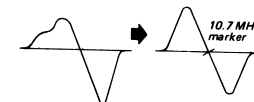
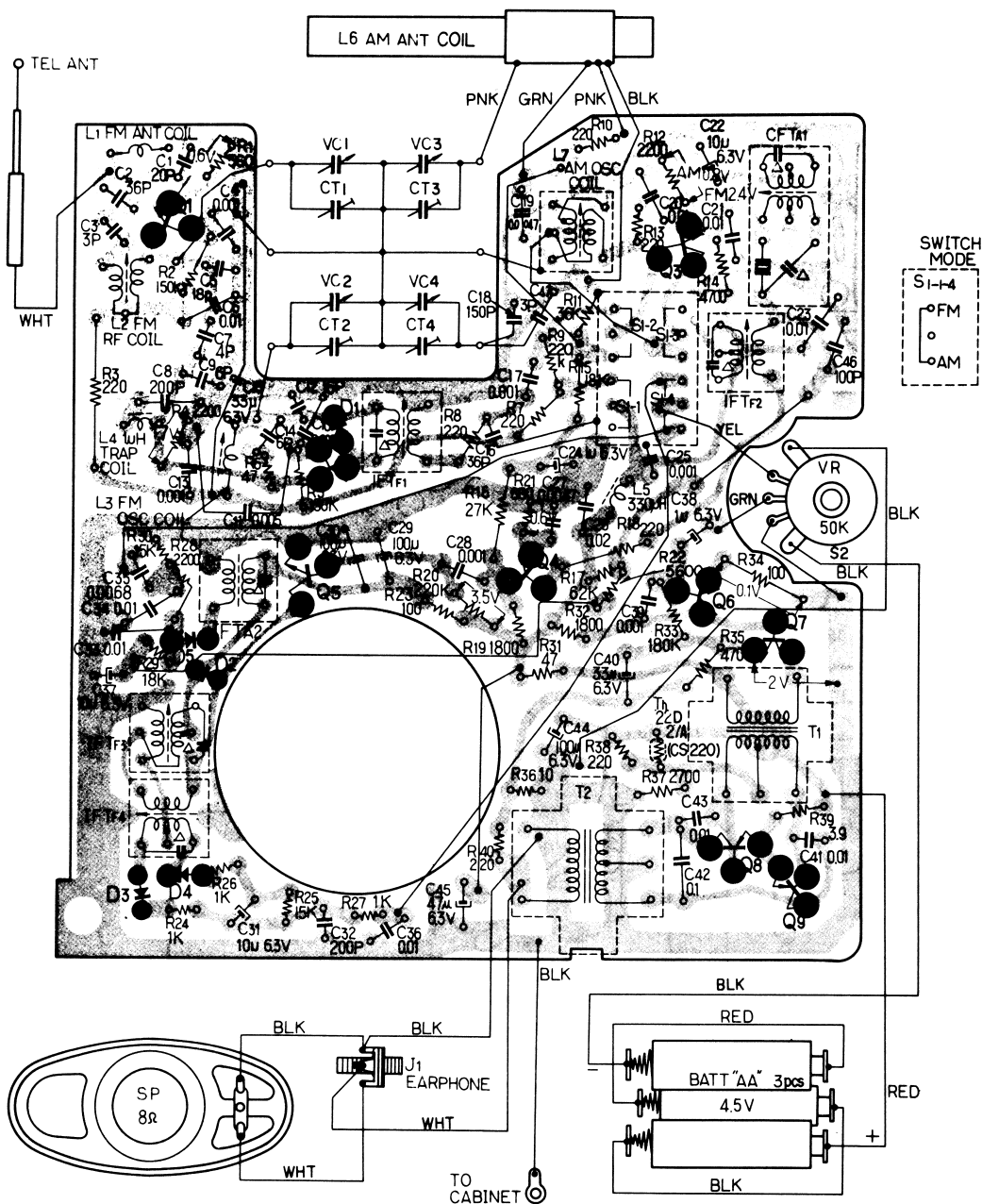


Fig. 3-6 "S" curve

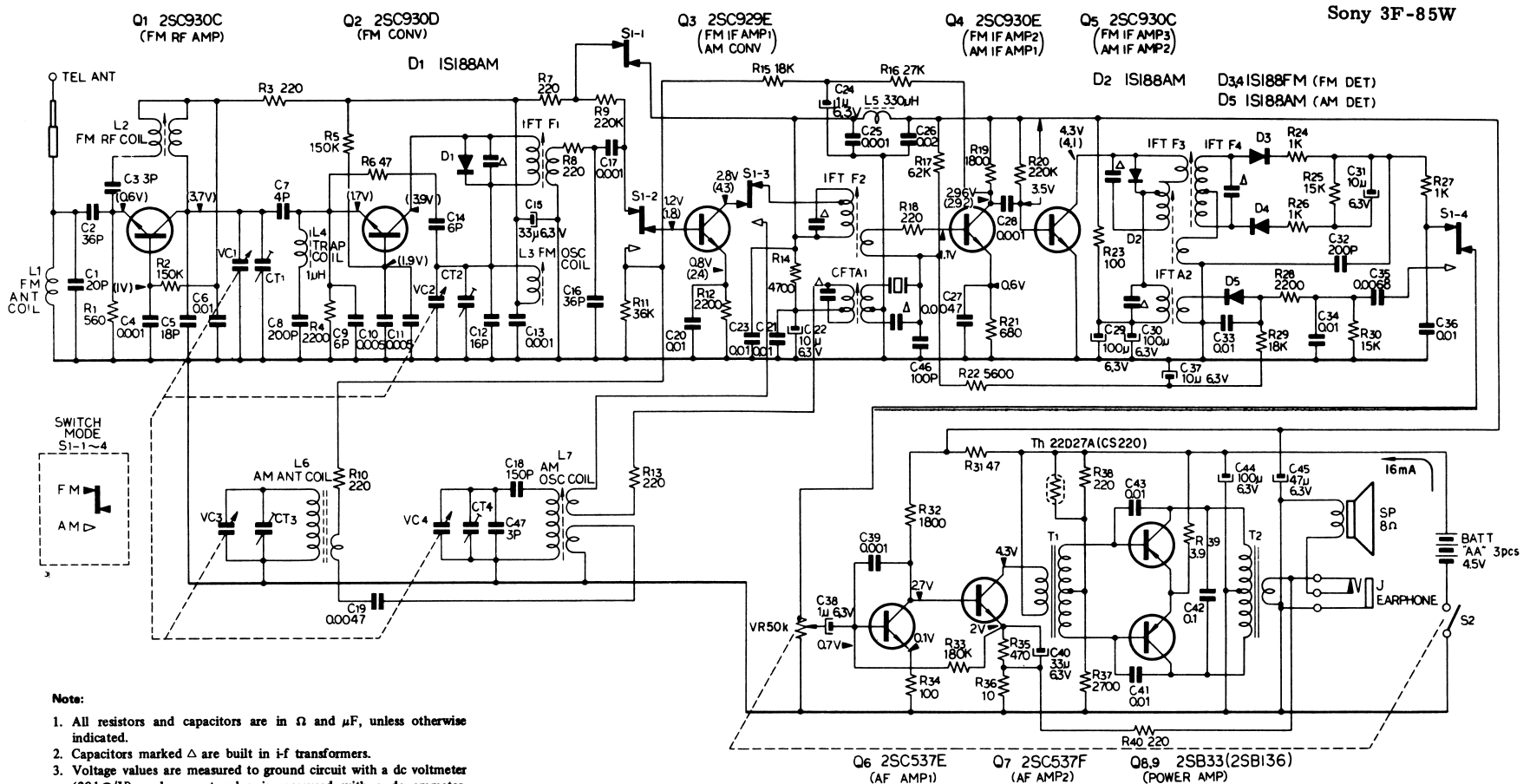
Sweep/Marker Generator Coupling	Sweep/Marker Generator Frequency	Oscilloscope Connection	Adjust	Remarks
Tuning capacitor (See Fig. 3-3.)	10.7 MHz	Volume control (See Fig. 3-4.)	IFT F1 IFT F2 IFT F3 IFT F4	Band selector: FM Adjust for maximum amplitude and symmetrical "S" curve on the scope.

MOUNTING DIAGRAM

- Conductor Side -

**Note:**

1. Printed circuit board, Part No.: 1-539-711-11
2. The following parts are mounted on the conductor side, C11, C15, C30 and C33.
3. Capacitors marked Δ are built in i-f transformers.



Note:

1. All resistors and capacitors are in Ω and µF, unless otherwise indicated.
2. Capacitors marked Δ are built in i-f transformers.
3. Voltage values are measured to ground circuit with a dc voltmeter (20 kΩ/V) and current value is measured with a dc ammeter. Voltage and current values in () are taken with band selector set to FM. Variations may be noted due to normal production tolerances.
4. When replacing transistors Q8 and Q9, use 2SB136.
5. When replacing thermistor Th, use CS220 and remove R38 (220Ω).