

TFM-6100L

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SECTION 1 BLOCK DIAGRAM

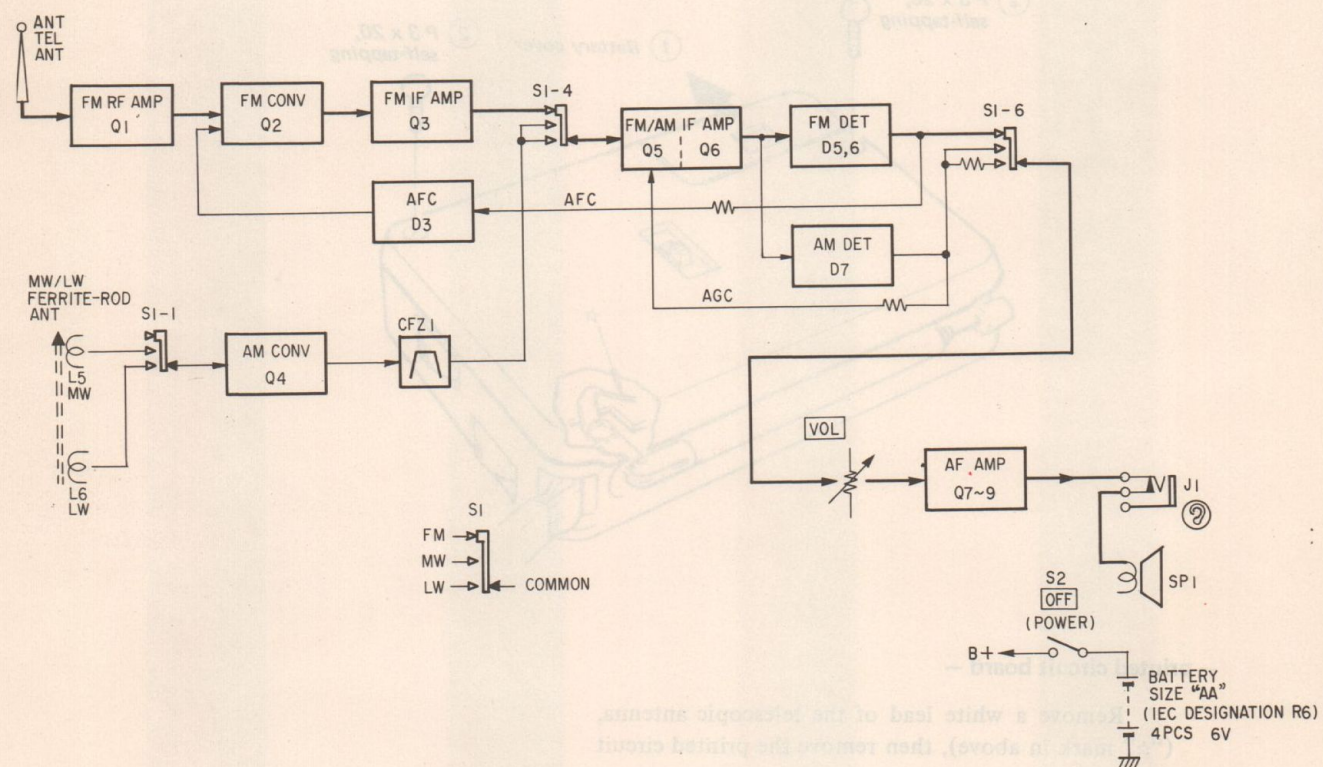


*AEP Model
UK Model
E Model*

FM-AM POCKETABLE RADIO

SPECIFICATIONS

- Frequency Range:** FM: 87.5 – 108 MHz
MW: 530 – 1,605 kHz
LW: 150 – 285 kHz
- Antennas:** FM: telescopic
MW/LW: built-in ferrite-rod antenna
- Power Output:** 200 mW (with 10 % harmonic distortion)
- Speaker:** 6.6 cm (2½") dia
- Power Requirements:** 6 V dc, battery size "AA" 4 pcs (IEC designation R6)
- Dimensions:** 158 (w) x 96 (h) x 43 (d) mm
6¼ (w) x 3¾ (h) x 1¾ (d) inches
- Weight:** 470 g, 1 lb 1 oz, with batteries

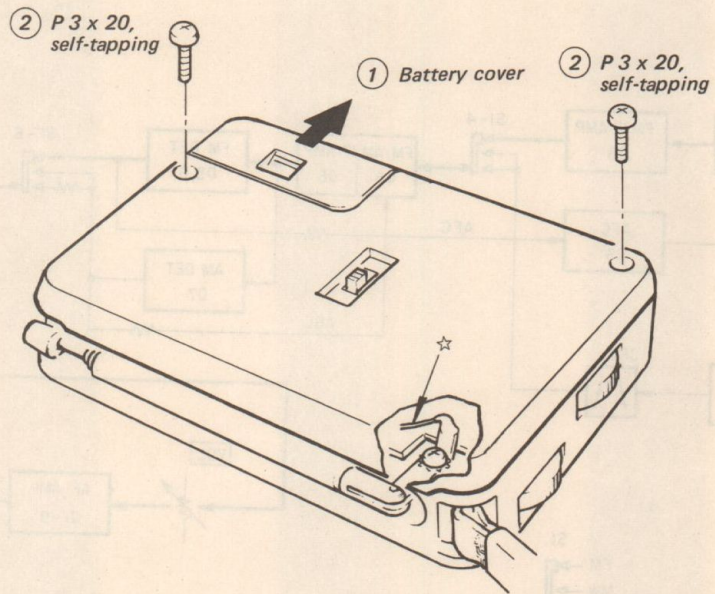


SONY
SERVICE MANUAL

SECTION 2
DISASSEMBLY

2-1. REMOVAL

— rear cover —

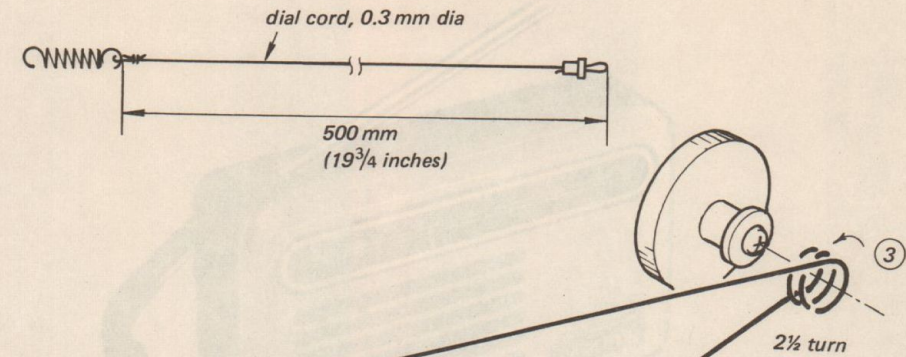


— printed circuit board —

Remove a white lead of the telescopic antenna, ("☆" mark in above), then remove the printed circuit board.

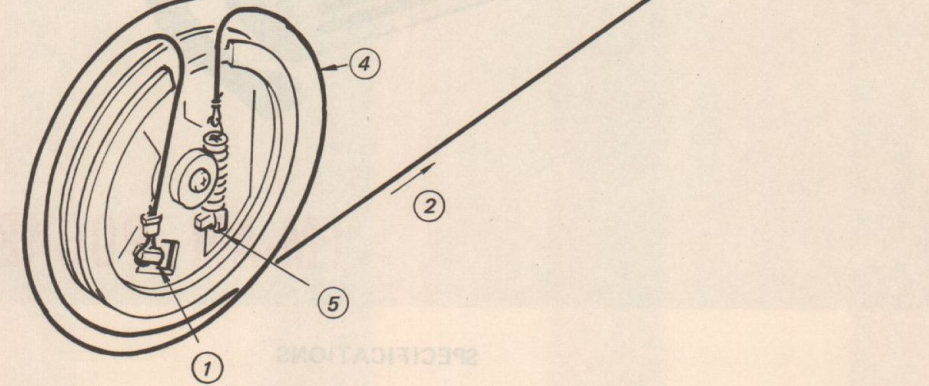
2-2. DIAL CORD STRINGING

1. Preparation



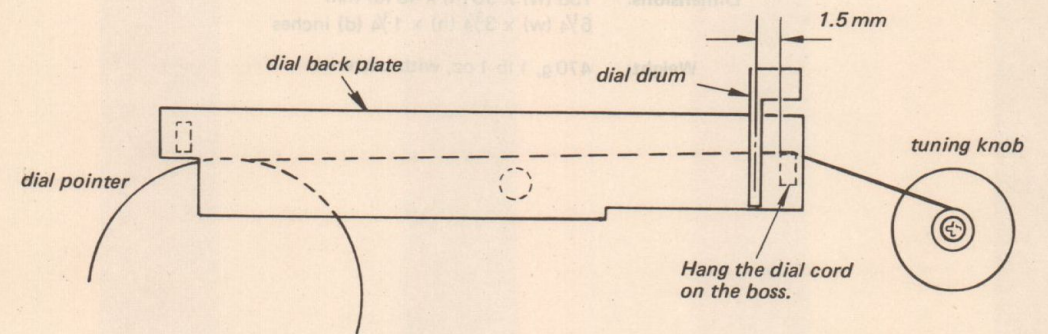
2. Dial cord stringing

Turn the dial drum fully counterclockwise.



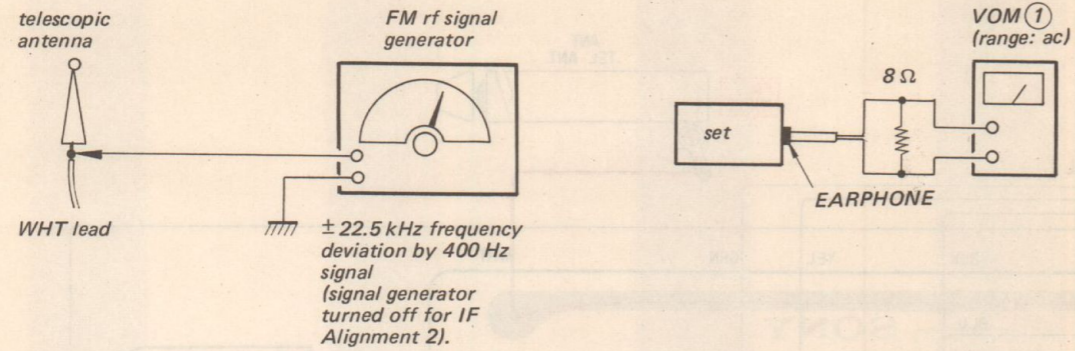
3. Dial pointer calibration

Turn the tuning knob fully clockwise. Place the dial pointer as shown below.



SECTION 3
ADJUSTMENTS

FM



FM Frequency Coverage Adjustment

87.1 MHz (87.5 MHz)	L4
108.5 MHz (108 MHz)	CT2

Adjust for maximum reading on VOM (1).

() : in West Germany

FM Tracking Adjustment

108.5 MHz (108 MHz)	CT1
87.1 MHz (87.5 MHz)	L2

Adjust for maximum reading on VOM (1).

() : in West Germany

FM IF Alignment 1 (10.7 MHz)

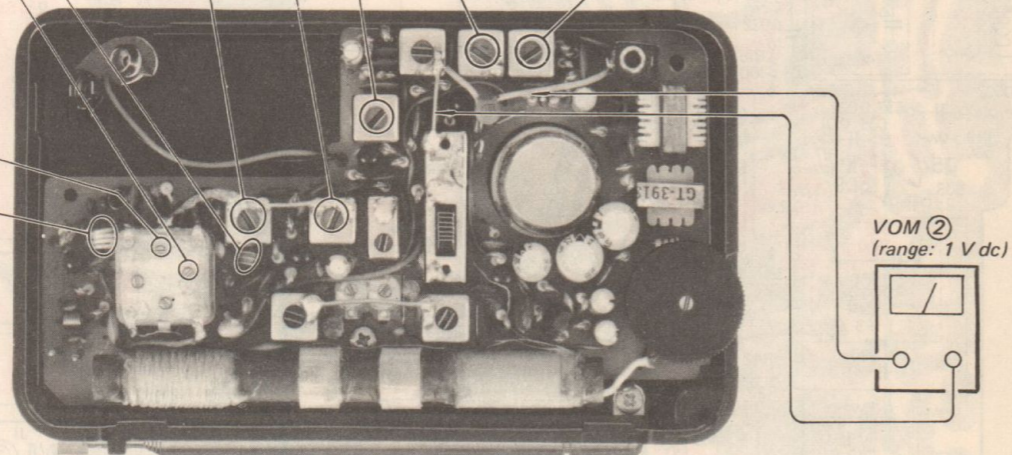
Adjust for maximum reading on VOM (1) with modulation.

IFT-F1	-F2	-F3	-F4
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FM IF Alignment 2

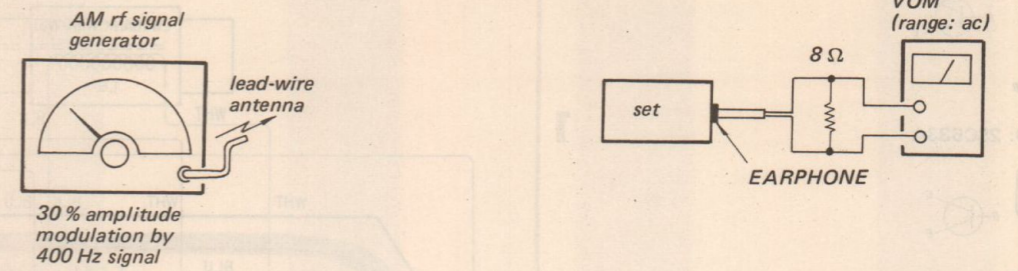
Adjust for 0 V dc reading on VOM (2) without signal.

IFT F5



AM IF and MW/LW

Adjust for maximum reading on VOM.



AM IF Alignment

468 kHz	CFZ	IFT A1
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LW Tracking Adjustment

CT4	260 kHz
L6	185 kHz

LW Frequency Coverage Adjustment

145 kHz	L8
300 kHz	CT5

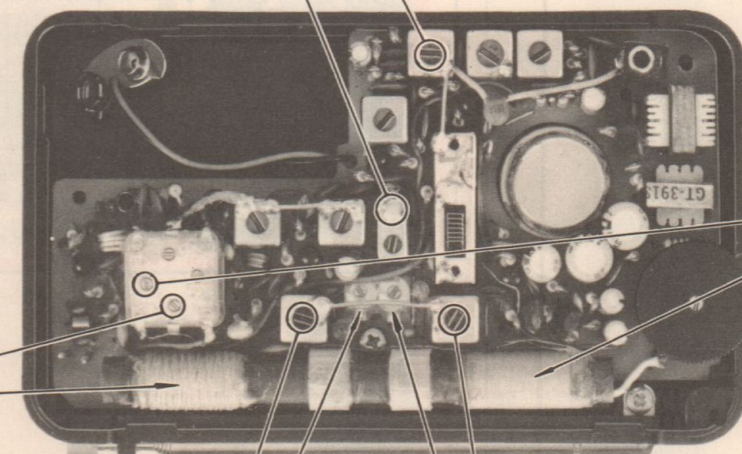
MW Frequency Coverage Adjustment

520 kHz	L7
1680 kHz	CT6

MW Tracking Adjustment

CT3	1400 kHz
L5	620 kHz

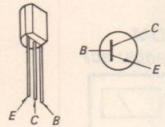
Note:
After this adjustment, perform LW Frequency Coverage and Tracking Adjustment.



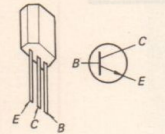
SECTION 4
DIAGRAMS

4-1. MOUNTING DIAGRAM
— Conductor Side —

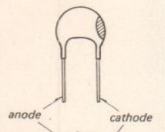
Q1-6, D3: 2SC710



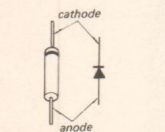
Q7-9: 2SC633A



D8: VD1120

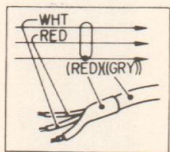


D1, 4 : 1S1555
D2, 5, 6, 9: 1T261
D7 : 1T22A

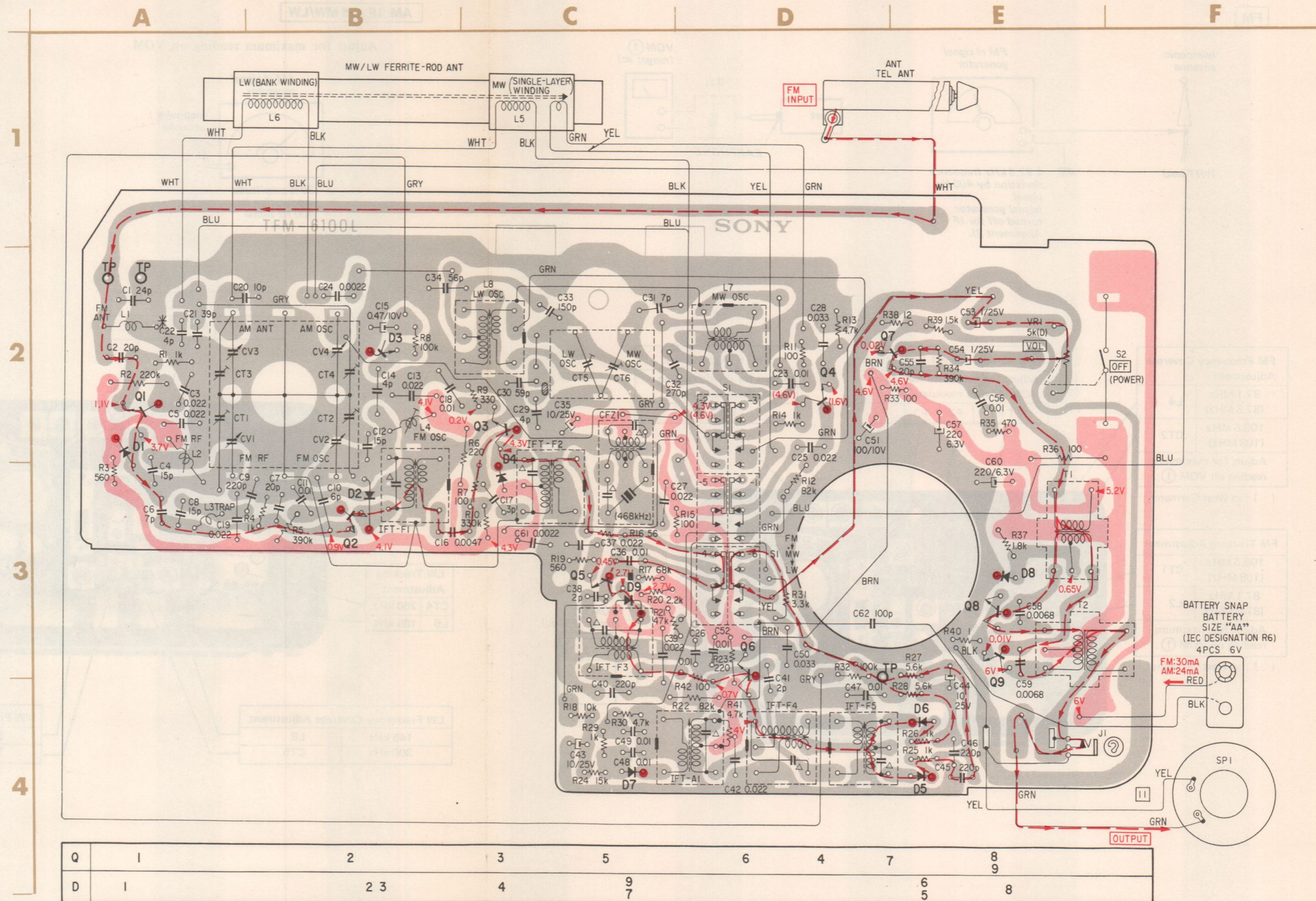


Note:

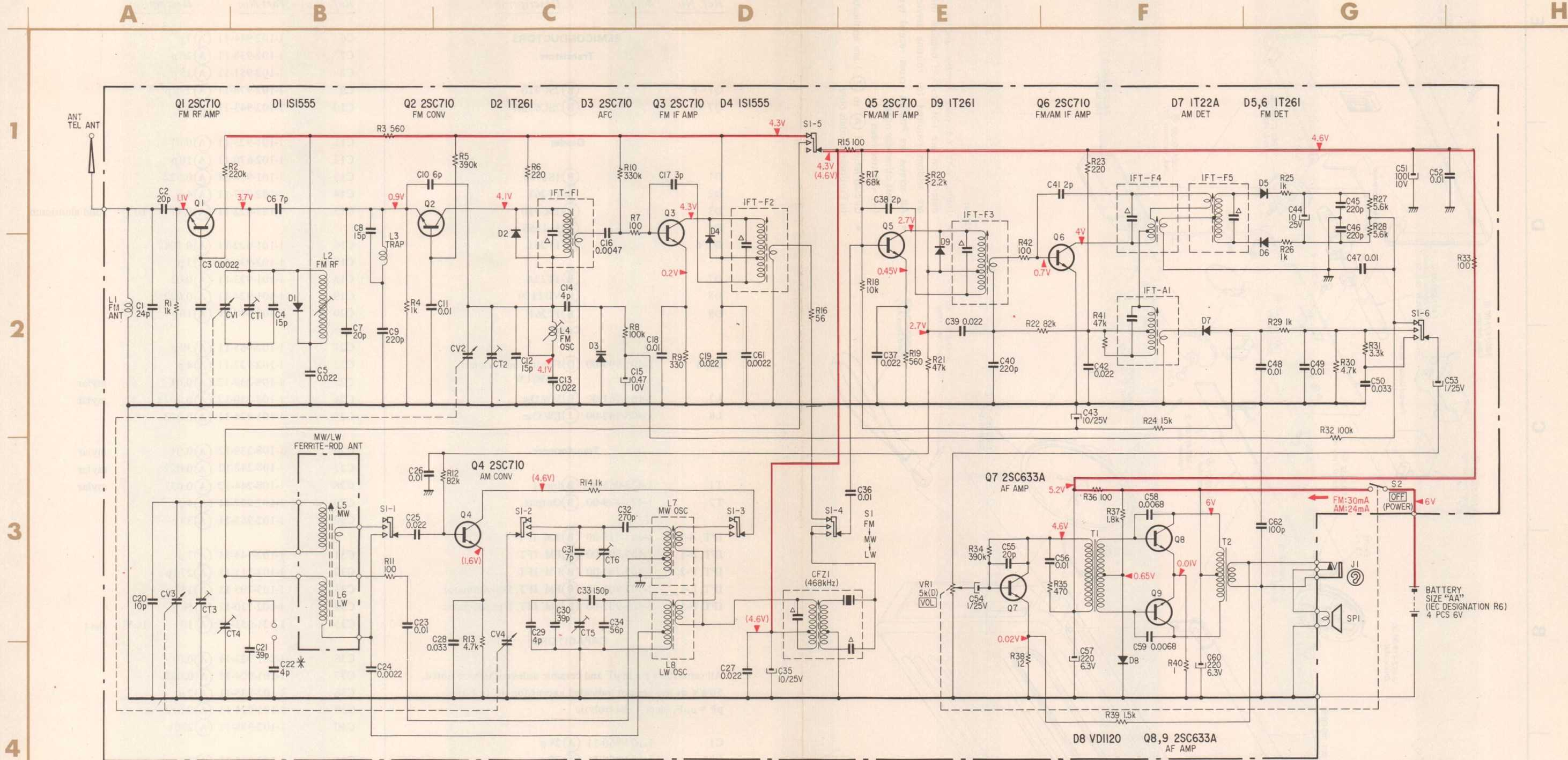
- Color code of sleeving over the end of the jacket.



- ■ : part mounted on the conductor side.
- □ : indicates side identified with part number.
- ■ : B+ pattern
- - - - : signal path
- * : for adjustment.



4-2. SCHEMATIC DIAGRAM



Note:

- All capacitors are in μF unless otherwise noted. $\text{pF} = \mu\mu\text{F}$. 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms. $\frac{1}{4}\text{W}$ unless otherwise noted. $\text{k}\Omega = 1000\Omega$, $\text{M}\Omega = 1000\text{k}\Omega$
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.

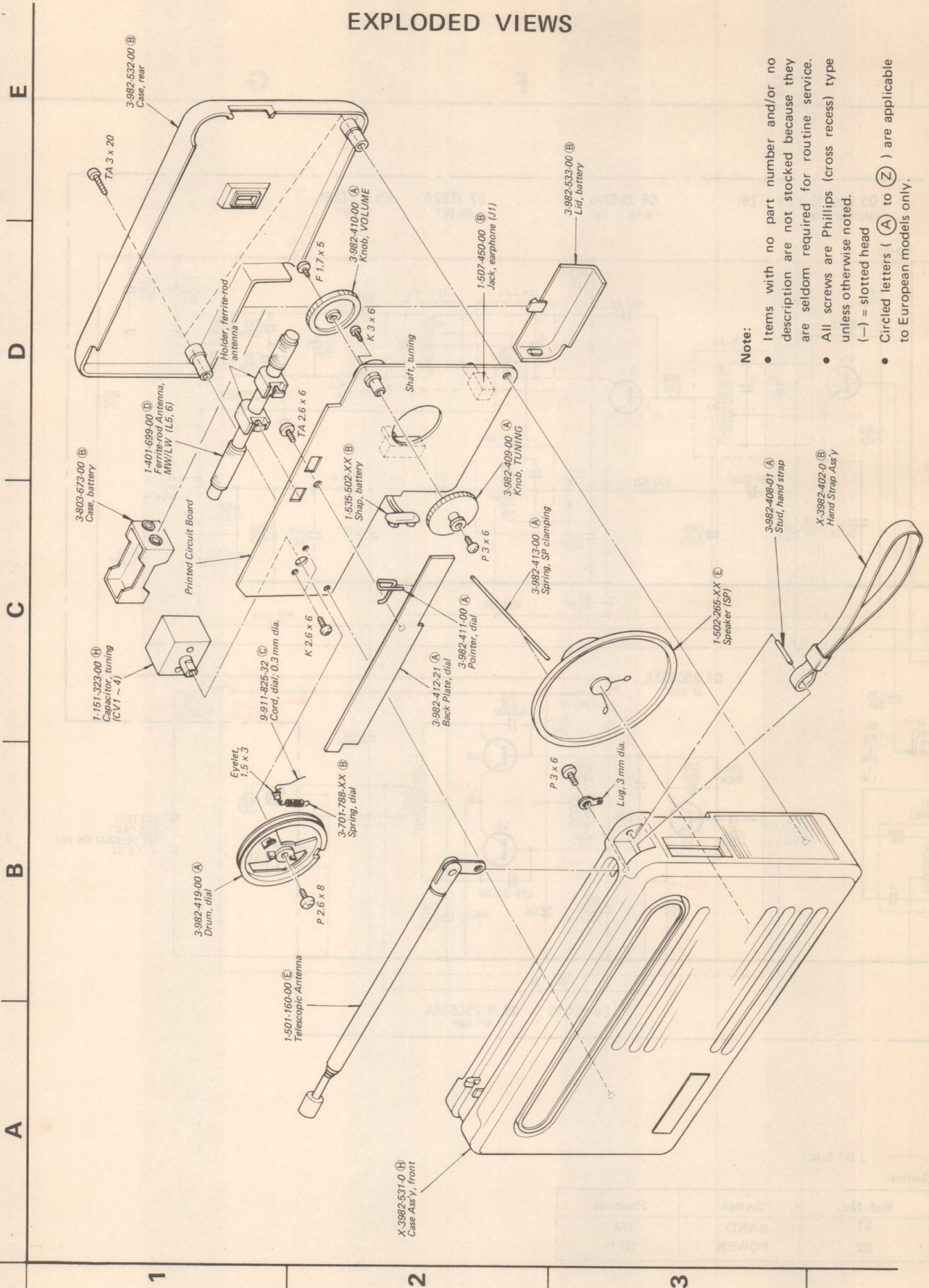
- Δ : internal component.
- \square : panel designation.
- Readings are taken under detuned conditions with a VOM (20 $\text{k}\Omega/\text{V}$).
() : AM no mark: FM
- Transistor is used for D3.
- * : for adjustment.

- — : B+ bus.
- Switch

Ref. No.	Switch	Position
S1	BAND	FM
S2	POWER	OFF

SECTION 5

EXPLODED VIEWS



Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
- (—) = slotted head
- Circled letters (A to Z) are applicable to European models only.

SECTION 6

ELECTRICAL PARTS LIST

Note: Circled letters (A to Z) are applicable to European models only.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
SEMICONDUCTORS					
Transistors					
Q1-6	(B) 2SC710		C6	1-102-944-11 (A) 7 p	
Q7-9	(B) 2SC633A		C7	1-102-958-11 (A) 20 p	
			C8	1-102-951-11 (A) 15 p	
			C9	1-102-978-11 (A) 220 p	
			C10	1-102-943-11 (A) 6 p	
Diodes					
D1	(B) 1S1555		C11	1-101-923-11 (A) 0.01	
D2	(B) 1T261		C12	1-102-670-11 (A) 18 p	
D3	(B) 2SC710		C13	1-101-924-11 (A) 0.022	
D4	(B) 1S1555		C14	1-102-937-11 (A) 4 p	
D5, 6	(B) 1T261		C15	1-127-022-11 (A) 0.47 10 V solid aluminum	
D7	(B) 1T22A		C16	1-101-922-11 (A) 0.0047	
D8	(B) VD1120		C17	1-102-936-11 (A) 3 p	
D9	(B) 1T261		C18	1-101-923-11 (A) 0.01	
			C19	1-101-924-11 (A) 0.022	
			C20	1-102-947-11 (A) 10 p	
Coils					
L5, 6	1-401-699-00 (D) Ferrite-rod Antenna, MW/LW		C21	1-102-965-11 (A) 39 p	
L7	1-405-761-00 (B) MW Osc		C22	1-102-937-11 (A) 4 p	
L8	1-405-762-00 (J) LW Osc		C23	1-108-239-12 (A) 0.01 mylar	
			C24	1-108-230-12 (A) 0.0022 mylar	
			C25	1-101-924-11 (A) 0.022	
Transformers					
T1	1-423-066-XX (B) Input		C26	1-108-239-12 (A) 0.01 mylar	
T2	1-427-429-00 (B) Output		C27	1-108-242-12 (A) 0.022 mylar	
			C28	1-108-244-12 (A) 0.033 mylar	
IFT, A-1	1-403-813-00 (B) AM IFT		C29	1-102-937-11 (A) 4 p	
IFT, F-1	1-403-899-00 (B) FM IFT		C30	1-102-965-11 (A) 39 p	
IFT, F-2, 3	1-403-284-00 (B) FM IFT		C31	1-102-944-11 (A) 7 p	
IFT, F-4	1-403-903-00 (B) FM IFT, Discriminator		C32	1-103-711-11 (A) 270 p	
IFT, F-5	1-403-902-00 (B) FM IFT, Discriminator		C33	1-103-705-11 (A) 150 p	
			C34	1-102-730-11 (A) 56 p	
			C35	1-121-651-11 (A) 10 16 V elect	
CAPACITORS					
All capacitors are in μ F and ceramic unless otherwise noted. 50WV or less are not indicated except for electrolytics. pF = μ μ F, elect = electrolytic					
C1	1-102-960-11 (A) 24 p		C36	1-101-923-11 (A) 0.01	
C2	1-102-958-11 (A) 20 p		C37	1-101-924-11 (A) 0.022	
C3	1-101-919-11 (A) 0.0022		C38	1-102-935-11 (A) 2 p	
C4	1-102-951-11 (A) 15 p		C39	1-101-924-11 (A) 0.022	
C5	1-101-924-11 (A) 0.022		C40	1-102-978-11 (A) 220 p	
			C41	1-102-935-11 (A) 2 p	
			C42	1-101-924-11 (A) 0.022	
			C43, 44	1-121-651-11 (A) 10 16 V elect	
			C45, 46	1-102-978-11 (A) 220 p	

Note: Circled letters (A to Z) are applicable to European models only.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
C47, 48, 49	1-108-239-12 (A) 0.01	mylar
C50	1-108-244-12 (A) 0.033	mylar
C51	1-121-414-11 (A) 100	10 V elect
C52	1-101-923-11 (A) 0.01	
C53, 54	1-121-391-11 (A) 1	50 V elect
C55	1-102-958-11 (A) 20 p	
C56	1-108-239-12 (A) 0.01	mylar
C57	1-121-420-11 (B) 220	10 V elect
C58, 59	1-108-237-12 (A) 0.0068	mylar
C60	1-121-420-11 (B) 220	10 V elect
C61	1-101-919-11 (A) 0.0022	
C62	1-101-923-11 (A) 0.01	
CFZ	1-403-823-00 (C) CFZ	
CT5, 6	1-141-146-XX (B) Trimmer	
CV1-4	1-151-323-00 (H) Tuning	

MISCELLANEOUS

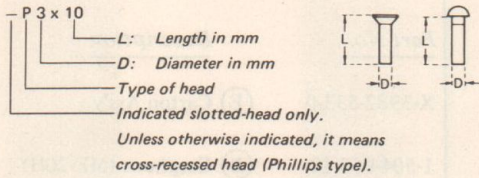
ANT	1-501-160-00 (E) Telescopic Antenna
J1	1-507-450-00 (B) Jack, earphone
S1	1-552-186-00 (C) Switch, slide; FM/MW/LW
S2	1-224-077-21 (B) Switch; POWER included in VR1
SP	1-502-265-XX (E) Speaker
VR1	1-224-077-21 (B) Resistor, 5 k Ω ; variable; VOLUME
	1-535-502-00 (B) Snap, battery

ACCESSORIES

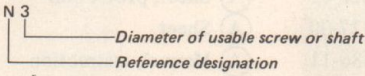
<u>Part No.</u>	<u>Description</u>
X-3982-533-0	(E) Carton Ass'y
1-504-055-12	(B) Earphone (ME-20H)
3-846-826-01	(A) Sheet, protection
3-982-427-00	(A) Sheet
3-982-436-11	(A) Manual, instruction (AEP, E model)
3-982-436-21	(A) Manual, instruction (UK model)
3-982-437-01	(A) Label, FTZ













HARDWARE NOMENCLATURE














Screw:



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	