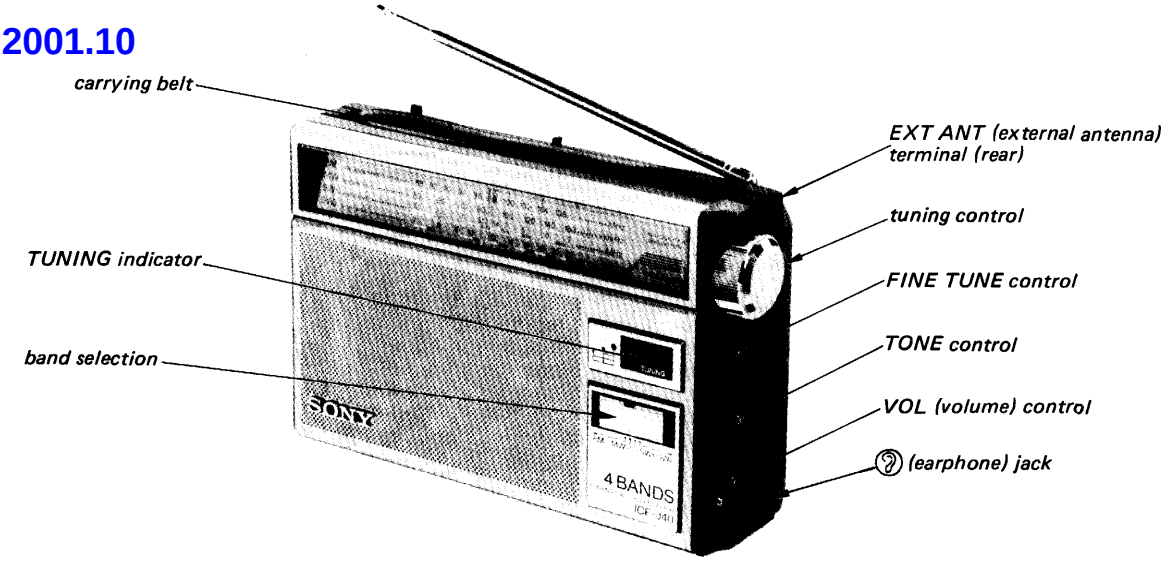
ICF-J40

SERVICE MANUAL

Saudi Arabia Model

Ver 1.1 2001.10



SPECIFICATIONS

Frequency range	
	FM: 87.6 - 107.5 MHz
	MW: 531 - 1602 kHz
	SW1: 2.3 - 7 MHz
	SW2: 7 - 22 MHz
Antenna	Telescopic antenna (FM/SW)
	Built-in ferrite bar antenna (MW)
	External antenna (SW)
Speaker	Approx. 9.2 cm (3⅝ inches) dia.
Output	Earphone jack (minijack)
Power output	300 mW (max.)
Power requirements	
	3 V DC
	Two R20 (size D) battereis
Battery life	Approx. 190 hours for MW and SW reception, 175 hours for FM reception (for four hours a day at a normal volume) using Sony batteries SUM-1 (NS)
Dimensions	Approx. 250 × 151 × 68 mm (w/h/d) (9⅞ × 6 × 2¾) incl. projecting parts and controls
Weight	Approx. 950 g (33 oz) incl. batteries
Supplied accessories	
	Carrying case (1), Earphone (1), SW wire antenna (1)

FM/MW/SW1/SW2 4 BAND RECEIVER

SONY®

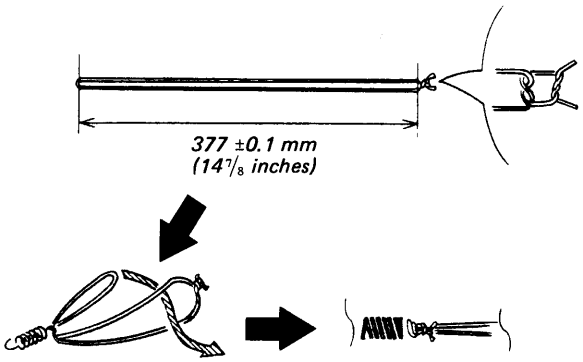
9-953-463-12 **Sony Corporation**
2001J0500-1 **Personal Audio Company**

Published by Sony Engineering Corporation

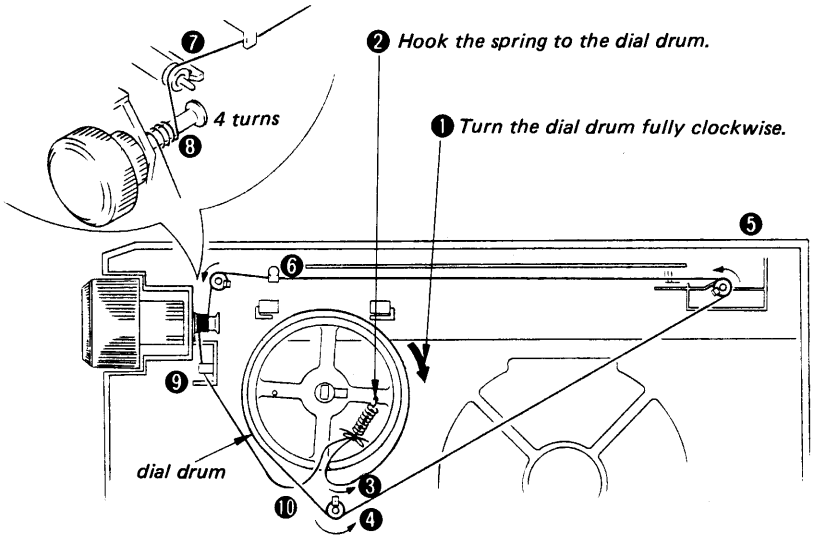
SECTION 1
DIAL CORD STRINGING

Note: String the dial cord in the numerical order given.

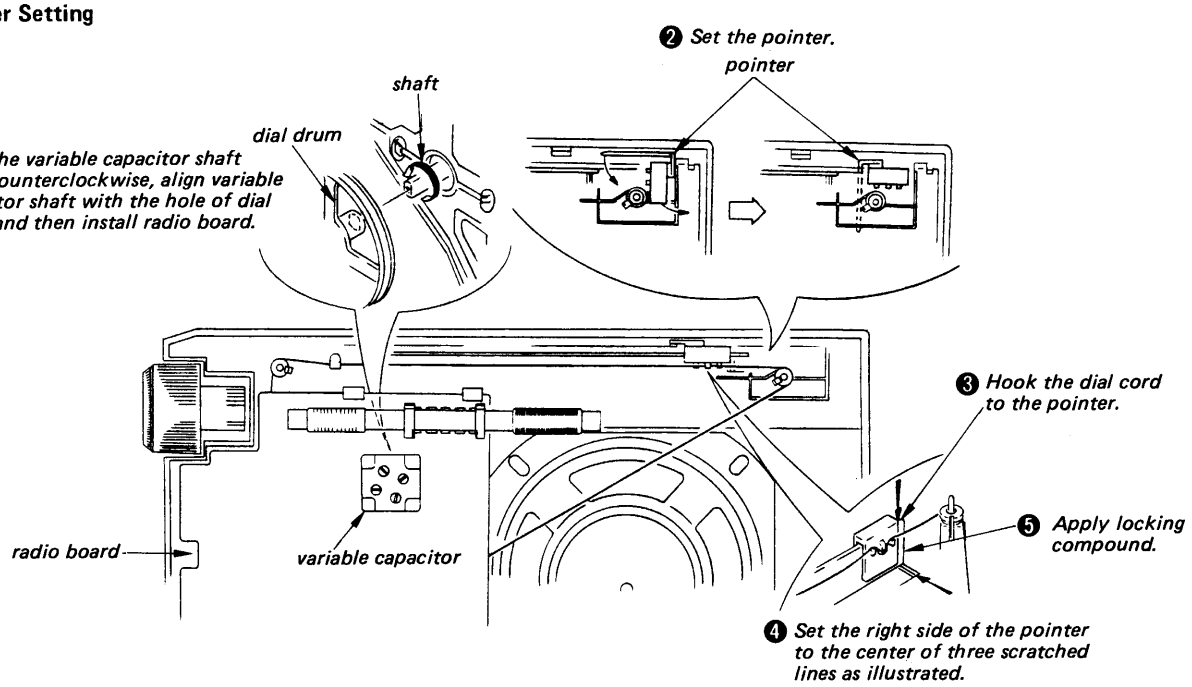
1) Preparation



2) Stringing

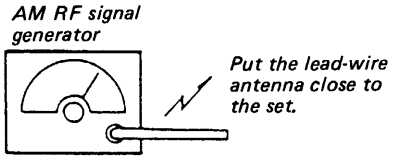


3) Pointer Setting



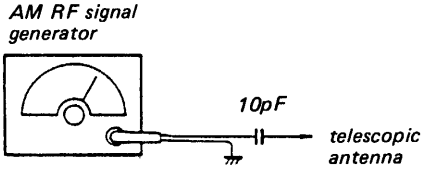
SECTION 2
ELECTRICAL ADJUSTMENTS

MW



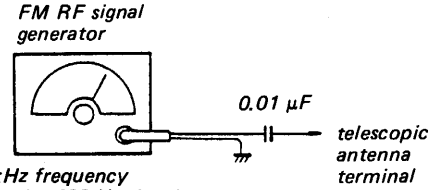
30% amplitude modulation by 400 Hz signal
Output level: as low as possible

SW

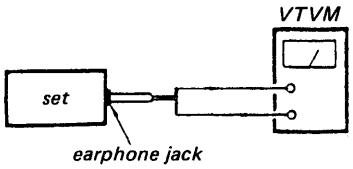


30% amplitude modulation by 400 Hz signal
Output level: as low as possible

FM



±22.5 kHz frequency deviation by 400 Hz signal
Output level: as low as possible



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

AM IF ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
T1	455 kHz

MW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
CT4	1,650 kHz
L8	520 kHz

MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
CT3	1,400 kHz
L3-1	620 kHz

SW1 FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
CT6	7.23 MHz
L9	2.24 MHz

SW1 TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
CT5	7.23 MHz
L3-2, 3	2.24 MHz

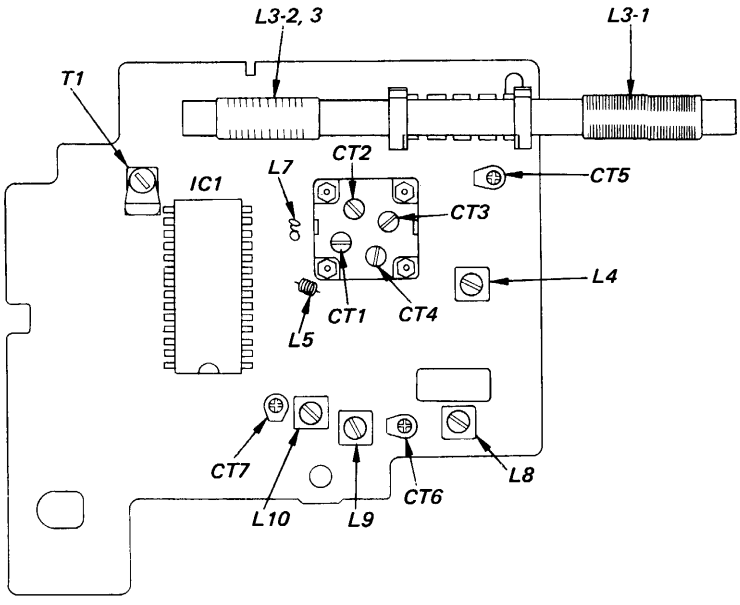
SW2 FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
CT7	22.6 MHz
L10	6.85 MHz

SW2 TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L4	6.85 MHz

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
CT1	108 MHz
L5	87.35 MHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
CT2	108 MHz
L7	87.35 MHz

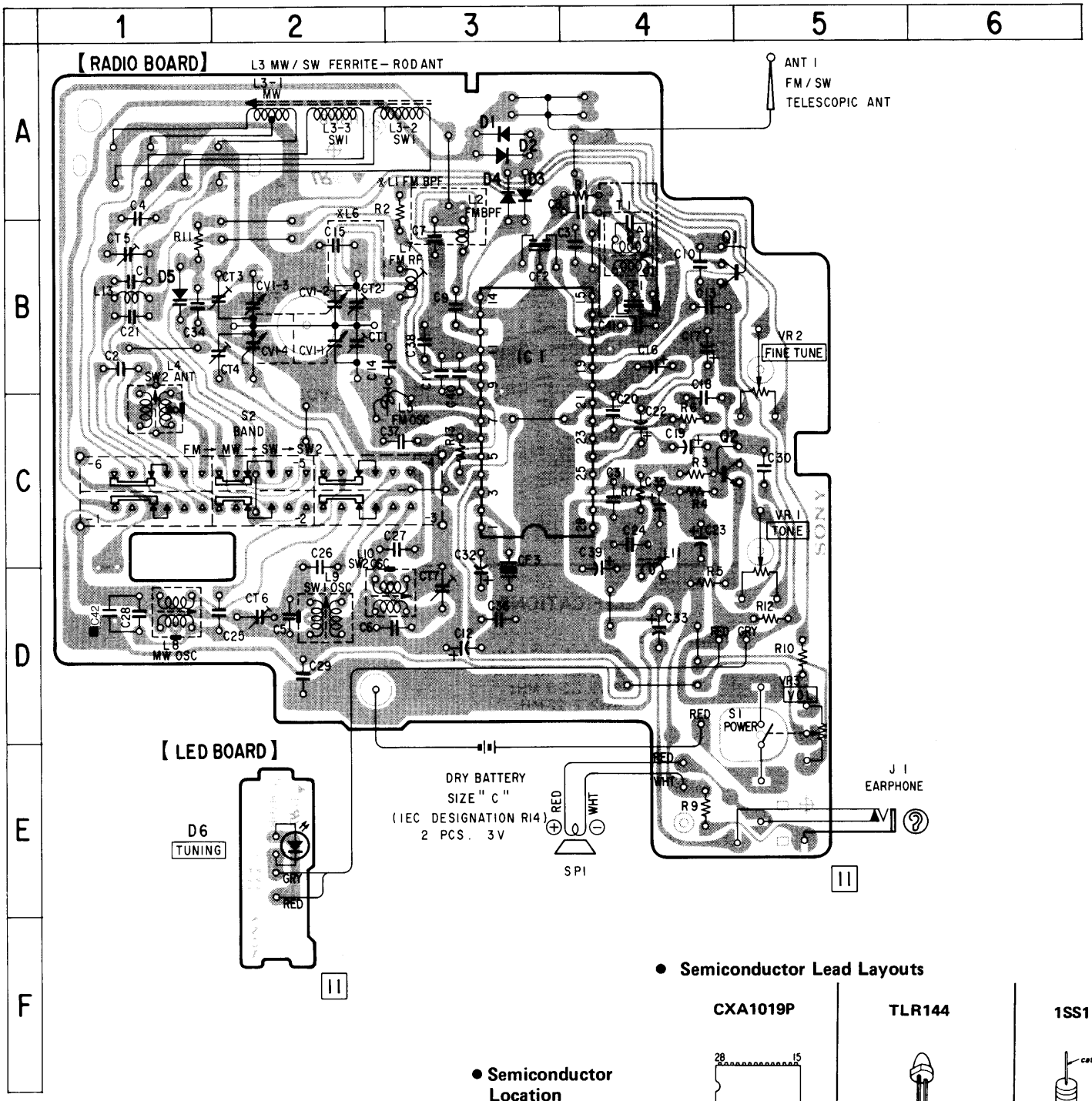
Adjustment Location: radio board (component side)



Ver 1.1

SECTION 3
DIAGRAMS

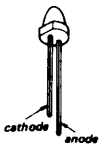
3-1. PRINTED WIRING BOARDS



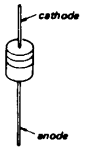
● Semiconductor Lead Layouts

CXA1019P

TLR144

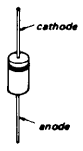


1SS119



2SC2785

SD117



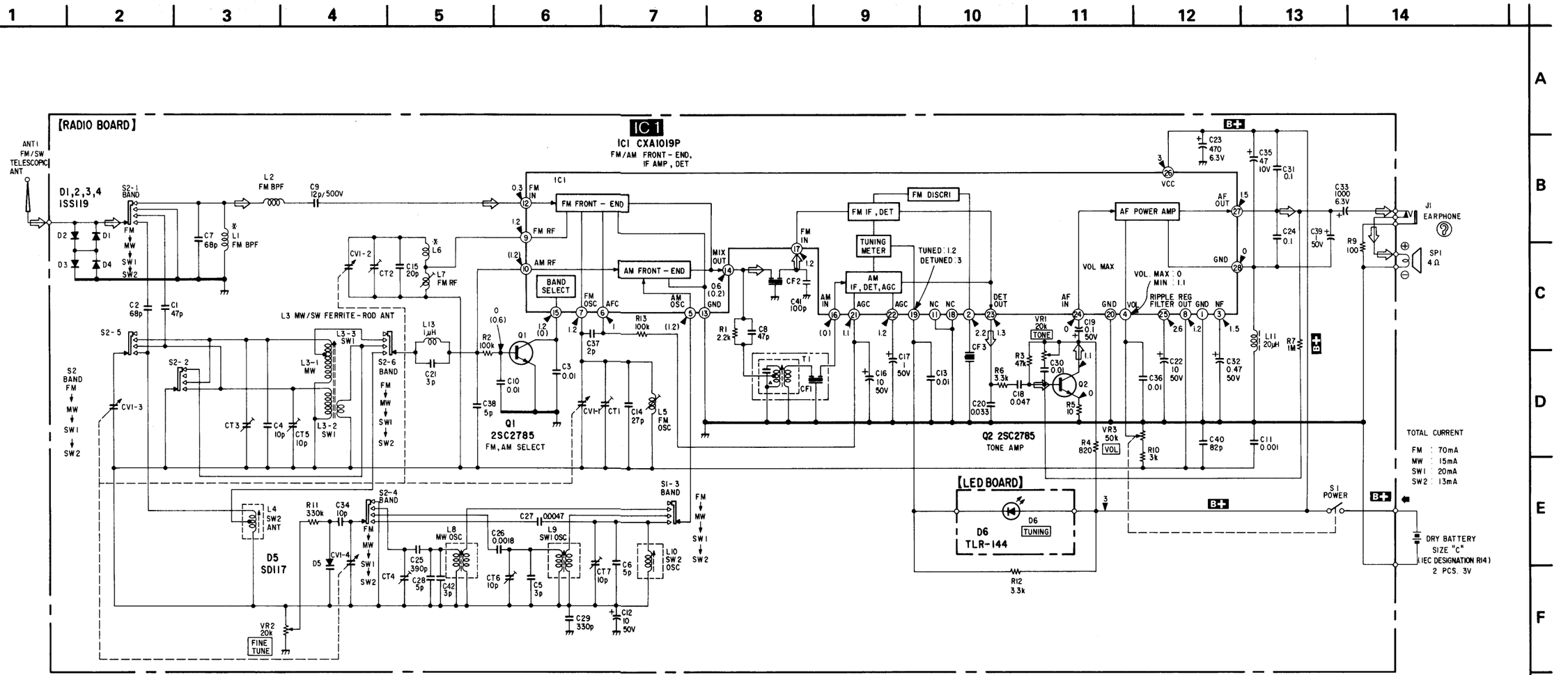
● Semiconductor Location

Ref. No.	Location
D1	A-3
D2	A-3
D3	A-3
D4	A-3
D5	B-1
D6	E-2
IC1	C-3
Q1	B-4
Q2	C-4

Note:

- ○—— : parts extracted from the component side.
- [ ]→ indicates side identified with part number.
- ■ : parts mounted on the conductor side.
- ※ : L1 and L6 are printed coil.

Ver 1.1



Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- Power voltage is dc 3 V and fed with regulated dc power supply from battery terminal.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.

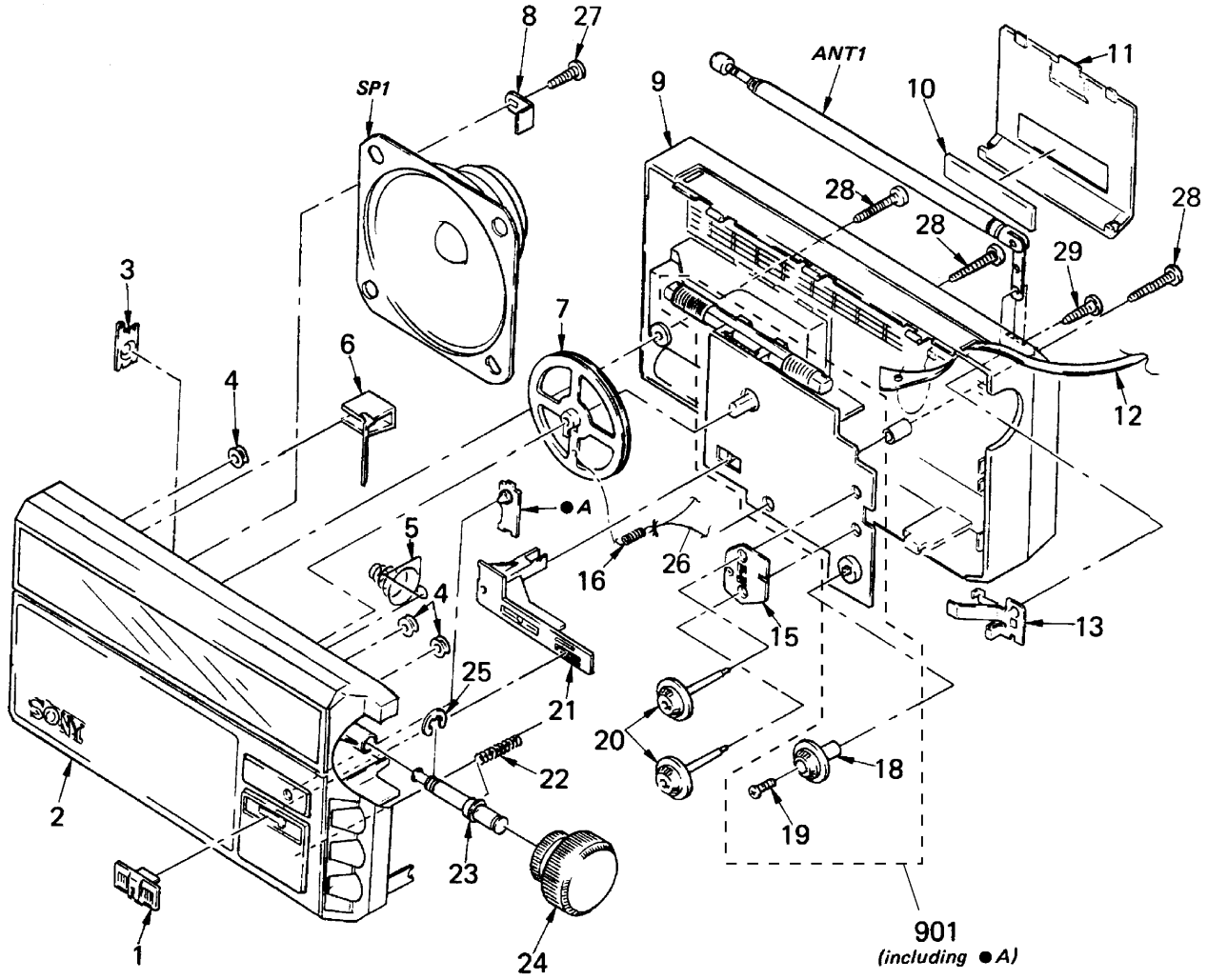
  no mark: FM
  ( ): AM
- Voltages are taken with a VOM (50 kΩ/V).
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
- ✱ : L1 and L6 are printed coil.
- Switch

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

SECTION 4
EXPLODED VIEW

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
  Example:
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ ↑
  Cabinet's Color Parts Color



No.	Part No.	Description	Remarks
1	3-901-016-01	KNOB (BAND)	
2	X-3901-001-2	CABINET ASSY, FRONT	
3	3-901-005-02	TERMINAL, BATTERY	
4	3-304-108-00	PULLEY	
5	3-901-006-02	SPRING	
6	3-901-012-01	POINTER	
7	*3-901-011-01	DRUM, DIAL	
8	3-593-019-00	CLAW, SPEAKER	
9	3-901-022-04	CABINET (REAR)	
10	*3-901-030-01	CUSHION	
11	3-901-023-01	LID, BATTERY CASE	
12	3-901-026-01	BELT, CARRING	
13	*3-901-004-01	PLATE, CONTACT, ANTENNA	
15	*3-901-020-01	RETAINER (KNOB)	
16	3-325-694-01	SPRING, TENSION	

No.	Part No.	Description	Remarks
18	3-901-013-02	KNOB (VOL)	
19	3-880-990-00	SCREW (1.7X3), FLAT, (+) SPECIAL	
20	3-901-014-01	KNOB (TONE/FINE TUNE)	
21	*3-901-017-01	SLIDER (BAND)	
22	3-901-025-01	SPRING	
23	*3-901-007-01	SHAFT, TUNING	
24	3-901-015-01	KNOB (TUNE)	
25	7-624-110-04	STOP RING 6.0, TYPE -E	
26	9-911-825-52	CORD, DIAL	
27	7-685-146-11	SCREW +P 3X8 TYPE2 NON-SLIT	
28	7-685-549-19	SCREW +BTP 3X14 TYPE2 N-S	
29	3-385-945-01	SCREW +P 3X6	
901	*A-3684-110-A	MOUNTED PCB	
ANT1	1-501-419-21	ANTENNA, TELESCOPIC	
SP1	1-544-036-11	SPEAKER	

SECTION 5
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

Ref.No.	Part No.	Description			
901	*A-3684-110-A	MOUNTED PCB			
ANT1	1-501-419-11	ANTENNA, TELESCOPIC			
C1	1-101-880-00	CERAMIC	47PF	5%	50V
C2	1-101-888-00	CERAMIC	68PF	5%	50V
C3	1-101-004-00	CERAMIC	0.01MF		50V
C4	1-162-199-31	CERAMIC	10PF	5%	50V
C5	1-164-039-11	CERAMIC	3PF	5%	50V
C6	1-102-998-00	CERAMIC	5PF	0.5PF	50V
C7	1-101-888-00	CERAMIC	68PF	5%	50V
C8	1-101-880-00	CERAMIC	47PF	5%	50V
C9	1-107-204-00	MICA	12PF	10%	500V
C10	1-101-004-00	CERAMIC	0.01MF		50V
C11	1-101-001-00	CERAMIC	0.001MF		50V
C12	1-123-356-00	ELECT	10MF	20%	50V
C13	1-101-004-00	CERAMIC	0.01MF		50V
C14	1-102-961-00	CERAMIC	27PF	5%	50V
C15	1-102-958-00	CERAMIC	20PF	5%	50V
C16	1-123-356-00	ELECT	10MF	20%	50V
C17	1-123-380-00	ELECT	1MF	20%	50V
C18	1-161-021-11	CERAMIC	0.047MF	10%	25V
C19	1-124-463-00	ELECT	0.1MF	20%	50V
C20	1-161-057-00	CERAMIC	0.033MF	10%	25V
C21	1-102-936-00	CERAMIC	3PF	0.25PF	50V
C22	1-123-356-00	ELECT	10MF	20%	50V
C23	1-124-472-11	ELECT	470MF	20%	6.3V
C24	1-162-851-11	CERAMIC	0.1MF	10%	25V
C25	1-102-113-00	CERAMIC	390PF	5%	50V
C26	1-130-021-00	MYLAR	0.0018MF	10%	50V
C27	1-130-479-00	MYLAR	0.0047MF	10%	50V
C28	1-102-942-00	CERAMIC	5PF	10%	50V
C29	1-102-820-00	CERAMIC	330PF	5%	50V
C30	1-161-051-00	CERAMIC	0.01MF	10%	25V
C31	1-162-851-11	CERAMIC	0.1MF	10%	25V
C32	1-123-379-00	ELECT	0.47MF	20%	50V
C33	1-124-623-11	ELECT	1000MF	20%	6.3V
C34	1-102-947-00	CERAMIC	10PF	0.5PF	50V
C35	1-123-306-00	ELECT	47MF	20%	10V
C36	1-101-004-00	CERAMIC	0.01MF		50V
C37	1-102-935-00	CERAMIC	2PF	0.25PF	50V
C38	1-102-942-00	CERAMIC	5PF	1PF	50V
C39	1-123-380-00	ELECT	1MF	20%	50V
C40	1-102-971-00	CERAMIC	82PF	5%	50V
C41	1-102-973-00	CERAMIC	100PF	5%	50V
C42	1-102-936-00	CERAMIC	3PF		50V
CF1, T1	1-236-047-11	ENCAPSULATED COMPONENT			
CF2, CF3	1-567-685-81	FILTER, CERAMIC			
CT5	1-141-304-21	TRIMMER, CERAMIC 10PF			
CT6	1-141-304-21	TRIMMER, CERAMIC 10PF			
CT7	1-141-304-21	TRIMMER, CERAMIC 10PF			

Ref.No.	Part No.	Description			
CT1-4, CV1	1-151-405-00	CAP, VARIABLE			
D1	8-719-911-19	DIODE 1SS119			
D2	8-719-911-19	DIODE 1SS119			
D3	8-719-911-19	DIODE 1SS119			
D4	8-719-911-19	DIODE 1SS119			
D5	8-719-111-17	DIODE SD117			
D6	8-719-800-44	DIODE TLR144 (TUNING)			
IC1	8-752-033-29	IC CXA1019P			
J1	1-563-836-21	JACK (EARPHONE)			
L2	*1-425-891-11	COIL,PSB BANDPASS (1)			
L3	1-402-402-11	ANTENNA, FERRITE-ROD (MW/SW)			
L4	1-402-399-11	COIL, ANT (SW2)			
L5	1-422-614-11	COIL, AIR-CORE (FM OSC)			
L7	1-422-615-11	COIL, AIR-CORE (FM RF)			
L8	1-406-092-11	COIL, OSC (MW)			
L9	1-406-311-11	COIL, OSC (SW1)			
L10	1-406-312-11	COIL, OSC (SW2)			
L11	1-421-659-11	COIL, CHOKE 20UH			
L13	1-410-316-11	INDUCTOR	1UH		
Q1	8-729-178-54	TRANSISTOR 2SC2785			
Q2	8-729-178-54	TRANSISTOR 2SC2785			
R1	1-249-421-11	CARBON	2.2K	5%	1/4W
R2	1-249-441-11	CARBON	100K	5%	1/4W
R3	1-249-437-11	CARBON	47K	5%	1/4W
R4	1-249-416-11	CARBON	820	5%	1/4W
R5	1-249-393-11	CARBON	10	5%	1/4W
R6	1-249-423-11	CARBON	3.3K	5%	1/4W
R7	1-247-903-00	CARBON	1M	5%	1/4W
R9	1-249-405-11	CARBON	100	5%	1/4W
R10	1-247-842-11	CARBON	3K	5%	1/4W
R11	1-247-891-00	CARBON	330K	5%	1/4W
R12	1-249-423-11	CARBON	3.3K	5%	1/4W
R13	1-249-441-11	CARBON	100K	5%	1/4W
S2	1-571-672-11	SWITCH, LEVER SLIDE (BAND)			
SP1	1-544-036-11	SPEAKER			
VR1	1-226-822-00	RES, ADJ, CARBON 20K (TONE)			
VR2	1-226-822-00	RES, ADJ, CARBON 20K (FINE TUNE)			
VR3	1-238-241-21	RES, VAR, CARBON 50K WITH S1 (VOL)			

ACCESSORY & PACKING MATERIAL

1-504-116-31	EARPHONE
3-786-384-41	MANUAL, INSTRUCTION
*3-901-001-01	INDIVIDUAL CARTON
3-901-027-01	CASE, CARRING

MEMO

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.1	2001.10	Included Supplement-1
1.0	1990.04	Supplement-1
	1988.08	New