

ICF-A10W

SERVICE MANUAL

US Model



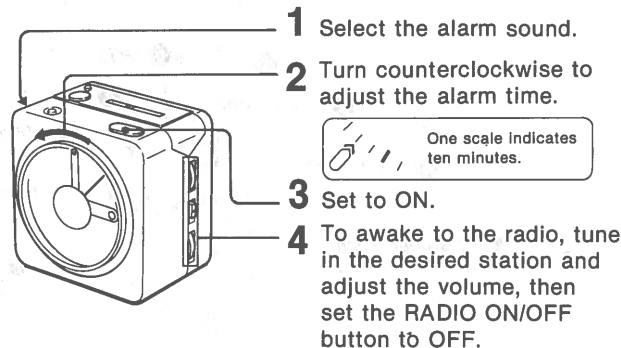
SPECIFICATIONS

Frequency range	FM: 88–108 MHz AM: 530–1,605 kHz
Antennas	FM: Wire antenna AM: Built-in ferrite bar antenna
Speaker	5.7 cm (2 inches) dia. 8 Ω
Power output	120 mW
Battery life	

Batteries	Radio	Clock
Size AA (IEC, R6)	Approx. 20 hours	Approx. one year

Power requirements	Radio: 3 V dc, two size AA (IEC, R6) batteries Clock: 1.5 V dc, one size AA (IEC, R6) battery
Dimensions	Approx. 112 × 119.5 × 84 mm (w/h/d) (4 1/2 × 4 3/4 × 3 3/8 inches) incl. projecting parts and controls
Weight	Approx. 470 g (1 lb 5.76 oz) incl. batteries

HOW TO SET THE ALARM (RADIO OR MELODY)



The alarm will come on automatically at the preset time and shut itself off automatically after approx. 50 minutes.

To turn off the alarm sound, depress the ALARM button.

HOW TO USE THE SLEEP TIMER

- 1 Tune in the desired station and adjust the volume.
- 2 Press the RADIO ON/OFF button to OFF.
- 3 Press the SLEEP TIMER button. The radio will be turned on and turned itself off automatically after approx. one hour.

To turn off the radio before the preset time (one hour), press the SLEEP TIMER button again.

Other Convenient Uses

Using the sleep timer after setting the alarm, you can fall asleep to music, knowing the radio will turn itself off after approx. one hour and you will be awakened by the alarm at the desired preset time.

In this case, be sure to set the ALARM MODE selector to RADIO or MELODY after setting the alarm and the sleep timer.

For details and notes on each operation, refer to the specific section.



FM/AM ANALOG CLOCK RADIO
SONY®

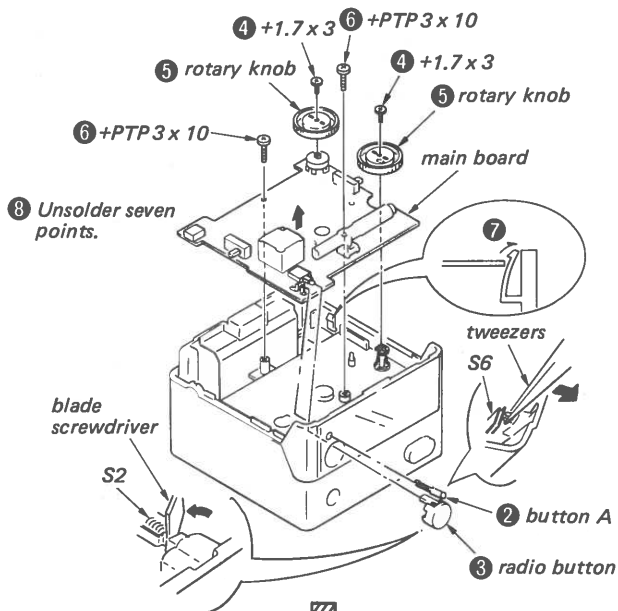
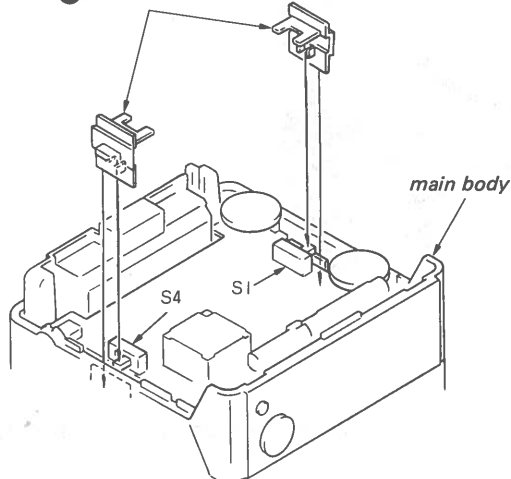
1. DISASSEMBLY • Follow the disassembly procedure in the numerical order given.

REAR CASE

1. Remove the battery lid.
2. Pull out the clock knob at the rear side.
(Confirm that an idler oil ring is attached to the clock knob when pulling it out.)
3. Remove two screws at the rear side of the case.
4. Remove the case.

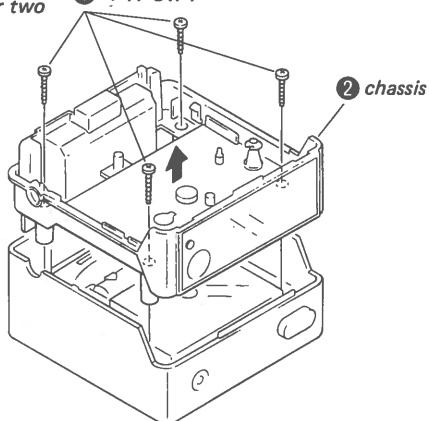
MAIN BOARD

- 1 Remove the slide knob.



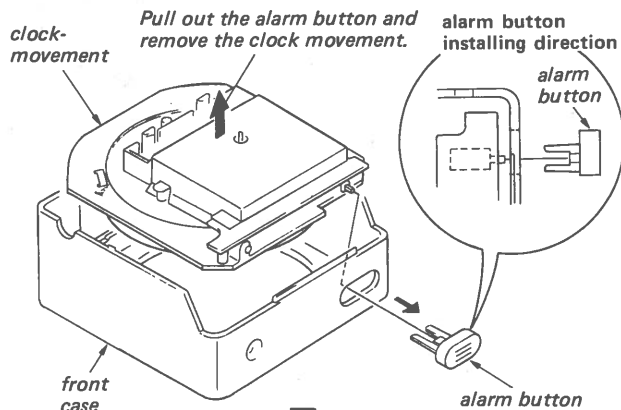
CHASSIS

- 3 Unsolder two points.
- 1 +PTP 3x4



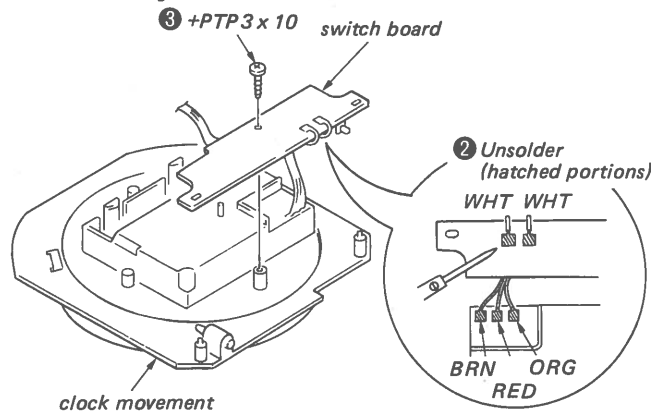
CHASSIS

CLOCK MOVEMENT



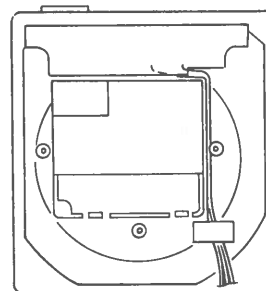
SWITCH BOARD

- 1 Remove the shield plate by removing +PTP 3x2 screws.



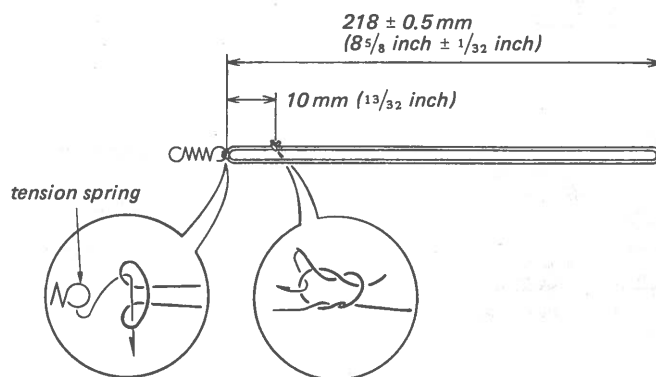
*Note on assembling

Arrange lead wires from the switch board as shown below.



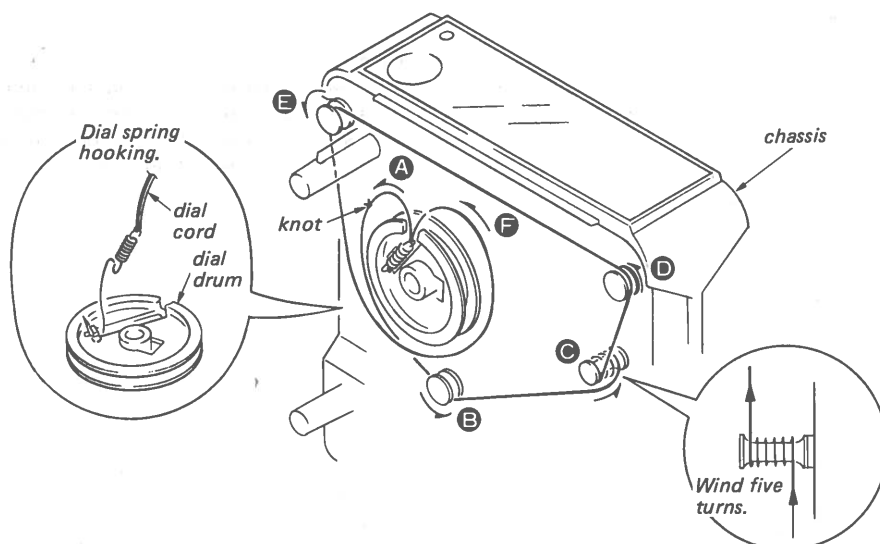
2. DIAL CORD STRINGING

1. Preparation



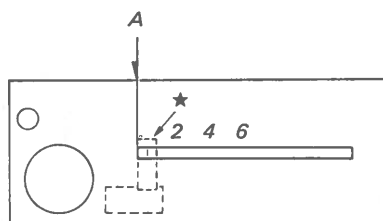
2. Stringing

- 1) Turn the dial drum fully counterclockwise.
- 2) Hook the dial cord in the alphabetical order given.



3. Dial Pointer Installation

- 1) Turn the dial drum fully counterclockwise.
- 2) Install the dial pointer (★ marked portion) to the rear side of the scale plate on the chassis.
- 3) Fit the left side of the pointer to the left side of the dial scale.



3. ELECTRICAL ADJUSTMENT

AM

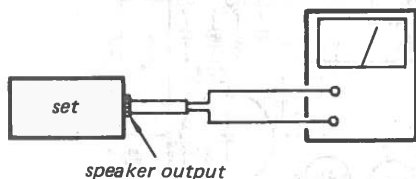
AM rf signal generator



30% amplitude modulation by 400 Hz signal

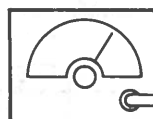
Put the lead-wire antenna close to the set.

VTVM
(range: 0.5 – 5V ac)



FM

FM rf signal generator



±22.5 kHz frequency deviation by 400 Hz signal

FM lead-wire antenna

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

AM TRACKING ADJUSTMENT

Adjust for a maximum reading on VTVM.

620 kHz	1,400 kHz
L1	CT1

AM FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on VTVM.

1,650 kHz	520 kHz
CT4	L5

FM TRACKING ADJUSTMENT

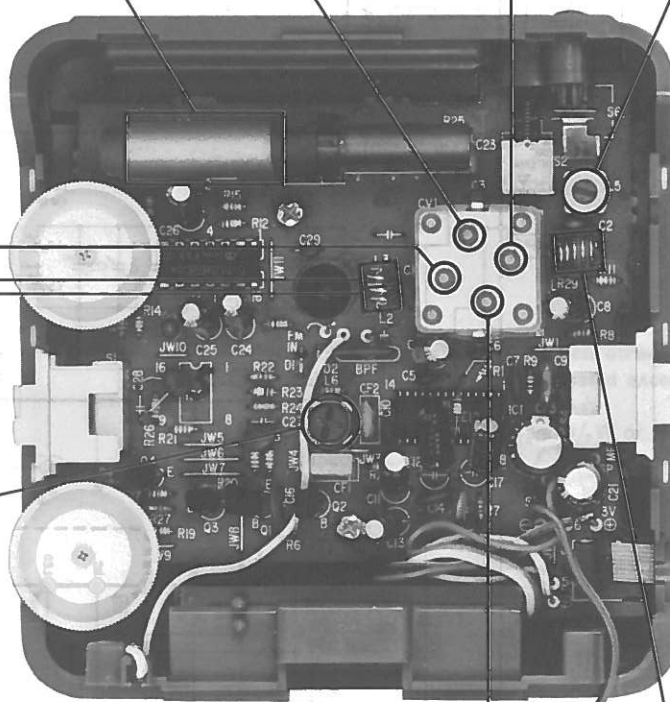
Adjust for a maximum reading on VTVM.

86.5 MHz	109.5 MHz
L2, L3	CT2

AM IF ALIGNMENT

Adjust for a maximum reading on VTVM.

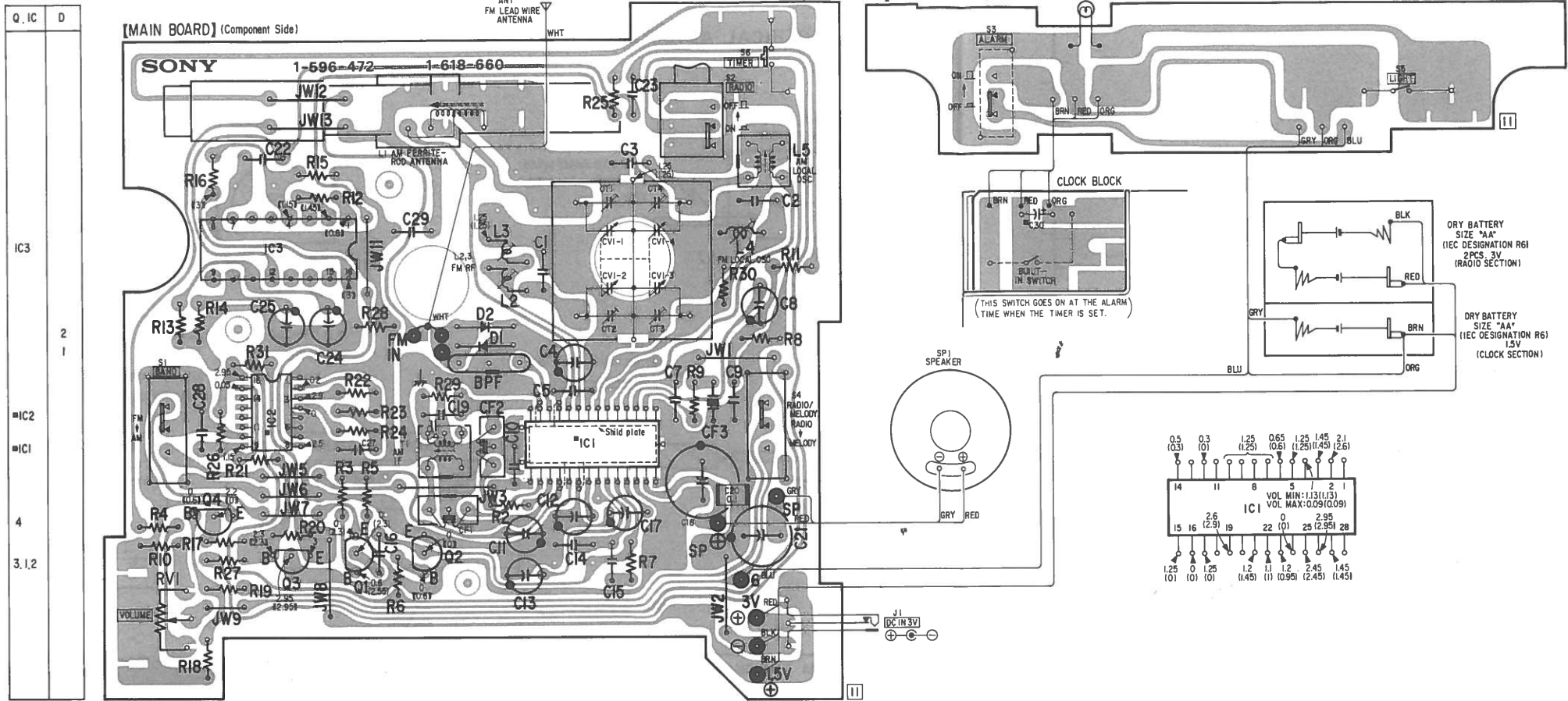
450 kHz
T1



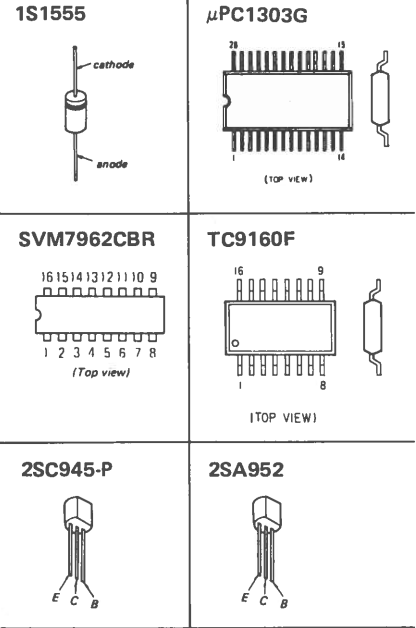
[MAIN BOARD]

CT3	L4
109.5 MHz	86.5 MHz
Adjust for a maximum reading on VTVM.	
FM FREQUENCY COVERAGE ADJUSTMENT	

4. MOUNTING DIAGRAM

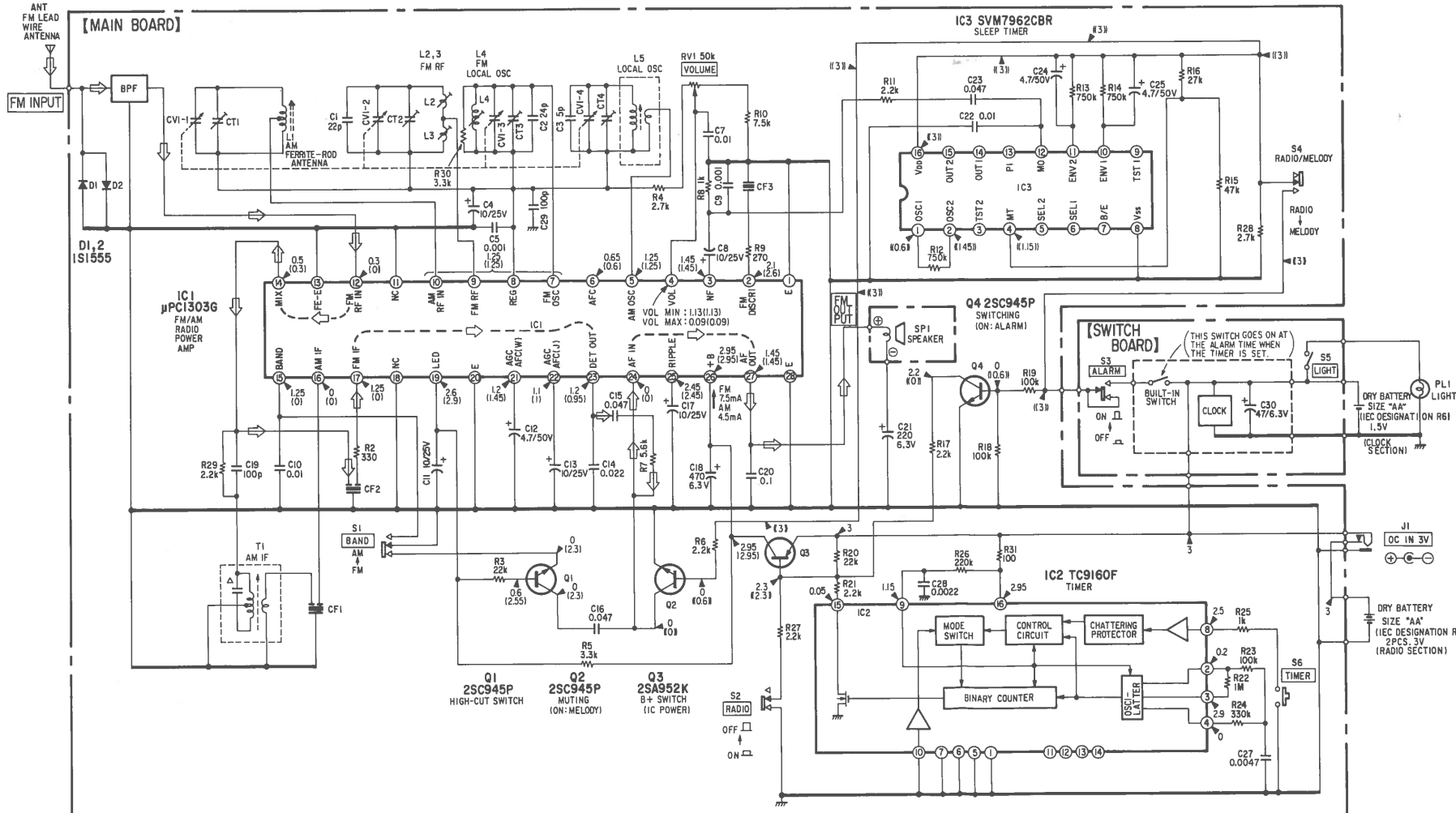


● Semiconductor Lead Layouts



- Note:
- : parts extracted from the component side.
 - : parts extracted from the conductor side.
 - : part mounted on the conductor side.
 - : indicates side identified with part number.

5. SCHEMATIC DIAGRAM



- Note:
- All capacitors are in μF unless otherwise noted. pF : $\mu\mu F$ 50VV or less are not indicated except for electrolytics and tantalums.
 - All resistors are in Ω and $1/4 W$ or less unless otherwise specified.
 - FM signal path.
 - internal component.
 - B+ bus.
 - Voltagages are dc relative to ground unless otherwise noted.
 - Readings are measured under no-signal conditions with a VOM (50 $k\Omega/V$).
 - No mark: FM
 - () : AM
 - (()) : MELODY ALARM
 - Voltage variations may be noted due to normal production tolerances.
 - Switches

Ref. No.	Switch	Position
S1	BAND	FM
S2	RADIO	ON
S3	ALARM	OFF
S4	RADIO/MELODY	RADIO
S5	LIGHT	OFF
S6	TIMER	OFF

6. EXPLODED VIEW AND PARTS LIST

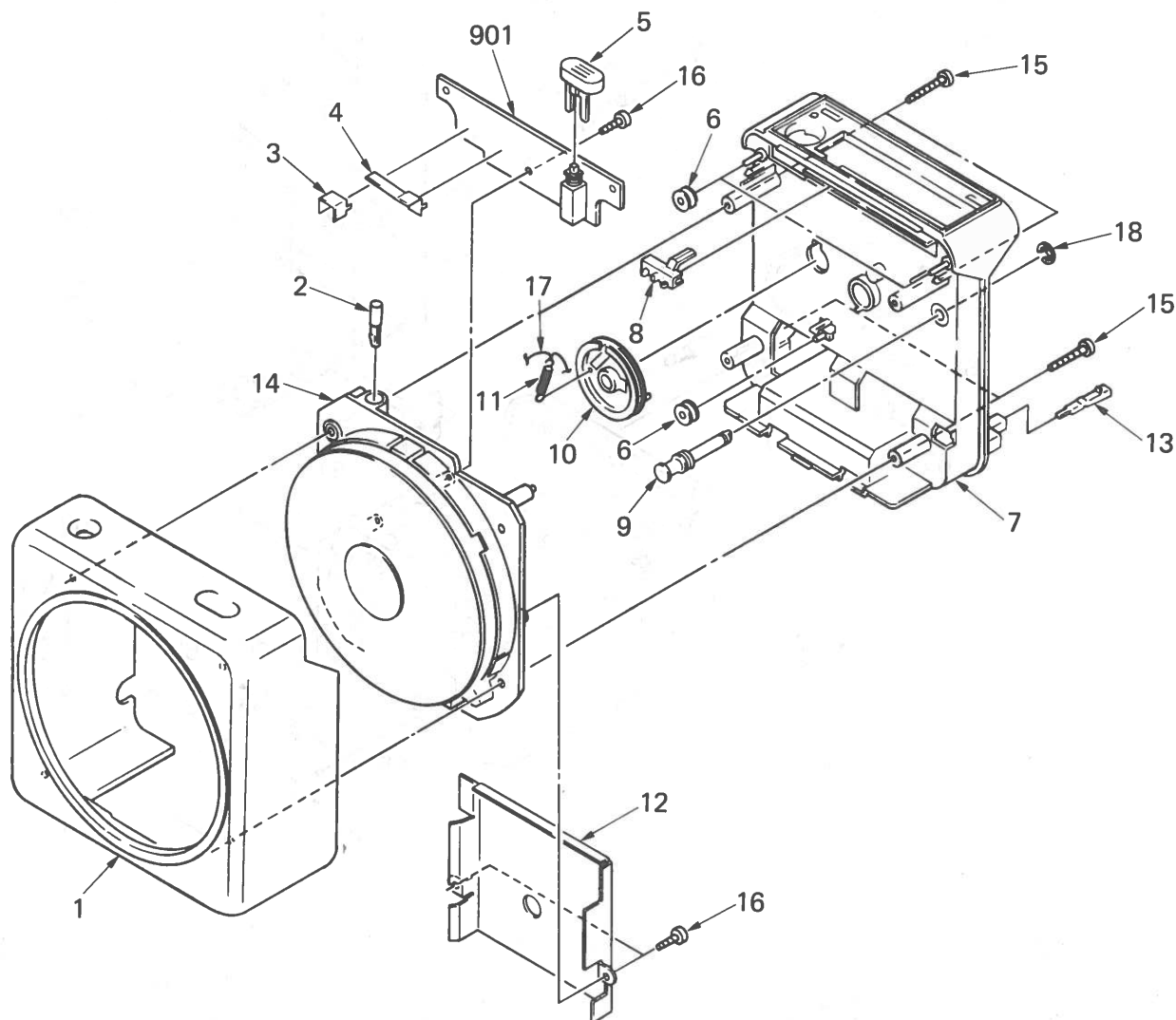
NOTE:

• The mechanical parts with no reference number in the exploded views are not supplied.

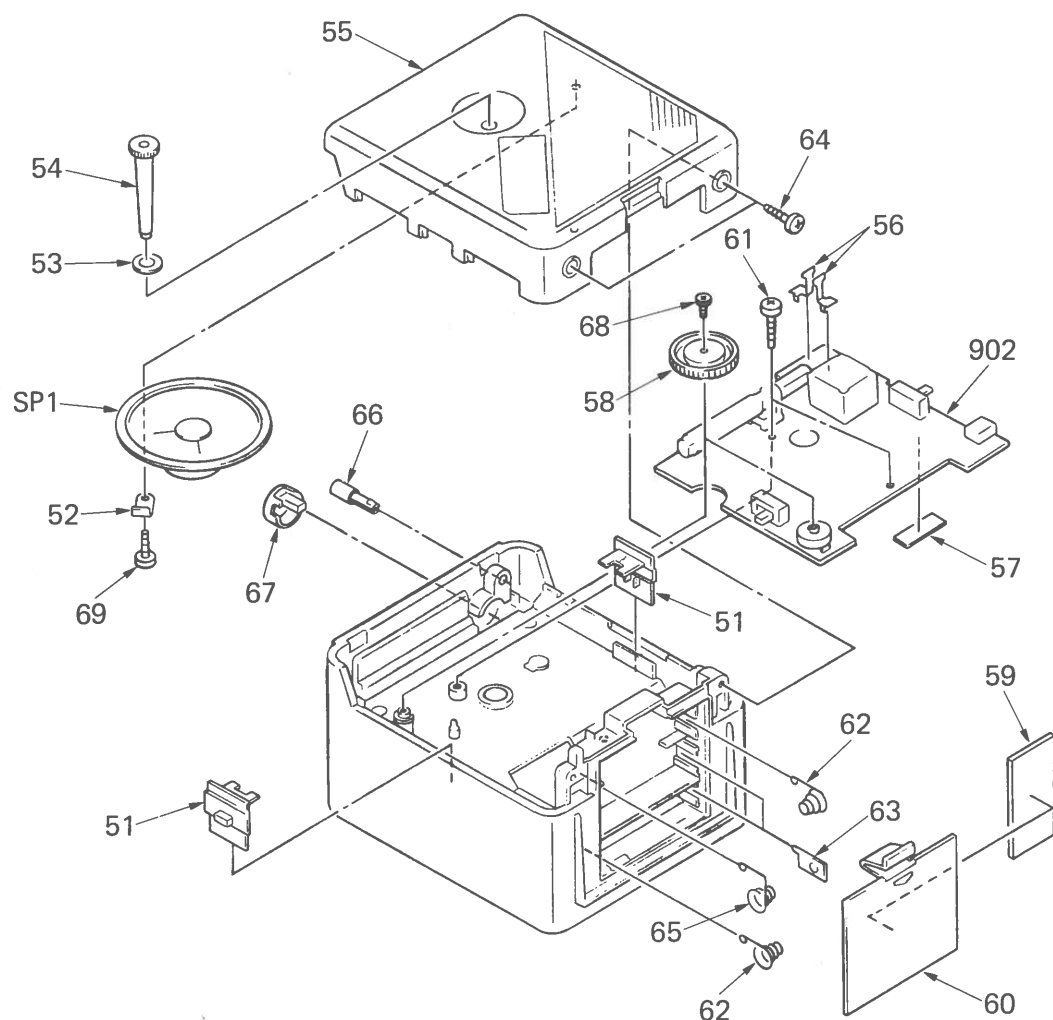
• Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• The construction parts of an assembled part are indicated with a collation number in the remark column.

(1)



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	X-3896-513-1 X-3896-514-1 X-3896-515-1 X-3896-516-1 X-3896-517-1	(BLACK)...CASE ASSY, FRONT (WHITE)...CASE ASSY, FRONT (PINK)...CASE ASSY, FRONT (BLUE)...CASE ASSY, FRONT (RED)...CASE ASSY, FRONT		7	X-3896-511-1 X-3896-512-1	(BLACK)...CASSIS ASSY (GRAY)...CASSIS ASSY	
2	3-896-504-01 3-896-504-11	(BLACK,RED).....BUTTON (A) (WHITE,PINK,BLUE)...BUTTON (A)		8	3-896-507-01	POINTER	
3	3-896-516-01	PLATE (B), CONTACT		9	3-896-518-01	SHAFT, TUNING	
4	3-896-517-01	PLATE (C), CONTACT		10	3-896-509-01	DRUM, VC	
5	3-896-502-01 3-896-502-11 3-896-502-21 3-896-502-41 3-896-502-51	(BLACK)...BUTTON, ALARM (WHITE)...BUTTON, ALARM (RED)...BUTTON, ALARM (PINK)...BUTTON, ALARM (BLUE)...BUTTON, ALARM		11	3-891-903-00	SPRING, TENSION	
6	3-304-108-00	PULLEY		12	*3-896-519-01	PLATE, SHIELD	
				13	3-896-527-01	TERMINAL	
				14	1-548-144-11 1-548-144-21 1-548-144-31 1-548-144-61	(BLACK).....CLOCK MOVEMENT (WHITE).....CLOCK MOVEMENT (RED).....CLOCK MOVEMENT (PINK,BLUE)...CLOCK MOVEMENT	
				15	7-685-149-11	SCREW +P 3X14 TYPE2 NON-SLIT	
				16	7-685-146-14	SCREW +P 3X8 TYPE2 NON-SLIT	
				17	9-911-825-52	DIAL CORD	
				18	7-624-106-04	STOP RING 3.0, TYPE -E	
				901	*1-618-659-11	PC BOARD, SWITCH	



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	3-896-514-01	(BLACK)...KNOB, SLIDE		58	3-896-505-01	(BLACK)...KNOB, ROTARY	
	3-896-514-11	(WHITE)...KNOB, SLIDE			3-896-505-11	(WHITE)...KNOB, ROTARY	
	3-896-514-21	(RED)....KNOB, SLIDE			3-896-505-21	(RED)....KNOB, ROTARY	
	3-896-514-41	(PINK)...KNOB, SLIDE			3-896-505-41	(PINK)....KNOB, ROTARY	
	3-896-514-51	(BLUE)...KNOB, SLIDE			3-896-505-51	(BLUE)...KNOB, ROTARY	
52	3-889-114-00	CLAW, SPEAKER		59	9-911-815-01	CUSHION (SIDE LEAD RETAINER)	
53	3-472-281-00	RING OIL,IDLAR		60	3-896-501-01	(BLACK,RED).....LID, BATTERY CASE	
					3-896-501-11	(WHITE,PINK,BLUE)...LID, BATTERY CASE	
54	3-896-508-01	(BLACK)...KNOB, CLOCK		61	7-685-147-14	SCREW +P 3X10 TYPE2 NON-SLIT	
	3-896-508-11	(WHITE)...KNOB, CLOCK		62	3-896-511-01	SPRING	
	3-896-508-21	(RED)....KNOB, CLOCK		63	3-896-510-01	TERMINAL, PLUS	
	3-896-508-41	(PINK)...KNOB, CLOCK		64	7-685-548-14	SCREW +BTP 3X12 TYPE2 N-S	
	3-896-508-51	(BLUE)...KNOB, CLOCK		65	2-370-903-00	SPRING (A)	
55	3-896-533-01	(BLACK)...CASE (REAR)		66	3-896-504-21	BUTTON (A)(LIGHT BUTTON)	
	3-896-533-11	(WHITE)...CASE (REAR)					
	3-896-533-21	(RED)....CASE (REAR)		67	3-896-503-01	(BLACK,RED).....BUTTON, POWER	
	3-896-533-31	(PINK)...CASE (REAR)			3-896-503-11	(WHITE,PINK,BLUE)...BUTTON, POWER	
	3-896-533-41	(BLUE)...CASE (REAR)		68	3-880-990-00	SCREW (1.7X3), FLAT, (+) SPECIAL	
56	3-896-515-01	PLATE (A), CONTACT		69	7-685-144-11	SCREW +P 3X5 TYPE2 NON-SLIT	
57	*3-892-935-01	PLATE, GROUND		902	*1-618-660-11	PC BOARD, MAIN	

7. ELECTRICAL PARTS LIST

NOTE:

Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

CAPACITORS:
MF:μF, PF:μF.

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...

ELECTRICAL PARTS					
Ref.No.	Part No.	Description			
901	*1-618-659-11	PC BOARD, SWITCH			
902	*1-618-660-11	PC BOARD, MAIN			
903	*A-3615-111-A	PC BOARD ASSY, MAIN			
904	*A-3681-203-A	PC BOARD ASSY, SWITCH			
BPF	1-235-171-00	FILTER, BAND PASS			
C1	1-102-959-00	CERAMIC	22PF	5%	50V
C2	1-102-672-00	CERAMIC	24PF	5%	50V
C3	1-101-997-00	CERAMIC	5PF	0.5PF	50V
C4	1-123-356-00	ELECT	10MF	20%	25V
C5	1-102-074-00	CERAMIC	0.001MF	10%	50V
C7	1-101-004-00	CERAMIC	0.01MF		50V
C8	1-123-356-00	ELECT	10MF	20%	25V
C9	1-101-001-00	CERAMIC	0.001MF		50V
C10	1-102-129-00	CERAMIC	0.01MF	10%	50V
C11	1-123-356-00	ELECT	10MF	20%	25V
C12	1-123-369-00	ELECT	4.7MF	20%	50V
C13	1-123-356-00	ELECT	10MF	20%	25V
C14	1-161-055-00	CERAMIC	0.022MF	20%	25V
C15	1-161-059-00	CERAMIC	0.047MF	20%	25V
C16	1-161-059-00	CERAMIC	0.047MF	20%	25V
C17	1-123-356-00	ELECT	10MF	20%	25V
C18	1-124-135-00	ELECT	470MF	20%	6.3V
C19	1-102-973-00	CERAMIC	100PF	5%	50V
C20	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V
C21	1-123-308-00	ELECT	220MF	20%	6.3V
C22	1-101-004-00	CERAMIC	0.01MF		50V
C23	1-161-059-00	CERAMIC	0.047MF	20%	25V
C24	1-123-369-00	ELECT	4.7MF	20%	50V
C25	1-123-369-00	ELECT	4.7MF	20%	50V
C27	1-161-047-00	CERAMIC	0.0047MF	10%	25V
C28	1-101-002-00	CERAMIC	0.0022MF		50V
C29	1-102-973-00	CERAMIC	100PF	5%	50V
CF1	1-527-870-00	FILTER			
CF2	1-567-538-71	FILTER, CERAMIC			
CF3	1-567-538-71	FILTER, CERAMIC			
CT1-4 } CV1-4 }	1-151-478-11	CAP, TUNING, POLYETHYLENE			
D1	8-719-815-55	DIODE 1S1555			
D2	8-719-815-55	DIODE 1S1555			
IC1	1-807-018-11	IC UPC1303G			
IC2	8-759-203-88	IC TC9160F			
IC3	1-807-472-11	MELODY IC SVM7962CBS (HERE COMES THE SUN)			
J1	1-507-951-11	JACK, EXTERNAL POWER			
L1	1-402-216-11	ANTENNA, FERRITE-ROD (MW)			
L2	1-422-275-11	COIL, AIR-CORE			
L3	1-422-275-11	COIL, AIR-CORE			

ELECTRICAL PARTS					
Ref.No.	Part No.	Description			
L4	1-422-274-11	COIL, AIR-CORE			
L5	1-406-028-00	COIL, OSC (MW)			
PL1	1-518-595-11	LAMP, PILOT			
Q1	8-729-194-57	TRANSISTOR 2SC945-P			
Q2	8-729-194-57	TRANSISTOR 2SC945-P			
Q3	8-729-195-23	TRANSISTOR 2SA952			
Q4	8-729-194-57	TRANSISTOR 2SC945-P			
R2	1-247-819-00	CARBON	330	5%	1/6W
R3	1-249-433-11	CARBON	22K	5%	1/6W
R4	1-247-841-00	CARBON	2.7K	5%	1/6W
R5	1-247-843-00	CARBON	3.3K	5%	1/6W
R6	1-249-421-11	CARBON	2.2K	5%	1/6W
R7	1-247-849-00	CARBON	5.6K	5%	1/6W
R8	1-247-831-00	CARBON	1K	5%	1/6W
R9	1-247-817-00	CARBON	270	5%	1/6W
R10	1-247-852-00	CARBON	7.5K	5%	1/6W
R11	1-249-421-11	CARBON	2.2K	5%	1/6W
R12	1-247-900-00	CARBON	750K	5%	1/6W
R13	1-247-900-00	CARBON	750K	5%	1/6W
R14	1-247-900-00	CARBON	750K	5%	1/6W
R15	1-249-437-11	CARBON	47K	5%	1/6W
R16	1-249-434-11	CARBON	27K	5%	1/6W
R17	1-249-421-11	CARBON	2.2K	5%	1/6W
R18	1-249-441-11	CARBON	100K	5%	1/6W
R19	1-249-441-11	CARBON	100K	5%	1/6W
R20	1-249-433-11	CARBON	22K	5%	1/6W
R21	1-249-421-11	CARBON	2.2K	5%	1/6W
R22	1-247-903-00	CARBON	1M	5%	1/6W
R23	1-249-441-11	CARBON	100K	5%	1/6W
R24	1-247-891-00	CARBON	330K	5%	1/6W
R25	1-247-831-00	CARBON	1K	5%	1/6W
R26	1-247-887-00	CARBON	220K	5%	1/6W
R27	1-249-421-11	CARBON	2.2K	5%	1/6W
R28	1-247-841-00	CARBON	2.7K	5%	1/6W
R29	1-249-421-11	CARBON	2.2K	5%	1/6W
R30	1-247-843-00	CARBON	3.3K	5%	1/6W
R31	1-249-405-11	CARBON	100	5%	1/6W
RV1	1-230-554-21	RES, VAR, CARBON 50K (VOLUME)			
S1	1-552-370-00	SWITCH, SLIDE (BAND FM-AM)			
S2	1-570-601-11	SWITCH, PUSH (1 KEY)(RADIO)			
S3	1-570-575-11	SWITCH, PUSH (1 KEY)(ALARM)			
S4	1-552-370-00	SWITCH, SLIDE (RADIO-MELODY)			
S5		SWITCH, PUSH (LIGHT)(CONTACT PLATE)			
S6		SWITCH, PUSH (TIMER)(CONTACT PLATE)			
SP1	1-503-616-11	SPEAKER			
T1	1-404-341-00	TRANSFORMER, IF			

ACCESSORY & PACKING MATERIAL

<u>Part No.</u>	<u>Description</u>
2-260-606-00	BAG, PROTECTION
3-701-622-00	BAG, POLYETHYLENE
3-703-910-01	(BLACK)...LABEL, COLOR
3-703-916-01	(BLUE)...LABEL, COLOR
3-703-919-01	(PINK)...LABEL, COLOR
3-703-920-01	(RED)...LABEL, COLOR
3-703-923-01	(WHITE)...LABEL, COLOR
3-896-529-01	CUSHION
3-896-535-01	INDIVIDUAL CARTON
3-896-537-01	(WHITE)...LABEL (W), UPC
3-896-538-01	(BLACK)...LABEL (B), UPC
3-896-539-01	(BLUE)...LABEL (L), UPC
3-896-540-01	(RED)...LABEL (R), UPC
3-896-541-01	(PINK)...LABEL (P), UPC
3-990-055-21	MANUAL, INSTRUCTION
X-3896-510-1	PIN, TERMINAL