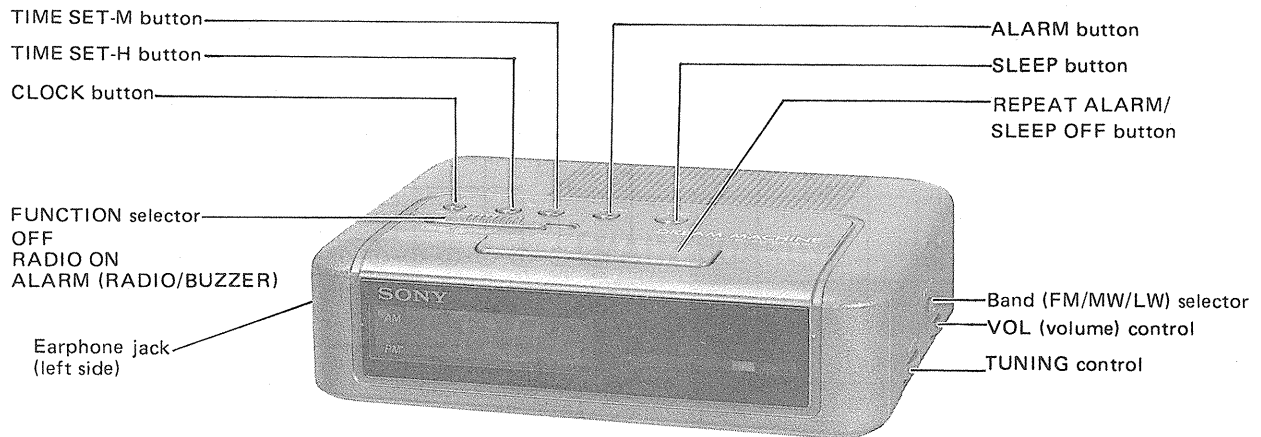


ICF-C250L

SERVICE MANUAL

AEP Model



SPECIFICATIONS



Frequency range	FM: 87.6–107.5MHz MW: 531–1,602kHz LW: 153–255kHz
Antenna	FM: AC power cord antenna MW/LW: Built-in ferrite bar antenna
Speaker	Approx. 6.6cm (2 ⁵ / ₈ inches) dia.
Output	Earphone jack (minijack)
Power output	100mW (at 10% harmonic distortion)
Power requirement	220V AC, 50Hz For the power backup function: 9V DC, one 6F22 battery
Battery life	Approx. 80 hours, using Sony battery S-006P (U)
Dimensions	Approx. 181.5x59x144 mm (w/h/d) (7 ¹ / ₄ x 2 ³ / ₈ x 5 ³ / ₄ inches) incl. projecting ports and controls
Weight	Approx. 570g (1 lb 4oz) not incl. battery

Design and specifications subject to change without notice.

FEATURES

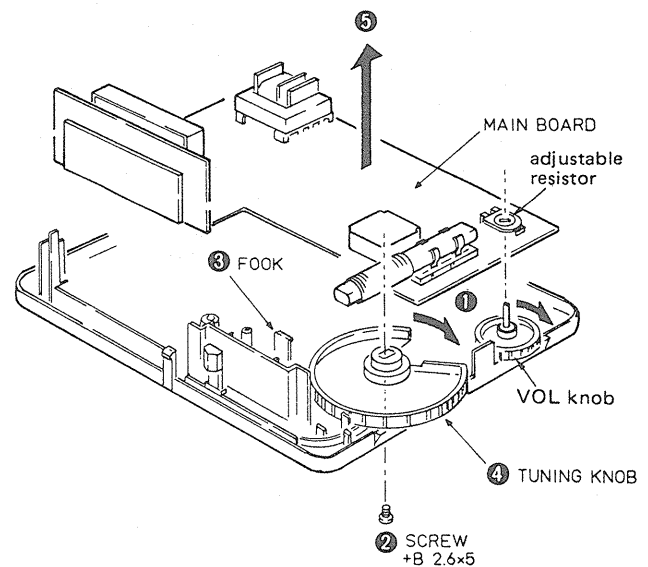
- Electronic digital alarm clock and sleep timer are combined.
- Two wake-up modes available: radio or buzzer alarm.
- REPEAT ALARM bar, operable with a feather-light touch, offers two functions: snooze alarm and sleep timer turn off.
- Power back-up function to keep the clock operating during a power interruption, using an optional 6F22 battery.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

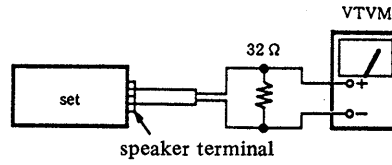
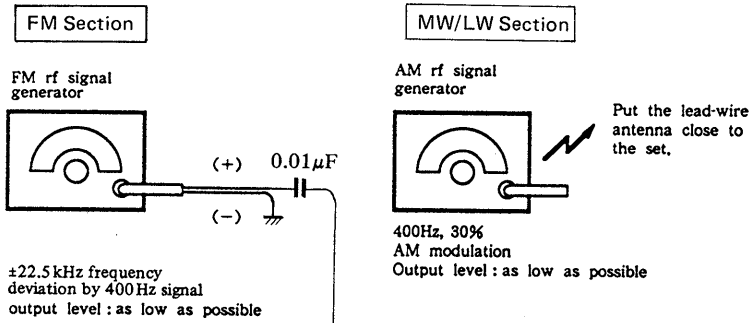
MAIN BOARD REMOVAL

- ① Turn TUNING knob fully clockwise.
 - ② Remove screw (+B 2.6X5)
 - ③ Release fook.
 - ④ Remove main board pressing down TUNING knob.
- Note:** When installing main board, align shaft of VOL knob with a hole of adjustable resistor.



FM/MW/LW DIGITAL CLOCK RADIO
SONY®

SECTION 1 ELECTRICAL ADJUSTMENTS



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

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L4	87.35MHz
CT4	108.05MHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L5, L6	87.35MHz
CT3	108.05MHz

AM IF ALIGNMENT	
Adjust for a maximum reading on VTVM.	
T2	
	455kHz

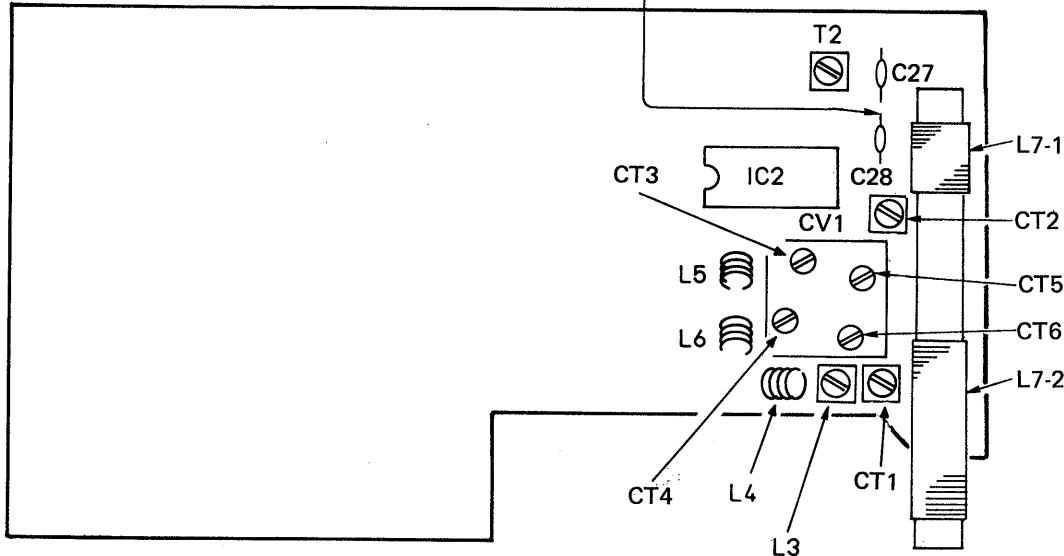
MW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L3	520kHz
CT6	1,650kHz

MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L7-1	620kHz
CT5	1,400kHz

LW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
CT1	145kHz

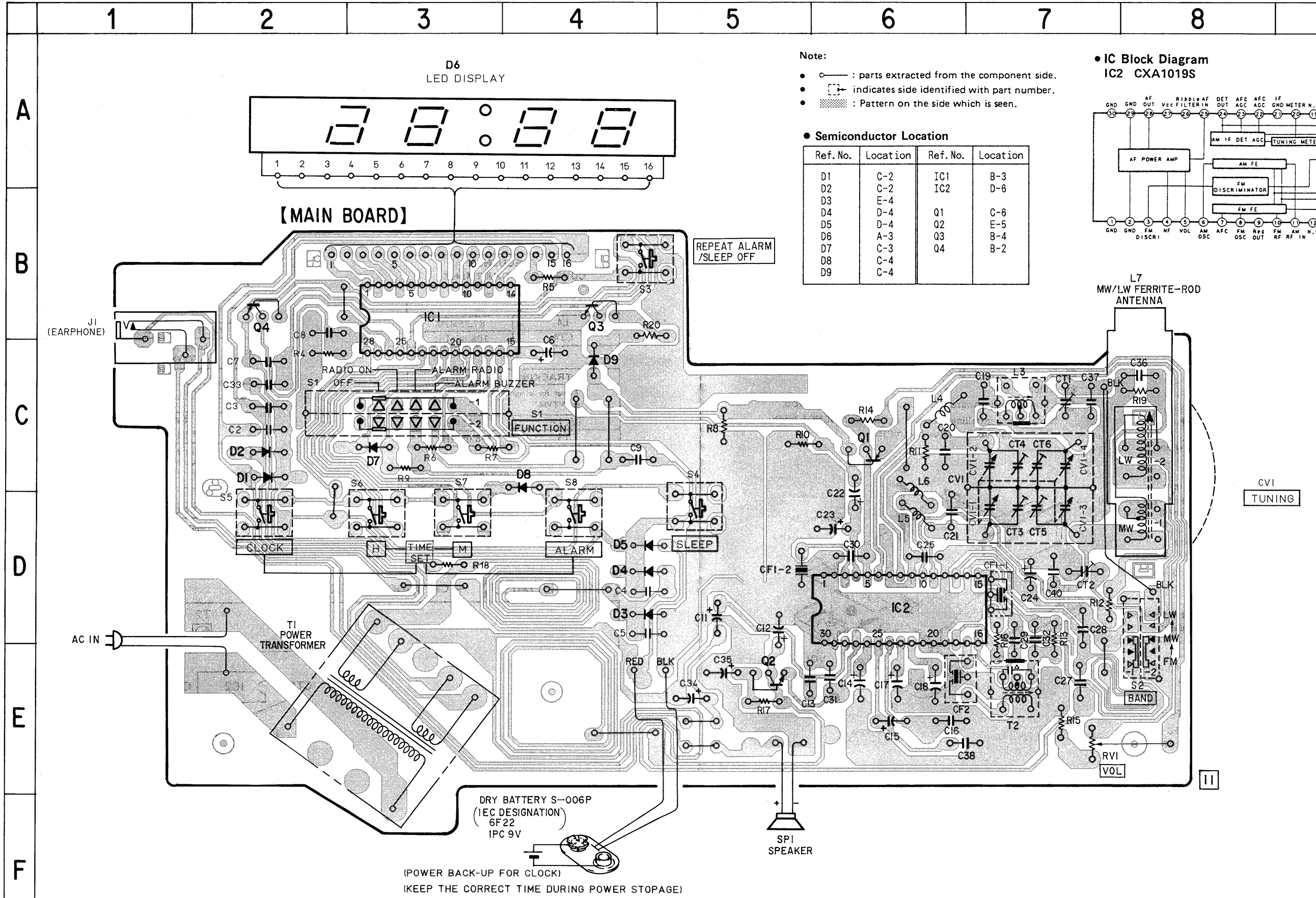
LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L7-2	160kHz
CT2	240kHz

【MAIN BOARD】 - component side -



SECTION 2 DIAGRAMS

2-1. PRINTED WIRING BOARDS



D6
LED DISPLAY

[MAIN BOARD]

REPEAT ALARM
/SLEEP OFF

CV1
TUNING

DRY BATTERY S-006P
(IEC DESIGNATION)
6F 22
IPC 9V

(POWER BACK-UP FOR CLOCK)
(KEEP THE CORRECT TIME DURING POWER STOPAGE)

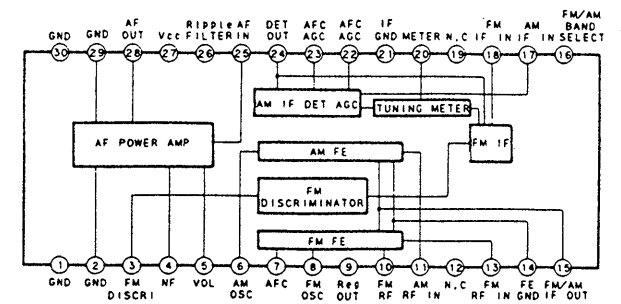
Note:

- — : parts extracted from the component side.
- — : indicates side identified with part number.
- ▨ : Pattern on the side which is seen.

• Semiconductor Location

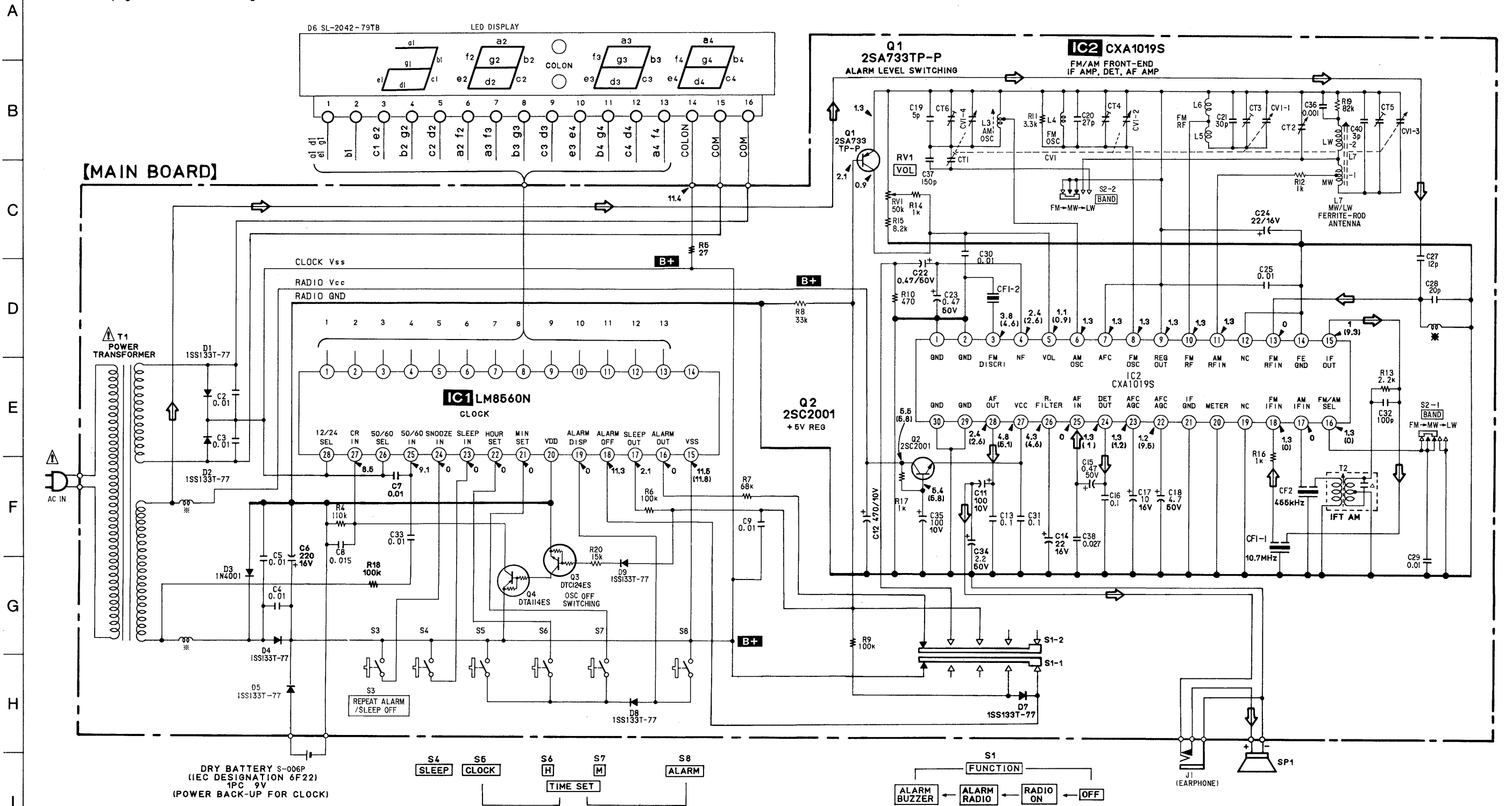
Ref. No.	Location	Ref. No.	Location
D1	C-2	IC1	B-3
D2	C-2	IC2	D-6
D3	E-4	Q1	C-6
D4	D-4	Q2	E-5
D5	D-4	Q3	B-4
D6	A-3	Q4	B-2
D7	C-3		
D8	C-4		
D9	C-4		

• IC Block Diagram
IC2 CXA1019S

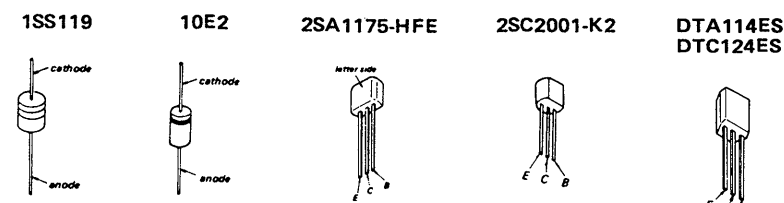


2-2. SCHEMATIC DIAGRAM

• See page 4 for IC2 block diagram.



• Semiconductor Lead Layouts



Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

- * : Printed pattern functions as a kind of coil.
- All capacitors are in μF unless otherwise noted. pF: μpF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}$ W or less unless otherwise specified.
- Δ : internal component.
- B+** : B+ lines.
- Voltage and waveforms are dc with respect to ground
- under detuned conditions.
no mark : FM
() : MW/LW
- Voltages are taken with a VOM. (input impedance 10 M Ω)
Voltage variations may be noted due to normal production tolerances.
- Signal path.
- \Rightarrow : FM

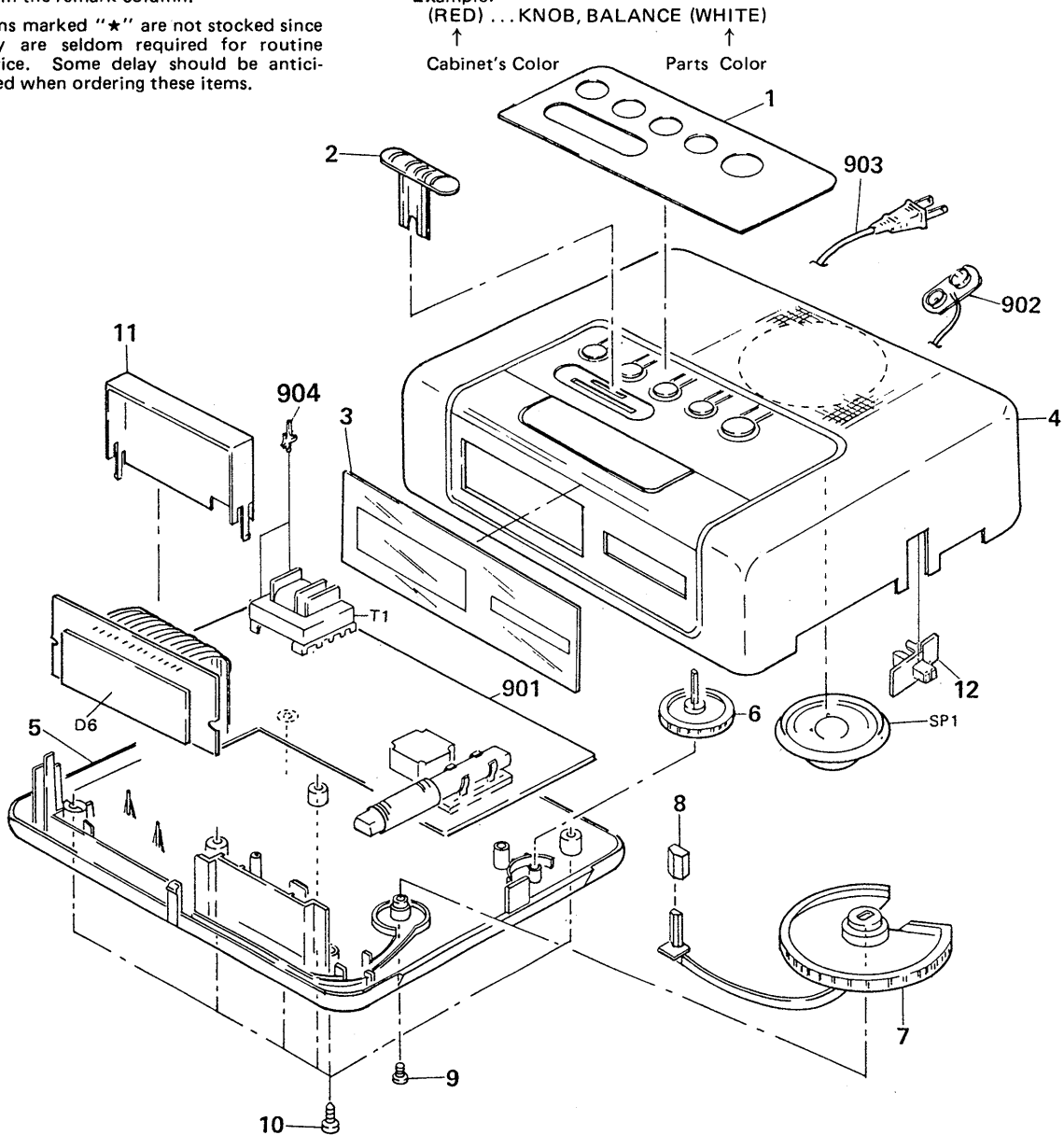
SECTION 3 EXPLODED VIEWS

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)

The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	3-902-093-51 3-902-093-71	{WHITE}...PLATE, ORNAMENTAL {BLACK}...PLATE, ORNAMENTAL		8	*3-902-463-01	CAP (POINTER)	
2	3-902-092-01 3-902-092-32	{WHITE}...KNOB (FUNCTION) {BLACK}...KNOB (FUNCTION)		9	7-621-775-20	SCREW +B 2.6X5	
3	3-902-090-51	SCALE, DIAL		10	7-685-648-79	SCREW +BTP 3X12 TYPE2 N-S	
4	3-902-471-41 3-902-471-61	{WHITE}...CABINET (UPPER) {BLACK}...CABINET (UPPER)		11	3-902-094-02	STOPPER (REPEAT ALARM)	
5	3-902-470-71 3-902-470-91	{WHITE}...CABINET (LOWER) {BLACK}...CABINET (LOWER)		12	3-902-472-01	KNOB (BAND)	
6	3-902-091-01 3-902-091-11	{BLACK}...KNOB (VOL)(GRAY) {WHITE}...KNOB (VOL)(LIGHT GRAY)		901	*A-3615-362-A	MOUNTED PCB, MAIN	
7	3-902-474-01 3-902-474-11	{BLACK}...KNOB (TUNING)(GRAY) {WHITE}...KNOB (TUNING)(LIGHT GRAY)		902	1-535-253-00	SNAP, BATTERY	
				903	1-555-795-00	CORD, POWER	
				904	1-535-476-11	TERMINAL	
				D6	1-808-653-21	LED BLOCK SL-2042-79TB (GREEN LED)	
				SP1	1-503-082-00	SPEAKER	
				T1	1-449-940-11	TRANSFORMER, POWER	

SECTION 4 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: μ F, PF: μ F.

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

COILS
• MMH: mH, UH: μ H

SEMICONDUCTORS
In each case, U: μ , for example:
UA...: μ A..., UPA...: μ PA...,
UPC...: μ PC, UPD...: μ PD...

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description
901	*A-3615-362-A	MOUNTED PCB, MAIN
902	1-535-253-00	SNAP, BATTERY
903	Δ 1-555-795-00	CORD, POWER
904	1-535-476-11	TERMINAL
C2	1-101-004-00	CERAMIC 0.01MF 50V
C3	1-101-004-00	CERAMIC 0.01MF 50V
C4	1-101-004-00	CERAMIC 0.01MF 50V
C5	1-101-004-00	CERAMIC 0.01MF 50V
C6	1-124-120-11	ELECT 220MF 20% 16V
C7	1-101-004-00	CERAMIC 0.01MF 50V
C8	1-130-485-00	MYLAR 0.015MF 5% 50V
C9	1-161-379-00	CERAMIC 0.01MF 30% 16V
C11	1-126-101-11	ELECT 100MF 20% 10V
C12	1-124-472-11	ELECT 470MF 20% 10V
C13	1-162-851-11	CERAMIC 0.1MF 20% 16V
C14	1-123-330-00	ELECT 22MF 20% 16V
C15	1-123-379-00	ELECT 0.47MF 20% 50V
C16	1-162-851-11	CERAMIC 0.1MF 20% 16V
C17	1-123-356-00	ELECT 10MF 20% 16V
C18	1-123-369-00	ELECT 4.7MF 20% 50V
C19	1-102-998-11	CERAMIC 5PF 0.5PF 50V
C20	1-102-961-00	CERAMIC 27PF 5% 50V
C21	1-102-962-00	CERAMIC 30PF 5% 50V
C22	1-123-379-00	ELECT 0.47MF 20% 50V
C23	1-123-379-00	ELECT 0.47MF 20% 50V
C24	1-123-330-00	ELECT 22MF 20% 16V
C25	1-101-004-00	CERAMIC 0.01MF 50V
C27	1-102-949-00	CERAMIC 12PF 5% 50V
C28	1-102-958-00	CERAMIC 20PF 5% 50V
C29	1-101-004-00	CERAMIC 0.01MF 50V
C30	1-101-004-00	CERAMIC 0.01MF 50V
C31	1-162-851-11	CERAMIC 0.1MF 20% 16V
C32	1-102-973-00	CERAMIC 100PF 5% 50V
C33	1-101-004-00	CERAMIC 0.01MF 50V
C34	1-123-381-00	ELECT 2.2MF 20% 50V
C35	1-126-101-11	ELECT 100MF 20% 10V
C36	1-102-074-00	CERAMIC 0.001MF 10% 50V
C37	1-101-361-00	CERAMIC 150PF 5% 50V
C38	1-161-056-00	CERAMIC 0.027MF 10% 25V
C40	1-102-936-00	CERAMIC 3PF 0.25PF 50V
CF1	1-567-538-71	FILTER, CERAMIC
CF2	1-578-677-11	FILTER, CRYSTAL
CT1	1-141-245-00	CAP, VAR, TRIMMER
CT2	1-141-260-00	TRIMMER, CERAMIC
CT3-6 } CV1 }	1-151-614-11	CAP, VARIABLE
D1	8-719-911-19	DIODE 1SS119
D2	8-719-911-19	DIODE 1SS119
D3	8-719-200-02	DIODE 10E2
D4	8-719-911-19	DIODE 1SS119
D5	8-719-911-19	DIODE 1SS119
D6	1-808-653-21	LED BLOCK SL-2042-79TB (GREEN LED)
D7	8-719-911-19	DIODE 1SS119
D8	8-719-911-19	DIODE 1SS119
D9	8-719-911-19	DIODE 1SS119

Ref.No.	Part No.	Description
IC1	8-759-821-46	IC LM8560N
IC2	8-752-035-29	IC CXA1019S
J1	1-563-836-21	JACK (EARPHONE)
L3	1-406-150-11	COIL, AM OSC
L4	*1-405-962-00	COIL, FM OSC
L5	*1-422-291-11	COIL, AIR-CORE
L6	*1-422-291-11	COIL, AIR-CORE
L7	1-402-276-11	ANTENNA, FERRITE-ROD (LW/MW)
Q1	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q2	8-729-100-13	TRANSISTOR 2SC2001-K2
Q3	8-729-900-36	TRANSISTOR DTC124ES
Q4	8-729-900-61	TRANSISTOR DTA114ES
R4	1-247-880-11	CARBON 110K 5% 1/4W
R5	1-249-398-11	CARBON 27 5% 1/4W
R6	1-249-441-11	CARBON 100K 5% 1/4W
R7	1-249-439-11	CARBON 68K 5% 1/4W
R8	1-249-435-11	CARBON 33K 5% 1/4W
R9	1-249-441-11	CARBON 100K 5% 1/4W
R10	1-249-413-11	CARBON 470 5% 1/4W
R11	1-249-423-11	CARBON 3.3K 5% 1/4W
R12	1-249-417-11	CARBON 1K 5% 1/4W
R13	1-249-421-11	CARBON 2.2K 5% 1/4W
R14	1-249-417-11	CARBON 1K 5% 1/4W
R15	1-249-428-11	CARBON 8.2K 5% 1/4W
R16	1-249-417-11	CARBON 1K 5% 1/4W
R17	1-249-417-11	CARBON 1K 5% 1/4W
R18	1-249-441-11	CARBON 100K 5% 1/4W
R19	1-249-440-11	CARBON 82K 5% 1/4W
R20	1-249-431-11	CARBON 15K 5% 1/4W
RV1	1-228-790-00	RES, VAR, CARBON 50K (VOL)
S1	1-572-023-11	SWITCH, SLIDE (FUNCTION)
S2	1-554-061-00	SWITCH, SLIDE (BAND)
S3	1-553-856-00	SWITCH, KEY BOARD (REPEAT ALARM/SLEEP OFF)
S4	1-553-856-00	SWITCH, KEY BOARD (SLEEP)
S5	1-553-856-00	SWITCH, KEY BOARD (CLOCK)
S6	1-553-856-00	SWITCH, KEY BOARD (TIME SET-H)
S7	1-553-856-00	SWITCH, KEY BOARD (TIME SET-M)
S8	1-553-856-00	SWITCH, KEY BOARD (ALARM)
SP1	1-503-082-00	SPEAKER
T1	Δ 1-449-940-11	TRANSFORMER, POWER
T2	1-404-902-11	TRANSFORMER, IF

ACCESSORY & PACKING MATERIAL

- 3-751-271-11 MANUAL, INSTRUCTION
- *3-902-438-01 INDIVIDUAL CARTON
- *3-902-464-01 CUSHION