

ICF-C430

SERVICE MANUAL

US Model



DREAM MACHINE

SPECIFICATIONS

Frequency range: FM: 87.6 – 108 MHz

AM: 530 – 1,610 kHz

Speaker: Approx. 6.6 cm (2 5/8 inches) dia.

Power output: 100 mW (at 10 % harmonic distortion)

Power requirements:

120 V AC, 60 Hz

For power backup: 9 V DC, one 6F22 battery

Battery life: Approx. 35 hours using the Sony S-006P(U) battery

Dimensions: Approx. 224 × 58 × 151 mm (w/h/d)
(8 7/8 × 2 3/8 × 6 inches) incl. projecting parts and controls

Mass: Approx. 650 g (1lb 7oz) not incl. battery

Design and specifications are subject to change without notice.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle 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.

FM/AM CLOCK RADIO
SONY[®]

SAFETY CHECK-OUT

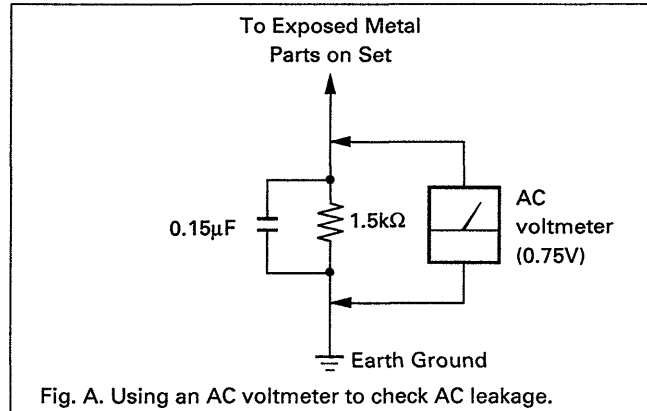
After correcting the original service problem, perform the following safety check before releasing the set to the customer: Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

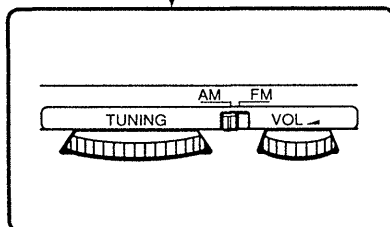
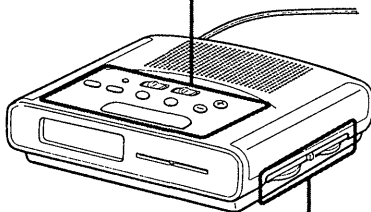
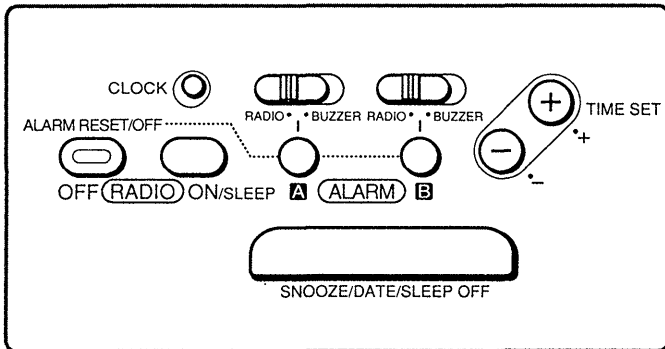
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig.A)



SECTION 1 GENERAL

This section is extracted from instruction manual.

Parts Identifications



Features

- Dual alarm
- Date display
- Forward/reverse time setting
- Full power backup to keep the clock and the alarm (radio and buzzer) during a power interruption with a 6F22 battery (not supplied) installed.

Setting the Alarm

To set the radio alarm, first tune in a station and adjust the volume.

1. While holding down the **ALARM A** or **B** button (for example, **A** for the radio or **B** for the buzzer), press either **+** or **-** under **TIME SET** till the desired time appears in the display. When you release **ALARM A** or **B**, the **ALARM A** or **B** indicator stops flashing and lights up, and the current time appears in the display.
2. Set the **ALARM A** selector (for radio) to **RADIO** or **ALARM B** selector (for buzzer) to **BUZZER**.
The alarm will come on at the preset time and automatically turn itself off after 59 minutes.

- If you set **ALARM A** and **ALARM B** at the same desired time, only **ALARM A** will work.
- To shut off the alarm, press **RADIO OFF/ALARM RESET/OFF**.
The alarm will come on at the preset time the next day.
- To cancel either alarm, while holding down the **ALARM A** or **ALARM B** button, press **RADIO OFF/ALARM RESET/OFF**.
- To doze for a few more minutes, press **SNOOZE/DATE/SLEEP OFF**.
The alarm will shut off, but will come on again after about 6 minutes. You can repeat this process as many times as you like.
- To adjust the radio alarm volume, turn the **VOL** dial.
- To check the preset time, press **ALARM A** or **B**.

Setting the Clock and the Date

Setting the Clock

1. Plug in the unit.
The display will flash "AM 12 : 00".
2. While holding down **CLOCK**, press either + or – under **TIME SET** till the correct time appears in the display.
When you release **CLOCK**, the clock begins to operate.

• To set the current time rapidly, keep pressing the + or – button to advance or return to a time that is within a few minutes of the current time. Then press the + or – button to set the time to the current time.

Setting the Date

1. While holding down **SNOOZE/DATE/SLEEP OFF**, press either + or – under **TIME SET** till the correct date appears in the display. Then, release **SNOOZE/DATE/SLEEP OFF**.

• To display the date, press **SNOOZE/DATE/SLEEP OFF**. The display returns to the current time when you release **SNOOZE/DATE/SLEEP OFF**.

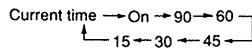
Setting the Sleep Timer

Enjoy falling asleep to the radio using the built-in sleep timer that shuts off the radio automatically at a preset time.

1. Press **RADIO ON/SLEEP**.

The radio turns on. It will go off after the preset time has passed. You can set the sleep timer of 90, 60, 45, 30 or 15 minutes.

Every push changes the display as follows.

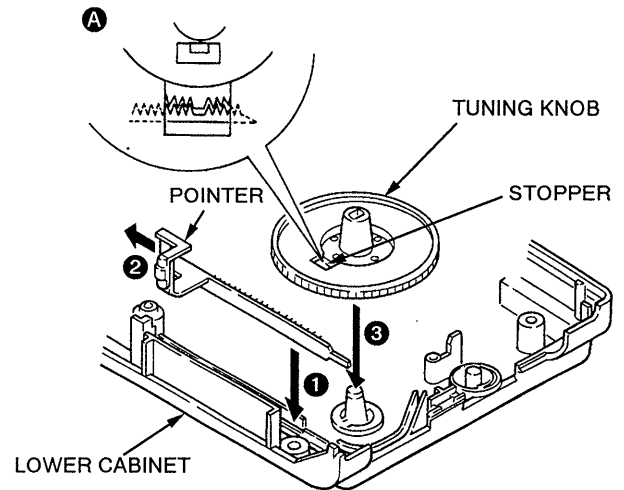


The radio will play for the time you set, then shut off.

• To turn off the radio before the preset time, press **SNOOZE/DATE/SLEEP OFF**.

SECTION 2 DIAL POINTER SETTING

2-1. DIAL POINTER SETTING



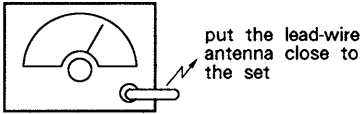
- ① Fit the gear part of pointer to cabinet groove and hook installing claw while taking pointer out of cabinet.
- ② Move pointer in the direction of arrow fully.
- ③ Install the gear part of stopper and the gear part of pointer as show in the drawing **A**.
Make sure to fit the stopper to the cabinet hole.

SECTION 3 ELECTRICAL ADJUSTMENTS

AM SECTION

Setting :
BAND select switch : AM

AM rf signal generator

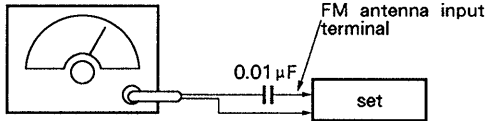


30 % amplitude modulation by 400Hz signal
Output level : as low as possible

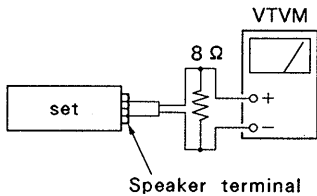
FM SECTION

Setting :
BAND select switch : FM

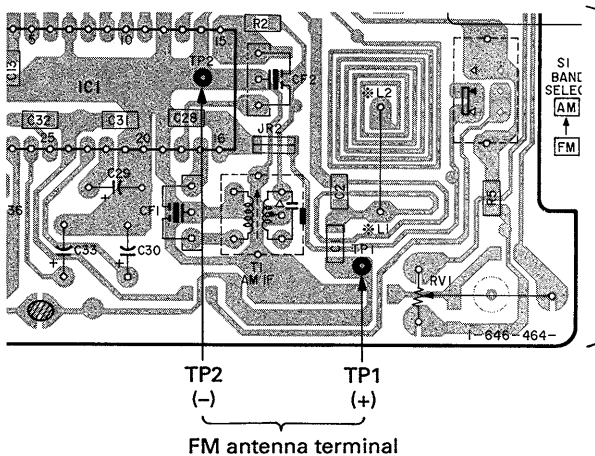
FM rf signal generator



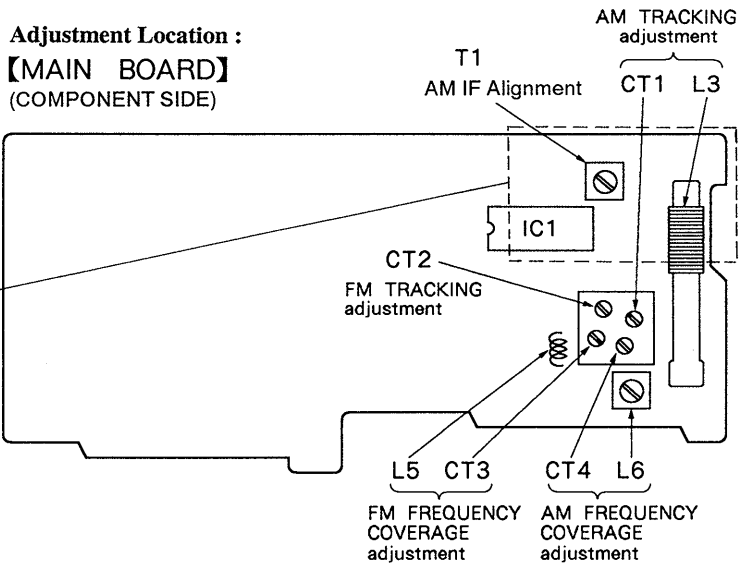
± 22.5kHz frequency deviation by 400Hz signal
Output level : as low as possible



[MAIN BOARD] (CONDUCTOR SIDE)



Adjustment Location : [MAIN BOARD] (COMPONENT SIDE)



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

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM	
L6	520kHz
CT4	1, 650kHz

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM	
L3	680kHz
CT1	1, 320kHz

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM	
L5	86.5MHz
CT3	109.5MHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM	
CT2	109.5MHz

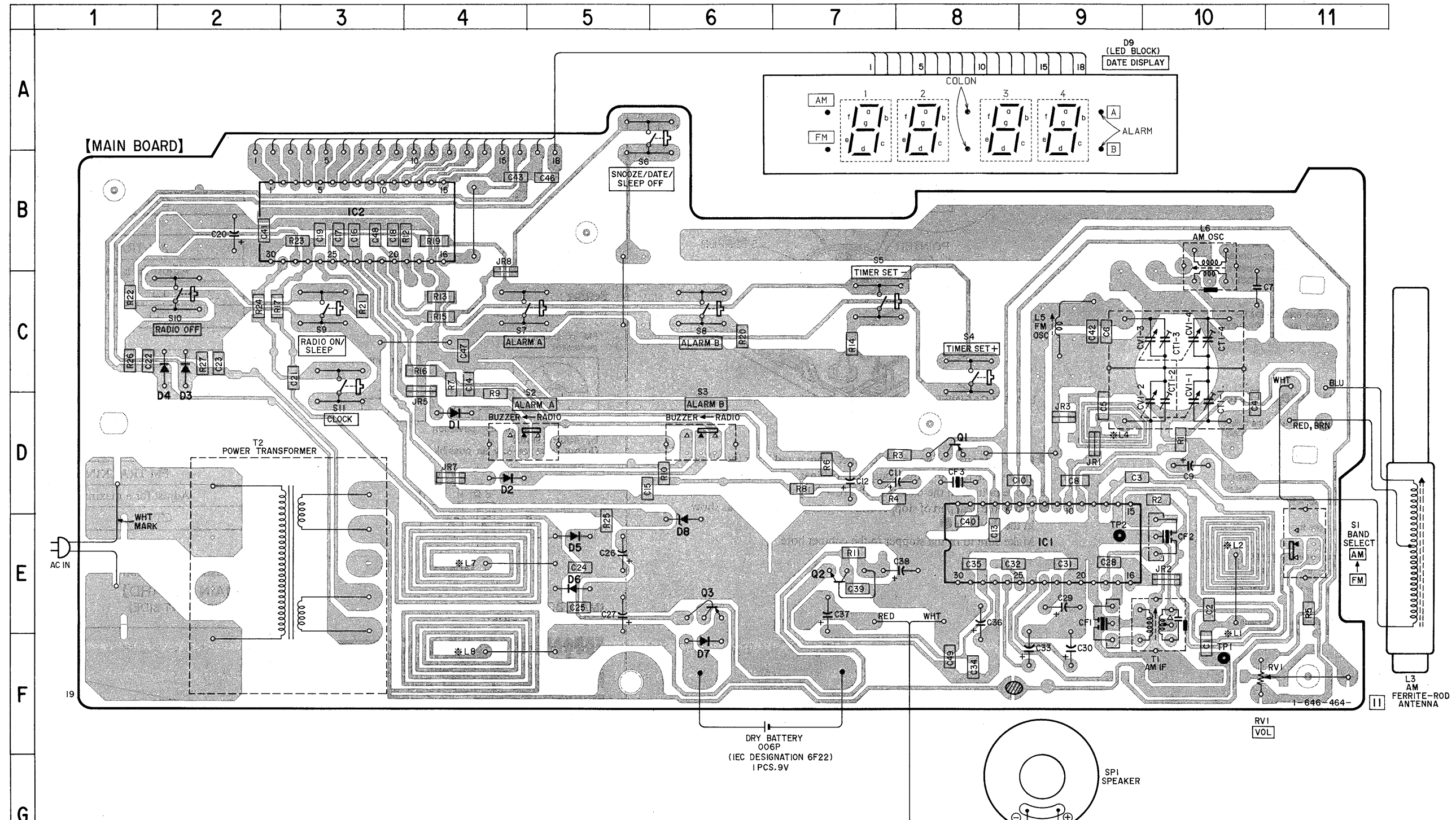
- Repeat the procedures each adjustment several times, and the frequency coverage and tracking adjustments should be done by the trimmer capacitors.

SECTION 4
DIAGRAMS

4-1. PRINTED WIRING BOARD

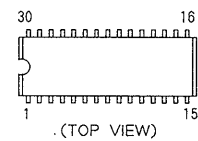
● SEMICONDUCTOR LOCATION

Ref. No.	Location
D1	D-4
D2	D-4
D3	C-2
D4	C-2
D5	E-5
D6	E-5
D7	F-6
D8	E-6
D9	A-9
IC1	E-9
IC2	B-3
Q1	D-8
Q2	E-7
Q3	E-6

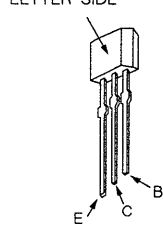


4-2. SEMICONDUCTOR LEAD LAYOUTS

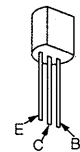
CXA1019S
LC85631



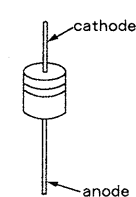
2SA1175-HFE
LETTER SIDE



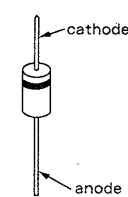
2SC2001-LK



1SS119
MTZJT-955.1A

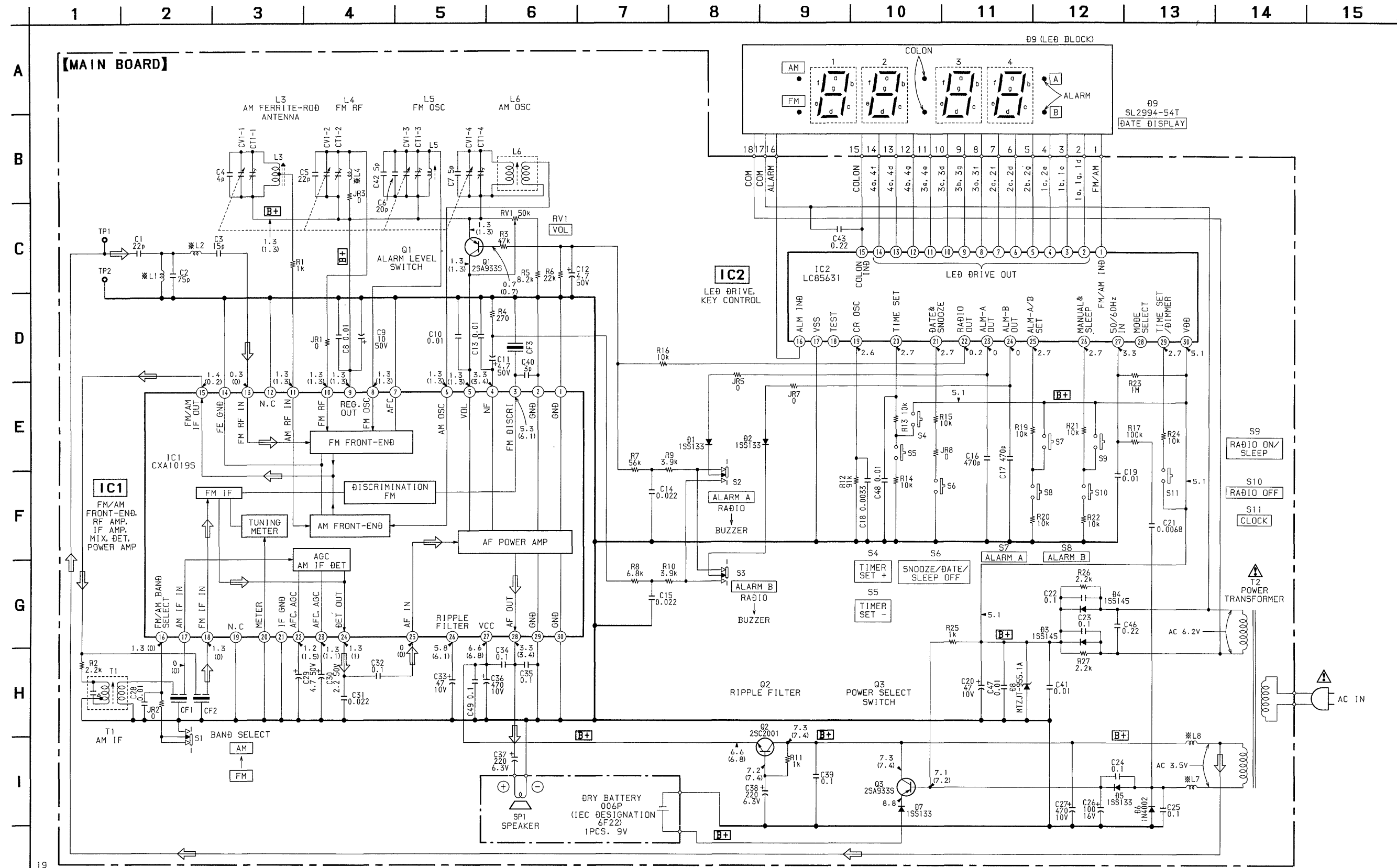


10E2



Notes on printed wiring board:

- : Indicated a lead wire mounted on the component side.
- : Indicates side identified with part number.
- ▨: Pattern from the side which enables seeing.
- *: Printed pattern functions as a kind of coil.



Notes on schematic diagram:

- 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 ohms, 1/4W or less unless otherwise noted.
- Δ : Internal component.

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

B+ : B+ Line.

- Voltage are dc with respect to ground under no-signal (detuned) conditions.
- No mark : FM
- () : AM
- Voltages are taken with a VOM (input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path.
- \Rightarrow : FM
- L1, 2, 4, 7, 8 : Printed pattern functions as a kind of coil.

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
< JUMPER RESISTOR >				< SWITCH >			
JR1	1-216-296-00	METAL CHIP	0 5% 1/8W	S1	1-571-478-11	SWITCH, SLIDE (BAND SELECT)	
JR2	1-216-296-00	METAL CHIP	0 5% 1/8W	S2	1-571-478-11	SWITCH, SLIDE (ALARM A RADIO/BUZZER)	
JR3	1-216-295-00	METAL CHIP	0 5% 1/10W	S3	1-571-478-11	SWITCH, SLIDE (ALARM B RADIO/BUZZER)	
JR5	1-216-296-00	METAL CHIP	0 5% 1/8W	S4	1-554-937-11	SWITCH, KEY BOARD (TIMER SET +)	
JR7	1-216-296-00	METAL CHIP	0 5% 1/8W	S5	1-554-937-11	SWITCH, KEY BOARD (TIMER SET -)	
JR8	1-216-295-00	METAL CHIP	0 5% 1/10W	S6	1-554-937-11	SWITCH, KEY BOARD (SNOOZE/DATE/SLEEP OFF)	
< COIL >				S7	1-554-937-11	SWITCH, KEY BOARD (ALARM A)	
L3	1-402-464-11	ANTENNA, FERRITE-ROD (AM)		S8	1-554-937-11	SWITCH, KEY BOARD (ALARM B)	
L5	1-422-300-11	COIL, AIR-CORE (FM OSC)		S9	1-554-937-11	SWITCH, KEY BOARD (RADIO ON/SLEEP)	
L6	1-406-028-00	COIL, OSC (AM OSC)		S10	1-554-937-11	SWITCH, KEY BOARD (RADIO OFF)	
< TRANSISTOR >				S11	1-554-937-11	SWITCH, KEY BOARD (CLOCK)	
Q1	8-729-119-76	TRANSISTOR	2SA1175-HFE	< TRANSFORMER >			
Q2	8-729-142-46	TRANSISTOR	2SC2001-LK	T1	1-404-790-11	TRANSFORMER, IF (AM IF)	
Q3	8-729-119-76	TRANSISTOR	2SA1175-HFE	△T2	1-450-547-11	TRANSFORMER, POWER	
< RESISTOR >				*****			
R1	1-216-049-00	METAL CHIP	1K 5% 1/10W	MISCELLANEOUS			
R2	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	*****			
R3	1-216-089-00	METAL CHIP	47K 5% 1/10W	5	1-696-939-11	CORD, CONNECTION (18 CORE)	
R4	1-216-035-00	METAL CHIP	270 5% 1/10W	△6	1-696-008-11	CORD, POWER	
R5	1-216-071-00	METAL CHIP	8.2K 5% 1/10W	SP1	1-503-082-00	SPEAKER	
R6	1-216-081-00	METAL CHIP	22K 5% 1/10W	*****			
R7	1-216-091-00	METAL CHIP	56K 5% 1/10W	ACCESSORIES & PACKING MATERIALS			
R8	1-216-069-00	METAL CHIP	6.8K 5% 1/10W	*****			
R9	1-216-063-00	METAL CHIP	3.9K 5% 1/10W	*	3-387-400-01	INDIVIDUAL CARTON	
R10	1-216-063-00	METAL CHIP	3.9K 5% 1/10W		3-756-518-21	MANUAL, INSTRUCTION (English)	
R11	1-216-049-00	METAL CHIP	1K 5% 1/10W	*****			
R12	1-216-096-00	METAL GLAZE	91K 5% 1/10W	HARDWARE LIST			
R13	1-216-222-00	METAL GLAZE	10K 5% 1/8W	#1	7-685-649-79	SCREW +P 3X14 TYPE2 NON-SLIT	
R14	1-216-073-00	METAL CHIP	10K 5% 1/10W				
R15	1-216-222-00	METAL GLAZE	10K 5% 1/8W				
R16	1-216-222-00	METAL GLAZE	10K 5% 1/8W				
R17	1-216-246-00	METAL GLAZE	100K 5% 1/8W				
R19	1-216-222-00	METAL GLAZE	10K 5% 1/8W				
R20	1-216-073-00	METAL CHIP	10K 5% 1/10W				
R21	1-216-073-00	METAL CHIP	10K 5% 1/10W				
R22	1-216-073-00	METAL CHIP	10K 5% 1/10W				
R23	1-216-121-00	METAL CHIP	1M 5% 1/10W				
R24	1-216-222-00	METAL GLAZE	10K 5% 1/8W				
R25	1-216-049-00	METAL CHIP	1K 5% 1/10W				
R26	1-216-057-00	METAL CHIP	2.2K 5% 1/10W				
R27	1-216-057-00	METAL CHIP	2.2K 5% 1/10W				
< VARIABLE RESISTOR >							
RV1	1-228-790-00	RES, VAR, CARBON 50K (VOL)					

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

