

# Service Manual

FM-LW-MW-SW  
ALL BAND RECEIVER

Radio  
**RF-B60L**  
(Black)



This is the Service Manual for the following areas.

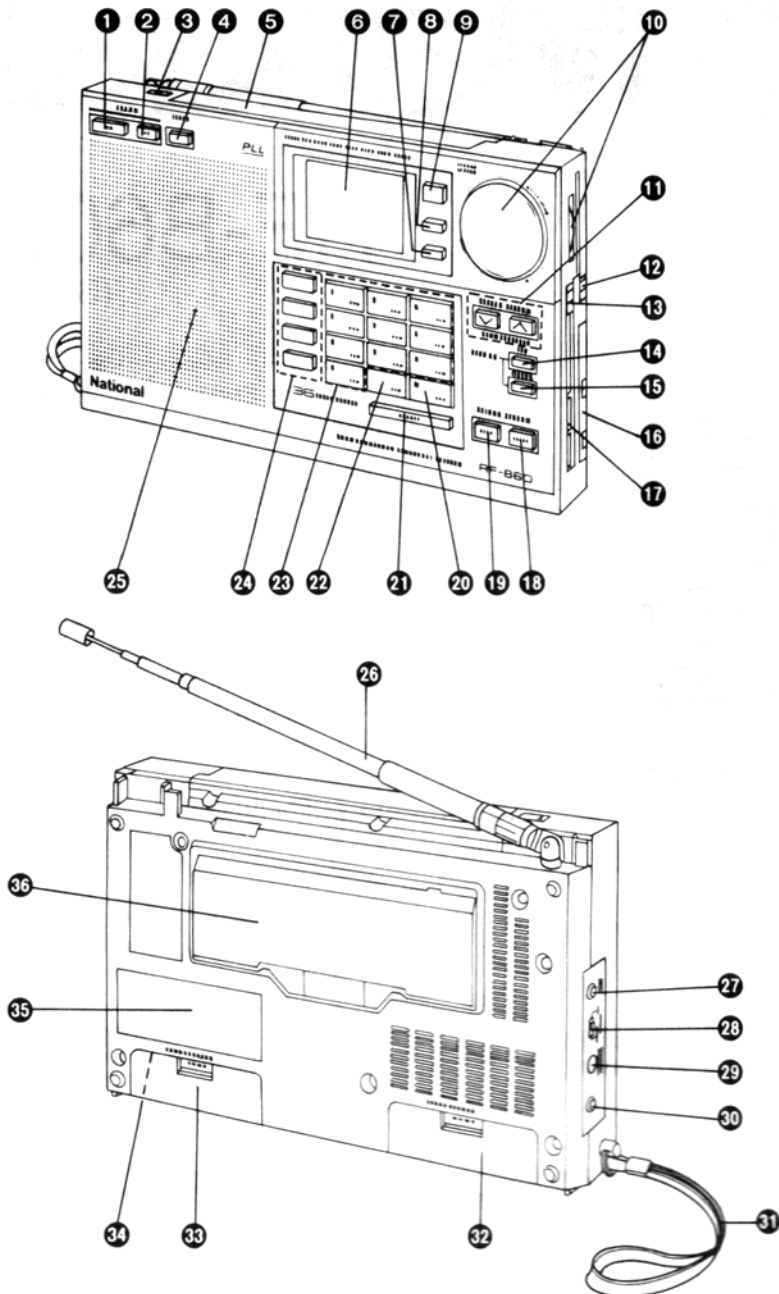
- Z...For all European areas except United Kingdom & F.R. Germany.
- E...For United Kingdom.
- X...For Asia, Latin America, Middle East and Africa areas.
- L...For Australia.

## ■ SPECIFICATIONS

Frequency Range:	FM; 87.5~108 MHz LW; 155~519 kHz MW; 522~1611 kHz (at 9 kHz step) 520~1610 kHz (at 10 kHz step) SW; 1.615~29.999 MHz
Intermediate Frequency:	FM; 10.7 MHz AM (MW, LW, SW); 450 kHz
Sensitivity:	FM; 4 $\mu$ V/50 mW output (-3 dB, Limit Sens) LW; 1000 $\mu$ V/m/50 mW output (at 281 kHz, S/N 20 dB) MW; 32 $\mu$ V/m/50 mW output SW; 10 $\mu$ V/50 mW (at 6 MHz, S/N 20 dB)
Power Source:	Battery; 6 V (four UM-3, "AA" size batteries for radio) 3 V (two UM-3, "AA" size batteries for memory back-up) AC; <input type="checkbox"/> Z...220 V, 50 Hz with optional AC adaptor RD-9496S <input type="checkbox"/> E...240 V, 50 Hz with optional AC adaptor RD-9496E <input type="checkbox"/> X...110~127/220~240 V, 50/60 Hz with optional AC adaptor RD-9496 <input type="checkbox"/> L...240 V, 50 Hz with optional AC adaptor RD-9496A
Power Output:	550 mW (RMS Max.)
Speaker:	8 cm PM dynamic Speaker, 8 $\Omega$
Jacks:	Earphone; 8 $\Omega$ $\varnothing$ 3.5 mm EXT. ANT. (LW/MW/SW); $\varnothing$ 3.5 mm DC IN; 6 V
Dimensions:	205 (W) $\times$ 119 (H) $\times$ 36 (D) mm
Weight:	650 g without batteries

Design and specifications are subject to change without notice.

## LOCATION OF CONTROLS AND COMPONENTS



- 1 Power On Key (ON)**  
Press the key to turn the radio on.
- 2 Power Off Key (OFF)**  
Press the key to turn the radio off.
- 3 Station Reminder Open Switch**  
Use the switch to open the Station Reminder cover.
- 4 Sleep Key (SLEEP)**  
Press the key to turn the radio off automatically in 60 minutes.
- 5 Station Reminder (STATION REMINDER)**  
Attach the included Memory Channel Sheets to the Station Reminder. It is useful for Memory Tuning.

- 6 LCD Multi-Information Display**
- 7 Time Set Key (TIME SET)**  
Press the key when setting a clock time.
- 8 Dual Time Set Key (DUAL TIME)**  
This unit enables the dual clock time besides the normal clock time to be set. Press the key when setting the dual clock time, or selecting the display of the normal or dual clock time.
- 9 Display Select Key (CLOCK/FREQ)**  
Press the key to select the frequency display or the clock display.
- 10 Rotary Tuning Control (ROTARY TUNING)**
- 11 Up and Down Keys (∨ • ^)**  
Press the Up Key (^) or Down Key (∨) to make the frequency change up or down during Manual Tuning and Auto Scan Tuning. Or press to stop Auto Scan Tuning.

- 12 Tone Selector (TONE)**

- 13 Rotary Tuning Step Selector**  
For Rotary Tuning, set the selector to "FAST" or "SLOW" to make the frequency change at your desired tuning steps. In "LOCK" position, Rotary Tuning cannot operate. So, the frequency being received will be locked, and cannot be drifted accidentally.
- 14 Standby Time Set Key (SET)**  
Press the key to set the time you want to turn the radio on automatically.
- 15 Standby Time Cancel Key (CANCEL)**  
Press the key to cancel the standby time.
- 16 Volume Control (VOLUME)**

- 17 Hold Switch**  
Usually set the switch to the opposite direction of the arrow. When it is set to the direction of the arrow, the operation of all the keys and the Rotary Tuning Control will be locked. It is effective during both the radio-on and off.
- 18 Meter Band Direct Access Key (METER)**  
Press the key before calling the lowest frequency of the SW meter band including your desired station.
- 19 Frequency Direct Access Key (FREQ)**  
When you know the frequency of your desired station, press the key before entering the frequency number.

- 20 Memory/Meter Band Key**  
Use the key first when you preset the desired stations into each of the memory channels. This key also functions as the Meter Band Key, which can call the lowest frequency of a SW meter band.
- 21 Enter Key (ENTER)**  
After entering the frequency number of your desired station or the number of a clock time, press the key to begin receiving the broadcast of the station or to complete the time setting.
- 22 Decimal Point/Meter Band Key**  
For Frequency Direct Access Tuning, use the key to enter the decimal point of the frequency. This key also functions as the Meter Band Key.

**23 Number/Memory Channel/Meter Band Keys**

Press the keys in the following ways.

- In Frequency Direct Access Tuning, to enter the frequency number of your desired stations.
- In Memory Tuning, to preset and call the stations.
- In Meter Band Direct Access Tuning, to call the lowest frequency of a SW meter band.

**24 Band Select Keys****25 Speaker (8 cm, 8Ω)****26 Telescopic Antenna****27 External Antenna Jack (EXT ANT) Ø3.5 mm****28 Sensitivity Selector (SENS)**

Normally set to "DX". When the reception is impaired or interfered by powerful station, set to "LOCAL".  
The selector cannot operate for FM reception.

**29 DC Input Jack (DC IN 6 V ⊖ ⊕)****30 Earphone Jack (⊖ ⊕) 8Ω, Ø3.5 mm**

Connect the included earphone to the jack.  
• Adjust the volume to lower level so as not to injure your ear.

**31 Carrying Strap****32 Radio Battery Compartment****33 Memory Back-up Battery Compartment****34 MW Frequency Step Selector (In the Memory Back-up Battery Compartment)**

Before use, check that the selector is set to the frequency step corresponding to your area.

If not so, set the selector to the correct position.

**35 World Time Table****36 Stand/Short Wave Frequency Allocation**

## CLOCK OPERATION

This unit can set the dual clock time besides the normal clock time. The dual clock time is useful, when you listen to the broadcast in a foreign country, to set the standard time adapted in that country. It can be found out by referring to the World Time Table on the back of the unit.

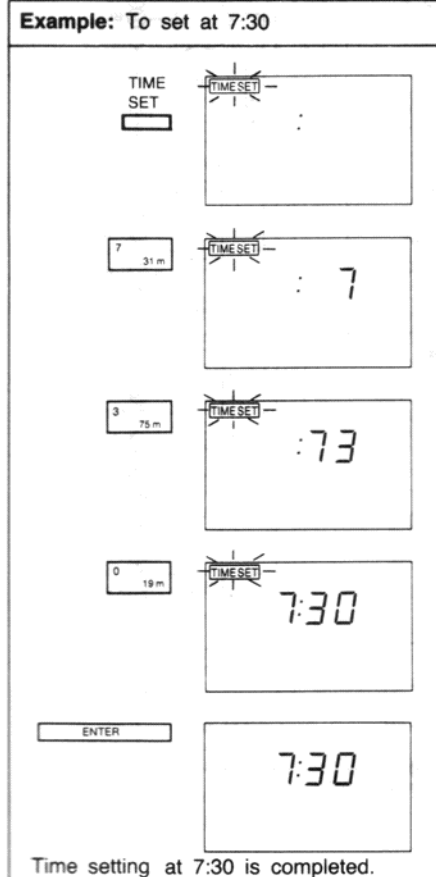
• The clock time is displayed in 24-hour display.

• When the memory back-up batteries are installed, "000" will begin flashing. To set the normal or dual clock time, follow the procedure described below.

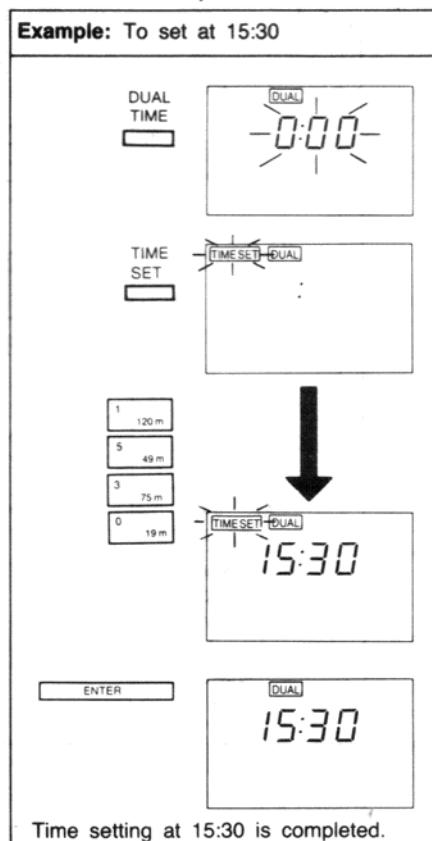
• If you are listening to the radio (the frequency is being displayed), press the Display Select Key or the Power Off Key to change to the clock display. (When the Display Select Key is pressed, you can continue to listen.) After that, begin the time setting.

**■ To set the normal clock time**

1. Press the Time Set Key.
  - The indicator (TIMESET) will begin flashing.
2. Press the Number Keys to enter the number of the clock time.
3. Press the Enter Key.

**■ To set the dual clock time**

1. Press the Dual Time Set Key.
  - The indicator (DUAL) will be displayed and the clock time display (000) will begin flashing. (If you set the dual time before, it will be displayed.)
2. Press the Time Set Key.
  - The Indicator (TIMESET) will begin flashing.
3. Press the Number Keys to enter the number of the dual clock time.
4. Press the Enter Key.



●To return the display of the normal clock time  
Press the Dual Time Set Key.

●To make sure the dual clock time when the  
normal clock time is being displayed  
Press the Dual Time Set Key.

■ **Notes for Time Setting**

- The seconds will begin counting when the Enter Key is pressed.
- After pressing the Time Set Key, or between pressing one Number Key and the next, if more than about 10 seconds is allowed to elapse, the display of the clock time indicated last will be returned.
- When the impossible time (ex. 25:00) is entered, the error indication will appear.  
After a few seconds, a return is made to the previous display. Then press the Time Set Key again and enter the correct number.
- If you press the Time Set Key before pressing the Enter Key, the display of the clock time indicated last will be returned.
- The Time Set Key is designed not to be pressed easily, so as to prevent the clock time display from changing accidentally.  
If you cannot press the key with your finger, insert the tip of a ball-point pen into the depression of the key.

## RADIO OPERATION

■ **Reception Frequency Table**

Band	Frequency Range
FM	87.5–108 MHz
LW	155–519 kHz
MW	522–1611 kHz (at 9 kHz step)
	520–1610 kHz (at 10 kHz step)
SW	1.615–29.999 MHz

SW Meter Band	Frequency Range
120 m	2.300–2.495 MHz
90 m	3.200–3.400 MHz
75 m	3.900–4.000 MHz
60 m	4.750–5.060 MHz
49 m	5.950–6.200 MHz
41 m	7.100–7.300 MHz
31 m	9.500–9.900 MHz
25 m	11.650–12.050 MHz
21 m	13.600–13.800 MHz
19 m	15.100–15.600 MHz
16 m	17.550–17.900 MHz
13 m	21.450–21.850 MHz
11 m	25.670–26.100 MHz

**Note:**

As there is no Meter Band Key corresponding to the 11 meter band (SW), use the Frequency Direct Access Tuning or the Rotary Tuning Control to tune to any station on that band.

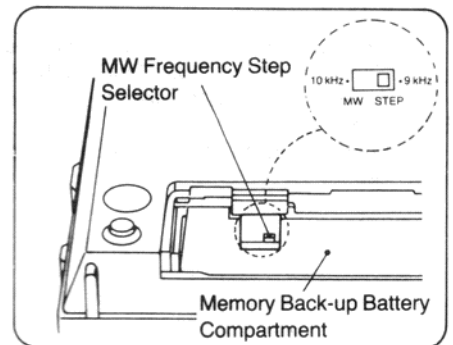
■ **To set the proper MW Frequency Step**

The MW frequency step in this unit is set corresponding to the area where you purchased this unit. If you use the unit in the area where the frequency step of the broadcasts is different, set the MW Frequency Step Selector inside the Memory Back-up Battery Compartment to the proper position.

1. Remove both all the memory back-up batteries and all the radio batteries.
2. Set the MW Frequency Step Selector to the proper position.
3. After about one minute, install the memory back-up batteries and the radio batteries and close the compartment covers.

**Note:**

When the memory back-up batteries and the radio batteries are removed, the memories of the radio stations and the clock times may be lost. Be sure to reset the memories and the clock times.

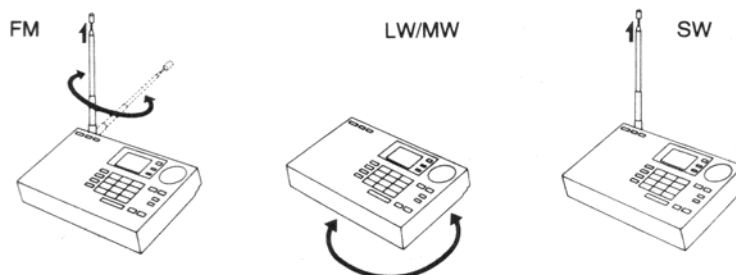


■ **Antennas**

**FM:** Pull out the Telescopic Antenna and adjust its length and angle for optimum reception.

**LW/MW:** The sensitive ferrite core antenna inside the set will provide excellent LW/MW reception in most areas. For optimum reception, turn the set in the direction which gives the best results since the ferrite core antenna is directional.

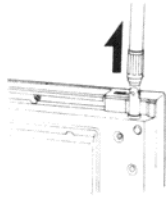
**SW:** Extend the Telescopic Antenna fully, keep it vertical.



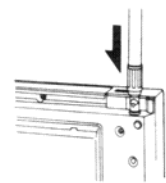
Be sure to fold at the (▼) mark so that mark is on the outside.

**Caution when adjusting the Telescopic Antenna**

●If you wish to adjust the Telescopic Antenna, pull the base of the antenna until you hear a click, and then pull the remaining sections to extend it fully. If this unit is positioned horizontally or the stand is used, you will not be able to adjust the antenna unless the base has been pulled free of the set.

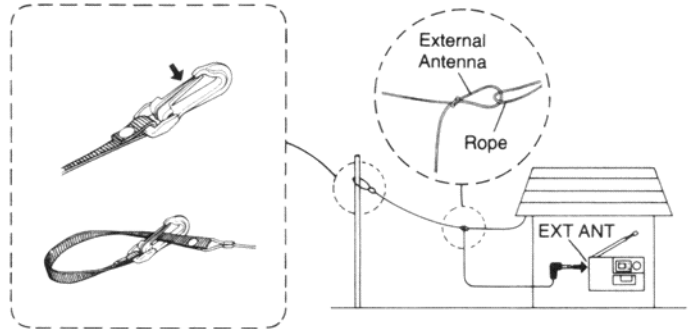


●When folding up the antenna, first push the base back into the set and then push the antenna elements back together starting with the thicker ones.



**●External Antenna**

When the reception is poor in using with the Telescopic Antenna, or when you want to get more clear reception, connect the included External Antenna Cord to the External Antenna Jack. It doesn't work for FM reception.



**■ Tuning Mode**

This unit has the following tuning modes:

**1 Rotary Tuning**

Turning the Rotary Tuning Control makes the frequency change up or down. And setting the Rotary Tuning Step Selector to slow and turning the control enable you to get more precise tuning. The tuning mode is useful when you do not know the frequency of your desired station and when you want to tune precisely.

**2 Frequency Direct Access Tuning**

When you know the frequency number of your desired station, you can tune in the station directly by entering the frequency number.

**3 Meter Band Direct Access Tuning**

For SW reception, when you know the meter band including your desired station, you can call the lowest frequency of the meter band. To tune in your desired station more precisely, use the Rotary Tuning or Up and Down Tuning mode.

**4 Up and Down Tuning (Manual Tuning/Auto Scan Tuning)**

Pressing the Up Key (∧) or Down Key (∨) makes the frequency change up or down. Use the tuning when you do not know the frequency of your desired station. This mode includes Manual Tuning and Auto Scan Tuning.

**5 Memory Tuning**

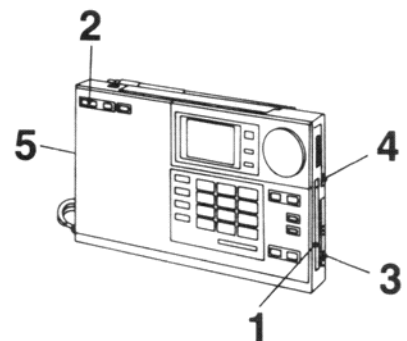
If the broadcast stations selected with the Rotary Tuning, Direct-Access Tuning or Up and Down Tuning mode has been entered into each of the memory channels (channels 1~9), you can recall those selected stations easily, merely by pressing the corresponding Memory Channel Key.

●Memory Tuning can be memorized the four bands (FM•LW•MW•SW) into each nine channel. So, in total, 36 stations memories are preset.

**■ Before Operation**

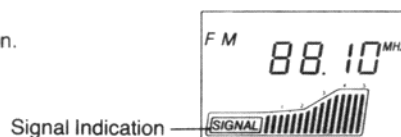
Be sure to check the following points before operating this unit.

1. The Hold Switch is set to the opposite direction of the arrow. If not, all the Operation Keys cannot operate.
2. The Power On Key is pressed.
3. The volume is adjusted by the Volume Control.
4. The tone is selected to "HIGH" or "LOW" by the Tone Selector.
5. The Sensitivity Selector is set to the proper position. Normally set to "DX". When the reception is impaired or interfered by powerfull station, set to "LOCAL". It doesn't work for FM reception.



**●Signal Indication**

The bar displays indicate the receiving condition.



# DISASSEMBLY INSTRUCTIONS

■ Disassemble and assemble the unit with care since a flexible printed circuit board is used.

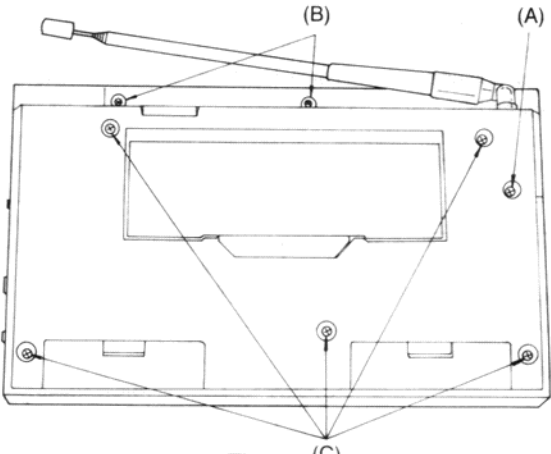


Fig. 1 (C)

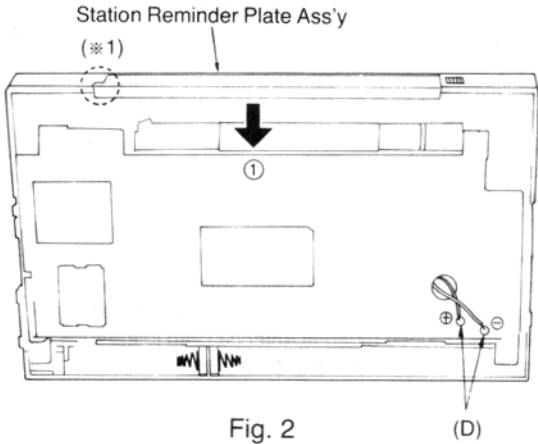


Fig. 2

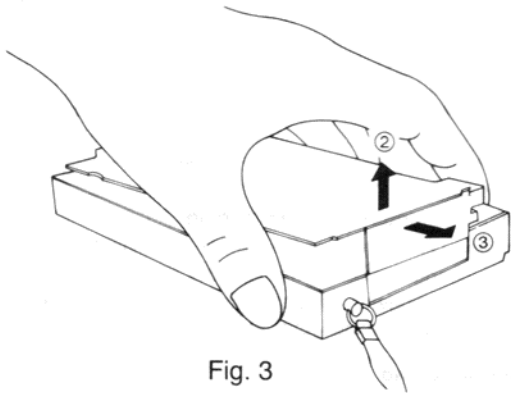


Fig. 3

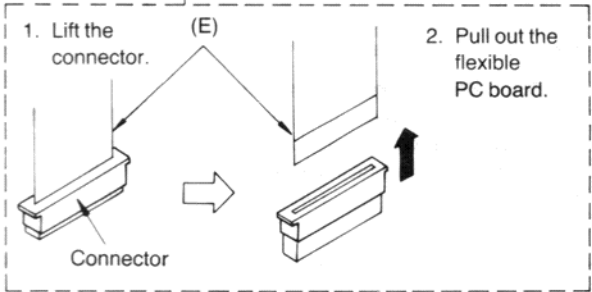
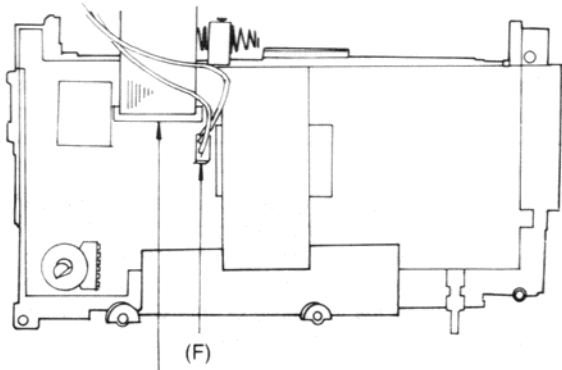


Fig. 4

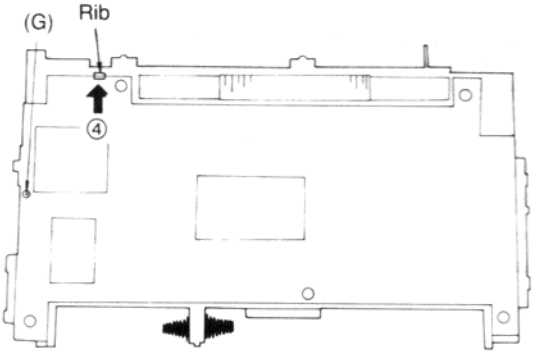


Fig. 5

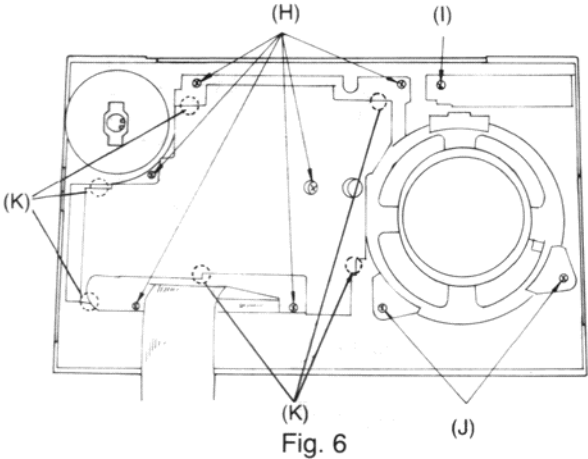


Fig. 6

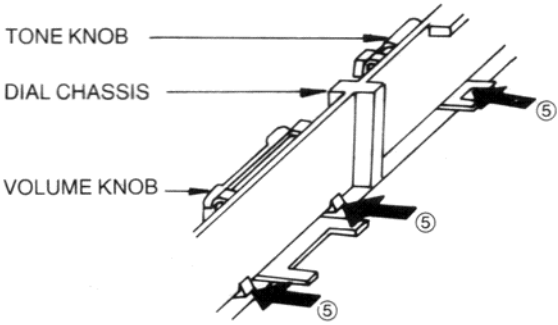


Fig. 7

Ref. No.	Show in Fig.—	To remove—	Remove—
1	1	Telescopic Antenna	Screw (3×8) mm ..... (A)×1
2	1	Rear Cabinet	Screw (2.5×9) mm ..... (B)×2
			Screw (2.6×14) mm ..... (C)×5
3	2	Main Circuit Board	Open the station reminder plate ass'y and remove the station reminder plate ass'y in the direction of arrow ①. (※1)
	2		Remove the solder (D) from speaker terminal.
	3		Remove the main circuit board in the direction of arrow ②, ③.
	4		Flexible PC board (CP1) ..... (E)×1 Socket (CP2) ..... (F)×1
4	5	Dial Chassis (※2)	Screw (2×5) mm ..... (G)×1
	5		Push the rib in the direction of the arrow ④ and remove the dial chassis.
5	6	LCD Circuit Board	Screw (2×5) mm ..... (H)×6
6	6	Switch Circuit Board	Screw (2×5) mm ..... (I)×1
7	6	Speaker	Screw (2.6×8) mm ..... (J)×2
8	6	Shield Plate (D)	Desolder the 6 points at (K).

(※1) Remove the station reminder plate ass'y as shown in Fig. 2. At this time, be careful not to lose the steel ball and the spring.

(※2) Remove the knobs (VOLUME, TONE) in the direction of arrow ⑤. (Fig. 7)

■ HOW TO REMOVE THE BUTTONS AND KNOBS

OPEN KNOB:

Push the open knob in the direction of the arrow ⑥.

VOLUME AND TONE KNOBS:

Pull the volume and tone knobs in the direction of the arrow ⑦, ⑧.

Buttons (POWER ON/OFF, DUAL TIME, MANUAL TUNING, FM, etc.):

Insert a ⊖ driver into front cabinet between the buttons (POWER ON/OFF, DUAL TIME, MANUAL TUNING, FM, etc.) and pull the lever in the direction of the arrow ⑨.

Buttons (M, 1, 2, 3, etc.):

Push the buttons (M, 1, 2, 3, etc.) in the direction of the arrow ⑩.

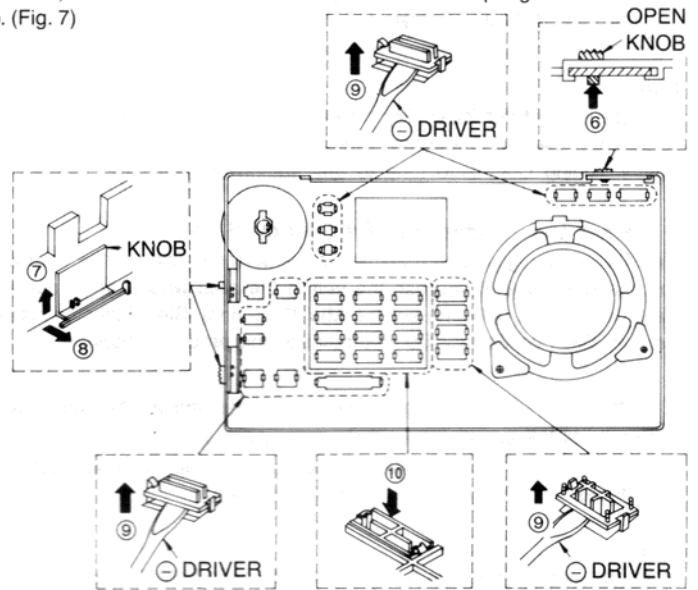
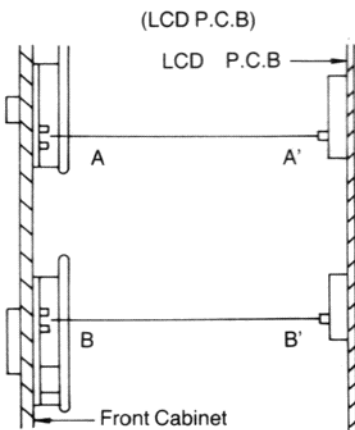


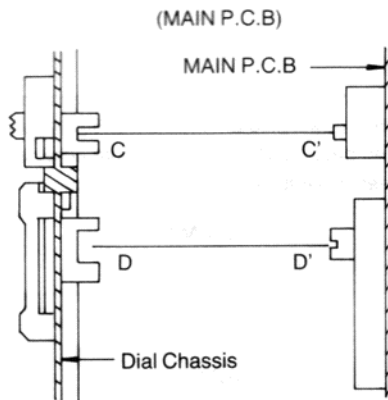
Fig. 8

■ HOW TO REPLACE



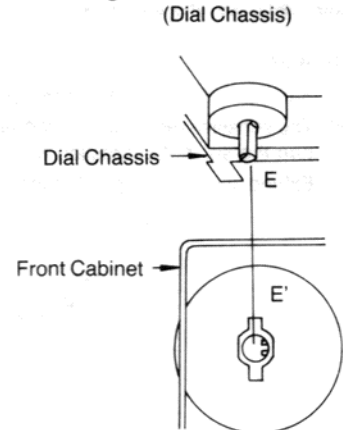
During installation, simultaneously fit in A and A', B and B'.

Fig. 9



During installation, simultaneously fit in C and C', D and D'.

Fig. 10



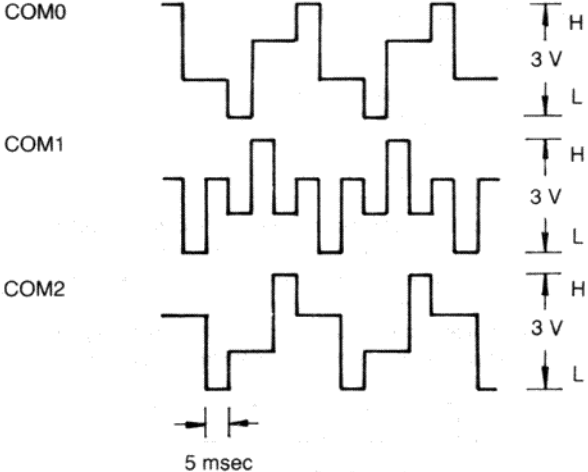
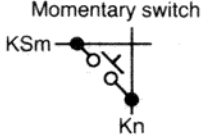
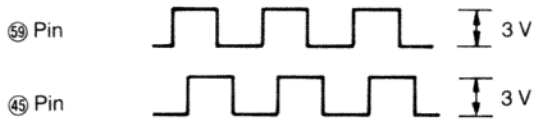
During installation, simultaneously fit in E and E'.

Fig. 11





3) Explanation of each terminal  $\mu$ PD1706G524 (IC201)

Pin. No.	Symbol	Description
2~21	1a~9a, 1b~5b, 7b 1c, 2c, 4c, 5c, 7c	Output terminals for LCD segment signals. ( $\frac{1}{3}$ duty and $\frac{1}{3}$ bias LCD drive.) Refer to Fig. 3 for output waveforms.
22 23	$V_L$ $V_H$	Intermediate voltage output terminals for LCD. In this model, a 0.1 $\mu$ F capacitor is connected to stabilize the intermediate voltage.
24 25 27	COM2 COM1 COM0	Terminals for LCD common signal output.  
26, 58	$V_{DD}$	A voltage of $3\text{ V} \pm 10\%$ supply to this terminal during device.
28~31	PA0~PA3	Data signal output terminal.
32 33 34 35	PB0 PB1 PB2 PB3	Band select output terminals. Outputs a low signal during LW, MW and SW. Outputs a low signal during LW and MW. Outputs a low signal during LW, MW and SW. Outputs a low signal during FM.
36 37 38	PC0 PC1 PC2	Level meter comparator output terminals.
39	PC3	Muting output terminal. The noise generated from the speaker when the power is turned on and off is muted.
40	PLS	Key on terminal. Outputs a low when a key on the IC201 side is pressed.
41~44	KS0~KS3	Key return signal source output terminals for momentary switch on the key matrix.  
45 59	KS4 SD	Accept signal output terminal for data to IC202. High during operation. Transfer request signal output terminal or data to IC202. High during operation.  

Pin. No.	Symbol	Description
46	KS5	Status control output terminal for IC202. High during time setting.
47	KS6	Automatic control output terminal for IC202. High when power is on and during times setting.
48	KS7	Radio power on/off output terminal. High when radio is on.
49 50	X1 X0	Terminals used for connecting a quartz oscillator. Connects a 150 kHz quartz oscillator.
51	K3	Level meter comparator input terminal.
52	K2	Hold signal input terminal.
53 54	K1 K0	Terminals for key matrix key return signal input.
55	PSC	Select signal output terminal for prescaler divider ratio. This terminal generates pulses at the leading edge of the signal applied to the FM terminal (pin 57) and continues to do so until the contents of the internal swallow counter are 0. At this time, the divider ratio of the prescaler is $\frac{1}{17}$ . When the contents of the swallow counter become 0, this terminal goes low and the divider ratio of the prescaler becomes $\frac{1}{16}$ .
57	FM	Input terminal for the FM local oscillator (VCO) output divided by $\frac{1}{16}$ or $\frac{1}{17}$ by the prescaler.
60	CE	Device select signal input terminal. Set the terminal high to select a device and low to deselect a device.
61	TEST	Terminal to test the device. Normally connected to "GND".
62	E02	PLL error output terminal. The output signal is output to the LPF (Q201–Q206). If the divided oscillation frequency is higher than the standard frequency, a high signal is output. If lower, a low signal is output. If the same, the terminal floats.
64	GND	Ground terminal.

4) Output signal waveforms of LCD segment

These output signal waveforms are produced when the frequency is SW 15,000 MHz, waveforms of the segments vary with frequency.

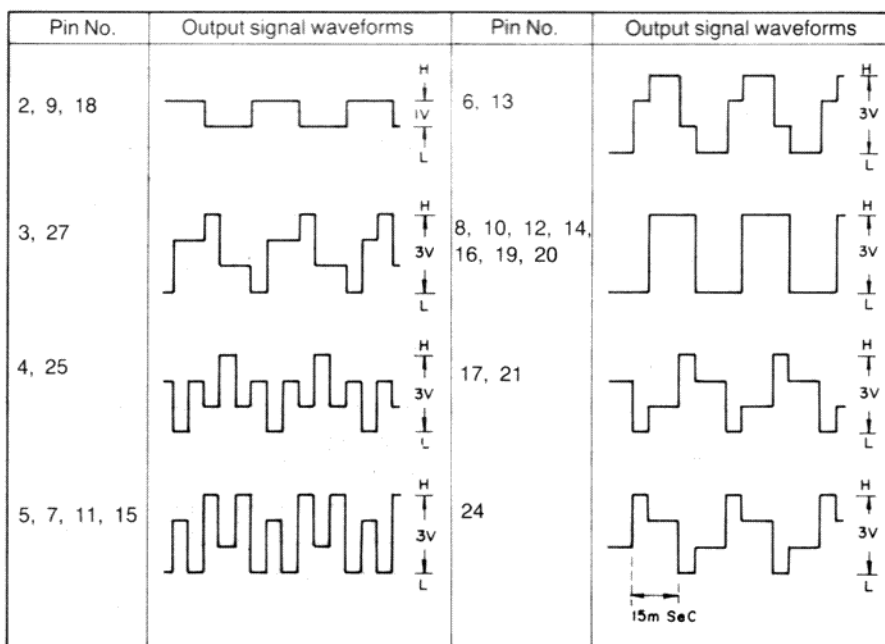


Fig. 3

5) Terminal view  
μPD7508G732 (IC202)

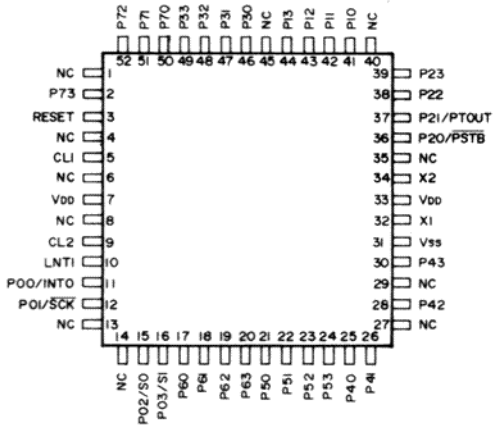


Fig. 4

6) Block diagram μPD7508G732 (IC202)

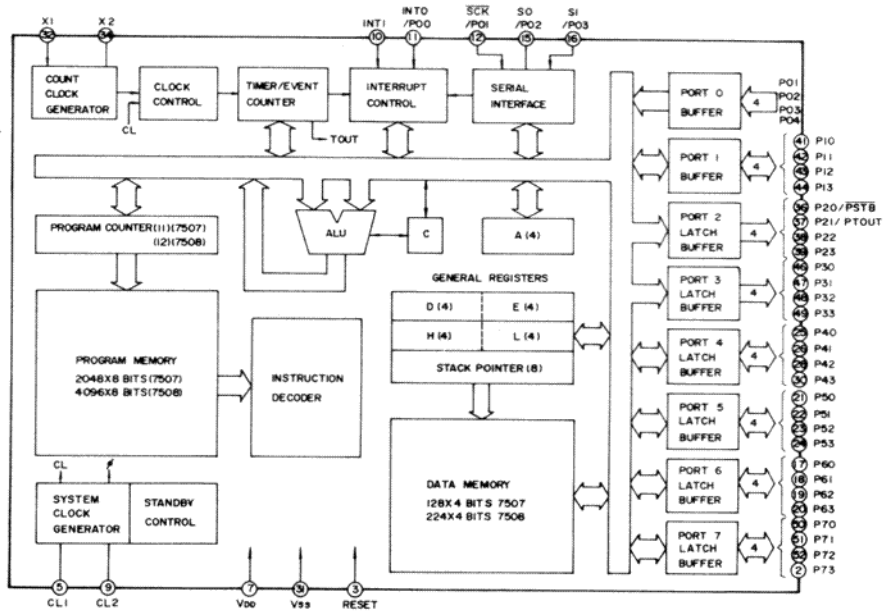


Fig. 5

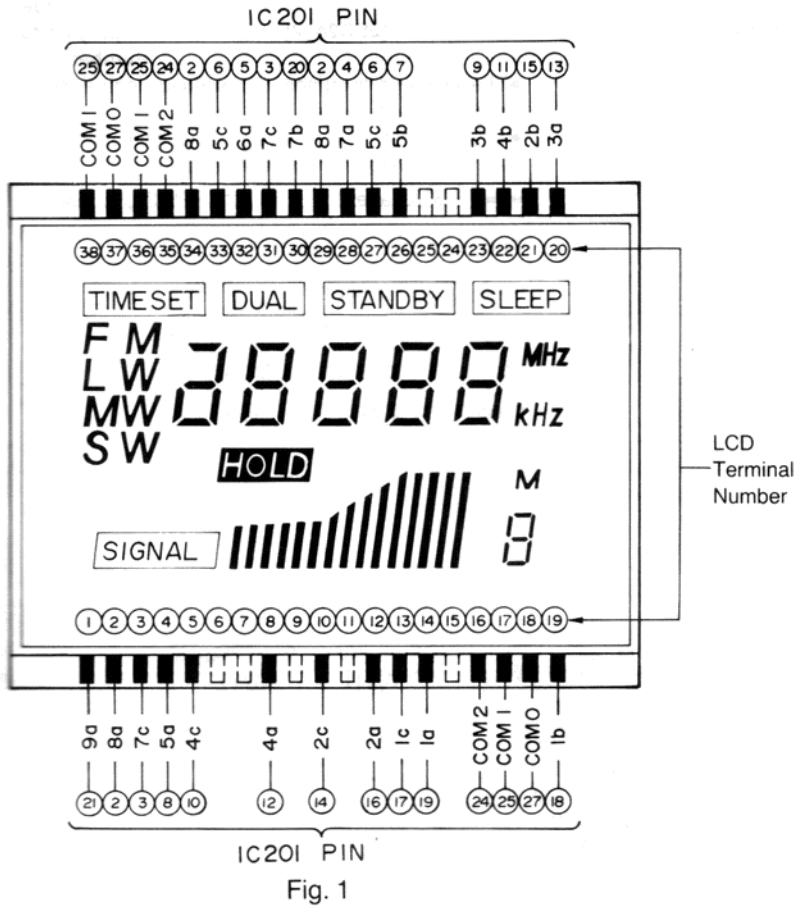
7) Explanation of each terminal μPD7508G732 (IC202)

Pin No.	Symbol	Description
2	P73	FM receiving frequency select terminal. Low=87.5–108.0 MHz (for main unit) High=76.0–108.0 MHz
3	REST	Reset signal input terminal.
5	CLI	Clock signal input terminal.
7, 33	V <sub>DD</sub>	A voltage of 3 V±10% supply to this terminal during device.
9	CL2	Clock signal output terminal.
10 17 18	INT1 P60 P61	Trigger pulse input terminal for rotary tuning. Data input terminal for rotary tuning. Data input terminal for rotary tuning. During the down mode (leading edge of the rotary pulse, ROTARY INPUT A=ROTARY INPUT B):  <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p>⑩ Pin (ROTARY PULSE)</p> <p>⑰ Pin (ROTARY IN. A)</p> <p>⑱ Pin (ROTARY IN. B)</p> </div> <div> </div> </div> During the up mode (leading edge of the rotary pulse, ROTARY INPUT A=ROTARY INPUT B):  <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p>⑩ Pin (ROTARY PULSE)</p> <p>⑰ Pin (ROTARY IN. A)</p> <p>⑱ Pin (ROTARY IN. B)</p> </div> <div> </div> </div>

Pin No.	Symbol	Description
11	PO0/INTO	Start signal input terminal.
12	PO1/ $\overline{\text{SCK}}$	Hold input terminal. A high signal sets the key lock mode.
15	PO2/S0	Rotary tuning speed select input terminal. High for slow and low for lock.
16	PO3/S1	Rotary tuning speed select input terminal. High for fast and low for lock.
19	P62	Tuning output terminal. During rotary tuning or manual tuning (up or down), a high signal is output from this terminal.
20	P63	Battery 4 V check input terminal. Monitors in intervals of 100 $\mu\text{s}$ . If low for 3 consecutive times, a flashing "E" is displayed and 7 seconds later the power is switched off.
21~24	P50~P53	Data signal output terminal.
25	P40	CLOCK/FREQ display input terminal. High for "CLOCK" display and low for "FREQ" display.
26	P41	Key on terminal. Low when a key on the IC201 side is pressed.
28 49	P42 P33	Accept signal input terminal for data from IC201. High during operation. Transfer request signal input terminal for data from IC201. High during operation.  <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p>④9 Pin</p> <p>②8 Pin</p> </div> <div style="text-align: center;"> </div> </div>
30	P43	ATS (Auto scan stop) input terminal. If a low signal is input during auto scan for 118 msec or longer, the scan stops.
31	GND	Ground terminal.
32	X1	Ground terminal.
36~39 46 47	$\overline{\text{PSTB}}$ /P20~P23 P30 P31	Key return signal source output terminals for the momentary switches in the key matrix.  <div style="text-align: center;"> </div>
41~44	P10~P13	Terminals for key matrix key return signal input.
50	P70	MW 9/10 kHz select terminal. High for 9 kHz and low for 10 kHz.
51	P71	Air band country select terminal. High for Japan and low for other countries.
52	P72	SW band country select terminal. High for Germany and low for other countries.

# LIQUID CRYSTAL DISPLAY (LCD)

1) The LCD and IC201 are connected in the following way:



2) The common and segment terminals of the LCD are connected in the following way:

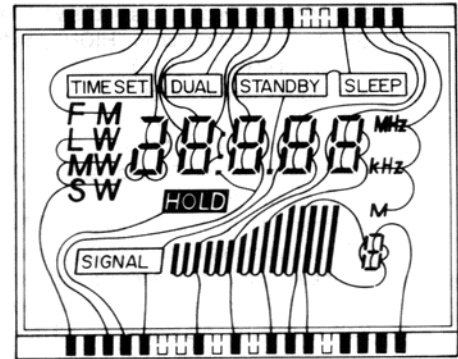


Fig. 2 (Segment)

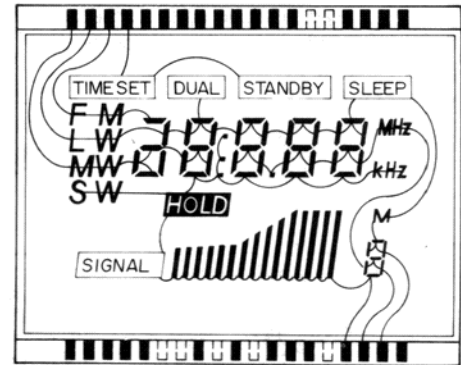


Fig. 3 (Common)

### Numbering System of Capacitor

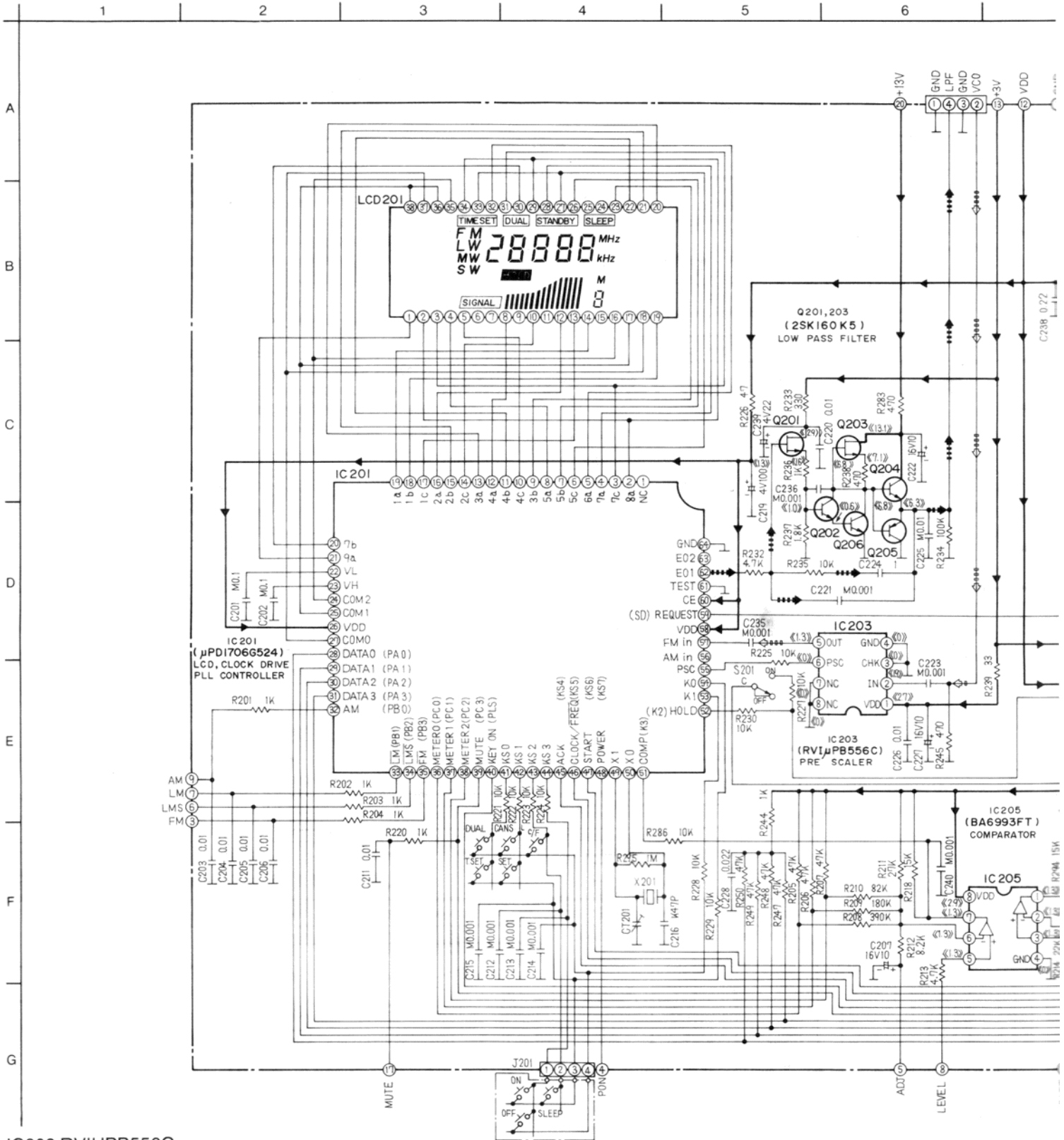
Example:

ECKD	1H	102	Z	F
Type	Voltage	Value (1000pF)	Tolerance	Peculiarity
ECEA	50	M	R47	
Type	Voltage	Peculiarity	Value (0.47μF)	

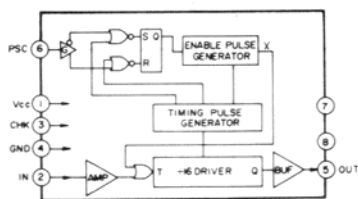
Capacitor Type	Voltage	Tolerance
ECCD: Ceramic Capacitor (Chitacon)	(ECCD, ECKD Type) 1H : 500V DC 2H : 500V DC	K : ±10% M : ±20%
ECKD: Ceramic Capacitor (Chitabari)	(ECFD Type) C : 12V DC D : 25V DC	Z : +80% J : ±5%
ECFD: Semiconductor	E : 50V DC	G : ±2%
ECE: Ceramic Capacitor (ECQ Type)	05 : 50WV DC 1 : 100WV DC	F : ±1% C : ±0.25pF
ECS: Electrolytic Capacitor	(ECE, ECS Type) 0G : 4V 0J : 6.3V	D : ±0.5pF F : ±1pF
ECQ: Polystyrene Film Capacitor	1A : 10V 1C : 16V 1E : 25V 1V : 35V	
ECQS: Polystyrene Film Capacitor	1H : 50V 1J : 63V 2A : 100V	
ECQV: Polypropylene Film Capacitor		
ECM: T.F. Capacitor		
RCU: Chip Capacitor		
ECBT: Cylindrical Ceramic Capacitor		

Ref. No.	Part. No.	Ref. No.	Part. No.
CAPACITORS			
C7,25,35,36,39,47,60,98,99,107,112,114	RCUX1E103MD	C74,80,81	RCUX1H010CC
C8,18,53,64,70,94	ECEA1CK100	C75	RCUX1H150JC
C10	RCUX1E104ZF	C76,128	RCUX1H150KC
C11,31	RCUX1H680KC	C79,125	ECEA0GK470
C12	ECCV1H101K	C86,88,131	RCUX1H680JC
C13,15,126	RCUX1H221K	C90,132	RCUX1H050DC
C14	RCUX1H681KB	C96	ECSF1VE474
C16	RCUX1H030CC	C102	RCUX1H222MD
C17,30	RCUX1H050DC	C103,106	ECEA0JU470
C19	RCUX1H270KC	C108	ECEA0JU221
C20,32,42,78,87,123	RCUX1H472MD	C109	ECEA1AU101
C21,23	ECEA0JK220	C110	ECEA1AU471
C22,50,52,58,61,62,93,129	RCUX1H103ZF	C111	ECEA0GK101
C24,72,85	RCUX1H472MD	C113	ECEA1CKS100
C26	RCUX1E223MD	C116	ECEA1HK53R3
C27,40,41,44,83,89,84	RCUX1H102MD	C118	RCUX1H270KC
C28	ECUX1E683MD	C119	RCUX1H220KC
C29	RCUX1H820KC	C121	ECEA1AKS220
C33,81	RCUX1H020CC	C122	RCUX1E333MD
C34,57,82	ECEA1HK010	C127	RCUX1H390KC
C37	ECEA1HK2R2	C130	RCUX1H330KC
C38,69	RCUX1H070DC	C133	RCUX1H100KC
C43	RCUX1E223MD	C134	RCUX1H820KC
C45,49,65,66,67,68,77,92,97,100,115	RCUX1H103ZF	C135	RCUX1H681KB
C46	ECEA1HKR33	C201,202	ECUV1E104MD
C48,124	ECUX1E104MD	C203,204,205,206,211,220,226,232	RCUV1H103ZF
C51	RCUX1H330KC	C208	ECEA1HKS010
C54,104	RCUX1E153MD	C212,213,214,215,221,223,235,236,240	RCUV1H102MD
C55	ECEA0JK101	C216	RCUX1H470KC
C56	ECEA1EK4R7	C224	ECQV1H105JZ
C59	ECEA0JK330	C225,233,234	RCUV1E103MD
C71	RCUX1H390KC	C228	RCUV1E223ZF
C73	ECSE1VY104	C229	RCUV1H151JC
		C230	ECSE1AY105R
		C231	ECSE1AT106R
		C237,239	ECEA0GKK220
		C238	ECUV1E224ZF
		C241	RCUV1H680KC

# SCHEMATIC DIAGRAM (for LCD Circuit S



IC203 RVIUPB556C



**Notes:**

1. S201: Hold switch in "OFF" position.
2. S202: Rotary tuning step select switch in "FAST" position.  
(L...LOCK, S...SLOW, F...FAST)
3. CT201: Clock frequency adjustment trimmer.
4. DC voltage measurement are taken with electronics voltmeter from negative terminal of battery.  
<< >>...SW position

• Described in schematic diagram are two transistor numbers; the supply parts number and production number for transistors and diodes. (C number is used for supply parts number a production parts number which they are identical)

e.g. Q1  
2SC2412NRTB,  
LNSTB ← Product number  
[2SC2412] ← Supply number

# Circuit Section and Switch Circuit Section)

7

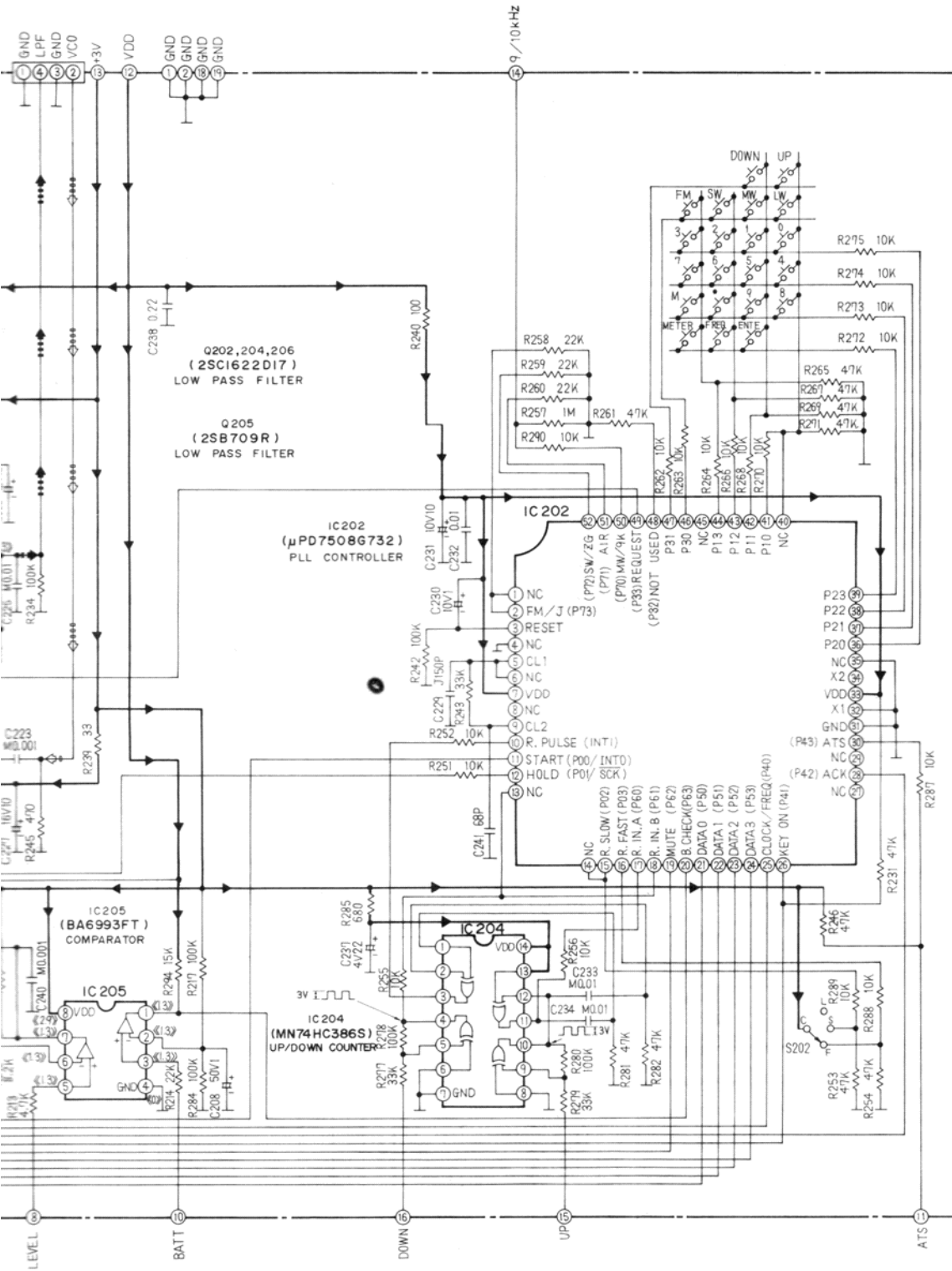
8

9

10

11

12



natic diagram are two types of .  
ly parts number and production  
ansistors and diodes. One type  
supply parts number and  
umber which they are identical.

- The supply parts number is described alone in the replacement parts list.
- This schematic diagram may be modified at any time with the development of new technology.

- ➔ +B Voltage Line
- ◻ FM, LW, MW, SW VCO In Line
- ◼ FM, LW, MW, SW Vcap Out Line

112NRTB,  
B ← Production parts  
number  
412] ← Supply parts  
number