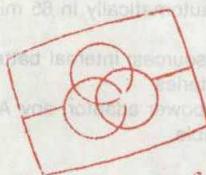
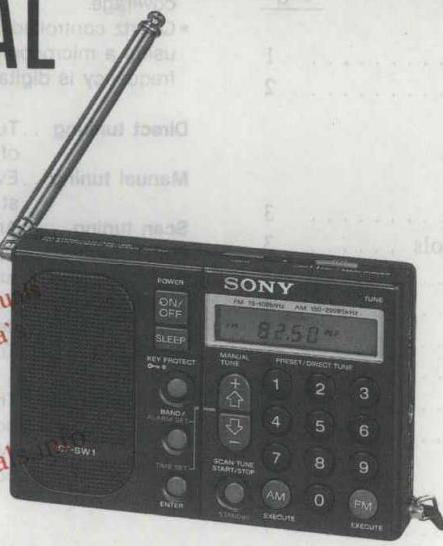


ICF-SW1
AN-101SERVICE MANUAL
REVISED

Free service manual
Gratis schema
Digitized by
www.freeservicemanuals.info



US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model

SPECIFICATIONS

Circuit system	FM: Superheterodyne AM: Dual, conversion superheterodyne
Frequency range	FM: 76 – 108 MHz (TYPE 1) 87.5 – 108 MHz (TYPE 2 to 4) LW: 150 – 528 kHz (TYPE 1 to 3) 150 – 285 kHz (TYPE 4) MW: 531 – 1,611 kHz (at MW channel step selector set to 9 kHz) 530 – 1,610 kHz (at MW channel step selector set to 10 kHz) SW: 1,615 – 29,995 kHz (TYPE 1, 3) 1,615 – 26,100 kHz (TYPE 2, 4)
Antennas	Telescopic antenna (FM/SW) Built-in ferrite bar antenna (MW/LW) Active antenna (LW/MW/SW)
Speaker	Approx. 66 x 35 mm (2 5/8 inches x 1 1/2 inches)
Power output Outputs	250 mW (at 10% harmonic distortion) Recording output jack (minijack) output level 0.775 mV (-60 dB) output impedance 1 kilohm Headphone jack (stereo minijack) for 18 ohm stereo earphones
Power requirements	Radio: 3 V dc Two size AA (R6) batteries Supplied AC power adaptor (110, 120, 220 or 240 V ac adjustable, 50/60 Hz)
Battery life	Radio: approx. 12 hours of listening for four hours a day at a normal volume, using Sony SUM-3 (NS) batteries
Dimensions	Approx. 118.2 x 71.4 x 23.7 mm (w/h/d) (4 3/4 x 2 7/8 x 15/16 inches) including projecting parts and controls

Weight

Approx. 230 g (5 lb 6.5 oz)

including batteries

Accessories supplied AC power adaptor (1, except for Australian model)

Stereo earphones (1)

Antenna controller (1)

Antenna module (1)

Carrying case (soft ... 1 hard ... 1)

AC plug adaptor (1, except for UK model)

Suction cup (1)

Carrying belt (1)

Wave handbook (1)

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY 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.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

FM STEREO/LW/MW/SW
PLL SYNTHESIZED RECEIVER
SONY®

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ICF-SW1E model is added.		

FEATURES

- An FM stereo/LW/MW/SW receiver with world-wide band coverage.
- Quartz controlled PLL (Phase Locked Loop) synthesizer system using a microcomputer for easy pinpoint tuning. The tuned frequency is digitally displayed.

Direct tuning . Tuning in the station by inputting the frequency of the station directly

Manual tuning . Even if you don't know the frequency of the station, you can tune in the station precisely.

Scan tuning . An automatic searching of a station

Preset tuning . Up to 10 stations can be preset for button-touch tuning

Timer standby . The function to receive a desired station at the desired time

Sleep timer . Turning the radio off automatically in 65 minutes

Power sources . Three different power sources: internal batteries, house current, car batteries
With the supplied AC power adaptor, any AC power source is available.

Classification by frequency coverage

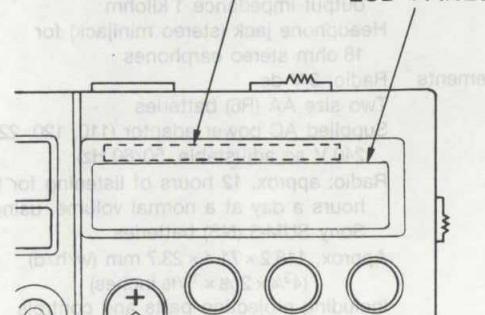
Destinations are classified by frequency indicated on LCD PANEL as the table below.

TYPE	FREQUENCY COVERAGE
TYPE 1-1, -2	FM 76 – 108 MHz AM 150 – 29,995 kHz
TYPE 2	FM 87.5 – 108 MHz AM 150 – 26,100 kHz
TYPE 3-1, -2	FM 87.5 – 108 MHz AM 150 – 29,995 kHz
TYPE 4 (Saudi Arabia)	FM 87.5 – 108 MHz AM 150 – 285/531 – 26,100 kHz

EXAMPLE

FM 76 – 108 MHz AM 150 – 29,995 kHz

LCD PANEL

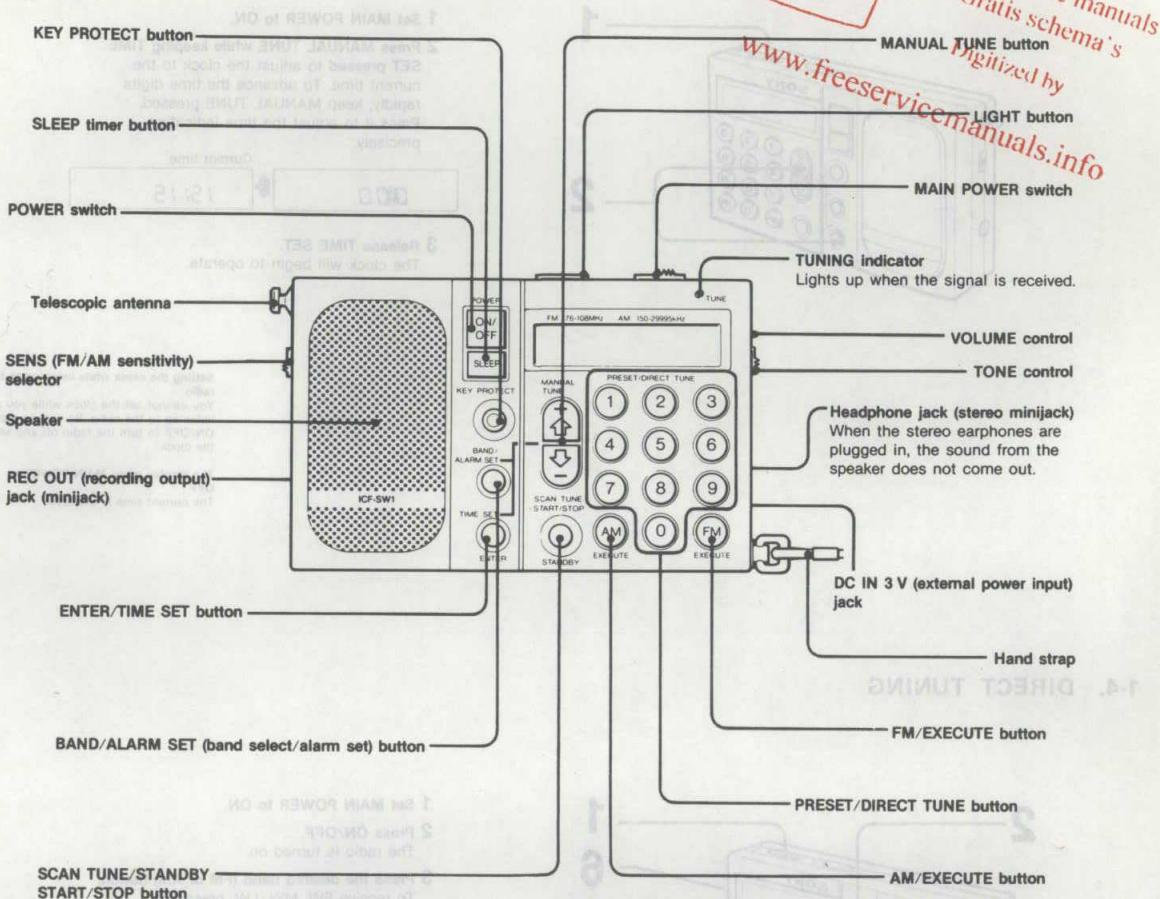


SECTION 1

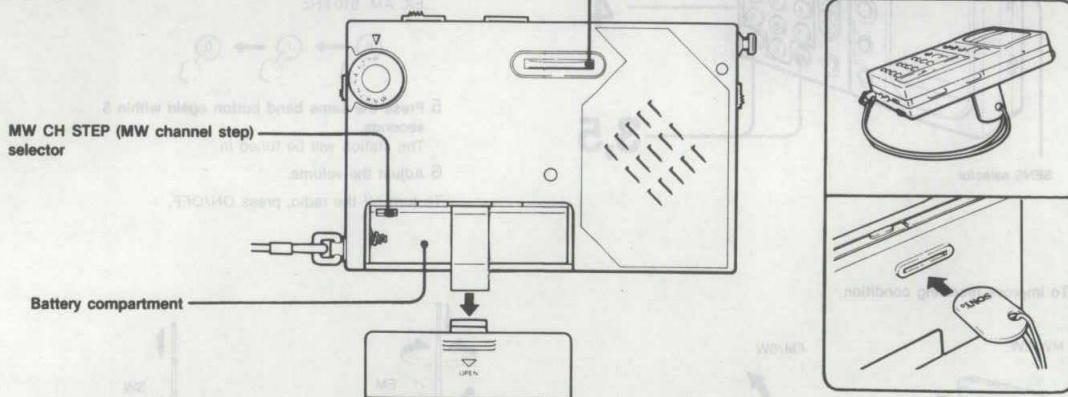
GENERAL

1-1. LOCATION AND FUNCTION OF CONTROLS

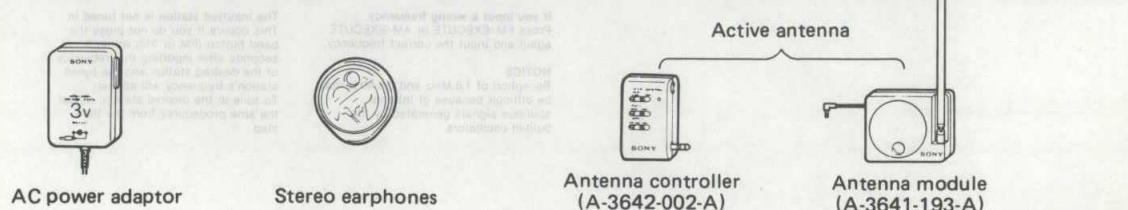
Front Panel



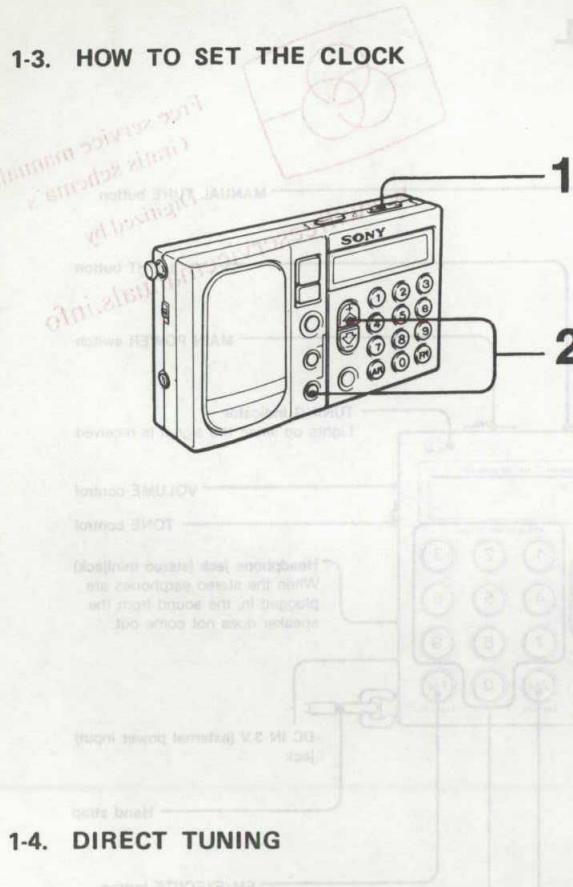
Rear Panel



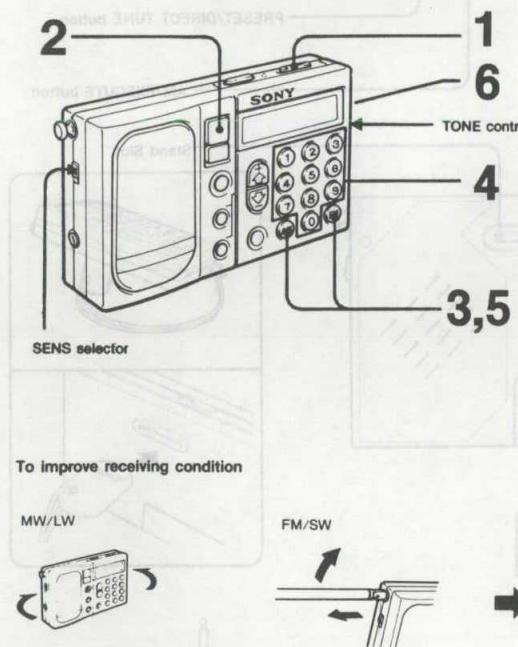
1-2. SUPPLIED ACCESSORIES



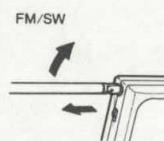
1-3. HOW TO SET THE CLOCK



1-4. DIRECT TUNING



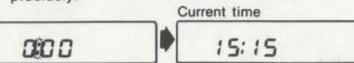
To improve receiving condition



1 Set MAIN POWER to ON.

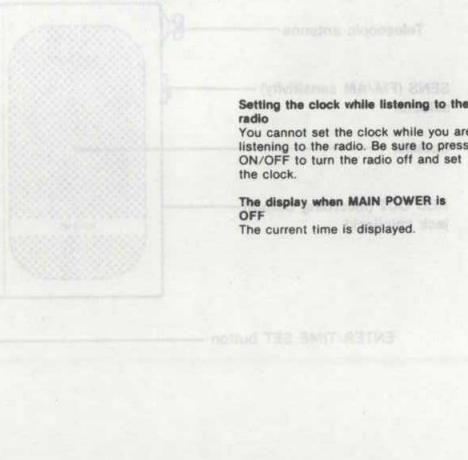
2 Press MANUAL TUNE while keeping TIME SET pressed

SET pressed to adjust the clock to the current time. To advance the time digits rapidly, keep MANUAL TUNE pressed. Press it to adjust the time indication precisely.



3 Release TIME SET.

The clock will begin to operate.



1 Set MAIN POWER to ON.

2 Press ON/OFF.

The radio is turned on.

3 Press the desired band (FM or AM) button.

To receive SW, MW, LW, press AM.

4 Input the frequency of the station by pressing DIRECT TUNE.

EX. AM. 810 kHz

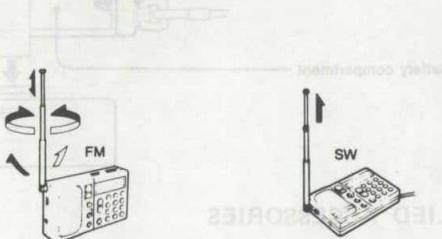


5 Press the same band button again within 5 seconds.

The station will be tuned in.

6 Adjust the volume.

To turn off the radio, press ON/OFF.



If you input a wrong frequency
Press FM/EXECUTE or AM/EXECUTE again and input the correct frequency.

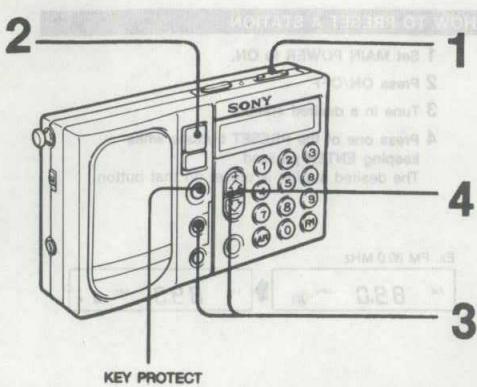
NOTICE

Reception of 1.8 MHz and 3.6 MHz may be difficult because of internal spurious signals generated by the built-in oscillators.

The inputted station is not tuned in
This occurs if you do not press the band button (FM or AM) within 5 seconds after inputting the frequency of the desired station and the tuned station's frequency will appear.
To tune in the desired station, repeat the same procedures from the third step.

1-5. MANUAL TUNING

1-5. PRESET TUNING



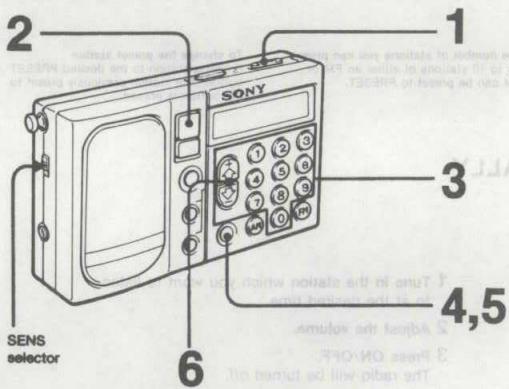
1 Set MAIN POWER to ON.

2 Press ON/OFF.
The radio is turned on.

3 Press MANUAL TUNE (+ or -) repeatedly while keeping BAND pressed to search for the approximate frequency of the desired station. The lowest frequency of each band or the meter band of SW appears in the display. If you keep MANUAL TUNE pressed, the band changes continuously.

4 Press MANUAL TUNE (+ or -) repeatedly to search for a desired station.

1-6. SCAN TUNING



1 Set MAIN POWER to ON.

2 Press ON/OFF.

3 Receive a broadcast band by pressing MANUAL TUNE while keeping BAND pressed, or by pressing DIRECT TUNE. (Refer to the table below for the frequency range of each broadcast band.)

4 Press SCAN TUNE. Within the frequency range of the table below, scan tuning will begin and stop automatically for 1.5 seconds when a station is received and then the tuning indicator lights up.

5 Press SCAN TUNE again to listen to the station being received. Scan tuning stops and the station being received is tuned in.

6 Tune in the station more precisely by MANUAL TUNE (+ or -).

The frequency range and the tuning interval of each broadcast band		
Broadcast band	Frequency range	SW meter band
A M	LW	150 kHz ~ 528 kHz *1
	MW	531 kHz ~ 1611 kHz *2
		530 kHz ~ 1610 kHz
		1615 kHz ~ 2245 kHz *3
		2250 kHz ~ 2550 kHz
		3150 kHz ~ 3450 kHz
	SW	3850 kHz ~ 4050 kHz
		4700 kHz ~ 5100 kHz
		5900 kHz ~ 6250 kHz
		7000 kHz ~ 7400 kHz
		9400 kHz ~ 10000 kHz

*1 150 - 285 kHz for the model for Saudi Arabia and Malaysia.

*2 The frequency range is different according to the MW CH STEP selector.

*3 These frequencies can be tuned in either by direct tuning or manual tuning but cannot be selected by pressing both BAND and MANUAL TUNE buttons.

When scan tuning stops too often

Set SENS to LOCAL.

To cancel the scan mode

Press BAND/STEP to set MAIN POWER to OFF.

Broadcast band	Frequency range	SW meter band
A M	11500 kHz ~ 12150 kHz	25 meter band
	13500 kHz ~ 13900 kHz	21 meter band
	15000 kHz ~ 15700 kHz	19 meter band
	17450 kHz ~ 18000 kHz	16 meter band
	21400 kHz ~ 21950 kHz	13 meter band
	25600 kHz ~ 26100 kHz	11 meter band
	26105 kHz ~ 29995 kHz	*4
	76.00 MHz ~ 108.00 MHz	*5

*4 * These frequencies can be tuned in either by direct tuning or manual tuning but cannot be selected by pressing both BAND and MANUAL TUNE buttons.

* These frequencies cannot be tuned in with the model for Germany and Middle east countries.

*5 87.5 - 108 MHz for the model for France, Germany, Sweden, Switzerland, Scandinavian countries and Middle east countries.

The frequency allocation

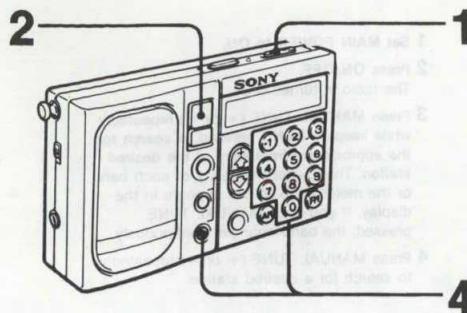
LW...3 kHz

MW...9 kHz/10 kHz

SW...5 kHz

FM...100 kHz

1-7. PRESET TUNING



HOW TO PRESET A STATION

- 1 Set MAIN POWER to ON.
- 2 Press ON/OFF.
- 3 Tune in a desired station.
- 4 Press one of the PRESET buttons while keeping ENTER pressed.
The desired station is preset on that button.

Ex. FM 89.0 MHz

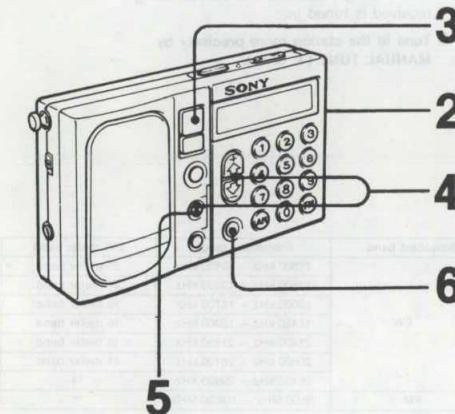


TO TUNE IN A PRESET STATION

- 1 Set MAIN POWER to ON.
- 2 Press ON/OFF.
- 3 Press the desired PRESET button.
The preset station will be tuned in.

1-8. HOW TO TURN ON THE RADIO AUTOMATICALLY

(Timer standby function)



The number of stations you can preset
Up to 10 stations of either an FM or
AM can be preset to PRESET.

To change the preset station
Preset a station to the desired PRESET
button. The station previously preset
to the button is erased.

1 Tune in the station which you want to listen
to at the desired time.

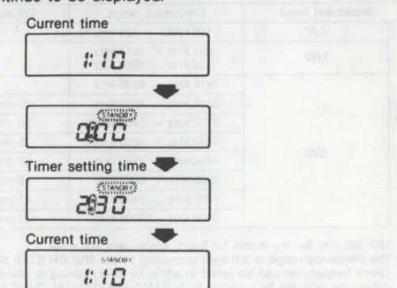
2 Adjust the volume.

3 Press ON/OFF.

The radio will be turned off.
4 Set the time by pressing MANUAL TUNE (+
or -) while keeping ALARM SET pressed.
If you keep MANUAL TUNE pressed, the
time will change continuously.

5 Stop pressing ALARM SET and the current
time appears in the display.

6 Press STANDBY. STANDBY indicator will
continue to be displayed.



To cancel the alarm mode

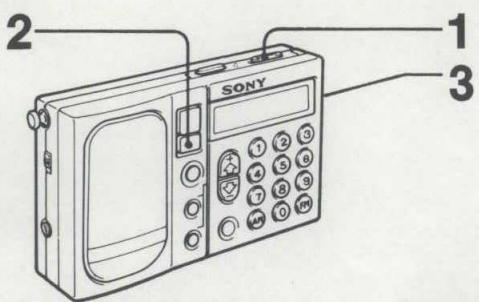
Either press STANDBY or set MAIN POWER to
OFF.

Once you preset the time
The radio is turned on at the same
time everyday.

To check the preset time
Press ALARM/SET.

To change the preset time
Set the desired alarm time, the time
previously set is erased.

1-9. HOW TO SET THE SLEEP TIMER



Note: Digital timer logic is being used instead of analog timer logic on

1 Set MAIN POWER to ON.

2 Press SLEEP.

The radio is turned on.

Current time

11:10

150

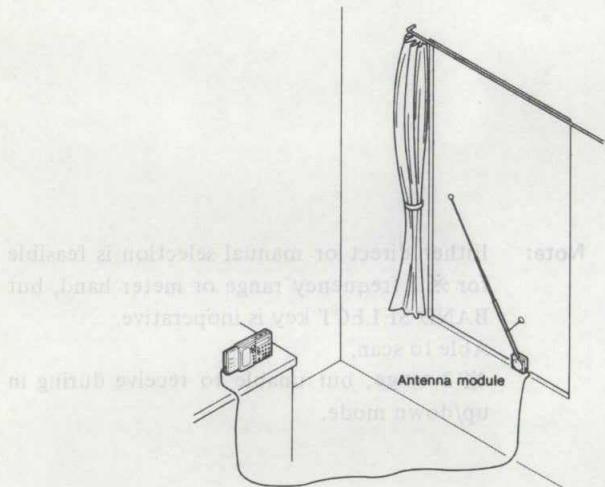
AM

3 Tune in the desired station and adjust the volume.

The radio will be turned off automatically after about 65 minutes.

1-10. HOW TO USE THE SUPPLIED ACTIVE ANTENNA

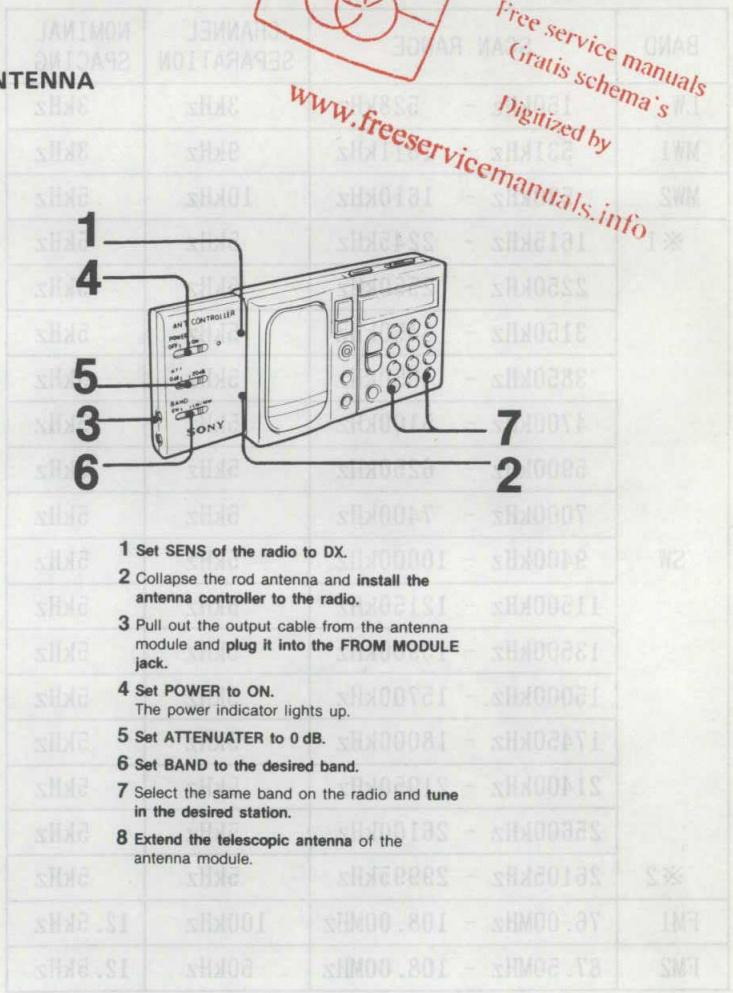
(For better LW/MW/SW reception)



When you press SLEEP while listening to the radio
The radio will be turned off automatically after about 65 minutes.

To turn off the radio before the sleep time
Press ON/OFF.

If you press SLEEP after the radio is turned off.
The sleep timer activates and the last station to be tuned in will be received.



1 Set SENS of the radio to DX.

2 Collapse the rod antenna and install the antenna controller to the radio.

3 Pull out the output cable from the antenna module and plug it into the FROM MODULE jack.

4 Set POWER to ON.

The power indicator lights up.

5 Set ATTENUATOR to 0 dB.

6 Set BAND to the desired band.

7 Select the same band on the radio and tune in the desired station.

8 Extend the telescopic antenna of the antenna module.

SECTION 2

OUTLINE

2-1. OUTLINE OF THE C-MOS DIGITAL-TUNING SYSTEM IC801, μ PD1715G-545

Note: Display flicker period has been changed depending on program change of IC801.

FORMER TYPE: μ PD1715G-545-22

(8-759-140-92)

NEW TYPE: μ PD1715G-558-22

(8-759-142-35)

There is interchangeability between former type and new type for IC801, so that a new type part is supplied for replacement.

US model: Serial No. 30601 and later.

Confirm type No. of IC801 for other countries.

2-1-1. OUTLINE OF THE STATION-SELECTION

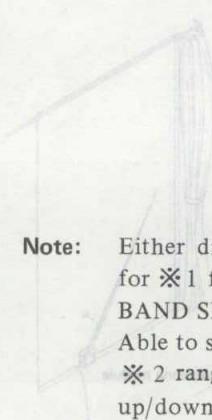
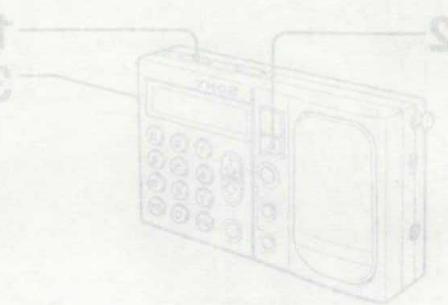
1) Receiving-frequency Coverages and Scan Range

The following table shows the frequency coverages and scan range of μ PD1715G-545 can receive.

BAND	SCAN RANGE	CHANNEL SEPARATION	NOMINAL SPACING
LW	150kHz - 528kHz	3kHz	3kHz
MW1	531kHz - 1611kHz	9kHz	3kHz
MW2	530kHz - 1610kHz	10kHz	5kHz
※1	1615kHz - 2245kHz	5kHz	5kHz
	2250kHz - 2550kHz	5kHz	5kHz
	3150kHz - 3450kHz	5kHz	5kHz
	3850kHz - 4050kHz	5kHz	5kHz
	4700kHz - 5100kHz	5kHz	5kHz
	5900kHz - 6250kHz	5kHz	5kHz
	7000kHz - 7400kHz	5kHz	5kHz
SW	9400kHz - 10000kHz	5kHz	5kHz
	11500kHz - 12150kHz	5kHz	5kHz
	13500kHz - 13900kHz	5kHz	5kHz
	15000kHz - 15700kHz	5kHz	5kHz
	17450kHz - 18000kHz	5kHz	5kHz
	21400kHz - 21950kHz	5kHz	5kHz
	25600kHz - 26100kHz	5kHz	5kHz
※2	26105kHz - 29995kHz	5kHz	5kHz
FM1	76.00MHz - 108.00MHz	100kHz	12.5kHz
FM2	87.50MHz - 108.00MHz	50kHz	12.5kHz

2) Station-selecting Functions:

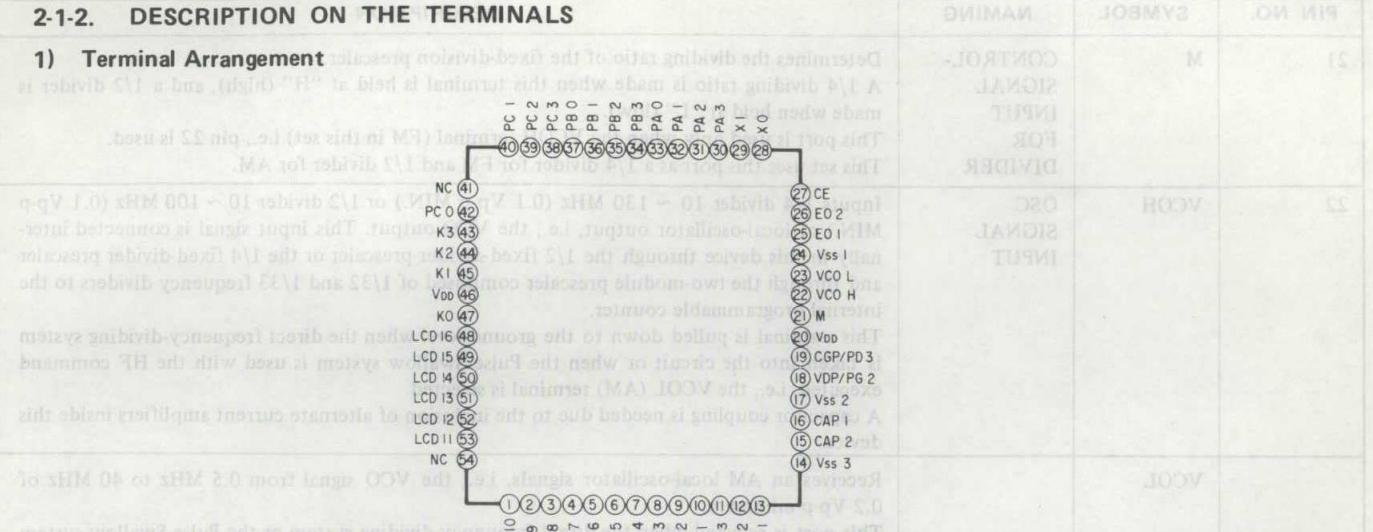
- Selection with 10 key.
- Manual up/down selection with up/down key.
- Random selection out of the preset memories by key-in calling.
Total 10 stations.
- Scanning selection.
- Last channel memory.



Note: Either direct or manual selection is feasible for ※1 frequency range or meter band, but BAND SELECT key is inoperative.
Able to scan.
※2 range, but unable to receive during in up/down mode.

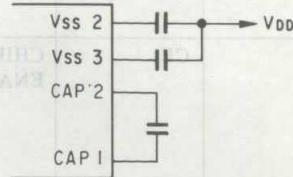
2-1-2. DESCRIPTION ON THE TERMINALS

1) Terminal Arrangement



2) IC801 (μPD1715G-545) Pin Functions

PIN No.	SYMBOL	NAMING	DESCRIPTION
1 10	LCD9 LCD1	LCD SEGMENT SIGNALS	Transmit the segment-output signals to the LCD panel. When matrixes are configured together with the COM1 thru COM3, a display of 48 dots can be made. These output signals are output when the LCDD commands are made. The LCD-driving voltages are of 3.1V typical, 1/2 bias and 1/3 duty when the frame frequency is 100 Hz. These LCD11 through LCD16 can also be used at the same as the key source signals for the key matrix. These signal are output on time-division bases, and they are output as the key-source signals at the repetition rate of 6.7 msec. Whether the key-source signal are to be output while having displays on the panel is dependent upon and selectable by the programs used. These terminals become automatically in the "L" (low) state, i.e., non-display mode, at the power-on reset (VDD changes from low to high state) and at the stoppage moment of the clock. The display mode does not change at the reset moment in which CE changes from low to high state.
11 13	COM3 COM1	LCD COMMON SIGNAL	Transmit common signals to the LCD panel. When the matrixes are configured together with the LCD1 through LCD16, a display of 48 dots can be made. Three distinctive signals of VSS3, VSS2 and VDD are output through these terminals at the repetition rate of 50 Hz. These terminals become automatically in the "L" (low) state, i.e., non-display mode, at the power-on reset (VDD changes from low to high state) and at the stoppage moment of the clock.
14 15 16 17	VSS3 CAP2 CAP1 VSS2	CAPACITOR CONNECTION TERMINAL FOR DOUBLER	Capacitor-connection terminals to make a proper voltage doubler to build the 3.1V typical LCD-driving voltage VDD. Normal circuit configuration is as follows.
18	PG2 (VDP)	VARIABLE DUTY PORT	Outputs the variable-duty or the one-bit (PG2) signal. Not used.
19	PD3 (CGP) MUTE	CLOCK GENERATOR PORT (MUTE SIGNAL)	Outputs the clock-generator or the one-bit (PD3) signal. The selection of either of them is programmable. When used as the CGP, this terminal can transmit the pulse chain of 1 kHz of 46.6% duty or 3 kHz of 60% duty. Outputs signal to cut noise between frequency change due to key input and PLL lock, Low level output actuates mute.
20	VDD	INPUT OF POWER SUPPLY VOLTAGE	Receives the power-supply voltage for this device. In operation, a voltage of 2.0 to 3.5 VDC is applied to this terminal. The input voltage can be lowered down to 1.5 VDC when any of the internal data in the RAM, i.e., when the CKSTP command is under execution, is to be helded. The power-on reset circuit of device starts to operate at the instance this terminal receives a voltage of 0 (zero) to 1.7 VDC, and the program starts from the location 0 (zero). Note: This pin and pin 46 are connected internally. So, it is not necessary to apply the power-supply voltage to both of them. The ceramic-packaged device, however, has a not-to-be connected pin 46, i.e., N.C. terminal.



PIN NO.	SYMBOL	NAMING	DESCRIPTION												
21	M	CONTROL-SIGNAL INPUT FOR DIVIDER	Determines the dividing ratio of the fixed-division prescaler. A 1/4 dividing ratio is made when this terminal is held at "H" (high), and a 1/2 divider is made when held at "L" (low). This port is used only when the VCOH terminal (FM in this set) i.e., pin 22 is used. This set uses this port as a 1/4 divider for FM and 1/2 divider for AM.												
22	VCOH	OSC SIGNAL INPUT	Inputs 1/4 divider 10 ~ 130 MHz (0.1 Vp-p MIN.) or 1/2 divider 10 ~ 100 MHz (0.1 Vp-p MIN.) of local-oscillator output, i.e., the VCO output. This input signal is connected internally in this device through the 1/2 fixed-divider prescaler or the 1/4 fixed-divider prescaler and through the two-module prescaler composed of 1/32 and 1/33 frequency dividers to the internal programmable counter. This terminal is pulled down to the ground level when the direct frequency-dividing system is taken into the circuit or when the Pulse-Swallow system is used with the HF command executed, i.e., the VCOL (AM) terminal is selected. A capacitor coupling is needed due to the inclusion of alternate current amplifiers inside this device.												
	VCOL		<p>Receives an AM local-oscillator signals, i.e., the VCO signal from 0.5 MHz to 40 MHz of 0.2 Vp-p minimum.</p> <p>This port is selected when the direct frequency-dividing system or the Pulse-Swallow system is used and, at the same time, the HF command is executed. These two systems are, however, different one another as shown below.</p> <table border="1"> <thead> <tr> <th>DIVIDING SYSTEM</th><th>INPUT LEVEL (MINIMUM)</th><th>INPUT FREQUENCY</th><th>DIVIDING RATIO</th></tr> </thead> <tbody> <tr> <td>DIRECT</td><td>0.1 Vp-p</td><td>0.5 to 15 MHz</td><td>16 to ($2^{12}-1$)</td></tr> <tr> <td>PULSE-SWALLOW (HF COMMAND EXECUTED)</td><td>0.2 Vp-p</td><td>0.5 to 40 MHz</td><td>1,024 to ($2^{17}-1$)</td></tr> </tbody> </table> <p>This terminal is pulled down to the ground level when the Pulse-Swallow system is used together with the VHF-command execution, i.e., the VCOH (FM) terminal is selected. A capacitor coupling is needed due to the inclusion of alternate current amplifiers inside this chip. Not used.</p>	DIVIDING SYSTEM	INPUT LEVEL (MINIMUM)	INPUT FREQUENCY	DIVIDING RATIO	DIRECT	0.1 Vp-p	0.5 to 15 MHz	16 to ($2^{12}-1$)	PULSE-SWALLOW (HF COMMAND EXECUTED)	0.2 Vp-p	0.5 to 40 MHz	1,024 to ($2^{17}-1$)
DIVIDING SYSTEM	INPUT LEVEL (MINIMUM)	INPUT FREQUENCY	DIVIDING RATIO												
DIRECT	0.1 Vp-p	0.5 to 15 MHz	16 to ($2^{12}-1$)												
PULSE-SWALLOW (HF COMMAND EXECUTED)	0.2 Vp-p	0.5 to 40 MHz	1,024 to ($2^{17}-1$)												
24	Vssl	GROUND	The ground-return terminal of this device.												
25	E01	ERROR OUTPUT	Transmits the error signal of the PLL system. When the resultant frequencies obtained by dividing the local-oscillator frequencies are higher than the reference frequency, an "H" (high)-level signal is output from this port. When these are lower, on the contrary, an "L" (low)-level signal is output from this port. When these divided frequencies just coincide with the reference frequency, this port becomes in a floating state. These output signals from this port then go through the external lowpass filter to the varactor diodes in the turned circuits in these frontends of the receiver. The same output waveform as the terminal E01 is obtainable from the next terminal E02, pin 26, and so these two are user-selectable. When the PLL is disabled, i.e., when the system is set by the PLL commands or the CE terminal, pin 27, is set to the "L" (low)-level, these E01 and E02 terminals become in the floating states.												
26	E02	ERROR OUTPUT													
27	CE	CHIP ENABLE	<p>Receives the state-selection signals for this device.</p> <p>When set a "H" (high), this device works, and vice versa. The PLL section of this device becomes forcibly in a disabled condition in the duration of wider than 140 μsec of the "L" (low)-level state. The duration, however, of shorter than 140 μsec is not taken into account. The programmes are using the CKSTP commands. The CKSTP commands are effective only when the state of this CE is in an "L" (low) condition. When this CE terminal is in an "H" state, these programmes work like under NOP commands.</p> <p>When the CKSTP commands are executed when this CE terminal is in an "L" (low) level, the internal clock generator and the internal CPU are disabled. In this disabled condition, the RAM-memory backupings can be made under a very-low current consumption of 3 μA maximum. In this condition, these display-output signals LCD1 through LCD16 and the COM1 COM3 become in the off-display mode, i.e., the "L" (low) state.</p> <p>When the level of this CE terminal is changed from "L" to "H", this device is reset and its programmes start from the location "0" (zero). In this state, the Port A becomes in the input mode.</p> <p>Goes to "L" (low) when main power switch is OFF or when the power supply is below 1.9V (1.8 – 2.0 V).</p>												

PIN NO.	SYMBOL	NAMING	DESCRIPTION															
28	XO	CRYSTAL OSCILLATOR	An external quartz-crystal oscillator connects to these terminals to obtain 75 kHz signal generator for the devices.															
29	X1																	
30	PA3	PORT A	4-bit I/O (Input/Output) ports. These ports enable the device designate input or output bit by bit. The each designation is, in turn, performed by the contents in the location "1FH" in the "BANK 0 (zero)" in the data memory (RAM), called as a "PAIO word". At these instances as the power-on, clock stoppage and the initial setting of the CE terminal from "L" to "H", these terminals automatically become in the input ports.															
31																		
33	PA0		Under the port-operation commands like "IN", "OUT", "SOB", "RPB" commands, etc., the PA0 port coincides with the least significant bit of the register or the operand, the PA3 coincides with the most-significant bit of them. The same applies to the port B and Port C respectively.															
(30)	PA3 (SD)	PORT A	When receiving a broadcast station, it goes to "H" (high), and tuning LED lights. It is used as a stop signal for scan function.															
(31)	PA2	PORT A	Initial key input port.															
(32)	PA1	PORT A	Mode output.															
(33)	PA0	PORT A	<table border="1"> <thead> <tr> <th></th><th>RADIO OFF</th><th>LW/MW</th><th>SW</th><th>FM</th></tr> </thead> <tbody> <tr> <td>PA1</td><td>"L"</td><td>"L"</td><td>"H"</td><td>"H"</td></tr> <tr> <td>PA0</td><td>"L"</td><td>"H"</td><td>"L"</td><td>"H"</td></tr> </tbody> </table>		RADIO OFF	LW/MW	SW	FM	PA1	"L"	"L"	"H"	"H"	PA0	"L"	"H"	"L"	"H"
	RADIO OFF	LW/MW	SW	FM														
PA1	"L"	"L"	"H"	"H"														
PA0	"L"	"H"	"L"	"H"														
34	PB3	PORT B	4-bit exclusive output ports.															
35			For ports PB0 and PB1, the sink current is minimized to a specially-low drain, so the PB0 and PB1 are able to be used as the return-signal sources for the key matrix. Accordingly, any of the reverse-current-preventive diodes can be eliminated when these PB0 and PB1 ports are used as the key-return-signal sources. When these ports are used as ordinal output ports, it will happen any of the low-level output signal will not be output properly depending upon the circuit employed, because of the low sink current. In these cases, pull-down resistors are used in these output lines.															
36	PB0		Under the port-operation commands like "IN", "OUT", "SOB", "RPB" commands, etc., the PA0 port coincides with the least significant bit of the register or the operand, the PA3 coincides with the most-significant bit of them. The same applies to the Port B and Port C respectively. These exclusive output ports should be initialized using the programmes, because these ports output unstable and undefined output signals at the initial power-on condition, i.e., from "L" to "H".															
37			The output-data contents are the same as these previous last ones when the CE terminal changes from "L" to "H" or from "H" to "L", and when the CKSTP commands are under execution. Accordingly, the initialization with programmes is needed too where required. In this set, these ports are used as those shown in the parentheses.															
(34)	PB3 (3 kHz)	PORT B	First local frequency control: In LW and MW (in 9 kHz step), if 3 is left when the receiving frequency divided by 6, it outputs "L" (low). If divisible by 6, outputs "H" (high).															
(35)	PB2 (5 kHz)	PORT B	First local frequency control: In MW (in 10 kHz step) and SW, if 5 is left when the receiving frequency divided by 10, it outputs "L" (low). If divisible by 10, outputs "H" (high).															
(36)	PB1	PORT B	Key matrix key sources signal.															
(37)	PB0	PORT B																
38	PC3	PORT C (KEY-MATRIX SIGNAL-SOURCE OUTPUT)	Refer to the PORT B outlined above. All the ports of this PORT C apply to the description for the PORT B.															
39																		
40	PC1		In this set, these ports output signals to be used as the signal sources for the key matrix.															
41	NC	NO	This is a free terminal and is not connected to the internal circuits, and this terminal can be used as a junction land.															
42	PC0	PORT C	Refer to description for pins 38 through 40 outlined above.															
43	K3	KEY INPUTS	4-bit exclusive input ports. These are normally used as the key-matrix input terminals. When the KIN or the KI commands executed, the conditions of these pins are read into the RAM data memories designated by the operand portion of these commands.															
44																		
45	K1																	
46	VDD		Same as pin 20.															
47	K0		Same as pins 43 through 45.															
48	LCD16		Same as pins 1 through 10.															
49																		
53	LCD11																	
54	NC		Same as pin 41.															

2-1-3. INITIAL-STATE SETTING

1) Initial Power-on Setting:

VDD = 0 V → 3.0 V, CE = Low → High

The power-supply is reset after performing the initial power-on setting, and the following operations are made.

- The power-out terminal becomes in "L" (low) state, i.e., power off, and reads the initial-state setting diodes.
- Initializes the preset-memories contents of each figures from 0 to 9 to its 150 kHz frequency.
- Initializes the last-channel memories contents of the above each cases to its 150 kHz frequency.
- Sets the clock and alarm time to "0:00", and resets the "second" starting.
- And the LCD displays the following clock display.



2) Backup Condition:

CE = Low

The backup state is made when the CE terminal becomes in "L" (low) state. In the backup state, the program routines are intermittently performed to eliminate the current drain by using the "HALT" command. The operation routine is as follows.

- The PLL is disabled.
- All the ports are made into "L" (low) state.
- LCD displays remains only for the clock display.

Note: The same operations are made in the radio-off state when CE is "H" (high).

2-1-4. MUTING-OUTPUT TIMINGS

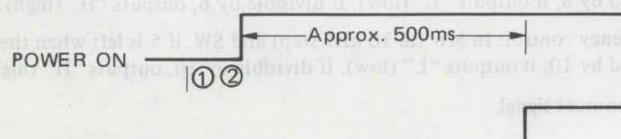
1) MUTE-OUTPUT

1 Allowance for key-on chattering (approx. 15msec).

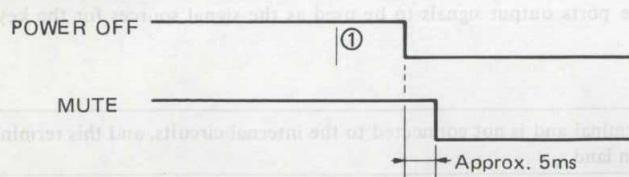
2 Range check, N count, and PLL DATA output.

MUTE: Mute mode at low level.

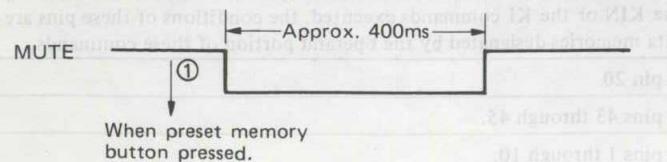
a) RADIO ON



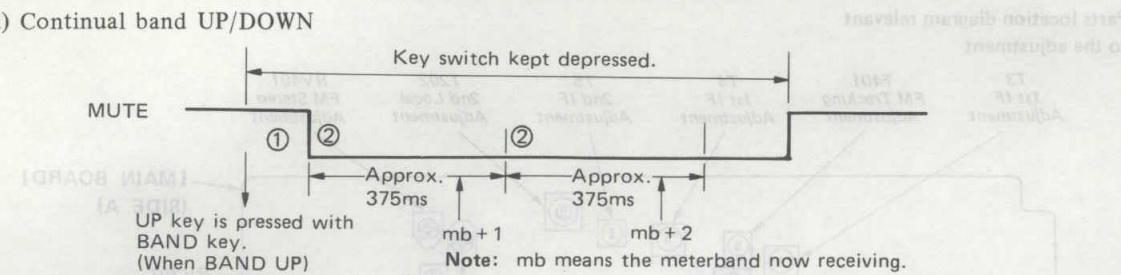
b) RADIO OFF



c) Preset selection, Direct selection, Band switching (Band UP/DOWN, manual selection).

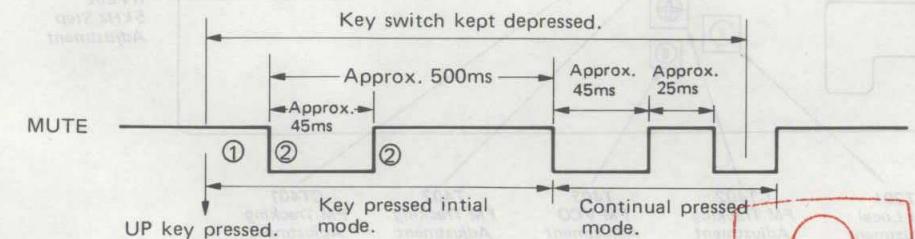


d) Continual band UP/DOWN

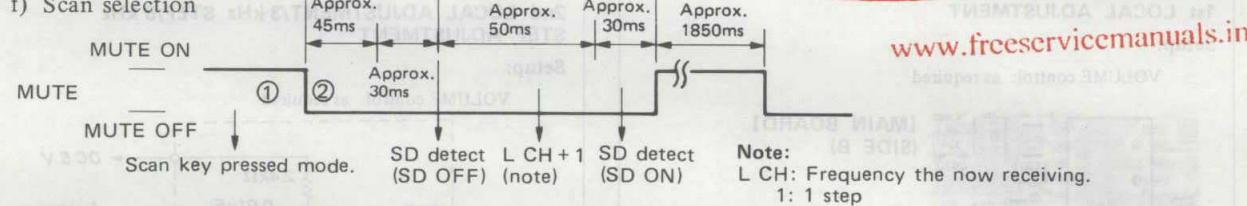


e) Continual frequency UP/DOWN (manual selection)

In the same band

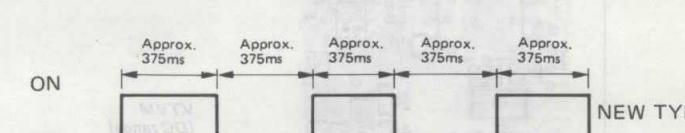
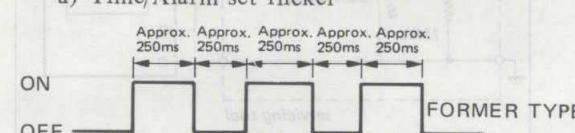


f) Scan selection

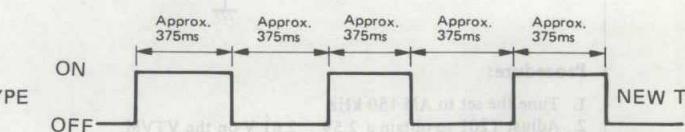
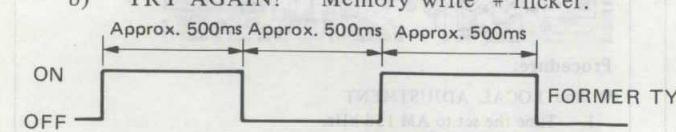


2) DISPLAY FLICKER PERIOD

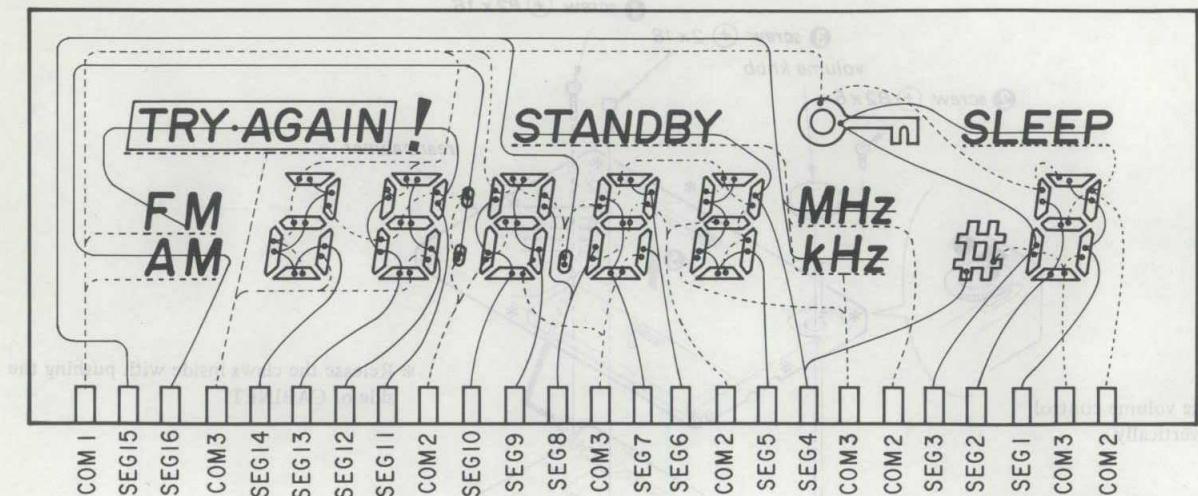
a) Time/Alarm set flicker



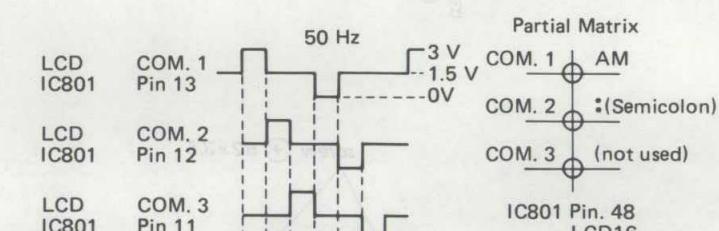
b) TRY AGAIN! Memory write # flicker.



2-1-5. SEGMENTS AND COMMONS OF LIQUID-CRYSTAL DISPLAY PANEL (LCD801)



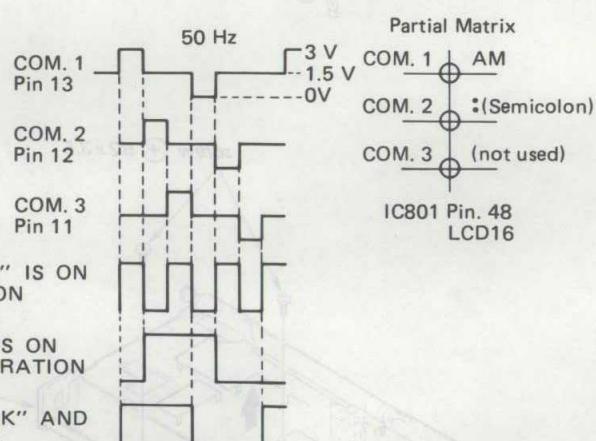
2-1-6. RELATIONSHIP OF LCD (LCD801) SEGMENTS TO LSI PINS



WHEN " ; (Semicolon) " IS ON AT 150 Hz OPERATION

WHEN "AM" IS ON AT 50 Hz OPERATION

WHEN BOTH "CLOCK" AND "ALARM" ARE OFF

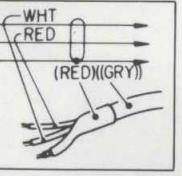


● Semiconductor Location

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D1	D-13	D813	J-24	Q409	B-21
D2	D-13			Q410	C-18
D3	B-13	IC401	C-6	Q411	C-18
D4	B-14	IC402	B-3	Q412	C-17
D5	B-13	IC601	D-3	Q413	B-2
D6	B-9	IC801	I-5	Q420	C-7
D7	B-9	IC802	H-4	Q602	E-19
D8	D-13	IC803	I-3	Q603	D-19
D203	D-16	IC804	H-1	Q605	E-21
D204	B-19			Q606	B-2
D401	B-17	Q1	C-10	Q607	B-2
D402	D-17	Q2	B-14	Q801	J-4
D403	D-17	Q3	C-8	Q802	J-4
D601	C-4	Q4	B-15	Q804	G-2
D602	D-4	Q5	B-6	Q805	I-2
D604	E-19	Q6	B-5	Q806	I-1
D801	J-4	Q7	C-5	Q807	I-1
D802	J-6	Q201	E-8	Q808	J-3
D803	I-24	Q202	C-8	Q809	H-3
D804	I-24	Q203	B-4	Q811	I-1
D805	I-24	Q205	E-7	Q812	I-2
D806	G-22	Q401	C-18	Q813	J-1
D807	G-1	Q402	D-17	Q814	J-1
D808	H-2	Q403	C-17	Q815	I-1
D809	I-2	Q405	D-5	Q816	I-4
D810	I-2	Q406	C-20	Q817	J-3
D811	I-4	Q407	C-3	Q818	J-4
D812	I-3	Q408	C-3		

Note:

- Color code or sleeving over the end of the jacket.



AESTRUT

BOARD

KEY BOARD

MICRO COMPUTER BOARD

MAIN BOARD

SIDE A

SIDE B

SPK

VOLUME

ANT

AESTRUT

BOARD

KEY BOARD

MICRO COMPUTER BOARD

MAIN BOARD

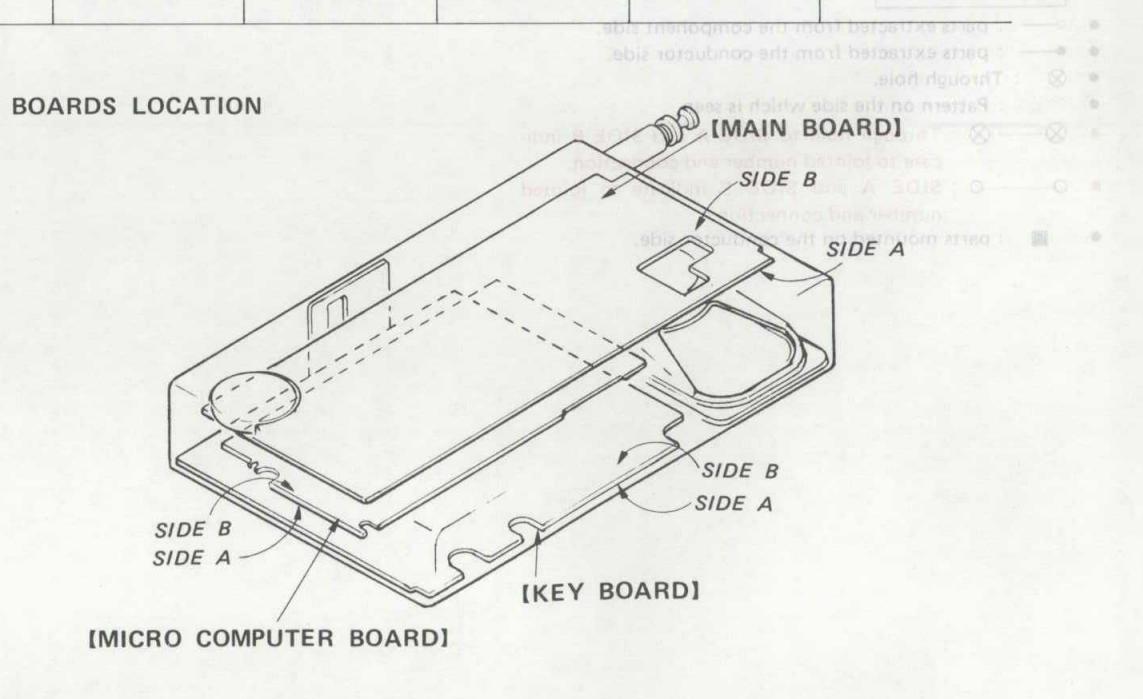
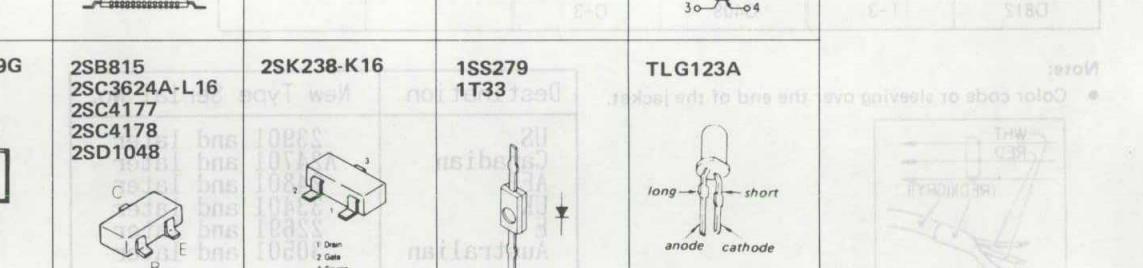
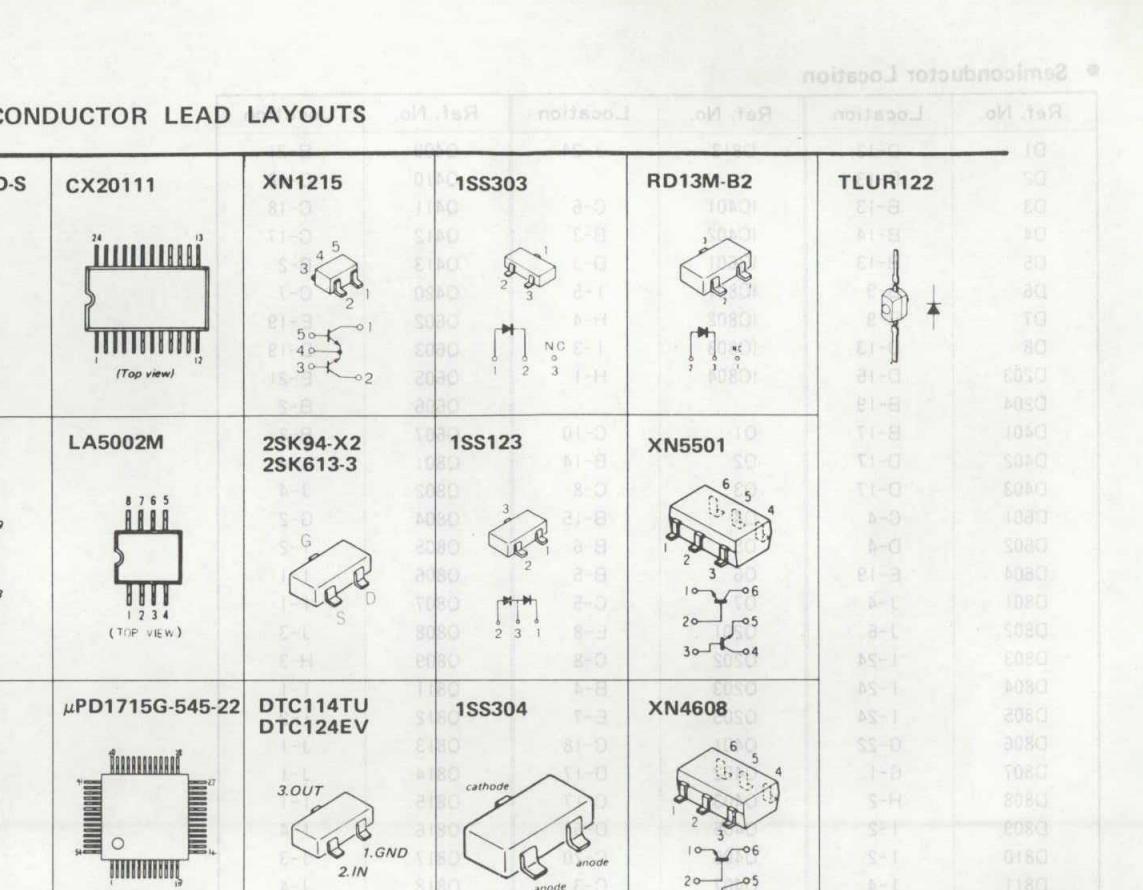
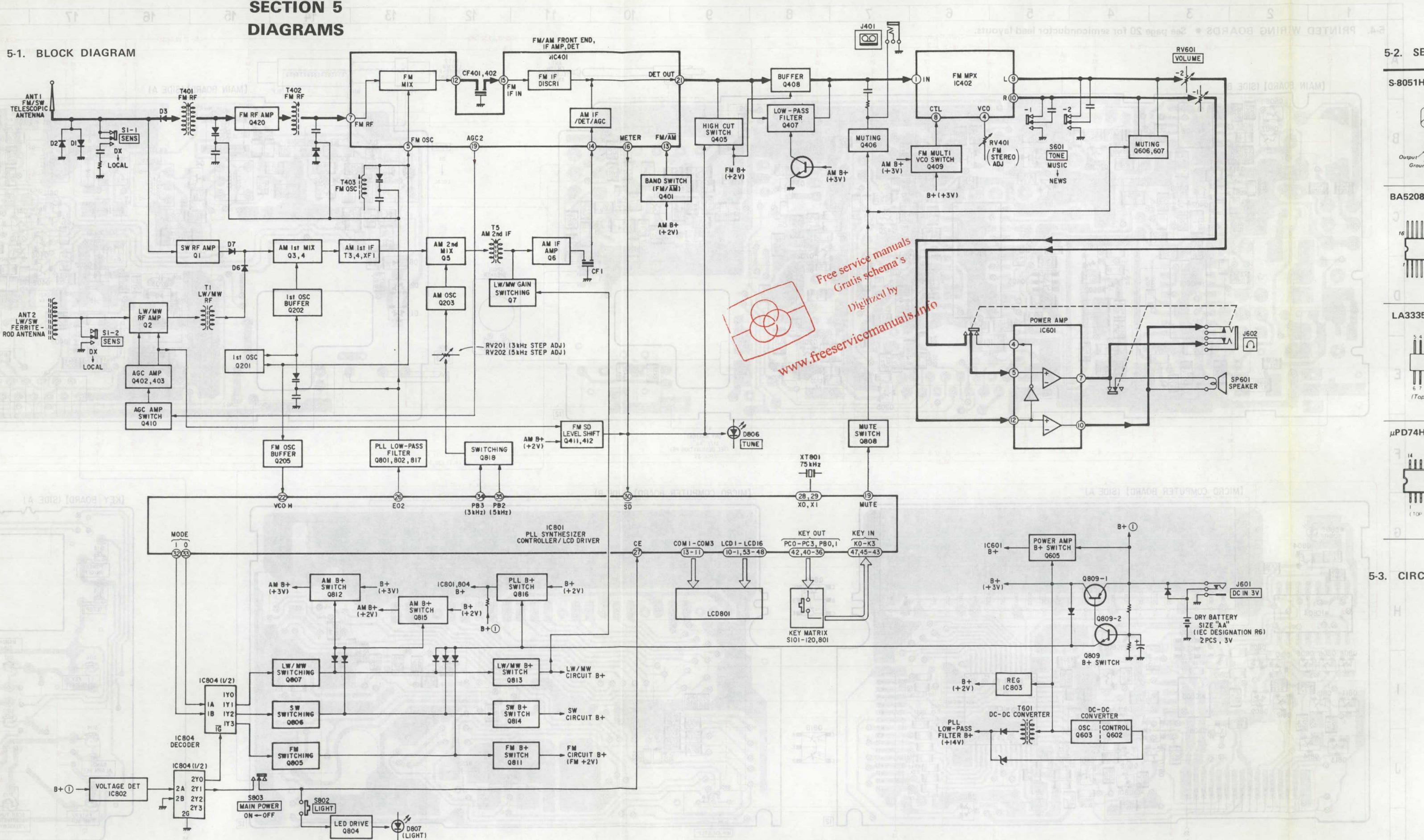
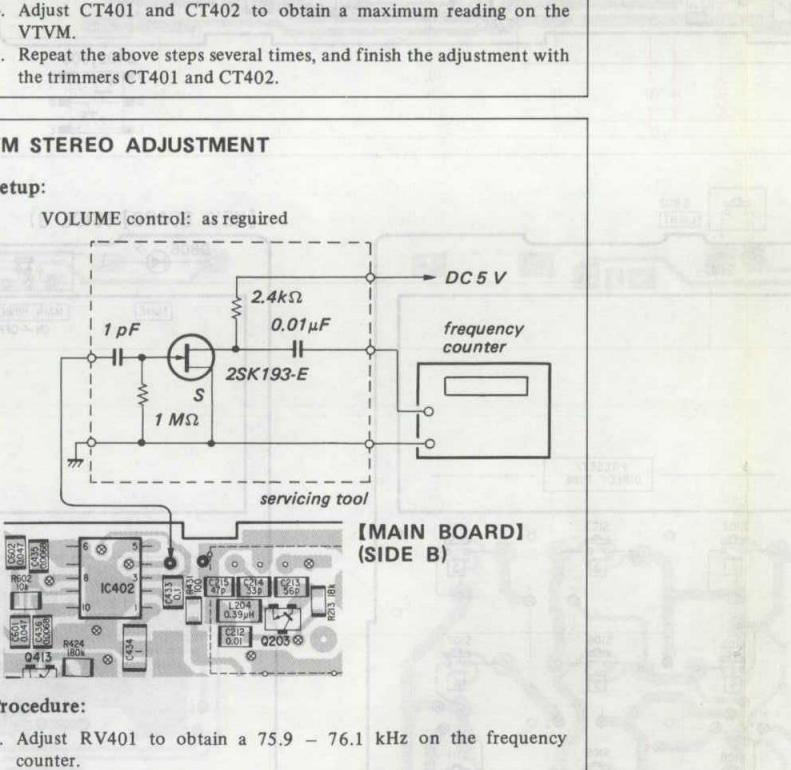
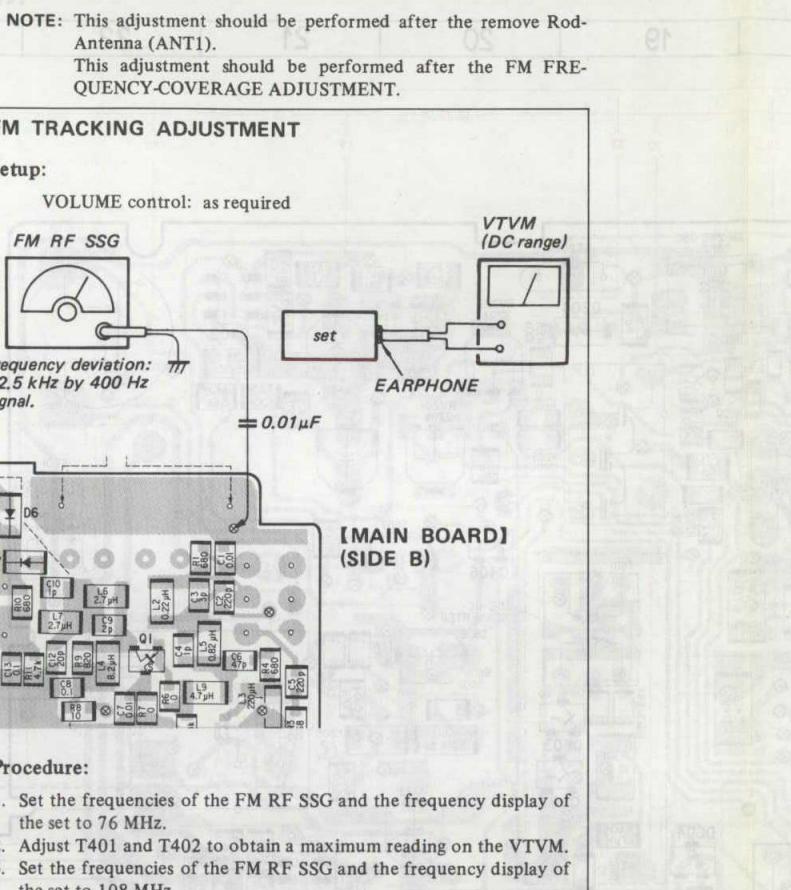
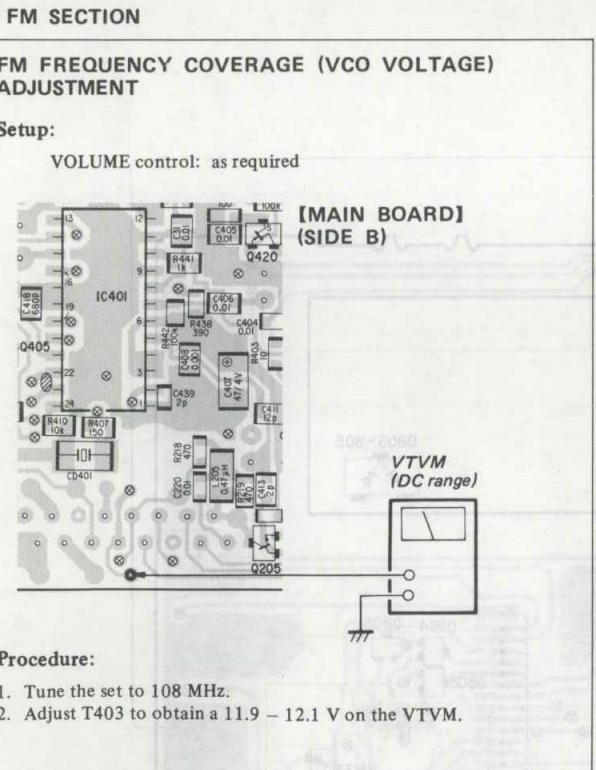
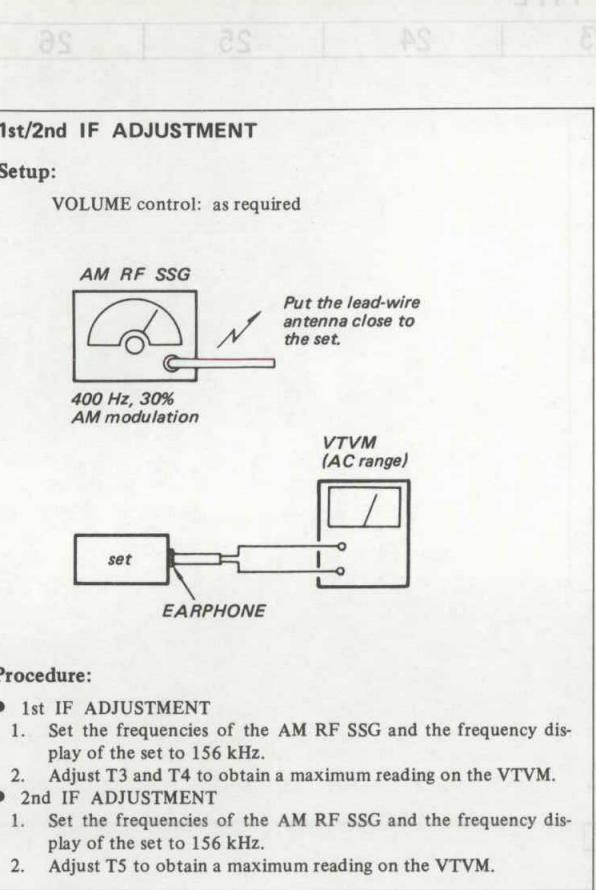
SIDE A

SIDE B

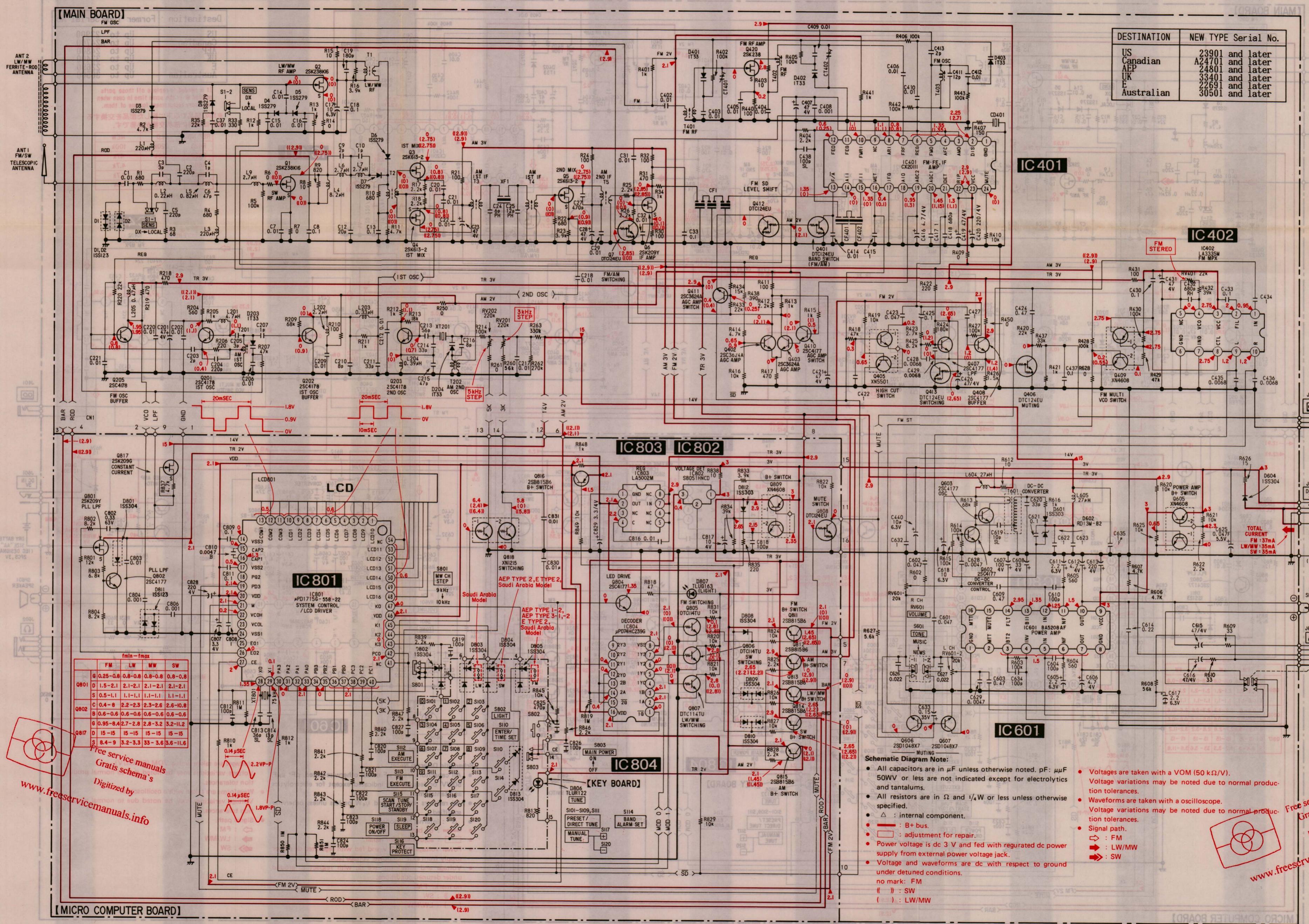
SPK

VOLUME

ANT



5-5. SCHEAMTIC DIAGRAM • See page 14 for liqued-crystal panel (LCD801).
• See page 35 for IC block diagrams.

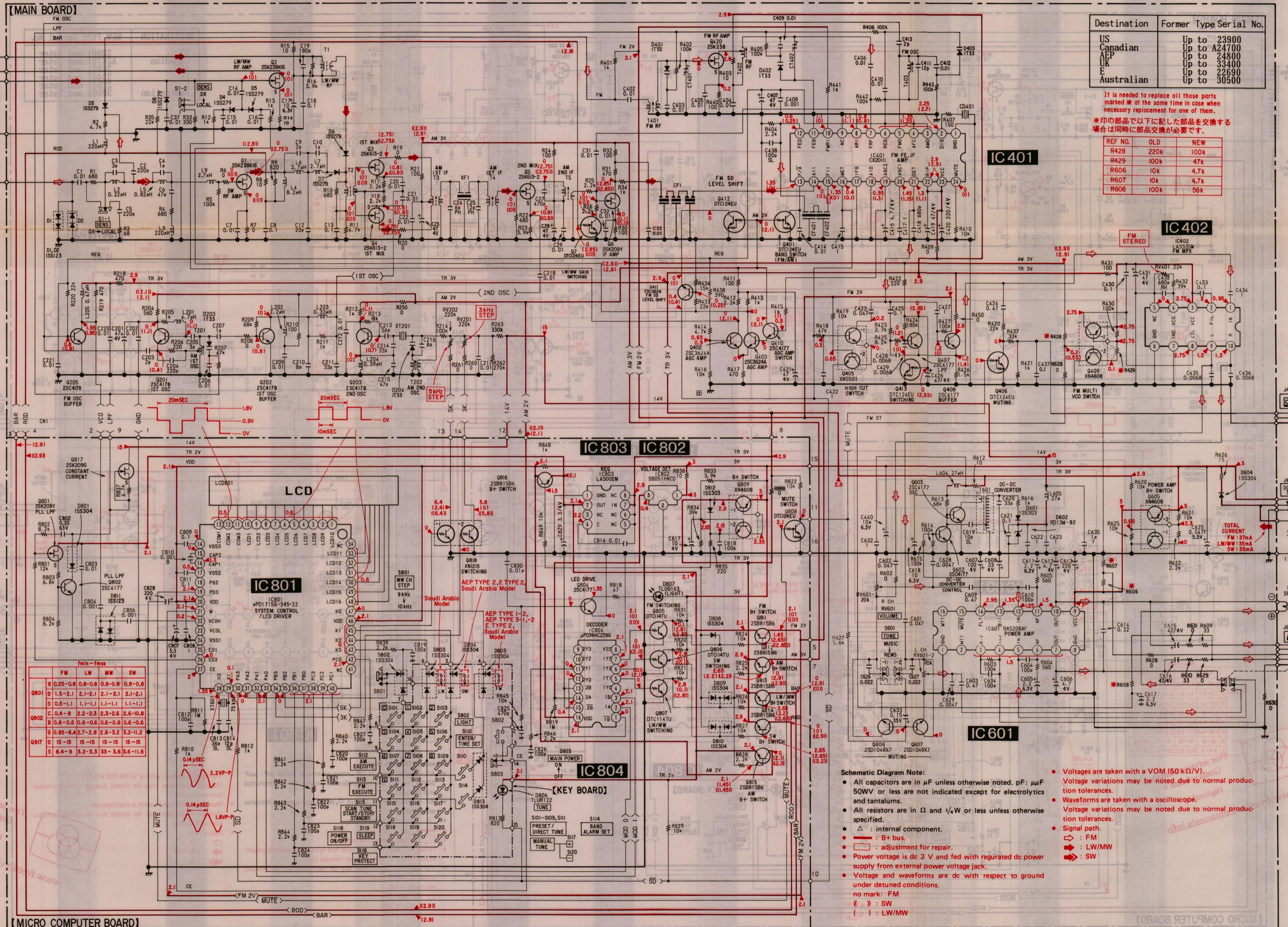


FORMER W TYPE

FORMER TYPE

FORMER W TYPE

5-6. SCHEMATIC DIAGRAM • See page 14 for liquid-crystal panel (LCD801).
• See page 35 for switch position and IC block diagrams.



Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
C433	1-163-038-00	CERAMIC CHIP 0.1MF	C822	1-162-953-11	CERAMIC CHIP 100PF
C434	1-162-638-11	CERAMIC CHIP 1MF	C823	1-162-953-11	CERAMIC CHIP 100PF
C435	1-162-969-11	CERAMIC CHIP 0.0068MF	C824	1-162-953-11	CERAMIC CHIP 100PF
C436	1-162-969-11	CERAMIC CHIP 0.0068MF	C825	1-162-962-11	CERAMIC CHIP 470PF
C437	1-164-004-11	CERAMIC CHIP 0.1MF	C826	1-162-953-11	CERAMIC CHIP 100PF
C438	1-163-117-00	CERAMIC CHIP 100PF	C827	1-162-953-11	CERAMIC CHIP 100PF
C440	1-135-157-21	TANTAL. CHIP 10MF	C828	1-124-576-11	ELECT 220MF
C601	1-163-809-11	CERAMIC CHIP 0.047MF	C829	1-135-103-00	TANTAL. CHIP 3.3MF
C602	1-163-809-11	CERAMIC CHIP 0.047MF	C830	1-162-970-11	CERAMIC CHIP 0.01MF
C603	1-164-005-11	CERAMIC CHIP 0.47MF	C831	1-162-970-11	(NEW).....CERAMIC CHIP 0.01MF
C604	1-162-953-11	CERAMIC CHIP 100PF	CD401	1-577-065-11	FILTER, CERAMIC
C605	1-135-099-00	TANTAL. CHIP 2.2MF	CF1	1-577-030-11	FILTER, CERAMIC
C606	1-135-151-21	TANTAL. CHIP 4.7MF	CF401	1-567-389-11	FILTER, CERAMIC
C607	1-126-209-11	ELECT 100MF	CF402	1-567-389-11	FILTER, CERAMIC
C608	1-126-207-11	ELECT 33MF	CN1	1-566-073-11	SOCKET, CONNECTOR 16P
C609	1-164-005-11	CERAMIC CHIP 0.47MF	CN2	1-566-385-11	PIN, CONNECTOR 2P
C610	1-162-953-11	CERAMIC CHIP 100PF	CN3	1-566-385-11	PIN, CONNECTOR 2P
C611	1-135-099-00	TANTAL. CHIP 2.2MF	CT401	1-141-347-11	CAP, VAR, TRIMMER (CHIP)
C612	1-135-151-21	TANTAL. CHIP 4.7MF	CT402	1-141-347-11	CAP, VAR, TRIMMER (CHIP)
C613	1-126-246-11	ELECT 220MF	D1	8-719-101-23	DIODE 1SS123
C614	1-163-081-00	CERAMIC CHIP 0.22MF	D2	8-719-101-23	DIODE 1SS123
C615	1-135-098-21	TANTAL. CHIP 47MF	D3	8-719-123-79	DIODE 1SS279
C616	1-135-098-21	TANTAL. CHIP 47MF	D4	8-719-123-79	DIODE 1SS279
C617	1-135-099-00	TANTAL. CHIP 2.2MF	D5	8-719-123-79	DIODE 1SS279
C618	1-135-157-21	TANTAL. CHIP 10MF	D6	8-719-123-79	DIODE 1SS279
C619	1-162-941-11	CERAMIC CHIP 10PF	D7	8-719-123-79	DIODE 1SS279
C620	1-162-947-11	CERAMIC CHIP 33PF	D8	8-719-123-79	DIODE 1SS279
C621	1-163-038-00	CERAMIC CHIP 0.1MF	D203	8-713-300-00	DIODE 1T33
C622	1-162-638-11	CERAMIC CHIP 1MF	D204	8-713-300-00	DIODE 1T33
C623	1-162-638-11	CERAMIC CHIP 1MF	D401	8-713-300-00	DIODE 1T33
C625	1-125-513-11	DOUBLE LAYERS 0.047F	D402	8-713-300-00	DIODE 1T33
C626	1-163-037-11	CERAMIC CHIP 0.022MF	D403	8-713-300-00	DIODE 1T33
C627	1-163-037-11	CERAMIC CHIP 0.022MF	D601	8-719-123-82	DIODE 1SS303
C628	1-162-968-11	CERAMIC CHIP 0.0047MF	D602	8-719-106-80	DIODE RD13M-B2
C629	1-162-968-11	CERAMIC CHIP 0.0047MF	D604	8-719-123-85	DIODE 1SS304
C632	1-162-638-11	CERAMIC CHIP 1MF	D801	8-719-123-85	DIODE 1SS304
C633	1-135-071-21	TANTAL. CHIP 0.15MF	D802	8-719-123-85	DIODE 1SS304
C634	1-162-953-11	CERAMIC CHIP 100PF	D803	8-719-123-85	DIODE 1SS304
C635	1-162-638-11	CERAMIC CHIP 1MF	D804	8-719-123-85	DIODE 1SS304
C802	1-130-774-00	FILM 0.33MF	D805	8-719-123-85	DIODE 1SS304
C803	1-162-970-11	CERAMIC CHIP 0.01MF	D806	8-719-800-54	DIODE TLUR122
C804	1-162-964-11	CERAMIC CHIP 0.001MF	D807	8-719-812-33	DIODE TLG123A
C806	1-162-964-11	CERAMIC CHIP 0.001MF	D808	8-719-123-85	DIODE 1SS304
C807	1-135-103-00	TANTAL. CHIP 3.3MF	D809	8-719-123-85	DIODE 1SS304
C808	1-162-638-11	CERAMIC CHIP 1MF	D810	8-719-123-85	DIODE 1SS304
C809	1-163-038-00	CERAMIC CHIP 0.1MF	D811	8-719-101-23	DIODE 1SS123
C810	1-162-968-11	(NEW).....CERAMIC CHIP 0.0047MF	D812	8-719-123-82	DIODE 1SS303
	1-162-964-11	(FORMER).....CERAMIC CHIP 0.001MF	D813	8-719-123-85	DIODE 1SS304
C811	1-163-038-00	CERAMIC CHIP 0.1MF	IC401	8-752-011-11	IC CX20111
C812	1-162-953-11	CERAMIC CHIP 100PF	IC402	8-759-804-98	IC LA3335M
C813	1-164-149-11	CERAMIC CHIP 36PF	IC601	8-759-910-71	IC BA5208AF
C814	1-164-185-11	(NEW).....CERAMIC CHIP 13PF	IC801	8-759-142-35	IC UPD1715G-558-22
	1-162-942-11	(FORMER).....CERAMIC CHIP 12PF	IC802	8-759-947-95	IC S-8051HN-CD-S
C816	1-162-970-11	CERAMIC CHIP 0.01MF	IC803	8-759-804-76	IC LA5002M
C817	1-135-104-00	TANTAL. CHIP 10MF	IC804	8-759-113-94	IC UPD74HC239G
C818	1-162-953-11	CERAMIC CHIP 100PF	J401	1-507-950-21	JACK (SMALL TYPE)(REC OUT)
C819	1-162-953-11	CERAMIC CHIP 100PF	J601	1-565-074-11	JACK, OUTER POWER 1P (DC IN 3V)
C820	1-162-953-11	CERAMIC CHIP 100PF	J602	1-507-958-31	JACK (HEADPHONE)
C821	1-162-953-11	CERAMIC CHIP 100PF			

Ref. No.	Part No.	Description	QOH 216W	QOH 16W	Ref. No.	Part No.	Description	QOH 216W	QOH 16W
VOL1	1-410-220-31	INDUCTOR CHIP	220UH-S21-1	S200	Q816	8-729-800-68	TRANSISTOR 2SB815	00-800-801-1	S200
VOL2	1-410-733-21	INDUCTOR CHIP	0.22UH-S21-1	S200	Q817	8-729-109-42	TRANSISTOR 2SK94-X2	11-800-801-1	S200
VOL3	1-410-220-31	INDUCTOR CHIP	220UH-S21-1	S200	Q818	8-729-403-17	TRANSISTOR XN1215	11-800-801-1	S200
VOL4	1-410-203-51	INDUCTOR CHIP	8.2UH-S21-1	S200	R1	1-216-819-11	METAL GLAZE	680	5% 1/16W
VOL5	1-410-191-51	INDUCTOR CHIP	0.82UH-S21-1	S200	R2	1-216-829-11	METAL GLAZE	4.7K	5% 1/16W
VOL6	1-410-197-11	INDUCTOR CHIP	2.7UH-S21-1	S200	R3	1-216-807-11	METAL GLAZE	68	5% 1/16W
VL7	1-410-197-11	INDUCTOR CHIP	2.7UH-S21-1	S200	R4	1-216-819-11	METAL GLAZE	680	5% 1/16W
VL9	1-410-197-11	INDUCTOR CHIP	2.7UH-S21-1	S200	R5	1-216-845-11	METAL GLAZE	100K	5% 1/16W
L201	1-410-200-31	INDUCTOR CHIP	4.7UH-S21-1	S200	R6	1-216-864-11	METAL GLAZE	0	5% 1/16W
L202	1-410-196-11	INDUCTOR CHIP	2.2UH-S21-1	S200	R7	1-216-864-11	METAL GLAZE	0	5% 1/16W
L203	1-410-186-51	INDUCTOR CHIP	0.33UH-S21-1	S200	R8	1-216-797-11	METAL GLAZE	10	5% 1/16W
L204	1-410-187-41	INDUCTOR CHIP	0.39UH-S21-1	S200	R9	1-216-820-11	METAL GLAZE	820	5% 1/16W
L205	1-410-188-51	INDUCTOR CHIP	0.47UH-S21-1	S200	R10	1-216-819-11	METAL GLAZE	680	5% 1/16W
L604	1-412-011-31	INDUCTOR CHIP	27UH-S21-1	S200	R11	1-216-829-11	METAL GLAZE	4.7K	5% 1/16W
L605	1-412-011-31	INDUCTOR CHIP	27UH-S21-1	S200	R12	1-216-821-11	METAL GLAZE	1K	5% 1/16W
LCD801	1-808-270-11	DISPLAY PANEL, LIQUID CRYSTAL	END	END	R13	1-216-821-11	METAL GLAZE	1K	5% 1/16W
Q1	8-729-123-86	TRANSISTOR 2SK238-K16	END	END	R14	1-216-864-11	(NEW)..... METAL GLAZE	0	5% 1/16W
Q2	8-729-123-86	TRANSISTOR 2SK238-K16	END	END	1-216-797-11	(FORMER).. METAL GLAZE	10	5% 1/16W	
Q3	8-769-401-59	TRANSISTOR 2SK613-3	END	END	R15	1-216-797-11	METAL GLAZE	10	5% 1/16W
Q4	8-769-401-59	TRANSISTOR 2SK613-3	END	END	R16	1-216-828-11	METAL GLAZE	3.9K	5% 1/16W
Q5	8-769-401-59	TRANSISTOR 2SK613-3	END	END	R17	1-216-825-11	METAL GLAZE	2.2K	5% 1/16W
Q6	8-729-109-42	TRANSISTOR 2SK94-X2	END	END	R18	1-216-825-11	METAL GLAZE	2.2K	5% 1/16W
Q7	8-729-117-72	TRANSISTOR 2SC4178	END	END	R19	1-216-864-11	(FORMER).. METAL GLAZE	0	5% 1/16W
Q201	8-729-117-72	TRANSISTOR 2SC4178	END	END	R20	1-216-884-11	(FORMER).. METAL GLAZE	0	5% 1/16W
Q202	8-729-117-72	TRANSISTOR 2SC4178	END	END	R21	1-216-809-11	METAL GLAZE	100	5% 1/16W
Q203	8-729-117-72	TRANSISTOR 2SC4178	END	END	R22	1-216-819-11	METAL GLAZE	680	5% 1/16W
Q205	8-729-117-72	TRANSISTOR 2SC4178	END	END	R23	1-216-828-11	METAL GLAZE	3.9K	5% 1/16W
Q401	8-729-905-61	TRANSISTOR DTC124EU	END	END	R24	1-216-809-11	METAL GLAZE	100	5% 1/16W
Q402	8-729-107-45	TRANSISTOR 2SC3624A-L16	END	END	R25	1-216-825-11	METAL GLAZE	2.2K	5% 1/16W
Q403	8-729-107-45	TRANSISTOR 2SC3624A-L16	END	END	R26	1-216-825-11	METAL GLAZE	2.2K	5% 1/16W
Q405	8-729-402-75	TRANSISTOR XN5501	END	END	R30	1-216-809-11	METAL GLAZE	100	5% 1/16W
Q406	8-729-800-36	TRANSISTOR 2SD1048	END	END	R31	1-216-817-11	METAL GLAZE	470	5% 1/16W
Q407	8-729-117-32	TRANSISTOR 2SC4177	END	END	R32	1-216-809-11	METAL GLAZE	100	5% 1/16W
Q408	8-729-117-32	TRANSISTOR 2SC4177	END	END	R33	1-216-815-11	METAL GLAZE	330	5% 1/16W
Q409	8-729-402-16	TRANSISTOR XN4608	END	END	R34	1-216-821-11	METAL GLAZE	1K	5% 1/16W
Q410	8-729-117-32	TRANSISTOR 2SC4177	END	END	R35	1-216-837-11	METAL GLAZE	22K	5% 1/16W
Q411	8-729-117-32	TRANSISTOR 2SC4177	END	END	R204	1-216-818-11	METAL GLAZE	560	5% 1/16W
Q412	8-729-905-61	TRANSISTOR DTC124EU	END	END	R205	1-216-821-11	METAL GLAZE	1K	5% 1/16W
Q413	8-729-905-61	TRANSISTOR DTC124EU	END	END	R206	1-216-813-11	METAL GLAZE	220	5% 1/16W
Q420	8-729-123-86	TRANSISTOR 2SK238-K16	END	END	R207	1-216-841-11	METAL GLAZE	47K	5% 1/16W
Q602	8-729-117-32	TRANSISTOR 2SC4177	END	END	R208	1-216-864-11	(FORMER).. METAL GLAZE	0	5% 1/16W
Q603	8-729-117-32	TRANSISTOR 2SC4177	END	END	R209	1-216-843-11	METAL GLAZE	68K	5% 1/16W
Q605	8-729-402-16	TRANSISTOR XN4608	END	END	R210	1-216-809-11	METAL GLAZE	100	5% 1/16W
Q606	8-729-800-36	TRANSISTOR 2SD1048	END	END	R211	1-216-821-11	METAL GLAZE	1K	5% 1/16W
Q607	8-729-800-36	TRANSISTOR 2SD1048	END	END	R212	1-216-821-11	METAL GLAZE	1K	5% 1/16W
Q801	8-729-109-42	TRANSISTOR 2SK94-X2	END	END	R213	1-216-836-11	METAL GLAZE	18K	5% 1/16W
Q802	8-729-117-32	TRANSISTOR 2SC4177	END	END	R214	1-216-845-11	METAL GLAZE	100K	5% 1/16W
Q804	8-729-117-32	TRANSISTOR 2SC4177	END	END	R218	1-216-817-11	METAL GLAZE	470	5% 1/16W
Q805	8-729-905-99	TRANSISTOR DTC114TU	END	END	R219	1-216-817-11	METAL GLAZE	470	5% 1/16W
Q806	8-729-905-99	TRANSISTOR DTC114TU	END	END	R220	1-216-837-11	METAL GLAZE	22K	5% 1/16W
Q807	8-729-905-99	TRANSISTOR DTC114TU	END	END	R250	1-216-864-11	METAL GLAZE	0	5% 1/16W
Q808	8-729-905-61	TRANSISTOR DTC124EU	END	END	R260	1-216-842-11	(NEW)..... METAL GLAZE	56K	5% 1/16W
Q809	8-729-402-16	TRANSISTOR XN4608	END	END	1-216-864-11	(FORMER).. METAL GLAZE	0	5% 1/16W	
Q811	8-729-800-68	TRANSISTOR 2SB815	END	END	R261	1-216-864-11	METAL GLAZE	0	5% 1/16W
Q812	8-729-800-68	TRANSISTOR 2SB815	END	END	R262	1-216-850-11	METAL GLAZE	270K	5% 1/16W
Q813	8-729-800-68	TRANSISTOR 2SB815	END	END	R263	1-216-851-11	METAL GLAZE	330K	5% 1/16W
Q814	8-729-800-68	TRANSISTOR 2SB815	END	END	R401	1-216-821-11	METAL GLAZE	1K	5% 1/16W
Q815	8-729-800-68	TRANSISTOR 2SB815	END	END	R402	1-216-845-11	METAL GLAZE	100K	5% 1/16W

SECTION S ANTENNA MODULE (AN-101)												
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	ACCESSORY & PACKING MATERIAL			
R403	1-216-797-11	METAL GLAZE	10	5%	1/16W	R627	1-216-830-11	METAL GLAZE 5.8K 5%	1/16W	T5	1-404-778-11	TRANSFORMER, IF
R404	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	R628	1-216-864-11	(NEW).....METAL GLAZE 0	5%	T201	1-406-271-11	COIL (OSC)
R405	1-216-845-11	METAL GLAZE	100K	5%	1/16W	R629	1-216-296-00	(FORMER).....METAL GLAZE 0	5%	T202	1-406-270-11	COIL (OSC)
R406	1-216-845-11	METAL GLAZE	100K	5%	1/16W	R630	1-216-296-00	(FORMER).....METAL GLAZE 0	5%	T401	1-459-828-11	COIL (WITH CORE)
R407	1-216-811-11	METAL GLAZE	150	5%	1/16W	R631	1-216-296-00	(FORMER).....METAL GLAZE 0	5%	T402	1-459-829-11	COIL (WITH CORE)
R409	1-216-864-11	METAL GLAZE	0	5%	1/16W	R801	1-216-834-11	METAL GLAZE 12K 5%	1/16W	T403	1-459-827-11	COIL (WITH CORE)
						R802	1-216-832-11	METAL GLAZE 8.2K 5%	1/16W	T601	1-449-021-21	TRANSFORMER, DC-DC CONVERTER
R410	1-216-833-11	METAL GLAZE	10K	5%	1/16W	R803	1-216-831-11	METAL GLAZE 6.8K 5%	1/16W	XF1	1-567-987-11	FILTER, CRYSTAL
R411	1-216-809-11	METAL GLAZE	100	5%	1/16W	R804	1-216-832-11	METAL GLAZE 8.2K 5%	1/16W	XT201	1-567-986-11	VIBRATOR, CRYSTAL (55.4MHz)
R412	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	R810	1-216-821-11	METAL GLAZE 1K 5%	1/16W	XT801	1-567-769-11	VIBRATOR, CRYSTAL (75kHz)
R413	1-216-821-11	METAL GLAZE	1K	5%	1/16W	R811	1-216-857-11	METAL GLAZE 1M 5%	1/16W			
R414	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	R812	1-216-821-11	METAL GLAZE 1K 5%	1/16W			
R415	1-216-821-11	METAL GLAZE	1K	5%	1/16W	R813	1-216-820-11	METAL GLAZE 820 5%	1/16W			
R416	1-216-833-11	METAL GLAZE	10K	5%	1/16W	R818	1-216-805-11	METAL GLAZE 47 5%	1/16W			
R417	1-216-817-11	METAL GLAZE	470	5%	1/16W	R819	1-216-857-11	METAL GLAZE 1M 5%	1/16W			
R418	1-216-841-11	METAL GLAZE	47K	5%	1/16W	R820	1-216-833-11	METAL GLAZE 10K 5%	1/16W			
R419	1-216-833-11	METAL GLAZE	10K	5%	1/16W	R821	1-216-833-11	METAL GLAZE 10K 5%	1/16W			
R420	1-216-837-11	METAL GLAZE	22K	5%	1/16W	R822	1-216-833-11	METAL GLAZE 10K 5%	1/16W			
R421	1-216-821-11	METAL GLAZE	1K	5%	1/16W	R824	1-216-833-11	METAL GLAZE 10K 5%	1/16W			
R422	1-216-813-11	METAL GLAZE	220	5%	1/16W	R825	1-216-825-11	METAL GLAZE 2.2K 5%	1/16W			
R423	1-216-826-11	METAL GLAZE	2.7K	5%	1/16W	R826	1-216-833-11	METAL GLAZE 10K 5%	1/16W			
R424	1-216-848-11	METAL GLAZE	180K	5%	1/16W	R827	1-216-833-11	METAL GLAZE 10K 5%	1/16W			
R425	1-216-832-11	METAL GLAZE	8.2K	5%	1/16W	R828	1-216-825-11	METAL GLAZE 2.2K 5%	1/16W			
R426	1-216-823-11	METAL GLAZE	1.5K	5%	1/16W	R829	1-216-833-11	METAL GLAZE 10K 5%	1/16W			
R427	1-216-845-11	METAL GLAZE	100K	5%	1/16W	R831	1-216-833-11	METAL GLAZE 10K 5%	1/16W			
R428	1-216-845-11	METAL GLAZE	100K	5%	1/16W	R833	1-216-828-11	METAL GLAZE 3.9K 5%	1/16W			
R429	1-216-841-11	METAL GLAZE	47K	5%	1/16W	R834	1-216-840-11	METAL GLAZE 39K 5%	1/16W			
R430	1-216-845-11	METAL GLAZE	100K	5%	1/16W	R835	1-216-813-11	METAL GLAZE 220 5%	1/16W			
R431	1-216-809-11	METAL GLAZE	100	5%	1/16W	R837	1-216-829-11	METAL GLAZE 4.7K 5%	1/16W			
R432	1-216-840-11	METAL GLAZE	39K	5%	1/16W	R838	1-216-797-11	METAL GLAZE 10 5%	1/16W			
R433	1-216-837-11	METAL GLAZE	22K	5%	1/16W	R839	1-216-825-11	METAL GLAZE 2.2K 5%	1/16W			
R434	1-216-835-11	METAL GLAZE	15K	5%	1/16W	R840	1-216-825-11	METAL GLAZE 2.2K 5%	1/16W			
R437	1-216-839-11	METAL GLAZE	33K	5%	1/16W	R841	1-216-825-11	METAL GLAZE 2.2K 5%	1/16W			
R438	1-216-816-11	METAL GLAZE	390	5%	1/16W	R842	1-216-825-11	METAL GLAZE 2.2K 5%	1/16W			
R440	1-216-809-11	METAL GLAZE	100	5%	1/16W	R843	1-216-825-11	METAL GLAZE 2.2K 5%	1/16W			
R441	1-216-821-11	METAL GLAZE	1K	5%	1/16W	R844	1-216-825-11	METAL GLAZE 2.2K 5%	1/16W			
R442	1-216-845-11	METAL GLAZE	100K	5%	1/16W	R845	1-216-833-11	METAL GLAZE 10K 5%	1/16W			
R443	1-216-845-11	METAL GLAZE	100K	5%	1/16W	R846	1-216-825-11	METAL GLAZE 2.2K 5%	1/16W			
R450	1-216-296-00	METAL GLAZE	0	5%	1/8W	R847	1-216-825-11	METAL GLAZE 2.2K 5%	1/16W			
R602	1-216-864-11	METAL GLAZE	0	5%	1/16W	R848	1-216-821-11	(NEW).....METAL GLAZE 1K 5%	1/16W			
R603	1-216-845-11	METAL GLAZE	100K	5%	1/16W	R849	1-216-833-11	METAL GLAZE 10K 5%	1/16W			
R604	1-216-818-11	METAL GLAZE	560	5%	1/16W	R850	1-216-857-11	(NEW).....METAL GLAZE 1M 5%	1/16W			
R605	1-216-818-11	METAL GLAZE	560	5%	1/16W	R851	1-216-857-11	(NEW).....METAL GLAZE 1M 5%	1/16W			
R606	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	R888	1-216-295-00	(FORMER).....METAL GLAZE 0 5%	1/10W			
R607	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	RV202	1-237-146-21	RES, ADJ, METAL GLAZE 220K				
R608	1-216-842-11	METAL GLAZE	56K	5%	1/16W	RV401	1-237-119-11	RES, ADJ, METAL GLAZE 22K				
R609	1-216-013-00	METAL GLAZE	33	5%	1/10W	S1	1-570-114-11	SWITCH, SLIDE (SENS)				
R610	1-216-013-00	METAL GLAZE	33	5%	1/10W	S601	1-570-114-11	SWITCH, SLIDE (TONE)				
R612	1-216-797-11	METAL GLAZE	10	5%	1/16W	S801	1-570-675-11	SWITCH, SLIDE (MW CH STEP)				
R613	1-216-843-11	METAL GLAZE	68K	5%	1/16W	S802	1-571-385-11	SWITCH, KEY BOARD (LIGHT)				
R614	1-216-845-11	METAL GLAZE	100K	5%	1/16W	S803	1-570-675-11	SWITCH, SLIDE (MAIN POWER)				
R615	1-216-845-11	METAL GLAZE	100K	5%	1/16W	SP601	1-503-842-11	SPEAKER				
R616	1-216-821-11	METAL GLAZE	1K	5%	1/16W	T1	1-426-345-11	TRANSFORMER, HIGH FREQUENCY				
R620	1-216-833-11	METAL GLAZE	10K	5%	1/16W	T2	1-426-357-11	TRANSFORMER, RF				
R621	1-216-833-11	METAL GLAZE	10K	5%	1/16W	T3	1-404-780-11	TRANSFORMER, IF				
R622	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	T4	1-404-779-11	TRANSFORMER, IF				
R625	1-216-8											

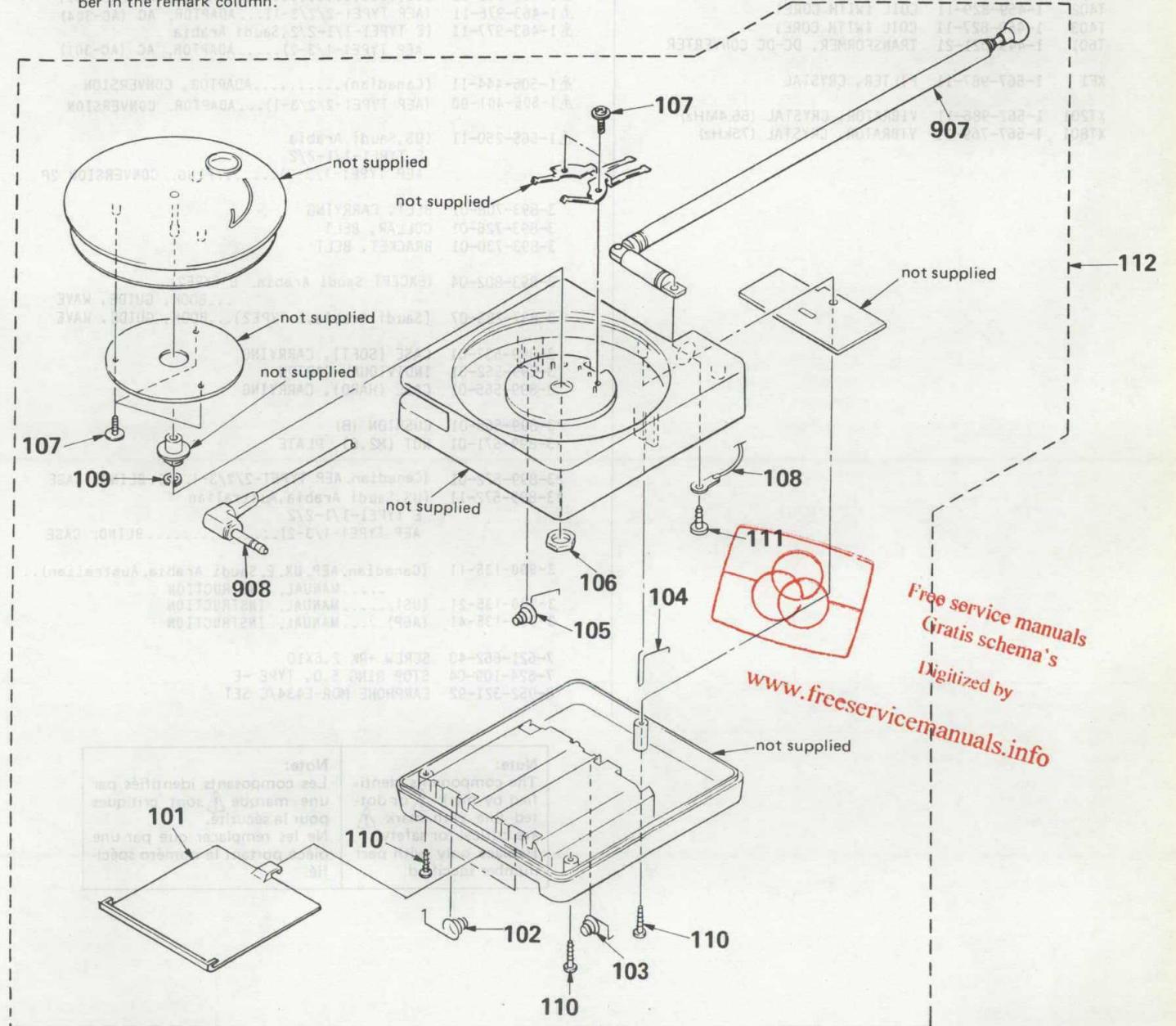
SECTION 8

ANTENNA MODULE (AN-101)

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 callout 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.



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
101	3-899-544-01	LID, BATTERY CASE		108	7-623-508-01	LUG, 3	
102	3-894-723-01	SPRING (B)		109	7-624-104-04	STOP RING 2.0, TYPE -E	
103	3-894-717-01	SPRING (A)		110	7-685-105-19	SCREW +P 2X8 TYPE2 SLIT	
104	3-899-542-01	TERMINAL (-), BATTERY		111	7-685-646-79	SCREW +BTP 3X8 TYPE2 N-S	
105	3-899-541-01	TERMINAL (+), BATTERY		112	A-3641-193-A	ANTENNA ASSY	
106	3-897-115-01	NUT, VOLUME		907	1-501-400-11	ANTENNA, TELESCOPIC	
107	3-318-201-31	SCREW (B) (1.4X5), TAPPING		908	1-559-706-11	CORD (WITH PLUG)	

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.

● ACCESSORY & PACKING MATERIAL

<u>Description</u>	SYSTEM TYPE ICF-SW1S	ECONOMY TYPE ICF-SW1E
<u>Part No.</u>	<u>Part No.</u>	<u>Part No.</u>
ANTENA MODULE (AN-101) COUPLER ASSY (Canadian) ADAPTOR, AC (AC-302) (UK) ADAPTOR, AC (AC-303) (US) ADAPTOR, AC (AC-301) (AEP TYPE1-2/3-1) ADAPTOR, AC (AC-304) (E TYPE1-1/1-2/2, Saudi Arabia AEP TYPE1-1/2/3-2) ADAPTOR, AC (AC-301)	A-3641-193-A A-3642-002-A △ 1-463-959-11 △ 1-463-960-11 △ 1-463-961-11 △ 1-463-976-11 △ 1-463-977-11	NOT SUPPLIED
(Canadian) ADAPTOR, CONVERSION (AEP TYPE1-2/3-1) ADAPTOR, CONVERSION (US, E TYPE1-1/1-2/2, Saudi Arabia AEP TYPE1-1/2/3-2) PLUG, CONVERSION 2P	△ 1-506-444-11 △ 1-506-409-11 △ 1-565-250-11	3-893-708-01 3-893-726-01 3-893-730-01 3-893-802-04 3-887-285-07
BELT, CARRYING COLLAR, BELT BRACKET, BELT (US, Canadian, E TYPE1-1/1-2, AEP, UK, Australian) BOOK, GUIDE, WAVE (Saudi Arabia, E TYPE2 BOOK, GUIDE, WAVE)	3-893-802-04 3-893-802-04 3-893-802-04 3-893-802-04 3-893-802-04	3-893-802-04 3-887-285-07 3-900-115-01 *3-900-103-01 *3-900-104-01 *3-900-105-01
CASE (SOFT), CARRYING INDIVIDUAL CARTON INDIVIDUAL CARTON (LID) CUSHION CASE (HARD), CARRYING CUSHION (B) NUT (M2.6), PLATE	3-899-537-01 3-899-562-01 3-899-565-01 3-899-566-01 3-899-571-01	NOT SUPPLIED
(Canadian, AEP TYPE1-2/3-1, UK) BLIND, CASE (US, E TYPE1-1/1-2/2, Saudi Arabia, AEP TYPE1-1/2/3-2) BLIND, CASE (Canadian, AEP, UK, E, Australian, Saudi Arabia) MANUAL; INSTRUCTION (US) MANUAL, INSTRUCTION (AEP TYPE1-1/1-2/3-1) MANUAL, INSTRUCTION (Saudi Arabia) MANUAL, INSTRUCTION	3-899-572-01 3-899-572-11 3-990-135-11 3-990-135-21 3-990-135-41	3-786-366-11 3-786-366-21 3-786-366-41 3-786-366-51
SCREW +RK2.6 x 10 STOP RING 5.0 TYPE-E EARPHONE, MDR-E434	7-621-662-40 7-624-109-04 8-952-321-92	NOT SUPPLIED 8-952-321-90

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

Note:
Les composants identifiés par une marque △ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

SONY®
SERVICE MANUAL

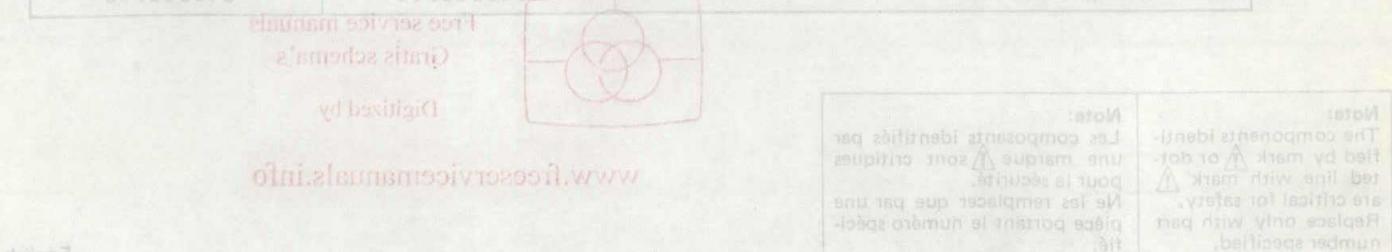
SUPPLEMENT-1

File this supplement with the service manual.

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model

Subject: ICF-SW1E model is added.
 (except US, Canadian and Australian models)

- There are two types of sets, system type (ICF-SW1S) and economy type (ICF-SW1E) in this set.
- System type (ICF-SW1S) is all the same as ICF-SW1.
 See ICF-SW1 service manual previously issued for the information of this set.
- Economy type (ICF-SW1E) is the same as ICF-SW1 except for accessory and packing part. (See page 2.)

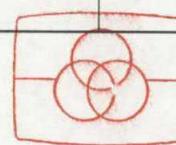


NOTE:

- 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.

● ACCESSORY & PACKING MATERIAL

	SYSTEM TYPE ICF-SW1S	ECONOMY TYPE ICF-SW1E
<u>Description</u>	<u>Part No.</u>	<u>Part No.</u>
ANTENA MODULE (AN-101)	A-3641-193-A	
COUPLER ASSY	A-3642-002-A	
(Canadian) ADAPTOR, AC (AC-302)	⚠ 1-463-959-11	
(UK) ADAPTOR, AC (AC-303)	⚠ 1-463-960-11	
(US) ADAPTOR, AC (AC-301)	⚠ 1-463-961-11	
(AEP TYPE1-2/3-1) ADAPTOR, AC (AC-304)	⚠ 1-463-976-11	
(E TYPE1-1/1-2/2, Saudi Arabia AEP TYPE1-1/2/3-2) ADAPTOR, AC (AC-301)	⚠ 1-463-977-11	NOT SUPPLIED
(Canadian) ADAPTOR, CONVERSION	⚠ 1-506-444-11	
(AEP TYPE1-2/3-1) ADAPTOR, CONVERSION	⚠ 1-506-409-11	
(US, E TYPE1-1/1-2/2, Saudi Arabia AEP TYPE1-1/2/3-2) PLUG, CONVERSION 2P	⚠ 1-565-250-11	
BELT, CARRYING	3-893-708-01	
COLLAR, BELT	3-893-726-01	
BRACKET, BELT	3-893-730-01	
(US, Canadian, E TYPE1-1/1-2, AEP, UK, Australian). . . . BOOK, GUIDE, WAVE	3-893-802-04	3-893-802-04
(Saudi Arabia, E TYPE2 BOOK, GUIDE, WAVE	3-887-285-07	3-887-285-07
CASE (SOFT), CARRYING	3-899-537-01	3-900-115-01
INDIVIDUAL CARTON	3-899-562-01	*3-900-103-01
INDIVIDUAL CARTON (LID)	_____	*3-900-104-01
CUSHION	_____	*3-900-105-01
CASE (HARD), CARRYING	3-899-565-01	
CUSHION (B)	3-899-566-01	
NUT (M2.6), PLATE	3-899-571-01	NOT SUPPLIED
(Canadian, AEP TYPE1-2/3-1, UK) BLIND, CASE	3-899-572-01	
(US, E TYPE1-1/1-2/2, Saudi Arabia, AEP TYPE1-1/2/3-2) BLIND, CASE	3-899-572-11	
(Canadian, AEP, UK, E, Australian, Saudi Arabia). . . . MANUAL; INSTRUCTION	3-990-135-11	3-786-366-11
(US) MANUAL, INSTRUCTION	3-990-135-21	3-786-366-21
(AEP TYPE1-1/1-2/3-1) MANUAL, INSTRUCTION	3-990-135-41	3-786-366-41
(Saudi Arabia) MANUAL, INSTRUCTION	_____	3-786-366-51
SCREW +RK2.6 x 10	7-621-662-40	
STOP RING 5.0 TYPE-E	7-624-109-04	
EARPHONE, MDR-E434	8-952-321-92	
		NOT SUPPLIED
		8-952-321-90



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Note:
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Ne les remplacer que par une pièce portant le numéro spécifié.

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Audio Group

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