

GP-5/SSB

FM Stereo / MW / SW-SSB DSP RECEIVER

By: CountyComm Inc.

Government Products Group



OPERATION MANUAL

Revised 1-15-2015
www.countycomm.com

Functional Block Diagram

The GP-5/SSB uses DSP si47XX Microchips (from Silicon Labs, located just blocks from CountyComm, Inc. in the Silicon Valley, USA) to digitalize analog AM/FM/SSB radio signals using modern technology mixed with rock solid radio engineering principles. The DSP improves the radio's sensitivity, selectivity, Signal to Noise ratio and interference rejection.

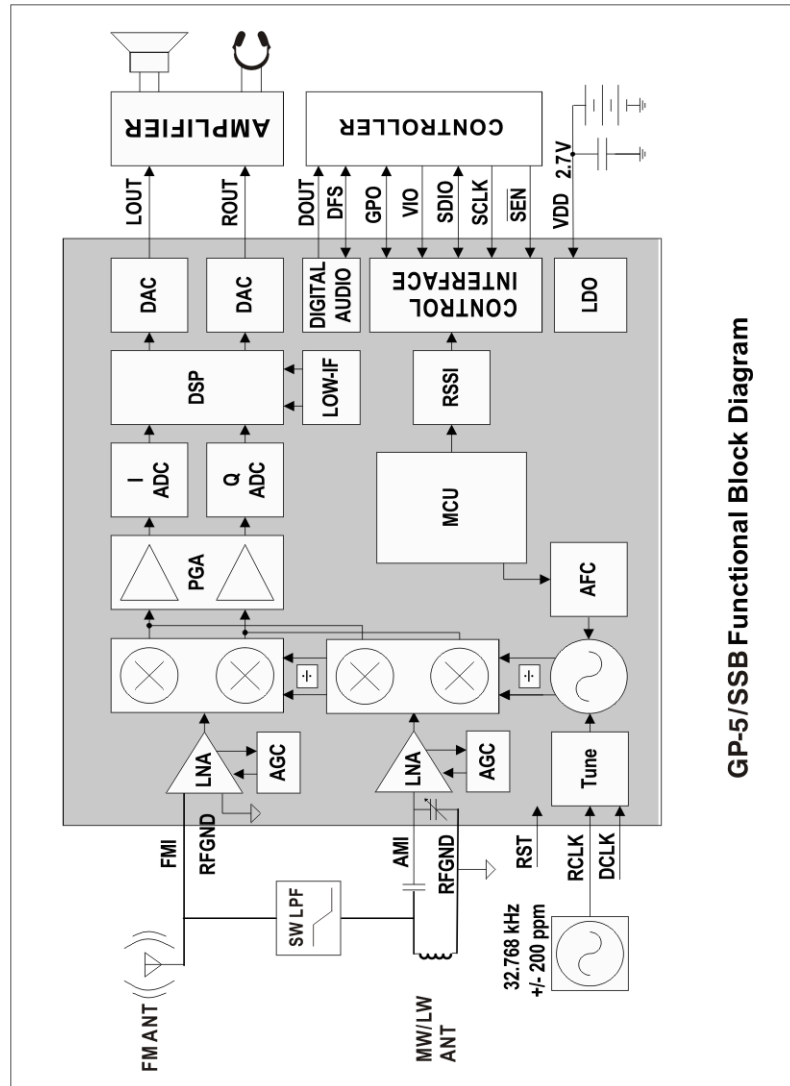
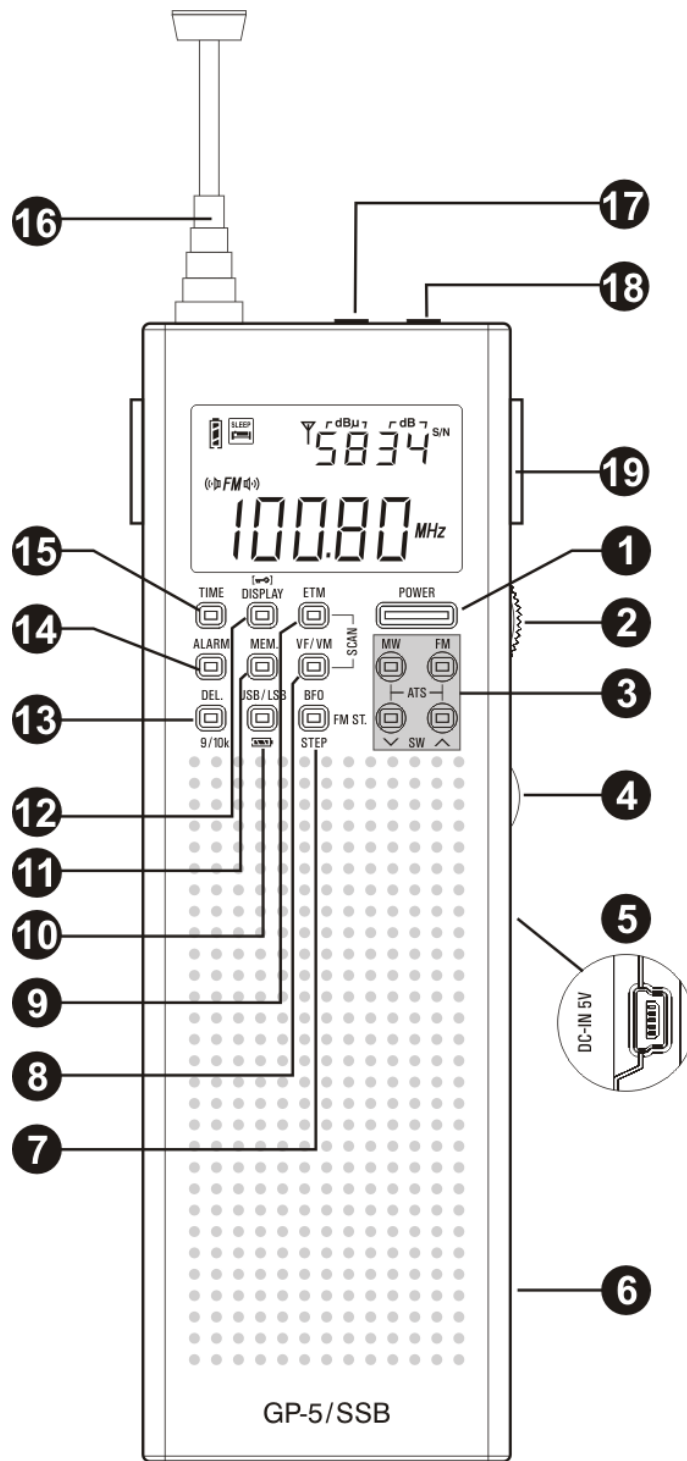


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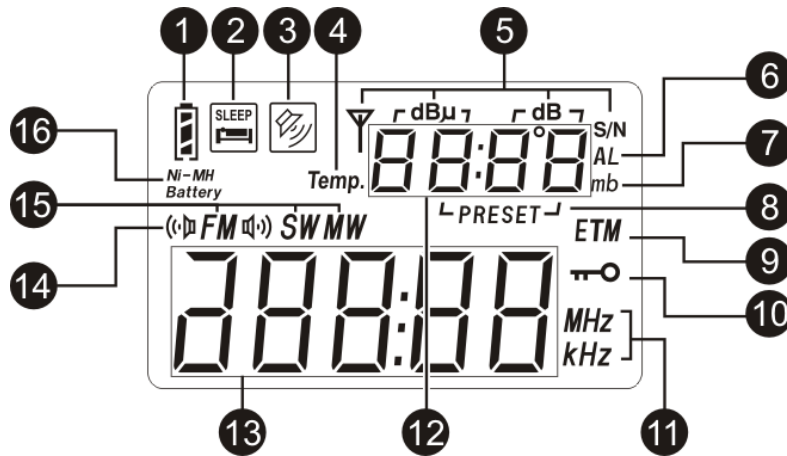
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CONTROL LOCATIONS



- 1、 Power on/off
- 2、 Multifunctional tuning knob
- 3、 Band selector and Auto Tuning Storage
- 4、 Volume knob
- 5、 USB Charging port (Warning: NiMH batteries only)
- 6、 Battery compartment
- 7、 BFO / Fine tuning step set / FM ST. (Stereo) button
- 8、 VF/VM (View Frequency/View Memory) & Scan button
- 9、 ETM (Easy Tuning Mode) button
- 10、 USB / LSB button / Batteries type selector
- 11、 Memory button (Storing radio stations)
- 12、 Lock / Display button
- 13、 DELETE & 9/10kHz MW step set button
- 14、 ALARM On/Off & Setting
- 15、 TIME Setting
- 16、 FM & SW telescopic antenna (Spares available at www.countycomm.com)
- 17、 AM antenna jack
- 18、 Earphone jack
- 19、 Removable belt clip

LCD DISPLAY



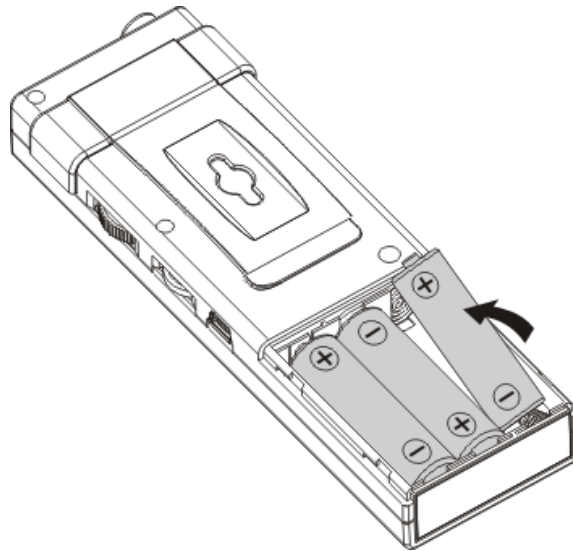
- 1、 Battery Level indicator / Charging indicator
- 2、 Sleep timer indicator
- 3、 Alarm on/off indicator
- 4、 Temperature (Temp.)
- 5、 Signal indicators
 - dBμ: signal strength unit
 - dB : Signal to Noise Ratio (S/N) unit
- 6、 Alarm time indicator
- 7、 SW meter band indicator

8. Preset memory address
9. ETM indicator
10. Key-lock indicator
11. kHz: frequency unit for MW (AM Broadcast Band) & SW
MHz: frequency unit for FM
12. Digital number display (4 Digits)
Display With Radio OFF Shows: local time, alarm time, temperature
Display With Radio ON Shows: local time, signal strength / SNR, alarm time, temperature,
memory address, meter band, SSB fine tuning frequency.
13. Digital number display
Display With Radio OFF Shows: Local time
Display With Radio ON Shows: Frequency display, band display
14. FM stereo status indicator
15. Band indicator
16. Rechargeable battery indicator

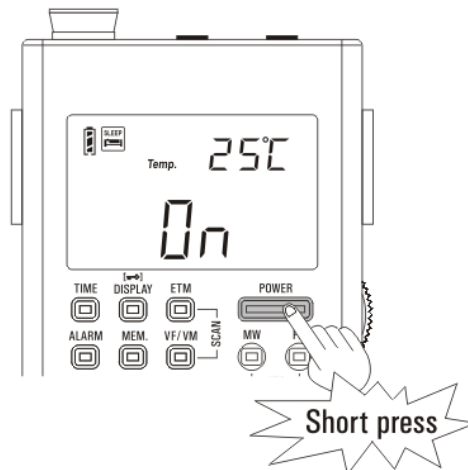
GETTING STARTED:

1. Installing batteries:


The battery compartment is located on the back of the GP-5/SSB. To remove the battery compartment cover, apply thumb pressure and slide it towards the bottom of the radio. Install three AA fresh alkaline batteries into the battery compartment, observing the battery polarity diagram on the back of the radio. Display screen should show battery capacity, time, etc.





2. Short press or quickly press the [POWER] button to turn the radio on or off.



Trouble Shooting: Radio Will Not Power On:

If the radio will not turn on, check that the batteries good, and are installed correctly, or the lock function had been applied with symbol "  " displayed on screen.

TUNING THE RADIO

Once your radio has been powered up, then select your desired band by quickly pressing the [FM], [MW], SW [] or [] button. When listening to FM or SW stations, fully extend the telescopic antenna for a better reception.



You can turn to your favorite station with any of the below tuning methods:

Method 1: ETM (Easy Tuning Mode)

The ETM function allows you to tune into stations easily and temporarily store them into the ETM storage; 100 stations for FM/MW (MW=AM Broadcast Band) & 250 stations for SW.

Note: Scanned stations will not be stored in the regular 450 memories, but will remain in the ETM temporary storage until next ETM scanning within each band.

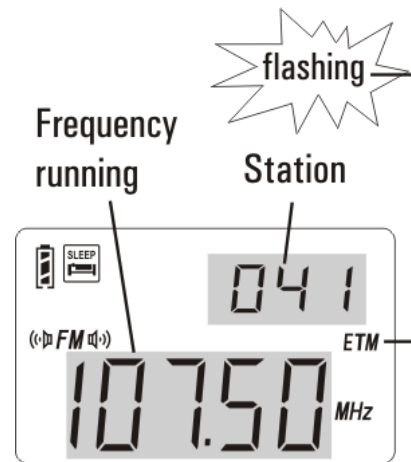
HOW TO USE ETM

1. Turn on the radio, and select your desired band by pressing the FM, MW or SW [] or [] button.
2. Quickly press the [ETM] button and [ETM] shows on the display to enter Easy Tuning Mode.
3. Press and hold the [ETM] button until the display starts scroll automatically scanning the stations within present band.
4. When the frequency display stops scrolling, turn the [TUNING] knob to listen to those those scanned stations.
5. Quickly press either the [VF/VM] button with memory page shows in the upper right corner and the disappearance of ETM on the display to exit ETM mode.

Note: FM stations: When you are in a different city or country, you should perform the ETM function again. This will not delete any of the stations already within the memory.

MW station: It is recommended to perform the ETM function both during daytime, as well as night time, because propagation is different. (It is usually better at night.)

SW station: It is also recommended to perform the ETM function in the morning, afternoon as well as night time, because propagation on short wave bands variable are and there are usually more stations that can be heard broadcasting in the late afternoon/evening.



Method 2: MANUAL TUNING

Turn on the radio, quickly press the [VF/VM] button to switch into frequency mode. Rotate the [TUNING] knob to select your station.

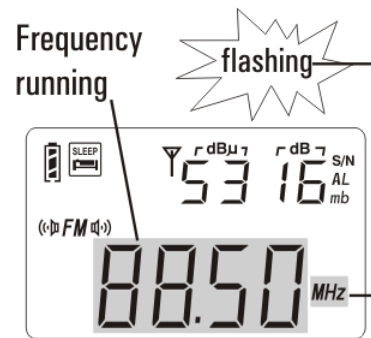
FAST/SLOW tuning is shown in the chart below for each band.

band \ step	Slow tuning mode	Fast tuning mode
	turning step	turning step
FM	0.01 MHz	0.1 MHz
MW	1 kHz	9 / 10kHz
SW	1 kHz	5 kHz

Method 3: AUTO BROWSE- STATION

1. Turn on the radio and quickly press the [VF/VM] button with the frequency flashing.
2. Long press the [VF/VM] button to scan from one station to another, staying on each station for about 5 seconds.
3. To stop auto browse function, simply press the [VF/VM] button.

Note: When the radio is searching & stops at a station, just press [MEM.] button once to store it in memory.

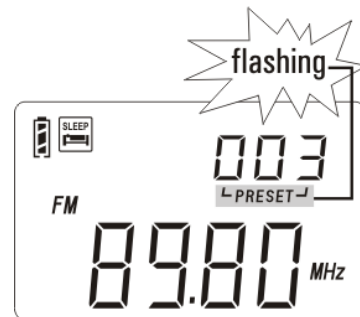


Auto-scan with pre-listening

Method 4: AUTO BROWSE- MEMORY

Note: Read [Working with Memory] before using this function.

1. Turn on the radio, quickly press the [VF/VM] button with memory page shows in the upper right corner and disappears in 5 seconds.
2. Long press [VF/VM] button with " **PRESET** " flashing to scan from one preset memory to another, staying on each station memory for about 5 seconds.
3. To stop auto search memory, simply press the [VF/VM] button.



Auto-scan memory with pre-listening

SINGLE SIDE BAND (SSB)

1. In any mode, press the [USB/LSB] button to select SSB reception; press again to select USB/LSB.
2. Turn the [TUNING] knob to search stored SSB stations.
3. Press the [BFO] button, when "U" / "L" flashes on the display, turn the [TUNING] knob to adjust the reception.

When it is off, press and hold the [BFO] button to set the fine tuning step. (P.15)

Exit SSB Mode: Press and hold the [USB/LSB] button to exit.

SSB fine tuning frequency

- "U" is for USB.
- "L" is for LSB.



WORKING WITH MEMORIES

There are total 550 preset memories within radio. For FM, MW and SSB, each band has 100 preset memories; and 250 preset memories for SW.

Method 1: ATS - Auto Tuning Storage Turn on the radio and elect the band that you want to ATS to take place in, either FM or MW.

Long press the [FM] or [MW] button and notice that the "PRESET" number (001) appears in the display's upper right corner with the presets to the right increasing as the band is scanned and frequencies are stored into memory.

There are two modes for SW ATS function:

Mode A: In SW band, long press the [A / ∨] button to ATS the stations within all meter bands.

Mode B: In SW band, long press the [B / ∧] button to ATS the stations within present meter band only.

Note:

During ATS process in FM, MW or SW (mode A), pre-stored radio stations will be replaced automatically by the new searched stations.

With ATS in SW (mode B), those existing memories will not be replaced; all the newly found radio stations would be stored in the blank memories addresses.

Method 2: MANUALLY STORING STATION

1. Tune to your desired station, press the [MEM.] button once and notice the PRESET number flashing in the upper right corner of the display.
2. While it flashing, press the [MEM.] button to store it into the memory or wait for 3 seconds to store it automatically. If you want to store it into another PRESET memory, just rotate the tuning knob of your choice, and press the [M] button to confirm.



Auto Tuning Storage

DELETE MEMORY CHANNELS

Method 1: MANUAL DELETING MEMORY

1. Turn on the radio and press the [VF/VM] button causing PRESET stations appears in the display's upper right corner.
2. Rotate the [TUNING] knob to select the memory that you want to delete.
3. Long press [DEL.] button with " *dEL* " flashing in the display, press the [DEL.] button again to confirm.

Note: If " *dEL* " is flashing more than 3 seconds without confirmation, it will exit the delete function automatically.

Method 2: SEMI AUTO-DELETE MEMORY

In VM mode, long press the [VF/VM] button to activate the Auto-Browse function of memory. Once previewing your

unwanted station, simply press the [DEL.] button with " *dEL* " shows for 2 seconds and then keep on browsing other stations. To stop the browsing function, quickly press the [VF/VM] button to exist.

Method 3: DELETE ALL MEMORY


Quickly press the [VF/VM] button to enter VM / Memory mode, long press the [DEL.] button for 3 seconds with " *ALL* " shows on the upper right corner of the display, press again the [DEL.] button to remove all memory.

Note: If " *dEL* " is flashing more than 3 seconds without confirmation, it will exit the delete function automatically.

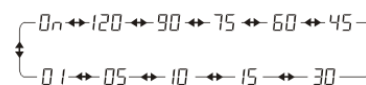
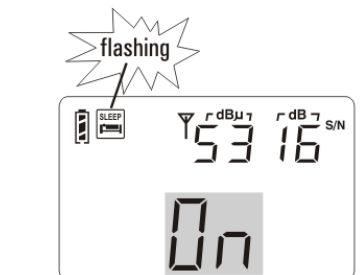


Delete all memories

SLEEP FUNCTION

1. In POWER OFF mode, press & hold the [POWER] button until the sleep timer symbol "  " flashes on the display.
2. Rotate the [TUNING] knob immediately to select a sleep timer from 1 - 120 minutes, or select " *On* " for POWER ON mode (NO sleep timer).

Note: The default setting of the sleep timer is " *On* ".






Sleep time range


SETTING THE CLOCK

1. Long press the [TIME] button until you see the hour flashing. Rotate the [TUNING] knob to set the correct hour, then quickly press the [TIME] button and notice the minutes are flashing.
2. While it's flashing turn the [TUNING] knob to set the correct minutes, then press [TIME].

SETTING THE ALARM TIME

1. Long press the [ALARM] button until both the HOUR & AL flashing, rotate the [TUNING] knob to adjust the hour, then quickly press [ALARM] with the minutes flashing.
2. Rotate the [TUNING] knob to adjust the minutes and quickly press the [ALARM] button with the "  " symbol flashing.
3. Rotate the [TUNING] knob to select 1 ~ 90 minutes to set the Auto Alarm Off Timer.
4. Quickly press the [ALARM] button to confirm and notice "  " shows on display to activate the alarm by radio.
5. To turn off the alarm function, repeat quickly pressing the [ALARM] button and notice "  " disappear.

Setting the alarm to wake with the radio on

1. Turn on the radio, tune into your favorite alarm radio station. Please set the volume at the noticeable level.
2. quickly press [MEM.] button and notice the PRESET number flashing in the upper right corner of the display.
2. While it flashing, press the [ALARM] button and notice "  " symbol is flashing for couple seconds. Now this alarm radio station is set.

TURNING OFF THE ALARM

When the radio is turned on by the alarm function with radio, you can quickly press [POWER] button to continue listening radio afterwards.



Quickly press [POWER] again to turn off the radio.

DISPLAY MODE


With radio OFF: Quickly press the [DISPLAY] button to view Temperature and Alarm time.

With radio ON: Quickly press the [DISPLAY] button to view Alarm time, Temperature, Local time, signal strength/ SNR.

KEY LOCK FUNCTION

Long press the [] button with "  " symbol appears in the display to lock up all keys / buttons. Long press it again with the symbol disappears to unlock the keys/buttons.

FM ST. (FM STEREO) BUTTON

While listening to FM station via stereo earphones, quickly press the [FM.ST] button with "  " appears over the left side of the frequency in the display to activate the STEREO mode once it receives the FM stereo station.

SYSTEM SETTING

Setting the frequency range for the FM band

Turn off the radio, long press [FM] button, until 87.5-108MHz, 76-108MHz, or 87-108MHz appears in the display. Quickly keep pressing on the [FM] button to select suitable frequency range for your local FM.

MW (AM Broadcast) step setting

Turn off the radio, long press [9/10kHz] button until "9kHz" or "10kHz" appears in the display. By long pressing again, the alternative band step would be shown. The temperature is also shown on screen at the same time.


In general practice, the frequency step of 10kHz is to be used for broadcasting MW (AM) as well as the temperature in the degree of Fahrenheit ($^{\circ}\text{F}$) to be used in the North America. In order to provide convenience to the end users, the "10kHz" of frequency step is default to be displayed with temperature in the degree of Fahrenheit ($^{\circ}\text{F}$) together as well as "9kHz" to be displayed with temperature in the degree of Centigrade ($^{\circ}\text{C}$) together.





If the display shows "10kHz" with degree of Fahrenheit ($^{\circ}\text{F}$), which means this radio is set to 10 kHz step for MW(AM) with temperature in Fahrenheit ($^{\circ}\text{F}$) which is for the North America region.

Turn On/Off LW

Turn off the radio, long press the [9/10kHz] button to set the AM tuning step to 9K, then long press the [MW] button and notice "MW 150 ~ 1620" shows to activate the LW.

Turn ON/OFF charging function & exchange battery

consumption display Press & hold the [] key with

"  " & "  " shows up to activate the consumption display of rechargeable batteries and the built-in charging system. Press & hold the [] key with "  " "

shows up & " **Ni-MH Battery** " disappear to activate the consumption display of alkaline batteries and turn off the built-in charging function.

Note: This radio default is to use alkaline batteries for power supply. If using rechargeable batteries, you should switch the radio in "Rechargeable Battery" mode in order to show the correct power capacity.

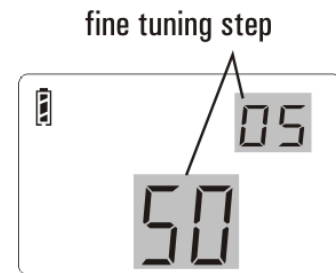
Set the fine tuning step

Turn off the radio, press and hold the [BFO] button to show the current fine tuning step, turn the [TUNING] knob to adjust.

- " 50 05 " indicates that the fine tuning step of SSB is 50Hz.

- " 20 02 " indicates that the fine tuning step of SSB is 20Hz.

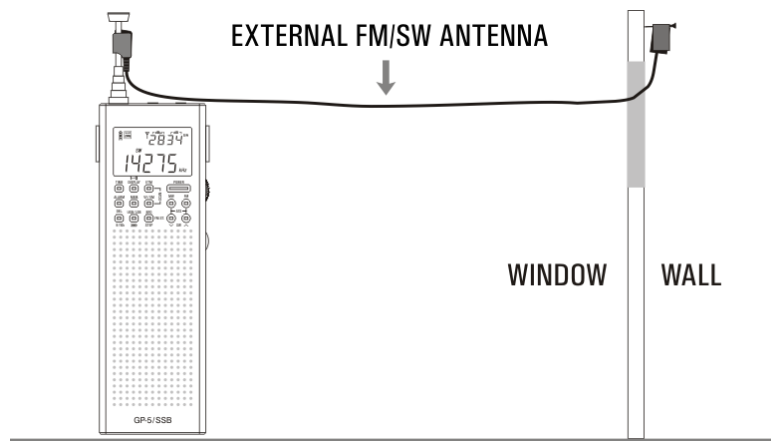
- " 10 01 " indicates that the fine tuning step of SSB is 10Hz.



USING THE EXTERNAL ANTENNA

Enhancing FM/SW reception

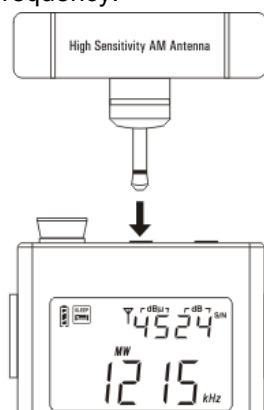
Attach the clip on type "external FM/SW antenna" to the Telescopic antenna of GP-5/SSB, then extend the wire and hang on another end to the window or wall to enhance the FM/SW reception.



Caution: Don't install external FM/SW antenna in the area of frequent lightning storms.


Enhancing AM/LW reception


Plug in the AM/LW external antenna into the AM Antenna jack, then rotate the antenna for best AM/LW reception of your selected frequency.



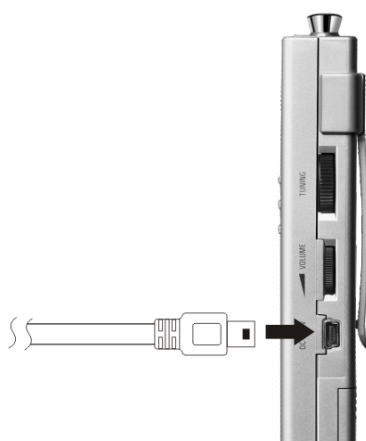
USING THE INTELLIGENT CHARGING FUNCTION

Caution: Don't charge Alkaline batteries in the radio. This can cause a hazard, and damage your radio.

To Charge NiMH Batteries: With radio off, install 3 x UM3 (AA) rechargeable batteries and then press & hold the [] key with " *CHARGE* " & " *Ni-MH Battery* " displays to activate the built in charging function.

1. Use any 5V external adaptor with USB plug to connect this radio, the symbol "  " will advance from the bottom to top during power charging. It stops when batteries are fully charged.
2. You can also use any USB cable to connect the radio with your PC for charging.


Connect USB 5V to external power sources




Notes for charging power:

All three 3 batteries should always be used as a group to power this radio. Don't mix batteries: new and old, from different manufacturers and different chemistries.

IMPORTANT MATTERS FOR USING BATTERIES

1. If your radio is stored for a long time without batteries the clock may need to be reset, but your pre-stored memory channels will continue to be stored.
2. When the battery power is low, the "  " symbol in the display will flash to alert you to change batteries.
3. Never mix old and new batteries. This can damage your radio.
4. When storing your radio for a long period of time, remove the batteries to prevent damage caused by leaking batteries.

TROUBLE SHOOTING

Problem	ANSWERS	SOLUTIONS
Radio will not turn on.	-Dead Battery -Batteries not installed properly. -Power button is locked.	-Replace with new batteries. -Check polarity and re-install the batteries. -Press [] button to unlocked.
Radio shuts off when you are listening.	-Dead Batteries -Sleep timer is activated.	-Replace the batteries. -Turn on the radio again.
Can not store some stations using ATS Some station store with noise using ATS.	-Stations are too weak. -There is nearby interference in your area.	-Search the station manually. - Move to another location and try again.
Only limited FM stations can be received in Japan.	-FM frequency is 76~90MHz for Japan.	-Turn the radio off and long press the [FM SET] button, quickly press [FM SET] button again to select 76~108MHz.
Poor AM Broadcast Reception in USA.	-USA uses 10kHz step for AM.	-Turn off the radio press the [9/10kHz] button to select 10kHz.

When the alarm activates (alarm by radio), there is only noise with the broadcast.	-You did not set the proper radio station for the alarm. -Or The radio station is off the air	-Preset your alarm station properly (see the above setting). -Make sure it has radio broadcast in your location. -Or set the alarm by buzzer.
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SPECIFICATIONS

1. Frequency range	
FM	87~108 MHz Japan 76~108 MHz Eu, USA 87.5~108MHz
MW	522~1620 (150~1620) kHz USA 520~1710 kHz
SW	1711~29999 kHz
2. Sensitivity	
FM (S/N=30dB)	Less than 3 μ V
MW (S/N=26dB)	Less than 1mV/m
LW (S/N=26dB)	Less than 10mV/m
SW (S/N=26dB)	Less than 30 μ V
SSB (S/N=10dB)	Less than 3 μ V
3. Selectivity	
FM	>60 dB
MW	>60 dB
LW	>60 dB
SW	>60 dB
4. FM Stereo crosstalk	Less than 25 dB
5. Memory	550
6. Output	350 mW
7. Power	UM3 or AA X 3 USB 5V DC
8. Speaker	Φ 40mm, 500mW/16 Ohm
9. Earphone Jack	Φ 3.5mm, 8~32 Ohm, Stereo type
10. Dimensions Approx.	53(W) X 159(H) X 26(D) mm
11. Weight	128g (Batteries not included)