

Mini Pocket Radio si4732 V2

User Manual(V2 add HP AMP)

Main screen



- **RSSI meter** (top left corner), also serves as a mono/stereo indicator in FM mode (one/two rows).
- **Settings save icon** (right after the RSSI meter). The settings are saved to non-volatile memory after 10 seconds of inactivity.
- **Wi-Fi icon** (top right area near the battery). Different colors indicate the connection status.
- **Battery status** (top right corner). It doesn't show the voltage when charged, see [#36](#). The only indication that the battery is charging is the hardware LED on the bottom of the receiver, which turns ON during charging.
- **Band name and modulation** (VHF & FM, top center). See the [Bands table](#) for more details.
- **Info panel** (the box on the left side), also **Menu**. The parameters are explained in the [Menu](#) section.
- **Frequency** (center of the screen).
- **FM station name** (RDS PS) or **frequency name** (right below the frequency). A frequency name appears for some popular frequencies like FT8, SSTV or CB channels. Can also display current **menu option** using a bigger font when the Zoom Menu setting is enabled.
- **Tuning scale** (bottom of the screen). Can be replaced with additional RDS fields (RT, PTY) when extended RDS is enabled.

Controls

Controls are implemented through the encoder knob:

Gesture	Result
Rotate	Tunes frequency, navigates menu, adjusts parameters.
Click (<0.5 sec)	Opens menu, selects.

Gesture	Result
Short press (>0.5 sec)	Volume shortcut in VFO mode, context-dependent action in other modes.
Long press (>2 sec)	Sleep on/off.
Press and rotate	Direct frequency input mode, fine tuning in Seek mode.

Direct frequency input mode

- Press and rotate the encoder to select the step (digit or “half-digit”).
- Rotate the encoder to adjust the frequency.
- Use short press to align frequency to the current step.
- To exit the mode, click the encoder or wait for a couple of seconds.

Menu

The menu can be invoked by clicking the encoder button and is closed automatically after a couple of seconds.

- **Mode** - FM (only available on the VHF band); LSB, USB, AM (available on other bands). The receiver doesn't support the NFM mode (on any band, including the CB) due to limitations of the SI4732 chip.
- **Band** - List of [Bands](#).
- **Volume** - 0 (silent) ... 63 (max). The headphone volume level can be low (compared to the built-in speaker) due to limitation of the initial hardware design. Use short press to mute/unmute.
- **Step** - Tuning step (not every step is available on every band and mode).
- **Seek** - Scan up or down (AM/FM), faster tuning (LSB/USB). Rotate the encoder to stop the scan. Use press and rotate for manual fine tuning.
- **Memory** - 32 slots to store favorite frequencies. Click **Add** on an empty slot to store the current frequency, **Delete** to erase the current frequency, switch between stored slots by rotating the encoder. It is also possible to edit the memory slots via [serial port](#) or via the [web based tool](#) in Google Chrome.
- **Squelch** - mute the speaker when the RSSI level is lower than the defined threshold. Unlikely to work in SSB mode. To turn it off quickly, short press the encoder button while in the Squelch menu mode.
- **Bandwidth** - Selects the bandwidth of the channel filter.
- **AGC/ATTN** - Automatic Gain Control (on/off) or Attenuation level. The attenuator is not applicable to SSB mode.
- **AVC** - Sets the maximum gain for automatic volume control (not applicable to FM mode).
- **SoftMute** - Sets softmute max attenuation (only applicable to AM/SSB).
- **Settings** - Settings submenu.

Settings menu

- **Brightness** - Display brightness level (10...255). The minimal one draws about 80mA of the battery power, the default one about 100mA, the max level about 120mA.
- **Calibration** - SSB calibration offset (-2000...2000, per band).
- **Theme** - Color theme.
- **RDS** - Radio Data System options: PS - radio station name, CT - time, RT - text, PTY - genre, ALL (EU/US) - everything. Note that the time can be transmitted either in UTC or in local timezone, as well as be completely bogus. The clock is synchronized only once, so you can pick the right time source (switch the receiver power off and on to resync it again).
- **UTC Offset** - Affects the displayed time, whether it was received via RDS or NTP.
- **Zoom Menu** - Display the currently selected menu item using a larger font (accessibility option).
- **Scroll Dir.** - Menu scroll direction for clockwise encoder turn.
- **Sleep** - Automatic sleep interval in seconds (0 - disabled).
- **Sleep Mode** - Locked - lock the encoder rotation during sleep; Unlocked - allow tuning the frequency in sleep mode; CPU Sleep - the maximum power saving mode. With the display being on, default brightness, and Wi-Fi the power consumption is about 170mA, without Wi-Fi 100mA, Locked/Unlocked modes draw about 70mA, CPU sleep mode draws about 40mA.
- **Wi-Fi** - Wi-Fi mode: Off (default), Access Point, Access Point + Connect, Connect, Sync Only. More details on that below.
- **About** - Informational screens (Help, Authors, System).

Wi-Fi

The Wi-Fi mode (2.4GHz only) can be used for the following purposes (for now):

- Time synchronization via NTP (Network Time Protocol).
- Viewing the receiver status (frequency, RSSI/SNR, volume, battery voltage, etc).
- Viewing the Memory slots with saved frequencies.
- Manage the receiver settings.

There are a couple of modes:

- **Off** (default)
- **AP Only** - Access Point mode. The receiver creates its own access point called **ATS-Mini** and starts the web server on <http://10.1.1.1>.
- **AP+Connect** - Access Point mode + try to connect to one of the three configured access points. If the connection succeeds, the receiver will synchronize the time every 5 minutes and start the web server on both <http://10.1.1.1> and a dynamic IP address it got from the configured access point.
- **Connect** - try to connect to one of the three configured access points, start the web server on a dynamic IP, then synchronize the time every 5 minutes.
- **Sync Only** - same as Connect, but Wi-Fi will be disabled after a successful time synchronization.

Initial configuration:

- Enable the **AP Only** mode (the receiver will briefly display its 10.1.1.1 IP address).

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- Connect to the **ATS-Mini** access point from your phone or computer. There is no internet connection available on this access point.
 - Open a browser and visit the following URL: <http://10.1.1.1>. The status web page should open.
 - Click the **Config** link. Here you can add optional login and password to protect the settings page, configure up to three access points the receiver will try to connect to, and set a time zone and other settings.
 - After that, switch the Wi-Fi mode to **AP+Connect** or **Connect** (the receiver will briefly show its new dynamic IP address it got from a configured access point).
 - Now connect your phone/computer to the same access point and open the new URL to check whether the receiver connected to the internet.

From now on you can switch the modes as you want and connect to your receiver either via the **ATS-Mini** internal access point (if enabled, mostly useful when there are no access points around), or via an external access point and a dynamic IP address.

Reset

To reset the receiver settings (current band, frequency, favorite stations, etc):

1. Switch off the receiver
2. Press and hold the encoder
3. Turn on the receiver
4. Release the encoder after the **EEPROM Resetting** message appears

More Info:

<https://esp32-si4732.github.io/ats-mini/manual.html>