<u>nicFW880 ALPHA Updates</u>

<u>!!The firmware DOES NOT support sub 300 serial number radios!!</u>

!! This firmware DOES NOT SUPPORT The iRadio UV-98 (Plus) !!

<u>The iRadio UV98 (Plus) is NOT THE SAME as the Radtel RT-880(G), there are differences.</u>

This is a collection of changes and added features in each Alpha release. A brief summary is listed under each section link. This document will be updated as new releases are made.

Click on the release number to jump to the appropriate section. Click the header in each section to return to this page.

Alpha 19

Scan Presets Added

- **Key shortcuts listed**

Alpha 18a

AM TX, squelch, and tuner improvements. Spectrum scope added

- **Key shortcuts listed**
- **Scope controls listed**

Alpha 17a

Flash restore process, squelch hysteresis, Si4732 updates

- **Shortwave band(s) listed**
- **Controls and Operation listed**

Alpha 16

Si4732 FM Tuner added

- **Controls and Operation listed**

Alpha 15

Multiple new features added

- **Controls and Operation listed**

Alpha 14

Startup logo added

Alpha 13

Manual DTMF & Repeater Tone, Crossband Repeater, Frequency Counter

- **Controls and Operation listed**

Alpha 19

Added scan presets.
- Default Activation Key: LP-1 (assignable)
- Number of presets: 99
- There are new menus in the "Scanning" group. Load, Delete and Save preset.
- In the Scan Preset Menu, use Up/Down or 0-9 to select the preset you want, then hit Green to start scanning. LP-Green to edit the name of a Preset.
- All configurable via the RMS "Scan Presets" tab.
- The Scan Preset menu can only be opened if you actually have scan presets assigned, and you must also be in VFO mode.

RMS can now load CHIRP CSVs.
Charging Icon added.

Alpha 18a

This update brings improvements to the Si4732 tuner module and introduces an all-new spectrum scope in normal radio mode.
- There are a few more fonts in the extras folder as well as the updated skins.
- Experimental AM TX (let me know how it performs)
- Introduced Squelch Tail setting. Check [HERE] for overview of squelch settings.

 Updates to the Si4732 Module
- Variable bandwidth control
- Signal meter toggle (disabling can reduce noise on certain frequencies)
- Powerline filter implemented
- Screen timeout now functions

Key shortcuts:
- LP-5: Enable/disable signal meter
- LP-8: Enable/disable powerline filter
- LP-9: Toggle bandwidth (6/4/3/2/1 kHz)
- SP-EMG: Toggle Day/Night

 New Spectrum Scope
The spectrum scope adds a way to visualize signals across a range. By default, it launches with LP-2 (configurable).

When opened, it:
- Centers on your currently active VFO frequency
- Uses your current step, modulation, and bandwidth settings
- Displays across a 60-bar wide scope

Display:
The upper part of the display will show like a regular VFO and will display the current center frequency, bandwidth, step, strongest signal, modulation and scope width.

Scope controls:
- SP-0/9: Enter new center frequency
- SP-RED: Exit monitor mode / Exit scope
- SP-#: Center scope on the strongest signal
- SP-Up/Down: Shift center frequency by current step
- SP-S1: Monitor center frequency
- SP-S2: Monitor strongest signal frequency
- LP-#: Toggle scope width (15/30/60/120 bars)
- LP-*: Enter new frequency step

<u>**THE SPECTRUM SCOPE IS NOT A SCANNER.**</u>
THE RADIO IS **INCAPABLE** OF LISTENING TO A SIGNAL AND SCANNING FOR OTHERS AT THE SAME TIME. I.E. IT CANNOT CONTINUE DRAWING THE SCOPE WHILE LISTENING TO A SIGNAL.

Alpha 17a

<u>**IMPORTANT:**</u>

You must follow the SPI Flash restore process [Demonstration video here]
USB and LSB modes in the Si4732 Tuner will not operate correctly if you don't.
After you have restored the SPI Flash, close the RMS and reopen it.

This update brings some important refinements and new functionality, especially for the Si4732 Tuner Module.

⬚ Key Changes
- **Squelch hysteresis**
  - **Defaults adjusted**
  - **Split into ExNoise and RSSI settings**
  - **Range limits extended to 20**
- **Si4732 Tuner Module**
  - **Now supports LW, MW, and SW bands**
  - **Presets can be created/edited with the RMS app or through the CMS menu**
  - **Presets are stored/numbered just like regular channel slots**
  - *Note: Tuner Presets in the RMS do not need any band information. The band is inferred from the frequency.*
- **Shortwave split into three bands:**
  - **SW1 = 1.7 – 6.0 MHz**
  - **SW2 = 6.0 – 12 MHz**
  - **SW3 = 12 – 30 MHz**

 Controls & Operation

Activation

- **LP 8 → Enter Si4732 Tuner Module** *(reassignable)*

Within the Tuner Module

- **SP RED → Exit tuner / stop seek**
- **SP GREEN → Open Main Menu**
- **SP 0–9 →**
  - *VFO Mode*: **Enter new frequency**
  - *Channel Mode*: **Enter new channel number**
- **SP * → Seek backward (VFO only)**
- **SP # → Seek forward (VFO only)**
- **SP S1 → Change band (VFO only)**
- **SP S2 → Change modulation (VFO only)**

Long Press Functions

- **LP GREEN → Toggle VFO/Channel modes**
- **LP 1 → Enter new frequency step**
- **LP 2 → Toggle BFO adjust mode**
- **LP 3 → Reset BFO to zero**
- **LP # → Toggle scope on/off**
- **LP * → Toggle squelch/muting on/off (Only advised for FM mode)**

⚠️ **Note**

These key bindings are not final, I'll likely refine them in future releases to make things more intuitive.

Alpha 16

**The big highlight of this release is the new Si4732-based FM Tuner! **
It's still early days, so for now it only covers the FM broadcast band, but support for SSB, AM, SW, MW, and LW is on the way soon.

 Default Activation Key

- **LP-8 (you can reassign this to whatever you like)**

 In-Tuner Controls

- **SP-0 to 9 → Enter a new frequency**
- **SP-Red → Exit tuner / stop seeking**
- **SP-# → Seek forward**
- **SP-* → Seek reverse**
- **LP-# → Toggle scope on/off**
- **LP-* → Toggle muting (squelch) on/off**

Alpha 15

- **Power Calibration**
  There's a default calibration setup present on starting the RMS. This is based on my radio so you may have to fine tune for your own. You may use the earlier release diagnostic firmware to experiment and discover power settings *(bias & gains)*.
  https://www.patreon.com/posts/133266503?collection=1570664
- **Roger Beep:**
  Yes yes I know, I said I wouldn't add such a thing. But this radio is going to be used by CBers, and they do like their Bleepy Bleeps.
- **Timeout Dimming of LCD.**
- **Fixed error of RX frequency disappearing on TX.**
- **TX will now wake up the LCD.**
- **AF Filters added.**
- **Multiwatch VFO Switch:**
  Determines if multiwatch will stay on the detected VFO or switch back after signal loss.
- **LCD will now timeout during scanning.**
- **Added Noise Gate.**
- **Added right click menu to channels tab in RMS.**
- **Function Menu added:**
  By default this is LP-GREEN. It opens a menu allowing you to browse and select any user function and activate it.
- **Added key beeps:**
  I know many don't use this but I do. I just like some feedback from pressing a key. The menu option selects the frequency of the beep tone.

Alpha 14

Main visible change here is the startup logo, other than that not much else will seem to have been added. But there have been a ton of tweak

Main visible change here is the startup logo, other than that not much else will seem to have been added. But there have been a ton of tweaks, small requests and fixes that have been reported from ALPHA 13.

Alpha 13

- nicFW880 Alpha 13 :: New Features & Improvements
- The thirteenth alpha release of nicFW880 is here, bringing some new features and refinements.
- As always, remember that this will wipe all channels, bandplans, skins and fonts so make sure you have backed up to CSVs before flashing.
- Manual DTMF & Repeater Tone
- Manually send DTMF tones and set a custom repeater tone frequency.
- Note: DTMF presets are not available yet :: they'll be coming in a future release.
- Adjust repeater tone frequency in the Advanced menu category.
- Crossband Repeater (Long-press EMG)
- Allows relaying between VHF and UHF.
- Setup requirements:
- VFO-A and VFO-B must be in simplex mode.
- Both must be allowed to transmit.
- One VFO on VHF, the other on UHF.
- Squelch must be closed.
- Controls while running:
- Press RED to exit XB Repeater mode.
- Press STAR to toggle the screen on/off.
- Screen Brightness Control
- Day/Night modes added, each with individually adjustable brightness.
- Quick toggle: Short-press EMG to switch between Day and Night.
- Or, use the menu to manually select your preferred mode.
- Frequency Counter (Rapid Frequency Scanning) (Long-press 7)
- Works similarly to previous models, but now includes HF mode:
- Started Over 70 MHz: Scans for signals on both VHF and UHF (as before).
- Started Under 70 MHz: Attempts to scan for HF signals only (untested).
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