Robzyl V5.0 Manual: Non official firmware for the Quansheng UV-K5 Walkie- Talkie

Introduction

This firmware, a fork of NTOIVOLA's NUNU, is characterized by its multiple reception functions using the spectrum analyzer capable of processing an average of 80 channels per second.

The main functions are listed briefly on the GitHub homepage, this manual is more detailed.

Robby69's Youtube channel hosts videos presenting the features of the firmware (link at the end of the doc). English subtitles are available.

Disclaimers and Responsibilities

The field of radio is regulated, everyone is responsible for the use they make of their radio.

- **Firmware Installation:**
  - Download the latest version on GitHub (link at the end of the doc).
  - Have the USB programming cable compatible with the radio.
  - Connect the computer to the radio and then start the K5 while pressing the PTT button
  - Then, with the LED on steady, transfer the firmware to the K5 via an online Flasher or K5prog-win (link at the end of the document).
- **Quick start:**
  - Hidden menus: the less used menus have been hidden for the sake of simplification. To display all menu entries, simply start the radio while pressing PTT + SIDE KEY 1
  - Programming with Chirp: the driver to use to communicate with the workstation under Robzyl is to be downloaded (link at the end of the doc).
  - Restoration of the last state: following the shutdown of the K5, it restarts in the mode it was in when it was turned off, with the latest parameters saved (M).

- **Spectrum Mode features:**

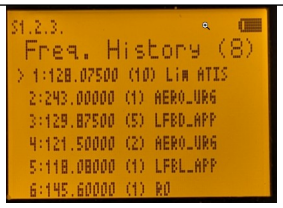
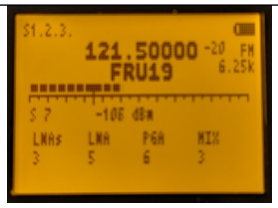
  Common features of Spectrum Mode:

  - The horizontal Squelch [L] (speaker opening) or History [H] (frequency logging) levels:
  - By default, these levels are confused on the display.
  - The SIDE KEY 2 key allows you to select the levels to be set (H or L or HL)

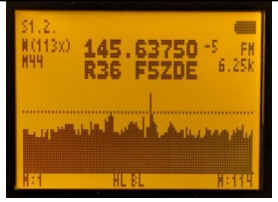
    with the * (up) and F (down) buttons.
  - The HL/H/L display indicates how the current levels are selected.

	Separate level adjustment: Squelch Level: ..... Historical Level:. . . . . . Display: HL / H / L

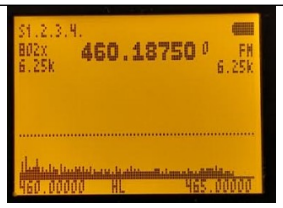
- The frequency blacklist: The SIDE KEY 1 key allows you to exclude frequencies from the spectrum (e.g. beacon, digital communication, etc.). The BL display indicates that a blacklist is in progress until the radio is switched off.
- The history logs the frequencies that have exceeded the [H] level and a number of occurrences is incremented each time the [L] level is exceeded.
  - 8 key for quick history display or long 0 key for list display (1). Navigate with the Up/Down keys. And press M to switch to listening to a Frequency (2).
  - Short press 8 to hide the quick history.
  - Long press 8 to reset the history.

	
1	2

- Self-adjusting the Squelch on the highest signal of the spectrum: Key 1
- Signal normalization: Across the entire spectrum, the signal level is recalculated in order to compensate for the noise level that varies with frequency. All channels become equally sensitive to the detection of traffic. Press 2 and the top display becomes M(...). This feature is not available in preset band mode.

	
Not Normalized Spectrum	Normalized Spectrum

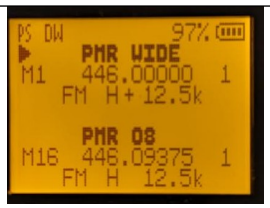
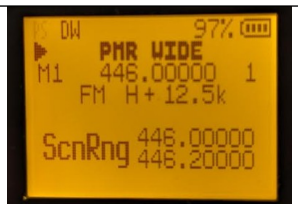
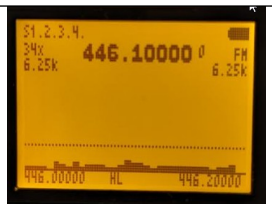
- **Spectrum on scan range:**
  - In VFO mode, enter a frequency terminal in VFO 1 and 2 (1).
  - Press long 5 to switch to ScnRng (2), then Fn+5 to launch the spectrum (3)

		
1	2	3

- **Spectrum on scan memory range at offset:**
  - In Chirp, program a memory with an offset equal to the upper bound of the scan range, as well as a step and a desired modulation:
    - Frequency : start, Offset : Stop

	Fréquence	Nom	Mode tonalité	Tonalité	Silence tonalité	DTCS	RX DTCS	Polarité DTCS	Duplex	Décalage	Mode cross	Mode	Pas de réglage	Ignorer
1	446.000000	PMR WIDE							+	446.200000		NFM	6.25	

  - In memory mode, select the memory (1)
  - Press long 5 to switch to ScnRng (2), then Fn+5 to cast the spectrum (3)

		
1	2	3

WARNING, these memories have a significant OFFSET,

if they are used in VFO, the offset will be used in transmission.

- **Spectrum on the memory bank:**
  - In Memory Mode (1)
  - Press Fn+5 to launch the spectrum in channel mode (2)
  - Press 4 to display the list of ScanLists to scan (3). In the list, press 4 to add/delete or 5 to select a single scanlist. The upper part of the screen lists the current Scanlists.

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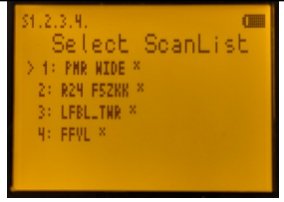
2



3

(15 Scan lists possible, the easiest being to assign them in Chirp)

- **Predefined band spectrum:**
  - The bands are stored in a customizable file bands.h with firmware recompilation (procedure linked at the end of the doc).
  - It is possible to set up 32 bands.
  - Example configuration file:

```
#ifdef ENABLE_FR_BAND
bandparameters BParams[32] = {
    // BandName        Startfrequency    Stopfrequency    scanStep          modulationType
    {"AIR 25k",        11800000,         13600000,        S_STEP_25_0kHz,   MODULATION_AM},
    {"AIR 8.33k",      11800000,         13600000,        S_STEP_8_33kHz,   MODULATION_AM},
    {"AIR MIL1",       22500000,         24107500,        S_STEP_25_0kHz,   MODULATION_AM},
    {"AIR MIL2",       33540000,         33970000,        S_STEP_25_0kHz,   MODULATION_AM},
    {"PMR 446",        44600625,         44619375,        S_STEP_12_5kHz,   MODULATION_FM},
    {"PMR 446b",       44600000,         44620000,        S_STEP_6_25kHz,   MODULATION_FM},
```

  - In Memory or VFO mode (1)
  - Press Fn+6 to launch the spectrum in band mode(2)
  - Press 4 to display the list of bands to select. (3). From the list, press 4 to add/remove or 5 to select a single band.

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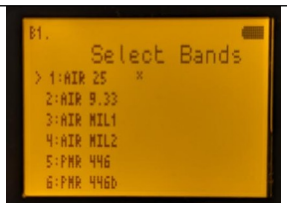
2



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- Features of this mode:
  - In single-band, the choice of AM/FM/USB modulation (Key 0) is free, otherwise it is carried by the configuration file.
  - Self-adjusting the Squelch in a loop is possible with a long press of 2 (lower display AB).
  - M allows you to store the parameters (short lower display SA).

FAQ

- Is it possible to lock your K5 in the PMR band only? :
    - Yes: Hidden menu display, menu No 48, value PMR446 ONLY.
- Is the firmware compatible with SI4732 mods? :
    - No, but it may be possible.
- Is the firmware compatible with EEPROM mods? :
    - No, but it is a possible evolution.

Helpful Resources and Links

- Youtube : https://www.youtube.com/@robby_69400.
- Github: https://github.com/Robby69400/UV-K5-Firmware-Robby69
- Telegram UV_K5 Dev : https://t.me/k5robby69
- Chirp driver : https://github.com/Robby69400/UV-K5-Firmware-Robby69/releases/tag/DriverChirp
- Online flashers with Chrome: https://egzumer.github.io/uvtools/
- K5prog-win : https://github.com/OneOfEleven/k5prog-win
- Recompilation procedure: https://github.com/Robby69400/UV-K5-Firmware-Robby69?tab=readme-ov-file#m%C3%A9thode-de-compilation-avec-github-codespace-pour-personaliser-les-scan-bands