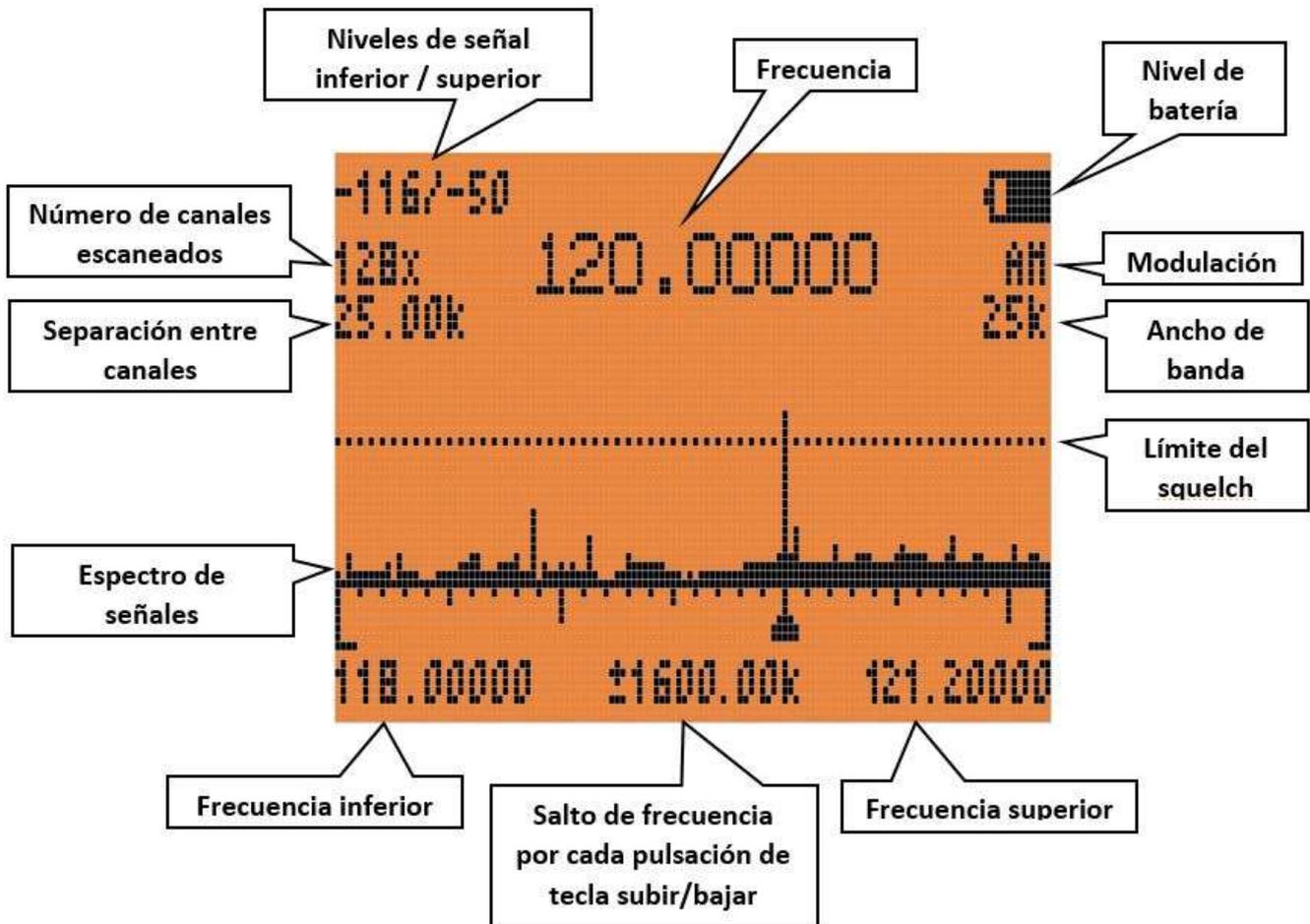## QUANSHENG UV K-5 SPECTRUM ANALYZER FUNCTION.

Firmware 1o11_fagci_spectrum_v0.1x. Quick guide by José María (BJE)

F+5 -Enter spectrum analyzer mode.

1. Spectrum analyzer window

Keyboard functions.

PTT:change todetail modeof frequency.

EXIT:goes out to thenormal screenof reception.

Side button 1 (PL1): Excludes the frequencyselected from the band sweep. Useful when stopping at noisy frequencies.

Side button 2 (PL2):turn off/on thescreen light.

Keys 1 and 7:increases/decreases thechannel separationin the sweep (typically 25.0 kHz).

Key 4:change thenumber of channelsto scan (typically 128x).

Keys 2 and 8:increases/decreases thefrequency hoppingfor each press of the up and down keys.

Key 5:enter thelower sweep frequency.Enter the MHz using the keyboard and press the M key. We can also enter decimals by pressing "*" instead of a period.

Keys 3 and 9:define theUpper levelof received signal, which will cause the spectrum to enlarge or shrink on the screen for better viewing.

Key 6:select thebandwidthOf the signal.

Key 0:select themodulation type (FM, AM or USB).

* and F keys:Raise or lower the signal level to activate thesquelch.

Example. Search for frequencies in the air band.

1. Press "F" + "5" to enter spectrum analyzer mode.

2. Press "5" and enter the lowest frequency that we want to scan, for example "1", "1", "8", "*", "4", press "M". That is, we are going to start the sweep at 118.4 MHz.

3. Select AM mode by pressing "0" until AM appears below the battery symbol.

4. We select the channel bandwidth with "6". It will alternate between several values, we are left with 25k (although the listening is less clear than with 6.25k, the next point explains why).

5. Now we want the sweep to cover the largest possible range of frequencies. With the "4" key we will select the maximum number of channels/frequencies which is 128x and with the "1" key we will choose the separation between channels which, for the air band, is 25.0k. Having selected a bandwidth of 25k in the previous point, this will also allow us to receive intermediate channels with a separation of 8.33k used in aviation. We should have a spectrum spanning from 118.4MHz to 121.6MHz. It's not much, but we can do sweeps every 3.2MHz (128x25k=3.2M)

6. The value that appears in the lower central part of the screen is to change the start/end frequency of the sweep, each time we press the up/down key, that is, if we have started from 118.4MHz and that value is, for example +-2000k, it means that when we press the up arrow, the initial sweep frequency will now be 2MHz higher, that is, 120.4MHz. If we press a second time, it will change to 122.4MHz and so on. This function is useful when we want to do a complete sweep in sections.

7. Now let's adjust the upper signal level of the spectrum, (the Y axis). In the upper left part of the screen we see two negative numbers, separated by a bar. The first is the minimum signal received, it is a value that will be around -130dBm and the second value, we can adjust it with the "3" and "9" keys until it is at an approximate value between -70 and -30dBm to our liking, depending on We want the spectrum to more or less "fill" the screen.

8. Finally, we will adjust the squelch value with the "*" and "F" keys, moving the dotted line over the spectrum, so that it is above the noise. Even so, it will happen that some strong signal with noise will stop the scan; we can exclude these signals by pressing "PL1" below the PTT.

When it stops at a frequency that we want to monitor, press the "PTT" key, which will set that frequency and change the screen display to frequency detail mode.

2. Frequency detail window
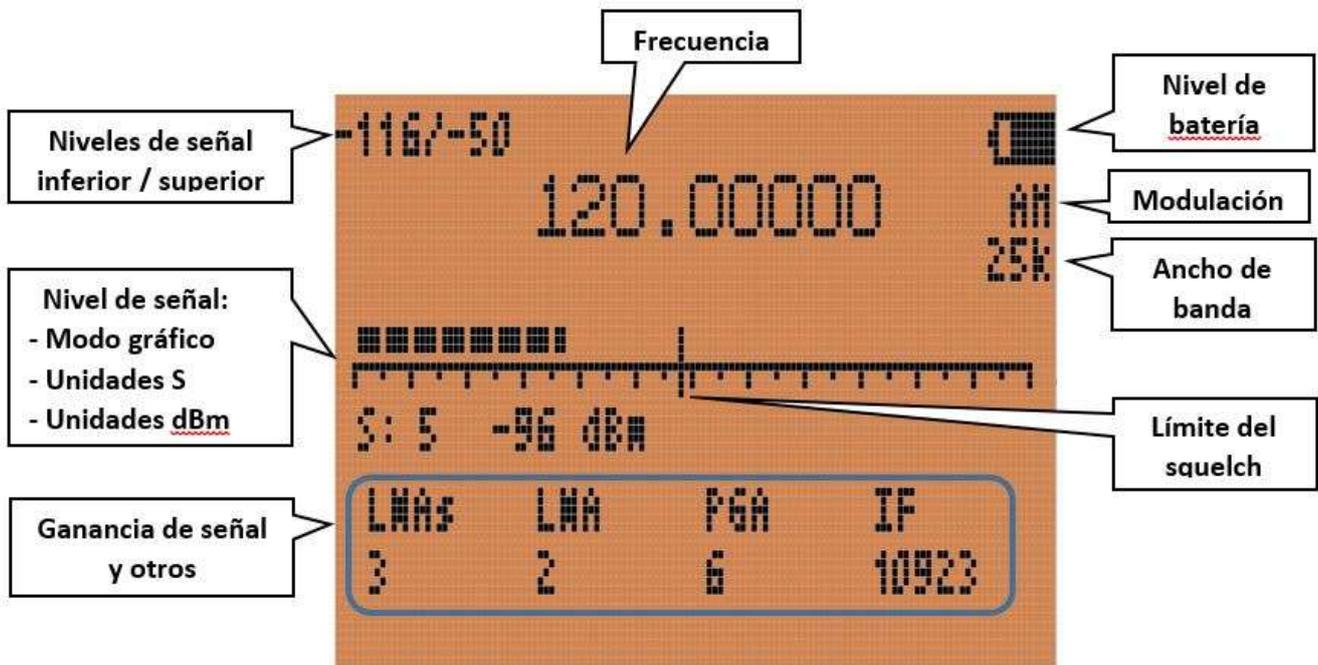
This window is accessed from the spectrum analyzer window by pressing "PTT".

It gives us some information about the level of the received signal.

Many of the keys seen in the previous window perform the same function here, but this window is actually used to adjust the lower parameters. With the "M" key we move between LNA$, LNA, PGA and IF. Once a parameter is selected, we can change it with the up/down arrows.

LNA: Low Noise Amplifier

PGA: Programmable Gain Amplifier

IF: Intermediate Frequency

These are the values   that, in my case, have given better signal quality in AM:

LNA$: 2   LNA: 7   PGA: 7   IF: 10923

If the signal sounds "very saturated", reduce the first parameter, although we can play with them to obtain the best reception.

Finally, to exit this screen and return to the previous one, press "EXIT".

Regards, José María (BJE)

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