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Мини-лаборатория
радиолюбителя OSA10

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TECHNICAL FORUMS ON CQHAM.RU

Modification of radio stations

Quansheng uv-k5 on the range 23cm 1297 MHz

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Subject: Quansheng uv-k5 on the range 23cm 1297 MHz

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09.12.2023, 15:07

#1

XENOMORPH ◉

Registration :
13.12.2009
Messages : 1,626

Quansheng uv-k5 on the range 23cm 1297 MHz

Rebuilding Quansheng uv-k5 (prototype) to the 23cm range (1260-1300MHz).

I don't need the other ranges, I cut them out in the firmware, and deleted everything that interfered on the board.

The firmware is modified, with the maximum power level for this range at the RF chip output.
Firmware firmware_1260-1300 with normal modulation, low and high frequencies are cut off, deviation is about 20KHz (louder and steeper by ear than any "baofeng").
Firmware firmware_1260-1300 ExtMOD (own recipe) with improved modulation, low and high frequencies are added, deviation is about 20KHz, + the audio path bandwidth is increased to 5.5 KHz when receiving.

Entering the firmware mode (holding PTT, turn on the power by turning the volume knob).

Software for programming k5prog_win_v1.26. After flashing, reset the settings (POINT 049) (enter the menu, long press the M button).

In the calibration file (read by the k5prog_win_v1.26 software), you can adjust three power levels "for yourself" (LOW 50mW, MID 500mW, HI 1W), and the deviation level using the Hex Workshop editor.

If necessary, the deviation level is set by a value from 0 to 3800 (1450-1500 is the default value), the maximum deviation can reach 3MHz!

The deviation level can be changed by opening the firmware file with the Hex Workshop editor according to the data in the screenshots.

Before changing the deviation, go to the register settings. Hold down button 5, then PTT, button M, use button M to reach the DEV parameter, press transmission, use the down-up arrows to select the value you need, remember it, and edit it in the firmware file as described above.

Rebuilding method:

Unscrew the board to set up the receiver, apply a signal from the GSS to the antenna input, adjust the length and press the inductors to the board, reach sensitivity from ~50 μ V (without alteration) to 0.16 μ V.

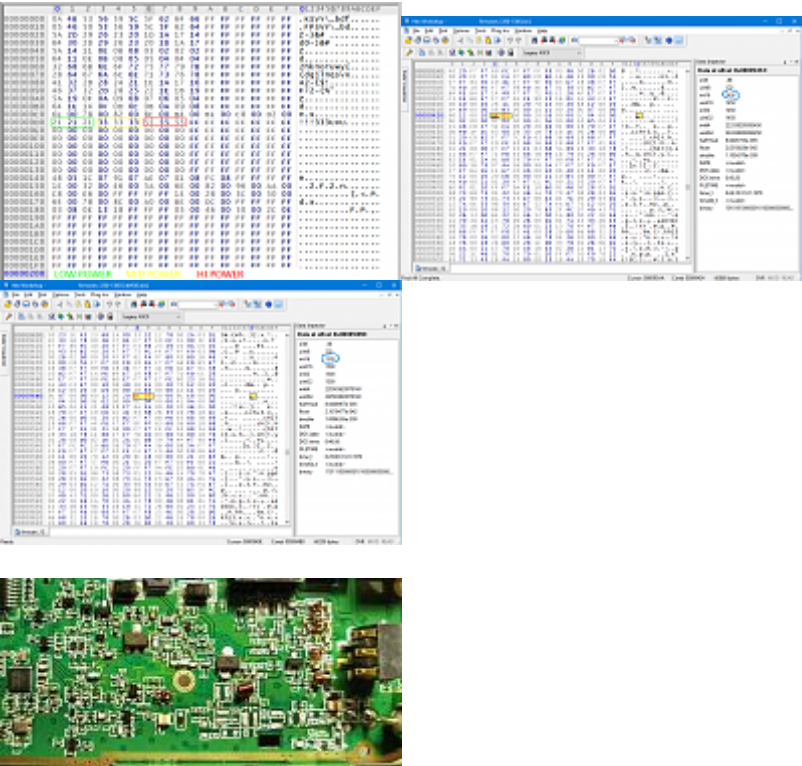
To set up the transmitter, connect a spectrum analyzer with an external attenuator or a power meter to the RF connector. By selecting the length, compression, stretching of the inductors, and selecting the ratings of the capacitors, reach a level of 1000 mW at a power in the menu (HI).

Three power levels can be adjusted as described above in the configuration file (Launch the k5prog_win_v1.26 software, simply turn on the radio station, connect by selecting the desired COM port, click Read Calibration and save the file, then edit the power values (the quiescent current of the transistors) if necessary.

Inductances (bows) from the wires of a silver-plated cable. After the alteration, the sensitivity is -122 dBm, the maximum

power is 30 dBm (with careful adjustment).

Firmware.rar



Thanks from [DerBear](#) , [er1ak](#) , [EU1ABR](#) , [LZ3HD](#) , [R3KHC \(RA3QLZ\)](#) , [R3TO](#) , [R4ABT](#) , [R6AG](#) , [RA4FHE](#) , [RX3AFE](#) , [SARMAT](#) , [ua9cee](#) , [uk8adi](#) , [Kazakov](#) , [Solovey](#)

12.12.2023, 20:27

#2

XENOMORPH ◉



Registration :
13.12.2009
Messages : 1,626

New firmware, minor bugs fixed.
[firmware_bin2_1297.rar](#)

Thanks from [er1ak](#) , [RX3AFE](#) , [Kazakov](#) , [Solovey](#)

13.12.2023, 06:34

#3

Nightingale ◉

Registration :
18.06.2012
Messages : 109

What kind of antenna do you have? Homemade or purchased?

13.12.2023, 09:06

#4

er1ak ◉



Registration :
22.08.2006
Address : KN47MA
Messages : 505
Call sign : ER1AK

And here our people have appeared, greetings to the robber and to Chernomor too, I am already buying the third radio, the chip itself is more expensive than the walkie-talkie, for me it is like a measuring device, I treat it like that, thanks for starting the topic, here is the link, likes https://github.com/spm81/Quansheng_UV.

..
I forgot to say there F I 5 modulation changes

73! Vladimir.

Thanks from [EU1SW](#)

13.12.2023, 12:01

#5

XENOMORPH ◉

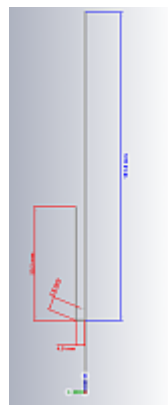


Registration :
13.12.2009
Messages : 1,626


Nightingale , J antenna is homemade.


Colleagues, please do not flood, otherwise it will be like in Telegram, several thousand messages like backlight, and change the coil on the satcom, and so on in a circle))


In this topic only about the alteration **specifically** for **23 cm** . If you have something new to offer on it, open a new topic, let's chat 🍺.



Thanks from [er1ak](#) , [EU1SW](#) , [Solovey](#)

12/15/2023, 1:50 PM		#6
DerBear ◉  Registration : 18.09.2002 Messages : 3,578 Diary entries : 4	<p>Please advise...</p> <p>I saw a station being configured for SSB reception. It is clear that it will not work in SSB transmission, but a budget option for telegraph operation on 432/1300 and/or in competitions is spinning in my head.</p> <p>Actually, the question is, does SSB work in the entire frequency range from 18 MHz up to 1300 MHz or are there any nuances? If there is SSB on 1300, is it possible to programmatically make a 1 kHz detuning for transmission?</p> <p>Well, and then an external EC to the PTT connector...</p> <p>Also, I read somewhere that there are firmware sources. If anyone has them, can I have a look in a PM?</p> <p><i>Last edited by DerBear; 12/15/2023 at 01:59 PM .</i></p>	


12/15/2023, 2:01 PM		#7
XENOMORPH ◉  Registration : 13.12.2009 Messages : 1,626	<p>Pseudo SSB with a wide band is in this firmware, the spacing in the menu can be set to almost any.</p> <p>Link to the sources, by changing the values in the registers you can make a narrow band.</p> <p>https://github.com/fagci/uv-k5-firmware-fagci-mod</p> <p><i>Last edited by XENOMORPH; 12/15/2023 at 2:20 PM .</i></p>	
Thanks from DerBear		

12/15/2023, 2:20 PM		#8
DerBear ◉  Registration : 18.09.2002 Messages : 3,578 Diary entries : 4	<p>So, what about SSB in the entire 18-1300 band?</p> <p>I looked at GitHub, there are ready-made firmware binaries posted there. Is there some source program that is edited and compiled or does everything go by research from the factory binary, by editing the source registers by DS?</p> <p><i>Last edited by DerBear; 12/15/2023 at 02:28 PM .</i></p>	

12/15/2023, 2:28 PM

#9

XENOMORPH



Registration :
13.12.2009
Messages : 1,626

AM/FM/SSB/RAW/BYP is everywhere (15-1338MHz). Work with sources in Keil, if you are a level 80 programmer, you can do it in notepad.
Binary, if you know where and what is there, is much faster to correct if something is needed, so I resort to such a super fast method, time is expensive these days)
How and what to compile is described here <https://github.com/OneOfEleven/uv-k5-firmware-custom>


Last edited by XENOMORPH; 12/15/2023 at 02:56 PM .

Thanks from DerBear

12/15/2023, 15:21

#10

DerBear



Registration :
18.09.2002
Messages : 3,578
Diary entries : 4

Tell me more, did you do the mod for 1300 by eye (well, i.e. experience in repair and mods and all that) or is there a radio circuit somewhere?

upd: circuit found



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Quansheng TG-UV2+

from R1AIT in the section Transceivers, receivers HF/VHF

Answers: 14
Last post: 24.11.2022, 14:38

Tell me software for QUANSHENG TG-K4AT

from UN7FEI in the section Transceivers, receivers HF/VHF

Answers: 11
Last post: 08.03.2022, 18:26

Deaf Quansheng TG-K4AT?

by LZ3DA in the Technical Office section

Answers: 10
Last post: 03.07.2020, 15:17

QUANSHENG TG-UV

Answers: 22

6 of 7

15/05/2025, 18:21

[Baofeng UV-5R, WOUXUN KG-UV6D or Quansheng TG-UV2](#)
by Rulya in the section Technical office

Answers: 164
Last post: 12/14/2017, 07:51 PM

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