

Xiegu G90 Digital Modes Setup with a Raspberry Pi-4 using an XGGComms USB-Digimode-4 Sound Card

By Paul Dordal, K2PMD

Introduction

Below is the specific digital set-up I have used successfully using the XGGComms USB-Digimode-4 sound card with the Xiegu G90 HF radio, running WSJT-X FT8 with FLRig (rig control) on a Raspberry Pi-4 Model B.

Additionally, for the FT-8 and FL-RIG software, I am using the latest KM4ACK Build-A-Pi download which you can find here (my download was on August 8, 2021):

<https://github.com/km4ack/pi-build>

Xiegu G90 Setup (Do This In This Order)

1. Insert the USB-Digimode-4's 8 Pin DIN cable into the ACC socket on the back of rig.
2. Insert the USB-Digimode-4's USB cable to an open USB port on the Raspberry Pi-4.
3. Turn on the Xiegu G90
4. Insert the USB-Digimode-4's 3.5mm COMM plug into the 3.5mm Communication Interface input located on the left-hand side of head unit (below the headphone input).
[Do not plug this in before you power on the Xiegu G90].
5. Set the G90 to USB on the top of head unit.
6. Turn off Pre-Amp, Noise Blanker, Compression, and AGC ("AGC—" is how "off" looks) Use the buttons on the bottom of the head unit to turn off these controls. Your radio should look like this:

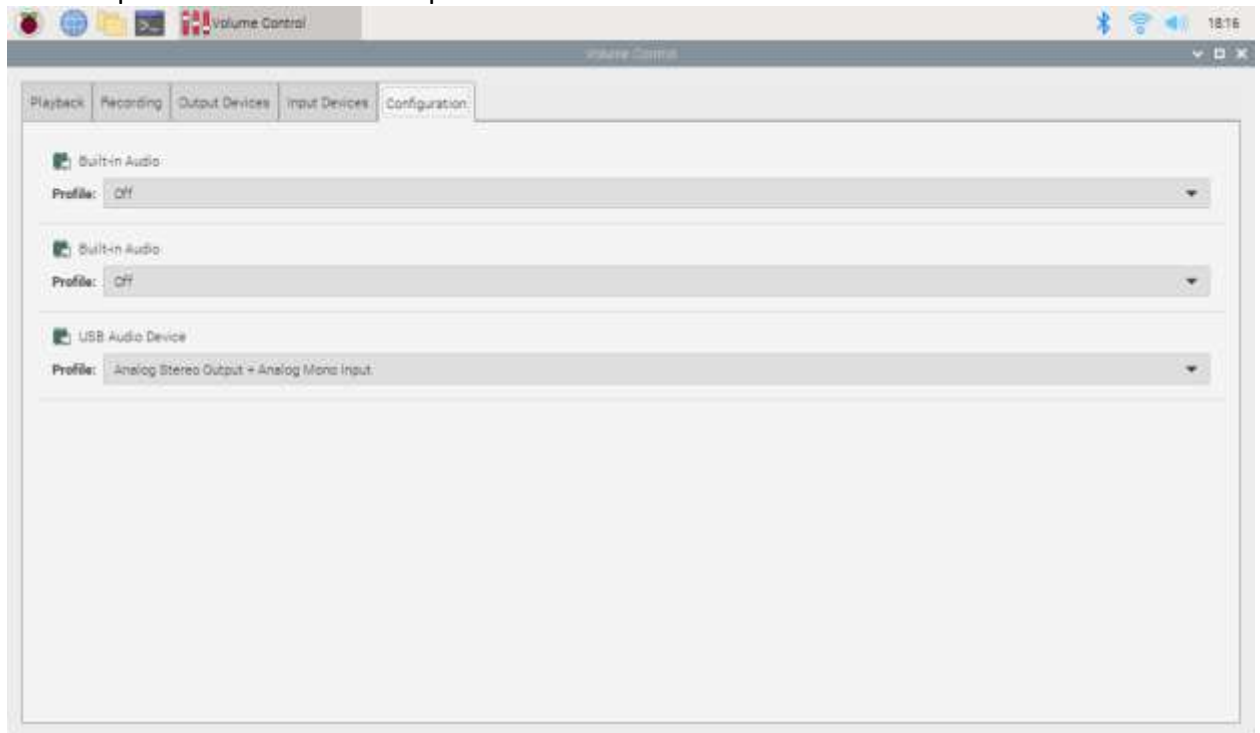


7. Set the G90 to Line Input. (Short press Function Button [FUNC]. Press the Power Button [POW] twice. Use the Tuning Control to select LINE. Short press the Power Button [POW] to exit. Short press Function Button [FUNC]).
8. Set the AUX IN Volume to 10 (Long press the Function Button [FUNC]. Press Next Button [VM] to get to menu #5. Use the Tuning Control to set to 10.)
9. Set the AUX Out Volume to 12 (Press Next Button [VM] to get to menu #6. Use the Tuning Control to set to 12. Press the Save Button [CMP]).
10. Set the Power Output to 18W. (Press the Power Button [POW]. Use the Tuning Control to set to 18W. Press the Power Button [POW] twice.

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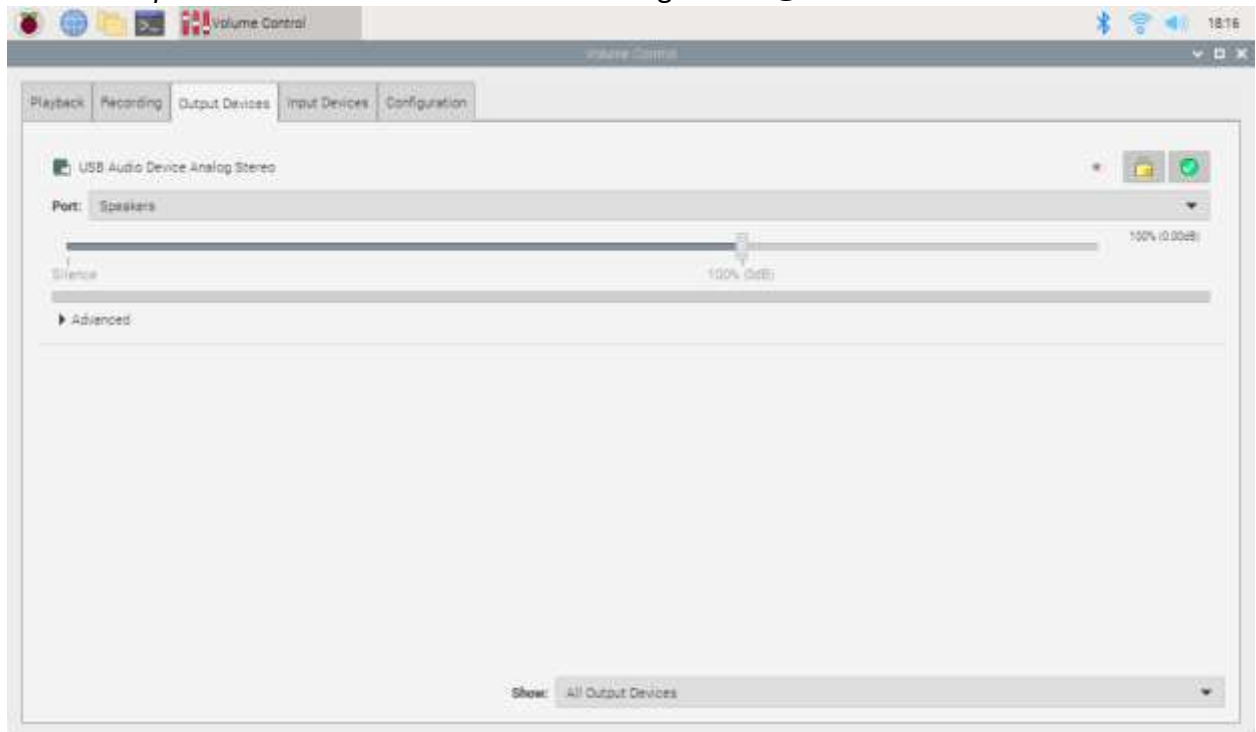
Pi-4 Audio Settings Setup

1. Turn on your Pi-4.
2. Open up the *Pulse Audio Volume Control* app under the Sound/Video Tab on the Pi-4 drop-down menu.
3. Set the *Configuration* to *USB Audio Device* profile to Analog Stereo Output +Analog Mono Input. Both *Built-in Audio* profiles should be off as below.

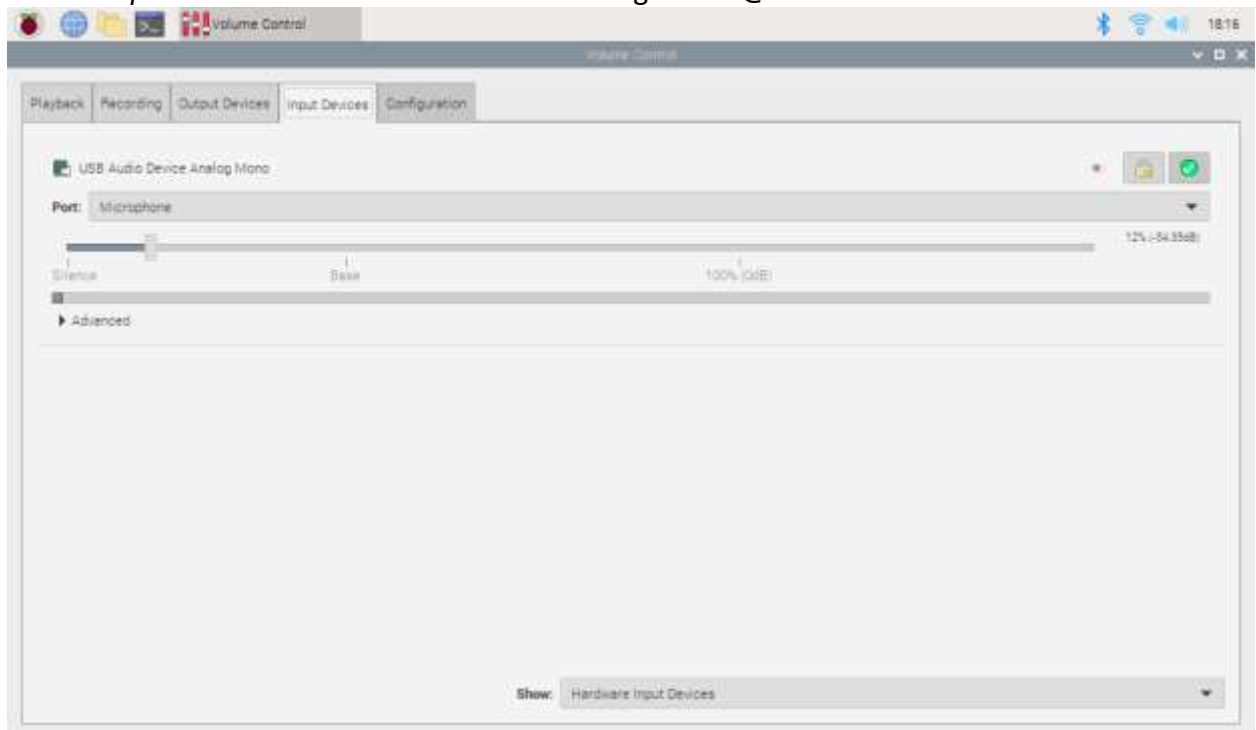


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4. Set the *Output Devices* to USB Audio Device Analog Stereo @ 100%



5. Set the *Input Devices* to USB Audio Device Analog Mono @12%

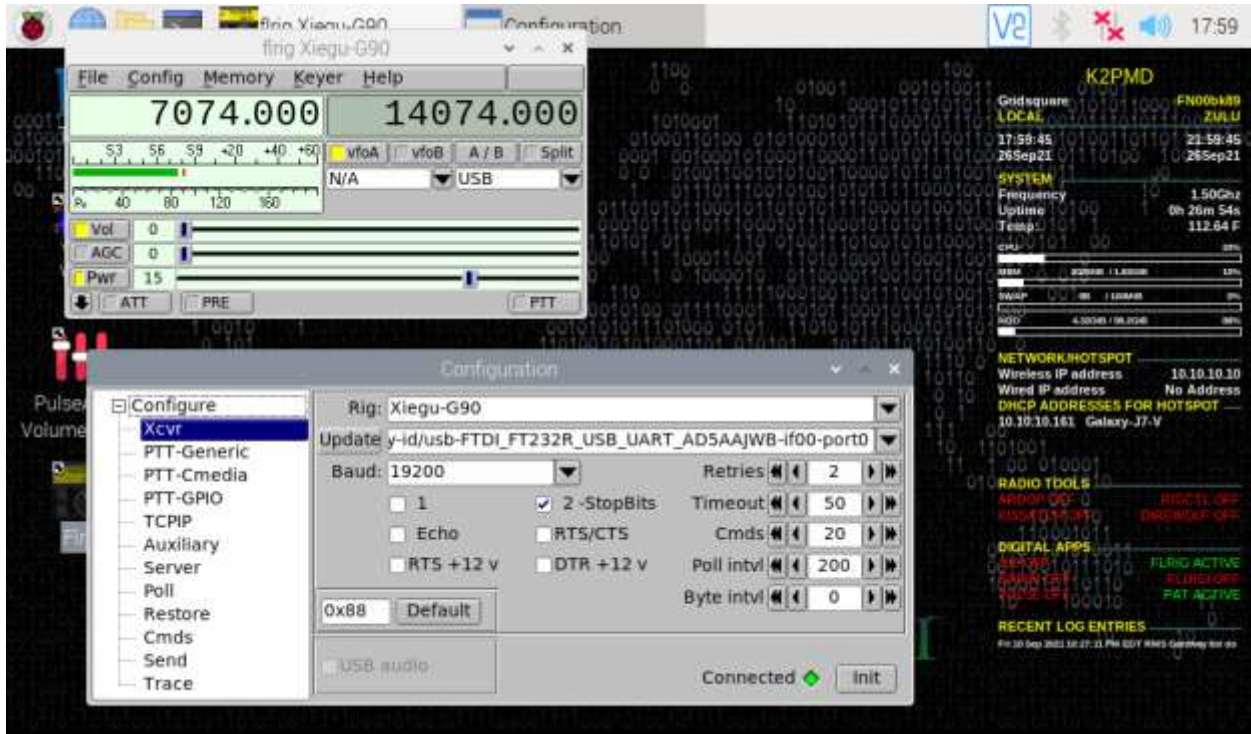


6. Close the *Pulse Audio Volume Control* app.

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FLRig Setup

1. Open up the *FLRig* app under the *Ham Radio* tab on the Pi-4 drop-down menu.
2. Click on the *Config* tab. Select *Xcvr* by clicking once. Choose *Xiegu-G90* for your rig. Make sure all of your settings look just the pic below.

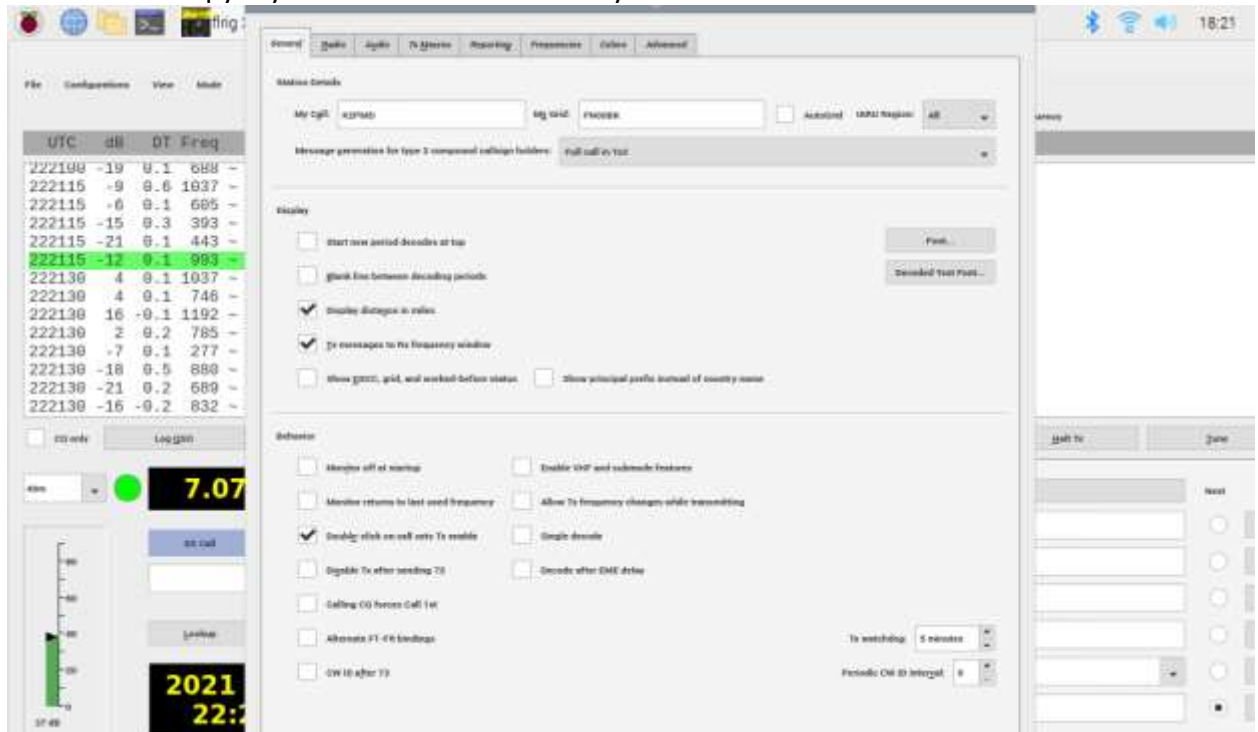


3. Click the *Init* button on the bottom right corner of Configuration screen.
4. Close the *Configuration* page, but not the *FLRIG* app.

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WSJT-X FT-8 Setup

1. Open up the *WSJT-X* app under the *Ham Radio* tab on the Pi-4 drop-down menu.
2. You might see stations start decoding, but if not don't panic. A few more steps and we are done.
3. Under the *File* tab choose *Settings*. Enter your callsign and your grid under the *General* tab. You can copy my click boxes for this tab if you'd like.



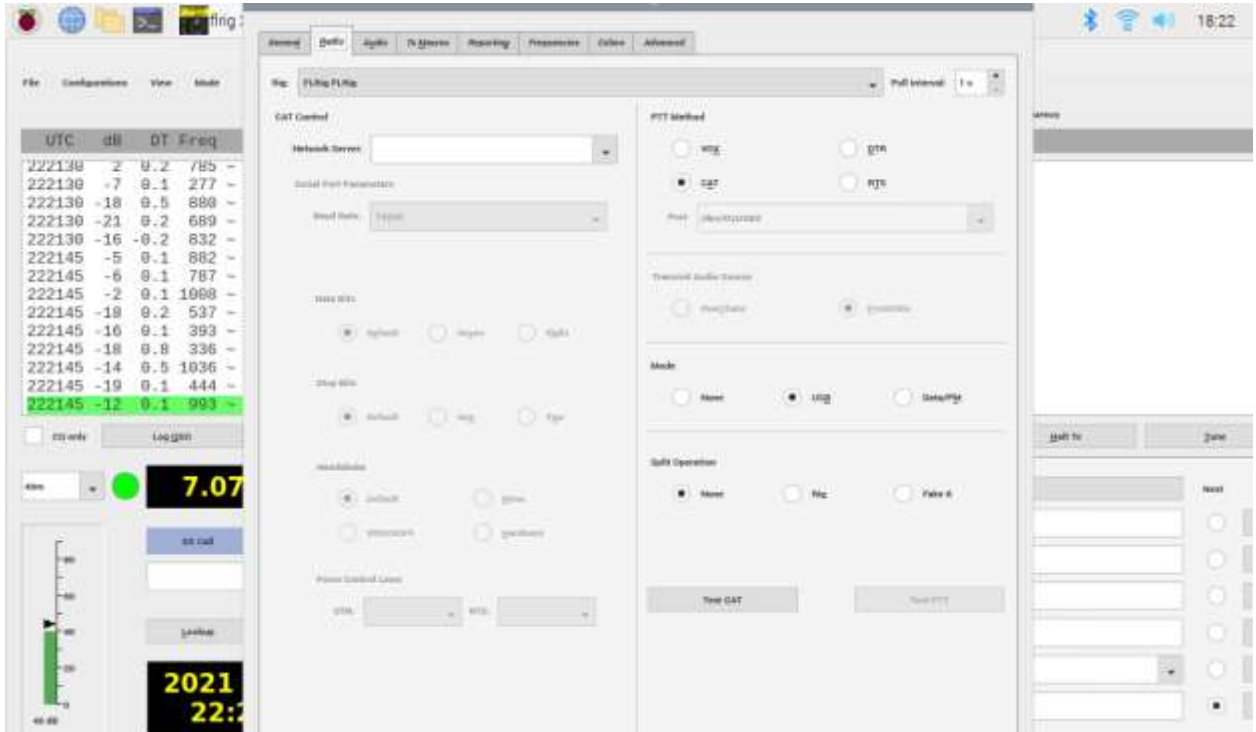
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- 4. Click on the *Audio* tab.
 - a. For the *Input* choose: `alsa_input.usb-C-Media_Electronics_Inc._USB_Audio_Device-00.analog-mono`
 - b. For the *Output* choose: `alsa_output.usb-C-Media_Electronics_Inc._USB_Audio_Device-00.analog-stereo`



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5. Click on the *Radio* tab.
 - a. For *Rig* choose: FLRig FLRig
 - b. For *PTT Method* choose: CAT
 - c. For *Mode* choose: USB
 - d. Press *Test CAT*
 - e. Press *Test PTT*. The G90 should enter into transmit mode.

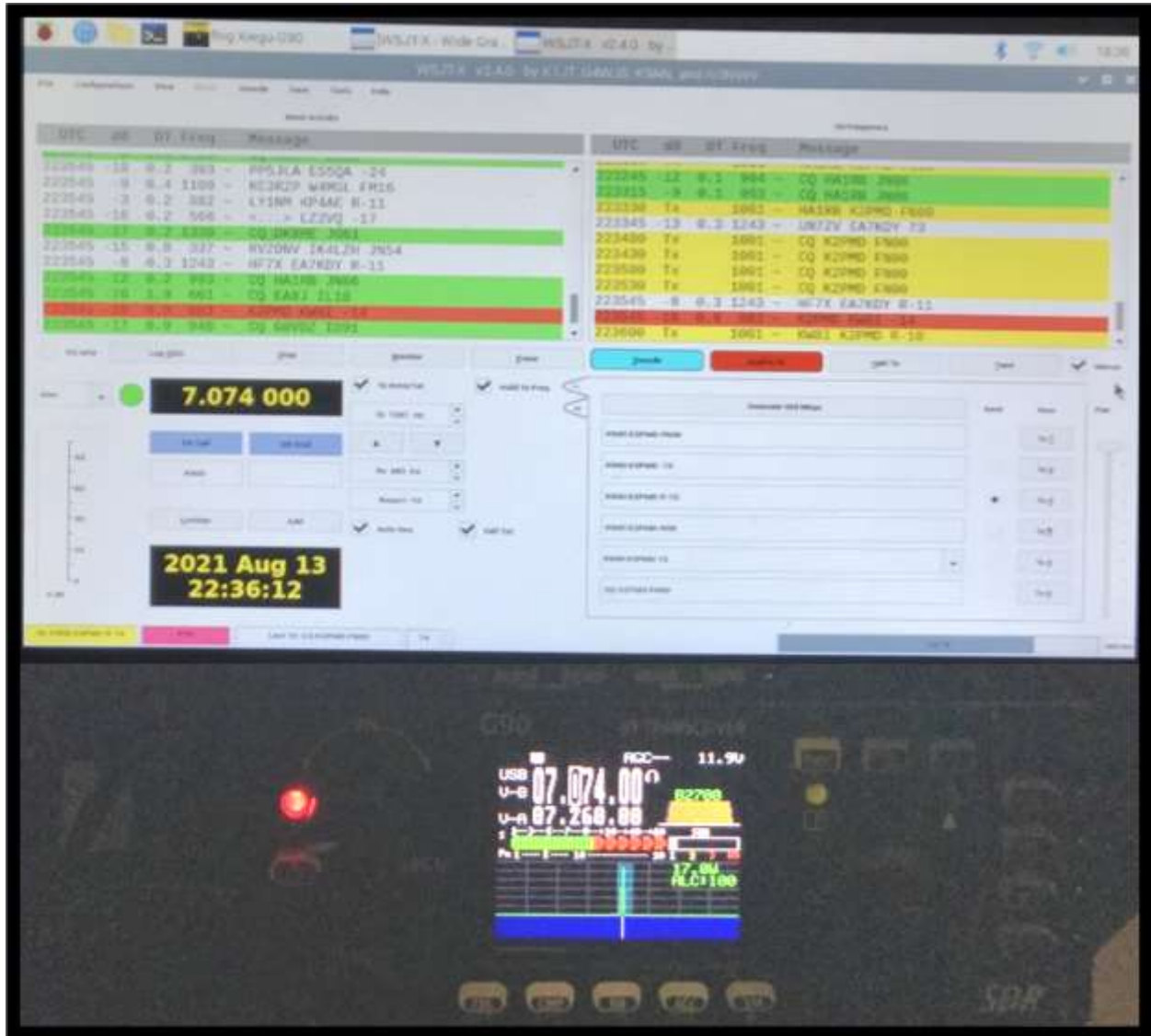


6. Click on **SAVE** at the bottom of the screen.

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Conclusion

This took a bit of experimenting, but it finally worked. As you can see from the pic below. My ALC is 100%; Power Output is 17.8 Watts; SWR is 1.2. A very clean signal.



If you have any questions, please contact me at K2PMD@PROTONMAIL.COM.