

## Getting on the Digital Modes on the Cheap by Loren—AD6ZJ

So you want to get on the digital nets and see what all the hype is about.

You just want to give it a try and not break the bank getting the slick commercial setup. If you have a PC running windows with a soundcard you are close already. I assume of course that you have some sort of HF transceiver or you wouldn't be getting this publication.

Software for the digital modes can be had for free off the Internet and there are many choices. I will not go into detail on the software as many have done that already. Suffice to say I use Digipan for PSK and Hamscope for RTTY.

Following is one way but certainly not the only way to build the interface.

1) Start by taking apart a few base units for the older cordless phones. These are the ones found at garage sales for about a buck. Inside you will find an audio transformer a little larger than 1" square. Or you can buy new ones but you need 2 audio transformers. (Save the rest of the guts for more fun projects...).

2) Find a shielded audio cable with 1/8" stereo connectors on both ends (I use Radio Shack # 42-2387).

3) Cut the audio cable in half and hook up to one end of each transformer. Shield to one contact and one of the shielded wires connected to another contact. I never can remember right vs. left so I just guess and swap it if it is wrong. You now have 2 identical isolated connections for TX and RX out of your PC.

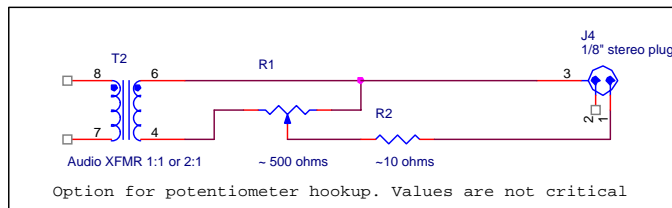
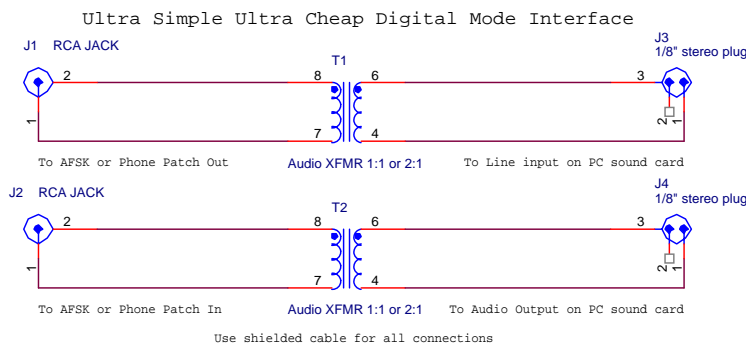
4) Figure out the best place to connect to your rig. I like to use the RCA jacks found on many Kenwood products for AFSK (TS440S) or Phone Patch (TS820S). Some rigs

will require using the ACC connection or the mic and speaker connections. If you need to do this it's a different set of connectors on the Rig end of things but other

liking. With the rig into a dummy load, VOX selected and mic gain down select TX in the software. Slowly turn up your mic gain until the ALC just starts to budge then

back off the gain until the ALC has no deflection at all. You are now ready to QSO digital.

Options: Install a potentiometer in each connection going to the PC to adjust levels. Really not necessary but it gives



than that it is the same.

5) For the RCA connections to the AFSK input I use a good quality RCA jack type audio patch cord. Cut it in half and wire each half to the other end of the transformers. Now you have 2 identical patch cords for hooking your rig to your PC.

6) The hookup: Plug the AFSK out on the RIG to Line in on PC. Plug the audio out on PC to the AFSK in on rig.

7) PTT or VOX. I have always used the VOX setting and it works fine. Try VOX first if that doesn't work consult another ham for PTT hookup through the serial port. Note that on some rigs (TS440S) VOX through the AFSK will not work if the mic is connected. I unplug the mic when going digital.

8) Run your favorite digital mode software and adjust the "line in" input level for the programs

more flexibility.

Pitfalls: Don't use unshielded audio cables! RF has a way of getting into you PC and spoiling your fun. Try to avoid ladder line near the PC for the same reason. Don't be tempted to run in digital mode with an ALC indication - it causes harmonics and makes your signal harder to lock onto not stronger.



Here is a interface cable that I made in a hurry one day.

PSK and RTTY on the CC nets can be lots of fun. In any given digital net you are usually given the opportunity to work all the stations you can copy. Hope to print you soon.

73 de AD6ZJ, Loren