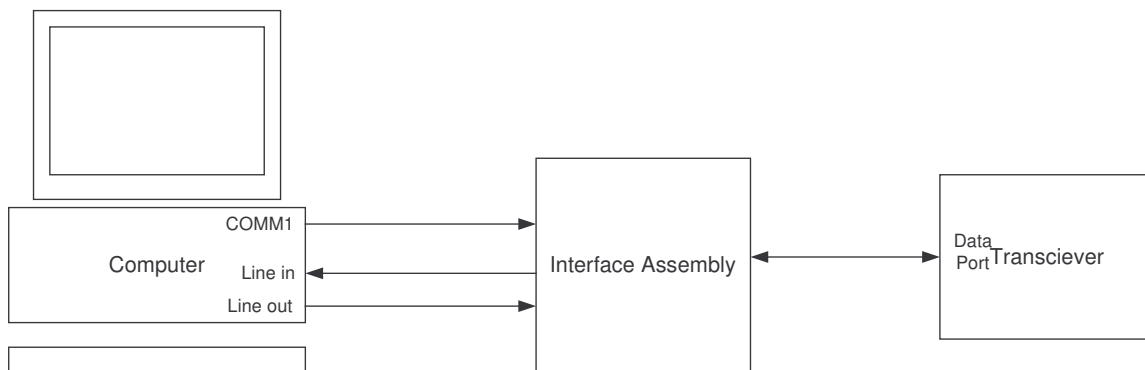


Date: November 21, 2006

Use of AGWTERM for packet communications.

The AGWTERM program was written by SV2AGW. It consists of 2 components. The AGW Packet Engine is a packet server. The AGW Term program is the client. AGW is unique in that it will allow packet communications with a sound card and interface assembly as well as a TNC. Help files are minimal. I found the web site <http://www.soundcardpacket.info/> contained more info that the help files with the program.



Hardware:

The program as shown above uses a PC with a Soundblaster type sound card with an audio line in and line out interface and a serial or comm port. The comm. port RTS or DTR line is used as the transmit control. The interface assembly consists of 600 ohm transformers to isolate the grounds between the radio and the computer, with a level control on the TX modulation, and an opto-isolator between the RS-232 RTS line and your transceiver push to talk (PTT) input. I used the design in January 2006 QST article "A Sound Card-Multimode Controller Switch" by Rick Kruis K8CAV. I did not build the unit as switch assembly but used 3.5 mm stereo jacks to interface with the sound card, a DB9 for the computer serial interface, and a 6 pin mini DIN to interface with my ICOM 746 PRO transceiver. The heart of the interface is in the blue box in Figure 1 of the QST article. After using the interface, the concept of a switch would be nice, as I am always unplugging my computer speakers to use the digital interface.

Consult your transceiver manual for the proper connections and signal levels. The ICOM uses the DATA connection.

- DATA IN (1) connects to the TX Audio is connected to the line out on your PC
- DATA OUT (4) uses the RX Audio which becomes the line in connection on your PC
- PTT (3) is connected to the comm. port RTS line via an opto-isolator.

For those who with newer computers or laptops without serial ports, see April 2005 QST “An Improved Digital Communications Interface” by Larry Coyle K1QW. This eliminates the need for the serial (comm.) interface from the computer. I have not built one of these yet, but it has been earmarked as a future project.

I have used the same interface assembly with Digipan.exe to do PSK31 and also slow scan using MMSSTV.exe. Both of these programs are available on the web as freeware.

Packet Software:

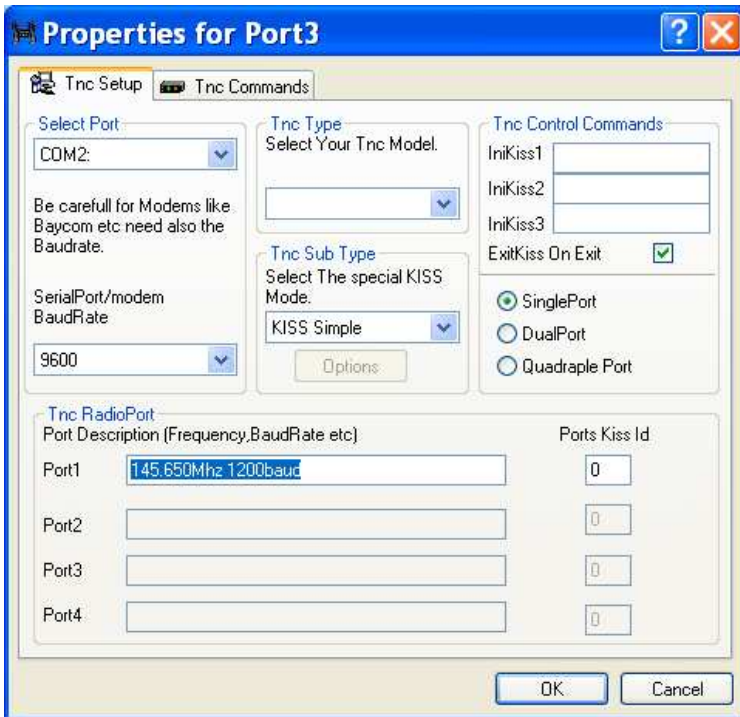
The software may be downloaded from <http://www.elcom.gr/sv2agw/inst.htm>. You need the AGWPE.zip containing the packet engine and AGWTERM.zip which has the terminal program. I did not have any virus problems, but there are no guarantees that this will always be the case. Download software at from the web at your own risk. A virus scan before you unzip the files might prevent problems. Unzip these with the standard WINZIP to directories on your computer.

Run AGW Packet Engine.exe first. This will create a “2 towers” icon and a TNC icon on your toolbar.

Right click on the icon and a popup menu will appear. Select “Properties”

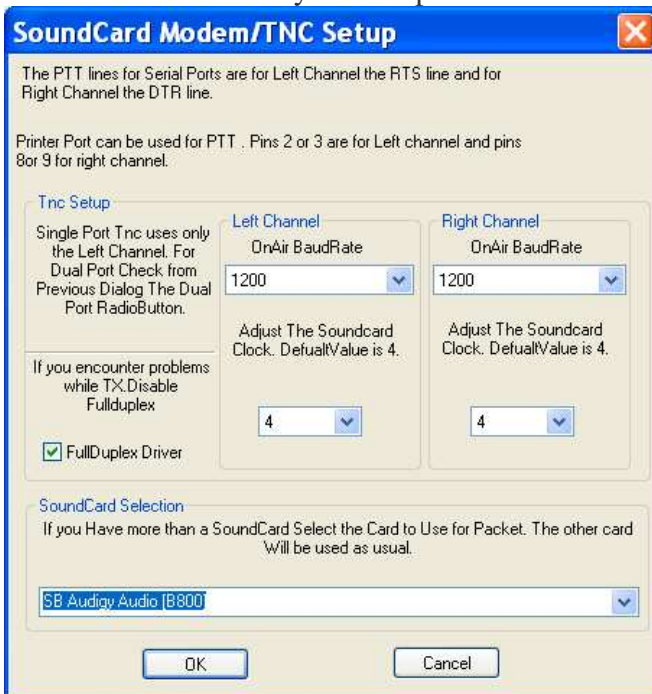


Your window should be empty the first time your run the program. Select New Port.



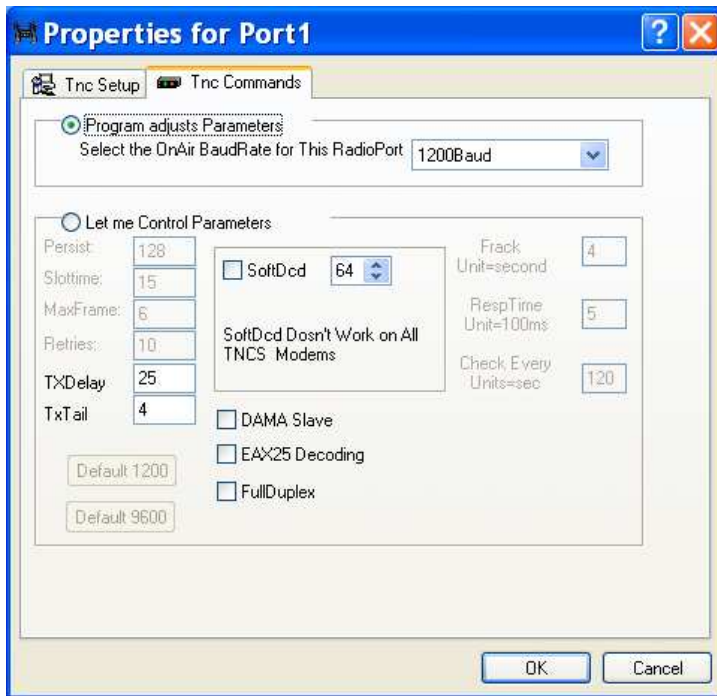
Set the COM port you will use to control the RTS – PTT interface. Set the speed to 9600 Under TNC Type select “Soundcard” or your TNC model. For use with a sound card, the TNC Sub Type is KISS Simple and select “Single Port”. Fill in PORT 1 with a description that is meaningful to you.

Select the Options tab under the Tnc Sub Type and set the following controls. Select the correct sound card for your computer and select OK to return to the previous window.



Select the Tnc Commands tab and set the “Program Adjusts Parameters” radio button and set the “OnAir Baud Rate to 1200.

This should conclude setup. Once you have saved these settings, you must terminate the AGE Packet Engine program using the popup menu and start it again.

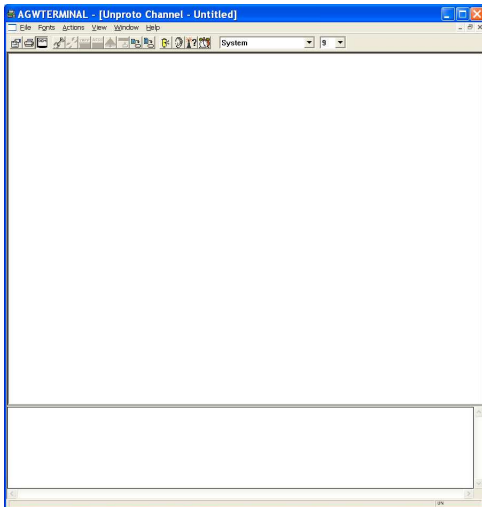


The program has a tendency to want to set up multiple ports. In the event that it does, it can get confused even after you set the output to single port as above. Go to the directory where you installed the AGW Packet Engine program and delete the all of the PORTn.INI files except PORT0.INI. (n is additional port numbers) I had problems with 2 connection sessions until I selected “SinglePort” and deleted the PORT1.INI file.

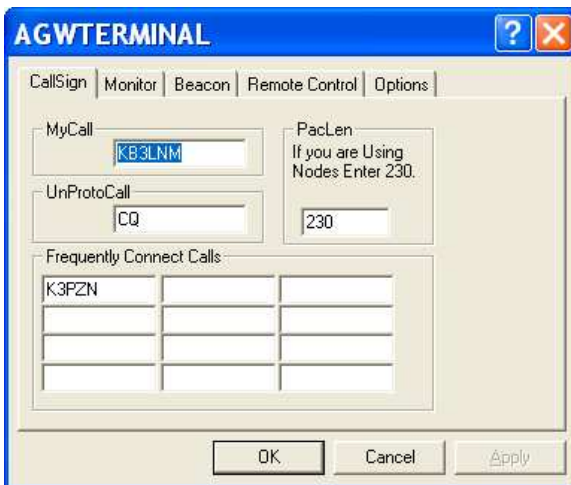
I also select AGW Packet Engine menu option “Sound Card Tuning Aid” and select the “SET VOLUME” control before closing the dialog to get the sound card level set.

Once the AGW Packet Engine is configured and running, you are ready to run the terminal program. Connect your data interface hardware. Run this program. (The picture of the author appears but will leave you shortly. Put your transceiver in data mode following the instructions in your transceiver manual.

One of the first changes I make starting the AGW Term program is to increase the font from a very tiny 9 to 12 so that I can read it.

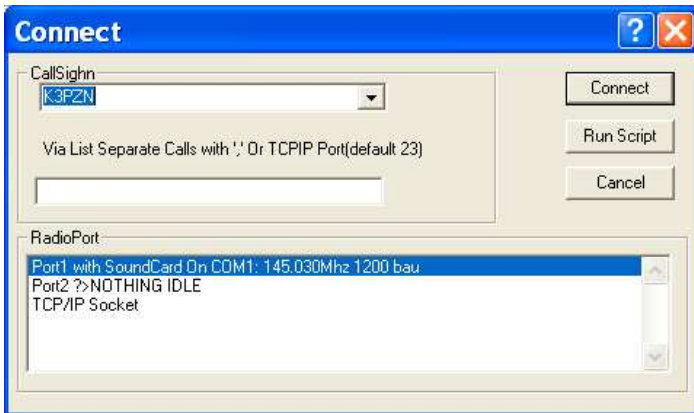


Select File->Properties from the menu bar. Enter your call sign in the “My Call” window and a frequently called packet station such as K3PZN and select OK.



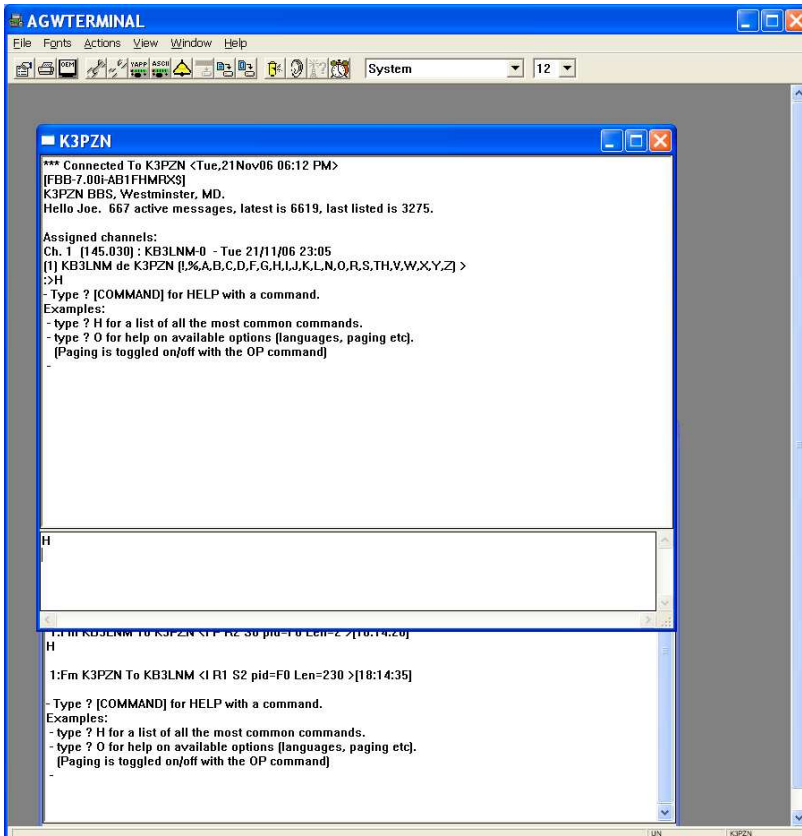
If you have never made a contact with this before, set the TX gain to about 75% to start.

Select “Actions->Connect” from the menu to get the popup window below and select CONNECT.



Check your computer sound card controls to verify that the line in is set to 80% gain and is not muted. A quick check is to select the “Radio tower ?” icon. This should cause your transmitter to send a short burst of data and can serve as verification that the PTT interface is working by watching for the TX light.

For those of you in Carroll County accessing K3PZN, a power level of 5 to 10 watts is all I need to access the BBS on 145.030 MHz.



The program appears to allow Ethernet control external to your own computer. I do not recommend this feature for security reasons.

Hope you are able to get your computer and radio setup for packet.

Joe Tracey
KB3LNM