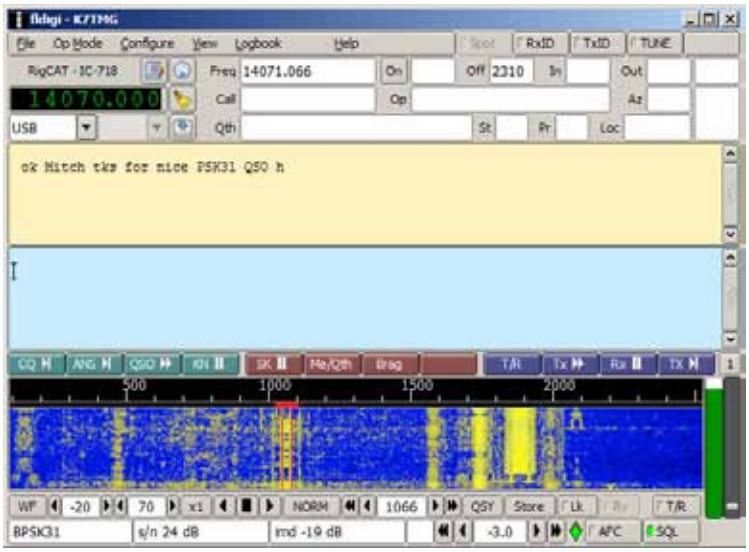
Software Configuration

FIdigi Suite



Modes supported: *CW, Contestia, DominoEX, Hell, MFSK, MT63, Olivia, PSK, QPSK, PSKR, RTTY, THOR, Throb, WEFAX, Navtext & NBEMS modes.* W1HKJ's Fldigi is a very capable, cost-free, and easy to use digital mode program. It has all of the most popular modes in use today (including PSK31) and its decode performance is highly regarded.

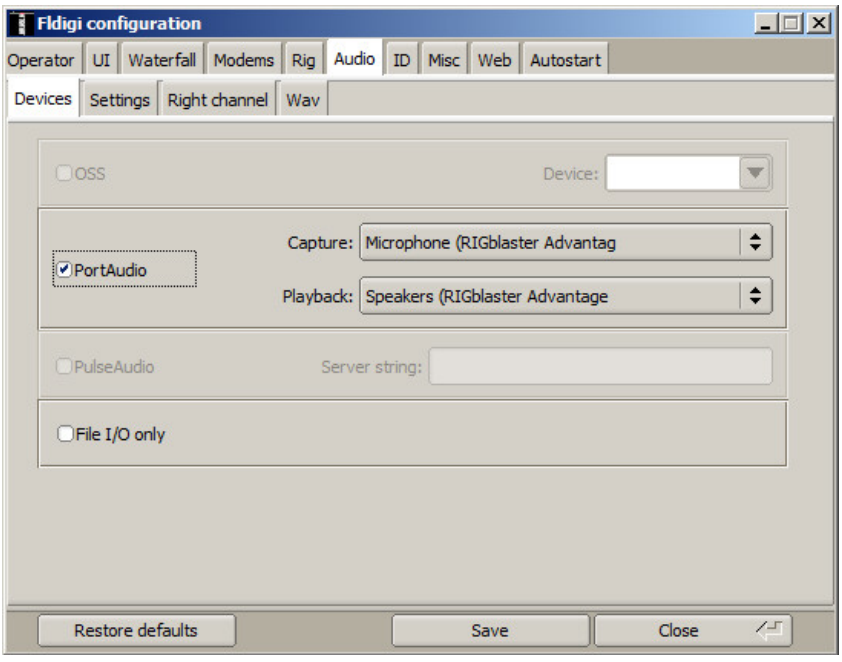
Many of its EMCOMM modes (NBEMS) are used on HF & VHF under control of other software which provides error-checking and automatic repeat request (ARQ). It also supports logging and integrated CAT by a variety of methods.

It is under constant development and is multi-platform. There are builds for Windows, Macintosh and Linux available from the author's website.

Note: The CW mode in Fldigi is tone modulated Morse Code (MCW) which is normally operated in SSB mode on HF and FM mode on VHF/UHF. The RIGblaster Advantage can convert this into real-keyed CW when the switch is in the VOX mode and a stereo patch cable hooked to the CW jack on both the Advantage and radio.

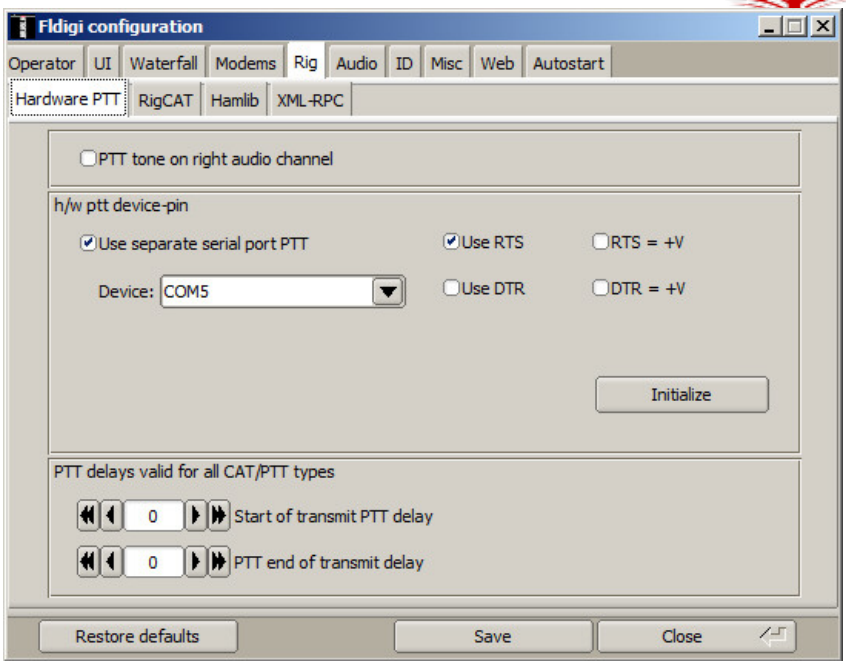
Configure FIdigi To Use The RIGblaster Advantage Sound-device

1. Choose "Configure" from the main menu.
2. Choose "Sound Card" from the popup menu.
3. Choose "Audio" from the first row of tabs.
4. Choose "Devices" from the second row of tabs.
5. Select the "Port Audio" checkbox.
6. Assign "RIGblaster Advantage Audio" to both of the "Capture" and "Playback" drop-down boxes.
7. Click on "Save" to make the changes permanent.



Setting Up Fldigi For Hardware PTT

1. Choose “Configure” from the main menu.
2. Choose “Rig control” from the popup menu.
3. Choose “Rig” from the first row of tabs.
4. Choose “Hardware PTT” from the second row of tabs.
5. Select the “Use separate serial port PTT” checkbox.
6. Assign the Advantage COM port in the “Device” drop-down.
7. Select the “Use RTS” checkbox.
8. Ensure “Use DTR” is not selected.
9. Ensure “RTS=+V” is not selected.
10. Ensure “DTR=+V” is not selected.
11. Click on “Initialize”.
12. Click on “Save” to make the changes permanent.



Setting Up Fldigi For Rig-control

FLdigi offers a number of methods of rig-control and it is beyond the scope of this manual to detail all of them. Hamlib (on the rig-control tab) may be the simplest method, as FLdigi comes with rig description files for this library.

RigCAT is another good method. Download a rig description file for a specific radio by going to: http://www.w1hkj.com/xmlarchives.html

Typical Configuration:

1. Specify the Advantage COM port as the rig-control “device”. Note: Do not set RTS or DTR high, otherwise, the transceiver will go into transmit when the program first loads!

   Match the transceiver’s communication settings – check CAT baud rate and optionally CI-V address if using an Icom radio.

   Flow control is not usually needed, but if required, use XON/XOFF as the method. Never choose hardware CTS/RTS.

Flrig is a stand-alone CAT program which will interface to Fldigi through the XML-RPC method. This is a preferred method of CAT for many operators using Fldigi. It is available on the author’s homepage.

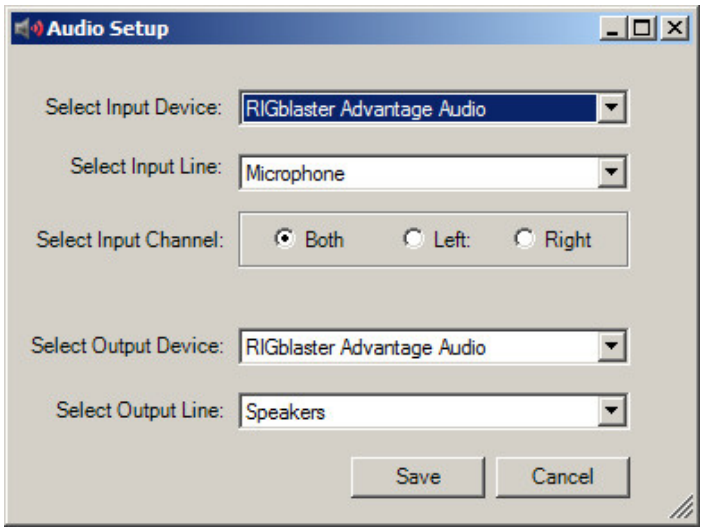
Airlink Express

Modes Supported: PSK31, QPSK31, MFSK and RTTY
Airlink Express is designed to be a modern, user-friendly program which previous operators of Digipan will feel immediately at home with.

It supports the most popular digital modes, a multi-channel decoder, on-screen display of DSP filtering, CAT control and even FSK RTTY.

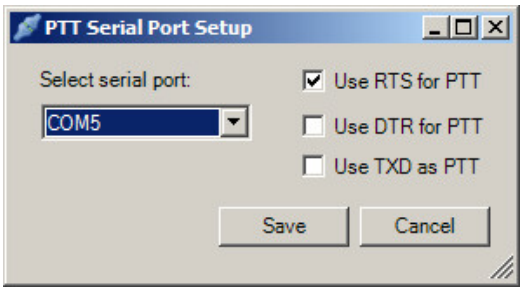
Configure Airlink Express To Use The RIGblaster Advantage Sound-device

1. Choose “Setup” from the main menu.
2. Choose “Audio Setup” from the popup menu.
3. Assign “RIGblaster Advantage Audio” to the “Select Input Device” drop-down.
4. Assign “Microphone” to the “Select Input Line” drop-down.
5. Choose “Both” from the “Select Input Channel” selection.
6. Assign “RIGblaster Advantage Audio” to the “Select Output Device” drop-down.
7. Assign “Speakers” to the “Select Output Line” drop-down.
8. Click on “Save” to make the changes permanent.



Setting Up Airlink Express for Hardware PTT

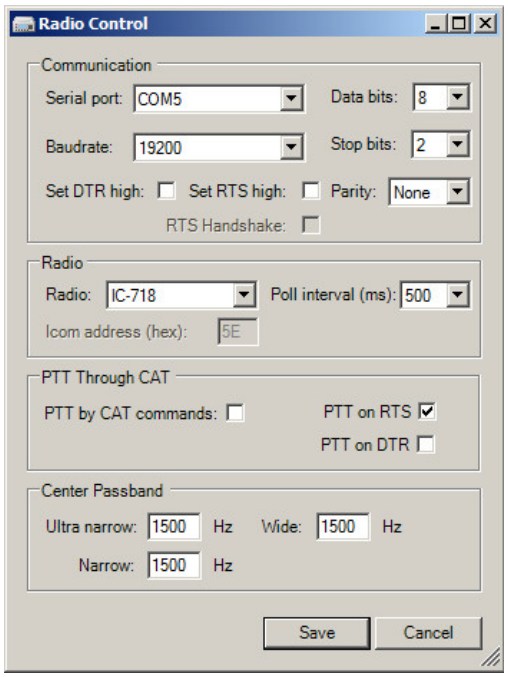
1. Choose “Setup” from the main menu.
2. Choose “PTT Serial Port Setup” from the popup menu.
3. Assign the Advantage COM port in the “Select serial port” drop-down.
4. Select the “Use RTS for PTT” checkbox.
5. Ensure “Use DTR for PTT” is not selected.
6. Ensure “Use TXD as PTT” is not selected.
7. Click on “Save” to make the changes permanent.



The configuration above will get simple PTT working and allow to operate the software. One may prefer to incorporate CAT control (if have an optional CAT cable) so the following example should be used instead.

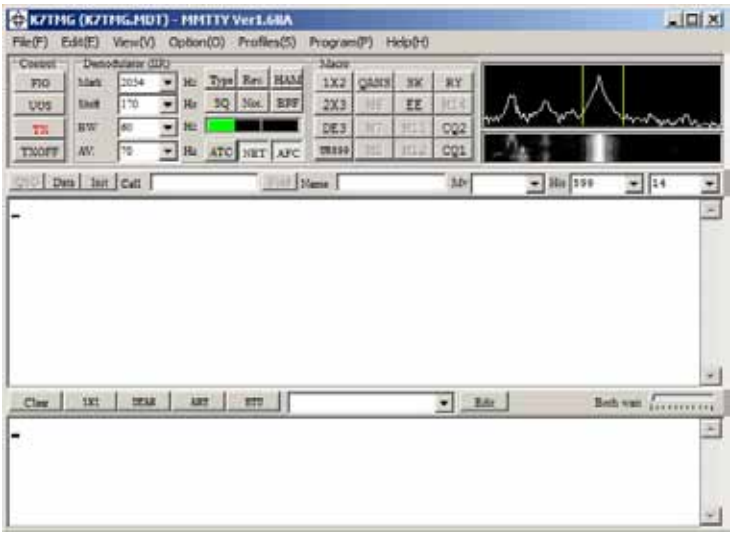
Setting Up Airlink Express For Hardware PTT & CAT

1. Choose “Setup” from the main menu.
2. Choose “Radio Control” from the popup menu.
3. Assign the Advantage COM port in the “Serial port” drop-down.
4. Select your radio’s CAT baud rate from the “Baudrate” drop-down.
5. Select the required data bits (usually 8), stop bits and parity for your radio.
6. Ensure “Set DTR high” and “Set RTS high” are not selected.
7. Select your radio model from the “Radio” drop-down.
8. If using an Icom radio: Ensure the “Icom address” value is correct for your particular Icom.
9. Ensure the “PTT by CAT commands” checkbox is not selected.
10. Ensure the “PTT on RTS” checkbox is selected
11. Ensure the “PTT on DTR” checkbox is not selected
12. Click on “Save” to make the changes permanent.



MMTTY

MMTTY by Makoto Mori (JE3HHT) is used worldwide for RTTY and for good reason – its decode performance is excellent, makes tuning RTTY signals very simple, and integrates into popular contest logging software.



The latest version of MMTTY can be downloaded from Mako’s website at: http://hamsoft.ca

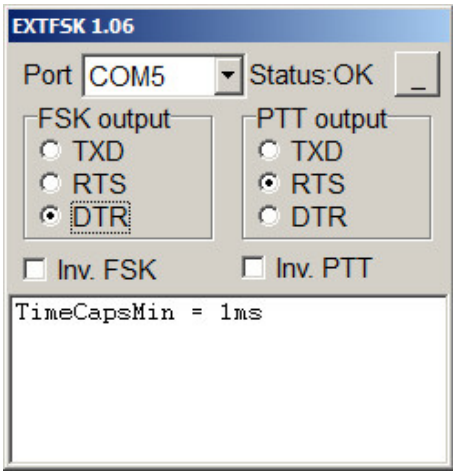
One of the features that make MMTTY (almost) unique is that it supports FSK RTTY which is often the preferred way to generate RTTY tones if the transceiver supports it.

The latest version is available on Mako’s website at the following location: http://hamsoft.ca/pages/mmtty/ext-fsk.php

Follow these steps to configure MMTTY with the RIGblaster Advantage:

1. Select the “Option” menu from MMTTY.
2. Choose “Setup MMTTY”.
3. From the setup window choose “SoundCard” from the tabs at the top of the window.
4. Select RIGblaster Advantage Audio for both “Reception” and “Transmission”. Although we are not actually using the Advantage sound-card for RTTY transmission, setting it this way will allow for monitoring the signals on the AUDIO OUT jack in addition to keying the FSK line of the transceiver.
5. Choose the “MISC” tab from the tabs at the top of the window.
6. Select “Sound + COM-TxD (FSK)” in the “TX Port” frame.
7. Choose the “TX” tab from the tabs at the top of the window.

8. Select EXTFSK or EXTFSK64 from the “Port” drop-down. Use the EXTFSK on older, slower PCs and EXTFSK64 on fast PC
9. A new window will appear to specify the FSK settings. Select the RIGblaster Advantage COM port and choose DTR for “FSK output” and RTS for “PTT output”. Notice the “Status: OK” message near the top. If it is showing red and “NG” then MMTTY is reporting it was unable to open the COM port. Make sure no other software is running, which has already claimed the COM port.
10. Verify that the RTTY FSK cable is connected to the transceiver from the Advantage CW/FSK jack.
11. Put the transceiver into its RTTY mode.



Hints For Operating FSK RTTY

Check the FSK settings on the radio – for 45 baud RTTY, the shift should be set to 170Hz. Many radios also offer a choice of MARK tones (e.g. 2125Hz, 1275Hz). There will be no difference in operating when choosing either setting.

FSK polarity varies from rig to rig, so attempt to tune in some RTTY to check that it is not “Upside Down”. A friendly station can help check your transmissions for correct polarity.

The transmit power level in FSK RTTY is simply determined by the transceiver’s RF POWER control.

The RIGblaster Advantage XMIT LEVEL control will have NO EFFECT on transmit power.

RTTY is a 100% duty-cycle mode. Check the transceiver manufacturer’s recommendation for a safe power level in RTTY. Good advice is to run half-power or less on solid state radios. Quarter- power or less for hybrid tube-final rigs.

If the transceiver is equipped with narrow filters, they are usually available in RTTY mode. These can really help in crowded band conditions and will improve copy.

When properly configured for FSK RTTY the RIGblaster Advantage will pulse the FSK/CW Yellow LED in sympathy with the RTTY signal. This is a good method to determine if everything is configured correctly.

MRP40

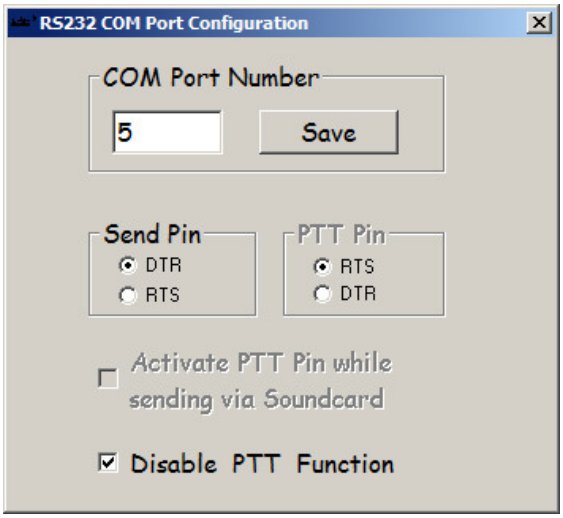
Although there are free CW (Morse Code) decoding programs the performance of many leave a lot to be desired. MRP40 by Norbert Pieper is an excellent CW decoder, even under weak signal conditions & QSB.

It supports transmission of Morse Code from the PC keyboard using the CW/FSK jack on the RIGblaster Advantage. A 30 day trial version of the software is available to download from: http://www.polar-electric.com/

Configuration is simple. It will require the optional CW keying cable (SKU 58120-984 - or use a stereo 1/8" to stereo 1/4" patch cable) to be connected between the RIGblaster Advantage CW/FSK jack and the transceiver's CW keying jack. Select CW mode on the transceiver.

Complete the following steps to configure MRP40 with the RIGblaster Advantage:

1. Choose "Options" on the MRP40 window.
2. Move the mouse cursor to "Show..." and then choose Soundcard..."
3. Assign "RIGBlaster Advantage Audio" in each of the RX and TX drop-down boxes.
4. Enter the preferred sidetone frequency. As we will be using your transceiver's CW mode this should match the sidetone frequency.
5. Close the "Soundcard" window.
6. Choose "Options" on the MRP40 window again.
7. Move the mouse cursor to "TX Settings" and choose "Send via Com (x) Port" from the menu.
8. Enter the RIGblaster Advantage COM port number in the text box.
9. Ensure that "Send Pin" is set to DTR, and "PTT Pin" is set to RTS.
10. Ensure that "Disable PTT Function" is selected. This last step will permit your radio to operate in break-in (QSK) mode.
11. Click on "Save".
12. Select CW mode on the transceiver and ensure the internal electronic keyer is turned OFF i.e. set the radio for "straight keying". You may also need to enable "BK" or break-in on the radio.



Other Ideas For CW (Morse Code)

If you want to try a freeware CW decoder then take a look at Fldigi as its CW performance, while not as good as MRP40, is certainly good enough to copy stronger stations that send well-formed Morse Code.

CWType is a freeware CW keyboard terminal (no decoding) but this software will let you transmit Morse Code using the CW/FSK jack.
See http://www.dxsoft.com/en/products/cwtype/

MultiPSK also has a good CW decoder and is free for this purpose.
Check out http://f6cte.free.fr/

WSJT-X

Operating FT8, JT65-A, and WSPR modes require the free software WSJT-X which can be downloaded from: http://physics.princeton.edu/pulsar/k1jt/wsjtx.html

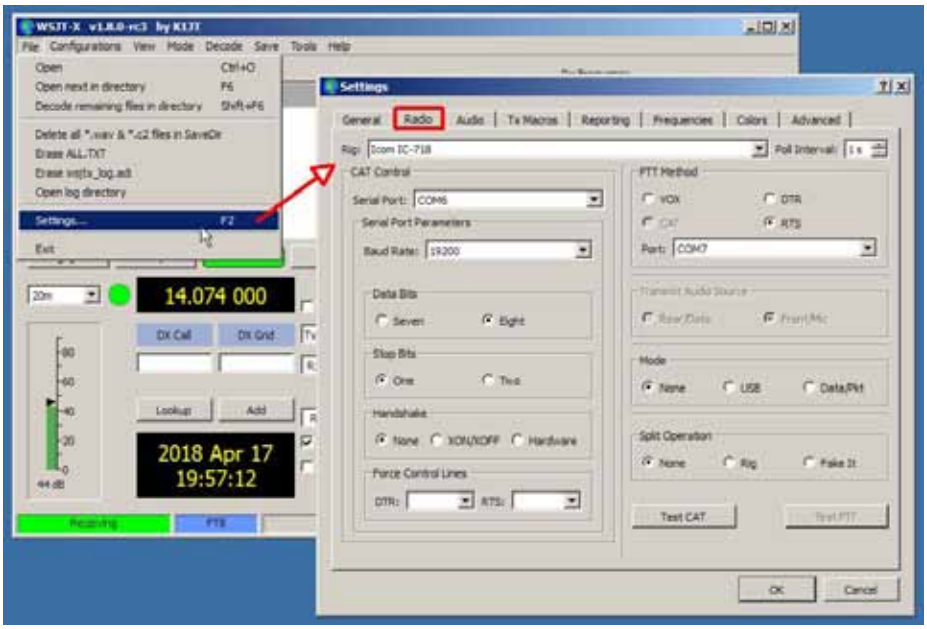
These modes were developed by Joe Taylor (K1JT) and Steve Franke (K9AN) to be recovered at very low signal-to-noise ratios making them especially useful for DX contacts, propagation study (WSPR) or reliable QSOs, even with low power stations and compromise antennas (think HOA!).

Unti recently, JT65-A was “king” of the DX modes, but it has now almost been completely replaced by FT8. FT8 is almost as senstive as JT65-A, but is four times faster making it very suitable for filling up the logbook quickly.

The WSJT-X software also includes other cutting-edge modes such as MSK144, JT9 and QRA64. It is beyond the scope of this manual to detail each one of these, but for the inquisitive amateur this page provides some great resources: https://physics.princeton.edu/pulsar/k1jt/refs.html

Follow the steps below to configure WSJT-X with the RIGblaster Advantage:

1. Click the “File” menu and choose “Settings”.
2. Select the “General” tab and enter minimally your Call Sign and your Maidenhead Grid locator.
3. Select the “Audio” tab and ensure “RIGblaster Advantage Audio” is selected for both the Input and Output drop-down boxes.
4. Select the “Radio” tab.



This screen is dividided into two sections. The left hand pane deals with rig control (CAT/CI-V) parameters and the right hand pane with PTT parameters.

At the top, there is a drop-down box to select the “rig”. **Note: Only select your radio if doing rig control** (meaning there is a CAT/CI-V cable hooked up to either the RIGblaster or PC). If not using rig control, then select “None” in the rig drop-down and only be concerned with the PTT method in the right hand pane. In this case, simply select RTS as the method. Then choose the RIGblaster COM port number from the “Port” drop-down box. Now operate with the RIGblaster front toggle switch in the top “com” position. **Be sure to not specify the same COM port number for both CAT and PTT method, otherwise WSJT-X will give an error message.**

If using rig control through the Advantage, there are two solutions to this problem:

1. Configure the rig control section to suit the radio, then choose the PTT Method as VOX. Place the RIGblaster front panel switch in the bottom “vox” position.
2. Use the Wes Mountain Radio software to create a port split, which will place rig control and PTT onto different virtual com ports.

Another problem area is the Transmit Audio Source selection. Because the RIGblaster Advantage is connected to the radio’s mic jack, be sure that “Front/Mic” is selected and Mode is set to either “None” or “USB”.

Verify all the selections are correct and click the “OK” button.

Hints for Operating FT8, JT65-A and WSPR

Time Synchronization
Because these modes are tightly synchronized, it is imperative to run a time keeping software on the PC. There are free programs such as “NetTime” (http://timesynctool.com or if the internet is not available, use a USB GPS receiver sold at West Mountain Radio (sku # 58141-1681) and the West Mountain Radio diagnostic software.

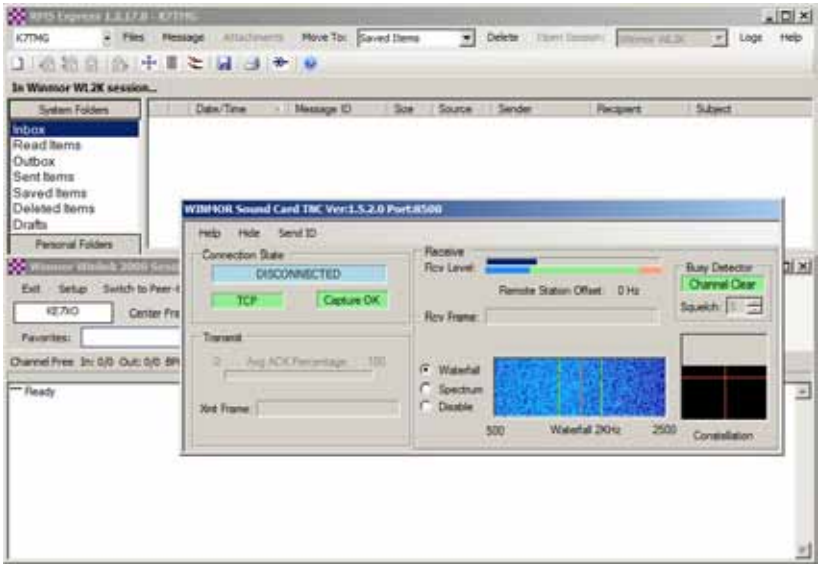
Receiver Audio Level
At times it can be difficult to set the RX audio volume level to the recommended 30dB on a “blank channel”. There is an AGC switch in the RIGblaster Advantage properties which can be toggled. If turned off, it will be much easier to reach this level. Remember to turn it back on for other digital mode software.

Output Power Level
Because FT8 and JT65-A work well even at very low signal-to-noise ratios, there is really no need to run QRO. Output power levels of 10W to 30W are ideal.

WSPR power levels can be set even lower. 5W to 500mW are very effective.

Logger Integration
It is also possible to select “Ham Radio Deluxe”, “OmniRig”, or “DX Lab Suite Commander” in the rig drop-down box. This makes integrating WSJT-X with an existing logging program much easier. Remember, the rule to not open the same COM port twice in Windows; therefore, it will be likely to need to use VOX for the PTT method.

Winlink 2000 With RMS Express (WinMOR)



Until recently there were few choices of sound-card software which could interface to the Winlink 2000 radio e-mail system. Most users bought expensive Pactor modems for HF and TNC’s for VHF.

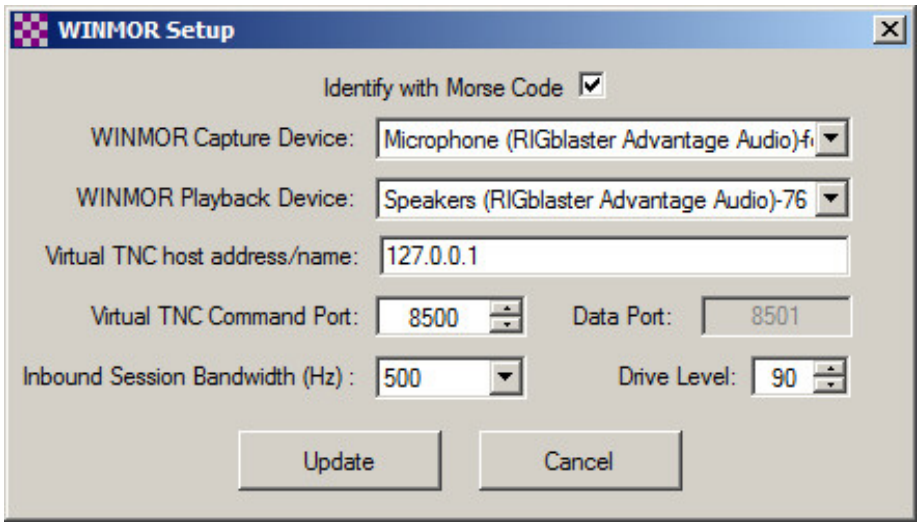
On VHF it was possible to use sound-card packet, but it was not easy to integrate with a mail client. On HF, the choices were even more limited and still did not integrate with a simple mail client.

Rick Muething, KN6KB recently developed the WinMOR sound-card modem which made the Winlink 2000 system available for anyone with an HF transceiver. The WinMOR software modem was integrated into a full mail client by the Winlink development team. This product is called RMS Express and is freely down-loadable from the Winlink 2000 website: http://www.winlink.org/ClientSoftware

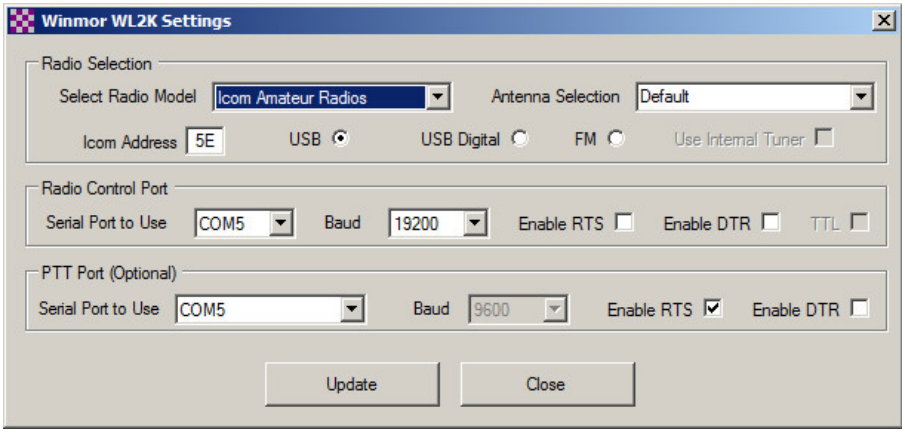
Using RMS Express requires an understanding of the Winlink 2000 system. This manual only covers getting it working with the RIGblaster Advantage.

To learn more, we recommend starting at the Winlink 2000 website: http://www.winlink.org/, especially http://www.winlink.org/GetStarted.

1. Select Winmor WL2K from the drop-down box on the RMS Express main window.
2. Click on “Open Session” (to the left of the dropdown).
3. The “Winmor Winlink 2000 Session” window will appear.
4. Choose “Setup” from the menu at the top of this window.
5. Select “WINMOR TNC Setup”. A window titled “WINMOR Setup” should appear.
6. Assign the RIGblaster Advantage Audio device for both of the capture & playback drop-down boxes.
7. Click on “Update”.



8. From the “Setup” menu choose “Radio Setup”.
9. A window titled “Winmor WL2K Settings” should appear. This window deals with rig-control and PTT. Rig-control is highly recommended with RMS Express as the program ensures precise tuning with the remote station.
10. Choose the radio model and operating mode (usually USB).
11. If using an Icom transceiver, be sure to enter the CI-V address correctly.
12. Select the RIGblaster Advantage COM port for “Serial Port to Use”. Enter the transceiver’s CAT baud rate. Make sure “Enable RTS” and “Enable DTR” are NOT selected.
13. Optionally in the frame labeled “PTT Port (Optional)”, also specify the Advantage COM port and this time “Enable RTS” *.



* PTT in RMS Express

The RMS Express software can handle transmit/receive switching by three methods: VOX, CAT & PTT-by-serial-port. It is recommend to use the CAT method if the radio supports it.

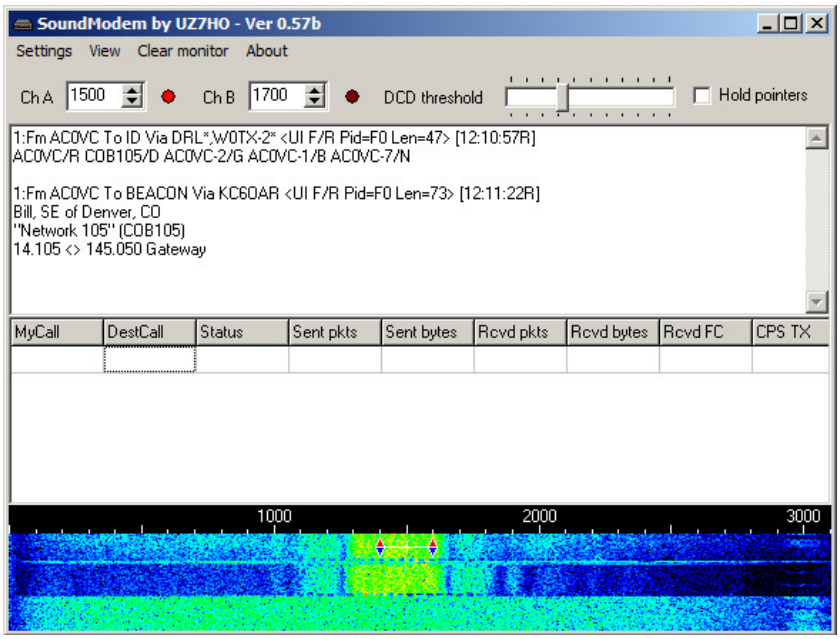
Some transceivers may have CAT, but no command to actually switch into transmit. For those cases, it may be possible to use PTT-byserial-port; but, only if the transceiver supports CAT & COM port PTT on the same serial port.

For radios that do not have CAT, use VOX in order to preserve rigcontrol (CAT). Remember to place the TX switch to VOX on the frontpanel of the RIGblaster Advantage and select “External” in the “Serial Port to Use” drop-down within RMS Express.

Make sure the VOX DELAY control is fully counter-clockwise.

Although there are other modes available in RMS Express besides WinMOR, none of these are designed for sound-card interfaces and require a hardware TNC or modem to operate.

UZ7HO Sound Modem



Packet Radio is an error-correcting mode that has been in use since the 1980s. Traditionally a TNC (Terminal Node Controller) was required, this TNC contained firmware and tone generation circuits and did most of the "heavy lifting" itself. Until recently there weren't many truly effective sound card packet radio programs available for HF & VHF amateur use.

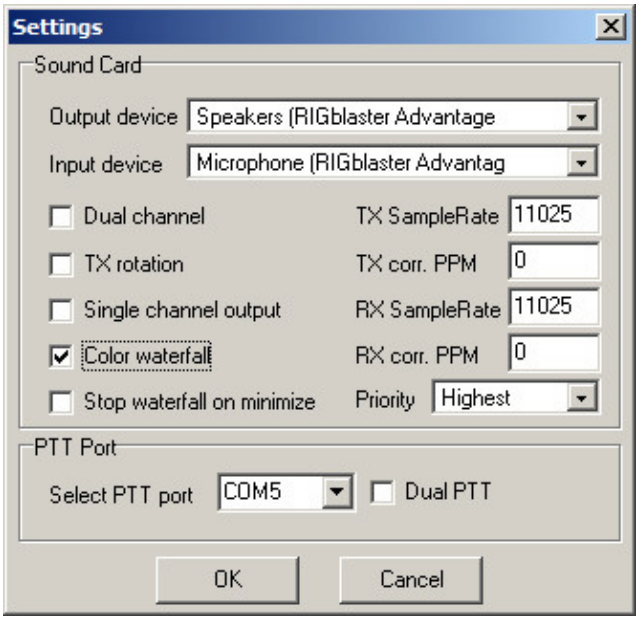
Andy Kopanchuk (UZ7HO) started developing his "Sound Modem" program in 2012 and has achieved a standard which even dedicated TNCs are cannot compete with. It's performance on HF is remarkable.

The program provides transmission and reception of Packet Radio signals from 300 to 2400 baud (Note: Currently only 300 baud Packet Radio is legal on the HF bands below 10m in the US). In addition the program can utilize a special "frame-collector" (name RX Pairs in the software) which provides a much bigger "window" of capture than traditional Packet Radio modems. If this isn't enough the program offers "Single Bit Recovery" and "Memory ARQ". Both of these can dramatically help on HF circuits.

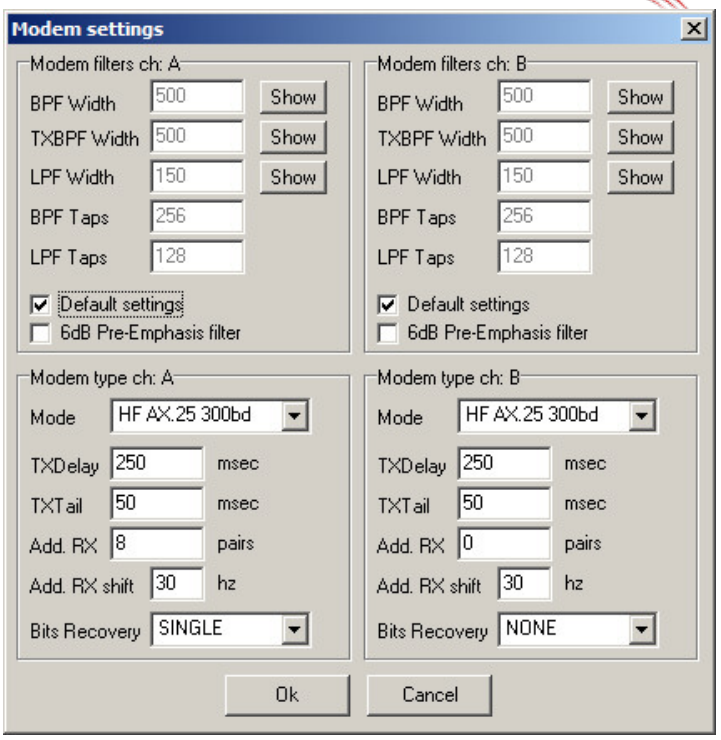
The software itself performs the task of a modem – to actually use it will require another software program which provides you with the tools necessary to handle connections and type. This is called a terminal program and Andy was nice enough to provide us this also.

Configuring UZ7HO Sound Modem With The RIGblaster Advantage

1. Click "Settings" from the main menu and choose "Devices" from the popup menu.
2. The "Settings" window will appear.
3. Select RIGblaster Advantage audio for both the "Output device" and "Input device" drop-downs.
4. Optionally select "Color Waterfall"
5. Select the RIGblaster Advantage COM port in the "Select PTT port" drop-down.
6. Ensure "Dual PTT" is not selected.
7. Click on "OK" to save the new settings.

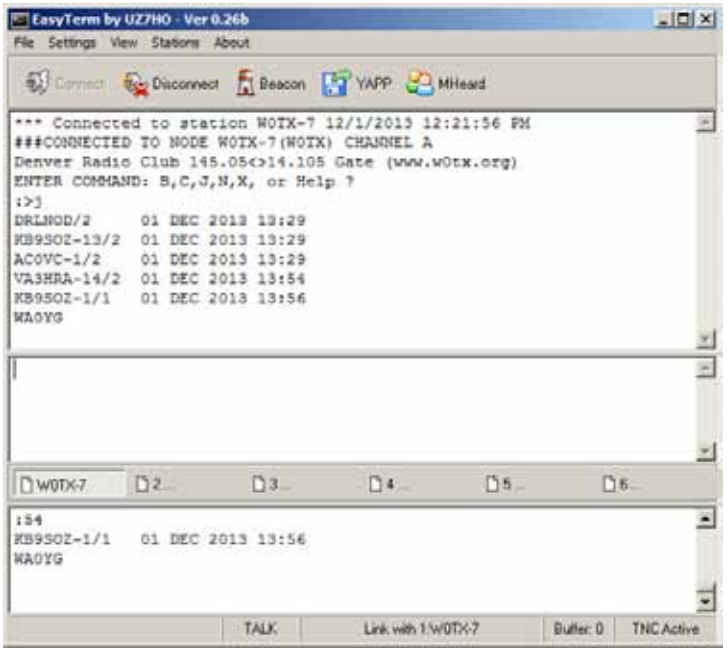


Configuring UZ7HO Sound Modem For HF Packet Radio



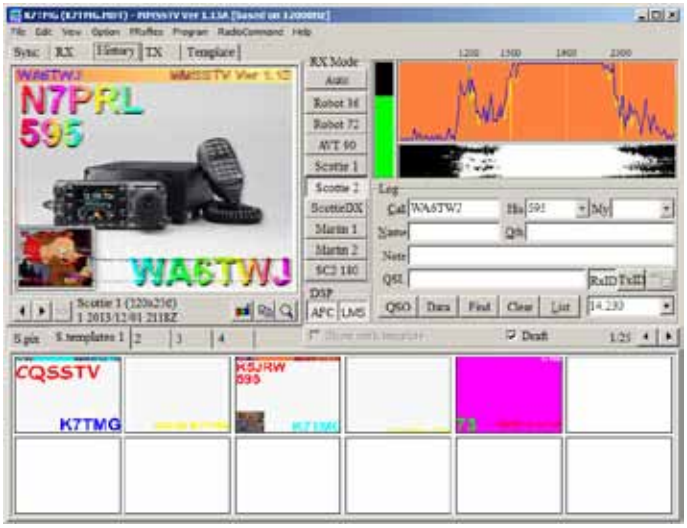
- Click “Settings” from the main menu and choose “Modems” from the popup menu.
- Ensure “Default settings” is selected for Channel A
- Ensure “HF AX.25 300bd” is selected for Channel A Mode.
- Ensure “TXDelay” is set to 250mS. If you find problems with connecting to other stations try 300mS instead.
- Ensure “TXTail” is set to 50mS
- If you have a modern fast computer (e.g., Core2Duo or higher) then the recommended setting for “Add. RX” is 8. On slower computers you will find this may make the system slow to respond so reduce the number of RX pairs. On very slow computers you might need to set this value to 0.
- Ensure “Add.RX shift” is set to 30Hz.
- Ensure “Bits recovery” is set to “Single” unless you have good reason not to.
- Click on “OK” to save the new settings.

An Example Of Using The UZ7HO EasyTerm Program For HF Packet Radio:



1. From the main window of Sound Modem ensure “Ch A” is set to 1500Hz
2. If necessary, download the UZ7HO EasyTerm program from http://uz7.ho.ua/Term.zip
3. Bring up the EasyTerm software and click “Settings”. Choose “Station Setup” from the popup menu.
4. Enter your callsign and ensure “Paclen” is set to 60. Other parameters can be left at their default values.
5. Click on “OK” to save the new settings.
6. Tune your radio to 14.1018 MHz in upper sideband. This will put you on frequency with Network 105 – a popular HF Packet Radio network.
7. EasyTerm will start to decode when packets are heard.
8. If you are new to Packet Radio, before making a connection to another station it is advised you spend some time listening and observing the “netiquette”.

MMSSTV



SSTV – Slow Scan Television has been in use on the ham bands since the late 1960s. It has come a long way since the early black and white transmissions using all analog equipment.

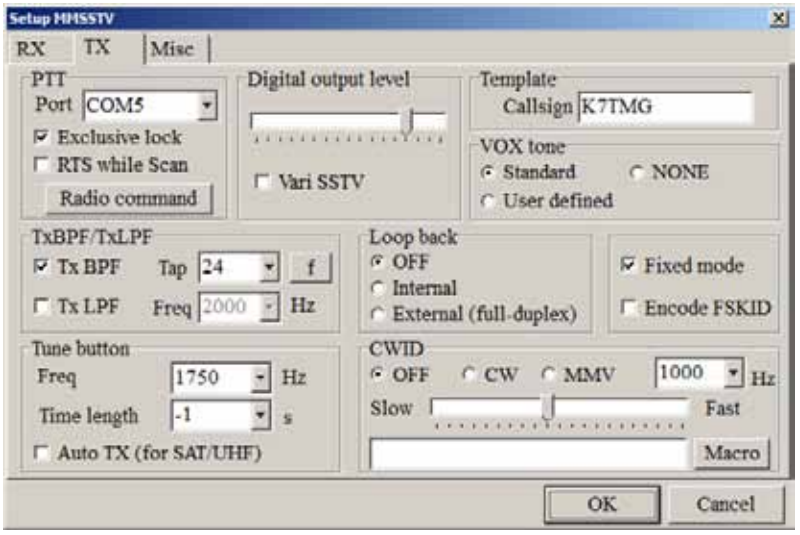
Since the advent of the personal computer with color graphics, there has been much improvement in quality and resolution.

The RIGblaster Advantage can operate all the common SSTV modes in use today by using the highly regarded (and free) MMSSTV software written by Makoto Mori (JE-3HHT).

Find latest software version by visiting Mako's website: http://hamsoft.ca/pages/mmsstv.php.

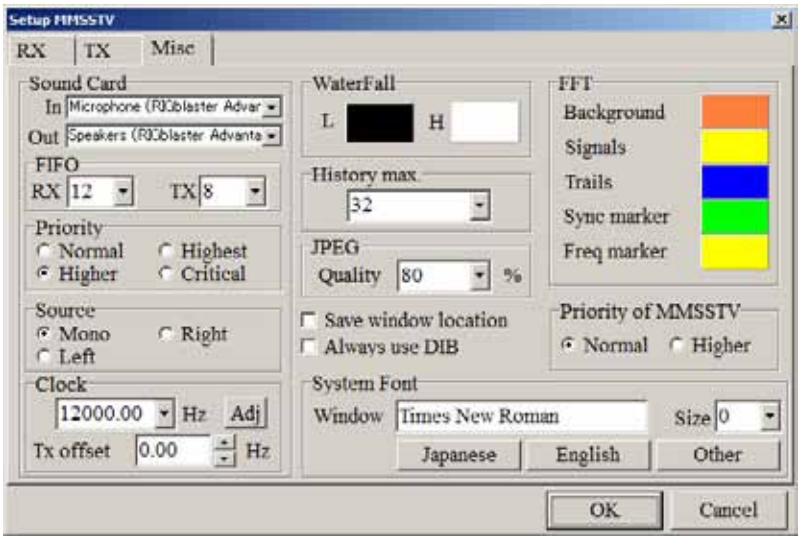
Configuring MMSSTV

1. Select the "Option" menu from the main MMS-STV window.
2. Choose "Setup MMSSTV(O)".
3. Select the "TX" tab from the top of the options window.
4. Assign the RIGblaster Advantage COM port to the "PTT Port" drop-down box.
5. Be sure to enter your callsign in this screen.



6. Click the "MISC" tab from the top of the options window.
7. Assign the RIGblaster Advantage Audio for both "In" & "Out" in the Sound-card section.
8. Select "12000" in the "Clock" drop-down.
9. Click on "OK" and an alert will show indicating MMSSTV needs to be restarted.
10. Exit and re-run the MMSSTV software.

MMSSTV is now ready to operate.

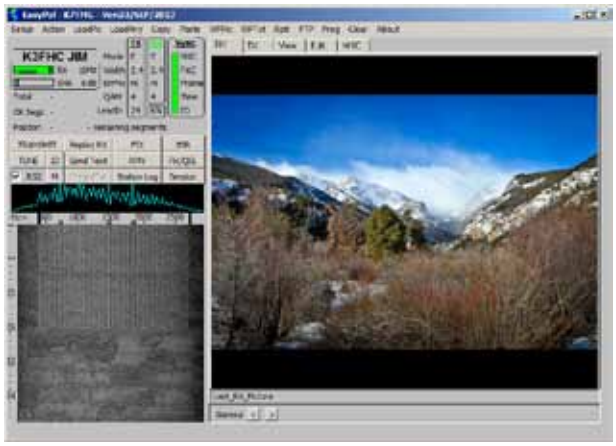


Most operation is on the 20m band (14.230usb). Tune there now to test the MMSSTV program on reception.

Before transmitting, it is recommended to check out the “SSTV Primer” by W4HIJ & W0EB available on Mako’s website if first-time operating SSTV. See http://hamsoft.ca/pages/mmsstv/sstv-primer.php

Keep in mind transmitting SSTV images will mean long transmissions at full duty-cycle, so limit the output power to safe levels recommended by the radio manufacturer.

EasyPal



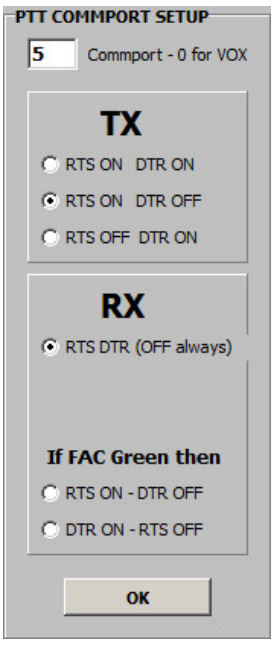
A recent development is digital SSTV. The current mode used is based on DRM encoding (Digital Radio Mondiale) and provides fast image transmission with the ability to request missing data. Images received are very high-quality and do not suffer from typical analog SSTV noise.

The RIGblaster Advantage is capable of operating digital SSTV in conjunction with the “EasyPal” software created by Erik Sundstrup (VK4AES).

The latest version of EasyPal is available to download from: http://www.kc1cs.com/

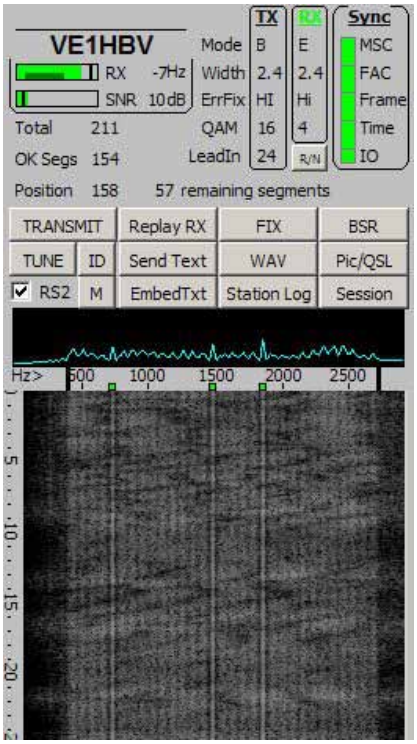
Configuring EasyPal For The RIGblaster Advantage

1. Open the “Setup” menu from the EasyPal main window.
2. Open the “Setup c/s-Soundcard-PTT” menu item.
3. Choose “Soundcard”.
4. A window titled “Soundcard” will appear. Assign RIGblaster Advantage Audio to both RX & TX boxes.
5. Click “Assign”.
6. Re-open the “Setup”/”Setup c/s-Soundcard-PTT” menu and this time choose “Use CommPort (PTT rts/dtr)”.
7. A window titled “PTT COMMPORT SETUP” will appear.
8. Enter the RIGblaster Advantage COM port.
9. Select the TX option “RTS ON DTR OFF”.
10. Select the RX option “RTS DTR (OFF always)”.
11. Click on “OK”.
12. Be sure to enter your callsign!

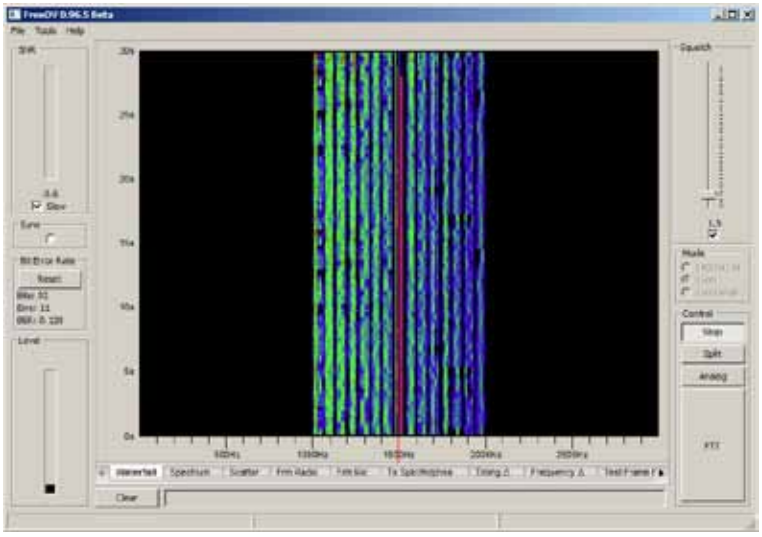


At this point you should be able to receive digital SSTV images.

Try tuning to 14.233(usb) which is the main 20m frequency in use.



FreeDV (HF Digital Voice)



An exciting new development is the FreeDV software created by David Rowe (VK5DGR) and David Witten (KD0EAG).

It uses a low bit-rate “codec” (also created by David Rowe) to transmit and receive voice communications digitally. This software is open-source.

Speech is compressed down to 1600 bit/s then modulated onto a 1.25KHz wide 16QPSK signal. Communications should be copyable down to 2dB S/N, and long-distance contacts are reported using 1-2 watts power.

In order to use the software, two sound cards are necessary. As an owner of the RIGblaster Advantage you’re in luck as you can use the sound card in the RIGblaster and your internal computer sound card to operate this remarkable mode.

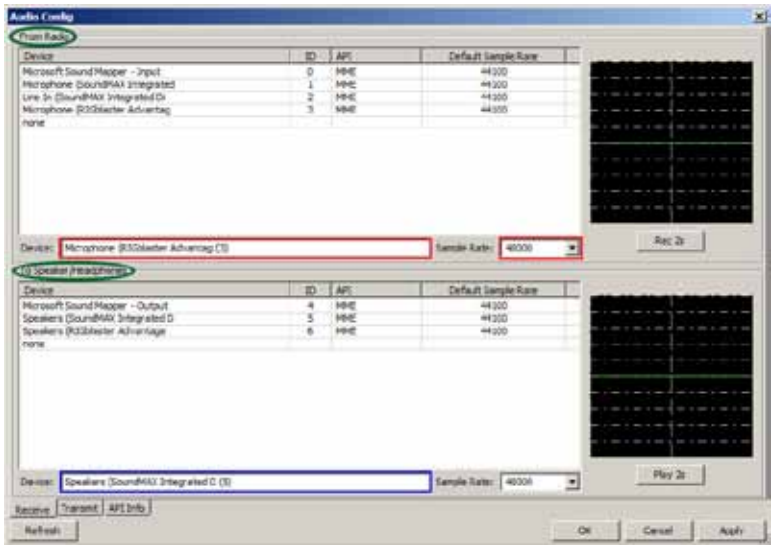
You will also require a computer microphone and these are easily available in your main street stores.

The software is in constant development so you are encouraged to download the latest version available from http://freedv.org/tiki-index.php

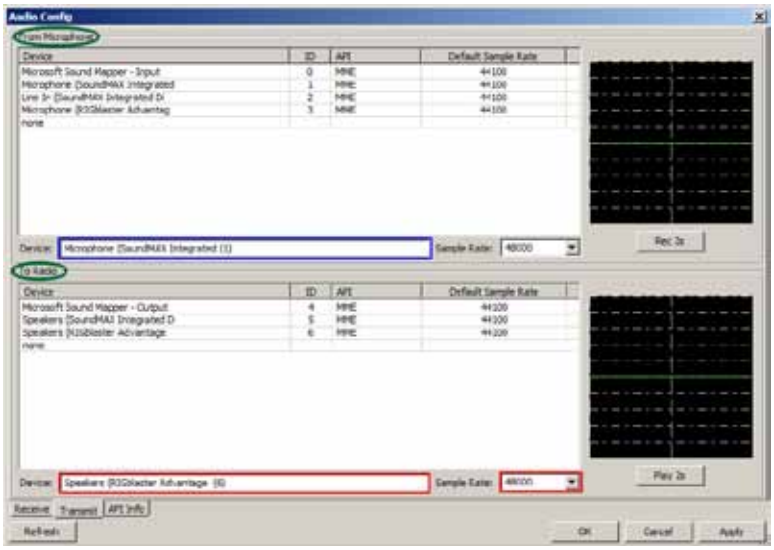
Configuring FreeDV With The RIGblaster Advantage

Because we have to specify two sound cards the setup for FreeDV is a little more difficult than normal.

1. Click on “Tools”, then “Audio Config” from the main FreeDV menu.
2. The “Audio Config” window will appear. Notice the tabs at the bottom left of the window.
3. Click on the “Receive” tab.
4. The top part of the window says “From Radio”. This is the sound card device used for reception of the digital signal.
5. Assign the RIGblaster Advantage sound card in the “Device” drop-down
6. Change the “Sample Rate” drop-down to 48000.
7. The lower part of the window says “To Speaker/ Headphones”. This is the sound card device you will actually listen to.

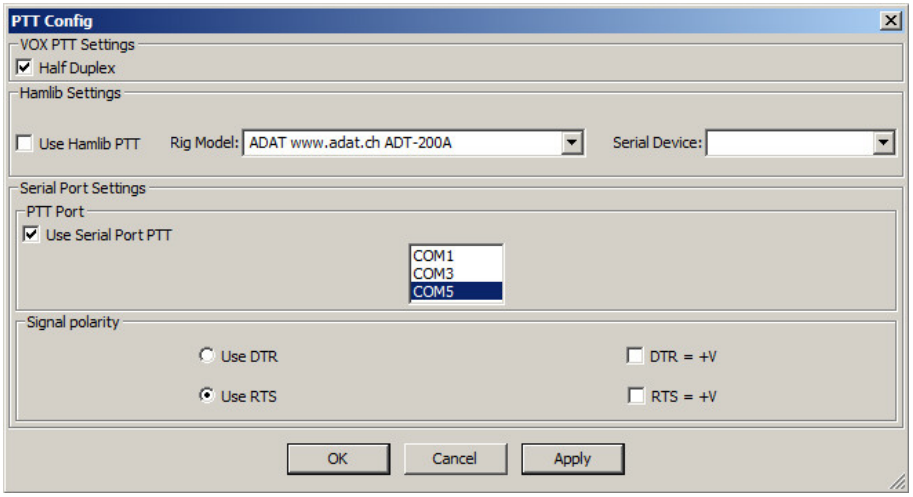


8. Assign your internal computer sound card in the “Device” drop-down.
9. Click on the “Transmit” tab (at the bottom left).
10. The top part of the window says “From Microphone”. This is the sound card device used to capture your voice (where you computer microphone is connected).
11. Assign your internal computer sound card in the “Device” drop-down.
12. The lower part of the window says “To Radio”. This is the sound card device used for transmission of the digital signal.
13. Assign the RIGblaster Advantage sound card in the “Device” drop-down.
14. Change the “Sample Rate” drop-down to 48000.



FreeDV PTT Setup

1. Click on “Tools”, then “PTT Config” from the main FreeDV menu.
2. Ensure “Use Serial Port PTT” is selected.
3. Select the RIGblaster Advantage COM port in the selection box.
4. Ensure “Use RTS” is selected.
5. Ensure “Use DTR” is not selected.
6. Ensure “DTR=+V” is not selected.
7. Ensure “RTS=+V” is not selected.



Hints For Operating FreeDV

The P(peak) to P(mean) ratio of the emitted FreeDV digital signal is high. Using your transceiver power meter, aim for no higher than 10% to 20% average output power or you will distort your signal.

There is a FreeDV quick start guide which is well worth reading at the following location:

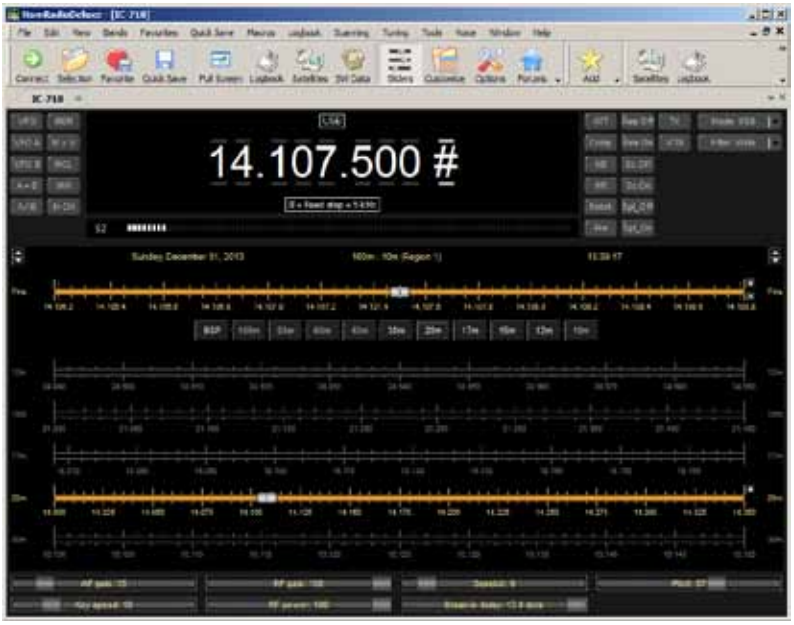
http://freedv.org/tiki-index.php?page=Microsoft+Windows+Quick+Start+Guide

Ham Radio Deluxe & DM-780

One of the best known rig-control programs is Ham Radio Deluxe (HRD).

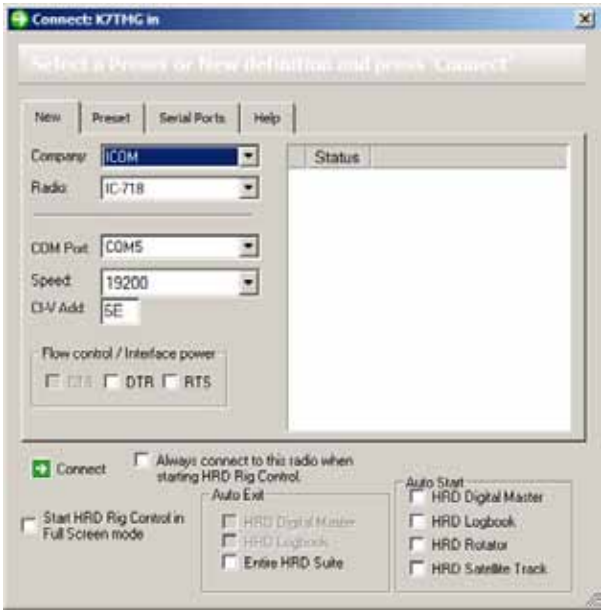
When installed and configured it allows for cruising the radio spectrum using nothing more than a keyboard and mouse. HRD maps many of the transceiver’s functions onto simple-to-access buttons on the main screen. If struggling to change some hard-to-find setting buried in the transceiver’s menu system, then Ham Radio Deluxe is the program to use!

Note: You will require one of the RIGblaster Advantage CAT cables to be connected for HRD to operate.



Configuring HRD

Upon the first run, a window similar to the one shown below will appear.



This is the new connection dialog and some settings must be specified here to get HRD to communicate with the RIGblaster Advantage and the transceiver.

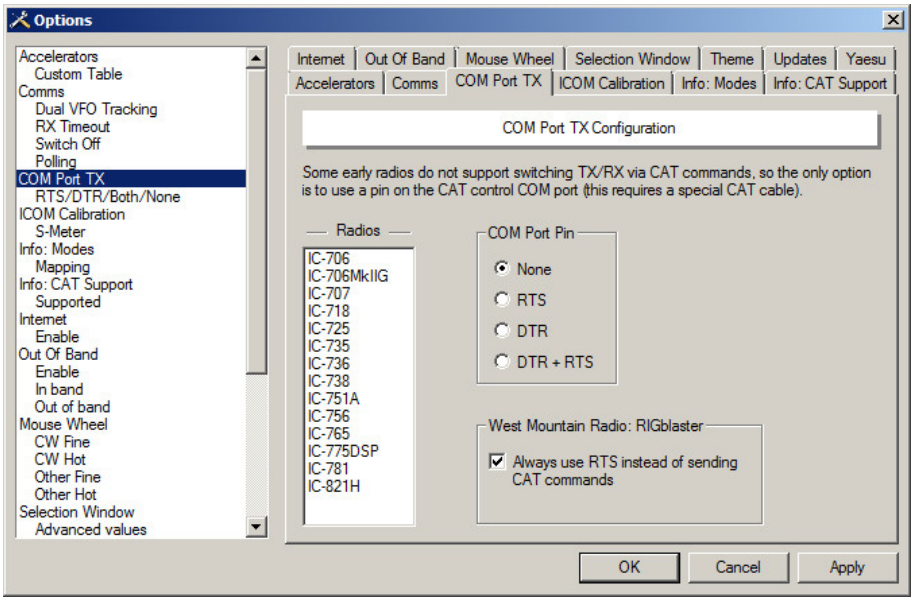
1. Choose the “New” tab.
2. Select the transceiver’s manufacturer in the “Company” drop-down.
3. Select the transceiver’s model in the “Radio” drop-down.
4. Assign the RIGblaster Advantage COM port in the “COM Port” drop-down.
5. Select the transceiver’s CAT baud rate in the “Speed” drop-down.
6. If using an Icom radio, assign its CI-V address in the “CI-V” text-box. HRD will provide a default value here which will work unless this setting has been altered in the specific radio in use.
7. Ensure that CTS,DTR or RTS are not selected.
8. Click on “Connect” to save this connection and start HRD.

After clicking on “Connect” the main HRD window should appear. Check that the frequency displayed is the same as your transceiver’s dial. From this point on, the transceiver is under the control of the PC and use of the frequency sliders and “push buttons” displayed in HRD will affect changes to the rig.

Setting Up PTT In HRD

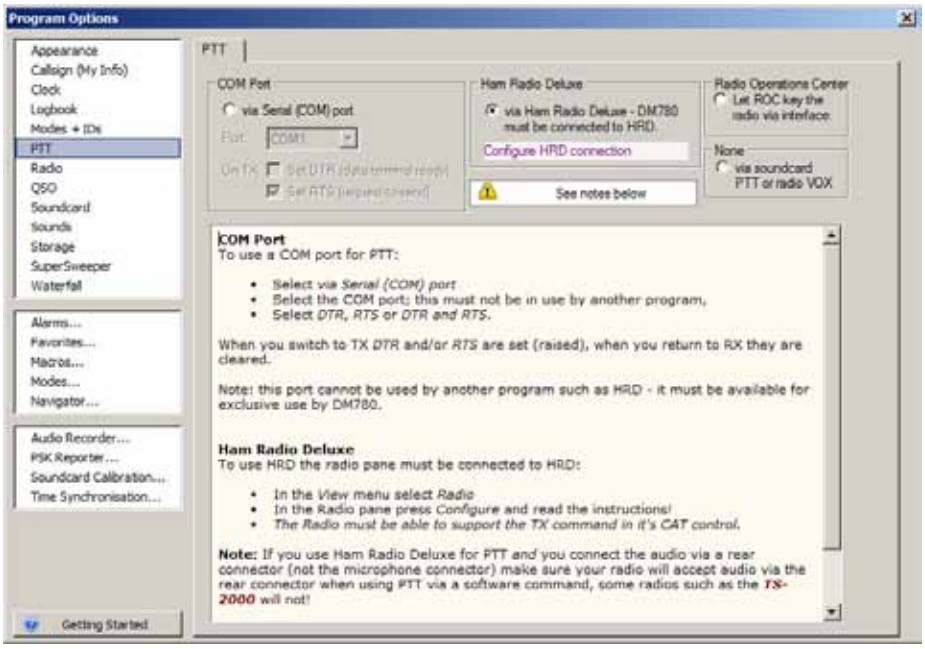
If using CAT through the RIGblaster Advantage you must configure PTT in the “Program Options” window.

1. Click “Tools” from the main menu and select “Program Options” (last item in menu).
2. The “Options” window will appear.
3. Select “COM Port TX” from the list shown on the left.
4. Select “None” for COM Port Pin.
5. Ensure “Always use RTS instead of sending CAT commands” is selected.
6. Click on “Apply” and “OK” to save the new settings.



Setting Up PTT In DM-780

1. In DM-780, click “Tools” from the main menu and select “Program Options”.
2. The “Program Options” window will appear.
3. Select “PTT” from the list shown on the left.
4. Ensure you select the option “via Ham Radio Deluxe - DM780 must be connected to HRD”
5. Click on “Apply” and “OK” to save the new settings.



HRD has many advanced features which are useful. The following is a list and short description of some of the more interesting features.

Bandscope
Captures audio from the RIGblaster Advantage while scanning between defined frequencies. The displays is shown on a constantly updating graph. A great way to visually see the activity on any band.

Rotator
HRD provides a nice interface to many antenna rotors for automatic control.

Satellite Tracking
HRD will automatically compensate for doppler-shift while tracking satellites.

IP Server
Provides a TCP/IP interface for remote station control. Use HRD to control your radio from anywhere with an internet connection

DM780
Digital Master 780 is a very feature-rich digital-Mode program. Operate PSK31 and many other modes while integrating logging with Ham Radio Deluxe. Consider trying the “Super Browser” which will decode multiple PSK31 transmissions simultaneously.

Additional Assistance or Technical Questions

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