

Ham Radio 'How-To' Guide

Winlink Express – Windows - Digirig

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"If it works out of the box – what fun is that?"

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A Note to New Hams and Non-Techies

If you are a new Ham licensee – congratulations and welcome to the world's greatest hobby. Those of you that already are Hams and do not have a lot of technical skills, the "How-To" series of documents was created just for you.

The technical side of Ham radio operations is very exciting. Pairing up modern computer technology with analog and digital Ham radio signals is an incredible achievement. It did not evolve, however, with the human in mind. In order to make a radio send digital data requires a number of individual components that must all be configured to work together. If one of these components is missing, or mis-configured, the system will simply not work.

This is what is so frustrating to new Hams and non-techies. The requirement to understand how each of the components work, and how to get them to work together is often a nightmare.

As you begin your journey to explore the technical side of computers and Ham radio, I urge you to be patient and not get frustrated. When you cannot get your system to work after hours of trying, you will probably think, "This is nuts!". You are absolutely right. Remember, *modern tech was not designed with the human in mind*.

If you are willing to take the journey into the technical side of Ham radio, I promise you will be rewarded. You will accomplish things you never thought a Ham radio could do, and you will learn – a lot. As you progress, you will get even hungrier for more knowledge. And the cycle continues.

I have experienced the frustration. There were times I felt like throwing my radio out the window. Yet I stuck with it. I did not give up. I asked for help from the more experienced. I 'squelched' my frustration. Over time, I gained a level of expertise that surprised me.

I remember the hard times. I want to make things easier for you.

I strive to create documentation that is clear, concise, and walks through every step of implementing technology that is new to you. Each document has lots of screen-shots, diagrams, process flows, and checklists. They were written to make you successful.

Introduction

This document is a member of the **N1SPW** 'How-To Series' of documents, created to fill the gap between *YouTube* videos and real life. I applaud all of my Ham colleagues that have created hundreds of great videos, visualizing how to accomplish some cool Ham technology hack.

Videos are great, but in most cases, they do not provide enough detail to get a system up and running. What seems to work without a hitch in the video, often becomes a nightmare when an average Ham attempts to recreate what they saw the presenter do.

To ease the frustration of "YouTube implementation pain" experienced by so many of us, my contribution to the Ham community is some long overdue documentation.

'How-To' Goal

The goal of this 'How-To' is to document the steps needed to send Emails on FM radio channels using Winlink Express, a Windows computer, and a Digirig. In short, I will show how to configure a Windows computer to send Winlink Emails using a Digirig digital audio device and a Baofeng UV-5R H/T. I chose these components because I want to open the world of Winlink to you using the smallest budget possible.

A secondary goal is to push new Hams and non-techies outside their tech comfort zone to learn new things.

Requirements

To send Emails via Winlink Express, there are a lot of parts that have to work together to achieve success. Your cost to deploy a Digirig setup should be less than \$100 USD not including your radio.

Digirig Mobile	\$49.97
Digirig Cable (e.g Baofeng)	\$29.97
USB Cable	\$9.97
	<hr/>
	\$89.91

I have broken these parts down into five categories:

1. Hardware
2. Software
3. Configuration
4. Radio/Comms
5. Operations

Hardware

The hardware you need includes the following:

- ✓ A computer running Window 10/11
- ✓ Digirig Mobile
- ✓ Digirig cable for your specific radio
- ✓ USB-C cable that works with a Digirig



Software

The software you need includes the following:

- ✓ Winlink Express
- ✓ Direwolf (Open-source software TNC)

Radio/Comms

For the radio will need the following:

- ✓ An FM radio transceiver (e.g. Baofeng UV-5R)
- ✓ A Winlink FM RMS (Gateway) within range
- ✓ Clean RF signal between your radio and the RMS

You must ensure all of the above play nice together if you want to send Emails over radio waves.

Step-1: Hardware

Windows 10/11 Computer

You need a Windows computer. The steps outlined in this document were performed on a Windows 11 laptop. You can also use a Windows 10 computer, but remember, Microsoft is dropping support for it on October 14, 2025.

Digirig

You can purchase a Digirig on [Amazon](#). I suggest you order one directly from the Digirig [web store](#); they are cheaper and *Digirig* does not have to pay Amazon's, fees so it keeps costs down. When you place your order, pay attention to the different CAT configurations. For most modern radios, you should select “Logic levels (default)”.

Digirig cable for your radio

You also need to buy or make a *Digirig* cable for your radio. You can find one for your radio at the [Digirig store](#). I use this black [Baofeng cable](#) for my UV-5R.

NOTE: Many of *Digirig's* cables work in multiple radios. For example, the cable kit for the Baofeng radios will work with my *Anytone AT-D878UV* radio. In fact, most radio's with the K1 connector (two prongs) will work with this cable kit. This is also known as a “Kenwood” cable.

USB-C cable that works with a *Digirig*

It is *critically* important that you find a USB-C cable that works correctly with a Digirig. Not all USB-C cables are the same. You can buy excellent [USB cables](#) from Digirig that have chokes on each end. If you have troubles getting your Digirig to work – the first thing to suspect is your USB cable.

Step-2: Software

Winlink Express

You need to create a Winlink account if you do not already have one. The easiest way to do this is to download and install [Winlink Express](#) on your computer. Once installed, run Winlink Express (Figure 1).

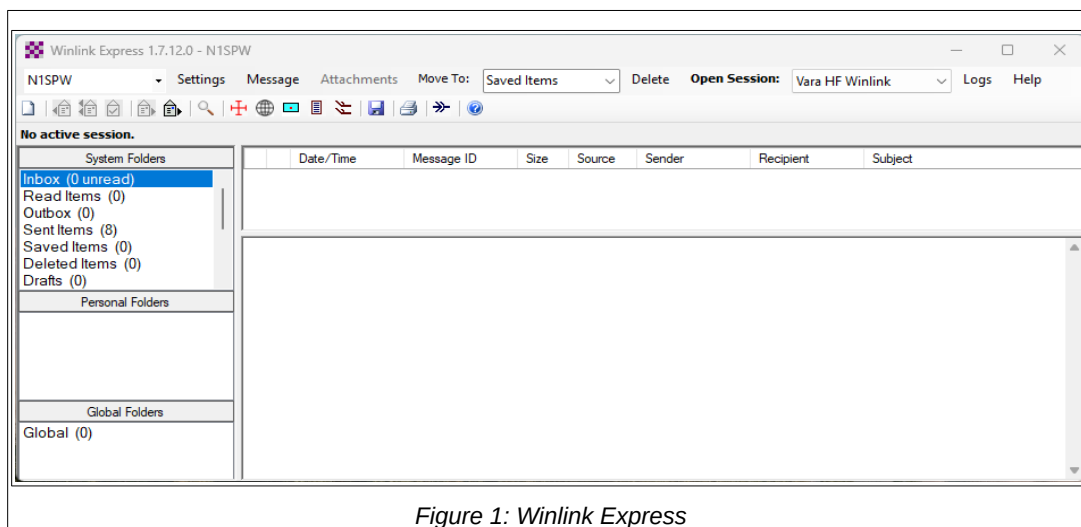


Figure 1: Winlink Express

Next, create a Winlink account. This can be done on the ‘Settings’ page. Click on the ‘Settings’ menu, and select ‘Winlink Express Setup’ (Figure 2).

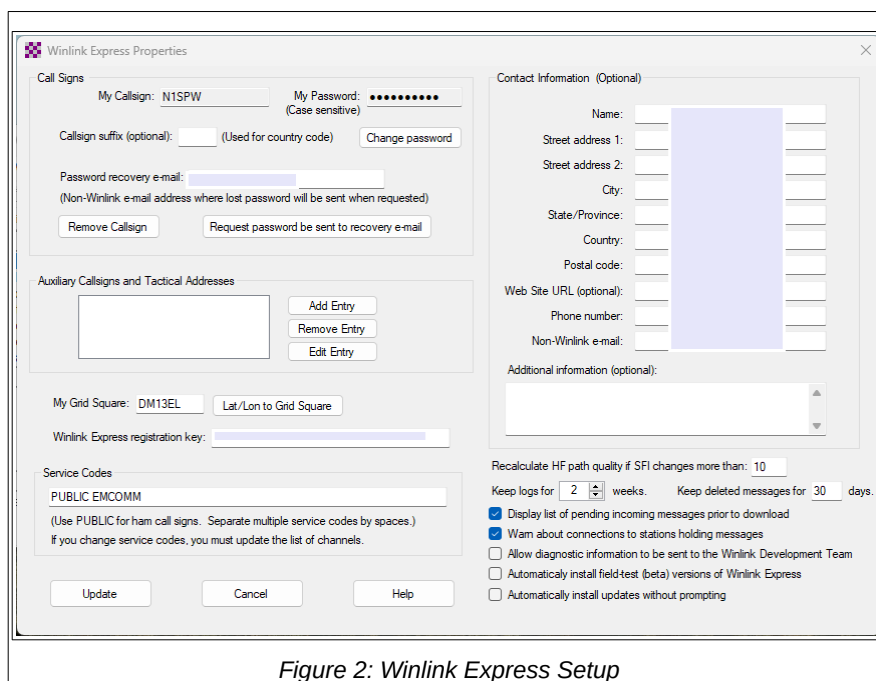


Figure 2: Winlink Express Setup

Fill in the required information:

- Call sign
- Password
- Password recovery Email address
- Grid square
- Service code(s)
- Contact information

Click ‘Update’. Your account will be created once verification of your Call sign is completed. Your Winlink Email address is your <call sign>@winlink.org. Winlink will send you an Email with your Winlink password. I strongly suggest you change it to something only you know.

I also suggest you read the Winlink documentation to get familiar with the program. At a minimum, you should

open a 'Telnet Winlink' session and practice sending Emails to/from your Winlink account and your personal Email account via the Internet.

Now that the dependencies are installed, let's install Direwolf.

Direwolf

[Direwolf](#) is an open-source application that fills the role of TNC (Terminal Node Controller). It is used to perform all the requirements of AX.25 packet management. Many Windows users use the application *SoundModem* for this. I prefer Direwolf because it is easier to use and configure.

Download the latest Windows version of Direwolf on Github: <https://github.com/wb2osz/direwolf>
On the right side of the landing page you will see "Releases". Click on the latest version (Figure 3).

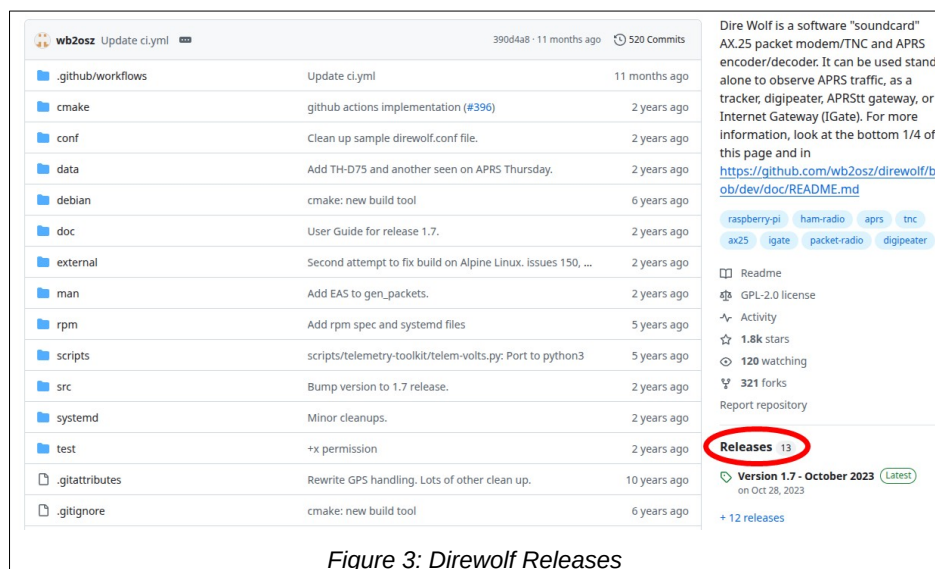


Figure 3: Direwolf Releases

Scroll down to the bottom of the page and download the X64 version of the software (Figure 4).

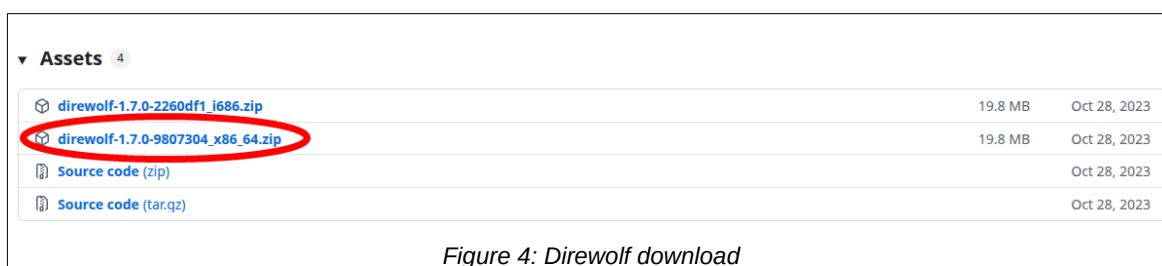


Figure 4: Direwolf download

Once the software is downloaded we need to put it somewhere. I suggest you create a folder named *direwolf* in the root of your *C:* drive (*C:\direwolf*). Next, copy the contents of the direwolf zip file to that folder.

NOTE: There are a lot of files in the zip file you do not need. The only files needed from the zip file is *direwolf.exe*, *direwolf.conf*, and the *data* folder with its contents.

Step-3: Configuration

Direwolf

The Direwolf configuration file is named *direwolf.conf*. It will be in the [C:\direwolf](#) folder or wherever you placed the direwolf zip file contents.

There are three (4) things Direwolf needs from you in order to operate correctly.

- Your call sign
- The baud rate of your packet communication
- The correct PTT setting
- The KISS port number

Open the Direwolf configuration file in a text editor.

Scroll down to somewhere around line 177.

Replace the NOCALL entry with your call sign (Figure 5).

```
170 #
171 # It can be up to 6 letters and digits with an optional ssid.
172 # The APRS specification requires that it be upper case.
173 #
174 # Example (don't use this unless you are me): MYCALL WB2OSZ-5
175 #
176
177 MYCALL N1SPW
178
```

Figure 5: MYCALL setting

Scroll down to somewhere around line 192.

Uncomment the line that contains the Baud rate you will use. In most cases this will be MODEM 1200 (Figure 6).

```
189 #
190 # In most cases you can just specify the speed. Examples:
191 #
192 MODEM 1200
193 #MODEM 9600
194
```

Figure 6: Modem speed

Finally, we need to determine how to activate the PTT (Push-to-talk) on your radio. We need to determine two things: What Com port and what USB port the Digirig was assigned by Windows. The Direwolf software will determine what USB port to listen on. We need to determine the Com port.

To do this, plug your Digirig USB cable into your computer. In the windows search bar start typing “device” and the *Device Manager* App will appear. Open it.

In the *Ports* section of the device listing, the Digirig will appear as “Silicon Labs CP210x USB to UART Bridge” and a port number.

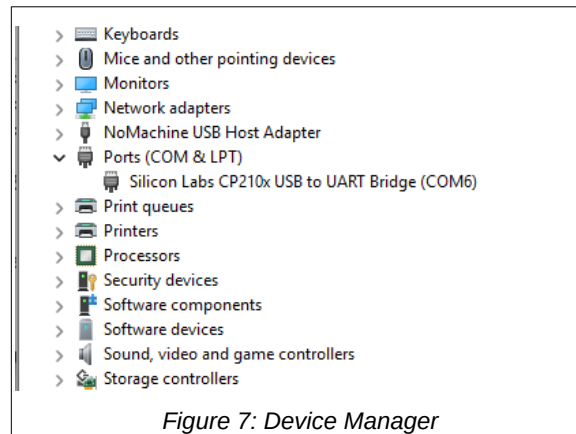


Figure 7: Device Manager

Around line 225 in the *direwolf.conf* file un-comment the PTT COMn RTS line. Replace the COMn with the COM port from the device manager. In my case it is COM port 6 (Figure 8).

```

217 # The transmitter Push to Talk (PTT) control can be wired to a serial port
218 # with a suitable interface circuit. DON'T connect it directly!
219 #
220 # For the PTT command, specify the device and either RTS or DTR.
221 # RTS or DTR may be preceded by "-" to invert the signal.
222 # Both can be used for interfaces that want them driven with opposite polarity.
223 #
224
225 PTT COM6 RTS
226 #PTT COM1 RTS -DTR
227

```

Figure 8: PTT setting

The last thing to configure is the KISS port number. Scroll down to around line 272. Make sure the KISSPORT setting is 8001 (Figure 9).

```

263 # Dire Wolf acts as a virtual TNC and can communicate with
264 # client applications by different protocols:
265 #
266 # - the "AGW TCP/IP Socket Interface" - default port 8000
267 # - KISS protocol over TCP socket - default port 8001
268 # - KISS TNC via serial port
269 #
270
271 AGWPORT 8000
272 KISSPORT 8001
273

```

Figure 9: KISS port

That is all that is needed to configure Direwolf.

Winlink Express

To configure Winlink Express, start the application. In the session type dropdown, select “Packet Winlink”, then click “Open Session” (Figure 10).

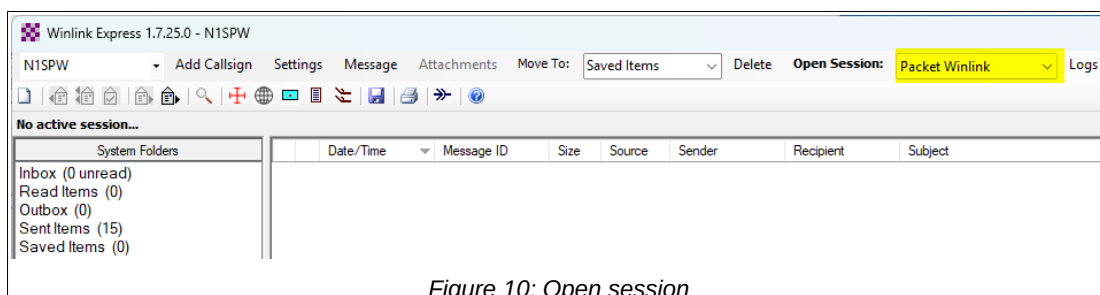


Figure 10: Open session

Click on “Settings” (Figure 11).

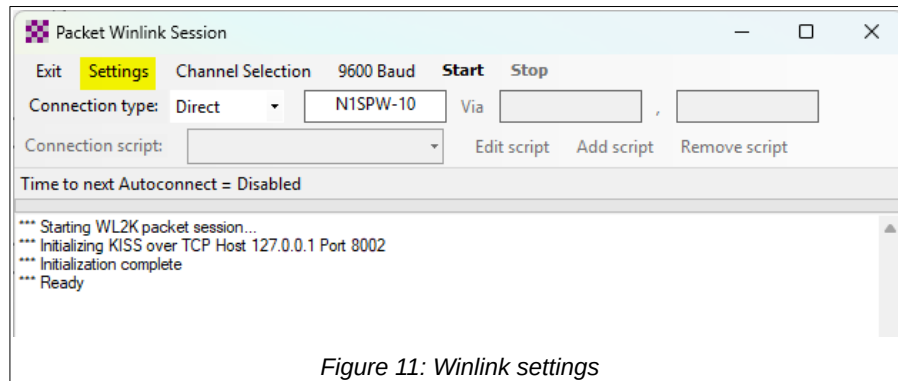


Figure 11: Winlink settings

Next, configure the TNC type.

Packet TNC Type: KISS
 Packet TNC Model: NORMAL
 Serial Port: TCP
 TCP Host/Port: 127.0.0.1 8001

Leave all other values at their default setting.

Click “Update” (Figure 12).

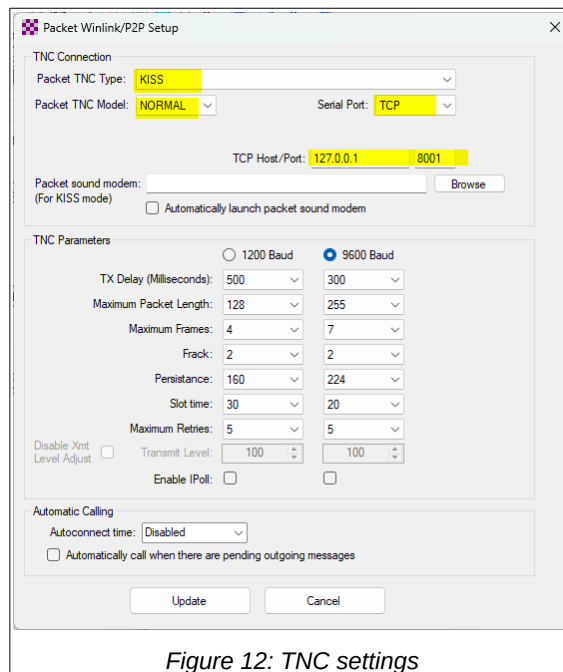


Figure 12: TNC settings

We need to make one more configuration setting. Direwolf and Winlink Express both use port 8001. Direwolf uses it for the TNC service, and Winlink uses it for form creation. So we need to change one of them. It is easiest to change the Winlink port.

In the main Winlink window – click on “Settings”. Then click on “Form settings...” (Figure 13).

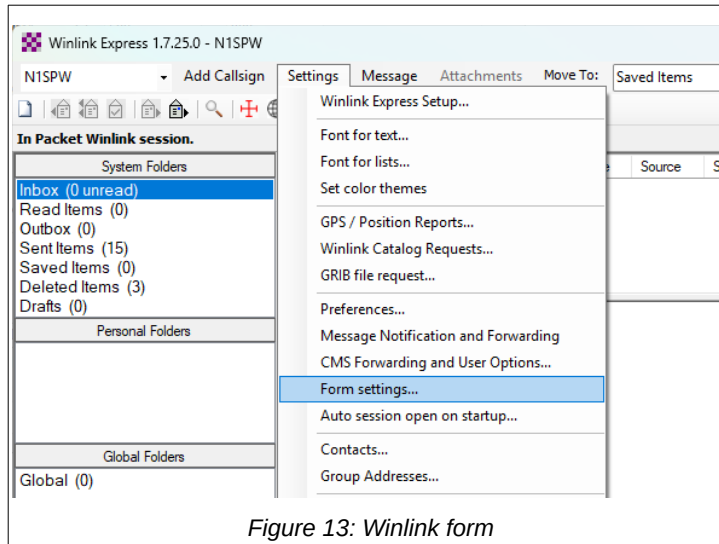


Figure 13: Winlink form

Change the “IP port of the form server” field from 8001 to 8010. Click “Save” (Figure 14).

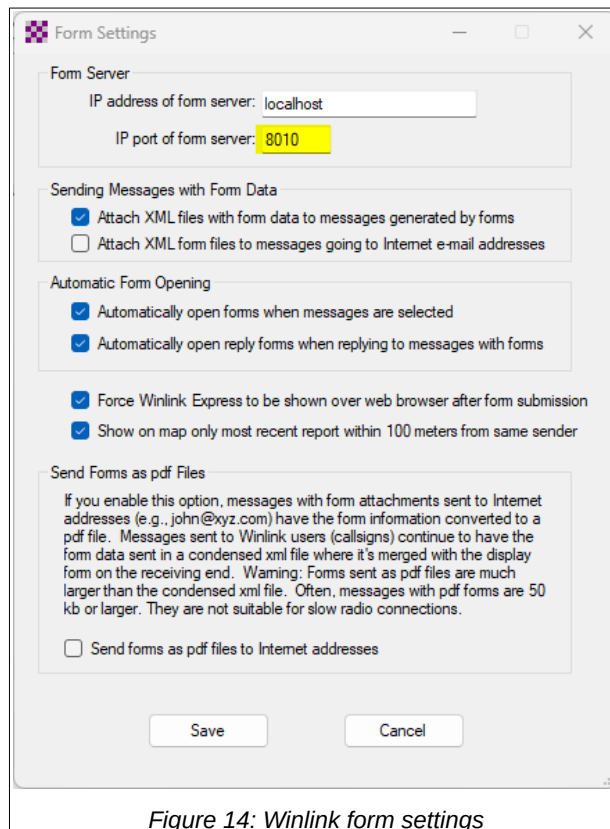


Figure 14: Winlink form settings

Step-4: Radio/Comms

Now that the required software is installed and configured, it is time to get on the air and send some Emails.

In this step we will do the following:

1. Configure your radio for Winlink packet mode.
2. Start Direwolf and ensure it connects to your Digirig.
3. Set proper volume levels.
4. Start Winlink Express and send an Email via the Internet.
5. Send a Winlink Email via radio to a local RMS.

1. Configure radio for Winlink packet mode

In this "How-To" I am using a Baofeng UV-5R. I have also successfully sent Winlink messages using an Anytone D878UV Plus, Yaesu FT-60, Vx-6R, FT-300D mobile and a Kenwood TM-D700 Amobile. In Appendix II, you will find the radio settings I use for each of these radios.

Refer to the Appendix II and configure your radio.

2. Start Direwolf and ensure it connects to your Digirig

Direwolf is a terminal application. There is no GUI. This is why I like it. It simply runs in a terminal window and tells you exactly what it is seeing and doing.

In file explorer, traverse to your [C:\direwolf](#) folder. Click on *direwolf.exe*.

Direwolf will look for audio devices on your computer. If more than one is found, Direwolf will prompt you for which one to use. In my case, there is only one soundcard, so Direwolf automatically selected it. (Figure 15).

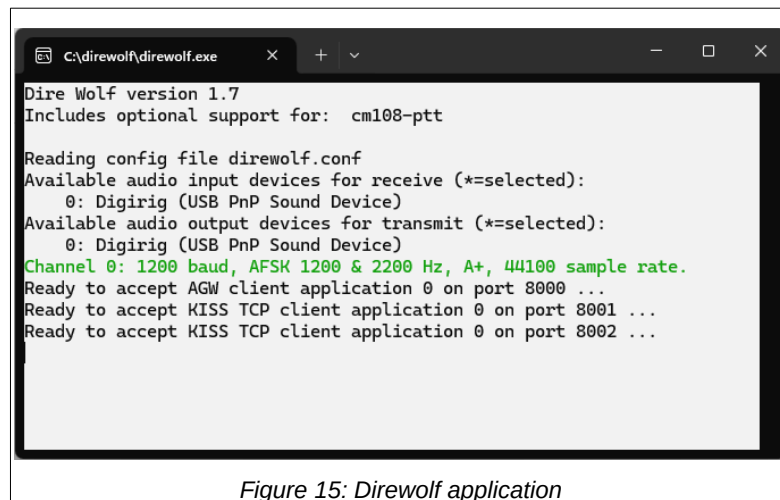


Figure 15: Direwolf application

Also notice in the above screenshot Direwolf has started a KISS TCP service on port 8001.

If Direwolf cannot find a soundcard or there are other problems, the program will stop running and tell you, in red, what is wrong. If you do run into problems, refer the Troubleshooting section in Appendix I.

3. Set proper volume levels

One of the most frustrating thing about Windows is the high number of places you can set audio controls. To cut down on the confusion, follow this simple advice.

On your Windows Desktop, right click anywhere on the background and select *New | Shortcut* (Figure 16).

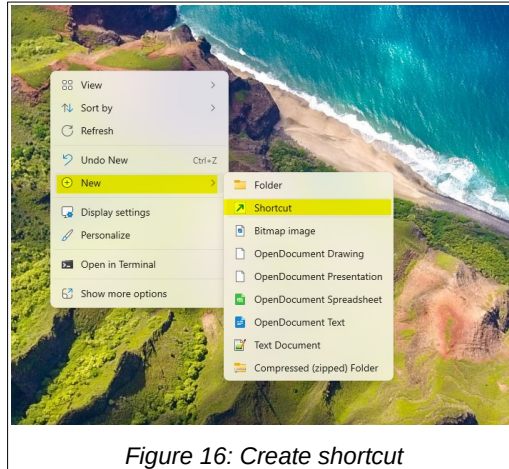


Figure 16: Create shortcut

Type in “C:\Windows\System32\mmsys.cpl” or browse to that file location and select it. Figure 17).

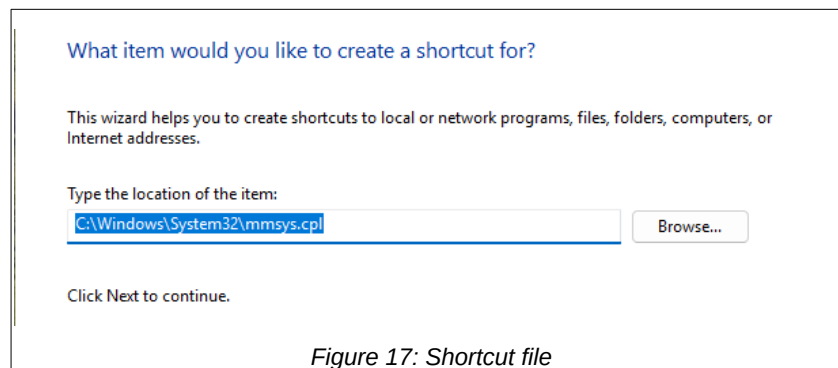


Figure 17: Shortcut file

Click *Next | Finish*.

You will now have a shortcut on your Desktop that opens the Sound control panel.

NOTE: If you want to change the Shortcut Icon, right click on the Shortcut. Select the *Shortcut* tab. At the bottom of the dialog click on the *Change Icon* button. You can select from a bunch of icons.

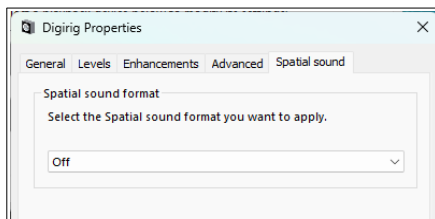
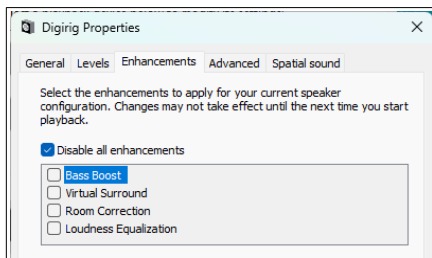
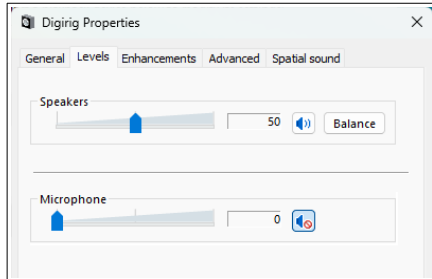
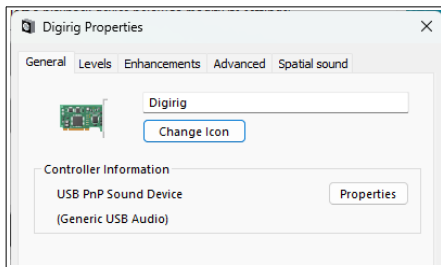
Click on your new Shortcut to open the Sound panel. Select the *Playback* tab. In the list, look for an item named “USB PnP Sound Device”. Double click on it.

I suggest you change the device named and Icon to make it easier to recognize. Change the name of the device to “Digirig”. Change the Icon to something you prefer (Figure N).

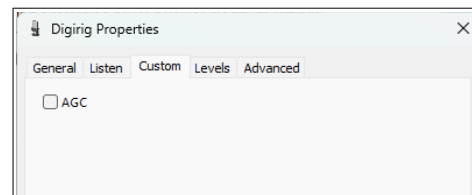
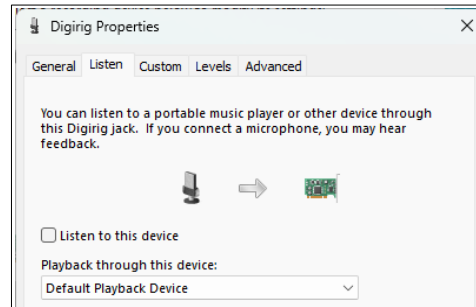
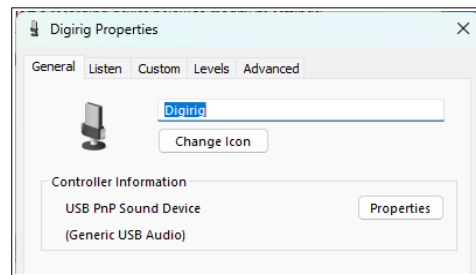
Select the *Listen* tab. Again look for the “USB PnP Sound Device” in the list and click on it. Change the name and Icon (Figure N).

Follow the screenshots on the next page and set your device to the same settings. The Speaker settings are in the left column and the Microphone settings are in the right.

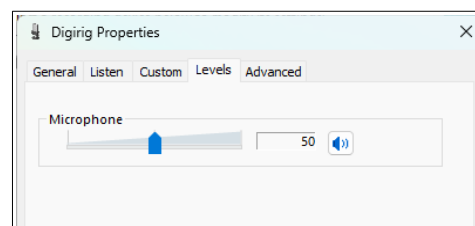
Digirig General (Speaker) Settings



Digirig Listen (Microphone) Settings



NOTE: Automatic Gain Control (AGC) must be unchecked or the audio will not work.



4. Send a Winlink Email via radio to a local RMS

You are now be ready to send a Winlink Email via your radio. For this step to be successful, you must be close enough to a Winlink RMS for your radio to connect. Remember, a typical H/T only transmits @5 watts, so the RMS must be pretty close.

Click on *direwolf.exe* in [C:\direwolf](#) to start Direwolf Make sure it start up without any error (Figure 18).

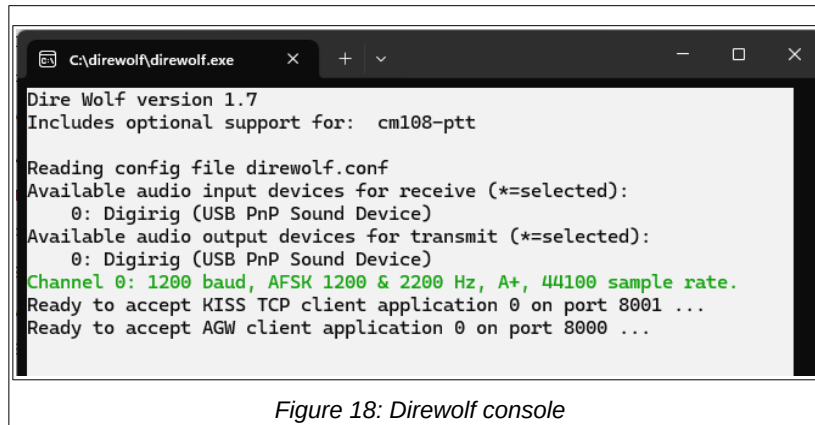


Figure 18: Direwolf console

Start Winlink Express and click on *Message | New Message* (Figure 19).

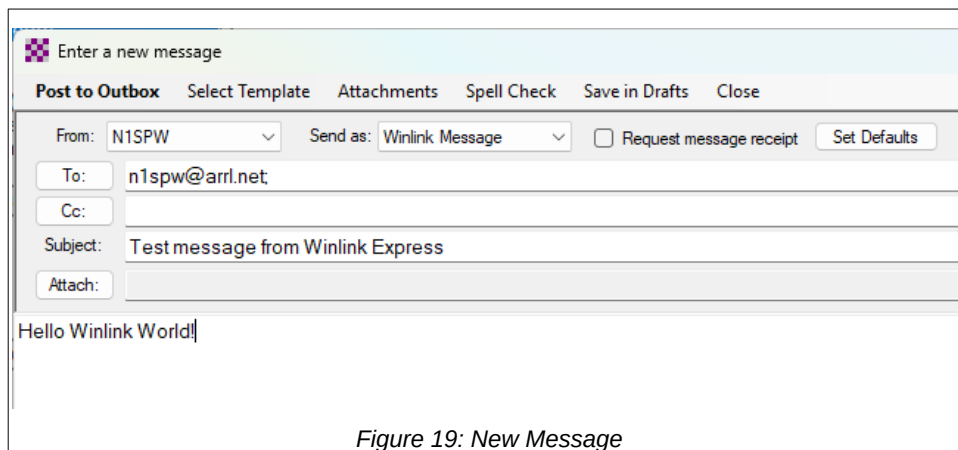


Figure 19: New Message

Create a test Email message and then click "Post to Outbox". You can see the message by clicking on the *Outbox* list item (Figure 20).

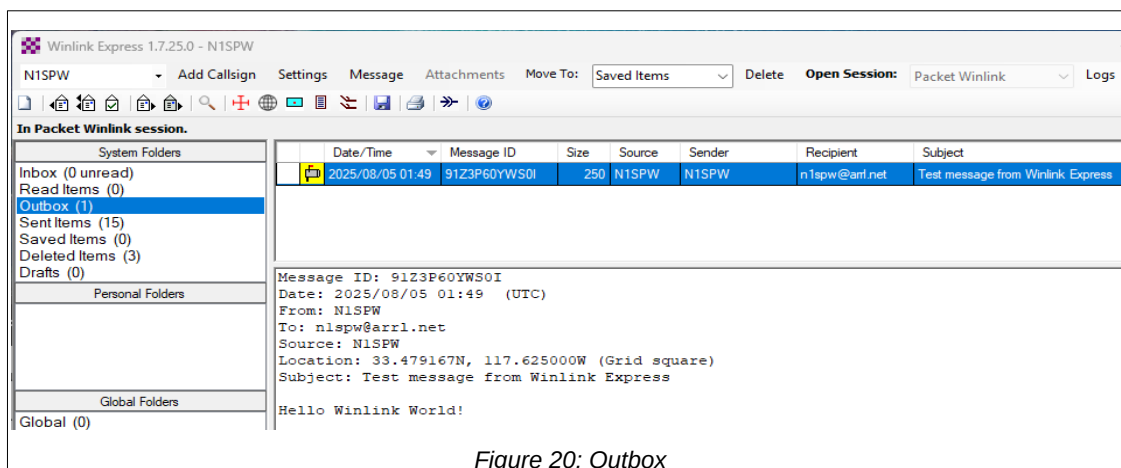


Figure 20: Outbox

Make sure your radio is properly configured, and it is securely connected to your Digirig. Turn the squelch on your radio to 0 (open).

Open a Packet Winlink Session by clicking on the *Open Session* button.

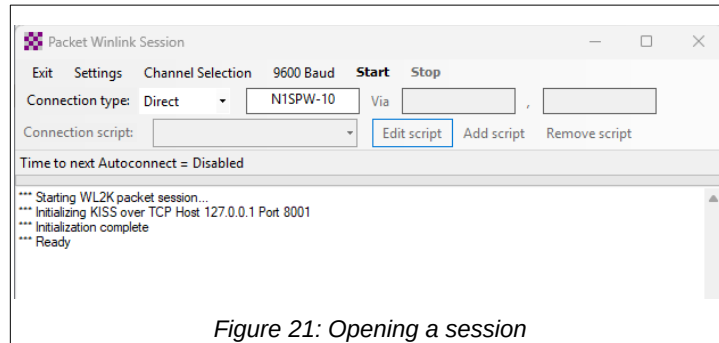


Figure 21: Opening a session

Click on the *Channel Selection* button and select an RMS that is close to you. Make sure your radio is tuned to the RMS channel. It is a good idea to tune another radio to the same frequency so you can monitor the audio.

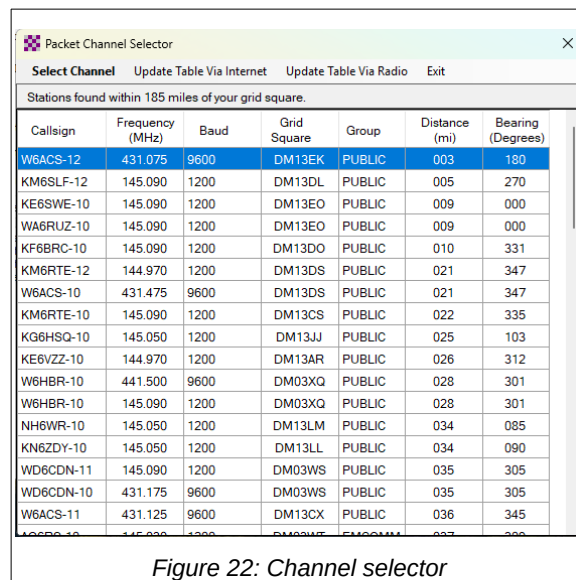


Figure 22: Channel selector

Click on *Start*. You should see connect messages in the Session console window (Figure 23).

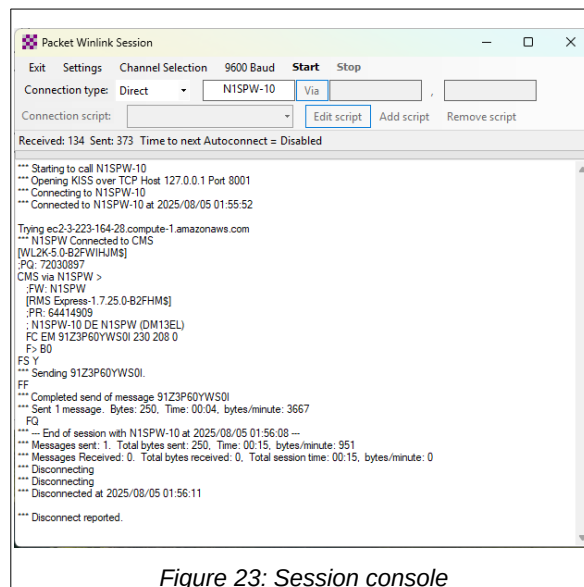
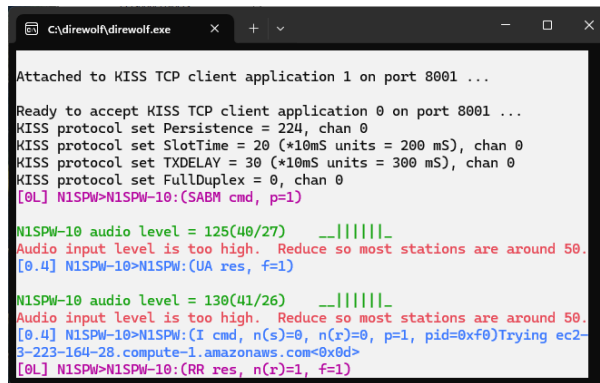


Figure 23: Session console

You should also see output in the Direwolf console (Figure 24).



```

C:\direwolf\direwolf.exe
Attached to KISS TCP client application 1 on port 8001 ...
Ready to accept KISS TCP client application 0 on port 8001 ...
KISS protocol set Persistence = 224, chan 0
KISS protocol set SlotTime = 20 (*10mS units = 200 mS), chan 0
KISS protocol set TXDELAY = 30 (*10mS units = 300 mS), chan 0
KISS protocol set FullDuplex = 0, chan 0
[0L] N1SPW>N1SPW-10:(SABM cmd, p=1)
N1SPW-10 audio level = 125(40/27)  __|||||_
Audio input level is too high. Reduce so most stations are around 50.
[0.4] N1SPW-10>N1SPW:(UA res, f=1)
N1SPW-10 audio level = 130(41/26)  __|||||_
Audio input level is too high. Reduce so most stations are around 50.
[0.4] N1SPW-10>N1SPW:(I cmd, n(s)=0, n(r)=0, p=1, pid=0xf0)Trying ec2-
3-223-164-28.compute-1.amazonaws.com<0x0d>
[0L] N1SPW>N1SPW-10:(RR res, n(r)=1, f=1)
  
```

Figure 24: Direwolf console

Success! Congratulations. Your hard work has paid off. You now have a working PAT-Winlink setup that you can use in the field.

Step-5: Operations

You need to ensure you can quickly get your Winlink station up and running in the future. For this, I like to use a checklist. Below are the things you must do to get your station up and running after the system is shutdown.

- ✓ Boot your Windows computer.
- ✓ Connect the Digirig to your radio.
- ✓ Connect the Digirig to your computer.
- ✓ Turn on the radio and open the squelch (0).
- ✓ Configure the correct sound levels (mmsys.cpl Shortcut).
- ✓ Start Direwolf by clicking on direwolf.exe in C:\direwolf.
- ✓ Start Winlink Express.
- ✓ Open a Packet Winlink session.
- ✓ Send and receive Emails.
- ✓ If Direwolf does not start, ensure the direwolf.conf file can find your Digirig device.
- ✓ If PTT does not work, ensure direwolf.conf file has the correct PTT setting for your radio
e.g. PTT COM6 RTS

There are quite a few steps to get up and running. Once you do it a few times, it goes very fast. Here are a couple of suggestions:

- You will need to adjust the sound levels for each radio you use. I ignore the Direwolf audio level warnings, and adjust the sound levels that work with each radio.
- Make sure the volume on your radio is correct. Set it to 50-60%. Baofeng radios need to have high audio settings due to their sketchy design. Correct audio settings on the computer and the radio must be at the correct levels or you will not connect to an RMS.

Wrap-Up

I hope you find this guide useful and that it helps you get a PAT Winlink station up and running.

My intent here is to provide some detailed, visual, documentation, to help new Hams or those do have little patience for the complications of technology. I also hope you learned something.

Please send corrections, comments, complaints, ideas, or any other feedback to: n1spw@arrl.net.

73,
N1SPW
Aug 9, 2025

Appendix I: Troubleshooting

Sending an Email via radio waves is a complex process. As you can see from the previous pages, there are a lot of parts that need to work together to get an Email from a radio to a recipient inbox. A lot can go wrong.

Depending on the issue you are having, the Internet support forums are a great help. Winlink and *Digirig* have very active forums that have experienced Hams ready to give you advice. Denis, the creator of the *Digirig* is very active in his support forum and has been extremely generous with his time and genius to help anyone who asks.

Based on my experience and digging around support forums, here are the areas that cause the trouble:

1. Direwolf configuration settings
2. Winlink Express settings
3. Push-To-Talk (PTT) setting
4. Volume controls
5. Radio comms
6. Connecting to a Winlink RMS

Direwolf configuration settings

If you cannot get Direwolf to start, it usually tells you what is wrong. In most cases, it cannot find the *Digirig* device.

Also, make sure you have a USB cable that works with the *Digirig*. I cannot tell you many times I have read in a forum the reason the *Digirig* did not work was because of an improper USB cable. Some USB cables are only wired for charging devices. These cables will not work with a *Digirig*. When in doubt, try a different USB cable.

Winlink Express configuration settings

Configuring Winlink Express is straightforward. If your system is not working, make sure your settings match those shown on pages 9-11. Winlink is very good at giving you hints at what might be wrong.

If direwolf is running and your radio is not transmitting the proper tones, make sure your volume settings are correct. Also close an open session and start a new one.

Push-To-Talk (PTT)

Getting the *Digirig* to send a serial PTT signal to your radio can be a challenge. I suspect this is the most common issue Hams have with the *Digirig*. Denis (*Digirig* creator) has done a great service building customized cables for so many radios. He also freely provides cable schematics, and encourages Hams to build their own cables.

I can only provide general advice here. The key is to ensure that the Direwolf PTT setting matches the USB port assigned to the *Digirig*. If you have trouble with PTT, sometimes it helps to unplug, then reconnect the *Digirig* USB cable from the computer. A reboot can also clear up problems if you have been making a lot of settings changes.

Also be sure the radio cable is securely seated in the radio. This is a particular problem for the Yaesu Vx-6R cable with a threaded tip.

Free Advice: If you are using a Vx-6R, I suggest you remove the o-ring from the *Digirig* cable. This will ensure the tip seats completely in the radio.

On many radios, you must enable/disable menu items to get PTT to work. In particular, you may need to ensure VOX is disabled.

If PTT is a problem for you, the Digirig support forum is the place to find detailed troubleshooting information for your particular radio.

Volume Control

Using the Windows sound control panel is a little clunky. Make sure you have right sound device selected [USB PnP Sound Device], and start with the speaker and microphone settings @y0. Also make sure the Auto Gain Control (AGC) Page 14.

If Direwolf complains lot about sound levels being too high, it usually means the volume on your radio is too high. Lower the volume on your radio in increments until the warnings disappear. I error on the sound settings being too high, than too low.

Also remember, you need to have the squelch on your radio set to zero.

Radio settings

You should not have to make a lot of changes to your radio setting to get all this to work. The way I determined what settings I needed for each of my radios was to reset them to factory default settings. Then I made as few changes as I needed to the default settings to get the rig to work.

You may need to experiment to find the right formula. One area to pay attention to is VOX and squelch tail elimination. The other is the radio volume level.

The key to radio settings is to ensure your audio volume levels are correct, and that you xmit a clear signal with a clean/fast break at the end. The xmit/rcv cycle between your radio and the RMS is near instantaneous. There can be no squelch tail, beeps, or anything else preventing your radio from instant rcv after a transmit.

One other thing that can catch you – repeater offsets. Be sure to observe your radio display when transmitting. If you see it switches channels on xmit, you have a repeater offset in play. You need to be sure you are in simplex mode on all frequencies when talking to an RMS.

As a final troubleshooting step, I again want to emphasize, the importance of having an distortion free radio signal and clean xmit cutoff.

In my opinion, if you can get the Digirig PTT circuit working with your radio, it should be able to send Emails on FM.

You can find the configuration setting for the radios I use in Appendix II.

Connecting to a Winlink RMS

Many Winlink users complain they cannot connect to a Winlink RMS even though they can hear their radio sending the packet tones. Everything seems to be working, but the RMS does not “answer”. Although this sounds dumb, are you sure you are close enough to the RMS that it hears you?

If you are trying to send Winlink Emails with an H/T, most H/T transmit at about 5W max. Unfortunately, this means your radio signal is not going to carry very far. Even if you hook your H/T up to a large and capable antenna, you are still only broadcasting @5 watts.

In other words, you need to be really close to the RMS for it to work. If possible, I suggest you get your Winlink station up and running on a 50W mobile radio, before experimenting with H/T's.

Appendix II: Radio Settings

This section contains a general guide on radio settings for Winlink communications. I have successfully sent Winlink messages with the below radios:

- AnyTone D878UV Plus
- Baofeng BF-F8HP
- Baofeng UV5R
- Yaesu FT-60 H/T
- Yaesu FTM-300D Mobile
- Yaesu Vx-6R H/T

You may be surprised to learn there are very few setting changes you need to make to get your rig to send Emails via Winlink Express. In fact, my Yaesu FT-60, and Vx-6R only needed the squelch to be set to 0 (Off) after a factory reset, and they were sending Emails.

To test the radio settings on my radios, I first reset them to factory specs. This ensured that all settings were at their default settings. Then I connected the correct Digirig cable to the radio and made sure it was secure. Finally, I tested each radio without making any changes. If it did not work, then I started to tweak settings.

Below are my recommended radio settings:

- The frequency you choose *must* be in simplex mode.
- The squelch should be turned off (Set to 0).
- PTT signal from your Digirig must work.
- VOX should be off.
- Dual-mode should be off.
- Power-saver mode on both Xmit and Rcv should be off.

NOTE: These settings are only a guide. Your radio may need other setting changes. Experiment until you achieve success.

If you have a radio that is programmed to your liking and you are not interested in a factory reset, I suggest you connect it to the Digirig and see if it works as is. If it does not connect to an RMS, then compare the radios factory default settings and see what is different.

NOTE: During all of the radio tests, I only changed out the Digirig cable for the specific radio I was testing. I did not have to change any of the Direwolf or audio settings on the computer. It just worked.

AnyTone D878UV Plus

To factory reset this radio you press the PTT and PF1 (Just below PTT) switches together and then turn on the radio. The radio will ask you to confirm a reset.

Set the clock time if desired (Menu | Settings | Radio Set | Other Func | 27-Time Zone & 29-Date Time).

Set VFO-A channel to the RMS channel (e.g 145.090)

Set Analog mode (Menu | Settings | 2-Channel Set | 3-Channel Type | 1-A-Analog).

Set Squelch level (Menu | Settings | 1-Radio Set | 4-Other Func | 6-Ana Sq Level | 1-Ana SQ Off).

Without any other changes, I was able to connect to an RMS and send an Email.

Baofeng BF-F8HP

I reset the radio and turned the squelch to 0.

Set Squelch level (Menu | Item-0 | Set to 0 | Menu)

Turn the radio volume to about 75%.

Adjust the Tx power to fit the distance from an RMS.

NOTE: Baofeng radios require the H/T volume setting to be quite high to connect to an RMS.

I was able to connect to an RMS without any other changes. Some Internet chats suggest you need to turn squelch-tail-elimination off (Menu Item 35).

Baofeng UV-5R

To my surprise, this radio sends Winlink messages just fine. To factory reset this radio press Menu, then scroll to Item 40. Press Menu twice. When the radio reboots perform the following:

Set Squelch level (Menu | Item-0 | Set to 0 | Menu)

Turn the radio volume to about 75%

NOTE: Baofeng radios require the H/T volume setting to be quite high to connect to an RMS.

I was able to connect to an RMS without any other changes. Some Internet chats suggest you need to turn squelch-tail-elimination off (Menu Item 35).

Yaesu FT-60

This H/T is one of my favorite radios. I highly recommend this to new Hams as their first radio.

To factory reset the radio, hold down the monitor button just below the PTT, then turn on the radio. Select item number 4 from the list. Press and hold the F/W button until the radio reboots.

When the radio reboots perform the following:

Set Squelch level to 0 (Collar dial on top of radio all the way to the left).

Turn the radio volume to about 60%

Adjust the Tx power to fit the distance from an RMS.

I was able to connect to an RMS without any other changes. Yaesu radios seem to work right out of the box.

Yaesu FTM-300D

This is a mobile rig. There are a lot of settings to this radio, but it connects to an RMS after a factory reset without any configuration changes. There is one thing to note here. This radio will only do digital on VFO B. This means the active VFO must be the bottom one set to the correct frequency for the RMS.

Yaesu Vx-6R

I own three of these radios. When I go into the field, this is the radio I take with me.

To factory reset the radio, hold down the monitor button just below the PTT, then turn on the radio. Select item number 4 from the list. Press and hold the F/W button until the radio reboots.

When the radio reboots perform the following:

Set Squelch level to 0 (F/W | Monitor button below PTT | Turn collar knob on top of radio to the left).

Turn the radio volume to about 60%.

Adjust the Tx power if needed (F/W | TxPO | Turn collar knob on top of radio to desired power setting).

I was able to connect to an RMS without any other changes.