

WINLINK

Email for Hams

Why WINLINK for ARES?

- Messages by voice:
 - Slow
 - Error-prone
 - Complex specialized skills with vocabulary, prowords, etc.
 - Limited to text.
- Messages by email:
 - Efficient use of limited air-time resources
 - Uses much less time on a given radio channel
 - Clear and unambiguous
 - Email skills are common
 - Can transmit photos, video, etc.

What's Next In This Course?

- Setting up the Winlink Express client on your system
- Familiarization with the Winlink Express email client
- Using ordinary Internet (telnet) to send/receive messages
- Connecting Winlink to your radio

Winlink vs Winlink Express

Winlink

...is a **network of amateur radio** and authorized government stations that provide worldwide radio email using radio pathways where the internet is not present.

.. it supports email with attachments, position reporting, weather and information bulletins

Winlink Express

... is one of multiple client software options

... is the only client program with **everything** Winlink offers. Easy to set up, learn and use. Fully supported. (It supports email with attachments, position reporting, weather and information bulletins, emergency communication features, VARA support, and so much more)

There are alternatives

- Outpost, WoAD (android), Pat (linux, mac), paclink

Winlink Network components



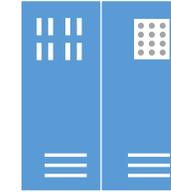
Client

- Winlink Express (software)
- Client side/user program to access emails
- Software custom build for (emergency) radio operations
- **Windows only**
- **THIS IS YOU**



RMS/Gateway

- Relay Message Server
- Makes internet access to CMS accessible via radio
- Local message store capability
- Small server software



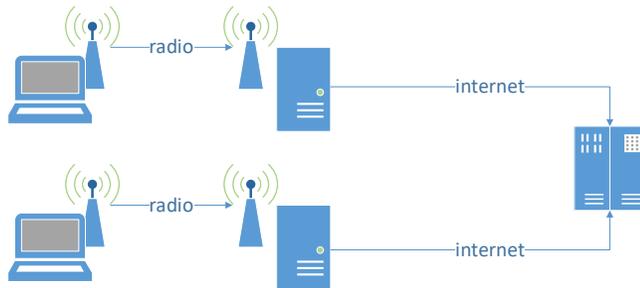
CMS

- Common Message Server
- Central message repository (this is where you winlink messages sit)
- Redundant message store (currently on amazon cloud)

Winlink Network operating options

Conventional Mode

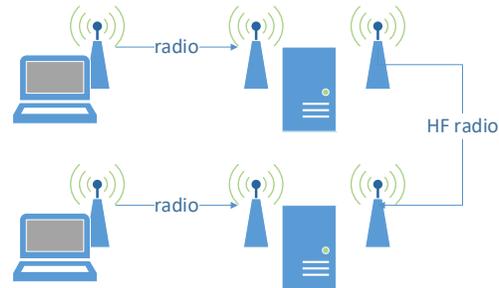
- Preferred mode



- Requires internet at RMS location
- 99.99% available

Radio only mode

- No single point of failure



- Requires RMS stations and HF interlinks between RMS stations
- Hybrid with conventional mode supported
- Try using “radio-only messages”

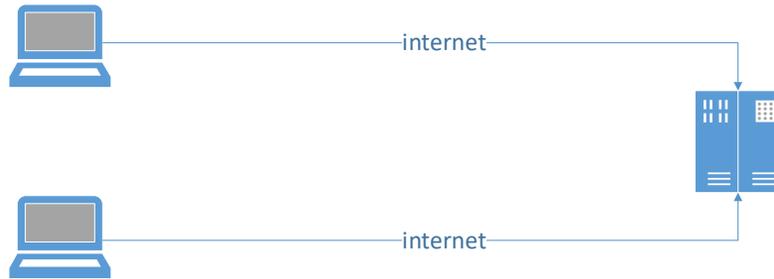
P2P mode

- Like simplex operation



- Both stations must be on the air, on the same frequency, at the same time
- Messages are directly passed between clients

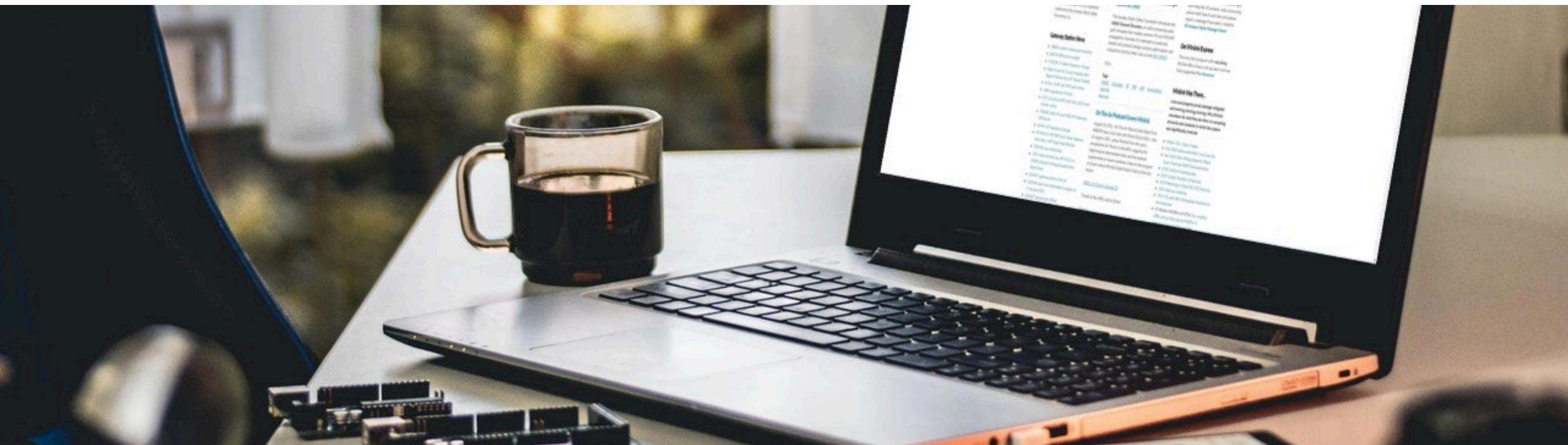
Operation mode: internet only/telnet



- Test and verify Winlink express software
- Access Winlink mail without using radio if internet is present
- You can watch an online map of the activities [here](http://winlink.org): winlink.org → Tools → Cnx Map

1. Winlink opens a telnet session
2. telnet opens a TCP session
3. email is transmitted via internet to CMS

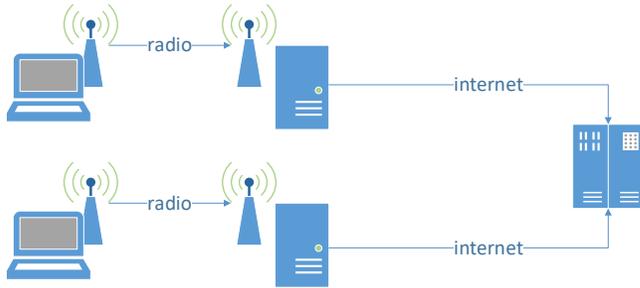
Demo – over to Roberta



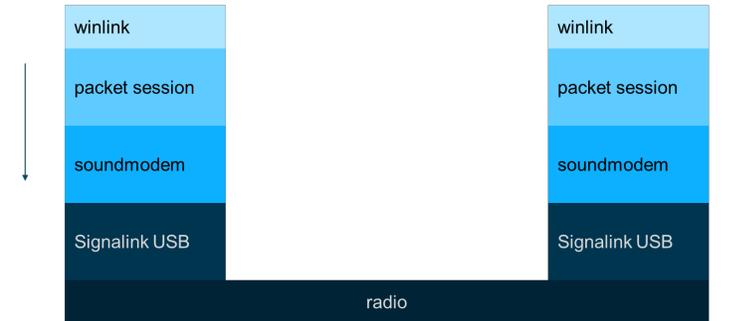
So how do we get on the radio?



Operation mode: conventional

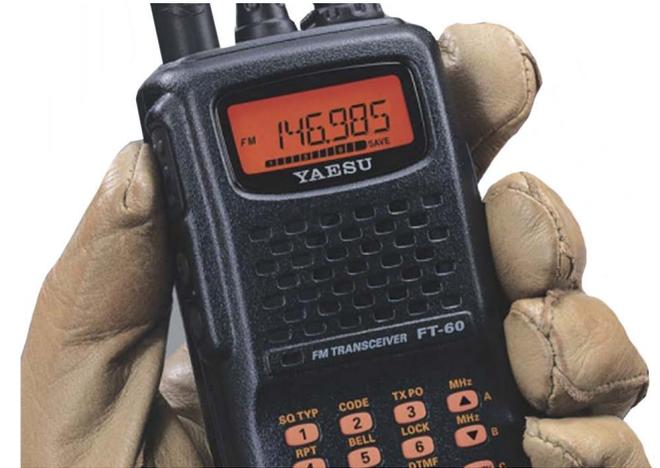


- Send your email to an RMS for relay to CMS
- Access emails if RMS has internet – no internet connection need for client
- VHF and simple hardware requirements
- Hardware “quasi standard” for emergency communication scenarios



1. Winlink opens a packet session
2. Packet session is turned into audio signals using software (soundmodem)
3. Soundmodem sends audio to VOX enabled soundcard (Signalink USB)
4. Signalink USB controls PTT and audio levels
5. Audio stream is transmitted via radio

So what do you need for the next session?



Computer running Windows

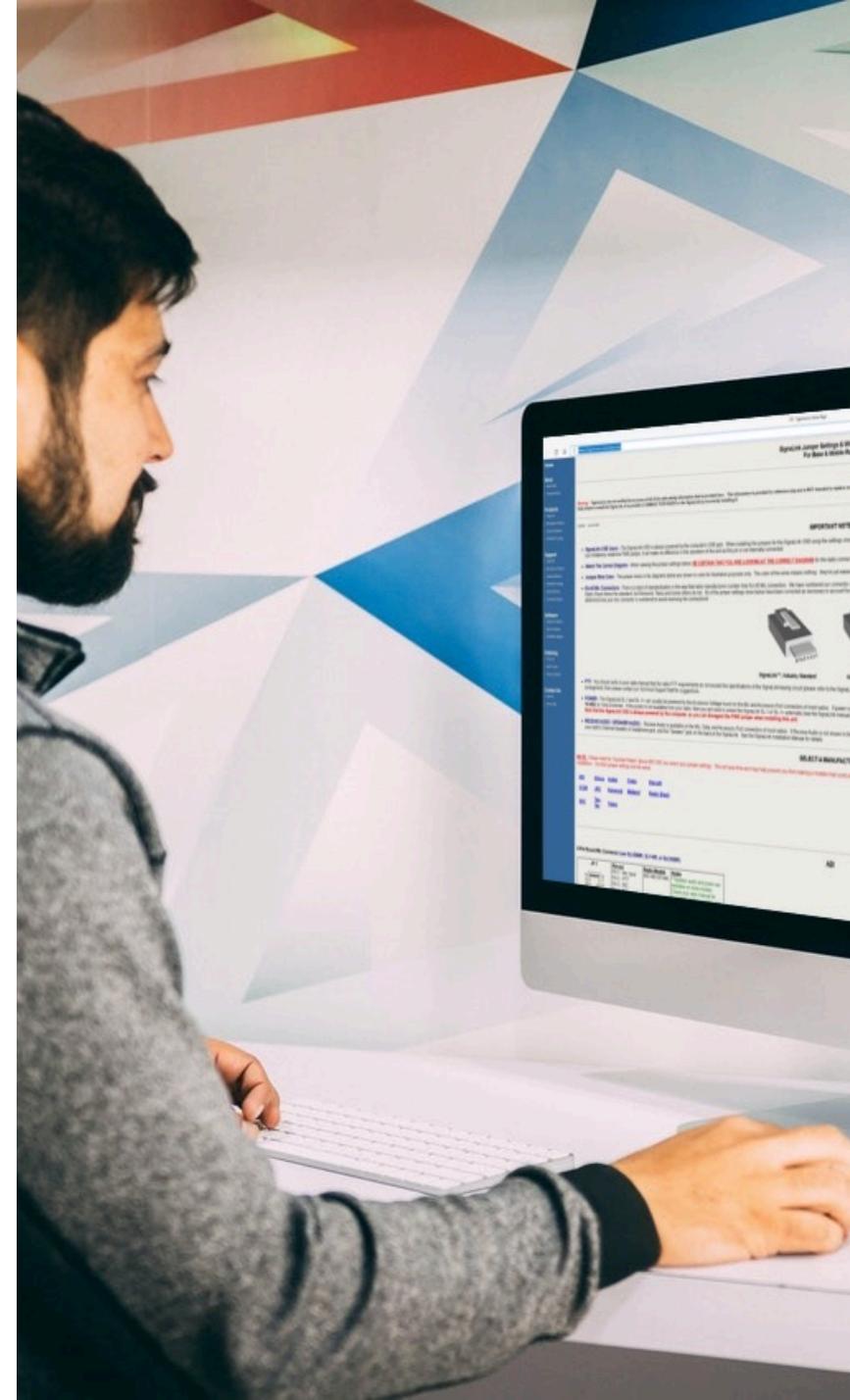
- Windows Laptop
- Mini PC w/ windows
- Mac with VM or dual boot

- Very lightweight TNC alternative
- TNC functionality is provided via software while SignLink USB provides PTT/VOX and soundcard features

Your VHF/UHF radio
(technically HF works too..)

Ordering the right Signalink Package

- [Tigertronics Home Page](#)
- Signalink uses Jumper Settings and has notes for your mobile/base radio
 - https://tigertronics.com/sl_wirebm.htm
- Check out the Product Guide:
 - [Signalink USB Product Guide \(tigertronics.com\)](#)
- Check with your elmer before ordering
 - Signalink USB with cable
 - Jumper Module (or you jumper manually)
- **DO NOT BUY OLDER MODELS**



Elmer assignments and next steps





WINLINK Global Radio Email

winlink.org

Starting with Telnet (no radio needed) we will:

Set up and create an account

Set up for telnet

Send a message in telnet using message passing form ICS-213

Roberta, AJ6KN@slvares.org

First, go to Winlink.org Main page.



- > [My Account](#)
- > [Tools](#)
- > [News](#)
- > [Positions](#)
- > [User Programs](#)
- > [Book of Knowledge](#)
- > [Download](#)
- > [Support](#)

Winlink Global Radio Email®...

...is a network of amateur radio and authorized government stations that provide worldwide radio email using radio pathways where the internet is not present. The system is built, operated and administered entirely by licensed "Ham" volunteers. It supports email with attachments, position reporting, weather and information bulletins, and is well-known for its role in interoperable emergency and disaster relief communications. It is capable of operating completely without the internet--automatically--using smart-network radio relays. Licensed Winlink operators/stations use both amateur

Introducing the IONOS Simulator



Fast Info...

- Support Winlink: [Register](#) your program
- **Lost Registration Key?** [Log in](#). It's on your account page.
- Callsign change? [What to do. How to do it.](#)
- Which bands are open? [Propagation Map](#)
- [HTML Forms and Forms not in the Express Standard Library](#)
- No internet? [Winlink Hybrid Network](#)
- [Become a Winlink Gateway Sysop](#)

Open Message Viewer

All messages passing through licensed US



- > My Account
- > Tools
- > News
- > Positions
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Click on My Account to open and register

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Open Message Viewer

All messages passing through licensed US

Winlink Accounts...

...are created with a client program. *You can not create one here.*

We require

- A valid amateur radio license, or
- a license from a participating government service or agency. *Ship station, marine or general radiotelephone licenses DO NOT qualify.*

How To Get an Account

- Download, install and configure any [client software](#). We suggest [Winlink Express](#). Study its help about installation and use.
- **If using Winlink Express**, with an internet connection fill out the form presented on first startup after installation. See the help article "Basic Configuration" for guidance. Be sure to include a password and password recovery address. Click 'Update'. Winlink Express makes the process easy. Your account is created!

My Account

Username (Callsign) *

Enter your Winlink Global Radio Email username.

Password *

Enter the password that accompanies your username.

Log in

Password Assignments & Recovery

Forgot your Winlink password?

We will send it to your account password recovery address, or your @winlink.org address if you have not supplied one.

Callsign (Username) *

Send my password

1st,
download
Winlink
Express as
indicated by
the arrow

Scroll down the page to the Download link near the bottom (see arrow bottom right)

The screenshot shows the top portion of the Winlink Express website. At the top is the Winlink logo with the tagline "Global Radio Email". Below the logo is a navigation menu with links for My Account, Tools, News, Positions, User Programs, Book of Knowledge, Download, and Support. The main heading is "Winlink Express". Below this, there are two paragraphs of text describing the software's features and capabilities. The first paragraph mentions it is the preferred client for emergency communications and supports various protocols. The second paragraph describes its built-in features like attachments and GPS reporting. The browser's taskbar at the bottom shows the time as 12:03 PM on 2/10/2022.

This screenshot shows the lower portion of the Winlink Express website. It contains detailed information about the software's system requirements, including supported operating systems and hardware needs. Below this, there is a section titled "Winlink Express Includes:" which lists features like customizable HTML forms and a message log report generator. At the bottom of this section, there is a "Download" heading followed by a blue hyperlink: "Winlink Express (current production version)". A red arrow points to this link from the right side of the page. The browser's taskbar at the bottom shows the time as 12:04 PM on 2/10/2022.

System Requirements: Microsoft-supported 32 or 64 bit Windows OS (Windows Vista, Windows 7, 8, 10 or Windows 2003 Server, or later, or under Windows on Apple Mac and Linux machines using a VM engine or dual boot arrangement. *Windows XP or earlier OS are not supported.* The program makes minimal CPU demands except in modes using sound card modems. The heavy DSP demands of these modes require a computer of at least 700 MHz Pentium/Celeron class and at least 512 Meg of memory. It runs v... e running concurrently, we recommend a fast computer with extra RAM.

Winlink Express Includes:

Built-in Customizable HTML Forms allow check boxes, and more. Further, lightweig electronic form with a browser. A large, au templates are transportable across a radi

Built-in Message Log Report Generator cr compliance and comma-separated text fil Deleted items).

Download

[Winlink Express \(current production versi](#)

Open File - Security Warning

Do you want to open this file?

Name: ...oberta\Downloads\Winlink_Express_install_1-6-1-0.zip
 Publisher: **Unknown Publisher**
 Type: WinZip File
 From: C:\Users\Roberta\Downloads\Winlink_Express_install_1...

Always ask before opening this file

While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not open this software. [What's the risk?](#)

form widgets like selection boxes, y read at the other end inside the inlink Express. And, the forms and erates ICS-309 reports for ICS box, Sent items, Saved items, Drafts,

Amateur Radio Safety Foundation, Inc.

Winlink Global Radio Email® is an all-volunteer project of the [Amateur Radio Safety Foundation, Inc.](#) (ARSEF), a non-profit public benefit corporation with

The Winlink Development Team

The Winlink radio email system and software are built, maintained and supported entirely by volunteers.

Outstanding Volunteers

The entire Winlink system is dedicated to the volunteer Gateway Station Sysops who support and run the thousand plus stations around the world. Without them

Winlink_Express_in....zip | winlink logo.png | Show all

Downloads



Downloads

Files > This PC > Local Disk (C:) > Users > Roberta

- Program files (x64)
- RMS
- RMS Express
- RT Systems V5
- Users
 - admin
 - citg
 - citgJOINERDDS
 - Public
 - Roberta
 - .fcc
 - 3D Objects
 - Contacts
 - Desktop
 - Documents
 - Downloads



	Wage and Employment Notice to...	Date modified: 2/17/20...
	WFE_Goals_Dashboard_Report_as...	Date modified: 11/2/20...
	William Mark Joiner and Roberta...	Date modified: 9/2/2020
	Winlink Check-in 2022-01-03 14_48	Date modified: 1/3/2022
	Winlink Net Invitation	Date modified: 1/7/2022
	Winlink_Express_install	Date modified: 2/7/2022
	Winlink_Express_install_1-5-23-0	Date modified: 8/29/20...
	Winlink_Express_install_1-6-1-0	Date modified: 2/10/20...

1 item(s) selected

Manage Files Add to Zip

Actions

Manage Files

- Open
- Copy/Move to
- Rename
- Delete

Share Selected File

Email



Click NEXT and allow the program to install on your computer

Setup - Winlink Express version 1.6.1.0

Select Destination Location
Where should Winlink Express be installed?



 Setup will install Winlink Express into the following folder.

To continue, click Next. If you would like to select a different folder, click Browse.

At least 84.1 MB of free disk space is required.





Setup - Winlink Express version 1.6.1.0



Select Additional Tasks

Which additional tasks should be performed?



Select the additional tasks you would like Setup to perform while installing Winlink Express, then click Next.

Additional shortcuts:

Create a desktop shortcut

Back

Next

Cancel





Setup - Winlink Express version 1.6.1.0



Ready to Install

Setup is now ready to begin installing Winlink Express on your computer.



Click Install to continue with the installation, or click Back if you want to review or change any settings.

Destination location:

C:\RMS Express

Additional tasks:

Additional shortcuts:

Create a desktop shortcut

Back

Install

Cancel

 Setup - Winlink Express version 1.6.1.0



Installing

Please wait while Setup installs Winlink Express on your computer.



Extracting files...

C:\RMS Express\MapCache\TileDBv5\en\Data.gmdb



Cancel



Setup - Winlink Express version 1.6.1.0



Completing the Winlink Express Setup Wizard

Setup has finished installing Winlink Express on your computer. The application may be launched by selecting the installed shortcuts.

Click Finish to exit Setup.

Launch Winlink Express



Finish

Complete the information in the required boxes.

You can also complete the optional information if you wish.

If you pay for a registration key, the # goes in the arrowed box. I blocked part of mine out for this demo.

The screenshot shows the 'Winlink Express Properties' dialog box. The 'Call Signs' section contains fields for 'My Callsign' (AJ6KN), 'My Password' (masked with dots), and 'Password recovery e-mail' (robertajoiner1155@gmail.com). The 'Contact Information (Optional)' section includes fields for Name, Street address 1 and 2, City, State/Province, Country, Postal code, Web Site URL (optional), Phone number, and Non-Winlink e-mail. The 'Auxiliary Callsigns and Tactical Addresses' section has an empty text box and buttons for 'Add Entry', 'Remove Entry', and 'Edit Entry'. The 'My Grid Square' is CM97AA, and the 'Winlink Express registration key' is 6D444C426015E. The 'Service Codes' section has a text box containing 'PUBLIC'. The 'Update' button is highlighted with a red box and an arrow pointing to it from the right. A red arrow also points from the 'Winlink Express registration key' field to the 'Update' button. The 'Winlink Express Properties' dialog box is titled 'Winlink Express Properties' and has a close button (X) in the top right corner. The 'Call Signs' section has a 'Change password' button. The 'Contact Information (Optional)' section has a 'Web Site URL (optional)' field. The 'Auxiliary Callsigns and Tactical Addresses' section has a 'Remove Callsign' button. The 'Winlink Express registration key' field has a blacked-out portion. The 'Service Codes' section has a note: '(Use PUBLIC for ham call signs. Separate multiple service codes by spaces.) If you change service codes, you must update the list of channels.' The 'Recalculate HF path quality if SFI changes more than:' field is set to 30. The 'Keep logs for' field is set to 2 weeks. The 'Keep deleted messages for' field is set to 30 days. The 'Display list of pending incoming messages prior to download' checkbox is checked. The 'Warn about connections to stations holding messages' checkbox is checked. The 'Allow diagnostic information to be sent to the Winlink Development Team' checkbox is checked. The 'Automatically install field-test (beta) versions of Winlink Express' checkbox is unchecked. The 'Update' button is highlighted with a red box and an arrow pointing to it from the right. A red arrow also points from the 'Winlink Express registration key' field to the 'Update' button. The 'Winlink Express Properties' dialog box is titled 'Winlink Express Properties' and has a close button (X) in the top right corner. The 'Call Signs' section has a 'Change password' button. The 'Contact Information (Optional)' section has a 'Web Site URL (optional)' field. The 'Auxiliary Callsigns and Tactical Addresses' section has a 'Remove Callsign' button. The 'Winlink Express registration key' field has a blacked-out portion. The 'Service Codes' section has a note: '(Use PUBLIC for ham call signs. Separate multiple service codes by spaces.) If you change service codes, you must update the list of channels.' The 'Recalculate HF path quality if SFI changes more than:' field is set to 30. The 'Keep logs for' field is set to 2 weeks. The 'Keep deleted messages for' field is set to 30 days. The 'Display list of pending incoming messages prior to download' checkbox is checked. The 'Warn about connections to stations holding messages' checkbox is checked. The 'Allow diagnostic information to be sent to the Winlink Development Team' checkbox is checked. The 'Automatically install field-test (beta) versions of Winlink Express' checkbox is unchecked.

Click on update to complete the registration

This is the opening screen for the Winlink Express program. From here you can access all of your mail, your settings, select the type of session, create a message, make folders to store emails in, etc.

Now we will have a live demo sending an ICS-213 form through Winlink Express

