

Winlink Overview and Demo

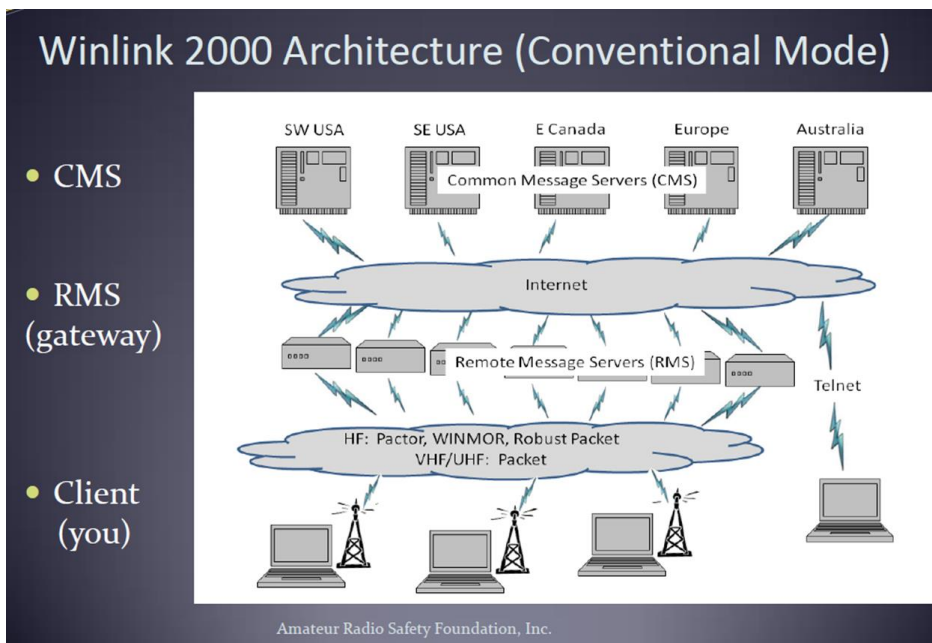


Bob Lanahan

Jan 2019

Winlink Overview and Demo

- **History – Tom’s briefing March 2018**
- **Cables and setup**
- **Installing Winlink**
- **Telnet Winlink**
- **Packet to a Winlink Node (RMS then to/from CMS and back)**
- **Packet to Packet with another Radio Operator**



History

- Tom briefed winlink to the club in date ??
- <http://www.aeclubs.org/w6ago/> or ask Bob for a copy

The slide features several logos and images:

- MARS Logo:** A circular logo for the Military Auxiliary Radio System (MARS) with a globe in the center. The text around the globe includes "MILITARY AUXILIARY RADIO SYSTEM", "MARS", "US ARMY", "AIR FORCE", and "NAVY-MARINE CORPS".
- WINLINK 2000 Logo:** A blue circular logo with the text "Email via Radio!", "WINLINK 2000", "Global Radio Email System 1998-2018", and "I'm ready, are you?".
- Power Grids Map:** A map of the United States showing power grids. Labels include "WESTERN INTERCONNECT", "SOUTHEASTERN INTERCONNECT", "CALIFORNIA INTERCONNECT", and "TEXAS INTERCONNECT". A "BREAKING NEWS" banner at the bottom reads "POWER OUTAGE HITS NYC, MI, DETROIT, OTTAWA, TORONTO, CLEVELAND" and "RED AS HELICOPTERS CARRYING U.S. TROOPS LANDED AT".
- Defense Secretary Leon Panetta:** A photograph of Leon Panetta, the 23rd United States Secretary of Defense, standing in front of a blue background with the NATO logo.

**The Winlink 2000
Radio e-Mail Network**

E-mail with or without the Internet

Developed by
The Winlink Development Team

Defense Secretary Leon Panetta warns of "Cyber Pearl Harbor".

The A2 Shack Setup





Cables & Setup

- Ordered a RS-232 to Kenwood Comm cable \$50? – one week
- Ordered a USB to RS-232 cable \$20 – one week
- Plug the cable in to laptop, it will download drivers (be connect to the internet)
 - It will set up a Comm port (might need if for troubleshooting)
 - Find the comm port using the hardware detection – comm port 5
 - Think each usb port has it's own comm port

Installing Winlink

- Go to website – <https://www.winlink.org/>
- Download Winlink Express
- My big issue – it needs Microsoft .Net 3.5 framework 3.5 to operate (this is the software that does the port mapping, USB, and data control)
 - Took about 30 – 45 mins to install

Winlink is...
 ...a worldwide radio email service that uses radio pathways where the internet is not present, and is capable of operating completely without the internet--automatically--using smart-network radio relays. Winlink provides its users email with attachments, position reporting, weather and information bulletins, and is well-known for its role in emergency and disaster relief communications. Licensed Winlink operators/stations use both amateur radio and government radio frequencies worldwide. The system is built, operated and administered entirely by licensed volunteers. Support for the system is provided by the Amateur Radio Safety Foundation, Inc., a US 501(c)(3) non-profit, public-benefit entity. Winlink Global Radio Email® is a US registered trademark of the Amateur Radio Safety Foundation, Inc.

Gert Kmet, OE3ZK, SK
 The Winlink Development Team is sad to report that on the 19th of January 2019 Mr. Gert Kmet, OE3ZK, became a silent key. He suffered an unexpected short-term but serious health complication.

Gert was our world-renowned radio friend and fellow member of the WDT. Gert and his team operated the former CMS server in Vienna, Austria, and contributed regularly and frequently to matters large and small in

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.
- Info on Winlink Hybrid Network: Forms
- No internet? Winlink Hybrid Network
- Become a Winlink Gateway Sysop

Get Winlink Express
 The only client program with **everything** Winlink offers. Easy to set up, learn and use. Fully supported. [Free Download](#)

Winlink Was There...
 Lives and property saved, damage mitigated: Why Winlink volunteers do what they do.

Microsoft .NET Framework 3.5 Service Pack 1

Important! Selecting a language below will dynamically change the complete page content to that language.

Select Language: [Download](#)

Microsoft .NET Framework 3.5 Service Pack 1 is a full cumulative update that contains many new features building incrementally upon .NET Framework 2.0, 3.0, 3.5, and includes cumulative servicing updates to the .NET Framework 2.0 and .NET Framework 3.0 subcomponents.

- + Details
- + System Requirements
- + Install Instructions
- + Additional Information
- + Related Resources

Install / Boot Up Winlink

- Install winlink
- Will take you right into Setup
- Create account and password
- call sign @ winlink.org
- Know your 6 letter Grid Square or know your Lat/Long

Nag screen ...

You will get a nag screen when you open the application again. The Nag screen will make you wait a bit, before it lets you select “remind me later”, but you don’t have to buy the program or get a registration key.

Winlink Express Registration

Winlink Express is made possible through the Amateur Radio Safety Foundation Inc. Your registration of Winlink Express and support for the ARSF makes the Winlink system possible. Registering Winlink Express also registers your callsign to use the Winmor TNC.

Registration Site URL (click):
<http://www.arsfi.org/express.aspx>

Enter Registration Key

Call Sign: KK6WYW
Registration Key:

Create an Email

The screenshot displays the Winlink Express 1.0.0.0 - KK6WYW interface. The 'Message' menu is open, with 'New Message...' selected. The 'Enter a new message' dialog box is shown with the following fields:

- From: KK6WYW
- Send as: Winlink Message
- To: bob.lanahan@gmail.com
- Cc:
- Subject: test
- Attach:

The message body contains the text: "This is a test." and "Bob".

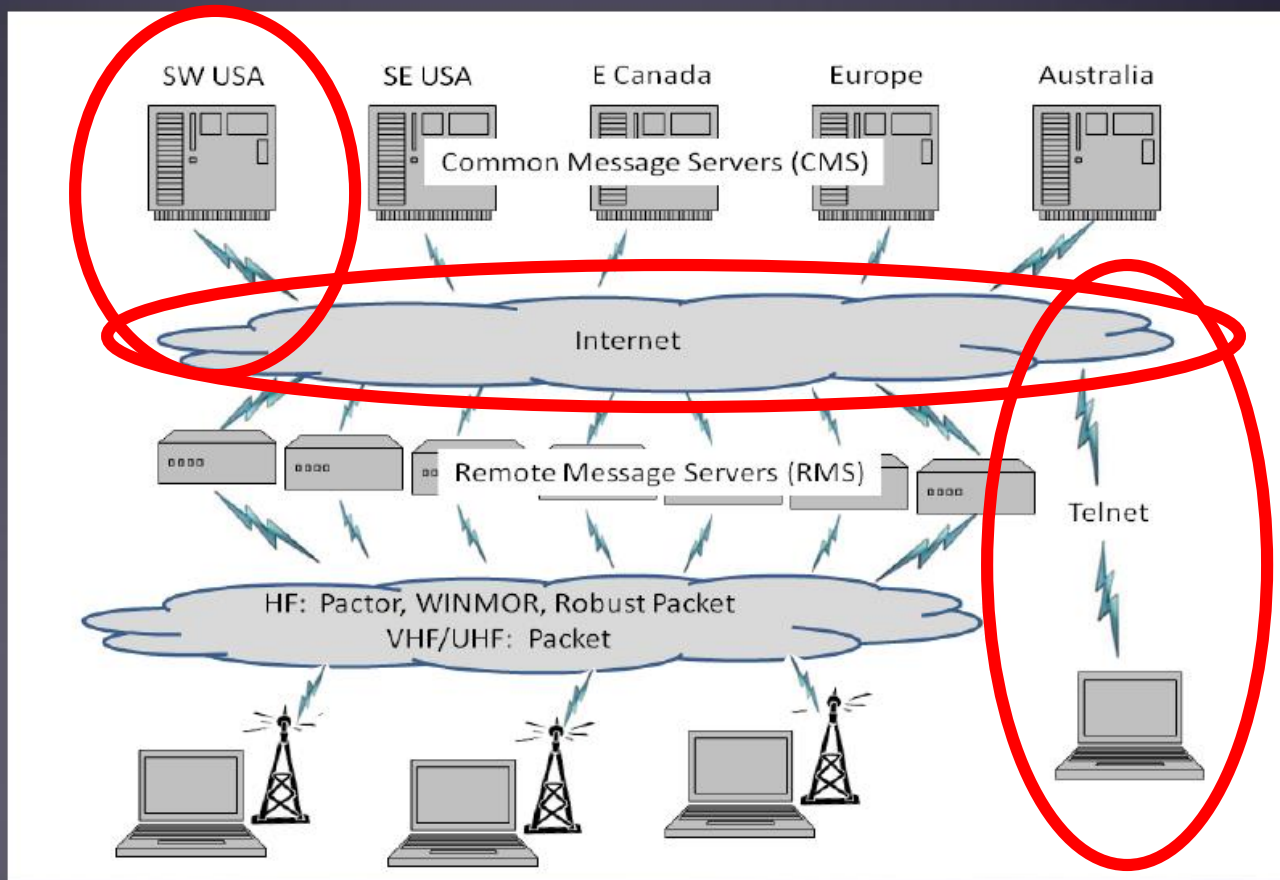
Post Message to Outbox

The screenshot shows the Winlink Express 1.5.18.0 interface. The main window has a menu bar with 'File', 'Home', 'Share', and 'View'. Below the menu bar, there's a toolbar with various icons. The main area is divided into a left sidebar and a main pane. The sidebar shows a folder tree with 'System Folders' (Inbox (0 unread), Read Items (0), Outbox (0), Sent Items (0), Saved Items (0), Deleted Items (0), Drafts (0)) and 'Personal Folders'. The main pane shows a table with columns: Date/Time, Message ID, Size, Source, Sender, Recipient, Subject. A modal window titled 'Enter a new message' is open, showing fields for 'From: KK6WYW', 'To: bob.lanahan@gmail.com', 'Subject: test', and 'Attach:'. The 'Post to Outbox' button is highlighted with a red circle. The text 'This is a test.' and 'Bob|' is visible in the message body area.

Now - Try a Telnet Email

Winlink 2000 Architecture (Conventional Mode)

- CMS
- RMS (gateway)
- Client (you)



Open a Telnet session

The screenshot shows the Winlink Express 1.5.18.0 - KK6WYW application window. The interface includes a menu bar (File, Home, Share, View), a toolbar with various icons, and a main area displaying "No active session...". A table with columns for Date/Time, Size, Source, Sender, Recipient, and Subject is visible. Two red circles highlight the "Open session" button in the toolbar and the "Open Session: Telnet Winlink" dropdown menu in the top right corner.

Winlink Express 1.5.18.0 - KK6WYW

KK6WYW Settings Message Attachments Move To: Saved Items Delete Open Session: Telnet Winlink Log

Help

No active session...

Date/Time	Size	Source	Sender	Recipient	Subject
-----------	------	--------	--------	-----------	---------

System Folders

- Inbox (0 unread)
- Read Items (0)
- Outbox (1)
- Sent Items (0)
- Saved Items (0)
- Deleted Items (0)
- Drafts (0)

Personal Folders

Global Folders

Contacts

Make sure you have an internet connect. Test to see that your email works.

Telnet Session

```

Telnet Winlink Session
Exit  Settings  Start  Stop  Time to next Autoconnect = Disabled
*** Connecting to a CMS...
*** Connected to AWS at 2018/10/05 18:51:10
[WL2K-5.0-B2FWIHJM$]
:PQ: 20902194
CMS>
:FW: KK6WYW
[RMS Express-1.5.12.0-B2FHMS]
:PR: 20456386
:WL2K DE KK6WYW (DM03TV)
FC EM 3V0D40HSADEC 192 173 0
F> C8
FS Y
*** Sending 3V0D40HSADEC.
FF
*** Completed send of message 3V0D40HSADEC
*** Sent 1 message. Bytes: 206, Time: 00:00, bytes/minute: 46532
FQ
```

SMTP Feedback

Winlink Express 1.5.18.0 - KK6WYW

KK6WYW Settings Message Attachments Move To: Saved Items Delete Open Session: Packet Winlink Logs Help

In Packet Winlink session.

System Folders	Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
Inbox (1 unread)	2019/01/23 0...	2761T17J3JKA	467	SMTP	SMTP:famert...	KK6WYW	Re: //WL2K 2nd UHF/VHF message via Winlink
Read Items (0)	2019/01/23 02:44	8GH21R179YBH	462	CMS	SERVICE	KK6WYW	Service Advice Message
Outbox (0)	2019/01/19 18:34	BZ2U96B3YZ80	267	SMTP	SMTP:bob.Janah...	KK6WYW	Re: //WL2K test

Personal Folders

Global Folders

Contacts

Message ID: 8GH21R179YBH
 Date: 2019/01/23 02:44
 From: SERVICE
 To: KK6WYW
 Source: CMS
 Downloaded-from: RMS:K6CCR-10
 Subject: Service Advice Message

Email to Kirk Failed ...

We have been unable to deliver your message:
 MessageId: GQAZNT6XBJNP
 To: SMTP:kirk.b.crawford@aero.com
 Subject: //WL2K 2nd UHF/VHF message via Winlink
 for the reason given below by the remote mail server.

"550-5.1.1 The email account that you tried to reach does not exist. Please try"

This advice applies only to SMTP:kirk.b.crawford@aero.com. Other addressees of the same message may have been successfully forwarded.

Tom's Reply

Winlink Express 1.5.18.0 - KK6WYW

KK6WYW Settings Message Attachments Move To: Saved Items Delete Open Session: Packet Winlink Logs Help

In Packet Winlink session.

System Folders	Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
Inbox (0 unread)	2019/01/23 02:45	2761T17J3JKA	467	SMTP	SMTP.famertre...	KK6WYW	Re: //WL2K 2nd UHF/VHF message via Winlink
Read Items (0)	2019/01/23 02:44	8GH21R179YBH	462	CMS	SERVICE	KK6WYW	Service Advice Message
Outbox (0)	2019/01/19 18:34	BZ2U96B3YZ80	267	SMTP	SMTP.bob.lanah...	KK6WYW	Re: //WL2K test

System Folders: Inbox (0 unread), Read Items (0), Outbox (0), Sent Items (3), Saved Items (0), Deleted Items (0), Drafts (0)

Personal Folders

Global Folders

Contacts

Message ID: 2761T17J3JKA
 Date: 2019/01/23 02:45
 From: farmertre@gmail.com
 To: KK6WYW
 Source: SMTP
 Downloaded-from: RMS:K6CCR-10
 Subject: Re: //WL2K 2nd UHF/VHF message via Winlink

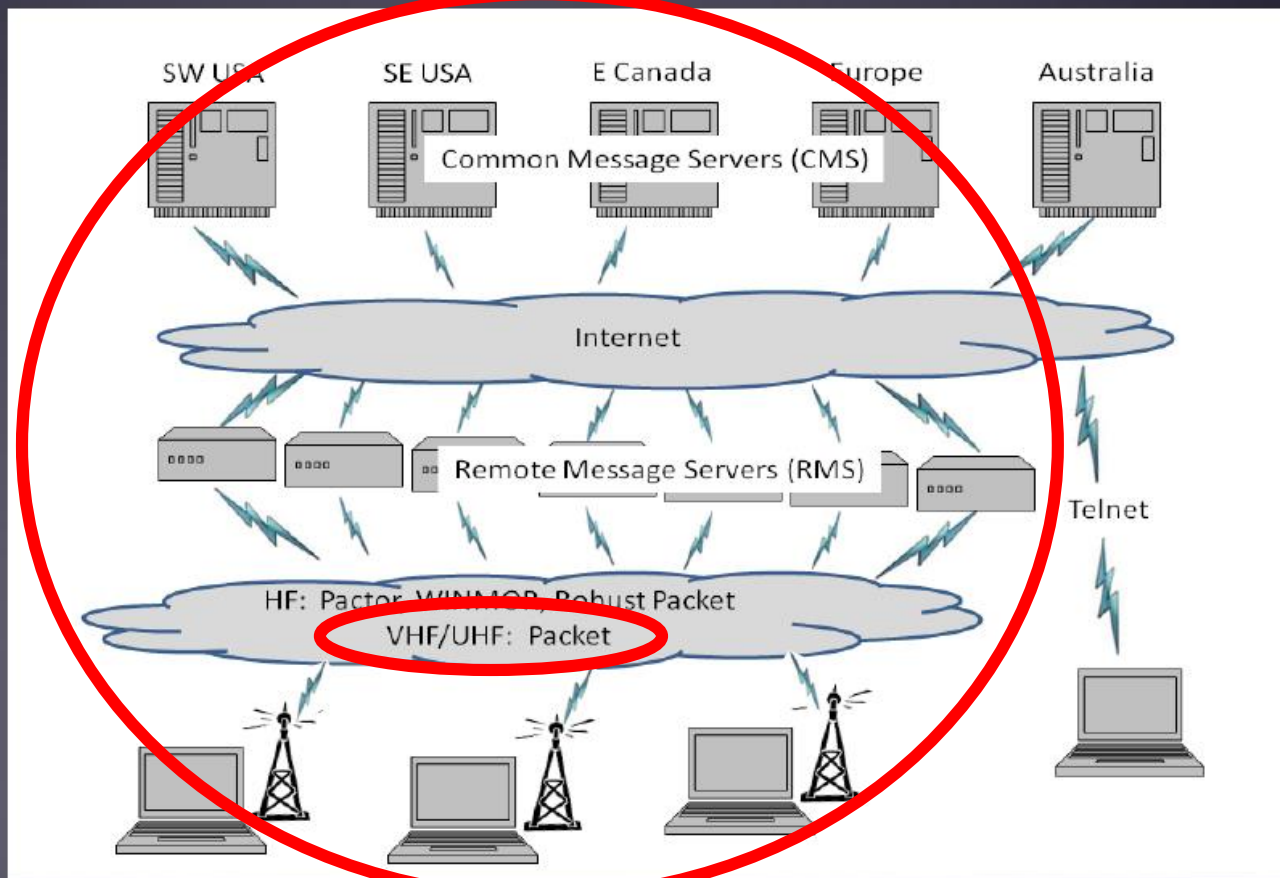
FB OM 73!

Tom Essenpreis
 On Jan 22, 2019, 6:44 PM -0800, KK6WYW@winlink.org, wrote:
 > Hi Guys,
 >
 > Took a couple of hours, but I was finally able to send email via the Culver city CCAR Winlink email system.
 >
 > Now I need to build a briefing and try to capture all the setting, so this works at my demo next week.
 >
 > thnx,
 > Bob
 >

Now - Try a Radio Email

Winlink 2000 Architecture (Conventional Mode)

- CMS
- RMS (gateway)
- Client (you)



Find a station

Packet Winlink Session

Exit Settings Switch to Peer-to-Peer Session Channel Selection Baud Start Stop

Connection type: Direct K6CCR-10 Via

Connection script: Edit script Add script Remove script

Time to next Autoconnect = Disconnected

Packet Channel Selector

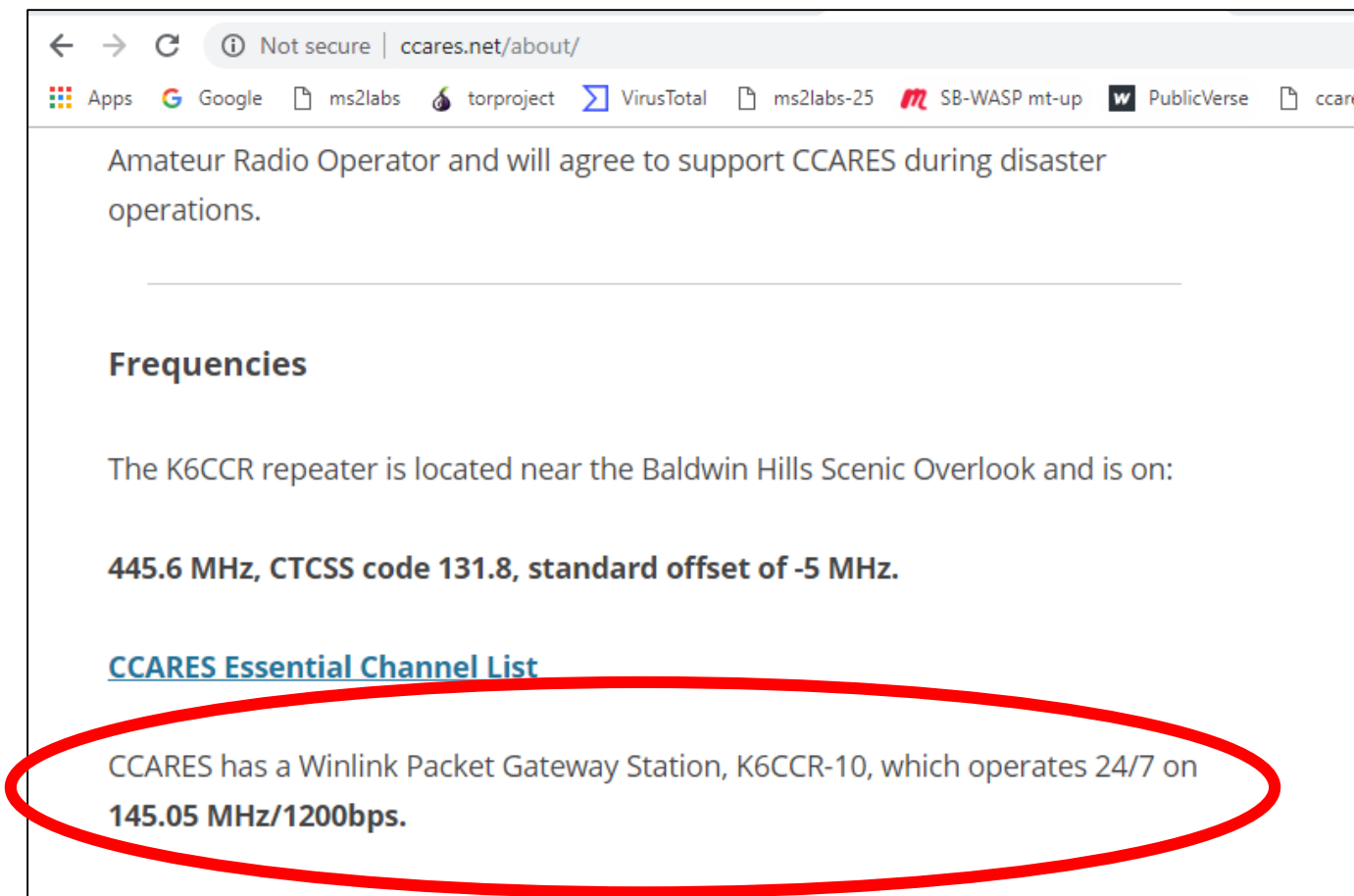
Exit Select Channel Update Table Via Internet Update Table Via Radio

Stations found within 1000 kilometers of your grid square.

Callsign	Frequency (MHz)	Baud	Grid Square	Group	Distance (mi)	Bearing (Degrees)
K6CCR-10	145.050	1200	DM04TA	PUBLIC	006	000
AJ7C-10	145.050	1200	DM04TA	PUBLIC	006	000
AJ7C-10	431.125	9600	DM04TA	PUBLIC	006	000
W2NP-10	145.050	1200	DM04UC	PUBLIC	012	025
KE6WEZ-10	145.050	1200	DM04PG	PUBLIC	030	320
W6ACS-11	431.125	9600	DM13CW	PUBLIC	034	090
K6NBR-10	431.475	9600	DM13BO	PUBLIC	037	129
K6NBR-10	145.050	1200	DM13BO	PUBLIC	037	129
W6ACS-10	431.475	9600	DM13DS	PUBLIC	040	107
KK6MTQ-10	145.630	1200	DM04VM	PUBLIC	041	014
AG6MO-10	145.090	1200	DM14EC	PUBLIC	044	075
WB6TT-10	144.970	1200	DM13FU	PUBLIC	048	097
W6ACS-12	431.075	9600	DM13EK	PUBLIC	055	128
KE6NYT-10	145.050	1200	DM04LM	PUBLIC	055	317
WM6T-10	145.090	1200	DM14JG	PUBLIC	071	071
KG6HSQ-10	145.050	1200	DM13JJ	PUBLIC	077	119
KD6ILO-10	145.050	1200	DM13IF	PUBLIC	080	128
N6CWP-10	145.050	1200	DM13LM	PUBLIC	080	119

1. Need internet
2. Pick a station,
 - Close is good
 - Notice Data Rate
 - 2 meter vs 70 cm

Find a Station



← → ↻ ⓘ Not secure | ccares.net/about/

Apps Google ms2labs torproject VirusTotal ms2labs-25 SB-WASP mt-up PublicVerse ccar

Amateur Radio Operator and will agree to support CCARES during disaster operations.

Frequencies

The K6CCR repeater is located near the Baldwin Hills Scenic Overlook and is on:

445.6 MHz, CTCSS code 131.8, standard offset of -5 MHz.

[CCARES Essential Channel List](#)

CCARES has a Winlink Packet Gateway Station, K6CCR-10, which operates 24/7 on **145.05 MHz/1200bps.**

Set up

Packet Winlink/P2P Setup

TNC Connection

Packet TNC Type: Kenwood TM-D710 B-Band

Packet TNC Model:

AutoConnect Time: Disabled

Serial Port: COM5

Serial Port Baud: 9600

If Auto Connect is enabled, open session when Winlink Express is started

TNC Parameters

1200 Baud 9600 Baud

TX Delay (Milliseconds):	400	300
Maximum Packet Length:	128	255
Maximum Frames:	2	7
Frack:	2	2
Persistence:	160	224
Slot time:	30	20
Maximum Retries:	5	5

Disable Xmt Level Adjust Transmit Level: 100

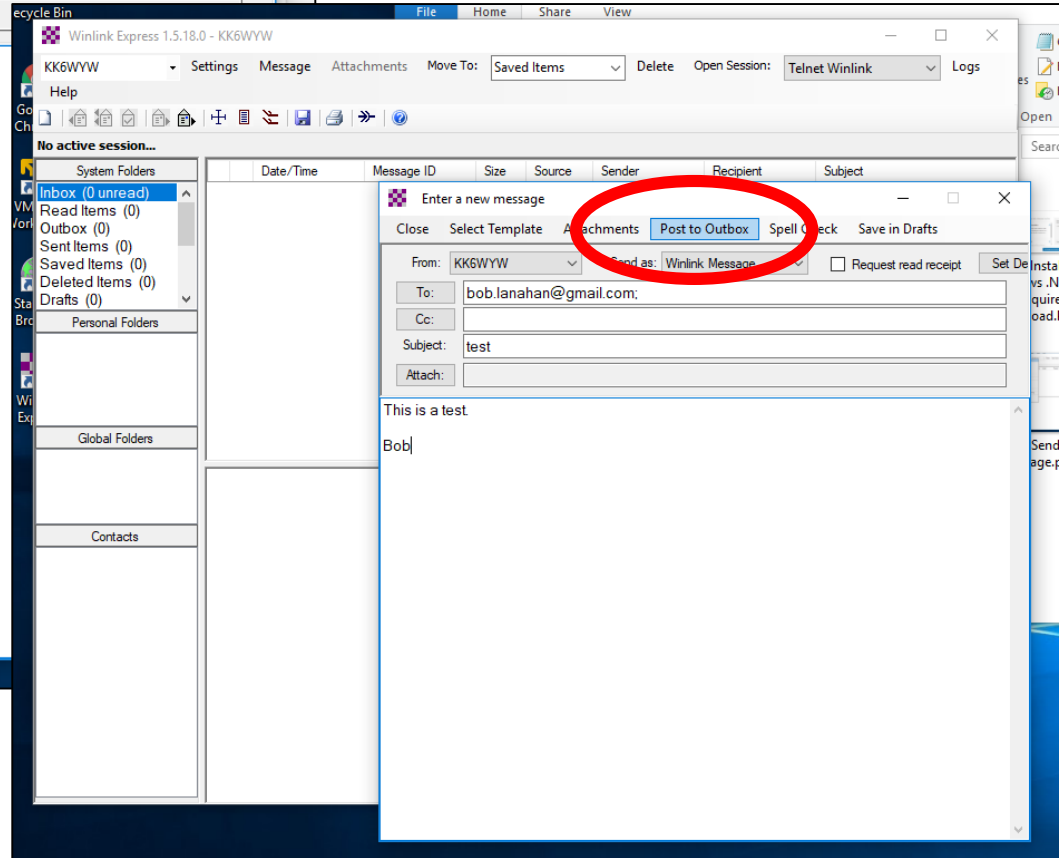
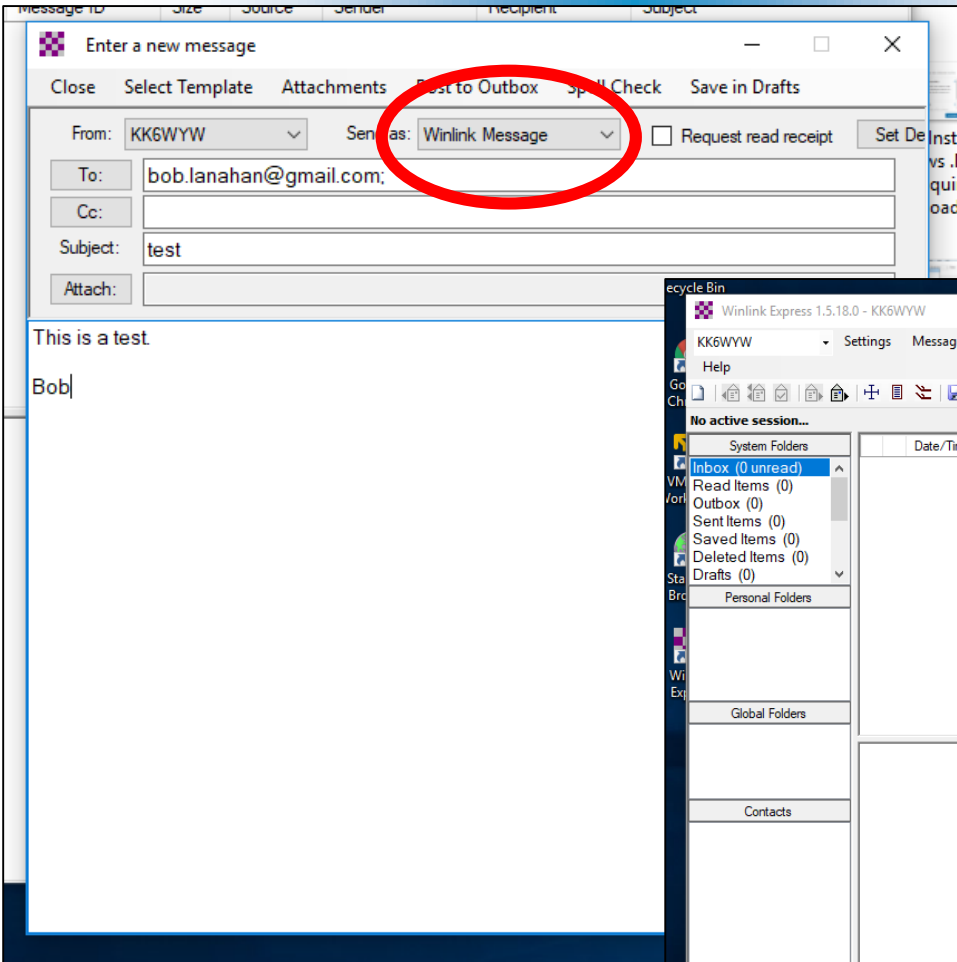
Update Cancel

- Radio and Band
- Port
- TNC parameters

- Important, listen to the channel, set your squelch properly.

- Your radio won't transmit if it hears a busy channel !!

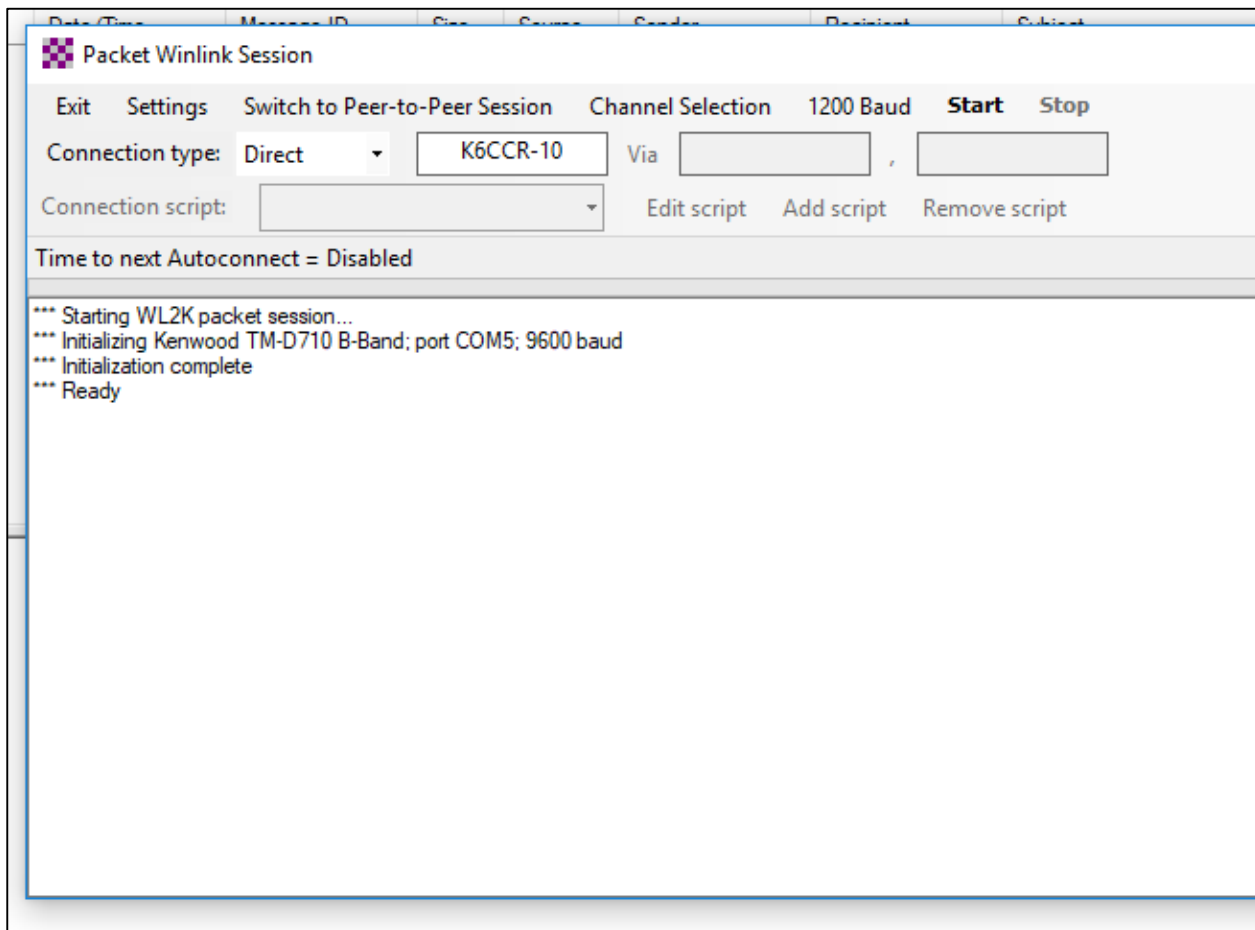
Create email, Post to outbox



Set up – Connect to the radio

- Radio and Band
- Port
- TNC parameters

- Important, listen to the channel, set your squelch properly.
- Your radio won't transmit if it hears a busy channel !!



A successful connection !!

Packet Winlink Session

Exit Settings **Switch to Peer-to-Peer Session** Channel Selection 1200 Baud **Start** Stop

Connection type: Direct ▾ **K6CCR-10** Via

Connection script: Edit script Add script **Remove script**

Received: 468 Sent: 304 Time to next Autoconnect = Disabled

```

*** Starting to call K6CCR-10
*** Opening serial port COM5; 9600 baud; Kenwood TM-D710 B-Band
*** Connecting to K6CCR-10
*** Connected to K6CCR-10 at 2019/01/23 02:31:07

Culver City ARES RMS Packet Gateway 145.05 | DM04ta
[WL2K-5.0-B2FWIHJM$]
:PQ: 31456252
CMS via K6CCR >
:FW: KK6WYW
[RMS Express-1.5.18.0-B2FHM$]
:PR: 35389784
: K6CCR-10 DE KK6WYW (DM03TW)
FC EM OQD2RXB3BFV7 168 155 0
F> 84
:PM: KK6WYW BZ2U96B3YZ80 231 bob.lanahan@gmail.com Re: //WL2K test
FS Y
*** Sending OQD2RXB3BFV7.
FC EM BZ2U96B3YZ80 271 231 0
*** Completed send of message OQD2RXB3BFV7
*** Sent 1 message. Bytes: 175, Time: 00:06, bytes/minute: 1545
F> B6
FS Y
*** Receiving BZ2U96B3YZ80
*** BZ2U96B3YZ80 - 286/243 bytes received
*** Bytes: 255, Time: 00:01, bytes/minute: 14278
FF
FQ
*** --- End of session at 2019/01/23 02:31:55 ---
*** Messages sent: 1. Total bytes sent: 175, Time: 00:47, bytes/minute: 220
*** Messages Received: 1. Total bytes received: 255, Total session time: 00:47, bytes/minute: 320
*** Disconnected at 2019/01/23 02:32:03

*** Disconnect reported.
```

Hit Start ...

Mailbox updates – Kirk email Failed

It sends email waiting in your outbox ...

The screenshot shows the Winlink Express 1.5.18.0 interface. The window title is "Winlink Express 1.5.18.0 - KK6WYW". The interface includes a menu bar (Settings, Message, Attachments, Move To, Saved Items, Delete, Open Session, Packet Winlink, Logs, Help) and a toolbar with various icons. On the left, there is a folder pane with "System Folders" (Inbox (0 unread), Read Items (0), Outbox (0), Sent Items (2), Saved Items (0), Deleted Items (0), Drafts (0)), "Personal Folders", "Global Folders", and "Contacts". The main area displays a list of messages in the Outbox folder:

Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
2019/01/23 02:39	GQAZNT6XBJNP	433	KK6WYW	KK6WYW	kb9ens@arrl.net...	//WL2K 2nd UHF/VHF message via Winlink
2019/01/23 01:25	OQD2RXB3BFV7	175	KK6WYW	KK6WYW	bob.lanahan@g...	//WL2K test

The selected message (Message ID: GQAZNT6XBJNP) is displayed in the main pane with the following details:

Message ID: GQAZNT6XBJNP
 Date: 2019/01/23 02:39
 From: KK6WYW
 To: kb9ens@arrl.net; farmertre@gmail.com; kirk.b.crawford@aero.com
 Cc: bob.lanahan@gmail.com
 Source: KK6WYW
 Subject: //WL2K 2nd UHF/VHF message via Winlink

Hi Guys,

Took a couple of hours, but I was finally able to send email via the Culver city CCAR Winlink email system.

Now I need to build a briefing and try to capture all the setting, so this works at my demo next week.

thnx,
 Bob

Mailbox updates

Winlink picks up any email that is sitting in the CMS (via internet), and moves it thru your RMS (internet), then via radio back to you, if addressed to you.

Winlink Express 1.5.18.0 - KK6WYW

KK6WYW Settings Message Attachments Move To: Saved Items Delete Open Session: Packet P2P Logs Help

No active session...

System Folders		Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
Inbox (0 unread)		2019/01/27 22:46	DGELC8QMDHUX	164	KK6WYW	KK6WYW	N6MDV (P2P)	test 4
Read Items (0)		2019/01/27 22:43	29LWZR6NX83X	191	KK6WYW	KK6WYW	N6MDV (P2P)	test #3
Outbox (1)		2019/01/27 22:40	QWZNPQ014N...	178	KK6WYW	KK6WYW	N6MDV (P2P)	test 2
Sent Items (6)		2019/01/24 02:36	JIDEPO8YPB78	168	KK6WYW	KK6WYW	bob.Janahan@g...	//WL2K test3
Saved Items (0)		2019/01/23 02:39	GGAZNT6XBJNP	433	KK6WYW	KK6WYW	kb9ens@amf.net...	//WL2K 2nd UHF/VHF message via Winlink
Deleted Items (0)		2019/01/23 01:25	OQD2RXB3BFV7	175	KK6WYW	KK6WYW	bob.Janahan@g...	//WL2K test
Drafts (0)								
Personal Folders								
Global Folders								
Contacts								

Message ID: 29LWZR6NX83X
 Date: 2019/01/27 22:43
 From: KK6WYW
 To: N6MDV
 Source: KK6WYW
 P2P: True
 Subject: test #3

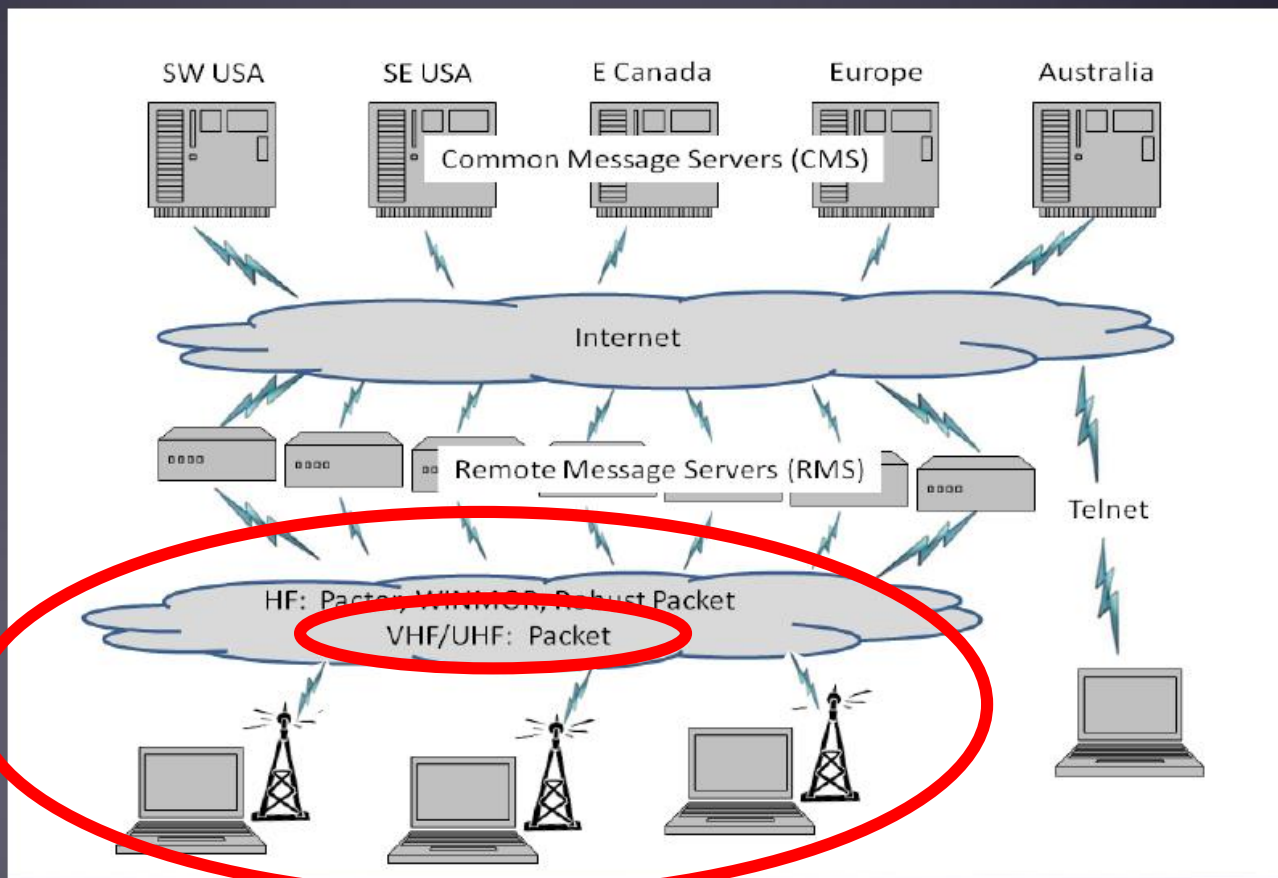
this is test 3 from Bob, kk6wyw

431.475 mhz, p2p

Now - Try a Radio P2P Email

Winlink 2000 Architecture (Conventional Mode)

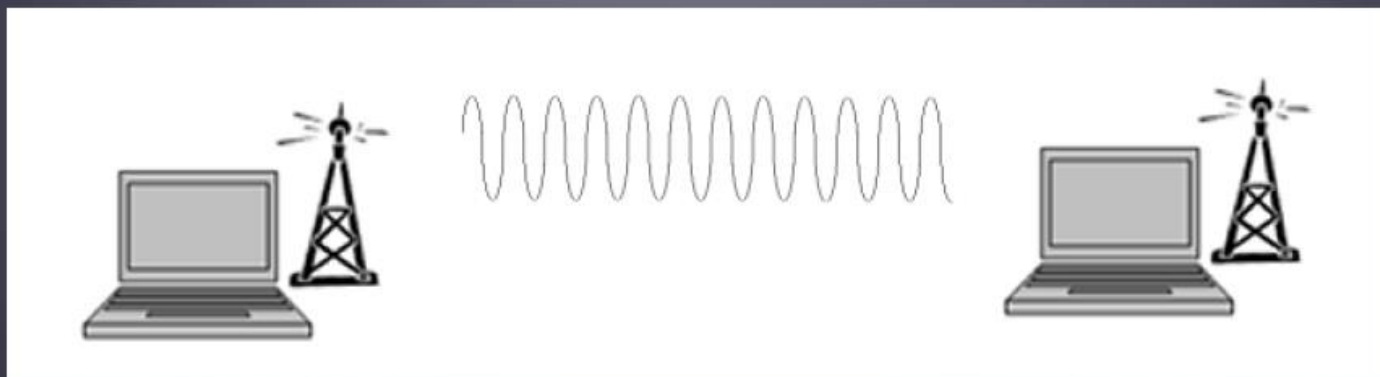
- CMS
- RMS (gateway)
- Client (you)



P2P Radio Only

Winlink Peer-To-Peer Radio-Only Operation

- Peer-to-peer: direct radio connection between end-users
- The Internet is not used, all communication by radio.
- Only the two client stations are involved.
- 100% error-free transmission and file attachments.



Set up Kenwood Radio



- Talking on the w6HA repeater
- And sending Winlink packets
- Point to Point with Mike V

Make Sure you address your email for P2P, post to outbox

Winlink Express 1.5.18.0 - KK6WYW

KK6WYW Settings Message Attachments Move To: Saved Items Delete Open Session: Packet P2P Logs Help

No active session...

Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
2019/01/27 22:55	N3K6FUXDLIP1	200	KK6WYW	KK6WYW	N6MDV (P2P)	test 6

System Folders: Inbox (0 unread), Read Items (0), **Outbox (1)**, Sent Items (6), Saved Items (0), Deleted Items (0), Drafts (0)

Personal Folders

Global Folders

Contacts

Message
 Date: 2019/01/27 22:55
 From: KK6WYW
 To: N6MDV
 Source: Mike, this is a test
 P2P: True
 Subject: A test of Bob's first P2P email.

Mike, this is a test
 Bob - KK6WYW via P2P
 A test of Bob's first P2P email.
 Bob - KK6WYW

Edit a draft message entered by KK6WYW

Close Select Template Attachments **Post to Outbox** Spell Check Save in Drafts

From: KK6WYW Send as: **Radio-Only Message** Request read receipt Set Defaults

To: N6MDV

Cc:

Subject: test 6

Attach:

Winlink Express 1.5.18.0 - KK6WYW

KK6WYW Settings Message Attachments Move To: Saved Items Delete Open Session: Telnet Winlink Logs Help

No active session...

System Folders: Inbox (0 unread), Read Items (0), Outbox (0), Sent Items (0), Saved Items (0), Deleted Items (0), Drafts (0)

Personal Folders

Global Folders

Contacts

Enter a new message

Close Select Template Attachments **Post to Outbox** Spell Check Save in Drafts

From: KK6WYW Send as: Winlink Message Request read receipt Set Defaults

To: bob.lanahan@gmail.com

Cc:

Subject: test

Attach:

This is a test
 Bob]

Connect your radio

1. Connect your radio
2. Either you send or the other person sends, when connect to the radio, it's in listen mode
3. Important, listen to the channel, set your squelch properly, your radio won't transmit if it hears a busy channel !!

The screenshot shows the Packet Winlink Session interface. At the top, there are buttons for Exit, Settings, Switch to Peer-to-Peer Session, Channel Selection, 9600 Baud, Start, and Stop. Below these, the connection type is set to Direct, and the call sign is W6ACS-10. The connection script is empty, and there are buttons for Edit script, Add script, and Remove script. A status bar shows Received: 120, Sent: 121, and Time to next Autoconnect = Disabled.

The log shows the following text:

```
*** Starting to call W6ACS-10
*** Opening serial port COM5; 9600 baud; Kenwood TM-D710 B-Band
*** Connecting to W6ACS-10
*** Connected to W6ACS-10 at 2019/01/24 02:33:12

WELCOME TO THE ORANGE COUNTY RACES LOMA RIDGE RMS SITE. 431.475 MHz
[WL2K-5.0-B2FWIHJM$]
:PQ: 28058089
CMS via W6ACS >
:FW: KK6WYW
[RMS Express-1.5.18.0-B2FHMS$]
:PR: 31861625
: W6ACS-10 DE KK6WYW (DM03TW)
FC EM QFRN31N3DJH6 155 147 0
F> A9
*** Disconnected at 2019/01/24 02:34:26

*** Disconnect reported.
```

This isn't a P2P Session, it's a 431 Mhz attempt to Orange County Races – with squelch set wrong

I don't think I have any screen prints of the P2P sessions (sigh)

Mailbox updates

It sends email waiting in your outbox, for the recipient (didn't check if it sends others, but I doubt it, we aren't set up to be an RMS)
 Recipient sends you email, You send him an email also.

Winlink Express 1.5.18.0 - KK6WYW

KK6WYW Settings Message Attachments Move To: Saved Items Delete Open Session: Packet P2P Logs Help

No active session...

	Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
	2019/01/27 22:46	DGELC8QMDHUX	164	KK6WYW	KK6WYW	N6MDV (P2P)	test 4
	2019/01/27 22:43	29LWZR6NX83X	191	KK6WYW	KK6WYW	N6MDV (P2P)	test #3
	2019/01/27 22:40	GMM3PQUY4R...	178	KK6WYW	KK6WYW	N6MDV (P2P)	test 2
	2019/01/24 02:36	JIDEPO8YPB78	168	KK6WYW	KK6WYW	bob.Janahan@g...	//WL2K test3
	2019/01/23 02:39	GQAZNT6XBJNP	433	KK6WYW	KK6WYW	kb9ens@arrl.net...	//WL2K 2nd UHF/VHF message via Winlink
	2019/01/23 01:25	OQD2RXB3BFV7	175	KK6WYW	KK6WYW	bob.Janahan@g...	//WL2K test

Message ID: 29LWZR6NX83X
 Date: 2019/01/27 22:43
 From: KK6WYW
 To: N6MDV
 Source: KK6WYW
 P2P: True
 Subject: test #3

this is test 3 from Bob, kk6wyw

431.475 mhz, p2p

Questions?





Backup slides

.Net and Devices

The image shows two overlapping Windows interface elements. On the left is the 'Windows Features' dialog box, which displays a message: 'An app on your PC needs the following Windows feature: .NET Framework 3.5 (includes .NET 2.0 and 3.0)'. Below this message, the option 'Download and install this feature' is highlighted with a red oval. This option includes a sub-message: 'Windows will get the files that it needs from Windows Update and complete the installation.' Other options include 'Skip this installation' and 'Tell me more about this feature'. A 'Cancel' button is at the bottom right of the dialog.

On the right is the 'Settings' application, specifically the 'Bluetooth & other devices' page. The 'Bluetooth' toggle is turned off. Under the 'Other devices' section, which is also highlighted with a red oval, a 'Prolific USB-to-Serial Comm Port (COM5)' is listed. The 'Devices' list on the left side of the Settings window includes 'Bluetooth & other devices', 'Printers & scanners', 'Mouse', 'Touchpad', 'Typing', and 'Pen & Windows Ink'.