

Winlink Users Guide

Version 1.0



Affiliated Club

WINLINK 2000 – AN OVERVIEW

Description

The Winlink 2000 Network is a worldwide radio messaging system that combines internet technology and amateur radio frequencies. The system is used to disseminate email (with attachments), position reporting, weather bulletins, emergency communications, and message relay. Winlink is a project of the Amateur Radio Foundation, Inc. (ARSFI) and is comprised of several central message servers worldwide.

HF Operations

Although not covered in this manual, Winlink can be combined with high frequency (HF) via a single sideband (SSB) transceiver by using modem technologies such as PACTOR, Winmor, and Automatic Link Establishment (ALE). Organizations such as MARS utilize the HF component of Winlink extensively in their tactical operations.

Local Infrastructure & Projects

The DFW Ham Radio Interoperability Group http://www.dfwhrig.org/ submitted recommendations on January 12, 2012 at a meeting at the Joint Emergency Operations Center (JEOC) in Fort Worth to further expand Winlink infrastructure in Tarrant County in order to support emergency communications (EMCOMM). Tarrant County Public Health Emergency Preparedness (TCPH/PHP) volunteered to lead the infrastructure implementation since they had vested interest in utilizing Winlink to support POD and shelter operations.

TCPH/PHP obtained UASI funding to purchase equipment to install 12 Winlink gateway stations by the end of 2013 in order to provide adequate coverage for Tarrant County. To date, there are 8 gateways that are operational.

WINLINK EQUIPMENT COMPONENT OVERVIEW

Radio Transceiver – Basic Winlink operations will utilize a basic dual band or 2m transceiver equipped with power supply and vertical antenna.

Terminal Node Controller (TNC) – A modem is required to modulate analog carrier signals to encode digital information through radio frequencies. Therefore, the TNC will interface with the transceiver and the computer.

Computer – A very modest computer can be utilized for Winlink (Windows XP or Version 7 will do fine); minimum memory: 512 kb.

Software— RMS Express is the recommended software. This is free to download from www.winlink.org

DETERMINING THE COM PORT

1. Find the serial port that the TNC is using. Go to start, settings, and control panel.

2. Select System. Go to hardware, select device manager.

3. Find Ports (COM & LPT). Click on (+) to expand the list. In this example the USB-Kantronics TNC is attached to the computer. Look for USB Kantronics TNC (COM7). Make a note of this COM Port.

4. Close Device Manager, Control Panel, and System Properties windows.

p 📂	🥵 🥙 Control Panel							
My Documents	System Properties		?×					<u>*</u>
	System Restore	Automatic Updates	Remote	Device Manager				의 2:3
	General Comp	uter Name Hardware	Advanced Fil	e Action View Help			-	
My [- Device Manager							
Computer	The Device Me your computer. of any device.	unager lists all the hardware devices i Use the Device Manager to change t Device Ma	nstalled on he properties e	Batteries Computer Computer Disk drives Display adapters	s brollers			, B
🤕 Recycle Bin	Driver Signing compatible with Windows conn Driver	lets you make sure that installed drive 1 Windows. Windows Update lets you ects to Windows Update for drivers. Signing Windows U	rs are set up how pdate	Keyboards Mice and other point Monitors Monitors Work adapters Monitor Construction Monitor Construction Monitor Monitor Monitor Monitor Monitor	ting devices /PN Adapter < 5100 AGN	ller	=	=
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SOFTWARE SET UP

- 1. Download RMS Express from www.winlink.org.
- 2. Click on RMS Express Setup and follow the install instructions.



3. Double click on the RMS Express Icon and RMS Express Properties window will open.



- 4. Enter your call in the "My Callsign" box.
- Enter your grid in the "My Grid Square" box. To find your grid square, Click on <u>Find my Grid Square</u> and enter your local data.
- 6. Click update. This will only have to be done the first time you start the software.

My Callsign:	W5EUL	Optional auxiliary callsigns
My shortened callsign:		Aux Call 1:
Add callsign suffix if required ((optional):	Aux Call 2:
My Grid Square:	EM12KU	Lat/Lon to Grid Square
My Password (optional):		Use Secure Login
NOTE: A password is requ	uired only if you us	e secure login.
Winmor registration key (optio	onal):	
Display list of pending incomi	ing messages prior	r to download
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- 7. Select "Packet WL2K from the drop down list.
- 8. Click on "Open Session".

W5EUI - Files	Message	Attachm	ents	Move To:	Saved Items	-	Delete	Open Session:	Packet WL2K	
	F ■ ≿			0	Saved Items	·	Perete	\wedge	Packet WILZN	
No active session										
System Folders	D	ate/Time	-	Message ID	Size	Source	Sender	Re	cipient	Subject
Inbox										
Read Items										
Sent Items										
Saved Items										
Deleted Items										
Drafts	-11									

9. Click on "Set Up". The "Packet WL2K/P@P Setup" box will appear.

Exit Setup Switch to Peer-to-Peer Session	Channel Selection Baud Start Stop
Connectiontype: Direct -	Via e
Connection script:	Edit script Add script Remove script

10. Select your TNC from the "Packet TNC Type" drop down.

Select your COM port from the "Serial Port" drop down.

If available, check the "Disable Xmt Level Adjust" box.

Click Update.

Packet TNC Type: TinyTracker 4			-	•	
Packet TNC Mo	odel:		5	*	AutoConnect Time
Serial F	^o ort:	COM	3	•	Diashlad
Serial Port Ba	aud:	9600	-	•	
NC Parameters					
	\odot	1200 Ba	bue	9600 l	Baud
TX Delay (Milliseconds):	400)	•	300	•
Maximum Packet Length:	128	}	•	255	•
Maximum Frames:	4		•	7	•
Frack:	2		•	2	•
Persistance:	160)	•	224	•
Slot time:	30		•	20	•
Maximum Retries:	5		•	5	•
lisable Xmt vel:		100	A V	100	* *

11. From the "Packet Winlink 2000 Session" window, enter the callsign of the eye gate nearest your location. See appendix for the Tarrant County eye gate list.

Connection type:	Direct •	K5PHP-5	Via	9000 Baud	Start	Stop
Connection script:		-	Edit script	Add script	Remove	script
Time to next Autoc	onnect - Disabled		-			
Standby Initialization comple	te					

12. Close the "Packet Winlink 2000 Session" window and the leave the main RMS Express window open.

WSEUL Files Message Attachments Move To: Saved Items Delete Open Session: Packet WL2K Logs Help No active session No active session System Folders Date/Time Message ID Size Source Sender Recipient Subject Inbox Read Items Outbox & Saved Items Delete d Items Drafts Personal Folders Contacts	🗱 RMS Express 1.2.13.0 - WS	SEUL					
No active session System Folders Date/Time Message ID Size Source Send Items Outbox Sent Items Deleted Items Drafts Personal Folders Contacts	W5EUL - Files	Message Attachments Move To	Saved Items 🔹	Delete Open Session:	Packet WL2K		Help
No active session System Folders Date/Time * Message ID Size Source Sender Recipient Subject Inbox Read Items Outbox Saved Items Saved Items Deleted Items Deleted Items Personal Folders Personal Folders Contacts Contacts<		🛯 눈 🚽 🛃 ≫ 📀					
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Inbox Read Items Outbox Sent Items Saved Items Deleted Items Drafts Personal Folders Contacts	System Folders	Date/Time 🔻 Message I	D Size Source	Sender Re	cipient Su	bject	
Read tiems Outbox Sent Items Saved Items Deleted Items Drafts Personal Folders	Inbox						
Sent Items Saved Items Deleted Items Drafts Personal Folders	Outbox						
Saved Items Deleted Items Drafts Personal Folders Contacts	Sent Items						
Deleted Items Drafts Personal Folders Contacts	Saved Items						
Personal Folders Contacts	Deleted Items						
Personal Folders	Drafts						
Contacts	Personal Folders						
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SENDING MESSAGES

1. Click "Message" and select "New Message. This window is similar most email systems.

RMS Express 1.2.13.0 - W5EUL	<i>.</i> ,										
W5EUL - Files Mes	sage Attac	hments Move To	Saved Items	•	Delete	Open Session:	Packet WL2K	•	Logs	Help	
		 🕜									
No active session											
System Folders	Date/Time	👻 🤟 Message	D Size	Source	Sender	r Re	ecipient	Subject			
Inbox Read Items Outbox Sent Items Saved Items Deleted Items Drafts											
Personal Folders											E.c.
Contacts											*

- 2. Fill your "To:" address, "Subject" and your email message.
- 3. When you have completed your message, "Click on "Post to Outbox".

	[ureu	1						
From:	WSEUL	•	• Wi	nlink Mérag	je 🔘	Peerto-Peer Message	Request read	rece
To:	wj2k@aml.net;							
Cc:								
Subject:	Winlink test mes	sage						
Attack	17							
Allach.	ND2							
nis is	a test of t	he Winl	ink s	setup.				*

2. Click "Open Session".

🗱 RMS Express 1.2.13.0 - V	V5EUL										
W5EUL - Files	Message Attachments	Move To: Sa	ved Items	•	Delete	Open Sessio	Packet WL2K	•	Logs	Help	
	· 🛛 눈 🔛 🎒 🔶 🛛	0									
No active session											
System Folders	Date/Time 🔻	Message ID	Size	Source	Sender		Recipient	Subject			
Inbox											
Outbox											
Sent Items											
Saved Items											
Drafts											
Personal Folders											
											*
Contacts											
[

3. Click on the "Start" button in the "Packet Winlink 2000" session box. You should see data activity in the Winlink session box and hear a brief modem transmission sound through the radio transceiver.

Packet Winlink 2000 Session				
Exit Setup Switch to Reen-to-Reen Session	Channel Selection	1200 Baud	Start	Stop
K5PHP-14 Via				
Received: 89 Sent: 289				
<pre>*** KISS TNC Kenwood TM-D710 A-Band initialized *** Connection pending *** Connected to K5PHP-14 Tarrant County P3 [wL2K-2.7.8.2-82FWIHJM\$] ;PQ: 01926620 Halifax CMS via K5PHP > [RMS Express-1.1.1.3-82FHM\$] ;PR: 56511544 ;K5PHP-14 DE KE5KPC (EM12KU) FC EM LJUU7XN8AQ0E 167 157 0 F> 71 FS Y *** Sending LJUU7XN8AQ0E FF FQ *** Disconnect pending *** Disconnected</pre>				

TARRANT COUNTY WINLINK EYE GATES

Call sign	Frequency	Baud Rate	Grid Square
K5PHP-2	144.930	1200	EM12GT
K5PHP-3	144.910	1200	EM12IR
K5PHP-4	144.990	1200	EM12GR
K5PHP-5	144.950	1200	EM12KU
K5PHP-8	144.990	1200	EM12HP
K5PHP-9	145.090	1200	EM12IQ
K5PHP-11	144.970	1200	EM12LR
K5PHP-12	145.010	1200	EM12IT
K5PHP-13	145.050	1200	EM12JP
K5PHP-14	144.030	1200	EM12JV

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