



Winlink 2000

May 22, 2007

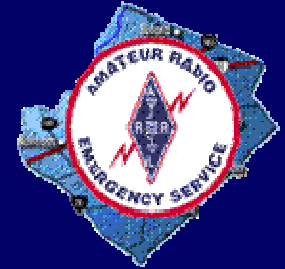
Gwinnett Amateur Radio Emergency Service

What is Winlink 2000?



Winlink 2000 is a full-featured radio digital message transfer system offering worldwide email transfer with attachments, position reporting, graphic or text-based weather bulletins, and supports emergency communications by linking amateur radio to the Internet.

What does Winlink do?



- Provides “last mile” email connectivity
- Limited file transfer capability
- Bypass of internet outages for messaging
- Utilizes packet modes over HF and VHF
- Uses encrypted, but open standard for more secure transmissions over radio
- In use daily by Amateurs at sea, in jungles and remote areas for email messaging, position reporting and weather reports
- Approved by ARRL for inclusion into ARES communications
- Provides standard email addressing – user@winlink.org

What Winlink is not?



- Winlink is not:
 - For instant message transfer (Winlink periodically polls for messages)
 - For transfer of large files (slow data rate, traffic considerations)
 - For point-to-point communications (requires connection to Winlink network)
 - Internet connectivity for all applications
 - Voice connectivity
 - Repeater linking

Brief History of Winlink



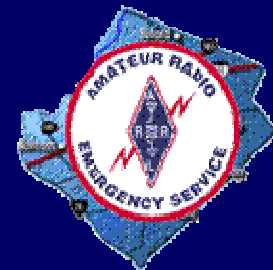
- 1986 – Began as Amlink (DOS) then Winlink Classic (Windows 3.1) for long-haul HF links to community Packet BBSs
- 1997 – Winlink Classic with Netlink and Airmail link HF digital radio with SMTP email
- 2000 – Worldwide Winlink network deployed using the Airmail client provides enhanced messaging over radio while integrating a total Internet interface
- 2006 - Army Military Affiliate Radio System (MARS) has launched the final phase of implementing Winlink 2000 with Airmail as a system-wide communication tool.
- Today – Mature, reliable working global messaging system

Winlink in Georgia

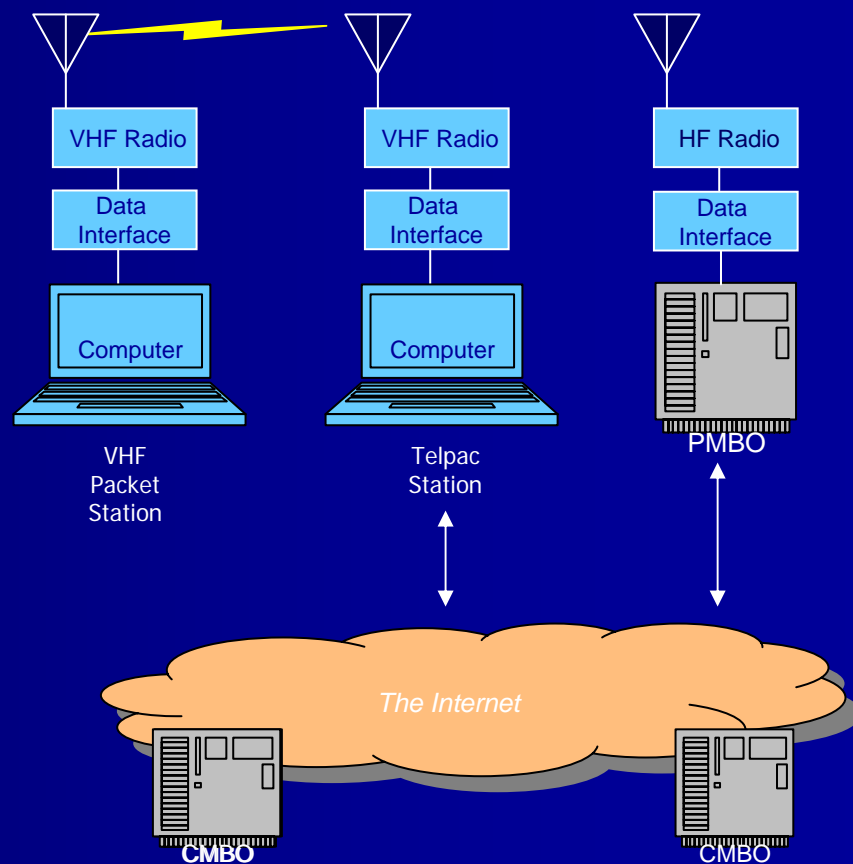


- Used statewide by ARES to support emergency communications
- Telpac nodes operational at Perimeter Mall area, Gwinnett County and Bellsouth Center
- HF test successfully conducted linking GEMA with various parts of state

How does Winlink work?



- Redundant CMBO/CMS (Detroit, San Diego) are common message servers
- PMBOs worldwide connect radio interfaces to Internet
- Local stations connect email programs via PC/radio



What do I need?



■ HF Configuration

- Pactor 1, 2 or 3 modem or 300 baud TNC (Pactor 1 @ 200 bps, Pactor II @ 800 bps. P3 @ 3600 bps.
- HF Radio
- Computer
- Airmail software

■ VHF Configuration

- 1200 Baud TNC (Kantronics KPC-3 most desirable) or Sound Card interface
- VHF radio with data port or sound card interface
- Computer
- Airmail or Paclink/AGW Packet Engine software

Setting Up Winlink Using Airlink on VHF



- Start with operating VHF Packet station
 - Compatible TNCs

KPC-3 Kam-98 KAM-XL KAM+ PK-232

PK-900 DSP-1232 DSP-2232 AGWPE

- Download and install Airlink v3.3 software (<http://www.siriuscyber.net/ham/>)
- Configure VHF Packet Client
- Configure Telnet Client
- Send email to register your email address

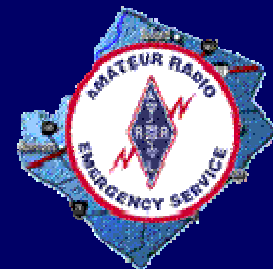
Airmail Main Screen



A screenshot of the Airmail software interface showing a message index. The window title is 'AirMail - [Message Index]'. The menu bar includes 'File', 'Edit', 'View', 'Message', 'Tools', 'Modules', 'Window', and 'Help'. The toolbar contains various icons for file operations and email functions. On the left, a folder tree shows the 'AirMail' folder expanded to 'Inbox'. The main pane displays a table of messages with columns for Message ID, From, To, Via, Subject, Size, Date, and File. The status bar at the bottom indicates '10 Messages, none selected' and the time '17:59:28 utc'.

Message ID	From	To	Via	Subject	Size	Date	File
1012_WB4QDX	Jim (ke6rk)		Import	Airmail 3.3.081 Release notes	25055	2007/05/20 17:00:16	C:\Program files\Ai
1004_KG4VUB	KG4VUB		HAM.Telnet.K4CJX	Re: New digi up in Gwinnett	1370	2007/01/10 06:06:06	C:\Program files\Ai
ZUCMDIM86A2F	SERVICE@CMS	WB4INZ	HAM.Telnet.K4CJX	User Notice	1708	2006/12/21 02:45:32	C:\Program files\Ai
O1DAIJJV2ZVW	SERVICE@CMS	WB4JRO	HAM.Telnet.K4CJX	User Notice	986	2006/12/21 02:45:32	C:\Program files\Ai
1002_WX4NET	WX4NET		HAM.Telnet.K4CJX	Test	469	2006/11/04 17:43:04	C:\Program files\Ai
1002_KG4VUB	KG4VUB		HAM.Telnet.K4CJX	HELLO AT THE HAMFEST	1442	2006/11/04 17:11:24	C:\Program files\Ai
CUW9FF3AOA9X	nobody@eart...		HAM.PKT.KM4Z-10	Re: SNELLY working well	1068	2006/10/06 01:10:02	C:\Program files\Ai
1064_KG4VUB	KG4VUB		HAM.PKT.KM4Z-10	Re: (no subject)	675	2006/10/05 02:16:46	C:\Program files\Ai
1037_K4HBI	K4HBI		HAM.PKT.KG4VU...	Re: (no subject)	511	2006/10/03 02:53:38	C:\Program files\Ai
1007_KI4KXO	KI4KXO		HAM.PKT.KM4Z-10	Test Wilink Message	528	2006/10/03 02:17:48	C:\Program files\Ai

Configuring AirMail



AirMail Options [Close]

Connection | Settings | Folders | AutoAnswer | Routing | Fonts | Modules | Spelling

Enabled Modules

<input type="checkbox"/> Terminal Window	Setup	<input type="checkbox"/> Auto-Start	<input checked="" type="checkbox"/> Show in Taskbar
<input type="checkbox"/> Mail (pop/smtp) Client	Setup	<input type="checkbox"/> Auto-Start	<input checked="" type="checkbox"/> Show in Taskbar
<input checked="" type="checkbox"/> VHF Packet Client	Setup	<input type="checkbox"/> Auto-Start	<input checked="" type="checkbox"/> Show in Taskbar
<input checked="" type="checkbox"/> Internet Access (Telnet)	Setup	<input type="checkbox"/> Auto-Start	<input checked="" type="checkbox"/> Show in Taskbar
<input type="checkbox"/> Mail (pop/smtp) Server	Setup	<input type="checkbox"/> Auto-Start	<input type="checkbox"/> Show in Taskbar
<input type="checkbox"/> VHF Packet Server	Setup	<input type="checkbox"/> Auto-Start	<input checked="" type="checkbox"/> Show in Taskbar
<input type="checkbox"/> Position Reports	Setup	<input type="checkbox"/> Auto-Start	<input type="checkbox"/> Show in Taskbar

Check "Show Hints" to display hint messages in this box

Show Hints

Apply Cancel OK

Configuring VHF Packet Client



Packet Settings [X]

Connection

TNC type:

Comm Port:

Baud Rate:

Show link messages

Port Settings

Port 1

Tx Delay: (ms)

Persistence: (1-255)

Slot Time: (ms)

Max Frames:

Frack (frame ack): (ms)

Max Retries:

Response delay: (ms)

Check time: (sec's)

Packet Length: (bytes)

Tx Audio Level: millivolts)

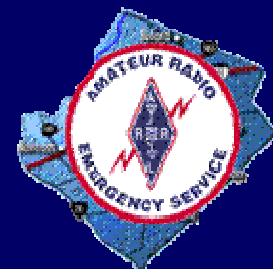
Radio Baud rate:

Check "Show Hints" to display hint messages in this box

Show Hints

Cancel

Setting Packet Stations



Packet Client

Connect to: **KM4Z-10 LAW** Connect As: **WB4QDX-1**

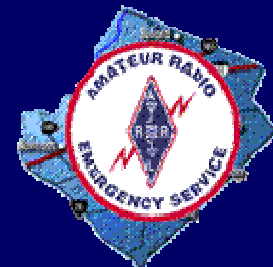
2007/05/20 17:09:13 Packet initialized
2007/05/20 17:12:00 Calling KM4Z-10

- KM4Z-10 V LVL
- KG4VUB-5
- KG4VUB-5 V N3DAB-1
- KG4VUB-5 V WX4GMA
- WX4GMA-10 V W4PME**
- KG4VUB-10 V W4PME
- W4PME-10
- KM4Z-10 V SNELLV

Tx Data 0/0 bytes Rx Data 0/0 bytes

Auto check
 Check every **8** minutes at **00** minutes after Next: 17:52:00 **Hide**

Configuring Telnet



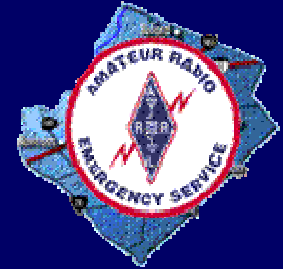
The screenshot displays the "Internet Access (Telnet)" application window. The main window has a menu bar with "File", "Edit", and "Tools". Below the menu bar is a toolbar with a green status indicator, a red "STOP" button, and icons for a printer and a keyboard. A dropdown menu is open, showing a list of call signs: "K4CJX", "K4CJX", "K4SET", and "NOIA". To the right of the dropdown are buttons for "Settings", "Delete", and "New".

At the bottom of the main window, there are sections for "Tx Data" and "Rx Data", both showing "0/0 bytes". Below these are "Connection" and "Auto check" options. The "Auto check" section is checked and set to "Check every 10 min at 0 minutes after the even interval" with a "Next: 18:10:00" display. At the bottom right of the main window are buttons for "Check All", "Cancel", and "Hide".

A "Telnet Settings" dialog box is overlaid on the right side of the main window. It has a title bar with a close button. The dialog is titled "Telnet Settings" and contains the following fields and options:

- Connection Properties:**
 - Remote Callsign: K4CJX
 - Remote Host: k4cjsx.no-ip.com
 - Port: 12001
 - Timeout (sec): 60
 - Local Callsign: WB4QDX
 - Password: WL2KTELNETCLIENT
 - Protocol: B2 B1
 - Include in Auto-check
- Buttons: "Cancel" and "OK"

Telnet Stations



WL2K PMBO

	Remote Host	Port	Password
K4CJX	k4cjx.no-ip.com	12001	WL2KTELNETCLIENT
AH6QK	ah6qk.no-ip.com	12001	WL2KTELNETCLIENT
IV3XHR	iv3n0ia.no-ip.com	12001	WL2KTELNETCLIENT
KA6IOA	6swan.dyndns.org	12001	WL2KTELNETCLIENT
KB6YNO	kb6yno.no-ip.com	12001	WL2KTELNETCLIENT
KN6KB	kn6kb.no-ip.com	12001	WL2KTELNETCLIENT
K4SET	k4set.no-ip.com	12001	WL2KTELNETCLIENT
K7AAE	k7aae.no-ip.com	12001	WL2KTELNETCLIENT
K6IXA	k6ixa.no-ip.com	12001	WL2KTELNETCLIENT
N0IA	n0ia.no-ip.com	12001	WL2KTELNETCLIENT
VE6KBS	ve6kbs.no-ip.com	12001	WL2KTELNETCLIENT
VE1YZ	ve1yz.no-ip.com	12001	WL2KTELNETCLIENT
WA2DXQ	wa2dxq.no-ip.com	12001	WL2KTELNETCLIENT
WB0TAX	208.254.214.102	12001	WL2KTELNETCLIENT
WD8DHF	wd8dhf.no-ip.com	12001	WL2KTELNETCLIENT
WG3G	wg3g.no-ip.com	12001	WL2KTELNETCLIENT
WX4J	wx4j.no-ip.com	12001	WL2KTELNETCLIENT
W7IJ	w7ij.no-ip.com	12001	WL2KTELNETCLIENT
W9GSS	w9gss.no-ip.com	12001	WL2KTELNETCLIENT
ZL1MA	zl1ma.no-ip.com	12001	WL2KTELNETCLIENT
ZL2UT	zl2ut.no-ip.com	12001	WL2KTELNETCLIENT



