

WINLINK 2000 RADIO-EMAIL OVERVIEW

The Winlink 2000 global radio network messaging system gives ARRL operators the ability to send email by radio to augment the operations of our own responders and those we support. Email messaging is the common denominator which ensures interoperability between our operators and all those agencies we serve. This attribute is very well suited to modern incident command strategies.

Amateurs and officials alike are familiar with creating and sending emails. The Winlink 2000 system uses email applications for the user interface and the process of sending and receiving mail is similar to using any internet service provider. Not only can radio email now be sent when the telephone system and internet are down in an affected area, but officials may send such mail from their own computers at their own desks or in the field with amateur radio operator supervision. This is what our served agencies need.

The Winlink 2000 system operates as a global “email server” for all user clients which can access the system over radio links. It can handle email between all connecting clients with call sign or “tactical” addresses and exchange email with addressees on the

public internet through a filtered and secure interface. The system also provides valuable weather, location information and system bulletins for all users.

Radio-email on Winlink 2000 may contain multiple addressees and multiple copies, and may contain binary attachments limited in size only by the speed of the radio links in use. Winlink 2000 radio-email generally moves quickly around the world with delivery times to the addressee's mailbox or ISP within a few minutes or less.

AIRMAIL: The Winlink 2000 system uses two different client software programs. Any amateur operator in ARES[®] or NTS/NTSD can access the system as an email client using free **AirMail** software with a modest computer (Windows[™] 95 or better). With the addition of a basic KISS TNC, cost vary from \$50.00 and up, and a VHF/UHF radio the operator can bridge across the "last mile" where the telephone service and internet are down. This is a very modest equipment list allowing ARES[®] teams to deploy the technology at minimal cost. AirMail has its own built-in email application and can access the system via the internet, VHF/UHF packet radio or HF radio.

PMBOs: Winlink 2000 distributes email through “public” primary mailboxes (PMBOs) set up around the world, and through special PMBOs within ARES[®] jurisdictions, all linked over private internet connections to a distributed central mailbox (CMS) system. ARES[®] PMBOs can serve all radio connected clients even without an internet connection. There are over 35 public PMBOs in operation in the US and more are being deployed in jurisdictions throughout the US and Canada - many with both VHF/UHF and HF radio access. In most ARES[®] jurisdictions the deployment of Winlink 2000 will consist of local area networks on VHF, UHF or frequencies permitting higher speed wideband connections. Stations in VHF/UHF range access the system through local gateway (**Telpac**) stations. There are over 600 Telpac gateways already in operation. (See the <winlink.org> web site stations page and downloads page for current lists of PMBOs and Telpac gateways.)

ROUTING: A powerful feature of Winlink 2000 is that the routing of all mail is automatic and dynamic. A client can connect to any of the system ports and exchange mail with any other client in the system. Client stations may move about and connect via any link path to an available port and mail will be

automatically forwarded.

LANs: Building radio local area networks to connect everyone to the system and tie our clients together when the telephones lines and internet are down lets all of us exchange email over radio as easily as clicking “send” on our email program. This also gives the ARRL a common communications layer to fully integrate the operations of all ARES[®], NTS and NTSD services nation-wide.