WINLINK Radio-Only For the Traffic Handler

by Gordon Gibby KX4Z

This article is designed to assist the nation's amateur radio traffic handlers in taking advantage of the radio-only capabilities of HF WINLINK gateway stations---without any usage of the Internet at all-- in the furtherance of traffic passage. The nation's cadre of trained traffic handlers represents a valuable emergency and public service resource in the event of a massive regional or national communications outage. There are now multiple known possibile scenarios for just such an emergency. So bolstering and furthering the traffic capabilities of the nation's amateurs is a worthy goal.

While the traditional *modus operandi* of the WINLINK sytem is to move traffic (typically by HF radio) completely OUT of an area bereft of internet resources (whether at sea or on land) and then utilize remaining Internet operability to push the traffic to the actual email address of the desired recipient, the RADIO ONLY system is <u>completely different</u> and <u>completely independent of the Internet</u>.

The Radio-Only system is a slightly quirky and completely independent system, which Mike Burton took pains to try and teach me.

It offers significant flexibility to amateurs who are unable to make traffic schedules because of skip zones and propagation difficulties, due to its ability to relay traffic (emails, or emails with attachments of any kind including radiograms) hopskotching from automated station to another until reaching the desired point of pickup.

Message Pickup Stations (MPS)--- that's a key feature of the Radio Only system. Because it *never* uses the internet, recipients CAN NOT pick up their messages by normal internet email. Telnet Winlink doesn't work for this! Rather, <u>they MUST make radio contact to one of their chosen Message Pickup Stations and download their email from that station</u>, where it will be cached automatically for them.

Uploading messages is a bit easier --- while you can make radio contact directly to a known Message Pickup Station of your intended recipient, you can also upload the message to any gateway that is a Hybrid Participant (and preferable, one with "auto" forwarding enabled) --- and it will then arrange for automated relays of the traffic to the Message Pickup Station(s) of the desired recipient. I've seen that system move messages across 2,000 miles in an hour or so, utilizing computer-chosen intermediaries to get around propagation difficulties....it can also get hung up for hours!

This system is easily overloaded. It depends completely on HF radio passage of traffic, by PACTOR modem between gateways. Thus messages should be kept to as small a size as possible, preferably under 1,000 characters (200 words) and only in extraordinarily rare circumstances any larger than say 3,000 characters. It just takes too long to get them transferred over previous limited FCC-allocated bandwidth, which for automated stations such as this, is only a few kiloHertz on some bands.

In order to utilize this system, a traffic station needs to do two things: (assuming they already have a WINLINK account and are somewhat familiar with the basic operations of the WINLINK system -- if not, please review that in any of the many available written and video tutorials on WINLINK):

FIRST: they must pick a Message Pickup Station and record it within their WINLINK EXPRESS software. If they are planning to use this as a liaison between themselves and another traffic handler, it would be advantaeous if they picked a station *which both parties can usually easily reach*. For example John Jones and Sally Quinn might be unable to have good contact because they are outside ground-wave range, and inside a skip zone; e.g., they might be 100-200 miles apart and if the critical frequency drops precipitously, they can find themselves unable to reach each other unless they switch to 160 meters. However, BOTH might have easy communication to a WINLINK hybrid gateway that is roughly 300-400 miles from each of them. If both stations pick that gateway as their single Message Pickup Station, email that they leave for each other on that single station (by using radio) will stay right there -- not clogging up any other portion of the vast (but limited) WINLINK radio only system -- and the other party can pick it up and deposit other email at opportune moments.

You pick a Message Pickup Station inside WINLINK EXPRESS by selecting SETTINGS | Hybrid Network Parameters from the menu options:
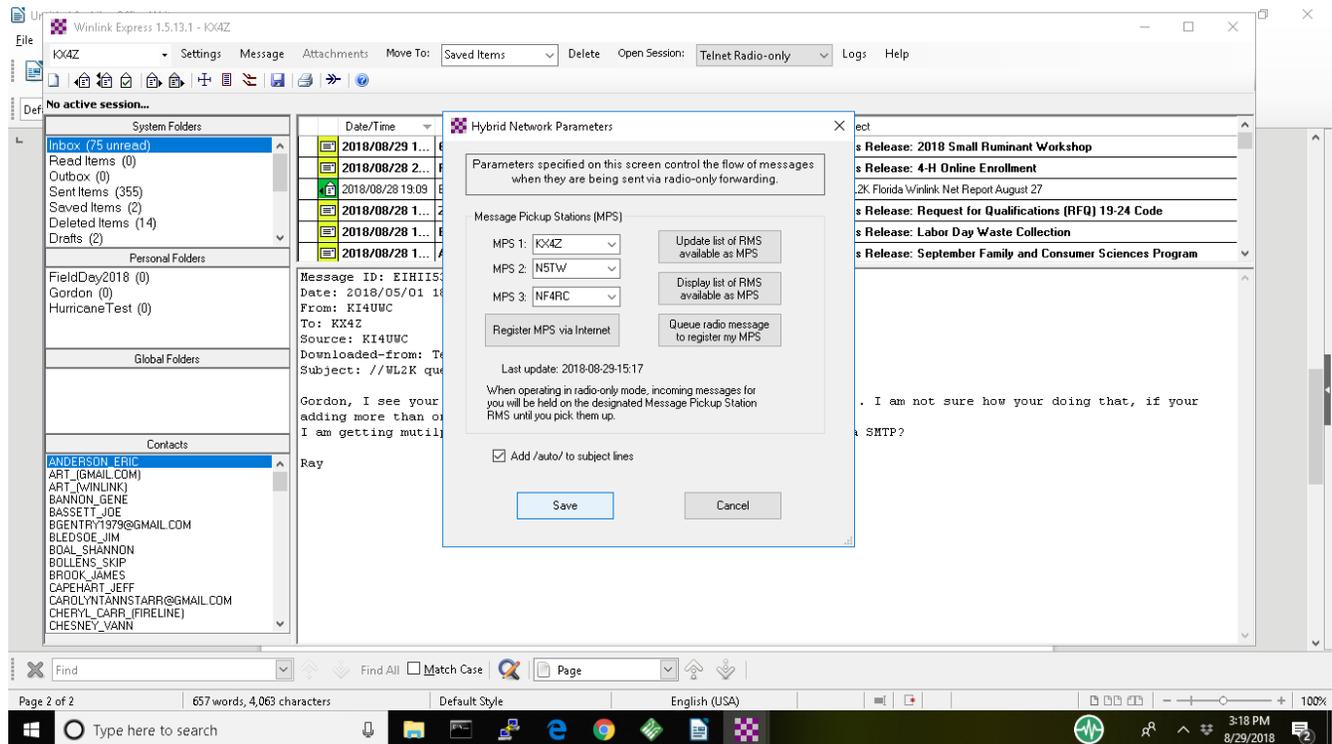

The dialog box will offer several options:

- Update the list of available MPS stations (get the latest lists)
- Display the List
- Register your choices via Internet
- Register your choices via message (useful if the Internet is already gone)

Traffic handlers might pick one advantagesously located station, choose it in their MPS1 drop down list, and then register their choice by Internet -- it's done!   You must REMEMBER your MPS and if possible let your counterparty know of it so you don't waste radio bandwidth with intermediate relays unless necessary.   If you choose additional MPS stations, your email will be MIRRORED (by radio!) to those stations as well, but that obviously uses up more radio bandwidth.   Choosing /auto/ forces the system to bypass any stations that do "manual" forwarding requiring sysop intervention.   (If you don't know your counterparty's MPS selections, they will still be able to get the message --- but unless they know to check, they may never complete the transaction; see below.)

SECOND: The traffic handler must both create messages and make connections completely inside the RADIO ONLY system.   This trips up new users, who may unknowingly accept the default "Winlink Email" option in the message creation dialog.   In order to create email (with or with out attachments) that will flow through the RADIO ONLY system, one must explictly choose the drop down for RADIO -ONLY when creating the traffic:
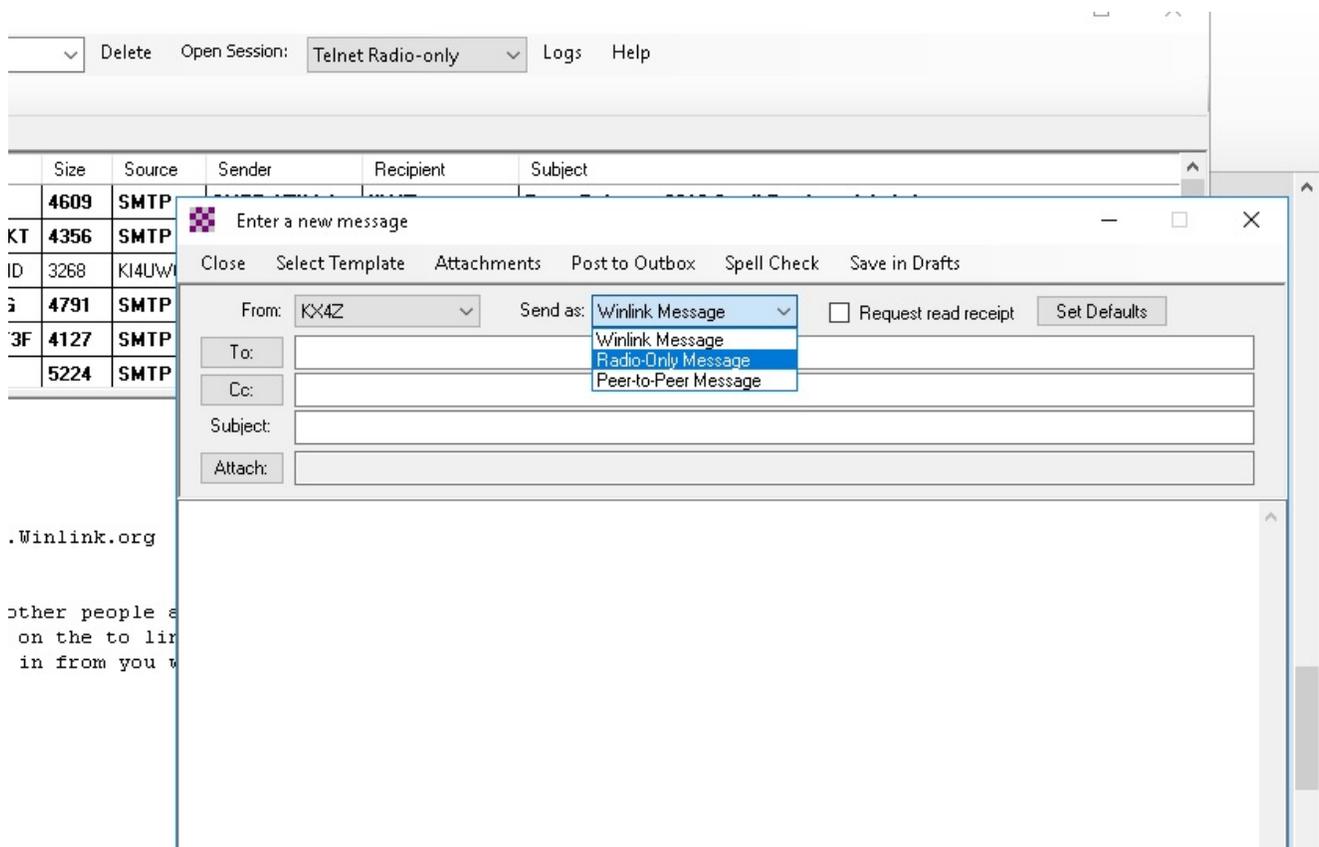
Note the "**Save As: Radio Only Message**"   choice at the top of the dialog box for creating the message--- fail to do this, and your message will NOT upload when you make contact to your Radio Ony MPS station!   It usually frustrates me no end, until I remember this important step!   This is a completely separate system from normal WINLINK and it has to be done correctly!

Now, when you are ready to connect to a Hybrid Gateway (ie. one with Radio Only Capabilities) at present (August 2018) you have only two possible Session types (connection modes):
- **PACTOR Radio-Only** or
- **WINMOR Radio Only** (soundcard):
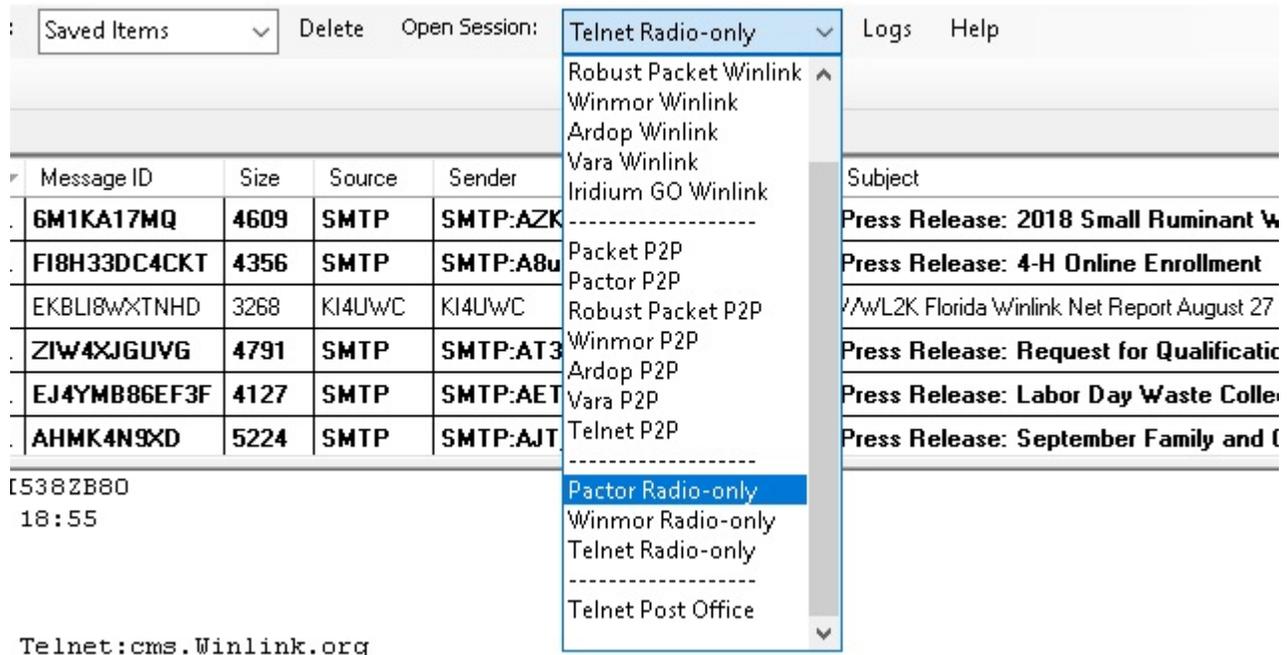
The Telnet Radio-Only probably is useful to you only if you live colocated with your MPS gateway (as I do) or if you have AREDN or other high speed radio microwave connection tosuch a gateway...

Both **Pactor Radio-only** and **Winmor Radio-only** work well. Obviously Pactor can be more reliable and faster and work inmore difficult situations, but having Winmor Radio Only available means that traffic handlers can utilize this system with only a cheap soundcard digital access, and no need to purchase the expensive PACTOR modem.

GOTCHAS:

It's important to know that this Radio Only system is SO completely separate from the normal system that if you make a normal radio winlink connection to your gateway (not a Radio-Only session type) -- you will NOT receive radio-only mail waiting for you; you will NOT be notified of that mail; and your Radio-only email sitting in your Output buffer will NOT transfer!!!   Completely separate system!

So if you're used to handling "regular" winlink email also, you may need to make TWO radio connections to the winlink system in orderto transact both your normal and your RADIO-ONLY

traffic.   Of course, if your usage of the system of the system is ONLY for Radio-Only, then you need only make that type session connection.

A local dedicated traffic handler in my area has discovered the utility of this system and he now checks into my home gateway RADIO-ONLY every morning (probably to pick up some message from someone) and can leave me traffic as well. Winlink differentiates between client and server names, so from my easy chair I can make a Telnet Radio Only connection to my gateway on the 2nd floor using my house wireless system, and pick up any message he sends me!   But that situation is probbly pretty unique.

If you have questions about this system, don't hesitate to contact me.

Cheers,

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