Thanks to Rick (AJ4FW) for being the RMS Relay VHF only pioneer, being the first to get this operational. And to his team that tested the installation: Les (N4LPK), Bob (KJ4SV), Brent (W8XG) and John (KM4EJE)

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Background:

Winlink gateways, such as N4SER-10, normally transfer emails between a radio equipped with a TNC or soundcard modem and an internet server (CMS). If the internet is down a gateway will refuse connections. The Winlink Hybrid system (<u>Link</u>) was created to handle situations when the internet is unavailable to a gateway.

This document is a tutorial on how to set up a gateway that is running RMS Packet (<u>Link</u>) so it will accept and hold incoming messages when the internet is down. When the internet is restored the messages will be forwarded to a CMS as usual. If a local station should check in over the air while the internet is down, any messages held for them will be downloaded to them.

RMS Relay is the program that manages a gateway when the internet is down.

Instruction on how RMS Express behaves when connected to a gateway without the internet can be found at the end of this tutorial.

Install RMS Relay

 $\circ~$ As a computer administrator log into your sysop Winlink account

- Navigate to the Sysop Software
- At the bottom of the page click Winlink FTP site
- Click Sysop Programs
- Click RMS_Relay_install_xxx.zip where xxx is a date.
- The software will download.
- o Unzip the file and run the setup as administrator
- You will have to navigate to the RMS Relay folder and create a shortcut and place it on the desktop.

Install VOACAP program << this may not be necessary

- Even though this installation will not be using HF the Voice of America propagation prediction program VOACAP may be installed. RMS Relay will display warning messages if this is not installed. Installing it will do no harm to the system.
- At this time it can be found on the WinLink Hybrid program page (<u>http://www.winlink.org/HybridNetwork</u>) or via FTP (<u>ftp://autoupdate.winlink.org/User%20Programs/itshfbc</u> 120722.zip)
- \circ $\,$ Follow the installation instructions accepting the defaults.
- VOACAP will install into C:\itshfbc.
- An icon will be placed on your desktop.

Initial run of RMS Relay

o Run RMS Relay and this screen appears:



- Select "Operate as a normal ...
- o Click Save

Fill in the Site properties to match the settings in RMS Packet

RMS Relay Site Proper	ties			
Base Callsign (no SSID):	N4SER	Password:	•••••	•
Site Callsign:	N4SER			
Site Grid Square:	EL86SH			
Service codes:	PUBLIC			
Incoming connection port:	8772 (Default is 8772)			
Inhibit autom Expiration Periods Keep local users Expire and delet Expire and delet	atic updates : listed for 7 days after last sr e messages after this many days: e log files after this many days: 1	een Purge all loc. 21	al users	
	Manually enter off-line	registration key Cancel]	

Base Callsign - The sysop's call sign without prefix, suffix, or SSID. Example: W1ABC The base call sign and its associated password **must** exist in the Winlink data base.

Site Callsign - The callsign used by this program to identify itself on the air. In order to participate in the Winlink Hybrid Network, the callsign must be no longer than 6 characters, and it must *not* contain a SSID extension (i.e., "-*nn*").

Password - Letters and numbers between 4 and 12 characters long. This is your Winlink 2000 password.

Grid Square - A six character grid square to indicate the location of this site.

Service Codes: This is the code (or codes, separated by space). For amateur use use PUBLIC.

"Keep local users..." - Packet users connecting through RMS Relay are normally remembered in the "Local Users.txt" file for 7 days from the last time the station connected through RMS Relay. The "Local Users.txt" file controls what addresses are downloaded to RMS Relay from the CMS when using HF backup. You may change the length of time a local user remains on the list by altering this value.

"Expire and delete messages after this many days" - Messages stored in the local RMS Relay database are retained for this number of days and then deleted.

"Expire and delete log files after this many days" - RMS Relay generates several log files to record what it's doing. The log files will be expired and deleted after this many days.

"Manually enter off-line registration key" - Normally, RMS Relay connects through the Internet to verify that a station is authorized for gateway access. However, for RMS that are operating without an Internet connection, it is possible to obtain an off-line registration key from the Winlink System Administrator that may be entered to register the program. The installation will not proceed until this menu is correctly filled in. This information will be stored in the .ini file and in the SysopRecords table in the WLWMaster database. *From the Help file: Configuration / Setting the Site Properties*

• Click Settings then Operating Mode & HF Forwarding and set up as follows:

Operating Mode and HF Forwarding Control	
Operating Mode	
 Only accept connections if Internet is available If Internet is not available, accept only radio-only Radio-only, local message hub Store messages Hold for Internet access Store messages locall Stand-alone Network "post office" - Not part of the store in the store is store in the store is store in the store is store in the store in the store in the store is store in the store is store in the store in the store in the store is store in the store in	forwarding connections and deny CMS connections s locally. Do not upload messages through Internet y until Internet is available, then upload them he Winlink network
HF Message Forwarding Control Do not forward messages via HF 	
 Forward messages via HF to another RMS conn Operate as a node in the Winlink hybrid network 	ected to the Internet (Trimode must run)
Minutes to delay after Internet loss before starting ra	dio-only network operation: 30
Automatic Sending Control	Trimode Control
Enable automatic operation	Automatically start and stop Trimode
(May not be used on USA ham bands)	Start Trimode minimized
Seconds before starting: 20	Folder where Trimode is stored:
Minimum seconds between sends: 30	C:\RMS\RMS Trimode\
Maximum minutes sending: 20	IP: 127.0.0.1 Port: 8510
	(Default port is 8510)
Check for busy channel before transmitting	Pactor Level for Forwarding
Emphasize Pactor signals for busy detection	Minimum: 2 👽 Maximum: 4 👽
(Requires P4 modem with 1.17.8 or later firmware)	
Ignore busy after this many minutes: 600	Folder (or VOACAR (bability)
Simulate Internet Outage	C:\itshfbc\
Sava	Cancel
Jave	Carlet

- Minutes to delay ... 30 is questionable.
- Trimode Automatic Start clicked or unclicked?
- $\circ \quad \text{Click Save} \quad$

RMS Packet

- o Open RMS packet and then the File / Site Properties Configuration Window
- Click 'Use RMS Express'. A checkmark should appear in the box in front of the option.
- o Click Update, then Close.

Base Callsign	(no SSID): N4SER	Operating Hours:	24/7
	Password	Start Minimized	
Grid emune (C	ebwaster) EL 970U	Archive Old Logs	VIP Timeout (seconds): 8
ond square (o			
Use	direct access to TNC 💿	Site Operation / Service C	ode
Use AGW Packet Er	ngine to Access TNC 🔘	Public 🕑 Priv	
Use BF	PQ32 to Access TNC 🔘	Lustom Service Lode	PUBLIC
Repo	ort disabled channels 🗹		
equest permission befo	re installing updates: 🔲	 Allow diagnostic information to 	be sent to the Winlink Develo
		0.0.1.4.11	
	Use RMS Relay 🔽 🛛 RM	S Relay Address: local	host
er Dala	Use RMS Relay 🗹 🛛 RM	IS Relay Address: local	host
yp Data	Use RMS Relay 🗹 🛛 RM	S Relay Address: local	host
op Data Sysop Name:	Use RMS Relay 🗹 🛛 RM Den Spiess	S Relay Address: local	W2DEN@comcast.nu
Sysop Name: Street address 1:	Use RMS Relay 🕑 RM Den Spiess 604 Tarpon Way	S Relay Address: local Sysop email (non-Winlink): [Sysop Web Site URL (optional): [W2DEN@comcast.nv www.n4ser.org
p Data Sysop Name: Street address 1: Street address 2:	Use RMS Relay 🗹 RM Den Spiess 604 Tarpon Way	S Relay Address: local Sysop email (non-Winlink): Sysop Web Site URL (optional): Phone numbers (optional):	W2DEN@comcast.n www.n4ser.org
Sysop Name: Street address 1: Street address 2: City:	Use RMS Relay V RM	S Relay Address: local Sysop email (non-Winlink): Sysop Web Site URL (optional): Phone numbers (optional): Additional information (optional)	W2DEN@comcast.n www.n4ser.org
Sysop Name: Street address 1: Street address 2: City: State/Province:	Use RMS Relay 🕑 RM Den Spiess 604 Tarpon Way Nokomis FI	S Relay Addres: local Sysop email (non-Winlink): Sysop Web Sate URL (optional): Phone numbers (optional) Additional information (optional) [1455E-10 Red Cores Winlink	W2DEN@comcast.m www.n4ser.org Sarasota FI
Sysop Name: Street address 1: Street address 2: City: State/Province:	Use RMS Relay V RM Den Spiess 604 Tarpon Way Nokomis FI 1154	S Relay Address: local Syscop email (non-Wrink): Syscop Web Site URL (optional) Phone numbers (optional) Additional information (optional) N45ER-10 Red Cross Wrink	W2DEN@comcast.m www.n4ser.org Sarasola FI
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Sysop Name: Street address 1: Street address 2: City: State/Province: Country: Postal code:	Use RMS Relay V RM Den Spiess 604 Tarpon Way Nokomis Fi USA 34275	S Relay Addres: local Systop email (non-Winlink): Systop Web Site URL (optional): Phone numbers (optional): Additional Information (optional) N4SER-10 Red Cross Winlink	W2DEN@comcast.nr www.n4ser.org Sarasola FI

RMS Express

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• Properties: Make sure that "Warn about connections to stations holding messages" is NOT checked



Force a gateway into radio mode only,

RMS Relay / Settings / Operating Mode & HF Forwarding / check: Simulate Internet Outage

Simulate Internet Outage

Connecting to an RMS Relay / Packet Gateway when the internet is down, or in test mode.

o You will see this message, or something very similar appear on the RMS Express Session Screen

No CMS connection is currently available. Messages will be held until the Internet connection is available and then forwarded.

• Then if the RMS Relay / Packet station is in test mode the following window will open:

The serve Messages	er you connected to does not current s posted through this server will be he	ly have an Internet connection to a CMS ser eld for an indeterminate amount of time until a
Internet co	onnection is established and then for	warded to a CMS. Do you want to continue
6	Connect to this server	Cancel the connection
L		

• You can:

- 'Connect to this server' if you must get the e-mail delivered.
- 'Cancel the connection' then nothing happens. Your e-mail will not be uploaded
- Choose not to see the message again then when the system is in the radio only test mode messages will be delivered to the gateway and held until:
 - The internet is restored by turning off radio only mode
 - The recipient logs in an retrieves the message.