

**winlink**

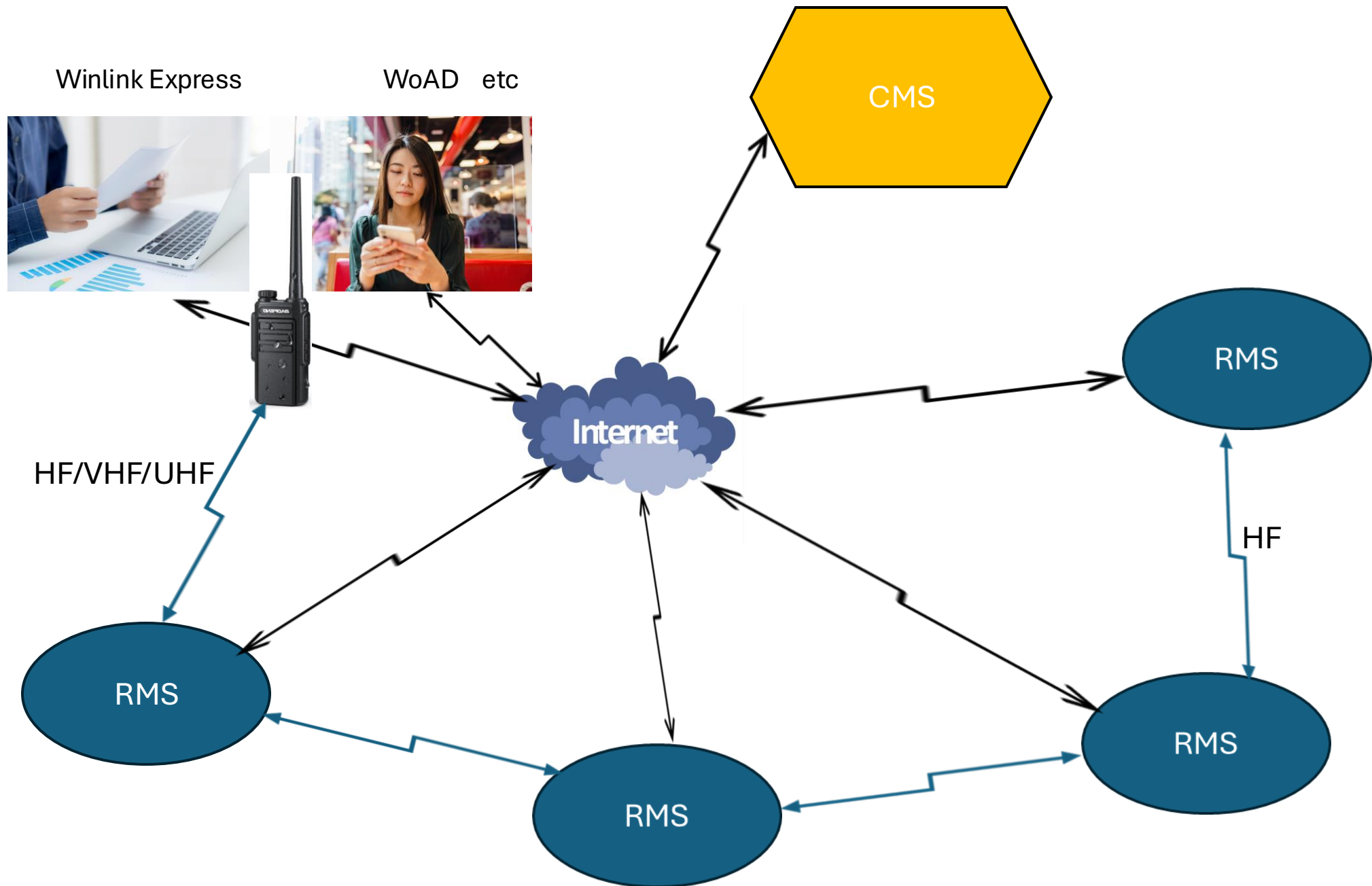
MARC 8 August 2024 ZL3TIL ZL2GBX

# Winlink Development History

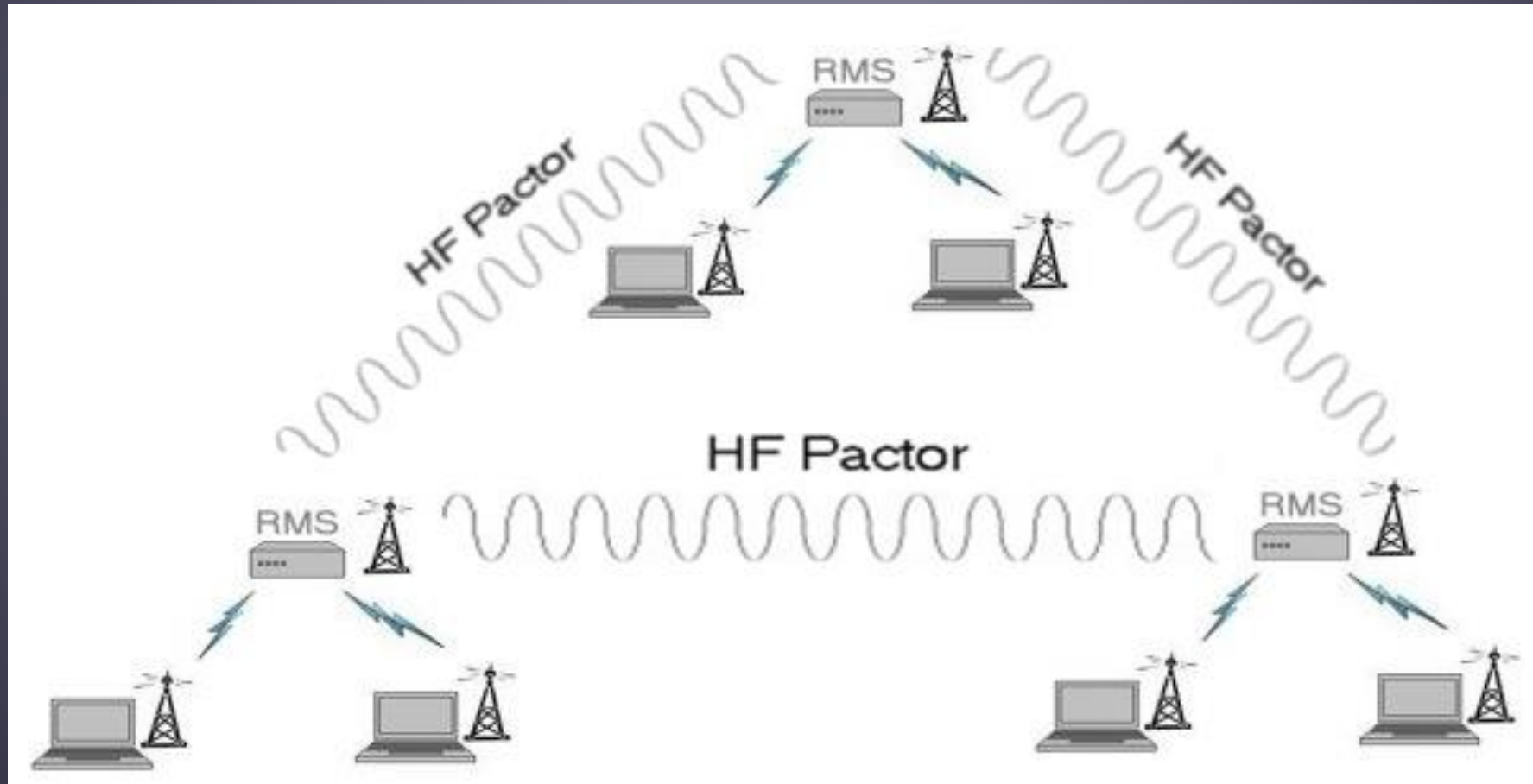
- **Winlink** is a worldwide radio messaging system that uses amateur-band radio frequencies and government frequencies to provide radio interconnection services that include email with attachments, position reporting, weather bulletins, emergency and relief communications, and message relay. The system is built and administered by volunteers and is financially supported by the Amateur Radio Safety Foundation.

# Continuity: Lessons Learned

- *Sustaining essential functions* is dependent on the availability of resilient communications systems.
- *Alternative communications* methods are essential.
- *Immediate availability to resilient communication* at primary and alternate locations must be ensured.
- Infrastructure-related outages usually endure for significant periods.
- *Volunteers (“Hams”)* can provide important information about the extent of outages via radio by providing situational awareness “ground truth” within specific jurisdictions and beyond.
- *Volunteers resources* may be trained to install, operate and maintain alternate resilient systems, alleviating agency personnel to perform other functions.



## Radio-Only Winlink Network (No Internet - MESH)



# Using Winlink

# What you need to use Winlink



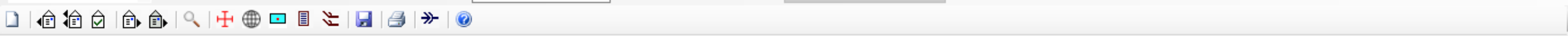
Winlink Express  
[VARA HF]





IF YOU CAN DO DIGITAL MODES  
LIKE FT8 YOU CAN DO WINLINK





In Vara HF Winlink session.

- System Folders
  - Inbox (4 unread)
  - Read Items (0)
  - Outbox (0)
  - Sent Items (31)
  - Saved Items (0)
  - Deleted Items (3)
  - Drafts (0)
- Personal Folders
- Global Folders
- Contacts
  - AREC CENTRAL
  - AREC\_NORTHERN\_(AUCKLAND)
  - AREC\_NORTHERN\_(GISBORNE)
  - AREC\_SOUTHERN\_REGION
  - AREC-RUWHENUA
  - HOME\_EMAIL
  - HOME\_EMAIL2

	Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
	2024/06/30 08:00	ZAYQ841GC2GK	31049	ZM1SEA	AREC-CHECKIN	ZK1EBW...	AREC-Check-In Net Results Dated 30.06.24
	2024/06/29 17:39	5B9D3LGZRT64	493	AREC-C...	AREC-CHECKIN	ZL2GBX	ACK: Winlink Check-in EXERCISE - ZL2GBX - Home QTH, Blenheim - Branch 22
	2024/06/23 08:02	6HUDT0BVN1L0	54154	ZM1SEA	AREC-CHECKIN	ZK1EBW...	AREC-Check-In Net Results Dated 23.06.24
	2024/06/16 07:33	V831W8G5N0BZ	849	ZM1SEA	AREC-CHECKIN	ZK1EBW...	EmComm training Exercise June 20th
	2024/06/16 0...	OBZ3ZLQFR...	62763	ZM1SEA	AREC-CHECKIN	ZK1EBW...	AREC-Check-In Net Results Dated 16.06.24
	2024/06/16 0...	BGYZQ2LT6LLJ	493	AREC-...	AREC-CHECKIN	ZL2GBX	ACK: Winlink Check-in EXERCISE - ZL2GBX - Home QTH, Blenheim - Branch 22
	2024/06/13 15:56	XJC5HT4QWAF6	535	KN4LQN	KN4LQN	W4JLP...	Winlink Wednesday Net Confirmation (Episode #405)
	2024/06/12 18:34	RRLYB7NLMSBT	496	AREC-C...	AREC-CHECKIN	ZL2GBX	ACK: Winlink Check-in EXERCISE - ZL2GBX - Home QTH, Blenheim - Branch 22
	2024/06/12 07:44	94V6S7HDE206	802	ZK7EVB	AREC RUWHENUA	ZL2GBX	Re: Winlink Check-in EXERCISE - ZL2GBX - Home QTH, Blenheim - Branch 22

Message ID: 5XJ7DBIRWE1G  
 Date: 2024/03/12 06:25 (UTC)  
 From: gjbceds@gmail.com  
 To: ZL2GBX  
 Source: SMTP  
 Downloaded-from: RMS:ZL1SEA  
 Subject: Re: testing 54321

The quick brown fox jumped over the lazy dogs eh

On Tue, 12 Mar 2024, 7:23 pm , <ZL2GBX@winlink.org> wrote:

```
> Blh The quick btrown fox jumps over the lazy dog
>
>
```

# Composing a Message

Click to select standard form

Post to Outbox after composing

Add attachments like pictures

Correct with Spell Check

The screenshot shows a 'Winlink' message composition window titled 'Enter a new message'. The window has a menu bar with the following options: **Post to Outbox**, **Select Template**, **Check-in**, **Sitrep**, **Attachments**, **Spell Check**, **Save in Drafts**, and **Close**. Below the menu bar, there are fields for 'From:' (set to 'W4PHS'), 'Send as:' (set to 'Winlink Message'), and a checkbox for 'Request message receipt' (unchecked). A 'Set Defaults' button is located to the right of the 'Request message receipt' checkbox. Below these fields are input boxes for 'To:', 'Cc:', 'Subject:', and 'Attach:'. The main body of the window is a large text area for composing the message. A callout bubble points to the 'Post to Outbox' menu item, another points to the 'Attachments' menu item, a third points to the 'Spell Check' menu item, and a fourth points to the 'Request message receipt' checkbox.

Obtain a message receipt upon delivery



In Vara HF Winlink session.

- System Folders
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- Personal Folders
- Global Folders
- Contacts
  - AREC CENTRAL
  - AREC\_NORTHERN\_(AUCKLAND)
  - AREC\_NORTHERN\_(GISBORNE)
  - AREC\_SOUTHERN\_REGION
  - AREC-RUWHENUA
  - HOME\_EMAIL
  - HOME\_EMAIL2

Enter a new message

Post to Outbox Select Template Attachments Spell Check Save in Drafts Close

From: ZL2GBX Send as: Winlink Message  Request message receipt Set D

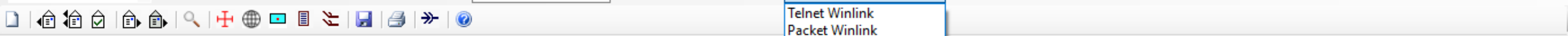
To:

Cc:

Subject:

Attach:

- Subject
- AREC-Check-In Net Results Dated 30.06.24
- ACK: Winlink Check-in EXERCISE - ZL2GBX - Home QTH, Blenheim - Branch 22
- AREC-Check-In Net Results Dated 23.06.24
- EmComm training Exercise June 20th
- AREC-Check-In Net Results Dated 16.06.24**
- ACK: Winlink Check-in EXERCISE - ZL2GBX - Home QTH, Blenheim - Branch 22**
- Winlink Wednesday Net Confirmation (Episode #405)
- ACK: Winlink Check-in EXERCISE - ZL2GBX - Home QTH, Blenheim - Branch 22
- Re: Winlink Check-in EXERCISE - ZL2GBX - Home QTH, Blenheim - Branch 22



No active session...

- System Folders
  - Inbox (4 unread)
  - Read Items (0)
  - Outbox (0)
  - Sent Items (33)
  - Saved Items (0)
  - Deleted Items (3)
  - Drafts (0)
- Personal Folders
- Global Folders
- Contacts
  - AREC CENTRAL
  - AREC\_NORTHERN\_(AUCKLAND)
  - AREC\_NORTHERN\_(GISBORNE)
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  - AREC-RUWHENUA
  - HOME\_EMAIL
  - HOME\_EMAIL2

	Date/Time	Message ID	Size	Source	Sender	F
	2024/07/26 08:45	OH3A0XF24Q8C	49508	SMTP	SMTP:gibarton@...	ZL
	2024/07/26 02:21	33FGLD5JQUUU	806	KN4LQN	KN4LQN	W
	2024/07/25 15:42	QRYQ2G6RIDBL	703	KN4LQN	KN4LQN	W
	2024/07/25 06:22	01SI25ZFWWTC	1118	ZM1SEA	ZM1SEA	ZL
	2024/06/30 08:00	ZAYQ841GC2GK	31049	ZM1SEA	AREC-CHECKIN	ZL
	2024/06/29 17:39	5B9D3LGGZRT64	493	AREC-C...	AREC-CHECKIN	ZL
	2024/06/23 08:02	6HUDT0BVN1L0	54154	ZM1SEA	AREC-CHECKIN	ZL
	2024/06/16 07:33	V831W8G5N0BZ	849	ZM1SEA	AREC-CHECKIN	ZL
	2024/06/16 07:33	OB72710EP	62762	ZM1SEA	AREC-CHECKIN	ZL

- Vara FM Winlink
- Telnet Winlink
- Packet Winlink
- Pactor Winlink
- Robust Packet Winlink
- Ardop Winlink
- Vara HF Winlink
- Vara FM Winlink
- Iridium GO Winlink
- 
- Packet P2P
- Pactor P2P
- Robust Packet P2P
- Ardop P2P
- Vara HF P2P
- Vara FM P2P
- Telnet P2P
- 
- Pactor Radio-only
- Vara HF Radio-only
- Vara FM Radio-only
- Telnet Radio-only
- 
- Telnet Post Office

Message ID: 5XJ7DBIRWE1G  
 Date: 2024/03/12 06:25 (UTC)  
 From: gjbceds@gmail.com  
 To: ZL2GBX  
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Wednesday Roster Published (24 July 2024, Episode #411)

Wednesday Net Confirmation (Episode #411)

Training Organization - Excercise

ck-In Net Results Dated 30.06.24

nk Check-in EXERCISE - ZL2GBX - Home QTH, Blenheim - Branch 22

ck-In Net Results Dated 23.06.24

aining Exercise June 20th

ck-In Net Results Dated 16.06.24

Settings Message Attachments Move To: Saved Items Delete Open Session: Vara HF Winlink Logs Help

In Vara HF Winlink session.

System Folders	Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
Inbox (16 unread)	2024/07/28 07:55	HMZ0TTBTJPWH	49318	ZM1SEA	AREC-CHECKIN	ZK1EBW...	AREC-Check-In Net Results Dated 28.07.24
Read Items (0)	2024/07/28 0...	YE6UOMKLB...	498	ZM1SEA	AREC-CHECKIN	ZL2GBX	ACK: Winlink Check-in EXERCISE - ZL2GBX - Home QTH
Outbox (0)	2024/07/24 05:56	6EX3IXQE11RK	1384	ZM1SEA	ZM1SEA	ZL2GBX	Re: Marlborough
Sent Items (63)	2024/07/21 07:29	817QUHQSP8MF	96092	ZM1SEA	ZM1SEA	ZL4ROB...	AREC-Check-In Net Results Dated 21.07.24 Special Update
Saved Items (0)	2024/07/21 07:14	M5IY9XYGXCBL	83165	ZM1SEA	AREC-CHECKIN	ZL4ROB...	AREC-Check-In Net Results Dated 21.07.24
Deleted Items (11)	2024/07/21 06:50	5BUUJQNH9H	987	ZM1SEA	AREC-CHECKIN	ZL2GBX	Re: Winlink Check-in EXERCISE - ZL2GBX - Home QTH, Blenheim
Drafts (0)	2024/07/20 07:20	V1GLQ7F23AXY	1097	ZL2SEA	ZL2SEA	ZL2GBX	Re:ZL2TBD New HF Winlink Gateway at Hokitika
Personal Folders	2024/07/20 07:00	2772VUBAS2TT	630	ZM1SEA	AREC-CHECKIN	ZK1EBW...	Re:ZL2TBD New HF Winlink Gateway at Hokitika
Emcomm (5)	2024/07/20 06:29	YDMDDK427OZ0	1108	ZM1SEA	AREC-CHECKIN	ZL2GBX	Re:ZL2TBD New HF Winlink Gateway at Hokitika
Global Folders	2024/07/19 21:14	8N8X41371P6A	1022	ZL2TBD	ZL2TBD	AREC-CHECKIN...	Re:ZL2TBD New HF Winlink Gateway at Hokitika
	2024/07/19 0...	64CZWZ7GA...	475	KN4LQN	KN4LQN	ZL2GBX...	Winlink Wednesday Roster Published (17 July 2024, Episode #409)
	2024/07/18 1...	2KVIMKKT2LB	377	KN4LQN	KN4LQN	ZL2ATH...	Winlink Wednesday Net Confirmation (Episode #410)
	2024/07/18 08:43	AFEKROSD96N	634	ZM1SEA	AREC-CHECKIN	ZK1EBW...	ZL2TBD New HF Winlink Gateway at Hokitika
	2024/07/16 11:31	I7IRVRL2FTVA	1609	KN4LQN	KN4LQN	XE1PAS...	Winlink Wednesday Reminder (#410)
Contacts	2024/07/14 16:24	DBEVE7GRHQO2	32787	ZM1SEA	AREC-CHECKIN	ZK1EBW...	AREC-Check-In Net Results Dated 14.07.24
DON LAING	2024/07/07 07:26	6JE02KK46JC2	31697	ZM1SEA	AREC-CHECKIN	ZK1EBW...	AREC-Check-In Net Results Dated 07.07.24
ETO-DX	2024/07/05 0...	LB2B8DSIF8MR	484	KN4LQN	KN4LQN	ZL1BQA...	Winlink Wednesday Roster Published (3 July 2024, Episode #408)
GARY_LODGE	2024/07/04 1...	4CJ6I2F5CLB8	382	KN4LQN	KN4LQN	ZL1BQA...	Winlink Wednesday Net Confirmation (Episode #408)
GREG_J_BARTON	2024/07/02 11:34	OI54DLLMNOKA	1612	KN4LQN	KN4LQN	YV5BRB...	Winlink Wednesday Reminder (#408)
JOHN_ERRINGTON							
PAUL_RENNIE							

Message ID: E96C7UQ3JYBM  
 Date: 2024/03/10 08:47 (UTC)  
 From: gjbcedsg@gmail.com  
 To: ZL2GBX  
 Source: SMTP  
 Downloaded-from: RMS:ZL1SEA  
 Subject: Return test 3

Testing testing testing 0987654321

Exit Settings Channel Selection Map Forecast Auto-connect Next chan. Start Stop Abort

ZL2TBD Center Freq: 7155.000 Dial Freq: 7153.500 Bandwidth: 2750 Bearing: 240 Quality: 53

Favorites: Select Add to favorites Remove from favorites

Channel Free In: 0/0 Out: 0/0 BPM: 0/0 Disconnected

\*\*\* Launching VARA TNC  
 \*\*\* Successfully connected to VARA TNC at 127.0.0.1 port 8300  
 \*\*\* Maximum signal bandwidth is set to 2300 Hz.  
 \*\*\* Using Icom 7300, COM3, 19200 baud  
 \*\*\* Ready  
 \*\*\* This is a registered version of Vara TNC that can operate at full speed.

Settings View Log\* Monitor Help

bps

VU CPU AFC S/N

Audio Input: -77 dB CPU Usage: 10 %

DATA  
 ACK IDLE  
 NACK BREAK  
 REQ QRT

RX Disconnected 2300 LISTEN TCP DCD





In Vara HF Winlink session.

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Inbox (16 unread)	2024/07/28 07:55	HMZ0TTBTJPWH	49318	ZM1SEA	AREC-CHECKIN	ZK1EBW...	AREC-Check-In Net Results Dated 28.07.24
Read Items (0)	2024/07/28 0...	YE6UOMKL8...	498	ZM1SEA	AREC-CHECKIN	ZL2GBX	ACK: Winlink Check-in EXERCISE - ZL2GBX - Home QT
Outbox (0)	2024/07/24 05:56	6EX3IXQE11RK	1384	ZM1SEA	ZM1SEA	ZL2GBX	Re: Marlborough
Sent Items (63)	2024/07/21 07:29	817QUHQSP8MF	96092	ZM1SEA	ZM1SEA	ZL4ROB...	AREC-Check-In Net Results Dated 21.07.24 Special Update
Saved Items (0)	2024/07/21 07:14	M5IY9XYGC8L	83165	ZM1SEA	AREC-CHECKIN	ZL4ROB...	AREC-Check-In Net Results Dated 21.07.24
Deleted Items (11)	2024/07/21 06:50	5BUJAJQNH9H	987	ZM1SEA	AREC-CHECKIN	ZL2GBX	Re: Winlink Check-in EXERCISE - ZL2GBX - Home QTH, Blenheim
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Personal Folders	2024/07/20 07:00	2772VUBAS2TT	630	ZM1SEA	AREC-CHECKIN	ZK1EBW...	Re:ZL2TBD New HF Winlink Gateway at Hokitika
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	2024/07/18 1...	2KVIKMKCT2LB	377	KN4LQN	KN4LQN	ZL2ATH...	Winlink Wednesday Net Confirmation (Episode #410)
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DON LAING	2024/07/07 07:26	6JEO2KK46JC2	31697	ZM1SEA	AREC-CHECKIN	ZK1EBW...	AREC-Check-In Net Results Dated 07.07.24
ETO-DX	2024/07/05 0...	LB2B8DSIF8MR	484	KN4LQN	KN4LQN	ZL1BQA...	Winlink Wednesday Roster Published (3 July 2024, Epis
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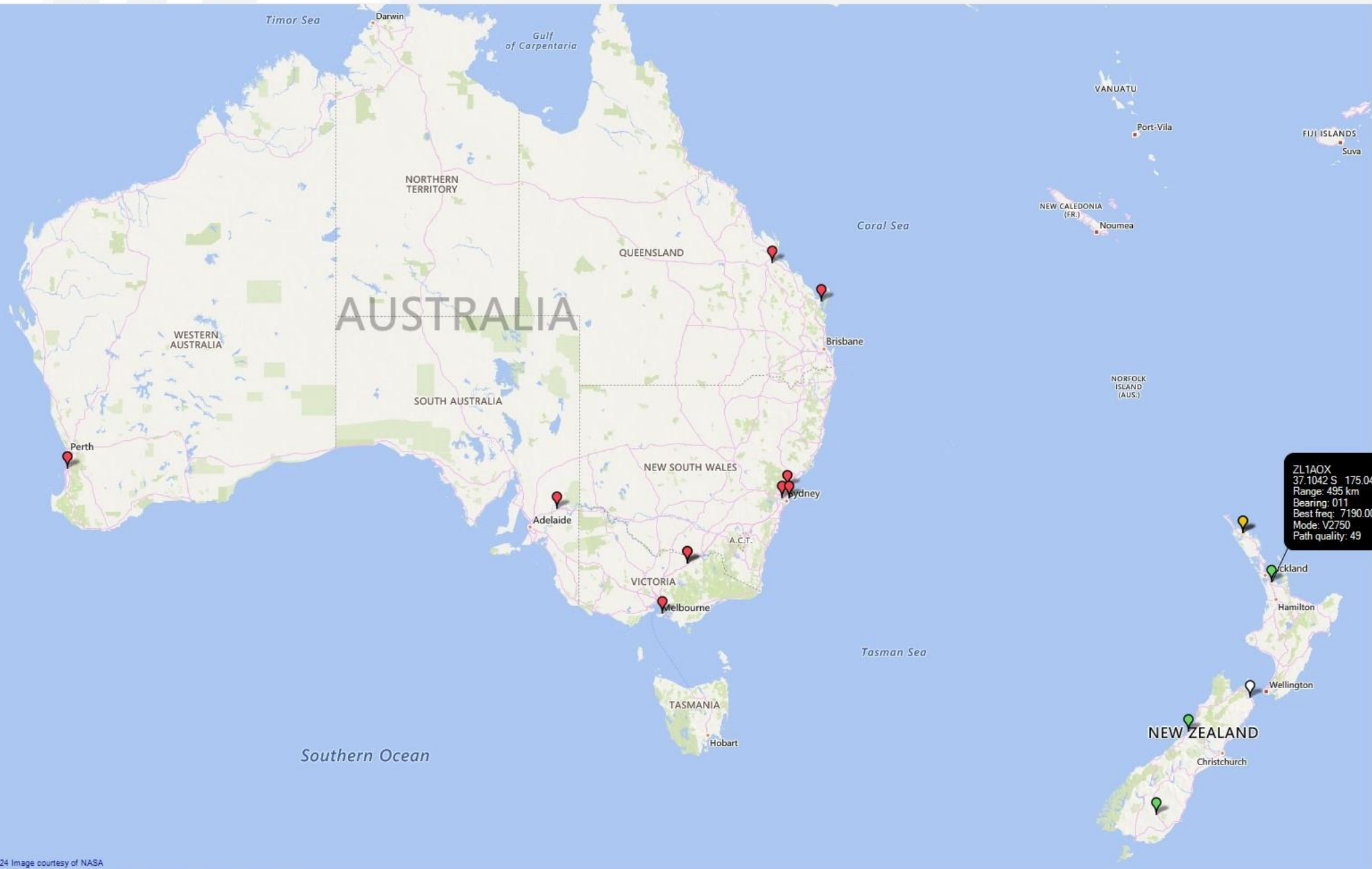
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 From: gjbceds@gmail.com  
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 Source: SMTP  
 Downloaded-from: RMS:ZL1SEA  
 Subject: Return test 3

Testing testing testing 0987654321

Callsign	Frequency (kHz)	Mode	Grid Square	Hours	Group	Distance (km)	Bearing (Degrees)	Path Reliability Estimate	Path Quality Estimate
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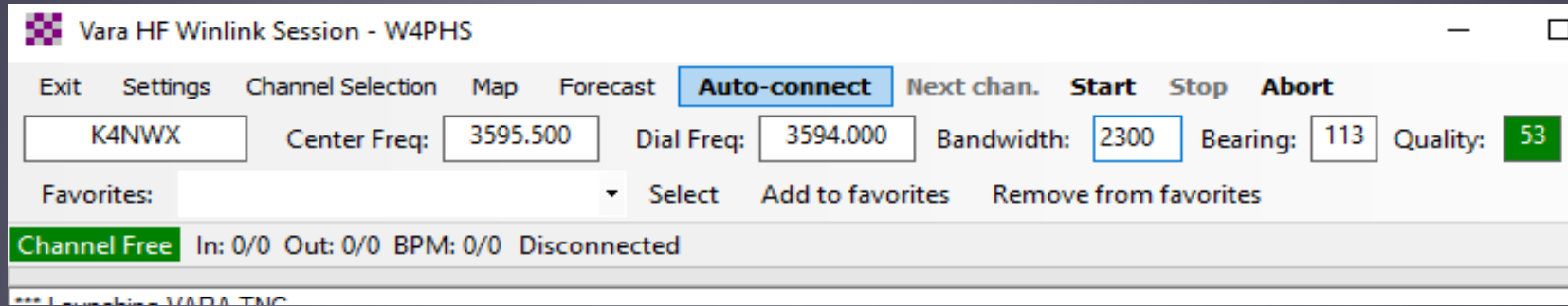
ZL2TBD	7175.000	V2750	RE57LG	00-23	PUBLIC	284	240	95	53
ZL2TBD	14105.000	V2750	RE57LG	00-23	PUBLIC	284	240	0	0
ZL2TBD	14150.000	V2750	RE57LG	00-23	PUBLIC	284	240	0	0
ZL2TBD	7155.000	V2750	RE57LG	00-23	PUBLIC	284	240	95	53
ZL2TBD	7165.000	V2750	RE57LG	00-23	PUBLIC	284	240	95	53
ZL1AOX	7215.000	V2750	RF72MV	00-23	PUBLIC	495	011	85	49
ZL1AOX	7190.000	V2750	RF72MV	00-23	PUBLIC	495	011	85	49
ZL1AOX	7195.000	V2750	RF72MV	00-23	PUBLIC	495	011	85	49
ZL1AOX	14130.000	V2750	RF72MV	00-23	PUBLIC	495	011	6	10
ZL4RMS	21424.000	V2300	RE44QI	00-23	PUBLIC	592	217	0	0
ZL4RMS	7136.000	V2300	RE44QI	00-23	PUBLIC	592	217	81	48
ZL4RMS	3621.500	V2300	RE44QI	00-23	PUBLIC	592	217	0	20
ZL4RMS	7146.000	V2300	RE44QI	00-23	PUBLIC	592	217	81	48
ZL4RMS	14124.000	V2300	RE44QI	00-23	PUBLIC	592	217	22	28
ZL4RMS	14134.000	V2300	RE44QI	00-23	PUBLIC	592	217	22	27
ZL2SEA	3591.500	V2750	RF64TU	00-23	PUBLIC	704	358	0	1
ZL1SEA	3657.000	V2750	RF64TU	06-04	PUBLIC	704	358	0	12
ZL1SEA	7187.000	V2750	RF64TU	06-04	PUBLIC	704	358	71	45
ZL1SEA	1847.000	V2750	RF64TU	06-04	PUBLIC	704	358	0	0
ZL2SEA	21427.000	V2750	RF64TU	00-23	PUBLIC	704	358	0	0
ZL2SEA	18137.000	V2750	RF64TU	00-23	PUBLIC	704	358	0	0
ZL2SEA	14137.000	V2750	RF64TU	00-23	PUBLIC	704	358	34	34
ZL1SEA	3647.000	V2750	RF64TU	06-04	PUBLIC	704	358	0	11
ZL1SEA	3717.000	V2750	RF64TU	06-04	PUBLIC	704	358	0	12
ZL2SEA	14127.000	V2750	RF64TU	00-23	PUBLIC	704	358	34	35
ZL1SEA	7133.000	V2750	RF64TU	06-04	PUBLIC	704	358	70	45
ZL1SEA	7143.000	V2750	RF64TU	06-04	PUBLIC	704	358	70	45
ZL2SEA	7143.000	V2750	RF64TU	00-23	PUBLIC	704	358	70	45
ZL2SEA	7133.000	V2750	RF64TU	00-23	PUBLIC	704	358	70	45
VK2RZ	10146.400	V2750	QF56PG	00-23	PUBLIC	2165	286	1	25
VK2RZ	21086.400	V2750	QF56PG	00-23	PUBLIC	2165	286	0	0
VK2RZ	7045.000	V2750	QF56PG	00-23	PUBLIC	2165	286	0	0
VK2RZ	18115.000	V2750	QF56PG	00-23	PUBLIC	2165	286	5	6
VK2RZ	14103.000	V2750	QF56PG	00-23	PUBLIC	2165	286	15	34
VK2IO	7046.500	V2300	QF56LG	00-23	PUBLIC	2191	286	0	0
VK2EHQ	3569.500	V2750	QF56OR	00-23	PUBLIC	2197	287	0	0
VK2EHQ	7063.000	V2750	QF56OR	00-23	PUBLIC	2197	287	0	0
VK3MIT	21080.500	V2750	QF33DP	00-23	PUBLIC	2447	274	0	0
VK3MTI	3577.000	V2750	QF33DP	00-23	PUBLIC	2447	274	0	0
VK3MIT	7056.500	V2750	QF33DP	00-23	PUBLIC	2447	274	0	0
VK3MIT	14103.500	V2750	QF33DP	00-23	PUBLIC	2447	274	14	33





ZL1AOX  
37.1042 S 175.0417 E  
Range: 495 km  
Bearing: 011  
Best freq: 7190.000  
Mode: V2750  
Path quality: 49

# Using “Auto-connect” to Select RMS



- Click “Auto-connect” to tell Winlink Express to start trying channels in decreasing order of connection quality. Busy channels are skipped automatically.
- Quality estimate is based on several things:
  - Computed propagation quality
  - Success/Failure history for channel
  - Relative Signal/Noise history

Settings Message Attachments Move To: Saved Items Delete Open Session: Vara HF Winlink Logs Help

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Read Items (0)	2024/07/28 0...	YE6UOMKLB...	498	ZM1SEA	AREC-CHECKIN	ZL2GBX	ACK: Winlink Check-in EXERCISE - ZL2GBX - Home QTH
Outbox (0)	2024/07/24 05:56	6EX3IXQE11RK	1384	ZM1SEA	ZM1SEA	ZL2GBX	Re: Marlborough
Sent Items (63)	2024/07/21 07:29	817QUHQSP8MF	96092	ZM1SEA	ZM1SEA	ZL4ROB...	AREC-Check-In Net Results Dated 21.07.24 Special Update
Saved Items (0)	2024/07/21 07:14	M5IY9XYGXCBL	83165	ZM1SEA	AREC-CHECKIN	ZL4ROB...	AREC-Check-In Net Results Dated 21.07.24
Deleted Items (11)	2024/07/21 06:50	5BUUJQNH9H	987	ZM1SEA	AREC-CHECKIN	ZL2GBX	Re: Winlink Check-in EXERCISE - ZL2GBX - Home QTH, Blenheim
Drafts (0)	2024/07/20 07:20	V1GLQ7F23AXY	1097	ZL2SEA	ZL2SEA	ZL2GBX	Re:ZL2TBD New HF Winlink Gateway at Hokitika
Personal Folders	2024/07/20 07:00	2772VUBAS2TT	630	ZM1SEA	AREC-CHECKIN	ZK1EBW...	Re:ZL2TBD New HF Winlink Gateway at Hokitika
Emcomm (5)	2024/07/20 06:29	YDMDDK427OZ0	1108	ZM1SEA	AREC-CHECKIN	ZL2GBX	Re:ZL2TBD New HF Winlink Gateway at Hokitika
Global Folders	2024/07/19 21:14	8N8X41371P6A	1022	ZL2TBD	ZL2TBD	AREC-CHECKIN...	Re:ZL2TBD New HF Winlink Gateway at Hokitika
	2024/07/19 0...	64CZWZ7GA...	475	KN4LQN	KN4LQN	ZL2GBX...	Winlink Wednesday Roster Published (17 July 2024, Episode #409)
	2024/07/18 1...	2KVIMKKT2LB	377	KN4LQN	KN4LQN	ZL2ATH...	Winlink Wednesday Net Confirmation (Episode #410)
	2024/07/18 08:43	AFEKROSD96N	634	ZM1SEA	AREC-CHECKIN	ZK1EBW...	ZL2TBD New HF Winlink Gateway at Hokitika
	2024/07/16 11:31	I7IRVRL2FTVA	1609	KN4LQN	KN4LQN	XE1PAS...	Winlink Wednesday Reminder (#410)
Contacts	2024/07/14 16:24	DBEVE7GRHQO2	32787	ZM1SEA	AREC-CHECKIN	ZK1EBW...	AREC-Check-In Net Results Dated 14.07.24
DON LAING	2024/07/07 07:26	6JE02KK46JC2	31697	ZM1SEA	AREC-CHECKIN	ZK1EBW...	AREC-Check-In Net Results Dated 07.07.24
ETO-DX	2024/07/05 0...	LB2B8DSIF8MR	484	KN4LQN	KN4LQN	ZL1BQA...	Winlink Wednesday Roster Published (3 July 2024, Episode #408)
GARY_LODGE	2024/07/04 1...	4CJ6I2F5CLB8	382	KN4LQN	KN4LQN	ZL1BQA...	Winlink Wednesday Net Confirmation (Episode #408)
GREG_J_BARTON	2024/07/02 11:34	OI54DLLMNOKA	1612	KN4LQN	KN4LQN	YV5BRB...	Winlink Wednesday Reminder (#408)

Message ID: E96C7UQ3JYBM  
 Date: 2024/03/10 08:47 (UTC)  
 From: gjbcedsg@gmail.com  
 To: ZL2GBX  
 Source: SMTP  
 Downloaded-from: RMS:ZL1SEA  
 Subject: Return test 3

Testing testing testing 0987654321

Exit Settings Channel Selection Map Forecast Auto-connect Next chan. Start Stop Abort

ZL2TBD Center Freq: 7155.000 Dial Freq: 7153.500 Bandwidth: 2750 Bearing: 240 Quality: 53

Favorites: Select Add to favorites Remove from favorites

Channel Free In: 0/0 Out: 0/0 BPM: 0/0 Disconnected

\*\*\* Launching VARA TNC  
 \*\*\* Successfully connected to VARA TNC at 127.0.0.1 port 8300  
 \*\*\* Maximum signal bandwidth is set to 2300 Hz.  
 \*\*\* Using Icom 7300, COM3, 19200 baud  
 \*\*\* Ready  
 \*\*\* This is a registered version of Vara TNC that can operate at full speed.

Settings View Log\* Monitor Help

bps

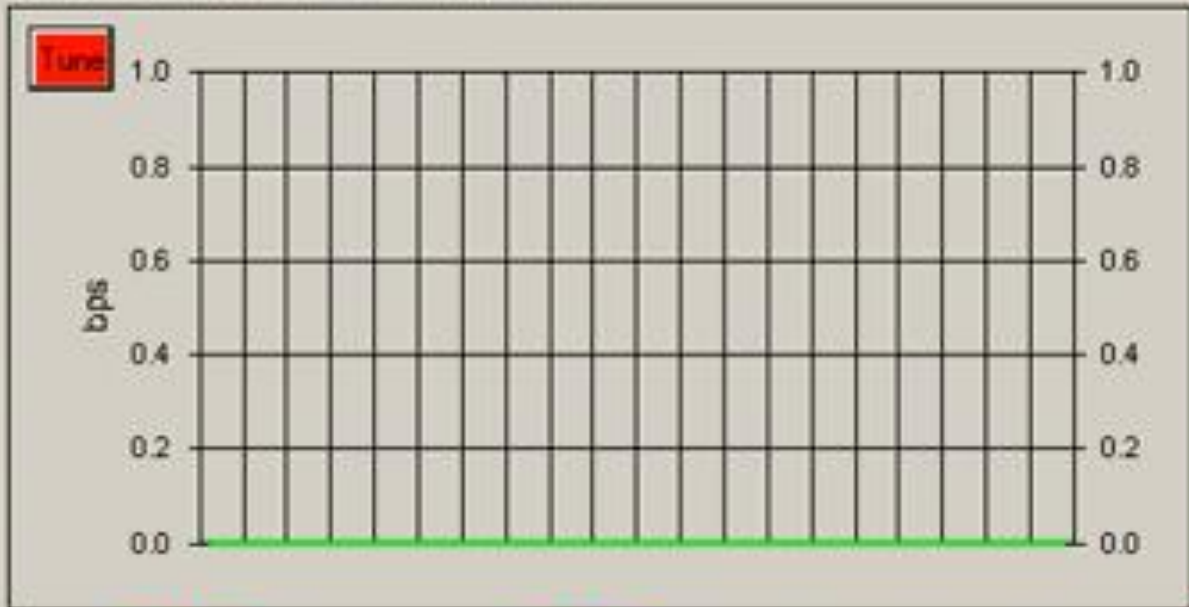
VU CPU AFC S/N

Audio Input: -77 dB CPU Usage: 10 %

DATA  
 ACK IDLE  
 NACK BREAK  
 REQ QRT


RX Disconnected 2300 LISTEN TCP DCD





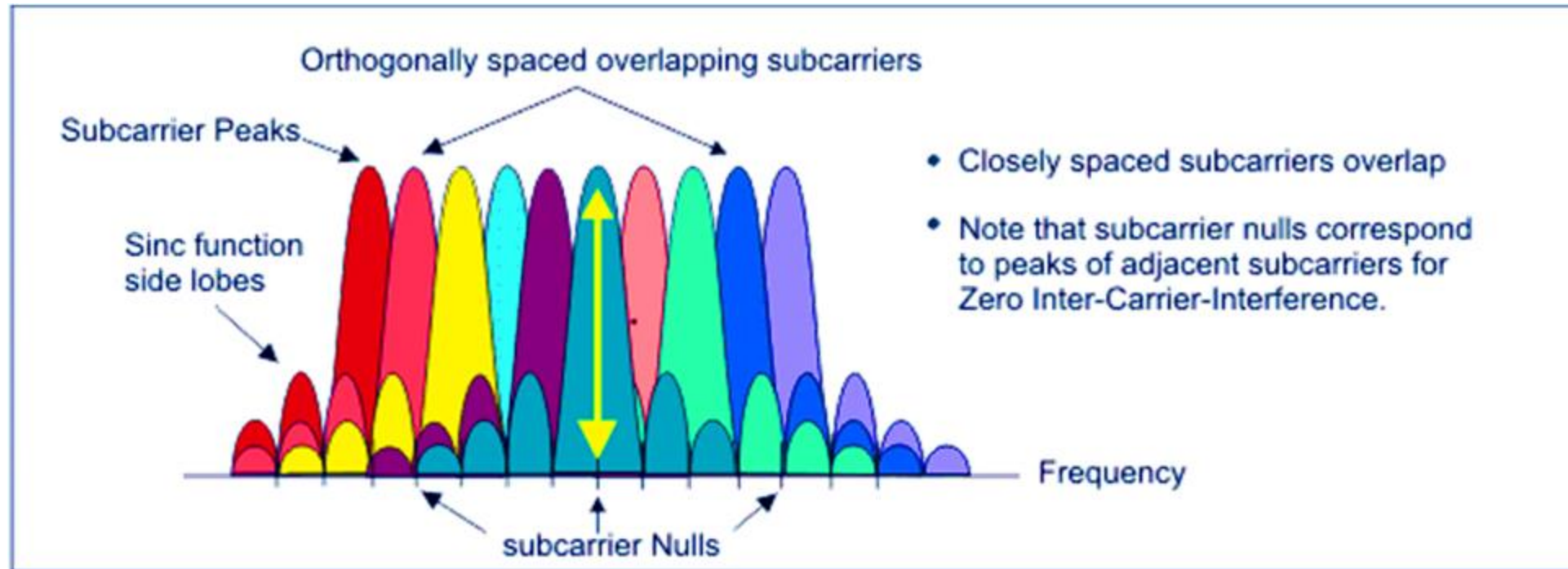
- DATA
- ACK
- START
- NACK
- BREAK
- REQ
- QRT



 RX Disconnected

# VARA

Level	Symbol Rate	Carriers	Mod.	Bytes / Packet	Net Data Rate	User Data Rate
1	37,5	52	BPSK	20	35	29
2	37,5	52	BPSK	32	54	45
3	37,5	52	BPSK	71	113	94
4	37,5	52	BPSK	150	234	194
5	37,5	52	BPSK	308	476	395
6	37,5	52	BPSK	626	963	799
7	37,5	52	4PSK	1257	1929	1601
8	37,5	52	8PSK	1887	2893	2401
9	37,5	52	16QAM	2951	4521	3752
10	37,5	52	32QAM	3690	5653	4692
11	37,5	52	32QAM	4428	6782	5629



OFDM Signal Frequency Spectra

## Setting up a Winlink Client

Google is your friend – there are many hardware-specific tutorials

Download Winlink Express if on PC

Download WoAD if android-based

Download VARA (HF/FM) as required

Setup is reasonably straightforward – sometimes getting audio levels correct is tricky  
Beware there are settings in both Winlink Express and VARA etc, and in the radio.

Connection between computer and radio ranges from simple to complex  
(but remember Google will help!)

Once setup and working document/record all settings



No active session...

System Folder

Inbox (4 unread)

Read Items (0)

Outbox (0)

Sent Items (33)

Saved Items (0)

Deleted Items (3)

Drafts (0)

Personal Folder

Global Folder

Contacts

AREC CENTRAL

AREC\_NORTHERN\_AUC

AREC\_NORTHERN\_GISB

AREC\_SOUTHERN\_REGI

AREC-RUWHENUA

HOME\_EMAIL

HOME\_EMAIL2

- Winlink Express Setup...
- Font for text...
- Font for lists...
- Set color themes
- GPS / Position Reports...
- Winlink Catalog Requests...
- GRIB file request...
- Preferences...
- Update User Options...
- Message Notification and Forwarding
- Form settings...
- Auto session open on startup...
- Contacts...
- Group Addresses...
- Add Personal Folder...
- Add Global Folder...
- Hybrid Network Parameters
- Propagation calculation parameters
- View Usage Statistics
- View background tasks...
- Backup and restore databases...
- Exit

Message ID	Size	Source	Sender	Recipient	Subject
KF24Q8C	49508	SMTP	SMTP:gibarton@...	ZL2GBX	50k pic uhf
5JQUU	806	KN4LQN	KN4LQN	W0AYE...	Winlink Wednesday Roster Published (24 July 2024, Episode #411)
G6RIDBL	703	KN4LQN	KN4LQN	W0AYE...	Winlink Wednesday Net Confirmation (Episode #411)
ZFWTC	1118	ZM1SEA	ZM1SEA	ZL4ROB...	EmComm Training Organization - Excercise
41GC2GK	31049	ZM1SEA	AREC-CHECKIN	ZK1EBW...	AREC-Check-In Net Results Dated 30.06.24
GZRT64	493	AREC-C...	AREC-CHECKIN	ZL2GBX	ACK: Winlink Check-in EXERCISE - ZL2GBX - Home QTH, Blenheim - Branch 22
0BVN1L0	54154	ZM1SEA	AREC-CHECKIN	ZK1EBW...	AREC-Check-In Net Results Dated 23.06.24
BG5N0BZ	849	ZM1SEA	AREC-CHECKIN	ZK1EBW...	EmComm training Exercise June 20th
10EP	62762	ZM1SEA	AREC-CHECKIN	ZK1EBW...	AREC Check In Net Results Dated 16.06.24

G  
(UTC)

1SEA  
321

ped over the lazy dogs eh

23 pm , <ZL2GBX@winlink.org> wrote:

fox jumps over the lazy dog

No active session...

- System Folders
- Inbox (4 unread)
  - Read Items (0)
  - Outbox (0)
  - Sent Items (33)
  - Saved Items (0)
  - Deleted Items (3)
  - Drafts (0)

Personal Folders

Global Folders

- Contacts
- AREC CENTRAL
  - AREC\_NORTHERN\_(AUCKLAND)
  - AREC\_NORTHERN\_(GISBORNE)
  - AREC\_SOUTHERN\_REGION
  - AREC-RUWHENUA
  - HOME\_EMAIL
  - HOME\_EMAIL2

### Winlink Express Properties

**Call Signs**

My Callsign:  My Password:   
 (Case sensitive)

Callsign suffix (optional):  (Used for country code)

Password recovery e-mail:   
 (Non-Winlink e-mail address where lost password will be sent when requested)

**Auxiliary Callsigns and Tactical Addresses**

My Grid Square:

Winlink Express registration key:

**Service Codes**

(Use PUBLIC for ham call signs. Separate multiple service codes by spaces.)  
 If you change service codes, you must update the list of channels.

**Contact Information (Optional)**

Name:

Street address 1:

Street address 2:

City:

State/Province:

Country:

Postal code:

Web Site URL (optional):

Phone number:

Non-Winlink e-mail:

Additional information (optional):

Recalculate HF path quality if SFI changes more than:

Keep logs for  weeks. Keep deleted messages for  days.

- Display list of pending incoming messages prior to download
- Warn about connections to stations holding messages
- Automatically install field-test (beta) versions of Winlink Express
- Automatically install updates without prompting

5.000 Dial Freq: 7043.500 Bandwidth: 2750 Bearing: 286 Quality: 26

Favor Select Add to favorites Remove from favorites

Channel Disconnected

\*\*\* Launching VARA TNC  
\*\*\* Successfully connected to VARA TNC at 127.0.0.1 port 8300  
\*\*\* Maximum signal bandwidth is set to 2750 Hz.  
\*\*\* Using Yaesu FT-817, COM7, 9600 baud  
\*\*\* Ready  
\*\*\* This is a registered version of Vara TNC that can operate at full speed.



\*\*\* Launching VARA TNC  
\*\*\* Successfully connected to VARA TNC at 127.0.0.1 port 8300  
\*\*\* Maximum signal bandwidth is set to 2750 Hz.  
\*\*\* Using Yaesu FT-817, COM7, 9600 baud  
\*\*\* Ready  
\*\*\* This is a registered version of Vara TNC that can operate at full speed.

### Vara HF Winlink Settings

**Radio Selection**

Select Radio Model: Yaesu FT-817 Antenna Selection: Default

Icom Address: 94 USB  USB Digital  FM  Use Internal Tuner   
Use Internal Soundcard

**Codan Radios**

Codan login and optional password:  Filter width: 2.4 kHz  
 Enable ALE scanning after session completes

**Radio Control Port**

Serial Port to Use:  Baud: 9600 Enable RTS  Enable DTR  TTL

**PTT Port (Optional)**

Serial Port to Use:  Baud: 9600 Enable RTS  Enable DTR

Log radio control commands to RMS Express(date).log

Update Cancel

VK2RZ Center Freq: 7045.000 Dial Freq: 7043.500 Bandwidth: 2750 Bearing: 286 Quality: 26

Favorites: Select Add to favorites Remove from favorites

Channel Free In: 0/0 Out: 0/0 BPM: 0/0 Disconnected

\*\*\* Launching VARA TNC  
\*\*\* Successfully connected to VARA TNC at 127.0.0.1 port 8300  
\*\*\* Maximum signal bandwidth is set to 2750 Hz.  
\*\*\* Using Yaesu FT-817, COM7, 9600 baud  
\*\*\* Ready  
\*\*\* This is a registered version of Vara TNC that can operate at full speed.

**Vara Setup**

Virtual TNC host address/name: 127.0.0.1

Virtual TNC command port: 8300 Data Port: 8301

Maximum signal bandwidth: 2750

(Vara 2750 requires radio TX filter set for 100-2900 Hz and RX bandwidth of 3000)

VARA Modem location: C:\VARA\Vara.exe

- Automatically launch Vara TNC when session is opened
- Show the Vara TNC screen when it's launched
- Identify with Morse code at end of session
- Log Vara commands to Vara(date).log file

Update Cancel

11:01

VoLTE LTE1 82%



WoAD

NEW MESSAGE

NEW MESSAGE FROM TEMPLATE



<input type="checkbox"/>	Flags	Date	From	To	Subject	Message	Id	Size
<input type="checkbox"/>		2024-07-23 14:44:00	SERVICE	ZL2GBX	Undelivered Message	Your message ...	VYDZLC VPTFTW	597
<input type="checkbox"/>		2024-07-08 20:47:00	AREC-CHECKIN	ZL2GBX	Re: AREC-Che...	Hi Greg, its becaus...	HYXZMP CZJRKK	7968
<input type="checkbox"/>		2024-07-08 20:44:00	AREC-CHECKIN	ZL2GBX	Re: Winlink Check-in E...	Well done Greg at be...	KM4NUK LOQFA2	1675
<input type="checkbox"/>		2024-05-24 21:50:00	ZL4HZ	ZL2GBX	Re: Gateway i...	Hey Greg, ...	STNL82 UA80XA	1816



Inbox



DELETE



ARCHIVE



MARK UNREAD





11:00

VoLTE1 82%



WoAD

NEW MESSAGE

NEW MESSAGE

Name	Status	Extended status	Protocol	Settings	Auto-connec
Packet	Stopped		Packet (Outgoi...	ZL2GBX-1 0 [Audio]	None
Telnet	Stopped		Telnet Winlink	CMS	None
Vara FM	Stopped		VARA FM (Outgoi...	ZL2GBX-1 0 [TCP/IP]	None

Messages

Settings

Sessions

Logs

Contacts

Other

About



START

STOP

## Current setup in Marlborough

There is a VHF/UHF RMS gateway at ZL2GBX operating 24/7

- 2 x Tait 8200 radios and controller (supplied free by AREC)
- USB connecting cable (supplied free by AREC)
- A windows PC (basic peripherals) \*
- Winlink Express (free) and VARA software (free trial / 60€)\*
- 12v power supply \*
- 2M and 70cm antennas and cabling \*
- Internet connection \*

\* (currently supplied by ZL2GBX)

Several members have configured Winlink clients using HF or VHF/UHF

Current access via HF is via the available gateways in NZ / Australia and beyond  
VHF/UHF access is via the ZL2GBX-10 or ZL2GBX-12 gateways – there are likely to be additional gateways in Wellington that may be accessible later.



- AREC Interface box (USB to PC, RS232 to transceivers)
- VHF transceiver
- UHF transceiver
- HP Elitedesk W10 PC

Vara FM Winlink Session - ZL2GBX

Exit Settings Channel Selection **Start** Stop Abort

Connection: Direct via , Freq.: 0.000 Range: 0 Bearing: 000

Favorites: Select Add to favorites Remove from favorites

In: 0/0 Out: 0/0 BPM: 0/0 Disconnected Time to next Autoconnect = Disabled

\*\*\* Launching VARA FM TNC: C:\VARA\VARA FM\VARA FM\VARAFM.exe  
 \*\*\* Successfully connected to VARA FM TNC at 127.0.0.1 port 8300  
 \*\*\* Ready  
 \*\*\* This is a registered version of Vara TNC that can operate at full speed.

Vara FM Channel Selector

Select Channel Update Table Via Internet Update Table Via Radio Exit

Stations found within 300 kilometers of your grid square.

Callsign	Frequency (MHz)	Channel Width	Grid Square	Group	Distance (km)	Bearing (Degrees)
ZL2GBX-10	144.650	Wide	RE68XL	PUBLIC	004	180
ZL2GBX-12	432.675	Wide	RE68XL	PUBLIC	004	180
ZL2SLD-10	144.650	Wide	RE78IR	PUBLIC	067	070
ZL2SLD-12	432.675	Wide	RE78IR	PUBLIC	067	070
ZL3EX	145.300	Wide	RE66HL	PUBLIC	251	205
ZL3EX	432.675	Wide	RE66HL	PUBLIC	251	205

DATA

ACK IDLE  
NACK BREAK  
REQ QRT

VU Audio Input: -69 dB  
CPU CPU Usage: 34 %  
TX Delay S/N

RX Disconnected WIDE TCP DCD



# The Winlink Radio E-mail Network

- No infrastructure is needed. Extremely resilient.
- Winlink provides e-mail from *any* point on the earth – including the middle of the ocean (or within your county/Jurisdiction).
- Messages are sent via HF, VHF/UHF radio, and telnet.
- Winlink software and use of the system are *free of charge*.
- Hardware costs are minimal. Less than one Motorola P25 handheld.
- Winlink provides 100% accurate transmission.
- AES-256 transmission encryption is available (not on amateur radio).
- Winlink is an interoperable store-and-forward system providing time and frequency *independence*.
- Winlink is interoperable between commercial radio, amateur radio, Internet e-mail, cell phone, satellite and other services.

# What next?

Establish a permanent Hybrid RMS (HF/VHF/UHF)

- Location – secure, quiet (HF), accessible, power, internet
- Critical in the event of AF8 or other natural disaster or cyber outage

Grow user base and encourage regular exercises to maintain operational competence

- AREC Check-ins
- Winlink Wednesday etc
- Develop hardware solutions – phone/handheld, PC/base station



# All the links you'll ever need

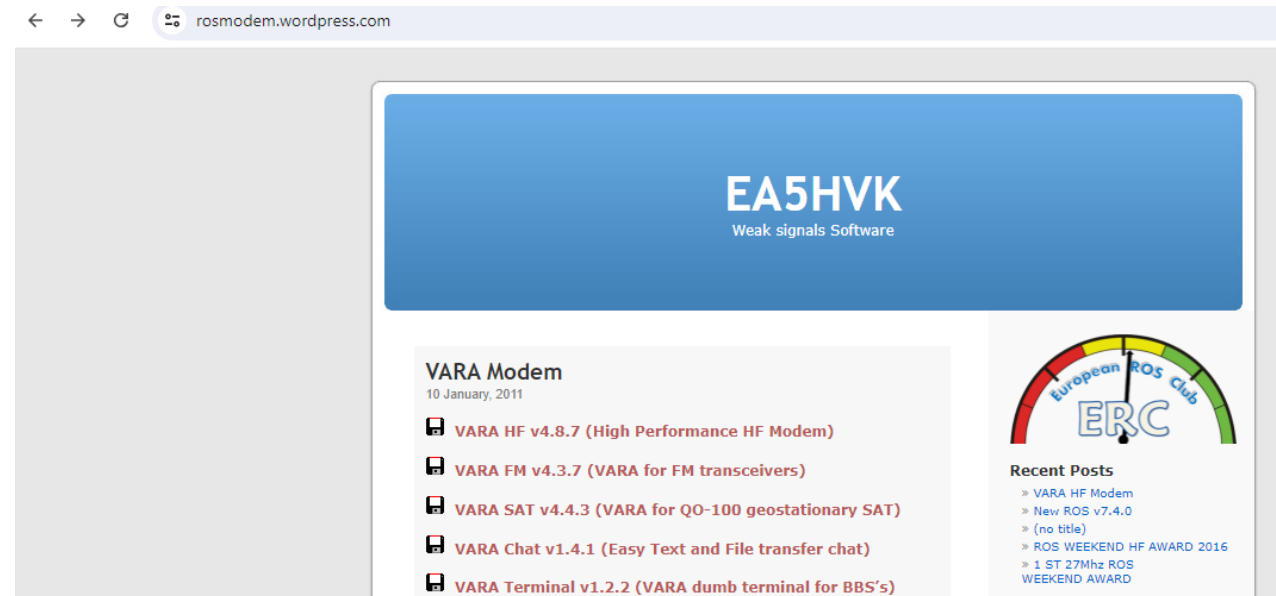
<https://winlink.org>



Winlink

<https://rosmodem.wordpress.com/>

VARA




winlinkwednesday.net

**Solar-Terrestrial Data**  
**29 Jul 2024 0146 GMT**  
SFI: 214 SN: 189  
A-Index: 7  
K-Index: 2  
X-Ray: C2.5  
304A: 150.1 @ SEM  
**Calculated Conditions**  

Band	Day	Night
80m-40m:	Poor	Good
30m-20m:	Poor	Good
17m-15m:	Good	Good
12m-10m:	Good	Poor

Signal Noise: S1-S2  
Click to Install Solar Data On your Web Site  
<http://www.n0nbh.com>  
Copyright Paul L Herrman 2023

# Home of the Original



QRZ call sign lookup:

---

Winlink Wednesday  
Current P2P dial frequency:

[Winlink Wednesday Change Notices](#)  
(updated 05/02/2024)

Current Week's [Net Reminder](#)  
(updated for 07/31/2024)

<http://winlinkwednesday.net>

<http://uz7.ho.ua/packetradio.htm>

wavetalkers.com


lots of videos on Youtube

Not secure uz7.ho.ua/packetradio.htm

**Solar-Terrestrial Data**  
**29 Jul 2024 0146 GMT**  
SFI: 214 SN: 189  
A-Index: 7  
K-Index: 2  
X-Ray: C2.5  
304A: 150.1 @ SEM  
**Calculated Conditions**  

Band	Day	Night
80m-40m:	Poor	Good
30m-20m:	Poor	Good
17m-15m:	Good	Good
12m-10m:	Good	Poor

Signal Noise: S1-S2  
Click to Install Solar Data On your Web Site  
<http://www.n0nbh.com>  
Copyright Paul L Herrman 2023



Welcome to the personal page

# UZ7HO

Home Contesting Guestbook Log search Packet-Radio

## The software Packet-Radio TNC

I am developing a software dual-port Packet-Radio TNC that uses a soundcard as a modem and supports AX.25 protocol. It has been tested on Windows XP, Vista, 7, 8, 10 and has proved stable in operation. The Soundmodem has two TCP/IP interfaces to link with client application: AGW PE and (X)KISS. In case of AGW PE interface, this modem is a direct replacement of original AGW Packet Engine and emulates AGW PE API. The Soundmodem may be used to build EMCOMM, APRS, BBS, Node station, for satellites etc. It supports such modes:

<p><b>Soundmodem</b></p> <ul style="list-style-type: none"> <li>• AFSK 300, 600, 1200, 2400 bps</li> <li>• (D)BPSK 300, 600, 1200, 2400 bps</li> <li>• (D)QPSK 2400, 3600, 4800 bps</li> <li>• (D)8PSK 4800 bps</li> </ul>	<p><b>High-Speed Soundmodem</b></p> <ul style="list-style-type: none"> <li>• G3RUH 4800, 9600, 19200 bps</li> <li>• Manchester 1200, 2400, 3600, 7200 bps</li> <li>• HAPN 4800 bps</li> <li>• GOMX-1/3, Mobitex-NX (BeeSAT-2/4), AAUSAT-4, LilacSat-2 decoders</li> </ul>
--	---

UZ7HO SoundModem

UZ7HO

# Who are some key players in Winlink?

ARSF (Inc) Non-profit organisation - Winlink is their main project (since 2006)

Steve Waterman K4CJX One of the original Winlink Development team  
(manages RMS registrations)

Jose Ros EA5HVK Developer of the VARA software

Nigel Goldstone ZL1SEA – AREC and operator of the initial RMS gateway in Kaeo

David Chesterfield KN4LQN – coordinator of Winlink Wednesdays etc

EM-COMM – umbrella term – ARRL / FCC / ETO etc