

# Reporting GPS Location

- This training makes the assumption that you already have some experience using Winlink and JS8Call
- This can be implemented using telnet (on Winlink) or radio on both VHF and HF

# Use GPS for EmComm

If you are deployed to a known shelter, it might be assumed that at least one person knows that location. Others may not know the address and being able to report your location would be helpful.

You may be sent to a remote site to give a report and your gps coordinates would allow for a precise location.

# Unexpected need for location

It is always a good idea to know how to report where you are in the event you may need help.

You might have car trouble or come across some road or other damage that you can send in a report with GPS coordinates.

# What we will cover

- Purchase a GPS receiver of your choice
- Two I have used are covered here
- Download and install drivers
- Set up Winlink, and JS8Call to use your GPS
- Use Winlink and JS8Call to report your position

# GlobalSat GPS Receiver

click to results



GlobalSat BU-353-S4 USB GPS Receiver (Black) (Improved-New)

Brand: GlobalSat

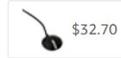
★★★★★ 1,261 ratings | 312 answered questions

\$31<sup>99</sup>

& FREE Returns

Get \$60 off instantly: Pay \$0.00 \$31.99 upon approval for the Amazon Prime Store Card. No annual fee.

Color: IMPROVED-NEW



\$32.70



\$31.99

**Brand** GlobalSat  
**Color** IMPROVED-NEW  
**Are Batteries Included** No

Click image to open expanded view

I have used this receiver and it works well.

The longer cord gives me the flexibility to place the receiver in a clear area.

# Thumb drive sized receiver



VIDEO



DIYmall VK-172 VK 172  
Gmouse G-Mouse USB GPS  
Dongle Glonass Support  
Windows  
10/8/7/vista/XP/Raspberry  
PI Vehicle Aviation Tracker  
(Pack of 1pc)

[Visit the DIYmall Store](#)

★★★★☆ 381 ratings

| 57 answered questions

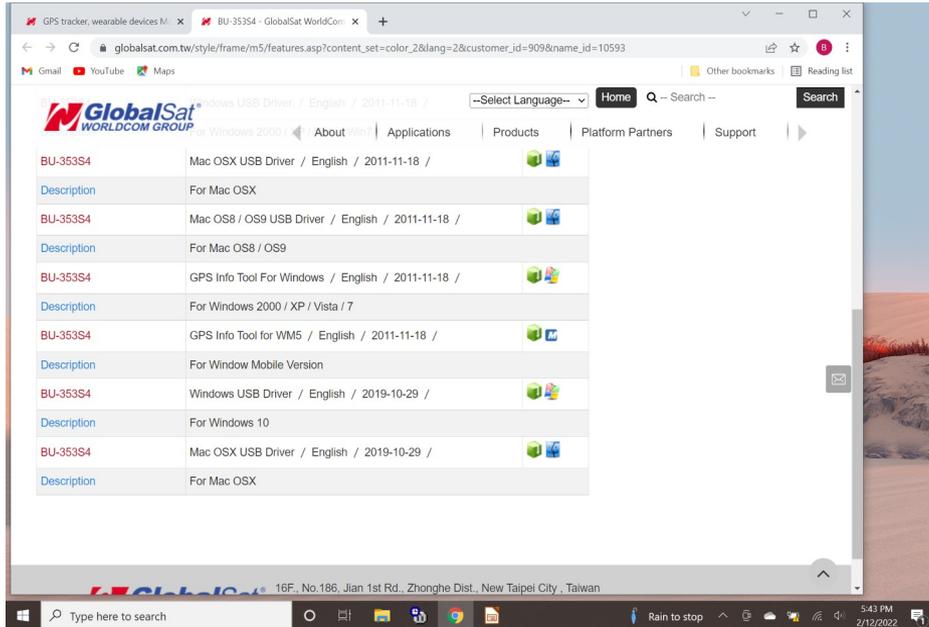
\$12<sup>99</sup>

Get Fast, Free Shipping with Amazon Prime  
& FREE Returns

I also use this receiver. It is very compact.

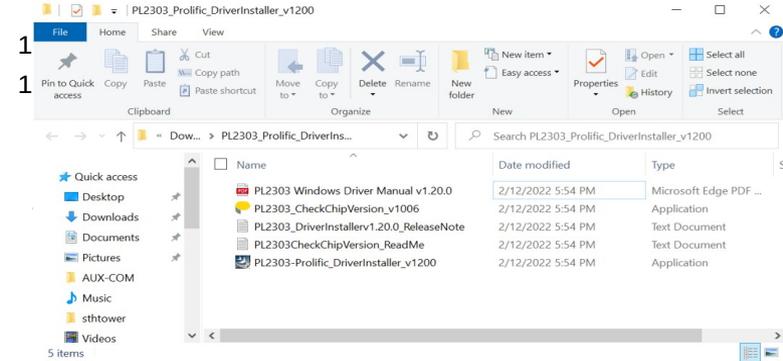
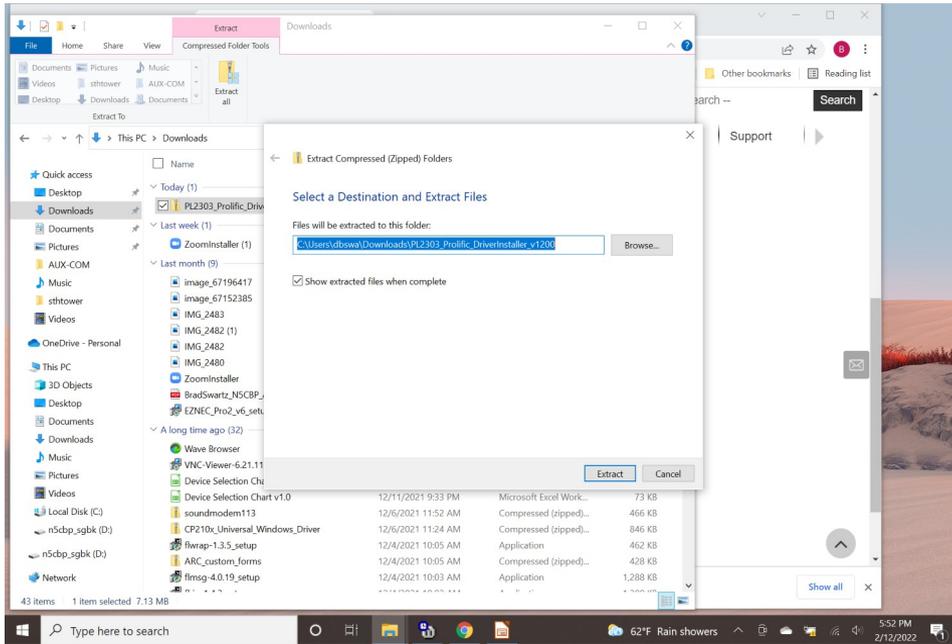
GPS receivers require an open view of the sky and this one does not work as well in my shack that has a metal roof.

# Install Driver for Globalsat



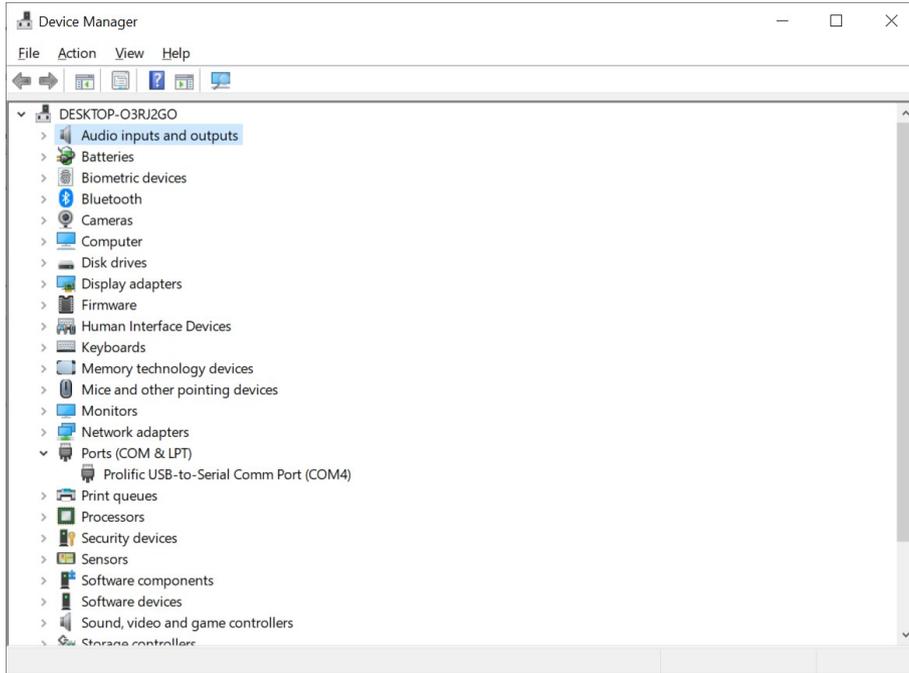
- Download and install the usb driver before plugging in the gps device
- Instructions here are for the GlobalSat Receiver.
- [https://www.globalsat.com.tw/style/frame/m5/features.asp?content\\_set=color\\_2&lang=2&customer\\_id=909&name\\_id=10593](https://www.globalsat.com.tw/style/frame/m5/features.asp?content_set=color_2&lang=2&customer_id=909&name_id=10593)

# Install Driver



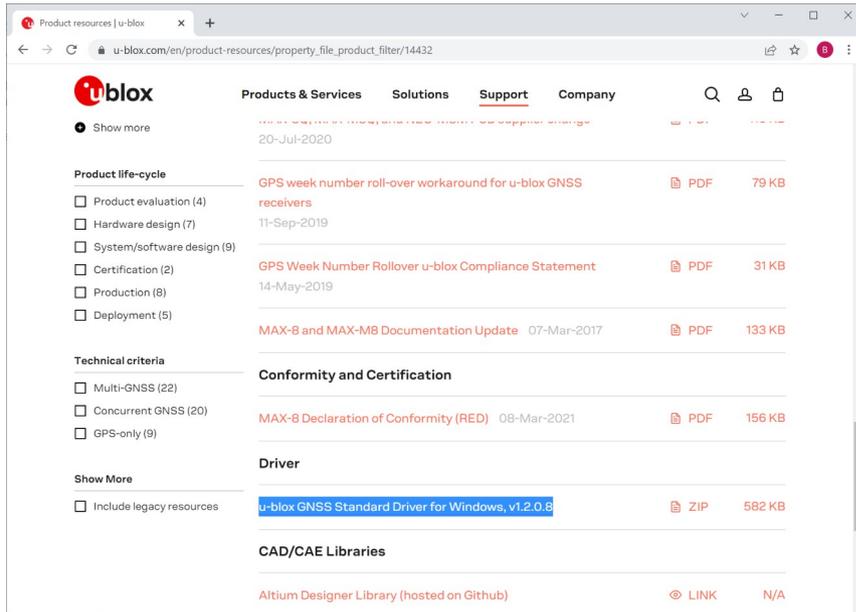
- Extract files
- Install PL2303-Prolific DriverInstaller\_v1200

# Check Device Manager for Port



- Plug in your gps to the usb port on your computer
- Look in Device Manager to confirm which com port is being used

# Install Driver for U-blox 7



- [https://www.u-blox.com/en/product-resources/property\\_file\\_product\\_filter/14432](https://www.u-blox.com/en/product-resources/property_file_product_filter/14432)
- u-blox GNSS Standard Driver for Windows, v1.2.0.8

# Configure Winlink to use GPS

Winlink Express 1.6.1.0 - N5CBP

NSCBP Settings Message Attachments Move To: Saved Items Delete Open Session: Telnet Winlink Logs

Help

No active session...

System Folders	Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
Inbox (0 unread)	2022/01/21 13:22	JKW01SU7Z9XP	1215	W4AKH	W4AKH	N5CBP	DAVID, FL WL Net Reminder: Just O
Read Items (0)	2022/01/19 03:54	94FGE1YZEPHP	1278	KF5VO	KF5VO	N4FAF...	Winlink Wednesday NTX Reminder -
Outbox (1)	2022/01/19 03:44	3R2MK82F3ZLT	1360	KF5VO	KF5VO	N4FAF...	Winlink Wednesday NTX Checkins -
Sent Items (5)	2022/01/18 17:42	YA0AVGPWDGED	1388	KK4SHF	KK4SHF	N5CBP	DAVID, FL WINLINK NET REPORT
Saved Items (0)	2022/01/18 11:30	1A1IX34KENGE	221	KO4JES	KO4JES	N5CBP	Tuesday 1-18-2022
Deleted Items (1)	2022/01/17 20:09	7IZUR2S4FK3M	246	SMTP	SMTP:dbswartz8...	N5CBP	Re: test d72
Drafts (0)							

Personal Folders

Global Folders

Contacts

Message ID: 7IZUR2S4FK3M  
Date: 2022/01/17 20:09  
From: dbswartz8@gmail.com  
To: N5CBP  
Source: SMTP  
Downloaded-from: RMS:N5CBP-10  
Subject: Re: test d72

Got it!

On Mon, Jan 17, 2022 at 3:08 PM <N5CBP@winlink.org> wrote:

```
> packet on A band at 9600  
>  
>
```

Winlink Express 1.6.1.0 - NSCBP

NSCBP Settings Message Attachments Move To: Saved Items Delete Open Session: Telnet Winlink Logs

Help

No active session...

- Winlink Express Setup...
- Font for text...
- Font for lists...
- 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
- View Usage Statistics
- View background tasks...
- Backup and restore databases...
- Exit

Size	Source	Sender	Recipient	Subject
1215	W4AKH	W4AKH	N5CBP	DAVID, FL WL Net Reminder: Just O
1278	KF5VO	KF5VO	N4FAF...	Winlink Wednesday NTX Reminder -
1360	KF5VO	KF5VO	N4FAF...	Winlink Wednesday NTX Checkins -
1388	KK4SHF	KK4SHF	N5CBP	DAVID, FL WINLINK NET REPORT
221	KO4JES	KO4JES	N5CBP	Tuesday 1-18-2022
246	SMTP	SMTP:dbswartz8...	N5CBP	Re: test d72

<N5CBP@winlink.org> wrote:

```
> packet on A band at 9600  
>  
>
```

9:28 AM 2/14/2022

# Configure Winlink to use GPS

GPS / Position Report

GPS Serial Port  
GPS Serial Port:  GPS Baud Rate:    
IP Address:  IP Port:

GPS Status

GPS Latitude:  GPS Longitude:   
GPS Speed:  Knots GPS Course:  True  
 Automatically update grid square from GPS position:

Position Report  
Your last position report was posted at 0000/00/00 00:00 UTC  
   
Report Date/Time:  UTC  
(Latitude/longitude may be entered as decimal degrees, DD-MM.MMx, or DD-MM-SSx)  
Latitude:  Longitude:   
Speed:  Knots Course:  True  
MGRS coordinates:    
Comment - 148 Characters Maximum:   
    
 If no GPS position, use position report location as my current location

- Box on the left is before setting the com port and baud
- Pick the port you found in Device Mgr and Baud for your GPS

GPS / Position Report

GPS Serial Port  
GPS Serial Port:  GPS Baud Rate:    
IP Address:  IP Port:

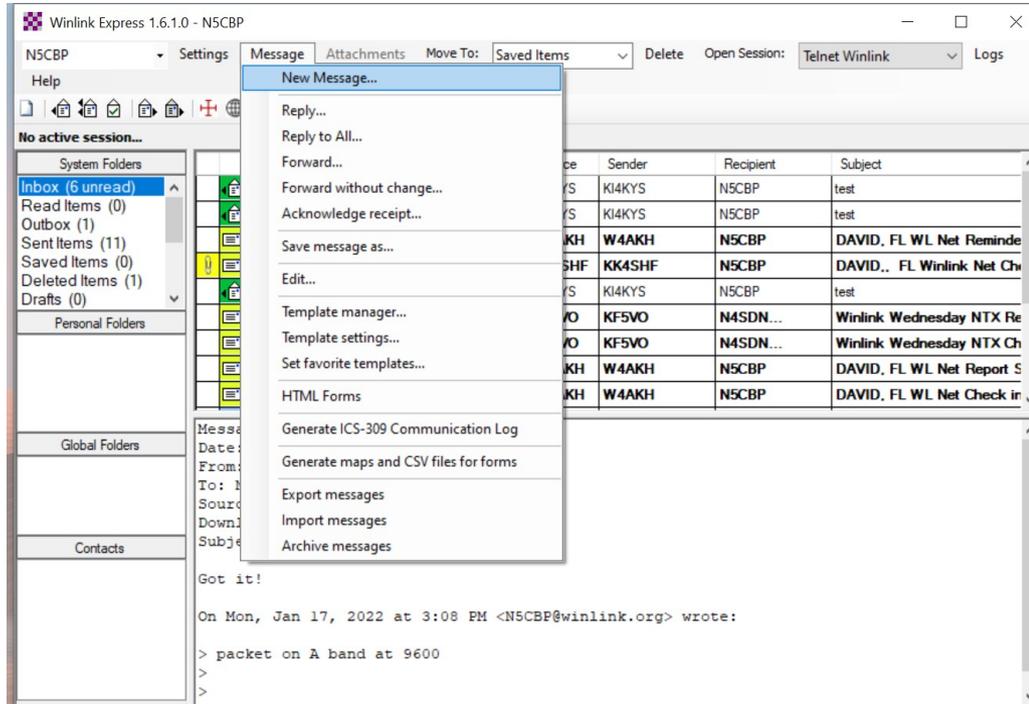
GPS Status

\$GPRMC,15.0059,0.00,A,3.007,99.34,N,082.42,40.59,W,0.0,0.65,70.140222,,A^40  
Last fix at 2022-02-14 15:00:59 UTC  
GPS Latitude:  GPS Longitude:   
GPS Speed:  Knots GPS Course:  True  
 Automatically update grid square from GPS position:

Position Report  
Your last position report was posted at 0000/00/00 00:00 UTC  
   
Report Date/Time:  UTC  
(Latitude/longitude may be entered as decimal degrees, DD-MM.MMx, or DD-MM-SSx)  
Latitude:  Longitude:   
Speed:  Knots Course:  True  
MGRS coordinates:    
Comment - 148 Characters Maximum:   
    
 If no GPS position, use position report location as my current location

Now that you have Winlink set up to use a GPS receiver, we will take a look at two ways to report your location when you are deployed.

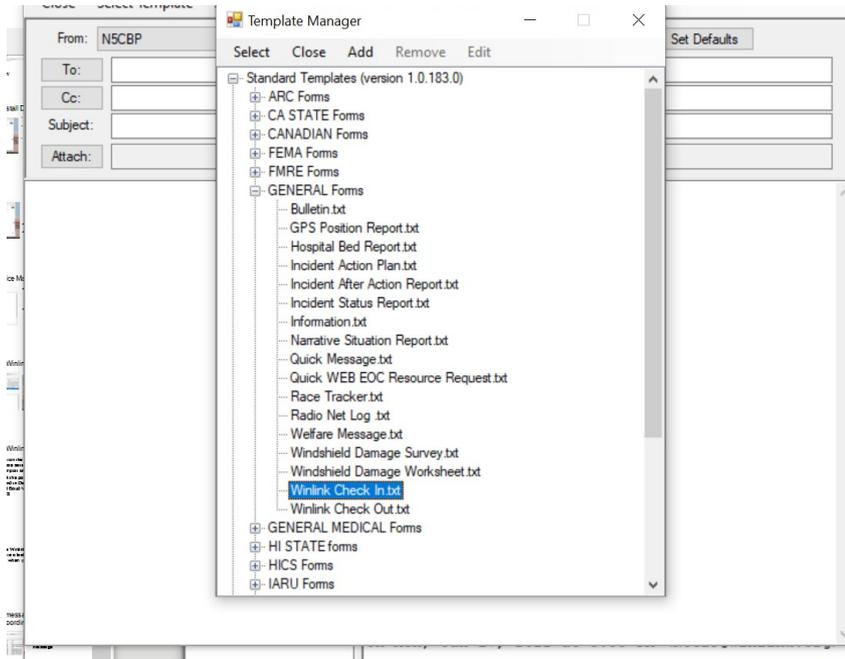
# Create a message with GPS Coordinates



- Click Message
- Then select New Message

# Check In via Winlink

- Start composing a new message
- Click “Select Template”
- Select “Winlink Check In.txt” from the General Forms group



# Winlink Check In form

Winlink Check In

[Setup](#) Click to add your agency/group name to title      [Load Check in Data](#)      [Form Info](#)

*This is for an initial check in via Winlink Express. Also sent as plain text in message body for non-Express users.*

Date/Time:       Select Status:   
Net:       Band:   
VHF:       Mode:   
Packet:

Send To:       *Clear ALL "Send To" Entries.*  
*Entries will remain until you change or clear them*

Calls Signs of Initial On-Site Operator(s):

Station Contact Name:       Station Call sign:

Location:

Latitude and longitude: LAT       LOW       MGRS       Grid

Comments *Max Characters 180*  
Such as: On batteries. Need relief in 6 hours. A Brief SitRep. Operators Names. Special notes for next shift. Mode being used that was indicated as OTHER.

[Save Check in Data](#)      [Submit](#)      [Reset Form](#)      Ver 4.0.5

# Fill in your location information

- The Date and Time should fill in automatically
- Select the proper Status, Band, and Mode
- Fill in the Send To address
- The Lat/Lon is filled in if GPS present, otherwise you could use an app on your phone to obtain the coordinates.
- List call signs of operators present.
- List your name and call sign
- Add the name of your location. Home, shelter name etc.

# Add a Brief Situation Report

- If other operators present add names here
- Add other information related to your present status
- When done entering all information, click on the submit button
- If you need to start over, click Reset Form

# Basic Info

**Winlink Check In**

[Setup](#) Click to add your agency/group name to title    [Load Check in Data](#)    [Form Info](#)

*This is for an initial check in via Winlink Express. Also sent as plain text in message body for non-Express users.*

Date/Time:     Select Status:     Exercise:     Band:     Mode:

Send To:     *Clear ALL "Send To" Entries.*  
*Entries will remain until you change or clear them*

Calls Signs of Initial On-Site Operator(s):

Station Contact Name:     Station Call sign:

Location:

Latitude and longitude: LAT     LOV     MGRS     Grid

[Comments](#) *Max Characters 180*

Currently on commercial power. Battery available if needed for about 4 hours.

Ver 4.0.5

Here we are sending a telnet message to net control

NF4CA has a winlink address, so the call sign is all that is needed

# Message ready to post to outbox

This message is now ready to post to the outbox for sending.

The message could also be sent to a non winlink address and they would be able to see your information

Enter a new message

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

From: N5CBP Send as: Winlink Message  Request message receipt Set Defaults

To: NF4CA

Cc:

Subject: Winlink Check In [Exercise]-N5CBP-Home

Attach: RMS\_Express\_Form\_Winlink\_Check\_In\_Viewer.xml;FormData.txt

Check-in  
Status: [Exercise]  
Date/Time: 2022-03-05 16:56:13  
Initial Assigned Operators: N5CBP  
Station Contact Name: Brad  
Call/Tactical Sender: N5CBP  
Location: Home  
GPS Coordinates: LAT 30.1458 LON -82.7083 MGRS Coordinates: 17RLP3546736173  
Grid Square: EM80pd  
Band Used: -N/A-  
Session Type: Telnet  
Call/Tactical Sender: N5CBP

Comments:

Currently on commercial power, Batteries available if needed.

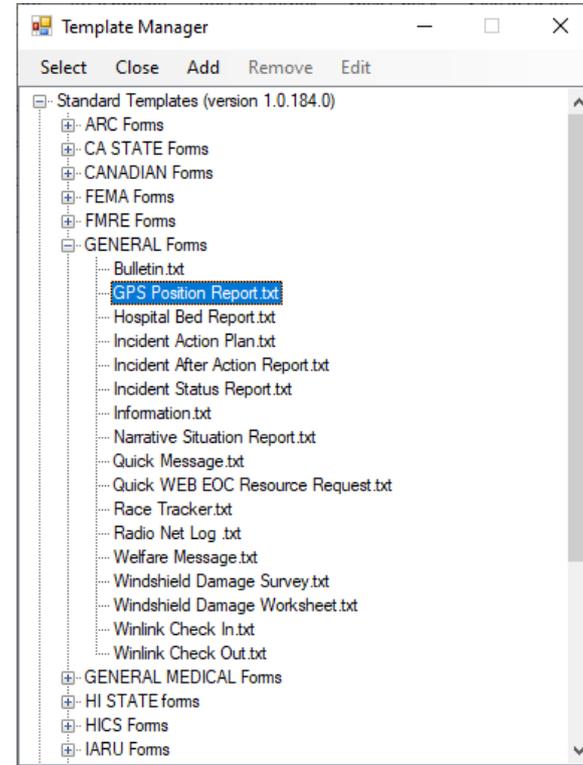
Below Info Used for Copy and Paste to Spreadsheet

TAB Delimited:

2022-03-05 16:56:13	N5CBP	N5CBP	Brad	Home	30.1458	-82.7083	17RLP3546736173
---------------------	-------	-------	------	------	---------	----------	-----------------

# GPS Position Report

- There are multiple ways to report your position via Winlink
- One that we use in exercises is the SHARES SPOTREP-2
- For this training use the GPS Position Report



# Fill in Report

- Select Click to use connected GPS LAT LON
- Add a useful comment
- When complete, click Submit

The screenshot shows a web browser window with the URL `C:/RMS%20Express/N5CBP/Temp/GPS%20Position%20Report.html`. The page title is "Position Report". The main heading is "GPS Decimal Position Report for Winlink - Decimal Converter".

At the top right, there is a "Load Position Data" button and a note: "Last Saved: Position Report 2022-03-24 15\_48.txt".

The form contains several input fields and buttons:

- Date/Time:** A text box with the value "2022-03-24 20:08:32Z" and a button "Click for current UTC Time".
- Manually Enter your Decimal Degrees:** A text box with the value "30.1330, -82.7068" and a button "Click any where to use". Below it, a note says "(If no connected GPS) Example: 38.5567, -121.7932 (note the comma)".
- External data if GPS is connected:** A text box with the value "30-07.98N 082-42.41W" and a button "Click to Use connected GPS LAT LON". A note below says "Your attached GPS device needs to be configured and working in Winlink Express."
- Comment:** A text box with the value "Raining at the Shack today". A note above it says "Limited to 148 characters".
- HINT:** A block of text: "You will be prompted to save your Position Data BEFORE you Submit. Save the data if you want to DELETE the sent position later. To do so, just use Load Position Data and change the Comment box to **DELETE** in all caps. Now **Submit** this new report. It will be deleted from all Winlink System lists and maps, but not APRS FI."

Below the hint, there is a section titled "Copy/Paste Current Coordinates converted for use with other mapping programs:" containing four rows of data with "Copy to Clipboard" buttons:

Position in Decimal Degrees: 30.1330, -82.7068	Position in Degrees and Decimal Minutes 30°07.98'N 082°42.41'W
Position Grid Square EM80pd	Position NATO/MGRS (Military Grid Reference System) 17RLP3559034752

At the bottom, there are "Submit" and "Reset Form" buttons. A footer note reads: "THE WINLINK CMS DOES NOT ACCEPT A TACTICAL ADDRESS, ONLY BASE CALLS. - APRS FI KEEPS POSITION REPORTS & COMMENTS FOR 2 YEARS." The footer also includes "Form Concept from LAX ARES CA", "Current Winlink Sender: N5CBP", and "Ver 7.2".

# Report ready to send

Enter a new message

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

From: N5CBP Send as: Winlink Message  Request message receipt Set Defaults

To: QTH

Cc:

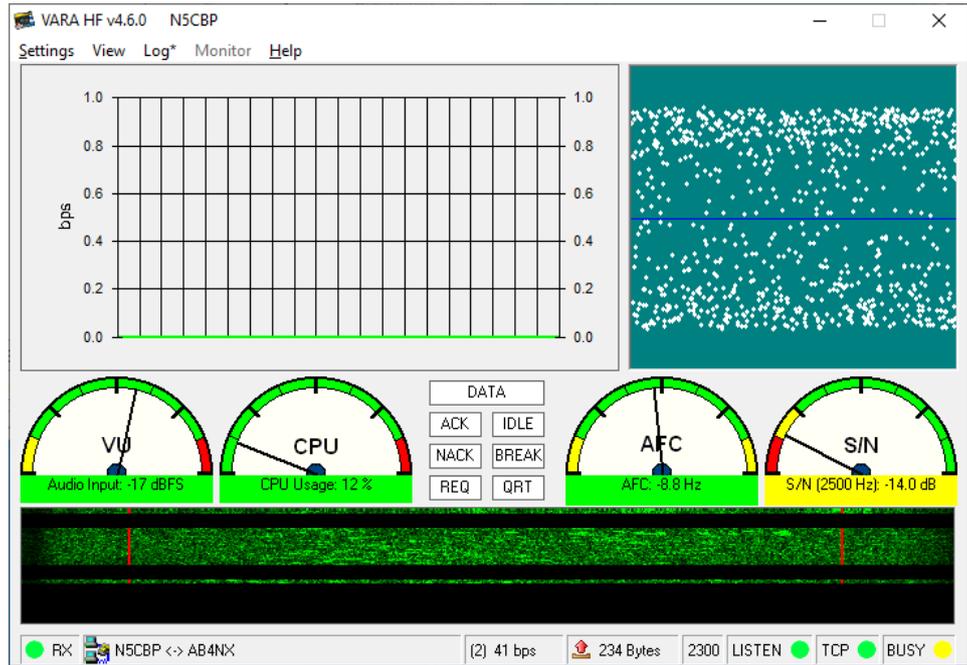
Subject: Position Report

Attach:

Time: 2022-03-24 20:08:32Z  
Latitude: 30-07.98N  
Longitude: 082-42.41W  
Comment: Raining at the Shack today!

- Add additional email addresses as needed
- Post to Outbox
- Chose your method to send and then transmit

# Send Report



- Sending message on VARA HF
- Sent through AB4NX near Atlanta, Ga.

# Message Sent

The screenshot shows the 'Vara HF Winlink Session - N5CBP' window. The interface includes a menu bar with 'Exit', 'Settings', 'Switch to Peer-to-Peer', 'Channel Selection', 'Map', 'Forecast', 'Best chan.', 'Next chan.', 'Start', 'Stop', and 'Abort'. Below the menu bar are input fields for 'AB4NX', 'Center Freq. (kHz): 7103.000', 'Dial Freq. (kHz): 7101.500', 'Bearing: 342', and 'Quality: 43'. A 'Favorites:' section contains 'Select', 'Add to favorites', and 'Remove from favorites' buttons. The status bar at the top of the main area reads 'Channel Free In: 0/0 Out: 239/239 BPM: 1143 Disconnected'. The main text area displays the following log:

```
*** Station Bearing: 342, Range: 508 km
RMS Trimode 1.3.43.0 Welcome to GAARES Winlink Hybrid Station
N5CBP has 397 daily minutes remaining with AB4NX (EM74SL)
[WL2K-5.0-B2FWIHJM$]
;PG: 62932582
CMS via AB4NX >
;FW: N5CBP
[RMS Express-1.6.2.0-B2FHMS]
;PR: 62877475
; AB4NX DE N5CBP (EM80PD)
FC EM YRZJ1T8BOJP1 277 239 0
F> 62
FS Y
*** Sending YRZJ1T8BOJP1.
FF
*** Completed send of message YRZJ1T8BOJP1
*** Sent 1 message. Bytes: 263, Time: 00:32, bytes/minute: 481
FQ
*** --- End of session at 2022/03/24 19:54:54 ---
*** Messages sent: 1. Total bytes sent: 263, Time: 02:42, bytes/minute: 97
*** Messages Received: 0. Total bytes received: 0, Total session time: 02:42, bytes/minute: 0
*** Disconnecting
*** Disconnected from Winlink RMS: AB4NX @ 2022/03/24 19:55:02
*** Session: 2.8 min; Avg Throughput: 134 Bytes/min; 1 Min Peak Throughput: 134 Bytes/min
```

# Position Report on aprs.fi

The screenshot shows a web browser window displaying the aprs.fi website. The address bar shows the URL: `aprs.fi/#!lat=30.1031&lng=-82.6855`. The main content is a map of North Dakota with various APRS stations plotted. A popup window is open over a station, displaying the following information:

- Station: **N5CBP** (from WINLINK) · center · zoom · info
- Time: 2022-03-24 16:28:56
- Message: *Raining at the Shack today!*
- Source: [APWL2K via TOPIF:gAC,T2ALBERTA]
- Actions: start tracking · track in Street View

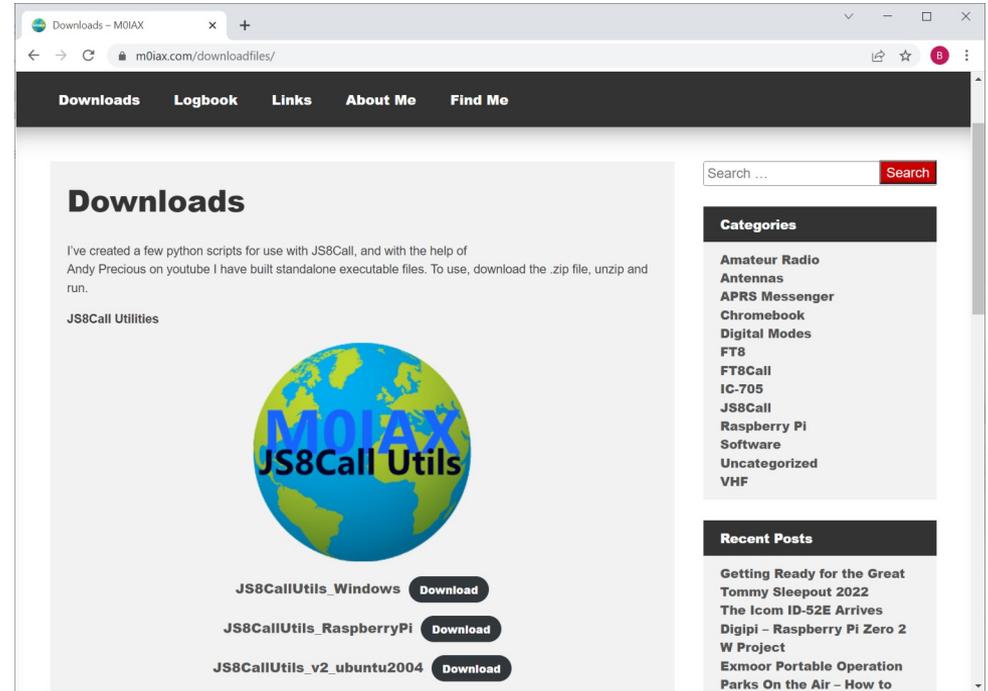
The right sidebar contains the following sections:

- aprs.fi · Login**
- Coming: \$3,708 Home Stimulus Saving Report
- Track callsign: Clear
- Address, city or Locator: Clear
- Show last: 1 hour Show all
- Track tail length: 1 hour
- Wx: 64°F 94% 1013 mbar 1.0 MPH NW
- Other views:**
  - Station info
  - Raw packets
  - Status packets - Beacon packets
  - APRS/CWOP weather - Telemetry
  - Messages - Bulletin board
  - Prefix browsing
  - Google Earth KML ?
  - Data export tool
  - Preferences - My account
- Information:**
  - Stations currently moving · User guide · FAQ · Blog · Discussion group · Linking to aprs.fi · AIS sites · Service status · Database statistics · Advertising on aprs.fi

The browser's taskbar at the bottom shows several open applications: `ublox install.odg`, `UBX-GNSS-CDC-A....zip`, and `JS8CallUtils_Windo....zip`.

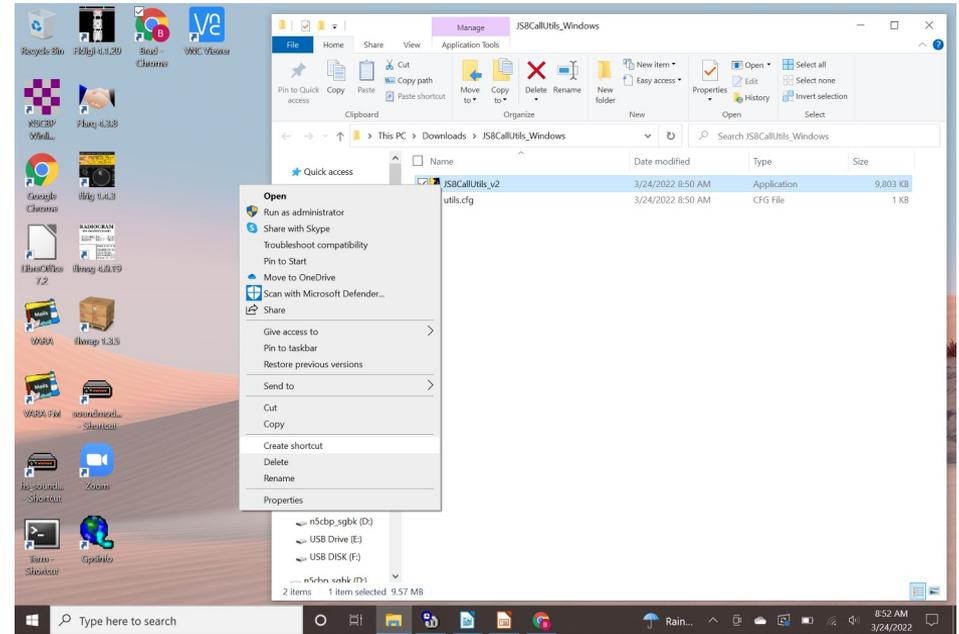
# JS8Call

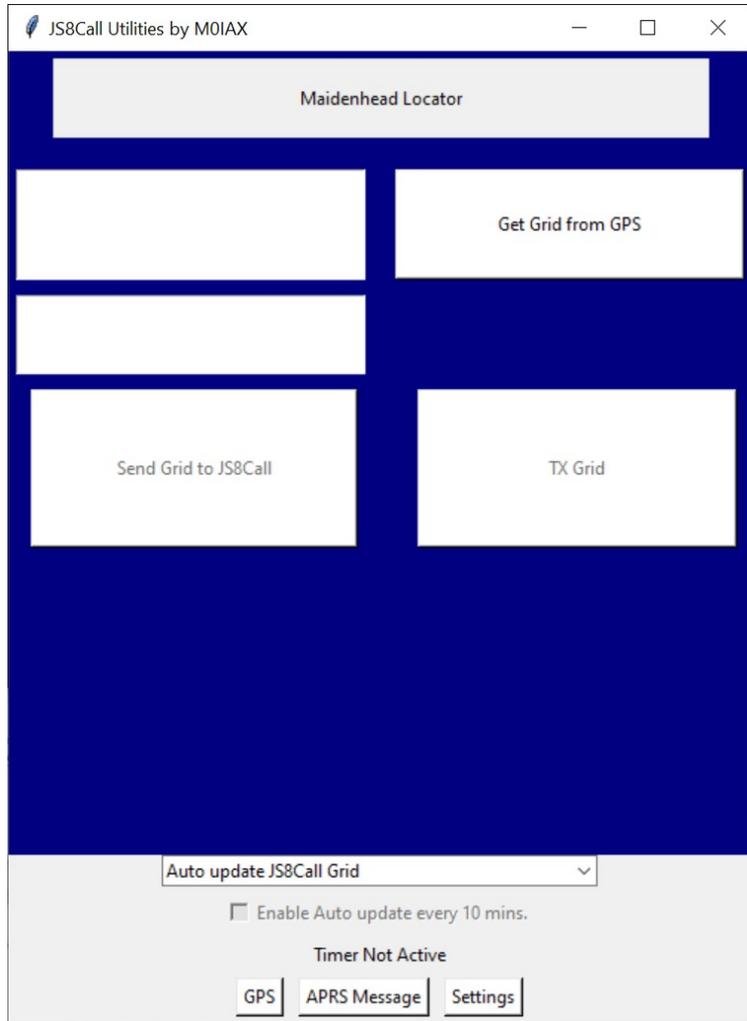
- This assumes you already have JS8Call installed on Windows.
- <https://m0iax.com/downloadfiles/>
- (I had to copy and paste the link in a new tab)



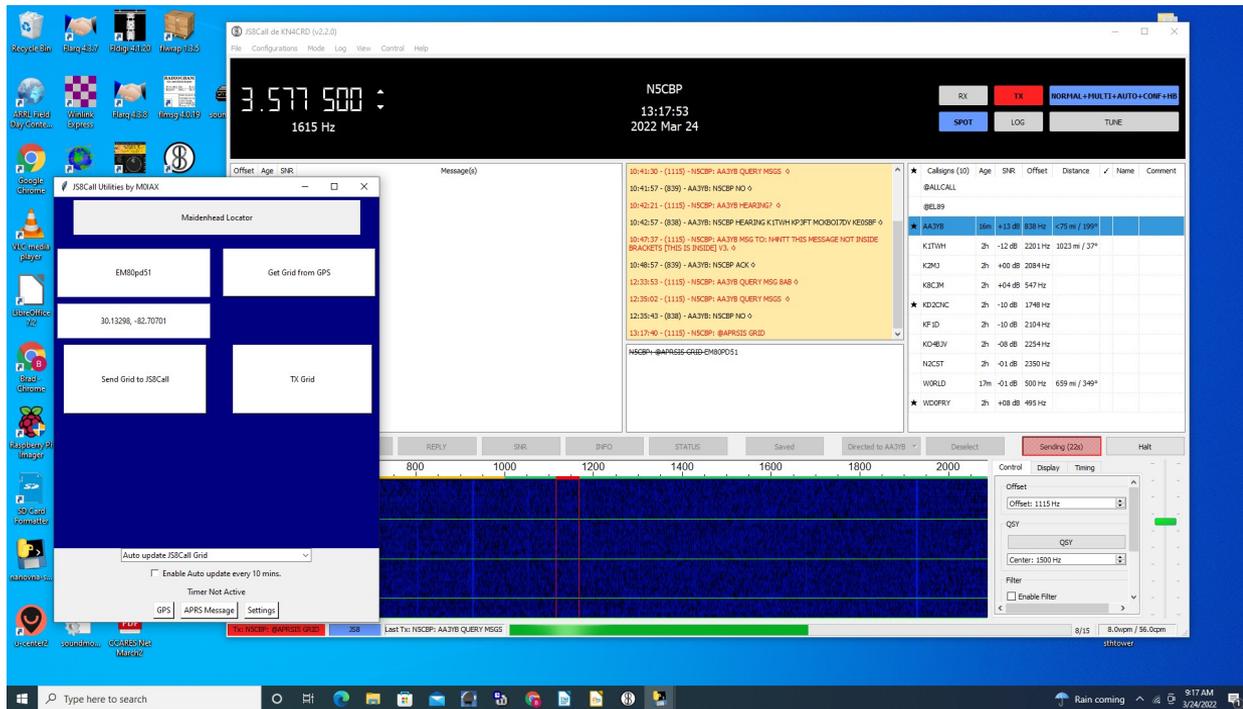
# Install JS8Call Utilities

- Extract zip file
- Right click and select create shortcut
- Drag shortcut to desktop





- Initial view is before selecting Get Grid
- After your GPS is connected, select Get Grid from GPS



- With JS8Call open
- Select TX Grid
- This will load and send your location

# Report Sent

The screenshot displays the JSBCall de KN4CRD (v2.2.0) software interface. The main window shows a frequency of 3.578 000 MHz and 1115 Hz. The call log displays the following messages:

- 10:41:30 - (1115) - NSCBP: AA3YB QUERY MSGS ◊
- 10:41:57 - (839) - AA3YB: NSCBP NO ◊
- 10:42:21 - (1115) - NSCBP: AA3YB HEARING? ◊
- 10:42:57 - (838) - AA3YB: NSCBP HEARING K1TWH KP3FT MOXBOT70V KE6SFB ◊
- 10:47:37 - (1115) - NSCBP: AA3YB MSG TO: N4WTT THIS MESSAGE NOT INSIDE BRACKETS [THIS IS INSIDE] V3. ◊
- 10:48:57 - (839) - AA3YB: NSCBP ACK ◊
- 12:33:53 - (1115) - NSCBP: AA3YB QUERY MSG BAB ◊
- 12:35:02 - (1115) - NSCBP: AA3YB QUERY MSGS ◊
- 13:35:43 - (838) - AA3YB: NSCBP NO ◊
- 13:17:40 - (1115) - NSCBP: @NAPRSIS GRID EM80PD51 ◊

The call log also includes a section for outgoing messages:

TYPE YOUR OUTGOING DIRECTED MESSAGE TO KO4BJV HERE.

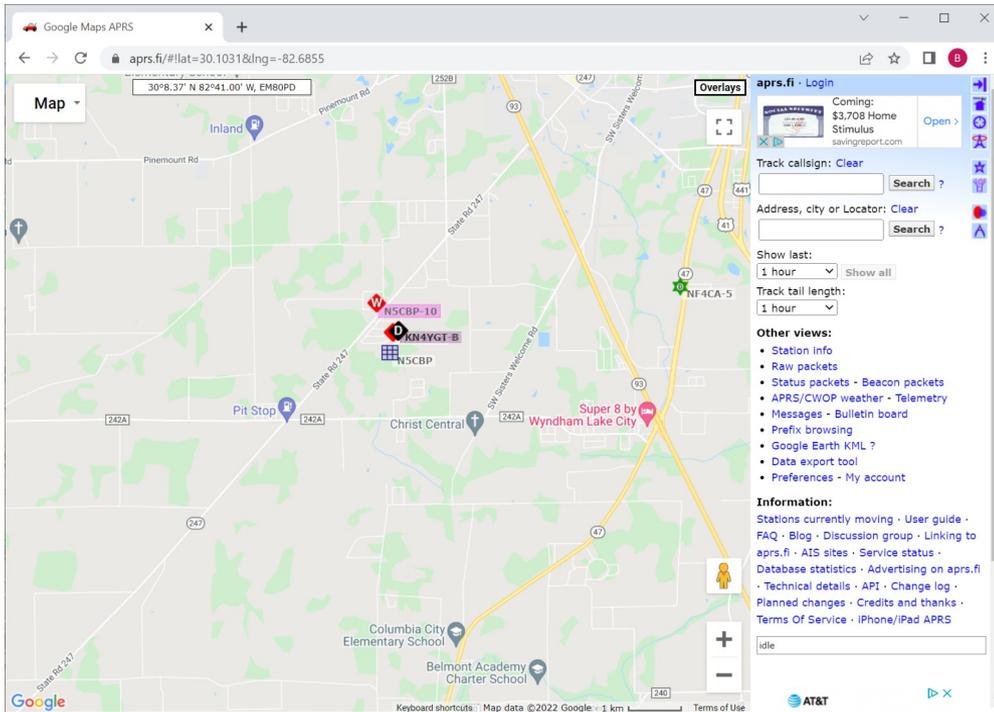
The interface also features a waterfall display showing signal activity over time and frequency. The waterfall shows a signal at 1115 Hz, with a CAT/S indicator on the left. The waterfall is currently set to 800 Hz center frequency and 1500 Hz center frequency. The waterfall shows a signal at 1115 Hz, with a CAT/S indicator on the left. The waterfall is currently set to 800 Hz center frequency and 1500 Hz center frequency.

The interface also includes a control panel with buttons for RX, TX, SPOT, LOG, and TUNE. The RX button is highlighted in green. The TX button is highlighted in blue. The SPOT button is highlighted in blue. The LOG button is highlighted in blue. The TUNE button is highlighted in blue.

The interface also includes a table of call signs:

Call Sign	Age	SNR	Offset	Distance	Name	Comment
@ALLCALL						
@EL89						
AA3YB	17m	+13 dB	838 Hz	< 75 m / 199°		
K1TWH	2h	-12 dB	3201 Hz	1023 m / 37°		
K2MJ	2h	+00 dB	2084 Hz			
K3CJM	2h	+04 dB	547 Hz			
KD2ZVC	2h	-10 dB	1748 Hz			
KF1D	2h	-10 dB	2104 Hz			
KO4BJV	2h	-08 dB	5254 Hz			
N2CST	2h	-01 dB	2350 Hz			
WORLD	17m	-01 dB	500 Hz	659 m / 349°		
W0DFRY	2h	+08 dB	495 Hz			

# Location posted on aprs.fi



- After a minute or so, an icon will appear on a map such as seen at aprs.fi