

Quick Setup Guide for VARA FM for Winlink on with Signalink on Windows

By Oliver K6OLI

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Thank you, **Scott KI6SC**, **Martin HB9AUR** and **Brian KM6IGY** for testing, for your suggestions, insights and encouragement.

Get the Software

Download

- VARA FM: download VARA FM here <https://rosmodem.wordpress.com/> extract the install files in a location you can find easily (e.g. folder on Desktop). Now double click the install file and install it in C:\VARA FM\
- VARA FM is a separate program from VARA Modem. If you want to only use VARA FM, only download VARA FM. If you also want to use VARA on HF you should download and install VARA Modem.
- NOTE: If you are using an antivirus program it will identify VARA FM.exe as a Trojan or virus. It is a false positive. Create an exception in your antivirus program for VARA FM.exe

SoundCard Considerations

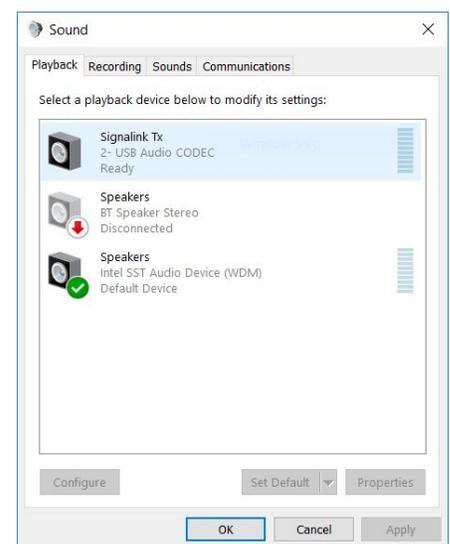
After you have hooked up your Signalink please make sure it is not selected as the default audio device by right mouse clicking

on the speaker icon  and selecting **Sounds**.

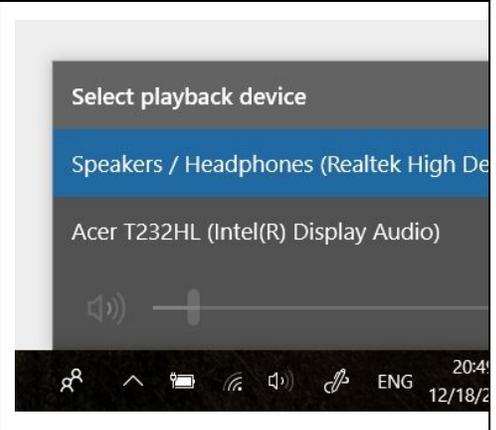
Then select **Playback**. Right-click your computer's internal soundcard and **Set as Default Device** and then right-click again and **Set as Default Communication Device**. There should be a green check mark on the internal soundcard device now.

Do the same for **Recording**.

Then click **OK**.



Also make sure that Signalink is not your active Playback Device. You can select your active playback device by left clicking on the speaker icon  and selecting any playback device other than USB Audio CODEC. Selecting Speakers/Headphones in the example here is a good idea.



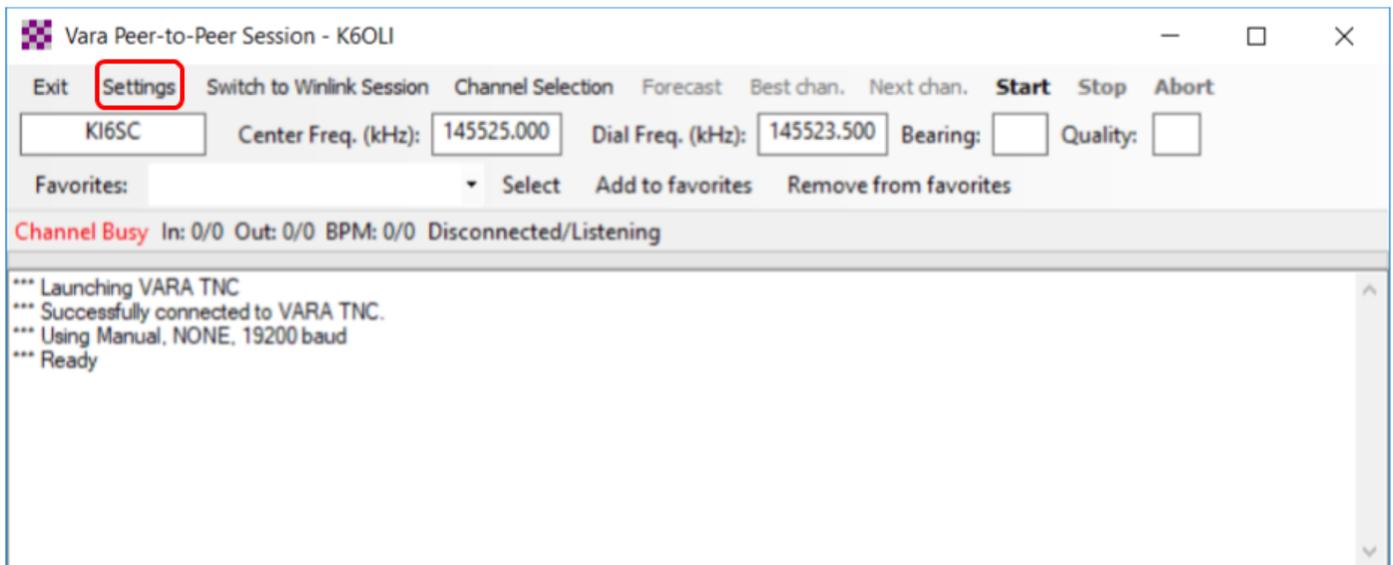
Setting up Winlink for VARA FM

Open Winlink Express

In the Open Session window select **VARA P2P**¹

Click on **Open Session**

You will see this screen:



VARA FM Winlink TNC Setup

Click on **Settings**

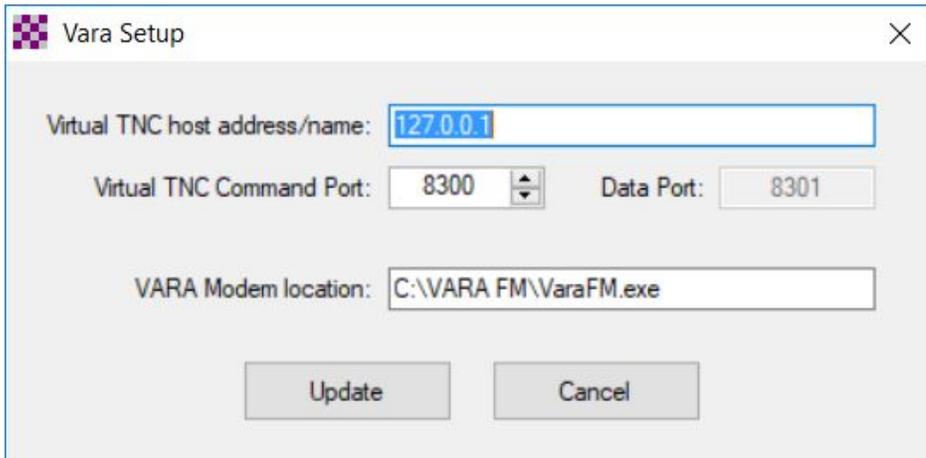
Select **VARA TNC Setup**

Virtual TNC host address/name: **127.0.0.1**

Virtual TNC Command Port: **8300**

¹ VARA FM settings carry over from the VARA P2P to the Winlink VARA Session and vice versa

VARA Modem location **C:\VARA FM\VaraFM.exe** (or the path you chose during VARA FM install, if different from default).



Vara Setup

Virtual TNC host address/name: 127.0.0.1

Virtual TNC Command Port: 8300 Data Port: 8301

VARA Modem location: C:\VARA FM\VaraFM.exe

Update Cancel

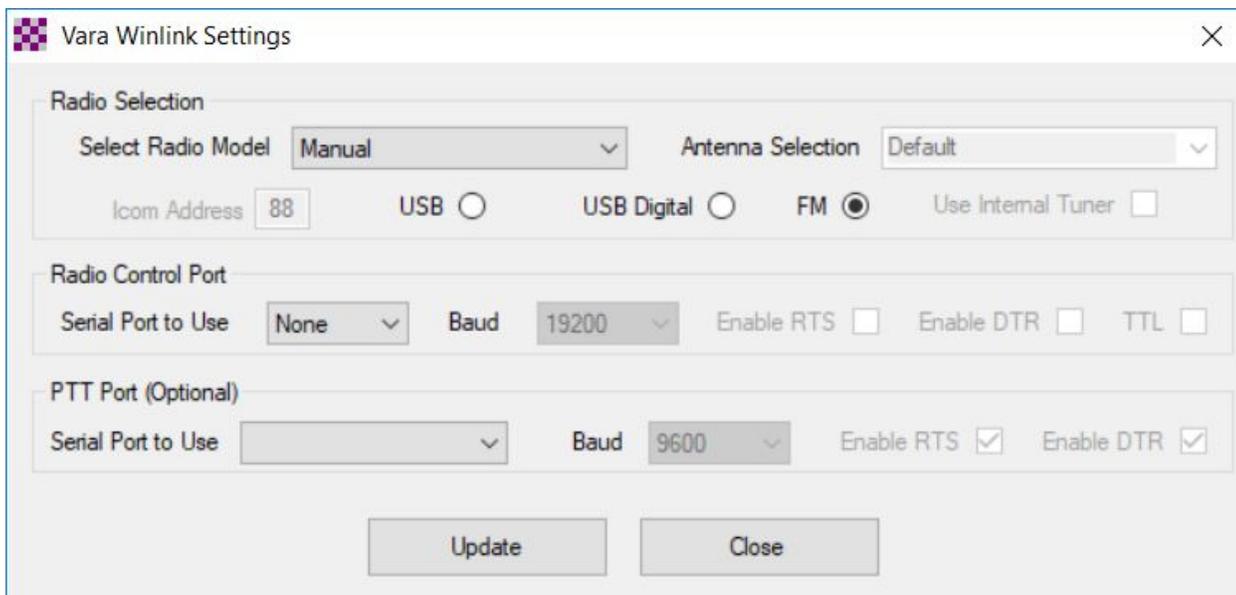
Click **Update**.

VARA FM Winlink Settings

Click on **Settings**

Click on **Radio Setup**

You will see this screen:



Vara Winlink Settings

Radio Selection

Select Radio Model: Manual Antenna Selection: Default

Icom Address: 88 USB USB Digital FM Use Internal Tuner

Radio Control Port

Serial Port to Use: None Baud: 19200 Enable RTS Enable DTR TTL

PTT Port (Optional)

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

Update Close

Set Select Radio Model **Manual**.

Click on the radio button next to **FM**²

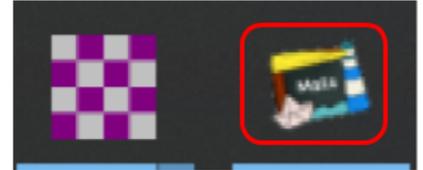
Set Serial Port to Use **None**

² For **Select Radio Model: Manual** the choice between USB, USB Digital or FM does not really matter. It does matter when you select a radio other than Manual, however.

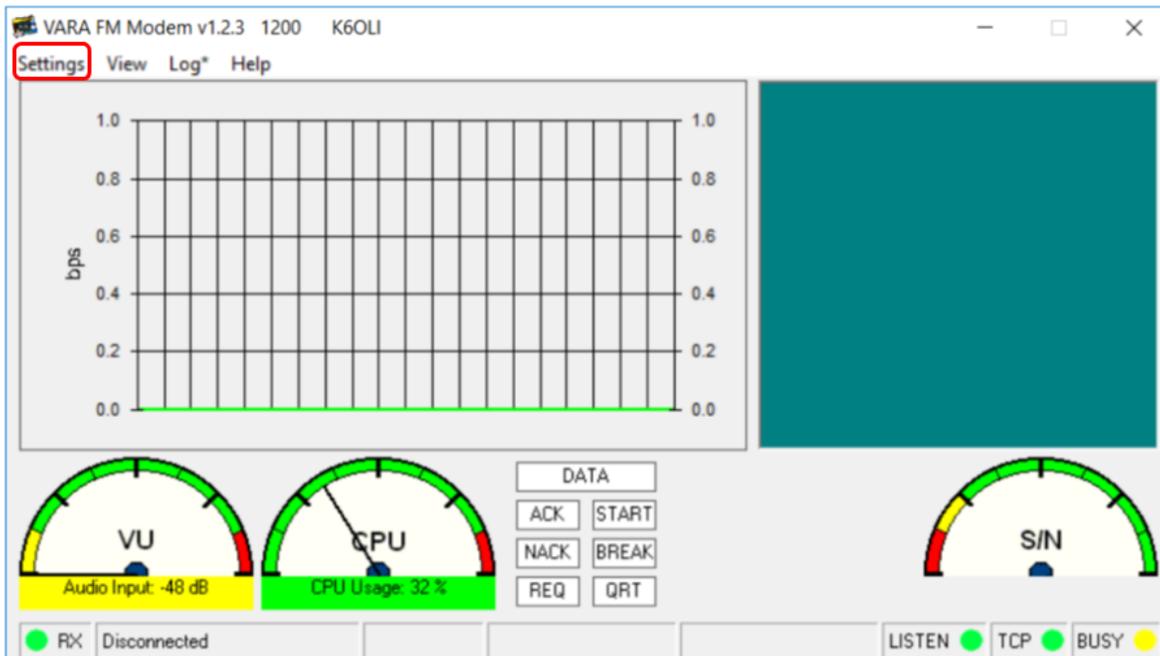
Click **Update**

VARA FM Modem Setup

Click on the VARA FM Modem icon next to the Winlink Express icon at the bottom of your screen.



You will see this screen:



VARA FM Setup

Click on **Settings**
Select **VARA Setup**

Make sure the following is set

TCP Ports: Command **8300**

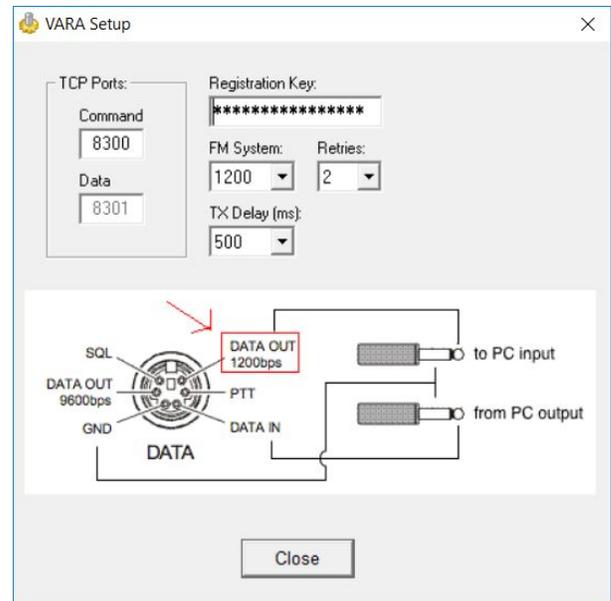
Registration Key: (here is where you enter your registration key if you have one)

FM System **1200**

Retries: **2**

TX Delay (ms): **500**³

Click **Close**



VARA FM SoundCard Setup

Click on **Settings**
Select **SoundCard**

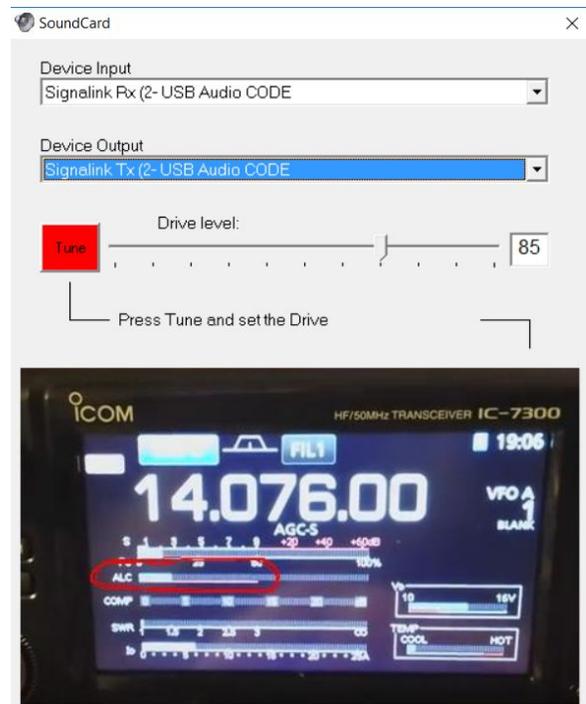
Make sure the following is set

Device Input: **USB Audio CODEC**

Device Output: **USB Audio CODEC**

Drive Level: **85**

Click **Close**



³ 500ms is a good starting point, you can try 200ms and 100ms for better performance if your rig supports it

Signalink

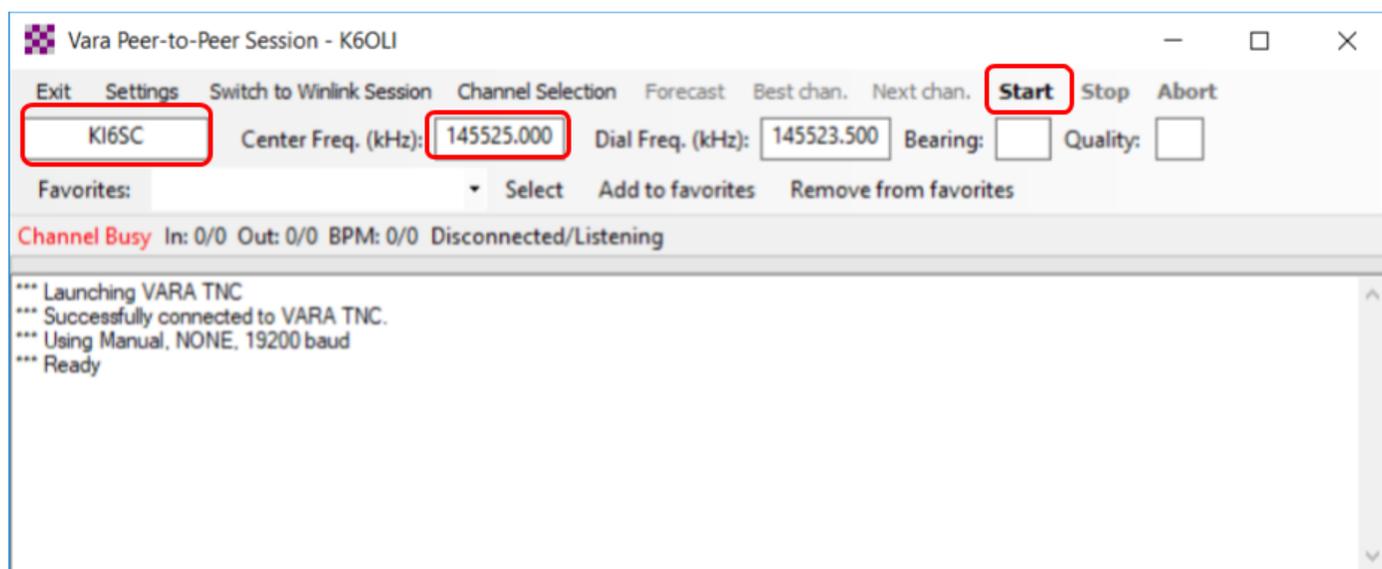
Note: This selects your Signalink as the Output and Input device for VARA FM and Winlink Express. The Signalink may sometimes show up as 2-USB Audio CODEC or similar.

Set the TX and RX dials on your Signalink to the 11 o'clock position. You can adjust that later if needed. Set DLY(delay) to the lowest setting, i.e. no Signalink delay.

Done! You are now set up to use VARA FM. It is a good idea to exit your VARA P2P session at this point and re-initialize it to ensure the changes are saved.

Winlink VARA P2P Connection

Make sure both stations are in a VARA P2P session



Enter the call sign of the station you are trying to connect with.

Enter a frequency in the field CenterFreq. (kHz). For Signalinks the frequency itself is of no consequence, but it is best operating practice to enter the frequency you are working. It will matter once you use a rig with CAT.

Click **Start**

VARA FM will connect and any Peer-to-peer traffic in your outbox addressed to the receiving station will be passed.

Winlink Express

Quick Tip: Winlink Express Setup

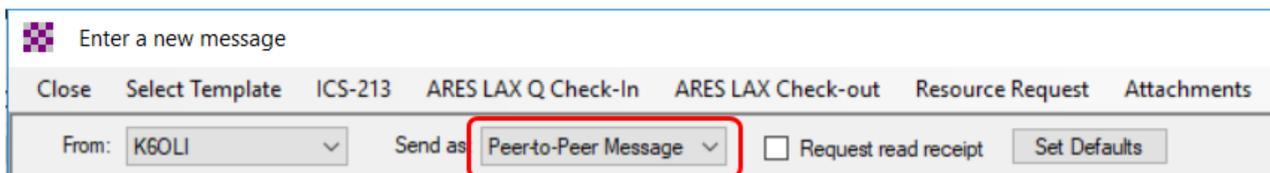
If you have not setup Winlink Express, go to **Settings -> Winlink Express Setup** and fill in the appropriate fields.

You only have to do this once (unless your personal information or location changes, e.g. Call Sign, Registration Number, Locator, etc., then update in Winlink Express Setup).

Entering your locator here will help you later finding Winlink Gateways near you. You can look up your Maidenhead Locator at http://www.levinecentral.com/ham/grid_square.php

Peer-to-peer message

If you want to send a message as a Peer-to-Peer Message (P2P) you need to ensure that you select Peer-to-Peer Message in the Send as drop-down menu. Then click Post to Outbox.

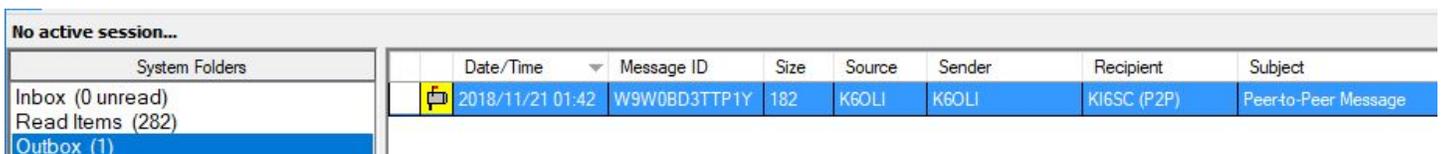


Enter a new message

Close Select Template ICS-213 ARES LAX Q Check-In ARES LAX Check-out Resource Request Attachments

From: K6OLI Send as Peerto-Peer Message Request read receipt Set Defaults

Double-check that the message is P2P by clicking on the **Outbox** and verifying under **Recipient** recipient's call sign is followed by **(P2P)**. In this example **KI6SC (P2P)** indicates the message is P2P.



No active session...

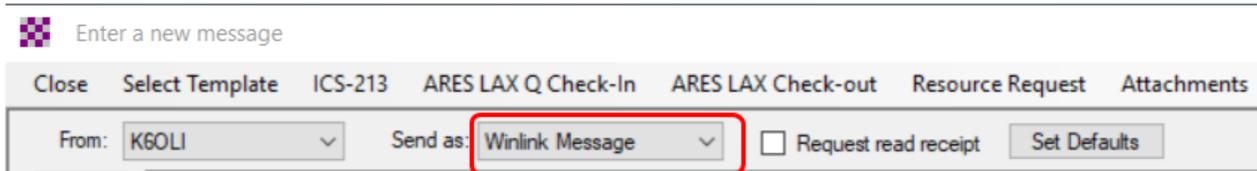
System Folders	Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
Inbox (0 unread)	2018/11/21 01:42	W9W0BD3TTP1Y	182	K6OLI	K6OLI	KI6SC (P2P)	Peer-to-Peer Message
Read Items (282)							
Outbox (1)							

- P2P Messages can only be sent to the call sign in the **To:** field and only when in a P2P session with that station.
- Both stations need to be in the same type of session at the same time for P2P traffic to be exchanged.
- You can push a message to the other station or they can pull the message from your Winlink by initiating the session on their end. Only the initiating station needs to enter the target station's call sign and then press start in a P2P session.
- You can enter multiple addresses in the To: field and Winlink will create separate, but identical messages for each recipient. Each recipient has to either pull the message from your system or you have to push each message to each respective recipient in separate sessions, i.e. enter

each recipient's call sign in the Session window and pressing start. Having stations pull messages is more efficient for a central station.

Winlink Message (via Gateway, Telnet CMS, etc.)

If you want to send a message as a Winlink Message via a gateway or the internet you need to ensure that you select **Winlink Message** in the Send as drop-down menu. Then click **Post to Outbox**.



Enter a new message

Close Select Template ICS-213 ARES LAX Q Check-In ARES LAX Check-out Resource Request Attachments

From: K6OLI Send as: Winlink Message Request read receipt Set Defaults

Double-check that the message is a Winlink Message by clicking on the Outbox. Winlink Messages are preceded by **//WL2K** in the **Subject** have no (P2P) after the call sign under Recipient.

No active session...

System Folders	Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
Inbox (0 unread)	2018/11/2...	CUG4N9V...	196	K6OLI	K6OLI	HB9AUR	//WL2K Winlink Message Example
Read Items (282)	2018/11/21 01:42	W9W0BD3TTP1Y	182	K6OLI	K6OLI	KI6SC (P2P)	Peer-to-Peer Message
Outbox (2)							

- In the example above, we could first initiate a regular Winlink Session with a Gateway (or through the Internet via Telnet) and the message to HB9AUR would be sent. The message to KI6SC (P2P) would stay in the Outbox.
- We could also first initiate P2P Session with KI6SC and the message to KI6SC (P2P) would be sent. The message to HB9AUR would stay in the Outbox in this example.
- You can change whether a message is sent via Winlink Gateway or P2P after the fact by double-clicking on the message in the **Outbox**, changing the mode (**Winlink Message, Radio Only, Peer-to-Peer**) in the **Send as** dropdown menu and then clicking **Post to Outbox**.