Sarasota County ARES (SRQARES)

GoBox w/SignaLink

The SRQARES GoBox SignaLink Tutorial

GoBox WinLink Packet Tutorial

- Introduction
- SignaLink Setup
- Radio Operation
- Laptop Settings
- SoundModem Settings
- WinLink Packet

Introduction





GoBoxes weigh about 20 pounds

Wiring Diagram



Setup



- Open Cover
- Connect Antenna to Radio
- Connect AC power cord
- Power On Radio

Yaesu FT-7800 Front



Yaesu FT-7800 Back



Signalink Setup





- TX knob Set the Output Level • Nominal Setting 11 o'clock
- RX knob Set the Input Level
 - Nominal Setting 11 o'clock
- DLY knob Set the VOX delay
 - Nominal Setting 7 o'clock

- SPKR Not Used
- AUX Not Used
- RADIO Connects to Radio DIN Connector
- MON Not Used
- USB Connects to Laptop

Software

• In addition to Winlink you need to install the <u>SoundModem</u> application

Laptop Settings

- The SignaLink USB's built-in sound card provides the same consistent audio levels no matter what computer you are using. Before you operate your SignaLink USB on the air, you will need to adjust the PLAYBACK software volume controls, and the SignaLink's TX and RX level controls.
- Adjustment of the Receive Audio level is done completely by the SignaLink's RX level control.
- Before you can adjust the audio levels, the SignaLink USB must be connected to the computer and radio.
- Both the SignaLink USB and the radio should be powered ON and a communication program that you have selected should be installed on your computer.
- 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 Playback Devices.

Laptop Settings

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 Playback Devices. You can adjust in that menu.



Signalink Laptop Settings

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.



SoundModem Settings

Setting up Soundmodem100

Go to the soundmodem.exe file you extracted earlier. Double-click to run the program.



On the Soundmodem screen, click Settings then Devices.

SoundModem Device Settings

| Output device Speakers (USB | Audio CODEC) |
|------------------------------|-----------------------|
| Input device Microphone (U | SB Audio CODEC) |
| 🔲 Dual channel | TX SampleRate 11025 |
| TX rotation | TX corr. PPM |
| 🔽 Single channel output | RX SampleRate 11025 |
| Color waterfall | RX corr. PPM 0 |
| 🔽 Stop waterfall on minimize | Priority Highest 🔹 |
| Server setup | |
| AGWPE Server Port 8000 | 🔲 Enabled |
| KISS Server Port 8100 | ✓ Enabled |
| PTT Port | |
| Select PTT port NONE | 🔲 Dual PTT |
| | Swap COM pins for PTT |
| 04 | Cancel |

SoundModem Modem Settings

| Modem filters o | ch: A | | Modem filter: | : ch: B | | |
|--|---|--------------------------|--|--|---|-----|
| BPF Width | 1400 | Show | BPF Width | 500 | Sh | wo |
| TXBPF Width | 1600 | Show | TXBPF Widt | h 500 | Sh | ow |
| LPF Width | 650 | Show | LPF Width | 155 | Sh | ow |
| BPF Taps | 256 | | BPF Taps | 256 | | |
| LPF Taps | 128 | | LPF Taps | 128 | | |
| 🔽 Default set | ttings | | I Default s | ettings | | |
| PreEmphasis f | ilter None | - IV AII | PreEmphasis | filter | lone - | All |
| | | | | | | |
| KISS Optin | nization | | KISS Op | timization | | |
| ✓ KISS Optin ✓ non-AX25 | nization filter | | | timization 5 filter | | |
| ✓ KISS Optin ✓ non-AX25 Modem type c | nization filter h: A | | KISS Op I non-AX2 Modem type | timization 5 filter ch: B | | |
| ✓ KISS Optin ✓ non-A×25 Modem type c Mode | nization filter h: A 5K AX.25 12 | 00bd 💌 | KISS 0p ✓ non-AX2 Modem type Mode A | timization 5 filter ch: B FSK AX. | 25 300bd | |
| ✓ KISS Optin ✓ non-A×25 Modem type c Mode AF: T×Delay 500 | nization filter h: A SK AX.25 12 | 00bd 💌 | KISS 0p inon-AX2 Modem type Mode A TXDelay 24 | timization 5 filter ch: B FSK AX. 50 | 25 300bd msec | • |
| ✓ KISS Optin ✓ non-A×25 Modem type c Mode AF T×Delay 500 T×Tail 50 | nization filter h: A SK AX:25 12 mse mse | 00bd 💌 ec ec | KISS 0p inon-AX2 Modem type Mode A TXDelay 2 ² TXT ail 5 ¹ | timization 5 filter ch: B FSK AX. 50 | 25 300bd msec msec | × |
| KISS Optim non-AX25 Modem type c Mode AF: TXDelay 500 TXTail 50 Add. RX 0 | hization filter h: A 5K AX.25 12 mse mse pair | 00bd 🔽 | KISS 0p ✓ non-AX2 Modem type Mode A TXDelay 2 ² TXT ail 5 Add, BX 0 | timization 5 filter ch: B FSK AX. 50 | 25 300bd msec msec pairs | • |
| KISS Optim non-AX25 Modem type c Mode AF3 TXDelay 500 TXT ail 50 Add. RX 0 Add. RX shift | hization filter h: A SK AX.25 12 msr msr msr pair 30 Hz | 00bd 💌 ec ec rs | Image: KISS Op Image: Non-AX2 Modem type Mode Mode TXDelay 24 TXT ail 50 Add. RX O Add. RX shift | timization 5 filter FSK AX. 50 0 | 25 300bd msec msec pairs Hz | • |

Signalink Laptop Settings

In the main Window make sure to select A: AFSK AX.25 1200bd and set to 1700

| SoundModem by UZ7HO - Ver 0.97b - [AFSK AX.25 1200bd] | - | \times |
|---|---|----------|
| Settings View Clear monitor Calibration About A: AFSK AX.25 1200bd 1700 ODD threshold Hold pointers | | |
| | | |
| | | |
| Check This Box | | |

Signalink Laptop Settings

| THE | | | | | |
|-------------------------------|-----------------|------------|-----------------|-------------|--------|
| Protection | | | | | |
| Packet INC Type: KISS | | _ | ~ | | |
| Pac | ket TNC Model | NOF | MAL V | AutoConnec | t Time |
| | Serial Port | TCP | ~ | Disabled | |
| | TCP Host/Port | 127. | 0.0.1 | 8100 | |
| | | 100 | lah Europeania | and and and | |
| If Auto Connect is enabled, o | open session wi | nen vvin | IINK Express is | started | |
| TNC Parameters | _ | _ | | | |
| | 1200 B | aud | ○ 9600 B | aud | |
| TX Delay (Millisecond | s): 400 | ~ | 300 | ~ | |
| Maximum Packet Leng | th: 128 | ~ | 255 | ~ | |
| Maximum Frame | es: 4 | ~ | 7 | \sim | |
| Frac | :k: 2 | ~ | 2 | ~ | |
| Persistance | e: 160 | ~ | 224 | ~ | |
| Slot tim | ne: 30 | ~ | 20 | ~ | |
| Maximum Retrie | es: 5 | ~ | 5 | ~ | |
| Disable Xmt 🔲 Transmit Lev | el: 100 | (A) (V) | 100 | - | |
| Enable IPo | | | | | |
| | | | | | |

Packet Winlink

Select Open Session: Packet Winlink

| Winlink Express | s 1.5.10.0 - K6OLI | | | | | | | - 🗆 X |
|-----------------------------|--------------------|--------------|----------|----------|--------|--------------------|----------------------------|------------------------|
| KEOLI | - Settings Message | Attachments | Move To: | Saved It | ems 🗸 | Delete Open Sessio | Packet Winlink | Logs Help |
| | B 🚯 🕂 🖩 눈 🖬 | | | - | | | Telnet Winlink | |
| No active session | | | | | | | Pactor Winlink | |
| System Folders | Date/Time ~ | Message ID | Size | Source | Sender | Recipient | S Robust Packet Winlink | 100 |
| Inbox (0 unre 🔺 | 2017/04/21 04:07 | VAKXRNF80JR4 | 703 | WBENCT | WB6NCT | WEJDG | Re Iridium GO Winlink | vercise 04\09-04\22 |
| Read Items (| 2017/04/17 20:52 | KH2CZTBU2SZI | 524 | WEJDG | W6JDG | SMTP johndavid | // Packet P2P | se 04\09-04\22 |
| Sent Items (2 | 2017/04/11 22:32 | VYGAYUZTPTFN | 446 | KKSEZP | KK6EZP | KFGTIM | // Pactor P2P | ercise 04/09 - 04/22 |
| Saved Items | 2017/04/05 22:05 | NIK101WRNFT4 | 382 | KKSEZP | KKGEZP | KF6TIM | // Robust Packet P2P | tee 04/02 - 04/08 |
| Deleted Item: Drafts (0) | 2017/03/31 02:04 | WM3YV9XBY26G | 349 | KKSEZP | KKGEZP | KGOLI | AC Teinet P2P | Exercise 2017-03-27 |
| Personal Folders | 2017/03/30 03:38 | 3HTCPYLR0UMZ | 1346 | WEJDG | W6JDG | SMTP johndavid | // | |
| | 2017/03/30 03:29 | H3YDZG8MNKA0 | 347 | WEJDG | W6JDG | KGOLI | AC Winmor Radio-only | Exercise 2017-03-27 |
| | 2017/03/28 16:20 | KWUY3CL28XD8 | 348 | WBGYJJ | WBGYJJ | KSOLI | AC Telnet Radio-only | Exercise 2017-03-27 |
| | 2017/03/27 01:55 | LX2UBBECM0PN | 846 | KKGEZP | KKGEZP | KFGTIM | 77 Telnet Post Office | se 03/24 - 04/01 |
| | 2017/03/23 01:46 | FHALF4EOIRH9 | 372 | KKGEZP | KKGEZP | KFGTIM | //WL2K ARES NE Winlink Exe | rcise 02/19 - 02/25 |
| Global Folders | 2017/03/17 04:29 | N3Z1W81NXK2K | 368 | KKSEZP | KK6EZP | KEOLI | ACK: FW: Re: //WL2K ICS213 | - Bakerto Vegas - Men. |

- Click on Open Session
 - You are now in the Winlink Packet Session

| Packet Winlink | Session | | | | <u>100</u> | | \times |
|---|---|----------------------------|-------------|------------|-------------|----|----------|
| Exit Settings | Channel Selecti | ion 1200 Baud | Start Stop | | | | |
| Connection type: | Digipeater 🝷 | N4SER-10 | Via | | | | |
| Connection script: | | | Edit script | Add script | Remove scri | pt | |
| Time to next Autoc | onnect = Disable | d | | | | | |
| Launching C: Sou Soundcard modem Initializing KISS ov Initialization comple Ready | ndModem\soundm is running. er TCP Host 127.0. te | odem.exe .0.1 Port 8100 | | | | | |
| | | | | | | | |

| Packet Willink/PZP Setup | | | | |
|---|-------------|------|----------|------------------|
| TNC Connection | | | | |
| Packet TNC Type: KISS | | | ~ | |
| Packet | TNC Model | NOF | RMAL 🗸 | AutoConnect Time |
| | Serial Port | TCP | ~ | Disabled ~ |
| TC | P Host/Port | 127. | 0.0.1 | 8100 |
| TNC Parameters | 1200 Ba | aud | ○ 9600 B | aud |
| | 1200 Ba | bue | ○ 9600 B | aud |
| TX Delay (Milliseconds): | 400 | ~ | 300 | ~ |
| Maximum Packet Length: | 128 | ~ | 255 | ~ |
| Maximum Frames: | 4 | ~ | 7 | ~ |
| Frack: | 2 | ~ | 2 | ~ |
| Persistance: | 160 | ~ | 224 | ~ |
| Slot time: | 30 | ~ | 20 | ~ |
| | 5 | ~ | 5 | ~ |
| Maximum Retries: | 3 | | | |
| Maximum Retries: Disable Xmt Level Adjust Transmit Level: | 100 | * | 100 | ÷ |
| Maximum Retries: Disable Xmt Level Adjust Transmit Level: Enable IPoll | 100 | * | 100 | \$ |

- Select Connection Type: Direct
 - Enter Gateway name, in this example: N4SER-10
- On your Radio, set the Frequency to the gateway frequency in this example. $\circ 143.950$
 - This Frequency is Different for Different Gateways!
- Click Start

| Vara FM C | hannel Selector | | | | | | × |
|----------------|--------------------|------------------|----------------|----------------|---------------------|----------------------|----|
| Select Chan | nel Update 1 | lable Via Intern | et Update T | able Via Radio | o <mark>Exit</mark> | | |
| Stations found | d within 300 kil | ometers of you | ur grid square | | | | |
| Callsign | Frequency (MHz) | Channel Width | Grid Square | Group | Distance (km) | Bearing (Degrees) | |
| N4SER | 446.775 | Wide | EL87SI | PUBLIC | 008 | 270 | |
| N4SER-11 | 434.000 | Narrow | EL87SH | PUBLIC | 009 | 241 | |
| W4IE | 446.775 | Wide | EL87TD | PUBLIC | 022 | 180 | |
| KM4EC-10 | 441.000 | Wide | EL87TN | PUBLIC | 023 | 000 | l. |
| W4DIG-11 | 434.000 | Wide | EL86XW | PUBLIC | 057 | 143 | |
| W4DIG-10 | 433.000 | Narrow | EL86XW | PUBLIC | 057 | 143 | |
| K4PPK-10 | 145.070 | Wide | EL87UV | PUBLIC | 062 | 008 | |
| KI4VAM | 144.990 | Narrow | EL87SV | PUBLIC | 062 | 353 | |
| N4HCA-11 | 438.050 | Wide | EL87TX | PUBLIC | 070 | 000 | |
| KJ4RUS-10 | 145.070 | Wide | EL870V | PUBLIC | 073 | 327 | |
| KR4PI-10 | 145.030 | Wide | EL96BO | PUBLIC | 097 | 149 | |
| W4LCO-10 | 145.030 | Wide | EL96CP | PUBLIC | 097 | 143 | |
| K4EX | 440.975 | Wide | EL88TF | PUBLIC | 098 | 000 | |
| KM4YGV-12 | 145.070 | Wide | EL88VG | PUBLIC | 104 | 009 | |
| W4PEM-11 | 145.050 | Narrow | EL88PG | PUBLIC | 107 | 342 | |
| KM4YGV-10 | 145.030 | Wide | EL88UI | PUBLIC | 111 | 005 | |
| KX4LEO-10 | 144.930 | Wide | EL88XO | PUBLIC | 143 | 013 | |
| MADUT 10 | 441.050 | JAC 1 | FLOOLIO | DUDUO | 170 | 0.05 | |

| Packet Winlink | Session | | | | | | × |
|---|--|--|---------------------------------------|-----------------|----------|-------|---|
| Exit Settings | Channel Selectio | n 1200 Baud | Start Stop | | | | |
| Connection type: | Digipeater 🝷 | N4SER-10 | Via | | | | |
| Connection script: | | | Edit script | Add script | Remove s | cript | |
| Received: 54 Sent: 8 | 38 Time to next A | utoconnect = Disa | bled | | | | |
| FW: K0MDT [RMS Express-1.7.1] PR: 36460256 ; N4SER-10 DE K0N FF FQ End of session w Messages sent: 0. Messages Receive Disconnecting Disconnected at 20 | 3.0-B2FHM\$] MDT (EL87TI) vith N4SER-10 at 20 Total bytes sent: 0, vd: 0. Total bytes re 024/03/04 02:09:5: |)24/03/04 02:09:50 Time: 00:13, bytes ceived: 0, Total ses | /minute: 0 sion time: 00:13, 1 | bytes/minute: 0 | | | |

| Settings Vie A: AFSK AX.21 1:Fm K0MDT To :PR: 36460256 1:Fm K0MDT To | s N4SER-1 | r monitor 1700 0 <i c="" r3="" s2<="" th=""><th>Calibration</th><th>About</th><th><u></u></th><th></th><th></th><th></th><th></th><th></th><th></th></i> | Calibration | About | <u></u> | | | | | | |
|--|-------------------------------------|---|--|---------------------------|-----------|------------|-------------|--------|--------|-----------|---|
| A: AFSK AX.2 Fm K0MDT To PR: 36460256 Fm K0MDT To | 5 1200bd 5 N4SER-1 | ▼ 1700 0 <i c="" p="" r3="" s2<=""></i> | |) threshold | | | | | | | |
| I:Fm K0MDT To PR: 36460256 I:Fm K0MDT To | o N4SER-1 | 0 <i c="" r3="" s2<="" th=""><th>2 Did E0 Law</th><th></th><th></th><th></th><th>Hold pointe</th><th>ers</th><th></th><th></th><th></th></i> | 2 Did E0 Law | | | | Hold pointe | ers | | | |
| I:Fm K0MDT To PR: 36460256 :Fm K0MDT To | o N4SER-1 | 0 <i c="" r3="" s.<="" td=""><td>2 Did-EQ1 and</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td></i> | 2 Did-EQ1 and | | | | | | | | - |
| EFm KOMDT To | | | 2 FIGEFO Lene | 14> [21:09:46 | T] | | | | | | |
| N4SER-10 DE | > N4SER-1 KOMDT (E | 0 <i c="" p="" r3<br="">(1871)</i> | S3 Pid=F0 Ler | n=29> [21:09:4 | 46T] | | | | | | |
| 1:Fm N4SER-10 1:Fm K0MDT To FF |) To KOMD o N4SER-1 | T <rr f="" f<br="" r="">0 <i c="" r3="" s<="" td=""><td>R4> [21:09:48F 4 Pid=F0 Len=</td><td>3] [+++] 3> [21:09:48T</td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td></i></rr> | R4> [21:09:48F 4 Pid=F0 Len= | 3] [+++] 3> [21:09:48T | 1 | | | | | | |
| I:Fm N4SER-10 I:Fm N4SER-10 FQ |) To KOMD) To KOMD | T <rr f="" f<br="" r="">T <i c="" r5="" s:<="" td=""><td>35> (21:09:50F 3 Pid=F0 Len=</td><td>3] [+++] 3> [21:09:50R</td><td>;] [+++]</td><td></td><td></td><td></td><td></td><td></td><td></td></i></rr> | 35> (21:09:50F 3 Pid=F0 Len= | 3] [+++] 3> [21:09:50R | ;] [+++] | | | | | | |
| 1:Fm KOMDT To 1:Fm KOMDT To 1:Fm N4SER-10 | o N4SER-1 o N4SER-1) To KOMD | 0 <rr r="" r4<br="">0 <disc c="" f<br="">T <ua f="" r=""></ua></disc></rr> | I> [21:09:51T] P> [21:09:52T] [21:09:53R] [+ | +++] | | | | | | | |
| MyCall De | estCall | Status | Sent pkts | Sent bytes | Rovd pkts | Rovd bytes | Rovd FC | CPS TX | CPS RX | Direction | |
| | | | | | | | 1 | | | | |

Quick Tip: Channel Selection

Update your available channels on a regular basis, once a month at the very least. Using Channels automatically populates the relevant fields in the Packet Winlink Session window.

Winlink Gotcha's

- Ensure you are Cabled up Correctly
- Make sure you have the Correct Audio Devices Selected
- Make sure you have the Correct CAT Device Selected
- Ensure the Audio Levels are Correct
 - \circ $\,$ Don't Over-drive or Under-drive the Audio $\,$
- Check that you didn't accidentally change the Sound Modem Center Frequency (It should be 1700)

Conclusion

- This Concludes the GoBox WinLink Packet Tutorial
- Questions?