SuomiNet - FreeWave Wireless Communication Link

Article Number: 594 | Rating: Unrated | Last Updated: Thu, Jun 18, 2020 at 7:04 PM

NOTE: The outdated and offensive "master-slave" terminology has been replaced with "Access point (AP)-Station/endpoint (STA)" in all instances, but will still remain in the configuration software when implemented.

Note - content is provided for historical continuity and may be out of date. The UNAVCO SuomiNet pages are not actively maintained, and up-to-date SuomiNet information should be obtained from UCAR's COSMIC program at: www.cosmic.ucar.edu/suominet.html

Part List - The following parts are required for Configuration 3 SuomiNet sites using a radio link between the GPS receiver and the system computer.

### Configuration 3 radio link part list

<table>
<thead>
<tr>
<th>Qty</th>
<th>Item</th>
<th>Part Number</th>
<th>Unit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>FreeWave 900 MHz radio modem</td>
<td>DGR-115R</td>
<td>~$1,170</td>
</tr>
<tr>
<td></td>
<td>Includes: 110VAC power supply</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Includes: DB9 serial cable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Yagi directional antenna</td>
<td>EAN0906YB</td>
<td>$67.50</td>
</tr>
<tr>
<td>2</td>
<td>N male - N male antenna cable</td>
<td>various</td>
<td>contact FreeWave</td>
</tr>
<tr>
<td>1</td>
<td>DB9 null modem adapter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>DB9 male-male adapter</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FreeWave parts available from:
FreeWave Technologies, Inc.
1880 South Flatiron Court
Boulder, CO 80301
(303) 444-3862
(303) 786-9948 fax
www.freewave.com

To configure the radio modem:
1. Login as user suomiops
2. Connect the modem to the computer serial port 2 using a straight serial cable
3. Type the following command: `cu -l /dev/ttyS1 -s19200`
4. Press the setup button on the radio modem to see the configuration menu

**DGR-115R SuomiNet Configuration Settings**

**Operation Mode:**
(0) Point to Point Master (computer end radio)  
or  
(1) Point to Point Slave (GPS receiver end radio)

**Baud Rate:**
(4) 38,400

**Call Book:**
Number corresponding to the other radio modem.

**Radio Transmission Characteristics:**
(0) FreqKey 0  
(1) Max Packet Size 9  
(2) Min Packet Size 0  
(3) Xmit Rate 1  
(4) RF Data Rate 3  
(5) RF XMT Power 9  
(6) Slave Security 1  
(7) RTS to CTS 0  
(8) Retry Time Out 255  
(9) Lowpower Mode 0
MultiPoint Parameters:
(0) Number Repeaters 0
(1) Master Packet Repeat 3
(2) Max Slave Retry 9
(3) Retry Odds 9
(4) DTR Connect 0
(5) Repeater Frequency 0
(6) Network ID 255
(7) Reserved
(8) MultiMasterSynch 0
(9) 1 PPS Enable/Delay 255
(A) Slave/Repeater 0
(B) Diagnostics 0
(C) SubNet ID Disabled
(D) Radio ID Not Set

TDMA Menu: NA

Posted by: Beth Bartel - Wed, Dec 30, 2009 at 5:00 PM. This article has been viewed 2418 times.

Online URL: https://kb.unavco.org/kb/article/suominet-freewave-wireless-communication-link-594.html