SuomiNet - FreeWave Wireless Communication Link

594 Beth Bartel June 18, 2020 SuomiNet 522

NOTE: The outdated and offensive "master-slave" terminology has been replaced with "Access point (AP) - Station/endpoint (STA)" in all instances, but will still remain in the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Note - content is provided for historical continuity and may be out of date.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

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

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 XMIT 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

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