

Sheldon Point Communication Troubleshooting Page

Sheldon Point School, Nunam Iqua Village, AK

If the Sheldon Point Airport station is no longer transmitting data, than troubleshooting measures must be taken to restore working operation. This document covers those processes that are to be used in the village.

The following contains both pictures and instructions to guide you through the troubleshooting process.

Non-GWScientific equipment:

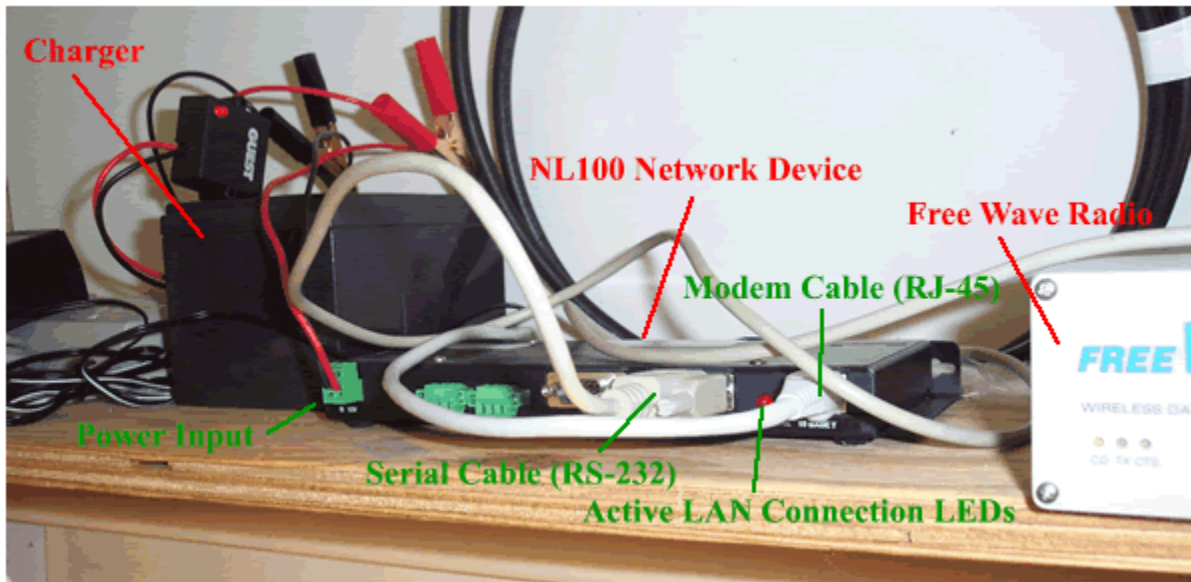
The GWScientific equipment is located above and to the right of the GCI School Access and School District equipment shown below.



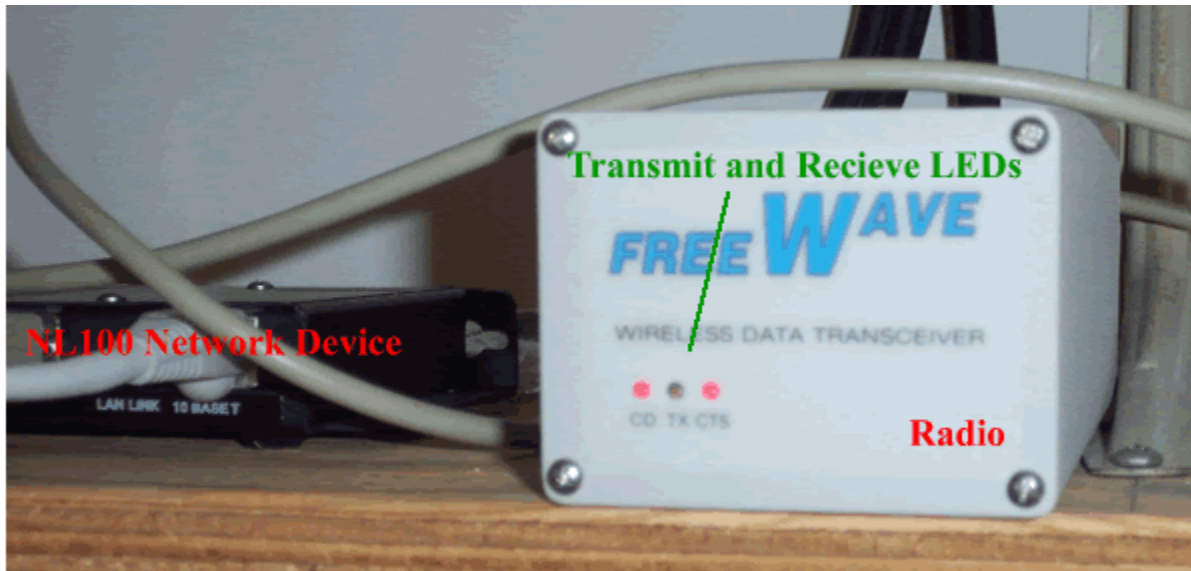
GWScientific equipment:

Each individual piece of equipment is labeled in red. The various parts of the [NL100](#) are labeled in green.

Equipment Overview - [NL100](#), FreeWave, Battery & Charger



The [FreeWave](#) Wireless Modem - LED Display.



The [FreeWave](#) Wireless Modem - Back Connectors.



Troubleshooting at the School:

To trace a problem, first we start at the network level.

NL100 Network Link Interface:



One possible point of failure happens when we are unable to connect to the [NL100](#) which is a serial-to-network link device, meaning that it allows transmission of serial data via the internet.

Troubleshooting checklist:

1. Verify that ethernet cable is firmly connected to the NL100 network port on one side, and firmly connected to a port between 1 and 6 (inclusive) on GCI's white Allied Telesyn first-tier network switch.
2. Check the LEDs on the NL100; it should have one solid green, and a red one blinking occasionally. This confirms that it is powered.
3. Verify that the Serial cable is firmly connected between the FreeWave and the NL100.

Next, we try to diagnose the problem on the radio level.

FreeWave Wireless Modem:



Troubleshooting checklist:

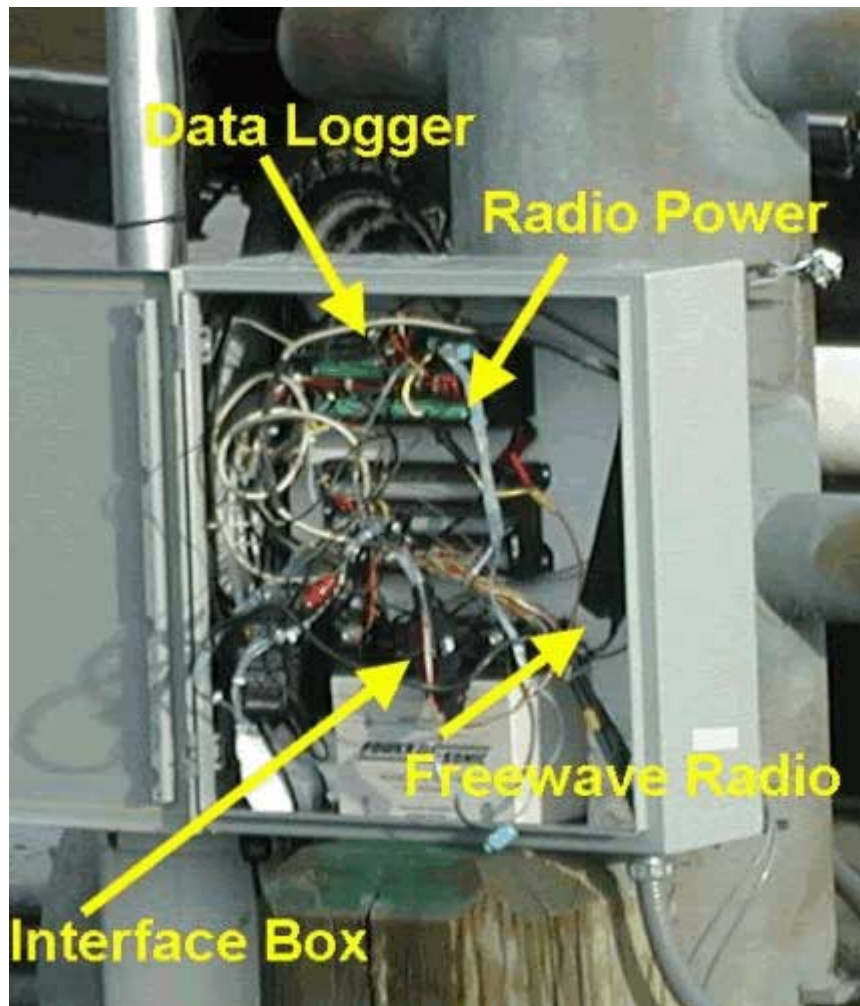
1. Check the LEDs on the Radio. There are three lights, labeled (L-R) CT, TX, and CTS.

	Left - CT	Middle - TX	Right - CTS
State (Working Right)	Flashing Red	Flashing Red	Solid Green
State (Not Working 1)	Flashing Red	Off	Solid Red
State (Not Working 2)	Solid Red	Solid Red	Solid Red

2. Check and record the battery voltage. You can do this by either measuring at the battery or from the power input green block on the NL100.
3. If you could, take a picture with your digital camera of the set up.
4. If the radio lights are flashing red and not green then why don't you give me a call (907-456-5580 or 907-479-8891) or send me an email.

Troubleshooting at the Airport:

Finally, the box at the airport will need to be checked. Unfortunately, I don't have a picture of the interior of the box. But i do have a similar picture from another site that may be helpful.



The lock combination on the box is 4562. You may also need a flat tip screw driver to open the box. Checking the box may be difficult since i do not have a picture of the interior and the picture i am using makes it difficult to see inside the box.

1. Check that the interface box is still connected to the data logger and to the freewave radio. Also check to see that it hasn't fallen to the bottom of the box where it gets wet. If anything has been disconnected this is how the interface should be connected -- data logger -> blue cable -> Interface box -> blue cable with black tape in the middle -> freewave radio.
2. Check to see that the freewave radio isn't in any of the water that may be at the bottom of the instrument box.
3. Secure Box.

I hope the information i provided is easy to follow and helpful. Please call me if you have any questions and after you have checked the above items. I can be reached at 907-456-5580

or 907-479-8891 or my cell at 907-322-3026. You can also send me an email at lgriffeth@gwscientific.com. Talk to you soon.

Loda Griffeth

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