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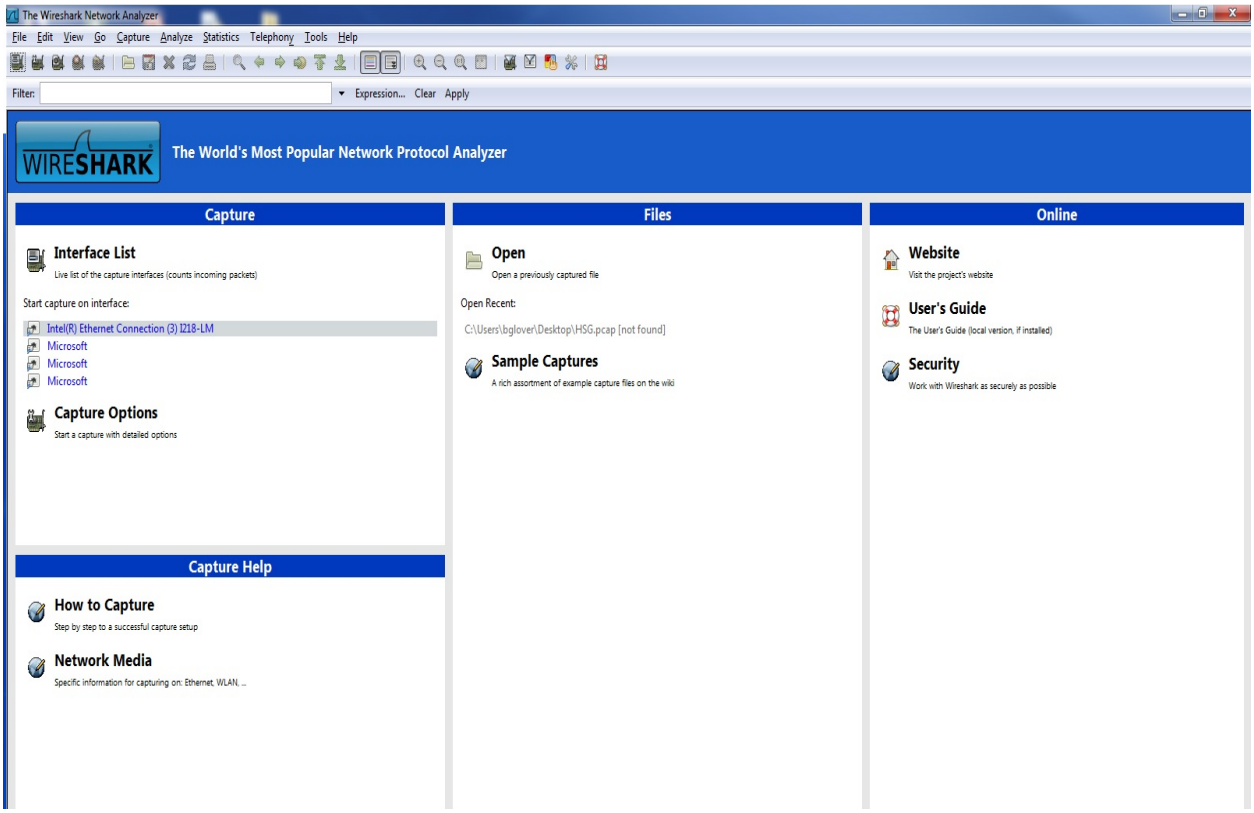
Playing Back Wireshark Capture Files for Testing

By Bob Glover

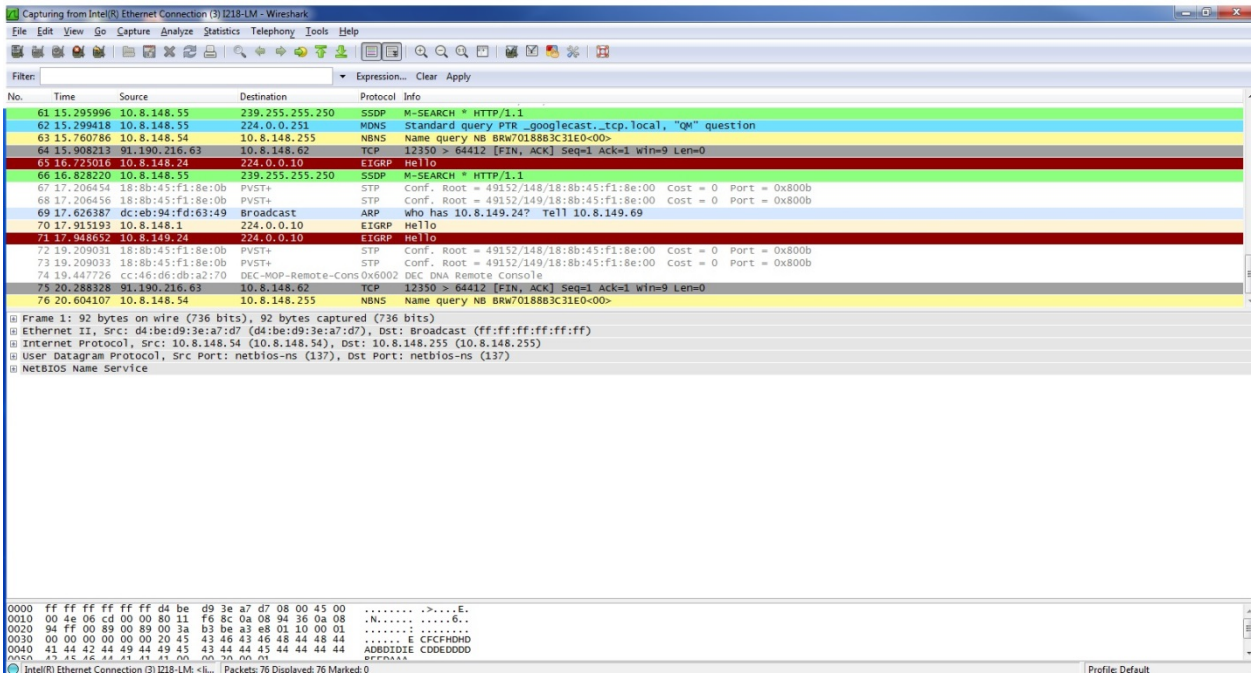
Wireshark, one of the very helpful tools for troubleshooting networking issues in HYPACK®, is tucked away in the Support folder. The program will record network traffic and allow you to save it to a file, in much the same way as WCOM32 allows you to record serial data coming in over a RS232 port. This program can certainly come in handy when attempting to diagnose network connection issues. There have been articles written previously by HYPACK® support staff on the setup and use of Wireshark, so we will not go into great detail on capturing the data, but instead will focus on the playback of the recorded PCAP file.

1. **The first step is to download and install the Colasoft packet player.** This is a free download that can be found at the following link: http://www.colasoft.com/packet_player/. I'm sure there must be other software that can replay network traffic, but this one seems to work well. Be sure to have Wireshark installed from the Support / Utilities folder in order to capture the data.
2. **The data capture**. Open Wireshark and select the correct network adapter that you wish to record. The capture will automatically begin in most cases. You can record from any installed and enabled adapter the computer can read.

FIGURE 1. *Wireshark Interface*



Once the adapter is open, you will see the network traffic on the screen and the data will be written to a PCAP file for later use.



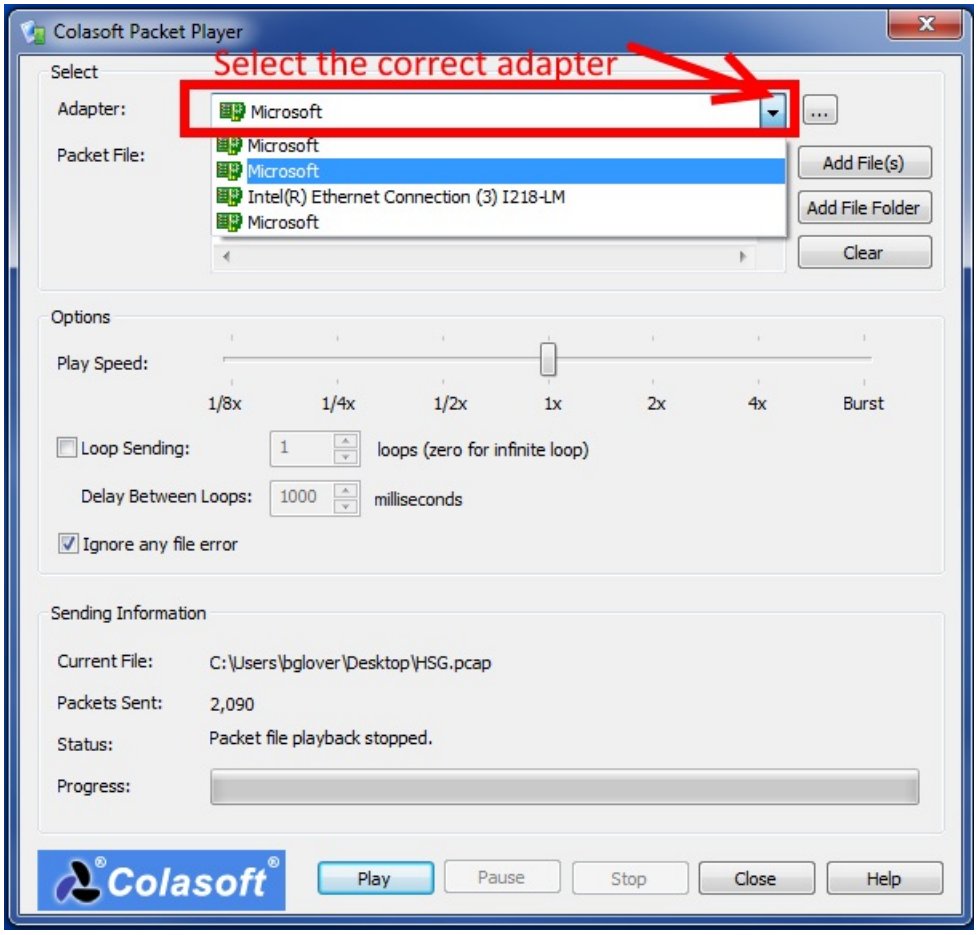
You don't need to record too much data; usually just a few minutes or so will be sufficient. Remember to save out the file; Wireshark will prompt you to save if you try to close without already saving the file. You will see a PCAP file saved to the location that you specify.

Once we have the file saved, we can open the Packet Player and replay the data.

3. **Open the Colasoft packet player software and set it up** to play your recorded file.

   a. **Select the adapter on which to play back the file.** If your computer has multiple adapters, be sure to select the correct one. If you do not recognize the correct one, it may take a bit of trial-and-error.

FIGURE 2. *Selecting the Adapter in Colasoft*



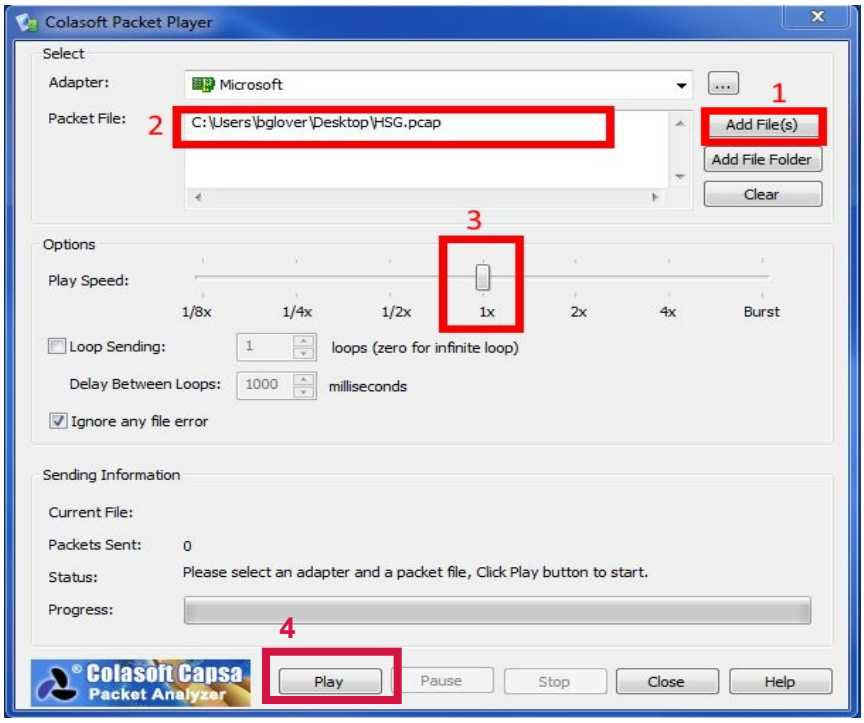
Once the correct adapter is selected, [...] will allow you to view and make changes to the configuration, there were none needed in my testing.

b. **Load the correct PCAP file.** Click [Add File(s)] and select the file recorded in Wireshark.

c. **Set your playback options.**
   - **Playback Speed:** I would recommend that it remains at 1X speed, as this will play the data back at the same rate as it was captured.
   - **Loop Sending** set to Zero repeatedly plays the file back.

d. **Click [Play]** to begin playback.

FIGURE 3. Configuring Colasoft



4. **Check in HARDWARE to make sure the device connections are set correctly.** We are using a UDP connection, in this case, with two devices connect to different read ports.

FIGURE 4. GPS Connections

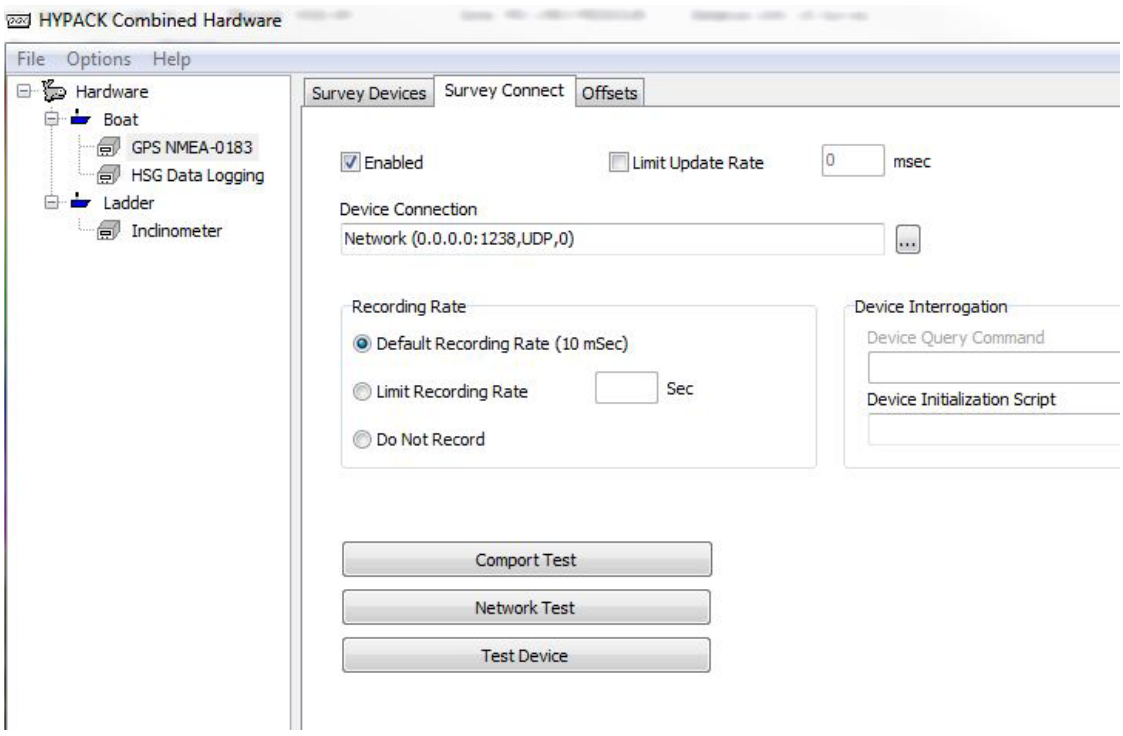
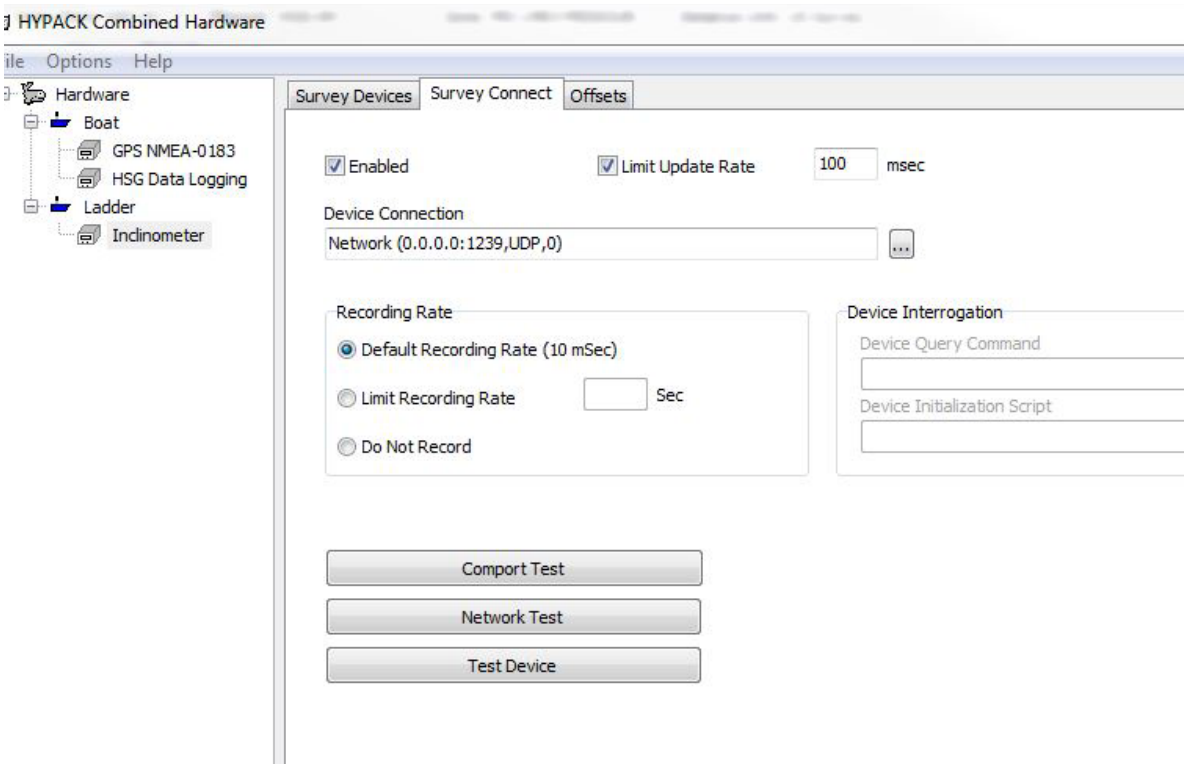


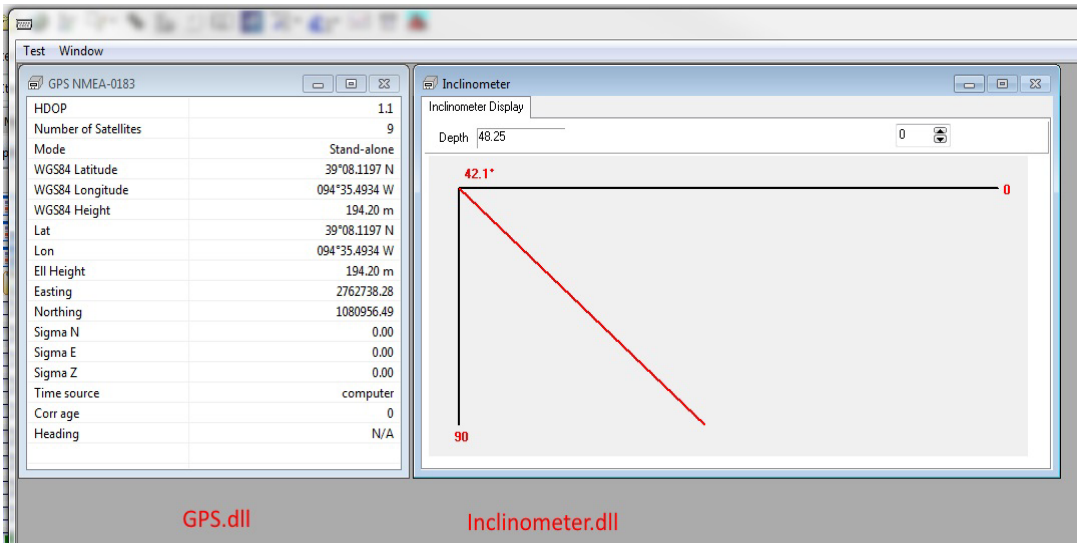
FIGURE 5. Inclinometer Connections



a. **Click [Test Device]** to test the selected device. The device test window opens with the Device window for the selected driver.

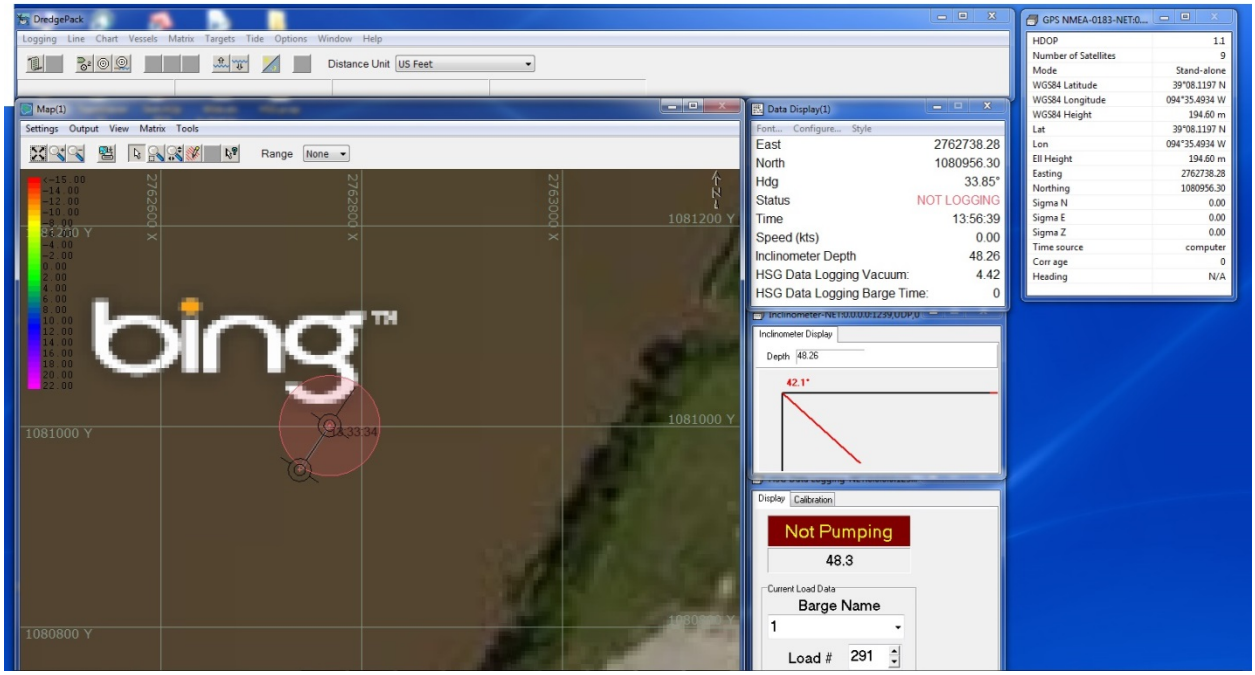
b. When the device test displays its data correctly, **select TEST and the second device from the test window menu**. The second Device window should open and both windows should show recorded data.

FIGURE 6. Testing your Connections



What we see in Figure 6 is the recorded PCAP file being played back and through our two drivers in the Hardware test. Figure 7 shows the same data played back while using DREDGPACK®.

FIGURE 7. *Data Playback in DREDGEPACK®*



Should you have any questions, please feel free to contact HYPACK Support.