



Interfacing the RESON Navisound 515 in HYPACK

By Jon Lindberg

The RESON Navisound 515 is a dual frequency echosounder that comes equipped with both Ethernet and serial interfaces. The appealing aspects of the Ethernet interface are:

- One less need for hard to find serial ports.
- Faster data rates.
- Ability to output and log the acoustic echogram, allowing you to re-digitize the depths in HYPACK's Single Beam Editor.

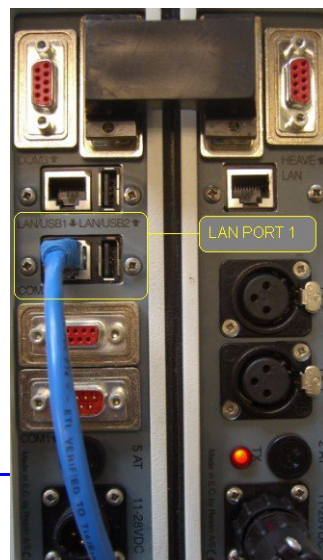
This document is a guide to setting up both your 515 sounder and HYPACK Hardware properly in order to collect this data via Ethernet in HYPACK Survey.

SETTING UP THE SOUNDER

When using Ethernet communication, you need to run a network cable from the LAN card on your PC to LAN Port 1 on the 515 as shown here.

1. **Select COMMUNICATION- LAN-LOCAL and enter the following settings:**
 - IP as 192.168.0.6.
 - Tx Port to 1036
 - Rx Port to 1037.
2. **Select COMMUNICATION- LAN-REMOTE and enter the following**
 - IP as 192.168.0.11. Both menus are shown below:

FIGURE 1. LAN Communication Settings



LAN LocalIP 1
192
LAN LocalIP 2
168
LAN LocalIP 3
0
LAN LocalIP 4
6
LAN Tx Port
1036
LAN Rx Port
1037

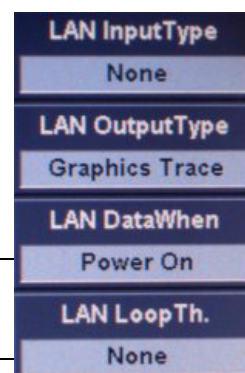
LAN RemoteIP 1
192
LAN RemoteIP 2
168
LAN RemoteIP 3
0
LAN RemoteIP 4
11

-
3. Select **COMMUNICATION- LAN-LAN Format** menu and set up the LAN OutputType as **GRAPHICS TRACE**.

FIGURE 2. LAN Output Type

4. Select **TECHNICAL – UNITS** and select distance units to match the those in your project geodesy.
5. Select **SCREEN-SHOW** and select your recording option.

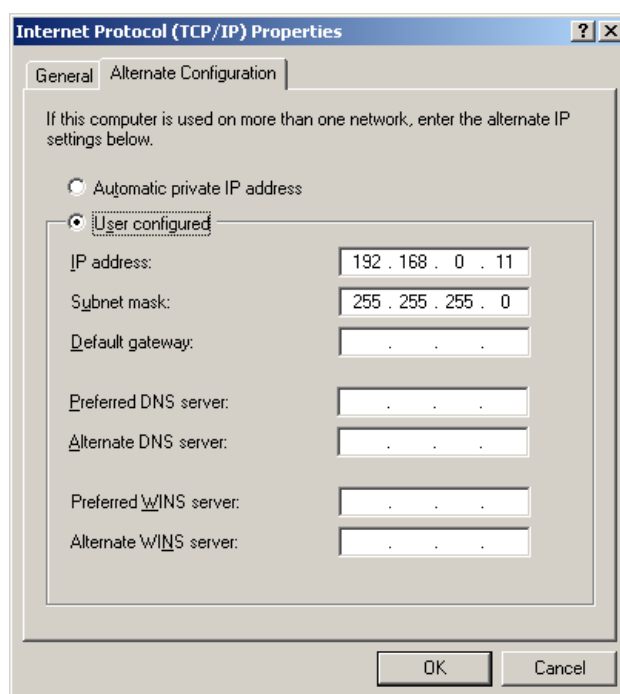
IMPORTANT! If you are using a dual frequency device, you must select Channel 1/2 recording.



SETTING UP YOUR PC

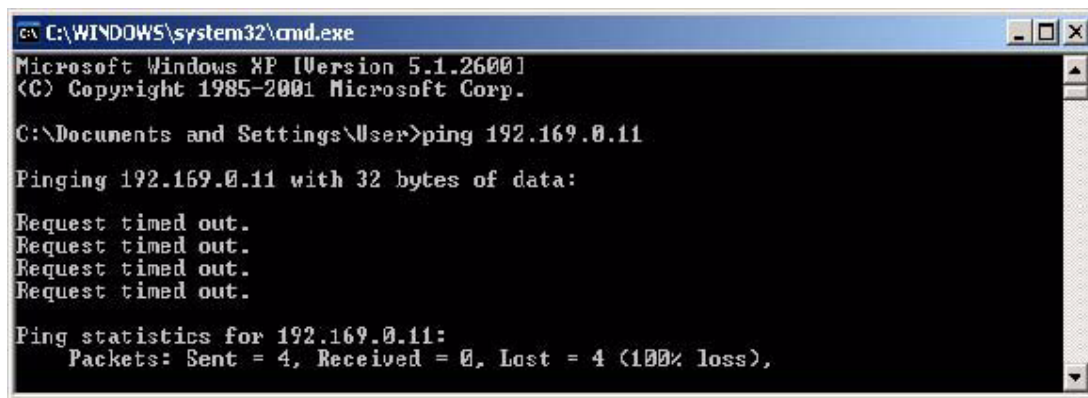
In your computer's network settings, set the IP to match the LAN REMOTE settings from your sounder (192.168.0.11). It should look something like this:

FIGURE 3. PC Network Settings



NOTE: You can verify communication between your PC and the sounder by going to a command prompt and typing in the following: `ping 192.168.0.11`

You should then see the following:



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\User>ping 192.169.0.11

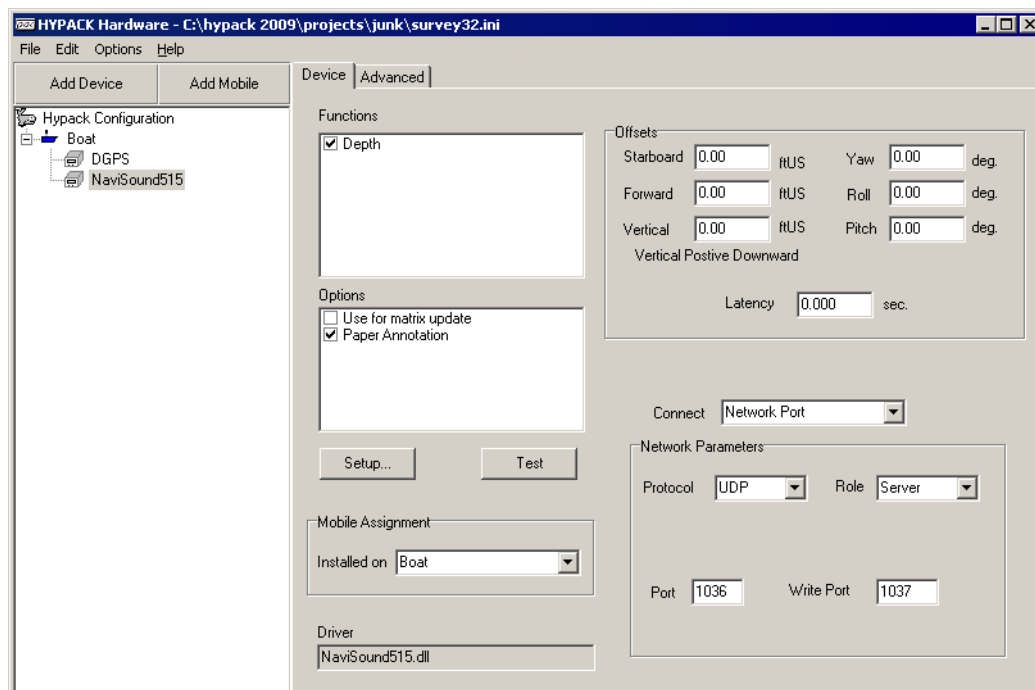
Pinging 192.169.0.11 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.169.0.11:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

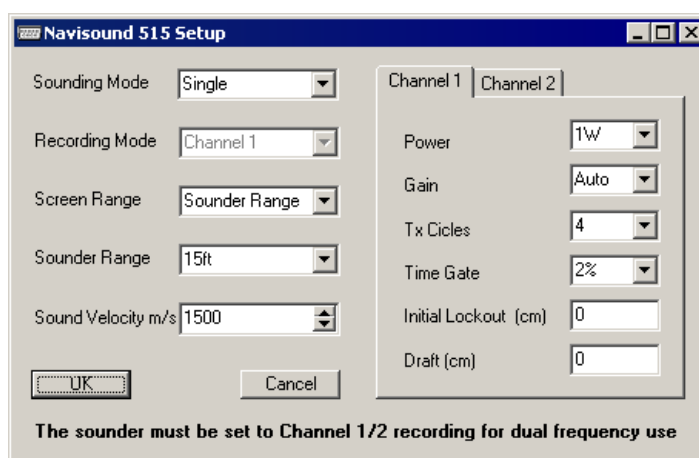
SETTING UP THE 515 DRIVER IN HYPACK® HARDWARE

1. **Select PREPARATION – HYPACK HARDWARE and load the Navisound515.dll.**
2. **Set up the driver as shown below.**



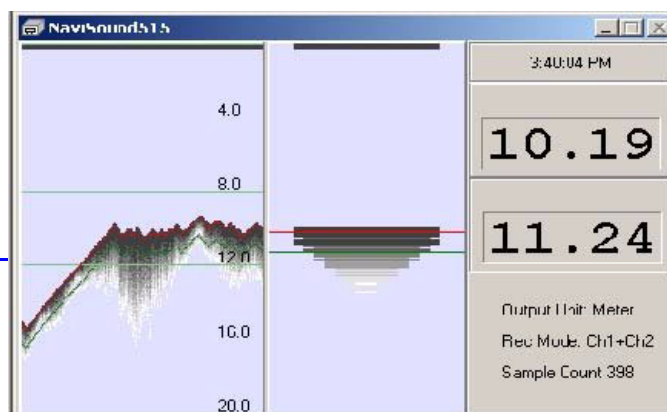
- **Connect** = “Network”,
 - **Protocol** = “UDP”
 - **Role** = “Server.”
 - **Read Port**= 1036
 - **Write Port** = 1037.
3. **Click [Setup].**

FIGURE 4. Navisound515 Driver Setup Dialog.



- **Sounding Mode:**
 - **Single:** Reads one channel.
 - **Multiplexing:** Reads 2 channels. You can choose to display 1 channel at a time or both in split screen.
 - **Screen Range:** Depth range for display only.
 - **Sound Velocity** controls both HYPACK® and
 - Channel Options:
 - **Power:** Level at which the sounder transmits.
 - **Gain:** Receiver amplifier. Device manual suggest using 7 and adjusting to find best results for your project conditions.
 - **TX Cycle** (Transmit Cycle): Length of the transmitting pulse. For hard bottoms, use 4. For soft bottoms use 16. If bottom type is unknown, use 16 and adjust.
 - **Time Gate:** Controls the device from HYPACK.
 - **Initial Lockout** blocks the water column.
 - **Draft** always in CM.
4. Click [TEST] to verify communication between HYPACK and the 515. You should see the depth values updating and a scrolling echogram as shown here.

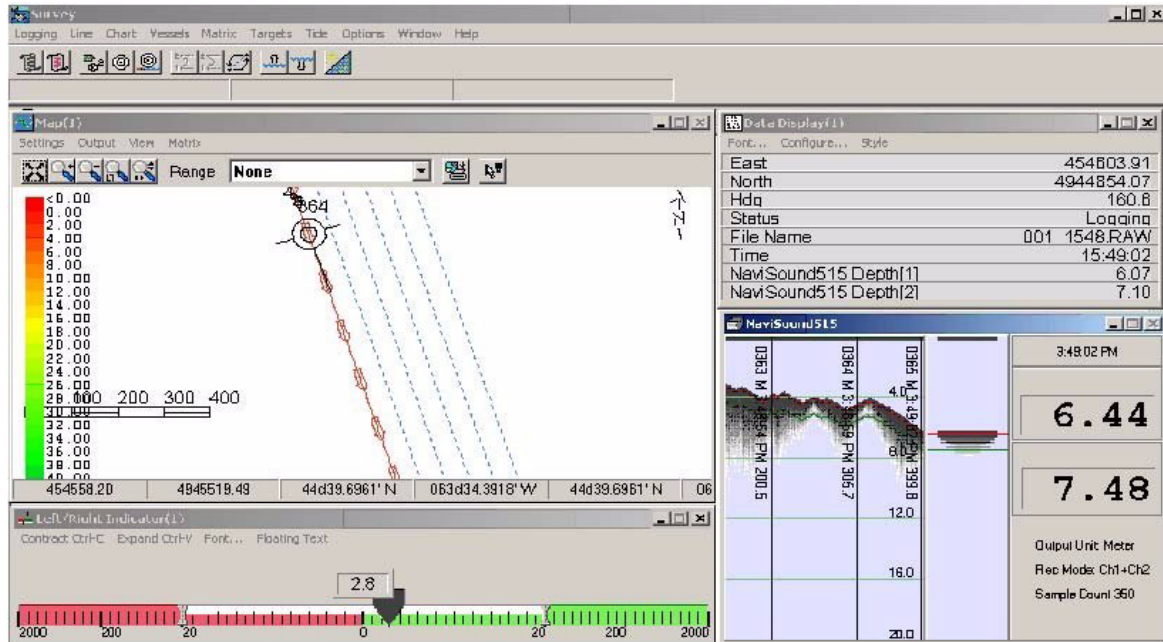
FIGURE 5. Navisound 515 Device Window



A similar display can be displayed during post-processing in the Echogram window of the SINGLE BEAM EDITOR.

RUNNING HYPACK SURVEY

Once you are set up properly in HYPACK HARDWARE you should be able to run HYPACK SURVEY and collect your acoustic echogram data (*.bin files) in addition to the digitized depths in the HYPACK RAW format files.



If you want to change your driver setup options, right-click on the Navisound515 device window and select 'Setup'. A driver setup dialog matching the one from HYPACK® HARDWARE appears so you can edit your options without ever leaving SURVEY.

NOTE You can only change settings when you are *not* logging data.
