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Teledyne Odom Singlebeam Driver (OdomCV3.dll) Updates, Functions and Tips_ Update

By Joe Burnett

In January 2016, I wrote the article “Single Cable Connection Between Odom Singlebeam Echosounders and HYPACK®” (<http://www.hypack.com/File%20Library/Resource%20Library/Technical%20Notes/Single-Cable-Connection-Between-Odom-Singlebeam--Echosounders-and-HYPACK.pdf>)

We have heard from several users, and verified with Teledyne Odom Tech Support, that there is an issue in the way the Odom echosounders output their data via Ethernet: the Odom echosounders output the network data *only* when the echosounder has collected, processed, and is ready to output the depth data.

This means, that if you are connecting your GPS and/or motion sensor to the echosounder, of this data is being buffered in the echosounder and will not be output to HYPACK® until the echosounder is ready to output the depth data from its next ping. In other words, it does *not* passively pass the peripheral data through the network connection to HYPACK® between pings. *This causes a significant problem with the time-synchronization of the computer clock, if you are outputting the ZDA message from your GPS.*

As mentioned in the January article,

“In addition to the GGA message, you must also output the ZDA message at a rate of only 1 Hz, so the HYPACK® computer clock can be synchronized with the UTC time of the GPS.”

Since the echosounder is buffering the peripheral data, there is no guarantee that the ZDA message will arrive in the computer at the correct time to be able to properly time-synch the computer clock.

THE SOLUTION

There are two options to resolve this issue. Have Teledyne Odom update the firmware for these echosounders using either of the following methods:

1. **Embed the timestamp within their network datagram to HYPACK®.** This would allow the “Teledyne Odom CV Series” driver to use the embedded timestamp of the depth data.
2. **Allow peripheral incoming data to passively pass through** the echosounder network connection, so that no buffering of the data occurs.

Option #1 would need both an update to the echosounder firmware and the HYPACK® driver, while Option #2 would only require an update to the echosounder firmware.

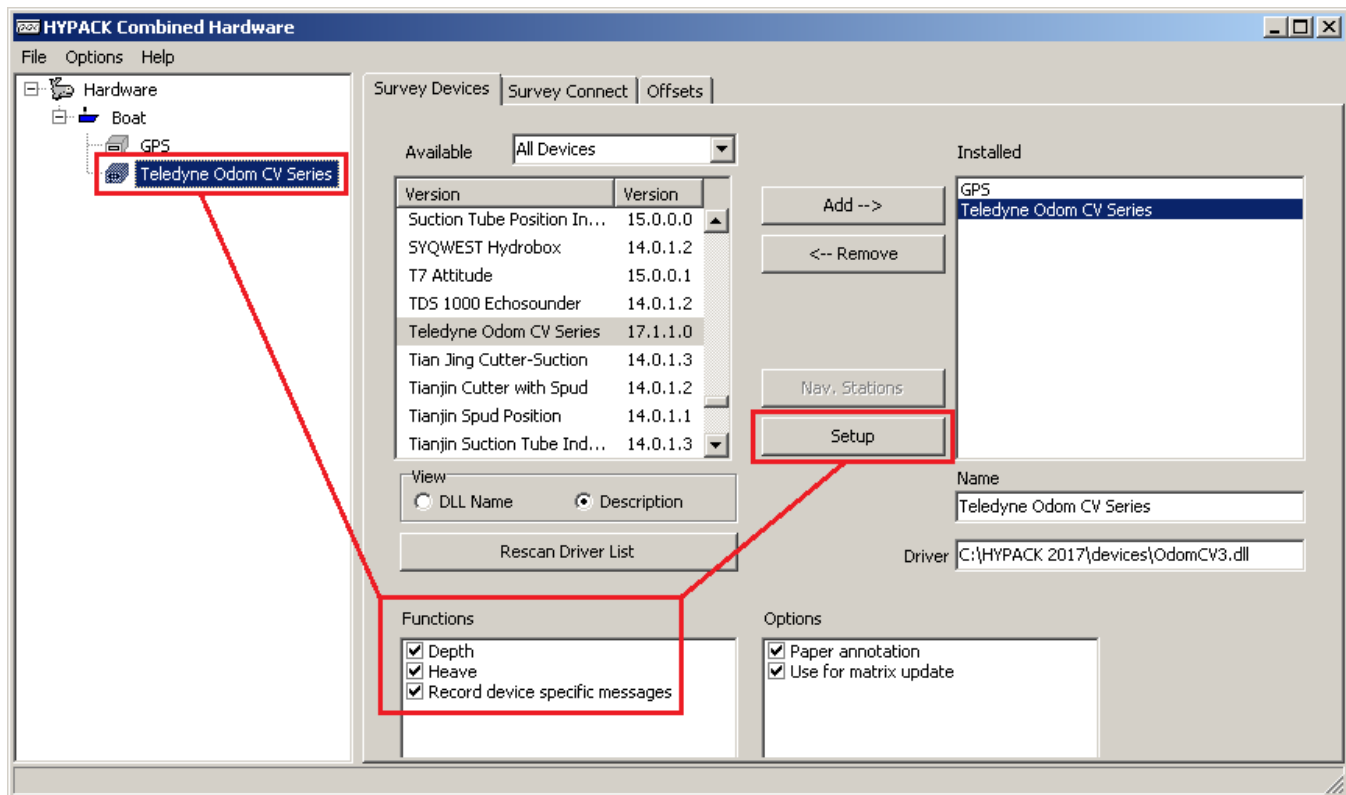
We are working with Teledyne Odom on this situation and will update you when a resolution has been reached.

In the meantime, we recommend that you not use the single cable method, unless you have performed a proper Latency Test, for each and every survey performed with this setup.

ODOMCV3 DRIVER OPTIONS

Often, we are asked about the different Functions and Options that this driver has, so here is a detailed description of them, for the OdomCV3.dll driver:

FIGURE 1. *OdomCV3 Setup*



FUNCTIONS

Depth: Records the depth information from the echosounder. This can be either, High Frequency, Low Frequency, Dual High, Dual Low, or Both.

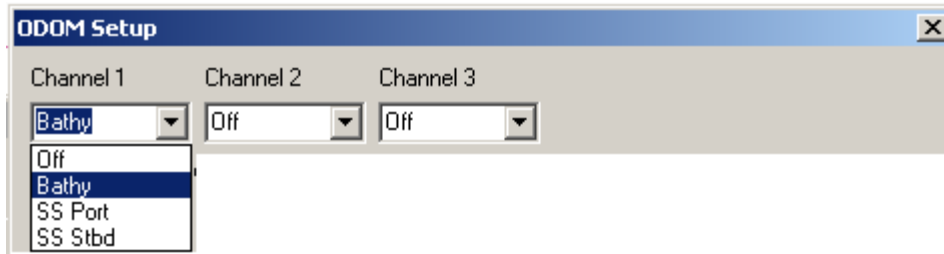
Channel 1: Bathy High Frequency (typically)

Channel 2: Bathy Low Frequency (typically)

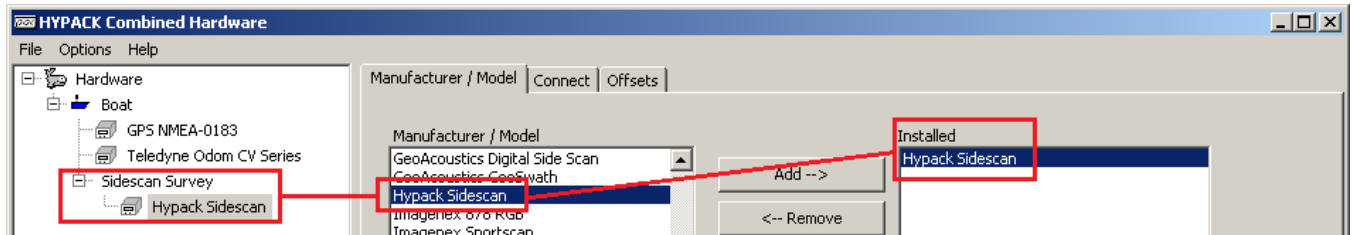
Channel 3: Optional. Only for the CV-300 and requires a special order through Teledyne Odom

You *must* select what 'type' of data will be coming in on the specific Channel.

- **Bathy:** Can be either high or low frequency. (It will depend on the board inside the echosounder.)
- **SS Port:** Port side-mounted side scan transducer.
- **SS Stbd:** Starboard side-mounted side scan transducer.



NOTE:The Odom CV and MK Series Echosounders can also be connected to side scan transducers and collect side scan data using the 'HYPACK Side Scan' driver.



Heave: Records the MRU Heave, Pitch, and Roll data that has been connected to the echosounder and is being output through the network connection, at the time of the Ping. This can *only* be the TSS1 format message.

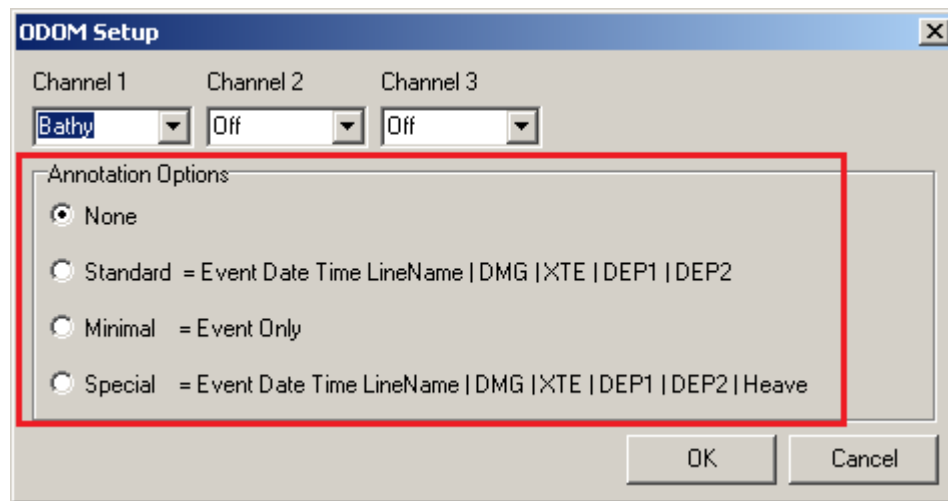
Record device specific messages is the trigger to tell HYPACK® SURVEY to record the Raw Echogram data from the echosounder to the *.BIN files.

IMPORTANT! When using the OdomCV3.dll driver, one of its specific features, is its ability to record the 'Raw Echogram' data from the echosounder, in a *.BIN file, which can later be used for accurate editing of the data.

OPTIONS

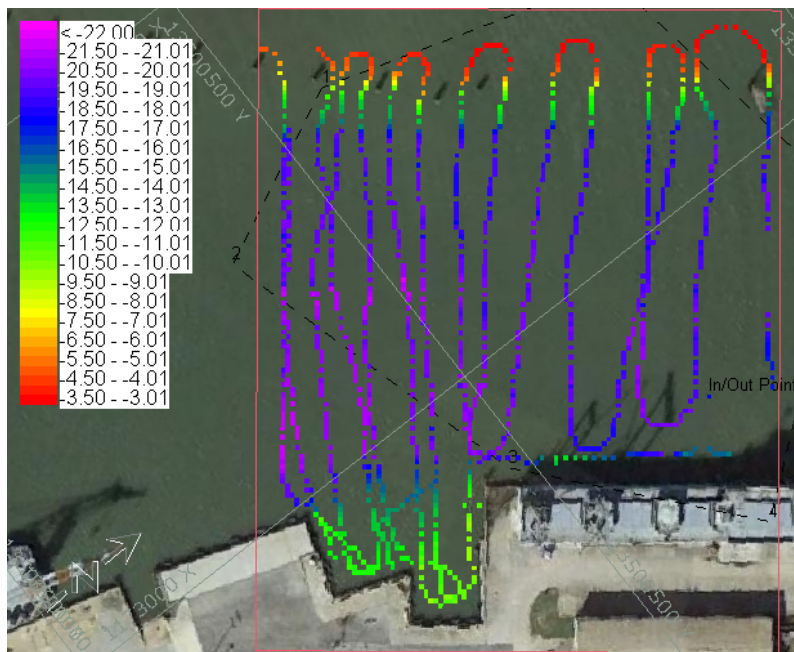
Paper Annotation sends the Start/Stop command to the paper printer on the MK3 and HydroTrac 2 models. Standard, Minimal, and Special Annotation options place the indicated messages on the paper scroll.

FIGURE 2. *Driver Setup Dialog*



Use for matrix update allows the matrix to be color-coded by the depths coming from the echosounder.

Recommendation: I believe that using a matrix for single beam surveying is a critical 'real-time' tool.

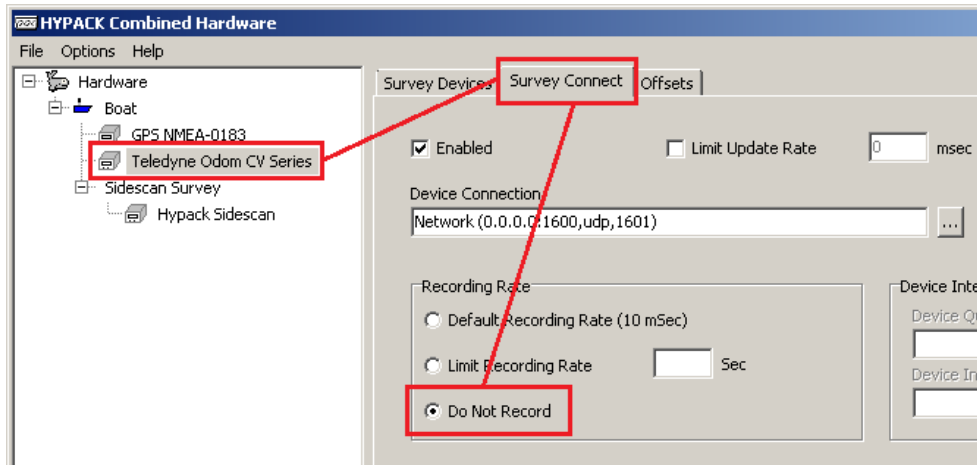


A Matrix displays your 'real-time' data collection's coverage, by showing the range of depths (by color) in individual matrix Cells and allowing you to know where you started and stopped, on a daily basis.

It can also be an important tool for determining your boat's Survey Speed, as you will be able to predict where shallow locations are, prior to operating the boat near these areas.

TIPS

Recently, we have seen several instances where users saw the data coming in to the HYPACK screen, but later found that there was NO DATA recorded within the file. This was caused by the user, inadvertently, selecting the “Do Not Record” option within the Hardware program:



NOTE: This option is not a default option within HYPACK and can ONLY be selected by the user.

This option pertains to ALL devices and can be inadvertently selected for any of them. Please be aware of this, prior to starting any survey.