Getting Started With PILOT Ô

Hints For Successful Operation

This document is a supplement to the PILOT Operator's Manual. It discusses common problems encountered by first-time users of the PILOT™ system. By following the advice in this document, you should be able to operate your system with success from the start.

What You Should Read

The PILOT Operator's manual contains all the information needed for basic operation. More advanced topics are discussed in the technical reference manuals. Read the Operator's manual carefully before first use of the system.

Use DiveBase-R First

PILOT can be used with different versions of the DiveBase surface station software. Even if you ordered DiveBase Level 1 or Level 2, we recommend that you use DiveBase-R for your first dives. This software can only track a single vehicle and does not support GPS, chart overlays and other advanced features. It is however much simpler to use, and there are fewer ways to make mistakes. Once you are comfortable with DiveBase-R, graduate to the more advanced software.

Configure Your PILOT System

Before its first use PILOT must be configured. Configuration is described in chapter 4.1. of the operator's manual. The most common configuration error is a wrong definition of the surface station transducer location. Proper surface transducer placement and definition is described in figures 8 and 13. Referring to figure 8, the important points are this:

- The angle between the primary and secondary baseline at transducer #1 should be close to ninety degrees.
- When standing at transducer #1 and looking in the direction of transducer #2, transducer #3 **must be to your right**.

If you entered this data wrong, PILOT will show the ROV or diver in the wrong location. For general piloting, measuring the distances and angles within 10% or 10 degrees of the true number should be sufficient. For survey work, make sure you numbers are precise.

Field Test PILOT Before First Operational Use

We highly recommend that you field-test your PILOT system before the first operational use. Set up the system on your boat or on a dock. Tie the ROV transponder to a line, and lower it into the water at various places around the harbor. Play with the various system functions until you are comfortable with PILOT operation. Allow for at least a half day of testing and training. Once everything works as expected, mount the transponder on the ROV. Test the system again to verify both the surface station and ROV transponder installation. Make sure to read chapter three of the operators manual. Poor installation will result in poor performance.

Setting The DiveBase-R Display Options

The display options of DiveBase-R are explained in figure 16 of the operators manual. These options affect how the ROV or diver position is displayed on the computer screen. The settings do not affect how positioning data is stored. This means you can change display options as needed at any time, without an impact on your data recording. A dive can also be replayed with any desired display options. However, inappropriate settings of display parameters can mean that you will not see position fixes on the screen. We recommend these settings as a starting point. Select ***File->Save Current Display Settings*** to save preferred display parameters.

Position Filter:	OFF. High filter settings can result in rejection of good position fixes.
Data Average:	20 Seconds. Data averaging smoothes the position fixes, creating more accurate results. Reduce the averaging time for a faster response to target turns, increase it for a smoother trace.
Tracing:	OFF to see the current position of the ROV; CONNECT to obtain a trace of the ROV; ON is an alternative to connect. Position fixes are marked by small crosses, without connecting lines.

When Tracking Does Not Work

- Run a noise test as described in section 3.1. of the operators manual.
- Follow the test instructions in section 5.2.
- Tracking while the boat is under way (live boat operations) can be difficult, stop the boat to see if tracking improves.

Always Collect Data

Tracking information is valuable, always record your dives (automatic in DiveBase-R). If you encounter problems, the tech support staff at Desert Star Systems will need the recording files to assist you.