



Workhorse Hardware Problem Causes Low Intensity/Percent-Good Values In Bin 1

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Abstract

A Workhorse hardware problem causes low echo intensity and percent-good values for Bin 1. Possibly no velocity data when the percent-good values are 0 in bin 1.

NOTE: This problem is caused by a different hardware problem than what is documented in FSB-107. However the problem exhibits the exact same symptoms and requires the same short-term solution. However, the long-term solution is a different hardware component replacement.

Instrument/Program Affected

All Workhorse ADCPs built and shipped between March 1, 1997 and November 1, 1999.

Description

Workhorse ADCPs can have a problem with Beams 1 and 3 in the echo intensity value measured in Depth Cell (Bin) 1. A hardware limitation causes the output to be low (e.g.; say 20 counts in an area that normally reports 100 counts). This in itself is not a problem as the ADCP can still correctly process velocity data.

However, by default, the Workhorse always has its fish rejection algorithm turned ON. The low counts recorded for Bin 1 on Beams 1 and 3 cause the fish rejection algorithm to reject the velocity data for Bin 1. This will cause you to see a Percent-Good value of zero for Bin 1.

Be aware that this problem will not always appear. The configuration setup of the system is the determining factor. Unfortunately, there is no predictable setup that will or will not cause this problem.

Solution/Action

You have two options to avoid this problem.

Short-Term Solution

You can avoid losing the data for Bin 1 by turning OFF the fish rejection algorithm. To do this, send the WA255 command to the ADCP. Remember, though, that this action may cause fish to contaminate your data. If you are in an area with a large fish population, and you need the data in Bin 1, this may not be the best option for you.

Long-Term Solution

There is a hardware fix that corrects this problem. However, this fix cannot be installed in the field because these are surface mount components that can easily be destroyed by standard soldering irons. If you would like to return your system for repair, contact RDI for arrangements and scheduling.