

LabVIEW Toolset FOR 3DGuidance Tracker

Rev. 1.1 June 23, 2010
User's Guide

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1 Introduction

The included VI files exploit LabVIEW's ability to create a library of wrapper VIs for functions in a Microsoft Windows dll file. In our case, the shared library is called "ATC3DG.DLL". The reader should become familiar with the 3DGuidance driveBAY or 3DGuidance trakSTAR *Installation and Operation Guide*. However, familiarity with the low level I/O is not essential for most of the 3DGuidance features. This document assumes that the reader is familiar with LabVIEW.

2 Software Requirements

- The Toolset vi files have been tested with LabVIEW version 8.5
- Supported Platforms: Windows XP (32-bit).
- This LabVIEW VI file supports one transmitter and a maximum of four sensors.
- Tracker requirements: Rev D and above.

3 Quick Setup

To get started using the tracker with the LabVIEW Toolset, follow steps 1 through 7 below.

1. Connect all 3DGuidance tracker cabling as shown in the Installation and Operation Guide for the tracker.
2. All the necessary VI files are provided in the 3DG_LabVIEW.zip file provided by Ascension. Extract the files to the following sub-directory on the host machine: c:/LabVIEWtscript
3. Start LabVIEW. Navigate to c:/LABVIEWtscript. Open **Run_Tracker.vi**. Then click run on the LabVIEW toolbar.
4. Wait while the system is initializing. Initialization is complete when the sensor present indicators (simulated LEDs) and the sensor count field is updated.
5. Click on the **RUN** button in the VI to display position and angle data. If you want to write data to files, click on the **SAVE TO FILE** button. These Files are in text format and are saved in the c:/LABVIEWtscript directory. The name of the file indicates the corresponding sensor i.e.: sensor1.txt corresponds to sensor 1 data. The data collection uses stream mode by calling the API **GetSynchronousRecord** function
Note: The **RUN** button must be ON for **SAVE TO FILE** button to work.
To save a new data set to files, click on the **EXIT** button and follow steps 1 to 5.
6. If an error occurs, the error code and description will be displayed in **Error code** indicator and **Error description** window, respectively.
7. Click **EXIT** button to close the tracker.