

HYBRID OPTICAL-BASED INERTIAL TRACKER: GETTING STARTED

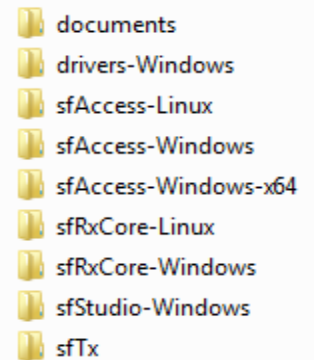
1. DOWNLOAD THE SUPPORT SOFTWARE FROM THE INTERSENSE WEBSITE

[HTTPS://WWW.INTERSENSE.COM/WP-CONTENT/UPLOADS/2018/11/HOBIT_SOFTWARE_PACKAGE_-_2015-09-03.ZIP](https://www.intersense.com/wp-content/uploads/2018/11/HOBIT_SOFTWARE_PACKAGE_-_2015-09-03.ZIP)

2. SOFTWARE PACKAGE DESCRIPTION

The HOBIT software package contains a simple directory structure that can be extracted directly to a Windows or Linux PC. All of the tools needed to configure and test the HOBIT as well as map new fiducial constellations are included within this package. The tracker's software directory structure is shown below along with descriptions of each of the main components.

- **documents:** contains a printable fiducial constellation and pre-installed map file, instructions for mapping a fiducial constellation of your own and the sfaccess software interface document
- **drivers-Windows:** contains drivers needed for the HOBIT to communicate to a Windows machine via USB. The driver creates a serial gadget communication port opened by sfRxCore
- **sfAccess:** contains the software library which acts as an interface between the tracker and any higher level applications intending to access tracking data
- **sfRxCore:** contains the application which implements the sensor fusion algorithms, a configuration settings file and the fiducial constellation file (*environmentPSEs*) currently in use
- **sfStudio:** contains the main GUI application used to map, test and re-configure the tracker as well as view and record both raw and fused data
- **sfTx:** contains a backup copy of the tracking sensor's application binary and configuration settings. These files can be sent to and from the device via sfStudio's "low level access" tool



3. USB GADGETSERIAL DRIVER INSTALLATION (WINDOWS)

Before the sensor can communicate to a Windows machine via USB the communication driver will most likely need to be installed. Instructions for installing this driver are located in the *installation_instructions.txt* file located within the *GadgetSerialUsbDriver* subdirectory. **Note:** you will likely need to use the "Have Disk" option to browse for the provided *linux-cdc-acm.inf* file.

4. CONNECTING THE SENSOR TO HOST APPLICATION SOFTWARE (WINDOWS)

- After connecting the HOBIT to a host machine it will take approximately 20 seconds for the HOBIT to finish booting the on-board embedded Linux distribution. If the USB driver has been successfully installed, the windows device manager will show a GadgetSerial device available on a COM port
- If the sfRxCore software does not automatically detect the sensor (i.e., no *Communication link with sfTx established* message is shown) you may need to enter the specific COM port string from device manager into the *sfRxConfig.ini* file
- With sfRxCore still running, launch the *sfStudio.exe* application from the *sfStudio* directory and click the connect button
- If the device is communicating properly, you will see pose data plotted in the *System Pose* display

5. START TRACKING

- In order to quickly test tracking, print the *8.5x11 Fid Poster.pdf* file to an 8.5" x 11" piece of paper and place it on a (reasonably) level table with the fiducials facing up
- The *sfStudio Optical Data Display* will show a live feed of the fiducials being read. If none are seen, you may need to change the exposure settings in *sfTx.ini* via the *sfStudio Config File Editor*
- If more than 4 fiducials are consistently read, the tracker will move from state 1 to state 2 and above. Descriptions of the various tracker states and much more can be found in the *sfaccess ICD* (located in the *documents* folder)
- When you wish to map your own constellation of fiducials, please see the *Fiducial Mapping Instructions.pdf* file located in the *documents* folder. If you get stuck or have any trouble at all, please contact us at the email address or phone number below

Problems using the tracker? Email techsupport@thalesvisionix.com or call us at 781-541-7624 to speak with a support engineer