

Recording More than Just Video

Using Streams 5 to synchronously record video and other data sources

Overview

Often times, customer applications require a recording system that can record video as well as other types of data. Examples of these data types include audio streams, GPS position data, environmental sensor data, and data from other sources. The DVR Express Core is a fully-featured video recording device, but can not record these other types of data. However, IO Industries' Streams 5 software is designed to record several different data streams at once, and can also control the DVR Express Core hardware. This powerful combination of Streams 5 and the DVR Express Core allows multi-stream recording systems to be created.

This document outlines an example of a multi-stream recording system, where both video data and inertial navigation unit (INU) data can be recorded synchronously using a DVR Express Core and Streams 5 recording software. The Systron Donner C-MIGITS III inertial navigation unit is shown as an example INU device.

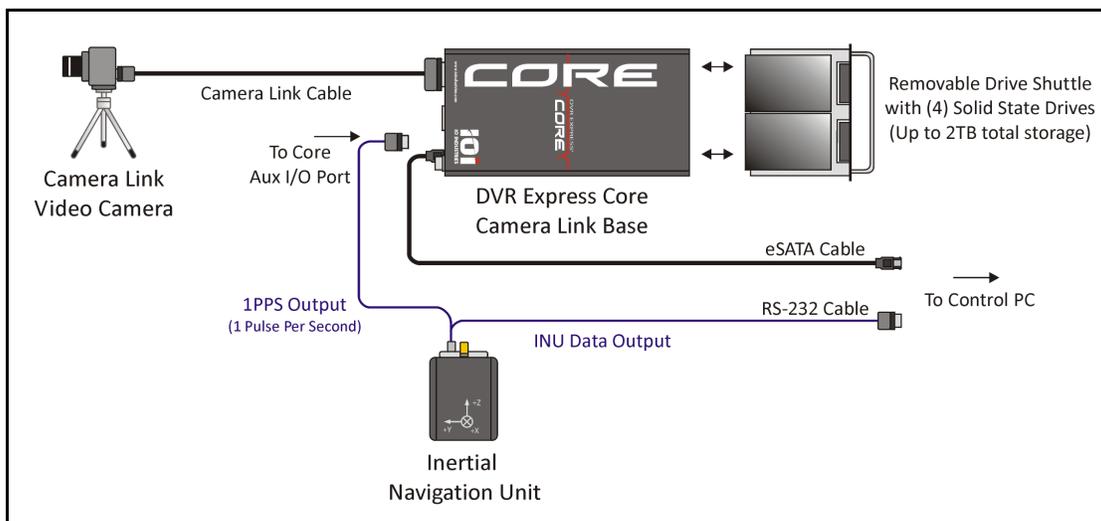


Figure 1: Recording System Connections showing DVR Express® Core and Inertial Navigation Unit

System Operation and Data Flow

Streams 5 is a software application designed to manage recording of several types of data at once. In this example, Streams 5 will manage recording video data through the DVR Express Core hardware, while simultaneously recording the INU data received through the serial port interface.

The recording system's data flow diagram is shown in Figure 2 below. For each new recording, the data flow is as follows:

- Raw data from the camera is recorded into a Video Recording File on the DVR Express Core.
- A link to this Video Recording File is added into the Streams 5 Video Library File.
- Raw data from the INU device is recorded directly into the Streams 5 Video Library File.

During recording, Streams 5 also manages synchronization of the DVR Express Core to the INU's time reference, improving the accuracy of the timestamps recorded with the video data.

When it comes time to review this data, the INU data will be accessed from within the Video Library File, and the video data will be reviewed by accessing the Video Recording File on the DVR Express Core.

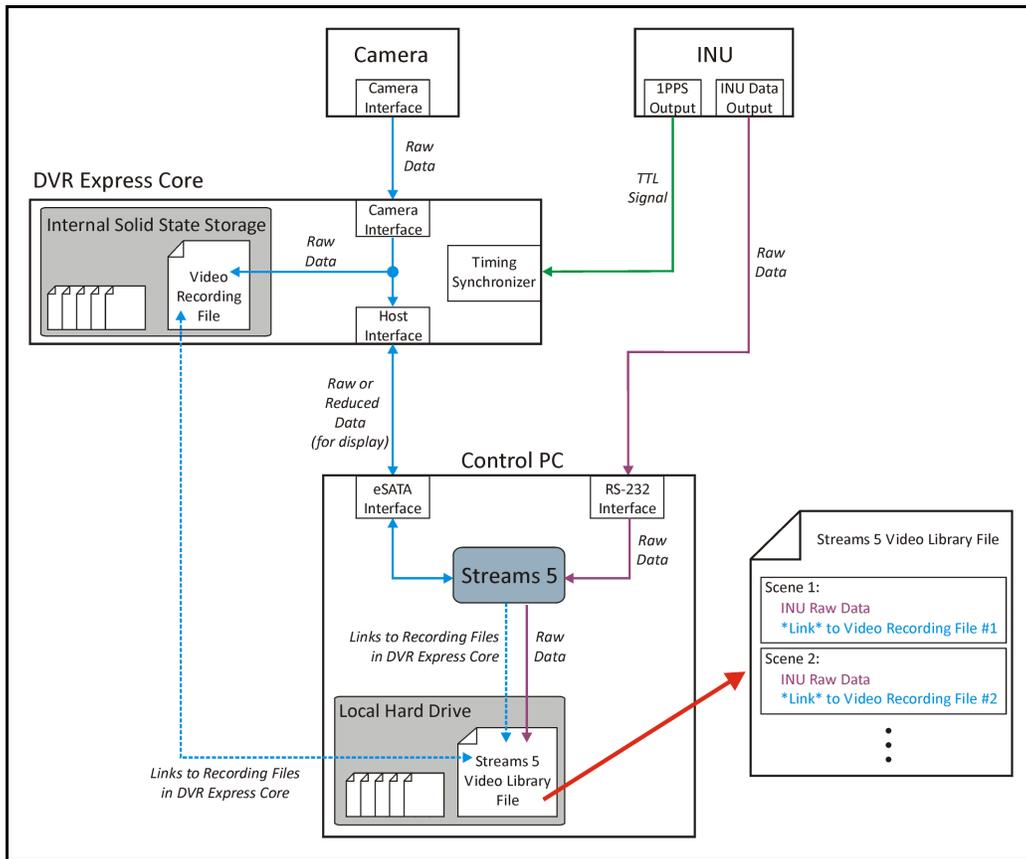


Figure 2: Recording System Data Flow Diagram

Supported Devices

Streams 5 can record from a wide variety of devices, including frame grabbers, GPS receivers and analog signal interfaces. The Streams 5 SDK can be used to create device drivers for non-supported devices as well. Contact IO Industries for a complete list or to inquire about supporting a particular device.

Established in 1991, IO Industries Inc. designs Digital Video Recording (DVR) systems for applications in manufacturing, research, broadcast and entertainment. IO Industries offers both PC-based and standalone embedded DVR systems.

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