Data Translation

DAQ Adaptor for MATLAB

Interface Software for MATLAB

The Data Translation DAQ Adaptor for MATLAB provides users with a convenient way to combine the speed and precision of Data Translation's USB and PCI modules with the powerful analysis and data presentation features of MATLAB from The MathWorks®. By using MATLAB and the Data Acquisition Toolbox™ with the Data Translation DAQ Adaptor for MATLAB, users can configure a Data Translation module directly within MATLAB to access the built-in features of the hardware. All DT-Open Layers-compliant USB and PCI modules are supported to provide a full range of performance capabilities. And since a single, integrated programming environment is provided, users can incorporate all the analysis and visualization features of MATLAB to process, analyze, and display the acquired data.

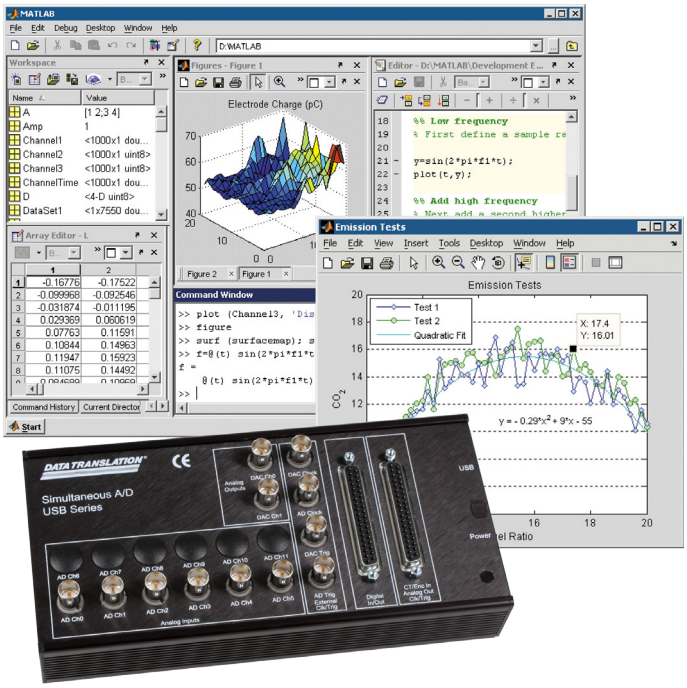

Figure 1. The Data Translation DAQ Adaptor for MATLAB provides users with a convenient way to combine the speed and precision of Data Translation's USB and PCI modules with the powerful analysis and data presentation features of MATLAB. Session-based (64-bit) and legacy (32-bit) interfaces of the DAQ Adaptor are available to support all MATLAB users.

Key Features:

- Interface software that allows MATLAB users direct access to DT-Open Layers®-compliant Data Translation USB and PCI data acquisition modules
- A single environment for acquisition, analysis, and visualization
- Session-based interface for 64-bit MATLAB support and legacy interface for 32-bit MATLAB support

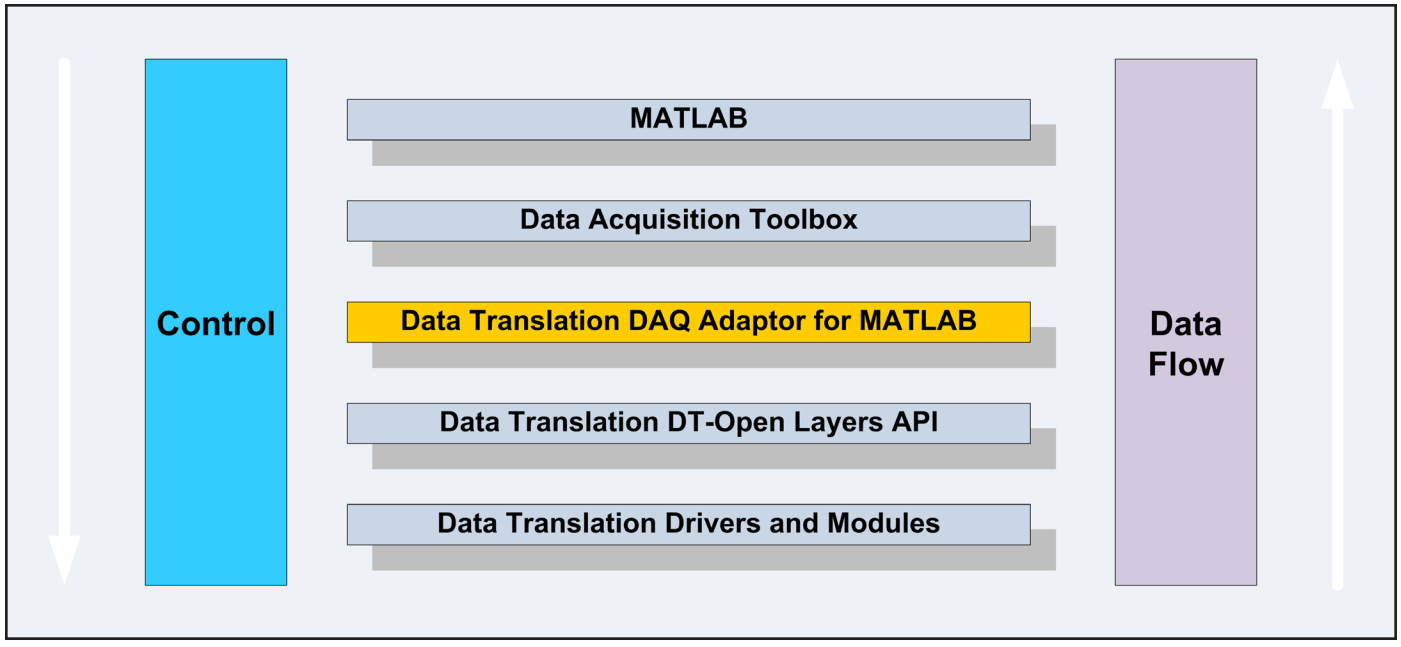

Figure 2. The above diagram depicts the hierarchy of control and data flow from MATLAB to Data Translation DT-Open Layers-compliant modules. The Data Translation DAQ Adaptor for MATLAB passes commands and data between the Data Acquisition Toolbox of MATLAB and the Data Translation hardware to provide a seamless, integrated programming environment.

New Session-Based Support

The Data Translation DAQ Adaptor now supports the session-based (64-bit) interface of MATLAB (release R2016a and greater).

For those who are using a previous version of MATLAB, the legacy (32-bit) Data Translation DAQ Adaptor for MATLAB is still available.

Figure 2 shows the hierarchy of control and data flow using MATLAB with the Data Translation DAQ Adaptor for MATLAB.

Configuring and Controlling Your Devices

MATLAB and the Data Acquisition Toolbox support a wide range of functions and properties for configuring and controlling Data Translation devices. Using the session-based interface of MATLAB, users create a session, add I/O channels to the session, configure properties for the session, such as acquisition duration and start triggers, configure channel settings, and perform I/O operations. Users can also view data while the device is running, and analyze the data on the fly. The Data Translation DAQ Adaptor for MATLAB ensures that both commands and data are sent efficiently between the MATLAB application and the Data Translation data acquisition hardware.

System Requirements

- Data Translation hardware and device drivers *
- DAQ Adaptor for MATLAB — Session-based (64-bit) interface for MATLAB (release R2016a and greater); Legacy (32-bit) interface for all previous versions of MATLAB
- MATLAB® and the Data Acquisition Toolbox™

*Included with the Data Acquisition Omni CD that ships with your hardware, or download from our web site (www.datatranslation.com)

Supported Hardware

Any DT-Open Layers-compliant Data Translation USB or PCI data acquisition module that supports analog and/or digital I/O operations. Note that MEASURpoint instruments, which use IVI-COM drivers, are not supported using the session-based interface of the DAQ Adaptor for MATLAB.

Ordering Summary

The DAQ Adaptor for MATLAB is available as a free download from www.datatranslation.com. The session-based interface of the DAQ Adaptor for MATLAB can also be downloaded from the MATLAB Central File Exchange.