

Using MATLAB® with Tektronix Instruments

Tektronix provides instruments for testing and verifying designs. MATLAB® extends the functionality of Tektronix instruments—including oscilloscopes, real-time spectrum analyzers, and signal generators—by enabling users to make customized measurements, perform data analysis, generate arbitrary waveforms, and develop automated tests.

MATLAB Overview

MATLAB is a software environment that has over 1,000,000 users in diverse industries and disciplines, and it is a standard at more than 3,500 colleges and universities worldwide. Its interactive software environment and technical computing language enable you to perform computationally intensive tasks faster than with traditional software environments, such as C, C++, and Fortran.

Benefits

- Extend the functionality of Tektronix instruments by making customized measurements in MATLAB
- Test the functionality of electronic devices by making measurements with Tektronix instruments and comparing them against known baselines in MATLAB
- Excite electronic devices using Tektronix instruments with simple or complex waveforms created in MATLAB
- Develop a GUI or application that enables users to perform data analysis or testing
- Characterize an electronic device to determine how closely it matches the design
- Verify new algorithms or measurement routines using live data from Tektronix instruments
- Design custom filters in MATLAB and apply them to signals acquired from Tektronix instruments

- Control and configure multiple instruments in a complex test setup
- Generate reports to share results with colleagues, customers, or management

Using MATLAB with Tektronix Instruments

In the MATLAB environment, you can use MATLAB with Instrument Control Toolbox to communicate with Tektronix oscilloscopes, signal generators, or spectrum analyzers using GPIB, LAN, RS-232 serial, or USB communication. MATLAB supports Tektronix IVI and VXI *plug&play* instrument drivers. You can also set instrument parameters, make and acquire measurements in MATLAB, develop test scripts and GUI-based applications, and automatically generate reports.

In the Tektronix user environment, you can also install MATLAB on select Windows-based Tektronix oscilloscopes to use for data analysis or developing test systems that consist of Tektronix instruments.

See www.mathworks.com/tektronix/drivers for the list of MATLAB instrument drivers available for Tektronix instruments.



Online Resources

- Overview, videos, and examples of using MATLAB with Tektronix oscilloscopes
www.mathworks.com/tektronix/overview
- MATLAB
www.mathworks.com/tektronix/matlab
- Instrument Control Toolbox
www.mathworks.com/tektronix/instrument
- Support for Tektronix instruments
www.mathworks.com/tektronix

Contact Information

To discuss how you can use MATLAB with Tektronix instruments, contact:

THE MATHWORKS
www.mathworks.com/contact_us

TEKTRONIX
www.tek.com/contactus