

USB I²C/SPI Interface

NI USB-8451

- I²C master interface with clock rates up to 250 kHz
- SPI master interface with clock rates up to 12 MHz
- 8 general-purpose digital I/O lines
- High-level, easy-to-use LabVIEW API
- Bus-powered, full-speed (12 Mb/s) USB connectivity
- 7 and 10-bit I²C addressing
- 4 SPI modes
- Advanced API for custom I²C and SPI transactions

Operating Systems

- Windows 2000/XP

Recommended Software

- LabVIEW

Driver Software (included)

- NI-845x



Overview

The National Instruments USB-8451 is a USB interface that provides inter-integrated circuit (I²C) and serial peripheral interface (SPI) communication for the test, validation, and programming of consumer electronics devices such as analog-to-digital converters (ADCs) and EEPROMs. In addition, the NI USB-8451 includes 8 general-purpose digital I/O lines that can be used for a variety of applications. Because the module operates on the USB bus, it offers plug-and-play setup and is ideal for use in close proximity to the system components.

Software Description

The USB-8451 includes driver software that provides high-level, easy-to-use National Instruments LabVIEW functions for quick and easy development of applications to communicate with I²C and SPI devices. In addition to the high-level basic API, there is an advanced API that includes scripting functionality for custom I²C and SPI transactions.

Common Applications

The USB-8451 is ideal for a number of consumer electronics applications such as programming, testing, and/or communicating with the following devices:

- ADCs
- Microcontrollers and EEPROMs
- Sensors (temperature, accelerometers, etc.)
- Real-time clocks, crystals, and oscillators
- LCD controllers

Ordering Information

NI USB-8451779553-01

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