

# Promira®

## Serial Platform

### Key Features

#### All-In-One Active/Sniffing Tool

##### Active:

- I2C M/S up to 3.4 MHz
- SPI M/S up to 80/20 MHz
- eSPI simulator up to 66 MHz

##### Analysis:

- I2C analyzer up to 5 MHz
- SPI analyzer up to 40 MHz
- eSPI analyzer up to 66 MHz

##### Performance

- Dual and Quad I/O SPI/eSPI
- Integrated level shifting
- Ethernet and High-speed USB interface
- Up to 16 GPIOs
- Up to 8 slave selects
- Windows, Linux, macOS

#### Control Center Serial Software

- Simplified transmission of I2C and SPI messages
- Automate tasks with XML-based batch scripts

#### Data Center Software

- I2C, SPI, eSPI protocol analysis
- Real-time display, search, and filtering of captured data
- Flexible eSPI triggers
- Bit-level timing to 20ns resolution
- View protocol-level decoded data packets and error codes

#### Flash Center Software

- Extensible XML-based parts library with built-in support for EEPROMs and Flash memories

#### Promira API

- Create custom I2C/SPI applications
- Configure and utilize GPIOs
- Configure target power and level shifting via API
- Example files available

#### Quality

- REACH, RoHS, China RoHS
- Manufacturing: ISO 9001, ISO 13485, AS9100C
- One-year warranty



As the number of embedded applications grow and their requirements increase in complexity, the need for more powerful and flexible tools is more important than ever. The Promira Serial Platform, our most advanced serial tool, can be used to design, debug, and develop in a multi-faceted manner.

**The Promira Serial Platform is the most advanced all-in-one tool for active data transmission and non-intrusive monitoring, functioning as an I2C/SPI master or slave with I2C, SPI, and eSPI protocol analysis capabilities.**

Built on a cutting-edge flexible hardware architecture, the Promira platform provides a future-proof solution for diverse project needs, offering access to higher speeds and advanced features through licensed applications downloaded directly to the device.

Each Promira platform includes a comprehensive software suite, featuring powerful GUIs and APIs designed for seamless integration into a wide range of applications.

Every Promira platform comes standard with integrated level-shifting, as well as Ethernet and USB control interfaces. The Promira platform is ready to accomplish complex development and debugging tasks.

#### Production and Automated Testing

- Program firmware and other data in production environments
- Exercise DUTs and run regression tests
- Interface to production line using USB or Ethernet

#### Programming

- Burn firmware to EEPROMs
- Program in-system I2C- or SPI-based memory chips
- Dual/Quad SPI support

#### Prototyping

- Master or slave emulation
- Use master to interface with sensors, memory chips and other peripherals
- Use slave to test commands sent from MCUs
- Non-intrusively monitor I2C/SPI communication between devices for bus troubleshooting

#### Enhanced Visibility

- See data displayed in real time
- Interactive debugging: make a change and see the results immediately
- Real-time filter displays user-defined views
- Longer recording buffer than a typical scope
- Collaborate easily by sharing saved captures with colleagues using Data Center

#### Production Use Case

Use the Promira platform in a production line to program firmware onto EEPROMs using the API. The Ethernet interface can be used to extend the range beyond that of USB and interface multiple units to a PC.

#### Prototyping Use Case

Create working prototypes quickly and easily using the Promira platform. Used as a master, it can emulate an MCU to actively poll sensors, write and read from BIOS memory, and control the bus. As a slave, it can be used to simulate sensors and test the validity of commands being sent by the master. As an analyzer, it can passively monitor bus traffic, allowing for real-time analysis of communication between devices.

Applications

**Memory Programming**  
EEPROMs  
Flash  
**Motherboard bring-up**  
Analyze I2C, SPI, eSPI traffic  
Emulate Master/Slave

**Sensors**  
Accelerometer  
Pressure  
Temperature  
Light

**Automation**  
Industrial control  
Motor and lighting control  
Lighting control  
Production programming  
Factory testing

**Scan for Video**  


Specifications

Software

Control Center Software

- Streamlined user interface for configuration of I2C, SPI, and GPIOs at the click of a button
- I2C and SPI messages can be saved and loaded from binary files
- Level Shifting: 0.9 – 3.45 V, 5 V

Data Center Software

- LiveDisplay™ Technology - View I2C, SPI, eSPI traffic as it is generated on the bus in real time, save time debugging
- LiveFilter™ Tool - Filter for and against specific channels, errors, device addresses, data patterns, and more
- LiveSearch™ Tool - Find text, hexadecimal, and ASCII data quickly
- Hierarchical View - Enhanced readability with data intuitively grouped into expandable and collapsible transactions
- Bus Pane - See detailed device information including addresses, configurations, and more

Flash Center Software

- Easily program, read, and write to I2C and SPI EEPROMs and Flash memory
- Level Shifting: 0.9 – 3.45 V, 5 V

Promira API Support

- 32- and 64-bit support for C/C++/C#, Python, .NET
- Create custom applications using the flexible, powerful, and well-documented Promira API

Operating Systems Supported (32-bit and 64-bit)

- Windows: 10, 11, and later
- Linux: Red Hat, Ubuntu, Fedora, SuSE
- macOS: 13 and later

Hardware

Host Adapter

|      | Master Maximum    | Slave Maximum   |
|------|-------------------|-----------------|
| I2C  | 1 MHz – 3.4 MHz   | 1 MHz – 3.4 MHz |
| SPI  | 12.5 MHz – 80 MHz | 8 MHz – 20 MHz  |
| eSPI | 20 MHz – 66 MHz   | N/A             |

Protocol Analyzer

|      | Maximum Clock Frequency | Chip Selects              |
|------|-------------------------|---------------------------|
| I2C  | 5 MHz                   | N/A                       |
| SPI  | 24 MHz – 40 MHz         | 1 chip select             |
| eSPI | 20 MHz – 66 MHz         | 2 chip selects with reset |

Target Bus Interface

- I2C or SPI Master/Slave
- I2C, SPI, eSPI Protocol Analyzer
- eSPI Simulator
- Up to 16 GPIO pins
- Up to 8 Slave selects

Host Bus Interface

- USB 2.0 Micro B receptacle
- 10/100/1000 Ethernet receptacle

DC Characteristics

- Target Power: 5 V/3.3 V, 100 mA max
- I/O Power: 0.9 – 3.45 V, 100 mA max
- I2C/SPI/GPIO Signal: 0.9 – 3.45 V, 10 mA max
- eSPI Signal and DIO: 1.8 V

Dimensions (W x D x L)

- 77.5 x 29.2 x 115.6 mm (3.05 x 1.15 x 4.55 in)

Weight

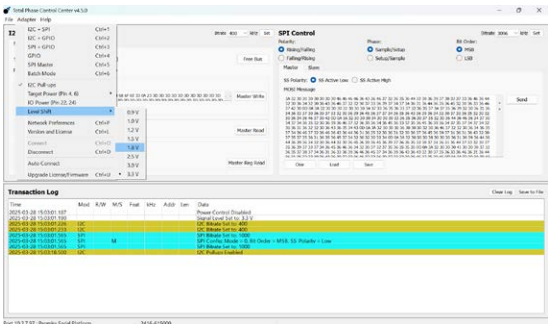
- 155 g (0.34 lbs)

Operating Temperature

- 10° – 35° C (50° – 95° F)

Learn more:

[www.totalphase.com/promira](http://www.totalphase.com/promira)



Control Center Serial Software:  
I2C and SPI modules,  
with integrated level-shifting

Ordering Information

|                         |            |
|-------------------------|------------|
| Promira Serial Platform |            |
| Part Number             | TP500110   |
| Country of Origin       | USA        |
| HTS                     | 8543200000 |
| ECCN                    | EAR99      |