The Frontline® SD 2.0 Protocol Analyzer allows developers and engineers to thoroughly analyze SD, SDIO, MMC and SPI communications, as well as Bluetooth® data carried over the SDIO physical layer, by simultaneously capturing, decoding, displaying, filtering, and detecting errors - all live.

Powered by USB, this small form-factor analyzer provides non-intrusive analysis without any compromises; the Frontline SD comes loaded with support for SPI and MMC specification, and captures data at High-Speed 480 Mbps - it’s the ideal field or bench tool for developers of SD/SDIO/MMC-equipped devices or Bluetooth devices that use SDIO technology.

Big Window into a Small Format

The Frontline SD provides developers and engineers with one compact and portable point of access to multiple bus types, including SD, SDIO, MMC and SPI, and supports 1 and 4-bit modes ensuring compatibility with current specifications. Not only does the device provide a non-intrusive window into native-format bus performance and command and response tokens, but also allows Bluetooth developers to capture Bluetooth data as it’s transported over the SDIO bus.

Once captured, data can be viewed, debugged and target-searched for errors with the powerful and mature Frontline software. The Frontline SD can significantly reduce the time you spend debugging SD/SDIO device protocol and timing issues, and help to bring your SD, SDIO, MMC, SPI or Bluetooth product to market faster.

Key Features and Benefits

- **Data You Can Trust**
  Non-intrusive in-line capture and analysis provides uncontaminated views of the data you need

- **Current and Compatible**
  Support for 1 bit, 4-bit, and SPI modes makes sure you’re compatible with current SD, SDIO and MMC specifications

- **Compact unit delivers big features** to developers of SD, SDIO, SPI and MMC technologies, in the field or at the bench

- **Comprehensive Protocol Analysis**
  Can be used in conjunction with other Frontline devices for interoperability analysis over multiple bus types

- **Faster to Market**
  Reduces debug time with simultaneous live capture, display, decode, filtering and detection of protocol errors

Summary Pane displays a one line overview of each data frame/message. Click on any line to reveal detail in multiple panes below.

Decode Pane shows comprehensive layered decoders of each frame/message with clear, concise descriptions.

Logical Data Pane shows data in bindary, hex and character formats.
Specifications

Dimensions:
- 89mm x 51mm x 127mm

Supported Specifications:
- SD Specification v2.0, Part 1 & 2
- Security commands, SD specification v2.0, Part 3
- SDIO v2.0
- MMC v3.3

Transfer Modes:
- 1-bit
- 4-bit
- SPI

Signals:
- CMD
- DATA0
- DATA1
- DATA2
- DATA3

Timestamp:
- 100 μs

Clock Rate
- Up to 50 MHz

Operating voltages:
- 1.8V
- 3.3V

Data Decoded:
- SPI
- SD/SDIO
- Bluetooth

Power Supply:
- USB Bus powered
- Supports “Automation” feature to remotely control ComProbe software and bypass Microsoft Windows UI
- Displays clock frequency
- Debug SD/SDIO device protocol and timing issues
- Non-intrusive capture and analysis
- Use with both standard SD form factor connection and embedded applications
- Comes with Micro SD card adapter, compatible with cell phones
- Single-click export
- Packets with protocol violations are flagged in red
- Data captured to PC hard disk
- Session notes and annotated bookmarks allow for quick identification of questionable packets
- Portable - main unit size (mm) is 89 x 51 x 127

The Frontline SD Hardware Interface

The Frontline SD 2.0 Protocol Analyzer includes the portable and robust SD/SDIO/SPI/MMC hardware interface, which supports connectivity to SD, SDIO, SPI and MMC-equipped devices. In addition to the standard SD card adapter, a micro SD card adapter is included for sniffing communications between micro SD cards and cell phones.

The SD/SDIO/SPI/MMC interface is one member of an extensive arsenal of technology-specific hardware interfaces, all functioning with the powerful Frontline software. This modular approach allows greater flexibility in protocol analysis and debugging, and provides comprehensive coexistence views over virtually any combination of protocols.

Supported Configurations
- OS Supported: Windows 7, 8 and 10
- USB Port: USB 2.0 or USB 3.0 High-Speed

Minimum System Requirements
- Processor: Core i5 at 2.7 GHz or faster
- 4 GB of RAM
- 20 GB free disk space

The Frontline Modular Approach

Frontline software is at the core of Frontline protocol analysis, allowing technology-specific hardware interfaces to work individually or in combination with other hardware interfaces. This modular approach gives the developer or analyst the widest possible range of scenarios for debugging complex communications.

To order or for more information:
www.fte.com
frontline_onlinesales@teledyne.com
1.800.359.8570 US & Canada
+1.434.984.4500
Fax: 434.984.4505

© Copyright 2017. All rights reserved. BPA, Sodera and the Frontline logo are trademarks and Frontline is registered trademark. The Bluetooth word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks is under license. Other trademarks and trade names are those of their respective owners.