Introducing WaveBPS: Portable Low Level Analog Serial Data Analysis

In the real world, things often go wrong to the point where CAN bus, LIN bus, or FlexRay tools do not show enough information - one has to understand what is going on at a lower level.

Intrepid Control Systems, Inc. is proud to introduce WaveBPS, an advanced tool for capturing and analyzing serial data analog waveforms like FlexRay, CAN Bus, UART (J1708, K-Line, SCI, GM CGI), J1850, SPI, I2C or LIN Bus. Besides general purpose monitoring, WaveBPS can quickly capture infrequent or intermittent protocol violations. For example, you can track down the CAN error frames that may occur during a crank event while another application verifies that there are no timing violations on software based LIN implementations.

Benefits

• Move quickly and with less hassle by bringing your oscilloscope to the plant or vehicle
• Save time and improve quality with automatic measurements that quickly find nodes that are causing protocol errors
• Improve productivity by automating testing of your ECU's analog functions
• Build your knowledge by visualizing message timing interaction between ECUs
• Save time troubleshooting latencies of periodic messages
• Root cause intermittent events with microsecond accurate script based triggering
• Save time searching analog data captures for protocol violations
• Learn every little detail of a protocol in order to maximize efficiency
Ordering Information:

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<th>Part Number</th>
<th>Description</th>
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<tr>
<td>WAVEBPS-PRO</td>
<td>PicoScope 5204, WaveBPS software, Space Navigator Knob, neoVI FIRE, DLC Breakout, Vehicle Spy Software</td>
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<tr>
<td>WAVEBPS-BASE</td>
<td>PicoScope 5204, WaveBPS software, Space Navigator Knob</td>
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<td>WAVEBPS-SFT</td>
<td>WaveBPS Software license</td>
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All Decoders
- All Automatic Measurements include the time at which they were taken. Clicking on the measurement will focus the zoom view on the measurement times.
- Automatic Measurements for every event: Time Start, Time Width, Inter frame Separation, Error Count, Warning Count, ID including message description, and Node Name
- Database support with import from Vehicle Spy software (UEF, DBC, LDF, FIBEX, etc.)
- User specified Baud Rate and thresholds including inversion
- Decoder Templates allow multiple customizations of each decoder with a custom description
- Supports Math Operations on multiple channels (A-B, A+B)

CAN Decoder
- Automatic Measurement for every message: CAN Remote Transmit Request, CAN Identifier Extension Bit, CAN Reserved Bit Zero, CAN Reserved Bit One
- Single Wire CAN High Voltage Message, Single Wire CAN High Voltage Ack Bit, Single Wire CAN High Speed Mode Bit Rate, CAN Substitute Remote Request, Length (DLC), CAN CRC Delimiter, CAN Ack Slot, CAN Ack Delimiter, CRC Checksum, CAN Stuff Bit Count, CAN Data Section, CAN Bit Rate Tolerance, Minimum Frame Voltage, Maximum Frame Voltage, CAN Acknowledgment Bit Skew, CAN Acknowledgment Bit Width, Percentage of Time Used For Data
- Error & Warning Detection for every message: SRR = 0 Error, RB0 = 1 Error, DLC > 8 Error, Invalid CRC Error, CRC Del = 0 Form Error, Ack Error, ACK Del = 0 Form Error, EOF = 0 Form Error, IFS = 0 Form Error, RB1 = 1 Error, RB0 = 1 Error, Bit Tolerance Limit Error, High Voltage Ack Bit warning, Partial Frame Decode Warning, Error Frame
- Automatic Measurements for entire waveform: Frame Count, Error Count, Idle Bus Mean Voltage, Max Frame Voltage, Min Frame Voltage, Bus Utilization
- GMW3110 Single Wire CAN High-Speed mode transition decoding
- Single Wire CAN High Voltage Threshold setting
- User settable Bit tolerance and Sampling Point
- Satisfies bit tolerance measurements as indicated in GMW14241 - GMLAN Device Test Specification

LIN Decoder
- Automatic Measurement for every message: LIN Sync Break In Bits, LIN Sync Waveform, LIN Slave Response Time, LIN Header Time, LIN Slave Message Time, LIN TMax Utilization, LIN Frame Length, LIN Check Sum, Data
- Error & Warning Detection for every message: TResponse Max Error, Message Length Error, TMax violation Error, Checksum Error, Slave Not Responding Error, Sync Error, THeader Max Error, ID Parity Error, Break Too Short, Break Too Long, Partial Frame Decode Warning
- Automatic Measurements for entire waveform: Frame Count, Error Count

FlexRay Decoder
- Automatic Measurement for every message: FlexRay Reserved Bit, FlexRay Payload Preamble Indicator, FlexRay Null Frame Indicator, FlexRay Sync Frame Indicator, FlexRay Startup Frame Indicator, FlexRay Channel, FlexRay Header CRC, FlexRay Cycle Count, CRC, FlexRay Transmission Start Sequence Length, FlexRay Dynamic Frame, Data Length in words, Data Section
- Error & Warning Detection for every message: Header CRC Error, CRC Error, Partial Frame Decode Warning
- Automatic Measurements for entire waveform: Frame Count, Error Count
- Automatic A-B channel detection or fixed channel setting for decoder

See website for specifications on UART, J1850 VPW, I2C, and SPI Decoders

*Specifications subject to change. Please contact Intrepid for the latest information.