

Intrepid Control Systems, Inc.

WaveBPS Capture using external trigger

Document Number: AN-ICSI-1001

Rev 1.1 08/2014

Contents

1. Introduction:	3
2. WaveBPS Capture using external trigger:	3
2.1 Hardware:	3
2.2 Software:	3
2.3 Hardware Setup:	3
2.4 WaveBPS Configuration:	4
2.5 Vehicle Spy 3 Configuration:	6
3. Contact Us:	7

1. Introduction:

WaveBPS can be used to Capture and analyze digital protocol analog waveforms like the CAN frames. It can also capture the infrequent or intermittent protocol violations.

This application note documents the settings for configuring WaveBPS to capture CAN Message using an external trigger with an example

2. WaveBPS Capture using external trigger:

2.1 Hardware:

Picoscope model 3000 series, neoVI FIRE,

2.2 Software:

WaveBPS, VehicleSpy3

2.3 Hardware Setup:

- Connect CAN H to channel A (or B) of Picoscope
- Connect CAN L to GND of Picoscope
- Connect Misc IO 1 of neoVI FIRE to External trigger of Picoscope
- Connect GND of External trigger to GND of Picoscope.

2.4 WaveBPS Configuration:

1. Launch WaveBPS.
2. Select Capture Setup→Channel A→Range +/- 10V (Figure 1 →(2))
3. Set Sample Per Second→5 M (Figure 1 →(3))
4. Set Triggering source→Ext (Figure 1 →(4))
5. Set Triggering Vol→4 V(Figure 1 →(5))
6. Select the Direction→Rising(Figure 1 →(6))
7. Set Pretrigger→ 10%(Figure 1 →(7))
8. Select Auto Save -> Browse -> give the file name with .wbps extension. (Figure 1 →(8))
9. Select Filter Match (13.017ms) option from the dropdown list right to Capture Button. (Figure 1 →(9))
10. Select Capture to capture the data. (Figure 1 →(10))

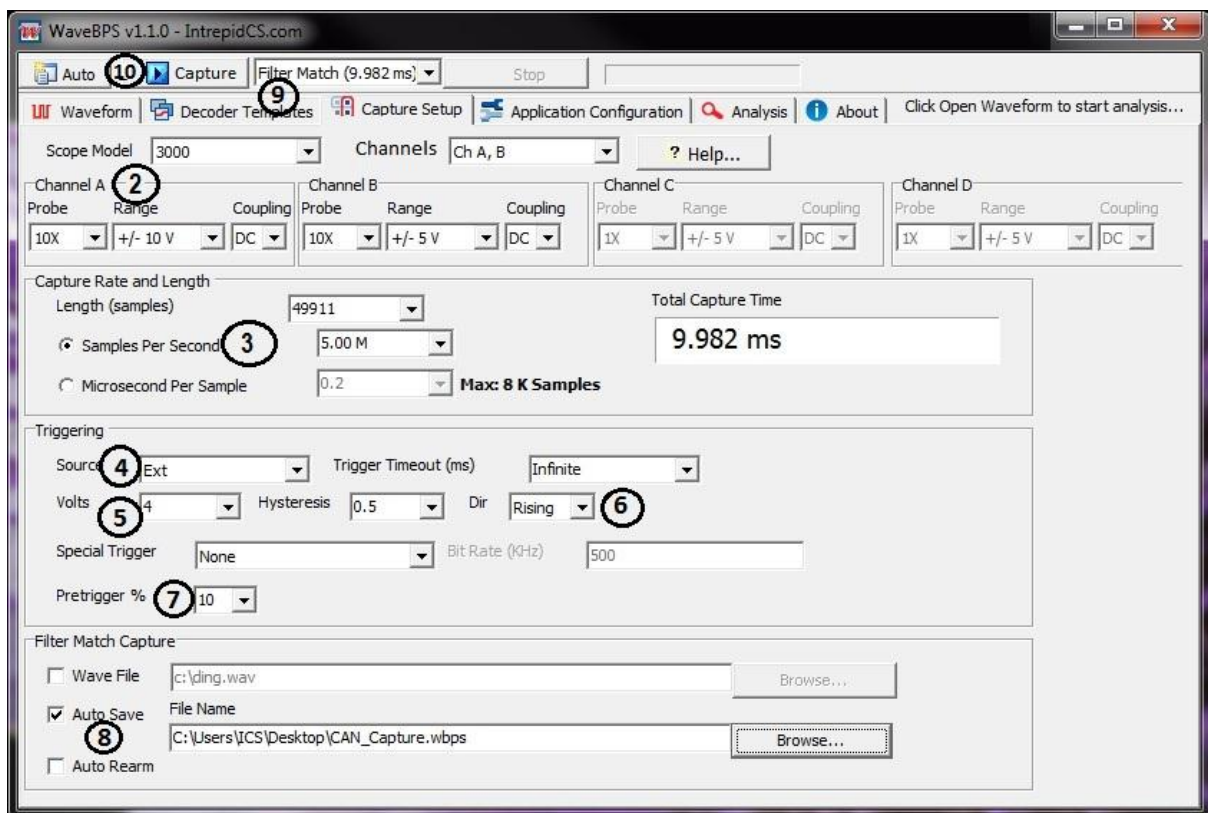


Figure 1: WaveBPS settings for capturing waveform using external trigger.

11. Select DWCAN (Differential) for CAN as differential bus. (Figure 2 →(1))
 12. Select the option 'Auto select baud rate from standard list' for baud rate. (Figure 2 →(2))
- Or uncheck the option and select the required baud rate from the drop down list.

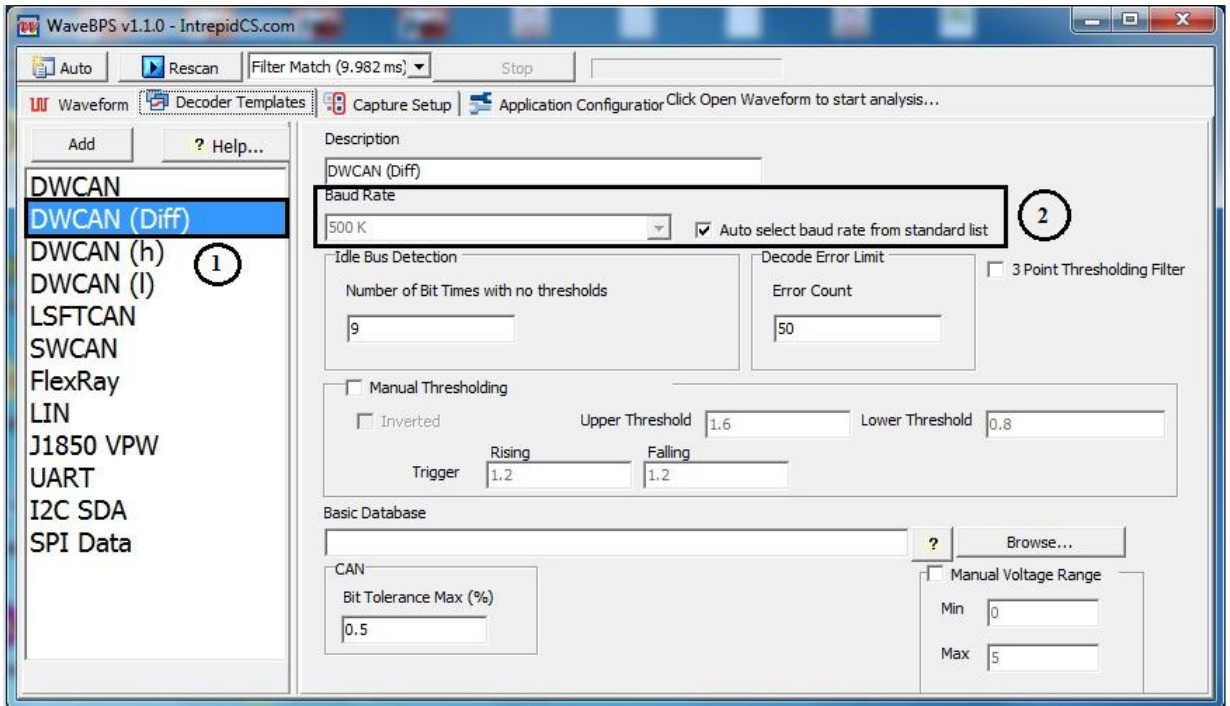


Figure 2: Select the baud rate and CAN Differential

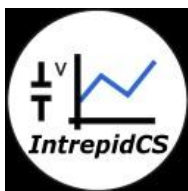
2.5 Vehicle Spy 3 Configuration:

1. Set the Misc IO 1 of neoVI FIRE as Digital output (Refer Sample Vs3 configuration).
2. Launch VehicleSpy3 Software.
3. Go 'Online' → 'Run with Transmit'.
4. Use Graphical Panel to trigger Misc IO 1 of neoVI FIRE.
5. Picoscope will be triggered to store CAN Frames based on neoVI FIRE's Digital output.

Refer to the file: [neoVI Fire Misc IO Trigger.vs3](#)

WaveBPS will store the triggered data with given file name and path

3. Contact Us:



Intrepid Control Systems, Inc.

Email: icsindia@intrepidcs.com

Website: www.intrepidcs.com