

MICHIGAN STATE

UNIVERSITY

Beta Presentation

Mobile Application for XCP Measurement
and Calibration

The Capstone Experience

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Fall 2014



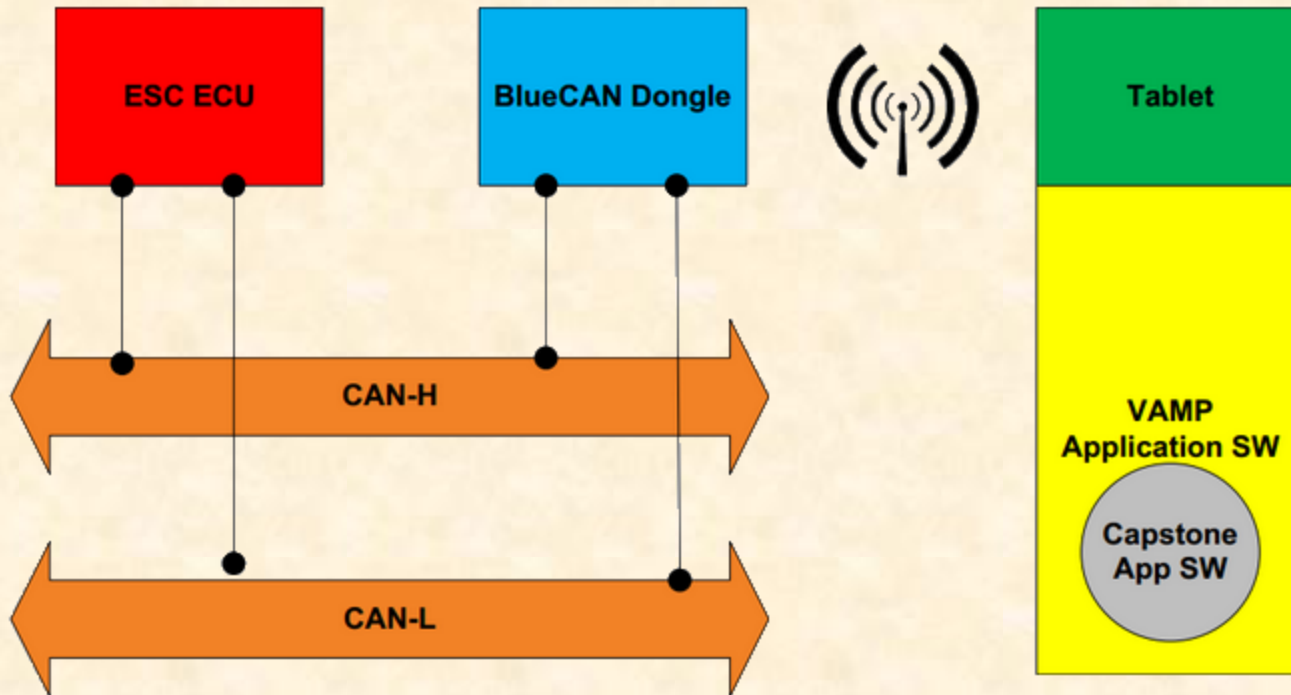
*From Students...
...to Professionals*

Project Overview

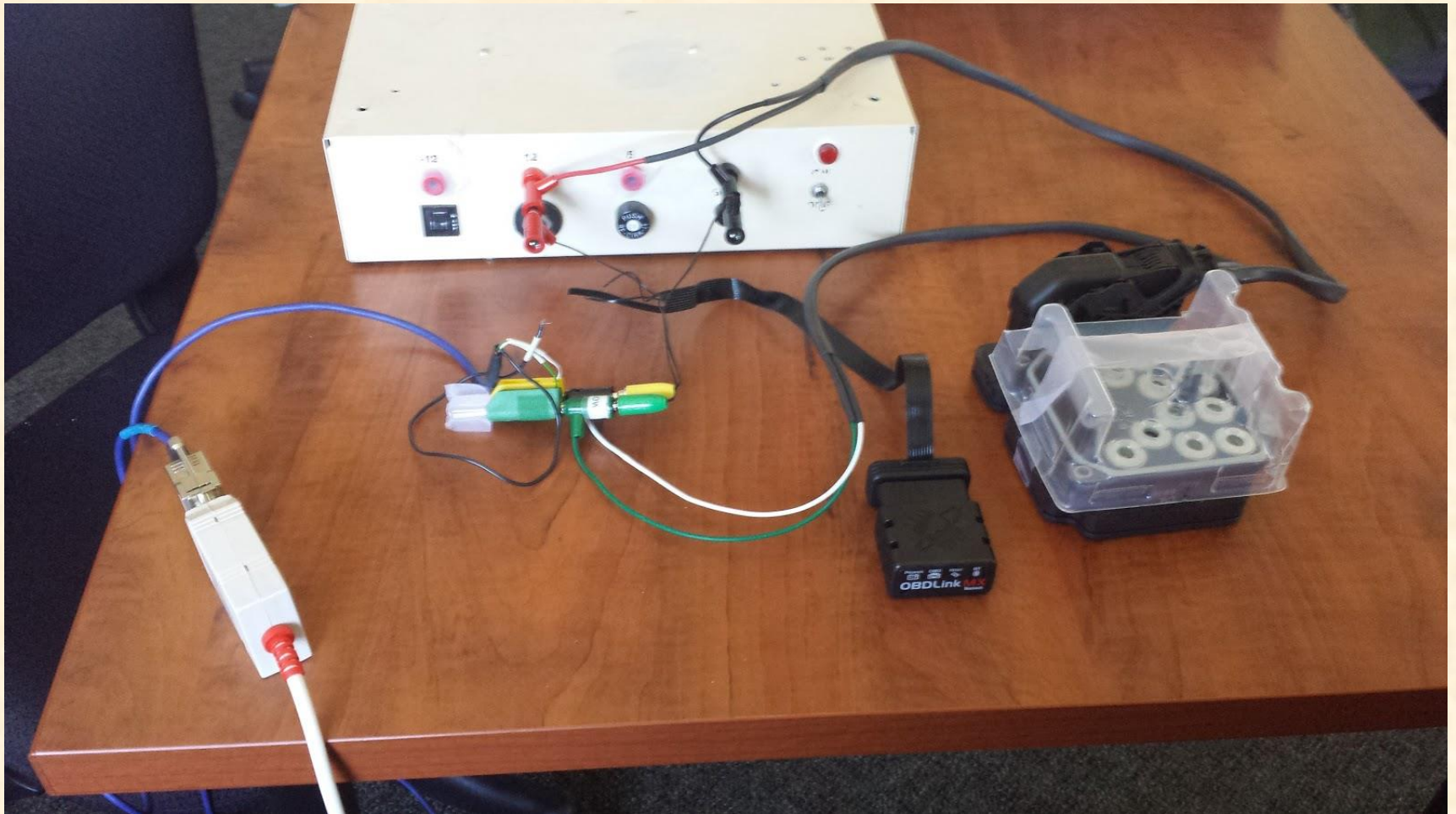
- Mobile application
- That communicates with vehicles
- To receive measurements
- And calibrate vehicles
- Via Bluetooth
- 2880 frames per second per bus



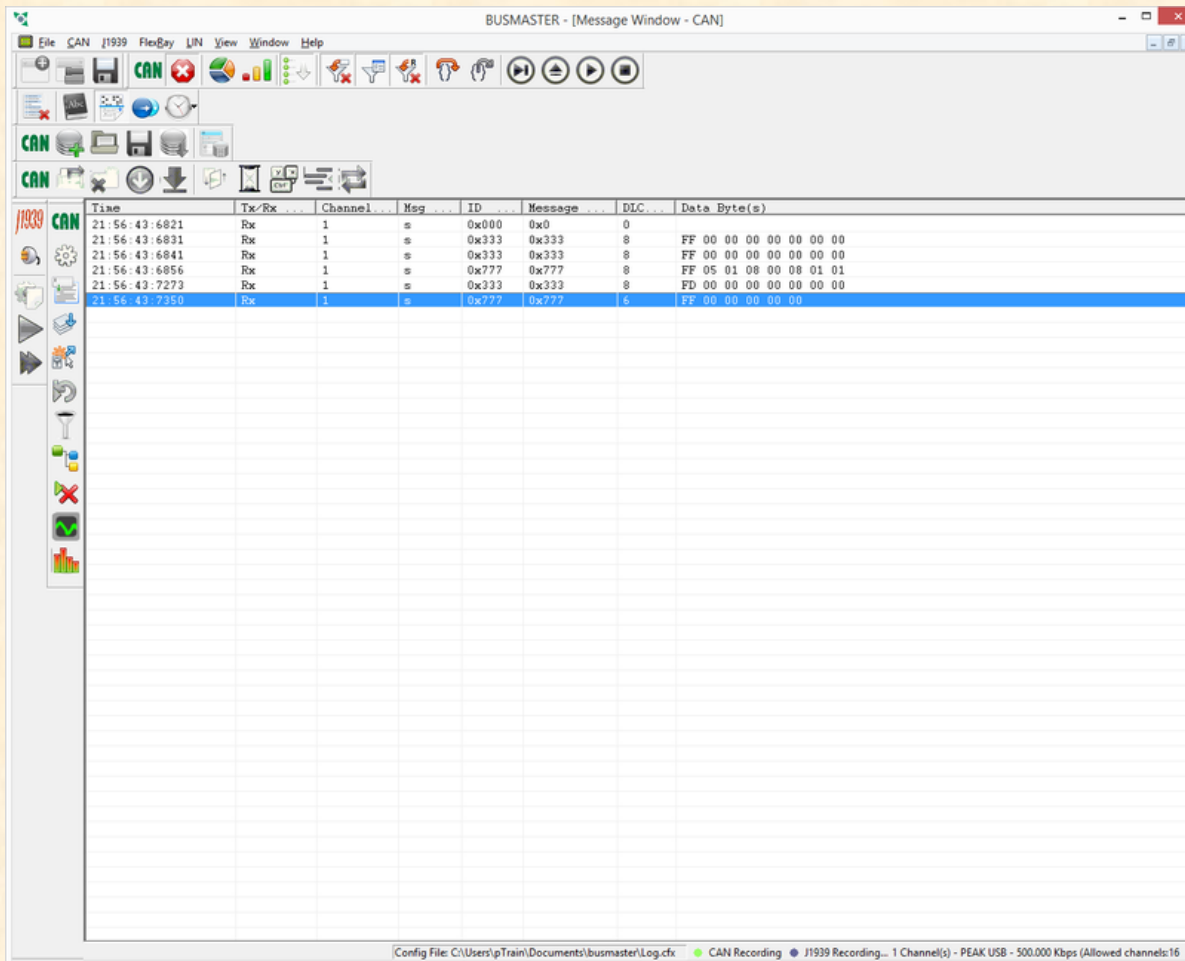
System Architecture



Hardware

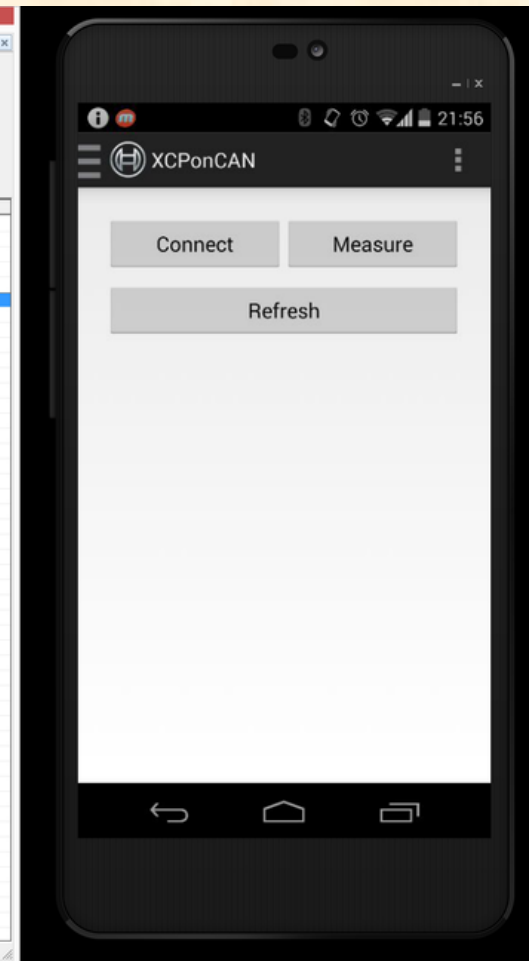


Connect

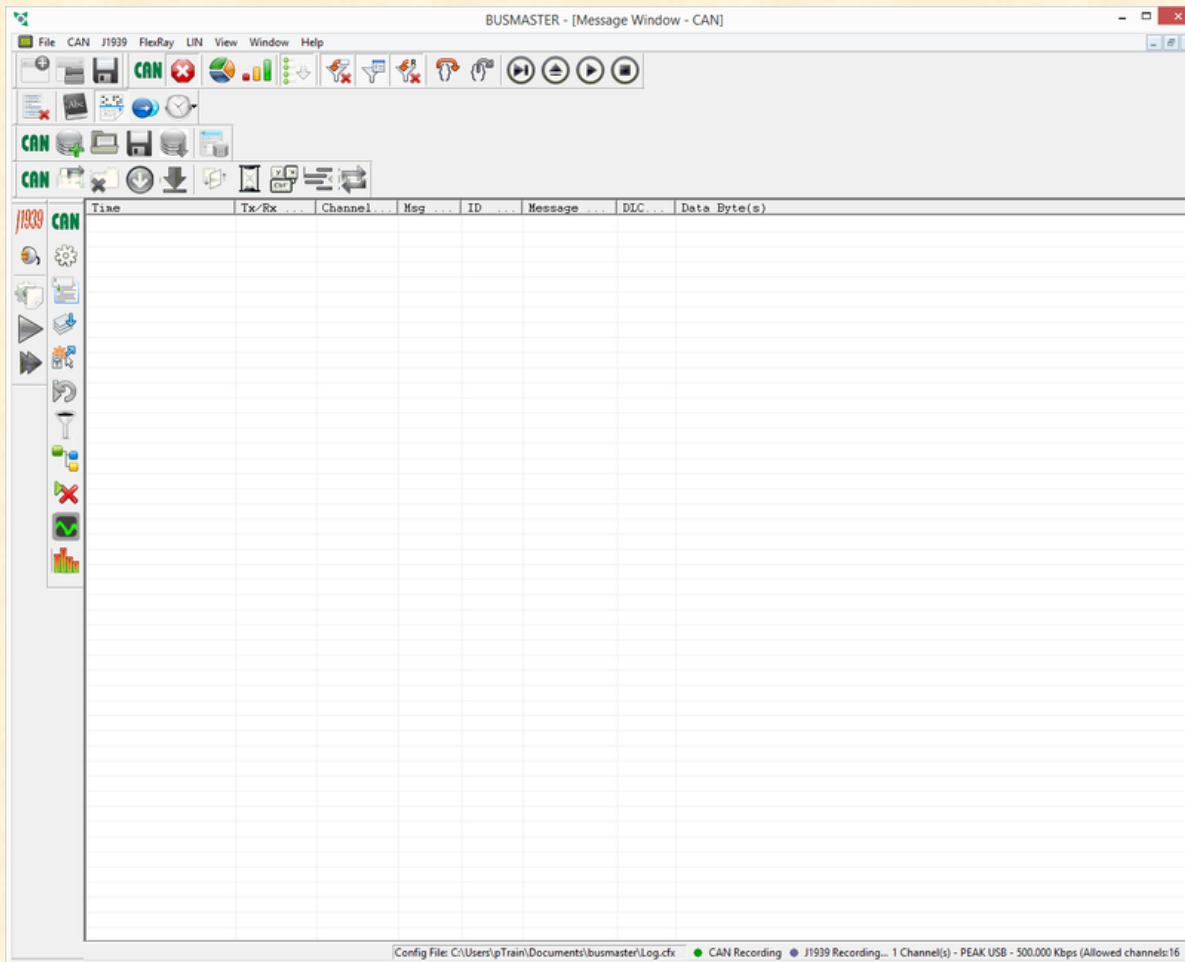


The screenshot shows the BUSMASTER software interface with a message log table. The table has columns for Time, Tx/Rx, Channel, Msg, ID, Message, DLC, and Data Byte(s). The data is as follows:

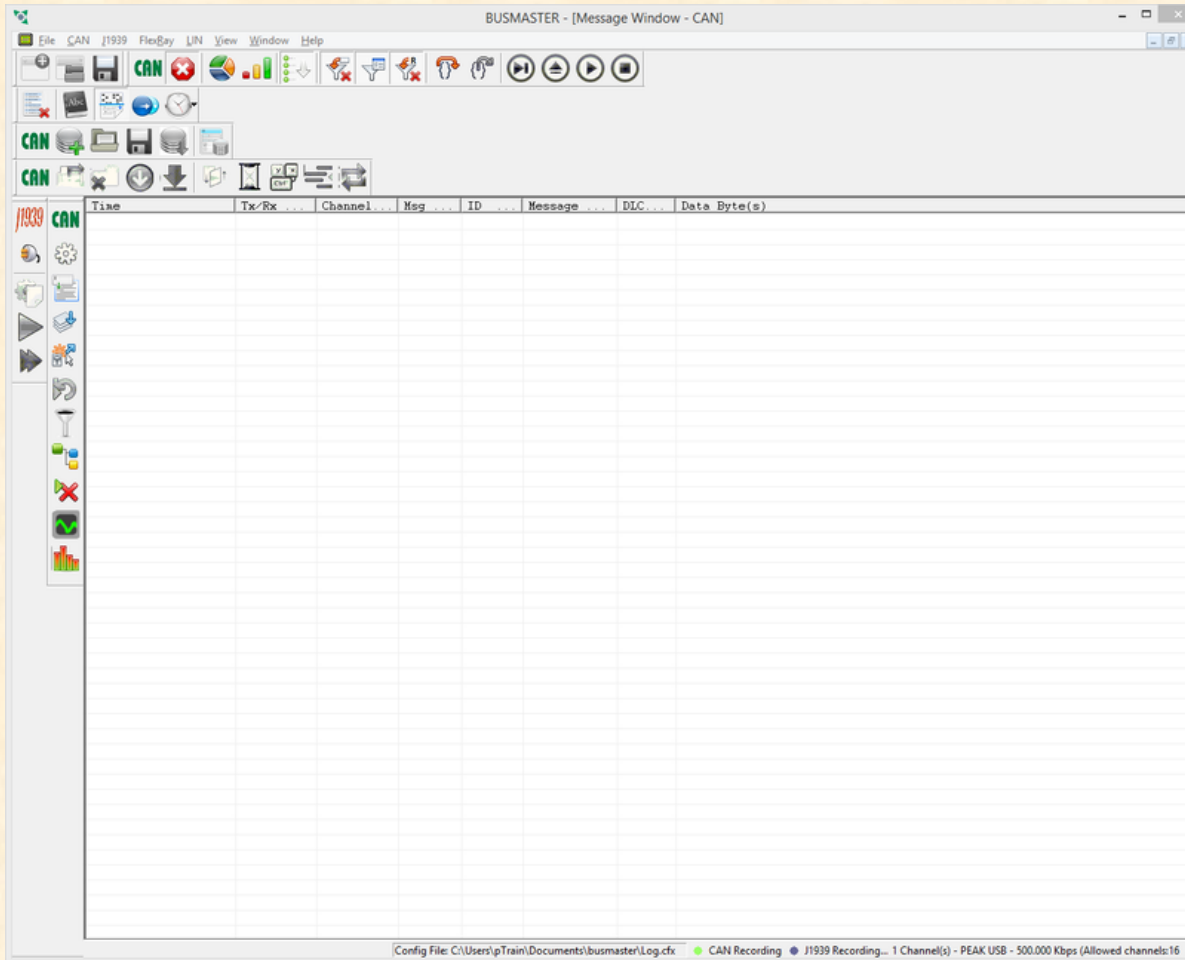
Time	Tx/Rx	Channel	Msg	ID	Message	DLC	Data Byte(s)
21:56:43:6821	Rx	1	s	0x000	0x0	0	
21:56:43:6831	Rx	1	s	0x333	0x333	8	FF 00 00 00 00 00 00 00
21:56:43:6841	Rx	1	s	0x333	0x333	8	FF 00 00 00 00 00 00 00
21:56:43:6856	Rx	1	s	0x777	0x777	8	FF 05 01 08 00 08 01 01
21:56:43:7273	Rx	1	s	0x333	0x333	8	FD 00 00 00 00 00 00 00
21:56:43:7360	Rx	1	s	0x777	0x777	6	FF 00 00 00 00 00



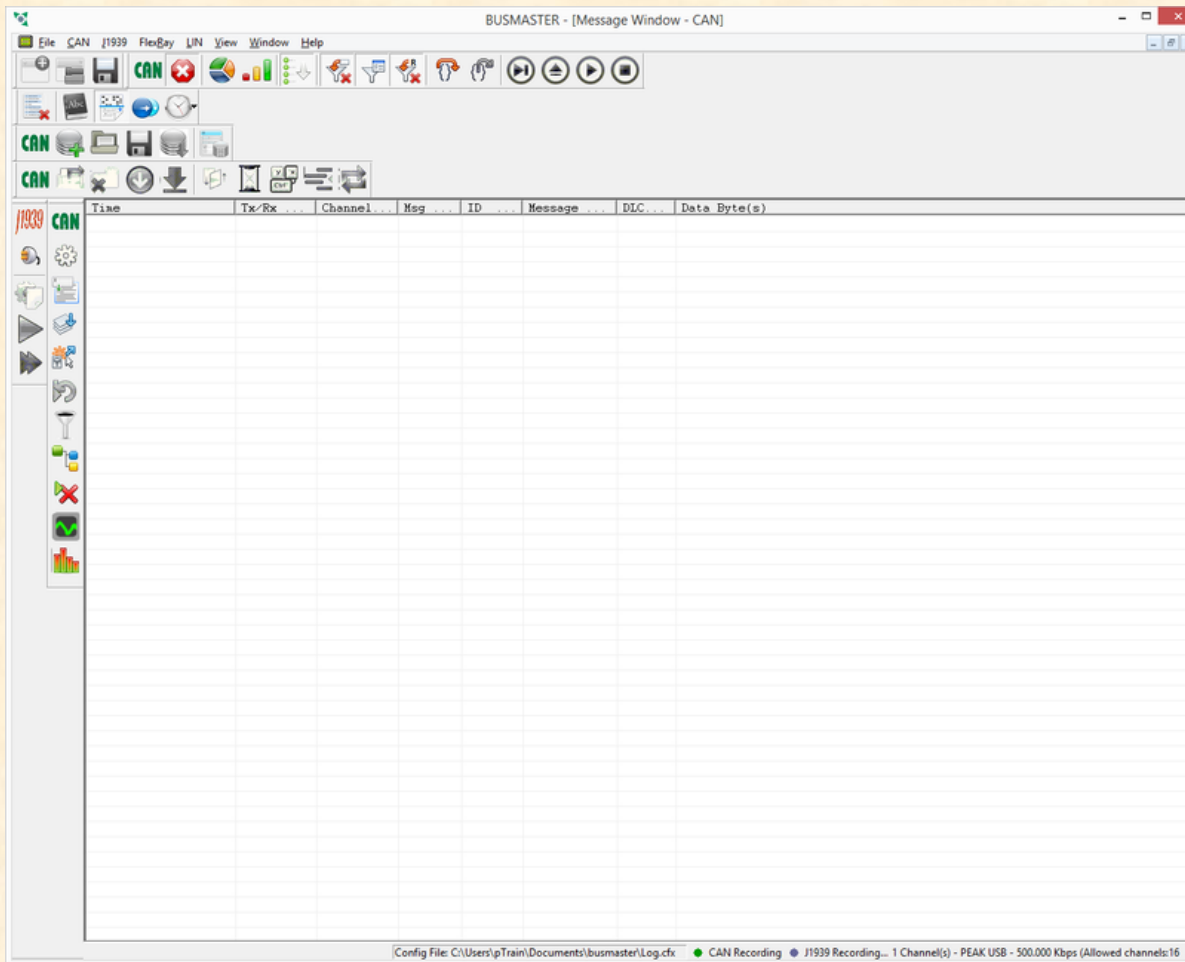
Menu



Add Signal



Signal Added



Measure

Time	Tx/Rx	Channel	Msg	ID	Message	DLC	Data Byte(s)
22:05:46:6984	Rx	1	s	0x000	0x0	0	
22:05:46:7003	Rx	1	s	0x333	0x333	8	FF 00 00 00 00 00 00 00
22:05:46:7096	Rx	1	s	0x777	0x777	8	FF 05 01 08 00 08 01 01
22:05:46:7547	Rx	1	s	0x333	0x333	8	FD 00 00 00 00 00 00 00
22:05:46:7600	Rx	1	s	0x777	0x777	6	FF 00 00 00 00 00
22:06:22:3680	Rx	1	s	0x333	0x333	8	D6 00 00 00 00 00 00 00
22:06:22:3763	Rx	1	s	0x777	0x777	1	FF
22:06:22:4251	Rx	1	s	0x333	0x333	8	D5 05 00 01 00 00 00 00
22:06:22:4363	Rx	1	s	0x777	0x777	1	FF
22:06:22:4421	Rx	1	s	0x333	0x333	8	D4 05 00 00 01 00 00 00
22:06:22:4458	Rx	1	s	0x777	0x777	1	FF
22:06:22:4682	Rx	1	s	0x333	0x333	8	D3 05 00 00 00 01 00 00
22:06:22:4763	Rx	1	s	0x777	0x777	1	FF
22:06:22:4792	Rx	1	s	0x333	0x333	8	E2 05 00 00 00 00 00 00
22:06:22:4859	Rx	1	s	0x777	0x777	1	FF
22:06:22:4871	Rx	1	s	0x333	0x333	8	E1 FF 04 00 08 00 A7 B4
22:06:22:4963	Rx	1	s	0x777	0x777	1	FF
22:06:22:5294	Rx	1	s	0x333	0x333	8	E0 00 00 00 00 01 01 87
22:06:22:5364	Rx	1	s	0x777	0x777	1	FF
22:06:22:5424	Rx	1	s	0x333	0x333	8	DE 02 00 00 00 00 00 00
22:06:22:5458	Rx	1	s	0x777	0x777	2	FF 00
22:06:22:5504	Rx	1	s	0x333	0x333	8	DD 01 00 00 00 00 00 00
22:06:22:5563	Rx	1	s	0x777	0x777	1	FF
22:06:22:5568	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5578	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5588	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5598	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5608	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5618	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5628	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5638	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5648	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5659	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5668	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5678	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5688	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5698	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5708	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5718	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5728	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5738	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5748	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5764	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5765	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5778	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5788	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E
22:06:22:5798	Rx	1	s	0x777	0x777	5	00 00 00 0E 7E



Updating Value

Time	Tx/Rx	Channel	Msg	ID	Message	DLC	Data Byte(s)
22:07:09:5820	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:5830	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:5840	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:5850	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:5860	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:5870	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:5881	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:5890	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:5907	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:5911	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:5920	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:5930	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:5940	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:5951	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:5960	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:5971	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:5980	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:5990	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6002	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6010	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6020	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6030	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6041	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6050	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6060	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6070	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6080	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6090	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6107	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6111	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6120	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6130	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6140	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6150	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6160	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6170	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6180	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6190	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6202	Rx	1	s	0x777	0x777	5	00 00 00 13 16
22:07:09:6210	Rx	1	s	0x777	0x777	5	00 00 00 13 17
22:07:09:6220	Rx	1	s	0x777	0x777	5	00 00 00 13 17
22:07:09:6230	Rx	1	s	0x777	0x777	5	00 00 00 13 17
22:07:09:6240	Rx	1	s	0x777	0x777	5	00 00 00 13 17
22:07:09:6250	Rx	1	s	0x777	0x777	5	00 00 00 13 17
22:07:09:6260	Rx	1	s	0x777	0x777	5	00 00 00 13 17
22:07:09:6270	Rx	1	s	0x777	0x777	5	00 00 00 13 17



What's left to do?

- User manual
- Bug fixes
- Layout updates

