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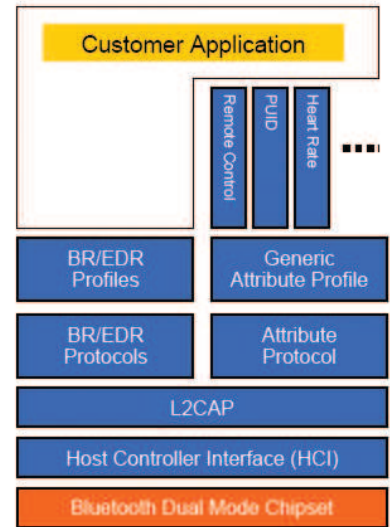
HIGH SPEED UART PROTOCOL ANALYZER

The Frontline HSU Protocol Analyzer allows developers and engineers to easily capture and decode high speed serial UART data. This tool is essential for Bluetooth® product developers who wish to debug elusive HCI communication issues between a *Bluetooth* Host and Controller.

The Frontline HSU Protocol Analyzer includes powerful Frontline software and the High Speed UART hardware interface.

Significantly Reduce Debugging Time with ProbeSync™

Frontline's ProbeSync enables two or more analyzers to share a common clock - when using the Frontline HSU with the BPA® 600 Dual Mode *Bluetooth* Protocol Analyzer, HCI and over-the-air *Bluetooth* data are displayed in perfect time stamp synchronization. Once captured, all packets can be viewed, debugged and target-searched for errors with the powerful and mature Frontline software. Showing HCI and over-the-air packets in tight synchronization means that the ComProbe HSU can significantly reduce the time you spend debugging *Bluetooth* HCI protocols and timing issues, and help to bring your *Bluetooth* product to market faster.



Dual Mode *Bluetooth* Architecture

Key Features and Benefits

- **Data You Can Trust**
Non-intrusive analysis provides uncontaminated views of the HCI data you need
- **Synced with Bluetooth**
ProbeSync ensures that *Bluetooth* data captured by the BPA 600 is in lock step with HSU data
- **Compact footprint delivers big features** to developers of *Bluetooth* technologies
- **USB-powered** means excellent portability and simpler device setup - just plug into the USB port and go!
- **Comprehensive Protocol Analysis**
Can be used in conjunction with other Frontline devices for interoperability analysis over multiple bus types
- Features direct TTL connection to HCI UART transport layer
- **Full Serial Protocol Support**
Coverage is complete - WCI-2, H4, H5 and BCSP protocols are supported
- **Easy SSP Decryption**
Frontline HSU sends the link key directly to the ComProbe software for hassle-free SSP decryption

Portable and Powerful HCI Debugging

Powered by USB, this small form-factor analyzer provides non-intrusive analysis without any compromises; the Frontline HSU supports data rates up to 8 Mbps and supports *Bluetooth* HCI protocols including H4, H5 and BCSP. The Frontline HSU provides developers and engineers with one compact and portable point of access to high speed serial communications between chip sets. This analyzer provides a non-intrusive window into native-format bus performance and command and response tokens, and allows *Bluetooth* developers to capture *Bluetooth* data as it's transported over the HCI UART bus.

Technology Tabs afford easy access to HSU profiles and protocols.

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

B...	Frame#	Type	Opcode	Opcode Command	Event	Status	Handle	Credits	PBF	Length	Frame Size
	1,082	ACL Data					0x002b	Available...	First	16	21
	1,093	Event			Number Of Completed Packets		0x002b	Available...		5	8
	1,097	ACL Data					0x002b	Available...	First	16	21
	1,100	ACL Data					0x002b	Available...	First	18	23
	1,101	ACL Data					0x002b	Available...	First	18	23
	1,104	ACL Data					0x002b	Available...	First	31	36
	1,126	Event			Number Of Completed Packets		0x002b	Available...		5	8
	1,137	Event			Number Of Completed Packets		0x002b	Available...		5	8
	1,182	ACL Data					0x002b	Available...	First	57	62
	1,183	ACL Data					0x002b	Available...	First	12	17
	1,185	Event			Number Of Completed Packets		0x002b	Available...		5	8
	1,215	Event			Link Key Request		0x002b	Available...		6	9
	1,216	Command	0x040b	Link_Key_Request_Reply			0x002b	Available...		22	26
	1,217	Event	0x040b	Link_Key_Request_Reply	Command Complete	Success	0x002b	Available...		10	13
	1,219	ACL Data					0x002b	Available...	First	16	21
	1,373	Event			Encryption Change	Success	0x002b	Available...		4	7
	1,420	ACL Data					0x002b	Available...	First	16	21
	1,421	ACL Data					0x002b	Available...	First	16	21
	1,424	Event			Number Of Completed Packets		0x002b	Available...		5	8
	1,425	ACL Data					0x002b	Available...	First	16	21
	1,428	ACL Data					0x002b	Available...	First	18	23
	1,429	ACL Data					0x002b	Available...	First	18	23
	1,430	ACL Data					0x002b	Available...	First	8	13
	1,478	Event			Number Of Completed Packets		0x002b	Available...		5	8
	1,479	Event			Number Of Completed Packets		0x002b	Available...		5	8
	1,506	ACL Data					0x002b	Available...	First	9	13
	1,507	ACL Data					0x002b	Available...	First	18	23
	1,510	Event			Number Of Completed Packets		0x002b	Available...		5	8
	1,522	ACL Data					0x002b	Available...	First	18	23
	1,524	ACL Data					0x002b	Available...	First	8	13
	1,525	ACL Data					0x002b	Available...	First	12	17
	1,526	Event			Number Of Completed Packets		0x002b	Available...		5	8
	1,527	Event			Number Of Completed Packets		0x002b	Available...		5	8

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

Specifications

- **Dimensions:**
2.75 x 2.0 x 0.9 inches
- **Power:**
USB Powered
- **Accessories:**
6' Shielded High-Speed USB cable

Connection Cable:

22-gauge test wires with
0.025" square sockets (total
of 9, various colors)

Male RJ-45 socket
ProbeSync connector

9 high-quality miniature
test clips that allow
connection

- **Maximum Operating Speed (any mode)**
100 MHz
- **Maximum Rate of Data Capture**
6Mbps
- **TTL Level Inputs**
High level (logic 1): +2V to +5V
Low level (logic 0): 0V to +0.8V
- **Logs data from 8 digital channels**
- **Sample Data Rate**
100 Mbps
- **The HCI sniffer displays and decodes all the protocol layers all the way through the profile. The profile list includes:**

L2CAP	HFP
SDP	HID
RFCOMM	HSP
OBEX	HCRP
OPP	SAP
FTP	MAP
BIP	HDP
SMP	ATT

The Frontline HSU Hardware Interface

The Frontline HSU Protocol Analyzer includes the portable and robust high speed UART hardware interface, which supports connectivity between *Bluetooth* Hosts and Controllers. The product is powered by USB, and includes 22 gauge test wires with high quality miniature test clips that allow users to easily connect to narrow pitch components.



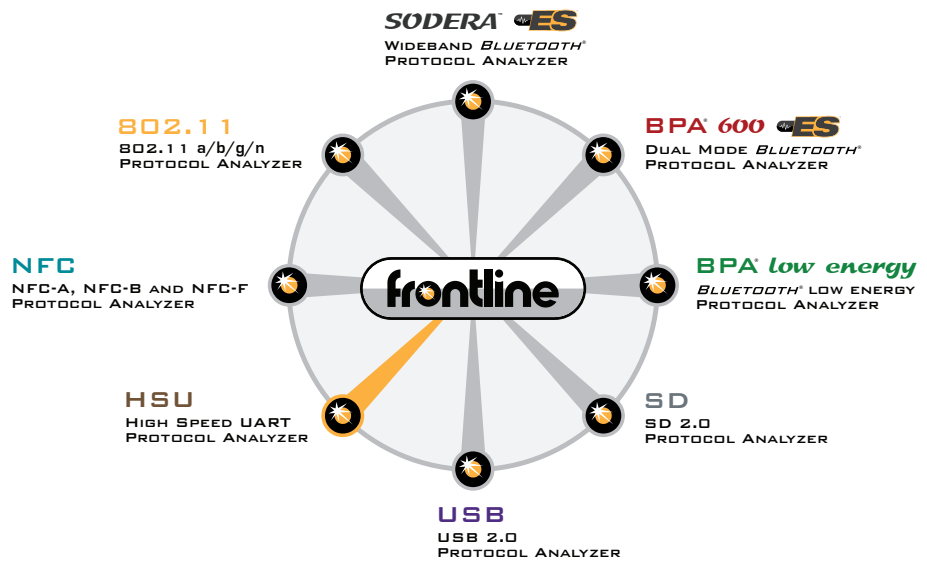
The Frontline HSU interface is one member of an extensive arsenal of technology-specific hardware interfaces, all functioning with the powerful ComProbe software. This modular approach allows greater flexibility in protocol analysis and debugging, and provides comprehensive coexistence views over virtually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

Supported Configurations

- OS Supported: Win 7 and Win 8
- USB Port: USB 2.0 or USB 3.0 High-Speed

Minimum System Requirements

- Processor: Core i5 processor at 2.7 GHz
- RAM: 4 GB
- Free Hard Disk Space: 20 GB



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.

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