

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

#### **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



# HIGH SPEED UART PROTOCOL ANALYZER

frontline HSU

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<sup>®</sup> product developers who wish to debug elusive HCI communication issues between a *Bluetooth* Host and Controller.

### 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 andoverthe-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.

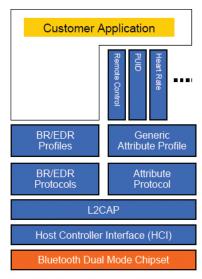
### Portable and Powerful HCI Debugging

Powered by USB, this small form-factor analyzer provides non-intrusive analysis without any compromises; the Frontline HSU supports data rates up to 6 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.

Frame Display - HSU-ProbeSync-BPA600-First-Trace.cfa						1		-	-		
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Qual Length: 57	B Frame#	Туре	Opcode	Opcode Command	Event	Status	Handle		PBF	-	Frame Size
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Hole: Slave	1,093	Event			Number Of Completed Packets			Available	<b>.</b> .	5	8
Address: 43	1,097	ACL Data ACL Data					0x002b 0x002b		First First	16 18	21 23
- OU Length: 53 hannel ID: 0x0040 (SDP)	1,100	ACL Data ACL Data						Available	First	18	23
SDP	1,104	ACL Data							First	31	36
- Bole: Slave	1,126	Event			Number Of Completed Packets			Available	1 11 44	5	8
Address: 43	1,137	Event			Number Of Completed Packets			Available		5	8
DU ID: SDP_ServiceSearchAttributeResponse	1,182	ACL Data					0x002b		First	57	62
Transaction ID: 0x0001	1,183	ACL Data					0x002b	Available	First	12	17
Tarameter Length: 48	1,185	Event			Number Of Completed Packets		0x002b	Available		5	8
Attribute List Byte Count: 45	1,215	Event			Link Key Request					6	9
B- Attribute List	1,216	Command	0x040b	Link_Key_Request_Reply						22	26
Attribute: Protocol Descriptor List	1,217	Event	0x040b	Link_Key_Request_Reply	Command Complete	Success				10	13
- UUID: L2CAP	1,219	ACL Data					0x002b		First	16	21
B- UUID: RFCOMM	1,373	Event			Encryption Change	Success			<b>-</b> .	4	7 21
Channel Number: 8	1,420	ACL Data ACL Data					0x002b	Available	First	16 16	21
Attribute: Bluetooth Profile Descriptor List	1,421	Event			Number Of Completed Packets			Available	PIISC	5	8
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	1,428	ACL Data					0x002b		First	18	23
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Attribute: Supported Features	1,430	ACL Data						Available	First	8	13
Wide-band speech: Supported	1,478	Event			Number Of Completed Packets		0x002b	Available		5	8
Attach a phone number to a voice tag: NOT Supported	1,479	Event			Number Of Completed Packets		0x002b	Available		5	8
- In-band ring tone capability: Supported	1,506	ACL Data					0x002b		First	8	13
Voice recognition function: Supported EC and/or NR function: Supported	1,507	ACL Data							First	18	23
Three way calls: Supported	1,510	Event			Number Of Completed Packets			Available		5	8
ytes for continuation length: 0	1,522	ACL Data					0x002b		First	18	23
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Decode Pane shows comprehensive layered decodes of each frame/message with clear, concise descriptions.



### Dual Mode Bluetooth Architecture

#### **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 HCl 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.

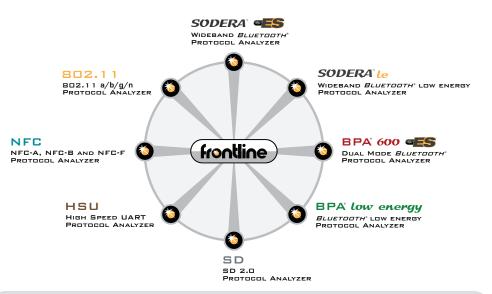
The Frontline HSU interface is one member of an extensive arsenal of technology-specific hardware interfaces, all functioning with the powerful ComProbe software. This modular approach allows greater flexibility in protocol analysis and debugging, and provides comprehensive coexistence views over virtually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

## **Supported Configurations**

- OS Supported: Windows 7, 8 and 10
- 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 technologyspecific 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:

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