



Protocol Monitor Logger Port Plugin User Manual

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Abstract

The TI Protocol Monitor is a plugin embedded into the Logger application and displays the communication transactions between the connected devices.

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Revision Control

Revision 0.1 → Creation

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1. Introduction

1.1 Documents Reference

Reference	Description / Comments
BT-DS-0022	BRF6150 Product Preview, Rev 0.1
BT-SW-0026	BRF6150 Vendor Specific Commands
BT-UM-0039	Logger, Release 4.0, User Manual, Rev 0.1
	Bluetooth Specification versions 1.1 and 1.2

1.2 Main Features

- User friendly intuitive interface
- Able to monitor the communications between two units
- Rich configuration options including color tagging

2. Overview

The Protocol Monitor is a Logger plugin for logging transactions between the master and the slave devices connected to the network. The Main screen is specifically designed to be both easy to use and intuitive to the new user. Tool Tips describe all the headings and toolbars whenever the cursor touches them.

For your convenience the columns can be dragged and dropped to make the displayed data on the screen easier to work with. It is also possible to change the colors of the data types making the displayed data easier to read.

2.1 Basic Operational Scenario

As shown in the figure below, each device combination represents a local host and remote devices. The devices communicate using LMP (Link Manager Protocol) transactions. Each device uses HCI (Host Controller Interface) protocol for internal communication between the host and the connected device. All communication transactions are show in sequence in the relevant columns on the Protocol Monitor screen.

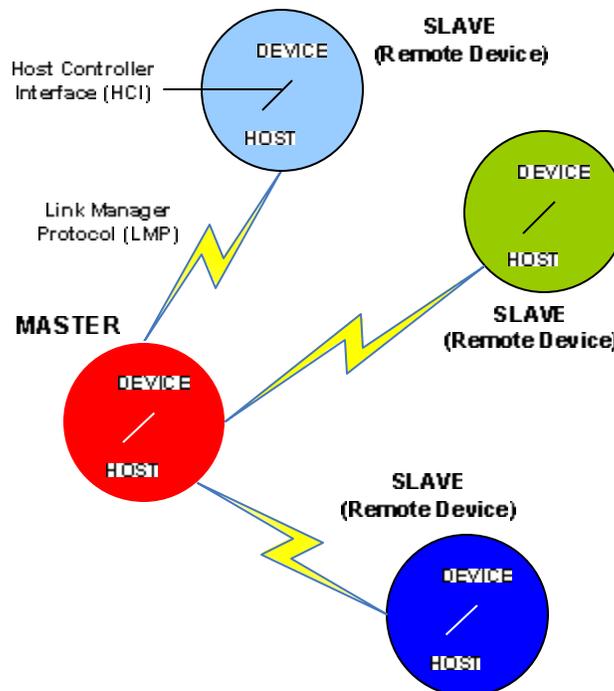


Figure 1: Basic Communications Diagram

3. Setup

3.1 Requirements

The Logger and the Protocol Monitor plugin must be installed and loaded on this computer.

You must run the following HCI vendor specific command in order to enable the Protocol Monitor:
 HCI_VS_Enable_Protocol_Viewer 0xFF68, 0x01.

You can use the script "Enable Protocol Monitor.hcs" that is under the scripts folder in the starter kit installation CD.

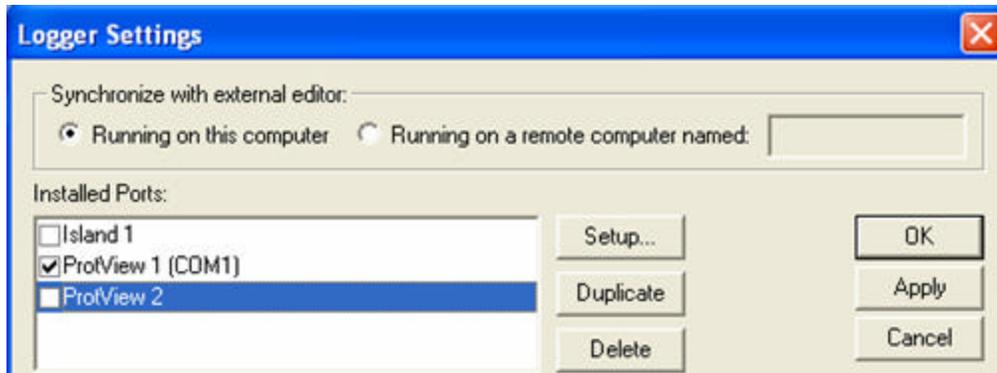
3.1.1 Port Setup

1. From the Menu bar, click the View Menu and choose Settings.

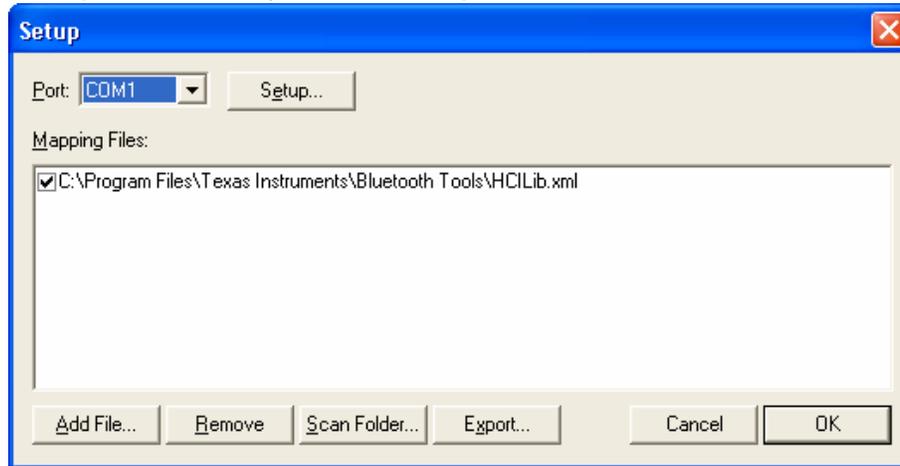


The Logger Settings window opens.

2. From the Installed Ports pane, select a port and check the box to activate ProtView for the Protocol Monitor.

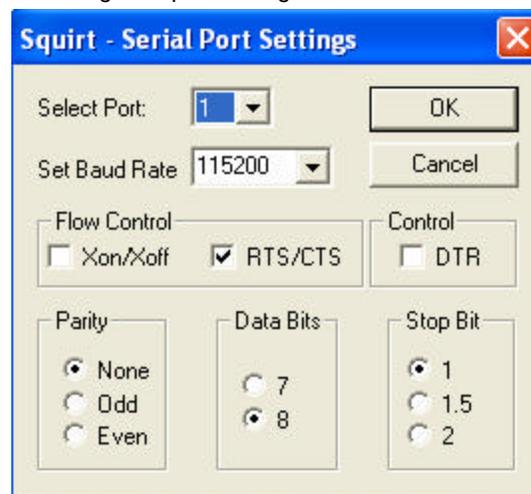


- The Setup window opens automatically. If not, click Setup.



Button	Description
Setup...	Opens the port setup dialog box
Add File...	Add a new xml file that defines the HCI library containing the HCI command set
Remove	Removes files from the Mapping window
Scan Folder	Not used
Export	Not used
Cancel	Discards the changes and closes the window
OK	Saves the new settings and closes the window

- Choose a port.
- Click the Setup button to check or change the port settings.



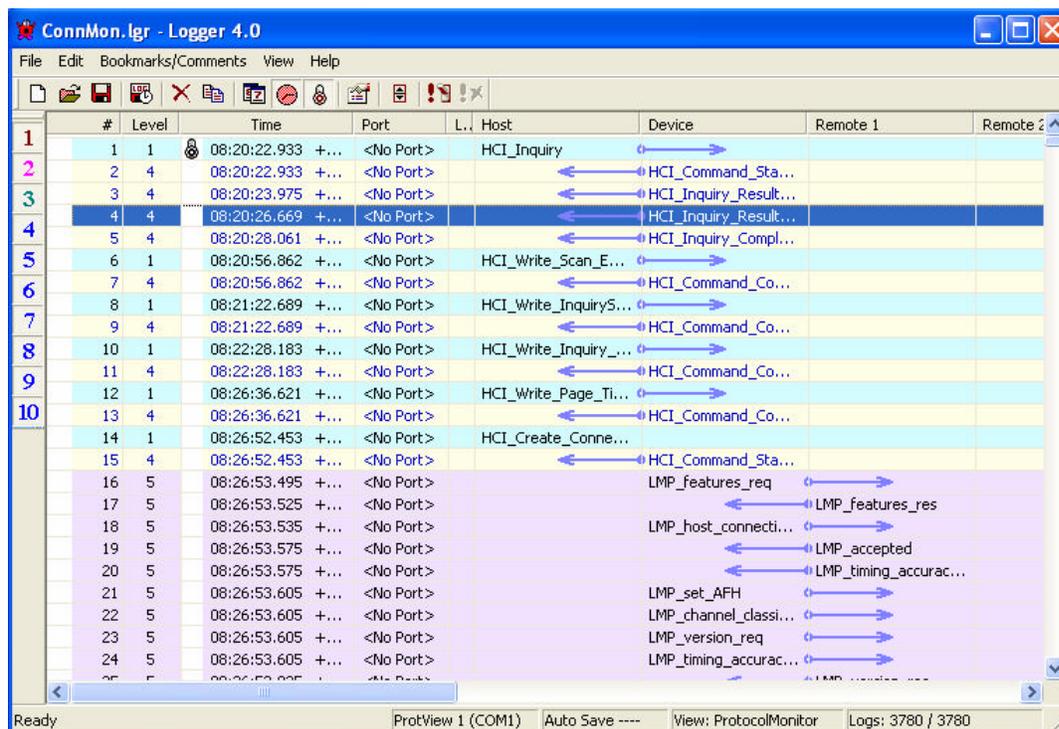
4. Using the Protocol Monitor

4.1 Loading the Protocol Monitor

Open a second instant of the Logger. The status bar displays ProtView (Protocol Monitor). If the status bar does NOT display ProtView, go to section 0 on page 5 and correct the port setup.

4.2 The Main Working Window

The Host communicates with the local device using HCI protocol transactions. The local device and the remote devices communicate using LMP protocol transactions. Arrows show the direction of the data flow.



#	Level	Time	Port	L..	Host	Device	Remote 1	Remote 2
1	1	08:20:22.933	+...	<No Port>	HCI_Inquiry			
2	4	08:20:22.933	+...	<No Port>		HCI_Command_Sta...		
3	4	08:20:23.975	+...	<No Port>		HCI_Inquiry_Result...		
4	4	08:20:26.669	+...	<No Port>		HCI_Inquiry_Result...		
5	4	08:20:28.061	+...	<No Port>		HCI_Inquiry_Compl...		
6	1	08:20:56.862	+...	<No Port>	HCI_Write_Scan_E...			
7	4	08:20:56.862	+...	<No Port>		HCI_Command_Co...		
8	1	08:21:22.689	+...	<No Port>	HCI_Write_InquiryS...			
9	4	08:21:22.689	+...	<No Port>		HCI_Command_Co...		
10	1	08:22:28.183	+...	<No Port>	HCI_Write_Inquiry_...			
11	4	08:22:28.183	+...	<No Port>		HCI_Command_Co...		
12	1	08:26:36.621	+...	<No Port>	HCI_Write_Page_Ti...			
13	4	08:26:36.621	+...	<No Port>		HCI_Command_Co...		
14	1	08:26:52.453	+...	<No Port>	HCI_Create_Conne...			
15	4	08:26:52.453	+...	<No Port>		HCI_Command_Sta...		
16	5	08:26:53.495	+...	<No Port>		LMP_features_req		
17	5	08:26:53.525	+...	<No Port>		LMP_features_res		
18	5	08:26:53.535	+...	<No Port>		LMP_host_connecti...		
19	5	08:26:53.575	+...	<No Port>		LMP_accepted		
20	5	08:26:53.575	+...	<No Port>		LMP_timing_accurac...		
21	5	08:26:53.605	+...	<No Port>		LMP_set_AFH		
22	5	08:26:53.605	+...	<No Port>		LMP_channel_classi...		
23	5	08:26:53.605	+...	<No Port>		LMP_version_req		
24	5	08:26:53.605	+...	<No Port>		LMP_timing_accurac...		

5. Appendix A: Glossary

BD_ADDR	Bluetooth Device Address
BRF6100	The TI Bluetooth single chip.
BRF6150	Second generation TI Bluetooth single chip
BT	Bluetooth
HCI	Host Controller Interface
Host/Host PC	A PC connected to the device via the serial port
LMP	Link Manager Protocol
RF	Radio Frequency
SW	Software

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