Diagnostics

series

Emulator Diagnostic Utility

User
Manual

SIGNUM SYSTEMS

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Purpose   *This document describes EmuDiag, a diagnostic utility for Signum Systems in-circuit emulators.*

Introduction

EmuDiag allows you to test the connection between your computer and the emulator as well as certain functions of the emulator. The basic features of EmuDiag are accessible through the following buttons located in the program's main window: Help, Connect, Get Info, Update Firmware, Activate Features, Test Connection, Technical Support buttons, Clear Log, Save Log, Copy Log to Clipboard, and Done. The individual buttons are each discussed later in this document.

Installation

In typical Chameleon Debugger installations, EmuDiag is found in the Chameleon Debugger program group. To run the program, press the Windows Start button, and then select Programs | Signum Systems Chameleon | EmuDiag.

If the distribution version of your Chameleon Debugger copy does not include EmuDiag, you will need to install the utility from the *Signum Systems Development Tools for MS Windows* CD. Insert the disk into your CD-ROM drive, and from the Master Setup screen, select Utilities. Double-click EmuDiag for JTAGjet/JDSnet/USP Emulators, as shown in Figure 1.
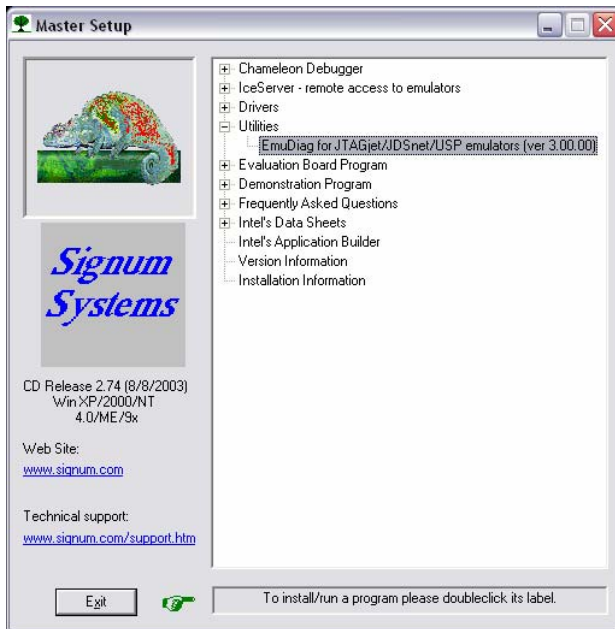

FIGURE 1   Installing EmuDiag from the emulator distribution CD.

To complete the installation process, follow the on-screen instructions.

Using EmuDiag

Help

The Help button displays this document in the Portable Document Format. Please make sure that Adobe Acrobat Reader or a compatible PDF viewer is installed on your system.

Emulator Type Selector

The drop-down menu below the Help button lets you indicate the type of the Signum emulator to be diagnosed (Figure 1). The choices are: JTAGjet (the default setting), JDSnet, USP, and AutoScan. The AutoScan option instructs EmuDiag to detect the type automatically. Use this option if you are unsure of the type of your emulator.
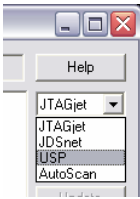

FIGURE 2   Selecting the emulator type.

Connect

This button allows you to choose the computer-emulator communication method (Figure 3) and attempt to establish a connection.
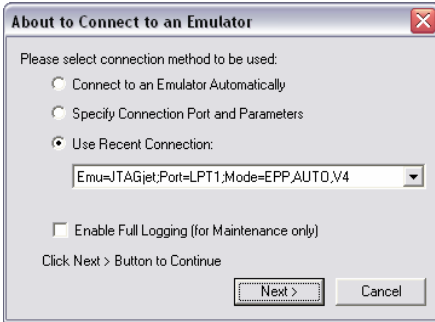
FIGURE 3   Choosing the PC-Emulator connection method.

- **The Connect to Emulator Automatically method** searches for an emulator of the currently selected type—see the Emulator Type Selector section above—by first scanning all the parallel ports, followed by the USB ports, and then serial ports. No user intervention is required. Scanning is performed in the EPP mode, standard mode and automatic mode (see Note). For USP emulators, the scan order is reversed, that is, the serial ports are visited first.

  > **Note:** *The automatic scan mode selects the Enhanced Parallel Port (EPP) mode by default, and switches to the normal mode if the port does not support the EPP mode.*

- **The Specify Connection Port and Parametes method** allows you to modify the default connection parameters, such as the port, mode or port address, depending on the current emulator type. See Figure 4.
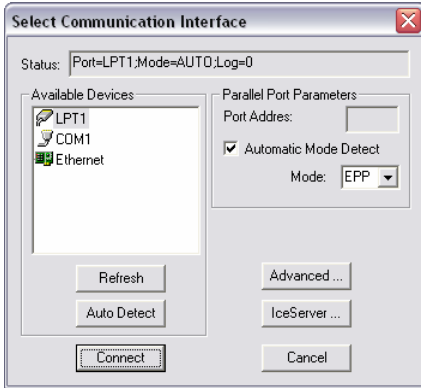
FIGURE 4 Selecting communication parameters manually.

- **The Use Recent connection method** is designed to reconnect the computer with the emulator using the settings of one of the earlier successful connections (Figure 5).
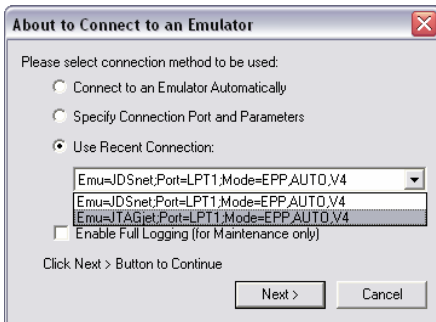

FIGURE 5 Reusing old connection parameters.

Click the Next button. EmuDiag begins establishing communication with the emulator using the method and parameters you have just selected (Figure 6).
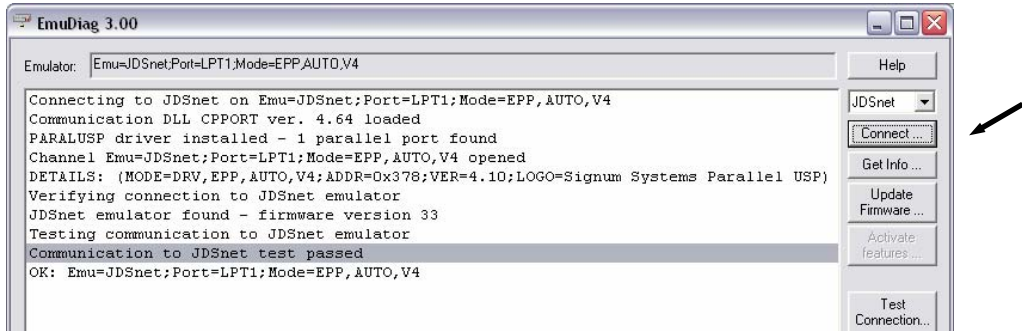
FIGURE 6 Establishing connection between the computer and the emulator.

Get Info

This button displays basic emulator information about the emulator and its current communication connection. The information may vary from implementation to implementation. Generally, EmuDiag displays the emulator type, communication port and its address, communication mode, as well as the version of the emulator's firmware. See Figure 7.
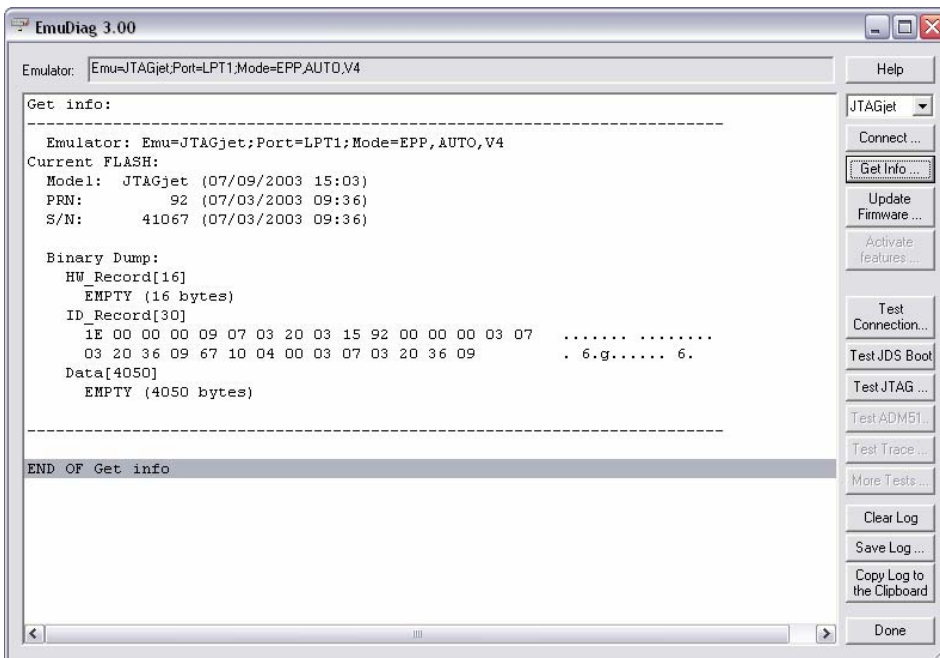
FIGURE 7   Retrieving emulator information.

Update Firmware

EmuDiag allows you to load a new firmware version into your emulator. The button invokes the windows file browser. Navigate to the firmware image file and press the Open button. EmuDiag starts loading the new firmware, confirming successful transfer after each firmware memory block.
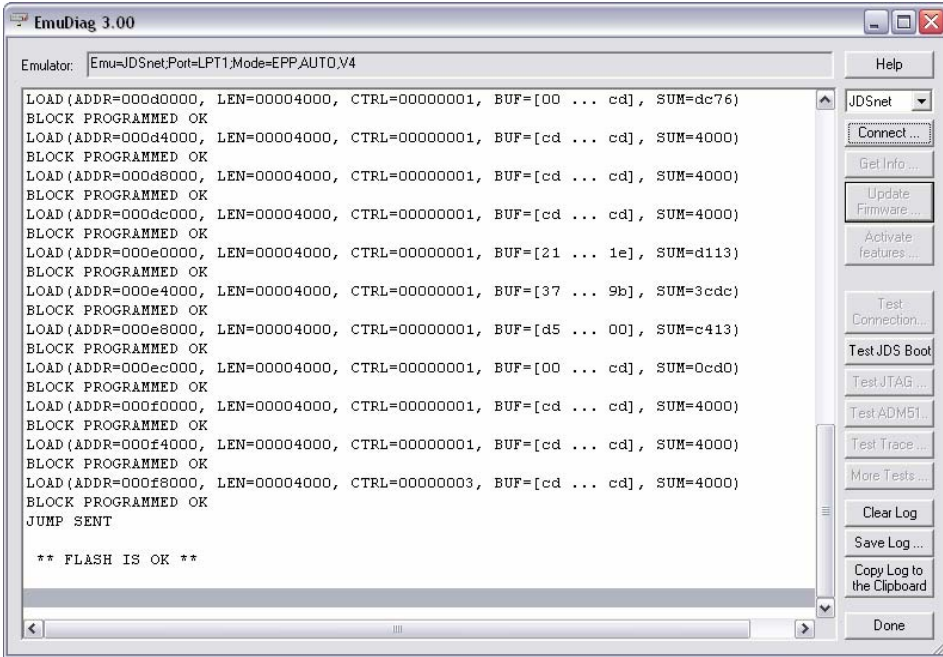
FIGURE 8 Loading a firmware image to the emulator.

To ensure correct operation of the unit after the firmware has been loaded, turn the emulator power off and then on.

FIGURE 9 After a firmware upload, power-cycle the unit.

Activate Features

The Activate Features button allows you to upgrade the emulator's firmware at your site and to enable selected optional features of the unit.

Test Connection

Press this button to test the reliability of the current port connection by executing a sequence of communication tests.
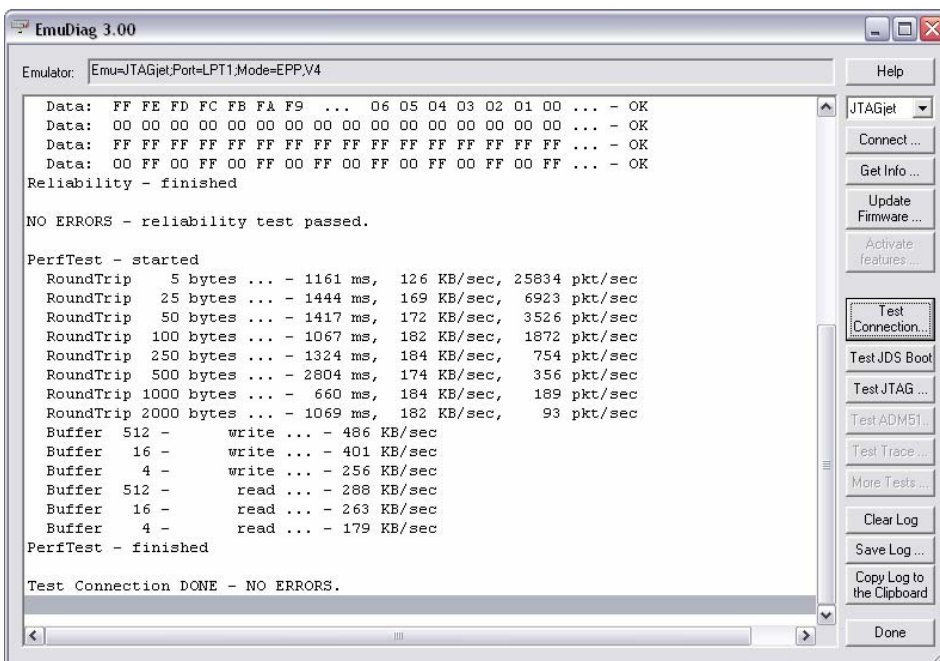

FIGURE 10 Testing the computer-emulator communication connection.

Technical Support Buttons

The Test JDS Boot, Test JTAG, Test ADM51, Test Trace and More Tests buttons are provided as means of aiding the user during a troubleshooting session in which a Signum Technical Support engineer participates. Although enabled in some installations, these buttons are not intended to be used by the user alone.

Clear Log

This button erases the contents of the EmuDiag main window, eliminating the clutter that may result from invoking various EmuDiag functions.

Save Log

This button saves the contents of the EmuDiag main window in a text file. The location and name of the file can be selected using the file browser brought up by the button (Figure 11). In addition to this log file, EmuDiag automatically creates in its folder a few other diagnostic files on as needed basis. These files provide accurate information about your emulator and its behavior, and therefore should <u>all</u> be sent to Signum Technical Support if you suspect that the emulator malfunctions.
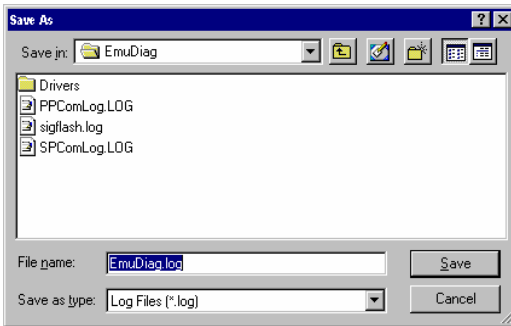
FIGURE 11   Saving the session log to a file.

Copy Log to Clipboard

This button duplicates in the Windows clipboard the entire log of the current EmuDiag session.

Note: *To further process the log text, select Paste from the Edit menu (or press Ctrl+V) in your favorite text editing program.*

Done

Closes the EmuDiag main window and terminates the program.

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