UM016207-0508

User Manual

Introduction

This User Manual describes how to setup and use Zilog's Z8 Encore!® Smart Cable with Z8 Encore! development kit. This can also be used for Z8 Encore! XP® development kit. The Z8 Encore! Smart Cable converts the RS-232 signals into the 3.3 V bidirectional open-drain signals required to communicate using the DBG pin to the Zilog on-chip debugger of the Z8 Encore!. The Smart Cable features a 9-pin DB serial connector on one end and a box with a 6-pin DBG Interface Connector on the other end.

The development kit includes the following (see Figure 1):

- Smart Cable
- User Manual

Figure 1. Z8 Encore! Smart Cable

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Voltage and Current Requirements

The voltage and current requirements of the Z8 Encore!® Serial Smart Cable include:

- System Clock: 153.6 kHz minimum, 20 MHz maximum
- Power Supply: 3.0 V minimum, 3.6 V maximum
- Current: 35 mA at 3.3 V

Connecting the Z8 Encore! Smart Cable to Your Computer

Connect the Z8 Encore! Smart Cable to a COM port on your computer using the 9-pin DB serial connector (see Figure 2).

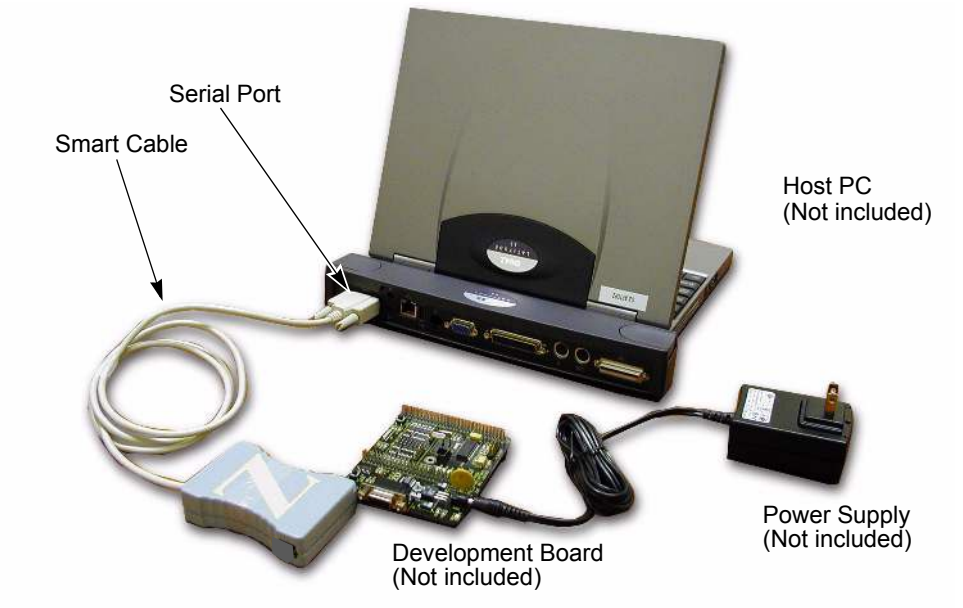

Figure 2. Connecting the Z8 Encore! Smart Cable to Your Computer

Connecting the Smart Cable to Your Development Board

To use the Z8 Encore! Smart Cable, connect the application board to the Smart Cable 6-pin DBG connector. Ensure that Pin 1 of the application lines up with Pin 1 of the DBG connector, indicated by the horizontal/vertical groove over the Pin 1 placement (see Figure 3 on page 3). For more information on interfacing the Smart Cable to your target board, refer to *Z8 Encore!® Design for Debug Technical Note (TN0036)*.

Caution: *The power to your design/application board must be turned OFF when connecting or disconnecting the Smart Cable.*

Note: *The Smart Cable receives power from the target design/application board.*

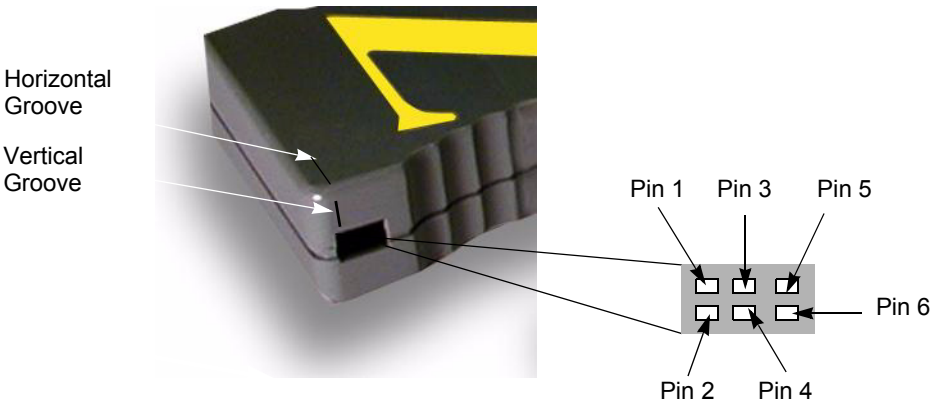

Figure 3. DBG Interface Connector Pin 1 Location

Consider the following points when connecting the Smart Cable to your development board:

- The DBG interface connector requires the V_{DD}, V_{SS}, and the DBG signals from the Z8 Encore! on your design/application board.
- The minimum signal connections required to connect the Z8 Encore! to the Smart Cable are the AV_{DD}, V_{DD}, AV_{SS}, V_{SS}, and the DBG pin signals.
- The AV_{DD} must be externally connected to the V_{DD}. The AV_{SS} must also be externally connected to the V_{SS}.
- The Z8 Encore! must be clocked to generate the DBG timing signals. For the recommended crystal oscillator circuit, refer to Product Specification of target MCU.

Note: *You must enter the crystal frequency running the Z8 Encore! device when creating a new project in ZDS II.*

Follow the steps below to provide the crystal frequency:

1. Select **Settings** from the **Project** menu.

2. Select **Configuration: Debug** in the drop-down **List** box in the upper left corner of the **Settings** dialog box.
3. Select **Debugger → Target Name → Z8F64200100KITG** or **Z8F0800100KITG**.
4. Select **Debugger → Target → Setup**.
5. Select either **Clock Frequency** or **Other**. If you select **Other**, enter the X1 Crystal frequency in units of MHZ. Click **OK**.
6. Select **Debugger → Debug Tool → SerialSmartCable**.
7. Select **Debugger → Debug Tool → Setup**.
8. Select the appropriate COM port and Baud Rate.

Figure 4 displays the connection of Smart Cable and Z8 Encore!® device.

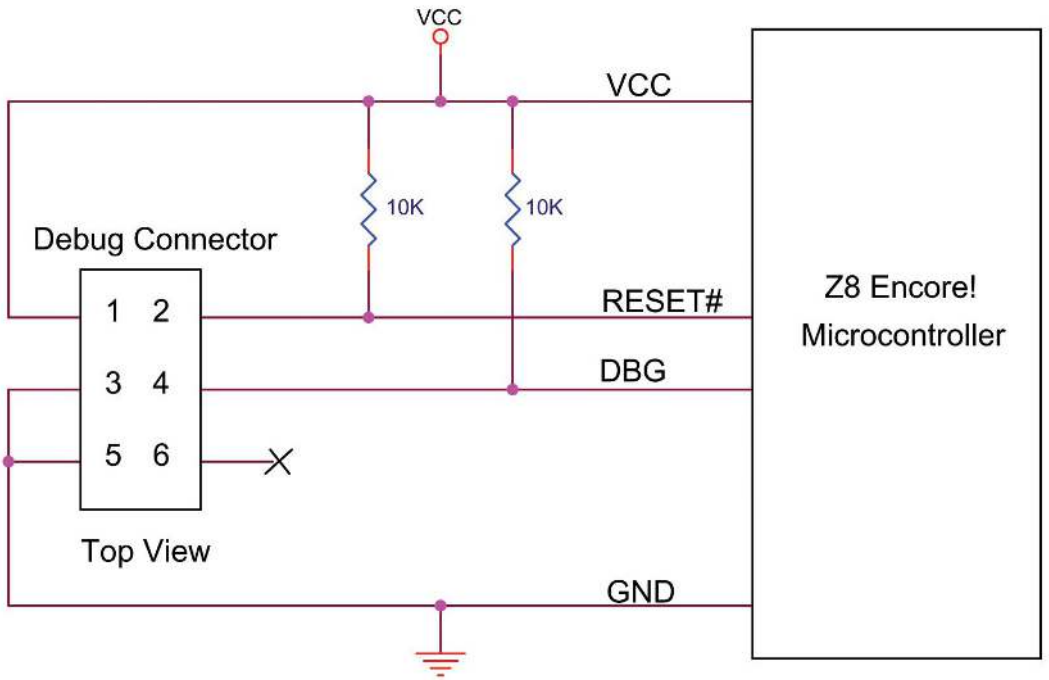

Figure 4. Connection Between Smart Cable and Z8 Encore! Device

Compatibility with Microsoft Operating Systems

The Z8 Encore!® Smart Cable is compatible with the following Microsoft operating systems when connected directly to the serial port of the PC:

- WIN98E
- WIN NT
- WIN2000
- WIN XP
- WIN VISTA

Warning: DO NOT USE IN LIFE SUPPORT

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