USB Smart Cable

User Manual

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Revision History

Each instance in the Revision History table reflects a change to this document from its previous revision.

Date	Revision Level	Description	Page Number
September 2008	12	Updated Connecting to the Target Board	6
April 2008	11	Updated USB Smart Cable Firmware Compatibility. Updated Installing the USB Smart Cable and Driver	2 and 3
December 2007	10	Added ZLF645, Windows Vista-32, and USB Smart Cable firmware compatibility information. Put contents into the latest template. Changed ZiLOG to Zilog	All

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USB Smart Cable

Zilog's USB Smart Cable, ZUSBSC0100ZACG, allows you to connect ZLF645, Z8 Encore!®, Z8 Encore! XP®, ZNEO®, or eZ80Acclaim!® development board to a high-speed or full-speed USB port on Zilog Developer Studio II (ZDS II) host system.

This user manual provides instructions for installing USB Smart Cable hardware and the associated drivers. When the USB Smart Cable is connected and the driver installed, you can proceed with debugging as described in the development kit documentation.

Kit Contents

The kit contents for the USB Smart Cable include:

- USB Smart Cable
- Six-conductor ribbon cable
- User manual

Supported Host Environments

The supported host environments are:

- A host PC with ZDS II v4.9.0 or later version for Z8 Encore! and eZ80Acclaim!, or ZDS II v4.10.0 for ZNEO, or ZDS II v4.11.0 for ZLF645. For ZDS II host system requirements refer to the development kit quick start guide.
- One USB high-speed or full-speed port on the host chassis or a powered Hub.

The USB Smart Cable cannot operate properly on an unpowered Hub (that is, a Hub without a separate AC adapter).

Note: *Windows NT hosts are not supported by the USB Smart Cable.*

Table 1. Supported Target Environments

Development Board	System Clock		Power Supply		Current
	Minimum	Maximum	Minimum	Maximum	
Z8 Encore!®, Z8 Encore! XP®, ZLF645	32 kHz	20 MHz	2.7 V	3.6 V	2 mA
ZNEO®	10 kHz	20 MHz	2.7 V	3.6 V	2 mA
eZ80Acclaim!®	5 MHz	50 MHz	3.0 V	3.6 V	2 mA

Table 2. USB Smart Cable Firmware Compatibility

CPU Family	Firmware
Z8 Encore!®, Z8 Encore! XP®, ZNEO®, eZ80Acclaim!®	1.6
ZLF645	1.7
Z8 Encore!®, Z8 Encore! XP®, ZNEO®, eZ80Acclaim!®, ZLF645	1.8

Installing the USB Smart Cable and Driver

Before connecting the USB Smart Cable to your system, Windows loads the appropriate driver from the ZDS II installation directory or CD-ROM. You can download ZDS II software for a specific device family at www.zilog.com. Alternatively, if you have an applicable Zilog development tool, use the CD-ROM provided. The installation procedure depends on your Windows operating system version.

Note: *Zilog no longer includes CD-ROMs with USB Smart Cable kits built August 2006 or later.*

Windows Vista-32/64

1. Connect the USB Smart Cable to the host PC. The **Found New Hardware** dialog box is displayed.
2. Select **Locate and install driver software (Recommended)**. The **Driver Software Installation** window is displayed, and then the **Found New Hardware-USB Smart Cable** dialog box is displayed.
3. Select **I don't have the disc. Show me other options.**
4. Select **Browse my computer for driver software (Advanced)**.
5. Browse to one of the following driver directory:

```
For 32-bit Vista:
<ZDS II Installation Directory>
\device drivers\USB\x32
<ZDS II Installation CD>\device drivers\USB\x32

For 64-bit Vista:
<ZDS II Installation Directory>
\device drivers\USB\x64
<ZDS II Installation CD>\device drivers\USB\x64
```

The **Windows Security** dialog box is displayed.

6. Select **Install this driver software anyway**.
7. When the software has been installed, click **Closed**.

Windows XP

1. Connect the USB Smart Cable to the host PC for the first time. The Found New Hardware Wizard should activate automatically.
2. In the Wizard, select **Install from a list or specific location (Advanced)**; then click **Next**.

Note: *If the Windows Logo testing dialog appears, select* **Continue Anyway**.

3. Select **Search for the best driver in these locations** and **Include this location in search.**
4. Browse one of the following to the driver directory:

```
<ZDS II Installation Directory>
\device drivers\USB\x32
<ZDS II Installation CD>\Device Drivers\USB\x32
```

5. Click **Next**, and then click **Next** again after the appropriate driver is found.
6. Click **Finish** to complete the installation.

Windows 2000

1. Connect the USB Smart Cable to the host PC for the first time. The Found New Hardware Wizard should activate automatically.
2. In the Wizard, click **Next**.
3. Select **Search for a suitable driver for my device (Recommended)**; then click **Next**.

4. Select **Specify a location**; then click **Next.**
5. Browse to one of the following driver directory:

```
<ZDS II Installation Directory>
\device drivers\USB\x32
<ZDS II Installation CD>\Device Drivers\USB\x32
```

6. Click **OK**, and then click **Next** after the appropriate driver is found.
7. Click **Finish** to complete the installation.

Windows 98 SE

1. Connect the USB Smart Cable to the host PC. The Found New Hardware Wizard should activate automatically.
2. In the Found New Hardware Wizard, click **Next**.
3. Select **Search for the best driver for your device (Recommended)**. Click **Next.**
4. Select **Specify a location**. Browse one of the following to the driver directory:

```
<ZDS II Installation Directory>
\device drivers\USB\x32
<ZDS II Installation CD>\Device Drivers\USB\x32
```

5. Click **Next**, and then click **Next** again after the appropriate driver is found.
6. Click **Finish** to complete the installation.

Connecting to the Target Board

Power-On Sequence

Follow the steps below before connecting to target:

1. Connect the USB Smart Cable to the Host PC.
2. Connect the USB Smart Cable six-pin connector to the target board.
3. Apply power to the target board.

If the target is not connected properly, remove the USB Smart Cable from the host PC and repeat the above steps. If the connection issues are still there, see Troubleshooting Tips on page 7.

Attach one end of the six-conductor ribbon cable to the Smart Cable six-pin DBG connector (see Figure 1). Attach the free end of the ribbon cable to the connector on the target board. Ensure that pin 1 on the ribbon cable (indicated by the dark stripe) is aligned with pin 1 on the target connector. For further information on connecting the USB Smart Cable to your target board, refer to either *eZ80Acclaim! Design for Debug Technical Note* (TN0035) or *Z8 Encore!® Design for Debug Technical Note* (TN0036).

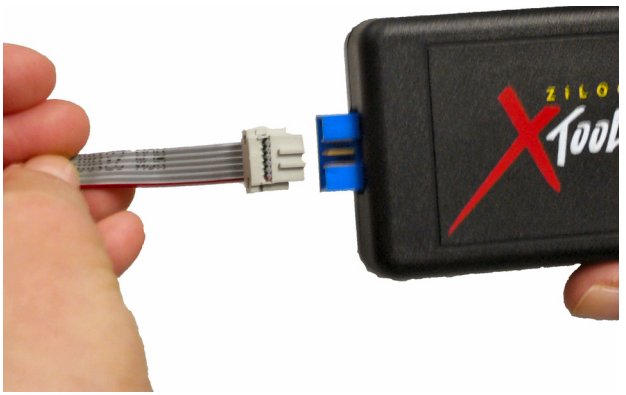

Figure 1. Connecting the Six-Conductor Ribbon Cable to the USB Smart Cable

Troubleshooting Tips

If a hardware failure is suspected, contact a local Zilog representative for assistance. Before submitting a problem report to Zilog Customer Support, follow the instructions in this section.

USB Smart Cable Not Recognized

Disconnect all other USB devices (including keyboard and mouse if you can use PS2 ports instead). Ensure that USB Smart Cable is plugged in directly with no intervening Hub. If this corrects the issue, reconnect devices one at a time to isolate the conflicting device.

Host Does Not Boot

Systems with one or more USB devices connected may not boot properly after you connect the USB Smart Cable. This issue is being investigated. The workaround is to connect the USB Smart Cable, after the system starts.

Customer Support

For answers to technical questions about the product, documentation, or any other issues with Zilog's offerings, visit Zilog's Knowledge Base at http://www.zilog.com/kb.

For any comments, detail technical questions, or reporting problems, visit Zilog's Technical Support at http://support.zilog.com.

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