

## **Introduction**

This Quick Start Guide describes how to set up Zilog's Z8 Encore! XP<sup>®</sup> F64XX Series Development Kit and begin using it to build your designs and applications.

This document discusses the following elements:

- Kit Contents
- System Requirements
- Configuring the Power Supply
- Installation Overview
- Getting Started Using ZDSII

## **Kit Contents**

### **Hardware**

Hardware requirements include:

- Z8 Encore! XP F64XX Series Flash Microcontrollers Development Board
- USB Smart Cable for connecting a PC to Z8 Encore! XP Development Board
- Universal power supply

### **Software (On CD-ROM)**

Software requirements include:

- Zilog Developer Studio (ZDS) II for Z8 Encore! IDE with ANSI C-Compiler
- Sample code
- Acrobat Reader
- Document browser

### **Related Documentation**

Z8 Encore! XP technical documentation on CD-ROM includes:

- Development Kit User Manual
- ZDSII – IDE User Manual

- eZ8™ CPU User Manual
- Product Specification
- Product Brief

## System Requirements

Table 1 lists the system requirements for running ZDSII.

**Table 1. ZDSII System Requirements**

<b>Recommended Configuration</b>	<b>Minimum Configuration</b>
<ul style="list-style-type: none"><li>• Windows XP Professional SP3 or later</li><li>• Pentium IV 2.2GHz processor or Higher</li><li>• 1024MB RAM or Higher</li><li>• 135 MB hard disk space (includes Application and Documentation)</li><li>• Super VGA Video Adapter</li><li>• CD-ROM for installation</li><li>• USB High-Speed port (when using USB Smart Cable)</li><li>• Ethernet port (when using Ethernet Smart Cable)</li><li>• RS232 communication port with hardware flow control</li><li>• Internet browser (Internet Explorer or Netscape)</li></ul>	<ul style="list-style-type: none"><li>• Windows XP Professional</li><li>• Pentium IV 1.2GHZ processor</li><li>• 512 MB RAM</li><li>• 50 MB hard disk space (only includes Application)</li><li>• Super VGA Video Adapter</li><li>• CD-ROM for installation</li><li>• USB Full-Speed port (when using USB Smart Cable)</li><li>• RS232 communication port with hardware flow control</li><li>• Internet browser (Internet Explorer or Netscape)</li></ul>

## Configuring the Power Supply

The universal power supply kit features four different plug adapters in one box and the power supply itself in another. The power supply ships with a slide-out plate which must be removed to insert the location-specific plug adapter.

Observe the following steps to install a location-specific adapter plug:

1. Remove the slide-out plate.
2. Select the appropriate AC plug adapter and insert it into the slot that remains after removing the slide-out plate.
3. Slide the new plug adapter into the slot until it snaps into place.

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For convenience, you can leave the adapter slot cover in place and plug in a standard computer equipment AC power cord (purchased separately) between the AC cord receptacle on the end of the power supply and an electrical outlet.

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- **Note:** Previous versions of the development kit used the Serial Smart Cable. New kits developed from June 2006 uses the USB Smart Cable. Refer to the following instructions for specifications on installing the cable available with your kit.



**Caution:** Always use a grounding strap to prevent damage resulting from electrostatic discharge (ESD).

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## Installation Overview

Observe the following steps to set up your Z8 Encore! XP<sup>®</sup> F64XX Series Development Kit hardware and software:

1. Install the ZDSII software as described in the [Installing ZDSII – Z8 Encore! Software](#) section on page 4.
2. For initial setup, ensure jumper J4 (DIS IRDA) is IN (shunt installed). For detailed jumper descriptions, refer to the [Z8 Encore! XP F64XX Series Development Kit User Manual \(UM0151\)](#).
3. Connect your PC to the Z8 Encore! XP development board as noted below:
  - If your kit is supplied with the USB Smart Cable, follow the instructions in the [Installing the USB Smart Cable](#) section on page 4.
  - If your kit is supplied with the Serial Smart Cable, follow the instructions in the [Connecting the Serial Smart Cable to your Development Board](#) section on page 7.
4. After connecting the development board to your PC, run the supplied sample project as described in the [Getting Started Using ZDSII](#) section on page 8.
5. To configure the power supply, follow the steps provided in the [Configuring the Power Supply](#) section on page 2.

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For information about developing an application using the Z8FMC16100 Series of Motor Control products, refer to the [Zilog Developer Studio II – Z8 Encore! User Manual \(UM0130\)](#) and/or the [Z8 Encore! XP F64XX Series Development Kit User Manual \(UM0151\)](#).

## Installing ZDSII – Z8 Encore! Software

Observe the following steps to install the ZDSII Z8 Encore!<sup>®</sup> software:

1. Insert the Zilog Developer Studio II CD into the CD-ROM drive. *DemoShield* launches automatically. If *DemoShield* does not launch automatically, open the Windows Explorer, browse to your CD-ROM drive and double-click `launch.exe` to launch the installer.
2. Click the **Install Products** button on the main installer menu.
3. From the product installer list, you can choose to install ZDS II for both ZDSII and associated documentation. You can also copy the documentation directly from the CD-ROM to your hard disk using Windows Explorer, or read the documentation directly from the CD-ROM.

## Installing the USB Smart Cable

The USB Smart Cable installation procedure differs based on the type of Windows operating system on which you will run ZDSII. This section describes how to install the USB Smart Cable and associated driver software for your particular Windows OS.

### 32- and 64-Bit Windows 7

Observe the following steps to install the USB Smart Cable and associated driver software for Windows 7 systems.

- a. Connect the USB Smart Cable to the host PC. The **Found New Hardware** dialog box is displayed.
- b. Select **Locate and install driver software (recommended)**. The **User Account Control** window is displayed; click **Continue**. The **Driver Software Installation** window is displayed, followed by the **Found New Hardware–USB Smart Cable** dialog box.
- c. Select **I don't have the disc. Show me other options**.
- d. Select **Browse my computer for driver software (advanced)**.

- e. Browse to one of the following driver directories based on the Win 7 OS you use.
  - For 32-bit Windows 7 systems:
    - <ZDS II Installation Directory>\device drivers\USB\x32
    - <ZDS II Installation CD>\device drivers\USB\x32
  - For 64-bit Windows 7 systems:
    - <ZDS II Installation Directory>\device drivers\USB\x64
    - <ZDS II Installation CD>\device drivers\USB\x64
- f. Click **Next**. The **Windows Security** dialog box is displayed.
- g. Select **Install this driver software anyway**.
- h. When the software has been installed successfully, click **Close**.

### **32- and 64-Bit Windows Vista**

Observe the following steps to install the USB Smart Cable and associated driver software for Windows Vista systems.

- a. Connect the USB Smart Cable to the host PC. The **Found New Hardware** dialog box is displayed.
- b. Select **Locate and install driver software (recommended)**. The **User Account Control** window is displayed; click **Continue**. The **Driver Software Installation** window is displayed, followed by the **Found New Hardware—USB Smart Cable** dialog box.
- c. Select **I don't have the disc. Show me other options**.
- d. Select **Browse my computer for driver software (advanced)**.
- e. Browse to one of the following driver directories based on the Vista OS you use.
  - For 32-bit Vista systems:
    - <ZDS II Installation Directory>\?evice drivers\USB\x32
    - <ZDS II Installation CD>\device drivers\USB\x32
  - For 64-bit Vista systems:
    - <ZDS II Installation Directory>\device drivers\USB\x64
    - <ZDS II Installation CD>\device drivers\USB\x64
- f. Click **Next**. The **Windows Security** dialog box is displayed.
- g. Select **Install this driver software anyway**.
- h. When the software has been installed successfully, click **Close**.


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## Windows XP

Observe the following steps to install the USB Smart Cable for Windows XP.

1. Connect the Zilog USB device to the Host PC. The **Found New Hardware** Wizard should activate automatically after connecting the Zilog USB device for the first time; Select **No, not at this time** if asked to connect to Windows® Update.
2. Select **Install from a list or specific location (Advanced)** and click **Next**.

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

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3. Select **Search for the best driver in these locations** and **Include this location in search:**.
4. Browse to the following directory and click **Next**:  
    <ZDS installation>\device drivers\USB\x32
5. Find the appropriate driver, and click **Next**.
6. Click **Finish** to complete the installation.

## Windows 2000

Observe the following steps to install the USB Smart Cable for Windows 2000.

1. Connect the Zilog USB device to the Host PC. The **Found New Hardware** Wizard should activate automatically after connecting the Zilog USB device for the first time.
2. Click **Next** in the **Found New Hardware** Wizard after it has been activated.
3. Select **Search for a suitable driver for my device (Recommended)** and click **Next**.
4. Select **Specify a location** and click **Next**.
5. Browse to the following directory and click **OK**:  
    <ZDS installation>\device drivers\USB\x32
6. Find the appropriate driver, and click **Next**.
7. Click **Finish** to complete the installation.

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## Connecting the USB Smart Cable to the Development Board

Observe the following steps to connect the USB Smart Cable to the Development Board.



**Caution:** The power to the development board must be disconnected or turned off before connecting or disconnecting the USB Smart Cable.

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1. Attach one end of the six-conductor ribbon cable (included) to the USB Smart Cable six-pin DBG connector (see Figure 1).
2. Attach the free end of the ribbon cable to the DBG connector on the development board. Ensure that pin 1 on the ribbon cable (indicated by the dark stripe) is aligned with pin 1 on the target connector.



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

## Connecting the Serial Smart Cable to your Development Board

If you are using a Z8 Encore! XP<sup>®</sup> F64XX Series Kit supplied with a Serial Smart Cable, your PC communicates with the development board through the serial port. The Z8 Encore! XP Serial Smart Cable converts the RS-232 signals into the 3.3 V bidirectional open-drain signals required to communicate with the On-Chip Debugger (OCD).



**Caution:** Do not connect the power supply to the development board before connecting the Z8 Encore! XP@Smart Cable to both the host PC and development board.

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Observe the following steps to connect Serial Smart Cable to the Development Board.

1. Connect the serial port of the PC to the Z8 Encore! XP Smart Cable DB-9 female connector.
2. Connect the Z8 Encore! XP Smart Cable to development board pin header P2.

## Connecting Power to the Development Board

Connect the power supply to the development board at Jumper J1, then to an electrical outlet.

## Getting Started Using ZDSII

Observe the following steps to open and use the `ledBlink.proj` sample project.

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► **Note:** The following procedure references the `ledBlink.zdsproj` file, which is located in the following filepath:

```
C:\Program Files\Zilog\ZDSII_Z8Encore_<version_number>\samples\Product_grouping\Z8xxxx_ledBlink\src
```

where `<version_number>` refers to your version of ZDSII and `Z8xxxx` is the CPU family.

To provide examples, for ZDSII v4.10.1 and lower:

```
C:\Program Files\ZiLOG\ZDSII_Z8Encore!_4.10.1\samples\Z8F642x_ledBlink\src
```

And for ZDSII v4.11.0 and later:

```
C:\Program Files\ZiLOG\ZDSII_Z8Encore_4.11.0\samples\XP_F64XX\XP_F64XX_ledBlink\src
```

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1. Connect and supply power to the Development Board.
2. Run the Zilog Developer Studio II software. By default, the Zilog Developer Studio II program is located in the **Start** menu in the below path:  
Programs → Zilog ZDSII Z8 Encore! <version\_number> → ZDSII Z8 Encore! <version\_number>
3. Select **Open Project** from the **File** menu. The **Open Project** dialog box is displayed.

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► **Note:** The sample used in the following steps is written in the C programming language. An assembler version of the ledBlink sample is located in the following filepath:

```
Z8xxxx_ledBlink_asm\src
```

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4. Browse to the **samples** folder for the ledBlink.zdsproj file, located by default in the following filepath:  
C:\Program Files\Zilog\ZDSII\_Z8Encore\_<version\_number>\samples\Product grouping\Z8xxxx\_ledBlink\src
  5. Select the ledblink.zdsproj file and click **Open**. The initial Zilog Developer Studio II program screen is displayed (see Figure 2).
  6. To view the project source files, double-click on the **Project Files** folder on left side of the IDE interface. Double-click on an individual file to open that file in the ZDSII file editor.

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► **Note:** The figures that follow are for reference only. You may have an updated version of the software.

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7. Select the correct debug tool from **Project** → **Settings** → **Debugger** → **Debug Tool**. For example, select **USBSmartCable** when using the USB Smart Cable.  
Click **F1** for additional info on how to setup the debugger.
  8. Click **OK**.

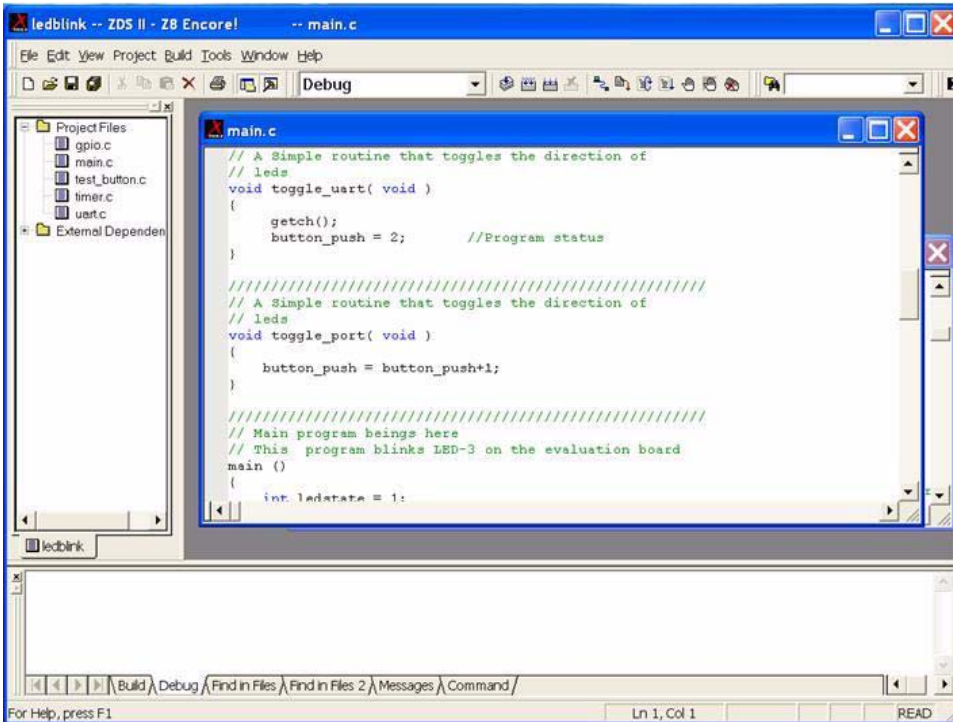
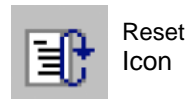
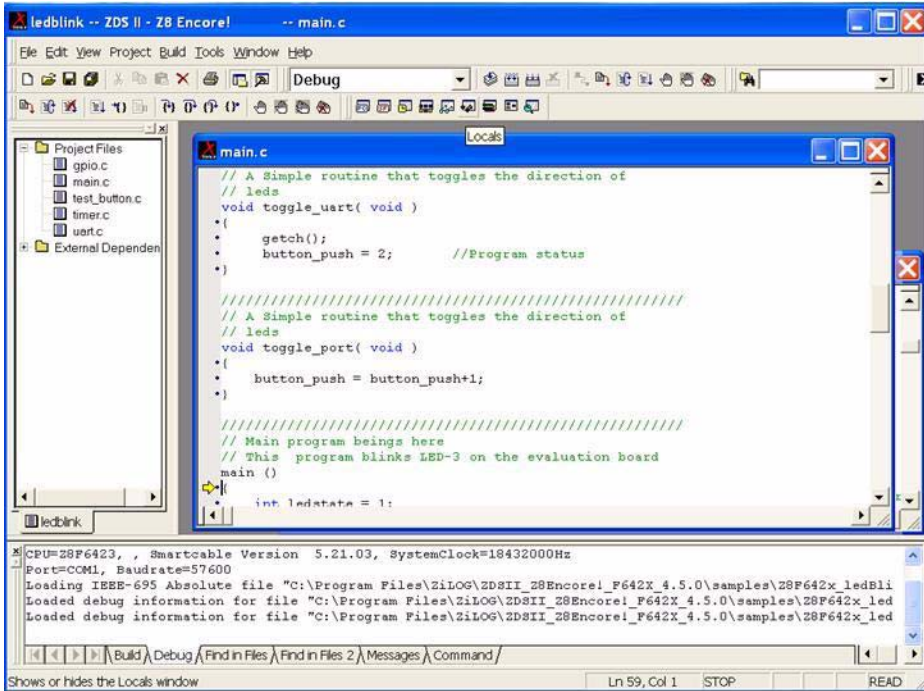


Figure 2. ZDSII Program Screen

9. Click the **Rebuild All** icon to build the project. Wait for the build to complete.
10. Click the **Reset** icon to connect and download the code to the development board.
11. Click **Go** to start the program. The screen changes are displayed in Figure 3.





**Figure 3. ZDSII Active Screen**

12. The three LEDs on the development board start blinking in sequence. If the LEDs do not blink, start over from [Step 2 on page 9](#).
13. Press the **TEST** pushbutton to change the sequence of the LEDs to blink in the opposite direction.

For more information about using ZDS II and building projects for the Z8 Encore! XP<sup>®</sup> development kit, refer to the [Zilog Developer Studio II – Z8 Encore! User Manual \(UM0130\)](#).



**Warning:** DO NOT USE THIS PRODUCT IN LIFE SUPPORT SYSTEMS.

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