



eZ80F91 Contest Kit Startup Guide

QS004401-0304

Introduction

Welcome to the eZ80F91 Contest Kit Startup Guide! This guide provides contest instructions and configuration information for the eZ80F91 Module (eZ80F915050MOD) and associated components. Good Luck!

Kit Contents

- eZ80F91 Module with eZ80F91 chip installed
- Serial Smart Cable for connecting the Module to your PC
- A ZiLOG CD-ROM containing:
 - ZDSII with ANSI C-Compiler for the eZ80Acclaim!™ MCU
 - Contest kit documentation, including a user manual with schematics, product specifications for the eZ80F915050MOD module and eZ80F91 chip, and a ZDSII user manual
- This Startup Guide
- Registration card
- A CMX Systems CD-ROM containing the CMX MicroNet™ TCP/IP protocol stack, files, and associated documentation

System Requirements

Table 1 lists the PC requirements for running ZDSII.

Table 1. ZDSII System Requirements

Recommended Configuration	Minimum Configuration
PC running MS Windows XP, SP1	PC running MS Windows 98SE/WinNT 4.0–SP6/ Win2000–SP3/WinXP–SP1
Pentium III/500 MHz processor	Pentium II/233MHz processor
128MB RAM	96MB RAM
110MB hard disk space	25MB hard disk space (not including documentation)
Super VGA video adapter	Super VGA video adapter
CD-ROM drive	CD-ROM drive
Ethernet port	Ethernet port
One or more RS-232 communications ports	One or more RS-232 communications ports
Internet browser (Internet Explorer or Netscape)	Internet browser (Internet Explorer or Netscape)

Contest Instructions

1. The eZ80F915050MOD plugs into a motherboard you must design. A schematic for a simple motherboard is provided in the eZ80F91 Contest Kit User Manual (UM0167), available on the ZDSII CD-ROM. Design and build your motherboard before proceeding.
2. Install the ZDSII software as described in the [Install the Software](#) section on page 2.



3. Install the eZ80F91 Module onto the motherboard you built in Step 1.
4. Connect your motherboard to your PC as described in the section below, Connecting the Serial Smart Cable to Your Computer.
5. Connect power to your motherboard.
6. Run and study the supplied sample project using the ZDSII cycle-accurate simulator as described in the section below, Running Sample Projects.
7. Install the CMX Systems TCP/IP stack software and documentation as described on the CMX CD-ROM.

Install the Software

To install ZDSII and the eZ80F91 documentation:

1. Insert the ZDSII CD into your computer's 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. ZiLOG recommends registering your new ZDSII software. By registering ZDSII, you have access to free technical support, software components, and other tools that only registered ZiLOG customers have. To register online, go to <http://support.zilog.com/CustomerPortal/>.
3. Click the Install Products button from the main installer menu. From the product installer list you can choose to install ZDSII alone, or both ZDSII and associated documentation. You can also copy the documentation directly from your CD-ROM drive to your hard disk using Windows Explorer. You can also simply read the documentation directly from the CD-ROM itself.

Connecting the Serial Smart Cable to Your Computer

Connect the Smart Cable 9-pin DB9 serial connector to a COM port on your computer.

Connecting to Your Application Board

To use the Smart Cable attach your application board to the Smart Cable 6-pin DBG connector. Ensure that Pin 1 of your application lines up with Pin 1 of the ZDI connector.



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

Running Sample Projects

After installing the ZDSII software and setting up the hardware, you can now open and test the sample software projects for the eZ80F91 Contest Kit. Sample projects are located in the ZDSII sample directories:

```
C:\Program Files\ZiLOG  
\ZDSII_eZ80Acclaim!_<version>\samples\  
<processor family><processor type>_<demo_name>
```

where \<processor family> represents the eZ80Acclaim!TM product line, and <processor type> represents the eZ80F91 device that powers the eZ80F91 Module.

- **Note:** Please refer to the ZiLOG Developer Studio—eZ80Acclaim!TM User Manual (UM0144) for details regarding the development of eZ80Acclaim!TM software within the ZDSII environment. Also see the eZ80F91 Contest Kit User Manual (UM0167), the eZ80F91 Product Specification (PS0192), and the eZ80F91 Module Product Specification (PS0193), to review hardware operation in detail.

Running the SRAM LED Demo Project

A sample program is provided on the ZDSII CD-ROM. It is designed to demonstrate how to write proper code for the eZ80F91 contest kit. You'll run the sample code in the instructions below using the ZDSII cycle-accurate simulator. However, after you've constructed your own design and created a program, you'll use ZDSII to download that code into the eZ80F91 for testing and debugging.

To build and run the sample program in the ZDSII cycle-accurate simulator:

1. Launch ZDSII by navigating from the **Start** menu to **Programs** → **ZiLOG ZDSII-eZ80Acclaim!_<Version>** → **ZDSII-eZ80Acclaim!_<Version>**.
2. From the **File** menu in ZDSII, choose **Open Project**, and navigate to the following file path:
c:\Program Files\ZiLOG\ZDSII_eZ80Acclaim!_<Version>
\samples\ez80Acclaim!ez80F91_LedDemo
3. Select the LedDemo.pro project within the above file path and click **Open**. A list of source files appears in the Workspace panel.
4. From the **Project** menu in ZDS, select **Settings**.
5. The **Settings** dialog box appears. In the **Settings** window, select the **Debugger** tab. In the **Debugger** tab, Select **Simulator** from the **Driver:** drop-down menu.
6. Click **OK** to return to the **Settings** dialog box.
7. Click **OK** to close the **Settings** dialog box.
8. Click **Rebuild All**.
9. When the build is complete, explore the debug toolbar for the various debugger features. To run the application, select **Build** → **Debug** → **Go**.
10. Using the cycle-accurate simulator, you can step through the sample code to study how it works.

Please refer to the ZiLOG Developer Studio—eZ80Acclaim!TM User Manual (UM0144) for details regarding the development of eZ80Acclaim!TM software within the ZDSII environment. Also see the user manual contained in this kit to review hardware operation in detail.

Downloading a CMX Systems Webserver Application to the eZ80F91 MCU

After you have installed the CMX Systems software from the CMX CD-ROM supplied with the eZ80F91 contest kit, you are ready to download a simple webserver project for testing.

Three project files are included in your c:\<CMX_installation_location>\ez80f91\demos directories:

- Tcp_app\tcp_app.pro—TCP echo client or server
- Web1\web1.pro—simple webserver
- Web2\web2.pro—more advanced webserver

Before downloading the simple webserver project into your eZ80F91 Module, use the instructions in the CMX MicroNet Evaluation Version Getting Started Guide supplied on the CMX CD-ROM to properly configure the `web1.pro` project files.

► **Note:** The CMX documentation refers to the ZPAK II debugging cable, which is not included with your kit. Ignore references to the ZPAK II.

Here's how to download the simple webserver project, `web1.pro`, into Flash memory on your eZ80F91 Module:

1. Open ZDSII for eZ80Acclaim!™.
2. Open the **File** menu and select **Open Project...**
3. Browse to the **Web1** directory and select the `web1.pro` file.
4. Click **Open**.
5. You're now going to create a release version of the `web1.pro` project file. Open the **Build** menu and select **Set Active Configuration**.
6. In the **Select Configuration** window, select **Release** and click **OK**.
7. Open the **Build** menu and select **Rebuild All** to build the webserver demo hex file `web1.hex`.
8. Open the **Tools** menu and select **Flash Loader**. ZDSII connects to your eZ80F91 Module through the Smart Cable, and the Flash Loader dialog box appears.
9. In the file box, browse to the `web1.hex` file you created in Step 7.
10. In the **Flash Options** field, select **Internal Flash**.
11. In the **Internal Base Offset** field, enter 0.
12. Check the **Erase Flash Before Burning** box.
13. Click **Burn and Verify**. The `web1.hex` project file downloads into Flash memory. After it has loaded, you can connect your eZ80F91 Module to your Ethernet network and open the web page you've loaded into Flash memory using the IP address you defined in the `web1.pro callback.c` file.



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