

ZLE50110/1/4

Application Board Installation Guide

Part Number: ZLE50110/1/4

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1.0 Introduction

This document describes the step-by-step procedure for installing and setting up the Zarlink ZLE50110/1/4 evaluation kit software and hardware. Please read this document before starting any installation work.

2.0 Requirements

The following are the minimum requirements for a computer and OS environment:

- Pentium class personal computer
- 50MB available hard disk space
- One Ethernet port (10/100 BaseT)
- One serial port (DB9)
- CD-ROM drive
- Windows 95/2000 operating system

3.0 Installation and Set-up Procedure

There are four stages to the installation and set-up procedure. It is essential to carry out this procedure before attempting to use the ZLE50110/1/4 for the first time.

1. Unpacking
2. Software installation
3. Hardware connection
4. System configuration
5. Ready for use

Each stages will be illustrated in more details in the following sections.

3.1 Unpacking

CAUTION - The ZLE50110/1/4 Evaluation Board is a static sensitive device. Please ensure that standard precautions required for handling of static-sensitive devices are taken. Avoid touching areas of electronic components; static discharge can damage these components.

Check the product brief in the box for items included in the box. Unpack the circuit board, power supply and cables etc., place them on an anti-static workplace. Set aside the CD-ROM for software installation.

3.2 Software Installation

Software and documentation for the ZL5011x evaluation kit is provided on a CD-ROM labelled **ZLE50110/1/4 Evaluation Kit CD-ROM**. The user does not have to install anything on the PC from this CD-ROM. If desired, the user can copy the content of CD-ROM to the hard disk.

The following directory can be found on the CD-ROM:

```
+---Documentation
|   +---ZL5011x
|   |   +---Application Notes
|   |   +---Calculators
|   |   \---Models
|   \---ZLE5011x
|       +---Schematics
```

```

|      \---Zarlink Components
\---Software
  +---Demonstration
    | +---Documentation
    | +---MIBs
    | \---Software
    |   +---DemoApp
    |     | +---Demonstration_Profiles
    |     | +---Demonstration_Protocols
    |     | +---Embedded_Agent
    |     | +---PC_Management_Station
    |     | \---PC_SysLogger
    |     \---Hyperterminal
  \---Example Code
  
```

The demonstration software is **ZLS50110_PC_Management_Station.exe** which is located at Software\Demonstration\Software\DemoApp\PC_Management_Station.

4.0 Hardware Connection

The ZLE50110/1/4 motherboard board comes with an Embedded Planet CPU card and a Zarlink GMII card already fitted, as shown in Figure 1. All jumpers and switches are in default setting and should not be changed until the installation is done.

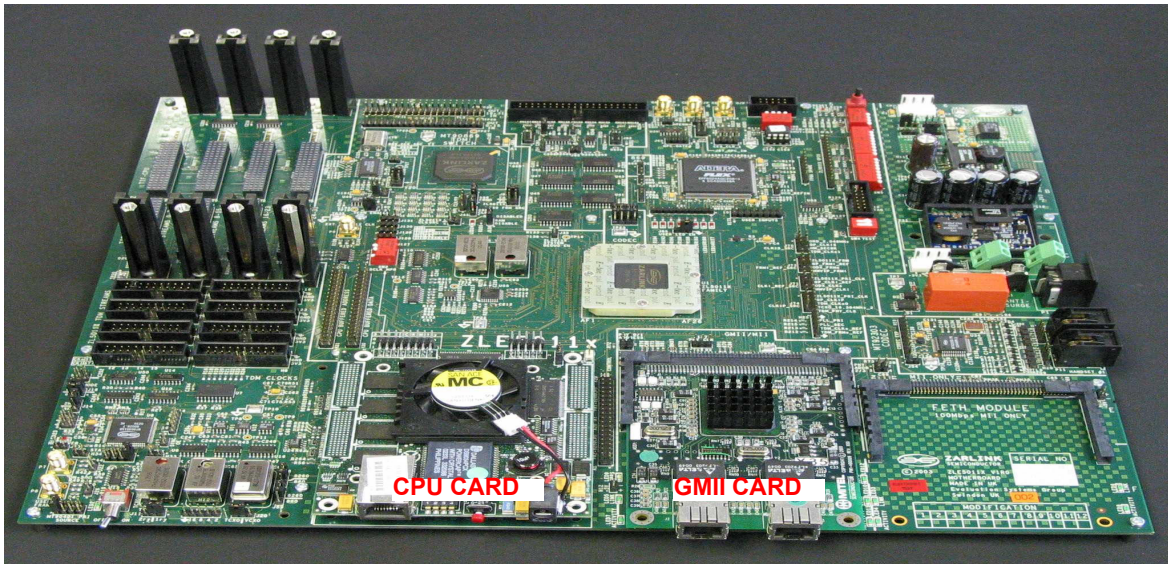


Figure 1 - ZLE50110/1/4 Motherboard with CPU Card and GMII Card

4.1 Connecting Power Supply

The ZLE50110/1/4 uses its own adaptor as power supply. Connect the power adaptor to P1. Also use a power cord to plug the adaptor to main supply. Don't turn on the board yet.

4.2 Connecting Ethernet Cable

The Ethernet port on the CPU Card must be connected to a hub or switch on which the PC is sitting. Alternatively, one can use an Ethernet cross-over cable (supplied in the kit) to link the CPU card and the PC together.

4.3 Connecting Serial Cable

Use the supplied serial cable to connect the ZLE50110/1/4 to PC's serial port. The serial cable is composed of one CAT5 cable with two adaptors on both ends. The RJ45 to DB9 adaptor is for PC's serial port, and the RJ45 to female dual-in-line header adaptor is for CPU card. The female dual-in-line header goes to P5 on CPU card, with the red dotted line on pin 1 which is close to U12.

5.0 System Configuration

The ZLE50110/1/4 board is shipped with a bootable application already programmed in the flash. For information on how to upgrade the flash image, please refer to Section 7.1 Software Load Flash Upgrade.

However, the ZLE50110/1/4 board needs to be commissioned before it can be used. This will:

- Set the IP address for the CPU card
- Store the IP address of the PC in the ZLE50110/1/4

This commissioning only needs to be done one time.

5.1 Setting IP Address

The ZLE50110/1/4 board communicates to the PC through Ethernet. It is important to assign an IP address to the ZLE50110/1/4 CPU card. The IP address should be in the same subnet with the PC.

1. Run supplied Hyperterminal window on the PC. The programs are located at \Software\Demonstration\Software\Hyperterminal. Both COM1 and COM2 hyperterminals are provided.
2. Turn on the board by switching SW1 on motherboard to the "ON" position.
3. Within two seconds press the escape key to interrupt the boot sequence, then at the prompt type:

```
set ip xxx.xxx.xxx.xxx
```

(where xxx.xxx.xxx.xxx is your desired IP address). Then type:

```
store
```

to save changes.

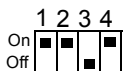
4. Reset both mother board and CPU card by pressing the red push-button (S4) on the CPU card close to the Ethernet port.

After that, the CPU card will have the new IP address.

5.2 Storing PC's IP address

Every time the board is powered up, it will try to register itself to the demonstration program running on the PC. This requires user to store PC's IP address to the ZLE50110/1/4 board. To do that,

1. Set DIP switch 3 of SW1 on the CPU card to Off. SW1 is a block of four dipswitches located next to the ethernet port on the CPU card.



2. Reset the board
3. After a brief time, the following prompt will appear in your Hyperterminal window:

```
Would you like to clear all existing configuration? (Y/N) :
```

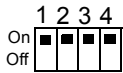
If this is the first time you have used the board that you are commissioning, or if you want to erase all previously saved board configuration answer 'Y' to this question. Answering 'N' will mean that only the PC's IP address will be modified and the rest of the configuration will remain intact.

4. The next prompt to appear is:

Would you like to reconfigure the management station table? (Y/N) :

Answer 'Y' to this question, and you will be prompted to enter the IP address of the PC you wish to use to run the management station software. After you have entered the new IP address, you will be asked whether you want to save changes. Answer 'Y', and the commissioning is complete.

5. Set DIP switch 3 back to On. Then reset the board.



Now the system configuration is done.

6.0 Ready for Use

From this point forward, always run the management station application before you power on or reset the board. Ensure that the PC and board are connected via the Ethernet. The PC management station application is the file **ZLS50110_PC_Management_Station.exe** located at Software\Demonstration\Software\DemoApp\PC_Management_Station.

After running the management station application, power on or reset the ZLE50110/1/4 board. Once the demonstration software has loaded, a message will be displayed on the Hyperterminal window indicating the software version, and then briefly afterwards the board will auto register itself with the PC management station which will display a configuration window and MIB browser window for the board. Now the board and the demonstration software is ready for use.

For more information about how to use the management station application, please see the separate document "*ZLS5011x Demonstration Software User Guide*" located at Software\Demonstration\Documentation.

7.0 Advanced Installation

This chapter contains some information for advanced users only. These steps are not required for normal usage of the kit.

7.1 Software Load Flash Upgrade

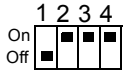
The flash on the ZLE50110/1/4 board has been loaded with the latest application image at the time of shipment. It is possible to upgrade the image in the field, by following these steps.

1. You need to be running a TFTP server and a hyperterminal session on the host PC. The recommended TFTP program is TFTP32 freeware available from <http://tftpd32.jounin.net/>
2. Switch on the board, and press escape on the hyperterminal within 2 seconds to interrupt the boot sequence.
3. Type 'set target xxx.xxx.xxx.xxx <enter>', where xxx.xxx.xxx.xxx is the IP address of your PC that is running the TFTP server.
4. To set the starting point for code execution from flash, type 'set start FFB00000'.
5. To save changes type 'store <enter>'.
6. Make sure the new image file (typically demo.hex) is available to the TFTP server.

7. On the hyperterminal type 'tftp <enter>', choose the demo image filename, the s-record mode for download, and offset 700000.
 8. When download is complete, ignore the SREC DECODE FAILED message.
 9. Next, download the burner.ep image in the same way using s-record mode, offset 0.
 10. When download is complete, type 'go'.
 11. At the prompt, type 'program 200000 FFB00000 xxxxx' to burn to flash (where xxxxx is the size of the image in hex, which will be given in a txt file along with the new image files. Note this is not equal to the filesize.).
- Now reset the board, and the flash will have been upgraded. Go back to section 5.0 System Configuration to re-commission the board.

7.2 Run Test Diagnostics

Test diagnostics can be run on the ZLE50110/1/4 to check that the board is functioning correctly. To run the diagnostics, set the dipswitch positions as shown in the diagram and power the board on. For more information on how to use the test diagnostics, please refer to the separate document “ZLE50110/1/4 Evaluation System User Manual” located at Documentation\ZLE5011x.



8.0 Notes

The following restrictions must be observed when operating the ZLE50110/1/4 kit.

- When creating more than one T1/E1 streams in asynchronous (unstructured) mode, the user must not use the external SRAM module for the ZL5011x device. The external SRAM module can be disabled by placing a jumper on J136 on the ZL5011x mother board.