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Introduction

This document describes how to setup and use the ZiLOG ZPAK II Debug Interface Module with your ZiLOG development kit. The ZPAK II module enables a development PC running ZDS II to communicate with a ZiLOG development kit. It also provides an Ethernet interface to the development PC.

The kit includes:

- ZPAK II module
- DB9-to-ID10 serial cable
- Keyed 40-conductor ribbon cable
- Target Interface Module (TIM)
- User Manual
- CD-ROM with ZDS II software and additional documentation

Installing and Configuring ZPAK II

The ZPAK II module features an Ethernet interface and an RS-232 console port. Slight modifications to your PC's network configuration may be required for first-time use. Follow the steps in this section to install and configure the ZPAK II module. See Figures 1 and 2.

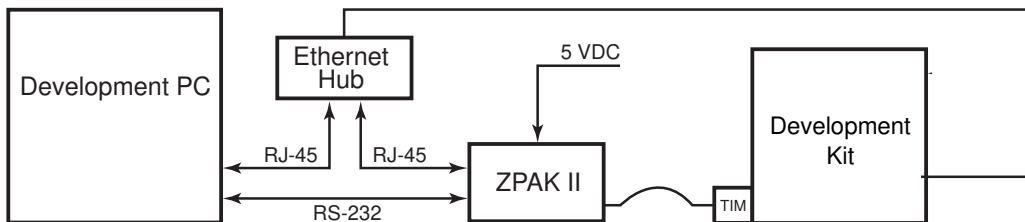


Figure 1. Hardware Setup using an Ethernet Hub

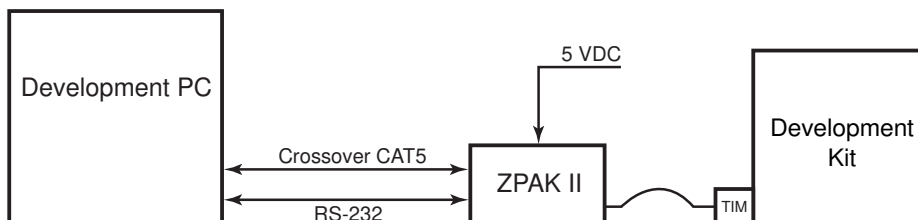


Figure 2. Hardware Setup using a Crossover Ethernet Cable

1. Set up the target development kit as described in its quick start guide (supplied on the CD-ROM).
2. Connect the Target Interface Module (TIM) to the ZPAK II module using the keyed 40-conductor ribbon cable.
3. Connect the TIM to the ZDI port on the target development board. Align pin 1 of the TIM to pin 1 of the development board's ZDI socket.
5. If using an Ethernet hub, connect an Ethernet patch cable from a free port on the Ethernet hub to the Ethernet port on the ZPAK II module. Connect the PC's Ethernet port to the same hub.

If connecting the development PC directly to the ZPAK II module, connect a crossover Ethernet cable from the PC to the ZPAK II module.

6. Connect the serial COM port on the PC to the console port on the ZPAK II module via the supplied serial cable and the 10-pin adapter cable. (You may need to reconfigure the ZPAK II module IP address for your networking environment.)
7. Connect the 5VDC power supply to the ZPAK II module.

Configure the Hardware

The default IP address and subnet mask of the ZPAK II module are 192.168.1.50 and 255.255.255.0, respectively. To enable communication between the PC and the ZPAK II module, you must either change the PC's Ethernet settings to match those of the module or vice versa.

If using the PC in a non-networked configuration, set the PC's IP address to 192.168.1.21 and its subnet mask to 255.255.255.0. See ""Changing the PC's Settings to Match the ZPAK II Module"" on page 3 for instructions.

If working in a networked environment, set the ZPAK II module IP address and subnet mask to match the existing network setup. See “Changing ZPAK II Module Settings to Match the PC” for instructions.

Changing the PC’s Settings to Match the ZPAK II Module

The following instructions are for the MS Windows XP platform. If your Windows operating system is different, please refer to your MS Windows OS online help for details.

1. Open the Windows Control Panel and double-click the **Network and Internet Connections** icon. The **Network Connections** dialog box appears (Figure 3).

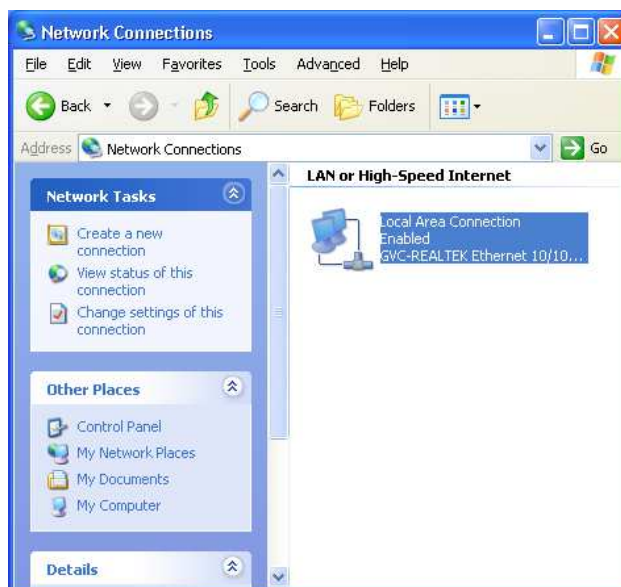


Figure 3. The Network Dialog

2. In the panel labeled **LAN or High-Speed Internet**, double-click the **Local Area Connection** icon. The **Local Area Connection Status** dialog box appears (Figure 4).

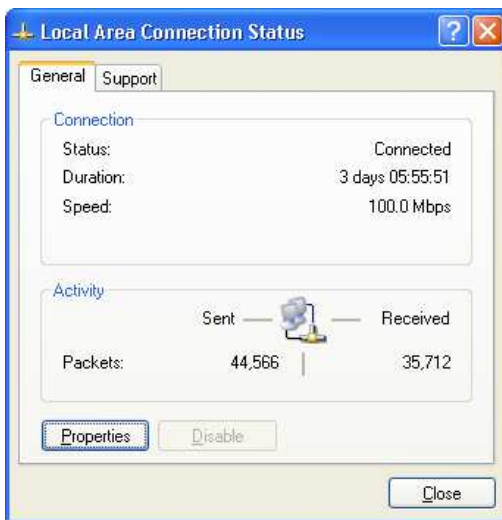


Figure 4. The Local Area Connection Status Dialog

3. In the **Local Area Connection Status** dialog box, click the **Properties** button. The **Local Area Connection Properties** dialog box appears (Figure 5).

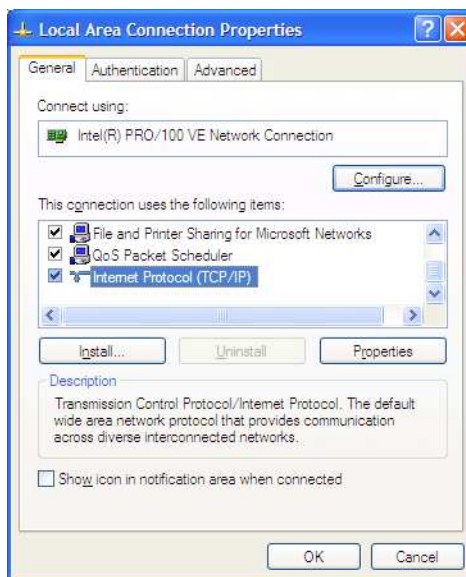


Figure 5. The Local Area Connection Properties Dialog

- In the panel labeled **This connection uses the following items:**, select the **Internet Protocol (TCP/IP)** item to highlight it, and click the **Properties** button (Figure 5). The **Internet Protocol (TCP/IP) Properties** dialog box appears (Figure 6).

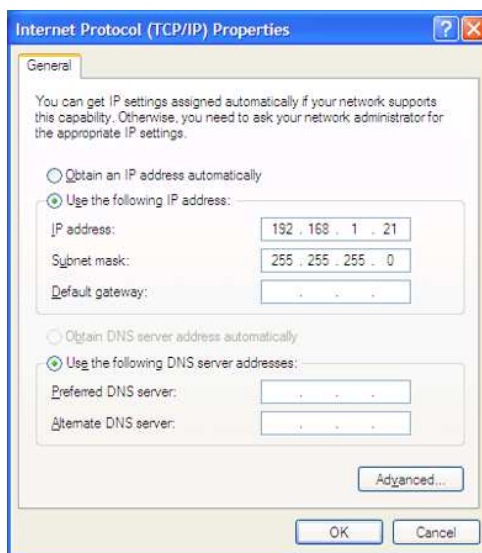


Figure 6. The Internet Protocol Properties Dialog

- Enter values for the IP address and subnet mask to match those shown in Figure 6. Leave any remaining fields blank. In this example, an IP address of 192.168.1.21 and a subnet mask of 255.255.255.0 are being assigned to the PC. These values place the PC on the same network as the ZPAK II unit, and do not conflict with the IP address of ZPAK II.
- Click **OK** and restart the PC.
- The PC is now ready to communicate with the ZPAK II module.
- The default IP address of the ZPAK II module is 192 . 168 . 1 . 50. If this address conflicts with another address on the LAN, or if another address is more compatible, proceed to "Changing ZPAK II Module Settings to Match the PC" on page 7.



Changing ZPAK II Module Settings to Match the PC

There are two ways to change the ZPAK II module's default settings. One method is via the ZPAK II module's embedded web page via a browser over an Ethernet connection. The other way is via the ZPAK II console port. The following steps describe the console port method.

► **Note:** To change the ZPAK II settings from their defaults via a web browser, please consult the ZPAK II Debug Interface Tool Product User Guide (PUG0015).

1. The serial port of the PC should already be connected to the console serial port of the ZPAK II.
2. Launch **HyperTerminal** on the PC by navigating from the **Start** menu to **Programs** → **Accessories** → **HyperTerminal** or **Accessories** → **Communications** → **HyperTerminal**, depending upon your Windows OS.
3. Create a new connection in **HyperTerminal** by selecting the appropriate COM port in the **Connect using:** field of the **Connect To** dialog. Click **OK**.

► **Note:** This connection is a direct connection via a COM port, not a modem.

4. If you select COM1, the **COM1 Properties** dialog appears. Enter the following port settings and click **OK**.

Bits per second:	57600
Data bits:	8
Parity:	None
Stop bits:	2
Flow control:	None

5. Ensure that the connection is in the *Connected* state by observing the **HyperTerminal** status bar. If not connected, select **Connect** from the **Call** menu.
6. While holding down the *z* key (lowercase) on the PC's keyboard, use a toothpick or straightened paper clip to press the RESET button on the side of the ZPAK II. (The RESET button is recessed within the side of the ZPAK II.) Releasing the *z* key displays a ZPAK II console boot-up message in **HyperTerminal**, followed by the ZPAK prompt, as shown below.

```
ZiLOG TCP/IP Software Suite v1.1  
Copyright (C) 2003 ZiLOG Inc.  
All Rights Reserved
```

```
clock enabled
```




```
created buffer Pool 1524 32
created buffer Pool 4096 8
IP Address: 192.168.1.50
IP Subnet: 192.168.1.0/255.255.255.0
IP Gateway: 192.168.1.254
netstart exiting, stack extent 379/2048
```

```
ZPAKII version y.y
Copyright © 2001-2002 ZiLOG, Inc.
All Rights Reserved.
ZPAKII Console version 1.5
```

```
Type 'H' for help
ZPAKII:>
```

- **Note:** In the example output above, *x.x.x* denotes the current version of the TCP/IP stack software, and *y.y* denotes the current version of ZPAK II. The console prompt is not case-sensitive.

7. At the ZPAKII prompt, enter H and press ENTER. The following message should appear:

```
ZPAKII:> H

H      display this Help
I      change Ipaddress
S      change ipSubnet mask
G      change ipGateway
P      change Portnumber
V      change dtli Variable count
B      change dtli Buffer size
F      load deFault settings
C      display Current settings
A      toggle pAssword
D      toggle Dhcp option
W      change passWord
R      Reset zpakii

ZPAKII:>
```

8. Use the I command to change the ZPAK II's IP address to one that is compatible with the PC. Use caution to avoid creating a conflicting IP address.
9. Use the S command to change the ZPAK II's subnet mask to one that is compatible with the PC. Typically, the subnet mask is the same as that of the PC.



► **Note:** All changes are saved to Flash memory inside the ZPAK II.

10. Cycle the power on the ZPAK II for the new settings to take effect.

The hardware is now configured and ready for application development with the eZ80Acclaim!TM module contained in this kit.

Compatibility with Microsoft Operating Systems

The ZPAK II Debug Interface Module is compatible with the following Microsoft operating systems when connected directly to the serial port of the PC:

- WIN98SE
- WIN NT
- WIN2000
- WIN XP



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