Odin TeleSystems Inc.

Sleipnir-WAN
Installation Guide
For
Sleipnir-1-PCI-WAN
And
Sleipnir-1-PCMCIA-WAN

Doc. No. 1512-1-HAA-1051-1

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Table of Contents

List of Figures

1 Abstract

This document provides installation description for the Odin TeleSystems' Sleipnir-1-PCI and PCMCIA adapter cards.

2 Basic Hardware Installation Instructions

2.1 Locate available card slot for PCMCIA or PCI card.

- When installing PCI card, turn PC off.

  o Please wear anti-static protection devices such as a ground strap connected to a grounded equipment frame while handling the PCI board.

- To avoid damaging any components on the card handle it by the edges.

- Do not use excessive force, but make sure the card is fully inserted into the slot.

- Once the card has been fully inserted into the slot the PC can be turned on.

2.2 Found New Hardware Wizard

The OS will automatically detect the new hardware and start the New Hardware Wizard. But if the hardware is not detected the device manager can be used to scan for new hardware. See Figure 1 Found New Hardware Wizard.
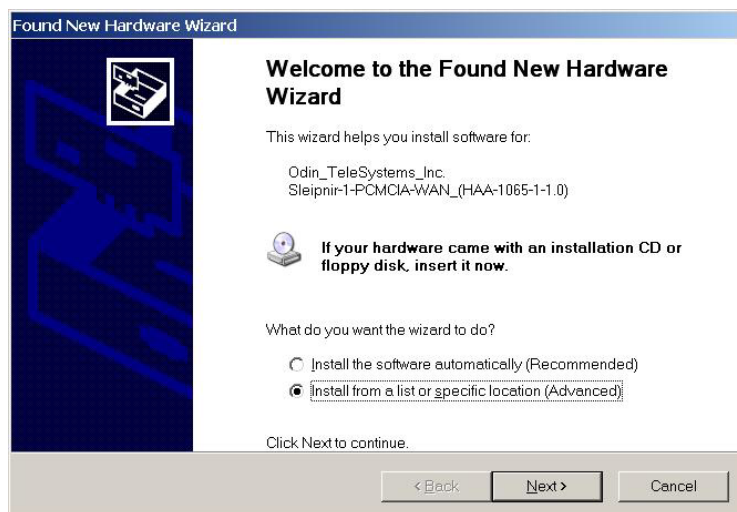

Figure 1 Found New Hardware Wizard

- Select the "Install from a list or specific location" option.

- Select "Next" to continue to next GUI.

The found new hardware wizard will then display the driver selection option GUI. See Figure 2 Driver Selection.
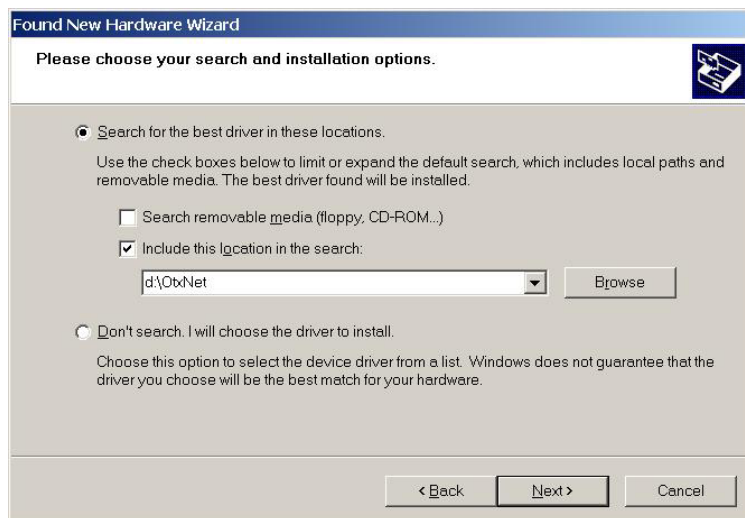

Figure 2 Driver Selection

- Select the "Search for the best driver in these locations" option

- Select the "Include the location in the search" option.

- Browse to the location of driver supplied on the CD.

    o Note: the latest driver can be downloaded from www.odinTS.com.

- Select "Next" to continue.

If the Windows XP or 2000 display a Windows XP Logo Testing or a Digital Signature Not Found warning, click Continue Anyway or Yes to Proceed. See Figure 3 Windows Compatibility Test. This is normal for the Sleipnir driver installation.

As you can see in Figure 3 and Figure 4, the operating system already displays the name of the detected hardware. At this point the operating system is already communicating with the detected PCMCIA/PCI card and has read the name string from the PCMCIA card's Card Information Structure (CIS).

Figure 3 Windows Compatibility Test

The installation of the new hardware will be completed when the new hardware wizard displays the "Completing the Found New Hardware Wizard" GUI. This should only take a couple of minutes.
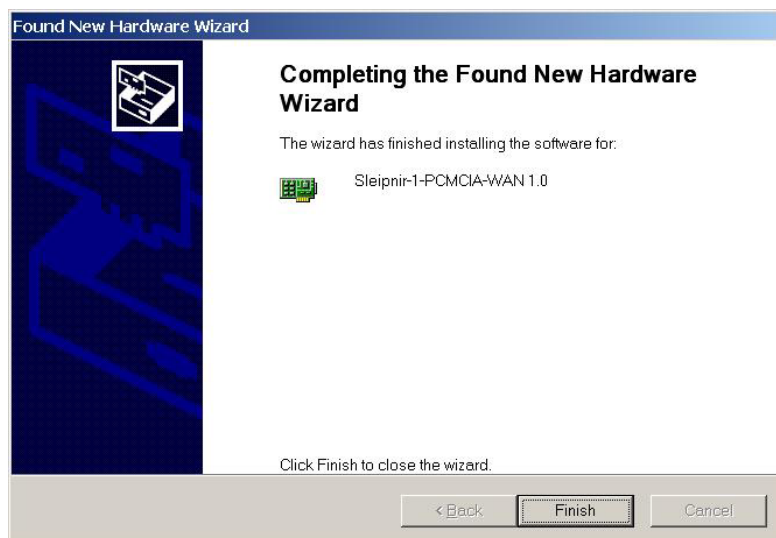

Figure 4 Install Finished

- Select "Finish" to complete the hardware installation.

- Reboot PC once the installation wizard has finished the installation.

3   Installing and Verifying Network components

You may need to install and configure TCP/IP on each of the PCs. Before starting, locate your Windows CD; you may need to insert it during the TCP/IP installation process. You will also need to assign an IP address to each of the cards. Only two addresses will be needed. The following example used 192.168.0.1 and 192.168.0.5.

- On the Windows taskbar, click the Start button, point to Settings, and then click Control Panel.

- Double-click the "Network Connections" or "Network and Dialup Connections" icon. See Figure 5 Local Area Connection.
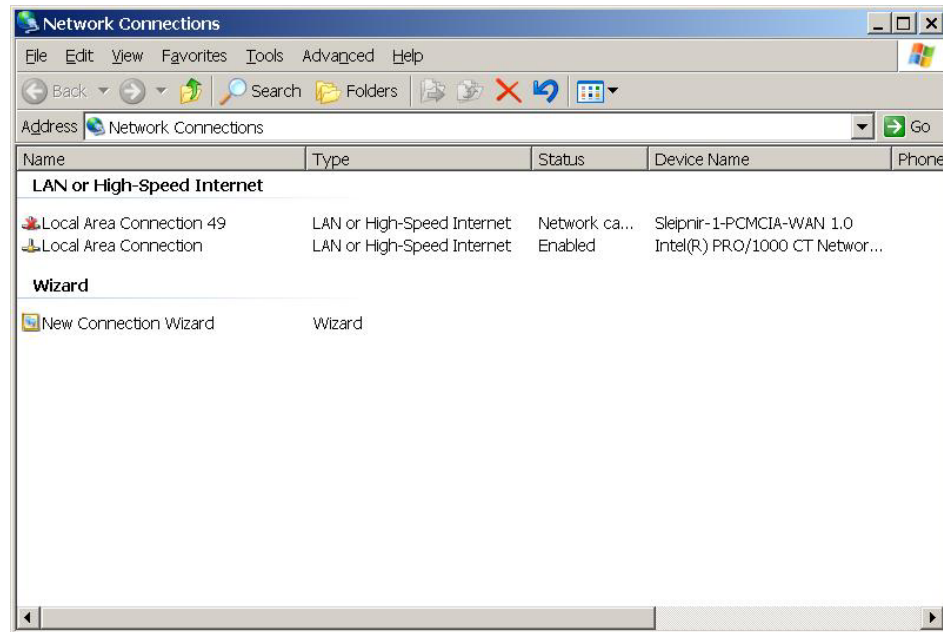

Figure 5 Local Area Connection

- If an adapter is present in your PC, you should see an entry for Sleipnir device name.

- Double-click that Sleipnir entry or use the pull down menu to Select Properties.

- Verify that at least 'Client for Microsoft Networks' and 'Internet Protocol (TCP/IP)' are included under the "This connection uses the following items" area. See Figure 6 Sleipnir Local Area Connection.
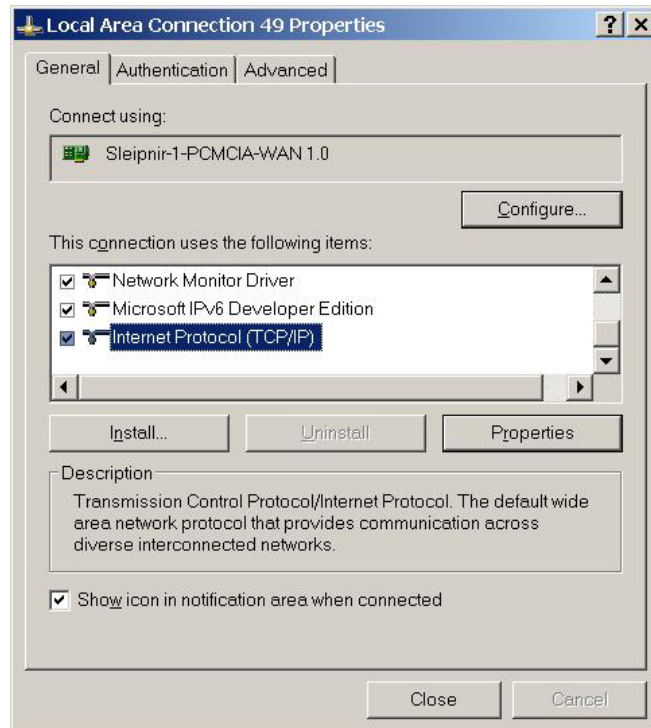
  o If not, select Install and add them.

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Figure 6 Sleipnir Local Area Connection

- It is optional to select the "Show icon in notification area when connected", but it can be useful.

- Select 'Internet Protocol (TCP/IP)', click Properties, and verify that "Use the following IP address" is selected.

- Enter the IP address and subnet mask. See Figure 7 TCP/IP Address.

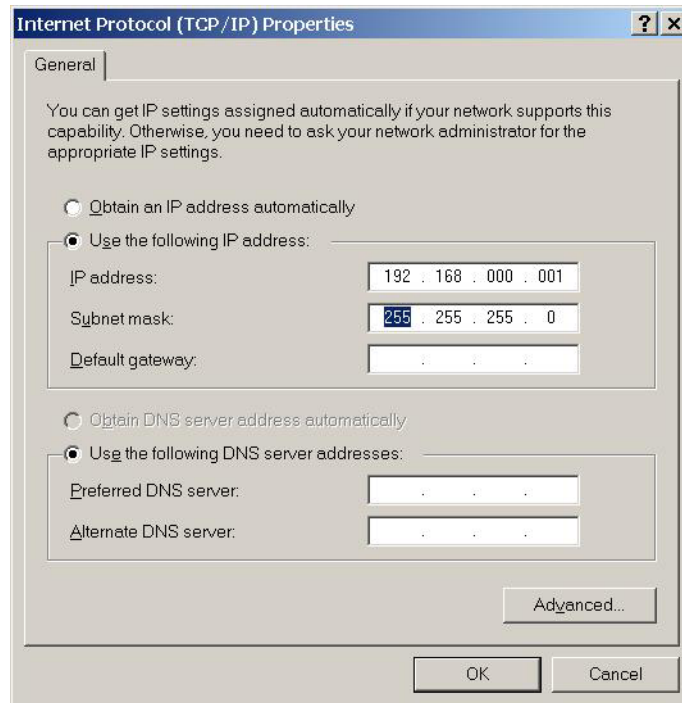- Select "OK" when the information has been entered.

Figure 7 TCP/IP Address

- Click "OK" or "Close" on the local area connection GUI to accept these changes.

- Restart your PC if needed.

The previous steps will need to be repeated on the second adapter card. Note the second card will need a different IP address (192.168.0.5).

To check your PC's TCP/IP configuration:

- On the Windows taskbar, click the "Start" button, and then click "Run".

- Enter "`cmd`" and then click "OK".

- In the command line window enter "`ipconfig /all`"

  o The IP configuration for the Sleipnir local area connection should be listed.

  o •The IP address should be 192.168.0.1 or 192.168.0.5

  o •The subnet mask is 255.255.255.0

4   Advanced Local Area Connection

The Sleipnir device driver provides the user with the "Advanced" tab, which allows the user to modify the driver default settings to modify the driver to better fit the user's needs, and system. To access the advanced tab for the device driver find the "My Computer" icon on the desk top or within the "Start" menu list. Select the property option. This will bring up the "System Properties" options. Under the hardware tab there is a "device Manager" button. See Figure 8 System Properties. Start the device manager by selecting the button on the GUI. Open the "Network adapters" option and select the "Sleipnir" device. From the pull down menu at the top of the device manager select the "Action"->"Properties" option to bring up the driver options shown in Figure 9 Sleipnir Advanced Settings.
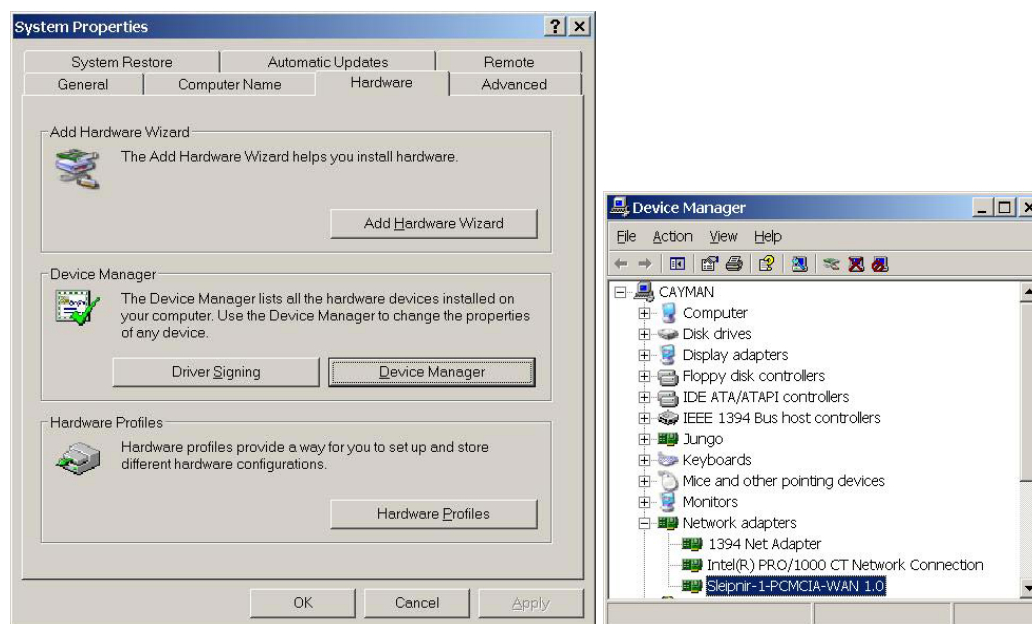

Figure 8 System Properties and Device Manager

4.1   Settings

The default settings for the driver provide the user with a typical setup. But it is expected that the user will need to modify these setting as needed for their environment. See Figure 9 Sleipnir Advanced Settings for list of settings available to the user. Please note in most cases the settings on both cards will need to match for the driver to perform correctly.
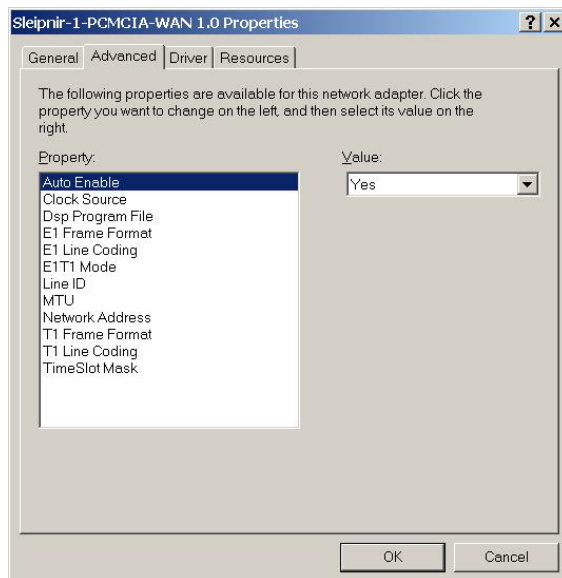
Figure 9 Sleipnir Advanced Settings

AutoEnable

> **[Yes,No]**
>
> **Yes:** The board will be enabled automatically when the driver loads.
>
> **No:** The board will be configured, but not enabled. It is intended that a third-party application will change configuration, do additional processing, then enable the board when appropriate.

ClockSource

> **[Master,Slave]**
>
> **Master:** Board Clock Source Internal Oscillator
>
> **Slave:** The board will recover (slave to) the clock from Local Reference. The line is specified in the Li setting.
>
> **Note:** if two Sleipnir cards are connected together in a test configuration one of the cards will need to be master. Normally the card is slave.

`DspFile=[`*`filename/internal name`*`]`

Application file to be loaded, i.e., OtxHdlcEx5510.out

This file must be placed in the driver load directory, i.e., \winnt\system32\driversavailable internal names (if DspFile = one of the following, then the internal DSP program will be used - see OTXAPI documentation for details about the internal SPMs):

`OTXHDLC`

`OTXHDLCEX`

`E1FrameFormat`

`[DOUBLE_FRAME,MULTIFRAME,MULTIFRAME_G706]`

`DOUBLE_FRAME:` Double Frame.

`MULTIFRAME:` CRC4 Multiframe.

`MULTIFRAME_G706:` CRC4 Multiframe format with modified CRC4 Multiframe alignment algorithm (Interworking according to CCITT G.706 Annex B).

`E1LineCoding`

`[AMI,HDB3]`

`AMI:` Alternative Mark Inversion (AMI) Line Coding.

`HDB3:` High Density Bipolar 3 (HDB3) Line Coding.

`E1T1 Mode`

`[E1,T1]`

E1: The board is in E1 mode.

T1: The board is in T1 mode.

`LI=0`

`[0]`

Line ID used to specify which line used to send/recv network traffic. Use of multiple lines, whether in a muxing capacity or not, is not supported at this time.

MTU

Maximum Transmission Unit, designating the maximum size of the data payload transmitted, minus the size of the ethernet header (14). (defaults to std ethernet framing). The maximum value is 1500, the minimum is 1. This is useful if there is a limitation of the transmission/reception buffer.

NetworkAddress

The MAC address of the nic. You can override the MAC address of the nic by placing a valid MAC address in this field, in the format xxxxxxxxxxxx (6 hexadecimal byte representations, ie., 002468ace135 (00:24:68:ac:e1:35)

T1FrameFormat

[MULTIFRAME_F12, MULTIFRAME_F4,   MULTIFRAME_ESF, MULTIFRAME_F72]

MULTIFRAME_F12: frame multiframe format (F12, D3/4, SF).

MULTIFRAME_F4: frame multiframe format (F4)

MULTIFRAME_ESF: frame multiframe format (F24, ESF)

MULTIFRAME_F72: frame multiframe format (F72, SLC96, remote switch mode)

T1LineCoding

[AMI,B8ZS]

AMI: Alternative Mark Inversion (AMI) Line Coding.

B8ZS: Bipolar 8 Zero Substitution (B8ZS) Line Coding.
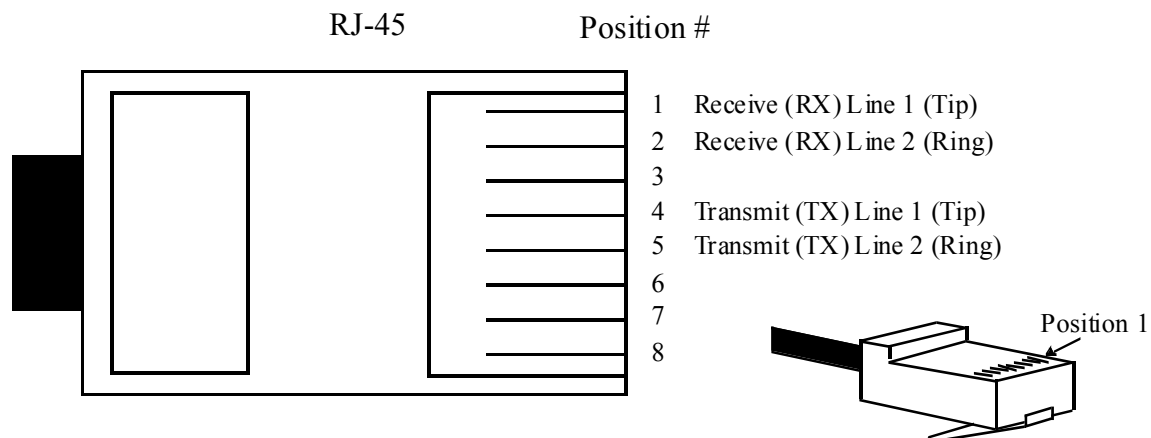
TSMask

[1-FFFFFFFF]

Time Slot Mask value - Specifies the timeslots that are configured and used to send/recv network traffic. This value is given in hexadecimal number representative of a bit mask reflecting the maximum 32 available timeslots. Examples are:

TS1=2, TS1-2=6, TS1-3=E, TS4=10, TS1-TS31= FFFFFFFE, etc.

5 T1 / E1 Interface Connections

The back panel of Sleipnir-1-PCI contains ether a RJ45 connector or two BNC connectors. The RJ45 connector provides balanced 100 / 120 ohm transmit and receive connection, while the BNC connectors provide unbalanced 75 ohm connections.

RJ-45   Position #

1	Receive (RX) Line 1 (Tip)
2	Receive (RX) Line 2 (Ring)
3	
4	Transmit (TX) Line 1 (Tip)
5	Transmit (TX) Line 2 (Ring)
6	
7	
8	

Position 1

6 Contact Information

For more information or for technical support, please contact:

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7 Reference documents

The following documents provide further detailed information related to the Sleipnir-1-PCI board:

- Programmer's Guide for OTX C54x DSP Software Development Kit (Odin document number 1412-1-SAA-1007-1)

- Sleipnir-1-PCI Technical Description (Odin document number 1111-1-HAA-1051-1)

8 Glossary

API – Application Programmer Interface

CPU – Central Processing Unit. Refers to the host PC in this document.

DSP – Digital Signal Processor (optional device on Sleipnir-1-PCI)

GUI – Graphical User Interface.

LED – Light Emitting Diode

LS – Least Significant

MS – Most Significant

OTX – Odin Telecom FrameworX