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World Leader of In-Rack, Audio, Video, Data Monitoring, and Closed Captioning Solutions

HDCC-200A (OP-47/WST) Multi-Function Card

Multi-Purpose Closed Caption Card: Inserter, Decoder, Bridger, Monitor, and Transcoder

Installation Guide

Software Version: V2.34
PIC Code Version: V1.09

Part Number 821046, Revision A

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Last Update

January 11, 2011

Table of Contents

CHAPTER 1
Installing the Hardware

Introduction

Overview

Thank you for purchasing Wohler's HDCC-200A card, a product that provides a variety of closed-captioning functions. This chapter explains how to install your new card and its corresponding rear panel adaptor.

Topics

Safety Instructions

1. Read, keep, and follow all of these instructions; heed all warnings.
2. Do not use this equipment near water or expose the equipment to rain or moisture.
3. Use only the adaptors specified by the manufacturer.
4. Unplug the equipment during lightning storms or when unused for long periods of time.
5. Refer all servicing to qualified service personnel. Servicing will be required under all of the following conditions:
   - The equipment has been damaged in any way.
   - Liquid had been spilled or objects have fallen onto the equipment.
   - The equipment has been exposed to rain or moisture.
   - The equipment does not operate normally.
   - The equipment has been dropped.

Unpacking

CAUTION! Static discharge can cause serious damage to sensitive semiconductor devices. Avoid handling the circuit boards in high static environments such as carpeted areas, and when synthetic or wool fiber clothing is worn. Always exercise proper grounding precautions when handling circuit boards.

Unpack each HDCC-200A that you have received from its shipping container and check the contents against the packing list to ensure that all items are included. If any items are missing or damaged, please contact your Wohler sales representative immediately.

Installing the Adaptors and the Card

Requirements

To install and use the HDCC-200A, you will need the following:

- A PC with either an Ethernet and/or serial cable connected to the HDCC-200A
- A small Phillips screwdriver for attaching the rear panel adaptor to the frame
- A small slot screwdriver to rotate Switches 1 and 2
- A monitor (or two) on which to view the output data
- At least one HD or SD SDI input video stream

Frame Types

Your HDCC-200A card is intended to be used within a frame. Wohler supports three types of commercial frames:

- Codan,
- Evertz, and
- IRT.

Installing the Hardware

To install the adaptor into the frame:

1. Ensure that the frame is properly installed.
2. Power down the frame.

   Note: You can install the HDCC-200A (and its adaptors) into a live frame, but we do not recommend it.

Decision Point:

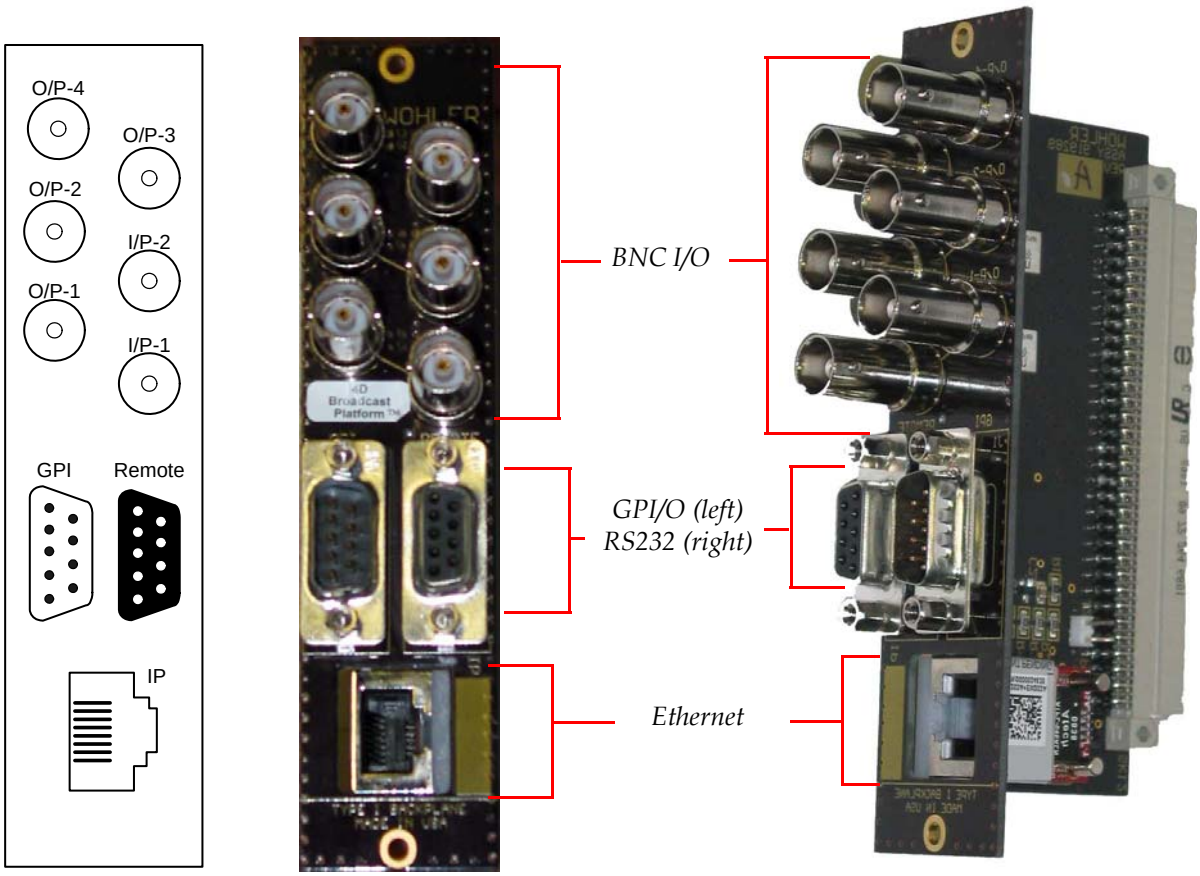
If you have a **Codan** frame, continue on to Installing into a Codan Frame immediately below.

If you have a **Evertz** frame, continue on to Installing into an Evertz Frame on page 7.

If you have an **IRT** frame, continue on to Installing into an IRT Frame on page 12.

Installing into a Codan Frame

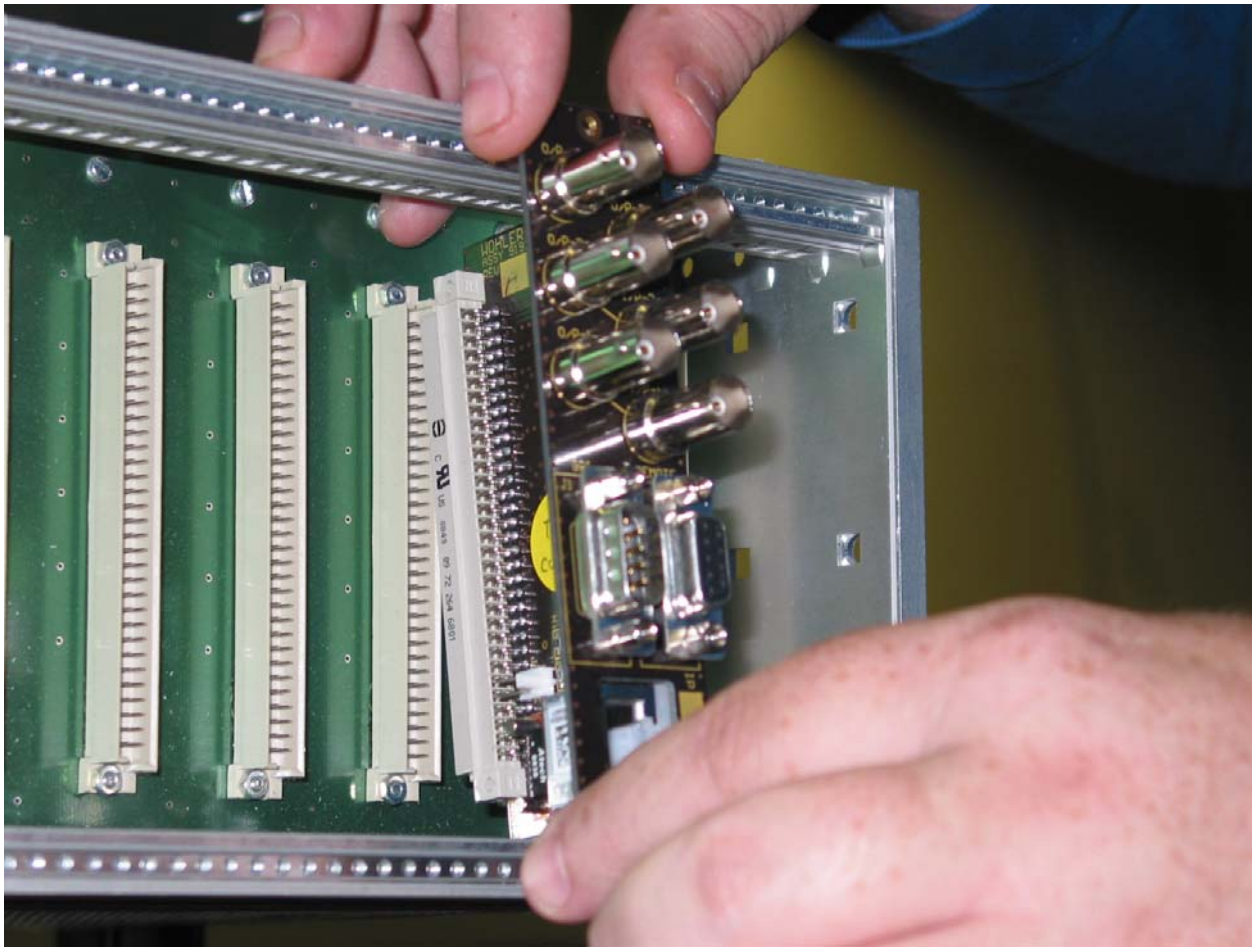
Figure 1–1 Codan Adaptor and Interface Layout



Note: You can insert up to 10 cards into a Codan 3RU-FPSN-10-DUAL frame and up to two cards into a Codan 1RU-FPSN frame.

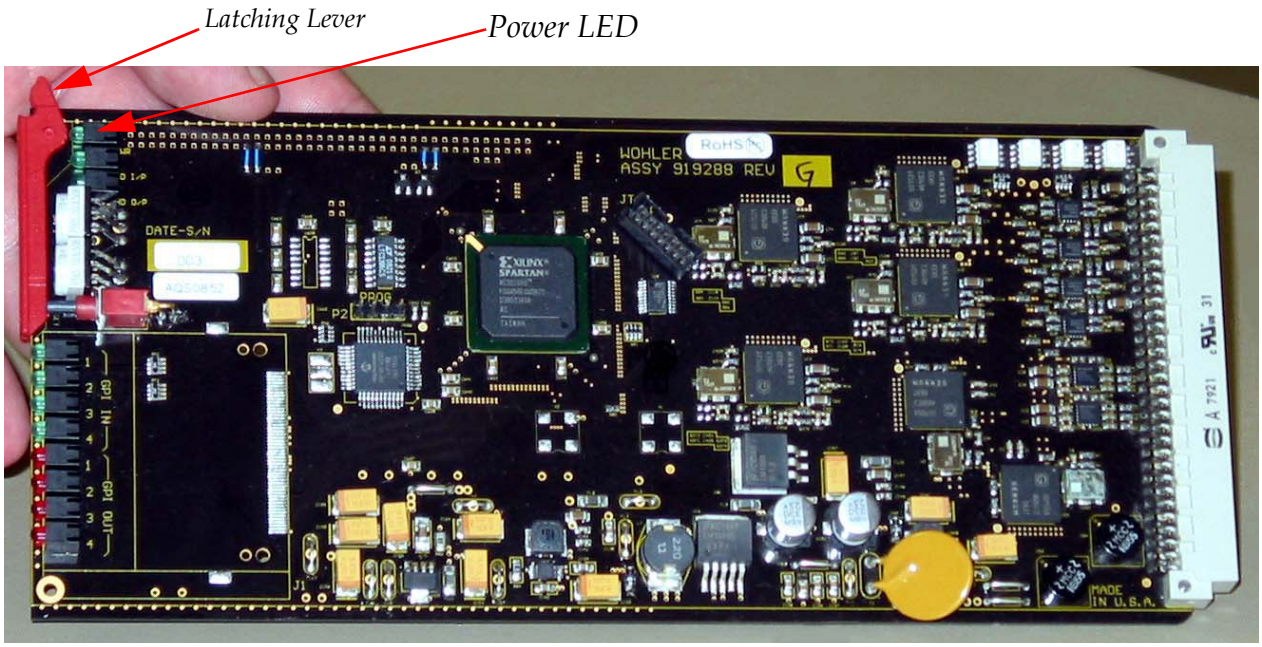
1. Place the rear panel adaptor against the back, outside slot of the frame (with the connectors facing you) being careful to line up the pins and their connectors. Insert and tighten the screws on the top and bottom of the adaptor with a small screwdriver. See Figure 1–2 below.

Figure 1–2 Attaching the External Adaptor Piece



2. Pull the red latching lever (shown in Figure 1–3 below) on the front of the HDCC-200A away from the card.

Figure 1–3 HDCC-200A Card (Without Adaptor)



3. From the front of the frame, carefully align the card with the slot containing the adaptor in the back, and fully insert the card into the frame so that it attaches securely to the adaptor.

4. Press the red latching lever back down again on the front face of the card latching it securely into the frame.

5. Turn the frame power on. Once the power is restored to the frame, you should see the power LED on the front of the card light up (Figure 1–3 above).

Decision Point:

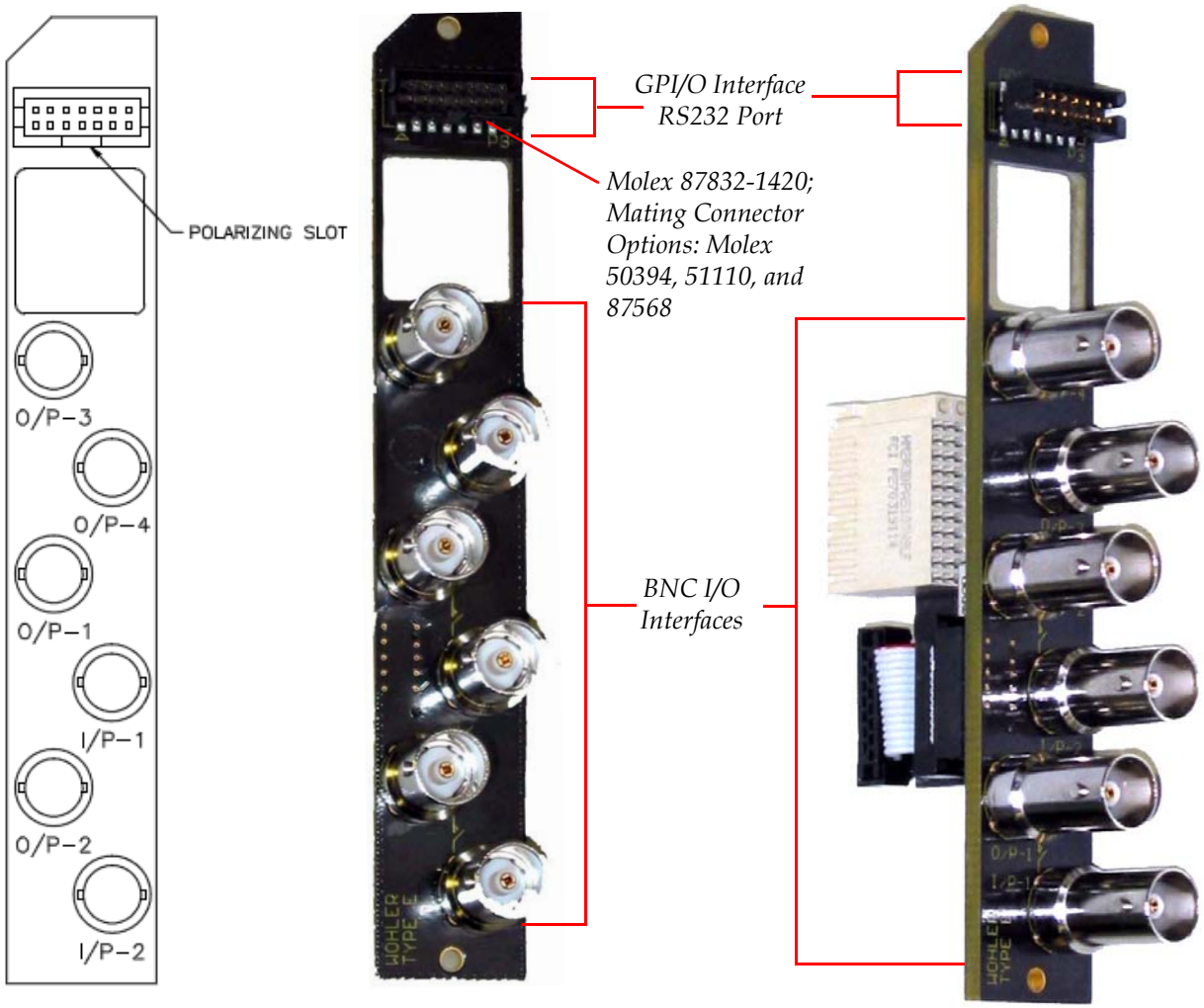
If you intend to connect to the HDCC-200A from your PC using the serial port, then this concludes the Codan adaptor/card installation procedure. Continue on to Next Steps on page 15.

Otherwise, if you intend to connect to the HDCC-200A from your PC using the Ethernet port, then you must establish a virtual serial connection. Because the Codan adaptor is equipped with an Ethernet transceiver module, you will need to install the Ethernet connectivity application on the PC to connect to the HDCC-200A. Refer to Appendix A: Creating a Virtual Serial Connection on page 17 for detailed instructions.

Once you have completed the procedure for creating a virtual serial connection, continue on to Next Steps on page 15.

Installing into an Evertz Frame

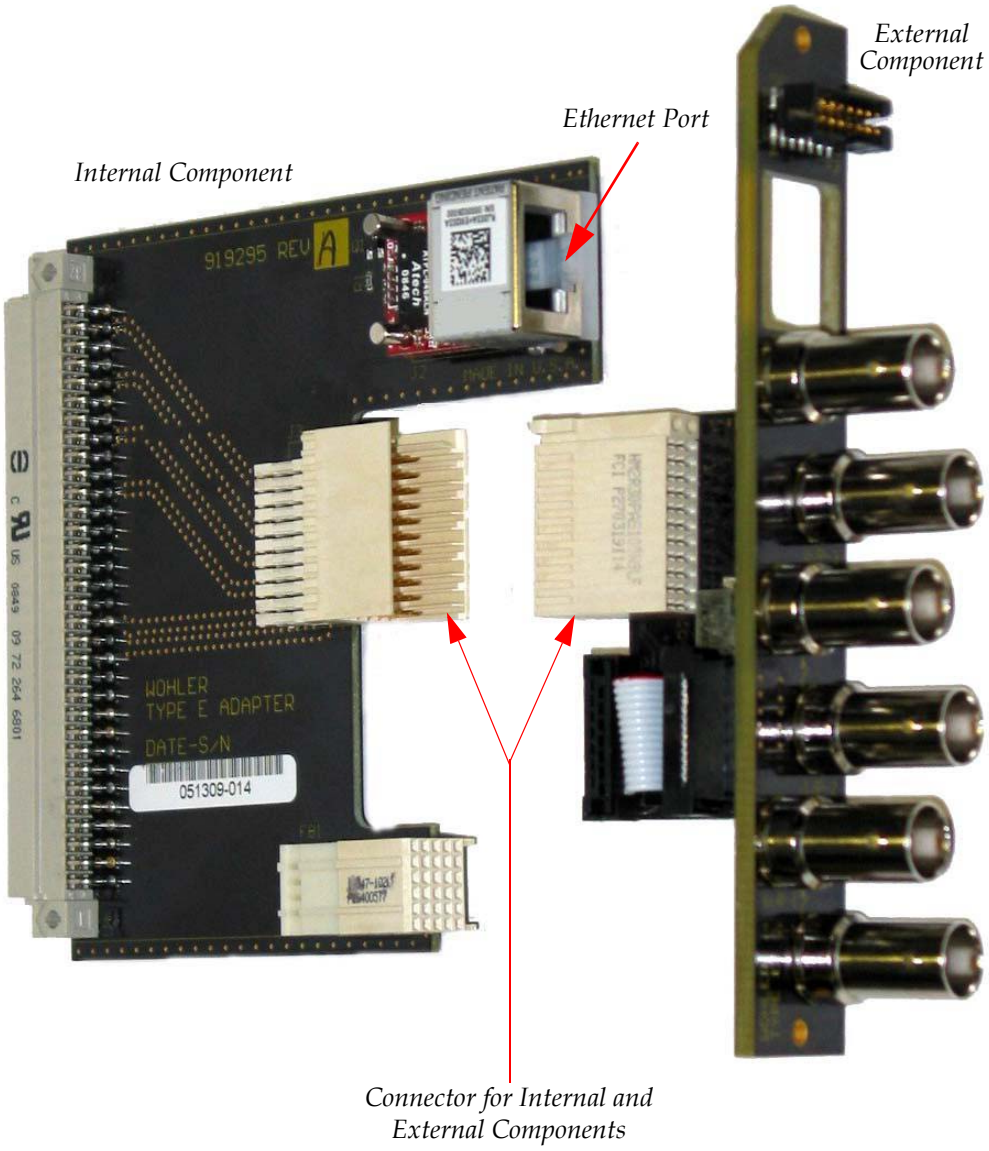
Figure 1–4 Evertz Adaptor (External) Component and Interface Layout



Important: The line drawing in Figure 1–4 on page 7 illustrates the corrected connector labeling. Some older versions of the Evertz adaptor were incorrectly labeled.

1. Separate the two components of the adaptor, as shown in Figure 1–5 below.

Figure 1–5 Separating the Two Components of the Evertz Adaptor

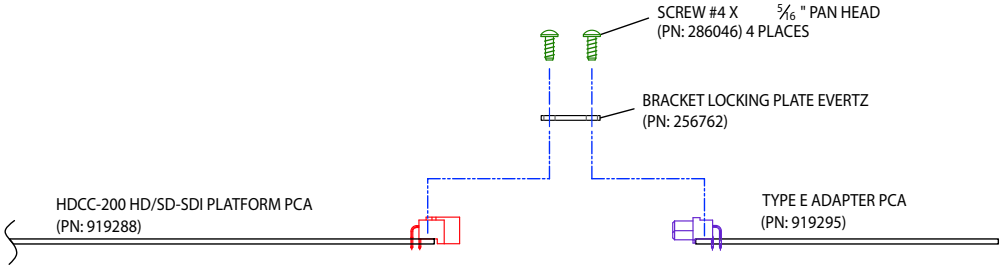


2. Carefully attach the internal piece of the adaptor to the HDCC-200A card making sure the holes in the adaptor line up with the pins in the card. Press the two pieces together firmly.

3. Attach the metal connecting bracket to the exterior of the plastic connectors in the card and the adaptor as shown in Figure 1–6 and Figure 1–7 below.

Note: Do not over-tighten the screws.

Figure 1–6 Attaching the Connecting Bracket to the Evertz Adapter and the HDCC-200A



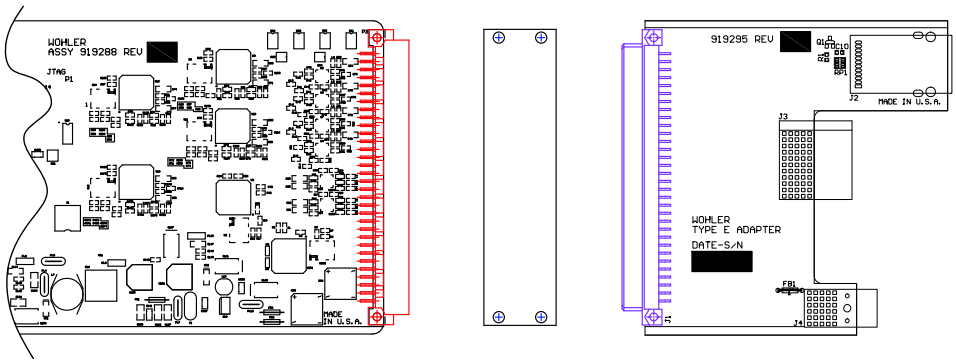
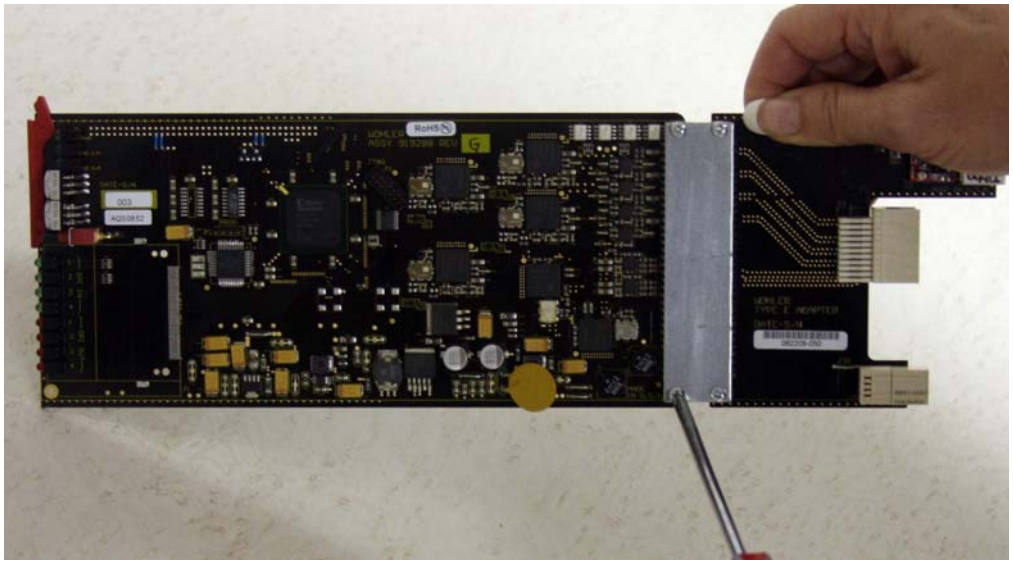


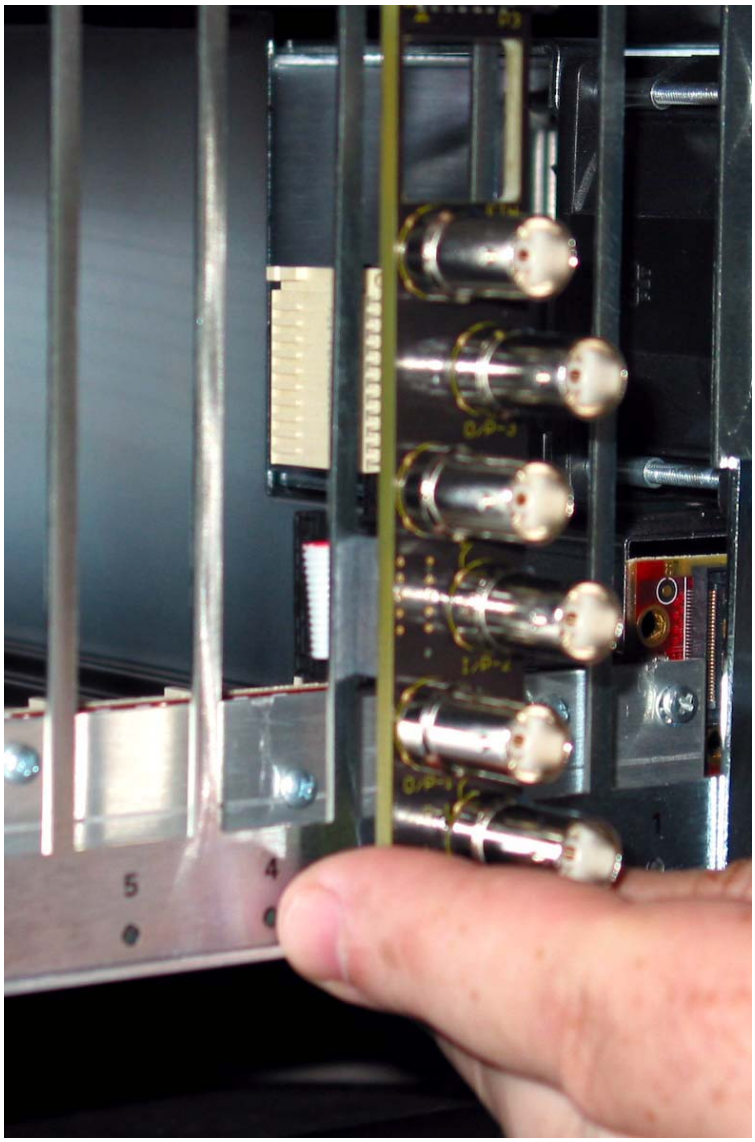
Figure 1–7 Completed Bracket Attachment



Note: Should you ever need to remove the HDCC-200A (and the internal adaptor) from the Evertz frame, the bracket will keep the card and the adaptor connected, so you can remove both components simultaneously (i.e., without leaving the internal adaptor inside the frame and therefore difficult to retrieve).

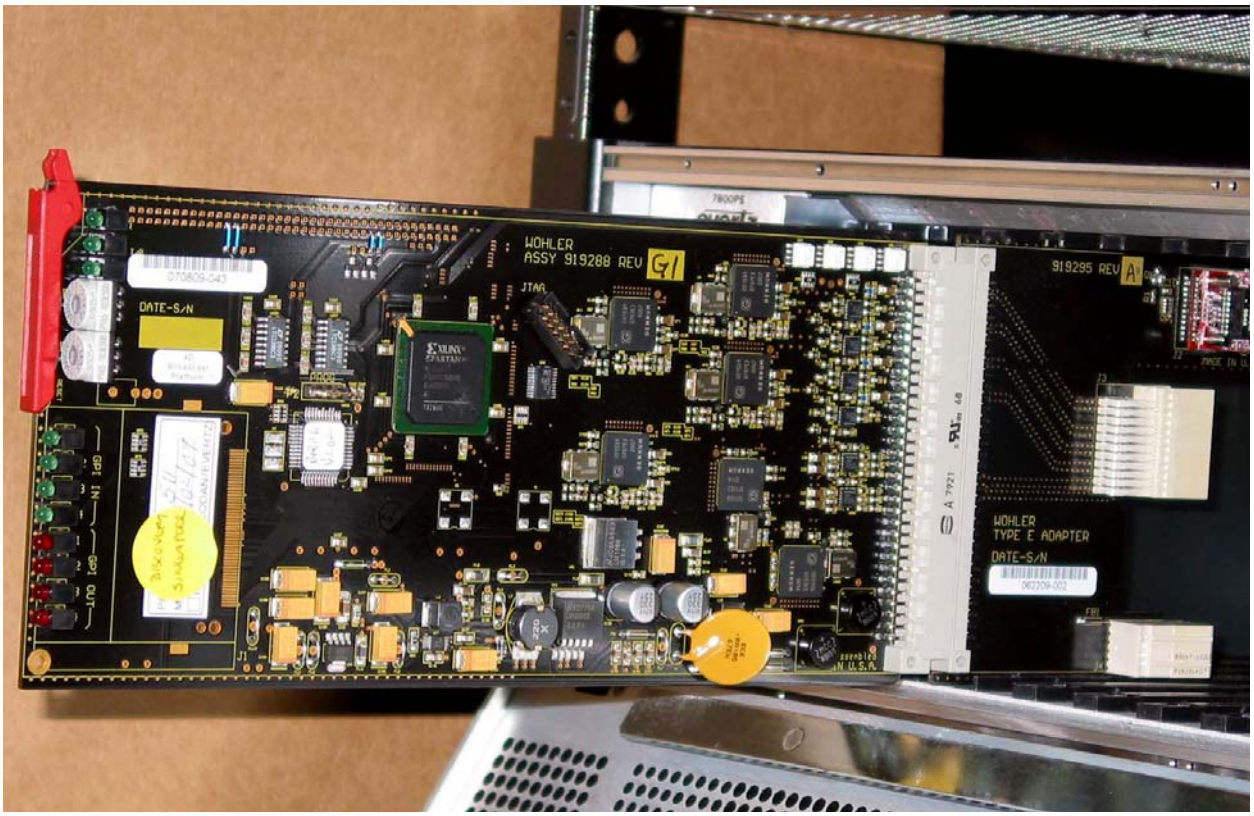
4. Attach the back piece (the one with the connectors) onto the frame from the back and screw it securely into the frame, as shown in Figure 1–8 below.

Figure 1–8 Attaching the External Piece of an Evertz Adaptor to the Frame



5. Slide the card (with the LEDs facing you) into the frame from the front and connect it securely to the back piece, as shown in Figure 1–9 below.

Figure 1–9 Inserting the HDCC-200A Card and the Internal Piece of the Evertz Adaptor into the Frame



Decision Point:

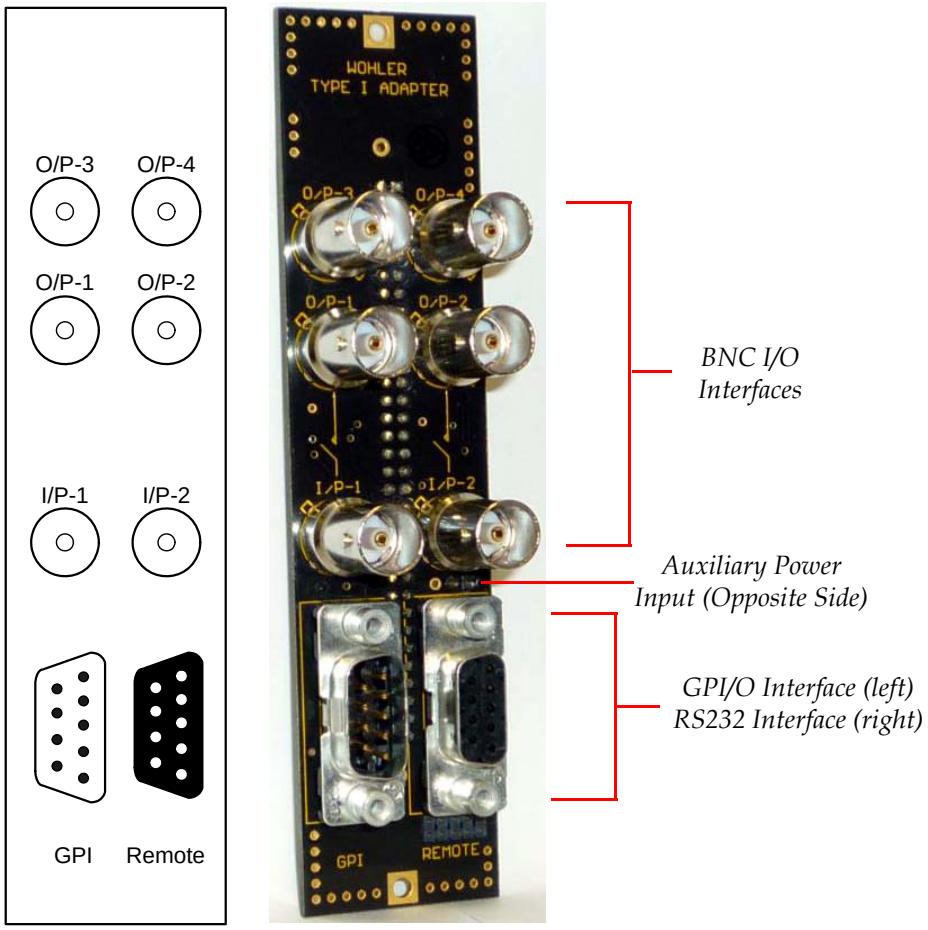
If you intend to connect to the HDCC-200A from your PC using the serial port, then this concludes the Evertz adaptor/card installation procedure. Continue on to Next Steps on page 15.

Otherwise, if you intend to connect to the HDCC-200A from your PC using the Ethernet port, then you must establish a virtual serial connection. Because the Evertz adaptor is equipped with an Ethernet transceiver module, you will need to install the Ethernet connectivity application on the PC that you will use to connect to the HDCC-200A. Refer to Appendix A: Creating a Virtual Serial Connection on page 17 for detailed instructions.

Once you have completed the procedure for creating a virtual serial connection, continue on to Next Steps on page 15.

Installing into an IRT Frame

Figure 1–10 IRT Adaptor and Interface Layout



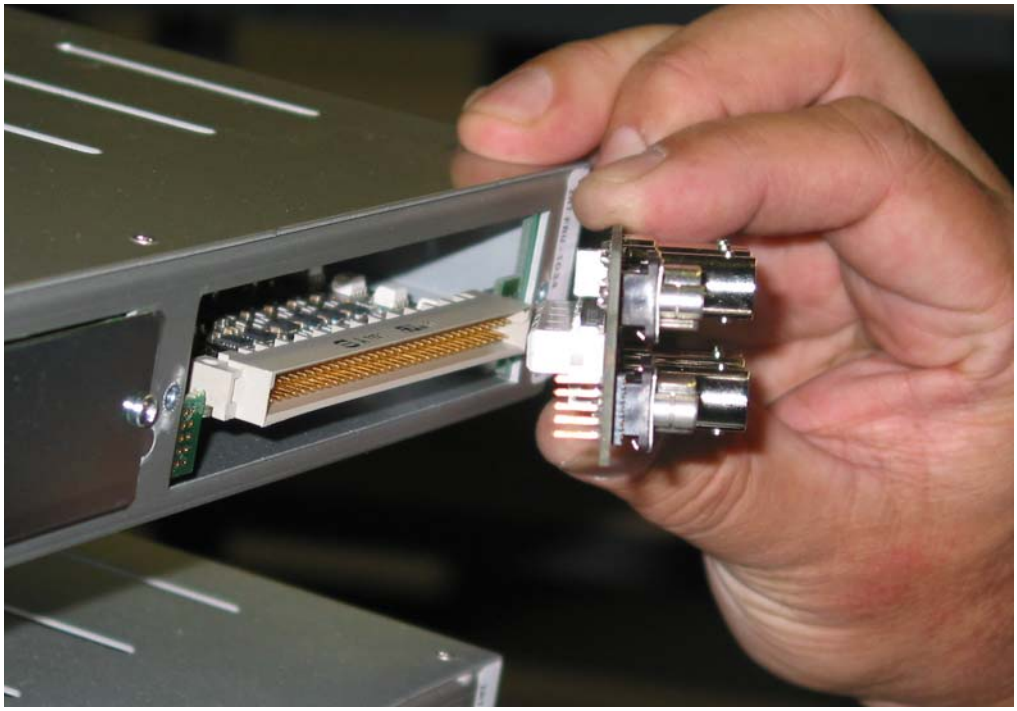
Note: You can insert only one adaptor/card into a 1 RU IRT frame because of the power supply constraints.

Note: Older IRT frames may require the auxiliary power input connection to this adaptor.

1. Slide the HDCC-200A card into the front of the frame with the LEDs facing you.

2. Attach the rear panel adaptor to the card (not to the frame) from the back of the frame, being careful to line up the connector pins on the card with the holes in the adaptor.

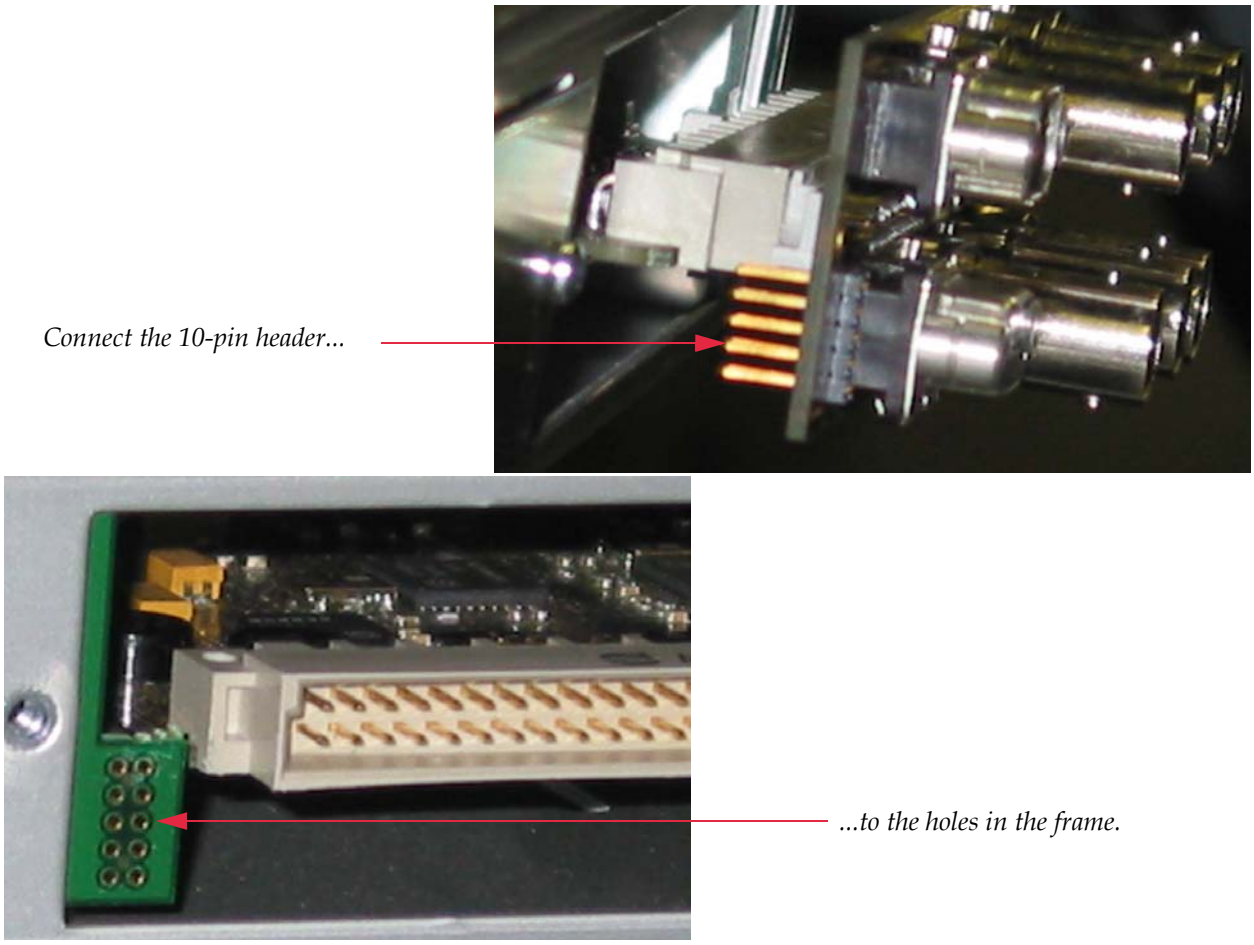
Figure 1–11 Connecting the IRT Rear Panel Adapter to the HDCC-200A Card



3. Very carefully line up the 10-pin header pins on the left side of the adaptor with the holes in the frame. See Figure 1–12 on page 14 for an example.

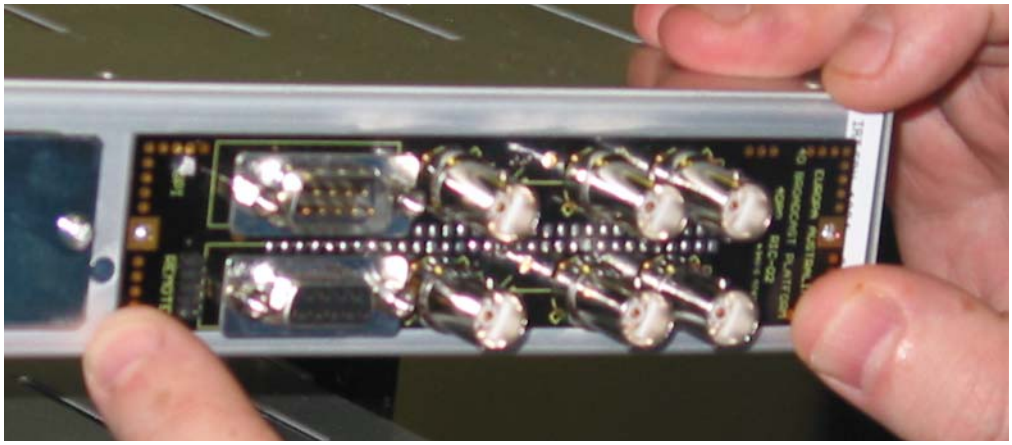
WARNING! Be careful not to bend or brake the pins. Doing so will ruin the adaptor.

Figure 1–12 Connecting the Rear Panel Adapter's 10-Pin Header to the Frame



4. Finally, insert and tighten the screws on the left and right ends of the adaptor with a small screwdriver. See Figure 1–13 below.

Figure 1–13 Attaching an IRT Adaptor to the Frame



Note: The card's latching lever cannot engage the IRT frame as it does the Codan frame. However, it is useful for removing the card from the frame when needed.

5. This concludes the IRT adaptor installation.

Next Steps

Important: This concludes the procedure for installing the HDCC-200A card and its rear panel adapter.

If you want to configure your Ethernet port as a virtual serial port, continue on to Appendix A on page 17. As soon as you have completed the Ethernet configuration, continue on to the *HDCC-200A Multi-Function Card: Configuration and Setup Guide* (PN: 821047).

If you do not want to use the Ethernet port on your card, then continue on to the *HDCC-200A Multi-Function Card: Configuration and Setup Guide* (PN: 821047).

APPENDIX A
Creating a Virtual Serial Connection

Introduction

Overview

This appendix describes how to download the Ethernet connectivity application for the HDCC-200A. This application allows you to create a virtual serial connection over an Ethernet connection.

Topics

Downloading the Software

Requirements

To perform this procedure you will need a PC with an Internet connection.

Logging In

Before you can download the Ethernet connectivity application, you must register on the site.

6. Launch a web browser and navigate to www.tibbo.com.

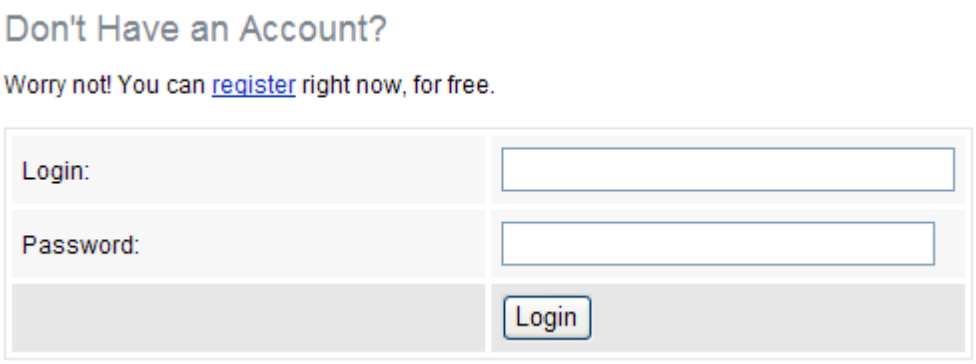
Decision Point:

If you already have an account, then skip to Step 10 to log in.

Otherwise, if you do *not* already have an account, continue on with Step 2 immediately following this decision point.

7. To create a user ID and password, click **register** (as shown in Figure A–14 below).

Figure A–14 Registration Link



8. Fill out the registration information and then submit.

9. When the confirmation email appears in your email, click the confirmation link.

10. Log in.

Downloading the .zip File

1. Click the **Downloads** link at the top of the page.
2. In the **Serial-over-IP** section, click **Tibbo Device Server Toolkit**.

Figure A–15 Download Selection

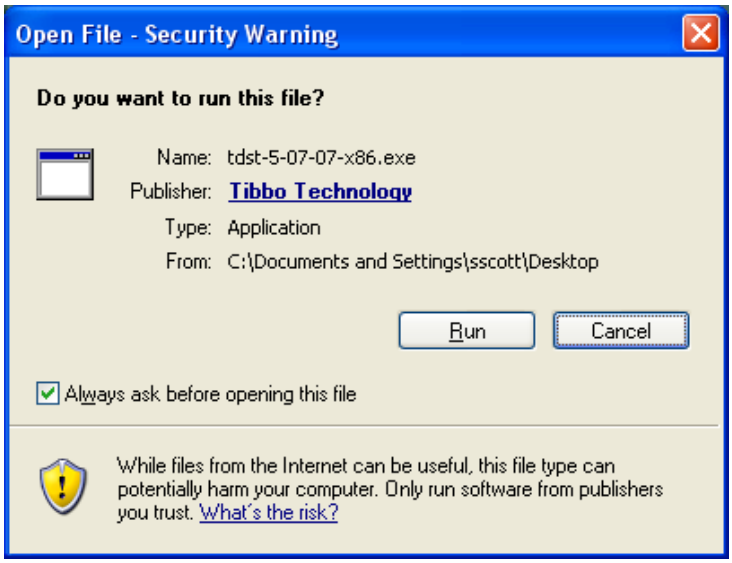
x32 build (more info)	5.07.11	03/02/2010	tdst-5-07-11-x86.exe

3. Save it to the desktop.

Installing the Software

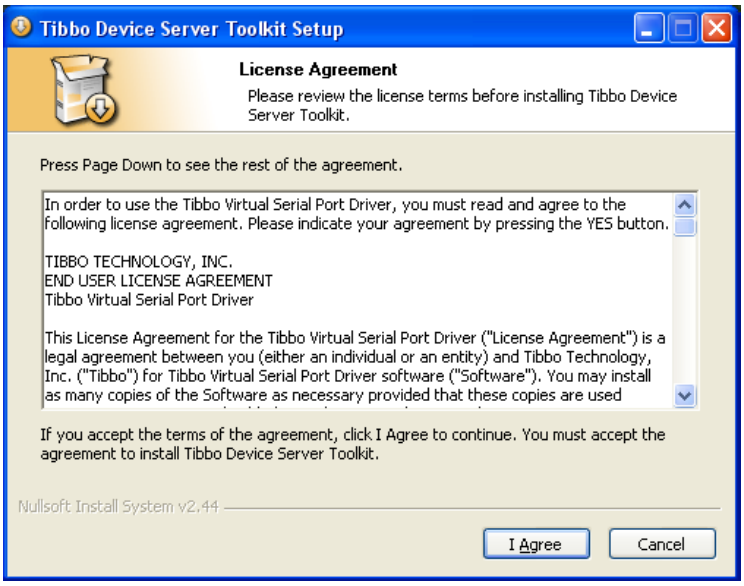
1. Double-click the **tdst-5-07-11-x86.exe** to launch the installer from the desktop.

Figure A–16 Tibbo Software Installation Launcher



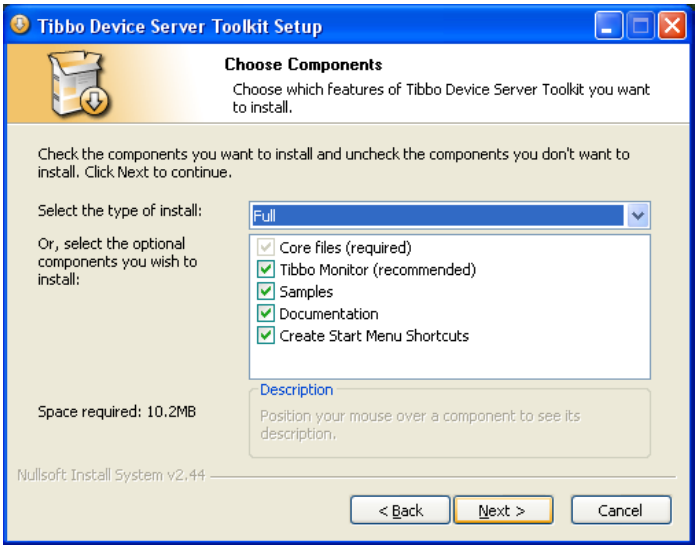
2. Click **Run**.

Figure A–17 License Agreement Dialog



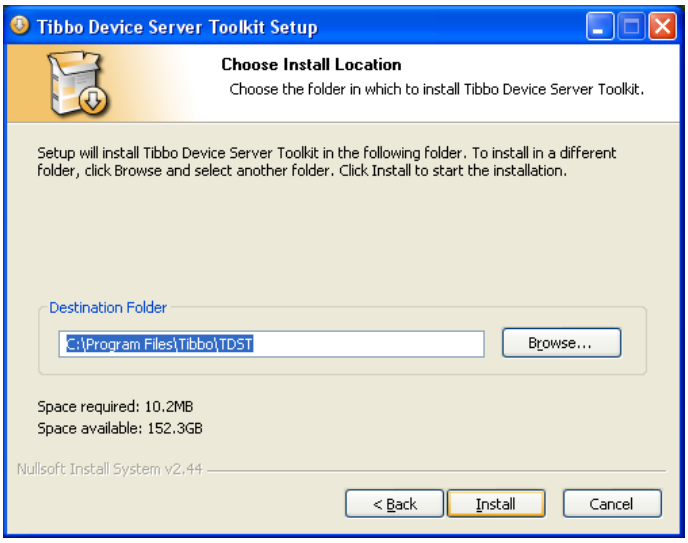
3. Click **I Agree**.

Figure A–18 Choose Components Dialog



4. Click **Next**.

Figure A–19 Choose Install Location



5. Click **Install**.

Figure A–20 Installation Completion Dialog

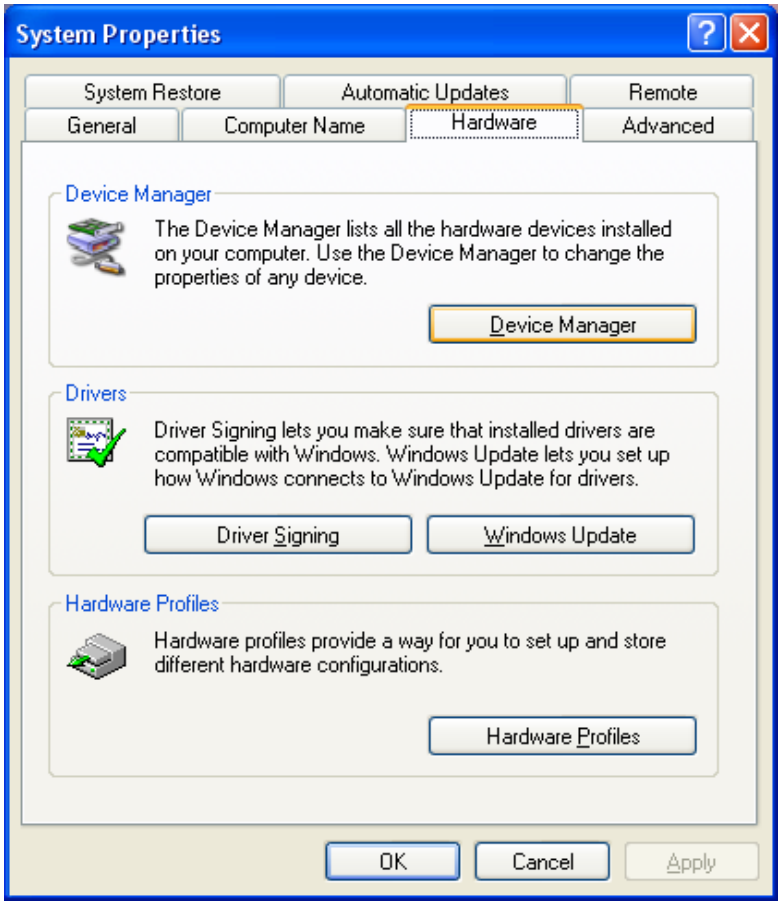
6. Click **Finish**.

Configuring a Virtual Serial Port

Finding an Available Port

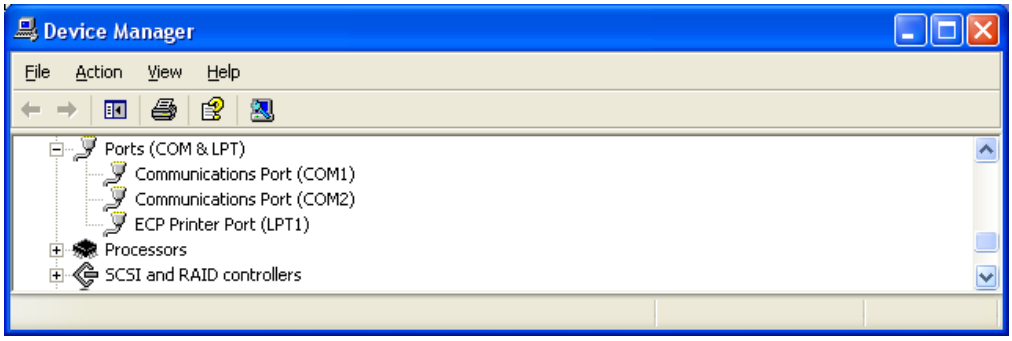
1. Launch the Microsoft Windows® **Control Panel**.
2. Double-click on **System**.
3. When the **System Properties** dialog appears, click the **Hardware** tab.

Figure A–21 Device Manager Dialog



4. On the **Hardware** tab, click **Device Manager**.

Figure A–22 Ports Dialog



5. When the **Ports** dialog appears, look at the serial (COM) ports (Figure A–22 above) to find a number that is available. In our example, we're using COM8 since it does *not* already exist in the hardware configuration.

Using the Connection Wizard

1. Double-click the **tdsman.exe** icon on the desktop to launch the **Tibbo Connection Wizard** (Figure A–23 below).

Figure A–23 The Auto-Discovery Tab

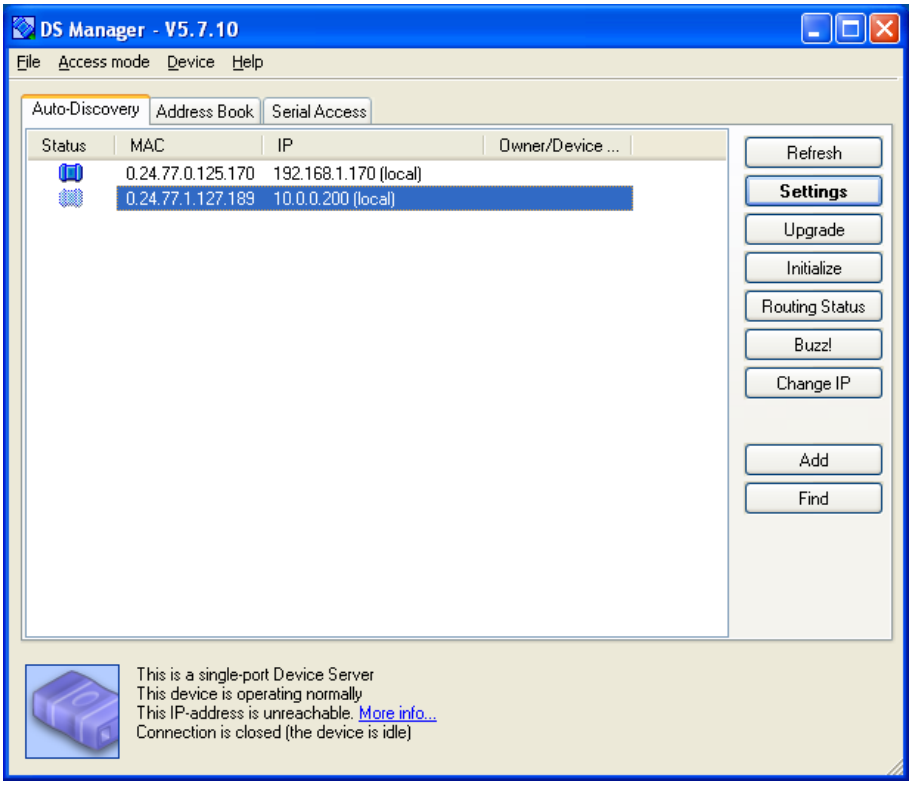
2. Click **Next**.

3. Click the **Auto-Discovery** tab if it is not already highlighted.

4. New HDCC-200A cards (with Codan or Evertz backplanes) will have a default IP address of 10.0.0.200. Highlight the HDCC-200A with IP 10.0.0.200.

Important: If your HDCC-200A card did not come with the 10.0.0.200 IP address already installed, and the **Auto-Discovery** tab displays more than one IP address, you may need to disconnect the HDCC-200A card you are trying to connect to so you can see which of the addresses disappears. Alternatively, your IT support person may have a list from which he/she assigned the IP address for this connection.

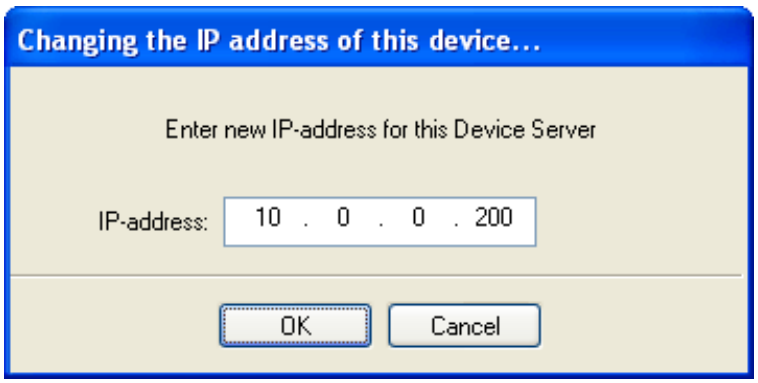
Figure A–24 DS Manager Configuration Screen



Note that the color under the **Status** column shows IP 10.0.0.200 disabled (i.e., this card is currently not accessible to the network). The card with IP 192.168.1.170 is an existing HDCC-200A on the network.

5. Click the **Change IP** button.

Figure A–25 Default IP Address Screen

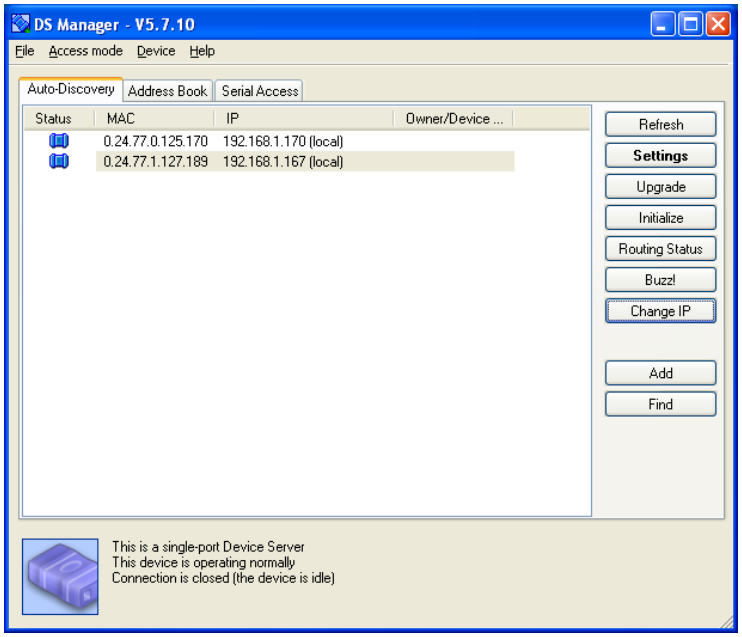


6. In our example we're changing the IP to 192.168.1.167. Type in the address your network administrator gave you.

Figure A–26 New IP Address Screen

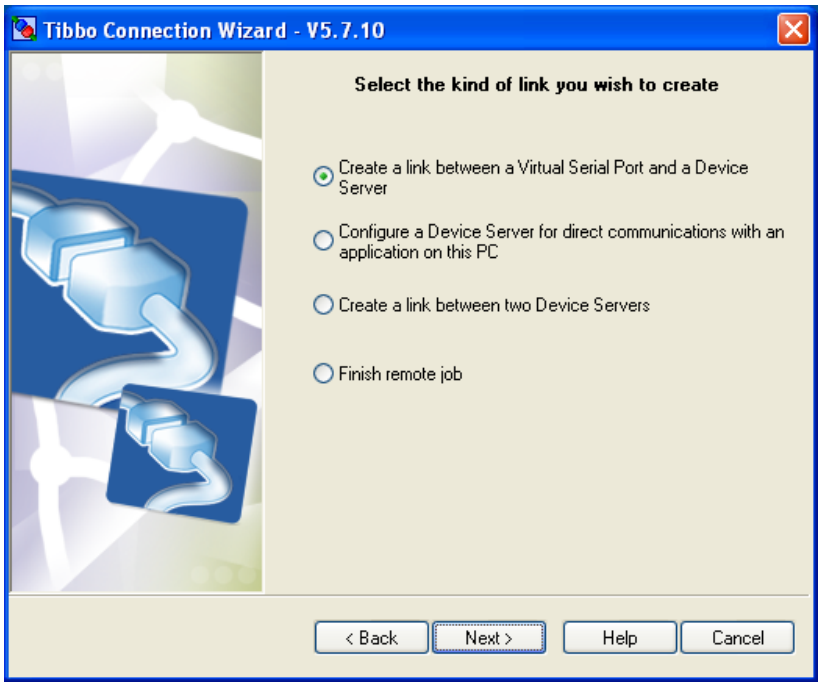
7. Click **OK**.

Figure A–27 Enabled New IP Address



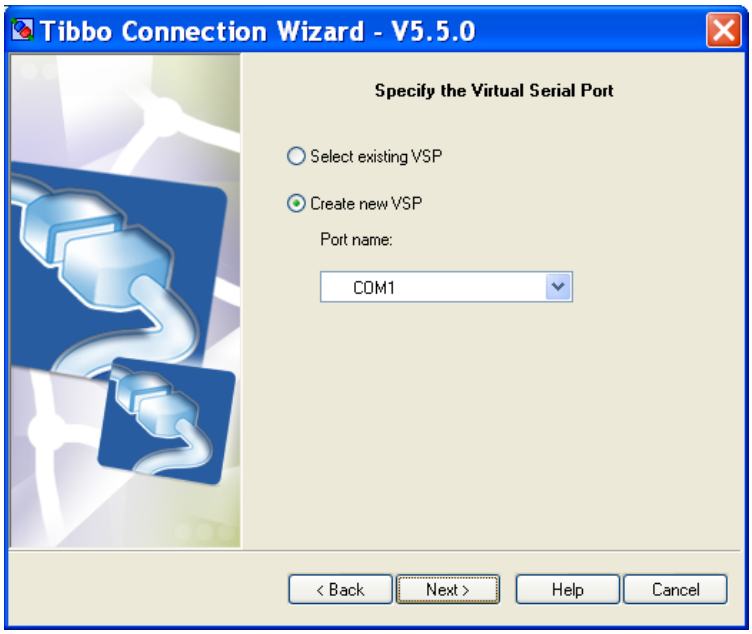
The new HDCC200A with IP 192.168.1.167 is now accessible through the network.

Figure A–28 Link Creation Dialog



8. Click the **Create a link between a Virtual Serial Port...** radio button and then click **Next**.

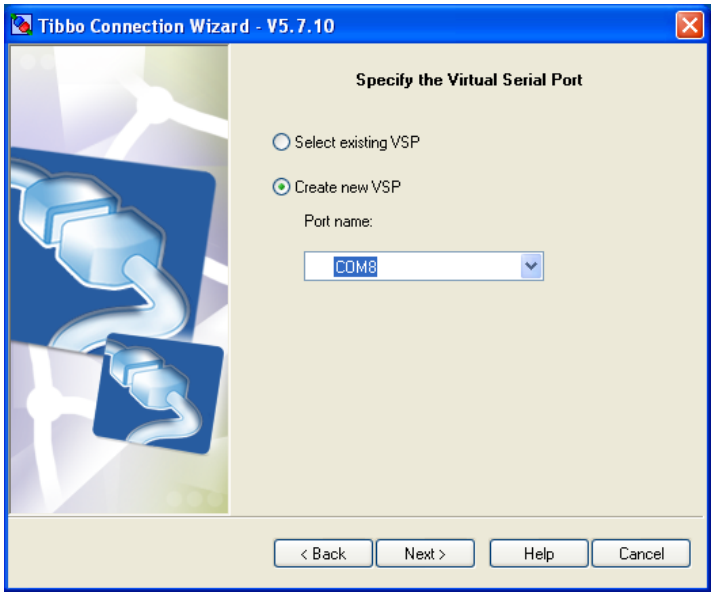
Figure A–29 Specify the Virtual Serial Port Dialog



9. Click the **Create a new VSP** radio button.

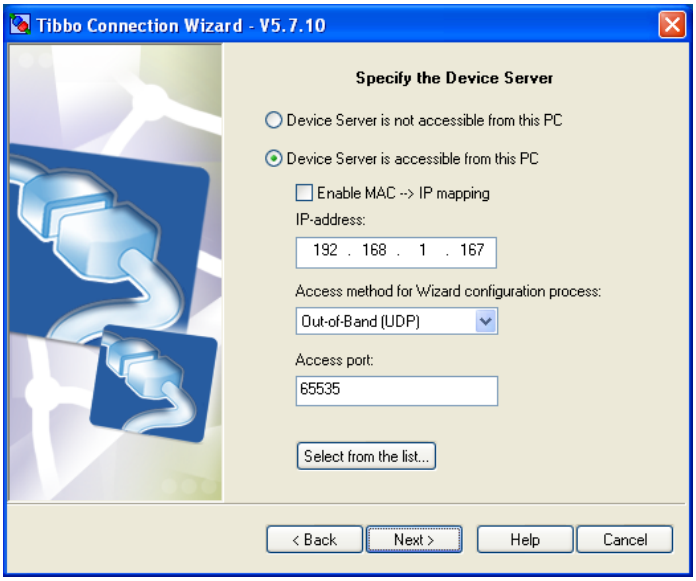
   Click the drop-down button for the **Port name** and select the one you decided to use when you were looking through the COM ports in the **Control Panel**. In our example we're using COM8.

Figure A–30 Specify the Virtual Serial Port



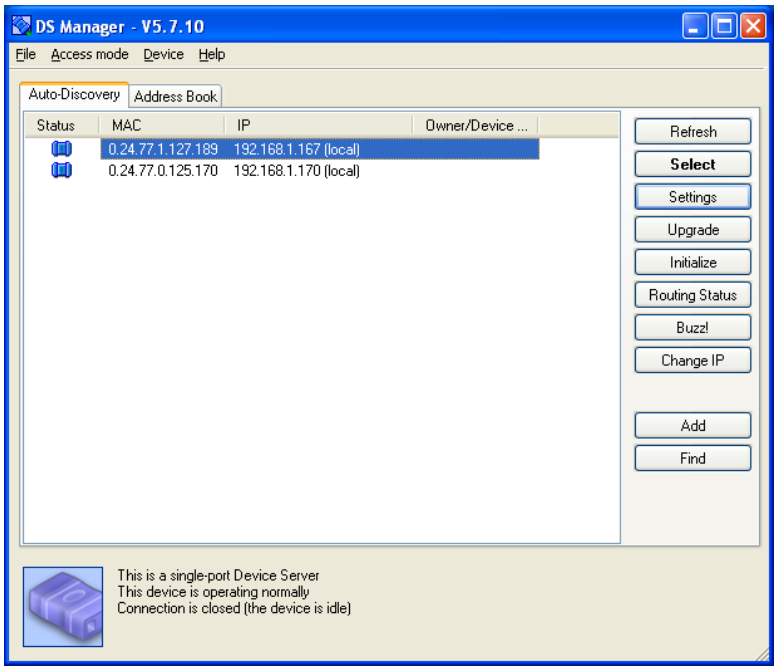
10. Click **Next**.

Figure A–31 Specify the Device Server Dialog



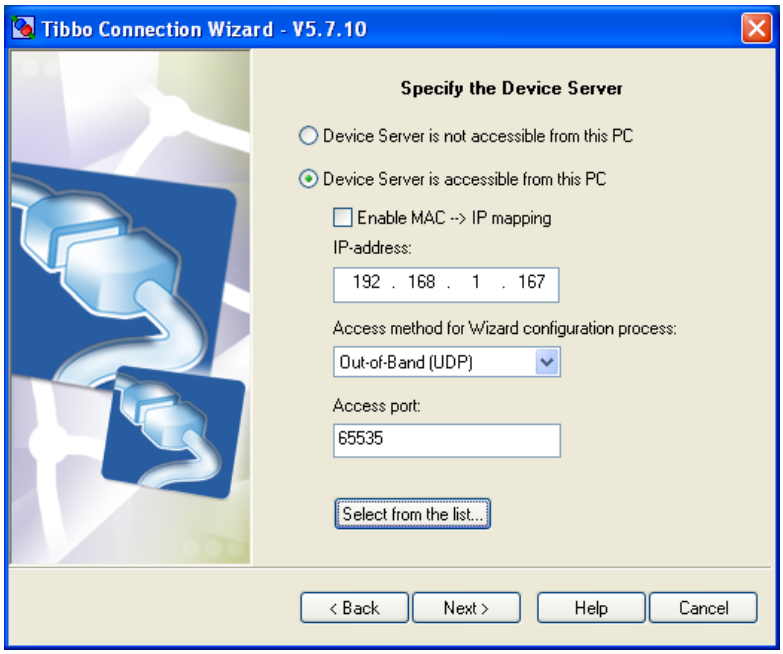
11. Click the **Select from the list...** button at the bottom of the dialog.

Figure A–32 DS Manager Dialog



12. On the **Auto-Discovery** tab, double-click on the card you're setting up (192.168.1.167, in our example). Be careful not to select an already established card on the network.

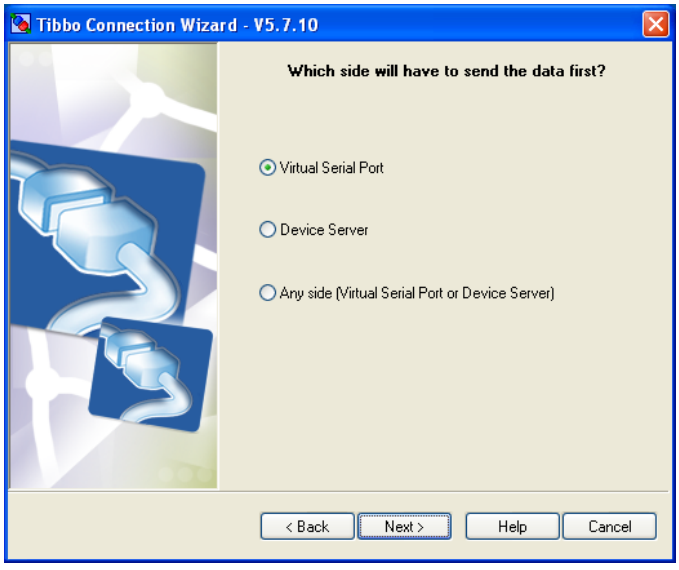
Figure A–33



13. Click **Next**.

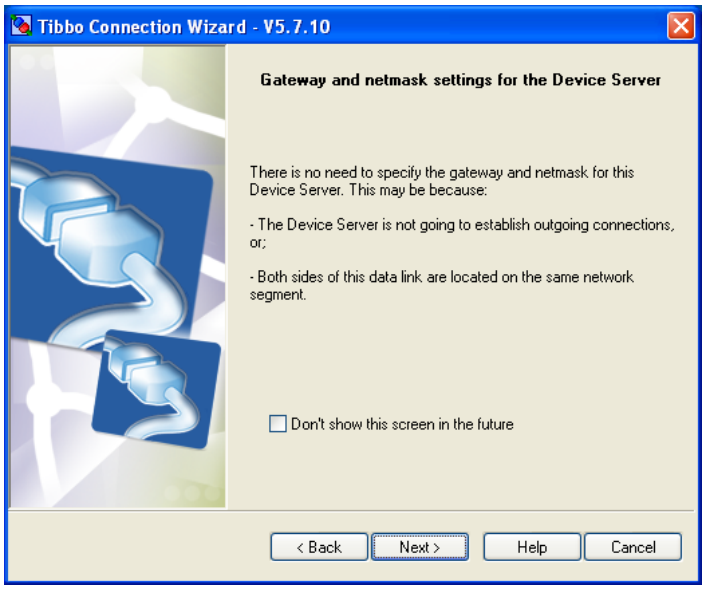
    The DS Manager will automatically close and populate the IP address field of the previous dialog. Click **Next** to continue.

Figure A–34 First Device to Send Dialog



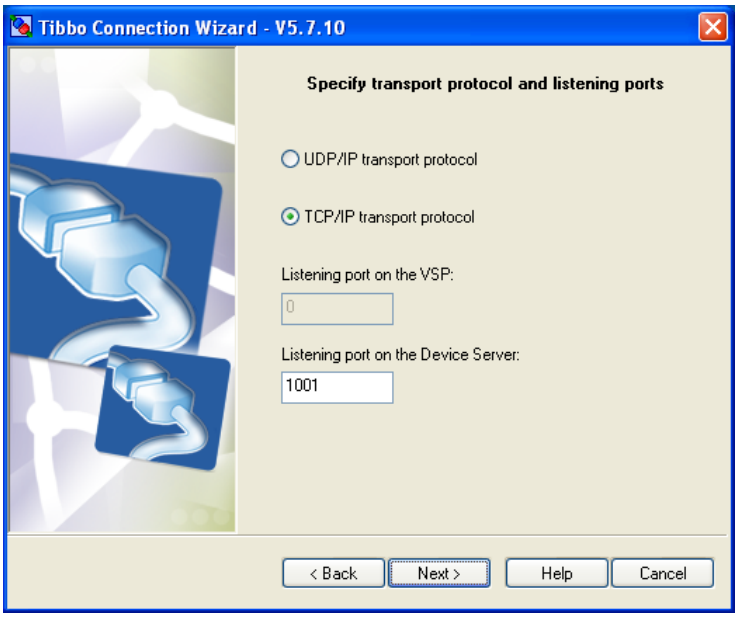
14. The V**irtual Serial Port** radio button should already be selected. Click **Next** to continue.

Figure A–35 Gateway and Netmask Settings Dialog



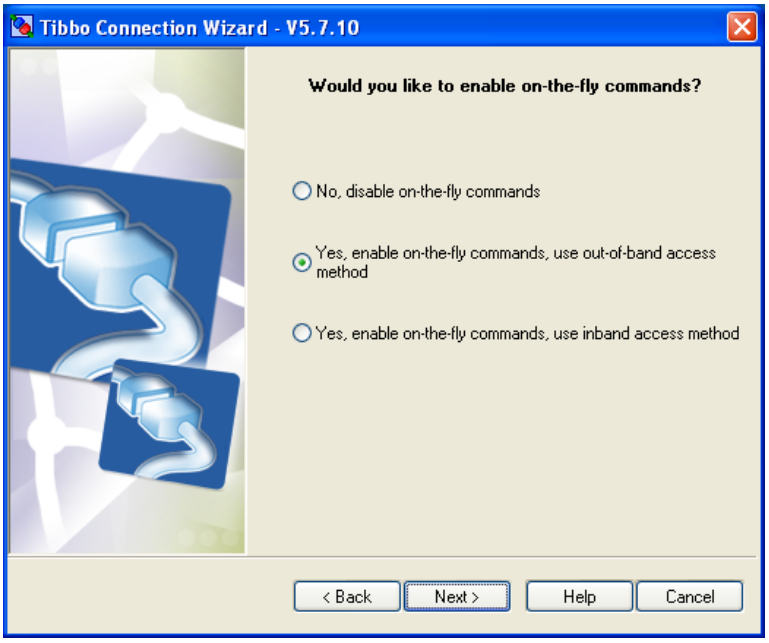
15. Click **Next** to continue.

Figure A–36 Specify Transport Protocol Dialog



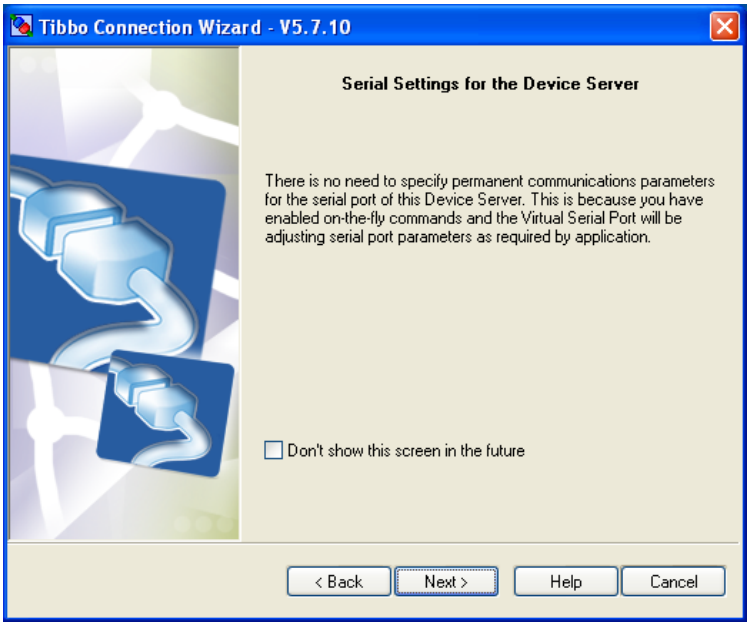
16. Click **Next** to Continue.

Figure A–37 Enable On-the-Fly Commands Dialog



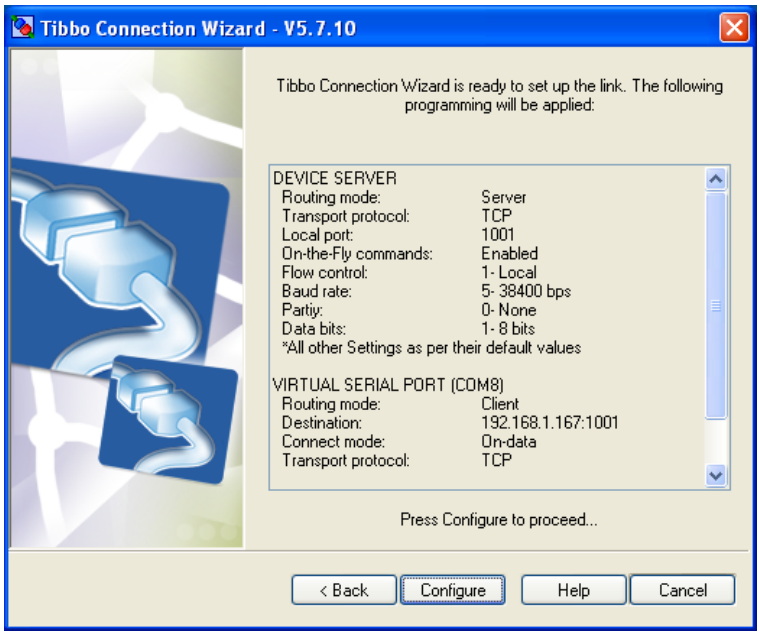
17. The option to enable on-the-fly commands (using the out-of-band access method) should already be selected. Click **Next** to continue.

Figure A–38 Serial Settings Dialog



18. Click **Next** to continue.

Figure A–39 Connection Settings Dialog

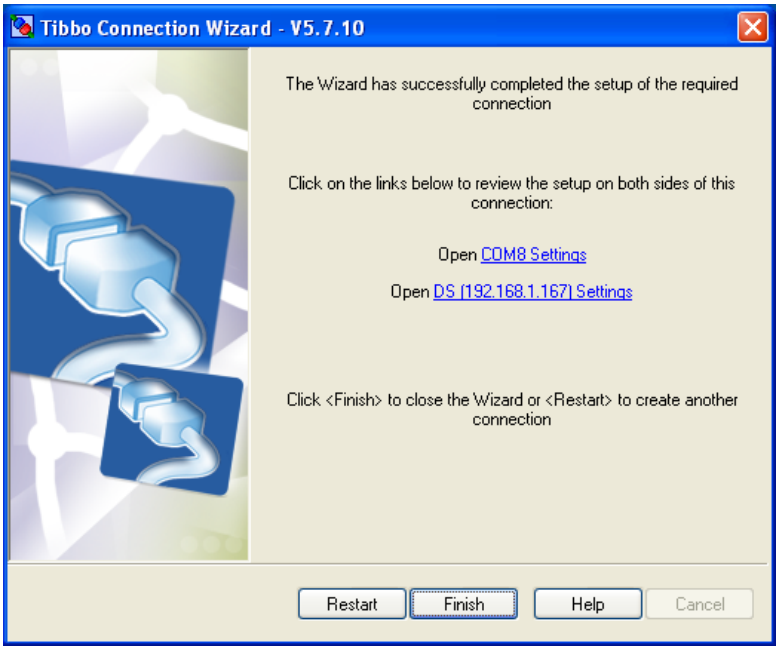


19. Click **Configure**.

Figure A–40 Logo Test Warning Dialog

20. Click **Continue Anyway**. You may need to click this button on multiple dialogs very similar to this one.)

Figure A–41 Wizard Complete Dialog



21. Click **Finish** to close the wizard.

Important: This concludes the Tibbo Device Server Toolkit virtual serial port configuration. Continue on to the *HDCC-200A Multi-Function Card: Configuration and Setup Guide* (PN: 821047).