



STAR Comm[®] Modem Kit for the Micro/PX-2000: Setup Instructions

This STAR Comm Modem Kit was designed specifically for use with the Micro/PX-2000 micro. The STAR Comm Modem is an external modem that can be used in dial-up and short-haul/leased-line configurations. The cable included in this kit provides the connection between the STAR Comm modem and the Micro/PX-2000.

NOTE



If you possess a previous version of these instructions, you may notice changes since the last publication, marked by a change bar which is a vertical line in the margin that visually identifies significant new or revised material.

Before You Begin

The following items are included in this package:

- ☐ STAR Comm Modem with two velcro adhesion strips
- ☐ Micro-to-Modem Cable

Before continuing, verify that you received these items.

The setup of the STAR Comm Modem depends on the product you are using with this modem. This document includes the following sections:

- Micro-to-Modem Cable
Refer to “Micro-to-Modem Cable” on page 2.
- Picture Perfect™
Refer to “Picture Perfect” on page 6.
- Secure Perfect®
Refer to “Secure Perfect 2.02 to 2.1” on page 12.
- SP3.0 or later
Refer to “SP3.0 or Later” on page 18.
- RS-232 Communication Cable Overview
Refer to “RS-232 Communication Cable Overview” on page 28.

- Using the STAR Comm Modem in 2-Wire Short-Haul or Leased-Line Configurations
Refer to “Using the STAR Comm Modem in 2-Wire Short-Haul or Leased-Line Configurations” on page 29.
- Battery Backup for the STAR Comm Modem
Refer to “Battery Backup for the STAR Comm Modem” on page 32.
- Troubleshooting
Refer to “Troubleshooting” on page 32.

Micro-to-Modem Cable

The Micro-to-Modem Cable provided in this kit connects the Micro/PX-2000 to the STAR Comm Modem.

NOTE

Review Figure 1 on page 3 before you begin.



CAUTION

The J16 IS NOT a standard RS-232 port. DO NOT USE the J16 connector for flashing application code. External equipment (such as your laptop) may be severely damaged.



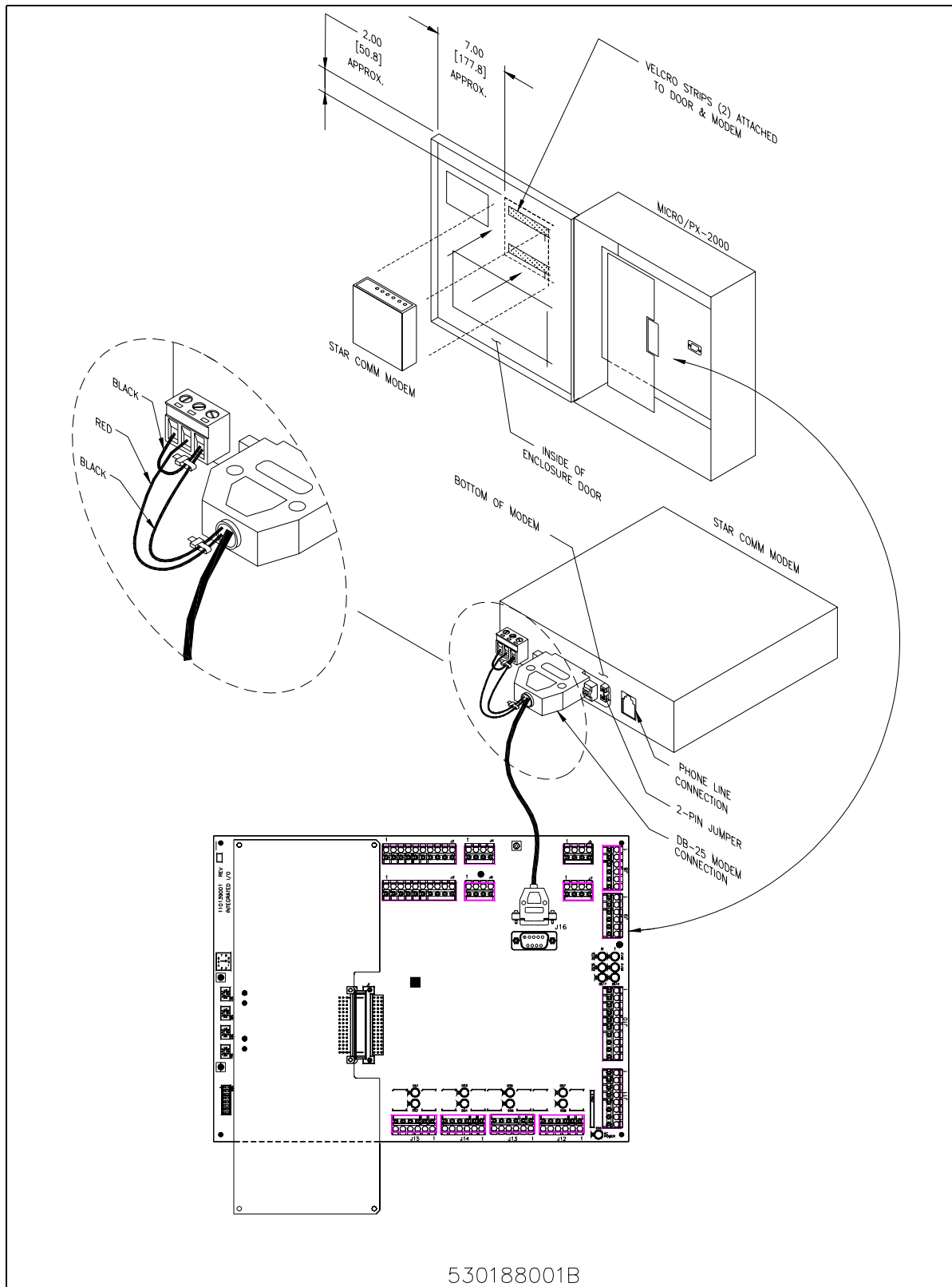


Figure 1: Modem Connection Overview

Connecting the Cable

► To connect the micro-to-modem cable:

1. Attach the DB-9 connector to the J16 modem port on the Micro/PX-2000.
2. Attach the DB-25 connector to the STAR Comm modem socket.

NOTE



On the back of the STAR Comm Modem, next to the DB-25 connector, there is a 2-pin jumper. It is to remain in place (connected to one pin and not both). Do not remove it.

3. The three power-supply wires extending from the DB-25 connector are to be connected to the 3-terminal power strip as follows:
 - Connect one black wire to the inside, negative power (-) screw terminal.
 - Connect the second black wire to the outermost, ground screw terminal.
 - Connect the red wire to the middle, positive (+) screw terminal.

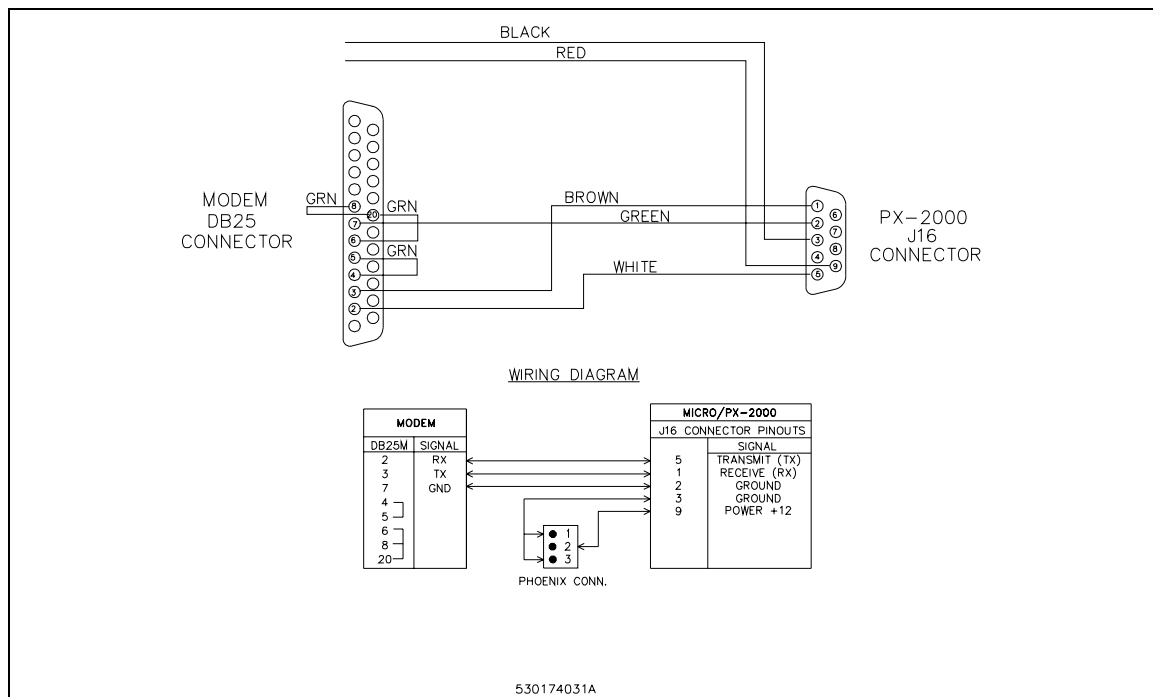


Figure 2: J16 to DB-25 Modem Power Socket and Pinouts

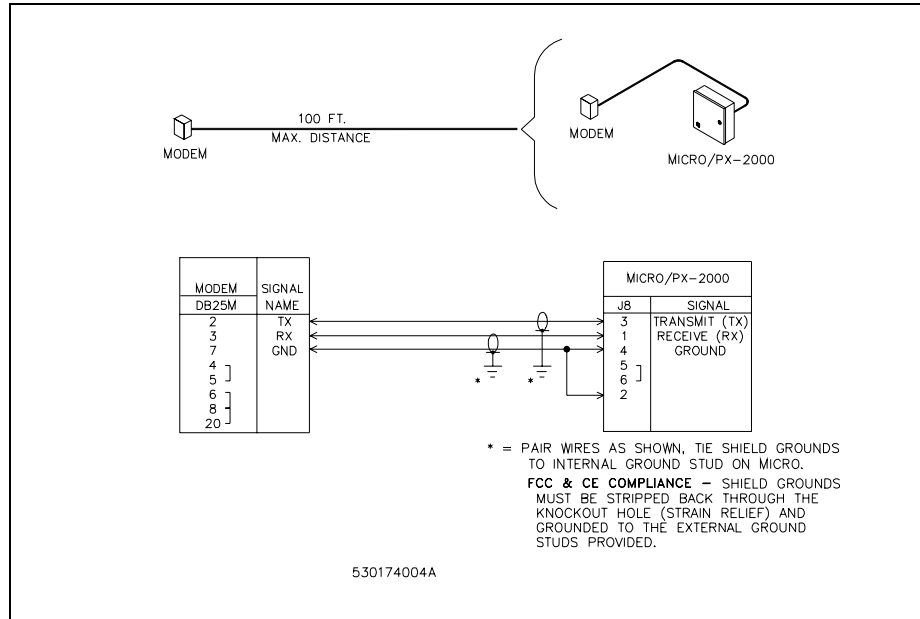


Figure 3: J8 External Modem Connection to Micro/PX-2000

Placing the Modem

► To place the modem:

1. The STAR Comm Modem will be attached to the inside of the Micro/PX-2000 cabinet door in an upright position with panel lights at the top and connectors on the bottom.
2. Remove the paper backing from one side only of the velcro adhesion strips.
3. Place the velcro adhesion strips on the back of the modem box along the top and bottom.
4. Remove the remaining paper backing from the velcro adhesion strips.
5. Position the modem box in the corner, inside door of the Micro/PX-2000 as shown in Figure 1 on page 3.

Connecting the Telephone Cable

► To connect the telephone cable:

1. Insert one end of the telephone cable into the RJ-11 connector on the bottom of the modem.
2. Extend the cable through a knockout hole on the side of the Micro/PX-2000.

Picture Perfect

NOTE

Minimum Picture Perfect application flash code is Version 1.5.9 with a Micro/PX-2000.



The following modems are compatible with the STAR Comm Modems for Picture Perfect:

- IBM® 7851-002 (Please follow the instructions found on the GE Interlogix CASI Web site for this modem setup.)
- Hayes™ Accura 33.6
- Cardinal® 28.8
- Packard Bell® 9600 (If this modem is to be used at the micro, it operates best when preset following the instructions for the STAR Comm Modem.)
- * US Robotics® 33.6 and PIICEON Modem cards (for the network micros only)
- * 3 Com® 56K MHz modem cards (for network micros only)

* PCMCIA modem cards used in Micro/5-PXN and Micro/PXN-2000 with dial-up fall-back configurations.

NOTE

On the back of the modem, next to the 25-pin connector, make sure the two-pin jumper is removed.



Host, Modem Configuration, and Programming

Scenario 1: Adding a Modem to the Host

- To add a STAR Comm Modem to the host:

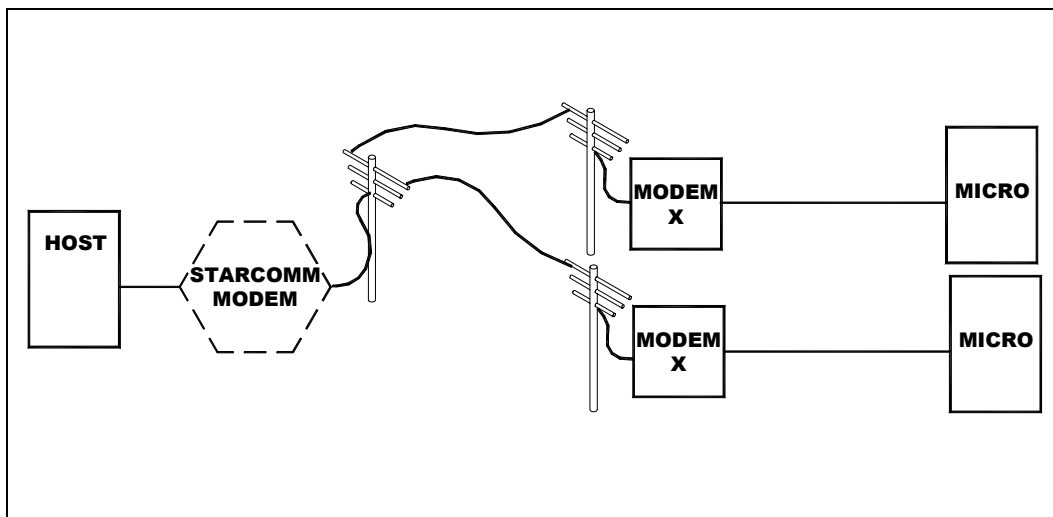


Figure 4: Typical Configuration - Adding a Modem to the Host

NOTE



Dial-up fall-back modems used in Micro/PX-2000 Network units will follow Scenario 1.

1. If this is the first time you are adding a STAR Comm Modem to the host, you will need to create a STAR Comm Modem record; otherwise, go to step 5.
2. Within Picture Perfect, select **Devices**, then **Modems**. Find the Hayes 9600 record. Click **New**, then **Copy**. Change the description to STAR Comm.
3. Change the Initialization and Deinitialization fields by entering the following:
`AT&FE0X3V1&C1&D2S0=1S7=60\N6&Q6&W`
4. Click **Save**.
5. Select **Devices**, then **Ports**. Create the port to which this modem will be attached.
6. Set the **Baud** to 9600, **Data bits** to 8, **Parity** to None and **Stop bits** to 2. Assign **Modem Type** (STAR Comm) to this port.

7. Select **Devices**, then **Micros**. Find the micros that will communicate with this new modem.
8. Select **Dial-Up**, then **Modem Type** and choose the STAR Comm Modem record that matches the STAR Comm (see Scenario 1 diagram on page 7).
9. Click **Save**, then **Quit**.

Table 1: Host Modem Configuration

Minimum Micro Firmware Version	1.5.9	
	Baud Rate	Initialization/Deinitialization Strings
Required (STAR Comm)	(Baud Rate 2400, 4800 and 9600) Initialization Deinitialization	AT&FE0X3V1&C1&D2S0=1S7=60\N6&Q6&W AT&FE0X3V1&C1&D2S0=1S7=60\N6&Q6&W
Default (Hayes)	(Baud Rate 2400, 4800 and 9600) Initialization Deinitialization	ATE0X3V1&C1&D2S0=1S7=18&W ATE0X3V1&C1&D2S0=1S7=18&W

Scenario 2: Adding a Dial-Up Micro

- To add a dial-up micro:

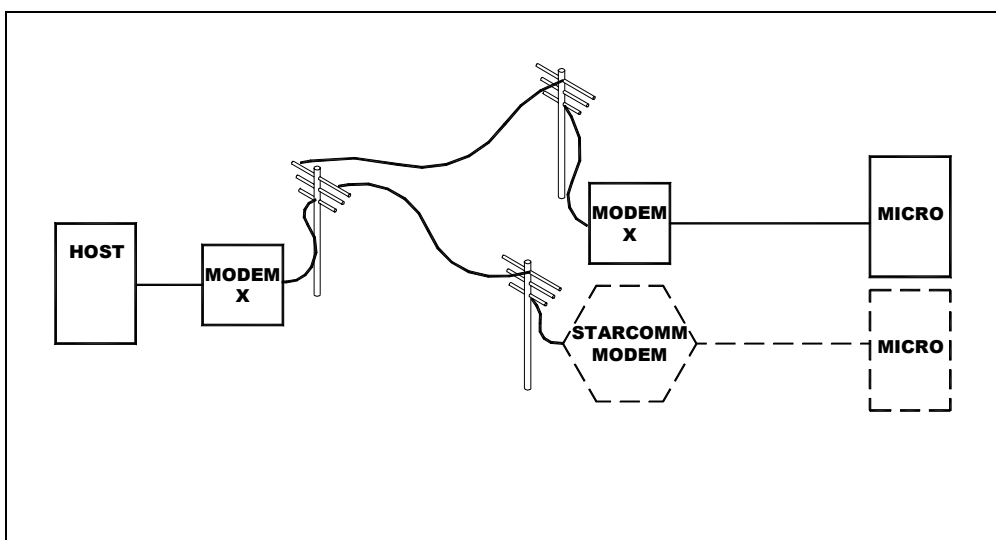


Figure 5: Typical Configuration - Adding a Dial-Up Micro

1. Within Picture Perfect, select **Devices**, then **Micros**.
2. Create a record for the new micro and assign the identical **Modem Type** that you are currently using on the host to the new micro (in the Scenario 2 diagram, it is labeled Modem X).
3. Click **Save**, then **Quit**.

Scenario 3: Adding a Dial-Up Micro and Host-End Modem

- To add a dial-up micro and host-end modem:

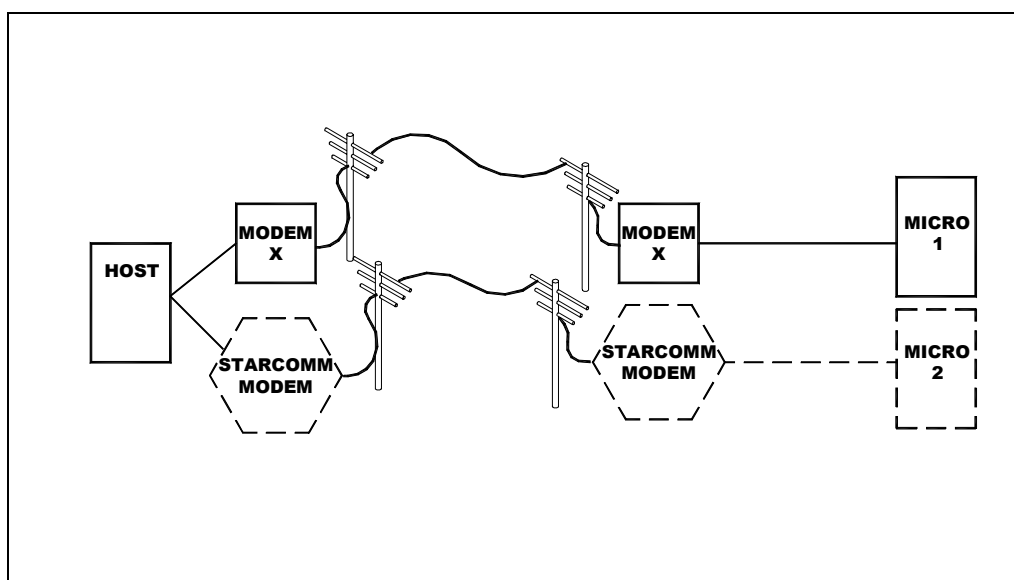


Figure 6: Typical Configuration - Adding a Dial-up Micro and Host-End Modem

NOTE

If adding a STAR Comm Modem to both host ports and micros, follow steps in Scenarios 1 and 2.



In Picture Perfect, micros are allowed only one modem type. Micros call those host modems that are of the same modem type. In the Scenario 3 diagram, Micro 1 Modem Type is Modem X and Micro 2 Modem Type is STAR Comm.

Micro Parameter Block, Modem Configuration, and Programming

A micro must have an address and telephone number in order to be a dial-up micro. The following section describes how to set the micro address, telephone number, and the initialization string (if required).

► **To configure the STAR Comm modem at the micro:**

The host phone number(s), the micro address, and modem initialization/deinitialization strings may be programmed into the parameter block of the micro using the Micro Installation Tool (MicTool) program on a PC connected directly to the micro. Attach the micro to the modem, and then reset the micro.

NOTE



Use the MicTool flash utility (Version 1.13 or higher) available from the GE Interlogix CASI Web site company store.

► **If you are using MicTool to flash your micro (only one micro can be connected):**

1. Select the communications port to which the micro is attached, then select desired baud rate.
2. Close the progress window (select x in top right corner of screen).
3. From the MicTool menu, select **Flash/Param Setup**.

Result: The flash window opens and begins to search for the micro. MicTool must detect a micro to continue and the status must equal **Micro ready**.

4. Click **Parameters** under **Options** to edit the micro parameter information.
5. Select **Dial-up**.
6. Enter the desired **Micro address**.
7. Type the micro-to-host phone number in BOTH fields; both fields should have entries.
8. Type the initialization and deinitialization strings. Refer to Tables 2, 3, and 4, depending on your micro type.

Table 2: Micro/PX-2000 Modem Configuration for Picture Perfect

Minimum Micro Firmware Version	1.5.9	
	Baud Rate	Initialization/Deinitialization Strings
Required (STAR Comm)	(Baud Rate 4800 and 9600) Initialization Deinitialization	Leave Blank* Leave Blank [†]
Required (STAR Comm)	(Baud Rate 2400) Initialization Deinitialization	ATE0Q0V1M1X4S0=1Y1+MS=2,0,2400,2400&D0&W0 ATE0Q0V1M1X4S0=1Y1+MS=2,0,2400,2400&D0&W0
Default[†] (STAR Comm)	(Baud Rate 4800 and 9600) Initialization Deinitialization	AT&FE0Q0V1M1X4S0=1Y1&D0&Y0\N6&Q6&W AT&FE0Q0V1M1X4S0=1Y1&D0&Y0\N6&Q6&W

*. May leave blank for firmware Version 1.5.9 and later; otherwise, use Micro/5-PX STAR Comm initialization /deinitialization strings for Baud 4800 and 9600 from Table 2 in the STAR Comm Modem Setup Instructions.

†. If no initialization/deinitialization strings are specified, the default strings are used.

9. Select **Save to Micro**.

10. Flash the micro with firmware.

Setting Dip Switches and Powering On

➤ To set the dip switches and power on:

1. Power down the micro, then set the dip switches for dial-up communications, the baud rate, and application mode.
2. Make modem connection to the micro, power on the modem, then power on the micro.
3. The micro makes a dial-up connection to the host.

Secure Perfect 2.02 to 2.1

The following modems are compatible with the STAR Comm Modems for Secure Perfect:

- Hayes Accura 33.6
- Cardinal 28.8
- Packard Bell 9600
- IBM 7851-002

Host Modem Configuration

- To configure the STAR Comm Modem at the host for use with dial-up micros:

NOTE



FOR WIN98 SYSTEMS: The first time the computer is restarted and you attach a STAR Comm Modem to the computer, you receive a message that new hardware has been detected. As a result, a KORTEK modem is added to the Modems Properties list. Allow the modem to be installed and leave it installed.

Beginning Installation

- To begin the installation:
 1. Insert the Secure Perfect (Version 2.14 or later) CD-ROM into the drive, or download the file from the GE Interlogix CASI Web site and save to the computer or to a diskette. If you save to a diskette, insert the diskette into the drive. The `mdmstar.inf` (drivers) file may also be found in the `Casi-Rusco\Secure Perfect\Firmware` folder if the Secure Perfect software has already been loaded.
 2. Click **Start**, **Settings**, then **Control Panel**.
 3. Double-click the **Modems** icon.
 4. If no modems exist, the **Install New Modem** dialog displays. Skip to step 8.
If a modem already exists, the **Modems Properties** dialog displays. Continue with the next step.
 5. Click **Add**.
Result: The **Install New Modem** dialog displays.
 6. **For Win95 and WinNT systems:** Skip to step 8.
For Win98 systems: Select **Don't run the Hardware Installation Wizard**. Continue with the next step.

7. Click **Next**.
8. Select **Don't detect my modem; I will select it from a list**.
9. Click **Next**.
10. Click **Have Disk**.

Result: The **Install From Disk** dialog displays.

11. If installing from diskette and the diskette drive is A:, click **OK**.

Otherwise:

- Click **Browse**.
- Navigate to the location of the `mdmstar.inf` file. On the **Secure Perfect 2.14** CD, the file can be found in the **StarComm Modem Driver** folder.
- Select the file.
- **For WinNT systems:** Click **Open**.
For Win95 and Win98 systems: Click **OK**.
- Click **OK**.

Selecting the Software

➤ **To select the software:**

1. At the **Install New Modem** dialog, select **Casi Rusco 1442 - 9.6Kbps (Secure Perfect)**.
2. Click **Next**.
3. **For WinNT systems:** In the field **On which ports do you want to install it?**, select **Selected ports**. Select the desired port from the list.
For Win95 and Win98 systems: In the field **Select the port to use with this modem**, select the desired port.
4. Click **Next**.
5. **For WinNT systems only:** You may be prompted to restart your computer. Click **OK** to restart the computer.
6. Once the modem drivers have been installed, click **Finish**.
7. **For WinNT systems only:** You may be prompted to restart your computer. Click **OK** to restart the computer.

Setting Properties

➤ **To set the properties:**

1. In the **Modems Properties** window, select the modem you just added. If this is the first STAR Comm Modem, it is named **Casi Rusco 1442 - 9.6Kbps (Secure Perfect)**. With each additional modem added, the name is appended with a pound sign followed by the number of STAR Comm Modems added. For example, if this is the second modem, it is named **Casi Rusco 1442 - 9.6Kbps (Secure Perfect) #2**.
2. Select **Properties**.
3. Select the **General** tab and set the maximum speed to 9600. Select **Only connect at this speed**.
To configure at 4800: Maximum speed = 4800 only. Connect at this speed.
To configure at 2400: Maximum speed = 2400 only. Connect at this speed.
4. Select the **Connection** tab and set the **Data bits** to 8, **Parity** to **None** and **Stop bits** to 2.
5. Click **Advanced**.
6. In the **Advanced Connection Settings** window, clear **Use error control**.
To configure at 4800, enter Extra setting: **+ms = 9, 0, 4800, 4800**
To configure at 2400, enter Extra setting: **+ms = 2, 0, 2400, 2400**
7. Click **OK** twice, then **Close**.

Micro Modem Configuration

To configure your STAR Comm Modem at the micro — minimum micro firmware must be Version 2.03.

➤ **To configure a Micro/PX-2000:**

If **NO** initialization/deinitialization string is specified in the micro parameter block, then the following default strings are used by the micro.

Table 3: Micro/PX-2000 Defaults for Secure Perfect

Application	Baud Rate	Initialization/Deinitialization Strings
Flash Code M5S2110 or Later	Initialization Deinitialization (Baud Rate 9600)	AT&FEV1S0=1&C0&D0+MS=9,0,9600,9600\N0&W0 AT&FEV1S0=1&C0&D0+MS=9,0,9600,9600\N0&W1

Flashing a Dial-Up Micro that has Secure Perfect Application Firmware

Flashing with mcutil32

NOTE



The mcutil32 program is loaded on the Secure Perfect host when Secure Perfect is installed.

➤ When flashing a dial-up micro from the host, using the mcutil32 program:

1. From the **mcutil32** main menu, select **Function**, then **Start Flash/SMA**.

Result: The **Communication Settings** window displays.

2. In the **Modem Init. Cmd** box, select the following initialization string from the list:

Modem Initialization String	AT&FEV1S7=60\N0%C0&K0+MS=9,0,9600,9600
-----------------------------	--

3. Flash the micro with firmware.

Flashing a Dial-Up Micro Without Secure Perfect Application Firmware

Connect, Flash and Transfer Data

The following steps assist you to connect, flash, and transfer data to a micro without the Secure Perfect application code:

➤ To connect and set dip switches:

1. Connect directly to the micro.
2. Power down the micro and set the dip switches as follows:

Micro/PX-2000

SW5-1	ON
SW5-2	ON
SW5-6	ON
SW5-7	ON

3. Match the baud rate to the selected baud rate in the flash utility you are using, then power on.

4. You must run `mcutil32` or MicTool when flashing your micro for the first time. Refer to the sections that follow for the appropriate instructions for your choice of a micro installation tool.

NOTE

Use the `micrtool` flash utility (Version 1.13 or higher) available from the GE Interlogix CASI Web site company store or alternatively, the `mcutil32` program available by contacting GE Interlogix CASI Customer Support.

► **If using `mcutil32` to flash your micro:**

1. Select communications port to which the micro is attached, then select desired baud rate.
2. Select **Secure Perfect**, click **Next**, select **SMA**, click **Next**, select **Dial-up**, click **Next**, and then **Change direct to dial-up**.
3. Select **Finish** to poll for all micros (leave micro address fields blank). Select **Finish** to poll for micros in maintenance mode or one of the detected micros (enter the address of a detected micro in the **Old configuration** field).

Result: The old configuration is shown.

4. Delete the old micro address and type in the desired new micro address in **both** old and new micro address fields.
5. Type the micro-to-host phone number in **both** fields; both fields should have entries.
6. Type the initialization and deinitialization strings as follows (**both** must be entered):

Table 4: Secure Perfect 2.1 Modem Configuration for First-Time Flash Using `mcutil32`

Baud Rate	Secure Perfect First-Time Flash Initialization/Deinitialization Strings
9600	Initialization: AT&FEV1S0=1&C0&D0+MS=9,0,9600,9600\N0&W0 Deinitialization: AT&FEV1S0=1&C0&D0+MS=9,0,9600,9600\N0&W1
4800	Initialization: AT&FEV1S0=1&C0&D0+MS=9,0,4800,4800\N0&W0 Deinitialization: AT&FEV1S0=1&C0&D0+MS=9,0,4800,4800\N0&W1
2400	Initialization: AT&FEV1S0=1&C0&D0+MS=2,0,2400,2400\N0&W0 Deinitialization: AT&FEV1S0=1&C0&D0+MS=2,0,2400,2400\N0&W1

7. Select **Finish** to update the old configuration.
8. Select **Finish** to exit SMA.
9. Flash the micro with firmware.

► **If you are using MicTool to flash your micro (only one micro can be connected):**

1. Select the communications port to which the micro is attached, then select desired baud rate.
2. Close the progress window (select **x** in top right corner of screen).
3. From the MicTool menu, select **Flash/Param Setup**.

Result: The flash window opens and begins to search for the micro. MicTool must detect a micro to continue and the status must equal **Micro ready**.

4. Click **Parameters** under **Options** to edit the micro parameter information.
5. Select **Dial-up**.
6. Enter the desired **Micro address**.
7. Type the micro-to-host phone number in BOTH fields; both fields should have entries.
8. Type the initialization and deinitialization strings as in Table 5 (**both** must be entered):

**Table 5: Secure Perfect 2.1 Modem Configuration
First-Time Flash using MicTool**

Baud Rate	Secure Perfect First-Time Flash Initialization/Deinitialization Strings	
9600	Initialization:	AT&FEV1S0=1&C0&D0+MS=9,0,9600,9600\N0&W0
	Deinitialization:	AT&FEV1S0=1&C0&D0+MS=9,0,9600,9600\N0&W1
4800	Initialization:	AT&FEV1S0=1&C0&D0+MS=9,0,4800,4800\N0&W0
	Deinitialization:	AT&FEV1S0=1&C0&D0+MS=9,0,4800,4800\N0&W1
2400	Initialization:	AT&FEV1S0=1&C0&D0+MS=2,0,2400,2400\N0&W0
	Deinitialization:	AT&FEV1S0=1&C0&D0+MS=2,0,2400,2400\N0&W1

9. Select **Save to Micro**.
10. Flash the micro with firmware.

Setting Dip Switches and Powering On

- **To set dip switches and power on:**
 1. Power down the micro, then set the dip switches for dial-up communications, the baud rate, and application mode (Micro/PX-2000).
 2. Make modem connection to the micro, power on the modem, then power on the micro.
 3. The micro makes a dial-up connection to the host.

SP3.0 or Later

Host Modem Configuration

This section details the steps to configure the STAR Comm Modem at the host on Windows 2000.

Beginning the Installation

- **To begin the installation of the STAR Comm Modem at the host on Windows 2000:**

1. Click **Start, Settings, Control Panel**, then **Phone and Modem Options**.

Result: The **Location** information window displays.

NOTE



This information is only required the first time you install any modem. This window will not display for subsequent modem installations.

2. Enter **Location**, **Area Code**, and **Number dialed to access an outside line**. The **Area Code** is a required field.

3. Click **Next**.

Result: The **Phone and Modem Options** window displays.

4. Select the **Modems** tab and locate the STAR Comm Modem on the list. If the STAR Comm Modem is not listed, click **Add** to add a modem.

Result: The **Add/Remove Hardware Wizard** window displays.

5. Select **Don't detect my modem; I will select it from a list** and click **Next**.

6. From the **Install New Modem** window, click **Have Disk**.

Result: The **Install From Disk** window displays.

7. If installing from a diskette, and the drive is A:, click **OK**.

Otherwise:

- Click **Browse** and navigate to the `mdmstar.inf` file in the firmware folder of Secure Perfect on the Server computer. On the Secure Perfect CD, browse to the drive where the **Firmware** folder resides.
- Select the file.
- Click **Open**.
- Click **OK**.

Result: The **Install New Modem** window displays.

Selecting the Software

► To select the software:

1. Select **Casi Rusco 1442 - 9.6Kbps (Secure Perfect)**.
2. Click **Next**.
3. When asked **On which ports do you want to install it?**, select **Selected ports** and select the desired port from the list.
4. Click **Next**.

NOTE



You may see a *Digital Signature Not Found* window. When asked *Do you want to continue the installation?*, click **Yes**.

Result: Modem drivers are installed.

5. Click **Finish**.
6. Select the modem you just added. If this is the first STAR Comm Modem, it is named **Casi Rusco 1442 - 9.6Kbps (Secure Perfect)**. With each additional modem added, the name is appended with a pound sign followed by the number of the STAR Comm Modems added. For example, the second STAR Comm Modem is named **Casi Rusco 1442 - 9.6Kbps (Secure Perfect) #2**.

Setting the Properties

► To set the properties:

1. Click **Properties**.
2. Select the **General** tab and set the **Maximum Port Speed** to 9600.
3. Select the **Advanced** tab and click **Change Default Preferences**.

4. Set the **Data Connection Preferences**:
 - **Data Protocol** to **Disabled**.
 - **Compression** to **Disabled**.
5. Select the **Advanced** tab and set the **Hardware Settings** at **Data bits** to **8**, **Parity** to **None**, and **Stop bits** to **2**.
6. Click **OK** three times to exit the modem setup windows and exit the Control Panel.

Micro Modem Configuration

This section details the instructions for configuring your STAR Comm Modem at the micro.

➤ **To configure a Micro/PX-2000:**

If **NO** initialization string is specified in the micro parameter block, then the following STAR Comm default initialization strings are used by the micro.

Table 6: Micro/PX-2000 Default Modem Configuration for SP3.0 or Later

Baud Rate	Initialization/Deinitialization Strings	
9600	Initialization Deinitialization	AT&FEV1S0=1&C0&D0+MS=9,0,9600,9600\N0&W0 AT&FEV1S0=1&C0&D0+MS=9,0,9600,9600\N0&W1
4800	Initialization Deinitialization	AT&FEV1S0=1&C0&D0+MS=9,0,4800,4800\N0&W0 AT&FEV1S0=1&C0&D0+MS=9,0,4800,4800\N0&W1
2400	Initialization Deinitialization	AT&FEV1S0=1&C0&D0+MS=2,0,2400,2400\N0&W0 AT&FEV1S0=1&C0&D0+MS=2,0,2400,2400\N0&W1

Serially Flashing a Dial-Up Micro Without SP3.0 or Later Firmware

Connect, Flash, and Transfer Data

The following steps assist you to connect, flash, and transfer data to a micro without the SP3.0 or later firmware:

► **To connect and set dip switches:**

1. Connect Host-to-Micro cable directly to the micro.
2. Power down the micro and set the dip switches as follows:

Micro/PX-2000

SW5-1	ON
SW5-2	ON
SW5-6	ON
SW5-7	ON

3. Match the baud rate to the selected baud rate in the flash utility you are using, then power on.
4. The first time you flash your micro, you must use FlashTool.

NOTE



To run, open FlashTool. (By default, FlashTool installs in Program Files\Casi-Rusco\Secure Perfect\FlashTool.)

Double-click **Flash.exe**.

5. Enter the micro address in the parameter block.
6. For SP3.0, refer to Table 6 on page 20 for initialization/deinitialization strings.

For SP3.1, no strings are needed. Set the DIP switches to the appropriate baud rate.

7. Select **Save to Micro**.

Set Dip Switches and Power On

- **To set dip switches and power on:**
 1. Power down the micro, then set the dip switches for dial-up communications, the baud rate, and application mode (Micro/PX-2000).
 2. Make modem connection to the micro, power on the modem, then power on the micro.
 3. The micro makes a dial-up connection to the host.

Reflashing a Dial-Up Micro by Dial-Up Communication

Using FlashTool

- **To flash firmware to the micro in SP3.0 or later on Win2000 systems, use FlashTool:**
 1. At the host computer of the STAR Comm Modem, open FlashTool. (By default, FlashTool installs in `Program Files\Casi-Rusco\Secure Perfect\FlashTool1.`) Double-click `Flash.exe`.
 2. Select **File**, then **Configuration**.
 3. A series of windows may display. Click **OK** to accept each window. Verify the micro settings as follows:
 - **Baud Rate** must match the switch settings on the Micro/PX-2000.
 - From the drop-down list, select the **Com Port** to which the modem is connected and click **OK**.
 - Click **Dial a Micro** and enter the telephone number to reach the micro.
 4. Click **Connect**.

Result: When FlashTool finds the micro, the status appears in the Micro Status block.
 5. Click **Parameters**.
 6. In the **Dialup Parameters** block, enter phone numbers to reach the host.
 7. Click **Save to Micro** to save the data into the parameter block of the micro.
 8. Exit FlashTool.

Configuration of the Micro/PX-2000

See Table 10, “Setting the Micro Address, Telephone Number, and Initialization String,” on page 26 for a summary of configuration options.

Micro Address

If using Secure Perfect 4.0, you now have the option to map the DO relays to the Reader ports which provides Door DO relays. The mapping is a one-to-one relationship which means DO relay 1 maps to Reader port 1 and so on. The mapping is accomplished by prepending the micro address with a 9. For example, addresses 9001 through 9998 represent micro addresses 1 through 998 AND map the DO relays. Addresses 0001 through 8999 represent micro addresses 1 through 999 and DO NOT map the DO relays.

► **There are two options for setting the micro address:**

1. **Using four rotary dip switches.** A small screwdriver is used to rotate the pointer on the switch so that the pointer in the middle of the switch points to the proper numbers.

Table 7: Valid Address Ranges

		Address
Picture Perfect		0000-4095
Secure Perfect	without relays	0001-8999
	with relays	9001-9998

2. **Using one of the GE Interlogix CASI micro firmware installation tools from a PC or laptop.** If using this option, set the 4 rotary dip switches to one of the addresses listed in the table below.

Table 8: Address for using Micro Firmware Installation Tools

		Address
Picture Perfect		9999
Secure Perfect	without relays	9999
	with relays	9000

NOTE

Factory default address is set to 9999.

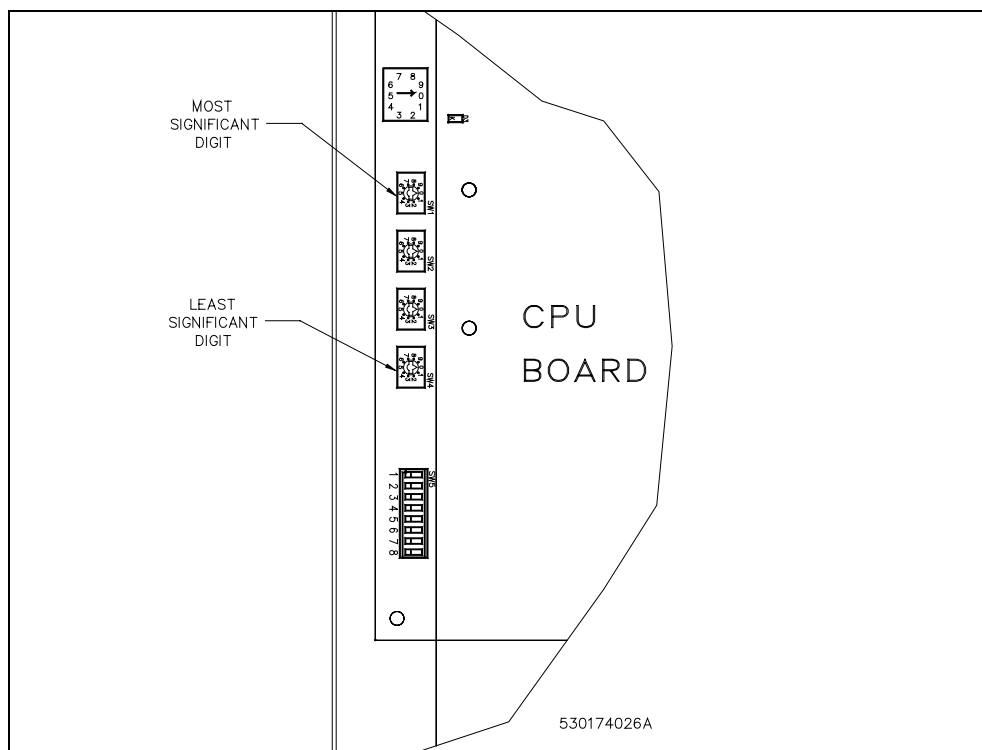


Figure 7: Micro Address Switch Overview (Example Micro Address 4)

Switch 5 Settings

Table 9: Switch 5 Settings

SW5	OFF	ON	
1	F/2F Readers	Supervised Readers	
2	Communication - Select	Refer to table at right	SW5-2 SW5-5
5	Communication - Select	Refer to table at right	Direct Short-Haul/ Leased-Line OFF OFF Dialup ON ON
3	Baud Rate - Select	Refer to table at right	Baud Rate SW5-3 SW5-4 2400 ON OFF 4800 OFF ON 9600 ON ON 19200* OFF OFF *For Picture Perfect direct only.
4	Baud Rate - Select	Refer to table at right	
6	Micro Mode - Select	Refer to table at right	Micro Mode SW5-6 SW5-7
7	Micro Mode - Select	Refer to table at right	Application OFF OFF Maintenance ON ON N/A OFF ON N/A ON OFF
8	NOT USED		

Summary of Configuration Options

Table 10: Setting the Micro Address, Telephone Number, and Initialization String

Application	Procedure	Dip Switch Settings
Secure Perfect Direct	Step 1: Set Address	Set the 4 rotary dip switches to desired address. If using relay output points for your door strikes, prepend the address with a 9. OR Set the 4 rotary dip switches to: <ul style="list-style-type: none"> • 9999 if NOT using relays • 9000 if using relays Then, use one of the GE Interlogix CASI micro installation tools (running on a PC or laptop) to set address in the parameter block.
	Step 2: Set Direct	Set dip switch SW5-2 to OFF. Set dip switch SW5-5 to OFF.
	Step 3: Set Baud	Set dip switches SW5-3 and SW5-4 to desired baud rate. (See Table 9, "Switch 5 Settings," on page 25.)
	Step 4: Set Configuration	Set dip switch SW5-6 to OFF. Set dip switch SW5-7 to OFF.
Secure Perfect Dialup	Step 1: Set Address	Set the 4 rotary dip switches to desired address. If using relay output points for your door strikes, prepend the address with a 9. OR Set the 4 rotary dip switches to: <ul style="list-style-type: none"> • 9999 if NOT using relays • 9000 if using relays Then, use one of the GE Interlogix CASI micro installation tools (running on a PC or laptop) to set address in the parameter block.
	Step 2: Set Dialup	Head-of-line micro: Set dip switch SW5-2 to ON. Set dip switch SW5-5 to ON. Downstream micros: Set dip switch SW5-2 to OFF. Set dip switch SW5-5 to OFF.
	Step 3: Set Baud	Set dip switches SW5-3 and SW5-4 to desired baud rate. (See Table 9, "Switch 5 Settings," on page 25.)
	Step 4: Set Phone #	Set phone # and modem initialization string (optional) using a GE Interlogix-CASI micro installation tool.
	Step 5: Set Configuration	Set dip switch SW5-6 to OFF. Set dip switch SW5-7 to OFF.

**Table 10: Setting the Micro Address, Telephone Number, and Initialization String
(Continued)**

Application	Procedure	Dip Switch Settings
Picture Perfect Direct	Step 1: Set Address	Leave at ANY address - the application will use N/A.
	Step 2: Set Direct	Set dip switch SW5-2 to OFF. Set dip switch SW5-5 to OFF.
	Step 3: Set Baud	Set dip switches SW5-3 and SW5-4 to desired baud rate. (See Table 9, "Switch 5 Settings," on page 25.)
	Step 4: Set Configuration	Set dip switch SW5-6 to OFF. Set dip switch SW5-7 to OFF.
Picture Perfect Dialup	Step 1: Set Address	Set the 4 rotary dip switches to desired address. OR Set the 4 rotary dip switches to 9999; use one of the GE Interlogix-CASI micro installation tools (running on a PC or laptop) to set address in the parameter block.
	Step 2: Set Dialup	Head-of-line micro: Set dip switch SW5-2 to ON. Set dip switch SW5-5 to ON. Downstream micros: Set dip switch SW5-2 to OFF. Set dip switch SW5-5 to OFF.
	Step 3: Set Baud	Set dip switches SW5-3 and SW5-4 to desired baud rate. (See Table 9, "Switch 5 Settings," on page 25.)
	Step 4: Set Phone #	Set phone # and modem initialization string (optional) using one of the GE Interlogix CASI micro installation tools.
	Step 5: Configuration	Set dip switch SW5-6 to OFF. Set dip switch SW5-7 to OFF.

RS-232 Communication Cable Overview

Figure 8 and Figure 9 show the connections for host connectors.

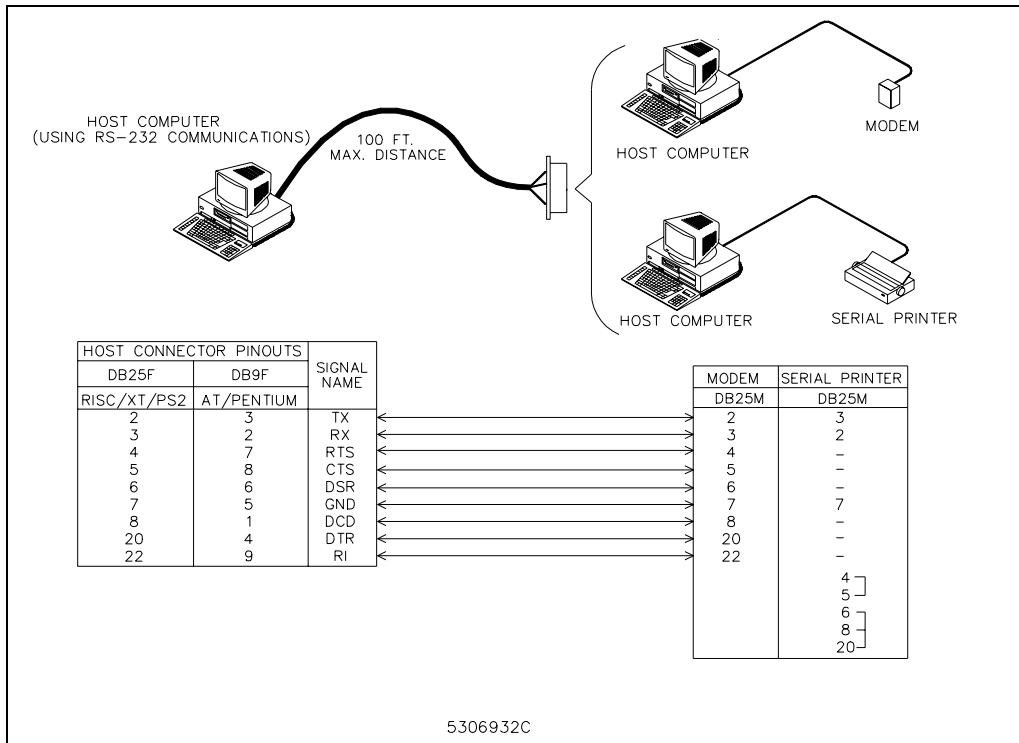


Figure 8: Host-to-Modem Connection Overview

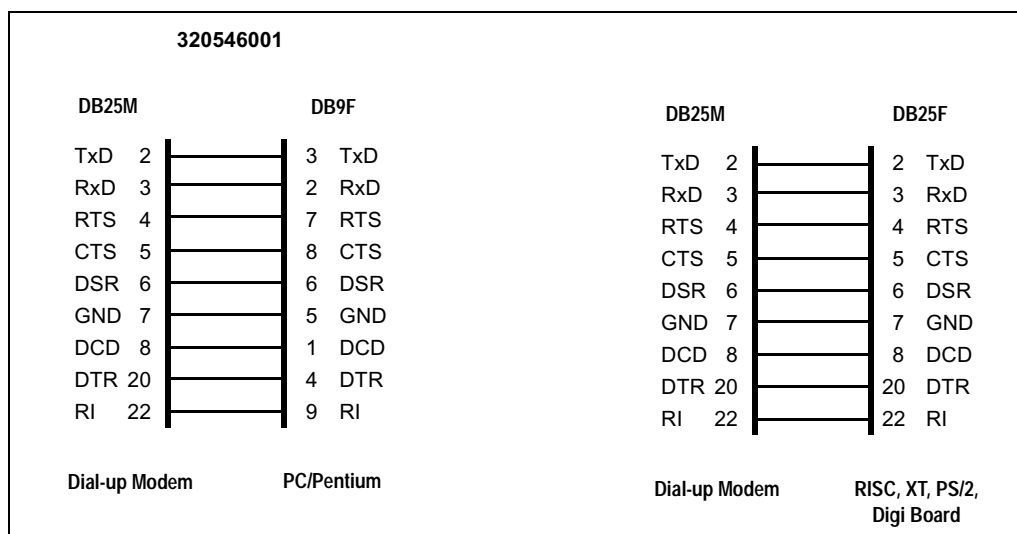


Figure 9: Host-to-Modem Cable Pinouts

Using the STAR Comm Modem in 2-Wire Short-Haul or Leased-Line Configurations

A pair of STAR Comm Modems can be used over a short-haul line to a maximum distance of five miles or over leased lines.

NOTE



Leased lines should be a 2-wire line with a minimum 3002 conditioning and a line loss of from -12 to -18 db.

Since these modems are used in pairs, **do not use the STAR Comm Modem in conjunction with any other modem.**

Before you configure the modem, verify that the micro setup (see the bullets below) and the connections (see Figure 10) are correct:

- In Picture Perfect, the micro must be set up as a direct micro with Baud rate 9600, Data bits 8, Parity **None**, and Stop bits 2. This is done in the **Ports** screen for the primary port for this micro.
- In Secure Perfect, the micro is set up as a direct micro and its COM port in Windows is defined as Baud rate 9600, Data bits 8, Parity **None**, and Stop bits 2.

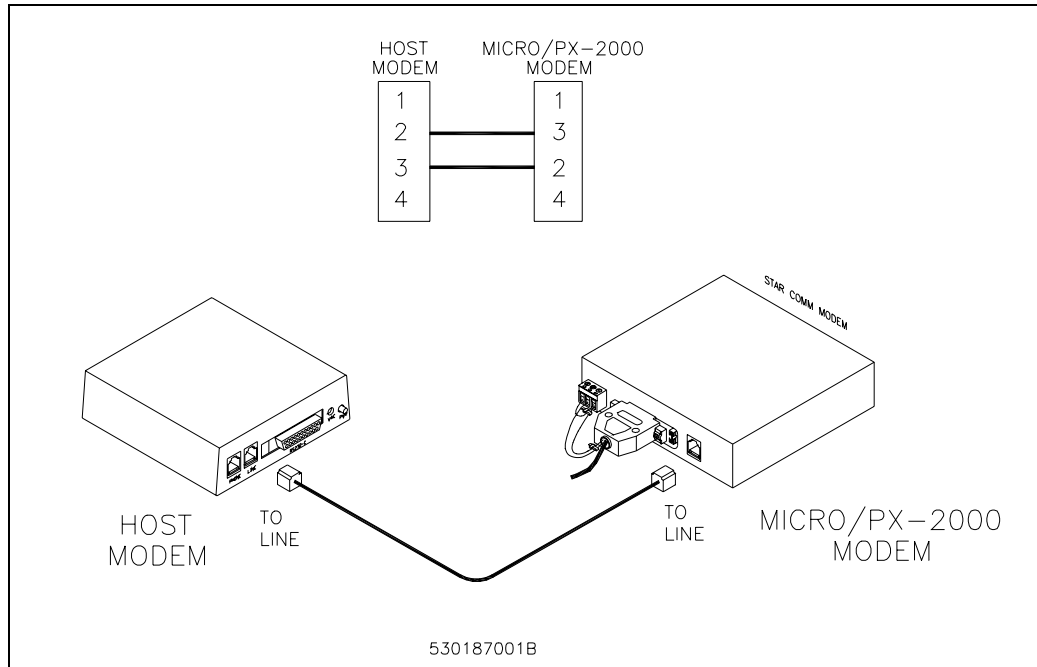


Figure 10: Short-Haul Connection Overview

Configuring Modems

- To configure the modems for your application to operate at 9600 bits per second.
 1. Attach the modem that will be located at the host computer to the serial port of a PC.
 2. On the back of the modem next to the 25-pin connector, there is a two-pin jumper. Set the jumper to disconnect the two pins. Power off the modem and power it back on.
 3. Run any DOS-based or Windows-based communications program, such as HyperTerminal, that allows direct communications with a modem. Ensure you are running at Baud rate 9600, Data bits 8, Parity **None**, and Stop bits 2. For example, using the DOS prompt, type:

```
mode comx 9600 n 8 2
```

where **x** is the communication port.

Then, type:

```
echo init string >comx
```

where **init string** is as follows:

```
AT&F&L1&K0&D0\H1\F1\N0E0Q1+MS=9,0,9600,9600S7=200&W
```

This modem is designated the **Originate** (host end) modem.

Power off the modem; then, exit the communications program without sending any other string to the modem. Do not attempt to view the profile or re-enter anything.

4. On the back of the modem next to the 25-pin connector, there is a two-pin jumper. Set the jumper to connect the two pins.

Micro/PX-2000 Modem Setup

- To connect the modem to the serial port of a PC:
 1. Attach the 25-pin connector on the modem located at the Micro/PX-2000 to the serial port of a PC. The modem must be powered either by the Micro/PX-2000 or externally-supplied 12VDC.
 2. On the back of the modem next to the 25-pin connector, there is a two-pin jumper. Set the jumper to disconnect the two pins. Power off the modem and then power it back on.

3. Run any DOS-based or Windows-based communications program that allows direct communications with a modem. Ensure you are running at Baud rate 9600, Data bits 8, Parity **None**, and Stop bits 2. For example, using the DOS prompt, type:

```
mode comx 9600 n 8 2
```

where **x** is the communication port.

Then, type:

```
echo init string >comx
```

where **init string** is as follows:

```
AT&F&L1&K0&D0\H1\F0\N0E0Q1+MS=9,0,9600,9600S7=30&W
```

This modem is designated the **Answer** (micro end) modem.

Power off the modem; then, exit the communications program without sending any other string to the modem. Do not attempt to view the profile or re-enter anything.

4. On the back of the modem next to the 25-pin connector, there is a two-pin jumper. Set the jumper to connect the two pins.
5. Connect the **Originate** modem from step 3, "Configuring Modems" on page 30, to the host computer. This line must be set up as a local (direct) line in the host software. Attach the host end of the short-haul line or the leased line to this modem.
6. Connect the **Answer** modem from step 3, "Micro/PX-2000 Modem Setup" on page 30, to the micro. The micro must be set up as a direct-connect micro. Set dip switch SW5-5 to ON. Attach the micro end of the short-haul line or the leased line to this modem.
7. When both modems are powered on and the telephone line has been connected, the modems will automatically establish the connection.
 - At the host, the **MR TR OH CD HS** LEDs are ON and the **SD RD** LEDs flicker as data is exchanged between the host and the micro.
 - At the micro, the **MR TR OH CD HS** LEDs are ON and the **SD RD** LEDs flicker as data is exchanged between the micro and the host.

Battery Backup for the STAR Comm Modem

The STAR Comm Modem uses power from the backup battery power source provided with the Micro/PX-2000.

Troubleshooting

- **If the Micro/PX-2000 system is not functioning correctly, check the following:**
 1. Check the modem cable connections.
 2. Verify the accuracy of the dip switch settings.
 3. Verify the appropriate modem baud rate setting.
 4. Verify modem jumper position.
 5. Check for LED error messages.

- **If you are having problems communicating with the micro during the configuration of the micro address or initialization string while running one of the GE Interlogix CASI micro installation tools, do the following:**
 1. Set dip switch SW5-6 to ON and SW5-7 to ON.
 2. Reset the micro.
 3. Enter the revised micro address, telephone number, or initialization string (optional).
 4. Reset switch SW5-6 to OFF and switch SW5-7 to OFF.
 5. Reset the micro.

Table 11: LED Error Codes

Application	Type	LED State	Error Code/Error Condition
Secure Perfect and Picture Perfect	Dialup/ Direct	Flash all four; PAUSE, then DS1 one time.	1000 ERROR - RAM test failure @ A30. Error code repeated continuously. (Application WILL NOT run.)
Picture Perfect	Dialup/ Direct	Flash all four; PAUSE, then DS2 one time.	1000 ERROR - RAM test failure @ A30. Error code repeated continuously. (Application WILL NOT run.)
Secure Perfect	Dialup	Flash all four; PAUSE, then DS4 one time.	0001 WARNING - No phone number in parameter block. Pattern will repeat for approximately 10 seconds; then micro proceeds in application mode.
Secure Perfect	Dialup	Flash all four, PAUSE, then DS4 two times.	0002 WARNING - No modem initialization string in parameter block. Pattern will repeat for approximately 10 seconds; then micro proceeds in application mode.
Secure Perfect	Dialup	Flash all four, PAUSE, then DS4 three times.	0003 ERROR - Illegal addressing. Pattern will repeat 3 times; stay in maintenance mode for 30 seconds; then micro resets and pattern repeats. (Application WILL NOT run.)
Secure Perfect	Direct	Flash all four, PAUSE, then DS4 four times.	0004 ERROR - Illegal addressing. Pattern will repeat 3 times; stay in maintenance mode for 30 seconds; then, micro resets and pattern repeats. (Application WILL NOT run.)
Secure Perfect	Dialup	Flash all four, PAUSE, then DS4 five times.	0005 ERROR - Invalid baud rate. Pattern will repeat 3 times; go to maintenance mode for 30 seconds; then micro resets and pattern repeats.
Picture Perfect	Dialup	Flash all four, PAUSE, then DS3 one time.	0010 WARNING - No phone number in parameter block. Pattern will repeat 3 times, then micro proceeds in application mode.
Picture Perfect	Dialup	Flash all four, PAUSE, then DS3 two times.	0020 WARNING - No modem initialization string in parameter block. Pattern will repeat 3 times, then micro proceeds in application mode.
Picture Perfect	Dialup	Flash all four, PAUSE, then DS3 three times.	0030 ERROR - Illegal addressing. Pattern will repeat 3 times; proceeds in maintenance mode; then micro resets and pattern repeats. (Application WILL NOT run.)

Table 11: LED Error Codes (Continued)

Application	Type	LED State	Error Code/Error Condition
Picture Perfect	Direct	Flash all four, PAUSE, then DS3 four times.	0040 WARNING - Illegal addressing; unknown address will be assumed. Pattern will repeat 3 times; then micro proceeds in application mode.
Picture Perfect	Dialup	Flash all four, PAUSE, then DS3 five times.	0050 ERROR - Invalid baud rate selected for modem. Pattern will repeat 3 times; proceeds in maintenance mode; then micro resets and pattern repeats. (Application WILL NOT run.)
Picture Perfect	Direct	Flash all four, PAUSE, then DS2 one time.	0100 WARNING - Phone number present in parameter block. Pattern will repeat 3 times; then micro proceeds in application mode.
Picture Perfect	Direct	Flash all four, PAUSE, then DS2 two times.	0200 WARNING - Modem initialization string present in parameter block. Pattern will repeat 3 times; then micro proceeds in application mode.

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