

**Getting Started Guide**

P/N 068576-002

**TRAKKER<sup>®</sup> Antares<sup>™</sup> 246X**  
**Stationary Terminal**



A **UNOVA** Company

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## Electrical Specifications

Models: 2460 and 2461

Electrical rating: ---12V, 750 mA

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## *Introduction*

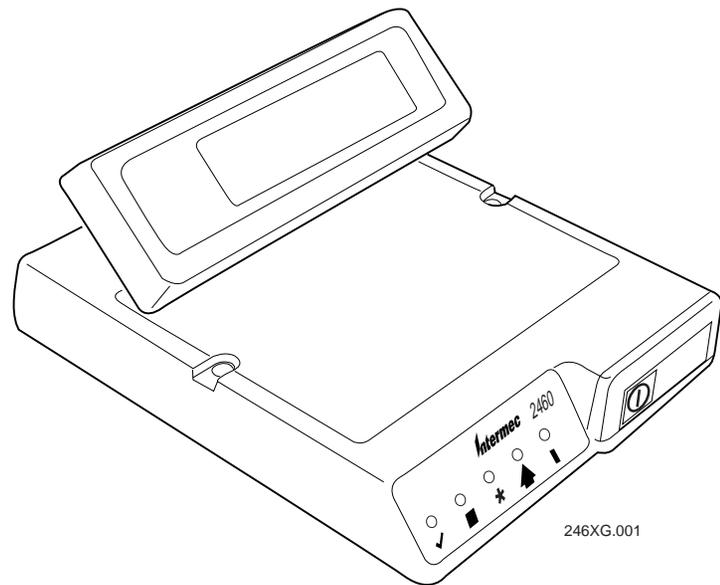
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Congratulations on selecting Intermec to help meet your data collection needs. You have chosen the world leader in the data collection industry.

The TRAKKER® Antares™ 246X stationary terminals (2460 and 2461) are wall-mount or desktop data collection terminals. You can use these programmable terminals to run client/server applications such as work-in-process, time and attendance, or document tracking.

**2460** The 2460 is a programmable data collection terminal that uses serial ports to transmit data to and receive data from a host or PC. The 2460 has two serial ports, COM1 and COM2.

**2461** The 2461 is a programmable data collection terminal that has both a serial port and an Ethernet connector to transmit and receive data.



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## Standard Features

The 246X terminals ship with these standard features:

- 512K of RAM reserved for applications
- 750K flash drive to store user applications and files
- Scanner connector to attach a wand, badge scanner, laser scanner, or CCD scanner
- Serial port (COM1) for RS-232 communications

You can purchase this option for the 246X terminal:

- 4MB flash memory, 2MB of which you can configure as a 2MB drive

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## Accessories

You can use these accessories (sold and ordered separately) with the 246X terminals.

**Main Power Supply** The main power supply (Part No. 065236) provides 12V to the 246X terminals. The North American power cable (Part No. 586105) ships with the main power supply.

**Power Cables** The main power supply supports these international power cables:

Country	Part Number
UK	586266
Europe	586267
Switzerland	586276
China	586281
Chile, Italy	586282
Denmark	586283

**Keyboard** There are two keyboard accessories available for the terminal:

- Alphanumeric keyboard (Part No. 068662)
- Numeric keyboard (Part No. 069113)

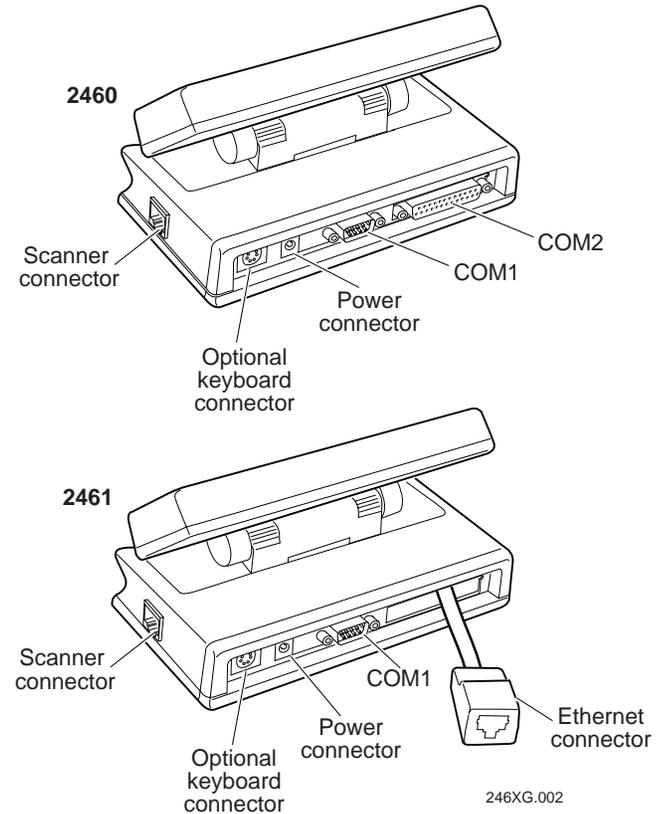
The alphanumeric keyboard is a compact QWERTY-style and provides support for a subset of keys that are available on a standard PC-AT keyboard. The numeric keyboard supports 10-key numeric entry.

**User's Manual** The *TRAKKER Antares 246X Stationary Terminal User's Manual* (Part No. 068575) provides detailed information to help configure and use your terminal.

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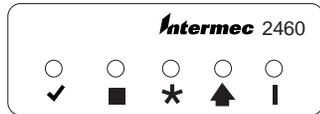
## Understanding the Terminal Connectors

Use this illustration to identify the connectors on the back of the 2460 and 2461 terminals.



## Using the Status Lights

You can use the status lights on the terminal to monitor the status of the backup battery power, network communications, special keys, and bar code scanning. The status lights only flash or turn on to indicate the current status. The Power status light is amber and all other lights are green.



-  **Good Read** This status light turns on when you successfully scan a bar code label with an input device that is connected to the terminal. The status light turns off after two seconds.
-  **User Defined** This status light is user defined. You can program this status light to turn on and off for any task or error within your application.
-  **Network Connect** This status light tells you if the 2461 is connected to your Ethernet network. The Network Connect status light may be turned off, blinking, or turned on.
-  **Modifier** This status light indicates that one of the modifier keys on the keyboard is active. The modifier key is stored in the keyboard buffer until you press another key. When you press a second key, the key combination is entered into the terminal and the status light turns off. Examples of modifier keys include **Ctrl**, **Alt**, and **Shift**.
-  **Power** This status light remains off when you have power to the terminal, a charged backup battery, and the terminal is on. The light blinks when the backup battery has a low power charge or if you try to turn on the terminal with no external power supply connected.

## Understanding the Status Beeps

The 246X terminal has an internal speaker to emit beep sequences as you use the terminal. You can change the volume of the beep to meet the needs of your working environment by scanning bar code labels.

To raise or lower the volume, scan one of these bar codes repeatedly

Lower Beep Volume



\*\$+BV8\*

Raise Beep Volume



\*\$+BV9\*

*Note: If the Beep Volume is turned off, you will not hear any status beeps including the keyclick.*

Use this table to understand the meaning of each beep sequence:

Beep Sequence	Description
Low beep	You entered a valid command or the data you entered was stored.
High beep	You entered valid data, the terminal decoded a bar code label, or the terminal decoded the last row of a two-dimensional (Code 16K or Code 49) bar code label.
Three low beeps	You entered an invalid command or data.
Four low beeps	The power-on self test (POST) executed successfully.
Low beep, high beep, low beep, high beep.	The POST failed.
Click	When you press a key, the terminal sounds a click. You can disable the keyclick. For help, see “Keypad Clicker” in Chapter 8 of the user’s manual. The terminal also clicks when you scan a two-dimensional bar code label.

## Installing the Terminal

Make sure that you have the necessary equipment to install and connect the 246X terminal to your network.

- Power supply
- Power cord
- Input device (badge scanner, wand, laser scanner, CCD scanner)
- Optional keyboard
- RS-232 or RS-232/422/485 serial communications cable
- Multi-drop cable (2460 only)
- Ethernet (10BaseT) cable (2461 only)

The steps to install your 246X terminal depend on the options that you purchased and the type of network or devices to which you want to connect the terminal.

### To install and configure your 246X terminal, you need to:

- Mount the 246X stationary terminal.
- Connect the power supply.
- Connect the input devices.
- Connect a keyboard.
- Connect the 246X terminal to a serial device or a network.
- Connect the 2460 to an existing CrossBar® network.
- Connect the 2461 directly to an Ethernet network.
- Charge the backup battery.
- Turn on the terminal.
- Configure the 246X terminal for your serial, CrossBar, or Ethernet network.

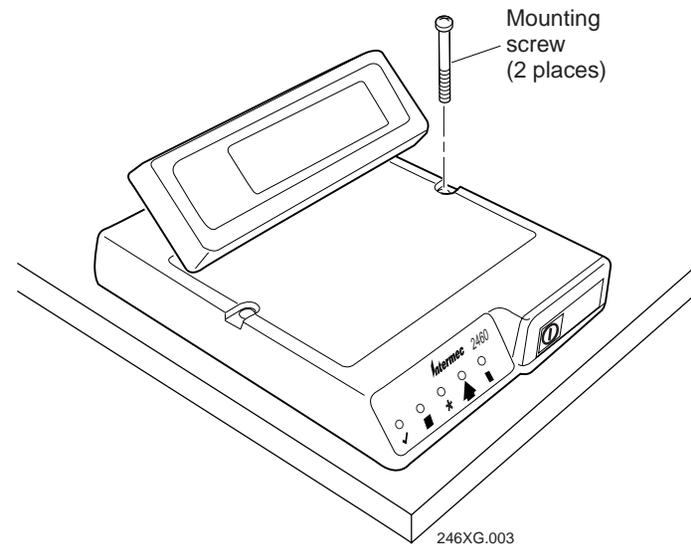
## Mounting the Terminal

You can mount the terminal on any horizontal or vertical surface. The sloping front panel of the 246X terminal makes reading the status lights easy at any angle. You can rotate the screen to accommodate any viewing angle. The terminal is designed to be used in an indoor environment. Make sure that the location you select is relatively dust-free, stable, and dry.

*Note: Make sure that you mount the terminal so that you can easily connect the power supply to the back of the terminal.*

### To mount the 246X terminal

1. Select a flat surface. Make sure that you have easy access to the connectors, On/Off (⏻) button, status lights, and screen.
2. Use the mounting template (at the end of this guide) to mark the placement of the mounting holes on the mounting surface.
3. Drill two mounting holes in your mounting surface.
4. Place the terminal over the mounting holes and install a screw (not provided) through each mounting hole in the 246X terminal .



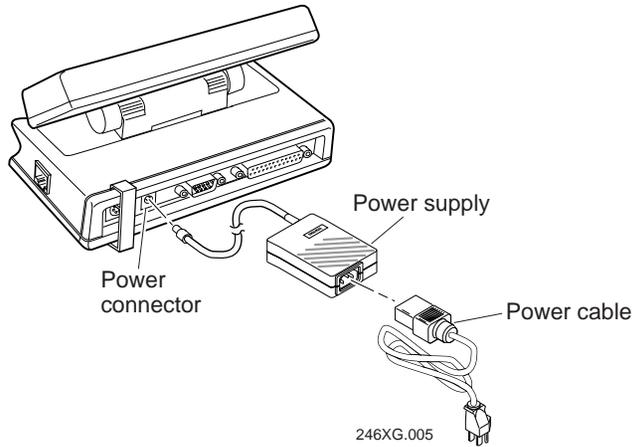
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## Connecting the Power Supply

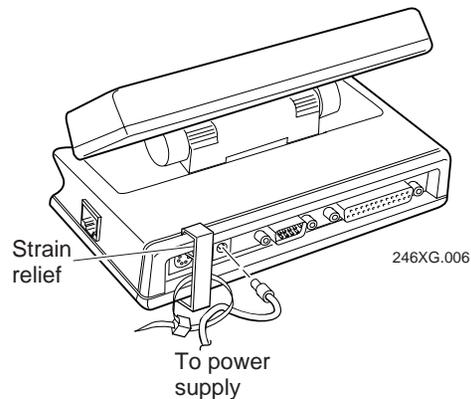
You connect power to the terminal using the main power supply.

### To connect the power supply

1. Connect the power supply to the power connector on the terminal.  
Connect the power cable from the power supply to a powered electrical outlet.



2. Take a loop of the power supply cable and secure it to the strain relief using a tie-wrap (not provided).



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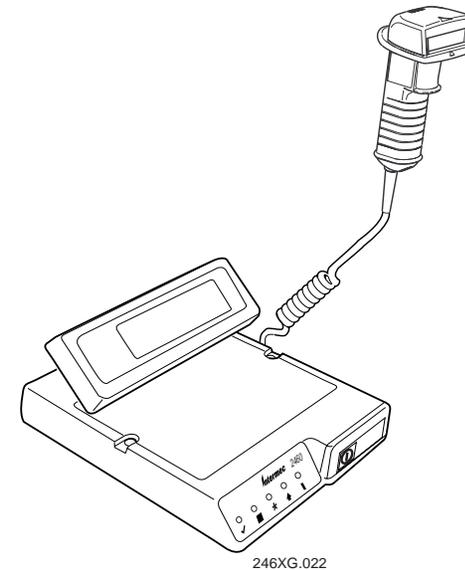
## Connecting Input Devices

The 246X terminal supports wands, badge scanners, laser scanners, and CCD scanners. You can use these input devices to collect data with the terminal:

- 126X, 127X, and 128X wands
- 1354 and 1355 badge scanners
- 1517, 1518, 1519, and 1545 laser scanners
- 1550A and 1551A laser scanners
- 1550B laser scanner with software V1.9 or later
- 1551B laser scanner with software V1.1 or later
- 1552 decoding laser scanner with 9745 base station
- 1463 CCD scanner

### To connect input devices

- Connect the 10-pin Stewart connector from the input device to the scanner connector on the 246X terminal.



When you turn on the terminal and scan a bar code, the Good Read status light turns on for two seconds if the bar code was scanned successfully.

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## Connecting a Keyboard

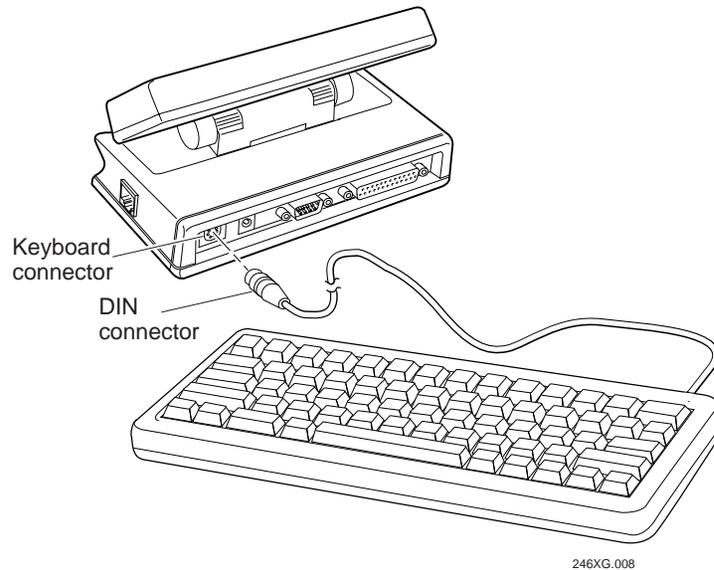
You can connect a keyboard to the 246X terminal. There are two keyboards available for the terminal:

- Alphanumeric keyboard (Part No. 068662)
- Numeric keyboard (Part No. 069113)

You can also attach a standard PC-AT keyboard to the terminal. However, you will find that not all of the keys on the keyboard work the same as if the keyboard were attached to your PC.

### To connect a keyboard

- Insert the keyboard DIN connector into the keyboard connector on the 246X terminal.



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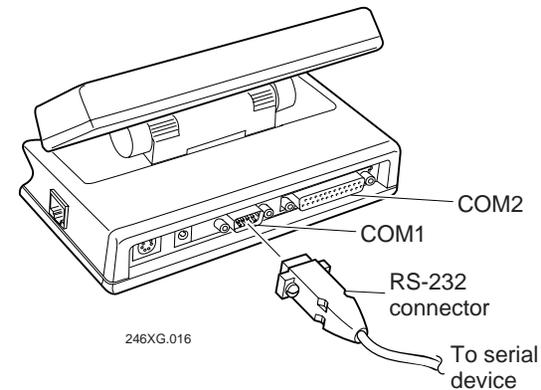
## Connecting to Serial Devices and Networks

You use the terminal's serial ports to transfer data between the terminal and a serial device. Every 246X terminal has one serial port (COM1) that supports RS-232 communications. You can use COM1 to connect to a serial device, such as a printer, scale, 9189, or PC.

The 2460 has an additional serial port, COM2. COM2 supports RS-232/422/485 communications. You can use COM2 to connect to a serial device, a wired network, or an Intermec CrossBar network.

### To connect to a serial device or network

1. Insert the 9-pin RS-232 connector into the COM1 port on the back of the terminal.



2. Insert the 25-pin serial or multi-drop connector from a serial device or network to the COM2 port on the back of the terminal.
3. Use a small straight-slot screwdriver to tighten the two screws in each cable connector.
4. Attach the other end of the serial or multi-drop cable into the serial device or network.
5. Turn on the terminal and configure the serial ports. See "Configuring the Serial Port Parameters" later in this guide.

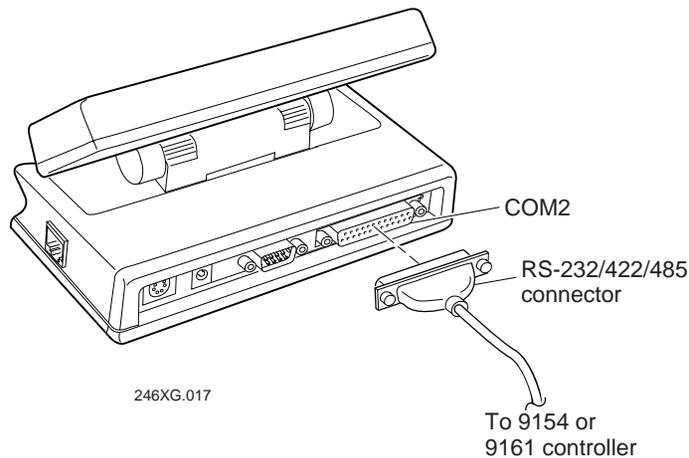
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## Connecting to a CrossBar Network

If you have a 2460 terminal, you have two serial ports: COM1 and COM2. COM2 supports RS-232/422/485 communications. You can use COM2 to connect the 2460 to an existing CrossBar network. The 2460 can communicate with a 9154 or 9161 controller using Multi-Drop protocol.

### To install the 2460 in an existing CrossBar network

1. Connect the 25-pin RS-232/422/485 connector from your 9154 or 9161 controller to the COM2 port on the back of the 2460.



2. Use a small straight-slot screwdriver to tighten the two screws in the RS-232/422/485 connector.
3. Plug the other end of the multi-drop cable into the 9154 or 9161 controller.
4. Turn on the terminal and configure the serial ports. See “Configuring the Serial Port Parameters” later in this guide.
5. Use the FileCopy utility that ships with the PSK and EZBuilder to download your C/C++ application from a PC to the 2460.
6. Load and run an application.

For more detailed information on installing the 2460 in an existing CrossBar network, see your user’s manual.

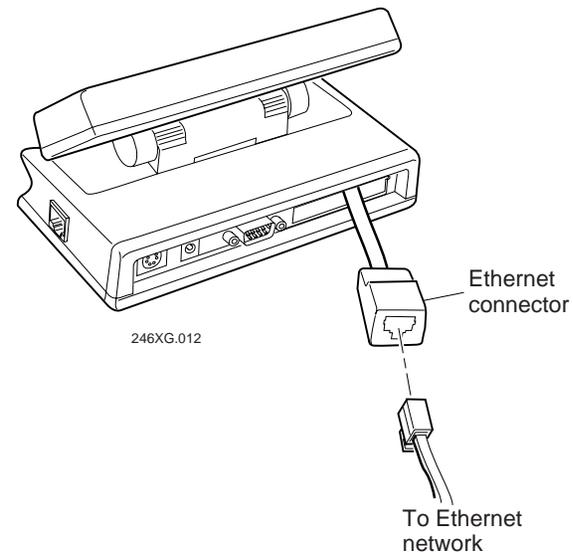
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## Connecting Directly to an Ethernet Network

The 2461 comes with an Ethernet (10BaseT) card that allows it to communicate with a host or any device on an Ethernet network.

### To connect to an Ethernet network

1. Configure your host computer and network. Assign an IP address for the 2461.
2. Connect the Ethernet jack to the Ethernet connector on the back of the 2461.
3. Plug the other end of the Ethernet cable into an Ethernet connector on your network.
4. Turn on the terminal and configure it to work in an Ethernet network. See “Configuring the Ethernet Parameters” later in this guide.



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## Charging the Backup Battery

The backup battery backs up all memory and the real-time clock in case of a power failure. The backup battery ships inside the terminal, but it may not be fully charged. You need to fully charge the backup battery after you install the terminal.

### To charge the backup battery

1. Make sure the power supply is connected to the terminal and a powered electrical outlet.
2. Let the power supply charge the backup battery for 24 hours to fully charge the backup battery.

*Note:* For more information about the backup battery, see the user's manual.

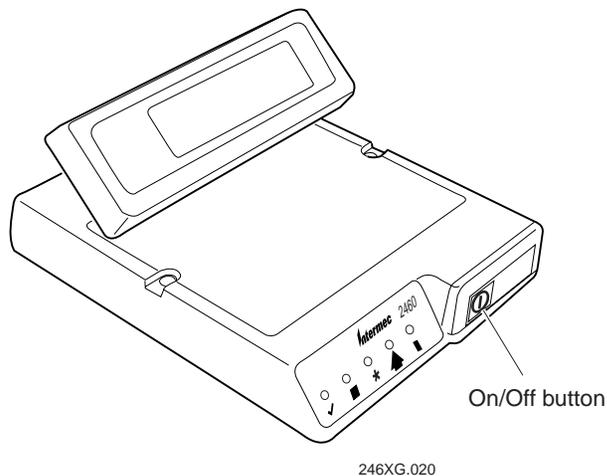
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## Turning on the Terminal for the First Time

After you connect the power supply and install the terminal, you are ready to turn on the 246X terminal.

### To turn on the terminal

- Press the **Ⓜ** button on the front of the terminal. The terminal runs POST (power-on self-test), displays the version number, and then displays the date and time.



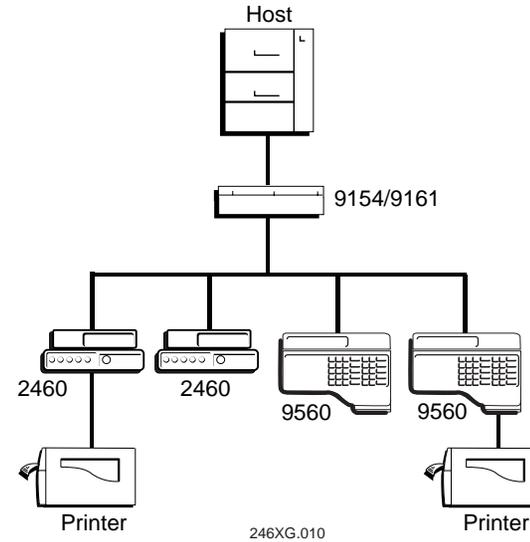
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## Configuring the Terminal for Your Network

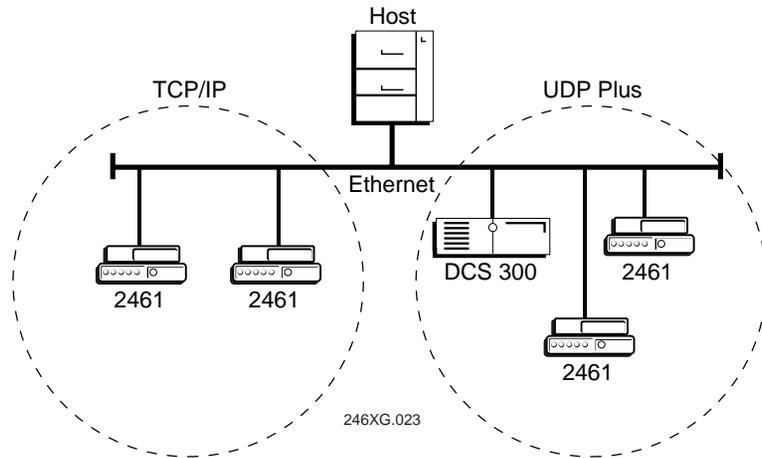
You need to configure the 246X terminal to communicate with serial or Ethernet devices in your network. The parameters you configure depend on the type of network or devices to which you want to connect the terminal.

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### CrossBar Network



## Ethernet Network



You need to set these parameters depending on your network:

- Time and date
- Serial port (COM1, COM2)
- Ethernet (2461 only)

The next sections list the parameters that you need to configure and explain how to use bar code labels to configure the terminal. You will find configuration bar codes at the end of this guide to help you set basic serial and Ethernet parameters. There are also some general configuration bar codes that you may find helpful.

### Setting the Time and Date

You need to set the time and date on the terminal. Scanning bar code labels is the easiest way to configure the time and date.

#### To set the time and date

1. Scan this bar code:

Enter Accumulate Mode / Set Time and Date



\*+/\$+DB\*

2. Scan a numeric value for each digit from these bar codes. Acceptable values for *data* are 12 digits corresponding to:

<i>yy</i>	00-99	Year
<i>mm</i>	01-12	Month of the year
<i>dd</i>	01-31	Day of the month
<i>hh</i>	00-23	Hour
<i>mm</i>	00-59	Minutes
<i>ss</i>	00-59	Seconds



\*0\*



\*1\*



\*2\*



\*3\*



\*4\*



\*5\*



\*6\*



\*7\*



\*8\*



\*9\*

3. Scan this bar code:

Exit Accumulate Mode



\*-/\*

4. If you want to configure a serial port, continue with the next section, "Configuring the Serial Port Parameters."

If you want to configure a 2461, follow the instructions for "Configuring the Ethernet Parameters" later in this guide.

## Configuring the Serial Port Parameters

You must first select the communications protocol for each COM port. Depending on the protocol, you need to set some or all of these serial port parameters to have the terminal communicate with a host computer or serial device in a wired network:

Serial Port Parameter	Default Value
Baud rate	19200
Commands via serial port	Enabled without TMF
Data bits	7
EOM (End of Message)	\x03 (hexadecimal ASCII value for ETX)
Flow control	None
Handshake	Disabled
LRC	Disabled
Parity	Even
Poll (Polling)	Disabled
Protocol	Configurable
SOM (Start of Message)	\x02 (hexadecimal ASCII value for STX)
Stop bits	1
Timeout delay	10 seconds

The values you set for the terminal's serial port must match the values set for the host's (or other device's) serial port. In a CrossBar network, you also need to configure your 9154 or 9161 controller to add the new multi-drop 2460 terminal. For help, see your user's manual.

You set the serial port parameters by scanning bar code labels. For help, see the "Serial Port Configuration Bar Codes" at the end of this guide or Chapter 8 of the user's manual.

## Configuring the Ethernet Parameters

The 2461 terminals contain an Ethernet card. Your terminal can communicate to a host or any device on an Ethernet network.

You need to configure these network parameters:

Network Parameter	Default Value
Network activate	Disabled
Controller IP address (UDP Plus)	0.0.0.0
Host IP address (TCP/IP)	0.0.0.0
Terminal IP address	0.0.0.0
Network port (UDP Plus)	5555
Network port (TCP/IP)	23

You set these parameters by scanning bar codes. For a detailed definition of these parameters, see Chapter 4 of the user's manual. For help on setting the parameters, see "Ethernet Configuration Bar Codes" at the end of this guide or Chapter 8 of the user's manual.

*Note: If the 2461 is on a different IP subnet from the DCS 300 or host, you must also configure the default router and subnet mask.*

### To configure the 2461 for an Ethernet network

1. Configure the DCS 300 (UDP Plus) or host (TCP/IP). For help with the server, see the *DCS 300 System Manual* (Part No. 067296).
2. Configure the terminal. Scan the appropriate bar codes from "Ethernet Configuration Bar Codes" at the end of this guide or Chapter 8 of the user's manual.

The 2461 will now try to establish communications with the DCS 300 or the host. Once the terminal connects, the login or initial screen for your application appears and the Network Connect status light remains on. You can begin using the terminal to collect data.

## Serial Port Configuration Bar Codes

### Baud Rate for COM1

9600 Baud



\*\$+YA1:6\*

38400 Baud



\*\$+YA1:8\*

### Baud Rate for COM2

9600 Baud



\*\$+YA2:6\*

38400 Baud



\*\$+YA2:8\*

### Flow Control

1. Scan this bar code: Enter Accumulate Mode / Set Flow Control



\*+/\$+YL\*

2. Scan one of these: COM1



\*1\*

COM2



\*2\*

3. Scan a setting:

None



\*0\*

XON/XOFF Response



\*2\*

CTS Checking



\*1\*

XON/XOFF Control



\*3\*

XON/XOFF Response & Control



\*4\*

CTS/RTS for DTE-DTE



\*5\*

4. Scan this bar code: Exit Accumulate Mode



\*-/\*

### Protocol for COM1

Polling Mode D



\*\$+YU1:2\*

Binary



\*\$+YU1:12\*

### Protocol for COM2

Polling Mode D



\*\$+YU2:2\*

Binary



\*\$+YU2:12\*

Multi-Drop



\*\$+YU2:3\*

## Communications Port Interface (COM2 only)

Enable RS-232 Interface



\*\$+YK2:0\*

Enable RS-422 / 485 Interface



\*\$+YK2:1\*

## Ethernet Configuration Bar Codes

---

Use these bar codes to configure the host, controller, terminal IP addresses, default router, or subnet mask. The IP address format is *n.n.n.n* where each *n* address is a number from 0 to 255.

*Note: You cannot set the first segment to 0, 127, or 223 and above.*

1. Scan a bar code: Enter Accumulate / Set Host / Controller IP Address



\*+/\$+NC\*

Enter Accumulate / Set Terminal IP Address



\*+/\$+ND\*

Enter Accumulate Mode / Set Default Router



\*+/\$+NX\*

Enter Accumulate Mode / Set Subnet Mask



\*+/\$+NS\*

2. Scan a value:  
(0 to 255)



\*0\*



\*1\*



\*2\*



\*3\*



\*4\*



\*5\*



\*6\*



\*7\*



\*8\*



\*9\*

3. Scan this bar code: . (Period)



\*.\*

4. Repeat Steps 2 and 3 to set the next two numbers in the IP address field. After you scan the last address segment, go to Step 5. Do **not** scan the period after the last address segment.

5. Scan this bar code: Exit Accumulate Mode



\*./\*

6. Repeat Steps 1 through 5 to set another Ethernet configuration parameter.

7. Scan this bar code: Enable Ethernet Network



\*\$+NA1\*

## General Configuration Bar Codes

---

Default Configuration



\*.0\*

Save Configuration in Flash Memory



\*.1\*

Set RAM Drive Size to 256



\*\$+FR256\*

Reset Firmware



\*.\*

Boot Terminal



\*.1\*

Enable Code 93



\*\$+CF1\*

# 246X Stationary Terminal Mounting Template

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