

Step Five: Install peripheral cabling

You can connect printers, terminals, modems (or any other standard EIA-232 device to be controlled by applications on the computer) to the EPC/CON-16 concentrator by installing a cable between the peripheral and the concentrator.

On the peripheral end of the cable, the cable connector depends on the requirements of the peripheral. The EPC/CON-16 (or PORTS/Xem module) end of the cable must fit either an RJ-45 or DB-25 connector, depending on the model you have.

The pin assignments for each type of EPC/CON-16 connector are as follows:

DB-25 Pin assignments

Signal	Description	Pin
GND	Chassis Ground	1*
TxD	Transmitted Data	2
RxD	Received Data	3
RTS	Request To Send	4
CTS	Clear To Send	5
DSR	Data Set Ready	6
SG	Signal Ground	7
DCD	Data Carrier Detect	8
DTR	Data Terminal Ready	20
RI	Ring Indicator	22

* Chassis Ground is also available on the connector shell

RJ-45 pin assignments are shown on the back.

RJ-45 Pin Assignments

Signal	Description	Pin
RI	Ring Indicator	1
DSR	Data Set Ready	2†
RTS	Request To Send	3
GND	Chassis Ground	4
TxD	Transmitted Data	5
RxD	Received Data	6
SG	Signal Ground	7
CTS	Clear To Send	8
DTR	Data Terminal Ready	9
DCD	Data Carrier Detect	10

† Pin 2 can be configured for DCD (through Digi software) if you want to connect using an 8 pin connector

Refer to the CD-ROM for more detailed cabling information.

What Next?

At this point the hardware installation for your EPC/X system is complete. However, since the EPC/X adapter and the EPC/CON-16 concentrators must have software downloaded to their internal RAM before they become functional, you must next install the software drivers for your operating system.

- Read the instruction booklet for the CD-ROM that came with your system for instructions on installing software.
- View the on-line documentation on the CD-ROM for more information about your EPC/X system.

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AccelePort EPC/X System

EPC/X PCI Host Adapter
EPC/CON-16 Concentrator

Hardware Installation Guide

Introduction

An AccelePort® EPC/X™ system consists of an EPC/X host adapter coupled with EPC/CON-16™ concentrators from which EIA-232 peripheral devices such as printers, terminals or modems can be cabled and controlled. The adapter has two lines that can each support one or more concentrators. Multiple concentrators can be linked in a chain, and Digi™ PORTS/8em™, PORTS/16em™, Modem/4em™, and/or Modem/8em™ modules can be added to a concentrator to expand the number of ports available.

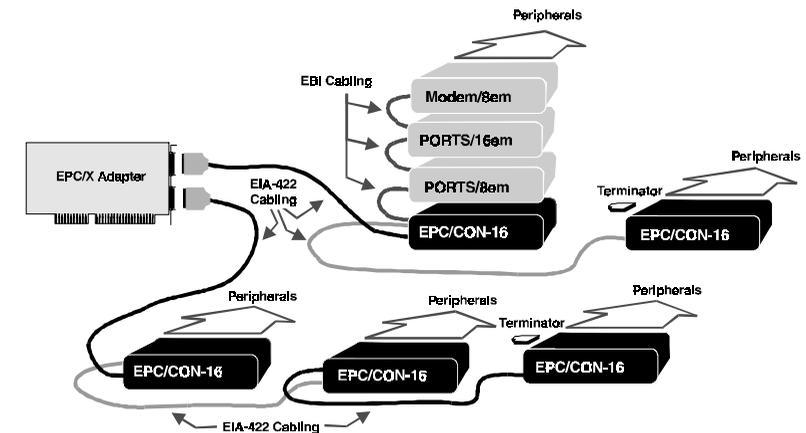


Figure 44. Example EPC/X setup

This installation guide describes how to plan your setup and install the EPC/X host adapter and concentrator hardware.

Step One: Plan your setup

An EPC/X system can be set up in a variety of ways. Before you start your installation, be sure of the following:

Number of components. You can connect up to fourteen concentrators and Xem modules onto one EPC/X host adapter (using both lines). It is a good idea to balance the number of connections on each line.

Having 12 concentrators and modules on one line, and 2 on the other, for example, may not make the best use of line resource.

Location of components. Using the cables that come with the product, concentrators can be located up to ten feet apart. (The daisy-chain cable that comes with each Xem module allows it to be stacked on top of the concentrator to which it is attached via the EBI connector.)

If your installation calls for greater distances between concentrators, you can use twisted pair cabling in a maximum cumulative length of up to 2000 feet (600 meters) from the host adapter.

Note: The length of twisted pair cabling affects the maximum data transfer rate that can be expected over the cable. The longer the length, the lower the rate. To maintain a baud rate of 10 Mbaud, the maximum cumulative twisted pair cable length cannot exceed 30 feet (9 meters).

You can also use fiber optic cable (a special fiber optic conversion option is available from Digi) that will allow a distance of up to 1.2 miles (2000 meters) from the adapter.

For even greater distances, you can attach a synchronous modem directly to the adapter, and remotely locate concentrators and Xem modules to a second synchronous modem.

Cabling. Before beginning the installation, be sure that you have the cables that you will need for the distances between concentrators, as well as cables for the peripherals that you will be attaching to the concentrators and Xem modules. EPC/X system concentrators and PORTS/Xem modules are available with RJ-45 or DB-25 connectors for peripheral cabling. You will need to be sure that you have cables of the correct length and with the right connectors to properly attach the devices you want to use with each concentrator or Xem module.

Power Requirements. Each EPC/CON-16 concentrator (and Modem/Xem module) requires its own power supply. Before proceeding with installation, you should verify that adequate line power is available where each concentrator (and Modem/Xem) will be installed. Note that PORTS/Xem modules do not require power supplies when attached to an EPC/CON-16 concentrator.

Additional information about the options available with the EPC/X system, such as specifications and cabling details, is provided on the CD-ROM that is packaged with the host adapter.

Step Two: Install the EPC/X PCI host adapter

Before installing the EPC/X host adapter, you should do the following:

- Wear an ESD wrist strap to ground yourself while handling the adapter. If one is not available, discharge static electricity from your body by touching an unpainted metal surface, such as the computer's chassis, prior to handling the adapter.
- Record the adapter serial number, which will enable Digi to provide you with better service, should the need arise.

The serial number label has this general format: **S/N: (S) XXX XXXXX**

- Unplug power from the PC.
1. Remove the computer's cover.
 2. Locate an available PCI slot in your computer and remove the slot plate.
 3. Insert the adapter into the slot and screw the endplate to the computer chassis. The endplate must be screwed into the computer chassis to remain in compliance with Part 15 of FCC rules.
 4. Replace the computer's cover.
 5. Attach an EIA-422 cable to the connector of each line you will use on the adapter.

Step Three: Install concentrators and add-ons

1. Position concentrators and Xem modules (if any) at the location you have prepared according to the plan you developed in **Step One**.
2. Attach the cable from line 1 on the adapter to the connector labelled HOST ADAPTER on the first concentrator of the chain that is to be connected to Line 1.

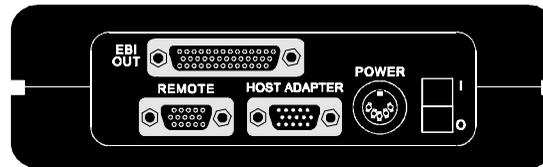


Figure 45. Side Panel of EPC/CON-16 module

If you are cabling multiple concentrators together, attach another cable to the REMOTE connector of the first concentrator. Connect this cable to the HOST ADAPTER connector of the second concentrator. Continue cabling until all concentrators in the chain are connected.

3. Install a terminator plug in the REMOTE connector of the last concentrator in the chain.
4. Repeat steps 2 and 3 for Line 2 on the adapter (if you are using it).
5. To cable PORTS/Xem or Modem/Xem modules to the EBI bus of a concentrator, attach one end of an EBI cable to the EBI OUT connector on a concentrator and the other end to the EBI IN connector on the add-on module. Continue similarly using the EBI IN and EBI OUT connectors on the add-on modules until all the add-ons for a concentrator are cabled together.
6. Attach power supplies to the concentrators (and Modem/Xem modules).
7. Turn on power to the unit(s).

Step Four: Set the node numbers

Each concentrator must have a unique node number so the adapter can recognize it on the chain. In general, you should set the node number of a concentrator according to its relative position in the chain. For example, the concentrator closest to the adapter would be node 1, the second would be node 2, and so on. To set the node number, do the following:

1. Wait until you see **P1** displayed on the front panel of the unit (about 30 seconds after you power on the unit). This indicates that the Power-on Self Test has successfully completed.
2. Press the right arrow button once to display the current node number. (**1n** is the default.)
3. Press the left arrow button to increment the node number. Node numbers go up to **8n** and then return to **1n**.
4. To save the node number currently displayed on the front panel, press the right arrow button once. If the number was successfully saved to EEPROM, the display will read **Pn**.