CHAPTER 1

# Overview of the AccessPro Card

The AccessPro PC card is a full-featured, multiprotocol router card that installs in IBM or compatible PCs equipped with either an Industry-Standard Architecture (ISA) bus or an Enhanced Industry-Standard Architecture (EISA) bus.

The AccessPro is available in four models:

- Model AP-EC, with one Ethernet port and one synchronous serial port
- Model AP-RC, with one Token Ring port and one synchronous serial port
- Model AP-EBC, with one Basic Rate Interface (BRI) port, two synchronous serial ports, and one Ethernet port
- Model AP-RBC with one BRI port, two synchronous serial ports, and one Token Ring port

# Features

The AccessPro card has the following features:

- Complete multiprotocol router functions
- Installs in standard PC slots
- 2 megabytes (MB) of primary memory, using dynamic random-access memory (DRAM) single in-line memory modules (SIMMs)
- 32-kilobyte (KB) nonvolatile random-access memory (NVRAM) for configuration storage
- Two serial ports for connection to a channel service unit/digital service unit (CSU/DSU) or protocol analyzer
- Data terminal equipment/data communications equipment (DTE/DCE) auxiliary port

The routing functions of the AccessPro card are separate from the functions of the PC, so they do not require central processing unit (CPU) time. The AccessPro card has its own microprocessor and derives only power and ground from the host PC.

The Model AP-EC and Model AP-RC AccessPro cards consist of an ISA-bus card with an asynchronous serial auxiliary port, a synchronous serial wide-area network (WAN) port, and either an Ethernet 10BaseT port or an RJ-45 Token Ring port for a local area network (LAN) connection.

The Model AP-EBC and Model AP-RBC AccessPro cards consist of an ISA-bus card with an asynchronous serial auxiliary port, a synchronous serial WAN port, and either an Ethernet 10BaseT port or an RJ-45 Token Ring port for a LAN connection. An attached daughter card carries an additional synchronous serial port and a BRI port.

The serial WAN connection uses a proprietary, 60-pin connector. The Ethernet and Token Ring connections use unshielded twisted-pair (UTP) cable with a registered jack (RJ-45) connector. The BRI port uses a UTP cable with a registered jack (RJ-45) connector.

An RJ-45 asynchronous auxiliary port is provided for connection to data terminal equipment (DTE), such as a CSU/DSU or protocol analyzer.

Figure 1-1 shows the Model AP-EC AccessPro card, Figure 1-2 shows the Model AP-RC, and Figure 1-3 shows the AccessPro card with an installed daughter card (Model AP-EBC and Model AP-RBC).

**Figure 1-1 AccessPro Card Model AP-EC**

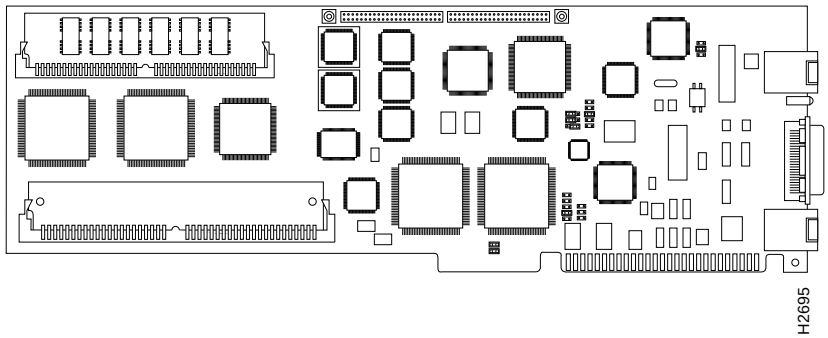



**Figure 1-2 AccessPro Card Model AP-RC**

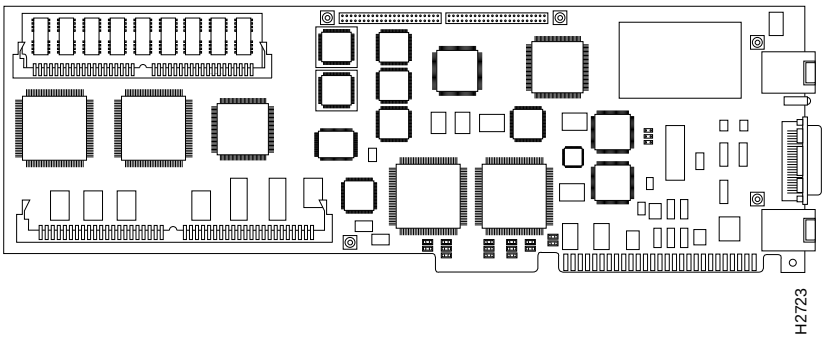
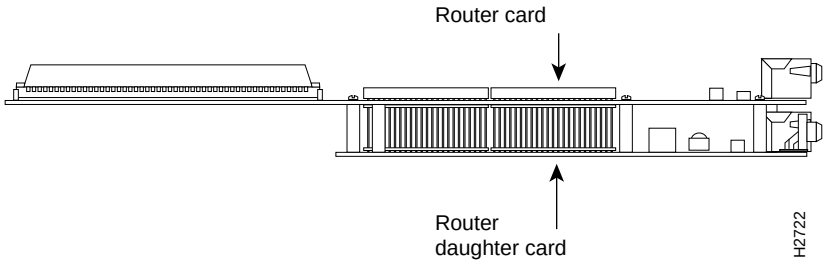


**Figure 1-3 AccessPro Card with Daughter Card, Model AP-EBC and AP-RBC**



# Specifications

Table 1-1 lists the specifications for the AccessPro card.

**Table 1-1 Card Specifications**

| Specification | Description |
|---|---|
| Dimensions (H x L) | 4.8 x 13.3" (12.2 x 33.8 cm) |
| Power requirements | 3.0A @ 5V, 0.5A @ 12V |
| Processor | 20-MHz Motorola 68EC030 |
| Memory | 2-MB primary memory (DRAM SIMMs, expandable to 6 or 18 MB)<br>4-MB Flash memory (expandable to 8 MB)<br>32-KB NVRAM |
| Network interfaces | 1 Ethernet (Model AP-EC), or 1 Token Ring (Model AP-RC)<br>1 synchronous serial (1E1T or 1R1T)<br>1 Ethernet, 1 BRI, and 2 synchronous serial (Model AP-EBC)<br>1 Token Ring, 1 BRI, and 2 synchronous serial (Model AP-RBC) |
| Ethernet interface | IEEE[1] 802.3 10BaseT (RJ-45) |
| Token Ring interface | IEEE 802.5 (RJ-45) |
| Synchronous serial interfaces | EIA/TIA-232[2], EIA/TIA-449, V.35, X.21 (NRZ/NRZI[3] and DTE/DCE)<br>EIA-530 (NRZ/NRZI and DTE)<br>All serial cables use a DB-60 chassis connector. |
| BRI | ISDN[4] basic rate (RJ-45) on Model AP-EBC and Model AP-RBC |
| Auxiliary port | Asynchronous serial (RJ-45, EIA/TIA-232-compatible) |
| Operating environment | 41 to 104°F (5 to 40°C) |
| Nonoperating temperature | –40 to 185°F (–40 to 85°C) |
| Operating humidity | 5 to 95%, noncondensing |

1. IEEE = Institute of Electrical and Electronics Engineers.
2. EIA/TIA-232 and EIA/TIA-449 were known as recommended standards RS-232 and RS-449 before their acceptance as standards by the Electronic Industries Association (EIA) and Telecommunications Industry Association (TIA).
3. NRZ = nonreturn to zero; NRZI = nonreturn to zero inverted.
4. ISDN = Integrated Services Digital network.