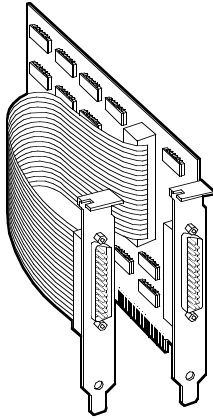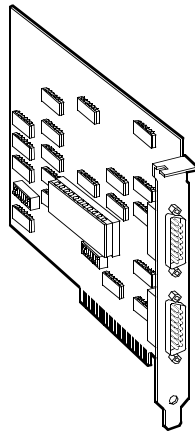# BLACK BOX®
NETWORK SERVICES

Dual-Channel High-Speed Sync/Async Adapters

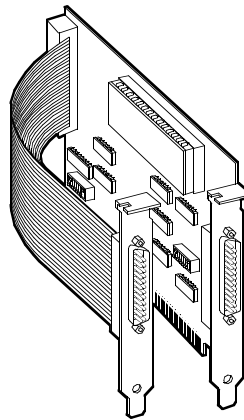*High-speed multiport adapters expand your asynchronous data-communication capabilities.*

IC120C-R4   IC121C-R3   IC122C-R3

Key Features

▶ *Direct Memory Access (DMA) supports data rates greater than 1 Mbps.*

▶ *Supports HDLC, SDLC, ISDN LapD, Bisync, and Hybrid DLC protocols.*

▶ *Includes Developer's Tool Kit, with software examples and source code.*

▶ *Software-programmable data rate.*

▶ *High-speed enhanced SCC (85230) compatible.*

▶ *Models available for RS-232, RS-530/422/485, and V.35.*

Dual-Channel High-Speed Sync/Async Adapters give your PC two direct high-speed sync/async ports. The Adapters feature two channels of sync/async communications using the 85230 Enhanced Serial Communications Controller (ESCC). Depending on the model you choose, you can link your PC to TIA RS-232, TIA RS-530/422/485, or ITU-TSS V.35 devices.

DMA on the Adapters supports data rates in excess of 1 Mbps (one million bits per second). Selectable port address is also available on the Adapters.

The RS-232 Adapter (our product code IC122C-R3) supports RS-232 connections with full modem-clocking options, providing an industry-standard interface to synchronous data links, modems, and other devices.

The IC120C-R4 model of the Adapter supports RS-530 and RS-422/485. RS-422 allows for very-long-distance

communication—1219 m at up to 100 Kbps—with virtually error-free differential drive characteristics. RS-485 is backward-compatible with RS-422, but optimized for multi-drop applications: Multiple ports can be selectively polled. RS-530 calls for RS-422 signals on a DB25 connector. The RS-530 standard is broken into two interfaces, DTE and DCE, much like RS-232. In addition to the asynchronous modem-control signals on a standard PC serial port, RS-530 specifies synchronous clock signals,
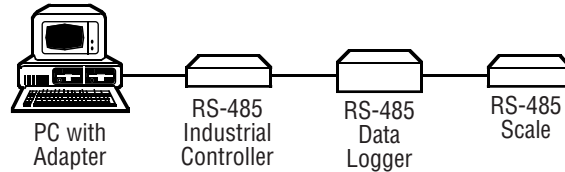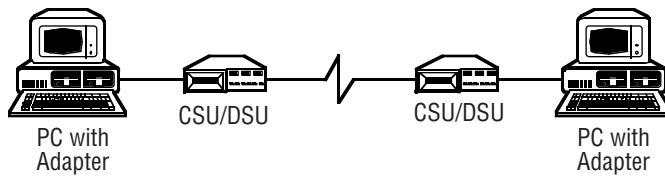
modem test signals, and loopback signals.

The third model of the Adapter (our product code IC121C-R3) incorporates the V.35 connector specification, relying on balanced twisted-pair cabling from the board to the external device. V.35 is used for high-speed applications up to the 1-Mbps range and beyond.

▼

Typical Application

Connect your PC to a fractional T1 line with the Dual Channel High Speed Sync/Async V.35.

13040   1

Connect your PC to high-speed CSU/DSUs or RS-485 industrial equipment with the Dual Channel High Speed Sync/Async Adapter.

PC with
Adapter

CSU/DSU

CSU/DSU

PC with
Adapter

PC with
Adapter

RS-485
Industrial
Controller

RS-485
Data
Logger

RS-485
Scale

Technically Speaking

The Dual Channel HS Sync/Async Adapter provides the PC with two high-speed sync/async ports. You can use it in a variety of sophisticated communications applications, such as SDLC, HDLC, X.25, and high-speed async.

The unit uses the Zilog® 85230 Enhanced Serial Communications Controller (ESCC). This chip features programmable data rate, data format, interrupt control, and DMA control.

The RS-530/422/485 model has signal-level drivers and receivers on the serial port. The DB25 male connectors meet the RS-530 specification for an RS-530 DTE; this spec is backward-compatible with the RS-449 specification.

The V.35 model conforms to the ITU-TSS V.35 specification.

The RS-232 model provides an industry-standard interface to synchronous data links, modems, and other devices.

Additional equipment you may need:

• CSU/DSU

• Cables (but be aware that one 1.8-m DB15F-to-M/34M cable is included with the IC121C-R3)

For these and other components...
Call our expert Technical Support Staff for all your interface converter needs. They'll help you find the best equipment for your application.

Specifications

Operating Requirements — IBM PC/XT™, PC/AT® or compatible running DOS, Windows®, or OS/2®

Number of Ports — IC120C-R4: Dual RS-530/ 422/485; IC121C-R3: Dual V.35; IC122C-R3: Dual RS-232

Maximum Data Rate — IC120C-R4, IC121C-R3: 1.2288 Mbps; IC122C-R3: 115.2 Kbps

Connectors — IC120C-R4, IC122C-R3: (2) DB25 male; IC121C-R3: (2) DB15 male

Maximum Distance — IC120C-R4, IC121C-R3: Up to 1219 m at up to 100 Kbps; IC122C-R3: Up to 15.2 m at 19.2 Kbps

MTBF — Over 150,000 hours

Materials — Boards are solder mask over bare copper or tin nickel

Temperature — Operating: 0 to 50° C; Storage: -20 to 70° C

Humidity — 10 to 90% relative humidity, noncondensing

Power — IC120C-R4, IC122C-R3: ±5 VDC at 900 mA; IC121C-R2: +5 VDC at 450 mA, –5 VDC at 75 mA, ±12 VDC at 50 mA each

Size — IC120C-R4, IC122C-R2: ¾ card with a second slot cover for a second DB25 port; IC121C-R2: ¾ card

Ordering Information

This information will help you place your order quickly.

PRODUCT NAME	ORDER CODE
Dual Channel HS Sync/Async RS530/422/485	IC120C-R4
Dual Channel HS Sync/Async V.35 Serial Interface	IC121C-R3
Dual Channel HS Sync/Async RS-232 Serial Interface	IC122C-R3