

## Features

- 10 megabits/second
- IEEE 802.3 Ethernet
- Media compatible with other systems
- Interfaces: BNC (Coax), RJ-45 (twisted pair), and AUI (DB-15)
- TCP/IP protocol for reliable communications
- Socket Library
- Telnet terminal server interface for TSX and TMP systems
- File Transfer Protocol support (Model 3220)
- Socketed logical devices for transparent I/O support
- Supports CNI and CNI/32 communications over Ethernet LAN

# IPC

## 3210, 3220 Ethernet TCP/IP Interface

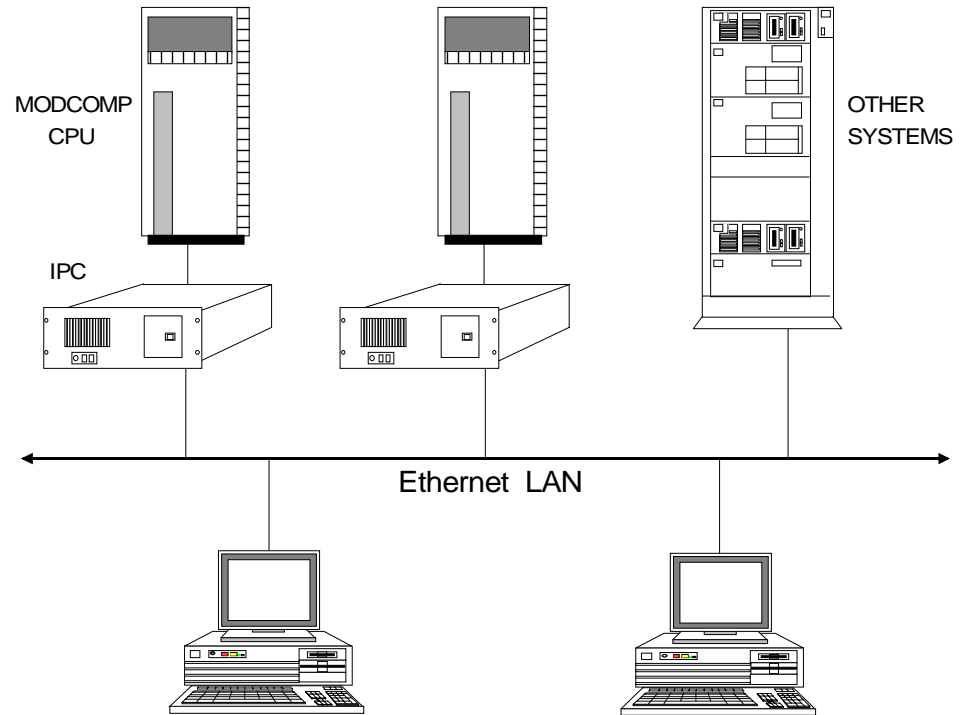


Figure 1: IPC Ethernet Interface with TCP/IP Interface

The Ethernet Communications Interface provides a high performance Local Area Network (LAN) connection for MODCOMP MAX IV and MAX 32 systems using the Intelligent Peripheral Controller (IPC). The advanced 16-bit Ethernet Controller occupies one IPC slot and provides BNC Coax, RJ-45 twisted pair, and DB-15 AUI interfaces to connect to virtually any Ethernet LAN.

The Ethernet Communications Interface includes IPC Ethernet

Driver and TCP/IP software to manage multiple logical connections with reliable data transfer and flow control using a full duplex DMP I/O bus interface and the Pentium computing power in the IPC.

Standard intersystem program communications is supported using the included socket library software. Programs can establish logical connections to programs in other systems and send error-free data using the TCP/IP protocol implemented by

the handler software in the IPC. The TCP/IP protocol insures reliable delivery of multiple logical data streams over the network and is comparable to most other systems.

The IPC implementation of TCP/IP adds socketed logical devices for direct access by MODCOMP applications and record delineation not found in all other versions. System designers can connect programs by defining logical devices on two systems with appropriate IP

# Ethernet TCP/IP Interface

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addresses and ports. Applications can then perform MODCOMP BIOS read, write, and write end-of-file operations to communicate with a remote application. All flow control and error recovery is handled by TCP/IP. Data is delivered with logical record formats preserved.

Our CNI and CNI/32 network operating system software uses fully defined, socketed devices to create point-to-point logical connections, allowing MODCOMP systems to share the same Ethernet LAN media with other systems. In addition to improved throughput, TCP/IP offloads much of the link layer protocol to reduce MODCOMP computing overhead.

TCP/IP with socketed logical devices can simulate asynchronous-compatible communications to allow MODCOMP communications systems like TSX and TMP to handle remote Telnet terminals accessing the LAN. Any number of Telnet devices are defined with the well-known Telnet source port id to form a pool of available connections. The TCP/IP handler in the IPC recognizes Telnet connection

requests, selects an available device from a Telnet server pool, and creates a Ring request (like a dial-up modem) to the MODCOMP linemonitor task, usually TSX or TMP. The software then begins communications with the remote users exactly as if a standard serial communications channel were being used. Standard security software can be implemented to insure only valid users access the system. When the session is ended, a disconnect request signals the MODCOMP software that the connection is broken. The Telnet server device is returned to the pool for reallocation. All Telnet management is handled by the IPC.

The Ethernet Communications Interface is available in two versions. Model 3210 has all of the features described above and provides the most requested networking functions at an economical price. Model 3220 adds the popular File Transfer Protocol (FTP) application, which allows data files on one system to be easily exchanged with data files on other systems without special programming. This enables MODCOMP users

## Specifications

### Standards supported:

IEEE 802.3 10Base-2,  
10Base-5, 10Base-T, and  
Ethernet Version 2,  
Extended Length Option

### Connections:

BNC (Coax 50 ohms),  
RJ-45, and AUI (DB-15)

### Power:

Adapter -  
5 VDC at 1.1 Amps, max.

External transceiver -  
+12 VDC at 0.5 Amps,  
max. (thermistor short  
protected)

to send files to and receive files from other systems that support FTP; conversely, other systems with FTP can send files to and receive files from the MODCOMP system. FTP handles both source and binary data transfers. The FTP software is implemented as a MODCOMP application interfacing with the TCP/IP socket services. The MODCOMP-based FTP application supports SED and File Manager directories and files.

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