

### FEATURES

- IEEE 802.3 Ethernet controller board
- 10 Mbps operation, CSMA/CD
- Supports 10BASE2 thin coax, 10BASE5 via an AUI and 10BASE-T twisted pair interfaces
- NE2000 compatible architecture
- Software configurable settings for jumperless, auto-configurable, "easy-to-use" network designs
- EPROM socket for auto-boot applications
- Five LEDs onboard for visual status information
- Compatible with many Network Operating Systems drivers and utilities
- Diagnostic loopback support for increased testability
- Supports 20- or 24-bit memory addressing
- Available for CMOS STD Bus: LPM-NE2000
- Single +5 volt power required

The MCM/LPM-NE2000 module is a NE2000 compatible local area network adapter board designed for the STD Bus. As a result, most network operating systems, drivers and utilities for using Ethernet in a PC-compatible environment can be used without modification.

It conforms to the IEEE 802.3 and Ethernet standards for a 10 Mbps Carrier Sense Multiple Access/Collision Detection (CSMA/CD) local area network. The module provides connectivity for 10BASE5 thick coax, 10BASE2 thin coax, and 10BASE-T twisted-pair on a single board. Also an EPROM socket is included to support user installed remote boot extensions.

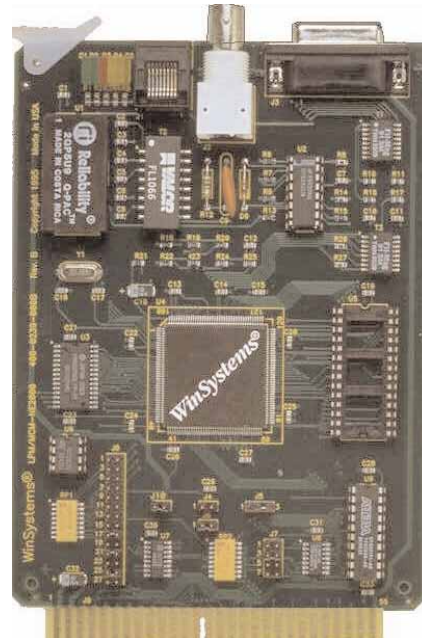
### FUNCTIONAL CAPABILITY

**Bus Interface** - The LPM-NE2000 is the CMOS STD Bus version and the MCM-NE2000 is the STD Bus version of this card. The LPM/MCM prefix is used when the card has the same features and functionality.

**Addressing** - The LPM/LPM-NE2000 supports 20- or 24-bit addressing for memory and 10-bit for I/O for use with XT or AT compatible STD Bus processors.

**Interrupts** - The LPM/MCM-NE2000 supports the STD-8088 interrupt priority scheme on the backplane with 4 separate jumper selectable priority levels.

**Ethernet Controller** - The LPM/MCM-NE2000 module uses a 8390 compatible integrated controller. This controller provides the Ethernet Media Access Control (MAC), Encoder-Decoder (ENDEC) with an AUI interface, and 10BASE-T transceiver functions in accordance



with the IEEE 802.3 standards. Supported interfaces include both the Thin and Thick Ethernet and Twisted-pair Ethernet (10BASE-T) on a single STD Bus board.

**Attachment Unit Interface (AUI)** - The LPM/MCM-NE2000 can be used with an external Medium Attachment Unit (MAU) so that connectivity to 10BASE5 or another medium can be achieved. This interface is via the 15-pin D-type connector at the board edge. The board provides a +12 volt line to power the transceivers via the AUI connector.

**Twisted Pair Interface** - The MCM/LPM-NE2000 also supports the use of unshielded twisted pair cable so that it can plug into a concentrator in a 10BASE-T network. An RJ-45 connector is located at the board edge.

**Thin Ethernet Connection** - The board has a coaxial transceiver interface with an onboard RG-58 type BNC connector. A DC/DC power supply provides isolated power from the STD Bus +5 volt supply.

**EPROM Socket** - A socket is provided to support a user installed device for auto-boot software drivers.

**EEPROM** - The configuration information describing the device's architecture, address, interrupt, etc. can either be loaded from jumpers or from an EEPROM. Use of the EEPROM allows the board to be configured

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solely by the software thus providing a more user-friendly Ethernet adapter. It is shipped from the factory with the EEPROM enabled and preprogrammed.

**Monitor LEDs** - LEDs are on the LPM/MCM-NE2000 to provide a visual status of the module. The green Transmit and Receive LEDs light when the module is transmitting data to or receiving data from the network. The yellow Link Integrity LED lights when there is a valid connection to a 10BASE-T concentrator and the yellow Board Select LED lights when the module is selected. The red LED lights when a collision is detected.

**Software** - The board emulates one of the most popular Ethernet Adapter architectures - Novell's NE2000 adapter. This means that most PC-compatible drivers, utilities and Ethernet supported operating systems will work directly with this module.

## **SPECIFICATIONS**

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### **Electrical**

Interface Bus: STD-8088

Data rate: 10 megabits per second

Protocol: CSMA/CD

Memory socket: Accepts 27C256 EPROM or equiv.

I/O Addressing: 10-bit

Memory Addressing: 20 or 24-bit decoding

### **Power Requirements**

Vcc = +5V +/- 5% at 100 mA, 400mA with DC/DC converter enabled

Note: The AUI interface transceiver requires +12V, refer to the adapter manufacturer's specification for current requirements.

### **Mechanical**

Dimensions: 4.5" x 7.0" (including connector overhang)

### **Connectors**

Thin Ethernet: BNC connector for RG58 A/U cable

Thick Ethernet: DB-15F

Twisted Pair: RJ-45

### **Environmental**

Operating Temperature: 0 to +65° Celsius

Non-condensing relative humidity: 5% to 95%

## **ORDERING INFORMATION**

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MCM-NE2000 STD Bus Ethernet LAN card

LPM-NE2000 CMOS STD Bus Ethernet LAN card

