



# DP839EB-MC

## 16-Bit PS/2 Ethernet Evaluation Board

### General Description

The DP839EB-MC is a 16-bit high performance Microchannel Ethernet adapter card for IBM's PS/2 computers. This board employs National Semiconductor's Ethernet chip set (DP8390, DP83910, DP8392) to provide a complete Ethernet and thin wire Ethernet solution.

This demonstration board is highlighted by the fact that its buffer memory, which is used to store receive and transmit packets, is directly accessible by both the DP8390 and the PS/2's CPU. By mapping the buffer RAM into memory, as opposed to I/O, the rate at which the host system can access the receive and transmit packet areas is greatly increased. Furthermore, the arbitration for this shared memory is designed to provide the CPU with zero wait state access by adhering to Microchannel's 30 ns request acknowledgement specification. This arbitration provides the maximum throughput available from the buffer memory to system memory, without disrupting the Network Interface Controller's (NIC) reception or transmission of packets.

In addition to offering a high performance Ethernet solution, the DP839EB/MC consumes only 1.44A of current from the PS/2's 5V power supply, making it a very power efficient discrete solution. This is well within the PS/2's specified amount of 1.6A. One final outstanding feature of the

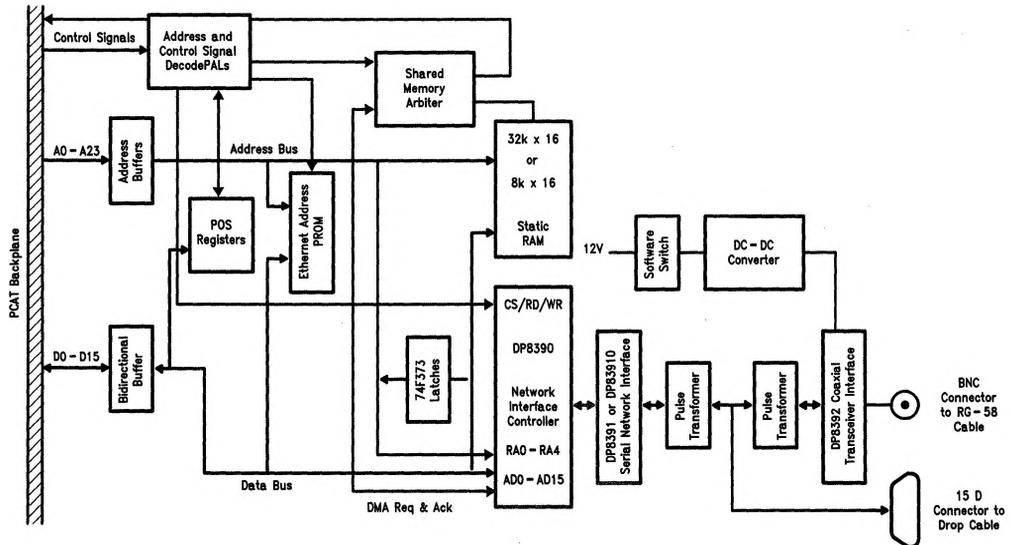
Microchannel Ethernet adapter card is that the configuration of the card as either an Ethernet or thin wire Ethernet adapter is performed through software via the DP839EM-MC's adapter definition file (ADF).

The DP839EB-MC comes with a demonstration program that performs both typical network functions and diagnostics. Also, the object and executable code for Novell file server and work station drivers are available.

### Features

- 16-bit shared buffer memory architecture
- Zero wait state CPU accesses to the shared buffer RAM
- Minimal 1.44A drain from the 5V power supply
- Software configurable for Ethernet or thin wire Ethernet
- Configurable for 32k or 8k words of shared buffer RAM
- Physical layer diagnostic LEDs
- DP839EB-MC Adapter Definition File (ADF)
- Complete demonstration software package
- Novell file server and work station drivers (object and executable code)

### Block Diagram



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