Apple Data Modem 2400: Q & A from LAN Minds Training

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This article is a question and answer session concerning the Apple Data Modem 2400. It takes care of questions the Technical Resources LAN Minds training left unanswered.

1) What is the maximum speed through the pass-through port?

The maximum speed is 57.6kbps. This is gated by the Serial Communications Controller (SCC) chip.

2) Are there any compatibility problems with Shiva's NetSerial?

There shouldn't be be, if the NetSerial package supports standard modems. However, we are checking with the test

3) Can Apple post a list of other MNP modems, and state whether they are compatible with these modems?

This modem is compatible with all MNP level 1-9 modems. It will only negotiate a 4 or lower link, no matter what is calling. MNP is a standard that clearly defines handshakes and data transmission. It is compatible with Relay Technology (formerly MicroCom), Telebit, and Codex, the major MNP vendors. In this case, the product should be compatible with anyone who correctly implements the standard.

4) Can the modem be used with Hypercard?

Yes, serial XCMDs and the modem commands in HyperCard work.

5) Direction: In the LAN Minds' writeup on the Apple Data Modem 2400 (Volume 2, Section 18), there is reference to the Microcom Network Protocol (MNP) classes. In Class 1, states that this protocol defines half-duplex transmission. There is also a statement to the effect that because the modem lacks the Clear to Send (CTS) and Request to Send (RTS) lines, the modem does not support Class 1. This reason was incorrect.

The MNP specifies a half and full-duplex protocol, but not hardware half and full duplex. These are two different uses of the same words. The hardware half and full duplex defines the modulation mechanism for communication between modems. MNP half and full-duplex defines the communication protocol on a modem-to-modem basis (not on computer-to-modem basis as implied in the writeup).

In class 1, this protocol specifies that an 8-byte block is sent out and that the modem waits for a response before sending the next block. Class 2 permits four successive 8-byte blocks to be sent out. On the receiving end, an acknowledgement is sent as each block is received. When the originating modem gets an acknowledgement it adds the next block to the list to be sent. Thus, there are always be four blocks in a queue waiting or being transmitted. With class 2, if a block is not full, it will wait until it is full.

Class 1 alone is not supported in the Apple Data Modem 2400. Although the design does not support this level only, it is the basis for the other classes.

Also note that half and full duplex is also interchangably used with the echo function set in the terminal software. This usage of the word refers to the echoing of character from the modem back to the host computer.

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