



# Tech Info Library

## Apple Data Modem 2400: Specifications (Discontinued)

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### I. Technical Specifications

#### A. Regulatory

1. FCC Registration Number: BCG794-12381-DM-E
2. Ringer Equivalence Number: 1.1B
  - a. The total number of ringer equivalence numbers on any one telephone line cannot exceed 5.0.
3. Canadian Load Number: 7

#### B. Self-Test

1. The modem executes a brief self-test when first powered up, and sounds two beeps if all tests pass.
  - a. This test and response cannot be disabled.

#### C. Data Format

1. Protocol: Asynchronous
2. Character Length
  - a. 7 data bits
    - 1) Stop bits: 1 or 2
    - 2) Parity: Odd, even, fixed: mark/space
  - b. 7 data bits
    - 1) Stop bits: 2
    - 2) No parity
  - c. 8 data bits
    - 1) Stop bits: 1 or 2
    - 2) No parity
3. Mode: Full duplex

#### D. Compatibility

1. Complete set of Hayes modem command instructions

#### E. Error Correction

1. Microcom Network Protocol (MNP) Classes 1 through 4

#### F. Transmission Speeds

1. For all speeds
  - a. Tolerance in character asynchronous format (DTE data rate)
    - 1) +1.0%
    - 2) -2.5%

- b. Tolerance in modulation rate
        - 1) +/- 0.01%
    - 2. 2400 bits per second (bps)
      - a. Standard: V.22bis
      - b. Modulation: Quadrature Amplitude Modulation (QAM)
    - 3. 1200 bits per second (bps)
      - a. Standard: V.22A/B, Bell 212A
      - b. Modulation: Differential phase-shift keying (DPSK)
    - 4. 300 bits per second (bps)
      - a. Standard: Bell 103
      - b. Modulation: Differential phase-shift keying (DPSK)
- G. Operating Modes
  - 1. Auto or manual dial (including redial)
    - a. Tone: DTMF (Dual-Tone Multi-Frequency--"Touch Tone")
      - 1) Frequency tolerance: +/- 1/0%
      - 2) Tone balance: Within 3dB
    - b. Pulse (Rotary)
      - 1) Dialing duty cycle: 39%/61% mark/break ratio
      - 2) Dialing rate: 10 pps
  - 2. Auto or manual answer
- H. Receiver Dynamic Range
  - 1. -10 to -45 dBm, full duplex
- I. Transmitter Level
  - 1. -10dBm +/- 1dB, fixed
- J. Parameter Memory
  - 1. Nonvolatile RAM for storing settings
    - a) 10,000-cycle life
- K. Command Buffer
  - 1. 40 characters, not including AT or any following spaces, dashes, or parentheses.
- L. Interface
  - 1. RS-422-A, with mini-DIN8 connector (standard Macintosh pinout)
- M. Environmental Specifications
  - 1. Operating temperature: 32-104 degree F (0-40 degree C)
  - 2. Relative humidity: 95% noncondensing
- N. Line Monitoring
  - 1. Software: Print status messages to computer
  - 2. Audio: Built-in speaker with external volume adjustment
- O. Power Source
  - 1. AC input (U.S. and Canada)
    - a. 110V +/- 10%, 60 Hz
- P. Power Consumption
  - 1. 7 watts maximum

Q. Physical Characteristics (modem only)

1. Dimensions: 200mm x 120mm x 45mm
2. Weight: 500 grams

II. System Configuration

A. Computer

1. Apple II, Apple II Plus, or Apple IIe with Super Serial Card or compatible serial interface
2. Apple IIc with serial number greater than 510,000
  - a. Apple IIc with serial number of 510,000 or lower, contact Authorized Apple Dealer for information on free logic board upgrade.
3. Macintosh family
4. Computer with RS-232 port

B. Interface Cable

1. Macintosh Plus or later: M0197
2. Macintosh 512K or earlier: M0196
3. Apple II, Apple II Plus, Apple IIe: A2C0312
4. Apple IIc: A2C4313
5. Apple IIc Plus, Apple IIGS: M0197

C. Standard single-line telephone cable with RJ-11 modular jack

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