PowerBook Fax/Data Modem: Specifications (6/92)

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TOPIC ----------

This article gives the hardware specifications for the Macintosh PowerBook Fax/Data Modem, provided in the "Macintosh PowerBook Fax/Data Modem Developers Guide", which is available from APDA.

DISCUSSION ----------

Fax Compatibility

- Group 3 only

Data Format

The data format to use is determined by the software application.

- Protocol: serial, binary, asynchronous
- Parity: odd, even, mark, space, or no parity
- Character length:
  - 7 data bits, 1 parity bit (even, odd, mark, or space parity), and 1 stop bit
  - 7 data bits, no parity, 2 stop bits
  - 8 data bits, no parity, and 1 stop bit

Frequency Tolerance

- Offset frequency: +/-7 Hz

Data Transmission Modes

- Full duplex
- Asynchronous

Fax Transmission Modes

- Half duplex

Compatibility and Modulation

• Full duplex (data communication standards)

Speed	Standard	Modulation
300 bps	Bell 103	FSK
1200 bps	Bell 212A	DPSK
1200 bps	CCITT V.22	DPSK
2400 bps	CCITT V.22bis	QAM

• Half Duplex (fax communications standards)

Speed	Standard
2400-4800 bps	CCITT V.27ter
7200-9600 bps	CCITT V.29

Transmit Carrier Frequencies

• V.22bis, V.22, Bell 212A	Transmit Carrier		
	Originate	1200 Hz	
	Answer	2400 Hz	
• Bell 103		Mark	Space
	Originate	1270	1070
	Answer	2225	2025
• V.21		Mark	Space
	Originate	980	1180
	Answer & Fax	1650	1850
• V.29	Carrier	1700 Hz	
• V.27	Carrier	1800 Hz	

Guard Tone Frequencies and Transmit Levels (CCITT only)

• 1800 Hz +/-20 Hz	6 +/-dB below the transmit carrier level
• 550 Hz +/-20 Hz	3 +/-dB below the transmit carrier level

Answer Tone Frequency

• V.22bis, V.22, V.21, and fax	2100 Hz
• Bell 103, Bell 212A	2225 Hz

Received Signal Frequency Tolerance

• Offset frequency: +/-7 Hz

Calling Tone

• Fax-specific calling tone: 1100 Hz (0.5s on, 3s off with 15% tolerance)

V.42bis and MNP Features

- V.42bis and MNP protocols for error correction and data compression apply to V.22, Bell 212, and V.22bis

Error Control

- MNP Classes 2 to 4
- CCITT V.42

Data Compression

- MNP Class 5
- CCITT V.42bis

These protocols apply to V.22, V.22bis, and Bell 212 (if available in your country)

Features

- Auto-dial and auto/manual answer
- Dual-tone multifrequency (DTMF)/pulse dialing
- Extended AT command set
- Low-power design to help preserve Macintosh PowerBook battery power

Operating Environment

- Ambient temperature: 38 to 125 degrees F (5 to 65 degrees C)
- Relative humidity: up to 95% (non-condensing)
- Optimal humidity range: 0 to 75%

Power Requirements

- +5V +/-5% supplied by Macintosh PowerBook
- -5V +/-5% supplied by Macintosh PowerBook

Power Consumption

- Operational mode: 750 mW typical
- Macintosh PowerBook sleep state: 0 mW

Electrical Requirements

- Line voltage: 110 to 220 volts
- Frequency: 50 to 60 Hz

Physical Characteristics

- Board for internal installation with one mini-DIN connector and external RJ11 jack
- Modem size: 96x36 mm

Support Information Services

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