



# Hewlett-Packard Modems Selection Guide

product numbers 37210T, 37220T, and 37230A

Three different Hewlett-Packard synchronous modems are available for use in DS/1000-IV, RJE/1000, and multipoint communications circuits. All of these modems incorporate automatic equalization and selectable transmit levels. Capabilities and performance of these modems are summarized in Table 1. Physical and environmental specifications and power requirements are given in Table 2. For more detailed information on any of the modems, ask your Hewlett-Packard representative for the data sheet on that modem.



*37230A Short Haul Modem (top) and 37210T 4800 bps Synchronous Modem (bottom); 37220T 9600 bps Synchronous Modem is similar to 37210T Modem.*

*Table 1. HP Modems capability and performance comparison*

Product Number & Name	Data Rate (bits/sec)	Communications			Circuit Requirement	Transmit Levels	Auto Equal. Init. Time
		Range	Use	Mode			
37210T Sync Modem	4800, fallback to 2400	No limit	Point-point & Multipoint	Full-duplex	Four-wire leased	0dBm to -15dBm, selectable in 1dB steps	50ms normal, 708ms long
			Point-point	Half-duplex	Two-wire dial-up		
37220T Sync Modem	9600, fallback to 4800	No limit	Point-point	Full-duplex	Four-wire leased D1 conditioned line	0dBm to -16dBm, selectable in 2dB steps	2.8 sec
37230A Short Haul Modem	2400	35.4km/22mi*	Point-point & Multipoint	Full-duplex	Four-wire customer installed or leased line	0dBm, -9dBm, -14dBm, & -21dBm at 600 ohms; +6.3dBm, -2.7dBm, -7.7dBm, & -14.7dBm at 140 ohms	25ms (2400bps)
	4800	29.0km/18mi*		Half-duplex			Two-wire customer installed or leased line
	9600	20.9km/13mi*			10ms (9600bps)		
	19200	14.5km/9mi*			8ms (19200bps)		

\* These distances are based on maximum output levels and use of 19AWG conductor cabling. The higher resistance per unit length of smaller cabling reduces maximum distance, to approximately 44% of that listed if 26AWG conductor cabling is used. At 4800 bps and higher rates, lower transmit levels required to comply with Bell system line requirements as listed in Bell publication 43401 also reduce maximum distances, to about 85% of that listed for 4800 bps, about 70% of those listed for 9600 and 19200 bps.

*Table 2. Physical and environmental specifications and power requirements for HP Modems*

Product Number & Name	Dimensions (Height x Width x Depth)	Net Weight	Operating Temperature	Relative Humidity	Power Line		Power Consumption
					Voltage	Frequency	
37210T & 37220T Sync Modem	133 x 425 x 425mm/ 5.25 x 16.75 x 16.75in	9.2kg/ 20.3lb	0° to 45°C/ 32° to 113°F	5% - 95%, non-condensing	100V/120V/ 220V/240V +/-10%	48-66Hz	85VA, max.
37230A Short Haul Modem	102 x 213 x 285mm/ 4 x 8.4 x 11.2in	2.5kg/ 5.5lb	0° to 55°C/ 32° to 131°F	5% - 95%, non-condensing	100V/120V/ 220V/240V +/-10%	48-66Hz	10VA