

Asynchronous Communications - Cisco

Modulation	DCE/DCE Bandwidth	
V.21	300bps	ITU standard Bell 103 - frequency shift keying, (FSK) (1070-1270Hz / 2025-2225Hz) originate & answer mode signal frequencies
V.22	1200bps	ITU standard Bell 212 - frequency shift keying, (FSK)
V.22bis	2400bps	ITU standard - Phase Shift Keying (PSK)
V.27	4800bps	ITU standard - Phase Amplitude Modulation (PAM)
V.32	14.4Kbps	ITU standard - Quadrature Amplitude Modulation (QAM)
V.32 terbo	19.2Kbps	Proprietary
V.34	28.8Kbps	ITU standard
V.fast	28.8Kbps	Proprietary
V.FC	28.8Kbps	Proprietary (fast class)
V..34 annex 1201H	33.6Kbps	ITU standard
K56Flex	56Kbps	Proprietary
X2	56Kbps	Proprietary (USR)
V.90	56Kbps/31.2Kbps	ITU standard
V.92	56Kbps/48Kbps	ITU standard V.PCM Upstream

International Telecommunications Union (ITU) is a formal, worldwide telecommunications standards body.

ITU-T V.42bis

The V.42bis data compression standard is the only internationally recognized data compression alternative, and it can increase data throughput by as much as 4 to 1. Uses the LZW algorithm which has two steps in order parse character sequences into a table of strings; these strings are then represented with one of 256 codes.

ITU-T V.42

V.42 is a standard for error control and uses LAP-M (Link Access Procedures for Modems) as the primary protocol and MNP (Microcom Networking Protocol) 2-4 as backup protocols.

>show modemcap

(Routers modem database)

>show modemcap [modem type]

(Displays a modems AT Command settings)

>line n

>modem autoconfigure discovery

(Sends a sequence of AT commands to line n at varying baud rates until an acknowledgment)

>line 1 (asynchronous port)

modem info

stopbits

trans

(n)

DTE
(Data
Terminal
Equipment)



Workstation
Router

Recommend setting the DTE rate is 4 times higher than your modem speed

For 28.8/33.6 modems, a good setting for the DTE speed is 57,600
For a 56 kpbs modem, you should be using 115,200

Using Basic AT Modem Commands

NOTE: These are general modem commands. Certain commands may not work with all modems.

All commands except two must be preceded by an escape sequence (usually a carriage return). The command line prefix (usually a colon) that follow, with most modems.

&Fn : Factory Default

parameters to

A Go off-hook

H : Hangup

Zn : Set

&C0 DCD Always On

&C1 Modem Controls DCD

Works with &Q command

&D0 Ignore DTE

&D1 On-Line

&D2 DTE

modem

control