

Setting the Cascade Modem Communication Speed

The 14.4K, 28.8K, & 33.6K Cascade Modem offers a variety of communication speeds and protocols. By default, the modems are initialized at the factory to try and communicate at the highest possible speed that is supported by both modems and the communication lines.

In some situations with poor phone line quality, this can result in less than satisfactory performance as the modem tries to use a speed which exceeds the capacity of the phone network. The following chart shows the various supported modulation protocols and communication speeds:

Modulation (bps)	<carrier>	Possible (<min_rx_rate>, <max_rx_rate>, (<min_tx_rate>), and <max_tx_rate>) Rates
Bell 103	B103	300
Bell 212	B212	1200 Rx/75 Tx or 75 Rx/1200Tx
V.21	V21	300
V.22 bis	V22B	2400 or 1200
V.23	V23C	1200
V.32	V32	9600 or 4800
V.32 bis	V32B	14400, 12000, 9600, 7620 or 4800
V.34	V34	33600, 31200, 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800 or 2400
V.90	V90	56000, 54667, 53333, 52000, 50667, 49333, 48000, 46667, 45333, 42667, 41333, 40000, 38667, 37333, 36000, 34667, 33333, 32000, 30667, 29333, 28000
K56flex	K56	56000, 54000, 52000, 50000, 48000, 46000, 44000, 42000, 40000, 38000, 36000, 34000, 32000

You can force the Cascade Modem to any protocol and/or communication speed by following the procedure listed below:

1. Connect the Cascade Modem to your computer and power it on. The LED should come on and then start blinking about once a second.
2. Run TT-Link or Telecom. Press <F2> and set the COM port and baud rate. For 14.4K and 28.8K modems, set it to 9600 baud. For 33.6K modems, set it to 19200 baud.
*Important note: This is the same baud rate that should be programmed into the traffic counter regardless of what speed you set the external communication rate to. Always use a counter **Modem Baud Rate** setting of 9600 (14.4K and 28.8K modems) or 19200 (33.6K modems).*
3. Press <Alt+E> to turn Echo On.
4. Type "AT" and press <Enter>. You should see a "0" appear at the first column. This indicates you are talking to the modem correctly.

- Set the desired communication rate by type it in using the format shown below and pressing the <Enter> key (make sure you get another "0" back):

AT+MS=<modulation>,0,<rate>,<rate>,<rate>,<rate>

The table below shows some recommended settings:

<i>For a desired speed of...</i>	<i>Use this command...</i>
1200 Baud	AT+MS=V22B,0,1200,1200,1200,1200
2400 Baud	AT+MS=V22B,0,2400,2400,2400,2400
4800 Baud	AT+MS=V32B,0,4800,4800,4800,4800
9600 Baud	AT+MS=V32B,0,9600,9600,9600,9600
14400 Baud	AT+MS=V32B,0,14400,14400,14400,14400
2400 to Highest Baud	For 33.6K Modems : AT+MS=V34,0,2400,33600,2400,33600 For 28.8K Modems : AT+MS=V34,0,2400,28800,2400,28800 For 14.4K Modems : AT+MS=V34,0,2400,14400,2400,14400

- Verify the setting by typing "AT+MS?" and pressing the <Enter> key. You should see the setting returned.
- Save the setting by typing "AT&W0" and pressing the <Enter> key. This will store the speed selection in memory.

The above will set the modem to a specific protocol and speed (or speed range). Note that your calling modem must also support the selection you make. D.E.T. recommends you test the settings in the office for proper counter-computer communications before deploying a modem in the field.