The Hayes modem command set

All command strings start with the letters **AT**. The string may contain multiple commands, which you may separate by spaces if you wish, and is terminated by Carriage Return, generated by hitting the <*enter*> key.

The empty command, just **AT** <*enter*>, returns an OK result code and is useful for checking that the modem is responding. Modems usually adjust their serial port rate to match the AT commands received, and you may have to send AT several times for this to work.

Note: the Hayes command set is NOT a true standard. Modems vary widely, especially regarding result codes and DCE speed selection, so you must *READ THE MANUAL!*

AT commands you can rely on being implemented

A	Go off-hook (pick up the phone) and answer incoming call
D<*number*>	Dial the given number. As well as digits, the number can include: **T** Select Tone dialling **,** Pause *(usually 2 seconds)* **P** Select Pulse dialling **W** Wait for dial tone *(not all modems)* The modem will go off-hook, possibly wait for dial tone (see **X**), dial the number, and wait for a time specifed in register **S7** to connect. If any key is hit during this time, the call will be aborted.
E0 / **E1**	Disable/Enable echo of commands back to terminal
L0 – **L3**	Set loudspeaker volume, min – max
M0 – **M3**	Monitor loudspeaker control: **0** Always off **2** Always on **1** On until carrier detect **3** On from end of dial to carrier detect
Q0 / **Q1**	Enable/Disable result codes altogether (normally ensure **Q0**)
S*m* **=** *n*	Set contents of S register *m* to value *n*. Useful S registers include: **0** Auto-answer after *n* rings *(0 = disable)* **7** Time to wait for connect *(seconds)* but most modems implement many other features this way.
S*m* **?**	Display contents of S register *m*
V0 / **V1**	Select numeric/textual result codes (normally use **V1**)
X0 – **X4**	Enable extended result codes/call progress monitoring. This varies; normally set **X4**, or **X3** to disable dialtone detection (but check the manual). Typical dial result codes are **CONNECT *(speed)***, **NO CARRIER, NO DIALTONE, BUSY**. Other commands give **OK** or **ERROR**. Incoming calls indicated by **RING**
Z	Reset to stored default parameters

There are two exceptions to the rule that all commands start with **AT**

A/	Repeat the last AT command string
(pause) **+++** *(pause)*	Suspend from being on-line and go to the modem command state. You can then use **ATH** to drop the call or **ATO** to return on-line.

AT commands that are often implemented

&C0 – &C1	**&C0** sets DCD permanently on; **&C1** makes it follow the carrier status
&D0 – &D3	Sets how modem responds to computer dropping DTR. (Usually &D2) **0** DTR ignored **2** Hang up & go to command mode **1** Go to command mode **3** Hang up & reinitialise
&F *(n)*	Reset to factory defaults stored in ROM (if *n* specified, selects which set)
&V	View configuration
&W	Write configuration to non-volatile memory