5. AT COMMAND SET

The AT commands can be used to send commands to your modem to control its behavior through a communication program such as *Hyperterminal* built into Microsoft Windows 95®.

To execute these AT commands, just type the command and press ENTER

eg: AT[*command*] ENTER↵

5.1. Basic AT Commands

Command	Function
A/	Re-execute command.
A	Go off-hook and attempt to answer a call.
B0	Select V.22 connection at 1200 bit/s or V.21 at 300 bit/s.
C1	Return OK message.
D*n* *n*:	Dial modifier (originate a call)
0~9	0 through 9 pulse or tone
A~D	A,B,C,D, # and * Tone dial only - A~D may not be valid for some countries
L	Re-dial last number
P	Pulse dialing

T	Touch-tone dialing
W	Wait for second dial tone within the time specified by S7
,	Pause, time determined by S8
@	Wait for five seconds of silence
&	Wait for the AT&T "Bong" tone for credit card dialing before continuing with the dial string.
!	Flash-hook: Modem will go on-hook for a time defined by S29.
;	Return to Command Mode after dialing
	NOTE: "()", "-", ".", <Space> is ignored and may be used to format dialing string.
E0	Turn off command echo. Data is NOT returned while in the command mode.
E1	Turn on command echo. **DEFAULT**
H0	Initiate a hang-up sequence.
H1	If on-hook, go off-hook and enter command mode.
I0	Report 5 digit product code: i.e. 33600
I1	Return hardware variation code
I2	Report DSP firmware revision.
I3	Report controller firmware revision, model, and interface type.
I4	Report ESS Technology.
L0	Speaker always off
L1	Speaker on per ATM command. **DEFAULT**
L2	Speaker on per ATM command.

L3	Speaker on per ATM command.
M0	Speaker is always OFF.
M1	Turn speaker on during handshaking and turn speaker off while receiving carrier. **DEFAULT**
M2	Turn speaker on during handshaking and while receiving carrier.
M3	Turn speaker off during dialing and receiving carrie and turn speaker on during answering.
N0	Turn OFF automode detection.
N1	Turn ON automode detection. **DEFAULT**
O0	Go on-line.
O1	Go on-line and initiate a long retrain sequence before returning to on-line data mode.
O2	Go on-line and initiate a short retrain sequence before returning to on-line data mode.
P	Enable pulse dialing.
Q0	Send Result codes to DTE: **DEFAULT**
Q1	DO NOT send Result codes to DTE
Sn	Select last S-Register to be accessed
Sn?	Return the value of S-Register n.
Sn=v	Set default S-Register to value v.
?	Return the value of last S-Register to be accessed
T	Enable DTMF (tone) dialing. **DEFAULT**
V0	Report short form (terse/numeric) result codes.
V1	Report long form (verbose/words) result codes. **DEFAULT**

W0	Report DTE speed only. **DEFAULT**
W1	Report line speed, EC protocol and DTE speed.
W2	Report DCE speed only
X0	Report basic call progress result codes, eg; OK, CONNECT, RING, NO CARRIER (busy and dial tone detect disabled), NO ANSWER and ERROR.
X1	Report basic call progress result codes and connections speeds, eg; OK, CONNECT, RING, NO CARRIER (busy and dial detect disabled), NO ANSWER, CONNECT XXXX, and ERROR.
X2	Report basic call progress result codes and connections speeds, eg; OK, CONNECT, RING, NO CARRIER (busy not detected), NO ANSWER, CONNECT XXXX, and ERROR.
X3	Report basic call progress result codes and connection rate, eg; OK, CONNECT, RING, NO CARRIER, NO ANSWER, CONNECT XXXX, BUSY, and ERROR.
X4	Report all call progress result codes and connection rate, eg; OK, CONNECT, RING, NO CARRIER, NO ANSWER, CONNECT XXXX, BUSY, NO DIAL TONE and ERROR. **DEFAULT**
Z0	Restore stored profile 0 after warm reset.
Z1	Restore stored profile 1 after warm reset.

5.2. Extended AT Commands

Command	Function
&C0	Force RLSD (Carrier Detect)active regardless of the carrier state. **DEFAULT**
&C1	Allow RLSD (Carrier Detect) to follow the carrier state.
&D0	Ignore DTR (assumed ON). **DEFAULT**
&D1	DTR going from ON to OFF forces the modem to the command mode
&D2	DTR going from ON to OFF forces the modem to go on-hook (hang-up)
&F0	Restore factory configuration 0.
&F1	Restore factory configuration 1.
&J0	Auxiliary never operated **DEFAULT**
&K0	Disable DTE/DCE flow control.
&K3	Enable RTS/CTS DTE/DCE flow control. **DEFAULT** for data mode.
&K4	Enable XON/XOFF DTE/DCE flow control.
&K5	Enable transparent XON/XOFF flow control.
&K6	Enable both RTS/CTS and XON/XOFF flow control. **DEFAULT** for fax modem and voice modes.
&L0	Dummy command. Will accept and return OK.
&M0	Select direct asynchronous mode.
&P0	Set 10 pps pulse dial with 39%/61% make/break.

&P1	Set 10 pps pulse dial with 33%/67% make/break.
&P2	Set 20 pps pulse dial with 39%/61% make/break.
&P3	Set 20 pps pulse dial with 33%/67% make/break.
&Q0	Select direct asynchronous mode.
&S0	DSR is always active. **DEFAULT**
&T0	Terminate any test in progress.
&T1	Initiate local analog loopback.
&V	Display current configurations. Profile 0,1 and stored telephone numbers.
&W0	Store the active profile in NVRAM profile 0.
&W1	Store the active profile in NVRAM profile 1.
&W2	Store the active profile in NVRAM profile 2.
&Y0	Recall stored profile 0 upon power up.
&Y1	Recall stored profile 1 upon power up.
&Zn=x	Store dial string x (to 45) to location n (0 to 3).
%E0	Disable line quality monitor and auto retrain. **DEFAULT**
%E1	Enable line quality monitor and auto retrain.

5.3. Commands

Command	Function
%C0	Disable data compression.
%C1	Enable MNP 5 data compression.
%C2	Enable V.42bis data compression.
%C3	Enable both V.42bis and MNP 5 compression. **DEFAULT**
\A0	Set maximum block size in MNP to 64. **DEFAULT**
\A1	Set maximum block size in MNP to 128.
\A2	Set maximum block size in MNP to 192.
\A3	Set maximum block size in MNP to 256.
\Bn	Send break of n x 100 ms in non-error correction mode.
\G0	Disable modem-to-modem XON/XOFF flow control
\G1	Enables modem-to-modem XON/XOFF flow control
\Kn	Controls break handling during three states:
	When modem receives a BREAK from the DTE:
\K0,2,4	Enter on-line command mode, no break sent to the remote modem.
\K1	Clear buffers and send break to remote modem.

\K3	Send break to remote modem immediately.
\K5	Send break to remote modem in sequence with transmitted data. **DEFAULT**
	When local modem sends BREAK during normal mode:
\K0,1	Clear buffers and send break to remote modem.
\K2,3	Send break to remote modem immediately.
\K4,5	Send break to remote modem in sequence with transmitted data. **DEFAULT**
	When modem receives BREAK from the remote modem:
\K0,1	Clear data buffers and send break to DTE.
\K2,3	Send a break immediately to DTE.
\K4,5	Send a break with received data to the DTE. **DEFAULT**
\Ln	MNP block transfer control
\L0	Initiates stream link **DEFAULT**
\L1	Use interactive block mode for MNP connection.
\Nn	Error Correcting Operating Mode.
\N0	Select normal speed buffered mode and disable error correction mode.
\N1	Select direct mode - no buffered data. DTE/DCE speed must match.
\N2	Select reliable link mode ONLY.
\N3	Select auto reliable mode with fallback to Normal mode. **DEFAULT**

\N4	LAPM (V.42) mode.
\N5	Force MNP mode.

5.4. FAX Class 1 Commands

Command	Function
+FCLASS=n	Service class.
+FDD	Double Escape character replacement control
+FLO	Select Flow Control
+FMI?	Request Manufacture Identification
+FMM?	Request Model Identification
+FMR?	Request Revision Identification
+FRH=n	Receive data with HDLC framing at rate per "=n" (2400~14400 bit/s)
+FRM=n	Receive data at rate per "=n" (2400~14400 bit/s).
+FRS=n	Wait for silence (10ms intervals 0~255)
+FTH=n	Transmit data with HDLC framing at rate per "=n" (2400~14400 bit/s).
+FTM=n	Transmit data at rate per "=n" (2400~14400 bit/s).
+FTS=n	Stop transmission and wait (10ms intervals 0~255)

5.5. FAX Class 2 Commands

Command	Function
+FCLASS=n	Service class.
+FDT	Data transmission

+FET=n	Transmit Page Punctuation
+FDR	Begin or continue Phase C receive data
+FK	Session transmission
	Class 2 DCE Responses
+FCON=n	Facsimile connection response
+FDCS:	Report current session
+FDIS:	Report remote identification
+FCFR:	Indicate confirmation to receive
+FTSI:	Report the transmit station ID
+FCSI:	Report the called station ID
+FPTS:	Page transfer status
+FET:	Post page message response
+FHNG	Call termination with status
	Class 2 session Parameters
+FMFR?	Identify manufacturer
+FMDL?	Identify model
+FREV?	Identify revision
+FDCC=	DEC capability parameters
+FDIS=	Current sessions parameters
+FDCS=	Current session results
+FLID=	Local ID string
+FCR	Capability
+FPTS=	Page transfer status
+FCR=	Capability to receive
+FPHCT	Phase C time out

O	
+FAXERR	Fax error value
+FBOR	Phase C data bit order

5.6.S Registers

Reg.	Function	Range	Units	Saved	Default
S0	Rings to Auto-Answer	0-255	rings	4	0
S1	Ring Counter	0-255	rings	-	0
S2	Escape Character	0-255	ASCII	4	43 (+)
S3	Carriage Return Character	0-127	ASCII	4	13 (CR)
S4	Line Feed Character	0-127	ASCII	4	10 (LF)
S5	Backspace Character	0-255	ASCII	4	8 (BS)
S6	Wait Time for Dial Tone	2-255	s	4	2
S7	Wait Time for Carrier	1-255	s	4	50
S8	Pause Time for Dial Delay Modifier	0-255	s	4	2
S9	Carrier Detect Response Time	1-255	0.1 s	4	6
S10	Carrier Loss Disconnect Time	1-255	0.1 s	4	10
S11	DTMF Tone	50-255	0.001 s	4	95

	Duration				
S12	Escape Prompt Delay	0-255	0.02 s	4	50
S13	Reserved	-	-	-	-
S14	General Bit Mapped Options Status	-	-	4	138 (8Ah)
S15	Reserved	-	-	-	-
S16	Test Mode Bit Mapped Options Status (&T)	-	-	-	0
S17~20	Reserved	-	-	-	-
S21	V.24/General Bit Mapped Options Status	-	-	4	52 (34h)
S22	Speaker/Results Bit Mapped Options Status	-	-	4	117 (75h)
S23 ~ S28	Reserved	-	-	-	62 (3Dh)
S29	Sets the time to go off-hook for flash command	-	-	4	194 (C2h)
S30~31	Reserved	-	-	-	-
S32	XON Character	0-255	ASCII	-	17 (11h)
S33	XOFF Character	0-255	ASCII	-	19 (13h)
S34~99	Reserved	-	-	-	-

5.7. Results Codes Responses

Word	No.	Description
OK	0	Modem has successfully executed a command
CONNECT	1	Data connection has been made with a remote modem
RING	2	Modem has detected an incoming ring
NO CARRIER	3	Remote carrier signal was lost or not detected within the time specified by Register S7
ERROR	4	Modem has found an error in your command line
CONNECT 1200	5	Modem has made a connection with a 1200 bit/s DTE rate.
NO DIALTONE	6	Modem has not detected a dial-tone
BUSY	7	Modem has detected a busy signal while dialing a call
NO ANSWER	8	Modem did not detect 5 seconds of silence with the @ dial modifier set.
CONNECT 600	9	Modem has made a connection with a 600 bit/s DTE rate.
CONNECT 2400	10	Modem has made a connection with a 2400 bit/s DTE rate.
CONNECT 4800	11	Modem has made a connection with a 4800 bit/s DTE rate.
CONNECT 9600	12	Modem has made a connection with a 9600 bit/s DTE rate.

CONNECT 7200	13	Modem has made a connection with a 7200 bit/s DTE rate.
CONNECT 12000	14	Modem has made a connection with a 12000 bit/s DTE rate.
CONNECT 14400	15	Modem has made a connection with a 14400 bit/s DTE rate.
CONNECT 19200	16	Modem has made a connection with a 19200 bit/s DTE rate.
CONNECT 38400	17	Modem has made a connection with a 38400 bit/s DTE rate.
CONNECT 57600	18	Modem has made a connection with a 57600 bit/s DTE rate.
CONNECT 115200	19	Modem has made a connection with a 115200 bit/s DTE rate.
FAX	33	Fax Modem connection established
+FCERROR	34	This message is sent to the DTE when fax data is expected and a V.21 signal is received.
DATA	35	Data Modem connection established
CARRIER 300	40	Modem has made a 600 bit/s connection
CARRIER 2400	47	Modem has made a 2400 bit/s carrier connection
CARRIER 4800	48	Modem has made a 4800 bit/s carrier connection
CARRIER 7200	49	Modem has made a 9600 bit/s carrier connection
CARRIER 9600	50	Modem has made a 7200 bit/s carrier connection
CARRIER 12000	51	Modem has made a 12000 bit/s carrier

		connection
CARRIER 14400	52	Modem has made a 14000 bit/s carrier connection
CARRIER 16800	53	Modem has made a 16800 bit/s carrier connection
CARRIER 19200	54	Modem has made a 19200 bit/s carrier connection
CARRIER 21600	55	Modem has made a 21600 bit/s carrier connection
CARRIER 24000	56	Modem has made a 24000 bit/s carrier connection
CARRIER 26400	57	Modem has made a 26400 bit/s carrier connection
CARRIER 28800	58	Modem has made a 28800 bit/s carrier connection
CONNECT 16800	59	Modem has made a 16800 bit/s carrier connection
CONNECT 19200	60	Modem has made a 19200 bit/s carrier connection
CONNECT 21600	61	Modem has made a 21600 bit/s carrier connection
CONNECT 24000	62	Modem has made a 24000 bit/s carrier connection
CONNECT 26400	63	Modem has made a 26400 bit/s carrier connection
CONNECT 28800	64	Modem has made a 28800 bit/s carrier connection
CONNECT 33600	65	Modem has made a 33600 bit/s carrier connection

COMPRESSION: CLASS 5	66	MNP Class 5 data compression connection established
COMPRESSION: V.42bis	67	V.42bis data compression connection established
COMPRESSION: NONE	69	Connection established without data compression
PROTOCOL: NONE	70	Connection established without error control
PROTOCOL: LAPM	77	V.42/LAPM error control connection established
PROTOCOL: ALT	80	Alternate/MNP 3~4 error control connection established
CARRIER 31200	82	Modem has made a 31200 bit/s carrier connection
CARRIER 33600	83	Modem has made a 33600 bit/s carrier connection
CONNECT 230400	84	Modem has made a connection with a 230400 bit/s DTE rate.
CARRIER 33333	86	Modem has made a connection with a 33333 bit/s DTE rate
CARRIER 34666	87	Modem has made a connection with a 34666bit/s DTE rate
CARRIER 36000	88	Modem has made a connection with a 36000 bit/s DTE rate
CARRIER 37333	89	Modem has made a connection with a 37333 bit/s DTE rate
CARRIER 38666	90	Modem has made a connection with a 38666 bit/s DTE rate
CARRIER 40000	91	Modem has made a connection with a

		40000 bit/s DTE rate
CARRIER 41333	92	Modem has made a connection with a 41333 bit/s DTE rate
CARRIER 42666	93	Modem has made a connection with a 42666 bit/s DTE rate
CARRIER 44000	94	Modem has made a connection with a 44000 bit/s DTE rate
CARRIER 45333	95	Modem has made a connection with a 45333 bit/s DTE rate
CARRIER 46666	96	Modem has made a connection with a 46666 bit/s DTE rate
CARRIER 48000	97	Modem has made a connection with a 48000 bit/s DTE rate
CARRIER 49333	98	Modem has made a connection with a 49333 bit/s DTE rate
CARRIER 50666	99	Modem has made a connection with a 50666 bit/s DTE rate
CARRIER 52000	100	Modem has made a connection with a 52000 bit/s DTE rate
CARRIER 53333	101	Modem has made a connection with a 53333 bit/s DTE rate
CARRIER 54666	102	Modem has made a connection with a 54666 bit/s DTE rate
CARRIER 56000	103	Modem has made a connection with a 56000 bit/s DTE rate
CARRIER 57333	104	Modem has made a connection with a 57333 bit/s DTE rate
CARRIER 33333	105	Modem has made a 33333 bit/s carrier connection

CARRIER 34666	106	Modem has made a 34666bit/s carrier connection
CARRIER 36000	107	Modem has made a 36000 bit/s carrier connection
CARRIER 37333	108	Modem has made a 37333 bit/s carrier connection
CARRIER 38666	109	Modem has made a 38666 bit/s carrier connection
CARRIER 40000	110	Modem has made a 40000 bit/s carrier connection
CARRIER 41333	111	Modem has made a 41333 bit/s carrier connection
CARRIER 42666	112	Modem has made a 426660 bit/s carrier connection
CARRIER 44000	113	Modem has made a 44000 bit/s carrier connection
CARRIER 45333	114	Modem has made a 45333 bit/s carrier connection
CARRIER 46666	115	Modem has made a 46666 bit/s carrier connection
CARRIER 48000	116	Modem has made a 48000 bit/s carrier connection
CARRIER 49333	117	Modem has made a 49333 bit/s carrier connection
CARRIER 50666	118	Modem has made a 50666 bit/s carrier connection
CARRIER 52000	119	Modem has made a 52000 bit/s carrier connection
CARRIER 53333	120	Modem has made a 53333 bit/s carrier

		connection
CARRIER 54666	121	Modem has made a 54666 bit/s carrier connection
CARRIER 56000	122	Modem has made a 56000 bit/s carrier connection
CARRIER 57333	123	Modem has made a 57333 bit/s carrier connection