TECHNICAL BULLETIN

Subject: PE14400 AT COMMANDS SET SUMMARY			
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AT COMMAND SET SUMMARY: 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 bps.
B1	Select Bell 212A connection at 1200 bps.
C1	Return OK message.
Dn	Dial modifier.
E0	Turn off command echo.
E1	Turn on command echo.
F0	Select auto-detect mode (equivalent to N1).
F1	Select V.21 or Bell 103.
F2	Reserved.
F3	Select V.23 line modulation.
F4	Select V.22 or Bell 212A 1200 bps line speed.
F5	Select V.22 bis line modulation.
F6	Select V.32 bis or V.32 4800 line modulation.
F7	Select V.32 bis 7200 line modulation.
F8	Select V.32 bis or V.32 9600 line modulation.
F9	Select V.32 bis 12000 line modulation.
F10	Select V.32 bis 14400 line modulation.
H0	Initiate a hang-up sequence.
H1	If on-hook, go off-hook and enter command mode.
I0	Report product code.
I1	Report pre-computed checksum.
I2	Report OK.
I3	Report firmware revision, model, and interface type.
I4	Report response "Telenetics Inc. Rev"
I5	Report the country code parameter.
I6	Report modem data pump model and code revision. (RC144DPL Rev CA)

I7	Reports the DAA code
L0	Set low speaker volume.
L1	Set low speaker volume.
L2	Set medium speaker volume.
L3	Set high speaker volume.
M0	Turn speaker off.
M1	Turn speaker on during handshaking and turn speaker off while receiving carrier.
M2	Turn speaker on during handshaking and while receiving carrier.
M3	Turn speaker off during dialing and receiving carrier and turn speaker on during answering.
N0	Turn off automode detection.
N1	Turn on automode detection.
O0	Go on-line.
O1	Go on-line and initiate a retrain sequence.
P	Force pulse dialing.
Q0	Allow result codes to DTE.
Q1	Inhibit result codes to DTE.
Sn	Select S-Register as default.
Sn?	Return the value of S-Register n.
=v	Set default S-Register to value v.
?	Return the value of default S-Register.
T	Force DTMF dialing.
V0	Report short form (terse) result codes.
V1	Report long form (verbose) result codes.
W0	Report DTE speed in EC mode.
W1	Report line speed, EC protocol and DTE speed.
W2	Report DCE speed in EC mode.
X0	Report basic call progress result codes, i.e., OK, CONNECT, RING, NO CARRIER (also, for busy, if enabled, and dial tone not detected), NO ANSWER and ERROR.
X1	Report basic call progress result codes and connections speeds (OK, CONNECT, RING, NO CARRIER (also, for busy, if enabled, and dial tone not detected), NO ANSWER, CONNECT XXXX, and ERROR.
X2	Report basic call progress result codes and connections speeds, i.e., OK, CONNECT, RING, NO CARRIER (also, for busy, if enabled, and dial tone not detected), NO ANSWER, CONNECT XXXX, and ERROR.
X3	Report basic call progress result codes and connection rate, i.e., OK, CONNECT, RING, NO CARRIER, NO ANSWER, CONNECT XXXX, BUSY, and ERROR.
X4	Report all call progress result codes and connection rate, i.e., OK, CONNECT, RING, NO CARRIER, NO ANSWER, CONNECT XXXX, BUSY, NO DIAL TONE and ERROR.

Y0	Disable long space disconnect before on-hook.
Y1	Enable long space disconnect before on-hook.
Z0	Restore stored profile 0 after warm reset.
Z1	Restore stored profile 1 after warm reset.
&C0	Force RLSD active regardless of the carrier state.
&C1	Allow RLSD to follow the carrier state.
&D0	Interpret DTR ON-to-OFF transition per &Qn: &Q0, &Q5, &Q6 The modem ignores DTR. &Q1, &Q4 The modem hangs up. &Q2, &Q3 The modem hangs up.
&D1	Interpret DTR ON-to-OFF transition per &Qn: &Q0, &Q1, &Q4,. &Q5, &Q6 Asynchronous escape. &Q2, &Q3 The modem hangs up.
&D2	Interpret DTR ON-to-OFF transition per &Qn: &Q0 through &Q6 The modem hangs up.
&D3	Interpret DTR ON-to-OFF transition per &Qn:. &Q0, &Q1, &Q4,. &Q5, &Q6 The modem performs soft reset. &Q2, &Q3 The modem hangs up.
&F0	Restore factory configuration 0.
&F1	Restore factory configuration 1.
&G0	Disable guard tone.
&G1	Disable guard tone.
&G2	Enable 1800 Hz guard tone.
&J0	Set S-Register response only for compatibility.
&J1	Set S-Register response only for compatibility.
&K0	Disable DTE/DCE flow control.
&K3	Enable RTS/CTS DTE/DCE flow control.
&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.
&L0	Select dial up line operation.
&L1	Select leased line operation.

* Serial interface operation only.

&M0	Select direct asynchronous mode.
&M1	Select sync connect with async off-line command mode. *
&M2	Select sync connect with async off-line command mode and enable DTR dialing of directory zero. *
&M3	Select sync connect with async off-line command mode and enable DTR to act as Talk/Data switch. *

&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.
&Q1	Select sync connect with async off-line command mode. *
&Q2	Select sync connect with async off-line command mode and enable DTR dialing of directory zero. *
&Q3	Select sync connect with async off-line command mode and enable DTR to act as Talk/Data switch. *
&Q4	Select Hayes AutoSync mode.
&Q5	Modem negotiates an error corrected link.
&Q6	Select asynchronous operation in normal mode.
&R0	CTS tracks RTS (async) or acts per V.25 (sync).
&R1	CTS is always active. If in flow control will drop.
&S0	DSR is always active.
&S1	DSR acts per V.25.
&T0	Terminate any test in progress.
&T1	Initiate local analog loopback.
&T2	Returns ERROR result code.
&T3	Initiate local digital loopback.
&T4	Allow remote digital loopback.
&T5	Disallow remote digital loopback request.
&T6	Request an RDL without self-test.
&T7	Request an RDL with self-test.
&T8	Initiate local analog loop with self-test.
&V	Display current configurations.
&W0	Store the active profile in NVRAM profile 0.
&W1	Store the active profile in NVRAM profile 1.
&X0	Select internal timing for the transmit clock.
&X1	Select external timing for the transmit clock.
&X2	Select slave receive timing for the transmit clock.
&Y0	Recall stored profile 0 upon power up.
&Y1	Recall stored profile 1 upon power up.
&Zn=x	Store dial string x (to 35) to location n (0 to 3 depending upon modem model).
&Z3	Stored Password (rev 144A-80A3 or higher)
%E0	Disable line quality monitor and auto retrain.
%E1	Enable line quality monitor and auto retrain.
%E2	Enable line quality monitor and fallback/fall forward.
%L	Return received line signal level.
%Q	Report the line signal quality.
\D0	Disable Auto Dial (default)
\D1	Enable Auto Dial via DTR off to on sequence
\G0	Disable modem to modem flow control.
\G1	Enable modem to modem flow control.
\H0	Command Mode default

\H1	Lease Line Mode
\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.
	When modem receives \B in on-line command state:
\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.
	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.
\M1	Select Originate Mode (Lease Line) with \H1 active
\M0	Select Answer Mode (Lease Line) with \H1 active
\N0	Select normal speed buffered mode.
\N1	Select direct mode.
\N2	Select reliable link mode.
\N3	Select auto reliable mode.
\N4	Force LAPM mode.
\N5	Force MNP mode.
\S0	Unlock Command mode (normal mode) rev 144A-80A3 and higher
\S1	Lock (out) Command mode (security mode)
+MS	Select Modulation

A.2.	ECC COMMANDS
%C0	Disable data compression.
%C1	Enable MNP 5 data compression.
%C2	Enable V.42 bis data compression.
%C3	Enable both V.42 bis and MNP 5 compression.
\A0	Set maximum block size in MNP to 64.
\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.

Table 4-1. S-Register Summary

Register	Function	Range	Units	Save	Default**
S0	Rings to Auto-Answer	0-255	rings	*	0
S1	RING COUNTER	0-255	rings		0
S2	ESCAPE CHARACTER	0-255	ASCII	*	43
S3	Carriage Return Character	0-127	ASCII		13
S4	Line Feed Character	0-127	ASCII		10
S5	Backspace Character	0-255	ASCII		8
S6	Wait time for Dial Tone	2-255	S	*	2
S7	Wait time for Carrier	1-255	s	*	50
S8	Pause Time for Dial Delay Modifier	0-255	s	*	2
S9	Carrier Detect Response Time	1-255	0.1 s	*	6
S10	Carrier Loss Disconnect Time	1-255	0.1 s	*	14
S11	DTMF Tone Duration	50-255	0.01 s	*	95
S12	Escape Code Guard Time	0-255	0.02 s	*	50
S13	Reserved	-	-	-	-
S14	General Bit Mapped	-	-	*	138 (8Ah)
S15	Reserved	_	-	-	-
S16	Test Mode Bit Mapped option (&T)	-	-	-	0
S17	Reserved	-	-	-	-
S18	Test Timer	0-255	s	*	0
S19-S20	Reserved	-	-	-	-
S21	V.24/General Bits Opt.	-	-	*	4 (04h)

S22	Speaker/Results Bit	-	-	*	117 (75h)
S23	General Bit Mapped Options	-	-	*	55 (35h)
S24	Sleep Inactivity Timer	0-255	s	*	0
S25	Delay to DTR Off	0-255	s or 0.01 s	*	0
S26	RTS to CTS Delay	0-255	0.01 s		1
S27	General Bit-Mapped Options	-	-	*	73 (49h)
S28	General Bit-Mapped Options	-	-	*	0
S29	Flash Dial Modifier Time	0-255	10ms		0
S30	Disconnet Inactivity Time	0-255	10s		0
S31	General Bit-Mapped Options	-	-	*	2
S32	XON Character	0-255	ASCII		17 (11h)
S33	XOFF Character	0-255	ASCII		19 (13h)
S34-S35	Reserved	-	-		-
S36	LAPM Failure Control	-	-	*	7
S37	Line Connection Speed	-	-	*	0
S38	Delay before Forced Hangup	0-255	s		20
S39	Flow Control	-	-	*	3
S40	General Bit-Mapped Options	-	-	*	105 (69)
S41	General Bit-Mapped Options	-	-	*	3
S42-S45	Reserved	-	-		-

S46	Data Compression Control	-	-	*	138
S48	V.42 Negotiation Control	-	-	*	7
S80	Soft-Switch Functions	-	-		0
S82	LAPM Break Control	-	-		128 (40h)
S86	Call Failure Reason Code	0-255	-		-
S91	PSTN Transmit Attenution Level	0-15	dBm		10
S95	Result Code Messages Control	-	-	*	0