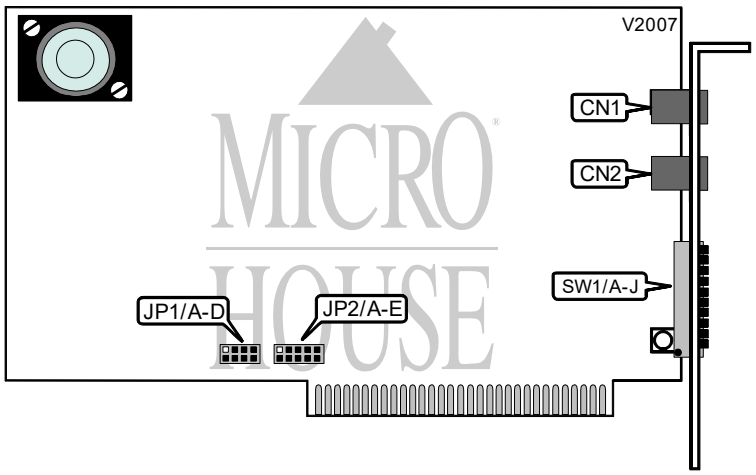
U.S. ROBOTICS, INC.
COURIER V.34 FAX (INTERNAL)

Card Type	Fax, Modem (asynchronous, synchronous)
Chip Set	U.S. Robotics
Maximum Data Rate	28.8Kbps
Maximum Fax Rate	14.4Kbps
Data Bus	8-bit ISA
Fax Class	Class I & II
Data Modulation Protocol	Bell 103/212A ITU-T V.21, V.22, V.22bis, V.23, V.25bis, V.32, V.32bis, V.34 Rockwell V.FC U.S. Robotics HST, V.32terbo
Fax Modulation Protocol	ITU-T V.17, V.21, V.27ter, V.29
Error Correction/Compression	HST, MNP5, V.42, V.42bis



CONNECTIONS			
Function	**Label**	**Function**	**Label**
Line out	CN1	Line in	CN2

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USER CONFIGURABLE SETTINGS		
Setting	**Label**	**Position**
í DTR normal	SW1/A	Off
DTR forced high	SW1/A	On
í Verbose (word) format enabled	SW1/B	Off
Numeric format enabled	SW1/B	On
í Result code display enabled	SW1/C	On
Result code display disabled	SW1/C	Off
í Local echo enabled	SW1/D	Off
Local echo disabled	SW1/D	On
í Auto-answer disabled	SW1/E	On
Auto-answer enabled, off-hook on first ring	SW1/E	Off
í CD normal	SW1/F	Off
CD forced high	SW1/F	On
í Result code display enabled in both originate and answer mode	SW1/G	Off
Result code display enabled in originate mode only	SW1/G	On
í Smart mode	SW1/H	On
Dumb mode	SW1/H	Off
í Escape code response: modem goes on-hook, off-line command mode, returns 'NO CARRIER'	SW1/I	Off
Escape code response: modem stays on-line, on-line command mode, returns 'OK'	SW1/I	On
í Reset and load from profiles in NVRAM	SW1/J	Off
Reset and load from factory settings in ROM	SW1/J	On

SERIAL PORT ADDRESS				
Setting	**JP1/A**	**JP1/B**	**JP1/C**	**JP1/D**
COM1 (3F8h)	Closed	Open	Open	Open
COM2 (2F8h)	Open	Closed	Open	Open
COM3 (3E8h)	Open	Open	Closed	Open
COM4 (2E8h)	Open	Open	Open	Closed

INTERRUPT SELECTION					
Setting	**JP2/A**	**JP2/B**	**JP2/C**	**JP2/D**	**JP2/E**
2	Closed	Open	Open	Open	Open
3	Open	Closed	Open	Open	Open
4	Open	Open	Closed	Open	Open
5	Open	Open	Open	Closed	Open
7	Open	Open	Open	Open	Closed

Proprietary AT Command Set

ABORT	
Type:	Immediate
Format:	Any key
Description:	Aborts answering/originating a call; modem hangs up.

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ACCOUNT ACCESS	
Type:	Immediate
Format:	AT%S=*n* <cr>
Description:	Acquire access to security accounts without disabling security. (*n*= local access password)

ANSWER	
Type:	Immediate
Format:	AT [cmds] A
Description:	Enables answer mode; the modem goes off-hook.

ANSWER SEQUENCE	
Type:	Configuration
Format:	AT [cmds] B*n* [cmds]
Description:	Selects the answer sequence the modem will use

Command	Function
í B0	ITU-T answer sequence enabled
B1	Bell answer sequence enabled, required for all HST Cellular calls.

ATTENTION	
Type:	Immediate
Format:	AT [cmds]
Description:	Tells the modem that a command follows or use alone to test OK result code

BIT-MAPPED REGISTER S54		
Format:		AT [cmds] S54=*n* [cmds]
Default:		0
Range:		0-255
Unit:		Bit-mapped
Description:		Controls call indicate during V.34 operation and V.8 during V.34 operation.
Bit	**Value**	**Function**
5 - 0	000000	Not used
6	í 0	Call indicate during V.34 operation enabled
	1	Call indicate during V.34 operation disabled
7	í 0	V.8 during V.34 operation enabled
	1	V.8 during V.34 operation disabled

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BIT-MAPPED REGISTER S13	
Format	AT [cmds] S13=*n* [cmds]
Default:	0
Range:	0-255
Unit:	Bit-mapped
Description:	Controls DTR reset, reverse operations, reset dialing, HST, MNP3, and custom applications.

Bit	Value	Function
0	í 0	DTR normal
	1	Reset on low DTR
1	í 0	Normal auto answer operation
	1	When ring is received, enter originate and listen for answer tone
2	í 0	Immediate result code display
	1	Pause 250msec before displaying result codes
3	í 0	DTR dialing disabled
	1	DTR dialing enabled
4	í 0	Reset dialing disabled
	1	Reset dialing enabled
5	í 0	Enable HST
	1	Disable HST (used for testing V.32terbo in Dual Standard modems)
6	í 0	MNP 3 enabled
	1	MNP 3 disabled
7	í 0	Custom applications
	1	Custom applications

BIT-MAPPED REGISTER S14	
	AT [cmds] S14=*n* [cmds]
	0
	0-255
	Controls disconnect, and retrain

Value		Function
	í 0	Normal operation
	1	Disconnect on escape code
000000		Not used
	í 0	Enable retrain
	1	Disable retrain

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BIT-MAPPED REGISTER S15		
Format:	AT [cmds] S15=*n* [cmds]	
Default:	0	
Range:	0-255	
Unit:	Bit-mapped	
Description:	Controls HST high frequency equalization, online fallback, back channel, non-error-correcting mode buffer, MNP4, BS/DEL switch, MNP compliance, and custom applications.	
Bit	**Value**	**Function**
0	í 0	HST high frequency equalization enabled
	1	HST high frequency equalization disabled
1	í 0	Online fallback enabled
	1	Online fallback disabled
2	í 0	450bps back channel enabled
	1	450bps back channel disabled
3	í 0	Non-error-correcting mode transmit buffer set to 1.5KB
	1	Non-error-correcting mode transmit buffer set to 128 bytes
4	í 0	MNP 4 enabled
	1	MNP 4 disabled
5	í 0	Use backspace key for delete disabled
	1	Use backspace key for delete enabled
6	í 0	MNP normal
	1	MNP adjusted for non-compliant modems
7	í 0	Custom applications
	1	Custom applications

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BIT-MAPPED REGISTER S27		
Format:	AT [cmds] S27=*n* [cmds]	
Default:	0	
Range:	0-191	
Unit:	Bit-mapped	
Description:	Controls V.21, V.32 encoding and modulation, V.42 answer tone and handshake, and 9600 result codes.	
Bit	**Value**	**Function**
0	í 0 1	V.21 disabled V.21 enabled
1	í 0 1	V.32 non-trellis coding disabled V.32 non-trellis coding enabled
2	í 0 1	V.32 modulation enabled V.32 modulation disabled
3	í 0 1	2100Hz answer tone enabled 2100Hz answer tone disabled; allows V.42 modems to connect quicker.
5, 4	í 00 01 10 11	V.42 detect, LAPM and MNP enabled V.42 detect and LAPM enabled MNP enabled LAPM enabled
6	í 0	Not used
7	í 0 1	Actual result codes displayed Force 9600 result codes

BIT-MAPPED REGISTER S34		
Format:	AT [cmds] S34=*n* [cmds]	
Default:	0	
Range:	0-255	
Unit:	Bit-mapped	
Description:	Controls V.32bis/V.32terbo modulations, LED selection, MI/MIC, and remote access busy message.	
Bit	**Value**	**Function**
0	í 0 1	V.32bis enabled V.32bis disabled
1	í 0 1	Enhanced V.32bis enabled Enhanced V.32bis disabled
2	í 0 1	V.32terbo fast retrain enabled V.32terbo fast retrain disabled
3	í0 1	V.23 modulation disabled V.23 modulation enabled
4	í 0 1	Change MR LED to DSR disabled Change MR LED to DSR enabled
5	í 0 1	MI/MIC disabled MI/MIC enabled
6	í 0 1	Remote access busy message enabled Remote access busy message disabled
7	í 0 1	V.32terbo enabled V.32terbo disabled

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BIT-MAPPED REGISTER S56		
	AT [cmds] S56=*n* [cmds]	
	0	
	0-192	
	Controls enable/disable V.34 and V.FC.	
Value		**Function**
000000	Not used	
	í 0	V.34 enabled
	1	V.34 disabled
	í 0	V.FC enabled
	1	V.FC disabled

BREAK LENGTH	
Type:	Register
Format:	AT [cmds] S21=*n* [cmds]
Default:	10
Range:	0-255
Unit:	.01 second
Description:	Sets the length of error control mode breaks sent from DCE to DTE.

BREAK TYPE	
Type:	Configuration
Format:	AT [cmds] &Y*n* [cmds]
Description:	Configures action of break signal
Command	**Function**
&Y0	Empty buffer only
í &Y1	Empties buffer and break is sent immediately
&Y2	Do not empty buffer and break is sent immediately
&Y3	Do not empty buffer and send break along with transmitted data

CARRIER DETECT (CD)	
Type:	Configuration
Format:	AT [cmds] &C*n* [cmds]
Description:	Sets the CD signal
Note: Modem controls CD signal by the SW1/F setting, AT&C*n* not saved in NVRAM. (External models only)	
Command	**Function**
&C0	CD signal forced high
&C1	CD signal normal

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CLOCK SOURCE - SYNCHRONOUS TRANSMIT	
Type:	Configuration
Format:	AT [cmds] &X*n* [cmds]
Description:	Selects DTE transmit clock source

Command	Function
í &X0	Modem generates clock
&X1	DTE generates clock
&X2	Modem generates clock from the receive carrier signal

COMPRESSION	
Type:	Configuration
Format:	AT [cmds] &K*n* [cmds]
Description:	Selects data compression

Command	Function
&K0	Data compression disabled
í &K1	Auto enabled/disable data compression
&K2	Data compression enabled
&K3	V.42bis data compression only enabled

COMPRESSION AND ERROR CORRECTION	
Type:	Register
Format	AT [cmds] S51=*n* [cmds]
Default:	0
Range:	0-7
Unit:	Bit-mapped
Description:	Selects compression and error correction for specific modulations, and controls handset exclusion delay

Bit	Value	Function
0	í 0	MNP/V.42 disabled during V.22 operation
	1	MNP/V.42 disabled during V.22 operation
1	í 0	MNP/V.42 disabled during V.22bis operation
	1	MNP/V.42 disabled during V.22bis operation
2	í 0	MNP/V.42 disabled during V.32/V.32bis/V.32terbo operation
	1	MNP/V.42 disabled during V.32/V.32bis/V.32terbo operation
7	í 0	Handset exclusion delay disabled
	1	Handset exclusion delay enabled

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CONNECTION SPEED	
Type:	Configuration
Format:	AT [cmds] &N*n* [cmds]
Description:	Sets connection speed, variable or fixed.
Command	**Function**
í &N0	Variable
&N1	300bps
&N2	1200bps
&N3	2400bps
&N4	4800bps
&N5	7200bps
&N6	9600bps
&N7	12Kbps
&N8	14.4Kbps
&N9	16.8Kbps (HST, V.32terbo, V.34 and V.FC only)
&N10	19.2Kbps (V.32terbo, V.34 and V.FC only)
&N11	21.6Kbps (V.32terbo, V.34 and V.FC only)
&N12	24Kbps (V.34 and V.FC only)
&N13	26.4Kbps (V.34 and V.FC only)
&N14	28.8Kbps (V.34 and V.FC only)

DATA SET READY (DSR)	
Type:	Configuration
Format:	AT [cmds] &S*n* [cmds]
Description:	Selects DSR options
Command	**Function**
í &S0	DSR forced high
&S1	DSR high only while modem is handshaking or connected
&S2	DSR toggled on loss of CD signal with CTS following CD signal
&S3	DSR toggled on loss of CD signal without CTS following CD signal
&S4	DSR and CD signals are sent to DTE at the same time

DATA SET READY (DSR) - PULSED SIGNAL	
Type:	Register
Format:	AT [cmds] S24=*n* [cmds]
Default:	150
Range:	0-255
Unit:	.02 second
Description:	Sets the length of time between DSR on/off when the modem is set to &S2 or &S3.

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DATA TERMINAL READY (DTR)	
Type:	Configuration
Format:	AT [cmds] &D*n* [cmds]
Description:	Selects modem response to DTR
Command	**Function**
&D0	Modem does not respond to DTR, DTR signal forced high
&D1	Modem goes to command mode after DTR toggles
&D2	Modem uses DTR as normal

DETECT TONE	
Type:	Immediate
Format:	AT [cmds] %T [cmds]
Description:	Enables the modem to detect tone frequencies of dialing modems. Used primarily for network applications. To enable, ATH1<cr> then AT%T. To disabled, press any key.

DIAL	
Type:	Immediate
Format:	AT [cmds] D<#> [cmds]
Example:	**ATDT 443-3388,,,1111;**
Description:	Dials telephone number according to any modifiers included in the string
Note:	Any combination of modifiers can be used to produce the desired dial functions in sequence.
Modifier	**Function**
í P	Pulse dialing enabled
T	Tone dialing enabled
,	Dialing paused for 2 seconds to a maximum amount of time specified in S8 register
;	Modem returned to command state after dialing. Can only be placed at the end of the dial command.
“	Dials letters that follow, ATDT”GOMICRO
!	Flash function initiated
W	Dialing resumed following dial tone detection
@	Wait for quiet answer, then proceeds to execute the rest of the dial string.
/	125 msec delay before proceeding with dial string
R	Answer mode enabled; originate mode disabled following handshake initiation.

DIAL - LAST NUMBER	
Type:	Immediate
Format:	AT [cmds] DL [cmds]
Description:	Re-dial last number dialed
Note: Use ATDL instead of A/ if you need to use commands other than the dial command.	

DIAL - STORED NUMBER	
Type:	Immediate
Format:	AT [cmds] DS*n* [cmds]
Description:	Dial stored number from memory location *n*. (*n*=0-9)

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DISCONNECT BUFFER DELAY	
Type:	Register
Format	AT [cmds] S38=*n* [cmds]
Default:	0
Range:	0-255
Unit:	1 second
Description:	Sets maximum duration allowed during buffered data calls for modem to perform clearing functions after losing carrier-signal or receiving a clear call signal from the remote modem and before initiating hang-up process. A value of 0 allows the modem to hang-up immediately.

DTR CHANGE THRESHOLD	
Type:	Register
Format	AT [cmds] S25=*n* [cmds]
Default:	5
Range:	0-255
Unit:	.01 second
Description:	Sets maximum time a change in the DTR signal will be ignored

ECHO	
Type:	Configuration
Format:	AT [cmds] E*n* [cmds]
Description:	Controls echo function; display keyboard commands when enabled.
Command	**Function**
E0	Echo function disabled
E1	Echo function enabled

ECHO - ON-LINE	
Type:	Configuration
Format:	AT [cmds] F*n* [cmds]
Description:	Selects whether commands sent while in data mode are echoed
Command	**Function**
F0	Local echo enabled
í F1	Local echo disabled

EDIT - SECURITY SYSTEMS	
Type:	Immediate
Format:	AT [cmds] %E=*n* [cmds]
Description:	Clears chosen field or password
Command	**Function**
%E=1	Clear local access password
%E=2	Clear auto-pass password
%E=3	Clear passwords in accounts 0-9
%E=4	Clear phone numbers in accounts 0-9
%E=5	Disable account, dial-back, and new number fields in accounts 0-9

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ERROR CORRECTION MODE (ARQ)	
Type:	Configuration
Format:	AT [cmds] &M*n* [cmds]
Description:	Selects active error correction protocols
Command	**Function**
&M0	Normal mode only
&M1	On-line synchronous mode without V.25bis
í &M4	Auto-detect mode
&M5	ARQ mode only
&M6	V.25bis on-line synchronous mode with a protocol link similar to BISYNC
&M7	V.25bis on-line synchronous mode with HDLC protocol link

ESCAPE SEQUENCE	
Type:	Immediate
Format:	+++AT [cmds] <CR>
Description:	Initiates the escape sequence and returns the modem to the on-line command state if it receives three escape characters set in S2 within the time allotted by S12.
Note:	Do not precede this command with AT.

EXTENDED RESULT CODES	
Type:	Configuration
Format:	AT [cmds] &A*n* [cmds]
Description:	Selects extended result codes
Command	**Function**
&A0	Extended result codes disabled
&A1	ARQ result codes enabled
&A2	V.32, HST, V.34 or V.FC result code enabled
í &A3	Error control and compression result codes enabled

FACTORY DEFAULT PROFILE	
Type:	Configuration
Format:	AT [cmds] &F*n* [cmds]
Description:	Sets values in active profile to values found in the default profile
Command	**Function**
&F0	No flow control template
í &F1	Hardware flow control template
&F2	Software flow control template
&F3	HST Cellular template

FLOW CONTROL CHARACTER - XOFF	
Type:	Register
Format:	AT [cmds] S23=*n* [cmds]
Default:	19
Range:	0-127
Unit:	ASCII
Description:	Sets the character used to represent XOFF.

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FLOW CONTROL CHARACTER - XON	
Type:	Register
Format:	AT [cmds] S22=*n* [cmds]
Default:	17
Range:	0-127
Unit:	ASCII
Description:	Sets the character used to represent XON.

FLOW CONTROL PASSTHROUGH	
Type:	Configuration
Format:	AT [cmds] &I*n* [cmds]
Description:	Allows modem to act on, then transmit XON/XOFF characters.
Command	**Function**
í &I0	Software flow control disabled
&I1	XON/XOFF passthrough enabled
&I2	XON/XOFF passthrough disabled
&I3	ENQ/ACK enabled in host mode
&I4	ENQ/ACK enabled in terminal mode
&I5	XON/XOFF passthrough disabled in error correction mode

FLOW CONTROL TYPE	
Type:	Configuration
Format:	AT [cmds] &H*n* [cmds]
Description:	Sets type of flow control used by modem
Command	**Function**
&H0	Flow control disabled
í &H1	CTS/RTS flow control enabled
&H2	XON/XOFF flow control enabled
&H3	CTS/RTS and XON/XOFF flow control enabled

FLOW CONTROL TYPE	
Type:	Configuration
Format:	AT [cmds] &R*n* [cmds]
Description:	Controls receive data hardware flow control and RTS signals
Command	**Function**
&R0	Delay CTS response after RTS signal (RTS/CTS delay)
&R1	Modem ignores RTS
í &R2	Received data to DTE when RTS is on

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GUARD TONE	
Type:	Configuration
Format:	AT [cmds] &G*n* [cmds]
Description:	Commands the modem to transmit a guard tone in V.22/V.22bis mode
Note: Used primarily for international data transmission	
Command	**Function**
í &G0	Guard tone disabled
&G1	550Hz guard tone enabled
&G2	1800Hz guard tone enabled

HOOK CONTROL	
Type:	Immediate
Format:	AT [cmds] H*n* [cmds]
Description:	Selects whether the modem is on-hook or off-hook
Command	**Function**
H0	Modem commanded to go on-hook (hang-up)
H1	Modem commanded to go off-hook (pick-up)

INACTIVITY TIMER	
Type:	Register
Format:	AT [cmds] S19=*n* [cmds]
Default:	0
Range:	0-255
Unit:	1 minute
Description:	Sets the length of time that the modem does not receive information before it disconnects. S19=0 will disable.

LEASED-LINE RECONNECT	
Type:	Register
Format:	AT [cmds] S44=*n* [cmds]
Default:	15
Range:	0-255
Unit:	1 second
Description:	Sets the time when the modem will reconnect in leased-line mode when it detects a loss of carrier.

LINE TYPE	
Type:	Configuration
Format:	AT [cmds] &L*n* [cmds]
Description:	Selects line type
Command	**Line Type**
í &L0	Switched line (PSTN/Dial-up)
&L1	Leased-line
&L2	Cellular operation

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LOCK SERIAL PORT	
Type:	Configuration
Format:	AT [cmds] &B*n* [cmds]
Description:	Sets operation of serial port speed

Command	Function
&B0	Serial speed follows connect speed
í &B1	Serial speed locked
&B2	Serial speed locked in ARQ mode only

MAPPING	
	Register
	AT [cmds] S55=*n* [cmds]
	0
	0-15
	Controls all Map options

Value	Function
í 0	8S-2D map enabled
1	8S-2D map disabled
í 0	16S-4D map enabled
1	16S-4D map disabled
í 0	32S-2D map enabled
1	32S-2D map disabled
í 0	64S-4D map enabled
1	64S-4D map disabled

ON-LINE	
Type:	Immediate
Format:	AT [cmds] O*n* [cmds]
Description:	Controls on-line command (data transmission) mode options.
Note: The O command must be placed at the end of the command string.	

Command	Function
O0	On-line command mode with no retraining enabled
O1	On-line command mode with retraining enabled

PACKET SIZE - REDUCE	
Type:	Register
Format:	AT [cmds] S33=*n* [cmds]
Description:	Reduces the size of the packets being sent

Command	Function
í S33=0	Reduce packet size disabled
S33=1	Reduce packet size enabled

PASSWORD - ASSIGNMENT	
Type:	Configuration
Format:	AT [cmds] %L=*n* [cmds]
Description:	Assign an account password as the local access password.

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PASSWORD - AUTO-PASS	
Type:	Configuration
Format:	AT [cmds] %V=PW*n* [cmds]
Description:	Make the password in account *n* as your auto-pass password

PASSWORD - SECURITY	
Type:	Configuration
Format:	AT [cmds] %P*n*=*x* [cmds]
Description:	Sets, views or disables password security
Command	**Function**
%P*n*=	Disable password security (%P*n*=0 or 1)
%P*n*=*x*	Viewing privileges only (n=0), Viewing and configuration privileges (n=1) for specified password string (*x*).
%P*n*?	Display password *n*

PULSE DIALING RATIO	
Type:	Configuration
Format:	AT [cmds] &P*n* [cmds]
Description:	Selects pulse dial make/break ratio
Command	**Function**
í &P0	39/61ms at 10pps (North America)
&P1	33/67ms at 10pps (Europe)

REMOTE ACCESS - ESCAPE CHARACTER	
Type:	Register
Format:	AT [cmds] S42=*n* [cmds]
Default:	126
Range:	0-255
Unit:	ASCII
Description:	Controls the remote access escape character, default character (~) Tilde.

REMOTE ACCESS - LOG-IN ATTEMPTS	
Type:	Register
Format:	AT [cmds] S41=*n* [cmds]
Default:	0
Range:	0-255
Unit:	1 attempt
Description:	Sets the number of remote access log-in attempts. S41=0 disables and doesn't allow remote access.

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REMOTE ACCESS - SEQUENCE	
Type:	Register
Format:	AT [cmds] S43=*n* [cmds]
Default:	200
Range:	0-255
Unit:	.02 second
Description:	Sets the guard time for the remote access sequence, (~~~~).

REMOTE CONFIGURATION CONTROL	
Type:	Configuration
Format:	AT [cmds] %C*n* [cmds]
Description:	Sets how the modem will react to remote configuration changes
Command	**Function**
í C0	Remote configuration changes are deferred, this ensures that connections are made.
C1	Remote configuration changes are restored, restore original configuration after remote access.
C2	Remote configuration changes are effected immediately, changes are made now.

REMOTE CONFIGURATION - DATA FORMAT	
Type:	Configuration
Format:	AT [cmds] %F*n* [cmds]
Description:	Sets parity
Command	**Function**
%F0	No Parity, 8 data bits
%F1	Mark Parity, 7 data bits
%F2	Odd Parity, 7 data bits
%F3	Even Parity, 7 data bits

REMOTE CONFIGURATION - SERIAL PORT SPEED	
Type:	Configuration
Format:	AT [cmds] %B*n* [cmds]
Description:	Remotely configures the serial port speed
Command	**Function**
%B0	Set serial port speed to 110Kbps
%B1	Set serial port speed to 300Kbps
%B2	Set serial port speed to 600bps
%B3	Set serial port speed to 1200bps
%B4	Set serial port speed to 2400bps
%B5	Set serial port speed to 4800bps
%B6	Set serial port speed to 9600bps
%B7	Set serial port speed to 19.2Kbps
%B8	Set serial port speed to 38.4Kbps
%B9	Set serial port speed to 57.6Kbps
%B10	Set serial port speed to 115.2Kbps

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REMOTE CONFIGURATION - V.25bis CLOCK SPEED	
Type:	Configuration
Format:	AT [cmds] %N*n* [cmds]
Description:	Sets the terminal to modem V.25bis clock speed
Command	**Function**
%N0	Not used
%N1	Not used
%N2	Set clock speed to 1200bps
%N3	Set clock speed to 2400bps
%N4	Set clock speed to 4800bps
%N5	Set clock speed to 7200bps
í %N6	Set clock speed to 9600bps
%N7	Set clock speed to 12Kbps
%N8	Set clock speed to 14.4Kbps
%N9	Set clock speed to 16.8Kbps
%N10	Set clock speed to 19.2Kbps

REPEAT COMMAND STRING	
Type:	Configuration
Format:	AT [cmds] > [cmds]
Description:	Causes modem to repeat command string until a keyboard key is pressed

REPEAT DIAL STRING	
Type:	Immediate
Format:	A>
Description:	Repeat mode enabled and the dial string last executed will be carried out until a connection is established or 10 attempts made.
Note:	Do not precede this command with AT, or follow it with <CR>.

REPEAT PREVIOUS COMMAND	
Type:	Immediate
Format:	A/
Description:	Repeats previous command, mainly used for redial.
Note:	Do not precede this command with AT, or follow it with <CR>.

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REPORT INFORMATION	
Type:	Immediate
Format:	AT [cmds] I*n* [cmds]
Description:	Displays information requested
Command	**Function**
I0	Reports 4-digit product code
I1	Reports ROM checksum
I2	Reports RAM checksum
I3	Reports call duration (ATK0) or real time (ATK1)
I4	Reports current command settings
I5	Reports NVRAM settings
I6	Reports link diagnostics
I7	Reports product configuration
I10	Reports dial security account status information

RESULT CODES	
Type:	Configuration
Format:	AT [cmds] Q*n* [cmds]
Description:	Enables modem to send result codes to the DTE
Command	**Function**
Q0	Result code sending enabled
Q1	Result code sending disabled
Q2	Result code sending enabled while in originate mode

RESULT CODE FORMAT	
Type:	Configuration
Format:	AT [cmds] V*n* [cmds]
Description:	Selects word or numeric format for information-text and result codes
Command	**Function**
V0	Numeric format enabled
V1	Verbose (word) format enabled

RTS TO CTS DELAY	
Type:	Register
Format	AT [cmds] S26=*n* [cmds]
Default:	1
Range:	0-255
Unit:	.01 second
Description:	Sets the duration of delay for CTS to respond to RTS status change in synchronous mode.

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SECURITY ACCOUNTS				
Type:	Configuration			
Format:	AT %A*n*=(field parameters) <cr>			
Example:	AT%A0=DOG,Y,Y,N,1-234-567-8901<cr>			
Description:	Make and configure security accounts, (*n*=0-9)			
Parameter options				
Password enabled	Account enabled	Dialback enabled	Allow new number	Dialback number
8-characters Case sensitive	Yes No	Yes No	Yes No	37-characters (0-9)
DOG	**Y**	**Y**	**N**	**1-234-567-8901**

SELECT CALL PROGRESS RESULT CODES	
Type:	Configuration
Format:	AT [cmds] X*n* [cmds]
Description:	Enables selection of tone detection and associated result code format options
Command	**Function**
X0	Busy and dial tone detection disabled; result codes 0-4 enabled.
X1	Busy and dial tone detection disabled; result codes 0-5, 10, 13-107 enabled
X2	Busy tone detection disabled, dial tone detection enabled; result codes 0-6, 10, 13-107 enabled; also adaptive dialing, wait for second dial tone, and fast dialing enabled.
X3	Busy tone detection enabled, dial tone detection disabled; result codes 0-5, 7-8, 10, 13-107 enabled; also adaptive dialing, and wait for answer enabled.
X4	Busy and dial tone detection enabled; result codes 0-10, 13-107 enabled; also adaptive dialing, wait for second dial tone, wait for answer, and fast dialing enabled.
X5	Busy tone detection enabled, dial tone detection disabled; result codes 0-5, 7-107 enabled; also adaptive dialing, wait for second dial tone, and wait for answer enabled.
X6	Busy and dial tone detection enabled; result codes 0-107 enabled; also adaptive dialing, wait for second dial tone, wait for answer, and fast dialing enabled.
í X7	Busy and dial tone detection enabled; result codes 0-11, 13-107 enabled; also adaptive dialing, wait for second dial tone, wait for answer, and fast dialing enabled.
Note: Valid numeric result codes; 0-8, 10-13, 18, 20, 21, 25, 47, 85, 91, 99, 103, and 107.	

SOFT RESET	
Type:	Immediate
Format:	AT [cmds] Z [cmds]
Description:	Restores modem profiles previously saved in non-volatile RAM
Note:	If SW1/J is OFF, then the modem will reset to AT&F0 profile. (External models only)

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SPEAKER MODE	
Type:	Configuration
Format:	AT [cmds] M*n* [cmds]
Description:	Selects various speaker options
Command	**Function**
M0	Speaker disabled
í M1	Speaker enabled until carrier signal detected
M2	Speaker enabled
M3	Speaker enabled following dialing, then disabled after carrier signal detected.

SPEAKER VOLUME	
Type:	Configuration
Format:	AT [cmds] L*n* [cmds]
Description:	Controls speaker volume
Note: Command works for internal models only, externals will return 'OK'.	
Command	**Function**
L0	Low volume setting
L1	Low volume setting
í L2	Medium volume setting
L3	Highest volume setting

STATUS-REGISTER	
Type:	Configuration
Format:	Read: AT [cmds] S*n*? [cmds] Write: AT [cmds] S*n*=*x* [cmds]
Description:	Writes to or reads from a specified register. Valid values 0-255
Command	**Function**
S*n*.*b*=*x*	Write to register bit *b* using values 0 (off) and 1 (on) for *x*

STORE ACTIVE PROFILE	
Type:	Configuration
Format:	AT [cmds] &W*n* [cmds]
Description:	Writes the values for the active profile into the non-volatile RAM templates
Command	**Function**
&W0	Write the active profile to stored template 0
&W1	Write the active profile to stored template 1

STORE COMMAND STRING	
Type:	Configuration
Format:	AT [cmds] &ZC*n*=(command string)
Description:	Writes selected command string into the non-volatile memory at location *n* (*n*=0-9)
Command	**Function**
&ZC=*n*	Writes command string into the non-volatile memory at location *n*
&ZC?	Displays stored command string

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STORE DIAL STRING	
Type:	Configuration
Format:	AT [cmds] &Z*n*=(phone # & modifiers)
Description:	Writes selected dial string into the non-volatile memory at location *n* (*n*=0-9)
Note: The characters described in the D command are valid for use in the &Z command.	

Command	Function
&Z*n*?	Displays phone number from non-volatile memory at location *n*

TEST MODES	
Type:	Configuration
Format:	AT [cmds] &T*n* [cmds]
Description:	Controls loopback tests: analog, digital, remote digital, and self tests.

Command	Function
&T0	Testing disabled
&T1	Local analog loopback enabled
&T3	Local digital loopback enabled
&T4	Remote digital loopback enabled
&T5	Remote digital loopback prohibited
&T6	Remote digital loopback initiated
&T7	Remote digital loopback w/ self-test and error detector in progress
&T8	Local analog loopback w/ self-test and error detector in progress

TEST MODES	
	Register
	AT [cmds] S16=*n* [cmds]
	0
	0-15
	Controls tests, analog loopback, dial, test pattern and remote digital loopback.

Value		Function
	í 0	Local analog loopback disabled
	1	Local analog loopback enabled
	í 0	Dial test disabled
	1	Dial test enabled
	í 0	Test pattern disabled
	1	Test pattern enabled
	í 0	Remote digital loopback disabled
	1	Remote digital loopback enabled

TEST TIMER	
Type:	Register
Format	AT [cmds] S18=*n* [cmds]
Default:	0
Range:	0-255
Unit:	1 second
Description:	Sets the maximum duration for modem tests
Note: S18=0 disables the timer and allows an indefinite duration.	

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TIME DISPLAY	
Type:	Immediate
Format:	AT [cmds] K*n* [cmds]
Description:	Displays the current call time or clock time
Command	**Function**
K0	Display length of last call, if off-line; duration of call while on-line.
K1	Display actual time (HH:MM:SS)

TRANSMITTER	
Type:	Configuration
Format:	AT [cmds] C*n* [cmds]
Description:	Controls the transmitter.
Command	**Function**
C0	Disable transmitter, receive-only operation.
í C1	Enable transmitter

VOICE/DATA SWITCH	
Type:	Register
Format:	AT [cmds] S32=*n* [cmds]
Description:	Controls voice/data switch functions
Command	**Function**
S32=0	All functions disabled
S32=1	Voice/data, originate
S32=2	Voice/data, answer
S32=3	Redial last number
S32=4	Dial number from stored position 0
S32=5	Auto-answer on/off toggle
S32=6	Reset modem
S32=7	Remote digital loopback initiated
S32=8	Busy out phone line toggle
í S32=9	Execute command string from &ZC. If there is no command string, the modem acts on S32=1.

V.21 - HANDSHAKE TIME	
Type:	Register
Format:	AT [cmds] S29=*n* [cmds]
Default:	20
Range:	0-255
Unit:	.1 second
Description:	Sets length of V.21 handshake

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V.32 - HANDSHAKE TIME	
Type:	Register
Format:	AT [cmds] S28=*n* [cmds]
Default:	8
Range:	0-255
Unit:	.1 second
Description:	Sets length of V.32 handshake

V.25bis Command Set

CONNECT INCOMING CALLS	
Type:	Immediate
Format:	CIC
Description:	Instructs the modem to answer an incoming call; if no call is currently incoming, a result of INV will be returned.

CALL REQUESTED NUMBER	
Type:	Immediate
Format:	CRN<#>
Description:	Dials the number given; it will ignore spaces and hyphens in the string.

CALL REQUEST WITH ADDRESS	
Type:	Immediate
Format:	CRS*n*
Description:	Dials the number stored in NVRAM location *n*

DISREGARD INCOMING CALL	
Type:	Immediate
Format:	DIC
Description:	Instructs the modem to ignore the incoming call, if the modem is set to automatically answer; if no call is currently incoming, a result of INV will be returned.

PROGRAM NUMBER	
Type:	Configuration
Format:	PRN*n*
Description:	Stores a phone number in memory address *n*.

REQUEST LIST OF FORBIDDEN NUMBERS	
Type:	Immediate
Format:	RFN
Description:	Requests the list of forbidden numbers from the modem; the modem is unable to dial numbers on this list until its power has been cycled; if this feature is not enabled, the modem will return INV.

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REQUEST LISTED NUMBERS	
Type:	Immediate
Format:	RLN
Description:	Requests the modem to return the list of stored numbers in NVRAM; if no numbers are stored, the modem will return LSN.

V.25bis Result codes

CALL FAILURE INDICATOR		
Type:	Response	
Format:	CFI*xx*	
Description:	Indicates that the attempt to connect failed	
Response	**Name**	**Description**
CFAB	Abort	The call was aborted because either no dialtone was detected or a character was received from the host computer.
CFCB	DCE Busy	An incoming call was detected after the dialing command was issued
CFET	Engaged Tone	A busy signal was detected
CFFC	Forbidden Call	The number given is on the forbidden list
CFNS	Not Stored	The memory address given did not contain a valid telephone number
CFNT	No Tone	The remote party did not issue a response tone
CFRT	Ring Tone	A responding tone was detected, but the call timed out before it was completed.

CONNECTION	
Type:	Response
Format:	CNX
Description:	A connection has been successfully established

LIST OF NUMBERS	
Type:	Response
Format:	LS
Description:	This code is given in response to a number just dialed

LIST OF STORED NUMBERS	
Type:	Response
Format:	LSN
Description:	This code is given in response to a RLN command

LIST OF STORED FORBIDDEN NUMBERS	
Type:	Response
Format:	LSF
Description:	This code is given in response to a RFN command; it indicates that the number is on the forbidden list and cannot be dialed.

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INCOMING CALL	
Type:	Response
Format:	INC
Description:	An incoming call has been detected

INVALID	
Type:	Response
Format:	INV
Description:	The modem was issued an improper command, optional parameters maybe displayed.

Response	**Description**
INVMS	Message syntax error
INVCU	Unknown command
INVPS	Parameter syntax error
INVPV	Parameter value error

VALID	
Type:	Response
Format:	VAL
Description:	The command issued is valid and is being executed