

# MULTITECH SYSTEMS, INC.

## MT1432ES/MT1432ESI

Modem Type	Data (synchronous/asynchronous)/Fax
Maximum Data Rate	14.4Kbps
Maximum Fax Rate	14.4Kbps
Data Bus	16-bit MCA
Fax Class	Class I & II
Data Modulation Protocol	Bell 103A/212A
	ITU-T V.21, V.22, V.22bis, V.23, V.32, V.32bis
Fax Modulation Protocol	ITU-T V.17, V.21CH2, V.27ter, V.29
Error Correction/Compression	MNP2-5, V.42, V.42bis

### Proprietary Command Set

AUTO-RELIABLE TIME BUFFER CONFIGURATION	
Type:	Configuration
Format:	AT [cmds] \$A <i>n</i> [cmds]
Example:	AT \$A1 &W<CR>
Description:	Controls the handling of incoming data during auto-reliable time period.
Command	Function
\$A0	Data is discarded.
\$A1	Data is buffered.

BIT MODE	
Type:	Configuration
Format:	AT [cmds] \$EB <i>n</i> [cmds]
Example:	AT \$EB1 E1<CR>
Description:	Selects 10- or 11-bit mode.
Command	Function
\$EB0	Sets 10-bit mode.
\$EB1	Sets 11-bit mode.

CALLBACK ATTEMPTS	
Type:	Register
Format:	AT [cmds] S16= <i>n</i> [cmds]
Example:	ATS16=6<CR>
Default:	4
Range:	1-255
Unit:	1 attempt
Description:	Sets the maximum number of login attempts after initial callback connection.

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CALLBACK NUMBER	
Type:	Configuration
Format:	AT [cmds] [+/-]DT<#>Nnn
Examples:	AT#DB2 +-DT555-1212N10<CR>
Description:	Sets the phone number associated with the password at memory location nn.
Command	Function
+DT	Modem will initiate callback on successful login.
-DT	Modem will allow immediate entry on successful login without callback.
+-DT	If password is followed by a -, modem will allow immediate entry. If password is followed by a + or nothing, modem will initiate callback.

CALLBACK PARITY	
Type:	Configuration
Format:	AT [cmds] #Pn [cmds]
Example:	AT #P0 #DB1<CR>
Description:	Sets the parity of the modem when in callback mode.
Command	Function
#P0	No parity.
#P1	Odd parity.
#P2	Even parity.

CALLBACK PASSWORD	
Type:	Configuration
Format:	AT [cmds] #CBNnnxxxx
Example:	AT#DB2 #CBN09snarf<CR>
Description:	Sets the callback password at memory location nn to xxxx. The password must be between 6 and 10 characters, inclusive.

CALLBACK SECURITY	
Type:	Configuration
Format:	AT [cmds] #DBn [cmds]
Example:	AT #DB1 S0=1<CR>
Description:	Sets the security level of the callback function.
Command	Function
#DB0	Disables security and clears callback memory.
#DB1	Enables remote security only.
#DB2	Enables local and remote security.

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COMMAND ESCAPE TYPE	
Type:	Configuration
Format:	AT [cmds] %E <i>n</i> [cmds]
Example:	AT %E3 &W<CR>
Description:	Sets type and response of command escape sequence.
Command	Function
%E0	Command escape disabled.
%E1	TIES escape (+++AT...)
%E2	<BREAK>AT method.
%E3	Both TIES and BREAK methods.
%E4	OK response to command escape disabled.
%E5	OK response to command escape enabled.

COMMAND SET	
Type:	Configuration
Format:	AT &Q <i>n</i>
Example:	AT &Q1<CR>
Description:	Selects standard Hayes or custom command sets.
Command	Function
&Q0	Multi-Tech custom command set enabled.
&Q1	Standard Hayes command set enabled.

COMPRESSION	
Type:	Configuration
Format:	AT &E <i>n</i>
Example:	AT &E15 #L0<CR>
Description:	Selects data compression.
Command	Function
&E14	Data compression disabled.
&E15	Data compression enabled.

COMPRESSION MODE	
Type:	Configuration
Format:	AT #L <i>n</i>
Example:	AT #L2 DT555-1212<CR>
Description:	Selects active compression protocols.
Command	Function
#L0	V.42 negotiation enabled.
#L1	MNP negotiation enabled.
#L2	LAP-M negotiation enabled.
#L3	LAP-M enabled, no negotiation.

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CTS SIGNAL	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] &RFn [cmds]
<b>Example:</b>	AT &RF0<CR>
<b>Description:</b>	Selects the function of the CTS signal.
Command	Function
&RF0	CTS is set to RTS.
&RF1	CTS is independent of RTS.

DIAL STORED PHONE NUMBER	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] Nn1 [Nn2, Nn3...]
<b>Example:</b>	ATM0 N1N3N5<CR>
<b>Description:</b>	Dials stored phone number(s). If the first number is busy, the modem will proceed to the next number in the list.

DSR SIGNAL	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] &SFn [cmds]
<b>Example:</b>	AT &SF0<CR>
<b>Description:</b>	Selects the function of the DSR signal.
Command	Function
&SF0	DSR is set to CD.
&SF1	DSR is independent of CD.

DTR DIALING	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] \$Dn [cmds]
<b>Example:</b>	AT \$D1 DT555-1212<CR>
<b>Description:</b>	Turns DTR dialing on and off.
Command	Function
\$D0	DTR dialing disabled.
\$D1	DTR dialing enabled.

DTR TIMEOUT	
<b>Type:</b>	Register
<b>Format:</b>	AT [cmds] S24=n [cmds]
<b>Example:</b>	ATS24=40<CR>
<b>Default:</b>	20
<b>Range:</b>	0-255
<b>Unit:</b>	50 ms
<b>Description:</b>	Sets the time to drop the DTR signal to hangup.

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ERASE CALLBACK PASSWORD	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] #RCBN <i>n</i> [cmds]
<b>Example:</b>	AT #RCBN05 #RDN05<CR>
<b>Description:</b>	Erases the callback password at the memory location specified.

ERASE CALLBACK NUMBER	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] #RDN <i>n</i> [cmds]
<b>Example:</b>	AT #RCBN05 #RDN05<CR>
<b>Description:</b>	Erases the callback phone number at the memory location specified.

ERROR CORRECTION DISABLE ON CONNECT	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] \$F <i>n</i> [cmds]
<b>Example:</b>	AT \$F1 DT555-1212<CR>
<b>Description:</b>	Selects whether error correction can be disabled by a <CR> while handshaking.
Command	Function
\$F0	Error correction handshake interrupt disabled.
\$F1	Error correction handshake interrupt enabled.

ESCAPE SEQUENCE BUFFER SIZE	
<b>Type:</b>	Register
<b>Format:</b>	AT [cmds] S34= <i>n</i> [cmds]
<b>Example:</b>	AT S34=30<CR>
<b>Default:</b>	10
<b>Range:</b>	0-60
<b>Unit:</b>	1 byte
<b>Description:</b>	Sets the size of the buffer used to store commands during an escape sequence.

ESCAPE SEQUENCE - OUT OF BAND	
<b>Type:</b>	Immediate
<b>Format:</b>	<BREAK> AT [cmds]<CR>
<b>Example:</b>	<BREAK> AT #F1<CR>
<b>Description:</b>	Puts the modem in Command Mode.
<b>Notes:</b>	Do not precede this command with AT. <BREAK> refers to the hardware modem break signal.

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ESCAPE SEQUENCE TIMEOUT	
<b>Type:</b>	Register
<b>Format:</b>	AT [cmds] S32= <i>n</i> [cmds]
<b>Example:</b>	AT <b>S32=30</b> <CR>
<b>Default:</b>	20
<b>Range:</b>	0-255
<b>Unit:</b>	1 second
<b>Description:</b>	Sets the maximum amount of time the modem will wait for a <CR> while executing an escape sequence.

FACTORY DEFAULTS	
<b>Type:</b>	Immediate/Configuration
<b>Format:</b>	AT &F[ <i>n</i> ]
<b>Example:</b>	AT &F8<CR>
<b>Description:</b>	Loads factory defaults, or sets write protect on NVRAM.
Command	Function
&F	Reloads defaults by setting. (Immediate, see below.)
&F8	Sets &F to read factory defaults from ROM, and disables NVRAM write protect.
&F9	Sets &F to read defaults from NVRAM, and enables write-protect.

FLOW CONTROL NORMAL MODE	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] &E <i>n</i> [cmds]
<b>Example:</b>	AT &E11 O<CR>
<b>Description:</b>	Selects normal flow control.
Command	Function
&E10	Normal mode disabled.
&E11	Normal mode enabled.

FLOW CONTROL TYPE	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] &E <i>n</i> [cmds]
<b>Example:</b>	AT &E4 &W<CR>
<b>Description:</b>	Sets type of flow control used by modem.
Command	Function
&E3	Flow control disabled.
&E4	CTS/RTS flow control enabled.
&E5	XON/XOFF flow control enabled.

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HANDSHAKE ATTEMPTS	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] #An [cmds]
<b>Example:</b>	AT #A1 #L3<CR>
<b>Description:</b>	Configures the initial handshake phase.
Command	Function
#A0	Attempts in order: 14.4Kbps, 12Kbps, 9600bps, 4800bps, 2400bps, 1200bps, 300bps.
#A1	Attempts only 14.4Kbps.
#A2	Attempts in order: 14.4Kbps, 12Kbps, 9600bps, 4800bps.
#A3	Attempts in order: 2400bps, 1200bps, 300bps.

HELP SCREENS	
<b>Type:</b>	Immediate
<b>Format:</b>	AT \$Hn
<b>Example:</b>	AT \$H1<CR>
<b>Description:</b>	Shows modem help screens.
Command	Function
\$H1	Shows help screen 1.
\$H2	Shows help screen 2.
\$H3	Shows help screen 3.

LIST CONFIGURATION	
<b>Type:</b>	Immediate
<b>Format:</b>	AT Ln
<b>Example:</b>	AT L5<CR>
<b>Description:</b>	Lists modem configuration.
Command	Function
L5	Lists all settings.
L6	Lists the values of all S-registers.
L7	Lists extended parameters.

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LOCAL SERIAL PORT SPEED	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] \$SBnnn [cmds]
<b>Example:</b>	AT \$MB9600 <b>\$SB19200</b> <CR>
<b>Description:</b>	Sets serial port speed.
Command	Function
\$SB300	Sets 300baud speed.
\$SB1200	Sets 1200baud speed.
\$SB2400	Sets 2400baud speed.
\$SB4800	Sets 4800baud speed.
\$SB9600	Sets 9600baud speed.
\$SB19200	Sets 19.2Kbaud speed.
\$SB38400	Sets 38.4Kbaud speed.
\$SB57600	Sets 57.6Kbaud speed.
\$SB115200	Sets 115.2Kbaud speed.

LOCK SERIAL PORT	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] \$BA n [cmds]
<b>Example:</b>	AT \$SB57600 <b>\$BA0</b> <CR>
<b>Description:</b>	Sets operation of serial port speed.
Command	Function
\$BA0	Serial speed locked at rate set by \$SB.
\$BA1	Serial speed follows connect speed, ignoring \$SB.

LOGIN PASSWORD	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] #lxxx
<b>Example:</b>	AT <b>#IMicroHouse</b> <CR>
<b>Description:</b>	Sets the login password to xxxx. The password must be between 6 and 10 characters, case sensitive. It defaults to MULTI-TECH.

MAXIMUM BLOCK SIZE FOR TRANSMISSION	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] &BS n [cmds]
<b>Example:</b>	AT <b>&amp;BS1</b> &MB28800<CR>
<b>Description:</b>	Sets the maximum transmittable block size.
Command	Function
&BS0	Maximum block size is 64 characters.
&BS1	Maximum block size is 128 characters for LAP-M, and 256 characters for MNP.

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PACING	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] &En [cmds]
<b>Example:</b>	AT &E13<CR>
<b>Description:</b>	Selects ENQ/ACK pacing.
Command	Function
&E12	Disables ENQ/ACK pacing.
&E13	Enables ENQ/ACK pacing.

PACING - ENQ/ACK	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] &En [cmds]
<b>Example:</b>	AT &E9<CR>
<b>Description:</b>	Selects ENQ/ACK pacing.
Command	Function
&E8	Enables ENQ/ACK pacing.
&E9	Disables ENQ/ACK pacing.

REDIAL	
<b>Type:</b>	Immediate
<b>Format:</b>	ATA:
<b>Example:</b>	ATA:<CR>
<b>Description:</b>	Redials the last number dialed until it is no longer busy.

REMOTE CONNECT SPEED	
<b>Type:</b>	Configuration
<b>Format:</b>	AT \$MBnnn
<b>Example:</b>	AT \$MB9600 \$SB19200<CR>
<b>Description:</b>	Sets maximum remote connect speed.
Command	Function
\$MB75	Sets V.23 (1200bps/75bps bi-directional).
\$MB300	Sets 300bps connect.
\$MB1200	Sets 1200bps connect.
\$MB2400	Sets 2400bps connect.
\$MB4800	Sets 4800bps connect.
\$MB9600	Sets 9600bps connect.
\$MB14400	Sets 14.4Kbps connect.

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RETRANSMIT FAIL ACTION	
Type:	Configuration
Format:	AT [cmds] \$Rn [cmds]
Example:	AT \$R1<CR>
Description:	Sets whether the modem gives up on a bad connection.
Command	Function
\$R0	Hang up after 12 failed retransmissions.
\$R1	Do not hang up after 12 failed retransmissions.

STORE PHONE NUMBER IN NVRAM	
Type:	Configuration
Format:	AT [cmds] D<#>Nn [dialstring]
Example:	ATD555-1212N1<CR>
Description:	Stores a phone number in the modem's memory.

TRELLIS MODULATION	
Type:	Configuration
Format:	AT [cmds] #Tn [cmds]
Example:	AT #T1<CR>
Description:	Controls Trellis Coded Modulation.
Command	Function
#T0	Disables TCM.
#T1	Enables TCM.

UUCP SPOOFING	
Type:	Configuration
Format:	AT [cmds] \$SPn [cmds]
Example:	AT \$SP1 O<CR>
Description:	Controls the UUCP spoofing function.
Command	Function
\$SP0	Spoofing disabled.
\$SP1	Spoofing enabled.

V.42 MODE	
Type:	Configuration
Format:	AT [cmds] &En [cmds]
Example:	AT &E0 <CR>
Description:	Configures the operation of V.42 mode.
Command	Function
&E0	Error correction disabled.
&E1	V.42 set to auto-reliable.
&E2	V.42 set to reliable.

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XON/XOFF PASS-THROUGH	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] &En [cmds]
<b>Example:</b>	AT &E7 O<CR>
<b>Description:</b>	Selects whether XON/XOFF signals are sent to remote modem.
Command	Function
&E6	XON/XOFF signals trapped by local modem.
&E7	XON/XOFF passed through local modem.