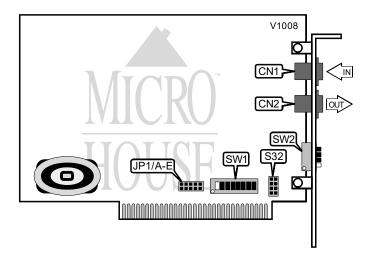
Data (synchronous/asynchronous)/Fax **Modem Type**

14.4Kbps 14.4Kbps Maximum Data Rate **Maximum Fax Rate Data Bus** 8-bit ISA **Fax Class** Class I & II Bell 103A/212A **Data Modulation Protocol**

ITU-T V.21, V.22, V.22bis, V.23, V.32, V.32bis ITU-T V.17, V.21CH2, V.27ter, V.29

Fax Modulation Protocol

MNP2-5, V.42, V.42bis **Error Correction/Compression**



	CONNEC	CTIONS	
Purpos	Location	Purpos	Location
Line in	CN1	Line out	CN2

		INTERRUPT	SELECTION		
IRQ	JP1/A	JP1/B	JP1/C	JP1/D	JP1/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

BASE I/O ADDRESS	S SELECTION MODE
Mode	SW1/8
í DOS compatible	Off
Extended	On

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	EX	TENDED MO	DE BASE I/O	ADDRESS SE	ELECTION		
Address	SW1/1	SW1/2	SW1/3	SW1/4	SW1/5	SW1/6	SW1/7
100h	Off	On	On	On	On	On	On
200h	On	Off	On	On	On	On	On
300h	Off	Off	On	On	On	On	On
400h	On	On	Off	On	On	On	On
500h	Off	On	Off	On	On	On	On
2E8h (COM4:)	Off	On	Off	Off	Off	On	Off
2F8h (COM2:)	Off	Off	Off	Off	Off	On	Off
3D8h	Off	Off	On	Off	Off	Off	Off
3E0h	On	On	Off	Off	Off	Off	Off
3E8h (COM3:)	Off	On	Off	Off	Off	Off	Off
3F0h	On	Off	Off	Off	Off	Off	Off
3F8h (COM1:)	Off	Off	Off	Off	Off	Off	Off

Note: A total of 127 memory base I/O address settings are available. The switches are a binary representation of the hexadecimal addresses. Switch SW1/1 is the Least Significant Bit and switch SW1/7 is the Most Significant Bit. The switches have the following decimal values: switch SW1/1=8, SW1/2=16, SW1/3=32, SW1/4=64, SW1/5=128, SW1/6=256, SW1/7=512.Turn off the switches and add the values of the off switches to obtain the correct base I/O address. (on=0, off=1)

DTRI	MODE
Mode	SW2/1
í Normal	Off
Forced high	On

COMPA	TIBLE MODE BASE I/O ADDRESS SEI	LECTION
Addres	SW2/2	SW2/C
COM1: (3F8h)	On	On
COM2: (2F8h)	On	Off
COM3: (3E8h)	Off	On
COM4: (2E8h)	Off	Off

CARRIER DE	ETECT MODE
Mode	SW2/4
í Normal	Off
Forced high	On

FACTORY CONFIGUR	RED - DO NOT ALTER
Jumper	Position
S32	Open

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Proprietary Command Set

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

	BIT MOD	DE
Type:	Configuration	
Format:	AT [cmds] \$EBn [cmds]	
Example:	AT \$EB1 E1 <cr></cr>	
Description:	Selects 10- or 11-bit mode.	
Command		Function
í \$EB0	Sets 10-bit mode.	
\$EB1	Sets 11-bit mode.	

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

	CALLBACK NUMBER
Type:	Configuration
Format:	AT [cmds] [+/-]DT<#>Nnn
Examples:	AT#DB2 +-DT555-1212N10 <cr></cr>
Description:	Sets the phone number associated with the password at memory location <i>nn</i> .
Command	Function
Command +DT	Function Modem will initiate callback on successful login.
+DT	Modem will initiate callback on successful login.

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

	CALLBACK PASSWORD
Type:	Configuration
Format:	AT [cmds] #CBNnnxxxx
Example:	AT#DB2 #CBN09snarf <cr></cr>
Description:	Sets the callback password at memory location <i>nn</i> to <i>xxxx</i> . 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></cr>
Description:	Sets the security level of the callback function.
Command	Function
í #DB0	Disables security and clears callback memory.
#DB1	Enables remote security only.
#DB2	Enables local and remote security.

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

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

	COMPRESSION
Type:	Configuration
Format:	AT &En
Example:	AT &E15 #L0 <cr></cr>
Description:	Selects data compression.
Command	Function
&E14	Data compression disabled.
í &E15	Data compression enabled.

	COMPRESSION MODE
Type:	Configuration
Format:	AT #Ln
Example:	AT #L2 DT555-1212 <cr></cr>
Description:	Selects active compression protocols.
Command	Function
Command í #L0	Function V.42 negotiation enabled.
í #L0	V.42 negotiation enabled.

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

	DIAL STORED PHONE NUMBER
Type:	Immediate
Format:	AT [cmds] Nn ₁ [Nn ₂ , Nn ₃]
Example:	ATM0 N1N3N5 <cr></cr>
Description:	Dials stored phone number(s). If the first number is busy, the modem will proceed to the next number in the list.

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

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

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

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

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

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

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

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

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

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	FACTORY DEFAULTS
Type:	Immediate/Configuration
Format:	AT &F[n]
Example:	AT &F8 <cr></cr>
Description:	Loads factory defaults, or sets write protect on NVRAM.
Command	Function
&F	Reloads defaults by setting. (Immediate, see below.)
í &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
Type:	Configuration
Format:	AT [cmds] &En [cmds]
Example:	AT &E11 O <cr></cr>
Description:	Selects normal flow control.
Command	Function
í &E10	Normal mode disabled.
&E11	Normal mode enabled.

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

	HANDSHAKE ATTEMPTS
Type:	Configuration
Format:	AT [cmds] #An [cmds]
Example:	AT #A1 #L3 <cr></cr>
Description:	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.

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

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

	LOCAL SERIAL PORT SPEED
Type:	Configuration
Format:	AT [cmds] \$SB <i>nnn</i> [cmds]
Example:	AT \$MB9600 \$\$B19200 <cr></cr>
Description:	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.

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

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	LOGIN PASSWORD
Type:	Configuration
Format:	AT [cmds] #lxxxx
Example:	AT #IMicroHouse <cr></cr>
Description:	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
Type:	Configuration
Format:	AT [cmds] &BSn [cmds]
Example:	AT &BS1 &MB28800 <cr></cr>
Description:	Sets the maximum transmittable block size.
Command	Function
&BS0	Maximum block size is 64 characters.
í &BS1	Maximum block size is 128 characters for LAP-M, and 256 characters for MNP.

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

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

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

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	REMOTE CONNECT SPEED
Type:	Configuration
Format:	AT \$MBnnn
Example:	AT \$MB9600 \$SB19200 <cr></cr>
Description:	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.

	RETRANSMIT FAIL ACTION
Type:	Configuration
Format:	AT [cmds] \$Rn [cmds]
Example:	AT \$R1 <cr></cr>
Description:	Sets whether the modem gives up on a bad connection.
Command	Function
í \$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:	AT D555-1212N1 <cr></cr>
Description:	Stores a phone number in the modem's memory.

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

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	UUCP SPOOFING
Type:	Configuration
Format:	AT [cmds] \$SPn [cmds]
Example:	AT \$\$P1 O <cr></cr>
Description:	Controls the UUCP spoofing function.
Command	Function
í \$SP0	Spoofing disabled.
\$SP1	Spoofing enabled.

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

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