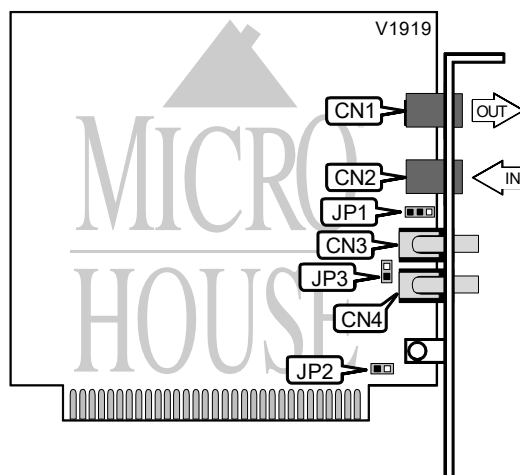


# ZOOM TELEPHONICS, INC.

## COMSTAR 14400

<b>Card Type</b>	Fax, Modem (asynchronous), Voice
<b>Chip Set</b>	Rockwell
<b>I/O Options</b>	Speakerphone, Voicemail
<b>Maximum Data Rate</b>	14.4Kbps
<b>Maximum Fax Rate</b>	14.4Kbps
<b>Data Bus</b>	8-bit ISA
<b>Fax Class</b>	Class I & II
<b>Data Modulation Protocol</b>	Bell 103/212A
<b>Fax Modulation Protocol</b>	ITU-T V.21, V.22, V.22bis, V.23, V.32, V.32bis
<b>Error Correction/Compression</b>	ITU-T V.17, V.21CH2, V.27ter, V.29, V.33
	MNP10, V.42bis



CONNECTIONS			
Function	Label	Function	Label
Line out	CN1	Microphone	CN3
Line in	CN2	Speaker	CN4

USER CONFIGURABLE SETTINGS		
Function	Label	Position
Electret microphone	JP1	Pins 1 & 2 closed
Plantronics headset	JP1	Pins 2 & 3 closed
Dynamic microphone	JP1	Open
Unpowered speaker, volume medium level	JP2	Closed
Powered speaker, volume low level	JP2	Open
Volume high level	JP2	Closed
Unpowered speaker, volume medium level	JP3	Closed
Powered speaker, volume low level	JP3	Open
Volume high level	JP3	Open

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## Proprietary AT Command Set

AUTO-RETRAIN - AUTO-FALLBACK/FALL-FORWARD	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] %En [cmds]
<b>Description:</b>	Controls auto-retrain mode and auto-fallback/fall-forward
Command	Function
%E0	Auto-retrain disabled
%E1	Auto-retrain enabled
%E2	Auto-fallback/fall-forward enabled
%E3	Auto-retrain enabled with fast hang-up

BIT MAPPED REGISTERS	
Register	Default
S14	Unidentified
S16	Unidentified
S21	Unidentified
S22	Unidentified
S23	Unidentified
S27	Unidentified
S28	Unidentified
S31	Unidentified
S40	Unidentified
S41	Unidentified

BREAK SEND	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] \Bn [cmds]
<b>Default:</b>	3
<b>Range:</b>	1-9
<b>Unit:</b>	.1 second
<b>Description:</b>	Sends break to modem

BREAK TYPE	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] \Kn [cmds]
<b>Description:</b>	Configures action of break signal

CALLER ID	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] #CID=n [cmds]
<b>Description:</b>	Controls the Caller ID function
Command	Function
#CID=0	Caller ID disabled
#CID=1	Caller ID enabled

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COMPRESSION	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] %Cn [cmds]
<b>Description:</b>	Selects data compression
Command	Function
%C0	Data compression disabled
%C1	MNP5 enabled
%C2	V.42bis enabled
í %C3	MNP5 and V.42bis enabled

CONNECT MODE	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] \Nn [cmds]
<b>Description:</b>	Controls the type of connection the modem will operate in
Command	Function
\N0	Normal mode enabled
\N1	Direct mode enabled
\N2	Reliable mode enabled
í \N3	Auto-reliable mode enabled
\N4	LAP-M error correcting only enabled
\N5	MNP error correcting only enabled

DIAL	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] D<#> [cmds]
<b>Description:</b>	Dials telephone number according to any modifiers included in the string
Modifier	Function
L	Redials last number
P	Pulse dialing enabled
T	Tone dialing enabled
W	Dialing resumed following dial tone detection
,	Dialing paused for amount of time specified in S8 register
@	Modem waits for a ring-back signal followed by silence up to 5 second prior to executing the rest of the dial string.
R	Command recognized and not initiated
;	Modem returned to command mode after dialing.
!	Flash function initiated. Goes on-hook for amount of time specified in S29 register
S=(0-3)	Number in memory location &Zn dialed
^	Calling tone enabled, data mode only.

FLASH DIAL MODIFIER TIME	
<b>Type:</b>	Register
<b>Format</b>	AT [cmds] S29=n [cmds]
<b>Default:</b>	0
<b>Range:</b>	0-255
<b>Unit:</b>	.01 second
<b>Description:</b>	Time the modem will go on-hook upon receiving the ! dial modifier in dial string.

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FLOW CONTROL	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] \Gn [cmds]
<b>Description:</b>	Selects modem port flow control
Command	Function
f \G0	Flow control disabled
\G1	Flow control enabled

FLOW CONTROL	
<b>Type:</b>	Register
<b>Format:</b>	AT [cmds] S39=n [cmds]
<b>Description:</b>	Select the type of flow control used
Command	Function
S39=0	Flow control disabled
f S39=3	Hardware flow control enabled
S39=4	Software flow control enabled
S39=5	Transparent software flow control enabled
S39=6	Both hardware and software flow control enabled

FLOW CONTROL CHARACTER - XOFF	
<b>Type:</b>	Register
<b>Format:</b>	AT [cmds] S33=n [cmds]
<b>Default:</b>	19
<b>Range:</b>	0-255
<b>Unit:</b>	ASCII
<b>Description:</b>	Sets the character used to represent XOFF

FLOW CONTROL CHARACTER - XON	
<b>Type:</b>	Register
<b>Format:</b>	AT [cmds] S32=n [cmds]
<b>Default:</b>	17
<b>Range:</b>	0-255
<b>Unit:</b>	ASCII
<b>Description:</b>	Sets the character used to represent XON

LINE SIGNAL LEVEL	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] %L [cmds]
<b>Description:</b>	Returns a value which indicates the received line signal level (-dBm)

LINE SIGNAL QUALITY	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] %Q [cmds]
<b>Description:</b>	Returns a value which indicates line signal quality

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MAXIMUM BLOCK SIZE FOR TRANSMISSION	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] \An [cmds]
<b>Description:</b>	Sets the maximum transmittable block size
Command	Function
\A0	MNP block size is 64 characters
f \A1	MNP block size is 128 characters
\A2	MNP block size is 192 characters
\A3	MNP block size is 256 characters

MNP - STREAM/BLOCK MODE	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] \Ln [cmds]
<b>Description:</b>	Selects the transfer mode for MNP link
Command	Function
f \L0	Stream mode for MNP enabled
\L1	Block mode for MNP enabled

SLEEP TIMER	
<b>Type:</b>	Register
<b>Format</b>	AT [cmds] S24=n [cmds]
<b>Default:</b>	0
<b>Range:</b>	0-255
<b>Unit:</b>	1 second
<b>Description:</b>	Maximum duration of DTE and DCE inactivity allowed prior to initiating low-power sleep mode.

SPEAKERPHONE OPTIONS	
<b>Type:</b>	Immediate/Configuration
<b>Format:</b>	AT [cmds] (see below) [cmds]
<b>Description:</b>	Configures the modem to voice mode
Command	Function
#CLS=8	Enable voice mode
#VLS=6	Enable speakerphone
A	Answer in-coming call
#VRN=0	To originate a call, then AT<#><enter>
HZ	Ends the call

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SPEAKERPHONE SETTINGS	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] #SPK=x, y, z [cmds]
<b>Description:</b>	Controls the speakerphone settings
Command	Function
x=0	Microphone muted, speaker enabled
í x=1	Microphone and speaker enabled
x=2	Microphone on maximum and speaker disabled
y=(0-16)	Speaker volume; increase the value to lower the volume.
í Y=5	Default setting for speaker
Z=(0-3)	Microphone sensitivity; increase the value for more sensitivity.
í Z=1	Default setting for microphone