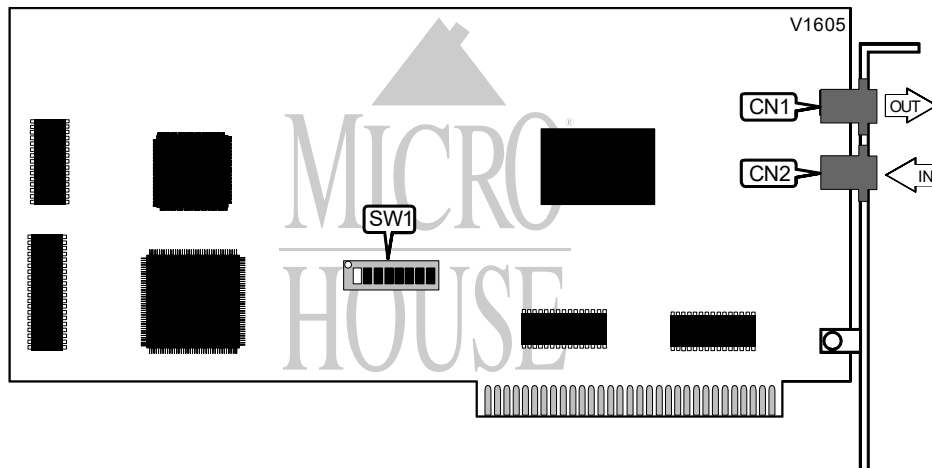


COMPUTER PERIPHERALS, INC.

VIVA 28.8 INTERNAL DATA/FAX

Modem Type	Data (asynchronous)/Fax
Maximum Data Rate	28.8Kbps
Maximum Fax Rate	14.4Kbps
Data Bus	8-bit ISA
Fax Class	Class I
Data Modulation Protocol	Bell 103A/212A ITU-T V.22, V.22bis, V.23, V.32, V.32bis, V.34 Rockwell V.FC
Fax Modulation Protocol	ITU-T V.17, V.21CH2, V.27ter, V.29
Error Correction/Compression	MNP5, V.42, V.42bis



CONNECTIONS			
Purpos	Location	Purpos	Location
Line out	CN1	Line in	CN2

BASE I/O ADDRESS SELECTION			
Port	SW1/		SW1/;
COM1: (3F8h)	On		On
COM2: (2F8h)	Off		On
COM3: (3E8h)	On		Off
COM4: (2E8h)	Off		Off

INTERRUPT SELECTION						
IRQ	SW1/3	SW1/4	SW1/5	SW1/6	SW1/7	SW1/8
3	On	Off	Off	Off	Off	Off
4	Off	On	Off	Off	Off	Off
5	Off	Off	On	Off	Off	Off
7	Off	Off	Off	Off	On	Off

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Proprietary AT Command Set

ACCEPT AUTO-RELIABLE MODE	
Type:	Immediate
Format:	AT [cmds] \U [cmds]
Description:	Accepts remote modem's request for reliable link

AUTO FALL FORWARD/FALLBACK	
Type:	Configuration
Format:	AT [cmds] %Gn [cmds]
Description:	Selects auto fallback
Command	Function
f %G0	Fallback disabled
%G1	Fallback enabled

AUTO-RELIABLE FALLBACK CHARACTER	
Type:	Configuration
Format:	AT [cmds] %An [cmds]
Default:	Unidentified
Range:	0-127
Unit:	ASCII
Description:	Sets the character used as the auto-reliable fallback character. %A0 will disable this function.

AUTO-RELIABLE TIME BUFFER CONFIGURATION	
Type:	Configuration
Format:	AT [cmds] \Cn [cmds]
Description:	Controls the handling of incoming data during auto-reliable time period
Command	Function
f \CO	Data is discarded
\C1	Data is buffered
\C2	Data is discarded, sets to normal mode and sends auto-reliable character to serial port.

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AUTO-RETRAIN		
Type:	Configuration	
Format:	AT [cmds] %En [cmds]	
Description:	Selects auto-retrain mode	
Command	Function	
i %E0	Auto-retrain disable.	
%E1	Auto-retrain enabled	

BIT-MAPPED REGISTER S14		
Format	AT [cmds] S14? [cmds]	
Default:	Read-only	
Range:	0-255	
Unit:	Bit-mapped	
Description:	Displays echo, result codes, result code display, dial mode, and answer/originate mode.	
Bit	Value	Function
0	0	Not used
1	0	Command echo disabled
	1	Command echo enabled
2	0	Result codes enabled
	1	Result codes disabled
3	0	Display result codes in numeric format
	1	Display result codes in verbose format
4	0	Not used
5	0	Tone dial enabled
	1	Pulse dial enabled
6	0	Not used
7	0	Answer mode enabled
	1	Originate mode enabled

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BIT-MAPPED REGISTER S21		
Format	AT [cmds] S21? [cmds]	
Default:	Read-only	
Range:	0-255	
Unit:	Bit-mapped	
Description:	Displays jack type, CTS signal, low DTR action, DCD signal, DSR signal, and the long space disconnect function.	
Bit	Value	Function
0	0	Selects RJ-11, RJ-41S, or RJ45S jack
	1	Selects RJ-12 or RJ-13 jack
1	0	Not used
2	0	CTS follows RTS
	1	CTS forced high
4, 3	00	DTR signal ignored
	01	Modem goes to command mode on low DTR
	10	Modem disconnects on low DTR. Auto-Answer is disabled
	11	Modem is initialized on low DTR
5	0	DCD forced high
	1	DCD normal
6	0	DSR forced high
	1	DSR normal
7	0	Long space disconnect function disabled
	1	Long space disconnect function enabled

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BIT-MAPPED REGISTER S22		
Format	AT [cmds] S22? [cmds]	
Default:	Read-only	
Range:	0-255	
Unit:	Bit-mapped	
Description:	Displays speaker volume and controls, limits results codes, and make/break pulse ratio.	
Bit	Value	Function
1, 0	01	On volume
	10	Medium level volume
	11	High level volume
3, 2	00	Speaker off
	01	Speaker off on carrier
	10	Speaker always on
	11	Speaker on during handshake
6, 5, 4	000	Basic result codes only enabled
	100	Basic and connection speed result codes enabled
	101	Basic and connection speed result codes and dialtone detection enabled
	110	All result codes except dialtone detection enabled
	111	All result codes enabled
7	0	39/61ms at 10pps (North America)
	1	33/67ms at 10pps (Europe)

BIT-MAPPED REGISTER S23		
Format	AT [cmds] S23? [cmds]	
Default:	Read-only	
Range:	0-255	
Unit:	Bit-mapped	
Description:	Displays remote digital loopback, DTE rate and parity, and guard tone.	
Bit	Value	Function
0	0	Remote digital loopback denied
	1	Remote digital loopback allowed
3, 2, 1	000	Sets serial port speed to 0-300bps
	001	Sets serial port speed to 600bps
	010	Sets serial port speed to 1200bps
	011	Sets serial port speed to 2400bps
	100	Sets serial port speed to 4800bps
	101	Sets serial port speed to 9600bps
	110	Sets serial port speed to 19200bps
	111	Sets serial port speed to 38400bps
5, 4	01	Space Parity/No Parity
7, 6	00	Guard tone disabled
	01	Guard tone 550Hz enabled
	10	Guard tone 1800Hz enabled

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BIT-MAPPED REGISTER S27		
Format	AT [cmds] S27? [cmds]	
Default:	Read-only	
Range:	0-255	
Unit:	Bit-mapped	
Description:	Displays synchronous/asynchronous mode, Line type, clock source, and ITU-T/Bell modes.	
Bit	Value	Function
3, 1, 0	000	Asynchronous mode, serial port speed follows connect speed
	001	Asynchronous command mode and synchronous connect mode
	010	Asynchronous command mode and synchronous connect mode
	011	Asynchronous command mode on low DTR, synchronous connect mode on high DTR
	100	Hayes AutoSync™ mode
2	0	Dial up line
	1	Leased line
5, 4	00	Internal transmit clock source
	01	External transmit clock source
	10	Remote transmit clock source
6	0	CCITT mode
	1	Bell mode

BREAK SEND	
Type:	Configuration
Format:	AT [cmds] \Bn [cmds]
Default:	Unidentified
Range:	0-9
Unit:	.1 second
Description:	Sends break to modem

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BREAK TYPE			
Type:		Configuration	
Format:		AT [cmds] \K <i>n</i> [cmds]	
Description:		Configures action of break signal	
Command	Break from DTE	Modem receives IB	Break received from remote modem
\K0	Online command mode enabled, send no break to remote modem	Break sent to remote modem and buffered cleared	Buffers cleared, break sent to DTE
\K1	Break sent to remote modem and buffered cleared	Break sent to remote modem and buffered cleared	Buffers cleared, break sent to DTE
\K2	Online command mode enabled, send no break to remote modem	Send break to remote modem immediately	Break sent immediately to DTE
\K3	Send break to remote modem immediately	Send break to remote modem immediately	Break sent immediately to DTE
\K4	Online command mode enabled, send no break to remote modem	Send break with transmitted data	Break sent with received data to the DTE
f \K5	Send break with transmitted data	Send break with transmitted data	Break sent with received data to the DTE

CALLING TONE	
Type: Configuration	
Format: AT [cmds] -C <i>n</i> [cmds]	
Description: Controls whether the DTE will allow the modem to send a 1300Hz calling tone when originating.	
Command	Function
f -C0	Disable calling tone
-C1	Enable calling tone

COMPRESSION	
Type: Configuration	
Format: AT [cmds] %C <i>n</i> [cmds]	
Description: Selects data compression	
Command	Function
%C0	Data compression disabled
f %C1	Data compression enabled

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CONNECT MODE	
Type:	Configuration
Format:	AT [cmds] \Nn [cmds]
Description:	Sets connect mode
Command	Function
\N0	Normal mode enabled
\N1	Direct mode enabled
\N2	Reliable mode enabled
í \N3	Auto-reliable mode enabled
\N4	LAPM mode enabled
\N5	MNP mode enabled

CONVERT TO RELIABLE MODE	
Type:	Immediate
Format:	AT [cmds] \Y [cmds]
Description:	Initiates reliable mode link

EXTENDED RESULT CODES	
Type:	Configuration
Format:	AT [cmds] \Vn [cmds]
Description:	Selects extended result codes
Command	Function
\V0	Extended result codes disabled
\V1	MNP extended result codes enabled
\V2	V.42 extended result codes enabled

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

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FLOW CONTROL TYPE	
Type:	Configuration
Format:	AT [cmds] \Qn [cmds]
Description:	Sets type of flow control used by modem
Command	Function
\Q0	Flow control disabled
\Q1	XON/XOFF flow control enabled
\Q2	CTS flow control to DTE enabled
i \Q3	RTS/CTS flow control enabled

INACTIVITY TIMER	
Type:	Configuration
Format:	AT [cmds] \Tn [cmds]
Default:	0
Range:	0-90
Unit:	1 minute
Description:	Sets the length of time that the modem does not receive information before it disconnects.

INACTIVITY TIMER	
Type:	Register
Format:	AT [cmds] S90=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. S90=0 will disable.

LINE SIGNAL QUALITY	
Type:	Configuration
Format:	AT [cmds] %Qn [cmds]
Default:	Unidentified
Range:	0-255
Description:	Sets the line quality at which the modem will retrain. If the line quality drops below n, the modem will retrain.

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LOCK SERIAL PORT	
Type:	Configuration
Format:	AT [cmds] \J <i>n</i> [cmds]
Description:	Sets operation of serial port speed
Command	Function
<i>i</i> \J0	Serial speed locked
\J1	Serial speed follows connect speed

MODULATION SELECTION	
Type:	Configuration
Format:	AT [cmds] +MS= <i>xx,y,zzz,aaa</i> [cmds]
Example:	AT+MS10,0,4800,26400<CR>
Description:	Sets options for active protocol. The transfer rates specified by <i>z</i> and <i>a</i> must be valid for the protocol selected.
Command	Function
<i>x</i> =0	V.21
<i>x</i> =1	V.22
<i>x</i> =2	V.22bis
<i>x</i> =3	V.23 1200/75
<i>x</i> =8	V.32
<i>x</i> =9	V.32bis
<i>i x</i> =10	V.34
<i>x</i> =13	V.23 75/1200
<i>x</i> =64	Bell 103A
<i>x</i> =69	Bell 212A
<i>x</i> =74	V.FC
<i>y</i> =0	Automode disabled
<i>y</i> =1	Auto-detect highest speed enabled without V.8 (except for V.34)
<i>i y</i> =2	Auto-detect highest speed enabled with V.8
<i>z, a</i> =300	Set minimum or maximum transfer rate at 300bps, respectively.
<i>z, a</i> =1200	Set minimum or maximum transfer rate at 1200bps, respectively.
<i>z, a</i> =2400	Set minimum or maximum transfer rate at 2400bps, respectively.
<i>z, a</i> =4800	Set minimum or maximum transfer rate at 4800bps, respectively.
<i>z, a</i> =9600	Set minimum or maximum transfer rate at 9600bps, respectively.
<i>z, a</i> =12000	Set minimum or maximum transfer rate at 12000bps, respectively.
<i>z, a</i> =14400	Set minimum or maximum transfer rate at 14400bps, respectively.
<i>z, a</i> =16800	Set minimum or maximum transfer rate at 16800bps, respectively.
<i>z, a</i> =19200	Set minimum or maximum transfer rate at 19200bps, respectively.
<i>z, a</i> =21600	Set minimum or maximum transfer rate at 21600bps, respectively.
<i>z, a</i> =24000	Set minimum or maximum transfer rate at 24000bps, respectively.
<i>z, a</i> =26400	Set minimum or maximum transfer rate at 26400bps, respectively.
<i>z, a</i> =28800	Set minimum or maximum transfer rate at 28800bps, respectively.

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MODULATION SELECTION DISPLAY	
Type:	Immediate
Format:	AT [cmds] +MS? [cmds]
Description:	Displays modulation, automode, minimum rate and maximum rate settings

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

ON-LINE IN RELIABLE MODE	
Type:	Immediate
Format:	AT [cmds] \O [cmds]
Description:	Returns to on-line and requests reliable mode connection

SWITCH TO NORMAL MODE	
Type:	Immediate
Format:	AT [cmds] \Z [cmds]
Description:	Switches to normal mode from MNP mode

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TEST MODES		
Format:	AT [cmds] S16? [cmds]	
Default:	Read-only	
Range:	0-255	
Unit:	Bit-mapped	
Description:	Displays loopback tests, analog, digital, remote digital, and self tests.	
Bit	Value	Function
0	0	Local analog loopback not in progress
	1	Local analog loopback in progress
1	0	Not used
2	0	Local digital loopback not in progress
	1	Local digital loopback in progress
3	0	Modem not in remote digital loopback
	1	Remote digital loopback in progress
4	0	Remote digital loopback not requested
	1	Remote digital loopback requested
5	0	Remote digital loopback w/ self-test not in progress
	1	Remote digital loopback w/ self-test in progress
6	0	Local analog loopback w/ self-test not in progress
	1	Local analog loopback w/ self-test in progress

V.42bis COMPRESSION CONTROL		
Type:	Configuration	
Format:	AT [cmds] "Hn [cmds]	
Description:	Controls V.42bis data compression	
Command	Function	
"H0	V.42bis disabled	
"H1	V.42bis when transmitting enabled	
"H2	V.42bis when receiving enabled	
i "H3	V.42bis when transmitting/receiving enabled	

V.42 DETECTION PHASE		
Type:	Configuration	
Format:	AT [cmds] -Jn [cmds]	
Description:	Controls V.42 detection	
Command	Function	
-J0	V.42 detection disabled	
i -J1	V.42 detection enabled	

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V.42bis MAXIMUM STRING LENGTH	
Type:	Configuration
Format:	AT [cmds] "O= <i>n</i> [cmds]
Default:	16
Range:	6-250
Unit:	1 ASCII character
Description:	Selects string size for V.42bis compression

XON/XOFF PASS-THROUGH	
Type:	Configuration
Format:	AT [cmds] \X <i>n</i> [cmds]
Description:	Selects whether XON/XOFF signals are sent to remote modem
Command	Function
\X0	XON/XOFF signals trapped by local modem
\X1	XON/XOFF passed through local modem