

# IBM CORPORATION

## AT 288MW

<b>Card Type</b>	Fax, Modem (asynchronous)
<b>Chip Set</b>	Unidentified
<b>I/O Options</b>	Digital Simultaneous Voice Data
<b>Maximum Data Rate</b>	28.8Kbps
<b>Maximum Fax Rate</b>	Unidentified
<b>Data Bus</b>	8-bit ISA
<b>Fax Class</b>	Class I & II
<b>Data Modulation Protocol</b>	Bell 103/212A ITU-T V.21, V.22, V.22bis, V.32, V.32bis, V.34
<b>Fax Modulation Protocol</b>	Unidentified
<b>Error Correction/Compression</b>	MNP5, V.42, V.42bis

V1987

### Proprietary AT Command Set

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

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 fallback/fall-forward
<b>Command</b>	<b>Function</b>
%E0	Auto-retrain disabled
%E1	Auto-retrain enabled
%E2	Auto-retrain and auto-fallback/fall-forward enabled

BREAK SEND	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] \B [cmds]
<b>Description:</b>	Sends break to modem

Continued on next page . . .

IBM CORPORATION  
AT 288MW

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BREAK TYPE		
<b>Type:</b>	Configuration	
<b>Format:</b>	AT [cmds] \Kn [cmds]	
<b>Description:</b>	Configures action of break signal	
<b>Command</b>	<b>Break from DTE</b>	<b>Break received from remote modem</b>
\K0	Online command mode enabled, send no break to remote modem	Break sent immediately to DTE
\K1	Break sent to remote modem and buffered cleared	Buffers cleared, break sent to DTE
\K2	Send break to remote modem immediately	Break sent immediately to DTE
\K3	Send break to remote modem immediately	Break sent immediately to DTE

CALLING TONE	
<b>Type:</b>	Register
<b>Format:</b>	AT [cmds] S24= <i>n</i> [cmds]
<b>Description:</b>	Controls whether the DTE will allow the modem to send a 1300Hz calling tone when originating
<b>Command</b>	<b>Function</b>
S24=0	Disable calling tone
S24=1	Enable calling tone

COMPRESSION	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] %C <i>n</i> [cmds]
<b>Description:</b>	Selects data compression
<b>Command</b>	<b>Function</b>
%C0	Data compression disabled
%C1	MNP5 enabled

CONNECT MODE	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] \N <i>n</i> [cmds]
<b>Description:</b>	Controls the type of connection the modem will operate in
<b>Command</b>	<b>Function</b>
\N0	Normal mode enabled
\N1	Direct mode enabled
\N2	MNP reliable mode enabled
\N3	MNP auto-reliable mode enabled
\N4	V.42 reliable mode enabled
\N5	V.42 auto-reliable mode enabled
\N6	Reliable mode enabled
\N7	Auto-reliable mode enabled

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IBM CORPORATION  
AT 288MW

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DCE LINE SPEED	
<b>Type:</b>	Register
<b>Format</b>	AT [cmds] S28= <i>n</i> [cmds]
<b>Description:</b>	Sets the maximum allowable data exchange rate attempted during handshake process.
Command	Function
i S28=0	Speed of last connection
S28=6	300bps
S28=8	1200bps
S28=9	2400bps
S28=10	4800bps using V.32bis
S28=11	7200bps using V.32bis
S28=12	9600bps using V.32bis
S28=13	12.0Kbps using V.32bis
S28=14	14.4Kbps
S28=15	16.8Kbps
S28=16	19.2Kbps
S28=17	21.6 Kbps
S28=18	24 Kbps
S28=19	26.4 Kbps
S28=20	28.8Kbps

DIAL	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] D<#> [cmds]
<b>Example:</b>	<b>ATDT18005551212,,251</b>
<b>Description:</b>	Dials telephone number according to any modifiers included in the string
<b>Note:</b>	Any combination of modifiers can be used to produce the desired dial functions in sequence.
Command	Function
L	Re-dial last number
P	Pulse dialing enabled
R	Answer mode enabled. Originate mode disabled following handshake initiation.
S= <i>n</i>	Dial stored telephone number <i>n</i>
T	Tone dialing enabled
W	Dialing resumed following 2 <sup>ND</sup> dial tone
,	Dialing paused for amount of time specified in S8 register
!	Flash function initiated. Modem commanded to go off-hook for specified time before returning on-hook.
@	Quiet Answer function enabled. Modem waits until a "quiet answer," a ring-back signal followed by silence up to the time specified in S7, is received prior to executing the rest of the dial string.
;	Modem returned to command state after dialing. The semicolon can only be placed at the end of the dial command.

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IBM CORPORATION  
AT 288MW

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DSVD	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] -Sxxx [cmds]
<b>Description:</b>	Controls Data Simultaneous Voice Data mode
<b>Command</b>	<b>Function</b>
-SSE0	Disable DSVD mode
-SSE1	Enable DSVD mode

EXTENDED RESULT CODES	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] \Vn [cmds]
<b>Description:</b>	Selects extended result codes (MNP)
<b>Command</b>	<b>Function</b>
\V0	Extended result codes (MNP) disabled
\V1	Extended result codes (MNP) enabled

FLOW CONTROL TYPE	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] \Qn [cmds]
<b>Description:</b>	Sets type of flow control used by modem
<b>Command</b>	<b>Function</b>
\Q0	Flow control disabled
\Q3	Bi-directional RTS/CTS flow control enabled

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

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
<b>Command</b>	<b>Function</b>
\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

Continued on next page . . .

IBM CORPORATION  
AT 288MW

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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
<b>Command</b>	<b>Function</b>
\L0	Stream mode for MNP enabled
\L1	Block mode for MNP enabled

PAUSE	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] ,(comma) [cmds]
<b>Description:</b>	Pause for amount of time specified in S8 register. Can be used in dial string or the command string.

REPORT INFORMATION	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] In [cmds]
<b>Description:</b>	Displays information requested
<b>Command</b>	<b>Function</b>
I1	Reports OK
I2	Reports OK
I3	Reports modem ID
I4	Reports product name

STATUS-REGISTER	
<b>Type:</b>	Configuration
<b>Format:</b>	Read: AT [cmds] Sn? [cmds] Write: AT [cmds] Sn=x [cmds]
<b>Description:</b>	Writes to or reads from a specified register
<b>Note:</b>	See the section on S-registers for detailed listing of commonly used S-registers.

V.34 - BAUD RATE	
<b>Type:</b>	Register
<b>Format:</b>	AT [cmds] S31=n [cmds]
<b>Description:</b>	Controls baud rate used by V.43 data pump
<b>Command</b>	<b>Function</b>
i S31=0	2400 baud rate disabled
S31=1	2743 baud rate disabled
S31=2	2800 baud rate disabled
S31=3	3000 baud rate disabled
S31=4	3200 baud rate disabled
S31=5	3429 baud rate disabled
S31=6	Asymmetric symbol rate disabled

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IBM CORPORATION  
AT 288MW

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V.34 - DATA PUMP OPTIONS	
<b>Type:</b>	Register
<b>Format:</b>	AT [cmds] S33= <i>n</i> [cmds]
<b>Description:</b>	Select V.34 data pump options
<b>Command</b>	<b>Function</b>
S33=0	Asymmetric rate for V.34 disabled
S33=1	Auxiliary channel for V.34 disabled
S33=8	Power reduction disabled
S33=9	Pre-emphasis disabled
S33=10	Constellation warping disabled
S33=11	Constellation shaping disabled
S33=12	Precoding disabled

V.34 - OPTIONS	
<b>Type:</b>	Register
<b>Format:</b>	AT [cmds] S30= <i>n</i> [cmds]
<b>Description:</b>	Disables V.43 data pump at speeds higher than 14.4Kbps and enables V.32bis modem.
<b>Command</b>	<b>Function</b>
i S30=0	Call indicator disabled
S30=1	V.8 disabled
S30=2	V.34 disabled

V.34 - SIGNAL PROCESSING OPTIONS	
<b>Type:</b>	Register
<b>Format:</b>	AT [cmds] S34= <i>n</i> [cmds]
<b>Description:</b>	Controls signal processing for V.34 data pump
<b>Command</b>	<b>Function</b>
i S34=0	Request for power reduction disabled
S34=1	Request for pre-emphasis disabled
S34=2	Request for constellation warping disabled
S34=3	Request for constellation shaping disabled
S34=4	Request for precoding disabled

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

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IBM CORPORATION  
AT 288MW

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V.42bis - DICTIONARY SIZE	
<b>Type:</b>	Configuration
<b>Format:</b>	AT [cmds] "Nn [cmds]
<b>Description:</b>	Select V.42 dictionary size
<b>Command</b>	<b>Function</b>
"N0	Select 512 bytes
"N1	Select 1024 bytes
"N2	Select 2048 bytes

V.42bis - MAXIMUM STRING LENGTH	
<b>Type:</b>	Immediate
<b>Format:</b>	AT [cmds] "On [cmds]
<b>Default:</b>	32
<b>Range:</b>	6-250
<b>Unit:</b>	Characters
<b>Description:</b>	Selects string size for V.42bis compression