DIAMOND MULTIMEDIA SYSTEMS, INC.
SUPRAEXPRESS 336SP (INTERNAL)

Card Type	Modem, Fax
Chip Set	Unidentified
Maximum Modem Rate	33.6Kbps
Maximum Fax Rate	14.4Kbps
Data Modulation Protocol	Bell 103A/212A ITU-T V.21, V.22, V.22bis, V.32, V.32bis, V.34, V.FC
Fax Modulation Protocol	ITU-T V.17, V.27ter, V.29
Error Correction/Compression	MNP5, V.42, V.42bis
Fax Class	Class I
Data Bus	16-bit ISA

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SUPPORTED COMMAND SET
Basic AT Commands
AT, '+++', A/
A, B, D, E, H, M, O, Q, V, W, X
&C, &V
Extended AT Commands
\N
%C
S Registers
S0, S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12, S25, S38, S46
Voice Commands
#VLS
Special Commands
+MS
Note: See MHI Help File for full command documentation.

Proprietary AT Command Set

AUTO-MODE DETECTION	
Type:	Configuration
Format:	AT [cmds] N*n* [cmds]
Description:	Selects various options for the automatic detection and negotiation of protocols during the handshake process if the modem is communicating with a remote modem of dissimilar speed.
Command	**Function**
N0	Auto-mode detection disabled
í N1	In originate mode, handshake begins at line speed designated by the S37 register. Modem can shift to a slower speed if necessary. In answer mode, handshake attempted with the following protocols in order - V.FC, V.32bis, V.32, V.22bis, V.22 or Bell 212, V.21, and Bell 103

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COMMUNICATIONS MODE	
Type:	Configuration
Format:	AT [cmds] &Q*n* [cmds]
Description:	Selects communications mode options
Command	**Mode**
í &Q0	Asynchronous mode, serial port speed follows connect speed.
&Q5	Error correction mode

DATA TERMINAL READY (DTR)	
Type:	Configuration
Format:	AT [cmds] &D*n* [cmds]
Description:	Selects modem response to DTR
Command	**Function**
í &D0	Modem does not respond to DTR
&D1	Modem goes to command mode after DTR goes is off
&D2	Modem goes to command mode and disconnects (hangs up) after DTR goes off; Auto-Answer is disabled.
&D3	Modem is initialized after DTR goes off

FACTORY DEFAULT PROFILE	
Type:	Configuration
Format:	AT [cmds] &F [cmds]
Description:	Sets values in active profile to values found in the default profile
Command	**Function**
&F0	Direct mode without flow control
&F2	Reliable mode

FLOW CONTROL	
Type:	Configuration
Format:	AT [cmds] &K*n* [cmds]
Description:	Enables flow control options
Command	**Function**
&K0	Flow control disabled
&K3	RTS/CTS flow control enabled
&K4	XON/XOFF flow control enabled
&K5	Transparent XON/XOFF flow control enabled

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REPORT INFORMATION	
Type:	Immediate
Format:	AT [cmds] I*n* [cmds]
Description:	Displays information requested
Command	**Function**
I0	Reports maximum data carrier rate
I1	Reports ROM checksum
I2	Tests and reports ROM checksum
I3	Reports ROM code revision number
I4	Report supported protocols in encrypted format
I5	Reports firmware copyright information
I7	Reports data pump model
I10	Reports optional features
I92	Reports product ID code

SPEAKER VOLUME	
Type:	Configuration
Format:	AT [cmds] L*n* [cmds]
Description:	Controls speaker volume
Command	**Function**
L0	Low volume setting
í L2	Medium volume setting
L3	Highest volume setting

Extended AT Commands

AUTO-RETRAIN - AUTO-FALLBACK/FALL-FORWARD	
Type:	Configuration
Format:	AT [cmds] %E*n* [cmds]
Description:	Controls auto-retrain mode and fallback/fall-forward
Command	**Function**
%E0	Auto-retrain disabled
%E1	Auto-retrain enabled

RATE NEGOTIATION	
Type:	Configuration
Format:	AT [cmds] %G*n* [cmds]
Description:	Controls rate negotiation
Command	**Function**
%G0	Rate negotiation disabled
%G1	Rate negotiation enabled

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Audiospan Command Set

AUDIOSPAN MODE SELECTION	
Type:	Configuration
Format:	AT [cmds] -SMS=*x*,*y*,*z*,*t* [cmds]
Description:	Sets the various options for Audiospan
Command	**Function**
x=0	Data mode
x=1	DSVD mode
x=2	Audiospan mode
x=3	Automatic mode select
y=4800	Minimum data speed 4800bps
y=7200	Minimum data speed 7200bps
y=9600	Minimum data speed 9600bps
y=12000	Minimum data speed 12000bps
y=14400	Minimum data speed 14400bps
y=16800	Minimum data speed 16800bps
y=21600	Minimum data speed 21600bps
y=24000	Minimum data speed 24000bps
y=26400	Minimum data speed 26400bps
y=28800	Minimum data speed 28800bps
z=4800	Maximum data speed 4800bps
z=7200	Maximum data speed 7200bps
z=9600	Maximum data speed 9600bps
z=12000	Maximum data speed 12000bps
z=14400	Maximum data speed 14400bps
z=16800	Maximum data speed 16800bps
z=21600	Maximum data speed 21600bps
z=24000	Maximum data speed 24000bps
z=26400	Maximum data speed 26400bps
z=28800	Maximum data speed 28800bps

AUDIOSPAN MODULATION	
Type:	Configuration
Format:	AT [cmds] -SQS=*x*,*y* [cmds]
Description:	Selects Audiospan modulation
Command	**Function**
x=0	V.61
x=1	ML144
x=2	ML288
y=0	Disable Audiospan automodulation
y=1	Enable Audiospan automodulation

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DATA BURST	
Type:	Configuration
Format:	AT [cmds] -SMC=*x* [cmds]
Description:	Controls the ML144 data burst
Command	**Function**
x=0	Disable data burst
x=1	Enable data burst

Synchronous Access Command Set

DATA COMPRESSION	
Type:	Configuration
Format:	AT [cmds] +DS=*w*,*x*,*y*,*z* [cmds]
Description:	Enables synchronous access mode
Command	**Function**
w=0	Negotiated, no compression
w=1	Transmit only
w=2	Receive only
w=3	Transmit and receive
x=0	Do not disconnect if V.42bis is not negotiated by the remote DCE as specified in the Direction parameter
x=1	Disconnect if V.42bis is not negotiated by the remote DCE as specified in the Direction parameter
y=	Specifies the maximum number of dictionary entries which should be negotiated. Range=512 - 6553
z=	Specified the maximum string length to be negotiated. Range=6 - 250 Default=6

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SYNCHRONOUS ACCESS MODE	
Type:	Configuration
Format:	AT [cmds] +ES=*x*,*y*,*z* [cmds]
Description:	Enables synchronous access mode
Command	**Function**
x=0	Direct mode
x=1	Initiate call with buffered mode only
x=2	Initiate V.42 withput detection phase. If V.8 is in use, disable V.42 detection phase
x=3	Initiate V.42 with detection phase
x=4	Initiate alternative protocol
y=0	Error control optional; if error control is not established, maintain DTE-DCE data rate and use buffered mode with flow control during non-error-control operation
y=1	Error control optional; if error control is not established, change DTE-DCE data rate to match line rate and use direct mode
y=2	Error control optional; if error control is not established, disconnect
y=3	Error control optional; if error control is not established, disconnect
y=4	Error control required; if error control is not established, disconnect
z=0	Direct mode
z=1	Error control disabled, use buffered mode
z=2	Error control optional; if error control is not established, maintain DTE-DCE data rate and use local buffering and flow control during non-error-control operation
z=3	Error control optional; if error control is not established, change DTE-DCE data rate to match line rate and use direct mode
z=4	Error control optional; if error control is not established, disconnect
z=5	Error control optional; if error control is not established, disconnect
z=6	Error control required; if error control is not established, disconnect

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SYNCHRONOUS ACCESS SUBMODE	
Type:	Configuration
Format:	AT [cmds] +ESA=*a*,*b*,*c*,*d*,*e*,*f*,*g*,*h* [cmds]
Description:	Sets the synchronous access submode
Command	**Function**
a=0	In transparent sub-mode, modem transmits 8-bit SYN sequence on idle. Modem receiver does not hunt for synchronized sequence.
A=1	In transparent sub-mode, modem transmits 8-bit SYN sequence on idle. Modem receiver hunts for 8-bit sequence
a=2	In transparent sub-mode, modem transmits 16-bit SYN sequence on idle. Modem receiver hunts for 16-bit sequence
b=0	In framed sub-mode, modem transmits HDLC flags on idle.
B=1	In framed sub-mode, DCE transmits marks on idle
c=0	In framed sub-mode, modem transmits abort on underrun in middle of frame
c=1	In framed sub-mode, DCE transmits a flag on underrun in middle of frame, and notifies DTE of underrun of overrun
d=0	When switching between primary and secondary channel operation in V.34 half duplex, the DCE only executes those procedures difined in section 12/V.34
d=1	When switching between primary and secondary channel operation in V.34 half duplex, the DCE executes additional procedures as described in section 8.8.5 besides those difined in section 12/V.34
e=0	CRC generation and checking disabled
e=1	In framed mode, the 16-bit CRC is generated by the modem in the transmit direction, and checked by the modem in the receive direction
e=2	In framed sub-mode, the 32-bit CRC is generated by the DCE in the transmit direction, and checked by the DCE in the receive direction
f=0	NRZI encoding and decoding disabled
f=1	NRZI encoding enabled in the DCE in the transmit direction, and NRZI decoding enabled in the DCE in the receive direction.
G	Specifies the octet value to be used while performing character-oriented framing.
H	Specifies the octet value to be used while performing character-oriented framing.

SYNCHRONOUS ACCESS SUBMODE	
Type:	Configuration
Format:	AT [cmds] +ESR=*a* [cmds]
Description:	Sets the synchronous access submode
Command	**Function**
a=0	Do not use SREJ
a=1	Use SREJ if available in remote DCE; continue without it if not
a=2	Use SREJ if available in remote DCE, continue id SREJ is not available

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S(status) -REGISTERS

CONNECTION FAILURE CODES	
Type:	Register
Format	AT [cmds] S86? [cmds]
Description:	Reports codes which correspond to the possible causes of a connection failure
Value	**Meaning**
0	Normal hang up
4	Carrier signal lost
5	No error-control detected for remote modem during feature negotiation
6	Remote modem failed to respond to feature negotiation
7	Local modem is asynchronous-only, remote modem is synchronous-only
8	No common framing technique found
9	No common protocol found
10	Remote modem sent erroneous feature negotiation message
11	Remote modem failed to send synchronous information
12	No failure - remote modem disconnected normally
13	Remote modem failed to respond after 10 re-transmissions same message
14	Violation of negotiated protocol caused failure
15	Negotiated compression failed
16	Line speeds selected in S37 and S109 did not match
17	Time limit reached according to parameters set in S116
18	Incompatible speeds
19	BREAK disconnect
20	Key abort

DCE LINE SPEED	
Type:	Register
Format	AT [cmds] S37=*n* [cmds]
Description:	Sets the maximum allowable data exchange rate attempted during handshake process.
Command	**Function**
í S37=0	Speed of last connection
S37=1	300bps
S37=5	1200bps
S37=6	2400bps
S37=8	4800bps
S37=9	9600bps
S37=10	12.0Kbps
S37=11	14.4Kbps
S37=12	7200bps

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ERROR CORRECTION NEGOTIATION	
Type:	Register
Format	AT [cmds] S36=*n* [cmds]
Description:	Selects the action of the modem if it fails to connect with the error-correction protocol set in &Q.

Command	Function
S36=0	Hang up
S36=1	Attempt a direct connection
S36=3	Attempt a buffered connection
S36=4	Attempt a connection at MNP2-4; if that fails, hang up.
S36=5	Attempt a connection at MNP2-4; if that fails, attempt a direct connection.
Í S36=7	Attempt a connection at MNP2-4; if that fails, attempt a buffered connection.

EXTENDED RESULT CODES	
Type:	Register
Format	AT [cmds] S95=*n* [cmds]
Default:	0
Range:	0-255
Unit:	Bit-mapped
Description:	Works in combination with the W*n* command to enable extended result codes. Features enabled by S95 take precedence over the options selected by W*n*.

Bit	Value	Function
1	í 0	Verbose CONNECT result codes display DTE or line speed only.
	1	Adds “/ARQ” to all verbose CONNECT result codes except “NONE.”
2	í 0	CARRIER result codes disabled.
	1	CARRIER result codes enabled.
4	0	Enable CARRIER XXXX result code
8	0	Enable PROTOCOL XXXX result code
16	0	Reserved
32	0	Compression result code
64	0	Enable TX and RX V.34 CARRIER result code if in asymetric carrier mode
128	0	Reserved

FEATURE NEGOTIATION OPTIONS	
Type:	Register
Format:	AT [cmds] S48=*n* [cmds]
Description:	Selects active error correction and compression protocols

Command	Function
S48=0	Detection negotiation disabled, XID negotiation disabled
í S48=7	Detection negotiation and XID negotiation enabled
S48=128	Fall-back to options set in S36