SUPRA DIAMOND
SUPRAFAX MODEM 288I

Card Type	Fax, Modem (asynchronous)
Chip Set	Rockwell
Maximum Data Rate	28.8Kbps
Maximum Fax Rate	14.4Kbps
Data Bus	8-bit ISA
Fax Class	Class I & II
Data Modulation Protocol	Bell 103/212A
	ITU-T V.21, 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	MNP5, MNP10, V.42, V.42bis
Correction/Compression	
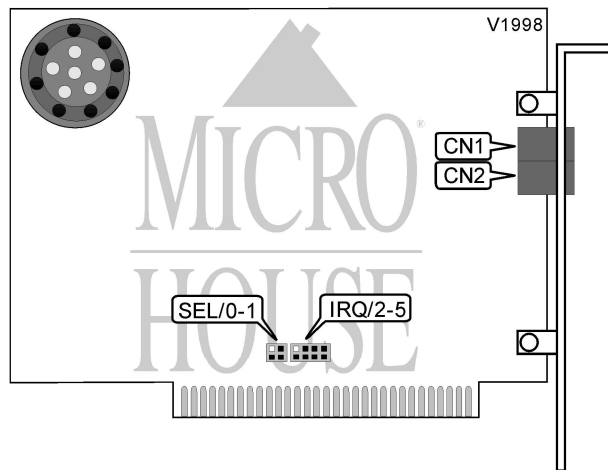
CONNECTIONS			
Function	**Label**	**Function**	**Label**
Line out/in - Unidentified	CN1	Line in/out - Unidentified	CN2

SERIAL PORT ADDRESS		
Setting	**SEL/0**	**SEL/1**
COM1 (3F8h)	Open	Open
í COM2 (2F8h)	Closed	Open
COM3 (3E8h)	Open	Closed
COM4 (2E8h)	Closed	Closed

INTERRUPT				
Setting	**IRQ/2**	**IRQ/3**	**IRQ/4**	**IRQ/5**
2	Closed	Open	Open	Open
í 3	Open	Closed	Open	Open
4	Open	Open	Closed	Open
5	Open	Open	Open	Closed

Proprietary AT Command Set

AUTO-FALLBACK/FALL-FORWARD	
Type:	Configuration
Format:	AT [cmds] %G*n* [cmds]
Description:	Selects auto-fallback/fall-forward

Command	Function
%G0	Auto-fallback/fall-forward disabled
í %G1	Auto-fallback/fall-forward enabled

AUTO-RETRAIN	
Type:	Configuration
Format:	AT [cmds] %E*n* [cmds]
Description:	Controls auto-retrain mode

Command	Function
í %E0	Auto-retrain disabled
%E1	Auto-retrain enabled

BIT-MAPPED REGISTER S13	
AT [cmds] S13=*n* [cmds]	
0	
0-8	
Controls DTR dialing during asynchronous mode	

Value		Function
	í 000	Not used
	í 0	DTR auto-dialing In asynchronous n
	1	DTR auto-dialing In asynchronous n

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BIT-MAPPED REGISTER S14	
Format:	AT [cmds] S14=*n* [cmds]
Default:	Unidentified
Range:	0-174
Unit:	Bit-mapped
Description:	Controls echo, result codes and display, dial mode, and answer/originate mode.

Bit	Value	Function
0	í 0	Not used
1	0	Command echo disabled
	í 1	Command echo enabled
2	í 0	Result codes enabled
	1	Result codes disabled
3	0	Display result codes in numeric format
	í 1	Display result codes in verbose format
4	í 0	Not used
5	í 0	Tone dial enabled
	1	Pulse dial enabled
6	í 0	Not used
7	0	Answer mode enabled
	1	Originate mode enabled

BIT-MAPPED REGISTER S21	
Format	AT [cmds] S21=*n* [cmds]
Default:	4
Range:	0-253
Unit:	Bit-mapped
Description:	Selects jack type, CTS/DCD/DSR signals, low DTR action, and the long space disconnect function.

Bit	Value	Function
0	í 0	Selects RJ-11, RJ-41S, or RJ45S jack
	1	Selects RJ-12 or RJ-13 jack
1	í 0	Not used
2	0	CTS forced high
	í 1	CTS follows RTS
4, 3	í 00	Modem does not respond to DTR
	01	Modem hangs-up if off-hook & auto-answer is disabled
	10	Modem hangs up if off-hook & auto-answer not disabled
	11	Modem switches to asynchronous command state
5	í 0	DCD forced high
	1	DCD normal
6	í 0	DSR forced high
	1	DSR normal
7	í 0	Long space disconnect function disabled
	1	Long space disconnect function enabled

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BIT-MAPPED REGISTER S22	
Format	AT [cmds] S22=*n* [cmds]
Default:	118
Range:	0-127
Unit:	Bit-mapped
Description:	Controls speaker volume and controls, and limits results codes.

Bit	Value	Function
1, 0	00	Low level volume
	01	Low level volume
	í 10	Medium level volume
	11	High level volume
3, 2	00	Speaker off
	í 01	Speaker off on carrier
	10	Speaker always on
	11	Speaker on during handshake
6 - 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
	í 111	All result codes enabled

BIT-MAPPED REGISTER S23	
Format	AT [cmds] S23=*n* [cmds]
Default:	55
Range:	0-189
Unit:	Bit-mapped
Description:	Grants/denies remote digital loopback, controls DTE rate and parity, and sets guard tone.

Bit	Value	Function
0	0	Remote digital loopback denied
	í 1	Remote digital loopback allowed
3 - 1	000	Sets serial port speed to 0-300bps
	001	Sets serial port speed to 600bps
	010	Sets serial port speed to 1200bps
	í 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 or higher
5, 4	00	Parity even
	01	Not Used
	10	Parity odd
	í 11	No Parity
7, 6	í 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=*n* [cmds]
Default:	73
Range:	0-11
Unit:	Bit-mapped
Description:	Selects synchronous/asynchronous mode, line type, clock source, and ITU-T/Bell modes.

Bit	Value	Function
3, 1, 0	000	Asynchronous Direct mode
	001	Asynchronous off-line command mode and synchronous connect mode
	010	Asynchronous off-line command mode - modem auto-dials first number in directory, then synchronous connect mode.
	011	Asynchronous off-line command mode on low DTR, synchronous connect mode on high DTR.
	100	Not Used
	í 101	Asynchronous Reliable Mode
	110	Asynchronous Normal Mode
2	í 0	Switched line (PSTN/Dial-up)
	1	Leased line
5, 4	í 00	Modem generates clock
	01	DTE generates clock
	10	Modem generates clock from the receive carrier signal
6	0	ITU/T mode
	í 1	Bell mode

BIT-MAPPED REGISTER S28	
Format	AT [cmds] S28=*n* [cmds]
Default:	Unidentified
Range:	0-31
Unit:	Bit-mapped
Description:	Controls V.23 split speed, transmit/receive speed, half duplex; and pulse dialing.

Bit	Value	Function
0	í 0	V.23 split speed operation disabled
	1	V.23 split speed operation enabled
1	0	75bps transmit, 1200bps receive enabled
	1	1200bps transmit, 75bps receive enabled
2	0	1200bps transmit, 1200bps receive disabled
	1	1200bps transmit, 1200bps receive enabled
4, 3	í 00	39ms make/61ms break at 10pps
	01	33ms make/67ms break at 10pps
	10	39ms make/61ms break at 20pps
	11	33ms make/67ms break at 20pps

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BIT-MAPPED REGISTER S31		
Format:	AT [cmds] S31=*n* [cmds]	
Default:	2	
Range:	0-10	
Description:	Select automode and extended result code format.	
Bit	**Value**	**Function**
0	í 0	Not used
1	0	Auto-mode disabled
	í 1	Auto-mode enabled
3, 2	í 00	Enables CONNECT result codes to report DTE speed
	01	Full reporting of CONNECT result codes
	10	Enables CONNECT result codes to report DCE speed

BIT-MAPPED REGISTER S40		
Format	AT [cmds] S40=*n* [cmds]	
Default:	Unidentified	
Range:	0-239	
Unit:	Bit-mapped	
Description:	Controls power level and break handling; selects MNP extended services, link negotiation, and block size.	
Bit	**Value**	**Function**
0	0	V.42 LAPM to MNP 10 connection disabled
	1	V.42 LAPM to MNP 10 connection enabled
1	0	Power level adjustment disabled
	í 1	Power level adjustment enabled
2	í 0	Link will be negotiated at highest possible speed
	1	Link will be negotiated at 1200bps
5, 4, 3	000	\K0
	001	\K1
	010	\K2
	011	\K3
	100	\K4
	í 101	\K5
7, 6	00	MNP block size is 64 characters
	01	MNP block size is 128 characters
	í 10	MNP block size is 192 characters
	11	MNP block size is 256 characters

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BIT-MAPPED REGISTER S41	
Format	AT [cmds] S41=*n* [cmds]
Default:	Unidentified
Range:	0-31
Unit:	Bit-mapped
Description:	Selects compression, auto-retrain, flow control, and MNP mode.

Bit	Value	Function
1 - 0	00	Data compression disabled
	01	MNP5 enabled
	10	V.42bis enabled
	11	MNP5 and V.42bis enabled
2	í 0	Auto-retrain disabled
	1	Auto-retrain enabled
3	í 0	Flow control disabled
	1	Flow control enabled
4	í 0	Stream mode for MNP
	1	Block mode for MNP

Continued on next page . . .

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	BIT-MAPPED REGISTER S192
	AT [cmds] S192=*n* [cmds]
	2
	0-243
	Controls silent Answer Snoop Mode, adaptive answer mode, V.34 rate limiting, silent answer reason code

Value		Function
í 0		Standard - Full CNG. A "Snoop" occurs for 3 seconds after each ring, and for 1
	1	Fast - CNG Tone Only. A "Snoop" occurs for 3 seconds after each ring, and for
	0	Attempt data carrier first (FAX fallba In this mode, adaptive answer accep mode if DATA was not successful. connections are handled as valid FA
	í 1	Attempt data carrier first (FAX if CN In this mode, adaptive answer accep answer tone for 4 seconds to allow a switches to FAX mode when a CNG
	í 00	Not used
	í 0	V34 rate limiting disabled
	1	V34 rate limiting enabled; The mode connection is made all data rates m be disabled.
	í 0	Rate Renegotiating Display disabled
	1	Rate Renegotiating Display enabled
	í 0	Demo Mode disabled
	1	Demo Mode enabled; modem displa ATZ to return normal operation.
	í 0	Silent answer reason code disabled
	1	Silent answer reason code enabled; Plus code detects CNG. "CNG -- A CNG. "DATA Time-out": Data mode

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BIT-MAPPED REGISTER S201

AT [cmds] S201=*n* [cmds]

Unidentified

0-63

Controls power level, and compromise equalizer.

Value		Function
	00000	Initial power level -26dBm
	00001	Initial power level -30dBm
	00010	Initial power level -10dBm
	...	...
	01010	Initial power level -10dBm
	01011	Initial power level -11dBm
	...to...	...to...
	11111	Initial power level -31dBm
	0	Equalizer disabled
	1	Equalizer enabled

BIT-MAPPED REGISTER S210

AT [cmds] S210=*n* [cmds]

Unidentified

0-13

Controls Baud rate and V.34 asymmetric carrier rate.

Value		Function	
		Baud rate	Data rates
	000	2400	2400 - 21800bps
	001	2400	4800 - 24000bps
	010	2400,2800	4800 - 24000bps
	011	2400,2800,3000	4800 - 26400bps
	100	2400,2800,3000,3200	4800 - 28800bps
í	101	2400,2800,3000,3200,3429	4800 - 28800bps
	0	V.34 transmit and receive carriers u
	1	V.34 transmit and receive Carriers r

BLACKLISTED NUMBERS

Type:	Immediate
Format:	AT [cmds] *B [cmds]
Description:	Displays a numbered chart of BLACKLISTED numbers, except permanently forbidden numbers based on country setting. "OK" is returned if no numbers are blacklisted.

BREAK SEND

Type:	Configuration
Format:	AT [cmds] \B*n* [cmds]
Default:	Unidentified
Range:	1-9
Unit:	.1 second
Description:	Sends break to modem in non-error correction state

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BREAK TYPE			
Type:	Configuration		
Format:	AT [cmds] \Kn [cmds]		
Description:	Configures action of break signal		
Command	**Break from DTE**	**Modem receives \B**	**Break received from remote modem**
\K0	Online command mode enabled, send no break to remote modem	Break sent to remote modem and buffers cleared	Buffers cleared, break sent to DTE
\K1	Break sent to remote modem and buffers cleared	Break sent to remote modem and buffers 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
í \K5	Send break with transmitted data	Send break with transmitted data	Break sent with received data to the DTE

CALLER ID	
Type:	Configuration
Format:	AT [cmds] #CID=n [cmds]
Description:	Controls the Caller ID function
Command	**Function**
#CID?	Displays current Caller ID mode
#CID=?	Returns Caller ID modes supported
#CID=0	Caller ID disabled
#CID=1	Caller ID displays formatted data
#CID=2	Caller ID displays raw hexadecimal data

COMMUNICATIONS MODE	
Type:	Configuration
Format:	AT [cmds] &Mn [cmds]
Description:	Selects communications mode
Note: Same function as &Q(0-3) settings.	
Command	**Mode**
í &M0	Asynchronous Direct mode
&M1	Asynchronous off-line command mode and synchronous connect mode.
&M2	Asynchronous off-line command mode - modem auto-dials first number in directory, then synchronous connect mode.
&M3	Asynchronous off-line command mode on low DTR, synchronous connect mode on high DTR.

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COMMUNICATIONS MODE	
Type:	Configuration
Format:	AT [cmds] &Q*n* [cmds]
Description:	Selects communications mode options
Command	**Mode**
&Q0	Asynchronous Direct mode
&Q1	Asynchronous off-line command mode and synchronous connect mode.
&Q2	Asynchronous off-line command mode - modem auto-dials first number in directory, then synchronous connect mode.
&Q3	Asynchronous off-line command mode on low DTR, synchronous connect mode on high DTR.
&Q4	Not Used
í &Q5	Asynchronous Reliable Mode
&Q6	Asynchronous Normal Mode

Note: Be VERY careful when issuing these commands! Once you enter &Q(1-3) and save it to memory, there are only two known ways to return to Asynchronous Mode:
1. Issue AT &Q(0,5-9) &W from a Synchronous Terminal to restore the modem to Asynchronous Mode.
2. Connect modem to an Asynchronous Terminal with the DTR signal (line 20) disabled (a "break-out" box works very nicely for this) and issue the configuration you want or AT &Q(0,5-9) &W to return the modem to Asynchronous Mode.

COMMUNICATION PROTOCOLS	
Type:	Configuration
Format:	AT [cmds] B*n* [cmds]
Description:	Selects the communication protocol for data calls

Note: The B command allows the simultaneous selection of more than one suffix, enabling multiple protocols.

Command	**Function**
B0	V.21 (1200bps) and V.22 (1200 bps)
B1	Bell 103 (300 bps) and Bell 212A (1200 bps)

COMPRESSION	
Type:	Configuration
Format:	AT [cmds] %C*n* [cmds]
Description:	Selects data compression
Command	**Function**
%C0	Data compression disabled
%C1	MNP5 enabled
%C2	V.42bis enabled
%C3	MNP5 and V.42bis enabled

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CONNECT MODE	
Type:	Configuration
Format:	AT [cmds] \Nn [cmds]
Description:	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	V.42 reliable mode enabled
\N5	MNP reliable mode enabled

COUNTRY CODE			
Type:	Configuration		
Format:	AT [cmds] *NCn [cmds]		
Description:	Sets the country code		
Command	**Function**	**Command**	**Function**
*NC?	Displays country codes and configurations currently supported	*NC013	Spain
*NC000	United States	*NC014	Sweden
*NC001	Austria	*NC015	Switzerland
*NC002	Belgium	*NC016	United Kingdom
*NC003	Denmark	*NC017	Greece
*NC004	Finland	*NC020	Canada
*NC005	France	*NC021	Mexico
*NC006	Germany	*NC022	United States
*NC007	Ireland	*NC040	Australia
*NC008	Italy	*NC043	Japan
*NC010	Netherlands	*NC047	Singapore
*NC011	Norway	*NC048	New Zealand
*NC012	Portugal	*NC060	South Africa

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DATA TERMINAL READY (DTR)				
Type:	Configuration			
Format:	AT [cmds] &D*n* [cmds]			
Description:	Selects modem response to DTR			
Note: The action each variant of &D causes depends on the setting of &Q				
&Q Setting	&D0	&D1	&D2	&D3
&Q0, &Q5, &Q6	Command 0	Command 3	Command 1	Command 4
&Q1, &Q4	Command 2	Command 3	Command 1	Command 4
&Q2, &Q3	Command 1	Command 1	Command 1	Command 1
Command	**Function**			
Command 0	Modem does not respond to DTR			
Command 1	Modem hangs-up if off-hook & auto-answer is disabled			
Command 2	Modem hangs up if off-hook & auto-answer not disabled			
Command 3	Modem switches to asynchronous command state			
Command 4	Modem performs soft reset			

DELAYED NUMBERS	
Type:	Immediate
Format:	AT [cmds] *D [cmds]
Description:	Displays a numbered chart of DELAYED numbers and the length of delay in the format HH:MM:SS. "OK" is returned if no numbers are delayed.

DIAL	
Type:	Immediate
Format:	AT [cmds] D<#> [cmds]
Description:	Dials telephone number according to any modifiers included in the string
Note: Any combination of modifiers can be used to produce the desired dial functions in sequence.	
Command	**Function**
- ( ) i	These symbols and spaces are ignored
L	Dial the last dialing string
J	Perform MNP10 link negotiation at 1200bps (one-shot)
K	Enable power level adjustment during MNP10 link negotiation (one-shot)
P	Pulse dial the following digits
R	Accepted, but no action occurs
S*n*	Use dialing string stored in register n. *n*=0-3
T	Tone dial the following digits
W	Wait for second dialtone, Within the time set in S6 and/or S7
*	DTMF code for "star"
#	DTMF code for "gate"
&	Wait for "bong" Credit Card billing tone
@	Wait for quiet answer, A 5 second silence.
,	Pause before finishing dialing string, time set in S8
!	Hook flash, go on-hook for 700ms, maybe changed by S29.
^	Turn on 1300Hz call originating pulse
;	Return to command state

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DIALING CODES	
Type:	Configuration
Format:	AT [cmds] *Z*n* [cmds]
Description:	Sets pulse dialing. Used for countries that supports 2 pulse dialing methods.

Command	Function
í *Z0	Dial code 0
*Z1	Dial code 1

DISTICTIVE RING	
	Configuration
	AT [cmds] -SDR=*n* [cmds]
	0
	0-7
	Selects distinctive ring and result code

sed

Value			Function
	í	0	Single rings and report as RING 1 d
		1	Single rings and report as RING 1 e
	í	0	Double rings and report as RING 2
		1	Double rings and report as RING 2
	í	0	Triple rings and report as RING 3 di
		1	Triple rings and report as RING 3 er

DISPLAYS CURRENT SETTINGS	
Type:	Immediate
Format:	AT [cmds] \S [cmds]
Description:	Displays Active Configuration

DISPLAYS MANUFACTURER	
Type:	Immediate
Format:	AT [cmds] +GMI [cmds]
Description:	Displays manufacturer ID

DISPLAYS MODEL	
Type:	Immediate
Format:	AT [cmds] +GMM [cmds]
Description:	Displays model ID

DISPLAYS ROM CODE	
Type:	Immediate
Format:	AT [cmds] +GMR [cmds]
Description:	Displays ROM Code ID

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none

EQM AUTOMATIC RATE ADAPTION BIAS	
Type:	Register
Format	AT [cmds] S191=*n* [cmds]
Default:	129
Range:	0-255
Unit:	Unidentified
Description:	Controls the bias for V.32/32bis,V.FC, and V.34 operation. Linked to AT%Q, but doesn't affect it.

EQM QUALITY TIMER	
Type:	Register
Format	AT [cmds] S190=*n* [cmds]
Default:	60
Range:	10-255
Unit:	1 second
Description:	Sets the minimum time period the EQM (%Q) level must be "GOOD" before attempting to fall-forward to a higher rate. Affects AT%E2%G1 setting

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	No flow control, No error correction, No data compression
&F1	MAC hardware flow control, correction & compression active
&F2	Hardware flow control, correction & compression active

FLASH DIAL MODIFIER TIME	
Type:	Register
Format	AT [cmds] S29=*n* [cmds]
Default:	7
Range:	0-255
Unit:	.1 second
Description:	Time the modem will go on-hook upon receiving the ! dial modifier in dial string. S29=0 will disable flash hook function.

FLASH ROM	
Type:	Immediate
Format:	AT [cmds] ** [cmds]
Description:	Set FLASH ROM code XMODEM upload mode

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FLOW CONTROL	
Type:	Configuration
Format:	AT [cmds] \Gn [cmds]
Description:	Selects modem port flow control for Normal and Direct modes

Command	Function
í \G0	Flow control disabled
\G1	Flow control enabled

FLOW CONTROL	
Type:	Read-only Register
Format	AT [cmds] S39? [cmds]
Description:	Displays the current flow control

Value	Meaning
0	Flow control disabled
3	RTS/CTS flow control enabled
4	XON/XOFF flow control enabled
5	Transparent XON/XOFF flow control enabled
6	Both XON/XOFF and RTS/CTS enabled

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

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

INACTIVITY TIMER	
Type:	Register
Format	AT [cmds] S30=n [cmds]
Default:	0
Range:	0-255
Unit:	10 seconds
Description:	Maximum duration of DTE and DCE inactivity allowed prior to initiating hang-up process.
Note: S30=0 disables the timer and allows indefinite inactivity. In Reliable mode any data transfer resets timer. In Normal mode only sent data resets timer.	

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LINE SIGNAL LEVEL	
Type:	Immediate
Format	AT [cmds] %L [cmds]
Default:	Unidentified
Range:	9-46
Unit:	-dBm
Description:	Returns a value which indicates the received line signal level

LINE SIGNAL QUALITY	
Type:	Immediate
Format	AT [cmds] %Q [cmds]
Default:	Unidentified
Range:	0-127
Unit:	Unidentified
Description:	Returns a value which indicates line signal quality (EQM)

LOCK SERIAL PORT	
Type:	Configuration
Format:	AT [cmds] \Jn [cmds]
Description:	Sets operation of serial port speed
Command	**Function**
\J0	Serial speed locked
\J1	Serial speed follows connect speed

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
í \A1	MNP block size is 128 characters
\A2	MNP block size is 192 characters
\A3	MNP block size is 256 characters

MNP MODE	
Type:	Configuration
Format:	AT [cmds] -Cn [cmds]
Description:	Controls which MNP mode is selected
Command	**Function**
-C0	Enable MNP 10 sync mode
-C1	Enable MNP 10 async mode
-C2	Enable MNP 2
-C3	Enable MNP 3

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MNP - EXTENDED SERVICES	
Type:	Configuration
Format:	AT [cmds] -K*n* [cmds]
Description:	Selects MNP extended services (MNP10)

Command	Function
í -K0	V.42 LAPM to MNP 10 connection disabled
-K1	V.42 LAPM to MNP 10 connection enabled
-K2	MNP 10 extended services detection enabled

MNP - STREAM/BLOCK MODE	
Type:	Configuration
Format:	AT [cmds] \L*n* [cmds]
Description:	Selects the transfer mode for MNP link

Command	Function
í \L0	Stream mode for MNP enabled
\L1	Block mode for MNP enabled

MNP10 - FALLBACK	
Type:	Configuration
Format:	AT [cmds] -Q*n* [cmds]
Description:	Allows MNP10 to fall back to speeds slower than 4800bps

Command	Function
-Q0	MNP10 at 4800bps only enabled
í -Q1	MNP10 at 2400 and 1200bps enabled

MNP10 - FALL-FORWARD	
Type:	Configuration
Format:	AT [cmds] -U*n* [cmds]
Description:	Controls forced transmit level change during MNP10 fall-forward

Command	Function
-U0	Automatic attenuation to -10dBm
-U1	Automatic attenuation to as low as -18dBm
-U2	Automatic attenuation to as low as -22dBm
-U3	Automatic attenuation to as low as -25dBm
-U4	Forced 2400bps transmit level to -10dBm
-U5	Forced 2400bps transmit level to -18dBm
-U6	Forced 2400bps transmit level to -22dBm
-U7	Forced 2400bps transmit level to -25dBm

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MNP10 - LINK NEGOTIATION	
Type:	Configuration
Format:	AT [cmds] *H*n* [cmds]
Description:	Sets the speed at which MNP10 link negotiation will occur
Command	**Function**
í *H0	Link will be negotiated at highest possible speed
*H1	Link will be negotiated at 1200bps
*H2	Link will be negotiated at 4800bps

MNP10 - POWER LEVEL ADJUST	
Type:	Configuration
Format:	AT [cmds])M*n* [cmds]
Description:	Controls automatic transmit power level adjustment during MNP 10 link negotiation
Command	**Function**
í)M0	Power level adjustment disabled
)M1	Power level adjustment enabled

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MODULATION SELECTION	
Type:	Configuration
Format:	AT [cmds] +MS=*x,y,z,a* [cmds]
Default:	AT+MS=11,1,300,28800<cr>
Description:	Sets options for active protocol; the transfer rates specified by *z* (minimum) and *a* (maximum) must be valid for the protocol selected.

Command	Function
+MS=?	Displays supported +MS options and range
x=0	V.21
x=1	V.22
x=2	V.22bis
x=3	V.23
x=9	V.32
x=10	V.32bis
í *x*=11	V.34
x=64	Bell 103
x=69	Bell 212A
x=74	V.FC
y=0	Automode disabled
í *y*=1	Auto-detect highest speed enabled
z, a=300	Set minimum or maximum transfer rate at 300bps, respectively.
z, a=1200	Set minimum or maximum transfer rate at 1200bps, respectively.
z, a=2400	Set minimum or maximum transfer rate at 2400bps, respectively.
z, a=4800	Set minimum or maximum transfer rate at 4800bps, respectively.
z, a=7200	Set minimum or maximum transfer rate at 7200bps, respectively.
z, a=9600	Set minimum or maximum transfer rate at 9600bps, respectively.
z, a=12000	Set minimum or maximum transfer rate at 12000bps, respectively.
z, a=14400	Set minimum or maximum transfer rate at 14400bps, respectively.
z, a=16800	Set minimum or maximum transfer rate at 16800bps, respectively.
z, a=19200	Set minimum or maximum transfer rate at 19200bps, respectively.
z, a=21600	Set minimum or maximum transfer rate at 21600bps, respectively.
z, a=24000	Set minimum or maximum transfer rate at 24000bps, respectively.
z, a=26400	Set minimum or maximum transfer rate at 26400bps, respectively.
z, a=28800	Set minimum or maximum transfer rate at 28800bps, respectively.

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PHASE 1 BUSY		
Type:	Register	
Format:	AT [cmds] SCn=x [cmds]	
Description:	Sets the way the modem accepts a busy signal by FCC specifications	
Command	**Value**	**Function**
SC0=x	42	Minimum BUSY ON Time
SC1=x	0	Minimum BUSY ON Time
SC2=x	58	Maximum BUSY ON Time
SC3=x	0	Maximum BUSY ON Time
SC4=x	42	Minimum BUSY OFF Time
SC5=x	0	Minimum BUSY OFF Time
SC6=x	58	Maximum BUSY OFF Time
SC7=x	0	Maximum BUSY OFF Time
SC8=x	4	Number of Cycles

PHASE 1 RINGBACK		
Type:	Register	
Format:	AT [cmds] SCn=x [cmds]	
Description:	Sets the way the modem accepts a ringback signal by FCC specifications	
Command	**Value**	**Function**
SC9=x	90	Minimum ON Time
SC10=x	0	Minimum ON Time
SC11=x	300	Maximum ON Time
SC12=x	0	Maximum ON Time
SC13=x	290	Minimum OFF Time
SC14=x	0	Minimum OFF Time
SC15=x	460	Maximum OFF Time
SC16=x	0	Maximum OFF Time
SC17=x	1	Number of Cycles

PHASE 1 CONGESTION		
Type:	Register	
Format:	AT [cmds] SCn=x [cmds]	
Description:	Sets the way the modem accepts a congestion signal by FCC specifications	
Command	**Value**	**Function**
SC18=x	22	Minimum ON Time
SC19=x	0	Minimum ON Time
SC20=x	28	Maximum ON Time
SC21=x	0	Maximum ON Time
SC22=x	22	Minimum OFF Time
SC23=x	0	Minimum OFF Time
SC24=x	28	Maximum OFF Time
SC25=x	0	Maximum OFF Time
SC26=x	4	Number of Cycles

PHASE 1 DIALTONE 1		
Type:	Register	
Format:	AT [cmds] SC*n*=*x* [cmds]	
Description:	Sets the way the modem accepts a dialtone 1 signal by FCC specifications	

Command	Value	Function
SC27=*x*	0	Minimum ON Time
SC28=*x*	0	Minimum ON Time
SC29=*x*	0	Maximum ON Time
SC30=*x*	0	Maximum ON Time
SC31=*x*	0	Minimum OFF Time
SC32=*x*	0	Minimum OFF Time
SC33=*x*	0	Maximum OFF Time
SC34=*x*	0	Maximum OFF Time
SC35=*x*	1	Number of Cycles

PHASE 1 DIALTONE 2		
Type:	Register	
Format:	AT [cmds] SC*n*=*x* [cmds]	
Description:	Sets the way the modem accepts a dialtone 2 signal by FCC specifications	

Command	Value	Function
SC36=*x*	0	Minimum ON Time
SC37=*x*	0	Minimum ON Time
SC38=*x*	0	Maximum ON Time
SC39=*x*	0	Maximum ON Time
SC40=*x*	0	Minimum OFF Time
SC41=*x*	0	Minimum OFF Time
SC42=*x*	0	Maximum OFF Time
SC43=*x*	0	Maximum OFF Time
SC44=*x*	1	Number of Cycles

PHASE 2 BUSY		
Type:	Register	
Format:	AT [cmds] SC*n*=*x* [cmds]	
Description:	Sets the way the modem accepts a busy signal by FCC specifications	

Command	Value	Function
SC45=*x*	0	Minimum ON Time
SC46=*x*	0	Minimum ON Time
SC47=*x*	0	Maximum ON Time
SC48=*x*	0	Maximum ON Time
SC49=*x*	0	Minimum OFF Time
SC50=*x*	0	Minimum OFF Time
SC51=*x*	0	Maximum OFF Time
SC52=*x*	0	Maximum OFF Time
SC53=*x*	1	Number of Cycles

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PHASE 2 RINGBACK		
Type:	Register	
Format:	AT [cmds] SC*n=x* [cmds]	
Description:	Sets the way the modem accepts a ringback signal by FCC specifications	
Command	**Value**	**Function**
SC54=*x*	0	Minimum ON Time
SC55=*x*	0	Minimum ON Time
SC56=*x*	0	Maximum ON Time
SC57=*x*	0	Maximum ON Time
SC58=*x*	0	Minimum OFF Time
SC59=*x*	0	Minimum OFF Time
SC60=*x*	0	Maximum OFF Time
SC61=*x*	0	Maximum OFF Time
SC62=*x*	1	Number of Cycles

PHASE 2 CONGESTION		
Type:	Register	
Format:	AT [cmds] SC*n=x* [cmds]	
Description:	Sets the way the modem accepts a congestion signal by FCC specifications	
Command	**Value**	**Function**
SC61=*x*	0	Minimum ON Time
SC62=*x*	0	Minimum ON Time
SC63=*x*	0	Maximum ON Time
SC64=*x*	0	Maximum ON Time
SC65=*x*	0	Minimum OFF Time
SC66=*x*	0	Minimum OFF Time
SC67=*x*	0	Maximum OFF Time
SC68=*x*	0	Maximum OFF Time
SC69=*x*	1	Number of Cycles

PHASE 2 DIALTONE1		
Type:	Register	
Format:	AT [cmds] SC*n=x* [cmds]	
Description:	Sets the way the modem accepts a dialtone 1 signal by FCC specifications	
Command	**Value**	**Function**
SC72=*x*	0	Minimum ON Time
SC73=*x*	0	Minimum ON Time
SC74=*x*	0	Maximum ON Time
SC75=*x*	0	Maximum ON Time
SC76=*x*	0	Minimum OFF Time
SC77=*x*	0	Minimum OFF Time
SC78=*x*	0	Maximum OFF Time
SC79=*x*	0	Maximum OFF Time
SC80=*x*	1	Number of Cycles

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PHASE 2 DIALTONE2		
Type:	Register	
Format:	AT [cmds] SC*n*=*x* [cmds]	
Description:	Sets the way the modem accepts a dialtone 2 signal by FCC specifications	
Command	**Value**	**Function**
SC81=*x*	0	Minimum ON Time
SC82=*x*	0	Minimum ON Time
SC83=*x*	0	Maximum ON Time
SC84=*x*	0	Maximum ON Time
SC85=*x*	0	Minimum OFF Time
SC86=*x*	0	Minimum OFF Time
SC87=*x*	0	Maximum OFF Time
SC88=*x*	0	Maximum OFF Time
SC89=*x*	1	Number of Cycles

PNP	
Type:	Register
Format:	AT [cmds] S193=*n* [cmds]
Description:	Controls plug and play feature
Command	**Function**
S193=0	Serial PNP disabled, when &F1 set
S193=1	Serial PNP enabled, when &F0 or &F2 set

REPORT INFORMATION	
Type:	Immediate
Format:	AT [cmds] I*n* [cmds]
Description:	Displays requested information
Command	**Function**
I0	SupraFAXModem product ID code
I1	ROM checksum
I2	Test Checksum (OK if correct, ERROR if not)
I3	ROM revision code, Model name, and Firmware build date
I4	Encrypted report of supported protocols
I5	Supra Copyright and Model information
I6	Country Code for country PSTN Signals are Configured for
I7	DSP Model and Version Code
I9	PnP COMID string
I10	Supported Feature Code List, Model Name, and Code Definitions
I92	Product Code ID Number

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REPORT INFORMATION - CONNECTION	
Type:	Immediate
Format:	AT [cmds] %Q1 [cmds]
Description:	Displays information on the connection
Connection	**Display**
V.32/V.32bis	EQM: (same as %Q) Receive Level: (same as %L) Transmit Level: (current TX level in dBm)
V.FC/V.34	Far Echo Delay: (round trip far end echo delay in ms) Far Echo Level: (signal Strength of far echo in dBm) Pre-Emphasis Filter: (filter in use to normalize the lines frequency response as per V34 DSP specs. and ITU V.34 specs.)
V.34 only	SNR: (signal to Noise ratio measured during the line probe, in dB) Normalized Bandwidth: (The -3dB roll off points after the pre-emphasis filter is applied. This is not the same as the usable audio band-width since the signal has been heavily processed prior to this measurement. This range determines the maximum symbol rate the line will support.) Baud rate: (symbols per second on the connection) Transmit Carrier: If the symbol rate is below 3429 there are two available carrier frequencies. (A high carrier and a low carrier.) The actual frequency of the carriers varies with the symbol rate. "high" or "low" are the only items displayed. Received Carrier: same as above on received carrier

RTS/CTS	
Type:	Configuration
Format:	AT [cmds] &R*n* [cmds]
Description:	Selects RTS/CTS options
Command	**Function**
í &R0	In Sync mode CTS follows RTS In Async mode CTS forced high
&R1	In Sync mode CTS forced high In Async mode RTS/CTS forced high

SC-REGISTERS	
Type:	Register
Format:	AT [cmds] SC*n*=*x* [cmds]
Description:	Each register "pair" holds the value for each setting. To set a value, divide the setting by 256. The integer goes in the second register, while the remained goes in the first. (A setting of 516 would convert to 2 Remainder 4, and could be set by sending ATSC0=4SC1=2 to the modem.) Settings are in 1/100ths of a second. Setting SC0=22 & SC4=22 allows FAST BUSY to also be detected as BUSY.

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SELECT CALL PROGRESS RESULT CODES	
Type:	Configuration
Format:	AT [cmds] X*n* [cmds]
Description:	Enables selection of tone detection and associated result code format options
Command	**Function**
X0	Basic result codes only enabled
X1	Basic and connection speed result codes enabled
X2	Basic and connection speed result codes and dialtone detection enabled
X3	All result codes except dialtone detection enabled
í X4	All result codes enabled

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

STATUS-REGISTER	
Type:	Configuration
Format:	AT [cmds] (see below) [cmds]
Description:	Gives options to read or write to a specified register
Command	**Function**
=*n*	Write value *n* to the last S register viewed
?	Displays current setting for the last S register accessed
Sr?	Reports value in S register r
Sr.b?	Reports value in S register r (not just bit b)
SCr?	Reports value is SC register r
Sr=n	Write value n into S register r
Sr.b=n	Write value (0 or 1) to bit b of S register r
SCr=n	Write value n into SC register r

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TEST MODES	
Type:	Register
Format:	AT [cmds] S16=*n* [cmds]
Default:	0
Range:	0-125
Unit:	Bit-mapped
Description:	Controls loopback tests, analog, digital, remote digital, and self tests.

Bit	Value	Function
0	í 0	Local analog loopback not in progress
	1	Local analog loopback in progress
1	í 0	Not used
2	í 0	Local digital loopback not in progress
	1	Local digital loopback in progress
3	í 0	Modem not in remote digital loopback
	1	Remote digital loopback in progress
4	í 0	Remote digital loopback not requested
	1	Remote digital loopback requested
5	í 0	Remote digital loopback w/ self-test not in progress
	1	Remote digital loopback w/ self-test in progress
6	í 0	Local analog loopback w/ self-test not in progress
	1	Local analog loopback w/ self-test in progress

TRANSMISSION LEVEL - CELLULAR	
Type:	Configuration
Format:	AT [cmds] @M*n* [cmds]
Default:	0
Range:	0-31
Unit:	Unidentified
Description:	Sets the signal level for transmission while in cellular mode (MNP10)

V.23 MODE	
Type:	Configuration
Format:	AT [cmds] %F*n* [cmds]
Description:	Selects V.23 split-speed

Command	Function
%F1	75bps transmit, 1200bps receive (split-speed)
%F2	1200bps transmit, 75bps receive (split-speed)

V.23 - SPLIT-SPEED	
Type:	Configuration
Format:	AT [cmds] \W*n* [cmds]
Description:	Controls V.23 split-speed mode

Command	Function
í \W0	V.23 split-speed mode disabled
\W1	V.23 split-speed mode enabled

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V.32 - COMPROMISE EQUALIZER	
Type:	Configuration
Format:	AT [cmds] :E*n* [cmds]
Description:	Controls V.32 compromise equalizer
Command	**Function**
:E0	Equalizer disabled
:E1	Equalizer enabled