Appendix E
Command Index and Defaults

GENERAL

This reference guide provides asynchronous command characters and their meanings. Pages listed provide initial information on the commands.

S-registers are listed as a cross reference.

Table E-1. AT Commands

Command	Page	S-Reg	Description
AT	5-3		Attention code - command prefix
A/	5-5		Repeat last command
+ + +	5-21	S2, S12	Escape sequence (pause, + + +, pause)
A	5-17		Answer
D	5-13, 9-4		Dial
T	5-14	S14	Tone dial *
P		S14	Pulse dial
,		S8	Long pause (2 sec or S8 value)
W	5-15	S7	Wait for 2nd dial tone (S7 value)
!			Flash switchboard
R			Switch to answer mode after dialing
;			Return to command mode after dialing
@	5-16		Wait for 5 seconds of silence
Sn			Dial stored command line
E	5-21	S14	Local character echo off
E1			Local character echo on *
F	5-22		Not supported - returns ERROR
F1			Disables online character echo

** factory default*

☞ **Note**

*The * in the command is part of the command; the * in the description indicates the default.*

Table E-1. AT Commands (Continued)

Command	Page	S-Reg	Description
H	5-22		Hang up †
H1			Forces modem off hook †
H2		S14	Set H command to V.32 * †
H3			Set H command to fast †
I	5-23		Request product code
I1			Request EPROM CRC value
I3			Request product version
I4			Request capability code
I5			Disconnect reason
L or L1			Speaker volume low
L2			Speaker volume medium*
L3			Speaker volume high
M		S22	Speaker off
M1			Speaker off when carrier is present
M2			Speaker always on
M3			Speaker off when dialing and carrier is present
O	5-24		Restore data mode (after escape) †
O1			Retrain and restores data mode (after escape) †
Q	5-7	S14	Response displays on *
Q1			Response displays off
Q2			Response displays on in originate mode only
Sn?	10-3		Read value in register *n* (decimal)
Sn?^			Read value in register *n* (hexadecimal)
Sn=v			Set *v* (value) in register *n* (decimal)
Sn=v^			Set *v* (value) in register *n* (hexadecimal)
Sn.#=v	10-4		Set single bit value in register *n*, # = bit position 0-7, *v* = bit value 1 or 0
V	5-6	S14	Response codes
V1			Response messages *

** factory default*

† cannot be executed from remote configuration mode

Table E-1. AT Commands (Continued)

Command	Page	S-Reg	Description
W	5-7		Negotiation display disabled *
W1			Negotiation display enabled
W2			Displays DCE link rate
X		S22	CONNECT (code 1), for all speeds, no dial tone or busy signal detection
X1			Appropriate connect codes for rate, no dial tone detection
X2			Wait for dial tone (appropriate connect codes)
X3			Detect busy signal (appropriate connect codes)
X4			Wait for dial tone, detect busy signal (appropriate connect codes) *
Y	5-24	S21	Long space disconnect disabled
Y1			Long space disconnect enabled *
Z	5-41		Reset to user option set #1 †
Z1			Reset to user option set #2 †
&C	5-18	S21	DCD always on *
&C1			DCD on while carrier is present
&C2			DCD off 5 seconds after disconnect
&C3			DCD follows remote RTS
&D	5-19	S21	DTR ignored *
&D1			DTR recalls command mode
&D2			DTR disconnects
&D3			DTR disconnects and resets modem to stored configuration
&F or &F1	5-40		Restore factory configuration 1 * †
&F2			Restore factory configuration 2 †
&F3			Restore factory configuration 3 †
&F4			Restore factory configuration 4 †
&F5			Restore factory configuration 5 †
&F6			Restore factory configuration 6 †

** factory default*

† cannot be executed from remote configuration mode

Table E-1. AT Commands (Continued)

Command	Page	S-Reg	Description
&F7	5-40		Restore factory configuration 7 †
&F8			Restore factory configuration 8 †
&F9			Restore factory configuration 9 †
&G	5-24	S23	No guard tone *
&G1			550 Hz tone
&G2			1800 Hz tone
&L	5-36	S27	Dial line * †
&L1		S32	Leased line 2-wire †
&L2			Leased line 4-wire †
&M	5-25	S27	Asynchronous dial / asynchronous data *
&M1			Asynchronous dial / synchronous data
&M2			Dials stored number when DTR off / on transition is detected / synchronous data
&M3			Manual dial / synchronous data
&M4		S30	V.25 bis autodialer with BISYNC protocol / synchronous data
&M5			V.25 bis autodialer with SDLC protocol /synchronous data
&M6			V.25 bis async dial / sync data
&P	5-26	S22	39/61 pulse make / break ratio *
&P1			33/67 pulse make / break ratio
&R	5-20	S21	CTS normal operating state
&R1			CTS forced on *
&R2		S72	CTS follows DCD
&R9			CTS equals RTS
&S	5-18	S21	DSR always on *
&S1			DSR on when ready to accept data
&S2			DSR off for 5 seconds after disconnect
&S3			DSR follows off hook (OH)
&T	5-44, 7-2		Terminate current test †
&T1	7-3		Initiate analog loopback †

** factory default*

† cannot be executed from remote configuration mode

Table E-1. AT Commands (Continued)

Command	Page	S-Reg	Description
&T3	7-5		Initiate digital loopback †
&T4	7-6	S23	Grant remote commanded digital loopback * †
&T5		S23	Denies remote commanded digital loopback †
&T6	7-7		Initiate remote digital loopback †
&T7			Initiate self test remote digital loopback †
&T8	7-4		Initiate self test analog loopback †
&V	5-41		View configuration profiles *
&V1			Display received signal status
&V2			Display active profile
&W	5-39		Store current configuration to user option set #1 *
&W1			Store current configuration to user option set #2
&X	5-26	S27	Internal clock *
&X1			External clock
&X2			Receive clock
&Y	5-40		Powerup with user option set #1 *
&Y1			Powerup with user option set #2
&Y?			Display powerup option set
&Zn	5-41		Store dial string
%A	6-5	S64	Disable auto-reliable fallback character *
%An			Set auto-reliable fallback character to *n* (*n* = ASCII 1-127) †
%B	5-28	S69	Use DTE speed
%B1			300 bps max
%B2			1200 bps max
%B3			2400 bps max
%B4			4800 bps max
%B5			9600 bps uncoded max
%B6			9600 bps max
%B7			7200 bps max

** factory default*

† cannot be executed from remote configuration mode

Table E-1. AT Commands (Continued)

Command	Page	S-Reg	Description
%B8	5-28		12000 bps max
%B9			14400 bps max
%B10			Reserved
%B11			16800 bps max
%B12			19200 bps max
%B13			21600 bps max
%B14			24000 bps max
%B15			26400 bps max
%B16			28800 bps max *
%C	6-11	S56	Compression disabled
%C1			Compression enabled on transmit and receive data *
%C2			Compression enabled on transmit data only
%C3			Compression enabled on receive data only
%D	6-4	S62	Disable disconnect buffer delay *
%Dn			Set disconnect buffer delay in seconds *n* (*n* = 1-255)
%E	5-29	S60	Disable auto retrain
%E1			Enable auto retrain *
%L		S81	Disabled
%L1			Disabled *
%L2			1200 bps min
%L3			2400 bps min
%L4			4800 bps min
%L5			9600 bps uncoded min
%L6			9600 bps min
%L7			7200 bps min
%L8			12000 bps min
%L9			14400 bps min
%L10			Reserved
%L11			16800 bps min
%L12			19200 bps min

** factory default cannot be executed from remote configuration mode*

Table E-1. AT Commands (Continued)

Command	Page	S-Reg	Description
%L13	5-29		21600 bps min
%L14			24000 bps min
%L15			26400 bps min
%L16			28800 bps min
%P=	5-43		Sets remote configuration security code to value entered after equal sign (0-99999999)
%P=D			Disabled
%P?			Displays remote configuration security code of local modem
%P=(blank)			Clears the security code*
%R	5-30	S53	Disable automatic rate adaption *
%R1			Enable automatic rate adaption low BER
%R2			Enable automatic rate adaption medium BER
%R3			Enable automatic rate adaption using high BER
%T	7-8		Transmit test pattern †
%T=	5-44		Followed by a remote configuration security code, establishes remote configuration †
%V	5-31		Display product revision level
%Z	5-32		Permissive (RJ11) * †
%Z1			Programmable (RJ45) †
\A	6-10	S63	Maximum block size of 64 characters
\A1			Maximum block size of 128 characters
\A2			Maximum block size of 192 characters
\A3			Maximum block size of 256 characters *
\B	6-11	S79	Transmit a break signal *
\Bn			Sets break length in 20 ms increments, *n*=1-255, default is 35 (700 ms)
\C		S60	Disable auto-reliable buffer *

** factory default*

† cannot be executed from remote configuration mode

Table E-1. AT Commands (Continued)

Command	Page	S-Reg	Description
\C1	6-11		Buffer data for 4 seconds or 200 characters
\G	6-8	S54	Disable modem port flow control *
\G1			Enable modem port XON/XOFF flow control
\J	6-4	S72	Disable slaved DTE/DCE speed * (constant speed DTE on)
\J1			Enable slaved DTE/DCE speed (constant speed DTE off)
\Kn	6-8	S59	Selects action when encountering a break
\K			Break option 0
\K1			Break option 1
\K2			Break option 2
\K3			Break option 3
\K4			Break option 4
\K5			Break option 5 *
\M	6-4	S70	V.42 fast detect data sequence disabled
\M1			V.42 fast detect data sequence enabled *
\N	6-5	S70	Normal mode
\N1			Direct mode
\N2			MNP only
\N3			MNP or normal
\N4			LAPM only
\N5			LAPM with normal fallback
\N6			LAPM with MNP fallback
\N7			LAPM with MNP and normal fallback *
\Q	6-6	S54	Disable DTE flow control
\Q1			Enable DTE XON/XOFF flow control *
\Q2			Enable CTS flow control to the DTE
\Q3			Enables bilateral CTS/RTS flow control
\Q4			Disable DCE flow control
\Q5			Enable DCE XON/XOFF flow control *
\Q6			Enable CTS flow control to the DTE

** factory default*

may be executed from remote configuration mode

Table E-1. AT Commands (Continued)

Command	Page	S-Reg	Description
\Q7	6-6		Enable CTS flow control to the DTE
\R	5-19	S60	Ring indicate, blinks for ring and remains on for duration of call
\R1			Ring indicate, blinks for ring and turns off when call is answered *
\T	6-10	S58	Disable inactivity timer *
\Tn			Set inactivity timer to *n* (*n* = 1-255 minutes)
\V	5-7	S60	Disable protocol result codes *
\V1			Enable protocol result codes
\X	6-7	S54	No XON/XOFF characters to remote DCE *
\X1			Pass XON/XOFF characters to remote DCE
*AUn	5-16		Dial number stored at location *n* upon transition of DTR in command mode (*n* = 1-9)
*AS	5-27		Disable V.34 asymmetric bit rate
*AS1			Enable V.34 asymmetric bit rate
*CNx,n	5-41		Store phone number *n* in location *x* (*x* = 1-9)
*DA	5-32		Switches modem to talk mode * †
*DA1			Switches modem to data mode †
*DB	5-37		Manual dial backup operation *
*DB1			Automatic dial backup operation
*DG	7-9	S34	Disables bilateral digital loop *
*DG1			Enables bilateral digital loop
*FB	5-21	S29	Ignore pin 23 *
*FB1			Pin 23 transition causes DTE speed fallback
*FT	5-32	S29	Disable fast train *
*FT1			Enable fast train
*IC	5-32		Disregard incoming call
*LA	7-9	S34	Ignore pin 18 *
*LA1			DTE commanded LAL enabled
*LB	5-37		Return to leased line from dial backup †
*LC	5-33	S32	Line current disconnect disabled

** factory default*

† cannot be executed from remote configuration mode

Table E-1. AT Commands (Continued)

Command	Page	S-Reg	Description
*LC1	5-33		Short (8 ms) line current disconnect
*LC2			Long (90 ms) line current disconnect*
*LD	5-37		Manual dial backup *
*MM	5-27		Automode (modulation)
*MM1			V.21
*MM2			Bell 103J
*MM3			Reserved
*MM4			Bell 212A
*MM5			V.22 bis
*MM6			V.27 bis 4-wire leased only
*MM7			Reserved
*MM8			V.29 4-wire leased only
*MM9			Reserved
*MM10			V.33 4-wire leased only
*MM11			V.32 bis
*MM12			V.34
*ND	5-41		Displays the nine stored numbers
*NT	5-33	S29	AT command set disabled
*NT1			AT command set enabled *
*OR	5-37	S14	Originate *
*OR1			Forced answer
*RC	5-9	S57	15 - 4800 bps, 18 - 9600 bps *
*RC1			11 - 4800 bps, 12 - 9600 bps
*RD	7-9	S34	Ignore pin 21 *
*RD1			DTE commanded RDL enabled
*RO	5-42	S29	Retain options at disconnect *
*RO1			Restore options at disconnect
*RR	5-31		Rate negotiate to 2400 †
*RR1			Rate negotiate to 4800 †
*RR2			Rate negotiate to 7200 †
*RR3			Rate negotiate to 9600 †

** factory default*

† cannot be executed from remote configuration mode

Table E-1. AT Commands (Continued)

Command	Page	S-Reg	Description
*RR4	5-31		Rate negotiate to 12000 †
*RR5			Rate negotiate to 14400 †
*RR6			Rate negotiate to 16800 †
*RR7			Rate negotiate to 19200 †
*RR8			Rate negotiate to 21600 †
*RR9			Rate negotiate to 24000 †
*RR10			Rate negotiate to 26400 †
*RR11			Rate negotiate to 28800 †
*TDn	5-33		Sets dial transmit level -10 to -30 dBm
*TH	5-26		Low rate selection threshold (10^{-6} BER)
*TH1			Medium rate selection threshold (10^{-4} BER)
*TH2			High rate selection threshold (10^{-2} BER)*
*TLn	5-37	S52	Sets leased line transmit level to *n* where *n* is a number between 0 and 30 corresponding to 0 to -30 db †
$H	5-31		Online quick reference
$V			Display product serial number

** factory default*

† cannot be executed from remote configuration mode

Table E-2. Low Security Commands

Command	Page	S-Reg	Description
$S=x	8-3		Sets an empty password location to *x*
$C=x,y			Changes either password where *x* represents the old password and *y* is the new one
$C=x,-			Deletes password *x* from memory
$DR			Reset security
$D=x			Disables security where *x* is either password
$D?	8-4		Displays the current status of security
$E=x			Enables security where *x* is either password
$E?			Displays the current security status

Table E-3. High Security Commands

Command	Page	S-Reg	Description
$Cn=m	8-8		Set user callback number. *n* = user number and *m* = the callback number
$D	8-7		Disable security *
$E?	8-10		Display current security status (enabled/ disabled)
$EH=pw	8-6		Enable security (*pw* = superuser password) †
$F=pw$pw	8-10		Reinitialize security *
$IBn	8-11		Display user information for a block of up to ten valid users (*n* = first user number)
$In			Display user information (*n* = user number)
$Ln=m	8-8		Set security level for the user specified by *n* (*m* = security level)
$M	8-9		Display illegal attempts information
$M*			Reset illegal attempts registers and restore all suspended users to normal status
$Mn			Reset illegal attempts registers and restore suspended user *n* to normal status
$Pn=pw$pw	8-7		Set user password; *n* = user number and new password (*n* = 0 for superuser *pw* = password)
$Rn	8-10		Remove a user (*n* = user number)
$S?			Display current user status (superuser / user)
$W0	8-9		Disable user changes (password and callback number) †
$W1			Enable user changes (password and callback number) †
$W2	8-10		Enable remote superuser †
$W?	8-9		Display user changes remote superuser option status
$$	8-11		Local logoff
$n=pw			Local logon (*n* = user number and *pw* = password)
$S=pw			Request to enter superuser status (*pw* = password)

** Only local superuser can execute command*

† Only allowed in idle mode and local DTE

Table E-4. Fax Commands

Fax Command	Page	Description
+FCLASS=0	9-6	Service Class 0 (data modem) * ‡
+FCLASS=1		Service Class 1 (fax modem) ‡
+FCLASS?		Display current Service Class setting ‡
+FCLASS=?		Display available Service Class settings ‡
+FAA	9-10	Enables fax auto answer function

** default*

‡ Cannot executed from remote configuration

Extended (Class 1) Commands Valid only in fax mode:

Table E-5. Commands Valid only in Fax Mode

Command	Page	Description
+FTS=(Time)	9-6	Stop transmission and pause (10 ms intervals, 0-255) *
+FRS=(Time)	9-7	Waits for silence (10 ms intervals, 0-255) *
+FTM=(MOD)	9-8	Transmit data with (MOD) carrier *
+FRM=(MOD)		Receive data with (MOD) carrier *
+FTH=(MOD)		Transmit HDLC data with (MOD) carrier *
+FRH=(MOD)	9-9	Receive HDLC data with (MOD) carrier *

where the (MOD) parameter can be one of the following values:0.

Value	Modulation	Speed
3	V.21 channel 2	300 bps
24	V.27 ter	2400 bps
38	V.27 ter	4800 bps
72	V.29	7200 bps
73	V.17	7200 bps
74	V.17	7200 bps with short train
96	V.29	9600 bps
97	V.17	9600 bps
98	V.17	9600 bps with short train
121	V.17	12000 bps
122	V.17	12000 bps with short train
145	V.17	14400 bps
146	V.17	14400 bps with short train

** cannot be executed from remote configuration*

Table E-5. Commands Valid only in Fax Mode (Continued)

Command	Page	Description
+FTx=?	9-9	Check range for values supported where *x* may be *M*, *S*, or *H*. If *x* is *M* or *H*, the modem returns 3, 24, 48, 72, 73, 96, 97, 98, 121, 122, 145, 146. If *x* is *S*, the modem returns 0-255.
+FRx=?		
+FCERROR		Carrier different from specified in +FRM or +FRH

STATUS REGISTERS

Table E-6. Status Registers

S-Reg	RO/ RW	Page	Function	Default
S0	RW	10-5	Ring to answer	1
S1	RO		Ring count	
S2	RW		Escape sequence character	43 (+)
S3	RW		End-of-line character	13 (CR)
S4	RW	10-6	Line feed character	10 (LF)
S5	RW		Backspace character	8 (BS)
S6	RW		Pause before blind dialing	2 (2 sec)
S7	RW		Pause for carrier	30 (30 sec)
S8	RW		Pause for comma	2 (2 sec)
S9	RW		Carrier validation	6 (0.6 sec)
S10	RW	10-7	Loss carrier delay time	14 (1.4 sec)
S11	RO		DTMF tone duration	
S12	RW		Escape sequence pause	50 (1 sec)
S14	RW	10-8	Bit mapped	
S16	RO	10-9	System tests	
S18	RW		Test timer	0
S21	RW	10-10	Bit mapped	
S22	RW	10-11	Bit mapped	
S23	RW		Bit mapped	
S25	RW	10-12	DTR recognition time	5 (0.5 sec)
S26	RW		RTS/CTS delay	0
S27	RW		Bit mapped	

RO=Read only RW=Read or write

Table E-6. Status Registers (Continued)

S-Reg	RO/ RW	Page	Function	Default
S28	RW	10-13	Lookback timer	15 min
S29	RW		Bit mapped	
S30	RW	10-14	V.25 mode selection	
S32	RW		Bit mapped	
S34	RW	10-15	Bit mapped	
S35	RW		Default dial number	
S39	RW		Bit mapped	
S44	RW	10-16	DTE XON character	
S45	RW		DTE XOFF character	
S49	RW		DCE XON character	
S50	RW		DCE XOFF character	
S52	RW		Lease transmit level	0
S53	RW	10-17	Bit mapped	
S54	RW		Bit mapped	0
S56	RW	10-18	V.42 compression	
S57	RW		Bit mapped	0
S58	RW		Inactivity timer	0
S59	RW	10-19	MNP break control	5
S60	RW		Bit mapped	
S61	RO	10-20	DTE character size, parity	6
S62	RW		Disconnect buffer delay	0
S63	RW		Maximum protocol block size	255
S64	RW	10-21	Auto-reliable character	0
S67	RO		Link speed status	
S69	RW	10-22	Maximum DCE speed	
S70	RW		Protocol operating mode	1
S71	RO	10-23	Protocol operating mode status	
S72	RW	10-24	Bit mapped	
S73	RW		Password timeout security	
S74	RW		Callback delay	
S75	RW	10-25	Callback retry	

RO=Read only RW=Read or write

Table E-6. Status Registers (Continued)

S-Reg	RO/ RW	Page	Function	Default
S76	RW	10-25	Callback retry delay	
S77	RW		Lockout threshold	
S78	RW		Autocallback timer	30
S79	RW		Break length	35
S80	RO	10-26	Serial port speed	6
S81	RW	10-27	Minimum DCE rate	1
S82	RW		Bit mapped	
S88	RW	10-28	Modulation type	
S91	RW		Current modulation	
S95	RW	10-29	V.34 settings	
S96	RW		V.34 settings	

RO=Read only RW=Read or write

V.25 bis DIALER COMMANDS

Table E-7. V.25 bis Dialer Commands

Synchronous Command	Page	Description
CIC	11-8	Connect incoming call command
CRN *nn...n*	11-5	Dial command (*nn...n* = number to be dialed)
0 - 9		DTMF and pulse digit
* #		DTMF digit
:		Wait for dial tone
W		Wait for second type of dial tone
>		Pause for 1 second
=		Pause for 3 seconds
<		Pause for programmed delay time
P		Pulse dial
T		Tone dial
&		Flash (go on hook) for 1/2 second
;		Parameter separator

Table E-7. V.25 bis Dialer Commands (Continued)

Synchronous Command	Page	Description
Space, dash, parenthesis, period		Clarity characters
CRR *n*	11-8	Redial the last number a maximum of *n* times
CRS *a*	11-6	Dial stored number command (*a* = address)
DIC	11-7	Disregard incoming call command
PRK	11-13	Save current option settings
PRL *a;b*	11-9	Link number at address *a* with number at address *b*
PRN *a; nn...n*	11-6	Program number command (*nn...n* = number to be dialed, *a* = address)
PRO *xxx;yy;0;0...*	11-11	Program options command (*xxx* = register address, *yy* = option count)
PRP *n*	11-13	Restores current option settings to the factory defaults in default bank n (1-9)
RLL	11-10	Request list of linked numbers command
RLN	11-7	Request list of stored numbers command
RLO *xxx;yy*	11-14	Request list of stored options command (*xxx* = register address, *yy* = option count)
RLV	11-11	Request list of version information command

Table E-8. Response Messages

Response Message	Meaning
CFIAB	Call failure - answer back tone but no connection
CFIDT	Call failure - no dial tone
CFIET	Call failure - reorder or busy
CFILD	Call failure - link list complete
CFINS	Call failure - number not stored
CFINT	Call failure - no answer back tone, no ringback
CFIRT	Call failure - timeout occurred
CNX @ 28800 bps	Intermediate call progress - connection made at 28800

Table E-8. Response Messages (Continued)

Response Message	Meaning
CNX @ 26400 bps	Intermediate call progress - connection made at 26400
CNX @ 24000 bps	Intermediate call progress - connection made at 24000
CNX @ 21600 bps	Intermediate call progress - connection made at 21600
CNX @ 19200 bps	Intermediate call progress - connection made at 19200
CNX @ 16800 bps	Intermediate call progress - connection made at 16800
CNX @ 14400 bps	Intermediate call progress - connection made at 14400
CNX @ 12000 bps	Intermediate call progress - connection made at 12000
CNX @ 9600 bps	Intermediate call progress - connection made at 9600
CNX @ 7200 bps	Intermediate call progress - connection made at 7200
CNX @ 4800 bps	Intermediate call progress - connection made at 4800
CNX @ 2400 bps	Intermediate call progress - connection made at 2400
CNX @ 1200 bps	Intermediate call progress - connection made at 1200
INC	Incoming ring detected
INVCU	Invalid command - command unknown
INVMS	Invalid command - message syntax error
INVPS	Invalid command - parameter syntax error
INVPV	Invalid command - parameter value error
VAL	Valid command received

FACTORY OPTION SETS

FACTORY OPTION SET #1
(Asynchronous Dial-up with V.42bis Protocol) (AT&F or AT&F1)

- **MODEM OPTIONS**
  DCE rate - 28800
  Modulation automode
  V.34 rate threshold high
  V.34 asymmetric rate enabled
  Normal originate
  Fast train disabled
  Auto retrain enabled
  Sq auto rate disabled
  Transmit clock internal
  Dial line
  Jack type RJ11 (permissive)
  Line current disconnect long
  Long space disconnect enabled
  V.22 guard tone disabled

- **PROTOCOL OPTIONS**
  LAPM protocol enabled
  MNP protocol enabled
  Protocol fallback enabled
  Data compression normal
  Constant DTE speed
  DTE flow control XON/XOFF
  DCE flow control XON/XOFF
  XON/XOFF pass through disabled
  Inactivity timer off
  Break control 5
  V.42 fast detect enabled

- **SPEAKER OPTIONS**
  Volume medium
  On until carrier detect

- **TEST OPTIONS**
  Bilateral analog loop disabled
  Bilateral digital loop disabled
  DTE local test disabled
  DTE remote test disabled
  Remote commanded test enabled
  Test timeout off

- **DIAL LINE OPTIONS**
  Tone dial
  Auto dial #1
  Wait for dial tone
  Wait delay 2 seconds
  Pause delay 2 seconds
  Call timeout 30 seconds
  Answer on 1 ring
  801 V.32 timeout long
  Autocallback disabled

- **DTE OPTIONS**
  Async data
  DTE rate - 9600
  8 bit, No parity
  Async controlled dialer
  AT command set enabled
  Ignores DTR
  DSR forced high
  DCD forced high
  CTS forced high
  DTE fallback disabled
  Options retained at disconnect

FACTORY OPTION SET # 2
(Asynchronous Dial-up without V.42bis Protocol) (AT&F2)

- **MODEM OPTIONS**
  DCE rate - 28800
  Modulation automode
  V.34 rate threshold low *
  V.34 asymmetric rate enabled
  Normal originate
  Fast train disabled
  Auto retrain enabled
  Sq auto rate disabled
  Transmit clock internal
  Dial line
  Jack type RJ11 (permissive)
  Line current disconnect long
  Long space disconnect enabled
  V.22 guard tone disabled

- **PROTOCOL OPTIONS**
  LAPM protocol disabled *
  MNP protocol disabled *
  Normal buffer mode *
  Constant DTE speed
  DTE flow control disabled *
  DCE flow control disabled *
  XON/XOFF pass through disabled *
  Inactivity timer off
  Break control 0 *
  V.42 fast detect disabled *

- **SPEAKER OPTIONS**
  Volume medium
  On until carrier detect

- **TEST OPTIONS**
  Bilateral analog loop disabled
  Bilateral digital loop disabled
  DTE local test disabled
  DTE remote test disabled
  Remote commanded test enabled
  Test timeout off

- **DIAL LINE OPTIONS**
  Tone dial
  Auto dial #1
  Wait for dial tone
  Wait delay 2 seconds
  Pause delay 2 seconds
  Call timeout 30 seconds
  Answer on 1 ring
  801 V.32 timeout long
  Autocallback disabled

- **DTE OPTIONS**
  Async data
  DTE rate - 9600
  8 bit, No parity
  Async controlled dialer
  AT command set enabled
  Ignores DTR
  DSR forced high
  DCD forced high
  CTS follows RTS *
  DTE fallback disabled
  Options retained at disconnect

** Indicates variation from factory option set #1*

FACTORY OPTION SET #3 (Synchronous Dial-up) (AT&F3)

- **MODEM OPTIONS**
  DCE rate - 28800
  Modulation automode
  V.34 rate threshold low *
  V.34 asymmetric rate disabled *
  Normal originate
  Fast train disabled
  Auto retrain enabled
  Sq auto rate disabled
  Transmit clock internal
  Dial line
  Jack type RJ11 (permissive)
  Line current disconnect long
  Long space disconnect enabled
  V.22 guard tone disabled

- **PROTOCOL OPTIONS**
  LAPM protocol disabled *
  MNP protocol disabled *
  Direct buffer mode *
  DTE flow control disabled *
  DCE flow control disabled *
  XON/XOFF pass through disabled
  Inactivity timer off
  Break control 0 *
  V.42 fast detect disabled *

- **SPEAKER OPTIONS**
  Volume medium
  On until carrier detect

- **TEST OPTIONS**
  Bilateral analog loop disabled
  Bilateral digital loop disabled
  DTE local test disabled
  DTE remote test disabled
  Remote commanded test enabled
  Test timeout off

- **DIAL LINE OPTIONS**
  Tone dial
  Auto dial #1
  Wait for dial tone
  Wait delay 2 seconds
  Pause delay 2 seconds
  Call timeout 30 seconds
  Answer on 1 ring
  801 V.32 timeout long
  Autocallback disabled

- **DTE OPTIONS**
  Sync data *
  Dial method manual *
  AT command set disabled *
  DTR disconnects *
  DSR normal *
  DCD normal *
  CTS follows RTS *
  RTS/CTS delay 0 ms *
  DTE fallback disabled
  Options retained at disconnect

** Indicates variation from factory option set #1*

FACTORY OPTION SET # 4
(Synchronous 4-wire Leased Line) (AT&F4)

- **MODEM OPTIONS**
  DCE rate - 28800
  V.34 modulation *
  V.34 rate threshold low *
  V.34 asymmetric rate enabled
  Normal originate
  Fast train disabled
  Auto retrain enabled
  Sq auto rate disabled
  Transmit clock internal
  Leased line *
  4-wire *
  Transmit level - 0 dBm *
  Dial backup manual *
  Lookback timer - 15 min *
  Jack type RJ11 (permissive)
  Line current disconnect long
  Long space disconnect enabled
  V.22 guard tone disabled

- **PROTOCOL OPTIONS**
  LAPM protocol disabled *
  MNP protocol disabled *
  Direct buffer mode *
  DTE flow control disabled *
  DCE flow control disabled *
  XON/XOFF pass through disabled
  Inactivity timer off
  Break control 0 *
  V.42 fast detect disabled *

- **SPEAKER OPTIONS**
  Volume medium
  On until carrier detect

- **TEST OPTIONS**
  Bilateral analog loop enabled *
  Bilateral digital loop enabled *
  DTE local test disabled
  DTE remote test disabled
  Remote commanded test enabled
  Test timeout off

- **DIAL LINE OPTIONS**
  Tone dial
  Auto dial #1
  Wait for dial tone
  Wait delay 2 seconds
  Pause delay 2 seconds
  Call timeout 60 seconds *
  Answer on 1 ring
  801 V.32 timeout long
  Autocallback disabled

- **DTE OPTIONS**
  Sync data *
  AT command set disabled *
  Ignores DTR
  DSR normal *
  DCD normal *
  CTS follows RTS *
  RTS/CTS delay 0 ms *
  DTE fallback disabled
  Options retained at disconnect

** Indicates variation from factory option set #1*

FACTORY OPTION SET #5
(Asynchronous 4-wire Leased Line with V.42bis Protocol) (AT&F5)

- **MODEM OPTIONS**
  DCE rate - 28800
  V.34 modulation *
  V.34 rate threshold high
  V.34 asymmetric rate enabled
  Normal originate
  Fast train disabled
  Auto retrain enabled
  Sq auto rate disabled
  Transmit clock internal
  Leased line, 4-wire *
  Transmit level - 0 dBm *
  Dial backup manual *
  Lookback timer - 15 min *
  Jack type RJ11 (permissive)
  Line current disconnect long
  Long space disconnect enabled
  V.22 guard tone disabled

- **PROTOCOL OPTIONS**
  LAPM protocol enabled
  MNP protocol disabled *
  Protocol fallback disabled *
  Data compression normal
  Constant DTE speed
  DTE flow control XON/XOFF
  DCE flow control XON/XOFF
  XON/XOFF pass through disabled
  Inactivity timer off
  Break control 5
  V.42 fast detect enabled

- **SPEAKER OPTIONS**
  Volume medium
  On until carrier detect

- **TEST OPTIONS**
  Bilateral analog loop disabled
  Bilateral digital loop disabled
  DTE local test disabled
  DTE remote test disabled
  Remote commanded test enabled
  Test timeout off

- **DIAL LINE OPTIONS**
  Tone dial
  Auto dial #1
  Wait for dial tone
  Wait delay 2 seconds
  Pause delay 2 seconds
  Call timeout 30 seconds
  Answer on 1 ring
  801 V.32 timeout long
  Autocallback disabled

- **DTE OPTIONS**
  Async data
  DTE rate - 9600
  8 bit, No parity
  AT command set enabled
  Ignores DTR
  DSR forced high
  DCD forced high
  CTS forced high
  DTE fallback disabled
  Options retained at disconnect

** Indicates variation from factory option set #1*

FACTORY OPTION SET # 6
(Asynchronous 4-wire Leased Line without V.42 Bis Protocol) (AT&F6)

- **MODEM OPTIONS**
  DCE rate - 28800
  V.34 modulation *
  V.34 rate threshold low *
  V.34 asymmetric rate enabled
  Normal originate
  Fast train disabled
  Auto retrain enabled
  Sq auto rate disabled
  Transmit clock internal
  Leased line, 4-wire *
  Transmit level - 0 dBm*
  Dial backup manual *
  Lookback timer - 15 min *
  Jack type RJ11 (permissive)
  Line current disconnect long
  Long space disconnect enabled
  V.22 guard tone disabled

- **PROTOCOL OPTIONS**
  LAPM protocol disabled *
  MNP protocol disabled *
  Normal buffer mode

  Constant DTE speed
  DTE flow control disabled *
  DCE flow control disabled *
  XON/XOFF pass through disabled
  Inactivity timer off
  Break control 0 *
  V.42 fast detect enabled

- **SPEAKER OPTIONS**
  Volume medium
  On until carrier detect

- **TEST OPTIONS**
  Bilateral analog loop disabled
  Bilateral digital loop disabled
  DTE local test disabled
  DTE remote test disabled
  Remote commanded test enabled
  Test timeout off

- **DIAL LINE OPTIONS**
  Tone dial
  Auto dial #1
  Wait for dial tone
  Wait delay 2 seconds
  Pause delay 2 seconds
  Call timeout 30 seconds
  Answer on 1 ring
  801 V.32 timeout long
  Autocallback disabled

- **DTE OPTIONS**
  Async data
  DTE rate - 9600
  8 bit, No parity
  AT command set enabled
  Ignores DTR
  DSR forced high
  DCD forced high
  CTS forced high
  DTE fallback disabled
  Options retained at disconnect

** Indicates variation from factory option set #1*

FACTORY OPTION SET # 7
(Synchronous 2-wire Leased Line Normal Originate) (AT&F7)

- **MODEM OPTIONS**
  DCE rate - 28800
  V.34 modulation *
  V.34 rate threshold low *
  V.34 asymmetric rate disabled *
  Normal originate
  Fast train disabled
  Auto retrain enabled
  Sq auto rate disabled
  Transmit clock internal
  Leased line, 2-wire *
  Transmit level - 0 dBm*
  Dial backup manual *
  Lookback timer - 15 min *
  Jack type RJ11 (permissive)
  Line current disconnect long
  Long space disconnect enabled
  V.22 guard tone disabled

- **PROTOCOL OPTIONS**
  LAPM protocol disabled *
  MNP protocol disabled *
  Direct buffer mode *
  DTE flow control disabled *
  DCE flow control disabled *
  XON/XOFF pass through disabled
  Inactivity timer off
  Break control 0 *
  V.42 fast detect disabled *

- **SPEAKER OPTIONS**
  Volume medium
  On until carrier detect

- **TEST OPTIONS**
  Bilateral analog loop disabled
  Bilateral digital loop disabled
  DTE local test disabled
  DTE remote test disabled
  Remote commanded test enabled
  Test timeout off

- **DIAL LINE OPTIONS**
  Tone dial
  Auto dial #1
  Wait for dial tone
  Wait delay 2 seconds
  Pause delay 2 seconds
  Call timeout 60 seconds *
  Answer on 1 ring
  801 V.32 timeout long
  Autocallback disabled

- **DTE OPTIONS**
  Sync data *
  AT command set disabled *
  Ignores DTR
  DSR normal *
  DCD normal *
  CTS follows RTS *
  RTS/CTS delay 0 ms *
  DTE fallback disabled
  Options retained at disconnect

** Indicates variation from factory option set #1*

FACTORY OPTION SET # 8
(Synchronous 2-wire Leased Line Forced Answer) (AT&F8)

- **MODEM OPTIONS**
  DCE rate - 28800
  V.34 modulation *
  V.34 rate threshold low *
  V.34 asymmetric rate disabled *
  Forced answer *
  Fast train disabled
  Auto retrain enabled
  Sq auto rate disabled
  Transmit clock internal
  Leased line, 2-wire *
  Transmit level - 0 dBm*
  Dial backup manual *
  Lookback timer - 15 min *
  Jack type RJ11 (permissive)
  Line current disconnect long
  Long space disconnect enabled
  V.22 guard tone disabled

- **PROTOCOL OPTIONS**
  LAPM protocol disabled *
  MNP protocol disabled *
  Direct mode *
  DTE flow control disabled *
  DCE flow control disabled *
  XON/XOFF pass through disabled
  Inactivity timer off
  Break control 0 *
  V.42 fast detect disabled *

- **SPEAKER OPTIONS**
  Volume medium
  On until carrier detect

- **TEST OPTIONS**
  Bilateral analog loop enabled *
  Bilateral digital loop enabled *
  DTE local test disabled
  DTE remote test disabled
  Remote commanded test enabled
  Test timeout off

- **DIAL LINE OPTIONS**
  Tone dial
  Auto dial #1
  Wait for dial tone
  Wait delay 2 seconds
  Pause delay 2 seconds
  Call timeout 60 seconds *
  Answer on 1 ring
  801 V.32 timeout long
  Autocallback disabled

- **DTE OPTIONS**
  Sync data *
  AT command set disabled *
  Ignores DTR
  DSR normal *
  DCD normal *
  CTS follows RTS *
  RTS/CST delay 0 ms *
  DTE fallback disabled
  Options retained at disconnect

** Indicates variation from factory option set #1*

FACTORY OPTION SET #9 (Synchronous V.25bis Dialer) (AT&F9)

- **MODEM OPTIONS**
  DCE rate - 28800
  Modulation automode
  V.34 rate threshold low *
  V.34 asymmetric rate disabled *
  Normal originate
  Fast train disabled
  Auto retrain enabled
  Sq auto rate disabled
  Transmit clock internal
  Dial line
  Jack type RJ11 (permissive)
  Line current disconnect long
  Long space disconnect enabled
  V.22 guard tone disabled

- **PROTOCOL OPTIONS**
  LAPM protocol disabled *
  MNP protocol disabled *
  Direct mode *
  DTE flow control disabled *
  DCE flow control disabled *
  XON/XOFF pass through disabled
  Inactivity timer off
  Break control 0 *
  V.42 fast detect disabled *

- **SPEAKER OPTIONS**
  Volume medium
  On until carrier detect

- **TEST OPTIONS**
  Bilateral analog loop disabled
  Bilateral digital loop disabled
  DTE local test disabled
  DTE remote test disabled
  Remote commanded test enabled
  Test timeout off

- **DIAL LINE OPTIONS**
  Tone dial
  Auto dial #1
  Wait for dial tone
  Wait delay 2 seconds
  Pause delay 2 seconds
  Call timeout 30 seconds
  Answer on 1 ring
  801 V.32 timeout long
  Autocallback disabled

- **DTE OPTIONS**
  Sync data *
  V.25 SDLC dialer *
  Character type ASCII
  SDLC data format NRZ *
  DTR disconnect *
  DSR normal *
  DCD normal *
  CTS follows RTS *
  RTS/CTS delay 0 ms *
  RTS/CTS delay 0 ms *
  DTE fallback disabled
  Options retained at disconnect

** Indicates variation from factory option set #1*