Prodem

COLLABORATORS

	TITLE : Prodem		
ACTION	*NAME*	*DATE*	*SIGNATURE*
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REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

Contents

Chapter 1

Prodem

1.1 Prodem modem 9600M

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                    Prodem modem 9600M

B0   CCITT V.32/22bis/22/21 compatible, Auto data rate
B1   CCITT V.32/22bis/22, Bell 212A/103 compatible, Auto data rate
B2   CCITT V.32/22bis//22/21 compatible, Fixed data rate
B3   CCITT V.23 compatible
     (DTE data rate is fixed at 1200 bps. Data buffer is provided for
     the 1200/75 bps conversion)
     Auto Logon/Callback, E-Mail and MNP or V42 error correction are
     automatically disabled in this mode.
&C0  DCD forced ON
&C1  DCD follows received carrier
&D0  Modem ignores DTR
&D1  Returns to Command mode following an ON to OFF transition of DTR
&D2  Hangs up, returns to Command mode following an ON to OFF
     transition of DTR
&D3  Modem resets following an ON to OFF transition of DTR. (*)
     If AT&Yn or AT&Wn has ever been entered, ATZn will be executed,
     otherwise AT&F will be taken. See AT&F or AT&Yn status from the
     Active profile by entering AT&V command.
*D0  Normal operation
*D1  In ORG mode, the modem will dial the number stored in Phone list N0
     upon detecting OFF to ON transition of DTR. The call can be aborted by
     entering any key.
     In ANS mode, the modem will go OFF hook and start sending answer tone
     upon detecting OFF to ON transition of DTR.
*D2  In ORG mode, the modem will dial the number stored in Phone list N0
     upon detecting OFF to ON transition of DTR.  The call cannot be aborted
     by entering any key.
     In ANS mode, the modem will go OFF hook and start sending answer tone
     upon detecting OFF to ON transition of DTR.
E0   Command echo disabled
E1   Command echo enabled
F0   Echo transmit data in ON-Line mode
F1   Transmit data are not echoed in ON-Line mode
&G0  No guard tones
&G1  550Hz guard tone selected
&G2  1800Hz guard tone selected
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*G0    1300Hz calling tone disabled
*G1    1300Hz calling tone enabled
&H0    List of Asynchronous commands
&H1    List of Immediate action commandsu
&H2    List of Dial modifier
&H3    List of Auto Logon/Callback commands
&H4    List of commands for Night answer mode
&H5    List of MNP/V.42bis commands
 I0    Display product code
 I1    Display EPROM version number
 I2    Perform EPROM test
 I3    Display MNP/V.42bis identification code
 K     Display connection time
 L0    Low speaker volume
 L1    Low speaker volume
 L2    Medium speaker volume
 L3    High speaker volume
&L0    Dial up mode selected
&L1    Leased line mode selected
 M0    Speaker always OFF
 M1    Speaker ON until carrier detected
 M2    Speaker always ON
 M3    Speaker ON until carrier detected but OFF while dialing
&O0    Decimal value for S-register
&O1    Hexdecimal value for S-register


 P     Pulse dialing
&P0    39/61 Make/Break ratio selected
&P1    33/67 Make/Break ratio selected
 Q0    Response enabled
 Q1    Response disabled
 Q2    Response disabled in Answer mode but enabled in Originating mode
%R0    Retrainning disabled
%R1    Retrainning enabled (*)
Sn=    Write to S register
Sn?    Read S register
&S0    DSR forced ON
&S1    DSR according to CCITT V.22/V.22bis
\S     Display modem configurations
*S     S-register summary
 T     Touch tone dialing
%T0    Trellis code modulation disabled
%T1    Trellis code modulation enabled
 V0    Digit response
 V1    Word response
&V     Display configuration profiles
 W0    Display DTE speed in CONNECT message (if \V0)
       Display DTE speed/link type in CONNECT message (if \V1)
 W1    Display DTE speed and link speed in CONNECT message (if \V0)
       Display DTE speed/link type and link speed in CONNECT message (if \V1)
 W2    Display link speed in CONNECT message (if \V0)
       Display link speed and link type in CONNECT message (if \V1) (*)
 X0    Basic response set
 X1    Extended response set with speed information
 X2    Same as X1 with dialtone detection enabled
 X3    Same as X1 with busy tone detection enabled
 X4    Same as X1 with both dialtone and busy tone detection enabled
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&Y0    Select profile 0 when power ON
&Y1    Select profile 1 when power ON
&Y2    Select profile 2 when power ON
&Y3    Select profile 3 when power ON
 Y0    Long space disconnect disabled
 Y1    Long space disconnect enabled
 A     Manual answer
 A/    Re-execute last command
 D     Dial Telephone number
&F     Fetch the factory configuration profile
 H0    Modem is ON hook
 H1    Modem is OFF hook
 O     Return to On-line state
&T0    Terminate all the Loopback tests
&T1    Initiate a Local Analog Loopback test
&T3    Initiate a Local Digital Loopback test
&T4    Grant a request of RDL from the remote modem
&T5    Reject the request of RDL from the remote modem
&T6    Initiate a Remote Digital Loopback test
&T7    Initiate a Remote Digital Loopback test with test pattern
&T8    Initiate a Local Analog Loopback test with test pattern
&W0    Save configurations profile in location 0
&W1    Save configurations profile in location 1
&W2    Save configurations profile in location 2
&W3    Save configurations profile in location 3
 Z0    Reset & resume configurations from location 0
 Z1    Reset & resume configurations from location 1
 Z2    Reset & resume configurations from location 2
 Z3    Reset & resume configurations from location 3
&Z     Store Tel. No.
 P     Pulse dialing
 T     Touch tone dialing
 %     Adaptive dialing
 W     Wait for dial tone
 R     Originating call in answer mode
 @     Wait for quiet answer
 ,     Pause in a dial sequence
 /     Pause for 1/8 sec.
 !     Initiate a flash
 ;     Return to Command mode after dialing
 Nn    Dial the phone number stored in Phone list n and enter Auto Logon mode
 S     Dial a stored number
 G     Redial the last number
 U     Redial until answer
Nn=    Store Logon strings in Phone list n
Nn?    Display Logon strings in Phone list n
*E     Reset and erase all the Logon strings
*Kn    Erase Logon strings in Phone list n
*L0    Display the Logon strings of all the Phone lists
*L1    Display the name strings of all the Phone list
*N     Show spare memory size for the Phone lists
<CTRL+A>  Insert a return code in the Logon string
<CTRL+D>  Disconnect the data link
<CTRL+N>  Store the callback phone number
<CTRL+P>  Set a 2-seconds pause
<CTRL+R>  Store the receive string
<CTRL+T>  Store the transmit string
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Note 1. The syntax of the receive string is <CTRL+R>#nn:xx..x.
        Where xx..x is the receive string and #nn: is the sequence number
        corresponding to the callback number strings.
Note 2. The syntax of the callback number strings is <CTRL+N>#nn:yy...y.
        Where yy...y is the callback number and #nn: is the sequence number
        corresponding to the <CTRL+R>#nn:yy...y receive strings.
Note 3. The user must enter <CTRL+D> in the Logon strings to have the modem
        disconnect the line and make a call back to the calling site with the
        corresponding call back number stored in the Logon strings.
Note 4. The <CTRL+D> code must be entered after the <CTRL+R> strings and
        before the <CTRL+N> strings.
Note 5. The name string must be not over 12 characters.
        The phone number and <CTRL+R> or <CTRL+T> string must be not
        over 40 characters
&B   Show spare memory size
&E   Clear all the memory
&K   Erase current stored message
&N0   Disable Night answer mode
&N1   Enable Night answer mode
&R   Read all the stored message
&S   Start saving data
&X   Stop saving data
&V   Read current stored message

MNP or V.42BIS Command help

%An   Set Auto Fallback character, n=0 – 127
%Cn   Data Compression Enable/Disable
        %C0   Disabled
        %C1   MNP5 Enabled
        %C2   V.42bis (BTLZ) Enabled
        %C3   MNP5 & V.42bis (BTLZ) Enabled
%En   Auto Retrain & Fallback/Fall Forword based on line quality monitoring
        %E0=Disabled (Default)
        %E1=Enable Auto Retrain based on line quality
        %E2=Enable Fallback/Fall Forward baed on line quality
        %E3=enables auto rate negotiation fall back/forward feature
%Fn   Split-Speed Direction Select
        %F1   75TX/1200RX
        %F2   1200TX/75RX
        %F3   v.23 Half-Duplex (independant of \W)
%Gn   Rate Renegotiation based on line monitor readings
        %G0=Disabled
        %G1=Enabled (Default)
%L   Reports Received Signal Level (at connection to DSP) nnn in –dBm.
        nnn=9 or stronger   reports as 9
        nnn=10 to 42   reports as value directly
        nnn=43 or weaker   reports as 43
%Q   Report Received signal Quality (nnn range 0 to 127)
        nnn=1 to 8 current signal quality excellent (higher rate may be used)
        nnn=9 to 20 current signal good (best carrier rate for line condition)
        nnn=20 to 30 current signal poor (lower carrier rate should be used)
        nnn=31 to 127 signal very bad (or gone), try forcing a lower rate
        NOTE: Modem uses 8 and 20 as rate renegotiation watermarks.
%S   Read DIP switch setting
%TTnn PTT Testing Utilities

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            (Set S10=255 to transmit data in the absence of a received signal)
            00-09   DTMF tone dial digits 0 to 9
            0A      DTMF digit *
            0B      DTMF digit A
            0C      DTMF digit B
            0D      DTMF digit C
            0E      DTMF digit #
            0F      DTMF digit D
            10      v.21 channel #1 mark (originate) symbol
            11      v.21 channel #2 mark symbol
            12      v.23 backward channel mark symbol
            13      v.23 forward channel mark symbol
            14      v.22 originate signalling at 600 bps
            15      v.22 originate signalling at 1200 bps
            16      v.22bis originate signalling at 2400 bps
            17      v.22 answer signalling (guard tone if PTT required)
            18      v.22bis answer signalling (guard tone if required)
            19      v.21 channel #1 space symbol
            1A      v.21 channel #2 space symbol
            1B      v.23 backward channel space symbol
            1C      v.23 forward channel space symbol
            1D      v.27ter carrier
            1E      v.29 carrier
            20      v.32 @9600 bps
            21      v.32bis @14400 bps
            22      v.17 @14400 bps
            30      Silence (on-line) – i.e. go off-hook
            31      v.25 answer tone
            32      1800 Hz guard tone
            33      v.25 calling tone (1300Hz)
            34      Fax calling tone (1100Hz)
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*B    Return Blacklisted Numbers
          Displays a numbered chart of currently BLACKLISTED numbers {Except
          permanently forbidden numbers based on country setting}  "OK" is
          returned if no temporary numbers are BLACKLISTED.
*C    Remote Password Configuration (for MNP connections ONLY)
          Gives ENTER PASSWORD prompt and accepts a 6 to 12 charactor
          alphanumeric string.  (Default is QWERTY)
*D    Return Delayed Numbers
          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.
*E    Exit Remote Configuration Mode
*Hn   Link Negotiation Speed (MNP 10)
          *H0    Link negotiation occurs at highest supported rate (Default)
          *H1    Link negotiation occurs at 1200 bps.
          *H2    Link negotiation occurs at 4800 bps.
*K    Enables keyboard interrupt during handshake
*K1   Disables keyboard interrupt during handshake
*L    Display Secure Access Directory
          Displays a numbered chart (0-19) of all secure access (callback)
          directory entries in the following format: #-Password:Callback_Number
          If no callback number is set then the colon is omitted.
*NCnn Country Select
          Sets country PSTN parameters to the code number specified.
          ERROR is returned if the country selected is not currently supported.
*Px:p:n Store/Delete a Password/Phone Number Pair
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               *Px(0-19):p(password of 6 to 12 charactors):n(0 to 40 dialing codes)
                 If the last colon and dialing codes are omitted then password check
                 occurs, but no call-back occurs.
*R      Disables RING back message
*R1     Enables RING back message
*R      Request Remote Configuration Mode (during MNP mode connection ONLY)
                 If successful, a REMOTE PASSWORD prompt is display, and you should
                 issue the 6 to 12 charactor password currently set.  If the password
                 is accepted, a !AT prompt will be displayed and a limitted set of
                 commands can then be issued with the "AT" header omitted.  Exit this
                 mode with the *E command.
*Zn     Change Dialing Codes (Used in countries like NORWAY that support two
                       methods of pulse dialing.)
                 *Z0    Use dial code 0 (default)
                 *Z1    Use dial code 1


#CID?   Displays current CallerID mode (0-2)
#CID=n  Caller ID Mode
                 #CID=0 Disable Caller ID (Default)
                 #CID=1 Enable Formatted Caller ID Mode
                  Result code syntax is as follows:
                    DATE=MMDD (where MM is month number 01-12 & DD is day 01-31)
                    TIME=HHMM (where HH is hour 00-23 & MM is minute 00-59)
                 "Single Page Mode"
                   NMBR= number code or statement*
                       * The NUMBER CODE is normally either the subscriber's area code,
                         local exchange, and subscriber loop number, OR a code unique to
                         that individual subscriber. STATEMENTs are used for calls from
                         non Caller ID Areas and subscribers requesting no display.
                   NAME= listed subscriber name <this is an option not always supported>
                 "Multiple Page Mode"
                   MESG= formatted number string * **
                       * Here is an example string: 030A35303339363732343030
                         The string uses this code: CCLL#0#1#2#3#4#5#6#7#8#9
                         CC (03) is the code meaning this is "Multiple Page" Caller ID
                         LL is the hexadecimal length of the data in the string.
                            (in this case 0A hex - 10 decimal)
                         #n's are the ASCII digits dialed (in hexadecimal)
                            A neat trick to convert these to decimal is to note that
                            the first digit is always a number "3" and the second digit
                            is the decimal number dialed, so the formatted string:
                            030A35303339363732343030 converts directly to 5039672400
                      ** At the time of this printing, conversion of "Multiple Page"
                            Caller ID string coversion is not supported in the modem,
                            so the data is displayed in the raw hexadecimal format.
                 #CID=2 Enable Raw (ASCII printable HEX number) Mode
                 #CID=? Returns Caller ID Modes supported.


)M      Cellular Power Level Adjustments (MNP 10)
                 )M0    Power not adjusted during MNP 10 link negotiation (Default)
                 )M1    Power level adjusted during MNP 10 link negotiation.


-Kn     MNP Extended Services (MNP 10)
                 -K0    Disable v.42 LAPM to MNP 10 connection
                 -K1    Enable v.42 LAPM to MNP 10 connection
-Qn     Fallback to v.22bis/v.22 in MNP10 mode
                 -Q0    Disabled (Fallback only allowed to 4800 bps)
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        -Q1     Enabled (Fallback allowed to v.22bis/v.22) (Default)


\A0    Error correction block size = 64 bytes
\A1    Error correction block size = 128 bytes
\A2    Error correction block size = 192 bytes
\A3    Error correction block size = 256 bytes (*)
\Bn    Set break length, n=1 - 9
\C0    Do not buffer data (*)
\C1    Buffer data for 4 seconds
\C2    Do not buffer data, switch to Normal mode when Fallback character
       is received
\E0    Do not echo data during a Normal link
\E1    Echo data during a Normal link
\G0    Disable DCE flow control
\G1    Enable DCE flow control (*)
\J0    Disable DTE baud rate adjustment (*)
\J1    Enable DTE baud rate adjustment
\Kn    Set break control, n=0 - 5, refer to the manual for details
\L0    Stream error correction link mode
\L1    Block error correction link mode
\N0    Normal data link only
\N1    Direct data link only
\N2    Reliable MNP link only
\N3    Auto-Reliable MNP or Normal link
\N4    Reliable V.42 link only
\N5    Reliable V.42 or MNP link only
\N6    Auto-Reliable V.42, MNP or Normal link (*)
\O     Initiate Reliable link during a Normal link
\Q0    Turn off software flow control
\Q1    XON/XOFF software flow control
\Q2    Unidirectional hardware flow control by CTS signal
\Q3    Bidirectional hardware flow control by RTS/CTS signal (*)
\Q4    Unidirectional XON/XOFF flow control from DCE to DTE
\Tn    Inactivity timer setting, n= 0 - 90 minutes (*) \T10
\U     Accept Reliable link during a Normal link
\V0    Do not send MNP/V.42bis extended responses
\V1    Send MNP/V.42bis extended responses (*)
\X0    Process XON/XOFF flow control and do not pass through (*)
\X1    Process XON/XOFF flow control and pass through
\Y     Switch to Reliable link from Normal link
\Z     Switch to Normal link from Reliable link

Sample Modem Config:
AT \A3 %C1 \C0 \G1 \J0 \Q3 %R1 W2 \V1 \T9 \X0 \N6 &D3 S0=1


MODEM HELPS:


AT &H0 The Asynchronous commands Help
AT &H1 Immediate action commands Help
AT &H2 Dial Help
AT &H3 Auto Logon & CallBack Help
AT &H4 Night Answer mode Help
AT &H5 MNP-s HELP
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