

Linelink

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REVISION HISTORY

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Chapter 1

Linelink

1.1 LineLink 144e COMMANDS

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Subject: LineLink 144e Commands.txt (v1.0 submission)

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This document uses a mono-spaced font (Monaco) that contains tabs that are 8-spaces wide (looks nice on our unix box). You may have trouble viewing this document if your font and tabs are not of a similar size.

This document is a list of modem commands for the Prometheus-made "LineLink 144e" modem. It is a v.32 data/fax/voice modem sold for \$99(US) through MacWarehouse (tel:1-800-255-6227) that has attracted a lot of attention lately. Please see related files such as the "lineline-144e-faq" for more general information about the modem and its use, if you don't already own one. The FAQ provide helpful information, while this document is intended only for owner reference purposes (not very handy without the modem).

This document is compiled from several sources. The information contained herein is assumed to be correct, but it is used at your own risk. The sources include the LineLink manual, Hayes modem command sets, Supra modem command sets, Global Village modem command sets, and Fax Class 1/2 documents. Aside from indirectly quoting manuals from modems I have purchased, I found some information through Internet, and in general found the Prometheus BBS to be lacking (for LineLink Mac users).

The LineLink modem comes with a "near-useless" 28 page manual. The manual has very little technical info about its command set. This manual lacks information about commands such as "%An" registers S16, S18, S21, and S22. As far as I have been able to gather, the complete modem command set is:

Command Mode:

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The LineLink modem must be in command mode before commands are typed. The modem enters the command mode when it is turned on or reset, when it loses a connection or when it is in the data mode and the escape sequence is generated.

Data Mode:

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The LineLink modem is in the data mode after it makes a connection with a remote modem and sends appropriate the CONNECT response. Everything it receives from the DTE is considered data that it sends over the telephone line to the remote modem.

The following comments apply to the modem commands that follow:

- Commands can be entered in a string, with or without spaces. The "delete" or "backspace" key will be ignored by the modem.
- A command line can contain one command or a series of commands, but cannot exceed 40 characters in length.
- Commands that accept numeric arguments, when not specified, will default to 0. Numeric values are denoted by the variables "n" or "r"
- The AT (attention) command precedes all commands (except A/).
- Your command line must end with a <CR> (except when using A/).
- The escape sequence "<GT>+++<GT>" lets you return to command mode without breaking your connection with a remote modem. <GT> represents a guard time which is a delay before and after the escape sequence.
- Factory default settings are denoted with an asterisk, and are stored in non-volatile memory.

Direct Commands	Description
AT	Attention command prefix (precedes all except A/)
A/	Repeat last command.
<GT>+++<GT>	Escape Code sequence. The guard time <GT> must be set using register S12. This sequence is thus preceded and followed by a minimum time period of no transmission.
<CR>	Carriage Return. Terminate current connection attempt during the dialing or protocol negotiation process.

Command	Description
A	Answer command. Causes modem to go off-hook, in the answer mode, without waiting for a ring.
Bn	Communication Standard. B0 = CCITT V.21 (300 bps) & V.22 (1200 bps) *B1 = BELL 103 (300 bps) & Bell 212A (1200 bps) B2 = CCITT v.23. Originating TX=75, RX=1200. Answering TX=1200, RX=75.

B3 = CCITT v.23. Originating TX=1200, RX=75. Answering TX=75, RX=1200.

Cn Carrier.
C0 = Transmit carrier signal OFF.
*C1 = Transmit carrier signal ON.

D Dial Command. Puts the modem in the originate mode and the dial modifiers that follow tell the modem what, when and how to dial.
T = Dials using tones (DTMF).
P = Dials using pulses.
, = Pauses (time specified by register S8) before continuing.
W = Waits (time specified by register S7) for second dial tone.
@ = Wait (time specified by register S7) for "quiet answer."
! = Issues a hook flash and modem goes on-hook for 0.5 seconds.
; = Return to command state after dialing.
Sn = Dials stored number in register n (0-3).
L = Dials the last number.

En Modem echos commands:
E0 = Echo OFF.
*E1 = Echo ON.

Hn Hook Switch.
H0 = Force modem on-hook (hang up).
H1 = Force modem off-hook.

In Identification Codes.
I0 = Display 3-digit product ID code.
I1 = Display ROM checksum value.
I2 = Return OK response (ROM checksum, display ERROR if problem).
I3 = Display ROM firmware revision level.
I4 = Display configuration settings.
I6 = Display chipset DSP version codes (undocumented).

Ln Speaker Volume.
L0,L1 = Low volume.
*L2 = Medium volume.
L3 = High volume.

Mn Speaker On/Off.
M0 = Speaker always off.
*M1 = Speaker on until carrier detected.
M2 = Speaker always on.
M3 = Speaker on after dialing and until carrier detected.

Nn Negotiation.
N0 = When originating or answering, force line speed in register S37.
*N1 = When originating, start auto-line feed at DCE speed in register S37. When answering, auto-line feed regardless of register S37.
N2 = Same as N1 with the addition of V.23 protocol.
N3 = When originating, force line speed given in register S37.
N4 = Same as N3.
N5 = When originating, start auto-line feed at DCE speed in register S37. When answering, force line speed given in register S37.

On On-Line Mode.
O0 = Return to data mode.
O1 = Return to data mode and initiate equalizer retrain sequence.
O3 = Go to on-line state, initiate CCITT V.32bis re-negotiation.

P Set default dialing mode to PULSE. Sets S14 bit 5 (P,T undocumented).

Qn Result Codes (on/off).
*Q0 = Result Codes ON.
Q1 = Result Codes OFF.
Q2 = Return Result Codes when originating, but NOT when answering.

Sr? Display s-register. Display current setting of s-register r.

Sr=n Set r-register. Set the value of s-register r to value n.

T Set default dialing mode to TONE. Clears S14 bit 5 (P,T undocumented).

Vn Result Codes (type).
V0 = Return numeric result codes.
*V1 = Return verbal (word) result codes.

Wn Negotiation Messages (on/off). W2 is undocumented.
*W0 = Negotiation progress messages OFF.
W1 = Negotiation progress messages ON. Result code is DTE rate.
W2 = Negotiation progress messages ON. Result code is DCE rate.

Xn Call Progress Messages.
X0 = Call progress messages (CONNECT, NO CARRIER, and RING)
X1 = Call progress messages and connection speed.
X2 = Call progress messages, connection speed and DIALTONE detection.
X3 = Call progress messages, connection speed and BUSY detection.
*X4 = Call progress messages, connection speed, DIALTONE and BUSY.

Yn Long Space Disconnect (on/off).
*Y0 = Long space disconnect OFF.
Y1 = Long space disconnect ON.

Zn Stored User Profiles.
Z0 = Resets and recall stored user profile 0.
Z1 = Resets and recall stored user profile 1.

&Cn Carrier Detect (DCD) options.
&C0 = DCD always on.
&C1 = DCD follows carrier state (ON when remote carrier present).

&Dn Data Terminal Ready (DTR) options.
*&D0 = Modem ignores status of the DTR signal.
&D1 = Modem returns to command mode after an on-to-off DTR transition.
&D2 = Modem goes on-hook, turns off auto answer, and returns to command mode after an on-to-off DTR transition.
&D3 = Modem resets and returns to command mode after an on-to-off DTR transition.

&Fn Reset modem to factory defaults stored in non-volatile memory.
&F0 = Recall factory default settings.
&F3 = Recall factory default settings.

&Gn Guard tones for CCITT operations (not used for BELL operation).
*&G0 = Disable guard tones
&G1 = Generate 550 Hz guard tone.
&G2 = Generate 1800 Hz guard tone.

&Jn Telephone Jack connection. Not functional!

&Kn Set DTE port Flow Control (can also be set with \Qn command).
&K0 = Disable DTE flow control.
&K1 = Return ERROR.
&K2 = Return ERROR.
&K3 = Enable bidirectional flow control (RTS/CTS).
&K4 = Enable Software flow control (XON/XOFF).
&K5 = Enable Transparent (XON/XOFF) Software flow control.

&Ln Leased-Line option. Undocumented (defaults to &L0)!

&Mn Same function as &Q(0-3) settings.

&Pn Pulse dialing MAKE/BREAK ratios.
*&P0 = Make/break ratio is 39%/61% (US/CANADA).
&P1 = Make/break ratio is 33%/67% (UK/Hong Kong).

&Qn Asynchronous/Synchronous operation.
&Q0 = Asynchronous operation (must use for V.23 connection).
&Q1 = Synchronous Mode 1: Async dialing using AT commands, switch to Sync mode after dialing.
&Q2 = Synchronous Mode 2: Dial telephone number stored in location 0 after an off-to-on DTR transition (use with Sync terminals).

&Q3 = Synchronous Mode 3: Use telephone to manually originate a Sync call, and enter Sync mode after off-to-on DTR transition.
&Q4 = Return ERROR.
*&Q5 = Make connection using V.42bis Async Reliable Mode.
&Q6 = Make connection using standard Async buffered Data Mode.

&Rn PC/Mac Flow Control options (contrary to manual, &R0 is default).
*&R0 = PC Mode. DTR and RTS signals function normally.
&R1 = Mac Mode. When configured for bidirectional flow control, DTR is recognized as RTS by the modem.

&Sn Data Set Ready (DSR) options.
*&S0 = DSR always on.
&S1 = DSR active when modem is in Data Mode.

&Tn Modem Test Command Selection.
&T0 = End test in progress.
&T1 = Perform Local Analog Loopback Test.
&T3 = Perform Local Digital Loopback Test.
*&T4 = Accept a remote modem request for Digital Loopback Test.
&T5 = Ignore a remote modem request for Digital Loopback Test.
&T6 = Perform a Remote Digital Loopback Test.
&T7 = Perform a Remote Digital Loopback with self-test.
&T8 = Perform Analog Loopback Test with self-test.

&Un Trellis Coding (on/off).
*&U0 = Trellis coding ON (V.32 9600bps only).
&U1 = Trellis coding OFF.

&V View Active Configuration of s-registers and stored phone numbers.

&Wn Store Active Profile.
&W0 = Save active configuration as profile 0.
&W1 = Save active configuration as profile 1.

&Xn Synchronous Transmit Clock Source. Not supported! Default is &X0.

&Yn Select Stored Power-Up Configuration Profile.
*&Y0 = Load profile 0 after reset or power-up.
&Y1 = Load profile 1 after reset or power-up.

&Zx=n Store telephone number n into register x (0-3). Up to 36 characters.

\Cn Set MNP Buffering Method.
*\C0 = No buffer used while establishing a reliable connection.
\C1 = Buffer data for 3 seconds until 200 characters are received or until modem detects a Sync character. Modem switches to standard (non-reliable) operation if buffer fills with data.
\C2 = This command is used with the auto-reliable fall-back character command %A. Data is not buffered while establishing a reliable connection. Modem falls back to standard buffered operation upon detection of the auto-fallback character.

\Gn Set modem port flow control during standard buffered mode connection.
*\G0 = Turn OFF port flow control.
\G1 = Turn ON port flow control (use if the modem is receiving data from the remote system faster than it can process it).

\Kn Set Break Control. Set n from 0 to 5 (default is 5).

\Nn Request link type. This is the type of connection in Async mode (&M0).
\N0 = Standard Mode (non-MNP, buffered data).
\N1 = Direct Mode (non-MNP, data not buffered).
\N2 = Reliable Mode (MNP operation).
\N3 = Auto-Reliable Mode (MNP if remote MNP modem, else standard).
\N4 = LAPM Reliable Mode (V.42bis).
\N5 = Auto-Reliable LAPM and buffered mode.
*\N6 = Auto-Reliable LAPM, MNP, and buffered mode.

\Qn Set DTE port flow control (alternative to the &Kn command).


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    \Q0 = Disable DTE flow control.
    \Q1 = Bidirectional software flow control (XON/XOFF).
    \Q2 = Unidirectional hardware flow control (CTS).
    *\Q3 = Bidirectional hardware flow control (RTS/CTS).
    \Q4 = Unidirectional software flow control from modem (XON/XOFF).
\Tn  Inactivity Timer. Set n from 0 to 90 mins. (default is 0 - disabled)
     If no data activity during set time, then modem will disconnect.
\V   MNP Result Codes.
     *\V0 = MNP Result Codes OFF.
     \V1 = MNP Result Codes ON.
\X   Set XON/XOFF pass through flow control. Only effective for standard
     buffered connection with XON/XOFF (\Q1) flow control enabled.
     *\X0 = Modem will act on XON/XOFF received from the local DTE, but
           will not pass XON/XOFF to the remote modem.
     \X1 = Modem will act on XON/XOFF received from the local DTE, but
           will also pass XON/XOFF to the remote modem. This allows the
           local DTE to XON/XOFF the remote DTE through the established
           modem link.

%An  UNKNOWN COMMAND??? (0 <= n <= 255). Not listed in manual.
%Cn  MNP5 Data Compression.
     %C0 = MNP5 Disabled.
     *\C1 = MNP5 Enabled.
%Dn  Dictionary Size (used for MNP5 data compression?).
     %D0 = 0.5 kbyte dictionary.
     %D1 = 1 kbyte dictionary.
     *\D2 = 2 kbyte dictionary.
%En  Auto-Retrain.
     %E0 = Disable auto-retrain.
     *\E1 = Enable auto-retrain at 2400 bps when line quality is poor.

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S Registers	Decription
S0	Number of Rings to Auto Answer (0-255. Default is 0 = disabled).
S1	Count incoming rings (0-255). Resets after 8 secs after last ring.
S2	Escape Code character (0-255 Default is 43 "+"). Values greater than 127 disable the feature, preventing a return to command mode, unless a hang-up or DTR transition takes place.
S3	Carriage Return Character <CR>. (0-127. Default is ascii 13). Used to signal the end of the command line string in command mode.
S4	Line Feed Character <LF>. (0-127. Default is ascii 10). Used when the modem sends Result Codes. Cannot be totally disabled.
S5	Backspace Character <BS>. (0-32, 127-255. Default is ascii 8).
S6	Wait for Dialtone (2-255. Default is 2 seconds). When the modem executes a dial command. This tells how long to wait after going off-hook before beginning to dial.If the modem doesn't receive a dialtone before S6 elapses, then will get a "NO DIALTONE" response.
S7	Wait time for carrier. (1-120. Default is 40 seconds). This tells the modem how many seconds to wait for a remote modem's carrier signal before hanging up and returning a "NO CARRIER" response.
S8	Pause time for comma. (0-255. Default is 2 seconds). The amount of time to pause each time the modem encounters a comma in the dial command line. This is useful when dialing through a PBX or to stop call-waiting (ATDT *70,555-1212).
S9	Carrier Detect response time. (1-255. Default is 6 tenths seconds). This is how long the remote modem's carrier (in 1/10 seconds) must

be present, so it cannot be mistaken for a busy signal, ring, or voice. Increasing the time reduces the chances the modem will mistake line noise for a carrier signal.

S10 Carrier Loss Time. (1-255. Default is 14 tenths seconds). This is the time (in 1/10 seconds) between the loss of a remote modem's carrier signal and the LineLink disconnecting. The value can be increased to ignore carrier dropouts on a noisy line, or they can be reduced to make the modem automatically hang up and allow call-waiting calls to ring through. To ignore the Data Carrier Detect and have the LineLink act as if the remote modem's carrier is always present, set this value to 255. Setting this to a value less than the value in register S9, causes the modem to disconnect when it detects a momentary carrier loss, because register S10 expires before the carrier response time expires.

S11 Touch-Tone (DTMF) Dialing Speed. (50-255. Default is 75 ms). This is the speed of dialing (in milliseconds) during which the DTMF tones are held for each digit (it does not affect pulse dialing, which is fixed at 10 pulses per second).

S12 Guard Time Value. (0-255 in 1/50 seconds. Default 40/50 seconds). This sets the guard time <GT> delay required before and after the escape code sequence (usually "<GT>+++<GT>") before returning to the Command mode.

S14 Bit-mapped register (default value is 170) that provides the following functions (equivalent commands shown in parentheses):
 Bit 0,2: Display Result Codes.

Bit0	Bit2	AT Command
0	0	(Q0)
0	1	(Q1)
1	0	(Q2)

Bit 1: Echo commands to DTE.
 0 = Do not echo commands (E0)
 1 = Echo commands (E1)

Bit 3: Word or number responses.
 0 = Send number responses (V0)
 1 = Send word responses (V1)

Bit 4: Accept/Ignore commands.
 0 = Accept commands.
 1 = Ignore commands

Bit 5: Default Dialing method.
 0 = Touch-Tone (T)
 1 = Pulse (P)

Bit 6: Reserved for later use.
 Bit 7: Answer/originate operation.
 0 = Answer (A and R)
 1 = Originate (D)

S23 Bit-mapped register (default value 7) that provides the following test functions (equivalent commands shown in parentheses):

Bit 0: Remote modem request for Remote Digital Loopback Test.
 0 = Ignore request (&T5)
 1 = Grant request (&T4)

Bit 1,2,3: DTE speed (auto-detect by modem).

Bit1	Bit2	Bit3	DTE Speed
0	0	0	
0	0	1	300 bit/s
0	1	0	1200 bit/s
0	1	1	2400 bit/s
1	0	0	4800 bit/s

1	0	1	9600 bit/s
1	1	0	19,200 bit/s
1	1	1	38,400 bit/s

Bits 4,5: Parity setting (auto-detect by modem).

Bit5	Bit4	Parity Setting
0	0	Even parity
0	1	Space parity
1	0	Odd parity
1	1	mark parity

Bits 6,7: Guard tones.

Bit7	Bit6	Guard Tone Type
0	0	Guard tones disabled (&G0)
0	1	550 Hz guard tone (&G1)
1	0	1800 Hz guard tone (&G2)
1	1	Reserved for later use.

S25 DTR Delay. When command &M1 is in effect, this specifies the number of seconds (default = 5) that the modem waits after a connection has been made before examining the DTR signal. This delay allows an asynchronous terminal to be detached from the modem and a synchronous terminal connection made while remaining in the Data Mode. After this delay S25 reverts to hundredths of seconds.

S26 RTS/CTS Delay. This is the number of 1/100 seconds (default is 1) that specifies the time delay between RTS and the CTS response.

S27 Bit-mapped register for Test Functions (default value is \$49H).

The equivalent commands are shown in parentheses:

Bit 0,1,3: Communication operation.

Bit3	Bit1	Bit0	Command
0	0	0	Asynchronous operation (&M0, &Q0)
0	0	1	Synchronous operation after dialing (&M1, &Q1)
0	1	0	Synchronous terminal support (&M2, &Q2)
0	1	1	Manually originate synchronous call (&M3, &Q3)
1	0	0	Not valid
1	0	1	Asynchronous error control (&Q5)
1	1	0	Aysnchronous buffered mode (&Q6)
1	1	1	Not valid

Bit 2: Leased Line Option.

- 0 = Dial up line (&L0)
- 1 = Leased line (&L1)

Bit 3: Reserved for later use.

Bit 4,5: Synchronous timing selection.

Bit5	Bit4	Command
0	0	Modem give sync TX clock on EIA pin 15 (&X0)
0	1	Modem accepts ext sync clock (&X1)
1	0	receive clock (slave timing) (&X2)

Bit 6,7: Communication Standard.

Bit 6	Bit7	Command
0	0	CCITT V.21/V.22 (B0)
1	0	BELL 103/212A (B1)
0	1	CCITT V.23 (B2)
1	1	CCITT V.23 (B3)

S30 Automatic Timeout (in tens of seconds). This specifies the number of seconds the modem waits with no activity, before disconnecting (in 10 second increments). Default is 0, which disables it.

S36 Negotiation Fallback. When the initial attempt to connect in error-control mode fails, this specifies what occurs next (default = 7).

- 0 = Hang up
- 1 = Attempt a direct asynchronous connection

(&Q0)

2 = UNKNOWN???

3 = Attempt an asynchronous connection using automatic speed buffering (&q6).

4 = Attempt a CCITT V.42 Alternative Protocol connection

(MNP 2-4); if

(MNP 2-4); if negotiation fails, hang up.

5 = Attempt a CCITT V.42 Alternative Protocol connection

(MNP 2-4); if fails, attempt a direct async connection.

6 = UNKNOWN???

7 = Attempt a CCITT V.42 Alternative Protocol (MNP 2-4).

Note: The selected fallback option can be initiated immediately

with S48.

For example, a connection attempt using the MNP can be forced by

setting

S48=128 and S36=5 or 7.

S37 Maximum DCE Line Speed S37 selects the speed (for all modes except CCITT V.24bis) at which the modem attempts to connect with a remote modem; the speed selected will be the highest DCE speed supported by both modems (see S93 for CCITT V.25bis modes).

0 = Speed of last AT command issued

1 = 75 bps

2 = 110 bps

3 = 300 bps

5 = 1200 bps

6 = 2400 bps

7 = 4800 bps

8 = 7200 bps

9 = 9600 bps

10 = 12000 bps

11 = 14400 bps

S38 Delay Before Forced Hangup. This specifies the number of seconds the modem waits when in error-control mode (&Q5) before disconnecting (default is 20). This occurs after receiving the command to hang up or a DTR on-to-off transition. If set to 0, the modem does not wait for data in the buffers to clear (gives NO CARRIER response). If the register is set to a value between 0 and 254, the modem will wait the number of seconds, or until all data has been transferred, before hanging up. If set to 255, the modem will not hang up until all data is transferred.

S39 Bit-map of Negotiation state (AT-Command N).

Bit5	Bit4	Bit3	AT-Command
0	0	0	(N0)
0	0	1	(N1)
0	1	0	(N2)
0	1	1	(N3)
1	0	0	(N4)
1	0	1	(N5)

S46 Compression Error Protocol Selection (values are only 136 or 138). Default is 138 (affects v.42/v.42bis mode).

136 = Disable Compression.

138 = Enable Compression.

S48 V.42 Feature Negotiation (values of only 0,7, or 128). This defines whether feature negotiation is to be performed by the modem. The feature negotiation process allows the modem to ascertain the remote system's capabilities. If these capabilities are already known and negotiation is not necessary, this can be skipped.

- 0 = Disable Negotiation, proceed with LAPM.
- 7 = Enable Negotiation (default).
- 128 = Disable Negotiation, fallback per S36 setting.
- S49 Minimum Buffer Size (in bytes). Default is 10 bytes. This specifies the minimum size of the buffer used in error-control or automatic speed buffering mode. Should be less than S50.
- S50 Maximum Buffer Size (in bytes). Default is 200 bytes. This specifies the maximum size of the buffer used in error-control or automatic speed buffering mode. Should be greater than S49.
- S63 Leased-Line carrier power level in dBm (0-15. Default is 0). This specifies a carrier level value that is not to be exceeded.
- S82 Break Signaling Technique (values of only 3,7, and 128). This gives a method of break signal handling for CCITT V.42 communications: in-sequence, expedited, and destructive. Break signals provide a way to get the attention of the remote host. The break type used depends on the application.
 - 3 = Expedited signaling used regardless of sequence in transmitted and received data; current data integrity is maintained.
 - 7 = Destructive signaling used regardless of sequence of transmitted and received data; data in process at that time is destroyed.
 - 128 = In-sequence signaling used as data is transmitted and received; data integrity is maintained ahead of and immediately after the break.
- S86 Connection Failure Result Code (values of 0, or 4-15). This helps to determine the cause of a connection failure. When the modem issues a NO CARRIER result code, a value is written to this S-register. To read this register following the connection failure, issue an AT\$S86? <CR>. The modem will report one of the values below.
 - 0 = Normal hang up; no error occurred.
 - 4 = Physical carrier loss.
 - 5 = Feature negotiation failed to detect presence of another error-control modem at the other end.
 - 6 = Other error-control modem did not respond to feature negotiation message sent by this modem.
 - 7 = Other modem is sych-only; this modem is async-only.
 - 8 = Modems could not find a common framing technique.
 - 9 = Modems could not find a protocol in common.
 - 10 = Incorrect feature negotiation sent by other modem.
 - 11 = Sync information (data of flags) not received from other modem. Modem waited 30 seconds before hanging up.
 - 12 = Normal disconnect initiated by other modem.
 - 13 = Other modem did not respond after many transmissions of the same message. Modem made 10 attempts, then hung up.
 - 14 = Protocol violation occurred.
 - 15 = Compression failure.

Note: Multiple occurrences may contribute to a NO CARRIER message; Register S86 only records the first event that occurred.

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The LineLink firmware DOES support caller ID detection. The modem will display the caller id it receives from the phone co. The only problem is the modem will then crash and require a powercycle to get it back because the LineLink lacks a relay switch on its board.

To try the caller ID yourself do the following: enter "AT#VS4" <CR> after the OK. Set the port speed to 19.2k and enter "AT#CC1" <CR> to display formatted caller id output.

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FAX Commands:

The following fax commands assume the baud rate is set at 19.2k. These commands have not yet been fully tested, but appear to comply to most Class 1 and Class 2 fax-modems. Fax commands are like "AT" commands, and must be preceded by the "AT" string (ie AT+FAA=1).

FAX commands of special interest are:

+FAE=n	(CLASS 1 Only)	Adaptive Answer / Silent Answer Mode Control
0		Disable Both
1		Adaptive Answer ONLY
2		Adaptive Answer & Silent Answer
3		Silent Answer ONLY
+FAA=n	(CLASS 2 Only)	Adaptive Answer / Silent Answer Mode Control
0		Disable Both
1		Adaptive Answer ONLY
2		Adaptive Answer & Silent Answer
3		Silent Answer ONLY

Connection Result Codes:

Numeric Verbose

0	OK	
1	CONNECT	(300 bps)
2	RING	
3	NO CARRIER	
4	ERROR	
5	CONNECT 1200	
6	NO DIALTONE	
7	BUSY	
8	NO ANSWER	
9	CONNECT 0600	
10	CONNECT 2400	
11	CONNECT 4800	
12	CONNECT 9600	
13	CONNECT 7200	
14	CONNECT 12000	
15	CONNECT 14400	
16	CONNECT 19200	
17	CONNECT 38400	
18	CONNECT 57600	
19	CONNECT 115200	(Not Currently Supported on MOST models)
22	CONNECT 1200/75	(Models with v.23 support only)
23	CONNECT 75/1200	(Models with v.23 support only)
24	DELAYED	
32	BLACKLISTED	
33	FAX	
35	DATA	
40	CARRIER 300	

44	CARRIER 1200/75	(Models with v.23 support only)
45	CARRIER 75/1200	(Models with v.23 support only)
46	CARRIER 1200	
47	CARRIER 2400	
48	CARRIER 4800	
49	CARRIER 7200	
50	CARRIER 9600	
51	CARRIER 12000	
52	CARRIER 14400	
66	COMPRESSION: CLASS 5	(MNP 5)
67	COMPRESSION: V.42BIS	(BTLZ)
69	COMPRESSION: NONE	
70	PROTOCOL: NONE	
77	PROTOCOL: LAP-M	(V.42)
80	PROTOCOL: ALT	(MNP)
+FC	+FCERROR	
