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Products and services for electric power protection, monitoring, and control

Recommended Telenetics 14.4 Modem Initialization String For Auto-Answer Installations

AT&F&D0X0&K0E0S24=120S0=n&W0&W1

Description

&F	Restore factory defaults
&D0	Ignore Data Terminal Ready
X0	Enable basic result codes only
&K0	Disable hardware handshaking
E0	Set Echo off
S24=120	Enable Power-Save mode with 120 second time-out
S0=n	Where n=# of rings to wait before answering
&W0	Store active profile to NVRAM profile 0
&W1	Store active profile to NVRAM profile 1

*** Important Programming Instructions

The Telenetics modem RS-232 baud rate locks to the baud rate of the last received AT command. Enter the modem initialization string at the same baud rate the connected RS-232 device will use. Higher RS-232 baud rates allow the modem to utilize data compression and maximize data throughput. The Telenetics modem automatically adjusts the phone link baud rate to the fastest allowed by the remote modem, and transfers data through the local RS-232 port at the fixed baud rate.

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140 Iowa Ave, Suite 201
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Latin America
1362 Haverhill Dr
/ Port Richey, FL USA
34655-4232
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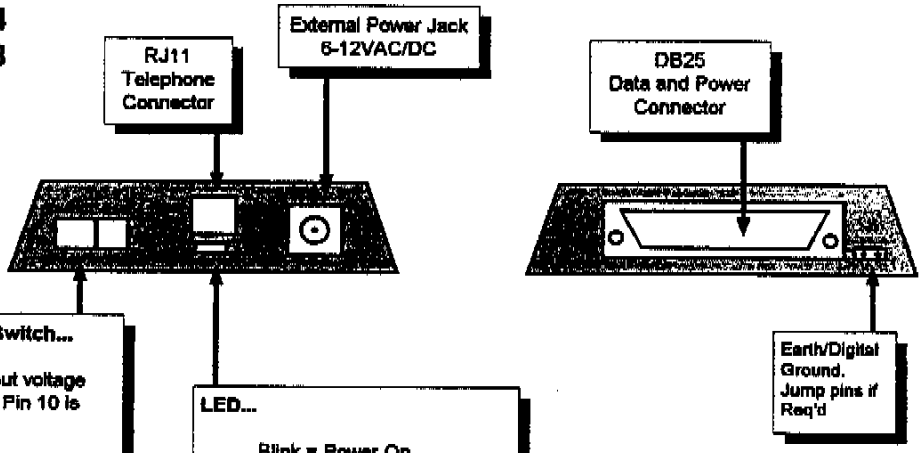
Ports, LED & Connection Diagram
for your
MIU/PowerPort Modem

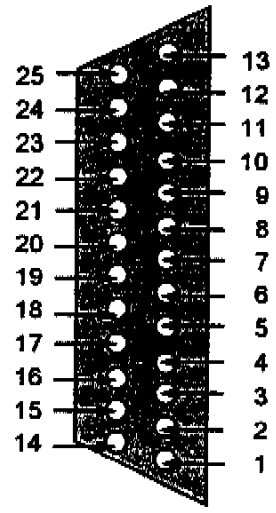
MIU/PowerPort2.4
MIU/PowerPort9.6
MIU/PowerPort14.4
MIU/PowerPort28.8



Voltage Selector Switch...

- Slide **left** if input voltage through DB25 Pin 10 is **5VDC.**
- Slide **right** if input voltage through DB25 Pin 10 is **6-12VDC** *or* if the modem is powered through the **external power jack.**

Note: Modem will not be damaged but will not operate if switch is in left position when powered through the external power jack.



Signal
Chassis Ground
CD - Carrier Detect
RXD - Receive Data
TXD - Transmit Data
DTR
Signal Ground
DSR - Data Set Ready
RTS - Ready to Send
CTS - Clear to Send
RI - Ring Indication
POWER

POWER IN
on
PIN 10

5 VDC
or
6 - 12 VDC

Set Voltage
Selector Switch
as appropriate

drb | miu | powerprt.man | 04/08/96

TELENETICS CORPORATION 26772 Vista Terrace Drive, Lake Forest, California 92630 (714)455-4000 Fax (714)455-4010

Applicable Modems:

MIU14.4
MIU/PowerPort14.4
MIU/PowerPack14.4
Zodiac Modem Banks

The command set for the Telenetics modems is fully compatible with the Hayes AT command set.

The modem is controlled and configured by the AT (attention command). Each command consists of the following elements (with exception of the A/and the +++ command which will be discussed later).

1. The two character sequence AT
2. A command
3. A command parameter
4. A carriage return

A command is not entered until a carriage return <ENTER> is entered. Spaces entered are ignored. For example, to enter the command 'Answer', type ATA and <ENTER>.

Some commands do not have parameters. Any missing parameters in a command are assigned the value zero, which may be a valid parameter for the command. AT <ENTER> without a command serves as a wake up code and an "OK" appears on the screen.

The modem queues commands in a 40-character command line. The command line begins with AT and can have several commands. A separator is not required between the commands.

The command line format is:

AT command (parameter) command (parameter)...(enter)

When a carriage return is received, (which terminates the command line), the commands are performed in the order in which they are sent to the modem. If more than 40 characters are sent to the modem, an error occurs and all commands must be re-entered.

"AT" COMMANDS

Command	Function
	BASIC AT COMMANDS...
A/	Re-execute command.
A	Go off-hook and attempt to answer a call.
B0	Select V.22 connection at 1200 bps.
B1	Select Bell 212A connection at 1200 bps.
C1	Return OK message.
Dn	Dial modifier.
E0	Turn off command echo.
E1	Turn on command echo.
F0	Select auto-detect mode (equivalent to N1).
F1	Select V.21 or Bell 103.
F2	Reserved.
F3	Select V.23 line modulation.
F4	Select V.22 or Bell 212A 1200 bps line speed.
F5	Select V.22 bis line modulation.
F6	Select V.32 bis or V.32 4800 line modulation.
F7	Select V.32 bis 7200 line modulation.
F8	Select V.32 bis or V.32 9600 line modulation.
F9	Select V.32 bis 12000 line modulation.
F10	Select V.32 bis 14400 line modulation.
H0	Initiate a hang-up sequence.
H1	If on-hook, go off-hook and enter command mode.
I0	Report product code.
I1	Report pre-computed checksum.
I2	Report OK.
I3	Report firmware revision, model, and interface type.
I4	Report response programmed by an OEM.
I5	Report the country code parameter.
I6	Report modem date pump model and code revision.
I7	Reports the DAA code (W-class models only).
L0	Set low speaker volume.
L1	Set low speaker volume.
L2	Set medium speaker volume.
L3	Set high speaker volume.
M0	Turn speaker off.
M1	Turn speaker on during handshaking and turn speaker off while receiving carrier.
M2	Turn speaker on during handshaking and while receiving carrier.
M3	Turn speaker off during dialing and receiving carrier and turn speaker on during answering.
N0	Turn off automode detection.
N1	Turn on automode detection.
O0	Go on-line.
O1	Go on-line and initiate a retrain sequence.
P	Force pulse dialing
Q0	Allow result codes to DTE.
Q1	Inhibit result codes to DTE.
Sn	Select S-Register as default.
Sn?	Return the value of S-Register n.
=v	Set default S-Register to value v.
?	Return the value of default S-Register.

Command	Function
	BASIC AT COMMANDS (cont'd)...
T	Force DTMF dialing.
V0	Report short form (terse) result codes.
V1	Report long form (verbose) result codes.
W0	Report DTE speed in EC mode.
W1	Report line speed, EC protocol and DTE speed.
W2	Report DCE speed in EC mode.
X0	Report basic call progress result codes, i.e., OK, CONNECT, RING, NO CARRIER (also, for busy, if enabled, and dial tone not detected), NO ANSWER and ERROR.
X1	Report basic call progress result codes and connections speeds (OK, CONNECT, RING, NO CARRIER (also, for busy, if enabled, and dial tone not detected), NO ANSWER, CONNECT XXXX, and ERROR.
X2	Report basic call progress result codes and connections speeds, i.e., OK, CONNECT, RING, NO CARRIER (also, for busy, if enabled, and dial tone not detected), NO ANSWER, CONNECT XXXX, and ERROR.
X3	Report basic call progress result codes and connection rate, i.e., OK, CONNECT, RING, NO CARRIER, NO ANSWER, CONNECT XXXX, BUSY, and ERROR.
X4	Report all call progress result codes and connection rate, i.e., OK, CONNECT, RING, NO CARRIER, NO ANSWER, CONNECT XXXX, BUSY, NO DIAL TONE and ERROR.
Y0	Disable long space disconnect before on-hook.
Y1	Enable long space disconnect before on-hook.
Z0	Restore stored profile 0 after warm reset.
Z1	Restore stored profile 1 after warm reset.
&C0	Force RLSD active regardless of the carrier state.
&C1	Allow RLSD to follow the carrier state.
&D0	Interpret DTR ON-to-OFF transition per &Qn:
	&Q0, &Q5, &Q6 — The modem ignores DTR.
	&Q1, &Q4 — The modem hangs up.
	&Q2, &Q3 — The modem hangs up.
&D1	Interpret DTR ON-to-OFF transition per &Qn:
	&Q0, &Q1, &Q4,.
	&Q5, &Q6 — Asynchronous escape.
	&Q2, &Q3 — The modem hangs up.
&D2	Interpret DTR ON-to-OFF transition per &Qn:
	&Q0 through &Q6 — The modem hangs up.
&D3	Interpret DTR ON-to-OFF transition per &Qn:.
	&Q0, &Q1, &Q4,.
	&Q5, &Q6 — The modem performs soft reset.
	&Q2, &Q3 — The modem hangs up.
&F0	Restore factory configuration 0.
&F1	Restore factory configuration 1.
&G0	Disable guard tone.
&G1	Disable guard tone.
&G2	Enable 1800 Hz guard tone.
&J0	Set S-Register response only for compatibility.
&J1	Set S-Register response only for compatibility.
&K0	Disable DTE/DCE flow control.
&K3	Enable RTS/CTS DTE/DCE flow control.

Command	Function
	BASIC AT COMMANDS (cont'd)...
&K4	Enable XON/XOFF DTE/DCE flow control.
&K5	Enable transparent XON/XOFF flow control.
&K6	Enable both RTS/CTS and XON/XOFF flow control.
&L0	Select dial up line operation.
&L1	Select leased line operation.
&M0	Select direct asynchronous mode.
&M1	Select sync connect with async off-line command mode. *
&M2	Select sync connect with async off-line command mode and enable DTR dialing of directory zero. *
&M3	Select sync connect with async off-line command mode and enable DTR to act as Talk/Data switch. *
&P0	Set 10 pps pulse dial with 39%/61% make/break.
&P1	Set 10 pps pulse dial with 33%/67% make/break.
&P2	Set 20 pps pulse dial with 39%/61% make/break.
&P3	Set 20 pps pulse dial with 33%/67% make/break.
&Q0	Select direct asynchronous mode.
&Q1	Select sync connect with async off-line command mode. *
&Q2	Select sync connect with async off-line command mode and enable DTR dialing of directory zero. *
&Q3	Select sync connect with async off-line command mode and enable DTR to act as Talk/Data switch. *
&Q4	Select Hayes AutoSync mode.
&Q5	Modem negotiates an error corrected link.
&Q6	Select asynchronous operation in normal mode.
&R0	CTS tracks RTS (async) or acts per V.25 (sync).
&R1	CTS is always active.
&S0	DSR is always active.
&S1	DSR acts per V.25.
&T0	Terminate any test in progress.
&T1	Initiate local analog loopback.
&T2	Returns ERROR result code.
&T3	Initiate local digital loopback.
&T4	Allow remote digital loopback.
&T5	Disallow remote digital loopback request.
&T6	Request an RDL without self-test.
&T7	Request an RDL with self-test.
&T8	Initiate local analog loop with self-test.
&V	Display current configurations.
&W0	Store the active profile in NVRAM profile 0.
&W1	Store the active profile in NVRAM profile 1.
&X0	Select internal timing for the transmit clock.
&X1	Select external timing for the transmit clock.
&X2	Select slave receive timing for the transmit clock.
&Y0	Recall stored profile 0 upon power up.
&Y1	Recall stored profile 1 upon power up.

* Serial interface operation only.

Command	Function
	BASIC AT COMMANDS (cont'd)...
&Zn=x	Store dial string x (to 35) to location n (0 to 3).
%E0	Disable line quality monitor and auto retrain.
%E1	Enable line quality monitor and auto retrain.
%E2	Enable line quality monitor and fallback/fall forward.
%L	Return received line signal level.
%Q	Report the line signal quality.
%TTn	PTT certification test signals.
\Kn	Controls break handling during three states...
	When modem receives a break from the DTE:
	\K0,2,4 — Enter on-line command mode, no break sent to the remote modem.
	\K1 — Clear buffers and send break to remote modem.
	\K3 — Send break to remote modem immediately.
	\K5 — Send break to remote modem in sequence with transmitted data.
	When modem receives \B in on-line command state:
	\K0,1 — Clear buffers and send break to remote modem.
	\K2,3 — Send break to remote modem immediately.
	\K4,5 — Send break to remote modem in sequence with transmitted data.
	When modem receives break from the remote modem:
	\K0,1 — Clear data buffers and send break to DTE.
	\K2,3 — Send a break immediately to DTE.
	\K4,5 — Send a break with received data to the DTE.
\N0	Select normal speed buffered mode.
\N1	Select direct mode.
\N2	Select reliable link mode.
\N3	Select auto reliable mode.
\N4	Force LAPM mode.
\N5	Force MNP mode.
+H0	Disable RPI.
+H1	Enable RPI and set DTE speed to 19200 bps.
+H2	Enable RPI and set DTE speed to 38400 bps.
+H3	Enable RPI and set DTE speed to 57600 bps.
**0	Download to flash memory at last sensed speed.
**1	Download to flash memory at 38.4 kbps.
**2	Download to flash memory at 57.6 kbps.
-SDR=0	Disable Distinctive Ring.
-SDR=1	Enable Distinctive Ring Type 1.
-SDR=2	Enable Distinctive Ring Type 2.
-SDR=3	Enable Distinctive Ring Type 1 and 2.
-SDR=4	Enable Distinctive Ring Type 3.
-SDR=5	Enable Distinctive Ring Type 1 and 3.
-SDR=6	Enable Distinctive Ring Type 2 and 3.
-SDR=7	Enable Distinctive Ring Type 1, 2, and 3.

"AT" COMMANDS

Command	Function
	ECC AT COMMANDS
%C0	Disable data compression.
%C1	Enable MNP 5 data compression.
%C2	Enable V.42 bis data compression.
%C3	Enable both V.42 bis and MNP 5 compression.
\A0	Set maximum block size in MNP to 64.
\A1	Set maximum block size in MNP to 128.
\A2	Set maximum block size in MNP to 192.
\A3	Set maximum block size in MNP to 256.
\Bn	Send break of n x 100 ms.
	MNP 10 AT COMMANDS
)M0	Disable MNP 10 link negotiation power adjustment.
)M1	Enable MNP 10 link negotiation power adjustment.
)M2	Enable cellular mode without power level adjustment during MNP 10 link negotiation.
*H0	Select MNP 10 link negotiation at highest rate.
*H1	Select MNP 10 link negotiation at 1200 bps.
*H2	Select MNP 10 link negotiation at 4800 bps.
-K0	Disable MNP 10 extended services.
-K1	Enable MNP 10 extended services.
-K2	Enable MNP 10 extended services detection only.
-Q0	Disable MNP 10 fallback to 2400 bps (V.22 bis)/1200 bps (V.22).
-Q1	Enable MNP 10 fallback to 2400 bps (V.22 bis)/1200 bps (V.22).
-SEC=0	Disable MNP10-EC.
-SEC=1,[<tx level>]	Enable MNP10-EC and set transmit level <tx level> 0 to 30 (0 dBm to -30 dBm).
@M0	Select initial transmit level of -26 dBm.
@M1	Select initial transmit level of -30 dBm.
@M2	Select initial transmit level of -10 dBm.
@M3 - @M10	Select initial transmit level of -10 dBm.
@M11	Select initial transmit level of -11 dBm.
@M12	Select initial transmit level of -12 dBm.
.	
.	
.	
@M30	Select initial transmit level of -30 dBm.
:E0	Disable the compromise equalizer.
:E1	Enable the compromise equalizer.

Command	Function
	FAX CLASS 1
+FCLASS=n	Service class.
+FAE=n	Data/fax auto answer
+FRH=n	Receive data with HDLC framing.
+FRM=n	Receive data.
+FRS=n	Receive silence.
+FTH=n	Transmit data with HDLC framing.
+FTM=n	Transmit data.
+FTS=n	Stop transmission and wait.
	FAX CLASS 2
+FCLASS=n	Service class.
+FAA=n	Adaptive answer.
+FAXERR	Fax error value.
+FBOR	Phase C data bit order.
+FBUF?	Buffer size (read only).
+FCFR	Indicate confirmation to receive.
+FCLASS=	Service class.
+FCON	Facsimile connection response.
+FCIG	Set the polled station identification.
+FCIG:	Report the polled station identification.
+FCR	Capability to receive.
+FCR=	Capability to receive.
+FCSI:	Report the called station ID.
+FDCC=	DCE capabilities parameters.
+FDCS:	Report current session.
+FDCS=	Current session results.
+FDIS:	Report remote capabilities.
+FDIS=	Current sessions parameters.
+FDR	Begin or continue phase C receive data.
+FDT=	Data transmission.
+FDTC:	Report the polled station capabilities.
+FET:	Post page message response.
+FET=N	Transmit page punctuation.
+FHNG	Call termination with status.
+FK	Session termination.
+FLID=	Local ID string.
+FLPL	Document for polling.
+FMDL?	Identify model.
+FMFR?	Identify manufacturer.
+FPHCTO	Phase C time out.
+FPOLL	Indicates polling request.
+FPTS:	Page transfer status.
+FPTS=	Page transfer status.
+FREV?	Identify revision.
+FSPL	Enable polling
+FTSI:	Report the transmit station ID.

S-REGISTERS

The S-Registers are summarized in the following table, along with their default values. Registers denoted with an asterisk (*) may be stored in one of the two user profiles by entering the $Wn command. One of these profiles may be loaded at any time by using the Zn command. Registers or register fields quoted as "reserved" are reserved for current or future use by the firmware, or are permanently overridden by PTT limitations. For the latter, control of the equivalent functionality is available with ConfigurACE Call Progress and Blacklisting options.

All bit-mapped registers are read-only. The appropriate AT command which controls the relevant bits in the S-Register should be used to change the value.

FACTORY DEFAULTS

The factory default values are stored in ROM and are loaded into the active configuration at power up or by the ATZn command. In addition, the designated default profile is subsequently loaded, and may change some of the factory default values. The designated default profile can be changed by entering the &Yn command where n is one of the two possible user profiles.

The defaults shown are those used by Rockwell in factory profiles zero and one. These may be overwritten by the OEM with ConfigurACE prior to placing the firmware in PROM. Minimum and maximum values may also be imposed by ConfigurACE in response to country PTT requirements.

The factory default values may be loaded at any time by entering the &Fn command.

S-REGISTERS

Register	Function	Range	Units	Saved	Default**
S0	Rings to Auto-Answer	0-255	rings	*	0
S1	Ring Counter	0-255	rings		0
S2	Escape Character	0-255	ASCII	*	43
S3	Carriage Return Character	0-127	ASCII		13
S4	Line Feed Character	0-127	ASCII		10
S5	Backspace Character	0-255	ASCII		8
S6	Wait Time for Dial Tone	2-255	s	*	2
S7	Wait Time for Carrier	1-255	s	*	50
S8	Pause Time for Dial Delay Modifier	0-255	s	*	2
S9	Carrier Detect Response Time	1-255	0.1 s	*	6
S10	Carrier Loss Disconnect Time	1-255	0.1 s	*	14
S11	DTMF Tone Duration	50-255	0.001 s	*	95
S12	Escape Prompt Delay	0-255	0.02 s	*	50
S13	Reserved	-	-		-
S14	General Bit Mapped Options Status	-	-	*	138 (8Ah)
S15	Reserved	-	-		-
S16	Test Mode Bit Mapped Options Status (&T)	-	-		0
S17	Reserved	-	-		-
S18	Test Timer	0-255	s	*	0
S19	AutoSync Options	-	-		0
S20	AutoSync HDLC Address or BSC Sync Character	0-255	-	*	0
S21	V.24/General Bit Mapped Options Status	-	-	*	4 (04h)
S22	Speaker/Results Bit Mapped Options Status	-	-	*	117 (75h)
S23	General Bit Mapped Options Status		-	*	54 (36h)
S24	Sleep Inactivity Timer	0-255	s	*	0
S25	Delay to DTR Off	0-255	s or 0.01 s		5
S26	RTS-to-CTS Delay	0-255	0.01 s		1
S27	General Bit Mapped Options Status	-	-	*	9 (09h)
S28	General Bit-Mapped Options Status	-	-	*	0
S29	Flash Dial Modifier Time	0-255	10 ms		0
S30	Disconnect Inactivity Timer	0-255	10 s		0
S31	General Bit-Mapped Options Status	-	-	*	2
S32	XON Character	0-255	ASCII		17 (11h)
S33	XOFF Character	0-255	ASCII		19 (13h)
S34-S35	Reserved	-	-		-
S36	LAPM Failure Control	-	-	*	7
S37	Line Connection Speed	-	-	*	0
S38	Delay Before Forced Hangup	0-255	s		20
S39	Flow Control Bit Mapped Options Status	-	-	*	3

S-REGISTERS

Register	Function	Range	Units	Saved	Default**
S40	General Bit-Mapped Options Status	-	-	*	105 (69h) (Non-MNP 10 models) 107(6Bh) (MNP 10 models)
S41	General Bit-Mapped Options Status	-	-	*	3
S42-S45	Reserved	-	-		-
S46	Data Compression Control	-	-	*	138
S48	V.42 Negotiation Control	-	-	*	7
S82	LAPM Break Control	-	-		128(40h)
S86	Call Failure Reason Code	0-255	-		-
S91	PSTN Transmit Attenuation Level	0-15	dBm		10 (Country dependent)
S92	Fax Transmit Attenuation Level	0-15	dBm		10 (Country dependent)
S95	Result Code Messages Control	-	-	*	0
S201	Cellular Transmit Level	0-63		*	58

* Register value may be stored in one of two user profiles with the &W command.

** Default values may be modified using ConfigurACE.