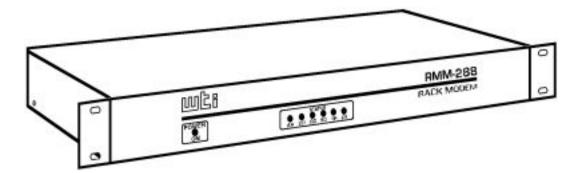
WTI Part No.: 12548 Rev. F

# **RMM**

## Rack Mount Data/Fax Modem



## **User's Guide**



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## **Table of Contents**

- 1. Introduction
- 2. Unit Description
  - o 2.1. Front Panel Indicators
- 3. Operation
- 4. Installation
  - o 4.1. 48 Volt DC Power Option
  - o <u>4.2. Dip Switch Settings</u>
- <u>5. Command Summary</u>

- 6. S-Registers
- 7. Specifications
- 8. Customer Service

#### **List of Figures**

- 1. Front Panel
- 2. The Status Screen (Defaults Shown)
- 3. 48 Volt DC Power Option

### 1. Introduction

The RMM Rack Mount Data/Fax Modem is designed for applications that require a single "Industrial Strength" modem that easily installs in equipment bays. The unit requires only 1 rack space, thus eliminating the hassle of equipment trays and power bricks required for "Plastic Box" modems.

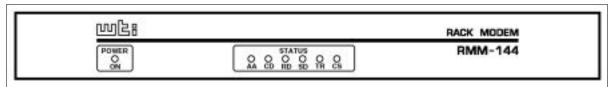


Figure 1: Front Panel

The heart of the RMM is the popular and highly reliable U.S. Robotics® Sportster® 28.8 modem card. The power supply is filtered, fused and surge protected for operation in harsh environments. The RMM is available in 115/230 (switchable) and 48 volt DC versions.

#### **Features**

- Requires Only One 19 Inch Rack Unit
- High Speed ITU-T V.34+
- Filtered and Surge Protected Power Supply
- 115/220 Volt AC and 48 Volts DC Versions

## 2. Unit Description

#### 2.1. Front Panel Indicators

LED Status Meaning

AA (Auto Answer)	On On On On On One only: Modem is answering a call and DIP Switch 5 is UP (Enable Auto Answer), or register S0 is set to 1 (Auto Answer, 1 Ring).		
	Off	No activity, or modem is originating a call.	
	Flash	Incoming call.	
CD (Carrier Detect)	On	A valid data carrier signal has been received from a remote modem, and Dip Switch 6 is UP (Normal Carrier Detect). Modem is ready to transmit data. The CD Indicator will remain ON constantly if Dip Switch 6 is DOWN (Carrier Detect Override).	
RD (Receive Data)	Flash	Modem is sending result codes or passing received data bits.	
SD (Send Data) Flash		Computer is sending data bits.	
TR (Data Terminal Ready)		Modem is receiving DTR signal from computer. Th TR indicator will only function when Dip Switch 1 i UP (Normal DTR). Remains ON constantly if Dip Switch 1 is DOWN (DTR Override).	
CS (Clear to Send) On Hardware flow control is enabled (&H1, &H3), modem is waiting for low CTS signal.		` ' '	

## 3. Operation

The following commands can be used to display current configuration status and various help menus:

View Modem Setup:	ATI4
Basic Help Menu:	AT\$
Dial Command Help Menu:	ATD\$
Configuration Command Help Menu:	AT&\$
List of S-Registers:	ATS\$
Reset Modem to Default Profile 0:	ATZ3

When the View Modem Setup command (ATI4) is invoked, the RMM will display a status screen as shown below.

```
B0
   E1
        F1
            М1
                Q0
                    V1
                         Х1
                             Y0
BAUD=9600
                        WORDLEN=8
             PARITY=N
DIAL=PULSE
            ON HOOK
&A1
     &B0
          &C1
               &D2
                     &G0
                          &H0
                               &IO
                                    &K1
&M4
     \mathbf{N0}
          &P0
               &R1
                     &S0
                          &T5
                               &Y1
S00=001
         S01=000
                  S02=043
                            S03=013
                                     S04=010
                                               S05=008
                                                        S06=002
S07=060
         S08=002
                  S09=006
                            S10=007
                                               S12=050
                                                        S13=000
                                     S11=070
S14=000
        S15=000
                  S16=000
                            S17=000
                                     S18=000
                                               S19=000
                                                        S20=000
S21=010
        S22=017
                  S23=019
                            S24=000
                                     S25=005
                                               S26=000
                                                        S27=000
S28=008 S29=020
                  S30=000
                            S31=000
                                     S32=000
                                               S33=000
                                                        S34=006
S35=000 S36=014
                  S37=000
                            S38=000
                                     S44=015
                                               S51=000
```

Figure 2: The Status Screen (Defaults Shown)

### 4. Installation

#### 4.1. 48 Volt DC Power Option

The 48 Volt DC input is not polarity sensitive. Therefore, you can connect either positive or negative wires from your 48 volt power source to either input and the internal circuitry will adjust for the proper polarity.

**Input Range:** 40 - 60 Volts DC, 200 milliamps maximum.

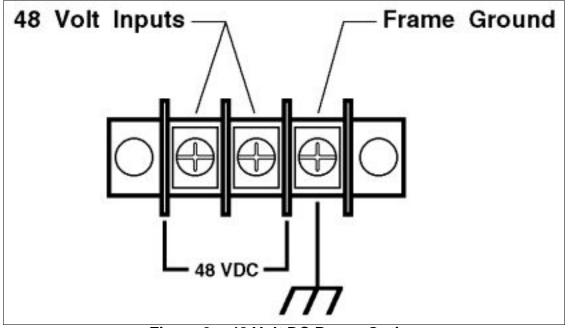


Figure 3: 48 Volt DC Power Option

#### 4.2. Dip Switch Settings

Switch	Factory Setting	Function				
1		Data Terminal Ready (DTR) Override				
X		UP	Normal DTR operations: Computer must provide DTR signal for modem to accept commands. Dropping DTR terminates call.			
		DOWN	DTR Override: Modem ignores DTR			
2		Verbal/	Numeric Result Codes			
	X	UP	Verbal (Word) Results			
		DOWN	Numeric Results			
3		Result (	Code Display			
		UP	Suppress Result Codes			
	X	DOWN	DOWN Display Result Codes			
4		Comma	Command Mode Local Echo Suppression			
	X	UP	Enable Echo			
		DOWN	Suppress Echo			
5		Auto Answer Suppression				
	X	UP Auto Answer On: Modem answers on first ring, of higher if specified in NVRAM				
		DOWN	Auto Answer Off: Disable auto answer			
6		Carrier	Detect (CD) Override			
	X	UP	Normal: Modem sends CD signal when connecting with another modem, drops CD on disconnect			
		DOWN	DOWN Override: CD always ON			
7	,	Power-On and ATZ Reset Software Defaults				
		UP	UP User Defaults: Load Y or Y1 configuration from user-defined nonvolatile memory (NVRAM).			
	X	DOWN	DOWN Factory Defaults; Load &F0 (Generic) template from read-only memory (ROM).			
8		AT Command Set Recognition				

		UP	Dumb Mode: Disables command recognition
	X DOWN		Smart Mode: Enables command recognition

## 5. Command Summary

- Type commands in either upper or lower case. Do not use a combination of upper *and* lower case characters.
- Use the Backspace key to delete errors. Note that the original AT command is stored in the modem buffer, and cannot be deleted.
- Some commands have numeric options. If these commands are invoked without a numeric option, the modem will assume option 0 (zero). For example, when the command ATB is invoked, the modem will assume command ATB0 was intended.
- All commands begin with the AT prefix, and are invoked by pressing [Enter] (Carriage Return). The only exceptions are the A/ command (Repeat previous command) and +++ (Exit to on-line command mode).
- The maximum command length is 40 characters. This does not include the **AT** prefix, Carriage Returns, or spaces.

**Note:** Default values are marked with an asterisk. All defaults are based on the &F1-Hardware Flow Control Template loaded in NVRAM.

Command	Function/Options		
\$	Displays basic command list (On-line Help Menu).		
A	Manual Answer: goes off hook in answer mode. Pressing any key aborts the operation.		
A/	Re-executes the last issued command. Used mainly to redial. Does not require the AT prefix or a Carriage Return.		
Any Key	Aborts off-hook dial/answer operation and hangs up.		
AT	Required prefix for all modem commands. Can also be used to test for the OK result code. Not required for the A/ command or +++ command.		
Bn	U.S./ ITU-T answer sequence		
	* B0 ITU-T answer sequence		
	B1 U.S. answer tone		
Dn	Dials the specified phone number. Can also include the following command options:		
	DL Re-dials last number dialed		

	* D	Pulse (Rotary) Dial Mode
	D	R Originates call using answer (reverse) frequencies.
	DS	Dials phone number string stored in NVRAM at position $n$ ( $n = 0-3$ ). Phone numbers are stored with the &Z $n=s$ command.
	$\Box$ D	T Tone Dial Mode
	D	O, (Comma) Two Second Pause. Comma pause duration can be redefined via the S8 Register.
	D	(Semicolon) Return to Command Mode after dialing.
	D	Dials the letters that follow (in an alphabetic number).
	D	(Exclamation Point) Flashes the switch hook.
	D	Delays for 125 msec before proceeding with dial string.
	D	Wait for second dial tone (X3 or higher). Linked to S6 Register.
	D	@ Dials, waits for 5 seconds of silence after detecting ringbacks, and then continues (X2 or X4).
	D	\$ Displays a list of dial commands.
En	Sets 1	local echo. (Also controlled by DIP Switch 4).
		0 Echo Off
	* E	1 Modem displays keyboard commands.
Fn	Sets	online local echo of transmitted data On/Off.
		Local echo ON. Modem sends a copy of data it sends to the remote system to your screen.
	F	Local echo OFF. Receiving system may send a remote echo of data it receives.
Hn	Cont	rols On/Off Hook
	H	Hangs up (goes on hook)
	Н	Goes off hook
In	Displ	lays the following information:
		Four-digit product code
		1 Results of ROM checksum
		2 Results of RAM checksum
		Product type
		4 Current modem settings

	I5 Nonvolatile memory (NVRAM) settings					
	I6 Link diagnostics					
	I7 Product configuration					
Mn	Operates Speaker					
	M0 Speaker always Off.					
	* M1 Speaker On until connect.					
	M2 Speaker always On.					
	M3 Speaker On after dial, until connect.					
On	Returns online					
	O0 Returns online.					
	* O1 Returns online and retrains.					
P	Sets pulse dial (for phone lines that don't support touch-tone dialing).					
Qn	Displays/suppresses result codes. Also controlled by DIP switch 3.					
	* Q0 Displays result codes.					
	Q1 Quiet mode; no result codes.					
	Q2 Displays result codes only in Originate mode. Cannot be stored in NVRAM.					
Sr. <i>b</i> = <i>n</i>	Sets bit .b of register r to value $n$ (0 = OFF or 1 = On)					
Sr=n	Sets register $r$ to value $n$ . See list of S-Register settings.					
Sr?	Displays contents of S-Register r.					
T	Sets tone dial.					
Vn	Displays verbal/numeric result codes. Also controlled by DIP switch 2					
	V0 Numeric codes.					
	* V1 Verbal codes.					

Command	Function/Options					
Xn	Sets result code displayed. The default is X4.					
			Xn	Setti	ing	
	Result Codes	X0	<b>X1</b>	X2	<b>X3</b>	<b>X4</b>
	0/OK	X	X	X	X	X

1/CONNECT	X	X	X	X	X
2/RING	X	X	X	X	X
3/NO CARRIER	X	X	X	X	X
4/ERROR	X	X	X	X	X
5/CONNECT 1200		X	X	X	X
6/NO DIAL TONE			X		X
7/BUSY				X	X
8/NO ANSWER*				X	X
10/CONNECT 2400		X	X	X	X
13/CONNECT 9600		X	X	X	X
18/CONNECT 4800		X	X	X	X
20/CONNECT 7200		X	X	X	X
21/CONNECT 12000		X	X	X	X
25/CONNECT 14400		X	X	X	X
43/CONNECT 16800		X	X	X	X
85/CONNECT 19200		X	X	X	X
91/CONNECT 21600		X	X	X	X
99/CONNECT 24000		X	X	X	X
103/CONNECT 26400		X	X	X	X
107/CONNECT 28800		X	X	X	X
151/CONNECT 31200		X	X	X	X
155/CONNECT 33600		X	X	X	X
Functions					
Adaptive Dialing			X	X	X
Wait for 2nd Dial Tone (W)			X		X
Wait for Answer (@)				X	X
Fast Dial			X		X
* Requires @ in dial string; replaces NO CARRIER					

Comman	d Func	tion/Options	
Yn	Select	ts Power-on/Reset default configuration.	
	* Y	Default is profile 0 setting in NVRAM.	
	Y	Default is profile 1 setting in NVRAM.	
Zn	Reset	s modem based on current DIP Switch settings.	
		Resets modem to NVRAM profile selected by the Y command.	
		Resets modem to NVRAM profile 0.	
		Resets modem to NVRAM profile 1.	
		Resets modem to factory default profile 0 (&F0).	
		Resets modem to factory default profile 1 (&F1).	
		Resets modem to factory default profile 2 (&F2).	
&\$	Displa	ays a list of ampersand (&) commands.	
&An	Enables/disables additional result code subsets (see $Xn$ ).		
	8	A0 ARQ result codes disabled.	
	8	A1 ARQ result codes enabled.	
	8	A2 V.32 modulation indicator added.	
	* &	Protocol indicators added - LAPM/MNP/NONE (error control) and V42BIS/MNP5 (data compression).	
&Bn	Mana	ges modem's serial port rate.	
	[&]	Variable, follows connection rate.	
	* &	B1 Fixed Serial port rate.	
	[&]	Fixed in ARQ mode, variable in non-ARQ mode.	
&Cn	Contr	rols Carrier Detect (CD) signal.	
	80	CO CD override	
	* &	C1 Normal CD operations	
&Dn	Contr	ols Data Terminal Ready (DTR) operations. Also controlled by DIP h 1.	
	<b>&amp;</b> l	D0 DTR override	
	[ &l	D1 DTR toggle causes online Command Mode.	

	* &D2 Normal DTR operations		
	&D3 Resets on receipt of DTR		
&Fn	Loads a read-only (non-programmable) factory configuration.		
	&F0 Generic Template		
	* &F1 Hardware flow control template		
	&F2 Software flow control template		
&Gn	Sets Guard Tone		
	* &GO No guard tone (U.S.A. and Canada).		
	&G1 550 Hz guard tone (some European countries); requires B0 setting.		
	&G2 1800 Hz guard tone (U.K.); requires B0 setting.		
&Hn	Sets Transmit Data (TD) flow control.		
	&H0 Flow control disabled.		
	* &H1 Hardware flow control, Clear to Send (CTS).		
	&H2 Software flow control, XON/XOFF.		
	&H3 Hardware and Software flow control.		
&In	Sets Receive Data (RD) software flow control (see also &Rn).		
	* &IO Software flow control disabled.		
	&I1 XON/XOFF signals to your modem and remote system.		
	&I2 XON/XOFF signals to your modem only.		
&Kn	Enables/disables data compression.		
	&K0 Data compression disabled		
	* &K1 Auto enable/disable		
	&K2 Data compression enabled		
	&K3 MNP5 compression disabled		
&Mn	Sets Error Control (ARQ for connection at 1200 bps and higher.		
	&M0 Normal mode, error control disabled		
	&M1 Reserved		
	&M2 Reserved		
	&M3 Reserved		
	* &M4 Normal/ARQ		

		&M5	ARQ mode		
&Nn	Sets connect speed. If connection cannot be established at this speed, the modem will hang up. Sets ceiling connect speed if &Un is greater than 0 (See &Un).				
	*	&N0	Variable Rate		
		&N1	300 bps		
		&N2	1200 bps		
		&N3	2400 bps		
		&N4	4800 bps		
		&N5	7200 bps		
		&N6	9600 bps		
		&N7	12,000 bps		
		&N8	14,400 bps		
		&N9	16,800 bps		
		&N10	19,200 bps		
		&N11	24,000 bps		
		&N12	24,000 bps		
		&N13	26,400 bps		
		&N14	28,800 bps		
		&N15	31,200 bps		
		&N16	33,600 bps		
&Pn	Se	ets pulse	e (rotary) dial make/break ratio.		
	*	&P0	U.S.A./Canada ratio; 39%/61%		
		&P1	U.K. ratio; 33%/67%		
&Rn	- 11	ets Rece so &In)	rive Data (RD) hardware flow control, Request to Send (RTS) (See		
		&R0	Reserved		
	*	&R1	Modem ignores RTS		
		&R2	Received Data to computer		
&Sn	Controls Data Set Ready (DSR) operations.				
	*	&S0	DSR override; always ON		
	,	,			

		&S1	Modem controls DSR			
&Tn	Be	gins tes	s test modes			
		&T0	Ends test in progress			
		&T1	Analog Loopback			
		&T2	Reserved			
		&T3	Local Digital Loopback			
		&T4	Enables Remote Digital Loopback			
	*	&T5	Prohibits Remote Digital Loopback			
		&T6	Initiates Remote Digital Loopback			
		&T7	Remote Digital with self test and error detector			
		&T8	Analog Loopback with self test and error detector			
&Un	- 11		connect speed when &Un is greater than $0$ (zero). &N $n$ is the nnect speed (See also &N $n$ ).			
	*	&U0	Disabled			
		&U1	300 bps			
	&U2 &U3		1200 bps			
			2400 bps			
		&U4	4800 bps			
		&U5	7200 bps			
		&U6	9600 bps			
		&U7	12,000 bps			
		&U8	14,400 bps			
		&U9	16,800 bps			
		&U10	19,200 bps			
		&U11	21,600 bps			
		&U12	24,000 bps			
		&U13	26,400 bps			
		&U14	28,800 bps			
		&U15	31,200 bps			

	&W0 Modifies the NVRAM 0 template (Y0).					
	&W1 Modifies the NVRAM 1 template (Y1).					
&Yn	Sets break handling					
	&Y0 Destructive, but doesn't send break.					
	* &Y1 Destructive, expedited					
	&Y2 Non-destructive, expedited					
&Zn=s	Writes phone number s to NVRAM at position $n$ ( $n = 0 - 3$ ).					
&Zn=L	Writes the last executed dial string to NVRAM at position $n$ ( $n = 0 - 3$ ).					
&Zn?	Displays the phone number stored at position $n$ ( $n = 0 - 3$ ).					
&ZL?	Displays the last executed dial string.					
+++	Escapes to online Command Mode.					

## 6. S-Registers

**Note:** To change a setting, use the ATSr=n command, where r is the register and n is a decimal value from zero to 255 (unless otherwise indicated).

Register	Default	Function
S0	1	Sets the number of rings on which to answer in Auto Answer mode. When set to 0 (zero), Auto Answer is disabled. Auto Answer is also controlled by DIP Switch 5.
S1	0	Counts and stores the number of rings from an incoming call. Register S0 must be greater than 0.
S2	43	Stores the ASCII decimal code for the escape code character. The default character is +. Any value between 128 and 255 will disable the escape code.
S3	13	Stores the ASCII code for the Carriage Return character. Valid range is 0 to 127.
S4	10	Stores the ASCII decimal code for the Line Feed character. Valid range is 0 to 127
S5	8	Stores the ASCII decimal code for the Backspace character. Any value between 128 and 255 will disable the Backspace key's delete function.

_					
S6	2	11	K2 or X4, S6 de	nds the modem will wait before dialing. If $Xn$ termines the timeout length when no dial tone	
S7	60	Sets the number of seconds the modem will wait for a carrier. Often used to select a longer duration when the modem is originating an international connection.			
S8	2	Sets the c	luration (in seco	onds) for the Dial command pause option (,).	
S9	6	Determines the length of time (in tenths of a second) the remote modem's carrier signal must continue in order to be recognized by the RMM.			
S10	7	Sets the length of time (in tenths of a second) the modem will wait after loss of carrier before hanging up. Allows the modem to distinguish between a line hit (or other momentary break) from a true disconnect (hang up) by the remote modem.  Although it is not recommended to connect to a line with call waiting, the S10 register can be adjusted upward to prevent the modem from misinterpreting the second call signal as a remote disconnect. If call waiting is a problem, it is preferable to contact your phone company to determine the command to temporarily disable call waiting (typically *70W). For example: ATDT *70W phone number.  Note: If S10 = 255, the modem will not hang up when the carrier is lost. Dropping DTR hangs up the modem.			
S11	70	Sets the duration and spacing (in milliseconds) for tone dialing.			
S12	50	Sets the duration (in fiftieths of a second) of the guard time for the escape code sequence (+++).			
S13	0	Bit-mapped register. Select the bit(s) you want ON and set S13 to the total of the values in the Value Column. For example, ATS13=17 enables bit 0 (value is 1) and bit 4 (value is 16).			
		Bit	Value	Result	
		0	1	Reset when DTR drops.	
		1	2	Reset non-MNP transmit buffer from 1.5K to 128 bytes*	
		2	4	Set Backspace key to delete.	
		3	8	On DTR signal, autodial the number stored in NVRAM at position 0.	
		4	16	At Power-On/Reset, autodial the number stored in NVRAM at position 0.	

		5	32	Reserved		
		6	64	Reserved		
		7	128	Disconnect on escape code.		
			* The 1.5K-byte non-ARQ buffer allows data transfer with Xmodem			
		and Ymodem type file transfer protocols without using flow control.				
		The 128 Byte option allows remote users with slower modems to prevent transmitted data from scrolling off screen. When a remote user sends an XOFF (Ctrl-S) to your computer and transmission stops, data in transit from your modem's buffer does not exceed the size of the remote user's screen. This is also helpful when a remote modem/printer application is losing characters.				
S14	0	Reserved	1			
S15	0	Bit-mapped register setup. To set the register, see instructions for S13.				
		Bit	Value	Result		
		0	1	Disable ARQ/MNP for V.22.		
		1	2	Disable ARQ/MNP for .22 bis.		
		2	4	Disable ARQ/MNP for V.32 / V.32bis / V.32terbo.		
		3	8	Disable MNP handshake.		
		4	16	Disable MNP level 4.		
		5	32	Disable MNP level 3.		
		6	64	MNP incompatibility.		
		7	128	Disable V.42 operation.		
S16	S16 Dit-mapped register setup. To set the register, see instructions for S1					
	,	Bit	Value	Result		
		0		Reserved		
		1	2	Touch tone dialing test.		
		2 - 7		Reserved		
S17	0	Reserved	1			

S18	0	Test timer for &Tn loopback testing. Sets the length of time (in seconds) the modem will wait before automatically timing out and terminating the test. When set to 0, the timer is disabled. Valid range is 1 - 255.			
S19	0	Sets the duration (in minutes) for the Inactivity Timer. The timer activates when there is no data activity on the phone line. At time out, the modem hangs up. $S19 = 0$ disables the timer.			
S20	0	Reserved			
S21	10	Sets the length (in 10 millisecond units) of Breaks sent from the modem to the computer. Applies to MNP or V.42 mode only.			
S22	17	Stores the ASCII decimal code for the XON character.			
S23	19	Stores the ASCII decimal code for the XOFF character.			
S24	0	Reserved			
S25	5	Sets the duration (in hundredths of a second) that DTR must be dropped in order to be interpreted as a DTR loss. Allows the modem to differentiate between a random glitch and a true DTR loss.  In most cases, the default value can be used. The S25 register is useful for setting compatibility with older systems running under older operating software.			
S26	0	Reserved			
S27	0	Bit mapped register setup. To set the register, see the instructions for \$13.			
		D' VI D L			

Bit	Value	Result
0	1	Enables ITU-T V.21 modulation at 300 bps for overseas calls; in V.21 mode, the modem answers both overseas and domestic (U.S. And Canada) calls, but only originates V.21 calls (Default Bell 103).
1	2	Enables un-encoded (non-trellis coded) modulation in V.32 mode.
2	4	Disables V.32 modulation.
3	8	Disables 2100 Hz answer tone to allow two V.42 modems to connect more quickly.
4	16	Enables V.23 fallback mode.
5	32	Disables V.32bis mode.
6	64	Reserved

		,		,	
		7	128	Software compatibility code. This setting disables the codes and displays the 9600 code instead. The actual rate of the call can be viewed on the ATI6 screen. Used for unusual software incompatibilities. Some software may not accept 7200, 12000 and 14400 bps or greater result codes.	
S28	0	Eliminate	es the V.32 ansv	ver tones for a faster connection.	
	8	Default i	tem, all times ar	re in tenths of a second.	
	255	Disables	all connections	except V.32 at 9600 bps.	
S29	20	Sets the o	duration (in tent	hs of a second) of the V.21 answer mode.	
S30	0	Reserved	1		
S31	128	Reserved	1		
S32	Bit-mapped register setup for 28.8 modems only. To set the register, see the instructions for S13.				
		Bit	Value	Result	
		0	1	Enable V.8 Call Indicate.	
		1	2	Enable V.8 mode.	
		3	8	Disable V.34 modulation.	
		4	16	Disable 33.6 Kbps support.	
		5 - 7	32 - 128	Reserved	
S33	0	1	ped register setur	p for 28.8 modems only. To set the register, 13.	
		Bit	Value	Result	
		0	1	Disable 2400 symbol rate.	
		1	2	Disable 2743 symbol rate.	
		2	4	Disable 2800 symbol rate.	
		3	8	Disable 3000 symbol rate.	
		4	16	Disable 3200 symbol rate.	
		5	32	Disable 3429 rate.	
		6	64	Reserved	
		7	128	Disable shaping.	

S34	0	Bit-mapped register setup for 28.8 modems only. To set registers, see instructions for S13.		
	,	Bit	Value	Result
		0	1	Disable 8S-2D trellis encoding.
			2	Disable 16S-4D trellis encoding.
			4	Disable 32S-2D trellis encoding.
		3	8	Disable 64S-4D trellis encoding.
		4	16	Disable nonlinear coding.
		5	32	Disable TX level deviation.
		6	64	Disable Pre-emphasis.
		7	128	Disable Pre-coding.
S35 - S37		Reserved		
S38	0	Sets an optional delay (in seconds) before a forced hang-up and clearing of the Transmit buffer when DTR drops during an ARQ call. This allows time for a remote modem to acknowledge receipt of all transmitted data before it is disconnected.  When set at the default (0), the modem immediately hangs up when DTR drops.  This option applies only to connections terminated by dropping DTR. If the modem receives the ATH command, it ignores S38 and immediately hangs up.		

## 7. Specifications

#### **Compatibility:**

ITU-T V.34+: 33.6 Kbps ITU-T V.34: 28.8 Kbps ITU-T V.32 bis: 14.4 Kbps ITU-T V.32: 9600 bps ITU-T V.22 bis: 2400 bps Bell: 212 / V.22, 103 / V.21

**Supports:** V.42 / MNP 2-4 Error Control V.42 bis / MNP 5 Data Compression.

**Command Set:** Industry Standard "AT" Commands

**Status/Help:** Status display shows current settings and stored numbers. A Help display summarizes the command set and S-Register functions.

FCC Reg. No.: CJEUSA-24375-M5-E

**Ringer Equivalence:** 0.9 B

**Compliance:** FCC Part 68 / Part 15 Class B

**Temperature:** 0 degrees to 50 degrees C (operating)

Power:

**AC Model:** 115/230 VAC, 50/60 Hz, 10 Watts (switchable)

**DC Model:** 40 - 60 VDC, 10 Watts Maximum

**Size:** 1.75" x 19.00" x 4.5" (H x W x D)

Weight: 4 pounds shipping weight

### 8. Customer Service

Customer Service hours are from 8:00 AM to 5:00 PM, PST, Monday through Friday. When calling, please be prepared to give the name and make of the unit, its serial number and a description of its symptoms. If the unit should need to be returned for factory repair it must be accompanied by a Return Authorization number from Customer Service.

WTI Customer Service 5 Sterling Irvine, California 92618

U.S. and Canada: 1-800-854-7226

Phone: 949-586-9950
Fax: 949-583-9514
<a href="http://www.wti.com">http://www.wti.com</a>
Email: service@wti.com

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