

VOICE FAXMODEM

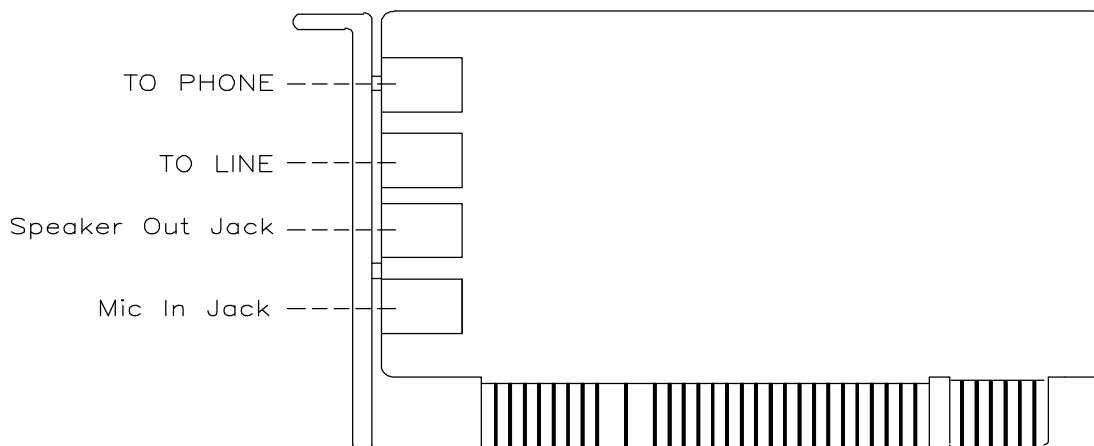
56V14HCF/2

USER'S MANUAL

Quick Reference Guide to Voice and Fax

For information on the use of the voice or fax functions, please refer to the following schematics.

Internal model



Mic In Jack

The Mic In Jack allows you to connect a microphone for voice input

Speaker Output Jack

The speaker out jack allows you to connect a speaker for audio output from the card's build-in power amplifier.

After the hardware installation, the following features of the provided applicatin software are available:

- (1) Send and receive fax, just like a fax machine.
- (2) Answer your phone, just like an answering machine.
- (3) Send and receive data

For any information regarding the installation or use of the included software, Please refer to the manual included with the bundled software.

FCC Connection Information

FCC Part 68

This equipment complies with Part 68 of the FCC Rules. On the bottom of this equipment is a label that contains the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. You must provide this information to the telephone company upon request.

The REN is useful to determine the quantity of devices you may connect to the telephone line and still have all of those devices ring when your number is called. In most, but not all areas, the sum of the REN's of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.

If the modem causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advance notice isn't practical, you will be notified as soon as possible. You will be advised of your right to file a complaint with the FCC.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the proper operation of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

If you experience trouble with this modem, please contact your dealer for repair/warranty information. The telephone company may ask you to disconnect this equipment from the network until the problem has been corrected or you are sure that the equipment is not malfunctioning.

This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.

Installation

This device is equipped with a USOC RJ11C connector.

FCC Part 15

The modem generates and uses radio frequency energy. If it is not installed and used properly in strict accordance with the user's manual, it may cause interference with radio and television reception. The modem has been tested and found to comply with the limits for Class B computing devices in accordance with the specifications in Subpart B, Part 15 of the FCC regulations. These specifications are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. FCC regulations require that shielded interface cables be used with your modem.

If interference does occur, we suggest the following measures be taken to rectify the problem:

- 1) Move the receiving antenna.
- 2) Move the modem away from the radio or TV.
- 3) Plug the modem into a different electrical outlet.
- 4) Discuss the problem with a qualified radio/TV technician.

CAUTION : Changes or modifications not expressly approved by the party responsible for compliance to the FCC Rules could void the user's authority to operate this equipment.

Cable connections :

All equipment connected to this modem must use shielded cable as the interconnection means.

Notes :

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
 - (2) This device must accept any interference received including interference that may cause undesired operation.
-

TABLE OF CONTENTS

Chapter 1	Installation
Chapter 2	Command Line Syntax and Response Codes
Chapter 3	Commands
Chapter 4	Modem's S-registers
Appendix A	Modular Telephone Diagrams
Appendix B	ASCII Character Table
Appendix C	Jumper J12 Setting For Different PCI Version

Chapter 1 Installation

This manual describes installation of the PCI modem. Set up your modem according to hardware configuration you get.

Unpacking the modem

The complete package should include:

- 1) The modem card
- 2) The user's manual
- 3) The modular telephone cable
- 4) Communication software (optional)

Installing the Modem Card

Installing of the modem card consists of the following steps:

- 1) Plugging the modem card into the computer.
- 2) Connecting the modem card to a reliable telephone line.

Plugging the modem card into the computer

After Plugging the modem card into the computer, use the following procedures to install the modem into the computer.

- 1) Make sure that the computer is turned off and unplugged from the power source.
- 2) Remove the cover of your computer to explore the expansion slots.
(See the computer's installation guide for instructions).

-
-
- 3) Choose an expansion slot which is not being used. Use an appropriate screwdriver to unscrew the screw which holds the metal bracket of the slot. Save the screw as you will need it later.
 - 4) Remove the metal bracket and set it aside.
 - 5) Hold the modem card by its top edges and align it with the expansion slot. Make sure that the gold edge connectors (golden fingers) are exactly aligned with the expansion slot.

CAUTION: Be careful to handle the modem card by its edges only. The precision components on the card can be easily damaged by static electricity or physical abuse.

- 6) Carefully and gently press the card down into the slot. The top of the metal bracket on the modem should rest exactly on the rear panel bracket of the computer. If this is not the case, remove the modem card and try again.
- 7) Secure the modem card with the screw you have previously removed.

INSTALLATION THE DRIVER

A. System Requirements

- Windows 95, Windows 95 OSR2, Windows 98, Windows NT 4.0, Windows NT 5.0 operating system.
- Microsoft's PC 97 Design Initiative compliant.
- Unimodem/V compliant.

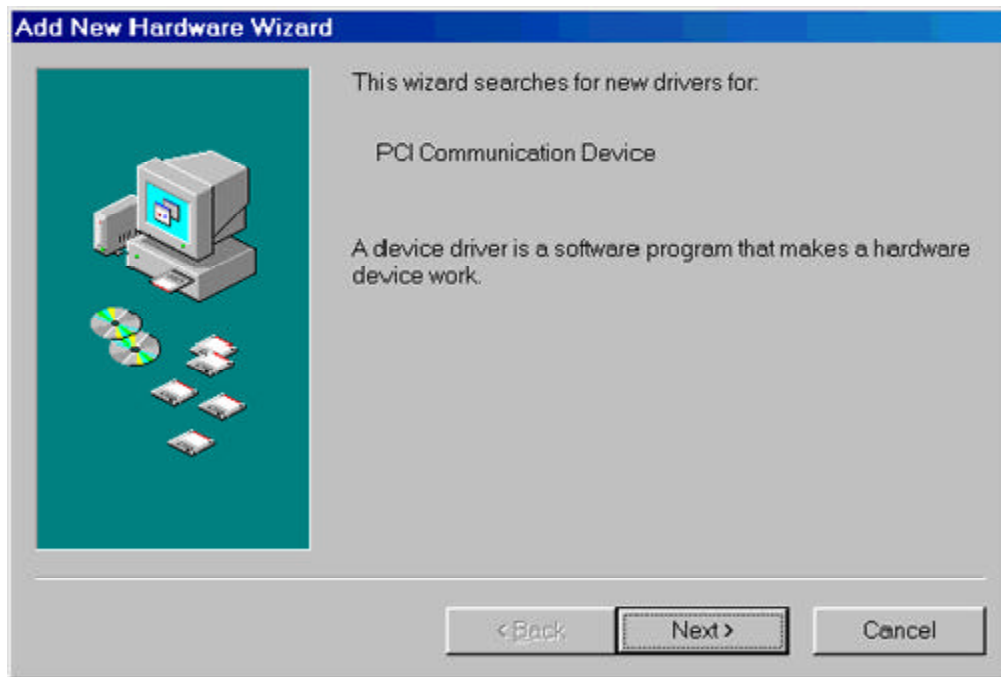
B. Windows 95/98 Modem Installation


Perform the following procedure to install your modem to your IBM PC or compatible computer. Different Versions of Windows 95 and Windows 98 may have slightly different install wizards. The following is the Windows 98 installation.

<Step01> First turn off power to PC and remove PC cover, then insert the modem card to an available PCI slot, close PC cover and turn on power.


<Step02> When Windows 98 loads, it will detect the new hardware and ask for drivers.

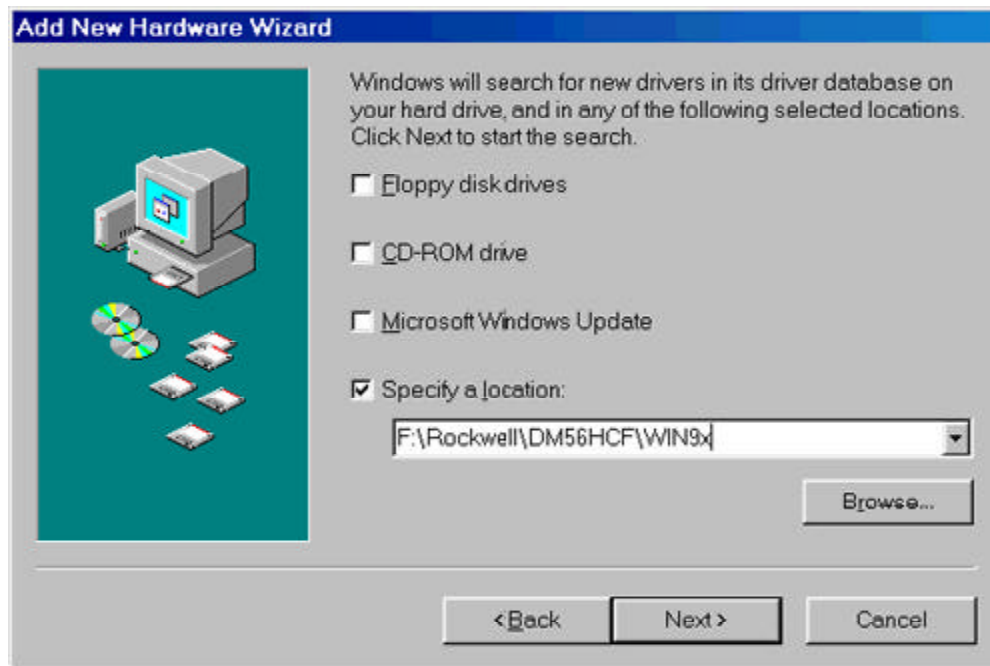
<Step03> Click 



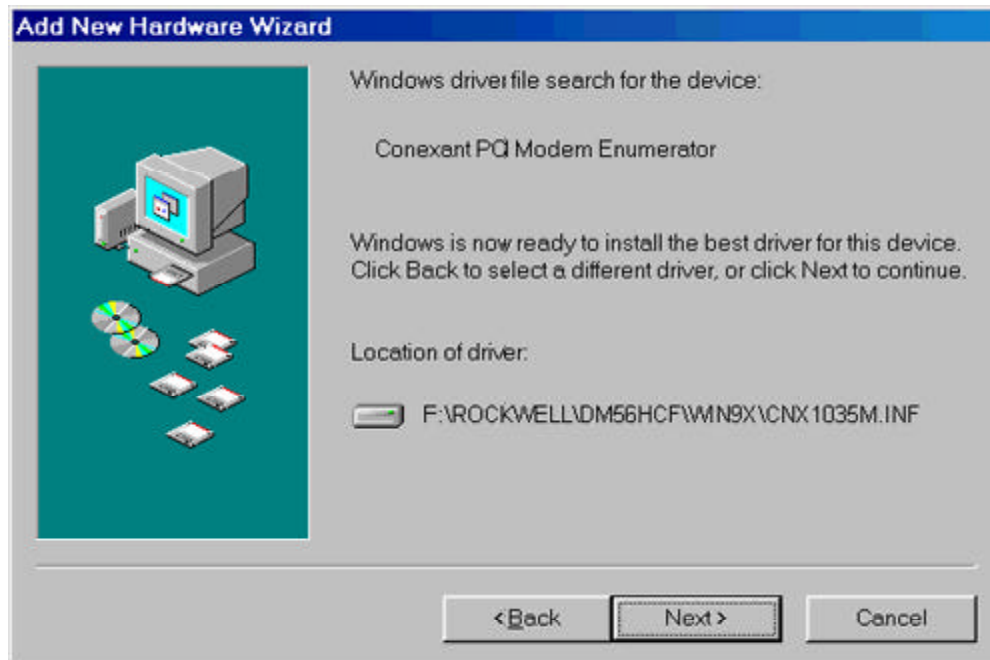
<Step04> Select "Search for the best driver for your device." and click .




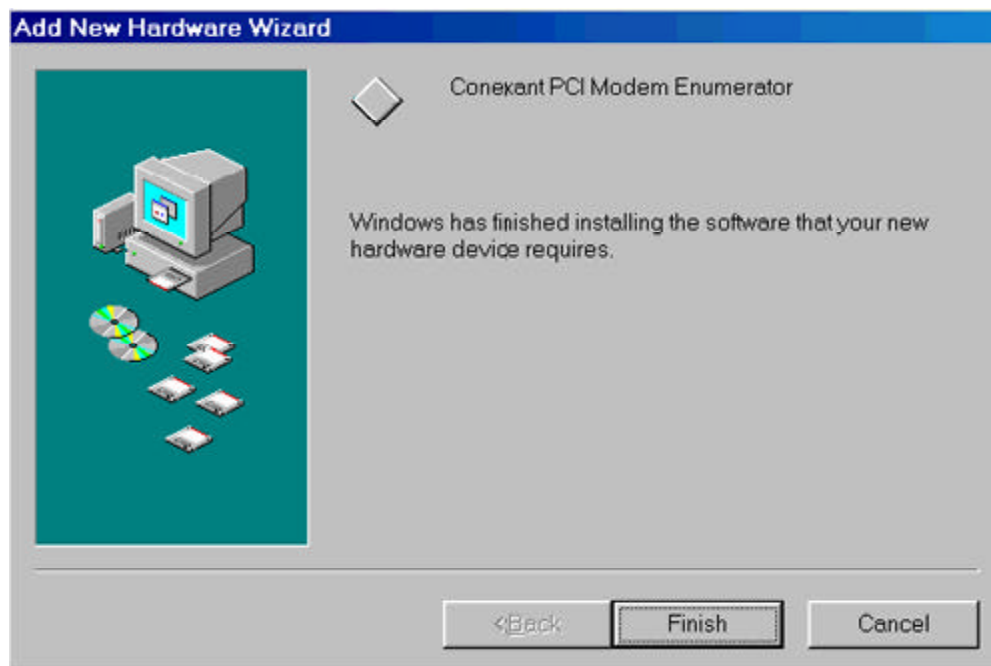
<Step05> Insert the CD that contains the modem installation software.
Select "Specify a location", browse and point the path to
CD-ROM: \Rockwell\DM56HCF\Win9X or CD-ROM: \56HCF or
CD-ROM: \, then Click 




<Step06> Click 

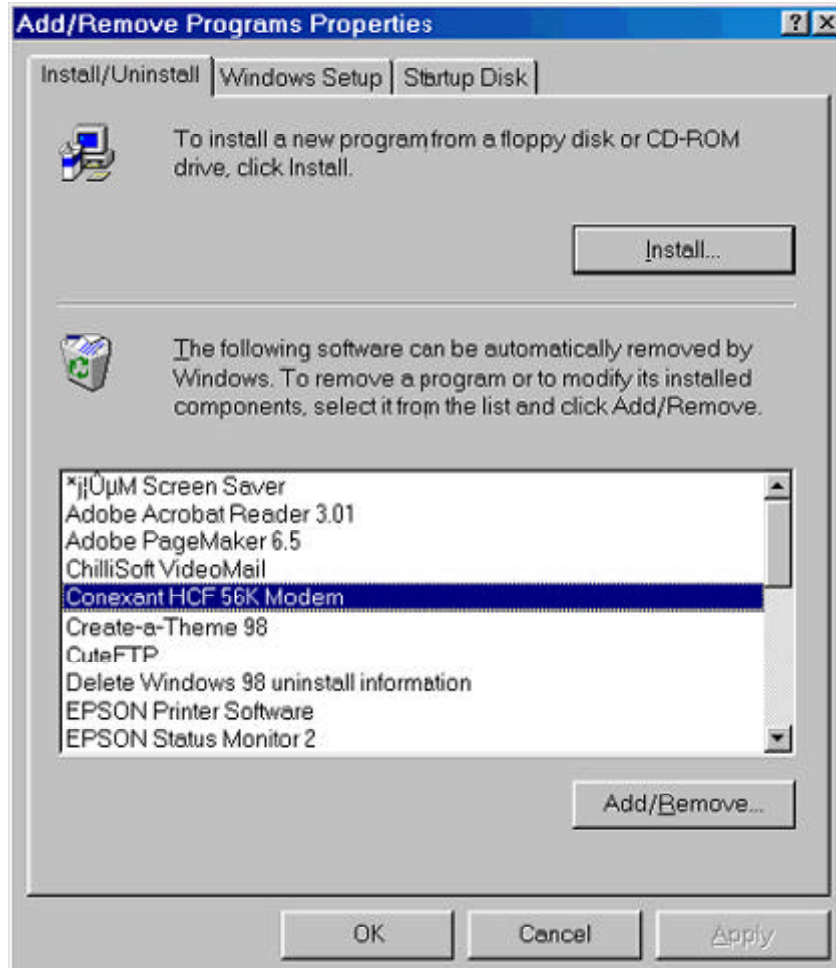


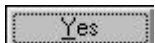
<Step07> Click , and the modem installation will be finished.

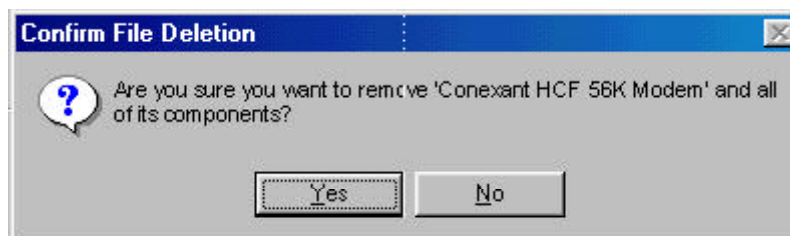


C. Un-installing the 56V14HCF Modem

<Step01> Open the Control Panel from My computer. Double Click "Add/Remove Programs", Select "Conexant HCF 56K Modem" or "Rockwell HCF 56K Modem" from the list, then Click 



<Step02> Click , then shutdown the computer. Remove the modem hardware from the computer.



Connecting the modem card to a reliable telephone line

Be sure that the telephone system and line condition are in good working order before connecting the modem. Test it by lifting the telephone handset and listening for a clear dial tone.

Next, try placing a couple of calls. If the calls cannot go through well or are not loud and clear, you may have a poor quality telephone line, in which case you had better find a good telephone line for your modem. Always remember that a high quality telephone line contributes heavily to reliable data transmission. Also, you will need to know whether the telephone line uses a tone or pulse dialing system. Check with the local telephone company for this information.

There are two phone jacks on the side of your modem with the metal bracket. Two lower jack, which is marked "TO LINE", should be connected to the wall outlet of a telephone line. Use the modular telephone cable included with your modem for this. If modular cable does not fit, consult your dealer to obtain a correct one.

You may wish to connect a telephone set to the upper jack marked "TO PHONE" so that you can use the phone on the same line, or if you prefer, you may leave the jack unconnected. It is recommended that you connect the modem to direct outside telephone line.

Communication Software Configuration

Most popular communications software packages will work well with your modem.

Turn on your computer first, then the modem. Boot the communication software and check the following parameters:

- 1) The serial port number.
- 2) The communication speed and protocol.
- 3) Data format: data bit, stop bit, parity.

Set the serial port number to COM1, COM2, COM3, or COM4 according to which your modem is connected. Note that one port should be assigned to only one device, otherwise, the two devices will conflict with each other.

Chapter 2 Command Line Syntax and Response Code

The modem responds to commands from the DTE and to activity on the line by signalling to the DTE in the form of result codes. The result codes that the modem can send are described below.

Two forms of each result code are available: long-form, an English-like “verbose” response, and short-form, a data-like numeric response (included in parentheses following the long-form). The long-form code is preceded and terminated by the sequence <CR><LF>. The short-form is terminated by <CR>, only with no preceding sequence.

If result messages are suppressed, nothing is returned to the DTE.

00 -	OK
01 -	CONNECT
02 -	RING
03 -	NO CARRIER
04 -	ERROR
05 -	CONNECT 1200
06 -	NO DIALTONE
07 -	BUSY
08 -	NO ANSWER
09 -	CONNECT 600
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
22 -	CONNECT 75TX/1200RX
23 -	CONNECT 1200TX/75RX

40	-	CARRIER 300
44	-	CARRIER 1200/75
45	-	CARRIER 75/1200
46	-	CARRIER 1200
47	-	CARRIER 2400
48	-	CARRIER 4800
49	-	CARRIER 7200
50	-	CARRIER 9600
51	-	CARRIER 12000
52	-	CARRIER 14400
53	-	CARRIER 16800
54	-	CARRIER 19200
55	-	CARRIER 21600
56	-	CARRIER 24000
57	-	CARRIER 26400
58	-	CARRIER 28800
59	-	CARRIER 31200
60	-	CARRIER 33600
66	-	COMPRESSION: CLASS 5
67	-	COMPRESSION: V.42 bis
69	-	COMPRESSION: NONE
70	-	PROTOCOL: NONE
77	-	PROTOCOL: LAP-M
80	-	PROTOCOL: ALT
*150	-	CARRIER 32000
*151	-	CARRIER 34000
*152	-	CARRIER 36000
*153	-	CARRIER 38000
*154	-	CARRIER 40000
*155	-	CARRIER 42000
*156	-	CARRIER 44000
*157	-	CARRIER 46000
*158	-	CARRIER 48000
*159	-	CARRIER 50000
*160	-	CARRIER 52000
*161	-	CARRIER 54000
*162	-	CARRIER 56000

Chapter 3 Commands

The modem will respond to the commands detailed below. Parameters applicable to each command are listed with the command description. The defaults shown for each configuration command are those used in the factory profile 0.

Standard “AT” Commands

A/	Re-execute command.
A	Go off-hook and attempt to answer a call.
E0	Turn off command echo.
E1	Turn on command echo.
H0	Initiate a hang-up sequence.
H1	If on-hook, go off-hook and enter command mode.
I 0	Report product code.
I 1	Compute and report checksum.
I 2	Compute checksum and report result of comparison to programmed checksum.
I 3	Report firmware revision, model, and interface type.
I 4	Report response programmed by an OEM.
I 5	Report the country code parameter.
I 6	Report modem data pump model and code revision.
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.
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 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.
Z	Restore stored profile 0 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 thru &Q6 The modem hangs up.
&F0	Restore factory configuration 0.
&G0	Disable guard tone.
&G1	Disable guard tone.
&G2	Enable 1800 Hz guard tone.
&K0	Disable DTE/DCE flow control.
&K1	Enable RTS/CTS DTE/DCE flow control.
&K2	Enable XON/XOFF DTE/DCE flow control.
&K3	Enable both RTS/CTS and XON/XOFF flow control.
&M0	Select direct asynchronous mode.
&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.
&Q5	Modem negotiates an error corrected link.
&Q6	Select asynchronous operation in normal mode.
&T0	Terminate any test in progress.
&T1	Initiate local analog loopback.
&V	Display current configurations.
&W	Store the active profile in NVRAM profile 0.
%E0	Disable line quality monitor and auto retrain.
%E1	Enable line quality monitor and auto retrain.
%L	Return received line signal level.
%Q	Report the line signal quality.

\N0	Select normal speed buffered mode.
\N2	Select reliable link mode.
\N3	Select auto reliable mode.
\N4	Force LAPM mode.
\N5	Force MNP mode.

Chapter 4 Modem's S-registers

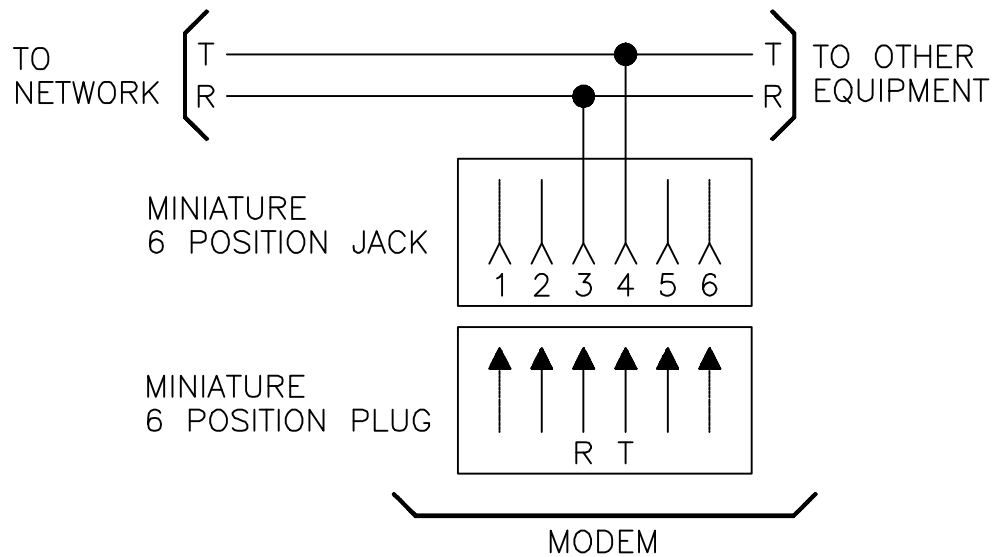
Register	Function	Range / unit	Default
S0	Number of Rings to Auto-Answer	0-255 / rings	0
S1	Ring Counter	0-255 / rings	0
S2	Escpae Character	0-255 / decimal	43
S3	Carriage Return Character	0-127 / decimal	13
S4	Line Feed Character	0-127 / decimal	10
S5	Backspace Character	0-32 / ASCII	8
S6	Wait Time for Dial Tone Before Bline Dialing	2-255 / seconds	4
S7	Wait Timer for Carrier after Dial, for Silence, or for Dial Tone after "W" Dial Modifier	1-255 / seconds	50
S8	Pause Time for Dial Delay	0-255 / seconcds	2
S9	Carrier Detect Response Time	1-255 / seconds	6
S10	Lost Carrier to Hang Up Delay	1-255 / seoncds	14
S11	DTMF Tone Duration	50-255/milliseconds	95
S12	Escpae Code Guard Time	0-255 / seoncds	50
S13	Reserved		
S14	General Bit Mapped Options		138

Register	Function	Range/Unit	Default
S15	Reserved		
S16	General Bit Mapped Test Options		0
S17	Reserved		
S18	Test Timer	0-255 / seconds	0
S19	Reserved		
S20	Reserved		
S21	V.24/General Bit Mapped Options		52
S22	Speaker/Results Bit Mapped Options		119
S23	General Bit Mapped Options		55
S24	Sleep Inactivity Timer	0-255 / seconds	0
S25	Delay To DTR	0-255 / seconds	5
S26	RTS to CTS Delay	0-255 / seconds	1
S27	Bit Mapped Option		73
S28	Bit Mapped Options		0
S29	Flash Dial Modifier Time	0-255 / ms	70
S30	Disconnect Inactivity Timer	0-255 / seconds	0
S31	Bit Mapped Options		6
S32	XON Character	0-255 / decimal	17
S33	XOFF Character	0-255 / decimal	19
S34-S36	Reserved		

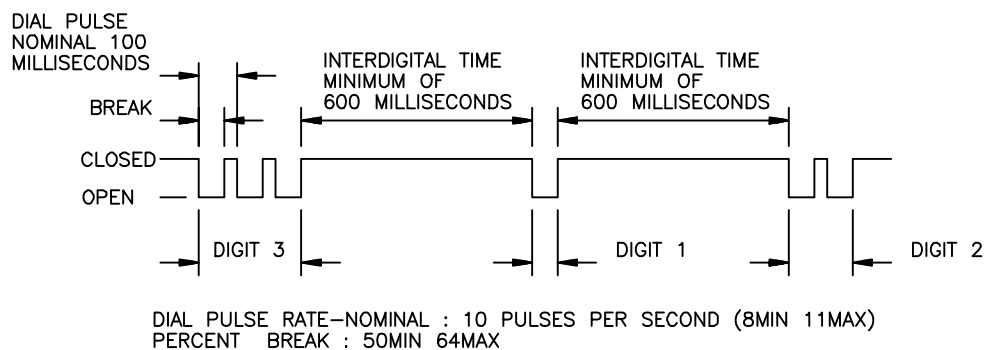
Register	Function	Range/Unit	Default
S37	Desired Line Connection Speed		0
S38	Reserved		
S39	Flow Control		3
S40	Reserved		

Modular Telephone Diagrams

This appendix summaries the modular telephone diagrams, dial pulse and touch-tone specifications.



RJ11 Modular telephone diagram



Dial pulse specifications

	North America	Japan	Other area
Break Ratio	61%	67%	67%
Break Length	61ms	67ms	67ms
Dial Pulse Length	100ms	200ms	100ms
Dual Pulse Rate	10pps	20pps	10pps
Interdigit Time	789ms	783ms	783ms

Touch-tone Frequencies

	1209	1336	1477	1633Hz
697	1	2	3	A
770	4	5	6	B
852	7	8	9	C
941Hz	*	0	#	D

Appendix

B

ASCII Character Table

The conversion table below lists the complete set of ASCII characters coded for digital processing in binary notation (base 2). They are listed below with their equivalents in decimal notation (base 10) and hexadecimal notation (base 16).

CODE	DEC	HEX	CODE	DEC	HEX	CODE	DEC	HEX	CODE	DEC	HEX
NUL	0	00	SP	32	20	@	64	40	,	96	60
CTRL A	1	01	!	33	21	A	65	41	a	97	61
CTRL B	2	02	“	34	22	B	66	42	b	98	62
CTRL C	3	03	#	35	23	C	67	43	c	99	63
CTRL D	4	04	\$	36	24	D	68	44	d	100	64
CTRL E	5	05	%	37	25	E	69	45	e	101	65
CTRL F	6	06	&	38	26	F	70	46	f	102	66
CTRL G	7	07	,	39	27	G	71	47	g	103	67
CTRL H	8	08	(	40	28	H	72	48	h	104	68
CTRL I	9	09	)	41	29	I	73	49	i	105	69
CTRL J	10	0A	•	42	2A	J	74	4A	j	106	6A
CTRL K	11	0B	+	43	2B	K	75	4B	k	107	6B
CTRL L	12	0C	,	44	2C	L	76	4C	l	108	6C
CTRL M	13	0D	-	45	2D	M	77	4D	m	109	6D
CTRL N	14	0E	.	46	2E	N	78	4E	n	110	6E
CTRL O	15	0F	/	47	2F	O	79	4F	o	111	6F
CTRL P	16	10	0	48	30	P	80	50	p	112	70
CTRL Q	17	11	1	49	31	Q	81	51	q	113	71
CTRL R	18	12	2	50	32	R	82	52	r	114	72
CTRL S	19	13	3	51	33	S	83	53	s	115	73
CTRL T	20	14	4	52	34	T	84	54	t	116	74
CTRL U	21	15	5	53	35	U	85	55	u	117	75
CTRL V	22	16	6	54	36	V	86	56	v	118	76
CTRL W	23	17	7	55	37	W	87	57	w	119	77
CTRL X	24	18	8	56	38	X	88	58	x	120	78
CTRL Y	25	19	9	57	39	Y	89	59	y	121	79
CTRL Z	26	1A	:	58	3A	Z	90	5A	z	122	7A
ESC	27	1B	;	59	3B	[	91	5B	}	123	7B
FS	28	1C	<	60	3C	/	92	5C	l	124	7C
GS	29	1D	=	61	3D	]	93	5D	{	125	7D
RS	30	1E	>	62	3E	A	94	5E	~	126	7E
US	31	1F	?	63	3F	-	95	5F	DEL	127	7F

Jumper J12 Setting For Different PCI Version

	J12
Mainboard PCI interface Revision 2.1	Short
Mainboard PCI interface Revision 2.2	Open

Declaration of CE

This declaration of conformity is according to article 7(3) and article 10(2)
of the Council of European Communities of 3 May 1989.

The protection requirements according the Council Directive article 4
and Annex III are kept.

MODEL / TYPE: Internal Voice / Fax / Modem DM-56V14HCF

This declaration is given from the manufacturer

submitted by

TRAINING RESEARCH CORPORATION
5F., NO. 571, SEC. 7,
CHUNG HSIAO E. RD., TAIPEI,
TAIWAN, R. O. C.

To the judgement of the products with regard to electromagnetic compatibility
according following regulations:

EN 55 022 Class B
EN 50 082 - 1 (IEC 801 Part 2, 4 / ENV 50140 / ENV 50141)
EN 60950

Declaration of conformity to type

I hereby declare that the product

MODEL/TYPE: Internal Voice / Fax / Modem DM-56V14HCF

is in conformity with the type as described in EC/German type-examination certificate
- registration no.: A300122K

and satisfies all the technical regulations applicable to the product within the scope of
Council Directives 91/263/EEC and 93/97/EEC:
TBR21

The equipment has been approved to [Commission Decision No. 98/34/EG] for Pan-European single terminal connection to the Public Switched Telephone Network (PSTN). However, due to differences between the individual PSTNs provided in different countries the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN network termination point. In the event of problems, you should contact your equipment supplier in the first instance.