



Reference manual

Proxima V.92

modem

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Document History

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1. Introduction

This manual is the reference book when setting up the Proxima V.92 PSTN modem for your application. Because of the nature of this product and its field of application, some degree of technical background knowledge regarding the application and data-communication is assumed.

The Proxima V.92 modem is designed to transmit and receive data on the Public Switched Telephone Network - PSTN.

The Proxima V.92 PSTN modem is a versatile communications device designed to provide a very flexible data communication solution for an IT environment.

The Proxima V.92 **Full** modem contains a number of enhanced options :

- 2-wire leased line
- automatic DTR-dialling
- dump mode

The Proxima V.92 modem is designed in a robust 190 x 138 x 34 mm housing with a wide range build-in ac/dc power supply (9V – 40V) with 9 LED indicators.

2. Specifications

2.1 PSTN modem Specifications

- ? ITU-T V.92 with PCM upstream rates up to 48 kbps, QuickConnect and Modem-on-hold functions
- ? V.92, V.90, V.34, V.32bis, V.32, V.22 bis, V.22, V.23, and V.21; Bell 212A and Bell 103
- ? V.22 bis fast connect

- ? V.250 and V.251 commands
- ? V.253 commands

- ? Data compression and error correction
- ? V.44 data compression for optimal downloading of Internet Web pages and files
- ? V.42 bis and MNP 5 data compression
- ? V.42 LAPM and MNP 2-4 error correction
- ? MNP 10EC(tm) enhanced cellular performance

- ? Flow control and speed buffering.
- ? Automatic format/speed sensing.
- ? RS-232 Serial async interface, supports speeds up to 230.4 Kbps

- ? 11-bit Direct mode

- ? Fax modem
- ? V.17, V.29, V.27 ter, and V.21 channel 2
- ? EIA/TIA 578 Class 1 and T.31 Class 1.0 commands

- ? Upgradeable Flash ROM
- ? Data/Fax/Voice call discrimination
- ? Hardware-based modem controller and digital signal processor (DSP)
- ? Worldwide operation
- ? Call progress, blacklisting

- ? Distinctive ring detect
- ? Caller ID detect

- ? Off-hook Call Waiting Caller ID detection during data mode in V.92, V.90, V.34, V.32bis, or V.32
- ? 2-bit and 4-bit Conexant ADPCM, 8-bit linear PCM, and 4-bit IMA coding 8 kHz sample rate
- ? Concurrent DTMF, ring, and Caller ID detection

- ? 2-wire Leased Line (Full version)
- ? Dump mode (Full version)
- ? Asynchrone DTR-dialling (Full version)

2.2 Power connection

The Proxima V.92 is standard delivered with a 9 Vac ~ 800 mA / 230Vac adaptor. 9 Vac/dc to 40 Vac/dc power can be supplied via the 2.1 mm power connector.

2.3 PSTN connection

Line = Phone RJ-11 connector

Telephone line or a parallel connected analogue device must be connected via A / B.



2.4 DTE connection

The DTE (data terminal equipment) must be connected via a standard RS-232 DB-25 female connector at the back of the modem. The following V.24 lines are present ;

CCITT	DB25F Pin	Direction	Name	
109	8	OUT	Data carrier detect	CD
104	2	OUT	Received Data	RxD
103	3	IN	Transmitted Data	TxD
108	20	IN	Data terminal ready	DTR
	7	-	Signal Ground	GND
107	6	OUT	Data set ready	DSR
105	5	IN	Request to send	RTS
106	4	OUT	Clear to send	CTS
125	22	OUT	Ring Indicator	RI

Output: from DCE (modem) to DTE (terminal)

Input: from DTE (terminal) to DCE (modem)

2.5 LED indicators

The Proxima V.92 has 9 LED indicators on the front.

	Name	Direction
RxD	Receive Data	from modem to DTE
TxD	Transmit Data	from DTE to modem
DCD	Data Carrier Detect	from modem to DTE
DTR	Data terminal Ready	from DTE to modem
RI	Ring Indicator	from modem to DTE
CTS	Clear To Send	from modem to DTE
RTS	Request to Send	from DTE to modem
MR	Modem Ready	-
ON	Power ON	-

3. AT Command interface

3.1 Standard command overview

The configuration of the Proxima V.92 modem is done by sending AT command to the modem, changing S-registers into the modem and interpreting the responses sent by the modem.

We have added the original Conexant reference manual onto the CD-ROM or floppy. Below you will find a overview of all the possible command and S-registers.

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3.2 Enhanced features

3.2.1 Dump mode

When the Proxima V.92 Full modem receives a character from the DTE, during the call setup and/or speed negotiation, the modem will stop all further negotiations and will go off-line. We have added 'dump mode' to prevent this.

```
atk1      stop negotiation when a character is received
atk0      dump mode active
```

3.2.2 Leased Line configuration

It's possible to configure the Proxima V.92 Full modem as a 2-wire leased line modem. This point-to-point setup has always an originate and an answer side.

What do you have to know before you start configuring the modems :

Specification of the DTE port :

```
If asynchronous    what is the used speed ?           eg. 9.600 bps
                    data / parity / stop bits ?       eg. 8 N 1
                    flow control ?                   eg. RTS/CTS
                    is DTR supported ?

If synchronous    is DTR supported ?
```

To configure the modems you can use a standard terminal software package. If the DTE uses asynchronous communication it is very important to use the same baud rate as the DTE port when the modem is configured.

This asynchronous baud rate will be saved when the modem receives the AT&W command.

ANSWER	Information	ORIGINATE
at&f	factory reset	at&f
at&L1	enable leased line	at&L1
ats0=1	answer/originate	ats0=0
ats7=30	reset cycle	ats7=25
atk0	dump mode	atk0
at&d0	if DTR is NOT supported	at&d0
at&k0	if NO flow control	at&k0
at&k4	if XON/XOFF flow control	at&k4
at&k3	if RTS/CTS flow control	at&k3
at&m1	if synchronous DTE	at&m1
at&w	save config in NVRAM	at&w

It is possible to change the transmit level with register S91. Default transmit level is –10 dBm.

How to reset the modem after a leased line configuration :

- ? Connect an asynchronous terminal to the DTE port of the modem.
- ? You have to run a standard terminal software package on the same baud rate as you have used for configuring the same modem for leased line.
- ? At this time it is possible to give a full reset command (at&f&w) just after (within 3 seconds) you switch on the modem.

3.2.3 Asynchronous DTR-dialling

The modem will automatically dial the saved number if DTR is changing from an inactive to an active state when asynchronous DTR-dialling is active.

commands	Information
at&f	factory reset
at&q7	enable asynchronous DTR-dialling
at&z0=x	save telephone number in slot 0 x = telephone number
at&v	to verify the saved number
at&w	save configuration in NVRAM

A. EC-Declaration of conformity