

# PROLiNK 56K USB Modem User's Manual

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# PROLiNK

Version 1.0

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## Introduction & Features

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Congratulations on purchasing a state-of-the-art fax/modem! Your Fax/Modem incorporates the latest technological advancement for you to electronically communicate with other computers, information networks, fax machines or other fax/modems. It embraces most of the industry and commercially popular standards to ensure compatibility with most equipment and application programs. The voice capability renders a wide range of application possibilities from a simple telephone-answering device to a sophisticated voice-mail system.

The USB provide a 12Mbps high bandwidth for virtually unlimited data throughput instead of the legacy 16550 UART bottleneck with the traditional modems. USB Modem is a very flexible modem that has one of the smallest real estate and power consumption out on the market. Because of the simplicity of the modem design, the time to market is quick and less overhead. With this modem, all the future feature driver updates will be a simple software update. The features are as follows:

- Conexant USB solution
- USB Interface Support
- ITU-V.92 and K56Flex Dual Standards
- Quick Connect
- Modem-on-Hold
- Upstream up to 48Kbps
- Caller ID (Optional)
- TAPI2.0 Compliant
- Low power Consumption

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## Checking Your Components

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Unpack your Modem and make sure you have the following items:

- The USB Modem.
- A modular telephone cable to connect USB modem to telephone line.
- A USB cable to connect your USB modem to computer's USB port.
- Communication software (including driver and manual)

When you open your package, make sure all of the above items are included and not damaged. If you see that any components are damaged, please notify your dealer immediately.

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## AT Commands

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Except for the **A/** command and the **+++** escape command, all commands must be prefixed with the attention code **AT**. For instance, the **A** command (below) would be entered as: "**ATA<CR>**". Without the AT prefix, the command line cannot be executed. Once entered, AT cannot be deleted with the **Backspace** or **Delete** key.

More than one command can be placed on a single line and, if desired, separated with spaces for readability. Once the carriage return (**Enter**) key is pressed, the command line is executed. A line with no carriage return is ignored.

The modem accepts either upper or lower case characters in the command line and ignores any spaces within or between commands. Typing errors can be corrected with the **Backspace** key.

### **A** Go off-hook and attempt to answer a call

#### **&Cn** Control Carrier Detect (CD) Signal

&C0 CD override

&C1 Normal CD operations

#### **Dn** Dial

0-9 DTMF digits 0 to 9

P Pulse (rotary) dial

T Tone dial

W Wait for second dial tone

^ Toggles calling tone enable/disable

#### **&Dn** DTR Option

&D0 Ignore an on-to-off transition of DTR

&D1 Switch to on-line command mode without disconnection

&D2 Normal DTR operations

## **&F Load Factory Configuration (Profile)**

### **Hn Disconnect (Hang-up)**

- H0 Hang up (go on-hook)
- H1 Go off-hook

### **In Identification**

- I0 Report product code
- I2 Report "OK" or "ERROR"
- I3 Report driver revision
- I4 Report OEM defined identifier string

### **Mn Speaker Control**

- M0 Speaker is always off
- M1 Speaker ON until CONNECT
- M2 Speaker is always on
- M3 Speaker off during dialing and receiving carrier and turn speaker on during answering

### **On Return to On-Line Data Mode**

- O0 Go on-line
- O1 Go on-line and retrain

### **+VCID=n Caller ID (Optional)**

- +VCID=1 Enable Caller ID function
- +VCID=0 Disable Caller ID function (default)

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## S-Registers Definitions

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Your modem has S-registers that affect various operating characteristics. The registers let you obtain information about the modem, and let you test the modem. Each S-Register has a factory-set value, which you can read or change to fit your particular requirements.

**Sr=n**    **Set Register r to n**

**Sr?**     **Display contents of S-Register**

**S0**    **Number of Rings to Auto-Answer**

The number of rings the modem waits for before it auto answers.

Range 000-255 (rings)

Default 000 (Country dependent)

**S6**    **Wait Time before Blind Dialing**

The time to pause after off-hook before blind dialing.

Range 002-255

Default 002 (Seconds, Country dependent)

**S7**    **Waiting Time before Carrier Detect**

The time to wait for a carrier from the remote modem before hanging up.

Range 001-255

Default 050 (seconds, Country dependent)

**S8**    **Pause Time For Dial Delay**

Controls how long the modem pauses when a comma "," is encountered in a dial string while executing a dial command.

Range 000-255

Default 002 (seconds)

**S10 Lost Carrier To Hang Up Delay**

The time the modem waits before hanging up for carrier loss.

Range 001-255

Default 014 (1.4 seconds)

**S11 DTMF Tone Duration**

The time for DTMF tone dialing and the time between the tone spacing.

Range 50-255

Default 95 (ms, Country dependent)



# Specifications

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## MODEM OPERATION

<b>Line Rate</b>	0.3, 1.2, 2.4, 4.8, 7.2, 9.6, 12, 14.4, 16.8, 19.2, 21.6, 24, 26.4, 28.8, 31.2, 33.6, 56 Kbps
<b>DTE Rate</b>	115200 bps maximum
<b>Operation</b>	Half or full-duplex over 2-wire dial-up line, Asynchronous
<b>Linking</b>	Auto dial/answer, auto bauding, MNP10 auto fall-back/forward
<b>Flow Control</b>	RTS/CTS, XON/XOFF (software selectable)
<b>Compatibility</b>	Bell 103; 212A, ITU-T V.21; V.22; V.23, V.22bis; V.32; V.32bis; V.34; K56flex; V.90; V.92
<b>Error Correction</b>	ITU-T V.42, MNP4 (auto-match)
<b>Data Compression</b>	ITU-T V.42bis, V.44, MNP5 (auto-match)
<b>Receive Sensitivity</b>	-36 dBm
<b>Command Set</b>	AT Command and Escape sequence

## VOICE OPERATION

<b>Operation</b>	Telephone Answering Machine (TAM), Voice mail system ADPCM Voice Compression / Decompression ITU-T V.80 Video Conference
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## FAX OPERATION

<b>Speed</b>	14400 bps
<b>Compatibility</b>	Group 3 with T.30 protocol over ITU-T V.17; V.21 ch2, V.27ter; V.29

## GENERAL CONFIGURATION

1. USB/HOT PnP
2. Line Interface: 2 x RJ-11 for the line and telephone

# Appendix A.

## FCC Notice

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This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio / TV technician for help.

This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to insure compliance. This statement can be deleted if unit was not tested with shielded cables.

The manufacture is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference that may cause undesired operation.

# Appendix B.

## FCC Requirement

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This equipment complies with Part 68 of the FCC Rules. On the base unit of this equipment is a label that contains, among other information, the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. If requested, this information must be given to telephone company.

The REN is useful in determining the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all area, the sum of the REN's of all devices connected to one line should not exceed five (5). 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 your equipment 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 is not practical, you will be notified as soon as possible. You will be informed of your right to file a complain with the FCC. Your telephone company may make changes in its facilities, equipments, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

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

# Appendix C. CE Mark Declaration

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This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.