

Model 3231

# Industrial Ethernet Extender with LCD Interface

## Quick Start Guide



**Important**—This is a Class A device and is intended for use in a light industrial environment. It is not intended nor approved for use in an industrial or residential environment.



- This device contains no user serviceable parts. The equipment shall be returned to Patton Electronics for repairs, or repaired by qualified service personnel.
- **AC Powered Units:** The external power adaptor shall be a listed Limited Power Source. Ensure that the power cable used meets all applicable standards for the country in which it is to be installed, and that it is connected to a wall outlet which has earth ground. The mains outlet that is utilized to power the device shall be within 10 feet (3 meters) of the device, shall be easily accessible, and protected by a circuit breaker.
- **DC Powered Units:** The interconnecting cables shall be rated for proper voltage, current, anticipated temperature, flammability, and mechanical serviceability.
- Hazardous network voltages are present in WAN ports, regardless of whether power to the unit is ON or OFF. To avoid electric shock, use caution when near WAN ports. When detaching the cables, detach the end away from the device first.
- Do not work on the system or connect or disconnect cables during periods of lightning activity.

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## 1.0 Powering the modem

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The interconnecting cables shall be acceptable for external use and shall be rated for the proper application with respect to voltage, current, anticipated temperature, flammability, and mechanical serviceability.

Your modem comes with an external AC adaptor with detachable power cord.

### 1.1 AC power-up

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1. Connect female plug of the AC power cord to the AC adaptor provided.
2. Connect the barrel-type connector of the AC adaptor to the barrel-type power jack on the unit.
3. Insert the male plug of the AC power cord into an AC power outlet (100–240 VAC).

### 1.2 Power-up indication

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The *PWR/ALM* LED is lit while the unit is powering up.

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## 2.0 Using the keypad

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The Model 3231 contains an LCD menu and keypad, located on the front panel, for configuring the unit. The four keys on the menu keypad and their functions are:

Key	Purpose
ENTER	<ul style="list-style-type: none"><li>• Select the current item</li><li>• Advance into a submenu</li><li>• Confirm changes in a menu item</li></ul>
EXIT	<ul style="list-style-type: none"><li>• Deselect the current item</li><li>• Exit out of a submenu</li><li>• Cancel a change in a menu item</li></ul>
LEFT ARROW	<ul style="list-style-type: none"><li>• Move to the previous item in a menu</li><li>• Move to the previous value for an item in a menu</li><li>• Increment the current digit or character in an IP address or string</li></ul>
RIGHT ARROW	<ul style="list-style-type: none"><li>• Move to the next item in a menu</li><li>• Move to the next value for an item in a menu</li><li>• Select the next digit or character to change in an IP address or string</li></ul>

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## 3.0 Using the LCD Menu

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The following options are available in the top level menu on the LCD interface:

- **3.1 “G.SHDSL”** on page 4
- **3.2 “LAN”** on page 4
- **3.3 “CPE Config”** on page 4
- **3.4 “STP (Spanning Tree Protocol)”** on page 5
- **3.5 “Syslog”** on page 5
- **Password**  
If a password is set, a user must enter the password to access the LCD submenus. Enter an empty string to remove the password.
- **Clear Alarms**  
Clear DSL, Ethernet, and any other alarm indications.
- **Save Config**  
Save the current configuration to flash.
- **LCD Contrast**  
Adjust the contrast of the LCD screen. Use the Left and Right Arrow keys to adjust the contrast, then press the Enter key to save the adjustment.

### 3.1 G.SHDSL

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Submenu	Options
Line Rate	192 kbps – 4608 kbps
I-bits	0 – 7
Mode	CO or CPE
Annex	A or B
Transmit Gain	-1.6 dB – 1.6 dB
Eth Link Kill	Enabled or Disabled If enabled, the Ethernet link will go down if the DSL link goes down.
Noise Margin	View the noise margin in dB. (This option is not configurable).
Restart DSL	Reconfigure DSL and retrain link This must be selected after any of the G,SHDSL options are changed (except Eth Link Kill, which takes effect immediately).

### 3.2 LAN

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Submenu	Options
IP Address	Set and modify the LAN IP address
Netmask	Set and modify the LAN netmask
Default GW	Set to 000.000.000.000 to remove the default gateway

### 3.3 CPE Config

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Submenu	Options
CPE Cfg State	<b>Wait until this state reaches Idle before configuring any of the CPE options.</b> This may take 1-2 minutes after the DSL link comes up. Any changes to the CPE options that are made before reaching the Idle state will be lost.
CPE Line Rate	192 kbps – 4608 kbps
CPE IP Address	Set and modify the CPE IP address
CPE Netmask	Set and modify the CPE netmask
CPE Default GW	Set to 000.000.000.000 to remove the CPE's default gateway
Get CPE Config	Request the CPE to report it's configuration to this unit. This is unnecessary because the CO will always reuquest the CPE's configuration when the link comes up.
Set CPE Config	Send new configuration to the CPE. This must be selected after changing any of the parameters in this menu.

### 3.4 STP (Spanning Tree Protocol)

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Submenu	Options
Enabled	Enable or Disable STP
Fwd Delay	4 – 30 seconds
Hello Time	1 – 10 seconds
Max Age	6 – 40 seconds

### 3.5 Syslog

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Submenu	Options
Host IP	External syslog server to log to
Facility	disable / user / mail / daemon / auth / syslog / lpr / news / uucp / cron authpriv / ftp / local0 / local1 / local2 / local3 / local4 / local5 / local6 / local7

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## 4.0 Connecting the G.SHDSL port

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1. Obtain single-twisted-pair cable with an RJ-11 plug connector at each end.
2. Plug one end of the cable into the RJ-11 socket (labelled *Line*) on the modem.
3. Plug the other end of the cable into the RJ-11 wall socket that provides your G.SHDSL service.
4. From the top level menu on the LCD panel, use the Left and Right arrow keys to navigate to **G.SHDSL**, then press **ENTER**.

**Note** If two Model 3231 units are connected back-to-back, one must be configured as **CO**, the other as **CPE**.  
See the *Model 3231 User Manual* for more information.

5. The *DSL Link* LED will flash while in the process of establishing a link. The LED will be on constantly once a valid DSL connection is established.

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## 5.0 Setting the unit as CO/CPE

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### 5.1 Configuring the unit as CO

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To set the unit as **CO**:

1. From the top level menu on the LCD panel, use the Left and Right arrow keys to navigate to **G.SHDSL**, and press **ENTER**.
2. Use the arrow keys to highlight **Mode**, then press **ENTER**.
3. Select **CO**, and press **ENTER**.
4. To activate the unit as **CO**, select **Restart DSL** from the **G.SHDSL** menu, and press **ENTER**.

The CPE LED on the front panel should **not** be lit.

### 5.2 Configuring the unit as CPE

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To set the unit as **CPE**:

1. From the top level menu on the LCD panel, use the Left and Right arrow keys to navigate to **G.SHDSL**, and press **ENTER**.
2. Use the arrow keys to highlight **Mode**, then press **ENTER**.
3. Select **CPE**, and press **ENTER**.
4. To activate the unit as **CPE**, select **Restart DSL** from the **G.SHDSL** menu, and press **ENTER**.

The CPE LED on the front panel should be lit.

**Note** Do not use the CPE Config options in the LCD menu on the CPE unit for CPE configuration. Use the Model 3231 that you set as the CO to configure the CPE unit. See 3.3 "CPE Config" on page 4 for CPE configuration options.

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## 6.0 Additional Information

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For detailed information about configuring and operating guidance, set up procedures, and troubleshooting, refer to the *Model 3231 User Manual* available online at [www.patton.com/manuals/3231.pdf](http://www.patton.com/manuals/3231.pdf).

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## A.0 Compliance Information

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### A.1 Compliance

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EMC:

- FCC Part 15, Class A
- EN55022, Class A
- EN55024

Safety:

- UL 60950-1/CSA C22.2 NO. 60950-1
- IEC/EN60950-1
- AS/NZS 60950-1

PSTN Regulatory:

- FCC Part 68
- CS-03
- AS/ACIF S043:2003

### A.2 FCC Part 68 (ACTA) Statement

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This equipment complies with Part 68 of FCC rules and the requirements adopted by ACTA. On the bottom side of this equipment is a label that contains —among other information— a product identifier in the format *US: AAAEQ##TXXXX*. If requested, this number must be provided to the telephone company.

The method used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this equipment, for repair or warranty information, please contact our company. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

### 1.3 Industry Canada Notice

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This equipment meets the applicable Industry Canada Terminal Equipment Technical Specifications. This is confirmed by the registration number. The abbreviation, IC, before the registration number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment.

This Declaration of Conformity means that the equipment meets certain telecommunications network protective, operational and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction. Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above condition may not prevent degradation of service in some situations. Repairs to some certified equipment should be made by an authorized maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment. Users should ensure for their own protection that the ground connections of the power utility, telephone lines and internal metallic water pipe system, are connected together. This protection may be particularly important in rural areas.

### A.4 Radio and TV Interference (FCC Part 15)

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This equipment generates and uses radio frequency energy, and if not installed and used properly—that is, in strict accordance with the manufacturer's instructions—may cause interference to radio and television reception. This equipment has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection from such interference in a commercial installation. However, there is no guarantee that interference will not occur in a particular installation. If the equipment causes interference to radio or television reception, which can be determined by disconnecting the cables, try to correct the interference by one or more of the following measures: moving the computing equipment away from the receiver, re-orienting the receiving antenna, and/or plugging the receiving equipment into a different AC outlet (such that the computing equipment and receiver are on different branches).

### A.5 EC Declaration of Conformity

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**Product Description:** Model 3231 G.SHDSL Modem with LCD

We certify that the apparatus identified above conforms to the requirements of Council Directive 1999/5/EC on the approximation of the laws of the member states relating to Radio and Telecommunication Terminal Equipment and the mutual recognition of their conformity.



The safety advises in the documentation accompanying the products shall be obeyed. The conformity to the above directive is indicated by the CE sign on the device.

The signed Declaration of Conformity can be downloaded from [www.patton.com/certifications/](http://www.patton.com/certifications/).

### A.6 Authorized European Representative

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D R M Green, European Compliance Services Limited.  
Avalon House, Marcham Road, Abingdon, Oxon OX14 1UD, UK

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## Warranty, Trademark, & Compliance Information

For warranty, trademark and compliance information, refer to the *Model 3231 User Manual* available online at [www.patton.com/manuals](http://www.patton.com/manuals).



In accordance with the requirements of council directive 2002/96/EC on Waste of Electrical and Electronic Equipment (WEEE), ensure that at end-of-life you separate this product from other waste and scrap and deliver to the WEEE collection system in your country for recycling.





