
IBR-10™, BANDIT Mini™, and ILR-100™ Installation Guide

for ELIOS™ Software Version 0600

This guide presents procedures for a standard installation of Encore Networks' IP Routers: the IBR-10™, the BANDIT Mini™, and the ILR-100™.

Note: The screens shown in this document are examples; the choices shown on your router's menus depend on the features in the chassis and on the software version installed in the device. (For figures, tables, and configurations not addressed in this *Installation Guide*, see the *BANDIT Products Software Configuration and Maintenance Guide* or the *BANDIT Products Hardware Reference Guide*.)

Gather all required information. Before you start these procedures, make sure you have all the information required to set up the IBR-10, BANDIT Mini, or ILR-100 for use in your network—for example:

- The device's IP address
- The device's passwords
- The device's configuration
- Interface requirements for the device's ports
- Interface types for the ports—for example, DTE or DCE
- Interface protocols for the ports
- Network and routing functions that the device will perform
- Other pertinent network information

Use the site planning worksheets in the *BANDIT Products Software Configuration and Maintenance Guide* as checklists for this information.

If you have questions or concerns after you have followed these procedures, contact Encore Networks, Inc., at support@encorenetworks.com, 703-787-4625 (fax), or 703-318-4350 (voice).

A Setting Up the Hardware

- 1 Unpack the chassis and components from the shipping box. Make sure you have all the parts:
 - the chassis (Figure 1 or Figure 3)
 - an autosensing external power supply
 - an RJ-45 Supervisory cable
 - an adapter for the Supervisory cable (described in the Note in Step 9)
 - a paper copy of this *Installation Guide*
 - any additional accessories that you ordered

Note: Shipments within North America include a power cable for an AC outlet (if the model accepts AC input power). For shipments outside North America, contact your distributor for a cable that meets local requirements to connect the BANDIT's power supply to a power outlet.

Note: For the BANDIT Mini, make sure the site has an appropriate DC power source.

Note: If you wish to view or download the customer documentation for the BANDIT products, visit the following site:

www.encorenetworks.com/support/documentation/voice_data/broadband.htm

Contact your Encore Networks sales representative if you wish to order a CD containing BANDIT documentation.

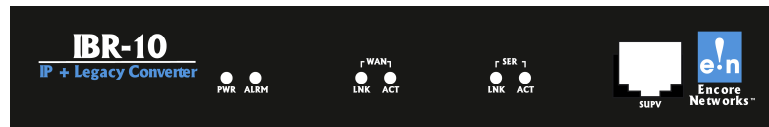


Figure 1. IBR-10 Chassis, Front

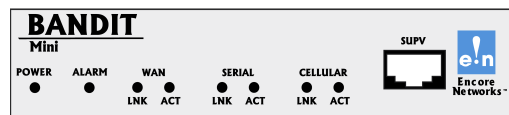


Figure 2. BANDIT Mini Chassis, Front

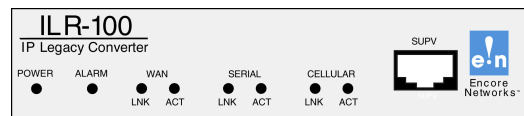


Figure 3. ILR-100 Chassis, Front

- 2 Place the IBR-10 chassis on a tabletop or shelf. Place the ILR-100 or BANDIT Mini on a desktop, tabletop, or shelf.
- 3 Connect an earth ground wire to the chassis, as follows: Attach a (minimum) 12 AWG wire to the earth ground screw (next to the safety ground symbol), on the extreme right rear or extreme left rear of the chassis (Figure 4 or Figure 6). Use a ring terminal, such as an AMP (part number 36160), for this connection.

Warning: An earth ground must connect to the chassis so that the device remains grounded even when it is not receiving power.



Figure 4. IBR-10 Chassis, Rear

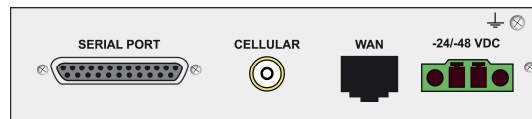


Figure 5. BANDIT Mini Chassis, Rear

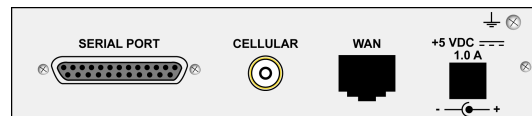


Figure 6. ILR-100 Chassis, Rear

- 4 Connect the router's ports to their network devices.
- 5 If you are setting up the IBR-10: Connect the chassis to the external power supply.
- 6 Then connect the IBR-10's external power supply to an outlet supplying 100–240 VAC at 47–63 Hz.
- 7 If you are setting up the ILR-100, connect the chassis to its external power supply. (Make sure the power supply is connected to an outlet supplying 100–240 VAC at 47–63 Hz.)
- 8 If you are setting up the BANDIT Mini, connect the chassis power supply to an outlet supplying -22 to -56 (-24/-48) volts DC.
- 9 Use the Supervisory cable and adapter to connect the device's Supervisory port to your PC's COM port.

Note: An eight-pin modular (RJ-45) to DB-9 adapter is the standard adapter to connect the Supervisory cable to a PC. This adapter is shipped with the unit. The following alternate adapters are also available. (Contact Encore Networks, Inc., if you need either of these adapters.)

- An RJ-45 to DB-25 adapter for connection to most asynchronous terminals
- An RJ-45 to DB-25 modem adapter to connect a modem, for out-of-band management or remote configuration

B Wireless Support

If you ordered a CDMA or GSM wireless card with the ILR-100 or BANDIT Mini, you need to set up the card for use in the carrier network. And, if you wish to change the default settings for wireless access, you need to reconfigure the wireless port.

In addition, a GSM wireless card must hold the appropriate Subscriber Identity Module (SIM) for access to the carrier's GSM wireless network.

To configure the ILR-100 or BANDIT Mini for wireless use, see the *BANDIT Products Wireless Access Guide*.

Note: The IBR-10 does not support access to wireless networks.

C Logging In

- 1 On the PC, open a terminal-emulation session, such as HyperTerminal. Use the settings in [Table 1](#) to establish communication between the terminal console and the IBR-10, BANDIT Mini, or ILR-100.

Table 1. Supervisory Port Communication Settings

Parameter	Value
Bits per second	9600
Data bits	8
Parity	None
Stop bit	1
Flow control	Hardware

- 2 On the terminal console, press **Enter** to connect to the attached device.
 - ❖ After successful log-in, the Main Menu appears.

D Using the Main Menu

The Main Menu is displayed when you log onto the IBR-10, BANDIT Mini, or ILR-100. From the Main Menu, you can configure and operate the IBR-10, BANDIT Mini, or ILR-100.

```

Main Menu
-----
1) QuickStart Config Builder

2) Typical Configurations
3) Advanced Configurations
4) Tools

V) View Current Unit Status
L) Load Factory Defaults
P) Load Plug and Play Defaults
W) Write Configuration
R) Reset Unit
X) eXit Session
S) Statistics
Y) sYstem Administration

Enter Choice :
```

Note: Whenever you wish to return to a higher level in the menus, press **Escape**.

! **Caution:** The Supervisory connection to the device will time out after five (5) minutes of console inactivity. If you have changed the device's configuration and wish to use the new configuration, save (write) the configuration before you leave the console. (See [Section F, Saving \(Writing\) the Device's Configuration.](#))

1 On the Main Menu, do one of the following:

a To set up a basic configuration of the IBR-10, BANDIT Mini, or ILR-100 for your network, select **QuickStart Config Builders**.

❖ The Startup Config Options menu is displayed. (On the next menu—the Startup Configuration Scenarios menu—you can enter basic information; the router will use this information to build a standard configuration.) Go to [Section E.1, Startup Configuration.](#)

```
Startup Config Options
-----
1) BANKING

Enter Choice :
```

b To configure specific features, select **Advanced Configurations**.

❖ The Advanced Configurations menu is displayed. You configure most parameters of the IBR-10, BANDIT Mini, or ILR-100 from this menu. Go to [Section E, Configuring the Software.](#)

```
Advanced Configurations
-----
1) Physical Configurations
2) Data Configurations
3) Local Address
4) Routing
5) Global Paths

Enter Choice :
```

E Configuring the Software

For a standard, basic configuration of the IBR-10, BANDIT Mini, or ILR-100 for your network, see [Section E.1, Startup Configuration](#). For configuration of specific features, see the following sections.

- [Section E.1, Startup Configuration](#)
- [Section E.2, Device Addresses](#)
- [Section E.3, Ports](#)
- [Section E.4, IP Configuration](#)
- [Section E.5, Simple Network Management Protocol](#)

E.1 Startup Configuration

The menu provides several templates for configurations that your network may use. You can select a template (also known as a startup scenario), change the scenario's IP addresses and related information to reflect the values in your network, and load the scenario into the IBR-10 or ILR-100.

Note: If you want the device to keep the configured scenario, be sure to write (save) the configuration and reset the device.

To configure a basic setup for this device in your network, do the following:

- 1 On the Main Menu, select **QuickStart Config Builders**.
- 2 On the Startup Config Options menu, select the **Banking** set of configuration templates.
 - ❖ The menu for Startup Configuration Scenarios appears.

```

IBR-10
Startup Configuration Scenarios
-----
1) Bisync ATM to Ethernet WAN IP
2) Ethernet WAN to Async Poll Select
3) Ethernet WAN to Sync Poll Select
4) Ethernet WAN to Bisync
5) WAN/Serial(PPP) Router
6) WAN/Serial(Frame Relay) Router

Enter Choice :
```

- 3 Select one of the listed set-ups.

❖ The menu for the selected set-up (scenario) is displayed. (The menu shown is for **Ethernet WAN to Sync Poll Select**.)

```

Startup Configuration Parameters
-----
1) System Name          :
2) System IP Address    : 0.0.0.0
3) WAN Interface IP     : Dynamic
4) Serial Interface Sync Line Speed : 9600 Type: HOST
5) Local Poll Address   :
6) Local Group Poll Address :
7) Remote IP Address (N.N.N.N) : 0.0.0.0
8) Local Transmission Numbers : Auto
9) Remote Connection Type : Cts1
A) Remote TCP Port (1024 - 65535) : 1024

L) Load Above Config
V) reView/Modify Loaded Config
R) Reset (Write and Reset)
Z) Clear All Fields

Enter Choice :
```

Note: At this point, all IP addresses, etc., have null values. Before you can load the configuration into the IBR-10, BANDIT Mini, or ILR-100, you must enter values that reflect your network's settings.

4 For each item (parameter) in the menu, do the following:

a Select the item (for example, **WAN Interface IP**).

```
Enter IP Address :
```

b Type a value for the item, and press **Enter**.

c If the item requests additional information, enter that information.

❖ When the item has been configured, the scenario's menu is displayed again.

5 After you have performed [Step 4](#) for each item (parameter) in the menu, do one of the following:

a Select **Load Above Config**.

❖ The following prompt asks for confirmation. Go to [Step 6](#).

```
Caution: Existing configurations will be over written  
Do you want to Continue?(Y/N)[N]:
```

b Select **Reset (Load, Write and Reset)**.

❖ The following prompt asks for confirmation. Go to [Step 6](#).

```
Caution: Existing configurations will be over written  
Do you want to Continue?(Y/N)[N]:
```

c Select **Clear All Fields**.

❖ The following prompt asks for confirmation.

```
This Clears All the above Fields, Continue?(Y/N)[N]:
```

• Do one of the following:

◆ If you wish to reconfigure, enter **Y**.

❖ All fields in the menu are reset to null values. Return to [Step 4](#).

- ◆ If you do not wish to reconfigure, press **Escape** to return to the Startup Configuration Scenarios menu.
 - ❖ The configuration retains the settings you have entered, but they are not yet in use. Return to [Step 4](#).
- 6** To load the new configuration, enter **y**.
- ❖ The configuration is loaded into the IBR-10, BANDIT Mini, or ILR-100.
- Note:** When you write (save) a configuration entered on the Quickstart menu, other required settings are updated automatically. For example, when you enter the device's IP address, a path is automatically set up in the IP routing table to direct this IP address to the device's LAN port.
- ❖ If you selected **Reset (Load, Write, and Reset)**, the configuration is also saved. This makes the configuration permanent (unless you change it again). Then the device resets.
- 7** When the configuration has finished loading, press **Escape** until you return to the Main Menu. (Go to [Section D, Using the Main Menu](#).)
- 8** To save the configured scenario (if it has not already been saved), do the following:
- a** Write the configuration. (See [Section F, Saving \(Writing\) the Device's Configuration](#).)
 - b** Reset the device. ([Section G, Restarting \(Resetting\) the Device](#).)

E.2 Device Addresses

To configure the device's addresses, do the following:

- 1** On the Advanced Configurations menu, select **Local Addresses**.

```
BANDIT Plus
Configure Local Addresses
-----
1) IP Address : 192.168.169.1
2) BANDIT Name : BANDIT Plus

Enter Choice :
```

- 2** On the Configure Local Addresses menu, select **IP Address**.
- 3** Enter the device's IP address and press **Enter**. (Get the device's IP address from your network administrator.)
- 4** Select **BANDIT Name**.
- 5** Enter a unique name to identify this device in your network, and press **Enter**.

E.3 Ports

To configure software for the device's ports, do the following:

- 1 On the Advanced Configurations menu, select **Data Configuration**.
 - ❖ The Logical Port Protocol menu is displayed. (Table 2 lists the Line IDs for the ports.)

Table 2. Port Identifiers

Line ID	Physical (Hardware) Port	Default Software Configuration
C	COM/Supervisor port	Comm/Supervisor ^a
L	Ethernet LAN port	Ethernet
S	Serial port	Frame Relay
P	More ports ^b	(See Step 2.)

a. Do not modify the configuration for the Comm/Supervisor port.

b. These are virtual Logical Ports. A protocol configured on a Logical Port can be associated with a global path, which in turn is associated with a physical port. (See Section E.3.1, *Protocols*. For information on global paths, see the *BANDIT Products Software Configuration and Maintenance Guide*.)

- 2 On the Logical Port Protocol menu, select the physical port whose software configuration you wish to modify.
 - ❖ One of the following occurs:
 - If you are configuring a physical port on the chassis, the Logical Port Attribute menu appears. Go to Step 4.
 - If you are configuring a virtual Logical Port, the Virtual Logical Port menu is displayed. Continue to Step 3.

```

IBR-10
Logical Port Protocol      Mapped To      Port Interfaces
-----
1) UNDEFINED
2) UNDEFINED
3) UNDEFINED
4) UNDEFINED
5) UNDEFINED
6) UNDEFINED
7) UNDEFINED
8) UNDEFINED
9) UNDEFINED
10) UNDEFINED
11) UNDEFINED
12) UNDEFINED
13) UNDEFINED
14) UNDEFINED
15) UNDEFINED
16) UNDEFINED
17) UNDEFINED
P) More Ports...

Enter Port :
  
```

- 3 On the Virtual Logical Port menu, select the port to configure.
 - ❖ The Logical Port Attribute menu appears.
- 4 To modify the port's default settings, see the following:
 - [Section E.3.1, Protocols](#)
 - [Section E.3.2, DHCP Settings](#) (only for the WAN and LAN ports)
 - [Section E.3.3, Dial Backup Settings](#)

E.3.1 Protocols

To change the protocol that a port uses, or to modify attributes of a port's protocol, do the following on the Logical Port Attribute menu (see [Section E.3, Ports](#)):

- 1 If you wish to change the protocol the port uses, do all of the following:
 - a Select **Undefine Current Logical Port**.
 - b Select **Protocol**.
 - c On the Logical Port Protocol Selection menu, select the protocol you want this port to use. Go to Step 2a.
- 2 To modify parameters in the port's protocol, select **Protocol**.
 - ❖ The protocols available for the port are displayed. (This example shows protocols for a serial port. A serial port is available in models that support legacy protocols.)

```
Logical Port Protocol Selection Menu
```

```
-----  
1) Frame Relay  
2) Point-to-Point (PPP)  
3) MultiLink PPP  
4) X.25+  
5) SDLC Routing  
6) SDLC 1490 Configuration  
7) Bit Sync Encapsulation  
8) Asynchronous Encapsulation  
9) Serial Line IP (SLIP)  
A) Async Burroughs Poll/Select  
B) Sync Burroughs Poll/Select  
C) Bisync  
D) Telnet Terminal  
E) XXX PAD
```

```
Enter Choice :
```

- a On the protocol configuration menu, select and change parameters to work in your network.
- b When you have finished configuring the protocol, press **Escape** to return to the Logical Port Attribute menu.

E.3.2 DHCP Settings

To review settings that the WAN or LAN port uses for DHCP, or to modify or disable DHCP on a port, do the following on the port's Logical Port Attribute menu (see [Section E.3, Ports](#)).

Note: The WAN and LAN ports use different settings. Typically, a BANDIT device is a DHCP client on the WAN port and is a DHCP server on the LAN port. You may enable, modify, or disable use of DHCP on one port or on both ports.

1 Select DHCP Type.

❖ The DHCP Type menu appears.

```
DHCP Type
-----
1) Server
2) Client
3) None

Enter Choice :
```

2 Select the option you want this port to use.

❖ If you select **None**, the device does not use this port for DHCP. Press **Escape** until you return to the port's Logical Port Attribute menu. Go to [Step 5](#).

❖ If you select **Client**, the device uses this port to request its IP address. (On the WAN port, the device requests its *public* IP address.) No further configuration is required for the DHCP client role. Press **Escape** until you return to the port's Logical Port Attribute menu. Go to [Step 5](#).

❖ If you select **Server**, the device uses this port to assign IP addresses. (On the LAN port, the device assigns *private* IP addresses.) The Logical Port Attribute menu is redisplayed, with a menu item for configuring the DHCP server.

3 Select DHCP Server Parameters.

❖ The DHCP Server Parameters menu appears.

```
DHCP SERVER PARAMETERS
-----

1) Local DHCP Server IP Address (N.N.N.N):0.0.0.0
2) DHCP Pool IP Address Low (N.N.N.N) :0.0.0.0
3) DHCP Pool IP Address High (N.N.N.N) :0.0.0.0
4) DHCP Network Mask (N.N.N.N) :255.255.255.0
5) DHCP Lease Time (minutes) : 1440
6) Domain Name for DHCP clients:
7) Primary Router (N.N.N.N) :0.0.0.0
8) NETBIOS Server (N.N.N.N) :0.0.0.0
Enter the number of the item to change:
```

- 4 Select and configure each parameter the device will use as the local (intranet) DHCP server. When you have finished configuring the DHCP server, press **Escape** until you return to the port's Logical Port Attribute menu.
- 5 When you have finished configuring the port, press **Escape** until you return to the Main Menu.
- 6 Save the configuration and reset the device. See [Section F, Saving \(Writing\) the Device's Configuration](#), and [Section G, Restarting \(Resetting\) the Device](#).

E.3.3 Dial Backup Settings

- 1 To configure a port for dial backup, select **Dialup Configuration** on the Logical Port Attribute menu (see [Section E.3, Ports](#)).

Note: A port can be configured for dial backup only if its protocol supports dial backup. The port's Logical Port Attribute menu will not allow this option unless the protocol supports it. To select a protocol that supports dial backup, see [Section E.3.1, Protocols](#).

- 2 Configure the parameters for the dialup. When you have finished, press **Escape** to return to the Logical Port Attribute menu.

Note: This feature is not supported on the IBR-10.

E.4 IP Configuration

This section discusses additional IP components you must configure in order to use the IBR-10, BANDIT Mini, or ILR-100 as a network gateway.

- 1 On the Advanced Configurations menu, select **Routing**.
- 2 On the Routing menu, select **IP Routing**.
 - ❖ The IP Routing Configuration menu appears.
- 3 See the following:
 - [Section E.4.1, IP Routing](#)
 - [Section E.4.2, IP Quality of Service](#)
 - [Section E.4.3, Network Address Translation](#)
 - [Section E.4.4, Firewall](#)

E.4.1 IP Routing

To use the VPN feature to its capacity, you must configure the device's IP routing. Do the following:

- 1 On the IP Routing Configuration menu, select the **IP Routing Method** you wish to use (RIP or Static).

2 On the IP Routing Configuration menu, do the following:

- a If the IP routing method is **RIP**, select and configure **RIP Routing**. Follow the procedure for RIP routing in the *BANDIT Products Software Configuration and Maintenance Guide*.

Entry	IP Address	Net Mask	Gpt Name	Next Router	Mode	MTU
1	192.168.169.1	255.255.255.0	MODEM	0.0.0.0	Off	1500

Add, Modify, or Delete an Entry? (Enter A, M, or D):

- b If the IP routing method is **Static**, select and configure **Static Routing**. Follow the procedure for static routing in the *BANDIT Products Software Configuration and Maintenance Guide*.

Entry	IP Address	Net Mask	Next Router	Path Name	Hops
1	1.2.3.4	255.0.0.0	Unnumbered	a	1

Add, Modify, or Delete an Entry? (Enter A, M, or D):

For more information, see the *BANDIT Products Software Configuration and Maintenance Guide*.

E.4.2 IP Quality of Service

To use the VPN feature to its capacity, you must configure the device's IP Quality of Service. Do the following:

- 1 On the IP Routing Configuration menu, select **IP Quality of Service**.
- 2 On the IP Priority menu, select **Prioritization**.
- 3 On the IP Quality of Service menu, do the following:
 - a Select **Status**, and **Enable** IP quality of service.
 - b Select **Quality of Service Table**, and configure entries in the table.

#	Source Address	Src Port	Destination Address	Dest Port	Protocol	Path Name	Priority
1	*	*	*	*	*	*	Immediate
	*	*	*	*			
	*	*	*	*			

Add, Modify, Insert or Delete an Entry? - (A/M/I/D) :

- c Set a **Default Priority** for IP packets that do not match any entry in the table.

For more information, see the *BANDIT Products Software Configuration and Maintenance Guide*.

E.4.3 Network Address Translation

You can use the BANDIT products for network address translation (NAT). To use network address translation, do the following:

- 1 On the IP Routing Configuration menu, select **Network Address Translation**.
- 2 On the Network Address Translation menu, do the following:
 - a Select a NAT configuration scheme.
 - b Enable and configure the NAT configuration scheme according to your network plan—e.g., for masquerading, or for a NAT table.

For more information, see the *BANDIT Products Software Configuration and Maintenance Guide*.

E.4.4 Firewall

The default settings for the IBR-10, BANDIT Mini, or ILR-100 do not use the firewall feature. If you wish to configure the firewall, do the following.

- 1 On the Main Menu, select **Typical Configurations**.
- 2 On the Typical Configurations menu, select **Configure Firewall**.
- 3 On the Configure Firewall menu, configure the policy table, NAT profiles, and IP interfaces for your network's dynamic firewall.

For more information, see the *BANDIT Products Software Configuration and Maintenance Guide*.

E.5 Simple Network Management Protocol

If you wish to use Simple Network Management Protocol (SNMP) with the IBR-10, BANDIT Mini, or ILR-100, do the following to configure the device's built-in SNMP agent:

- 1 On the Main Menu, select **System Administration**.
- 2 When the system asks for your password, enter the default password and press **Enter**.

Note: If your product order requested a different, specific password, contact your system administrator for the password.
- 3 On the System Administration menu, select **SNMP Configuration**.
- 4 On the SNMP Configuration menu, do the following:
 - a Configure the **SNMP Get Community String**.
 - b Configure the **SNMP Set Community String**.
 - c Configure the **SNMP Trap Default Address**.
 - d Configure IP addresses for the **SNMP Trap Table**.
- 5 Now you can configure an SNMP manager on your control terminal. (Encore Networks does not furnish SNMP manager software.)

F Saving (Writing) the Device's Configuration

Note: If you do not save the configuration before you reset or exit the IBR-10, BANDIT Mini, or ILR-100 (or before the connection times out), the configuration will be lost.

After the unit has been configured, save (write) the configuration. Do the following:

1 On the Main Menu, select **Write Configuration**.

2 Select **Yes**.

❖ The device will notify you when it has saved the configuration.

Note: If the device's software detects an error in the configuration, it will not save it. Review the configuration. After you have revised the configuration to your satisfaction, save it.

3 Press **Enter**.

G Restarting (Resetting) the Device

To use the saved configuration, you must reset the IBR-10, BANDIT Mini, or ILR-100. Do the following:

Note: If you want to use your new configuration, you must save (write) the configuration before resetting the unit. Otherwise, the new configuration will be lost.

1 On the Main Menu, select **Reset Unit**.

2 Select **Yes**.

Note: If you have not yet saved the new configuration, the system asks whether to save it. Answer **yes** or **no**.

❖ The device resets.

3 Regardless of screen instructions, do not type anything until you see the banner: **BANDIT, ENCORE NETWORKS INC.** Then press **Enter**.

❖ The Main Menu is displayed.

H Exiting a Session

After the software has been configured, save (write) the configuration. Then exit the session before disconnecting the PC, so that communication is not disrupted.

! **Caution:** Before you exit, make sure you save (write) the configuration. Otherwise, the changes you configured will be lost. See [Section F, Saving \(Writing\) the Device's Configuration](#).

To exit the session, do the following:

1 On the Main Menu, select **Exit Session**.

❖ The following prompt is displayed.

Are You Sure? :

2 Select **Yes**.

Note: If the configuration has not been saved, the device asks you whether it should save the new configuration. Answer **Yes** (or **No**, if you prefer not to save the configuration).

❖ The system notifies you that it is ending the session.

Ending Session...

Note: To reconnect to the device and start a new session, press **Enter**.

❖ The terminal's connection to the BANDIT starts up, and the BANDIT's Main Menu is displayed.