



WIBOX 2100E



WiBox 2100E Quick Start Guide



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WHAT'S IN THE BOX

In addition to the WiBox, your package contains the following items:

PART NUMBER

500-164

520-079-R

520-080-R

930-029

DESCRIPTION

DB9F-DB9F Null Modem Cable

Power Supply (domestic model only)

Power Supply (international model only)

Antenna, Omni-directional Reversed Polarity
SMA 2.15dbi

DOCUMENTATION:

CD-ROM containing WiBox User Guide, Com Port Redirector software, and documentation.

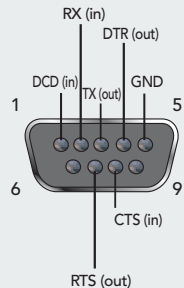
OVERVIEW

The WiBox 2100E allows serial devices to connect and communicate over 802.11b/g wireless networks using IP protocol (TCP for connection-oriented stream applications and UDP for datagram applications). In addition, the WiBox 2100E includes an RJ45(10/100) Ethernet port for communication to Ethernet devices.

This Quick Start Guide explains how to connect, configure and troubleshoot your unit using a serial connection to a terminal or a PC running terminal emulation software such as Hyperterminal. For more detailed information, refer to the WiBox Users Guide on the provided CD.

PINOUTS

DB9M DTE Serial Connector



The two DB9M DTE serial ports provide default settings for RS-232C communications running at 9600 baud, 8 bits, no parity, and 1 stop bit (9600, 8, N, 1).



Note: See User Guide for RS422/485 pinout.

WiBox Ethernet Connection



GETTING STARTED

REQUIRED SETTINGS

For the WiBox to operate on a wireless network, two critical settings are required:

1. IP address settings
2. Appropriate wireless settings

By default, the WiBox is set to Ad Hoc network mode and its wireless network name (SSID) is LTRX_IBSS.

DHCP

Many networks use an automatic method of assigning an IP address called DHCP. The WiBox supports DHCP. However, before it can accept an IP address from DHCP, the wireless settings must be configured.

In most installations, a fixed IP address and wireless LAN settings are desired. The systems administrator generally provides these.

IP Address: _____

Subnet Mask: _____

Gateway: _____

WLAN SSID: _____ case-sensitive

WEP Enabled Y/N? _____

WEP Key 64 bit or
128 bit: _____

WEP Key: _____ entered in HEX format (0-9 A-F)
xx-xx-xx-xx-xx-xx-xx-xx-xx-xx-xx

CONNECT

Initial configuration is done using Serial Mode.

Complete the following steps to connect and configure the WiBox:

1. Connect one end of the supplied DB9F – DB9F null modem cable to serial port 1 on the WiBox.
2. Connect the other end of the DB9 serial cable to a terminal or a PC's serial COM port.
3. On the PC, open a terminal emulation application (e.g. HyperTerminal). The default serial settings are: 9600 baud, 8 bits, no parity, 1 stop bit and no flow control (9600, 8, N, 1).
4. Enter Setup Mode by simultaneously connecting the power supply and holding down the **x** key on the keyboard.
5. Upon connection, the following information displays:

```
*** Lantronix WiBox Device Server ***
MAC address 00204A89A259
Software version U6.6.0.0 <080116>
AES library version 1.8.2.1

Press Enter for Setup Mode
```

6. Press **Enter** within 5 seconds to display the **Change Setup** menu.

CONFIGURE IP ADDRESS

Two configuration options must be set for the WiBox to communicate on a wireless network:

1. The Server (0) settings
2. The WLAN (4) settings

Current settings are displayed in parentheses.

1. To configure the Server settings, select **0** from the **Change Setup** menu and edit the following fields:
 - a) **Network Mode:** Select the network mode for the WiBox. Options available are **Wired Only**, **Wireless Only**, and **Bridging**.
Note: *The bridging option is available in firmware version 6.2 and later.*

```
Network Mode <0=Wired Only 1=Wireless Only
2=Bridging<One Host> >:
```

- b) **IP Address:** The IP address must be set to a unique value in the network. Enter each octet and press **Enter** between each section.

```
IP Address: IP Address: (0) (0) (0) (0) _
```

- c) **Set Gateway IP Address:** The gateway address should be the IP address of the router connected to the same LAN segment as the WiBox unit.

```
Set Gateway IP Address (N)? N
```

CONFIGURE IP ADDRESS CONTINUED

- d) **Netmask:** The netmask defines the number of bits taken from the IP address that are assigned for the host part. Enter the number of host bits. If you leave this blank and press **Enter**, the WiBox will set the subnet mask to a standard netmask for the IP address assigned in step a) above.

```
Netmask: Number of Bits for Host Part
(0=default) (0) _
```

- e) **Set DNS Server IP Address:** The DNS server allows the name of a remote machine to be resolved automatically. The default is **N** (No), indicating the DNS server address has not been set. To set the DNS server address, type **Y**. At the prompt, enter the DNS server address. If the device is DHCP enabled, the DHCP server provides the DNS server IP address, which will override this configured value.

Note: This setting is applicable only in Manual Connection mode.

```
Set DNS Server IP addr (N) ?
```

- f) **Change Telnet Configuration Password:** Change the Telnet configuration password to prevent unauthorized access to the Setup Menu.

```
Change telnet config password (N) ? _
```

- g) **Change DHCP Device Name:** Change the DHCP name if desired.

```
Change DHCP device name (not set) ? (N) N
```

CONFIGURE WLAN SETTINGS

1. To configure the WLAN settings, select **4** from the **Change Setup** menu and edit the following fields:

- a) **Topology:** Select **Infrastructure** (ESS) or **Adhoc** (IBSS). Infrastructure mode communicates with Access Points. Ad Hoc mode communicates only with other clients.

```
Topology 0=Infrastructure, 1=Adhoc (0) ?
```

- b) **Network Name:** Enter the network name (SSID). The default is displayed in parentheses.

```
Network name (SSID) (LTRX_IBSS) ?
```

- c) **Channel:** If **Adhoc** was selected, select the channel. Channel 11 is the default.

```
Channel (11) ?
```

- d) **Security:** As an additional security measure, enable WEP on the WiBox.

```
Security 0=none, 1=WEP, 2=WPA, 3=WPA2/802.11i (0) ? _
```

- e) **Authentication:** When WEP is enabled, select an authentication scheme.

```
Authentication 0=open, 1=shared (0) ? _
```

CONFIGURE WLAN SETTINGS CONTINUED...

- f) **Encryption:** When WEP is enabled, select the encryption type.

```
Encryption 0=WEP64, 1=WEP128 (0) ? _
```

- g) **Display current key (N):** Select **Y** to display the current key.

- h) **Change Key:** Displays when WEP is enabled. Select **Y** to change the encryption key.

```
Change Key (N) ? _
```

- i) **Key type:** 0=Hex, 1=Passphrase (0) ?

- j) **Enter key:** Enter the key at the prompt. **WEP key must be entered in HEX format (0-9 A-F) xx-xx-xx-xx-xx-xx-xx-xx-xx-xx-xx-xx.**

- k) **TX Key index:** Select the WEP key used for transmissions.

```
TX Key index (1) ? 1
```

- l) **TX Data Rate:** 0=Fixed, 1=Auto fallback (1) ?

If **0(Fixed)** is selected:

```
TX Data rate 0=1, 1=2, 2=5.5, 3=11
4=18, 5=24, 6=36, 7=54 Mbps (3) ?
```

CONFIGURE WLAN SETTINGS CONTINUED

- m) **Enable Power Management:** Select **Y** to reduce the WiBox's overall power consumption. **Note:** Enabling power management increases the unit's network response time.

```
Enable power management (N) ? _
```

- n) **Enable Soft AP Roaming:** Choose to enable **Y** (Yes) or disable **N** (No) Lantronix's Smart Roam technology. The default value is N. If enabled, SmartRoam manages the dynamic list of APs belonging to the same network as the AP to which the WiBox is currently associated and stores relevant selection criteria for this list.

```
Enable Soft AP Roaming (Y) ?
```

2. Upon completing the IP and WLAN settings configuration, select menu option **9** to save and exit the WiBox Serial Mode.

TEST CONNECTION

The WiBox is ready for wireless connection. To verify that the WiBox established a WLAN connection, open a browser from a PC on the same wireless network and enter the IP address of the WiBox in the URL field, <http://xxx.xxx.xxx.xxx>. The WiBox web interface should appear.

When configuration is complete, disconnect the serial cable from the PC to the WiBox. This cable may also be used to connect various serial devices to the WiBox.

TROUBLE SHOOTING

WIBOX LEDS

SERIAL LEDS

MEANING

Power LED: Green, steady on

Power is on

Wireless Link LED: Yellow, blinking

Active wireless connection, transmitting/receiving

Wireless Link LED: Yellow, off

Port 1 LED flashes (pauses and repeats) 4 times

No active connection, searching for network connection

Ethernet Link LED: Green, steady on

Active network connection

Port 1 LED: Green, steady on

Idle

Port 1 LED: Green, blinking

Active TCP connection

Port 2 LED: Yellow, steady on

Idle

Port 2 LED: Yellow, blinking

Active TCP connection

CONTACT

For questions and technical support, please check our online knowledge base at www.lantronix.com/support

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