ES-450JE

Ethernet Tactile Control Surface

Operations Manual

JLCooper ELECTRONICS

ES-450J USB User's Manual, Second Edition
Documentation Part Number 932112

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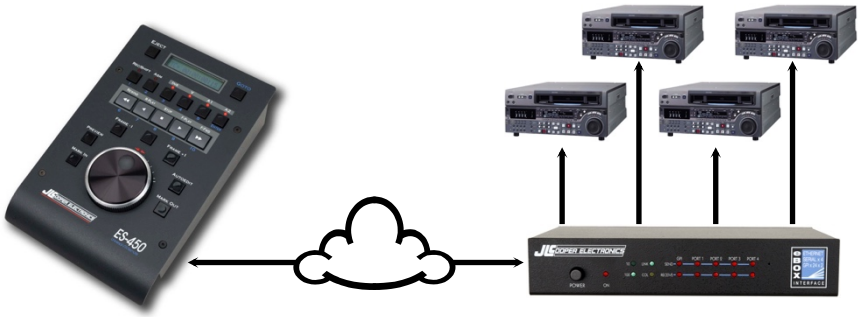
Introduction

- The ES-450JE is a compact controller for video editing applications. The ES-450JE is a companion product to software based applications.
- ES-450JE features include durable transport buttons, professional Jog Wheel / Shuttle Ring for convenient picture search operations, an easy to read 16 character LCD display and an integrated data and power cable to minimize desktop clutter.
- Starting with v1.06 firmware, the ES-450JE has the ability to work with the JLCooper eBOX. In this application, the ES-450JE connects to the eBOX via an Ethernet connection. The eBOX has four serial ports that can connect to four VTRs or video server channels as illustrated in the image below.



Connecting

Connecting the ES-450JE is straightforward. Simply connect the ES-450JE to a free Ethernet port on your network. The ES-450JE is powered from the power connector on the rear panel.

To configure the ES-450J USB to operate with a specific software application, refer to the setup documentation for that software application.

The ES-450JE uses TCP/IP to communicate with a host device such as a computer.

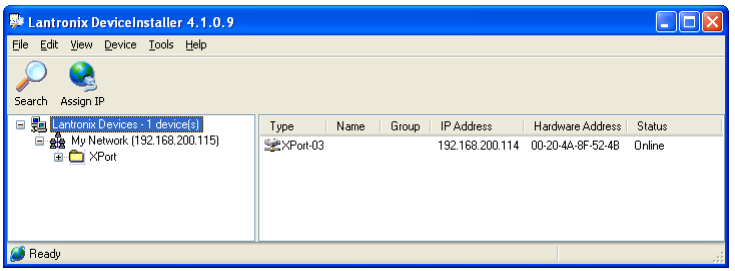
> *Note: Before configuring your JLCooper Ethernet based controller, you will need a unique IP address for each controller you wish to use. Your network administrator can supply this to you.*

Configuring the Ethernet Interface

1. Install the Lantronix Device Installer v4.x.x.x and Redirector
   This is located on the Install CD that came with the product. Alternately, it can be downloaded from the JLCooper Support Site at: http://jlcooper.com/pages/downloads.html.

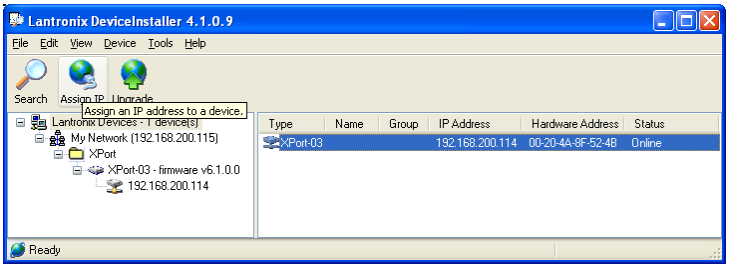
2. Launch Device Installer.
   Press Search. The Device Installer application will look for all the Lantronix products on your network. The factory default of the Ethernet Interface is 192.168.200.114. If you do not see this, you will need to change the IP address of your computer to 192.168.200.nnn (for example, 192.168.200.1) and subnet to 255.255.255.0 so the computer can communicate with the controller.

   Also, if there is more than one Ethernet Interface on the network, there will be an IP address conflict that will need to be resolved before using the units.

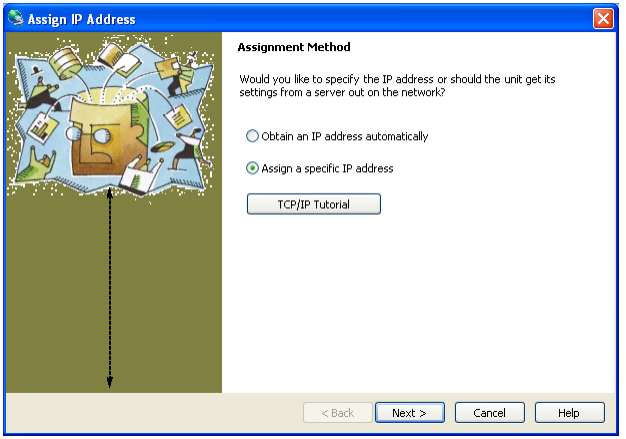


3. Assign an IP Address to the Controller.
   The Ethernet interface in your JLCooper Controller is capable of automatically obtaining an IP address from a DHCP server. If you have a DHCP server on your network, you will see a DHCP assigned IP address. Because it is possible for DHCP assigned IP addresses to expire and get assigned to other devices, it is strongly recommended that you manually assign a fixed IP address to the controller.

   In the Device Installer window, highlight the item that matches the Hardware (MAC) Address of your controller.

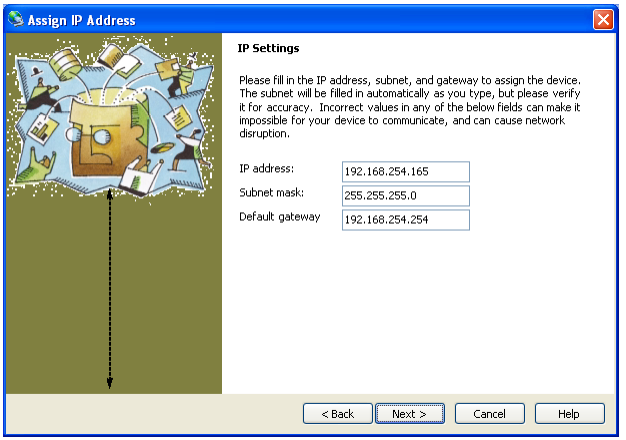


Click on Assign IP and follow the directions in the following dialog boxes.

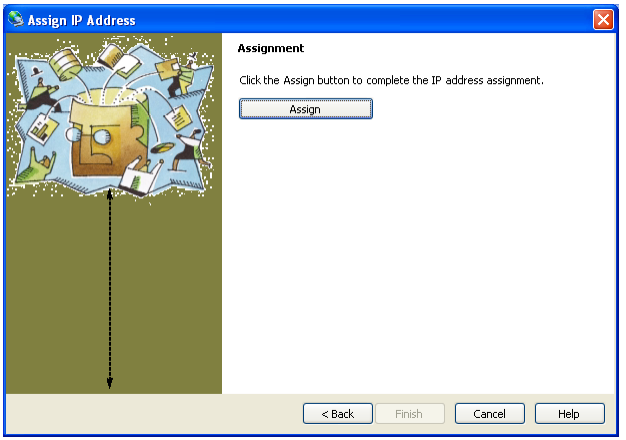


Enter your IP address, Subnet Mask and Default Gateway in the text boxes. You can assign any valid IP address to the Ethernet interface. In the example below, the IP address is set to 192.168.254.165, the

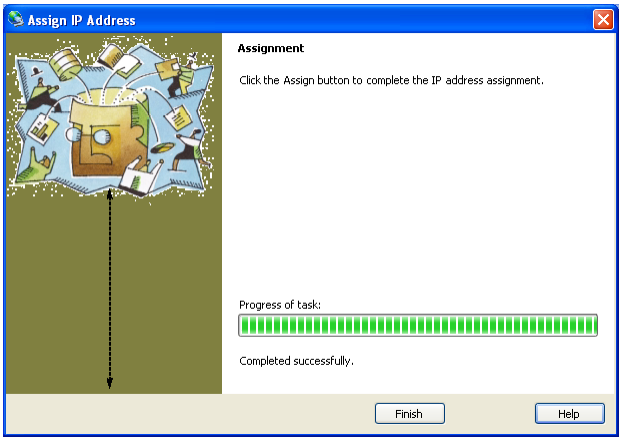
Subnet Mask is 255.255.255.0 and the Default Gateway is 192.168.254.254.



Click Assign.

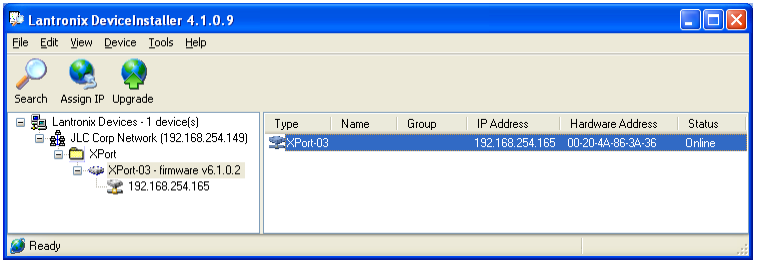


Click Finish.

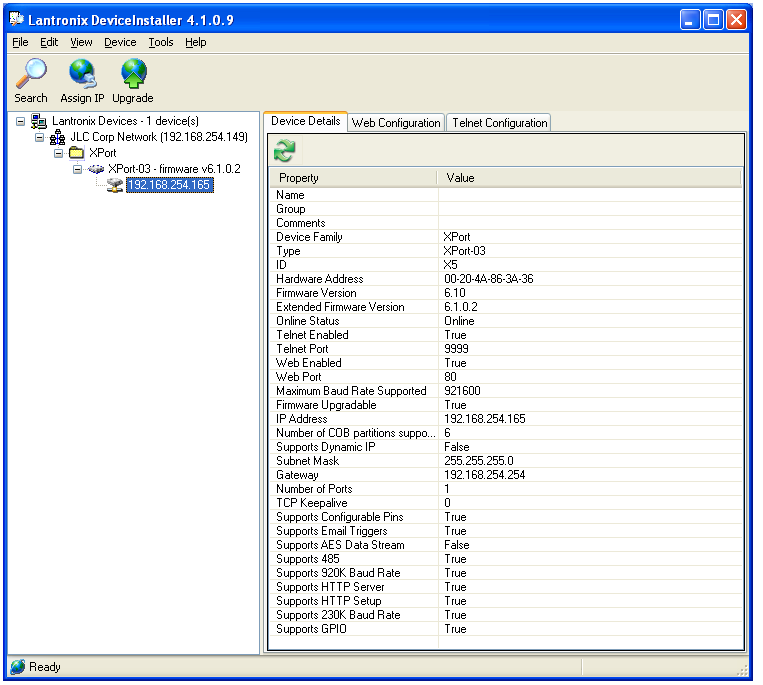


Note: If you change the IP address to an address that is not in your subnet, you will not be able to connect to the Ethernet Interface until you change the IP address of your computer to an address that is in the subnet range of the Ethernet Interface.

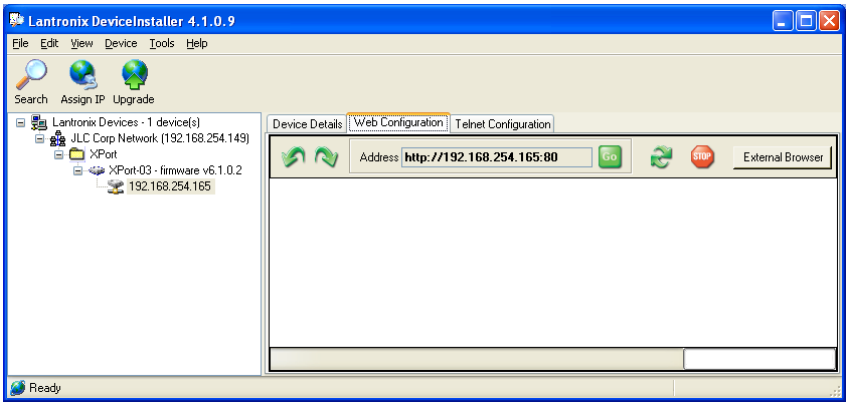
4. Configure device settings.
   In the Device Installer window, highlight the item that matches the Hardware (MAC) Address of your controller.



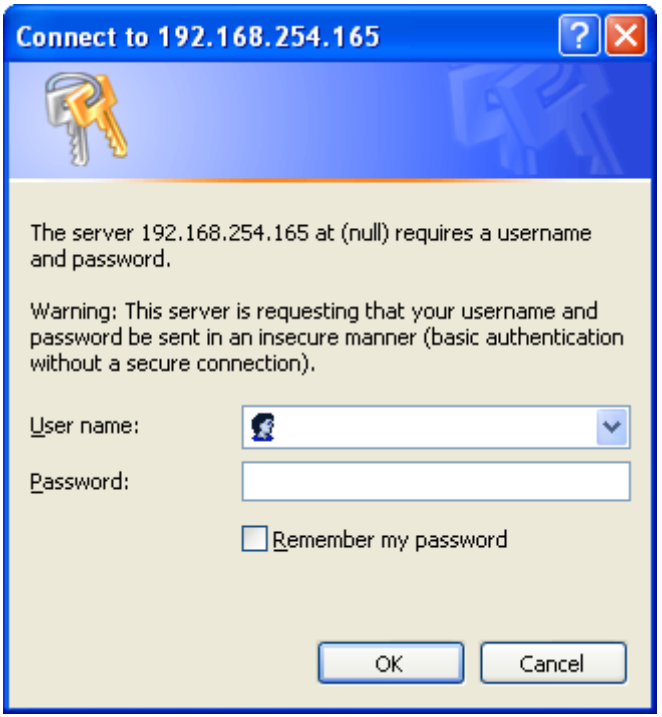
Double click the item and the Device Details window will open as shown below. Click on the Web Configuration tab.



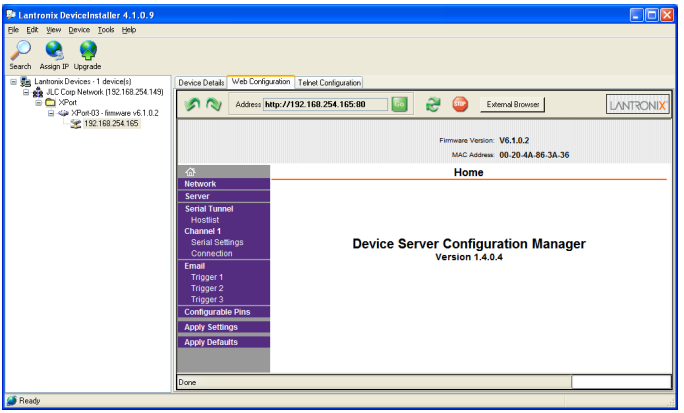
A small web browser window will appear. Click the Go button.



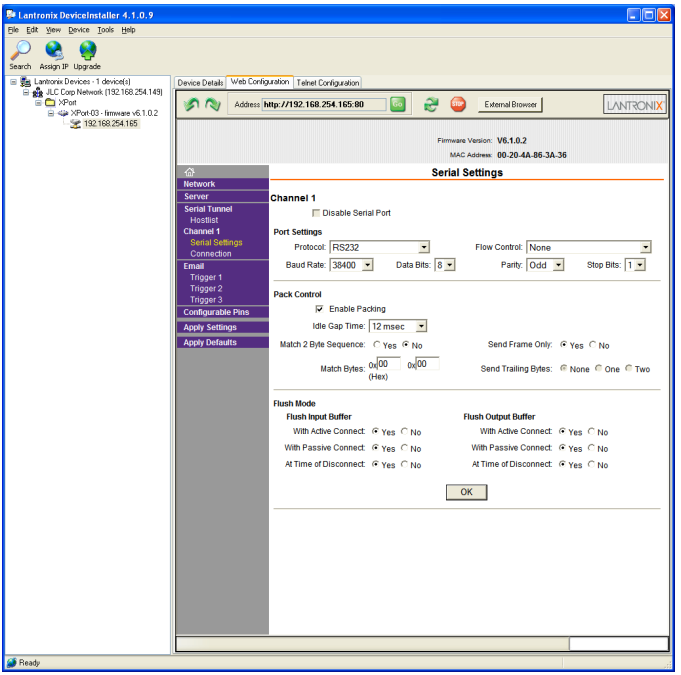
A password dialog box will appear. Click OK with a blank User name and password.



The web based configuration page will appear. Click on the Channel 1 Serial Settings link.



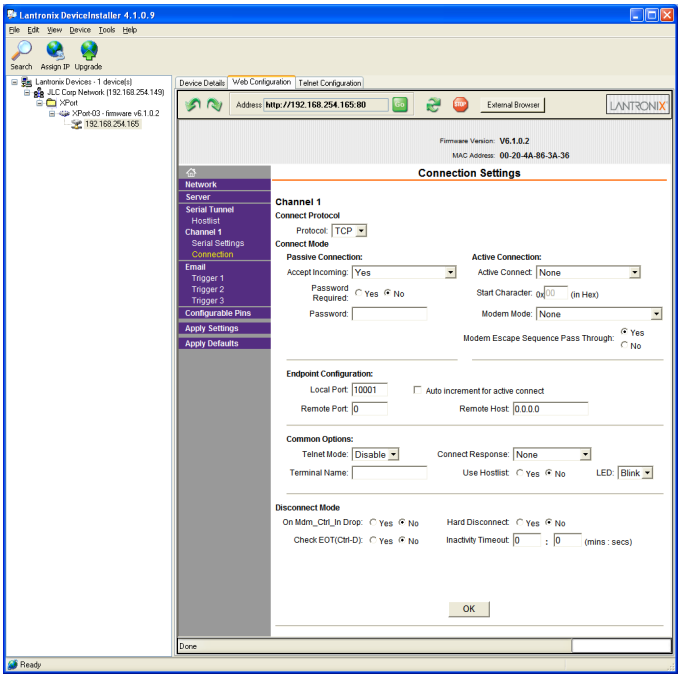
The Serial Settings page will appear. Configure the page as shown below.



Note: the ES-450JE in Host Mode uses No Parity.

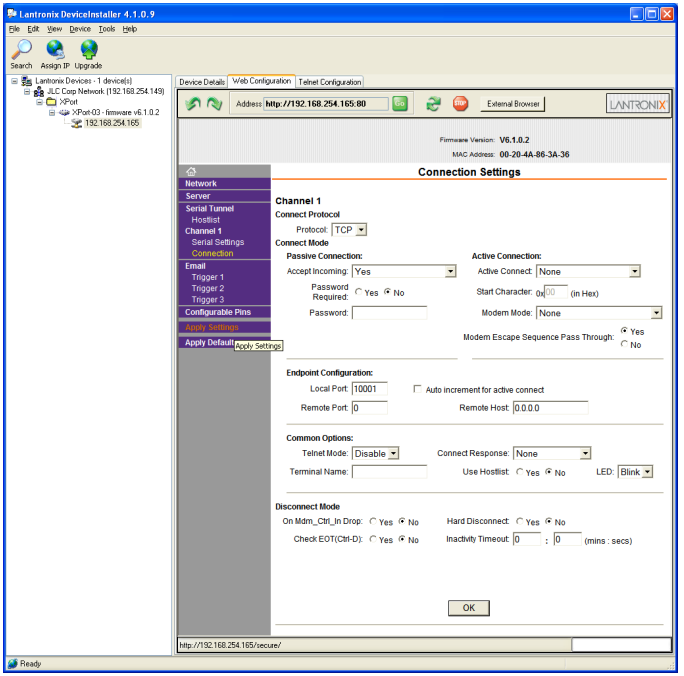
Click OK.

If the TCP port or any other TCP/IP settings need to be configured for your specific environment, click the Channel 1 Connections link.

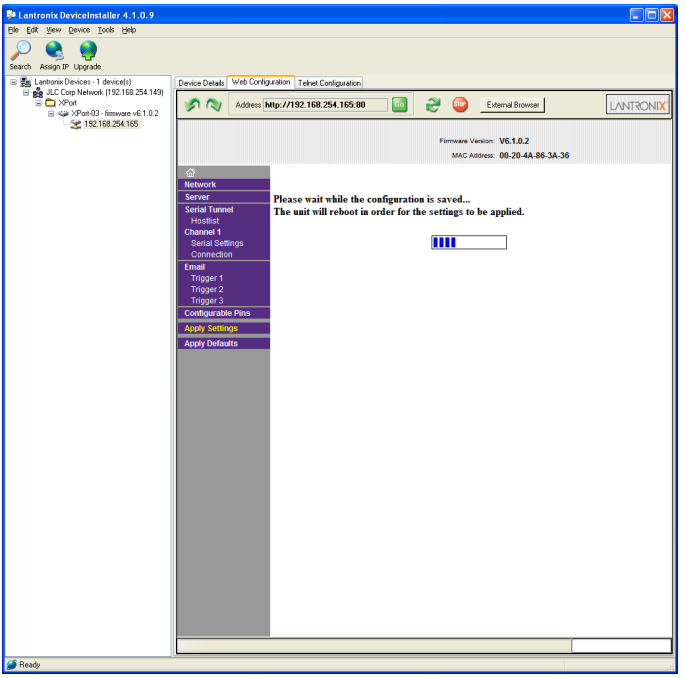


Click OK.

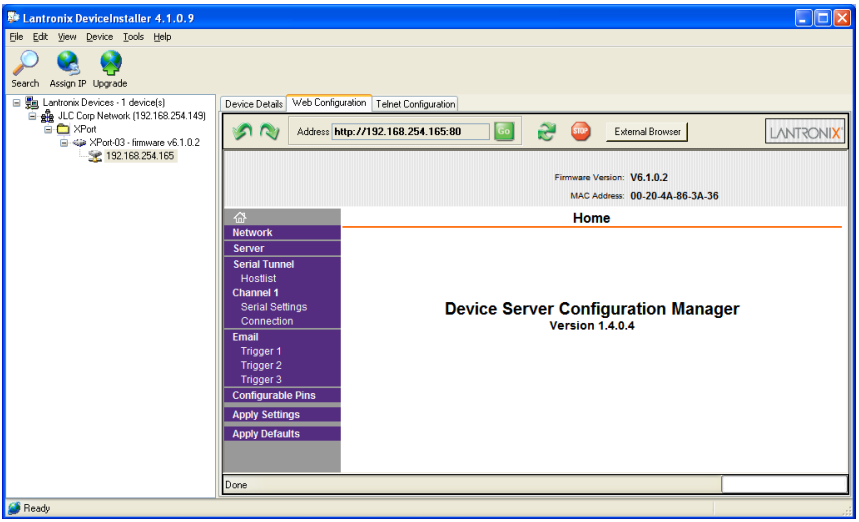
After configuring the Ethernet Interface, click on the Apply Settings link.



The Ethernet Interface will store the settings in nonvolatile memory and restart.



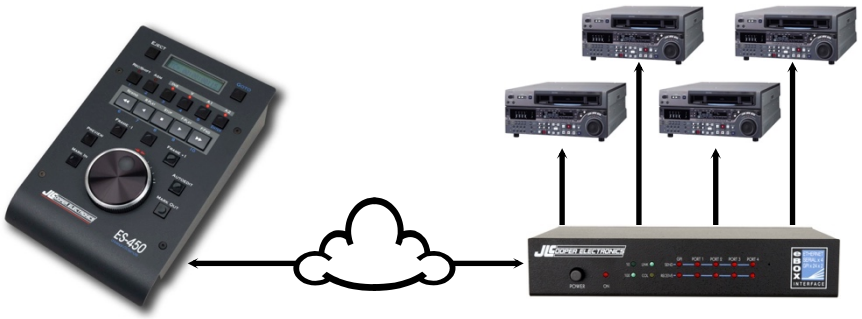
After the Ethernet Interface restarts, the device will return to the Home Page. The Ethernet Interface is now ready to use.



Using the ES-450JE with an eBOX

Starting with v1.06 firmware, the ES-450JE has the ability to connect to the eBOX over an Ethernet connection and control up to four devices.

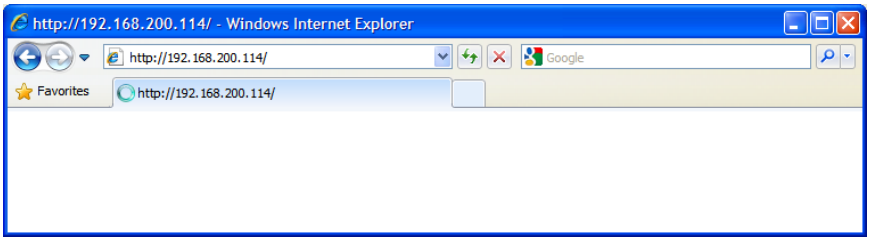
In the following example, we will use the following settings to configure an ES-450JE and eBOX to communicate.



Configuring the ES-450JE

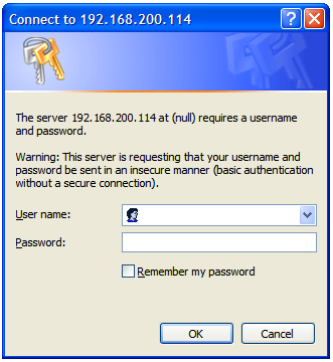
To configure the ES-450JE, simply use the configuration web page. The default address of the configuration web page is:

192.168.200.114



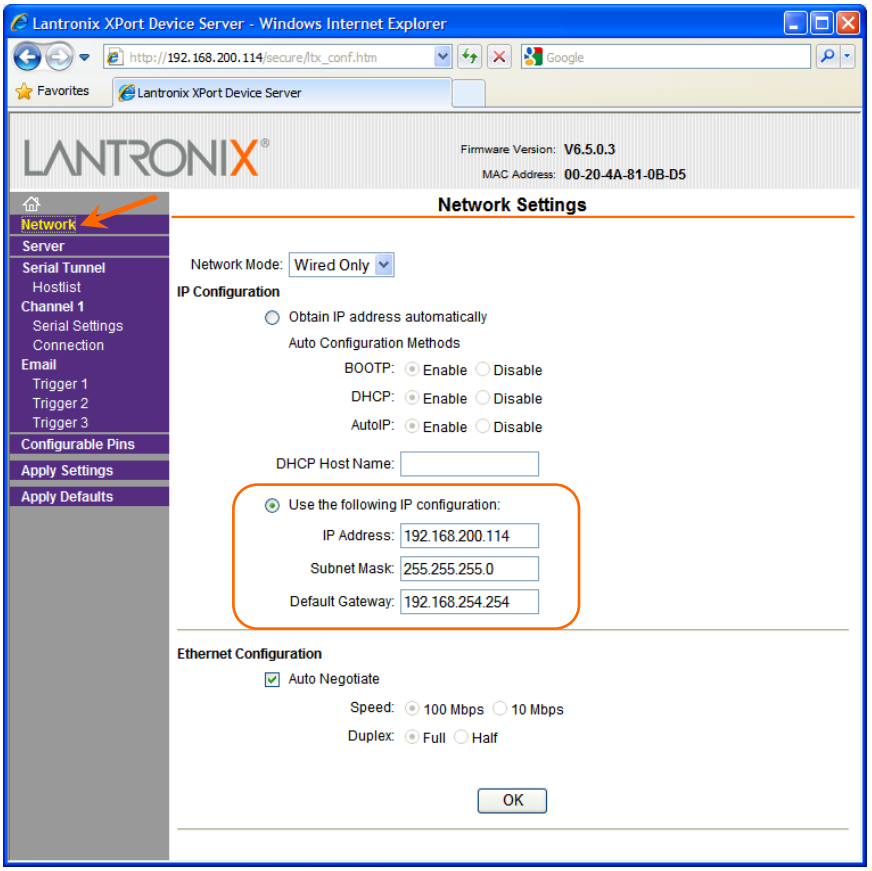
Note: you may have to change the network settings of your computer (specifically the IP Address) to match the subnet of the ES-450. Contact your network administrator for assistance.

You will see a log in screen similar to the one shown below.



Click on the OK button.

After clicking OK, the following webpage will appear. If it does not, simply click on the Network item on the left side of the page.



Verify that the *Use the following IP configuration* option is selected.

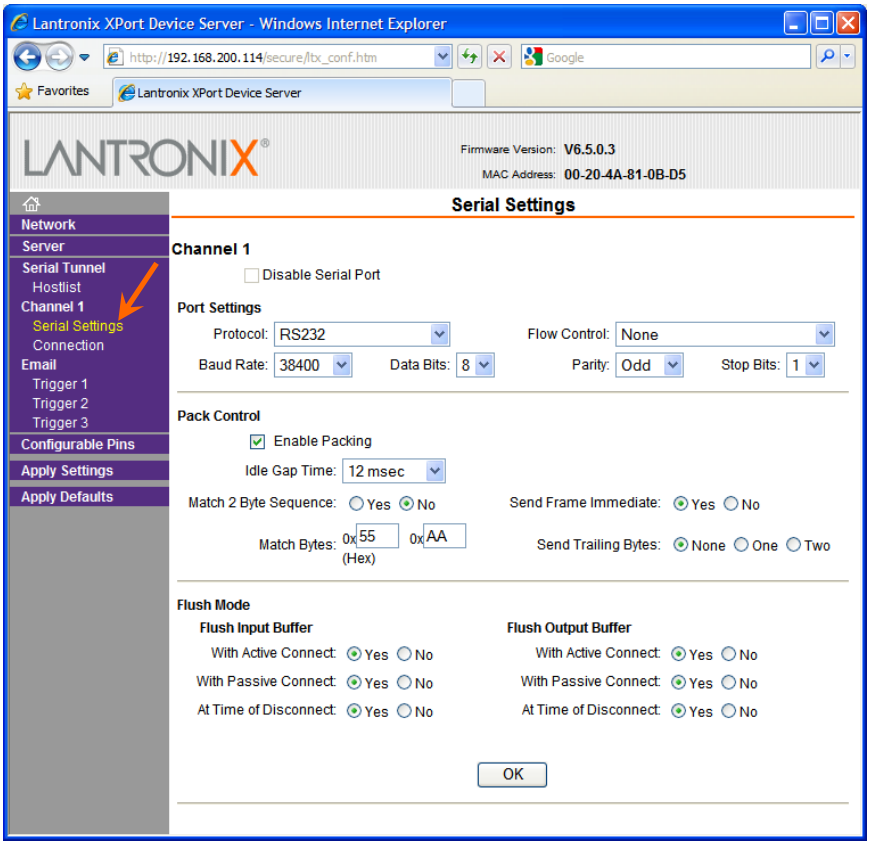
In the *IP Address* box, enter the desired IP Address of the ES-450.

In the *Subnet Mask* box, enter the necessary Subnet Mask of the ES-450.

If the ES-450 will communicate through a router or gateway, enter the IP Address of the gateway in the *Default Gateway* box.

Click OK.

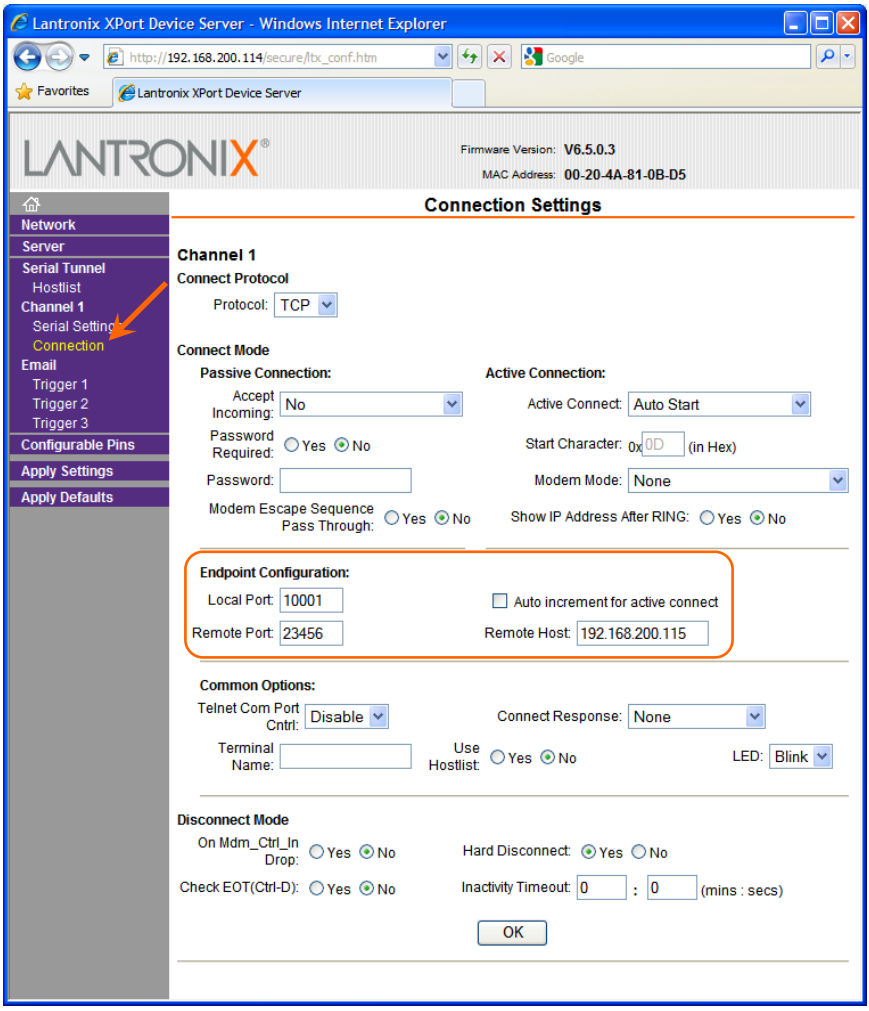
Next, click on the Serial Settings item on the left side of the page. Verify that the parameters are configured as shown.



Note: the ES-450JE in eBOX Mode uses No Parity.

Click OK.

Next, click on the Connection item on the left side of the page. Verify that the parameters are configured as shown.



The parameters in *Endpoint Configuration* section will need to be configured for your specific network environment.

The *Local Port* parameter is the TCP port that the ES-450 uses to communicate with the eBOX. The ES-450 acts as a TCP client so connections will be established from this port. In this example, we will use port 10001. You can use any port except ports 1-1024, 9999, 14000-14009, 30704 and 30718.

The *Remote Port* parameter is the TCP port of the eBOX. You can use any port except ports 23, 80 and 4141. In this example, we will use port 23456.

The *Remote Host* parameter is the IP Address of the eBOX. You can use any valid IP Address. In this example, we will use IP Address 192.168.200.115.

> *Note: If the IP Address is not in the subnet as defined by the subnet mask, the ES-450 will attempt to use the gateway to establish a connection with the eBOX.*

When the ES-450 is powered up, it will perform the following steps:

- Open port 10001 (*Local Port*) to connect to the eBOX.
- Attempt to connect to the eBOX using the Remote Host and Remote Port.

Configuring the eBOX

Now that the ES-450 is configured, the eBOX must be configured. In this application, the eBOX will be configured as a TCP server. In other words, the eBOX will passively sit on the network waiting for another device to connect to it. In this case, it will be the ES-450.Before the ES-450 can successfully communicate with the eBOX, the eBOX must be configured with appropriate parameters.

To configure the eBOX, download and install the eBOX Configuration Utility from the JLCooper Support website.

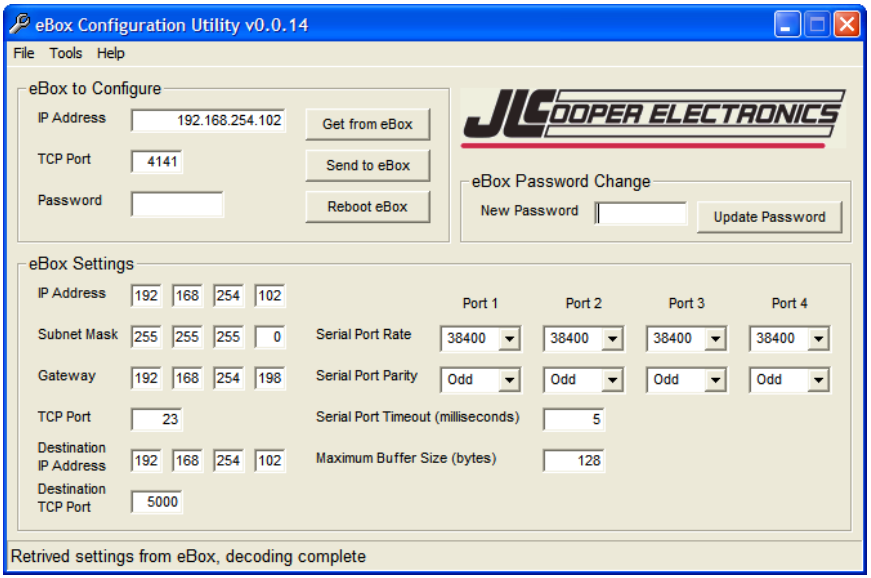
http://www.jlcooper.com/pages/downloads.html

Set the eBOX to a known IP Address such as 192.168.254.102 by setting the rear panel DIP switches as detailed in the chart below:

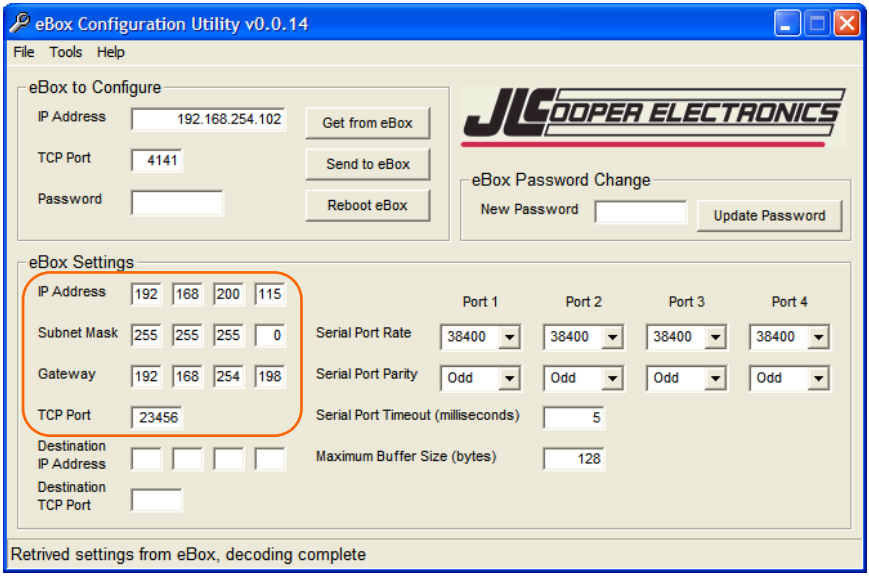
Dip Switch

1	2	3	4	5	6	7	8
Down	Down	Down	Down	Down	Up	Down	Down

Launch the application. You will see the following screen.



Change the following parameters highlighted below in the eBOX Settings section:



The IP Address parameter is the IP Address of the eBOX. You can use any valid IP Address. In this example, we will use IP Address 192.168.200.115.

The Subnet Mask parameter is the Subnet Mask of the eBOX. If the remote device (in this case, the ES-450) is not in the same subnet as the eBOX, the eBOX will communicate through the gateway.

The Gateway parameter is the IP Address of the gateway that the eBOX uses when the remote device (in this case, the ES-450) is not in the same subnet as the eBOX.

The TCP Port parameter is the TCP port that the eBOX listens on for a connection from the remote device (in this case, the ES-450). You can use any port except ports 23, 80 and 4141. In this example, we will use port 23456.

To save the settings, click on the *Send to eBOX* button.

To have the settings take effect:

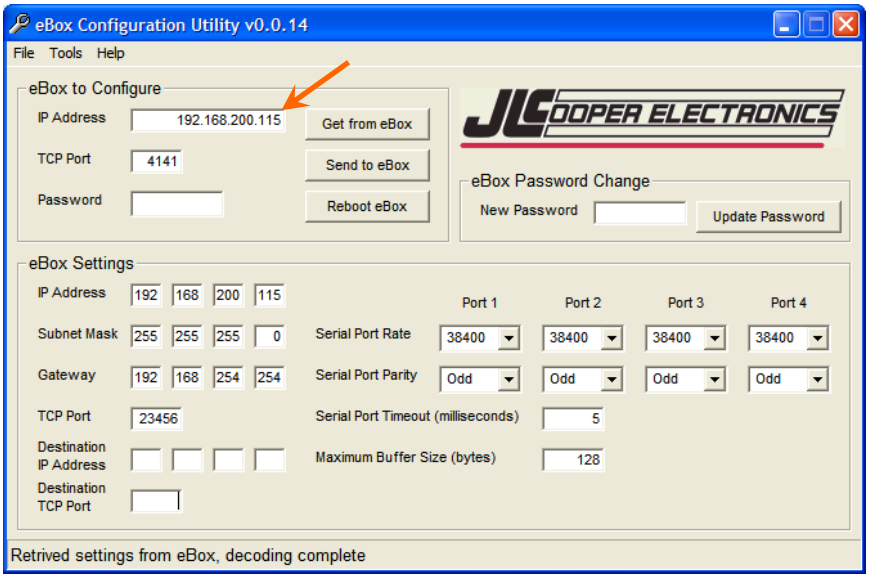
1. Power the eBOX off.
2. Set the eBOX to use the user programmable IP Address by setting the rear panel DIP switches as detailed in the chart below:

Dip Switch

1	2	3	4	5	6	7	8
Up	Up	Up	Down	Down	Up	Down	Down

3. Power the eBOX on.

You can verify the settings by entering the new IP address of the eBOX and clicking on the *Get from eBOX* button.



The parameters in the eBOX Settings section should match the settings you previously entered.

Using the ES-450 with the eBOX

Because the ES-450JE has more functions compared to the normal ES-450, the EJECT button is now used modifier button. That is, pressing it allows the operator to modify the operational characteristics of the ES-450JE.

Configuring the mode of operation

The ES-450JE has three modes of operation.

- Host Mode
  In Host Mode, the unit acts as a computer peripheral and communicates using the Host Mode protocol. This is selected by removing the jumper internal to the unit.
- EBOX Mode
  In eBOX Mode, the unit communicates with the eBOX using the eBOX protocol. The internal jumper must be installed to access this mode. This mode can be selected by pressing EJECT + STOP until the display shows ***eBOX Mode***.
- Doremi Mode
  In Doremi Mode, the unit communicates with a Doremi video server using the Doremi protocol. The internal jumper must be installed to access this mode. This mode can be selected by pressing EJECT + STOP until the display shows ***Doremi Mode***.

  Note: Doremi Mode is not fully implemented at this time.

Using eBOX Mode

As previously mentioned, the ES-450 can control up to 4 devices. These devices can be selected by using the EJECT and GOTO buttons.

Routing commands to the eBOX Serial Ports

Pressing EJECT with a numbered button allows you to enable or disable the transmission of commands from the ES-450 to specific serial ports on the eBOX.

- EJECT + 1 (REC/SHIFT)
  Enables or disables the transmission of commands to Port 1 on the eBOX. This is indicated by the LED above the 1 button.
- EJECT + 2 (ASM)
  Enables or disables the transmission of commands to Port 2 on the eBOX. This is indicated by the LED above the 2 button.
- EJECT + 3 (INS)
  Enables or disables the transmission of commands to Port 3 on the eBOX. This is indicated by the LED above the 3 button.
- EJECT + 4 (V)
  Enables or disables the transmission of commands to Port 4 on the eBOX. This is indicated by the LED above the 4 button.

Routing responses from the eBOX Serial Ports

Pressing EJECT + GOTO with a numbered button allows you to enable or disable the reception of responses such as timecode and status from specific serial ports on the eBOX to the ES-450. This is also known as Tally.

- EJECT + GOTO + 1 (REC/SHIFT)
  Enables or disables the reception of responses from Port 1 on the eBOX. This is indicated by the LED above the 1 button.
- EJECT + GOTO + 2 (ASM)
  Enables or disables the reception of responses from Port 2 on the eBOX. This is indicated by the LED above the 2 button.
- EJECT + GOTO + 3 (INS)
  Enables or disables the reception of responses from Port 3 on the eBOX. This is indicated by the LED above the 3 button.
- EJECT + GOTO + 4 (V)
  Enables or disables the reception of responses from Port 4 on the eBOX. This is indicated by the LED above the 4 button.

Note: Only one serial port on the eBOX can be selected for the reception of responses or Tally.

JLCooper Electronics Limited Factory Warranty

JLCooper Electronics ("JLCooper") warrants this product to be free of defects in materials or workmanship for a period of 12 months from the date of purchase. This warranty is non-transferable and the benefits apply only to the original owner. Proof of purchase in the form of an itemized sales receipt is required for warranty coverage. To receive service under this warranty, customers in the United States should contact the JLCooper factory at (310) 322-9990 and talk to a service technician. If necessary, a Return Authorization number may be issued. For our customers outside the United States, it is recommended that you first contact your Dealer or Distributor, since they may offer their own service or support policy. If local support is not obtainable, please send a FAX to JLCooper's Service Department at +1 310 335 0110 with a detailed description of the service required. Upon issuance of return authorization, the product should be packed in the original shipping materials and shipped prepaid and insured to: Service Department, JLCooper Electronics, 142 Arena Street, El Segundo, CA 90245. Please include the following: copy of the sales receipt, your name and address (no P.O. Boxes, please), a brief description of the problem, and any other related items discussed with the service department and considered necessary to evaluate the product or effect a repair. The return authorization number must be clearly written on the outside of the package. JLCooper will, at its option, without charge for parts or labor, either repair or replace the defective part(s) or unit. Shipping costs, duties, customs, brokerage and other fees to and from JLCooper are not covered by this warranty. JLCooper's normal repair turn around time at the factory is approximately 10 business days from receipt of product to shipping. Your actual turn around time will include return shipping. Actual turn around time will vary depending upon many factors including the repeatability of the customer's reported complaint, the availability of parts required for repair, the availability of related products needed to evaluate the product if necessary. Priority services are available at additional cost. These should be discussed with the service representative at the time the return authorization is issued. This warranty provides only the benefits specified and does not cover damage, defects or repairs needed as result of acts beyond the control of JLCooper including but not limited to: abuse, damage by accident or negligence, damage from using incorrect power supply, modification, alteration, improper or abnormal use, unauthorized servicing, tampering, ingress of foreign matter or failure to operate in accordance with the procedures outlined in the owner's manual; nor for natural or man-made events such as, but not limited to flooding, lightning, tornadoes, earthquake, fire, civil unrest, war, terrorism, etc.

THE DURATION OF ANY OTHER WARRANTIES, WHETHER IMPLIED OR EXPRESS, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTY OF MERCHANTABILITY, IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY HEREIN. JLCOOPER HEREBY EXCLUDES INCIDENTAL AND CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO: LOSS OF TIME, INCONVENIENCE, DELAY IN PERFORMANCE OF THIS WARRANTY, THE LOSS OF USE OF THE PRODUCT OR COMMERCIAL LOSS, AND FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY APPLICABLE TO THIS PRODUCT. JLCOOPER SHALL NOT BE LIABLE FOR DAMAGES OR LOSS RESULTING FROM THE NEGLIGENT OR INTENTIONAL ACTS OF THE SHIPPER OR HIS CONTRACT AFFILIATES. THIS WARRANTY SHALL BE GOVERENED BY THE LAWS OF THE STATE OF CALIFORNIA.