

## Brainboxes ES Range – Serial Tunnelling FAQ



**Question 1:** What is serial tunnelling?

**Answer:** Serial Tunnelling connects two devices together to create a serial tunnel which extends the serial link over an Ethernet connection. When serial data is sent, it is converted to Ethernet packets by one ES device, transmitted over the network, then unpacked and converted back to serial data by the other ES device.

**Question 2:** Can I use any ES device to tunnel?

**Answer:** Yes every Brainboxes ES device has the serial tunnelling feature built in.

**Question 3:** Is serial tunnelling easy to set up?

**Answer:** Yes, serial tunnelling is easy to set up. There is an in-depth step-by-step guide explaining how to set this feature up in the answer to question 5. This guide is designed to help both the tech savvy user and the less experienced user.

**Question 4:** How do I know when to use this feature?

**Answer:** A standard serial connection is on average around 10m/30 feet in distance. In many cases, the distance needs to be much larger. This is when serial tunnelling comes in. Serial tunnelling allows the user to set up a *network* connection which can span up to 40,000km/25,000 miles (the circumference of Earth). This can benefit many customers and businesses as they can save money on cabling and still have a stable connection via tunnelling.

**Question 5:** How do I set up serial tunnelling?

**Answer:**

1. Open the web configuration page of the Local Brainboxes ES Device using a web browser.
2. Navigate to the page of the serial port you want to use to tunnel.
3. At the bottom of this web page is the device tunnelling section.
4. To connect tunnelling tick the “Enable” checkbox and search for the master device. Enter the Remote IP Address and Remote TCP Port number of the ES device you want to connect to.



**Serial Tunneling**

Enable :

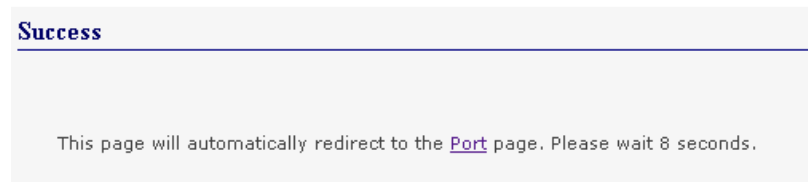
Remote IP Address : 192 . 168 . 0 . 116

Remote TCP Port : 9001  
(0-65535)

**Note:** Serial Tunneling only needs to be configured from one side.

Apply Changes Reset

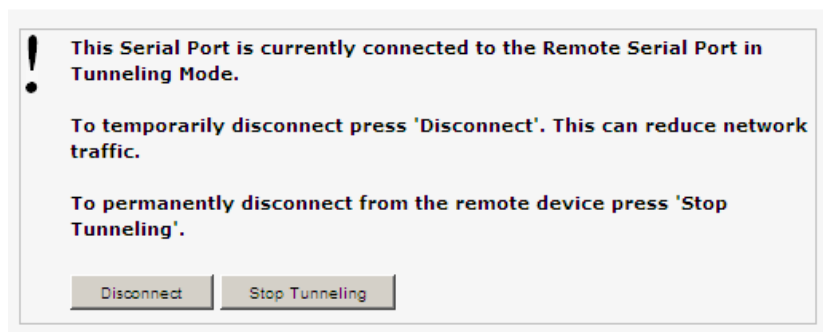
5. Click ‘Apply Changes’ button and you will be taken to a page which will display a success page. You will be redirected to the port page after the countdown timer has finished.



**Success**

This page will automatically redirect to the [Port](#) page. Please wait 8 seconds.

6. The devices will now be in tunnelling mode.
7. On the local device port webpage you will see the device tunnelling section with two buttons, ‘Disconnect’ and ‘Stop Tunnelling’. The ‘Stop Tunnelling’ button will disconnect the ports on the remote and local side and put both of the devices to an idle state. If the ‘Disconnect’ button is clicked the remote side port will be disconnected and go into the idle state, but the local side will remain in tunnelling mode.



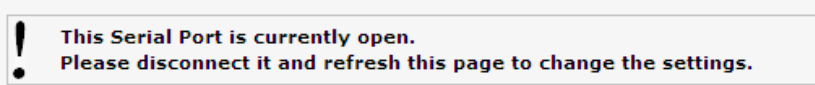
**!** This Serial Port is currently connected to the Remote Serial Port in Tunneling Mode.

To temporarily disconnect press 'Disconnect'. This can reduce network traffic.

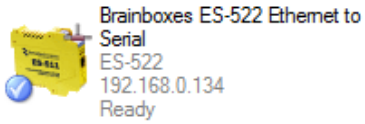
To permanently disconnect from the remote device press 'Stop Tunneling'.

Disconnect Stop Tunneling

8. On the remote device web configuration page, the Serial port that is tunnelling will show that the port is connected.



9. In Boost.LAN Manager, the symbol in the image below will be displayed when a device is connected in tunnelling mode.



**Question 6:** Do I need to use tunnelling on all 8 ports in the Brainboxes ES-279?

**Answer:** No, tunnelling is set up on a “per port” basis. This is so you can tunnel one or more of the ports at the same time when using a Brainboxes ES device.