

ES-246, ES-257, ES-313, ES-320, ES-057(357)
ES-701, ES-279, ES-346, ES-842
ES-020, ES-031 & ES-042



1984

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Quick Start Guide

for Brainboxes Ethernet to Serial Range



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For more information, please refer to Product Manual on CD

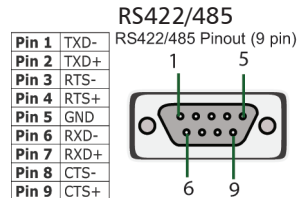
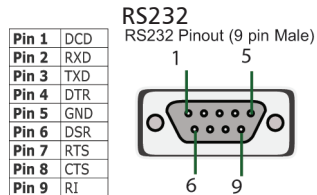
Information on Product Accreditations, Safety, and correct disposal of this product can be found on the Product CD

LED Information		
Status LED	Green Light on	Device Ready
	Flashing Yellow	Changing Settings
	Flashing between Red & Green	Querying IP
	Flashing between Green & Red/Yellow	IP Problem
	Flashing Green/Red	Performing Hard Reset
	Flashing between Green & Yellow	Problem during initialization (e.g. Firmware Problem)
Serial Port LED	Green light on	Port Open
	Flashing light on	Data RX/TX
Ethernet LED	Green light on	Link established
	Flashing Green	Data RX / TX

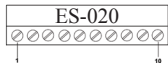
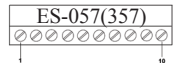
For further configuration details, or technical information on the ES product, please refer to Product Manual on CD

8. Pin Outs

8.1. Serial DB9 Pin outs



8.2. Serial Terminal Block Pin outs / Power Terminal Block Pin outs



RS232 P1		RS422/485 P2		RS232		RS422/485	
Pin 1	TxD	Pin 6	TxD+	Pin 1	TxD	Pin 6	DTR
Pin 2	RxD	Pin 7	TxD-	Pin 2	RxD	Pin 7	DSR
Pin 3	RTS	Pin 8	RxD+/D+	Pin 3	RTS	Pin 8	DCD
Pin 4	CTS	Pin 9	RxD-/D-	Pin 4	CTS	Pin 9	RI
Pin 5	GND	Pin 10	GND	Pin 5	GND	Pin 10	GND



Pin 1	V+	Power Supply +
Pin 2	V-	Power Supply -
Pin 3		Earth/Chassis Ground

8.3. Jack Plug

All power jacks are centre=positive, outer=ground

Devices that use PW-500 PSUs: 5.5mm cylindrical jack plug

Devices that use PW-800 PSUs: 4mm cylindrical jack plug

1. Box Contents Check List - Screw Terminal Versions

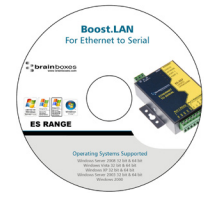
Thank you for purchasing Brainboxes Ethernet to Serial product. This quick start guide will help you set up your ES device so that you can begin experiencing the benefits of Ethernet to Serial technology.



Ethernet to Serial Device



Quick Start Guide



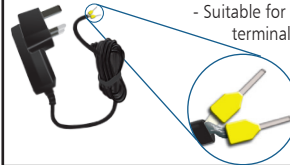
Product CD

Optional Accessory Items

Power Supply

PW-600 (UK/EU/US/AUS)

- Suitable for use with all Screw terminal ES products



DIN Rail Kits

MK-048

- Suitable for use with these Screw terminal ES products:

- ES-357
- ES-020
- ES-131



1. Box Content - DB9 versions



Ethernet to Serial Device



Quick Start Guide



Product CD



Power Supply
 PW-800 (UK/EU/US/AUS)
 - Output: 5V CD 1.0A (5W)
 PW-500 (UK/EU/US/AUS)
 - Output: 5V DC 3.0A (15W)

DIN Rail Kit Optional Accessory Items



MK-048
 - ES-246 - 1xRS232
 - ES-257 - 2xRS232
 - ES-320 - 1xRS422/485
 - ES-313 - 2xRS422/485



MK-059
 - ES-701 - 4xRS232
 - ES-279 - 8xRS232
 - ES-346 - 4xRS422/485
 - ES-842 - 8xR422/485



MK-070
 - ES-701 - 4xRS232
 - ES-279 - 8xRS232
 - ES-346 - 4xRS422/485
 - ES-842 - 8xR422/485

Optional Accessory Items



Power Supply
 PW-800 (UK/EU/US/AUS)
 - ES-246 - 1xRS232
 - ES-257 - 2xRS232
 - ES-320 - 1xRS422/485
 - ES-313 - 2xRS422/485
 - ES-701 - 4xRS232
 - ES-279 - 8xRS232
 PW-500 (UK/EU/US/AUS)
 - ES-346 - 4xRS422/485
 - ES-842 - 8xR422/485

7. Default Settings

Network Settings		
Device Network Address	DHCP mode	
Web Server Port	80	
Port Settings	RS232	RS422/485
Baudrate	115200	115200
Databits	8	8
Stop Bits	n	n
Parity	1	1
Flow Control	None	None
Duplex Mode	N/A	Full Duplex
Protocol Settings	Telnet + COM port control Mode (Server)	Telnet + COM port control Mode (Server)
TCP/UDP Port Numbers		
Device Web Server	80 (TCP)	
Serial Ports 1-8	9001-9008 (TCP)	
Firmware Upgrade	67 (UDP) - BOOTP Server 68 (UDP) - BOOTP Client 69 (UDP) - TFTP Port	

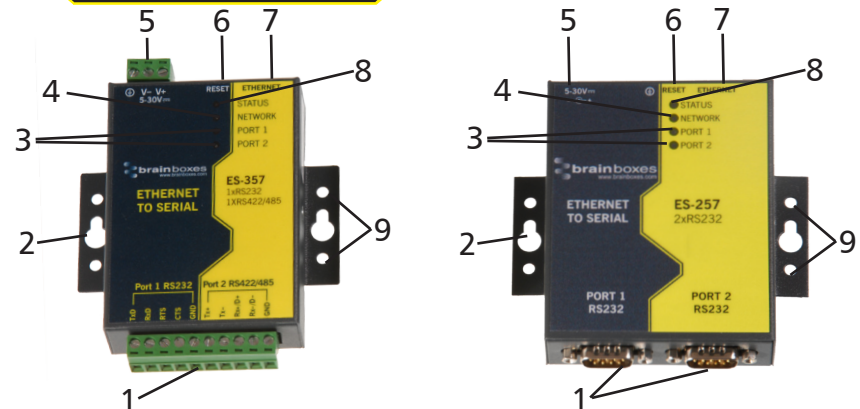
6.2. Firewall Exceptions and Port Numbers

When using the ES devices with a firewall you may need to manually add the exception entries and port numbers to the firewall list. Listed below are the default port numbers and the firewall exceptions.

Program Name	Default Port Number
Device Web Server	80
Serial Port 1	9001
Serial Port 2	9002
Firmware Upgrade	67 (BOOTP Server) 68 (BOOTP Client) 69 (TFTP Port)

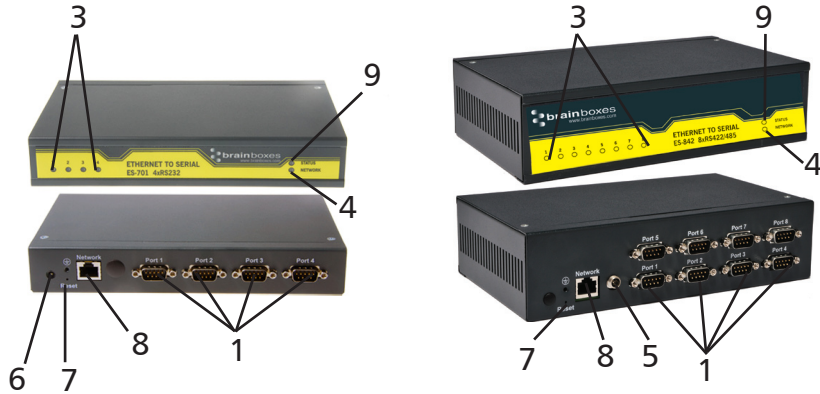
Default Windows Firewall Exception entries:

- Brainboxes Boost.LAN Suite
- Brainboxes Boost.LAN Suite (Device discovery) (except Windows XP 32 & 64 bits)
- UPnP Framework (Windows XP 32 & 64 bits)
- Network Discovery (Windows 7 or later)



1.	9 Pin D Serial Port or screw terminal block connection	6.	Reset button (use unfolded paperclip to press)
2.	Wall mount screw hole	7.	Ethernet port connection - 10BaseT / 100BaseTX
3.	Serial Port(s) LED	8.	Status LED
4.	Ethernet LED	9.	DIN Rail kit holes
5.	ES-357/ES-246/ES-257/ES-320 - Power Input 5-30V DC, 0.75-1.0W Typical ES-313 - Power Input 5-30V DC, 0.75-1.06W Typical		

2. Hardware - 4 & 8 Port Devices

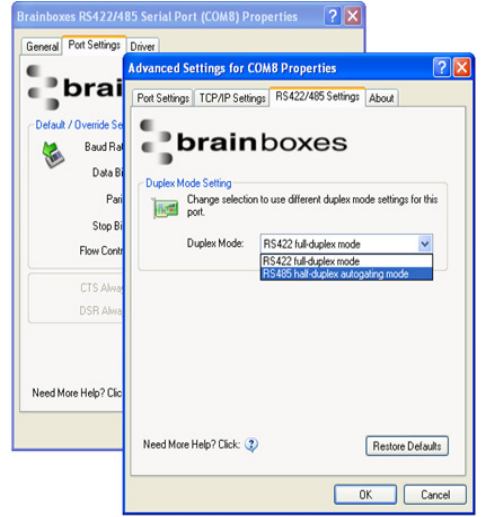


1.	Serial Ports	7.	Reset button (use unfolded paperclip to press)
2.	Mount screw hole (on underneath of box)	8.	Ethernet port connection - 10BaseT / 100BaseTX
3.	Serial Port(s) LED	9.	Status LED
4.	Ethernet LED		
5.	ES-346/ES-842		- Power Input 5-30V DC, 1.45-2.86W Typical
6.	ES-701/ES-279		- Power Input 5-30V DC, 1.35-1.93W Typical

6. Configuring your ES Device Continued...

By Default your RS422/485 ES device and Boost.LAN drivers are set to RS422 Full Duplex mode. To change the devices RS422/485 settings in the Windows driver:

1. Double click the port entry in Boost.LAN Manager.
2. Go to the Port Settings tab, then click the Advanced button.
3. Go to the RS422/485 Settings tab and select the duplex mode from the drop down box.
4. Select "RS422 full duplex mode" for RS422 or RS485 Full Duplex communications.
5. Select "RS485 half duplex autogating mode" for RS485 Half Duplex communications.



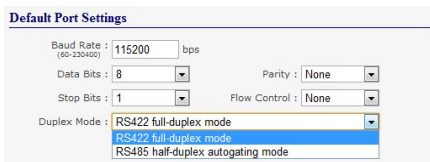
6. Configuring your ES Device

6.1 Changing Duplex Mode (RS422/RS485 Only)

ES RS422/485 devices can operate as either:

- RS422 Full Duplex mode with 2 twisted pairs or optionally 4 twisted pairs when using RTS/CTS handshaking or RS485 Full Duplex using 2 pairs or wire.
- RS485 Half Duplex autogating mode using only 1 pair of wires.

If you're not using Boost.LAN Manager drivers you will need to set the duplex mode on the Serial Port pages of the web configuration page. To get to the web configuration page, type the IP address of your device into a web browser.



Default Port Settings

Baud Rate : 115200 bps
(60-120400)

Data Bits : 8 Parity : None

Stop Bits : 1 Flow Control : None

Duplex Mode : RS422 full-duplex mode
RS422 full-duplex mode
RS485 half-duplex autogating mode

When setting RS485 Half Duplex mode, as well as configuring the software the case of the ES device needs opening and the hardware needs configuring by setting the jumpers inside. Note the Boost.Lan Windows driver set up and the webpage configuration are independent of each other.

For more detailed information on configuring your Ethernet to Serial device, including the hardware jumper configuration, please see the product manual on the CD which came with your ES device.

3. Network IP Addressing

The ES device is shipped in "DHCP Mode".

- On connecting to the network, the device automatically checks if it is connected to a DHCP Server. If this is the case, the DHCP server will allocate an IP address automatically to the ES device.
- If no DHCP Server is detected (e.g. you are using a direct cable connection to the PC), the ES device will default to an IP address of 192.168.127.254 within 60 seconds. Please ensure the PC you're using for configuration can communicate with the 192.168.127.xxx IP range.

4. Connecting your ES Device

1. Connect the ES device to your local network or use a direct cable connection using a standard straight-through or crossover Ethernet cable and plugging into the Ethernet port connection.

2. Connecting to Power

Connect the power adapter or a DC power line (5-30V) to the ES power terminal block or jack connection

If using the Brainboxes optional PW-600 power supply ensure:

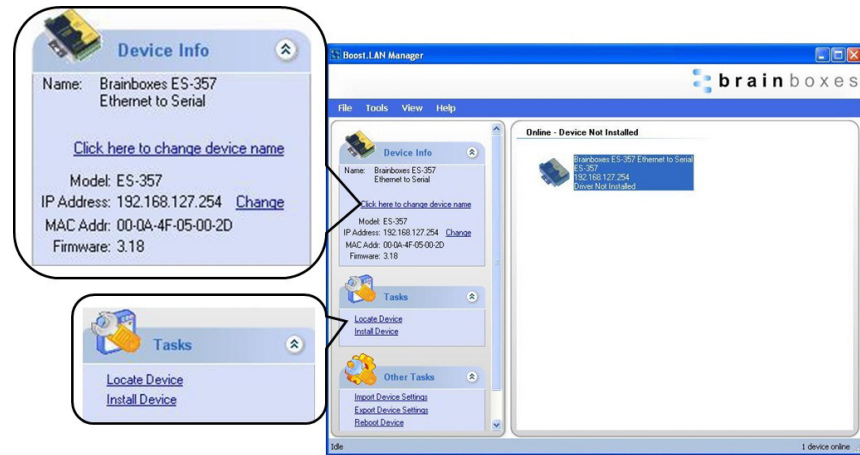
- a. The wire marked “-” is connected to V-
- b. The wire marked “+” is connected to V+

*If using your own power supply please check input requirements on page 5 - Hardware

3. Confirm the device beeps as it is turned on.
4. When the Status LED turns steady green (after 5-60 seconds), the device is ready to use.
5. Connect the serial cable from your serial device to the serial port on the ES device. Refer to Section 8 of this Quick Start Guide for pin outs.

Make a note of device MAC address (on side panel, 00-0a-4f-XX-XX-XX) as you will need it to identify the device on your network later.

5. Installing your ES Device Continued...



5. Installing your ES Device Continued...

- You can find your Brainboxes ES device by selecting a device and matching it with the corresponding MAC address available on the left hand panel (see opposite page).
- Once found, select the device and scroll to the "Tasks" section on the left hand panel
- Click Install Device.
- When the device is installed a pop up box will appear saying "Your new hardware is installed and ready to use."



5. Installing your ES Device on Windows

- Insert the CD into your PC. This should launch the Boost.LAN Navigation Page automatically.

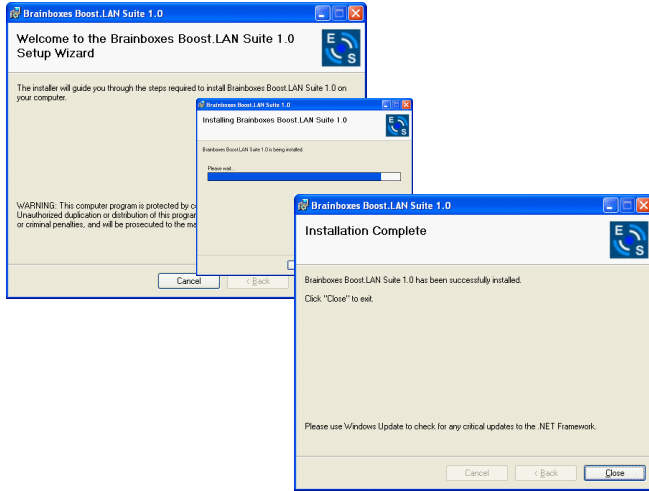


- Note:** If the navigation page does not auto load, go to Start → My Computer → Right Click the CD and select Explore. This will open the CD in Windows Explorer for browsing the contents of the CD. Locate the "Setup.exe" program on the CD and double click to launch. Proceed to Step 3.
- Note:** If installing the software in Windows 2000 launch the "SetupW2k.exe" program on the CD.

- Click "Install" to launch the Boost.LAN Setup.exe

5. Installing your ES Device Continued...

3. Follow the on screen instructions to install the Boost.LAN software.



Note: Boost.LAN software requires the Microsoft .NET framework to be installed on your machine. If it is not already installed, the Setup.exe will install it automatically. Please follow on screen instructions and reboot if prompted to continue installation.

5. Installing your ES Device Continued...

4. When installation is complete, you should see an icon labelled Boost.LAN Manager on the desktop. Double click the link to open the application
5. Click on the "File -> Find Devices" button in the top left hand side of the window.

