## Technical Support

☎ 01273 811011   ✉ support@paxton.co.uk

Technical help is available: Monday - Friday from 07:00 - 19:00 (GMT)
Saturday from 09:00 - 13:00 (GMT)

Documentation on all Paxton products can be found on our website - http://www.paxton.co.uk/

The I/O board is a Network based product and requires connection to the PC via a TCP/IP connection.

This unit requires the controlling PC to be running Net2 v4 software.
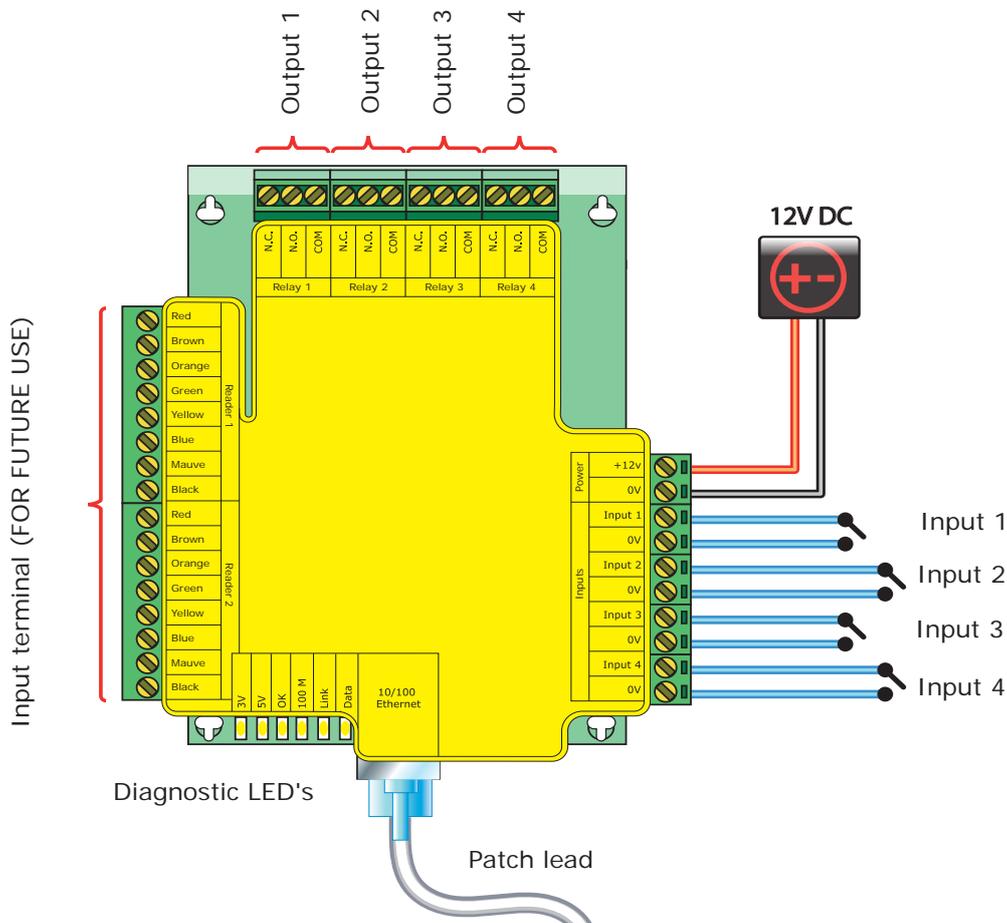
Net2 I/O Boards are configured to switch their relays by setting up a 'Triggers and Actions' rules.

Four inputs are provided to allow connection to door contacts, etc, without the need of a Net2 ACU.

Four output relays are also provided to switch a variety of AC and DC output devices. The relay contacts are rated at 13A at 240V AC, to enable mains voltages to be switched.

Diagnostic LED's
- 3V Power LED
- 5V Power LED
- OK LED - This should flash regularly
- 100 M - On = 100 Mbit/s : Off = 10 Mbit/s
- Link - The I/O board is connected to a Network port
- Data - The I/O board is receiving ethernet data
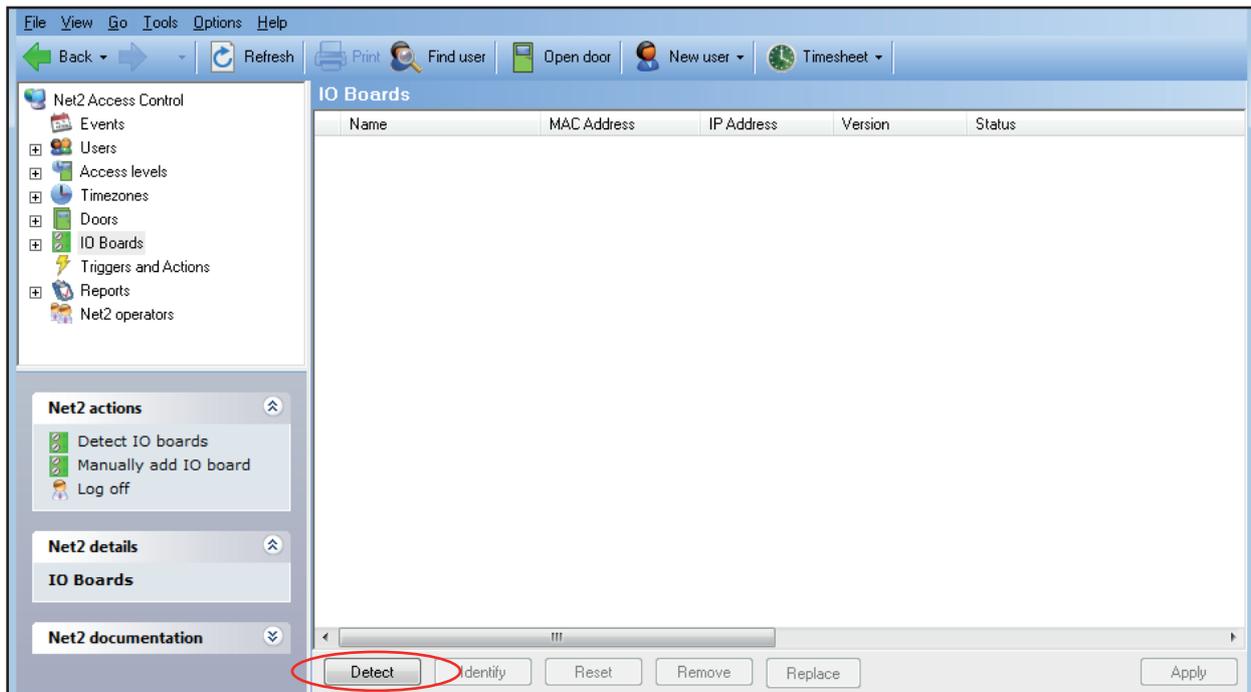
I/O Board software configuration
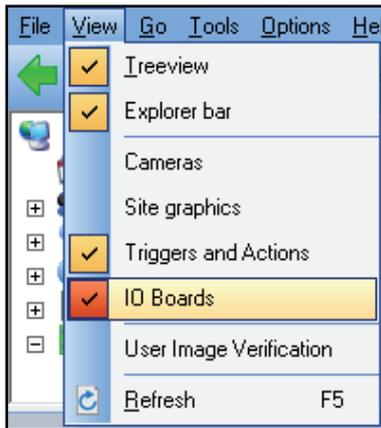
To enable the 'I/O board' icon, the 'Triggers & Actions' icon needs to be active. Check in the view menu and then select Triggers and Actions and then I/O boards as necessary.

The 'I/O boards' option will remain grey until the 'Triggers & Actions' tab has been selected.

Detection of the I/O boards

Select 'I/O boards' in the left hand tree diagram.

Detect - Clicking on this button will detect all I/O boards on the local network.

Identify - Clicking this button will cause the on-board sounder to 'beep' helping to locate this I/O board.

Reset - Clicking on this button will return the user settings to the factory default values.

Remove - Deletes an I/O board from the list.

Replace - This feature will enable an I/O board to be easily replaced. Once the new I/O board is online, a wizard will copy all the settings from the old unit into the new I/O board.
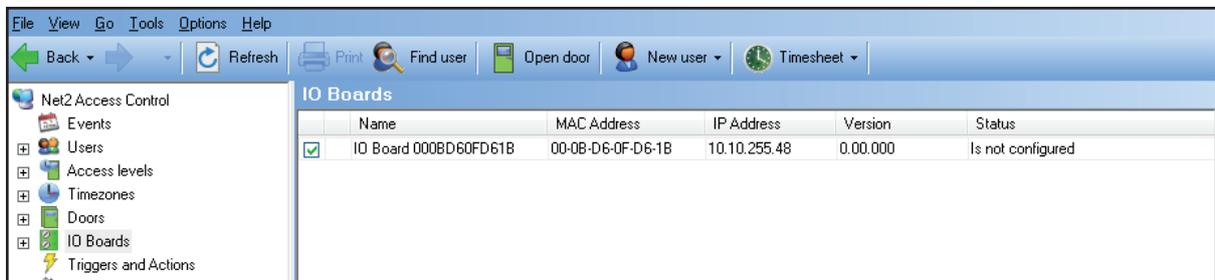
I/O boards that have been detected will be displayed with their MAC address.
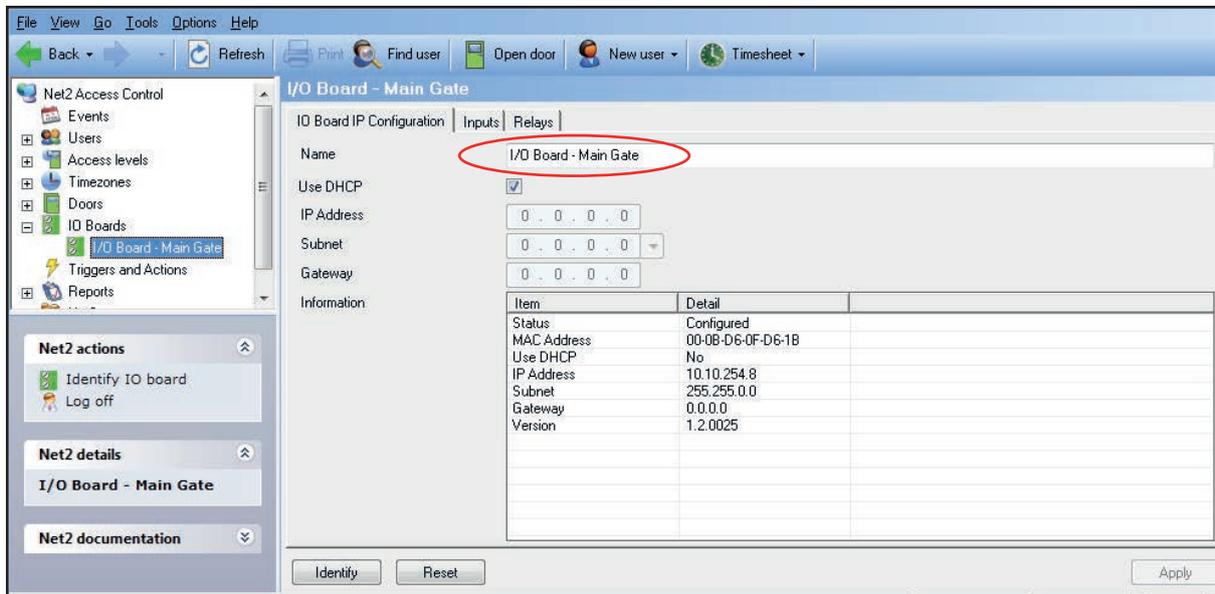
Double click on an entry and it will bring up its configuration screen. The name can be changed as required and then click Apply.

To ensure that the I/O board always has the same IP address, it is recommended that you obtain a fixed/reserved IP address from the network administrator.

Uncheck the DHCP option and enter the IP address in the text boxes using the ' . ' to move between fields.

Click Apply. The I/O board will store and use this new fixed address.
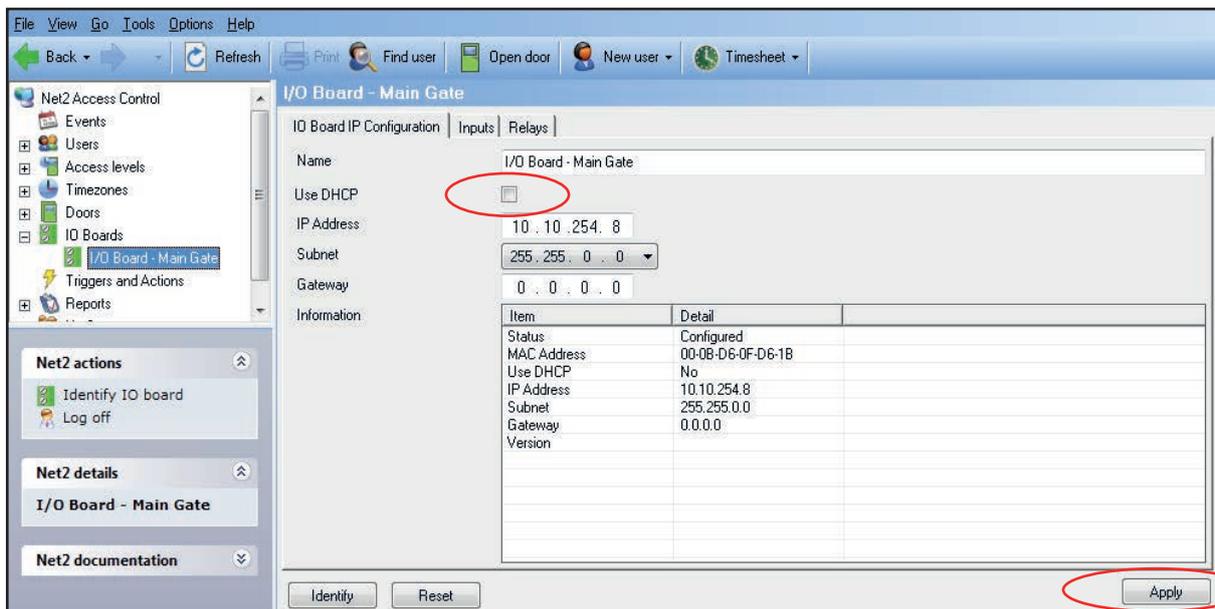
If the I/O board is connected to a different IP range to the PC, it will not be detected. You must therefore make a manual entry in the I/O table so that it can be registered.

Right mouse click the I/O Boards icon in the tree view and then select Manually add I/O board.

Fill in the fields and click OK to create an entry in the I/O table. The MAC is entered as 12 characters with no spaces.

Click on Detect and the unit should display a tick to show it is responding.

If you detect the MAC address but the device now shows 'Not Responding', you must check the IP address, to make sure it is still in range with the PC or network. If it is not, you should either change the PC's IP address or the I/O board's IP address so they are both again in the same range. Our Technical team can talk you through this if you need help.

If the MAC address does not appear when you click Detect, ensure that the following ports are open on all devices between this unit and the Net2 PC:-

6480	TCP		6482	UDP
6481	UDP		6483	UDP

If you need to clear the IP address information and return the unit to DHCP mode, please contact Technical Support for a reset procedure.

Firmware download

Once the I/O board has been detected by Net2 the firmware version will be checked and upgraded if necessary. This may take several minutes and its progress will be seen in the Status column.

	Date/time	User	Token number	Where	Event
ⓘ	16/08/2012 16:25:34			I/O Board - Main Gate	IO board online
❗	16/08/2012 16:25:28			I/O Board - Main Gate	IO board not responding

The system will verify that the download was successful and then bring the I/O board online again.

Inputs and Outputs
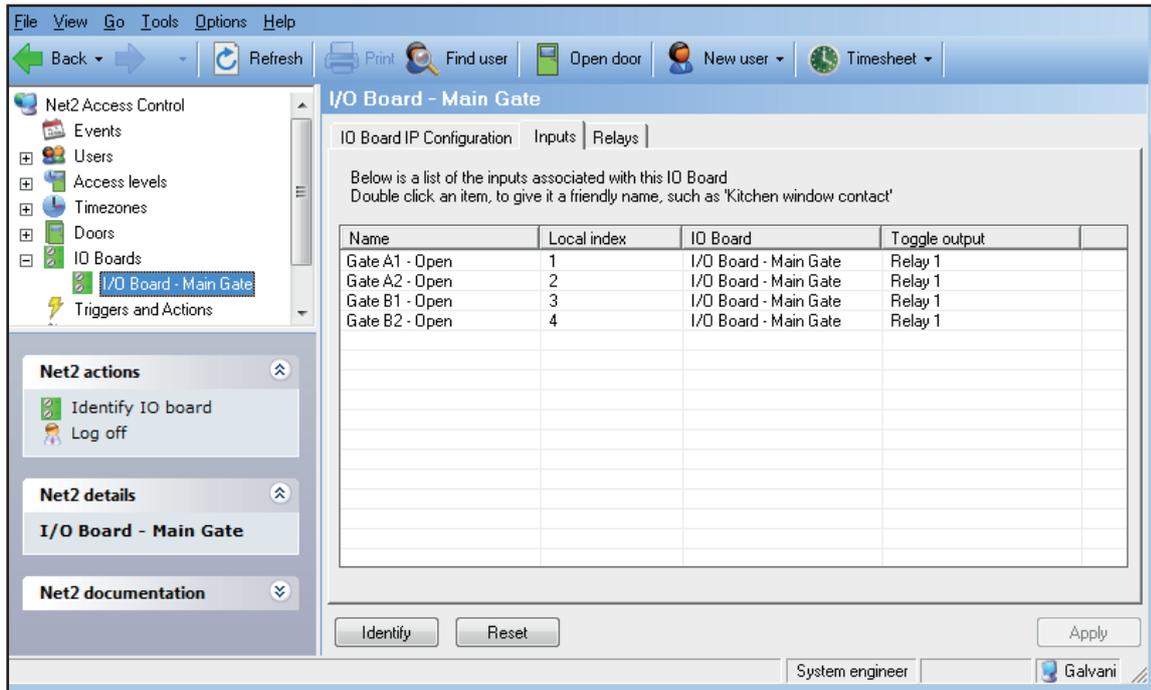
Simply double click on an entry to rename the item and click Apply. These names will be used in any 'Triggers and Actions' menus so be as descriptive as possible.
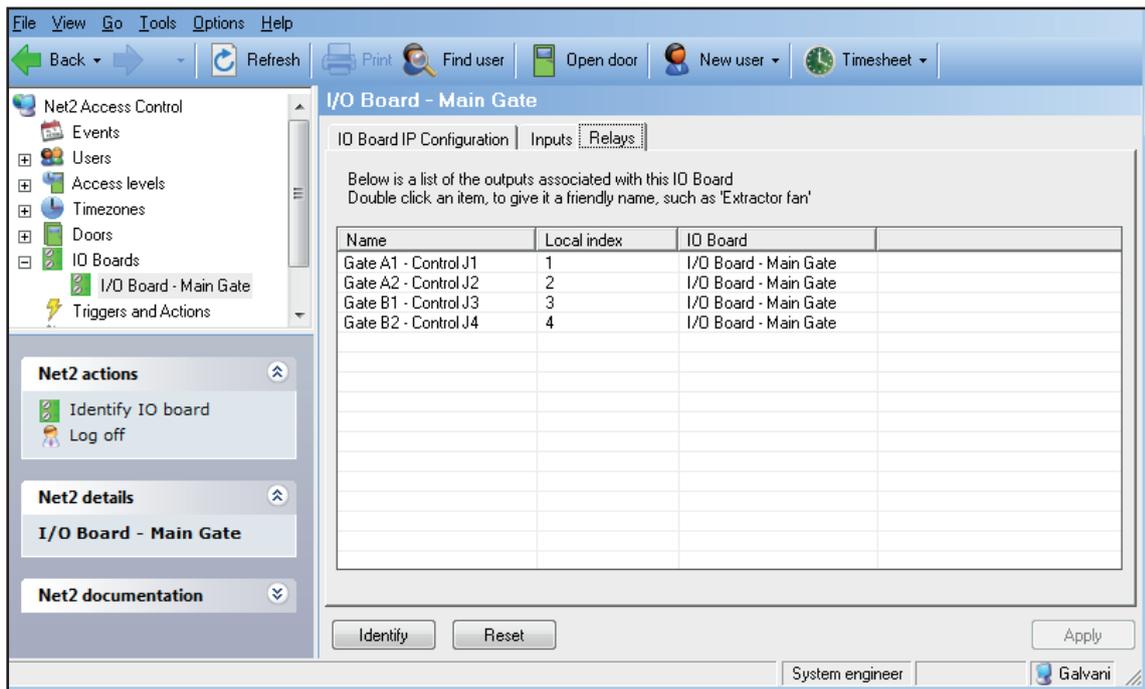
The Relay names can be changed in the same way.

The basic control of an I/O board is provided by 'Triggers and Actions'.

An air conditioner can be turned on remotely by the presentation of a user card to a reader.

For Triggers and Actions to function correctly, the server must be running and communicating with all control units and I/O boards. This can be confirmed by setting up a rule that sends an email or SMS to the System Engineer to investigate if the unit goes offline.

Further information is available on the following application notes:

AN1066 - Installing an I/O board < http://paxton.info/506 >
AN1067 - Using Triggers and Actions < http://paxton.info/507 >
AN1076 - Integrating Net2 with lift control systems < http://paxton.info/842 >
AN1079 - Lighting control using triggers and actions < http://paxton.info/588 >
AN1080 - Automated Air Conditioning < http://paxton.info/587 >

Specifications

Features	Min	Max	
Relay inputs			4
Relay output			4
Relay voltage rating		240V AC	
Relay current rating		13 A	
Relay contact isolation		4 kV AC	
Ethernet network speed	10 Mbit/s	100 Mbit/s	Auto Select
DHCP support (fixed IP recommended)			Yes
Electrical	**Min**	**Max**	
Voltage	11V DC	14V DC	
Current	200 mA	400 mA *	
Environment	**Min**	**Max**	
Operating temperature	-20 °C	+55 °C	
Waterproof	NO - If used externally, it must be protected in a plastic weatherproof housing		
Dimensions	**Width**	**Height**	**Depth**
Circuit board	114 mm	120 mm	32 mm
Circuit board in plastic housing	175 mm	170 mm	40 mm
Circuit board in 2A power supply cabinet	236 mm	320 mm	80 mm

CE

*This max value is for when all four relays are energised

Safety Requirements

Only qualified Engineers should install and service this equipment.

Read the instructions before installing and powering the equipment. Adhere to all instructions or warnings. Keep the instructions in a safe place for future reference.

The equipment is intended for indoor use only in dry locations.

The installation must meet the requirements of National Wiring Regulations and IEC60950-1.

Considerations shall be made with regard to the positioning of equipment to ensure all required creepage and clearance limits are met. Creepage is the shortest path between two conductive parts measured along the surface of the insulation and clearance is the shortest distance between two conductive parts measured through air.

Enclosures used must be selected with regard to Fire resistance to suit the end installation.

The 12V DC supply to the unit shall meet the requirements of IEC60950-1 and SELV (Safety Extra Low Voltage). The supply should have appropriate current rating to power the I/O board (min 300 mA) and any other loads. If the power supply shows signs of damage or malfunction, immediately stop use (disconnect from mains if applicable) and contact the supplier for repair or replacement.

The mains cable shall be away from SELV cables unless mains wiring has a distance through insulation of 0.4 mm.

The routing of the cables should be away from rough or sharp objects to avoid abrasion with no kinks and positioned to reduce strain. The cross sectional area of the cables should be within the parameters of acceptance for the terminal connectors and suitable for application.

Considerations shall be made with regard to fuse protection to output relays and equipment being driven by the relay. This must be appropriate in terms of current rating and fusing characteristics for application, be high braking capacity and approved in accordance with IEC 60127 or an appropriate circuit breaker approved in accordance with IEC 60947.