The irNetBox-IV

User Guide

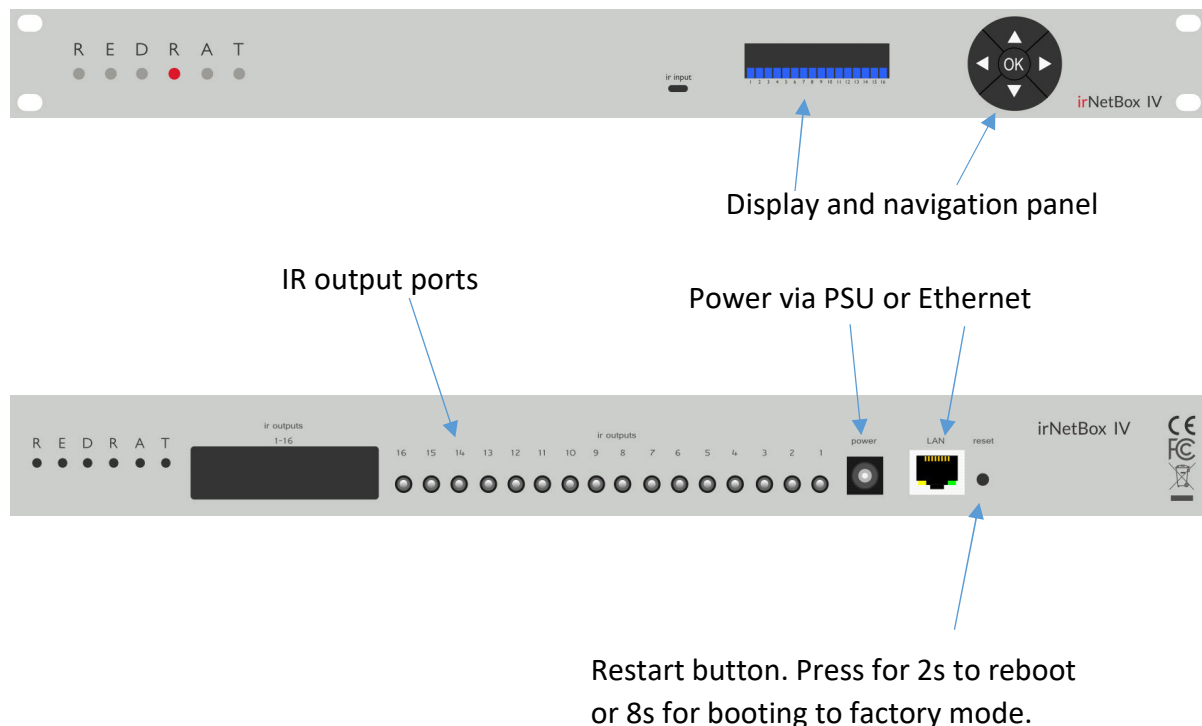R E D R A T

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Contents

1. Getting Started

The irNetBox-IV is a networked, 16 channel infrared controller for TV and STB automation tasks. This guide will take you through the steps needed to install it on your network and communicate with it via software applications. It is used in many different applications, which can't be covered in detail in this guide, but please get in contact with RedRat support if any further help is needed.

Display and navigation panel

IR output ports

Power via PSU or Ethernet

Restart button. Press for 2s to reboot
or 8s for booting to factory mode.

Step 1: Plug into your network and power up

The irNetBox-IV can be powered over Ethernet, or using the optional power-supply unit included with it. (The optional power supply provided by RedRat has been selected to match the power requirements of the unit and tested to ensure CE and FCC compliance in operation with the irNetBox-IV. If you would like to use a different power source, please check with RedRat support to verify that it will be suitable.) Once powered, the front display will light up and show progress while it boots up.

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- RedRat Ltd -
 IR-NetBox-IV
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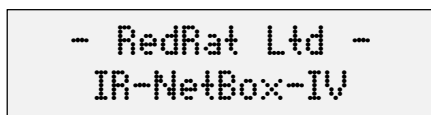
Step 2: Set the IP Address

To be reachable on your network, the irNetBox needs an IP address. By default, it is configured to obtain an IP address automatically using DHCP - a **dynamic** IP address. If it needs to use a **static** IP address, then this can be configured via the front panel.

Information about using the front panel to configure the irNetBox-IV is given in section 2

Step 3: Verify Network Connectivity

Once your irNetBox has a valid IP address, use a web browser to load its webpage. The URL is http://<IP address>/, for example http://192.168.1.101/.

Details of settings available on the web page are given in section 3.
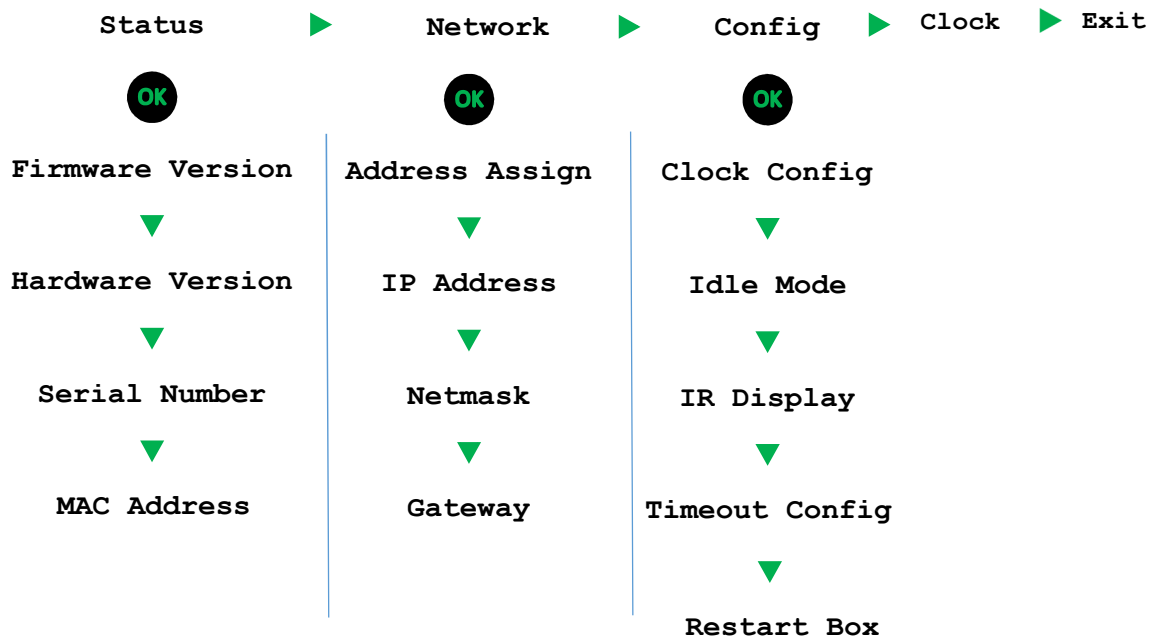
Step 4: Start the RedRat Device Manager

This application provides full installation and configuration support. It can be downloaded from the RedRat website.
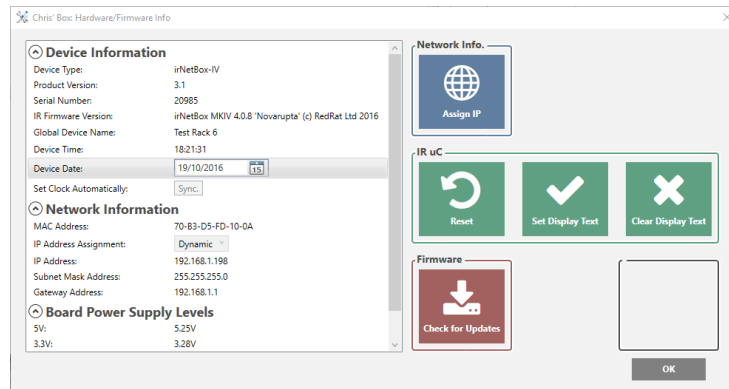
2. The Front Navigation Panel

The panel shows the state of the irNetBox, plus operational information such as IR signals being output.

When the arrow keys flash slowly in turn, it indicates that the irNetBox is idle and no application is connected. When an application is connected then all four arrow keys gently pulse together.

Status	▶	Network	▶	Config	▶ Clock	▶ Exit
OK		OK		OK		
Firmware Version		Address Assign		Clock Config		
▼		▼		▼		
Hardware Version		IP Address		Idle Mode		
▼		▼		▼		
Serial Number		Netmask		IR Display		
▼		▼		▼		
MAC Address		Gateway		Timeout Config		
				▼		
				Restart Box		

If no client is connected, the irNetBox will enter a low-power idle mode and the display will show a screen saver, such as "matrix" style character patterns. After a while in idle, the display will become dim to reduce power and prevent burn-out.

3. The Web Interface

This shows information about the irNetBox and allows configuration:

Name: The global name of this irNetbox as displayed in software applications.

Date/Time: The irNetBox's time. This is set to the required date/time or synchronized with computer's time.

Network Properties: Used to change the network settings of the irNetBox. If the IP address is changed, then the web page will need to be reloaded from the new address.

Port Mode: Sets the ports to be in *current* or *voltage* drive modes. The default is *current* mode and is used when an IR emitter is plugged into the jack socket. Voltage mode if connecting an output port to an IR distribution system.

Display Text: This will display the text on the irNetBox's display. This can be useful for device identification if there are a number of units.

4. Wiring Up IR Emitters

The most common use of the irNetBox is for direct control of TVs and set-top boxes (STBs) using plug in IR emitters. These may have been supplied by RedRat or a third party.

Correct placement of the IR emitter over the IR receiver on the STB is important to get the most reliable IR signal transmission possible.

The irNetBox-IV supports 100 different power output levels, the default being approximately 30% maximum power. If the power level used is too high it can increase the chances of IR leakage to neighbouring STBs and so unwanted signals being transmitted to them.

5. Capturing and Testing IR Signal Datasets

All application software using the irNetBox needs IR signal datasets, which can be captured from the original remote control unit using the Signal Database Utility software application. This is available on the RedRat website.

The irNetBox-IV has a built in IR receiver which can be used for the capture of most type of IR signal. We do however recommend using one of RedRat's USB devices for IR signal capture as these devices are generally easier to use and provide more flexibility.

Having a good quality IR dataset is critical for reliable STB control using the irNetBox. It is recommended that the IR signal data is thoroughly tested during and after capture, which can be done using the Signal Database Utility.

This is often the most awkward part of setting up automated STB control, so please contact RedRat support if you have questions or need help in capturing your IR dataset.

6. Software Applications

RedRat provide a number of software applications for use with the RedRat devices. In addition, RedRat products are used by many third parties as part of STB testing systems for example.

The following RedRat applications may be useful for use with the irNetBox-IV. More details are found on the appropriate pages on the RedRat website:

RedRat Device Manager

Used for installation, configuration and management of RedRat devices. Also supports updating firmware, so please check for new irNetBox-IV firmware periodically.

Signal Database Utility

This is used to capture, view and test IR signals from the original remote control unit.

http://www.redrat.co.uk/software/ir-signal-database-utility/

Test Manager

Provides scripted and interactive control of banks of STBs, for example to test them.

http://www.redrat.co.uk/software/testmanager/

RedRatHub

Runs on Windows and Linux, and provides a simple messaging protocol for client applications of any language to communicate with irNetBoxes. It can also be used to multiplex commands from multiple client applications to one irNetBox.

http://www.redrat.co.uk/software/redrat-hub/

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Declaration of Conformity

This is to certify that the

irNetBox-IV

Manufactured by:

RedRat Ltd

Conforms to the protection requirements of the Electromagnetic
Compatibility (EMC) Directive 2014/30/EC by application of the
following standards:

EN55032: 2012 Class A
EN61000-3-2: 2006 + A1/A2
EN61000-3-3: 2008
EN55024: 2010

Signed: _____ 17 Oct 2016

C. J. Dodge   Date
Technical Director
RedRat Ltd.

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Tested to Comply

With FCC 47 CFR Part 15, Subpart B – Class A

We hereby declare that this device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and

2. This device must accept any interference received, including interference that may cause undesired operation.

This document is RedRat Ltd's declaration with regard to the directives of the European Parliament on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (2011/65/EU RoHS 2 and 2015/863/EU RoHS 3).

To the best of our knowledge, the *irNetBox-IV* is in compliance with the RoHS directives. Specifically, the components used in this product do not contain substances in concentrations greater than the maximum limit value as given by these directives.

Signed: _____ 17 June 2019

C. J. Dodge   Date
Technical Director
RedRat Ltd.