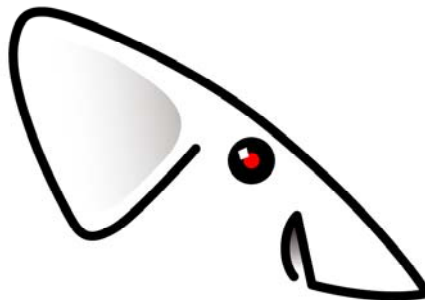


The irNetBox Manager User Guide

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redrat



Introduction

The IRNetBox Manager is intended to help with the setup of the RedRat irNetBox and allow testing of its functionality.

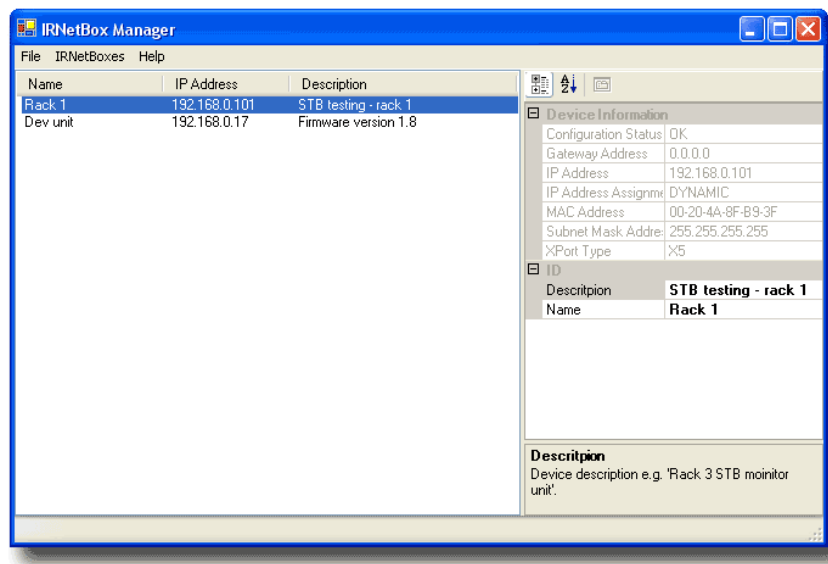
Initial Network Configuration

The first task when installing the irNetBox is to configure its IP address. When delivered, it uses a dynamically allocated IP address using DHCP, however it can be assigned a static IP address. This is done using the *Lantronix Device Installer*, which is delivered on the CD with your unit, or can be downloaded from the Lantronix website at <http://www.lantronix.com/>.

Using the irNetBox Manager

Finding irNetBoxes

Once the program has been started, use the Find menu item in the IRNetBoxes menu to initiate a search for devices on your network. This uses a UDP broadcast and waits for a response from devices which are then listed in the main panel.



If one of the devices is selected, some basic information about the device is displayed at the right of the application:

Device Information Fields

These fields show information primarily about the XPort's network setup, and are not editable within the IRNetBox Manager. As mentioned above, the network configuration can be changed using the *Lantronix Device Installer*.

Configuration Status: Indicates whether the XPort network interface has been setup for correct operation within the irNetBox. This should always be **OK**, but there may be the occasional situation in which the configuration is lost, for example if the XPort's firmware is updated, and in which case the entry for this

irNetBox will be highlighted in red. The *IRNetBox Manager* can be used to reset the XPort's configuration back to correct values from the *IRNetBoxes* -> *Configure* menu item.

Gateway: The IP address of the router for this network.

IPAddress: This is the address that has either been automatically assigned by DHCP or explicitly given to the irNetBox.

MACAddress: The globally unique number of this ethernet interface, and so it is also used as the key for storing additional information.

Subnet Mask: Indicates the network segment or subnet/network class on which the irNetBox resides.

XPort Type: Gives the version of the XPort that is used in the irNetBox.

ID Fields

These are informal device identification fields that can be changed to help identify individual devices. The values are stored on the PC on which the IRNetBox Manager is running, and so are not network wide, but are used by all RedRat software so will appear in other applications run on the same PC.

Name: A text name given to the device to help identification. This information is stored in the PC's registry, keyed on the MAC address.

Description: More detailed information about the use or location of the device. This information is stored in the PC's registry, keyed on the MAC address.

Testing The IRNetBox

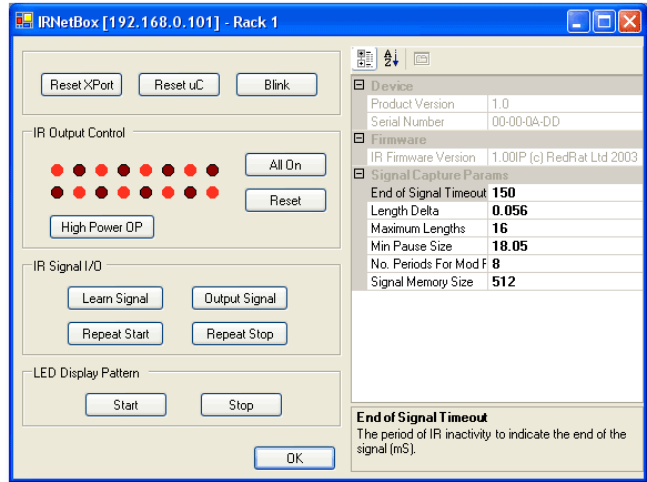
By double clicking on the name of the irNetBox, or selecting the required name from the *Control Device* menu item (under *IRNetBoxes*), a control panel for the device will be shown. The left hand side of the panel allows control of various aspects of the device. The purpose of this dialog is to validate that we have network communication with the device, to help install the stick-on emitters and ensure that the A/V equipment under control responds correctly.

Reset XPort

Has not yet been implemented.

Reset uC

This resets the RedRat IR input/output microcontroller (uC), and should not normally need to be used. Following a reset, the application waits for about 2 seconds to give the microcontroller time to start.



Blink

Causes all IR output indication LEDs on the front panel to flash.

IR Output Control

This area allows testing and validation of the IR outputs, for example to check that output number 4 (starting from top left) is actually wired up to a particular device. To enable/disable an output, click on the red circle, and a lighter colour red will indicate that it has been enabled. The red LEDs on the irNetBox front panel should also reflect the same state as the display.

IR Output Control - All On

Enables all IR outputs.

IR Output Control - Reset

Puts the IR outputs into the reset state, i.e. all off.

IR Output Control - High Power OP

IR output number 1 can either be used in low-power mode for use with a stick-on emitter or high-power mode for use with an IR blaster. Using this button enables high-power output on IR output 1.

IR Signal I/O - Learn Signal

To test signal output, use this to learn/capture an IR signal from the remote control. The learning IR detector is placed centrally in the front panel, and the remote should be placed about 10cm from the detector during learning. The application stores a single signal only - for full signal database management please use the RedRat signal DB utility.

IR Signal I/O - Output Signal

This will output the signal captured in the previous step through all IR outputs that have been enabled.

IR Signal I/O – Repeat Start

This starts a sequence of repeatedly outputting the IR signal through each output, which can be useful when testing irNetBox installations. For example, when placing a stick-on IR emitter, it can be moved around while the IR signal is being output until the optimum position is found.

IR Signal I/O – Repeat Stop

Stops the sequence initiated by the “Repeat Start” button.

LED Display Pattern

This outputs a repeating display pattern on the red LEDs and can be used to validate operation and reliable communication with the device.

IR Input/Output Properties

The properties listed on the right of the control panel show information about the IR input/output system in the irNetBox. Editable properties are shown in bold.

Product Version: Gives the hardware version/revision.

Serial Number: The RedRat assigned serial number.

Firmware Version: Version of the firmware. The IR input/output device firmware can be updated using the USB connection and the firmware update utility.

Signal Capture Parameters

These parameters are used to adjust the exact behaviour of signal input. In cases of difficulty when capturing a signal, these values can be adjusted to improve signal learning, however this is not generally needed. The parameters are all returned to their default value on microcontroller reset.

A short overview of the parameters is given below, but please see the RedRat SDK documentation for further details on remote control signals and how the RedRat/irNetBox captures them.

End of Signal Timeout: The value for the IR dead period at the end of a signal used by the irNetBox to determine the end of a signal. Units are in ms.

Length Delta: The irNetBox uses a set of *lengths* as the alphabet used to represent most IR signals. Due to the approximate nature of IR signal data, two supposedly identical values will be slightly different, so this attribute controls the maximum variation allowed between values for them to be considered the same.

Max. Lengths: The maximum number of length values (the signal alphabet) that can be used in a single signal.

Min. Pause Size: This value is not used during signal learning.

No. Periods For Mod. Freq: The carrier or modulation frequency is measured during the first pulse of the IR signal. The larger the number of periods used to

measure, the more accurate the result is likely to be, however some signals have short initial pulses, so in some case it may be necessary for applications to adjust this value.

Signal Memory Size: The number of bytes allocated to hold the IR signal data.