

The RedRat-X

User Guide



Introduction

The RedRat-X is designed for automating control of TVs and set-top boxes via software applications. It does this by transmitting the same kind of infrared remote control signals that the standard remote control does. With the addition of one of our RF modules, it can also control some TVs and STBs via Bluetooth and RF4CE.



Getting Started on Windows

We recommend starting off using your RedRat-X on Microsoft Windows (7 or later) as this is currently the best supported operating system.

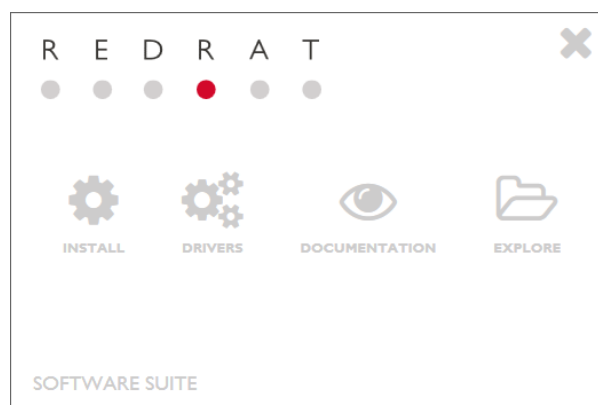


NOTE: We recommend you install the RedRat Software Suite before connecting the RedRat-X to your computer.

The installer for the RedRat Software Suite can be downloaded from our website:

<http://www.redrat.co.uk/downloads/RedRat-X-Software.zip>

Once the zip file has been downloaded, unzip into a subdirectory and then run *RedRatInstaller.exe*.



Before plugging in the RedRat-X, please use the installer application to install the following:

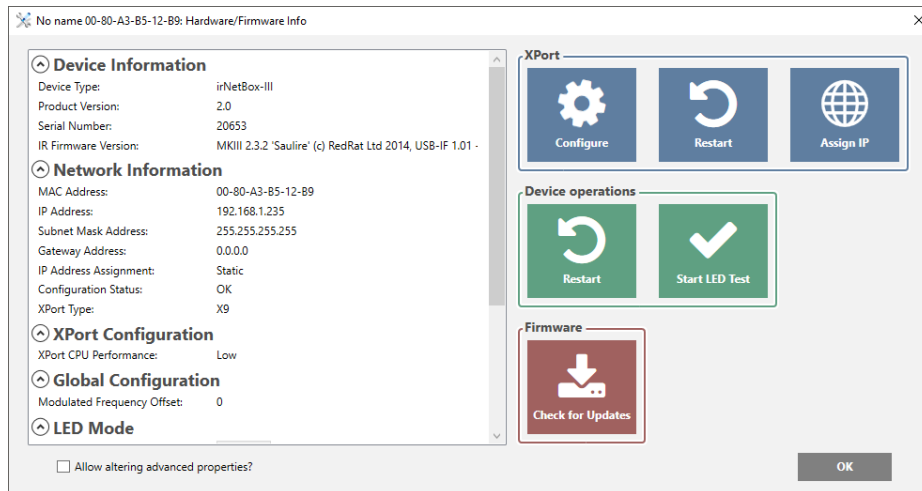
1. The RedRat-X Driver.

2. Software applications to support device installation, configuration and use. At a minimum, we suggest installing the *RedRat Device Manager* and the *Signal DB Utility*.

Once installed, plug the RedRat-X into your computer using its USB cable and then run *RedRat Device Manager*.



NOTE: RedRat applications automatically check for updates on start-up, and if required, can download and install updated versions. This check can also be run manually from the *Help* menu.



Once started, the software will search for RedRat devices and should then list the RedRat-X. Here you can use the **Hardware/Firmware Info** window to:

- Check for firmware updates
- Configure the RedRat-X's IP address if it is to be controlled via network
- Look at details of any RF module plugged into the device and also update its firmware

Using the **IR Input + Output** window, it is possible to:

- Capture/learn an IR signal
- Enable IR outputs and send this signal, or another IR signal imported from the Signal DB Utility application

Settings via the Web Page

If the RedRat-X is connected to your network, it is possible to adjust some settings by loading the web page. By default, it expects to use a DHCP server to obtain a dynamic IP address.

Configurable settings available on the web page are:

- The device's global name
- The IP address settings
- The default LED colour setting

Using the RedRat-X on Linux

Connecting the RedRat-X to a Linux computer via USB requires the **libusb** driver to be installed, which is now included in most Linux distributions.

Non-GUI RedRat applications, such as *RedRatHub* will work on Linux using Mono. In addition, the core RedRat SDK code also runs on Linux, so applications can be developed using the .NET/Mono API.

LED Feedback

The lights on the front of the RedRat-X provide feedback to its operation:

Constant dim light	Idle – Red by default and can be changed either via the web interface or RedRat Device Manager
Slow pulse	Active – a client application is connected to it
Orange blinking	Obtaining an IP address
Purple blinking	IR Signal Output
Bright Red blink	Waiting for IR signal input (learning mode)
Blue blink	Use of the Bluetooth module (if attached)
Green blink	Use of the RF4CE module (if attached)
Solid White light	Firmware update
Solid Yellow light	In factory mode
White SOS signal	Error during firmware install

Installation of RF Modules

An RF module (Bluetooth or RF4CE) can be installed by removing the cover on the bottom of the RedRat-X, the Module will then easily slot into the available socket.



This image shows a RedRat-X with a module fitted inside.

Make sure that the device is not powered when doing this and it is recommended that the module is held in place with the supplied screw.

Factory Mode Boot

Factory mode is where the RedRat-X runs a minimal firmware version which can communicate with the PC and supports firmware update functionality only.

If there has been a problem updating the firmware and the RedRat-X does not boot properly, it can be booted into factory mode by taking off the module cover, removing the RF module if one is installed and then using the small switch on the PCB.

Hold the switch down and then plug in the power. The LEDs will turn white and then after about four seconds will turn off. As soon as this happens, release the switch and the LEDs will light up with a solid yellow colour. The RedRat-X is now in factory mode and RedRat Device Manager can be used to re-program the main firmware image.

Next Steps...

We provide a number of software applications to use with the RedRat-X, so please see the software section on our website (www.redrat.co.uk) for details.

If you are developing your own software or want to incorporate the RedRat-X into your own software framework, then please see the *RedRat X Integration Guide*, available on our website.

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

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



Declaration of Conformity

This is to certify that the

RedRat-X

Manufactured by:

RedRat Ltd

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

EN55032: 2015 Class B

EN55024: 2010

EN61000-4-2: 2009

EN61000-4-3: 2006 + A1/A2

EN61000-4-4: 2004

EN61000-4-5: 2006

EN61000-4-6: 2009

EN61000-4-11: 2004

Signed:  27 Apr 2017

C. J. Dodge
Technical Director
RedRat Ltd.

Date

Tested to Comply

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

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.

Signed: C. J. Dodge 10 Aug 2017

C. J. Dodge
Technical Director
RedRat Ltd.

Date