
Technical Bulletin 54

ROBE Uploader

Version 1.0.7



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Abstract

ROBE Uploader is a software for automatized software update of Robe devices. It can take advantage of Ethernet ports and RDM support if present in the units.

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1. ROBE Software update, short version

To update ROBE devices with ROBE Uploader, you can use network or XLR connection. You cannot update devices via USB nor through wireless DMX (exceptions apply for MiniMe and LiteWare). This is short version of the procedure, see detailed explanations in each respective section of this document.

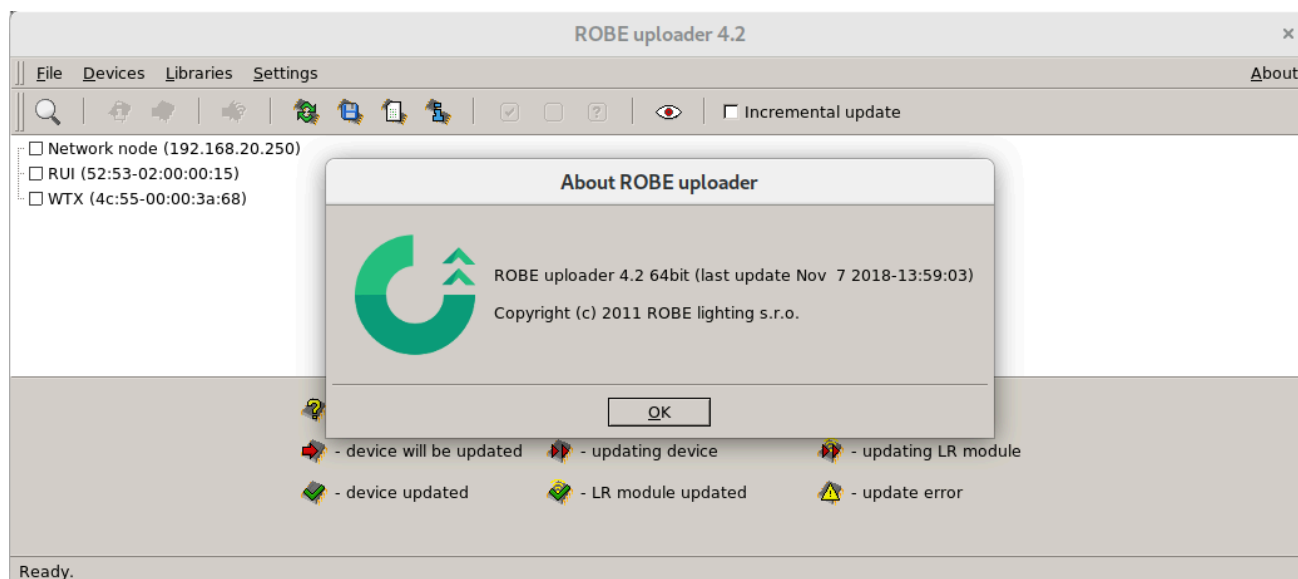
- Download and install *ROBE Uploader* from the [ROBE Uploader product page](#)¹.
- Ensure connection to the Internet, start ROBE Uploader, let it check for updates, select ROBE devices you need update libraries for and download them.
- To update ROBE devices without network interface (for example Spikie, miniPointe, CycBar15), you will need to use RUNIT/RUNIT WTX USB dongle plugged to your computer, for which you must install [FTDI drivers](#)².
- When updating through RUNIT, connect (multiple) devices with DMX cables.
- For network only updates (all Robin devices with touchscreen display provide network connection) FTDI drivers are not needed.
- When updating over network, make 100% sure to disable all firewalls, antivirus and allow network connections for ROBE Uploader software.
- Connect computer running ROBE Uploader and (multiple) ROBE devices with RJ45 cable. You will most probably need a network switch to do that.
- Adjust computer network settings to either 2.x.x.x (2.0.0.1) for ROBE lighting fixtures or to 10.x.x.x (10.0.0.1) for RoboSpot. Netmask is always 255.0.0.0 .
- Use ROBE Uploader to Discover and update devices.

¹ <https://www.robe.cz/robe-uploader>

² <http://www.ftdichip.com/>

2. Description

ROBE Uploader is a software for automatized software update of Robe fixtures. It can take advantage of RDM support and Ethernet ports if present in the units. This manual has been updated for features available in version 4.2 of the ROBE Uploader.



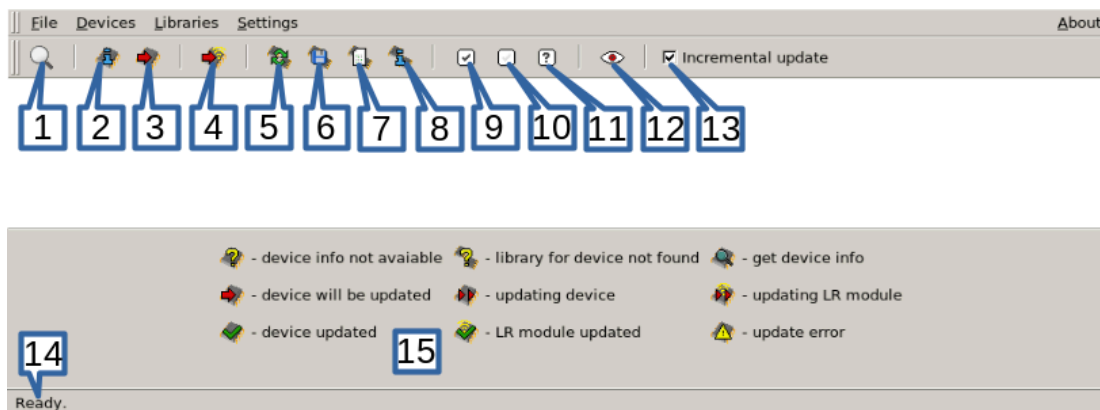
Key features of the ROBE Uploader:

- Update of multiple units in parallel over Ethernet network
- Support for multiple RUNIT, RUNIT/WTX interfaces
- Smart selection of units before update
- Ethernet based software update (no RUNIT interface required) (you need to be connected to your devices via local network for this feature to work) (Display system 2.0 and higher)
- Remote triggering of update mode, get information about device, update
- Auto update of fixture software libraries via Internet and improved download process notification (you need to be connected to the Internet for this feature to work)
- Highlight via RDM to identify units on the truss
- RUNIT based updates can utilize RDM based transfer and pass through RDM enabled switches (Display system 3.0 and higher)
- Update of LumenRadion Wireless CRMX PCB via Ethernet network or via RUNIT interfaces
- Selection of network interface if multiple NIC are present
- Update of LiteWare HO2 and LiteWare Satellite2 units over CRMX wireless (these are the only fixtures that utilize wireless based update)
- RUNIT based updates can utilize RDM based transfer and pass through RDM enabled switches (Display system 3.0 and higher)
- Ethernet based update on custom set IP range (Display system 3.0 and higher)

3. Download

You can download the installer of *ROBE Uploader* from the [ROBE Uploader product page](#)³. 32/64 bit versions are available for Windows (zipped installer), macOS (combined 32/64bit installer in dmg) and also for Linux (ApplImage).

4. Icon descriptions




1. 🔍 Search for devices on all connected interfaces (Ethernet, RUNIT)
2. 📖 Read information from device (processor versions)
3. 🔄 Update devices
4. 🔄 Update LumenRadio Wireless PCBs
5. 📚 Update fixture software libraries
6. 📁 Import library from disk
7. 📄 Select libraries for update
8. 📖 View detailed information about libraries (versions, date)
9. Select all found devices
10. Unselect all devices
11. 🏷️ Select device by type
12. 👁️ Toggle Identify for selected devices
13. Incremental update Toggle Incremental (update only processors for which update is available) / non-incremental (complete re-flash all processors)
14. Ready. Status bar
15. Icon descriptions for device status

³ <https://www.robe.cz/robe-uploader>

5. Supported platforms and Requirements

ROBE Uploader is supported on the following platforms:

- Windows (*used and tested from XP to W10 on 32/64bit systems*)
- macOS (*used and typically tested on OSX up to latest version*)  XQuartz required, install it from <https://www.xquartz.org/>
- Linux (*used and tested on Debian, Ubuntu and Linux Mint 32/64bit*). Make the AppImage executable and run it.

5.1. FTDI drivers

ROBE Uploader can utilize either Ethernet network or Robe Universal Interface devices for connection to the lighting fixtures.

If you are performing only network based updates, you do not need FTDI drivers.

For RUNIT/RUNIT WTX, [FTDI drivers](#)⁴ are required. Follow installation instructions for your operating system. If FTDI drivers are not present, ROBE Uploader will still work but will provide only Ethernet network based connections.

You can read our short Technical Bulletin #42 [RUNIT Drivers](#)⁵ for details about FTDI installation.

On macOS pay attention to [AN 134 FTDI Drivers Installation Guide for MAC OSX](#)⁶.

6. Device update methods

The ROBE Uploader can take advantage of multiple transport mechanisms to update ROBE fixtures and devices. Each of them is different and has different requirements/advantages.

Update in parallel mode over Ethernet network


Network node

 Robin DLS DMX: 001 Universe: 000 (52:53-00:6c:00:00)

multiple fixtures can be updated at the same time. Fixtures are automatically discovered and set to update mode. In case of update interruption, units in update mode can be re-discovered automatically and update can be re-applied. Data is unicasted, fastest way of updating. Multiple fixtures can be in update mode at the same time.

Update in single mode over Ethernet network

Network node

 Robin DLS DMX: 001 Universe: 000 (52:53-00:6c:00:00) **device will be updated in single mode**


fixtures are updated one by one, one at the time. Units are marked by "device will be updated in single mode". Fixtures are automatically discovered and set to update mode. In case of update interruption, units in update mode can be re-discovered automatically, but marked as in bootloader, type of unit then needs to be set manually. Only one unit can be in update mode at any moment. Data is sent as broadcast. Only limited number of units have this transitional way of updating.

Update via RUNIT devices over DMX wiring

⁴ <http://www.ftdichip.com/>


⁵ <https://www.robe.cz/runit-wtx>

⁶ <https://www.robe.cz/runit-wtx>

- ☐ RUI (52:53-01:00:00:00)
 - ☐  Robin Pointe (52:53-00:79:00:00)

fixtures are updated one by one, one at the time. Fixtures are automatically discovered and set to update mode. In case of update interruption, units in update mode cannot be re-discovered automatically, but can be still updated manually by using the [Section 9, "DSU Mode/Fix broken device with RUNIT"](#). Only one unit can be in update mode at any moment. Data is sent in serial fashion. Most common update mechanism.

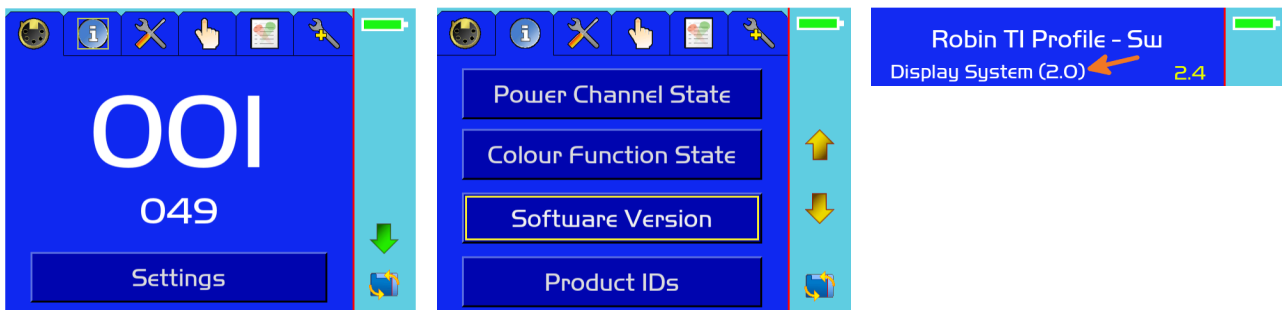
Update via RUNIT devices over DMX wiring via RDM protocol

- ☐ RUI (52:53-02:00:00:15) [1]
 - ☐  Robin BMFL Spot (RDMu) (52:53-00:00:00:00)

multiple fixtures are updated at the same time. Units are marked as RDM U. Fixtures are automatically discovered and set to update mode. In case of update interruption, units in update mode can be re-discovered automatically, and update can be re-applied. Multiple fixtures can be in update mode at the same time.

6.1. Ethernet Network based updates

One of the key functions of ROBE Uploader is Ethernet based software update, which dramatically speeds up the updating process by updating multiple devices at the same time. This feature requires support inside the lighting fixtures and is available in Robe Robin series products with RNS2 touch screen display manufactured after July 2013. Some older 2013 devices provide support for Ethernet based software update but each device will be updated individually. Devices manufactured before 2013 do not have Ethernet based software update support at all and will not gain it via software update. To determine the support in the fixture, go to fixture's menu: Information: Software version, the Display System has to show (2.0) in brackets (2.0 or higher).



6.1.1. Settings for Ethernet based updates

6.1.1.1. Settings on computer

Before running the updater, your computer needs to be connected to the fixtures through the means of Ethernet wired network and a network switch. The computer needs to have configured network settings in order to be able to communicate with the fixtures through the network.

To do this, refer to the manual of your computer how TCP/IP network settings should be done. Set up manual IP address of your computer. The Ethernet network connection (Local LAN) typically needs to be set to 2.x.x.x address, for example 2.0.0.10, assuming that no other computer on the network contains such an address while keeping all ROBE fixtures in default IP settings. Netmask of the computer should be 255.0.0.0

Make sure to have firewall and anti-virus disabled in order to prevent connectivity issues. If you do not have administrative rights, make sure the network is not assigned as Public but as Work (typically on Windows) but it is still better to gain administrative rights and disable firewall and anti-virus manually.

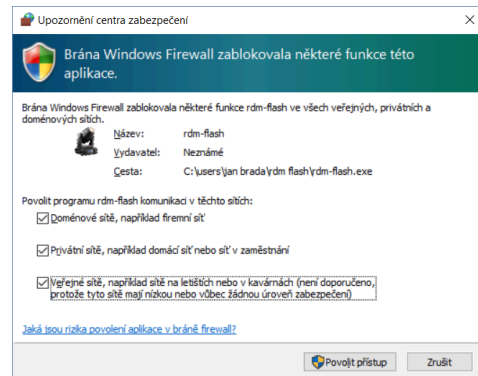
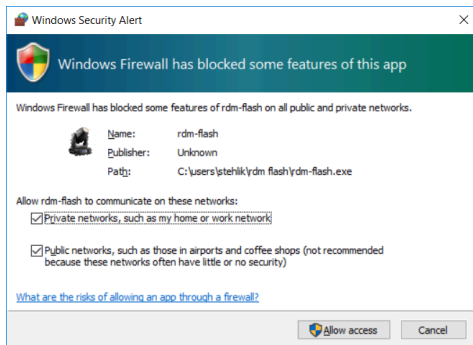


Note

When running the software for the first time, make sure to allow full network access to all networks. Do note that different operating systems/versions might have different confirmations screens.

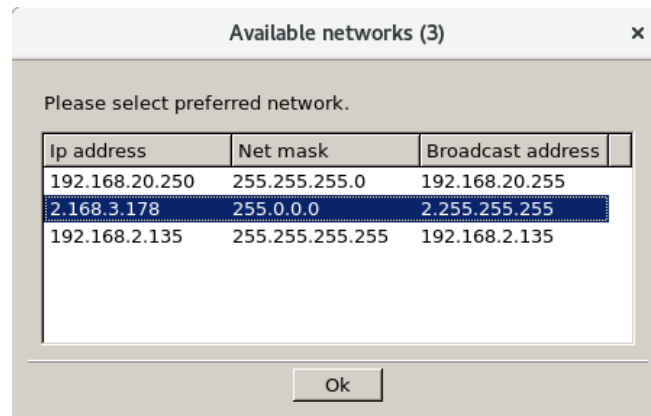
6.1.1.1.1. Network filtering on Windows Home Edition

On Windows Home Edition, for Ethernet network based updates, make sure to Administrative rights and set firewall and anti-virus as disabled in order to prevent connectivity issues. Also, make sure the network is not assigned as Public but as Work. Without this, fixtures will be discovered, but updates will fail.



6.1.1.1.2. Network selection in ROBE Uploader

In the ROBE Uploader, menu: **Settings - Network** select network to which your devices are connected.



6.1.1.2. Settings on fixtures

Typically, make sure to use the default 2.x.x.x IP address as provided.

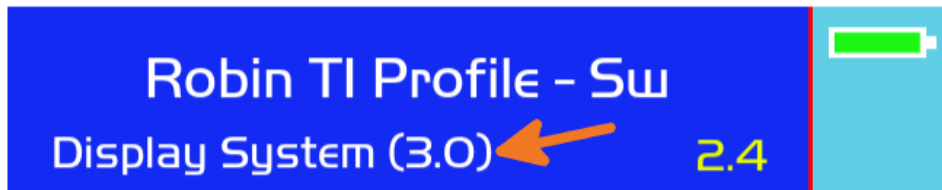
There is no need to set the fixture into Art-Net mode, the menu: *Addressing - Ethernet Settings - Ethernet Mode* preset can be in any settings.

6.1.1.3. Settings when updating RoboSpot

For RoboSpot updates, computer running ROBE Uploader must use 10.x.x.x IP address, for example 10.0.0.1, with netmask 255.0.0.0 . Make sure to use *Camera input RJ45 port* on the RoboSpot Base Station for the ethernet cable connection.

6.1.1.4. Updating on non 2.x.x.x networks

Updating via Ethernet on IP range other than 2.x.x.x is supported only on new products designed after spring 2016. To determine the support in the fixture, go to fixture menu: Information: Software version, the Display System has to show (3.0) in brackets (3.0 or higher).



Note

If the update is for any reason interrupted and fixture restarted (for example due to power outage), fixtures with Display System (3.0) will be waiting in bootloader for software update **with IP address in 10.x.x.x range**. This is to conform to latest Art-Net IP range recommendation.

6.2. Settings for updates via RUNIT devices

Modern fixtures are put into update mode automatically. **When updating over DMX line via RUNIT not through RDM protocol [RDMu], only one fixture can be in update mode in any given moment!** This means, if for any reason the update fails, you must re-update this fixture first, before continuing with the others. You can use the [Section 9, "DSU Mode/Fix broken device with RUNIT"](#).

Only one software utilizing RUNIT devices can be run at the time. Ensure to close all other software which would use RUNIT/RUNIT WTX.

6.2.1. DMX Input


Set the fixtures' DMX input to Wired (typically in fixture menu: Personality - DMX Input - Wired input).

6.2.2. Preserving RDM parameters

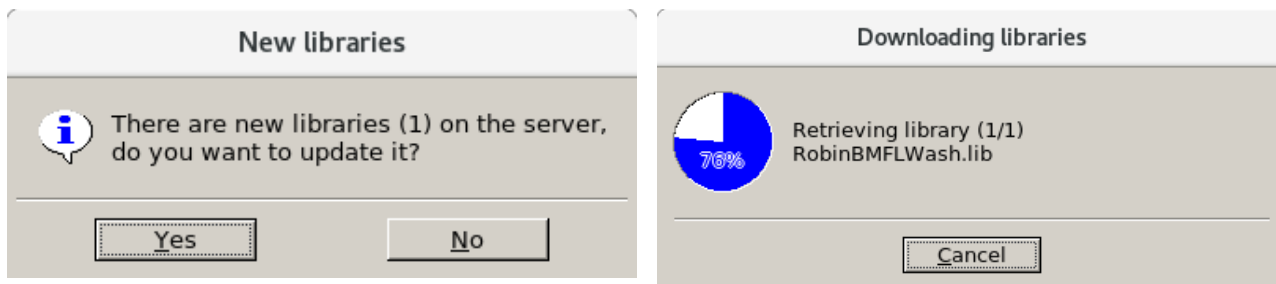
If you like to preserve Personality settings of updated fixtures, you may use [RDM Manager](#)⁷ to firstly load fixtures' RDM parameters before the update and save it into a file. After the update, re-load this file into RDM Manager to re-upload it into the units. Be aware, that not all personality settings are exposed via RDM. **RDM parameters can be manipulated only via DMX Wired or Wireless connection.** RDM parameters cannot be accessed via Ethernet network.


7. Update of ROBE Uploader and updates of fixture libraries

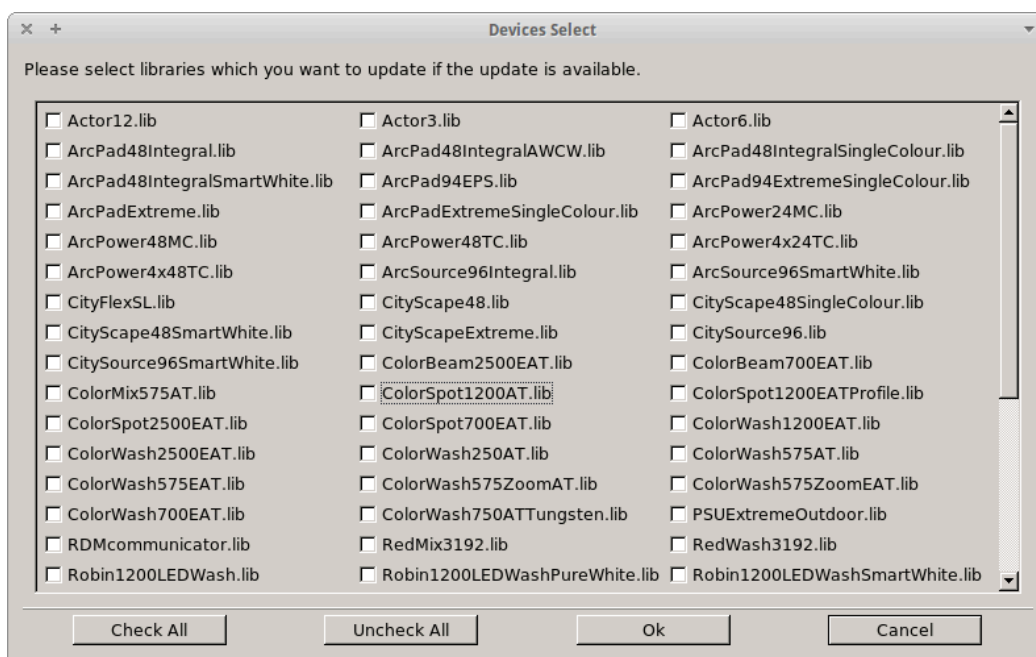
On every start up, the software will try to connect to the Internet and check for updates of ROBE Uploader and also for updates to the fixture libraries. You have to be connected to the Internet with full access without ftp port blocking.


You can also force this manually - when connected to the Internet and selecting menu **About - Check for updates**, the software will check for newer version of the ROBE Uploader available. To check for latest fixture libraries update, press the icon #5 .

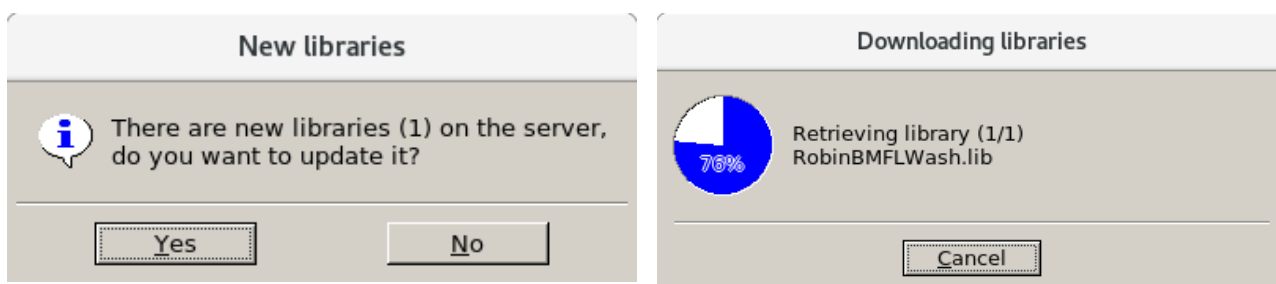
⁷ <https://www.robe.cz/runit-wtx>




One can download all available libraries or choose particular selection by clicking on icon #7  or selecting menu: **Libraries - Select Libraries**.

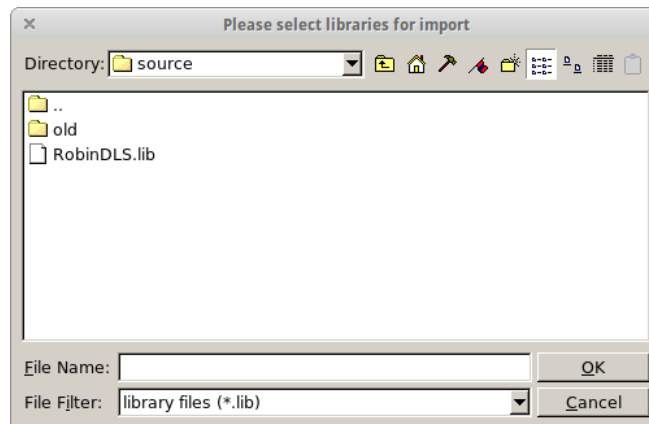


This dialog shows list of libraries available for download and requires Internet connection to Robe FTP servers. In case of no connection, this list remains empty. After making your selection, confirm by clicking OK. Then click the icon #5  once again.




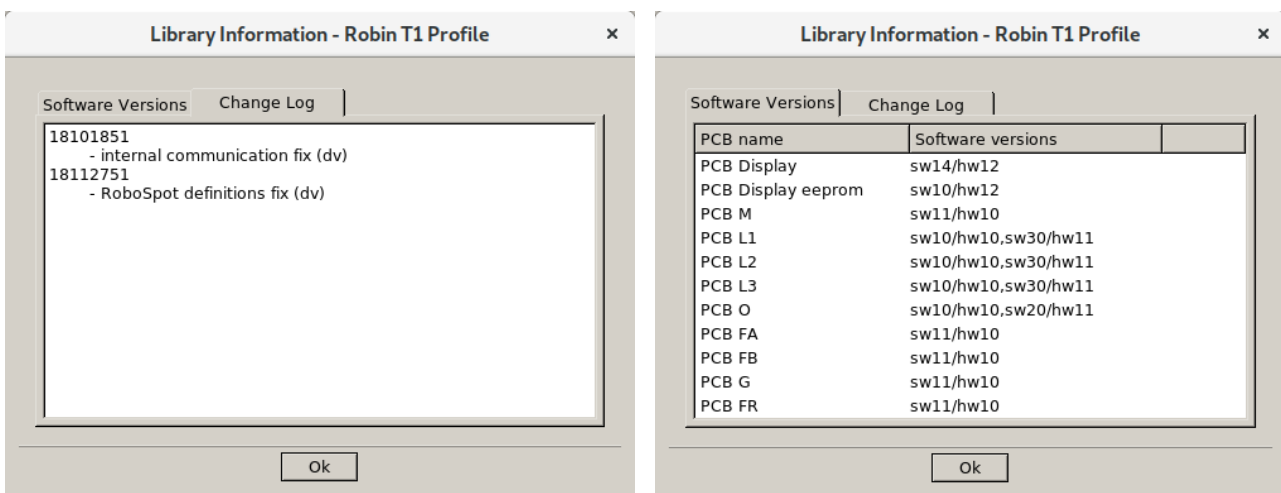
7.1. Import of library files

Individual libraries can also be imported by clicking on icon #6  or selecting menu: **Libraries - Import**. This is useful for testing purposes or when libraries are transferred via email or external (USB) media.



7.2. Versions and changelog information

Information about downloaded libraries is possible to view by clicking on icon #8  or selecting menu: **Libraries - View**. Only downloaded libraries are shown. Libraries marked red are downloaded but have been unselected in the Libraries selection and will not be auto updated over the Internet anymore. Double-click on each library shows detailed information including list of software changes and software versions. Do note, that detailed software versions listing is only available for software updates generated after November 2018.



All downloaded library files can all be erased at once by clicking on menu: **Library - Purge Cache**

8. Fixture update procedure

8.1. Connection to the fixtures

Do not put units to update mode manually via menu!

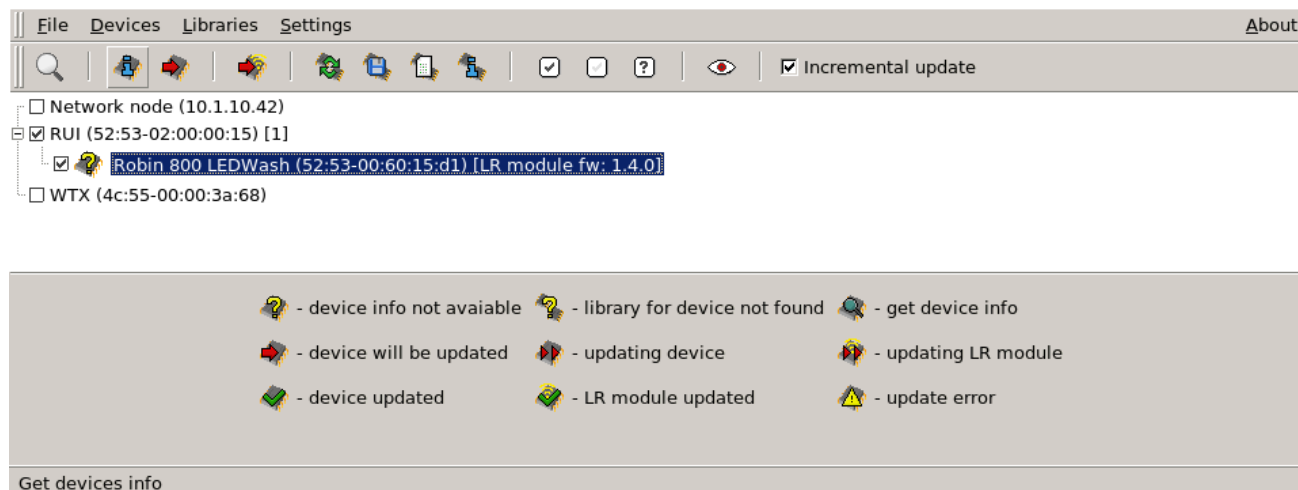
Establish connection to the fixtures either via Ethernet (see [Section 6.1, "Ethernet Network based updates"](#)) or via DMX lines (see [Section 6.2, "Settings for updates via RUNIT devices"](#)).

If Processor 2 is updated/overwritten during the update, Personality settings (including DMX Address, DMX Mode etc.) are set to Default values. You may preserve fixtures' Personality settings before the update as per [Section 6.2.2, "Preserving RDM parameters"](#)




8.2. Discover fixtures

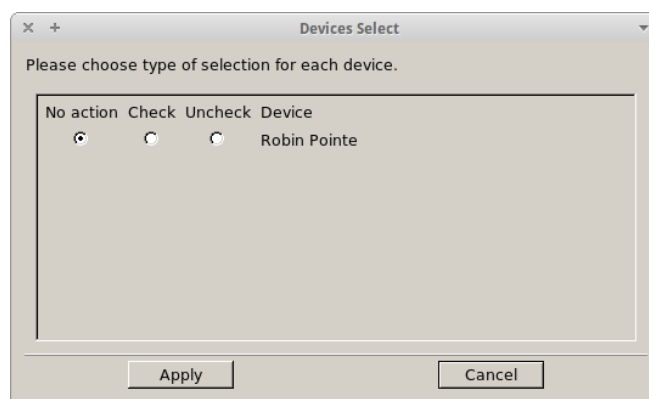
Press icon #1  to discover connected fixtures.

After search, the software displays list of found devices.

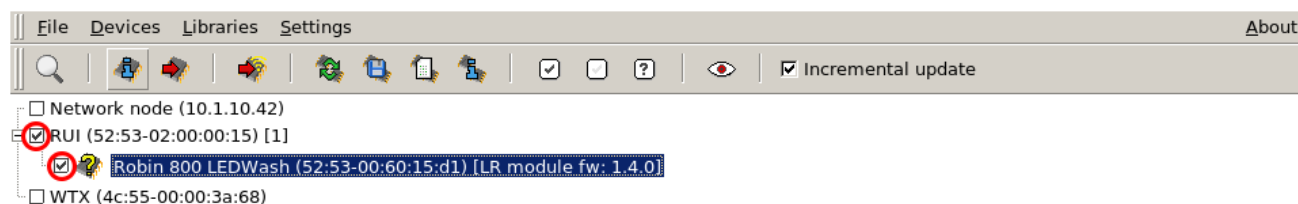


8.3. Device selection for update

Before running update procedure, it is possible to select devices for update. One can choose to select all found devices (icon #9 ) , unselect all devices (icon #10 ) or select devices based on their model by clicking on icon #11 .





One can also select/unselect device/devices individually by clicking on check box left of the fixture name. You can select/unselect all devices connected via particular interface or network by clicking on check box next to the interface name.




8.4. Incremental/Full update

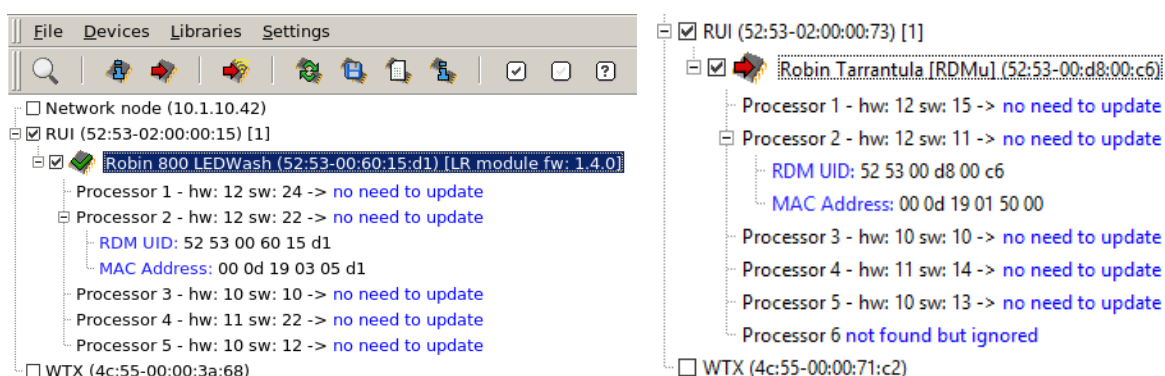
Incremental update You can choose whether to update only processors for which update is available - this is called Incremental update. It is the normal way of updating and it is typically the faster way. Non incremental update is selected by unchecking the checkbox. In this case, all processors should be overwritten - this takes longer and resets all Personality settings to default values.

8.5. Identify device

If connected via DMX cabling, one can send RDM Identify command to particular fixtures, to highlight them in the rig. The Identify mode can be toggled on/off via icon #12 . Once Identify mode is on , you can click directly on each device in the device list to highlight it in the rig. Do note, that RDM Identify cannot be used via Ethernet network.

8.6. Check software version and update details

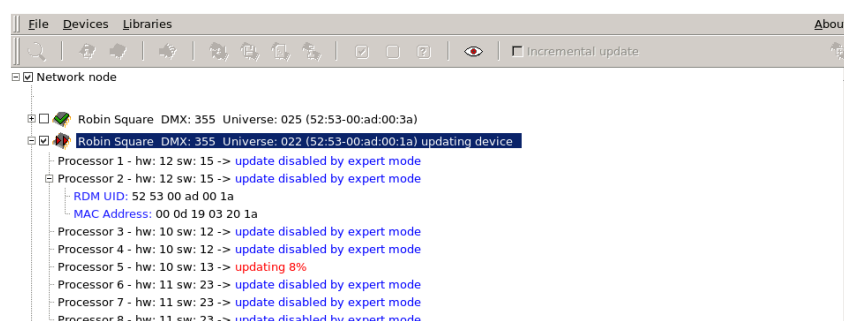
To check for software version of each device, click on icon #2 .



This information is not necessary but can be helpful for visual inspection of required updates. Some PCBs (processors) might not be present but are not required, when that is the case, the *not found but ignored* notice is displayed.



8.7. Update

Start the update of fixture(s) by pressing icon #3 . To update Lumen Radio CRMX PCBs, press icon #4 .




8.8. Important Updates

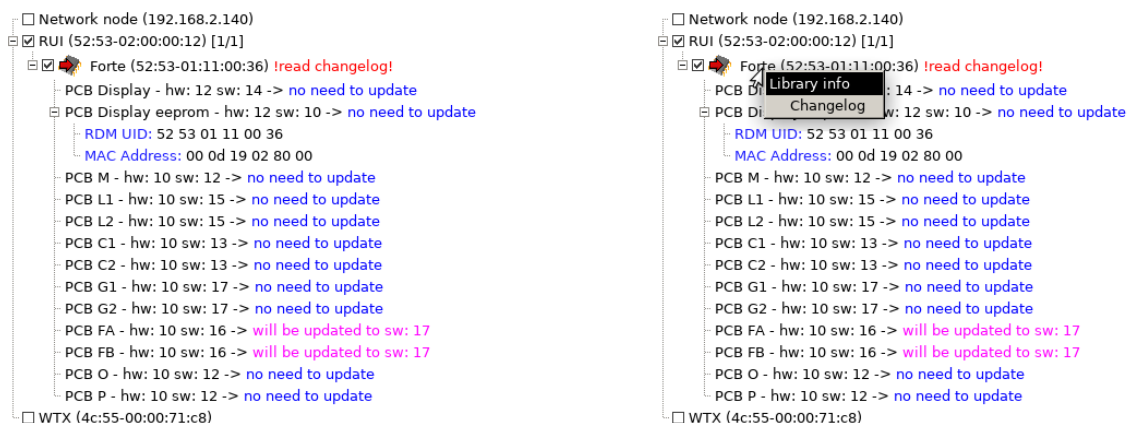
Starting with version 4.9, the ROBE Uploader introduces a way to inform about important changes in the new software update for Robe devices. This is to indicate changes potentially resulting in different behavior of the fixtures, which could have an effect on previously programmed shows. Important updates are indicated by showing **!read changelog!** besides the device name. You can get a quick access to the Changelog via right click: **Library info - Changelog** or via menu: **Libraries - View**.

The **!read changelog!** indication is displayed after fetching information about devices. This is done either during update ([Section 8.7, "Update"](#), initialized by pressing the Update icon ) , or during fetching Info ([Section 8.6, "Check software version and update details"](#) after pressing the Info icon ).



Important


If the **!read changelog!** indication was displayed during running update, devices marked with **!read changelog!** are skipped, and second explicit press of the Update icon  is required.



The image shows two side-by-side screenshots of a software update interface. Both screenshots display a tree view of devices under a 'Network node (192.168.2.140)'. The first screenshot shows a device 'Forte (52:53-01:11:00:36)' with a red star icon and the text '!read changelog!' next to its name. Below it, various PCB components are listed with their hardware (hw) and software (sw) versions and update status, such as 'no need to update' or 'will be updated to sw: 17'. The second screenshot shows the same device with a context menu open over its name, showing options like 'Library info' and 'Changelog'.

8.9. Interrupted update

If the update is interrupted (power failure, computer issue, cabling problem etc.), the fixture remains in update mode even after power cycle and can be safely re-updated to put back into working state. The display might be blue or white, with back-light but without any text.

In case of Ethernet based update, you can repeat the Discovery and the device will be found and labeled as "Device is in flashing mode", upon which you can just repeat the update by pressing icon #3 . If the device is marked as in bootloader mode, you might have to select the device type by right clicking on the device and choose the correct device type.



Note

If Ethernet based update is for any reason interrupted and fixture restarted (for example due to power outage), fixtures with Display System (3.0) will be waiting in flashing mode for software update **with an IP address in 10.x.x.x range**. This is to conform to latest Art-Net IP range recommendation. Make sure to set your computer to 10.x.x.x IP range, for example 10.0.1.1 , netmask 255.0.0.0 .

If you were updating devices over RUNIT and the RDM based discovery is no longer possible (it wasn't RDM protocol based update), the one-to-one DSU like mode must be used. See [Section 9, "DSU Mode/Fix broken device with RUNIT"](#)

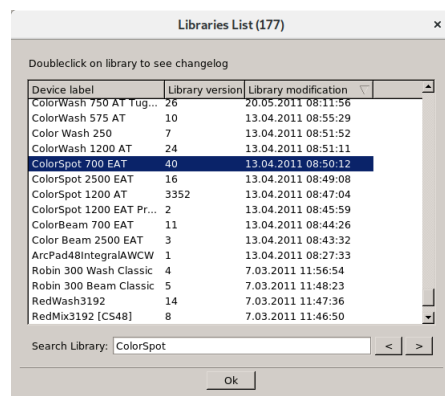
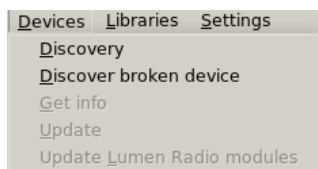
! No multiple units in update mode on the same line!

If the update is done via method that only allows one unit to be in update mode at any given moment (see [Section 6, "Device update methods"](#)), do not blindly proceed with updating of another unit. Make sure to update the interrupted unit first.

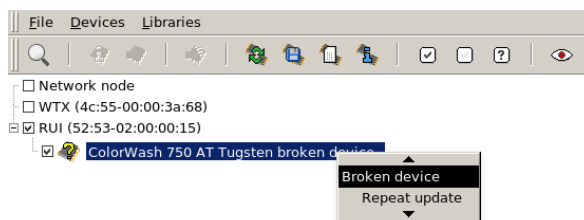
9. DSU Mode/Fix broken device with RUNIT

It is possible to trigger one-to-one software update via RUNIT (DSU like updating). This allows updating of fixtures without RDM support - the unit needs to be put into update mode manually. The one-to-one DSU like update might also be needed if software update via RUNIT was disconnected (power outage, cable disconnection etc.).

Connect only the single device via DMX cable to RUNIT, or make 100% sure there is only one device in update mode on the DMX line. In ROBE Uploader, go to menu: **Devices - Discover broken device**, and if needed, you will be prompted to choose the type of device from a list.



The unit will be added to the device list. Right click on it and choose **Broken device - Repeat update**.



A. Revision History

Revision 1.0-7 Wed Feb 24 2021

Petr Vanek

support@robelighting.jitbit.com

Add Important updates section
Update download links

Revision 1.0-6 Thu Dec 13 2018

Petr Vanek

support@robelighting.jitbit.com

Added short description of the update
Updated to ROBE Uploader v4.2
Updated Settings for RUNIT to include RDMu update method
Updated DSU mode discovery/selection
RoboSpot update IP address settings
Added incremental description
Switched several sections around for more clarity

Revision 1.0-5 Wed Dec 21 2016

Petr Vanek petr.vanek@robe.cz

Added update methods
Added RDM protocol based update
Updated interrupted update section

Revision 1.0-4 Wed Dec 7 2016

Petr Vanek petr.vanek@robe.cz

Additional warnings about multiple devices in update mode on DMX line.

Revision 1.0-3 Thu Nov 24 2016

Petr Vanek petr.vanek@robe.cz

Added note about Display System 3.0 devices defaulting to 10.x.x.x networks after reboot of device in update mode
Added section Interrupted update

Revision 1.0-2 Wed Nov 16 2016

Petr Vanek petr.vanek@robe.cz

Added XQuartz dependency notice for OSX

Revision 1.0-1 Mon Nov 14 2016

Petr Vanek petr.vanek@robe.cz

Added Windows firewall screenshots

Revision 1.0-0 Fri Oct 21 2016

Petr Vanek petr.vanek@robe.cz

Initial release