SoP Explorer

User Manual

Version: 8.0.0/1

Exported on: 24 October, 2023

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This user manual describes **SoP Explorer**, Lawo's firmware update tool for on-air systems.

The following products are updated using SoP Explorer.

- diamond
- ruby
- crystal
- Power Core

1 SoP Explorer - Getting Started

SoP Explorer is the firmware update tool for Lawo on-air systems. It can be used to check and update the firmware versions on the Core, expansion I/O cards and, where applicable, the control surface and key panels.

You will need to run SoP Explorer whenever you update to a new version of software. The latest firmware files are copied onto the PC by the software installer. When SoP Explorer connects to the Lawo system, it compares the versions. If updates are required, data is transferred firstly to the Core, and then onto the other components.

Important: You should never update system while it is operational! The hardware will reset several times during the update process, causing interruption to the operation and audio.

1.1 Prerequisites

SoP Explorer must be installed onto the configuration PC using the **onair-designer.exe** installer (as described here). Both the configuration PC and the Lawo device must be connected to the control network.

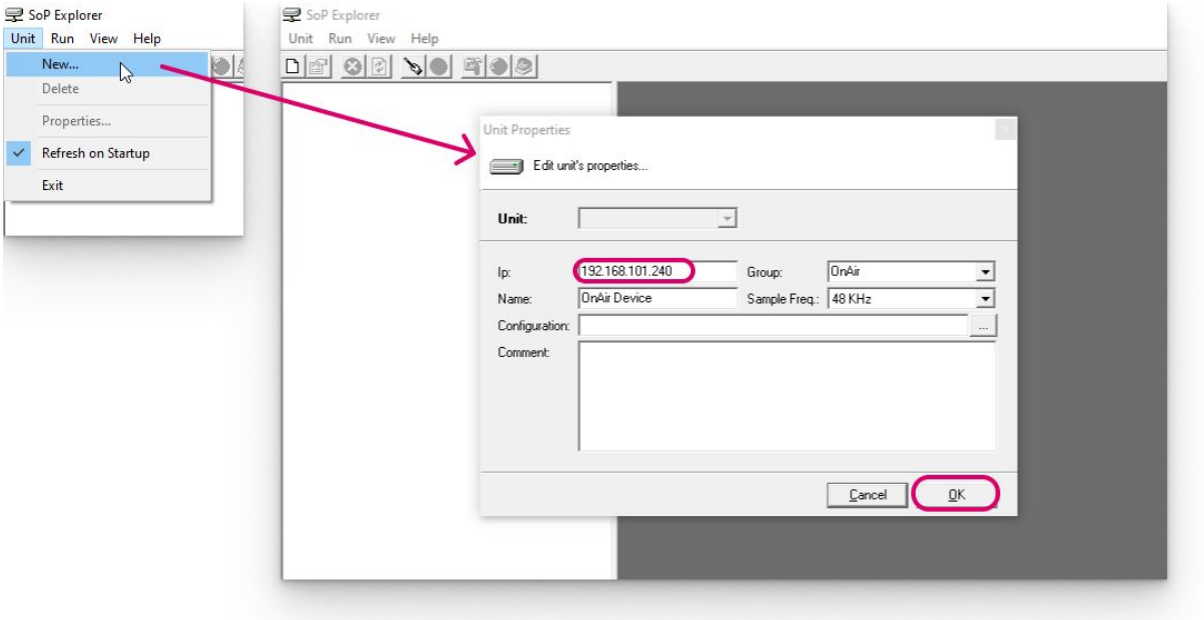
1.2 First Steps

Before you begin, check that the expansion I/O cards are installed and that any surface components, including key panels, are connected.

1. Start the software.

SoP Explorer starts automatically at the end of the ON-AIR Designer software installation procedure. It can also be started from the desktop icon or Windows START menu.

If this is the first time you have launched SoP Explorer, then the "Unit Properties" window opens automatically. Alternatively, select **Unit → New...** (from the main menus).



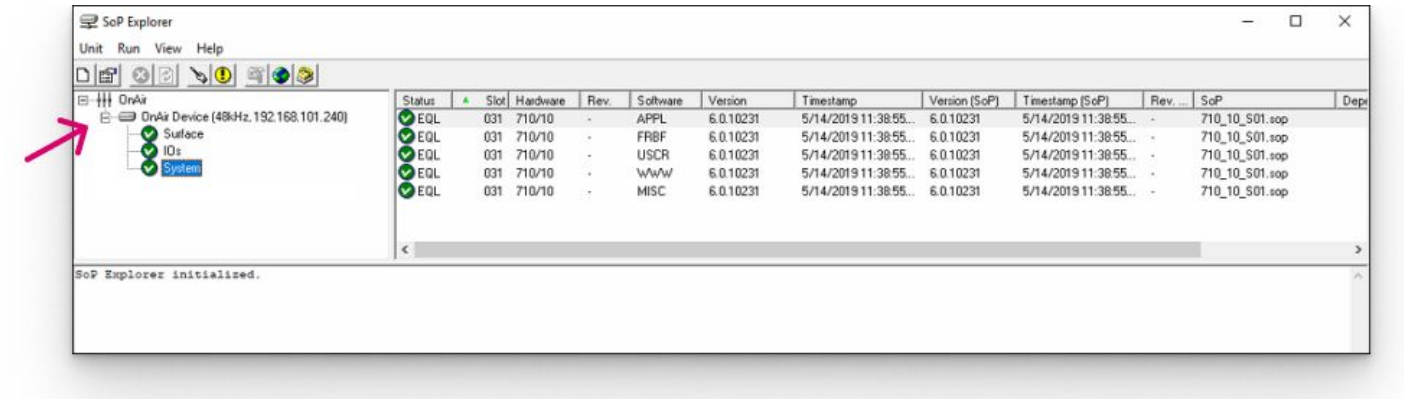
2. Edit the 'Unit Properties' to define the system you wish to connect to.

Usually it is enough to enter the **IP** address of the Core and leave the other fields at their default values. In a larger network with multiple devices, it can be useful to edit the **Name** field (to help identify the device in the system tree).

Select **OK** - the unit is added to the **OnAir** device group in the system tree. SoP Explorer connects to the device and analyses the current firmware revisions.

If a white cross on a red background appears beside the unit name, then SoP Explorer cannot connect to the device. Check that the IP address (entered in the "Unit Properties") matches that of the remote device. Then check the IP settings of the configuration PC and the network cabling.

3. Once a connection is established, you can use the **+** and **-** signs (in the system tree) to reveal the components.



For a Power Core system, you will see up to three components: **System** (for internal components), **IOs** (for expansion I/O cards) and **Surface** (for control surface modules and/or key panels). If the **Surface** branch is missing, then the surface components are not connected.

1.3 Editing the 'Unit Properties'

Once a unit is defined, you can re-open the 'Unit Properties' by selecting **Unit → Properties...** (from the main menus) or clicking on the button (from the toolbar).

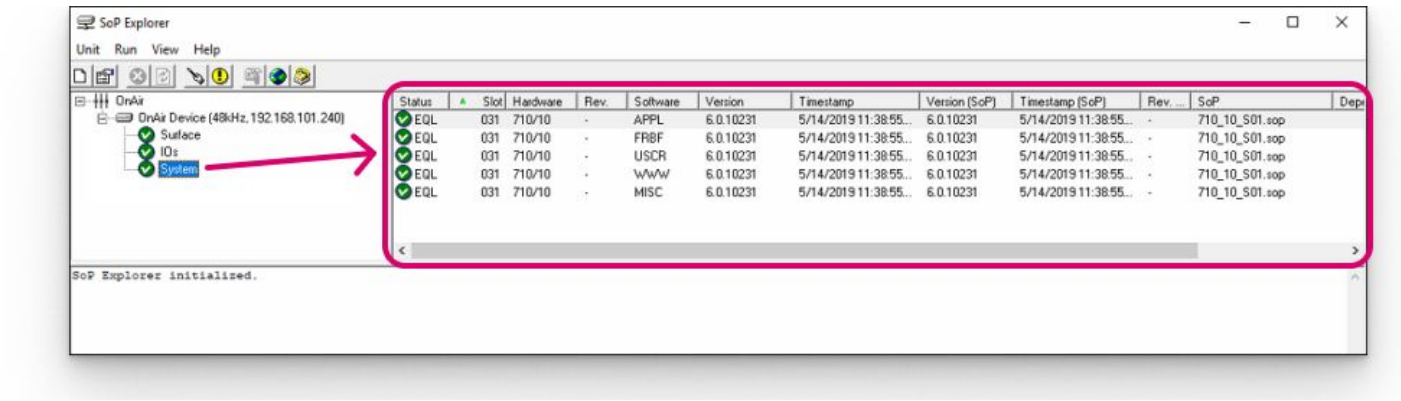
If more than one device has been added to SoP Explorer, then you can use the **Unit** drop-down menu to select a different system.

The remaining fields can be edited as follows.

- **Ip** - defines the IP address of the Lawo control system. This must be entered correctly, otherwise network communication cannot be established.
- **Name** - identifies the system within SoP Explorer. A default name of **OnAir Device** is given to each new unit. It is a good idea to edit the name so that systems can be easily identified.
- **Group** - is reserved for future implementation; the default group is always **OnAir**.
- **Sample Freq** - this field is used to select the sample frequency for **sapphire** or **Nova17**. It has no function for other systems.
- **Configuration** - this field is optional. It can be used to enter the file path for the system configuration. You do not have to enter a configuration, but if you do, you will able to open the ON-AIR Designer configuration by selecting **Run → Configuration** (from the main menus) or clicking on the button (from the toolbar).
- **Comment** - this field is optional. It can be used to enter notes about the system.

1.4 Checking the Current Revisions

Once the unit is defined, select a component (e.g. **System**) to interrogate its software modules.



Several columns of information are provided: "Status", "Slot", "Hardware", etc. These are described in more detail later.

For now, use the "Status" column to check the firmware revisions. The table below describes all possible states.

Status	Meaning	Actions
EQL	Software is up to date.	No action required.
UPD	Software requires an update.	Update the module using one of the update methods.
NEW	Software is newer than the SoP Explorer release.	SoP Explorer cannot be used to downdate the software. Please contact the Lawo Support Department for assistance.
FIX	Software cannot be updated by the SoP Explorer release.	Please contact the Lawo Support Department for assistance.
OLD	Software cannot be identified. This may occur if you have not updated the system for a while.	Please update the module and then refresh the connection.

Repeat to interrogate each component as applicable: **System**, **IOs** and **Surface**.

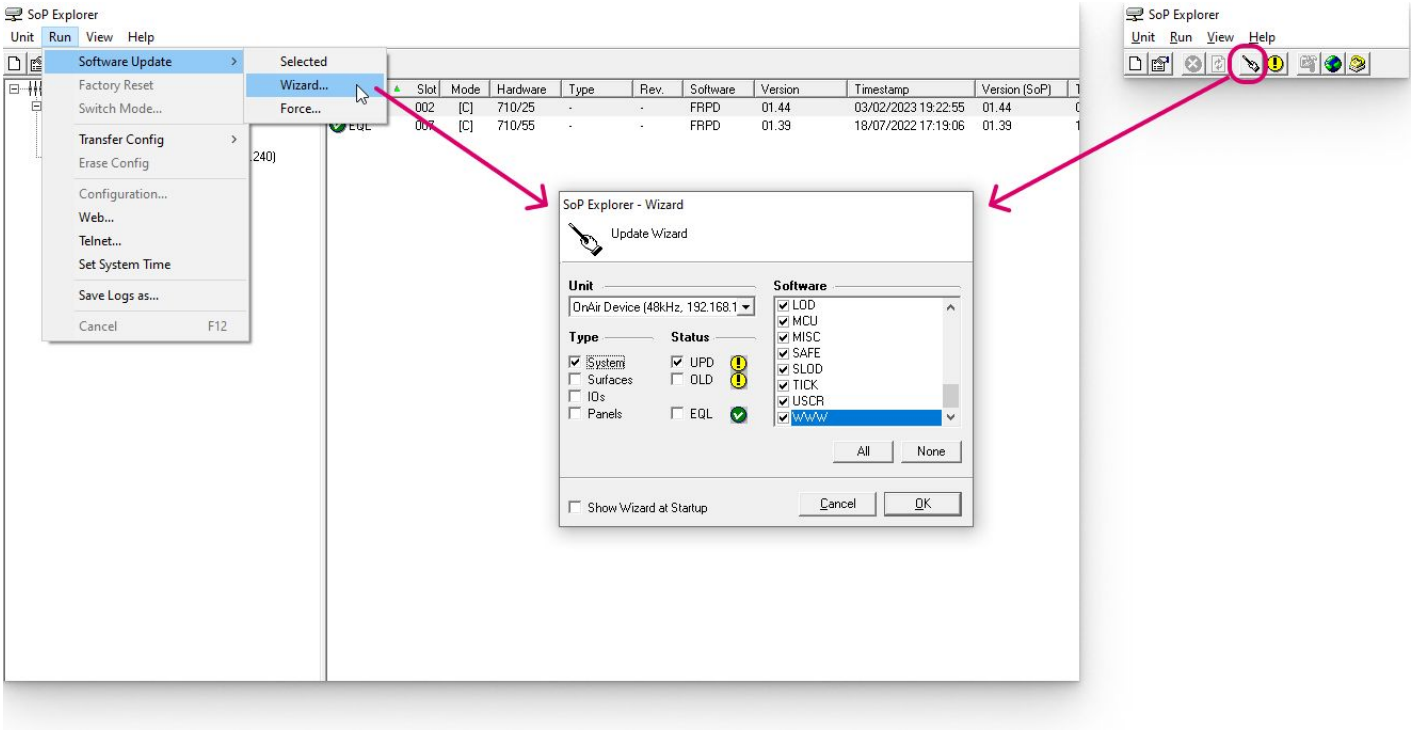
If all modules on all components are up to date, then you can close SoP Explorer. Alternatively, use the 'Software Update Wizard' to update the components.

2 SoP Explorer - Software Update Wizard

SoP Explorer support three software update methods: Selected, Wizard and Force. Unless otherwise advised, it is recommended to use the 'Update Wizard'.

Important: While it is possible to update all components at once, it is strongly recommended that you update the components individually in the following order: **System**, **IOs** and then **Surface**.

1. Start by opening the 'Software Update Wizard', either from the main menus (**Run → Software Update → Wizard...**) or toolbar.



2. Check that the correct unit is selected (in the drop-down **Unit** menu).
3. Then use the **Type, Status** and **Software** options to prepare the update as follows.

Start by selecting **System** (in the Type column) + **UPD** (in the Status column) + **All** (in the **Software** modules list).

4. Select **OK** - a confirmation window appears.
5. Select **Continue** to start the update.

Software updates can take several minutes. The progress is shown in the status bar at the bottom of the SoP Explorer window. Once the update is complete, the system cold starts.

6. Wait for the system to reboot and then click on the refresh button on the toolbar  .
7. Now check the status of the **System** modules.

All modules should be equalized  indicating that their software is up to date.

8. Repeat the process but this time select **IOs** (in the Type column) to update the expansion I/O cards fitted to the Core.
9. If a control surface is connected, repeat the process again but this time select **Surfaces** (in the Type column).

Once all software modules on all components are equalized, the firmware updates are complete and you can close SoP Explorer.

In the unlikely event that the 'Software Update Wizard' fails, you can try one of the alternative update methods.

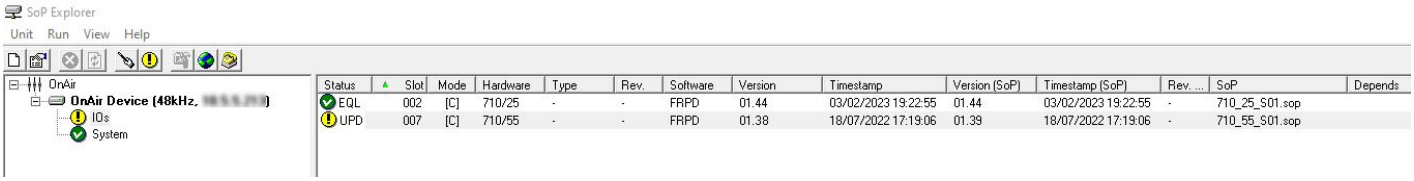
3 SoP Explorer - Other Update Methods

This topic covers the other two update methods: Selected and Force. You can use the first method to update a specific component. The second method can be used if both the Software Update Wizard and Selected Update fail.

3.1 'Selected' Software Update

This method updates the software on a specific component.

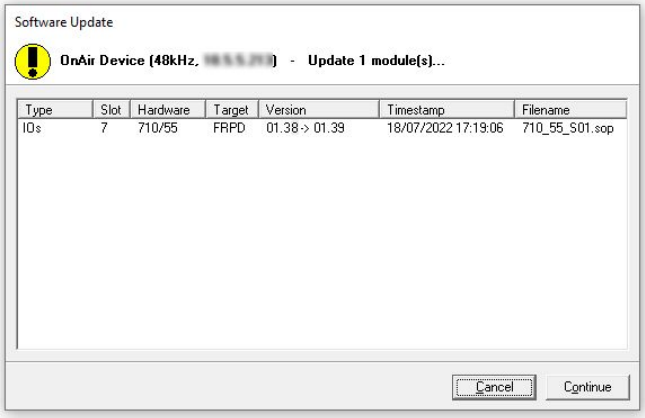
1. Using the system tree (on the left), select the component (e.g. **IOs**).
2. Then select the module(s) you wish to update.



You can select multiple modules by using the SHIFT or CTRL buttons on your keyboard.

- To select a range: click on the first entry, press and hold SHIFT, and then click on the last entry.
- Once a range is selected, press and hold SHIFT and click to increase (or decrease) the selected range.
- Alternatively, press and hold CTRL and click to select (or deselect) individual modules.

3. Open the 'Software Update' dialog box, either from the main menus (**Run → Software Update → Selected**) or toolbar ( ).



3. Check the actions and click on **Continue** to start the update.

Software updates can take several minutes. The progress is shown in the status bar at the bottom of the SoP Explorer window. Once the update is complete, the system cold starts.

4. Wait for the system to reboot and then click on the refresh button on the toolbar .
5. Now check the status of the updated modules.

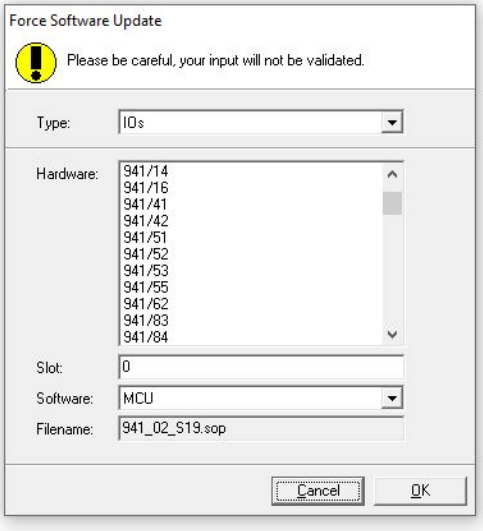
If they are equalized EQL , then the update is successful.

3.2 'Force' Software Update

This method can be used to transfer a specific set of software to a component.

> **Important**: It is recommended to use this function with caution and only if all other update methods have failed.
>
> A forced update does not check the hardware status of the component before performing an update. Thus, it is possible to transfer the wrong software to a module in error and, potentially, leave the system inoperative!

1. As before, use the system tree to select a component (e.g. **IOs**).
2. Then select the module you wish to update.
3. Open the 'Force Software Update' dialog box by selecting **Run → Software Update → Force** from the main menus.



4. From the drop-down **Type** menu, select the device type.
5. From the **Hardware** list, select the type of component.
6. In the **Slot** box, enter the slot position where the software modules should be loaded to. (This box is only active for IOs.)
7. From the drop-down **Software** menu, define the software module.
8. Check the settings and click on **OK** to start the update.

Software updates can take several minutes. The progress is shown in the status bar at the bottom of the SoP Explorer window. Once the update is complete, the system cold starts.

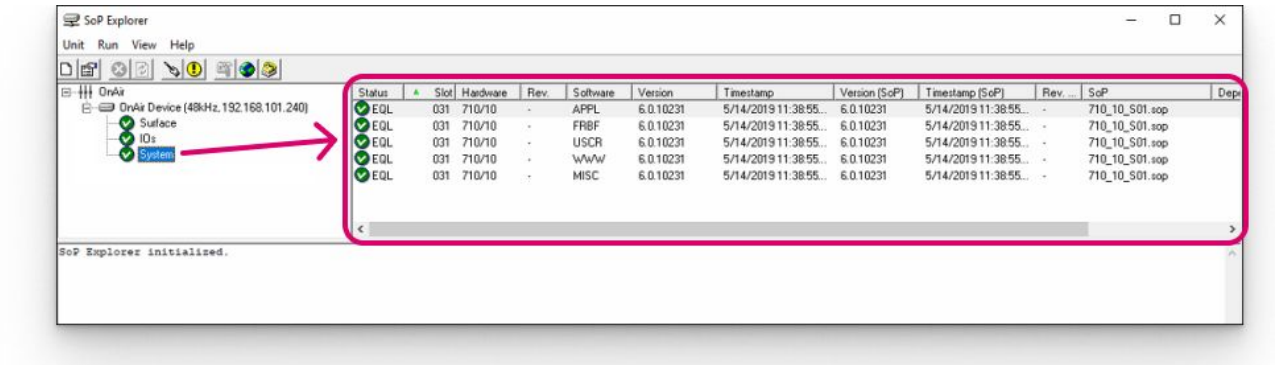
9. Wait for the system to reboot and then click on the refresh button on the toolbar  .
10. Now check the status of the updated modules.

If they are equalized, then the update is successful.

If you need further assistance, the Lawo Support Department can be contacted by email at support@lawo.com, or by telephone during normal working hours - please visit the Support area of the Lawo website for the most up-to-date contact details.

4 SoP Explorer - Software Module Interrogation

The columns on the right of the SoP Explorer window show information about the selected component's software modules.



Most important is the **Status** column as this shows the current revision status of the firmware (compared to the version included with SoP Explorer). The remaining columns provide further information about the component or its firmware.

- **Status** - the current revision status of the firmware. All possible states are described in the table below.
- **Slot** - the hardware address of the component:
  - For **System**, this is always 031 (the control system).
  - For **IOs**, this is the expansion I/O slot number of the I/O card.
  - For **Surface**, this is the CAN bus address of the module or panel.
- **Hardware** - the part number of the component.
- **Rev** - the hardware revision of the component.
- **Software** - the name of the software module.
- **Version** - the current version running on the module.
- **Timestamp** - the date and time when the current version was created (if available).
- **Version (SoP)** - the version included in the SoP release.
- **Timestamp (SoP)** - the date and time when the SoP version was created.
- **Rev** - the hardware revision required to perform an update.
- **SoP** - the filename included in the SoP release.

Status	Meaning	Actions
EQL	Software is up to date.	No action required.
UPD	Software requires an update.	Update the module using one of the update methods.
NEW	Software is newer than the SoP Explorer release.	SoP Explorer cannot be used to downdate the software. Please contact the Lawo Support Department for assistance.
FIX	Software cannot be updated by the SoP Explorer release.	Please contact the Lawo Support Department for assistance.
OLD	Software cannot be identified. This may occur if you have not updated the system for a while.	Please update the module and then refresh the connection.

5 SoP Explorer - Set System Time

SoP Explorer can be used to transfer the date and time from your configuration PC to the Lawo device. The transfer is done as a one-shot snapshot, so start by checking the current settings on your PC before you begin.

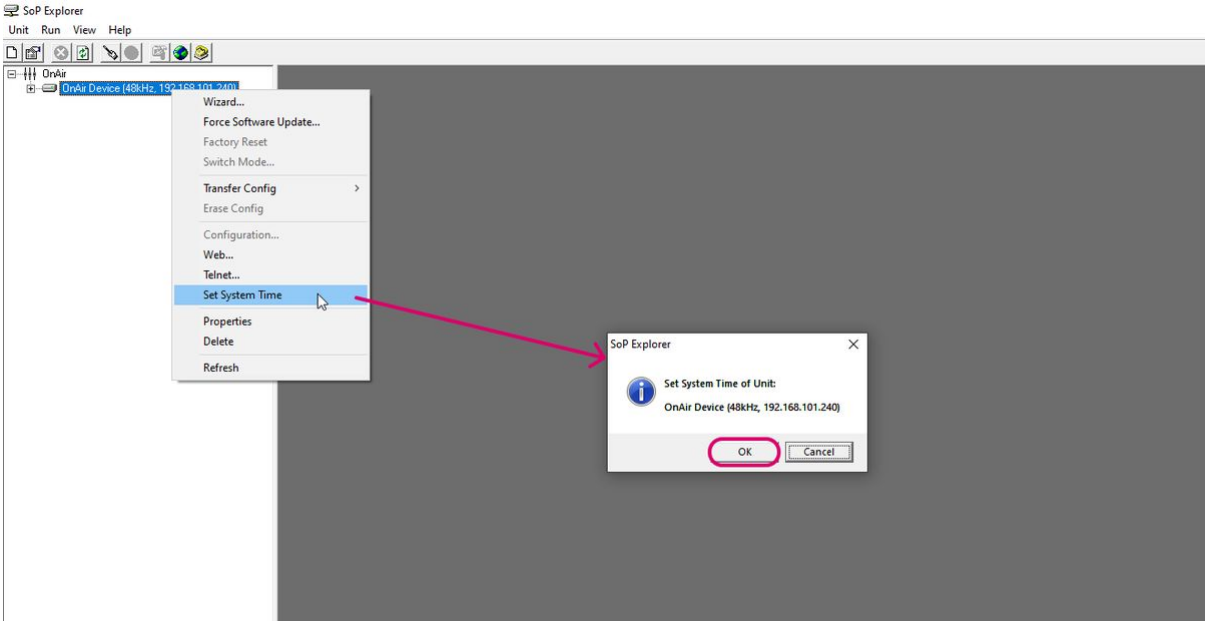
1. If SoP Explorer is not already open, start the application from either its desktop icon or Windows START menu.

All units that have been previously defined appear in the system tree (on the left).

If the unit you wish to configure is not listed, then select **Unit → New...** (from the main menus), enter the **IP** address of the Core and select **OK** - the unit is added to the "OnAir" device group in the system tree. SoP Explorer connects to the device and analyses the current firmware revisions.

If a white cross on a red background appears beside the unit name, then SoP Explorer cannot connect to the device. Check that the IP address (entered in the "Unit Properties") matches that of the remote device. Then check the IP settings of the configuration PC and the network cabling.

2. Right-click on the unit and select **Set System Time**. Confirm by selecting **OK**.



The software now sets the system date and time to match that of the configuration PC. The success (or failure) of the reset is shown in the SoP Explorer status bar area.

6 SoP Explorer - Main Menus

This topic describes all possible operations from the main menus.

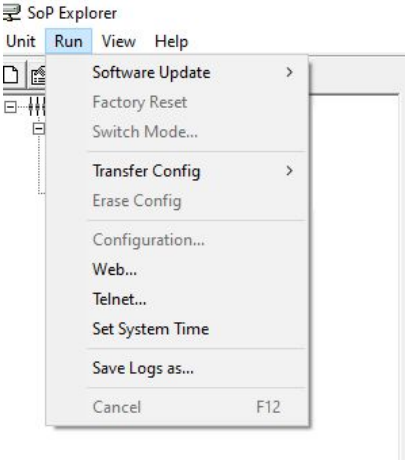
You can also right-click on a unit or component (in the system tree) to access the most common operations.

6.1 Unit

Use the **Unit** menu to...

- **New** - add a new unit to SoP Explorer.
- **Delete** - delete a unit from Sop Explorer. The unit must be selected (in the system tree); then choose **Unit -> Delete** and select **Yes** to confirm.
- **Properties** - show or edit the 'Unit Properties' of an existing system. The unit must be selected (in the system tree); then choose **Unit -> Properties**.
- **Refresh on Startup** - enable/disable the refresh on startup option.
- **Exit** - close SoP Explorer.

6.2 Run

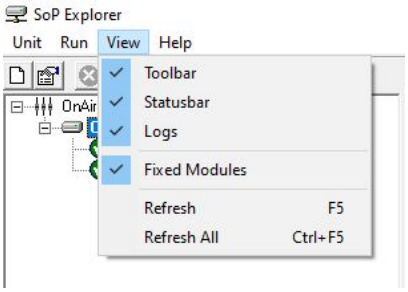


Use the **Run** menu to...

- **Software Update** – access the three methods of updating software: the Update Wizard and Selected/Force.
- **Factory Reset** – reset the units defined in SoP Explorer and reload the complete software set to the system.
- **Switch Mode** – switch the mode of a Compact Engine (from crystal to sapphire compact or vice versa). This option is only available for Compact Engine systems.
- **Transfer Config** – access the **Unit to File...** and **File to Unit...** transfer options. From here you can make a binary copy of the system configuration stored on the unit OR transfer a new binary file to the system.
- **Erase Config** – transfer an empty system configuration to the unit.
- **Configuration** – open the ON-AIR Designer configuration for the selected unit. The configuration file path is defined in the 'Unit Properties'. This option becomes available once a configuration file is defined.
- **Web** – open a Web UI session for the selected unit.

- **Telnet** – open a Telnet session for the selected unit.
- **Set System Time** - set the date and time of the selected unit to the current clock settings of the configuration PC.
- **Save Logs as** – save the SoP Explorer logs area into a log file (for diagnostic purposes).
- **Cancel** – cancel all operations. For example, to cancel a software update.

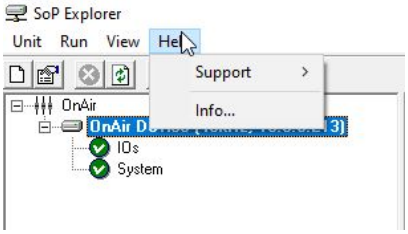
6.3 View



Use the **View** menu to...

- **Toolbar** – show or hide the toolbar.
- **Statusbar** – show or hide the status area.
- **Logs** – show or hide the logs area.
- **Fixed Modules** – show or hide the fixed software modules (for the selected component).
- **Refresh** – refresh the status of the selected unit. For example after performing an update.
- **Refresh All** – refresh the status of all units in SoP Explorer.

6.4 Help



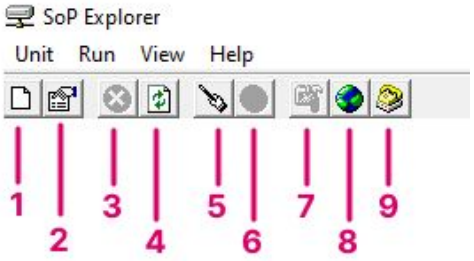
Use the **Help** menu to...

- **Support → Export Hardware Info** - export information about the units defined in SoP Explorer (for diagnostic purposes).
- **Info** - view information about the SoP Explorer release.

7 SoP Explorer - Toolbar

This topic describes all possible operations from the Toolbar.

If the toolbar is not visible, then check the show/hide option in the View menu.



1	**create new unit**	Add a new unit to SoP Explorer.
2	**show/edit current unit's properties**	Open the 'Unit Properties' dialog box for the selected system.
3	**cancel all operations**	Cancel all operations. For example, to cancel a software update.
4	**refresh all units**	Refresh the status of all units. For example, after performing an update.
5	**software update wizard**	Start the 'Software Update Wizard'.
6	**update selected software module**	Open the 'Software Update' dialog box for the selected software module. This option becomes available once a module is selected.
7	**run configuration tool**	Open the ON-AIR Designer configuration for the selected unit. The configuration file path is defined in the 'Unit Properties'. This option becomes available once a configuration file is defined.
8	**run web browser**	Open a Web UI session for the selected unit.
9	**run telnet application**	Open a Telnet session for the selected unit.