Communicator

User Guide
PC version for DP2K and DP4K projectors

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BARCO
Visibly yours

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1. INTRODUCTION

Overview

- General introduction
- About this manual

1.1 General introduction

Configuration tool

A uniquely powerful and easy to use configuration tool for the Barco cinema projector. This Communicator software for PC provides all the necessary tools and only those tool necessary for the connected projector to setup and control this projector. A comprehensive array of easy to access menu pages provide the projectors digital input, output and screen display via a combination of simple buttons and displays.

Quick and Easy configuration

Clearly indicated tab pages allow the control of Projector connection, configuration, test, color calibration and configuration with an existing automation system. All actions can be activated by a simple click.

Depending on the user level, functions are enabled or disabled in the software. The enabled functions are only accessible via a password entry and that prevents misalignment once everything is correctly aligned.

1.2 About this manual

Layout issues

This manual is designed to be a reference tool in your everyday work with the Communicator software.

The following icons are used in the manual :

	Caution
	Warning
	Info, term definition. General info about the term.
	Note, gives extra information about the described subject.
	Tip, gives extra advice about the described subject.

Images given in the manual are used as illustration. The content of the image can be slightly different with the real image on the screen, e.g. version numbers, projector name, installed modules, window position, etc. .

Typography:

- Menu items to click on or buttons are indicated in bold, e.g. **OK**
- Non clickable Menu items are indicated in italic.
- A dialog window is indicated in italic, e.g. *Make a new configuration*.
- Step related notes, tips, warnings or cautions are printed in italic.
- Procedure related notes, tips, warnings or cautions are printed in bold between 2 lines preceding by the corresponding icon.
- Image related indication which are repeated in the image and in a step are indicated between brackets, e.g. (1).

2. SOFTWARE INSTALLATION AND START UP

Overview

- General requirements
- Free download of Communicator
- Software installation
- Starting up
- About the main window
- Start up of the Communicator via a batch file
- Window manipulations
- Change user
- Change custom logo
- Ethernet connection with a projector
- Serial connection with a projector
- Disconnecting from a projector
- Error - Warning indication
- Projector power mode status
- Change main window header

2.1 General requirements

System requirements for Microsoft Windows

Minimum hardware specifications :

- PC Pentium III or equivalent, 1 GHz
- 512 MB RAM
- Free hard disk space: 200 MB
- XGA resolution (1024 x 768)
- Serial communication port and/or Ethernet connection

Software

- Windows 2000, Windows XP Home or Windows XP Professional, Windows Vista, Windows 7

Recommended hardware specifications :

- PC Pentium IV or equivalent, 2.4 GHz
- 512 MB RAM
- 400 MB hard disk free space
- SXGA resolution (1280 x 1024) with 32 MB video memory
- Serial communication port
- Ethernet connection

System requirements for Linux

Software

- Any Linux distribution (RedHat 9.0, SuSe 8.2, Debian/Ubuntu, Mandriva, ...)

Minimum hardware specifications

- PC Pentium III or equivalent, 1 GHz
- 512 Mb RAM
- Free hard disk space: 200 MB
- XGA resolution (1024 x 768)
- Ethernet connection (serial connection is not supported)

Recommended hardware specifications :

- PC Pentium IV or equivalent, 2.4 GHz
- 512 MB RAM
- 400 MB hard disk free space
- SXGA resolution (1280 x 1024) with 32 Mb video memory
- Ethernet connection

System requirements for MAC

Support for Intel based Macs (MacBook, MacBook Pro, IMac, Mac mini, Xserve)

No support for Power PC based Macs (G4 and G5 series)

2.2 Free download of Communicator

Overview

The program can be downloaded for free from Barco's Partnerzone, (URL: https://my.barco.com). Registration is necessary. Select Digital Cinema from the drop down box in the upper right corner.

If you are not yet registered, click on Partnerzone registration and follow the instructions. With the created login and password, it is possible to enter the partnerzone where you can download the Communicator software.

It is not necessary to install any other software.

2.3 Software installation

To install on Microsoft Windows

The process of installing your software involves the following steps:

1. Browse to the directory where the install program is downloaded.
2. Double click on *Communicator_Installer.exe* .

   The installation starts. Depending on the local Internet Explorer settings, it is possible that a warning is displayed. Just click Run to start the installation.
3. Follow the instructions given in the different install windows.
4. Complete installation is automatic.
   Note: *A restart of the computer is necessary before the software can be used.*

   Barco → Communicator → Communicator item is added to the program list (unless otherwise selected during the installation).

To install on Linux

The process of installing your software involves the following steps:

1. Browse to the folder where the downloaded installer file (*Communicator_installer.run*) has been stored.
2. Check if the file is executable. This is done by right clicking on the file and selecting 'Properties' from the popup menu.
3. Select tab **Permissions** and check if *Is executable* is enabled. (image 2-1)
4. Double click on the *Communicator_installer.run* to start the installation.
5. Follow the instructions given in the different install windows.
6. The complete installation is done automatically.

Image 2-1
File properties

To install on MAC OS X

The process of installing your software involves the following steps:

1. Browse to the folder where the downloaded zip file is stored.
2. Double click on the zip file to unzip.
3. Double-click on the communicator application bundle to start communicator.

Software updates

For new version of the Communicator, download the installer file (Windows and Linux) or the zip file (MAC) and handle in the same way as for a first install. The new version will be installed on the same location and the files will be overwritten.

2.4 Starting up

How to start up

1. Double click on the Communicator icon on your desktop
   Or,
   click Start → All programs → Barco → Communicator → Communicator

   The software starts up with the same lock and feel as when it was closed before.
2. At a first start up, an Identification dialog window opens.
   Enter your name and company and click **OK**.

The look and feel of the software can be different between a Windows installation or Linux installation. Therefore the screenshots in this manual are made on a Windows installation and can be used on all environments as a reference.

2.5 About the main window

Introduction

Once the software is started, it starts always with the default user

Window areas

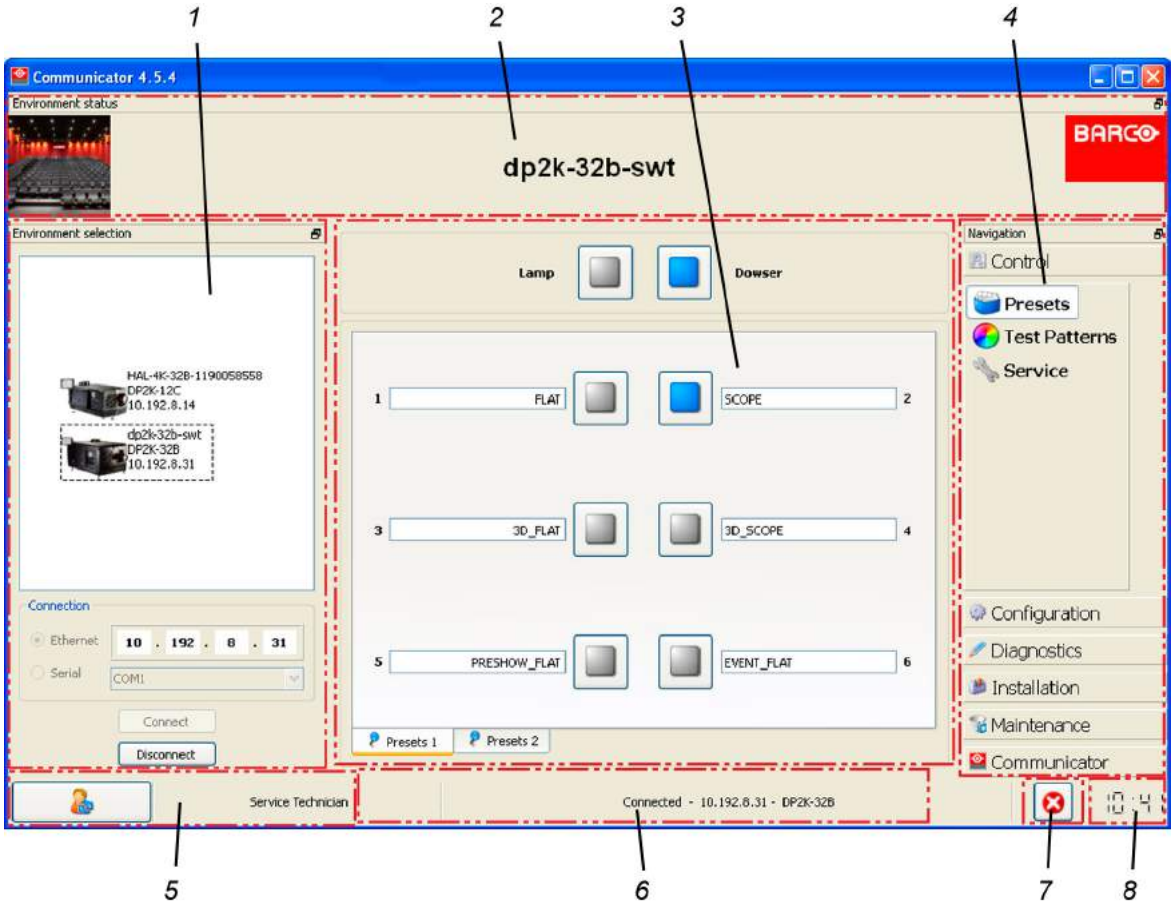


Image 2-2
Main window, overview

Indication	Description
1	Environment selection, overview of available projectors on the network. Indication of connected IP address.
2	Environment status with projector name, status LEDs and custom logo (only changeable with Projector Toolset or Communicator Touch panel). Changeable to graphical visualization of the projector status.
3	Configuration and control pane, area to make selections and execute controls.
4	Navigation (selection) pane

Indi-cation	Description
5	User selection and current active user
6	Active connection with projector and connected projector type
7	Error / warning icon
8	PC clock

2.6 Start up of the Communicator via a batch file

How to start up

1. Create a batch file to start up the Communicator software by entering the exe file in the batch file. drive letter:\installation path\communicator.exe -arguments

   The Communicator can be started with arguments.

Argument	Description
-path	Use the given application path.
-stylesheet	Start with a specific QT stylesheet. The look and feel can be adapted to a custom look and feel. For more information about QT stylesheets, consult http://doc.troll-tech.com/4.3/stylesheet.html
-notitlebar	Does not display an application titlebar
-fixedsize	Start with fixed size, non resizable window. The size should be formatted like 800*600.
-nodocking	Start without docking window features

Example: `communicator.exe -notitlebar -fixedsize 800*600 -nodocking -stylesheet style.qcss`

2.7 Window manipulations

What can be done

Some panes of the main window with a  in the title bar can be dragged outside the main window to create more space for the configuration and control pane. Once outside the main window, this window can be dragged back inside the main window.

How to split off a window

1. Click on the title bar of the window with  indication and hold down the mouse button (1). (image 2-3)
2. Drag the window outside the main window (2).

   A new window is created.
3. Release the mouse button to drop that window on that place.

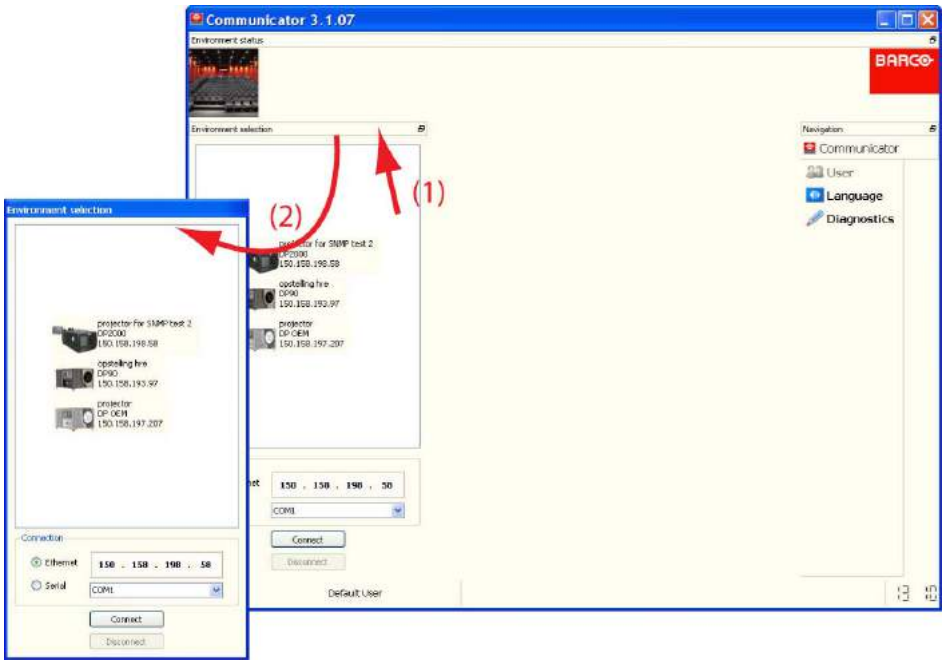


Image 2-3
Split off a window

Quick way to split off a window

1. Double click on the of the window to be split off (1). (image 2-4)

   A new separate window is created outside the main window (2).

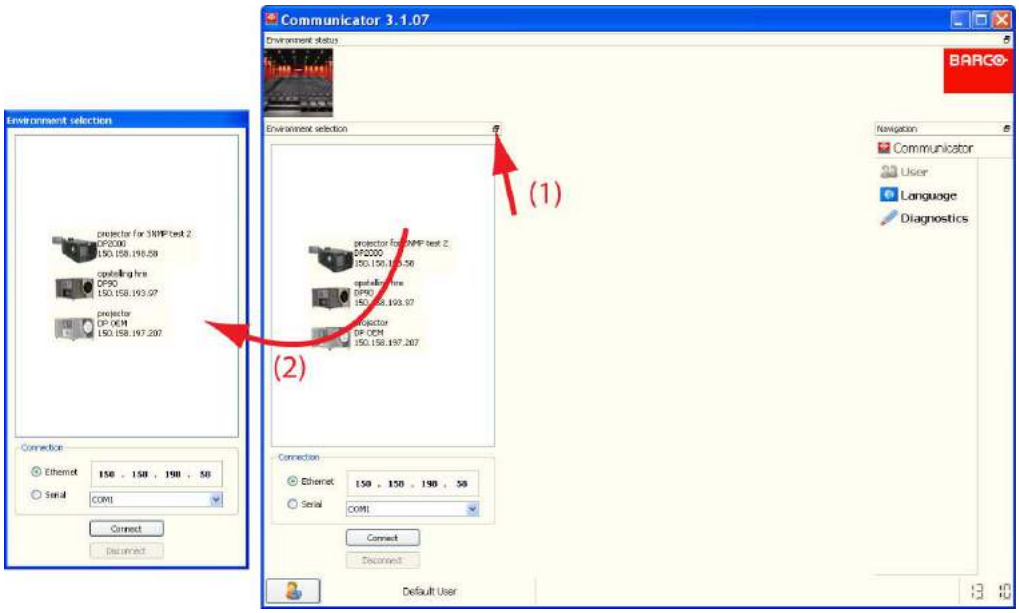


Image 2-4
Quick window split off

How to join a window with the main window

1. Click on the title bar of a separate window and hold down the mouse button (1). (image 2-5)
2. Drag the window slowly inside the main window in the area where you want to drop it (2).

   A part of the main window becomes blue.
3. Release the mouse button.

The dragged window jumps inside the blue area and joins together with the main window.

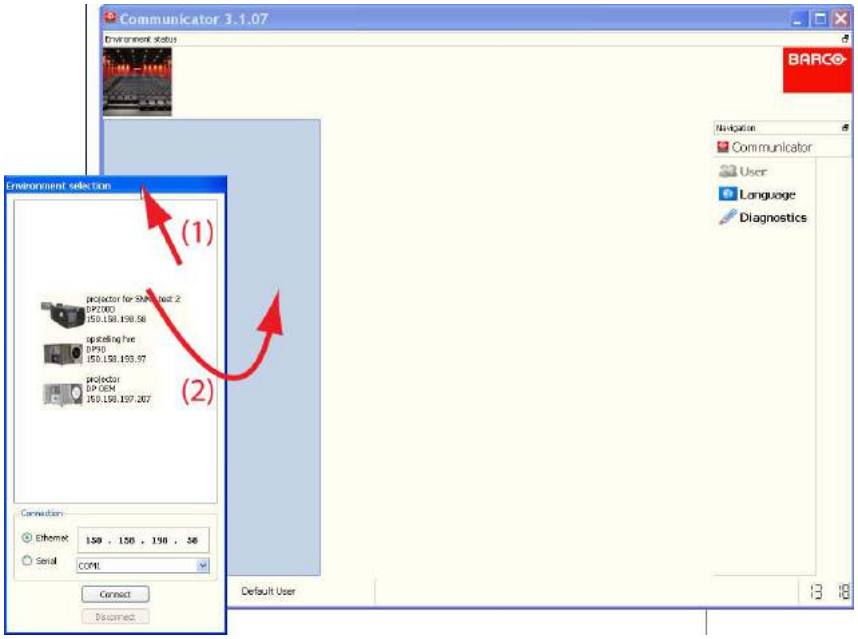


Image 2-5
Join windows

2.8 Change user

How to change to another user

1. Click on the user button (1). (image 2-6)

   The *Switch user* dialog opens.

2. Click on a user in the list (2a).

   The short name of the selected user will be filled out next to User name
   Or,
   click in the input field next to User name and enter the short name for the user (2b).

3. Click in the *User password* input field and enter the password (3).
   Note: *Each character in the password is normally displayed as an asterisk. To display the real characters, click on the Display password button (3a).*

4. Click **OK** (4).

   The user name and password are checked. The user profile will be loaded. The name of the user is indicated next to the user button (5).

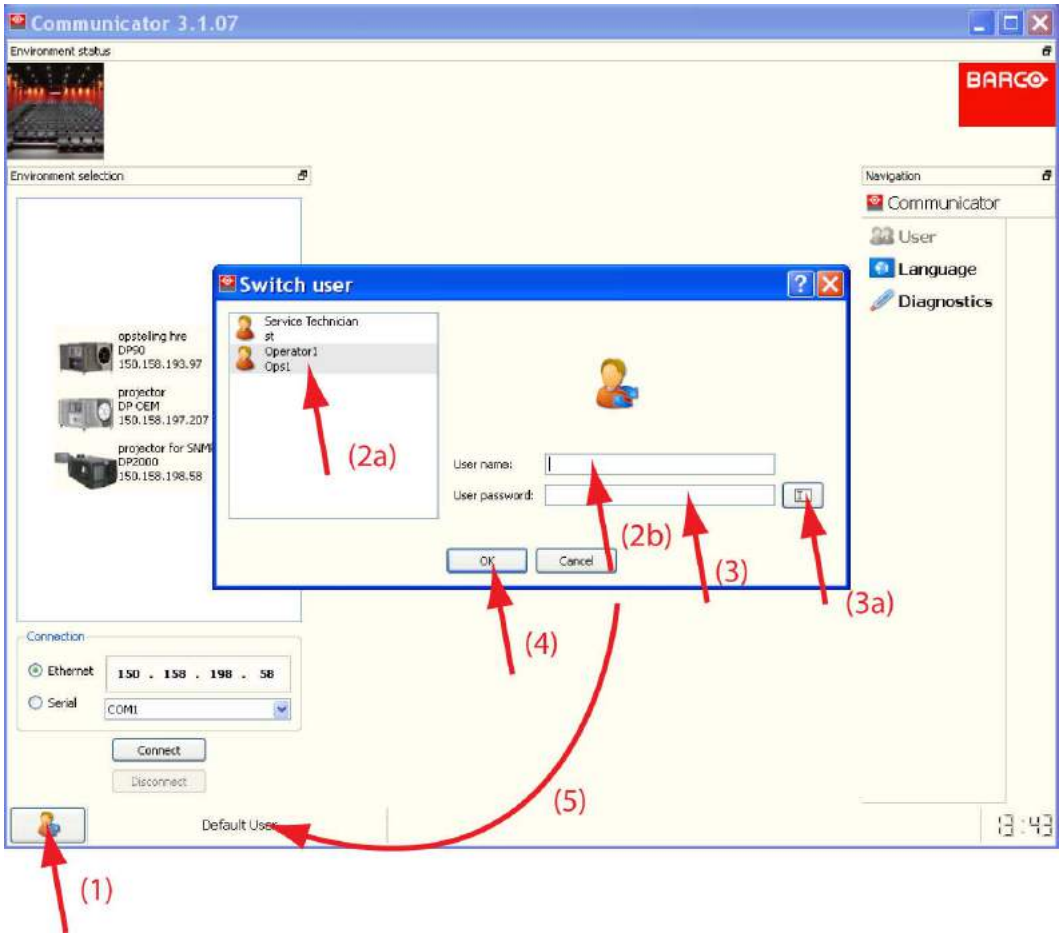


Image 2-6
Change user

2.9 Change custom logo

What is possible ?

The custom logo in the left top corner can be changed by a user with service technician rights. The new logo can be browsed on the PC. The Communicator software provides an area of 90 x 90 pixels. Any image larger than 90 x 90 pixels will be proportionally scaled to match inside this area. The file must be a png format and smaller than 1 MB.

How to change

1. Click and hold down the mouse button for more than 2 seconds on the current logo (1) and then release the mouse button again. (image 2-7)
   Note: *The user must have service technician rights to change the logo.*

   A browser windows opens (2).
2. Browse to the desired file, click on it to select (4).
3. Click on **OK** (5).

   The new logo is loaded in the upper left corner of the Communicator software (6).

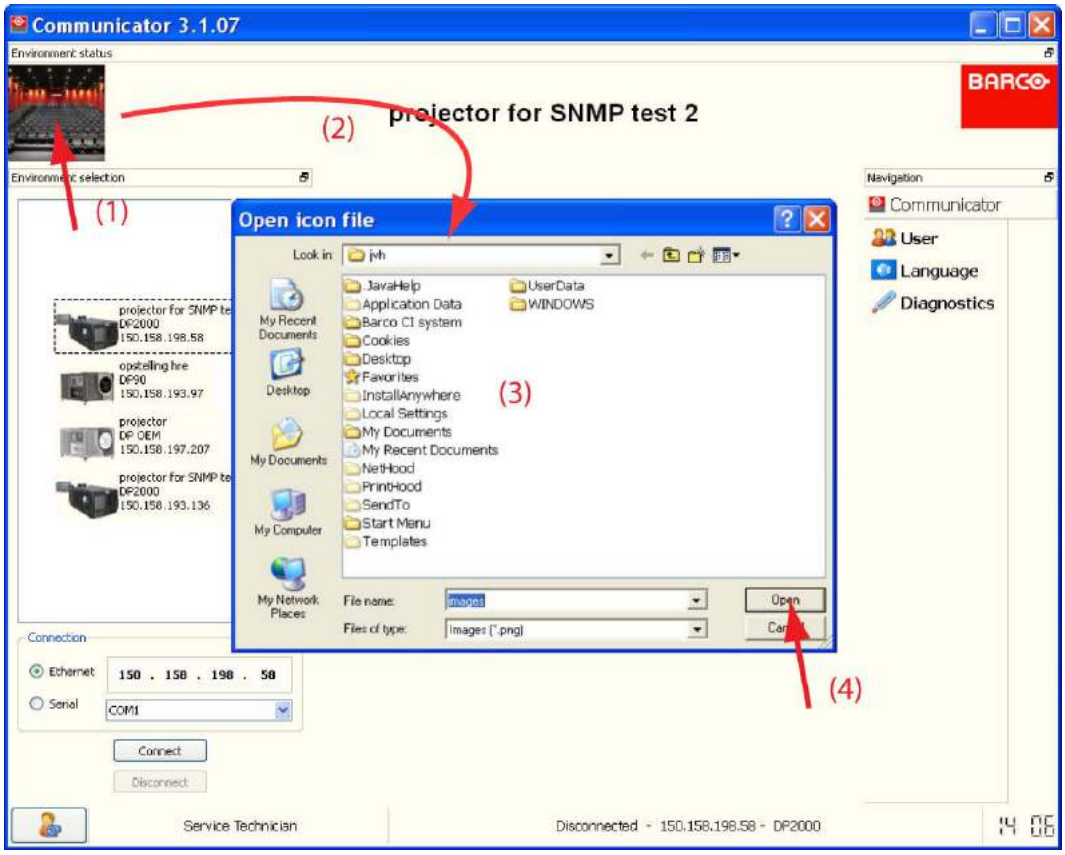


Image 2-7
Change logo

2.10 Ethernet connection with a projector

Introduction

All projectors in the same subnet as Communicator are automatically detected by the build in broadcast query of the Communicator software and displayed in the *Environment selection* pane. The available projectors are displayed with their IP address and projector type and the pictograph can be used as shortcut key to make the connection.

If a projector is not in the same subnet, it can be reached by entering its IP address.

How to connect

1. Select the radio button in front of *Ethernet connection* (1). (image 2-8)
2. Double click on a pictograph (2).

   A connection is established and the corresponding controls are loaded in the Control and selection pane. The name of the projector is also loaded in the title bar.
   Or,
   click on a pictograph (2) to select and then click on **Connect** (3).
   Or,
   enter the IP address next to *Ethernet connection* and then click on **Connect** (3) or press **ENTER** on your keyboard.

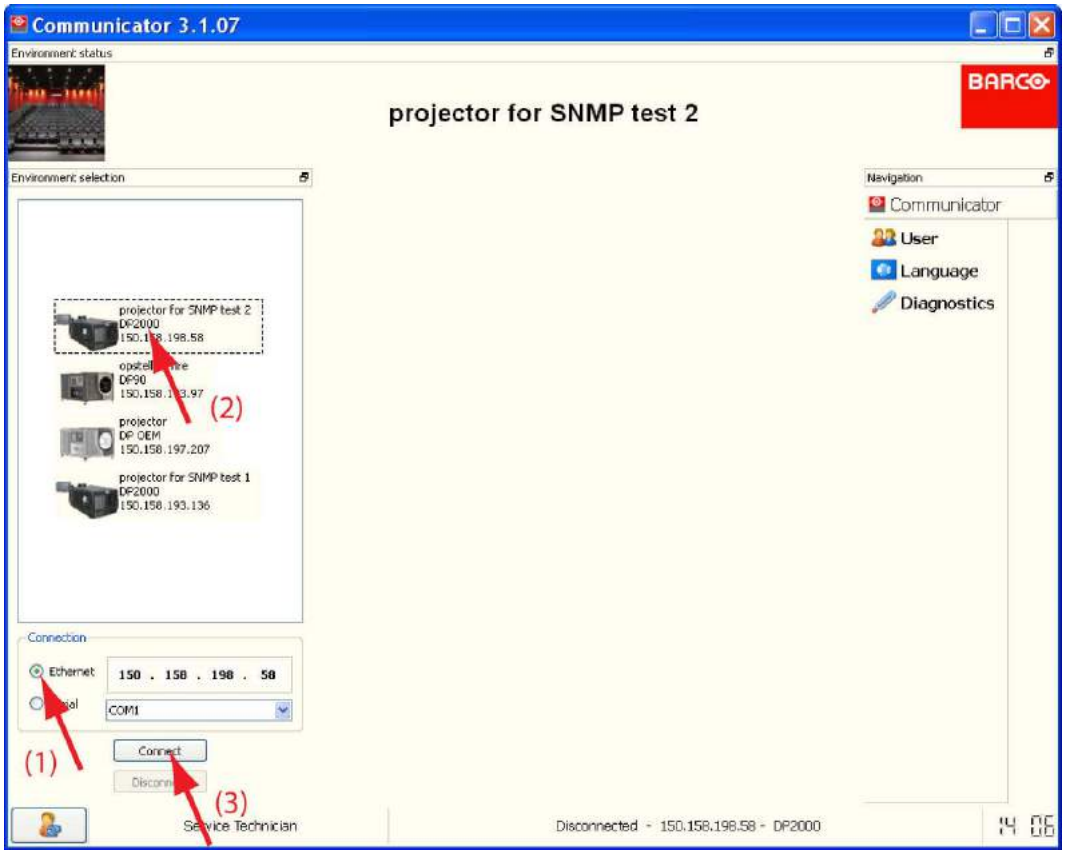


Image 2-8
Make Ethernet connection

When a connection is established, just double click on another pictograph to create a new connection or restart the connect procedure.

2.11 Serial connection with a projector

How to connect

1. Make the physical connection between the projector and the PC.
2. Select the radio button in front of Serial connection. (image 2-9)
3. If the PC has different serial ports, click on the drop down box and select the corresponding port.

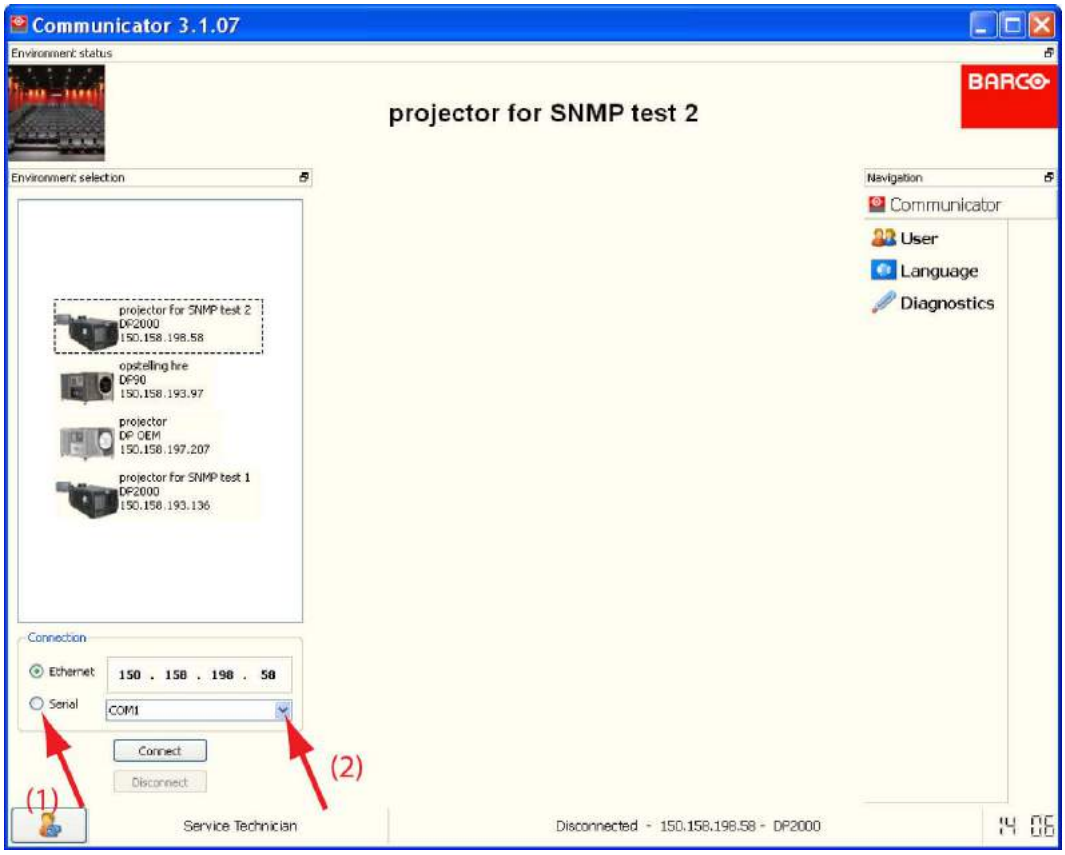


Image 2-9
Serial connection

2.12 Disconnecting from a projector

How to disconnect

1. While connected with a projector, click on **Disconnect**.

   The connection with the projector will be broken.

2.13 Error - Warning indication

Indication

When the projector has errors or warning an error or warning symbol is added on the right bottom corner of the main window, next to the clock.

That symbol can have 2 different states:

- blinking : a new error or warning has occurred and added to the projector error message list since it was last consulted
- not blinking : no new errors or warnings are added to the projector error message list.

When the projector has no errors or warning a green OK symbol is displayed.

 no errors or warnings on the projector.

 projectors has warnings, but no errors.

projector has errors.

Consulting the projector error message list

To consult the projector error message list, click on the warning icon (1), independent if it is blinking or not.

The projector error message list opens in a new window (2).

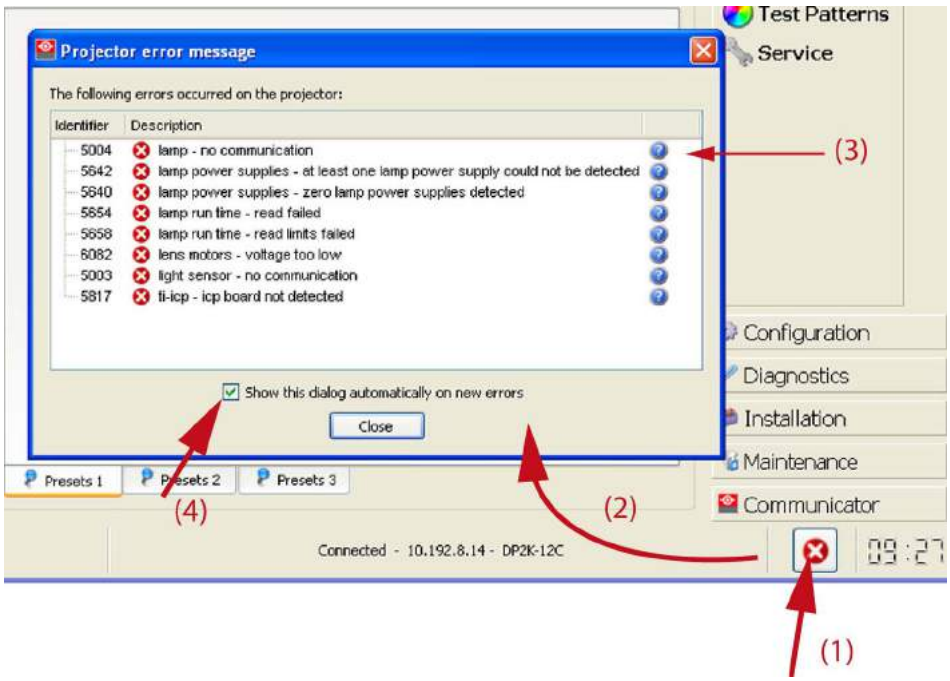


Image 2-10
Projector error message list

An overview of the current error and warnings is given in the list. Each error/warning has a number. A suggestion to solve the problem is given at the end of each line covered by the question mark symbol (3). Click that question mark to open the *Diagnostic companion*.

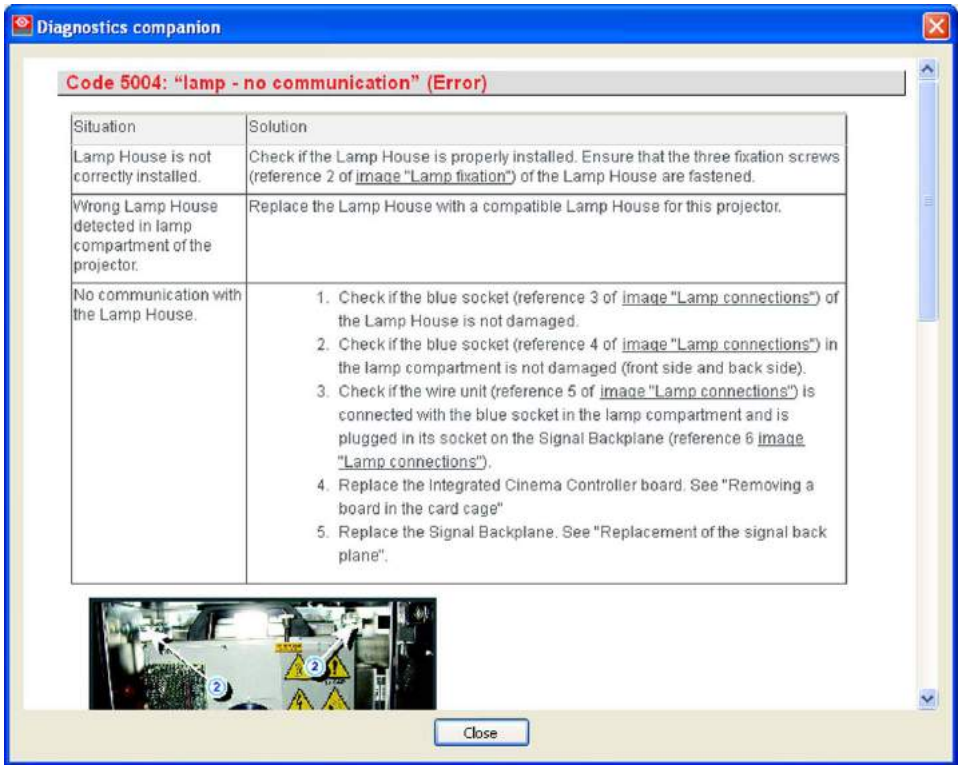


Image 2-11
Diagnostic companion

The Diagnostic companion gives for a given situation, one or more possible solutions.

If you want to pop-up the projector error message window every time an error or warning occurred, check the check box in front of *Show this dialog automatically on new errors* (4).

2.14 Projector power mode status

Only for DP2K S-series projector.

Indication

The power mode status is indicated right at the bottom of the window. It can have two states:

Power on, projector is in standby or projector is projecting

Sleep mode, projector is in sleep mode. Power consumption is less than 15 W. Only a few functions can be executed. For more information about the sleep mode, see "About power mode", page 35.

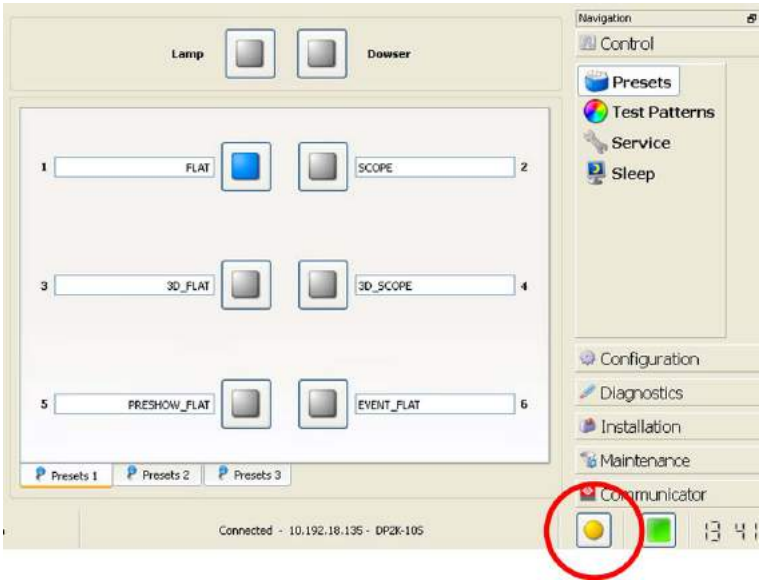


Image 2-12
Power mode indication

2.15 Change main window header

What is possible ?

The header of the touch panel can be changed from the default header containing the custom cinema logo at the left and the Barco logo at the right to a graphical projector control window.

How to change

1. Click on the Barco logo (1). (image 2-13)

   The current header fade out and the graphical projector window fade in.

2. To return to the normal header, click on **hide**.

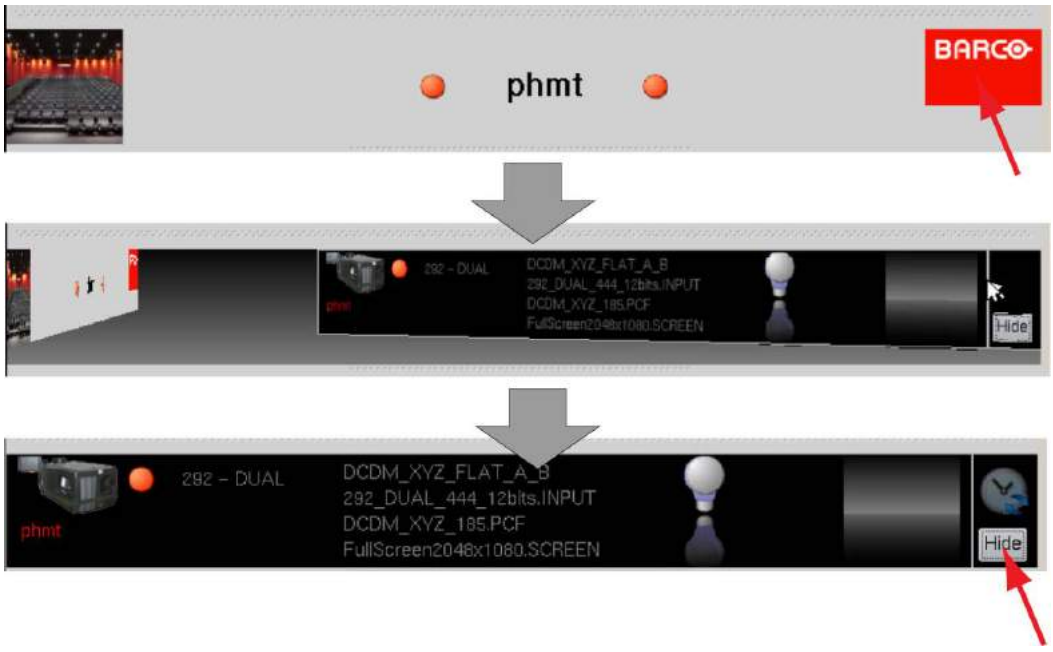


Image 2-13

What is displayed ?

Image 2-14
Graphical user interface

1	Projector name
2	Projector status
3	Selected input
4	Active files
5	Lamp status
6	Dowser status, when open dowser is next to the lamp, when closed, dowser is on the lamp
7	Projected image, also holds if test pattern is displayed, yes or no.

3. CONTROLS

Overview

- Presets
- Test patterns
- Service
- Sleep

3.1 Presets

3.1.1 Introduction

Overview

Depending on the setup, the user interface can have 5 preset pages with each 6 presets. After the last preset is defined and there are still full blank preset pages, these pages will not be displayed in the user interface.

To each button, a macro can be associated. When a macro is associated to this button, the name of the associated macro is indicated in the input field next to the button. Advanced users can change the association to other macros and these users have also the possibility to edit macros and to create new macros.

Two permanent preset buttons are always on top of the preset pages. These permanent preset buttons are for :

- lamp on/off.
- dowser open/close.

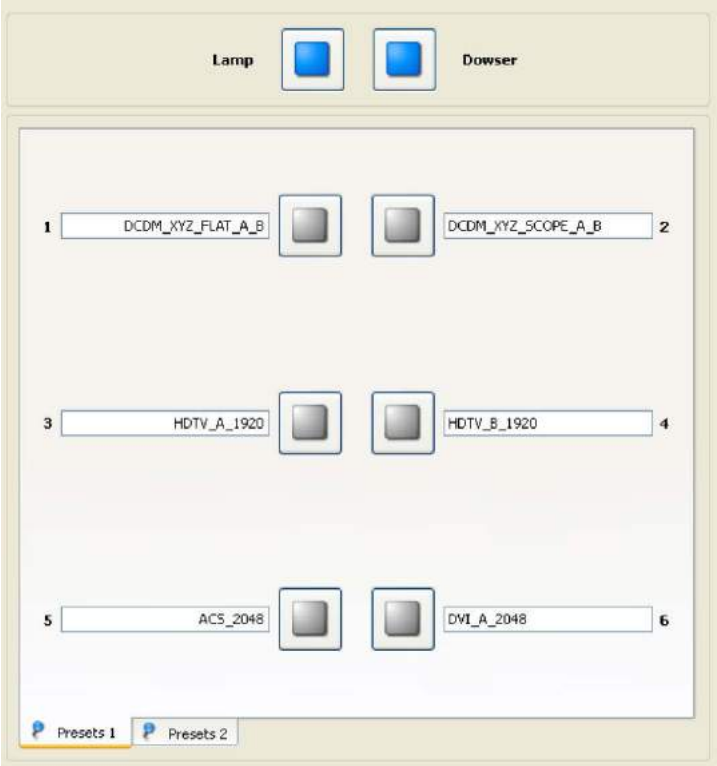


Image 3-1
Preset pane

Once the preset button is clicked, the preset tab page of the last selected button is displayed.

3.1.2 Activating a preset

When metadata control is enabled on this projector, the following message will be displayed when activating a preset:

Metadata is enabled, server is in control.

How to activate

1. Click on the button next to the desired description. To activate a preset on another preset page, tip first on that preset page and then on the desired button.

   The macro behind the selected preset will be executed. A hourglass appears on the macro button. (image 3-2)

   As an indication that the preset is activated, the button changes to blue. (image 3-3)

Image 3-2
Activation process is running

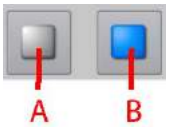


Image 3-3
Preset status

A Not activated button
B Activated button

When a preset is activated and a warning sign appears on the preset, that means that an error occurs while executing the command lines of the macro file.

Image 3-4

When moving the cursor over the waning sign, a tool tip is displayed indicating which line in the macro file fails.

3.1.3 Lamp On/Off

What can be done?

The projection lamp can be switched ON and OFF using the toggle button on top of the preset pane.

Image 3-5
Lamp on/off button

For DP2K S series: Lamp On/Off button cannot be pressed when the projector is in sleep mode.

Toggling the lamp status

1. When the button is in a **not pressed** status, click the button to switch the lamp ON.
2. When the lamp is ON, button indicates blue, click this button again to switch off the lamp.

3.1.4 Dowser Open/Close

What can be done?

With this permanent preset you have full control over the dowser setting. With a tip it is possible to open or close the dowser.

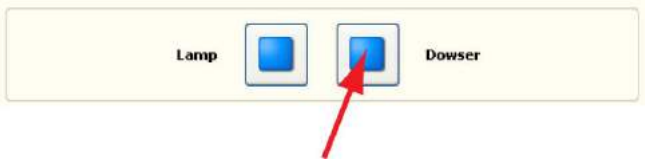


Image 3-6
Dowser open/close button

How to toggle the dowser

1. Click on the dowser button to open or close the dowser.

   The status of the dowser is indicated by the button itself. When this button is blue, activated state, the dowser is closed. When the button is gray, the dowser is open.

3.2 Test patterns

Overview

- Changing a test pattern
- Clear the projected test pattern
- Pattern shortcuts

When connected to a 2K projector, test patterns behind the short cuts are 2K test patterns.

When connected to a 4K projector, test patterns behind the short cuts are 4K test patterns.

3.2.1 Changing a test pattern

The default test patterns are in the RGB color space. The color space option is by default RGB. If a test pattern with YCbCr color space is uploaded, select first YCbCr otherwise the pattern will be displayed in a wrong way.

How to change

1. Click on **Change pattern**. (image 3-7)

   A retrieving window appears for a while until the list of patterns, available in the projector, is displayed. (image 3-8)

   The list can be sorted on Name, Type, Size and Date/time just by clicking on the titles of the columns.

2. Select a test pattern out of the list.

   List sorting is possible on any field, just by clicking on the title of the column.

3. Click **OK**.

   A loading window appears and the test pattern will be displayed. The name of the pattern is filled out in *Test pattern currently displayed*. (image 3-9, image 3-10)

   The test pattern frequency can be changed by clicking on the up down control until the desired frequency is reached.

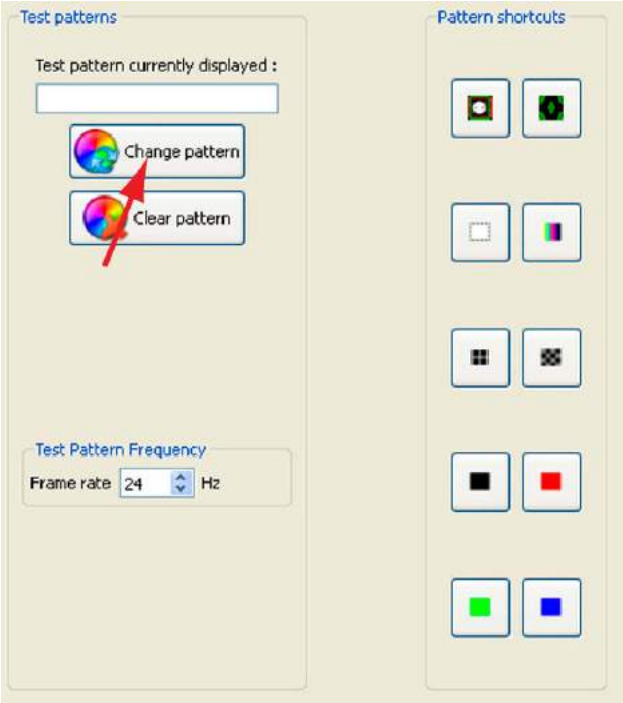


Image 3-7
Change test pattern

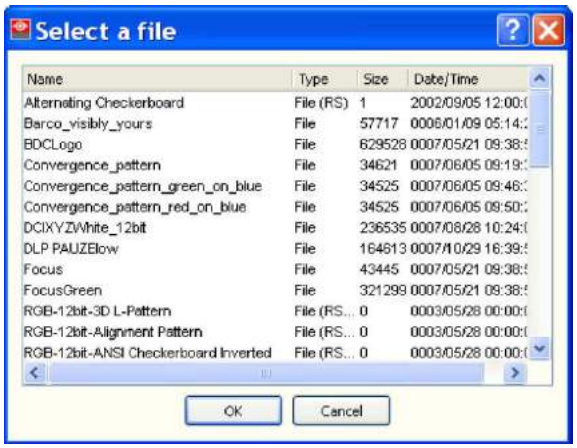


Image 3-8
List of test patterns

Image 3-9
Loading test pattern

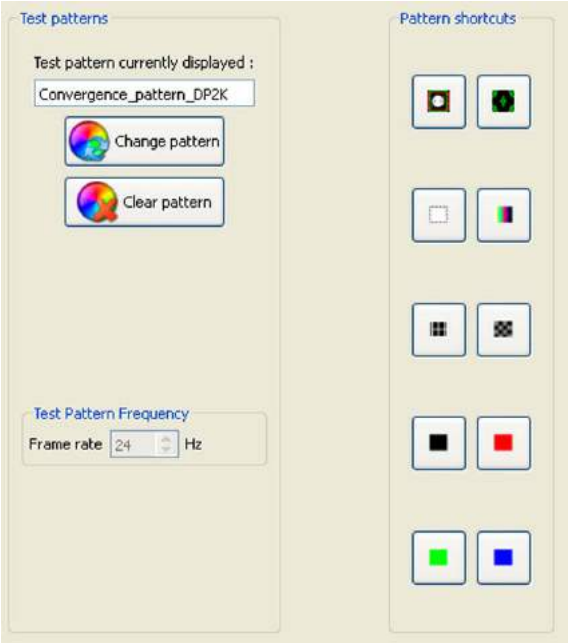


Image 3-10
Test pattern displayed

When a convergence test pattern is on, color correction is bypassed.

3.2.2 Clear the projected test pattern

Clearing any selected pattern

1. Click on **Clear pattern**. (image 3-11)

   A warning message will be displayed to indicate that any projector configuration changes made while a pattern was enabled are not saved, and will be lost when clearing the pattern (except resizing and masking). Settings will be set back to the original settings as before the pattern was selected. Settings on resizing and masking will remain active. If you want to save these configuration settings save them first in a file (via the file manager). (image 3-12)

   The pattern will be removed from the screen.

2. Do you want to save the settings ?
   If yes, **Click No, cancel this action** and continue with saving procedure in File manager.
   If no, click **Yes**.

   A remove test pattern message will be displayed. (image 3-13)

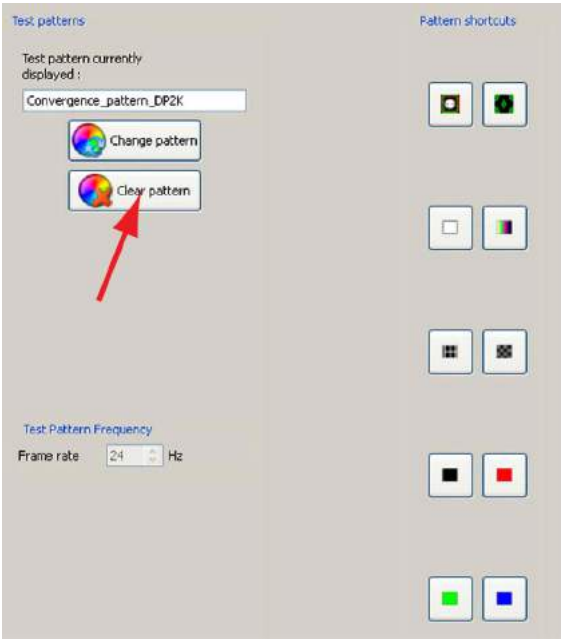


Image 3-11
Clear pattern

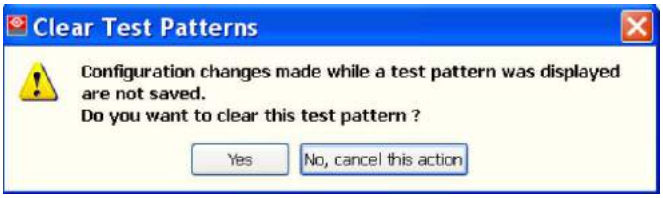


Image 3-12
Test pattern warning message

Image 3-13
Removing test pattern

3.2.3 Pattern shortcuts

The patterns behind the pattern shortcuts are always displayed in the RGB color space. When the projector is using a different color space at the moment the pattern is activated, it will switch to the RGB color space. When the pattern is cleared, everything will be set back to the original settings except masking, resizing and anamorphic lens factor.

How to select

10 predefined patterns can be quickly selected via the shortcuts.

1. Click on one of the 10 predefined pattern shortcuts. (image 3-14)

   The selected pattern will be displayed. The button becomes in the pressed state. The name of the pattern is filled out in *Test pattern currently displayed*.

   The pattern is always displayed in the RGB color space even when the projector was using a different color space at the moment the pattern was activated.

2. To clear the pattern, click a second time on the pressed button
   Or,
   click on the **Clear pattern** button.

   The currently displayed pattern is removed and the settings are set back to the previous setting with the exception of masking, resizing and anamorphic factor.

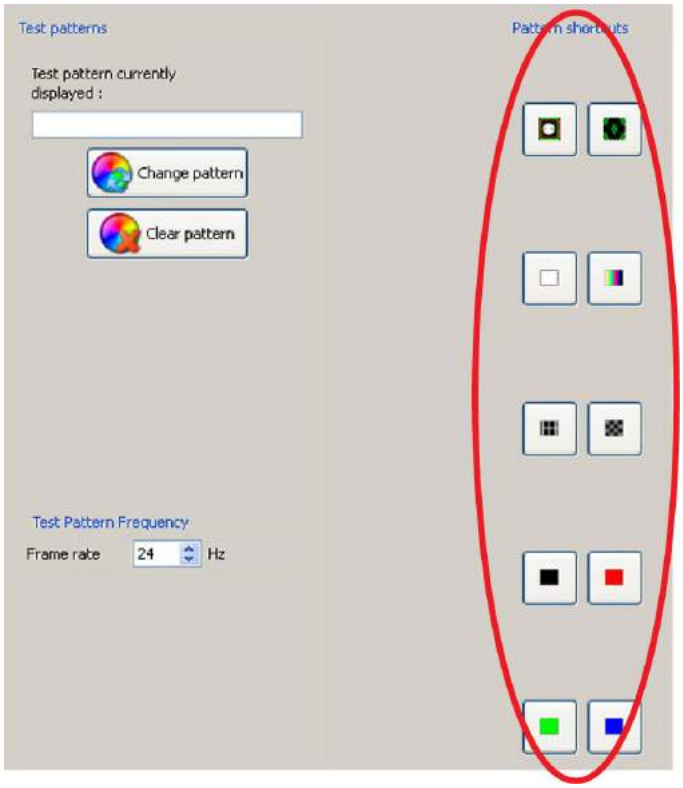


Image 3-14
Pattern shortcuts

3.3 Service

Overview

- About the service settings
- Lamp and lamp information
- Light output mode

3.3.1 About the service settings

To open the service settings

Click on **Service** in the tab page pane.

The following items are available:

- The current light out
- Lamp current
- Lamp information
- Lamp output mode

3.3.2 Lamp and lamp information

Current light output

The current light output is indicated in FootLambert.

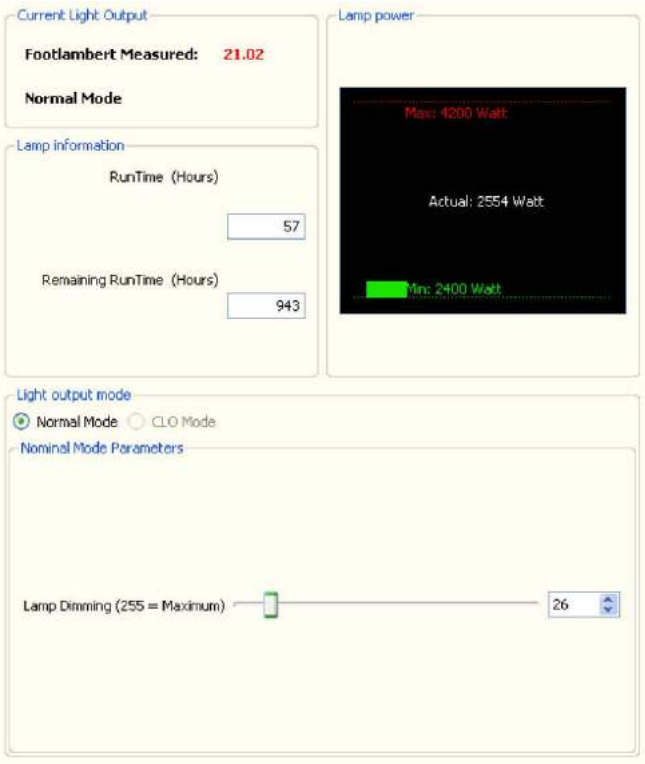


Image 3-15
Lamp power and light output information

It indicates also in which mode the projector is working.

Current light output is only indicated when a CLO key is installed.

Lamp power

A histogram indicates the current value of the lamp power. The diagram indicates also the minimum and maximum limits for the lamp currently in use.

The color of that histogram changes from green when lamp power is minimum to red when lamp power is maximum.

Lamp information

The following information is given in a read only format:

- Run time: the time the lamp is used since it first start up.
- Remaining run time: remaining run time that the lamp can be used without risk of damaging the projector.

3.3.3 Light output mode

3.3.3.1 Target set up for Normal mode

Mode selection must be done in Installation → Lamp.

How to setup

1. Adjust with the slide bar until the desired lamp power is obtained. (image 3-16)
   Or,
   click on the up down control of the spin box until the desired value is reached
   Or,
   click inside the text box and enter a new value with the keyboard.

   The Current lamp output and Lamp power will change accordingly.

Image 3-16
Normal lamp output mode

3.3.3.2 Target set up for CLO mode

Mode selection must be done in Installation → Lamp.

Target set up for CLO mode is lens dependent.

CLO mode is only available when a valid CLO key is installed.

How to setup

1. Click on the up down control of the spin box until the desired target value is reached. (image 3-17)
2. Click on **Set target now**.

   The lamp power will change accordingly between maximum and minimum until the entered light output is reached each time the lamp is switched off and is ignited again.

   When the entered value is to high, the lamp power goes to its maximum. When the value is to low, the lamp power goes to its minimum.

Image 3-17
CLO mode selected

3.4 Sleep

This function is only available for DP2K S-series.

Overview

- About power mode
- From Power on to Sleep
- From Sleep to Power on

3.4.1 About power mode

Overview

The projector can be in 2 states, sleep mode or power mode.

Sleep mode means that the power consumption is less that 15W. No fans are turning and the Lamp Power Supply (LPS) is switched off completely. Only the following functionalities of the projector remains active:

- Cinema Controller
- Local Keypad
- Router and external switch fully functional
- USB IN port type “B” (Virtual comport RS232)
- USB OUT port type “A” (To power handheld devices [500mA MAX]. No other functionality supported)
- GPIO

Power on: means that projector is in standby or is fully operational. When in Power on mode, lamp can be switched on or off.

3.4.2 From Power on to Sleep

Switching from Power on to Sleep

1. While in *Control*, select **Sleep**.

   The Power mode window opens.

2. Check the radio button to start up the sleep mode. (image 3-18)

Depending on the current state of the projector, the following will happen:

- Projector is full powered and lamp is on: Going to sleep mode will fail. First, the lamp must be switched off and then you can continue to go into sleep mode.
- Projector is in standby. A confirmation message appears. Click **Yes** to continue the process. When the lamp is not yet fully cooled down, the cool down process will first be finished and then the projector will go into sleep mode.

The Control pane will only show the Sleep button. The Sleep icon will be displayed at the right bottom of the Communicator window.
The following items remain available in the other panes:

- Diagnostics : Actual, history and version info remain available.
- Installation: Only Communication is available. The IP address of the projector can be changed.
- Maintenance: Only Software upgrade is available. The projector software can be upgrade will in sleep mode. (image 3-19)

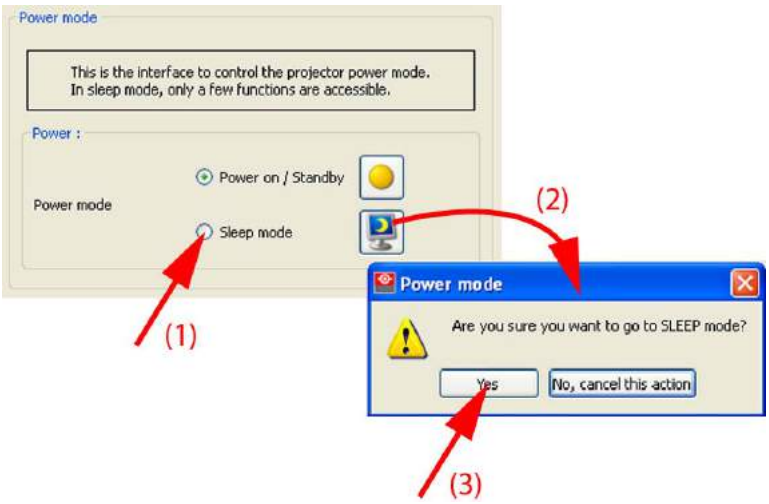


Image 3-18
From power to sleep

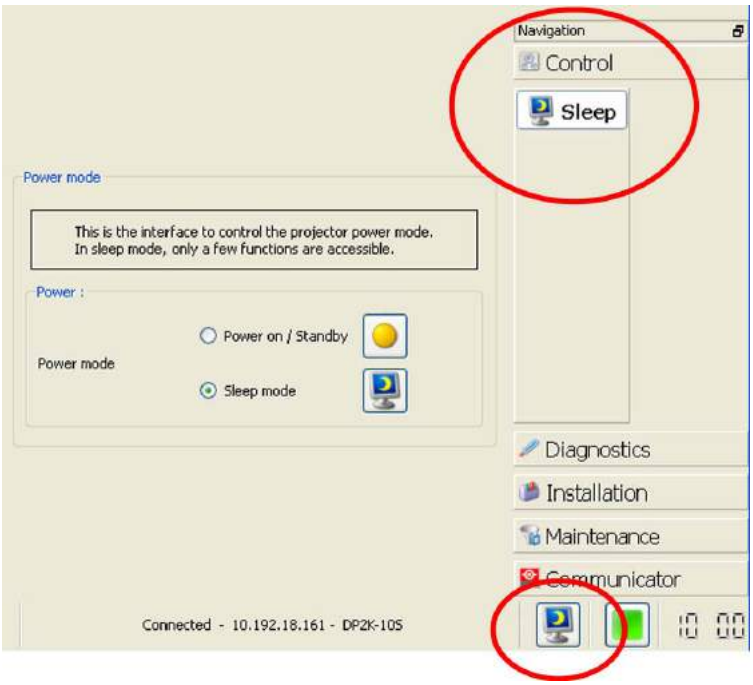


Image 3-19
Communicator, Sleep mode

3.4.3 From Sleep to Power on

Switching from Sleep to Power on

1. While in *Control*, only the **Sleep** function will be available. Click on **Sleep**. (image 3-20)
2. Select *Power on/Standby*.

   A confirmation question is displayed (2).
3. Click **Yes** to continue (3).

   An information message is displayed. Powering up from sleep to standby can take about 5 minutes. Click **Close** to remove the message (4) and wait until the Communicator window changes to the *Preset* page (5). The power on icon is shown in the right bottom corner (6).

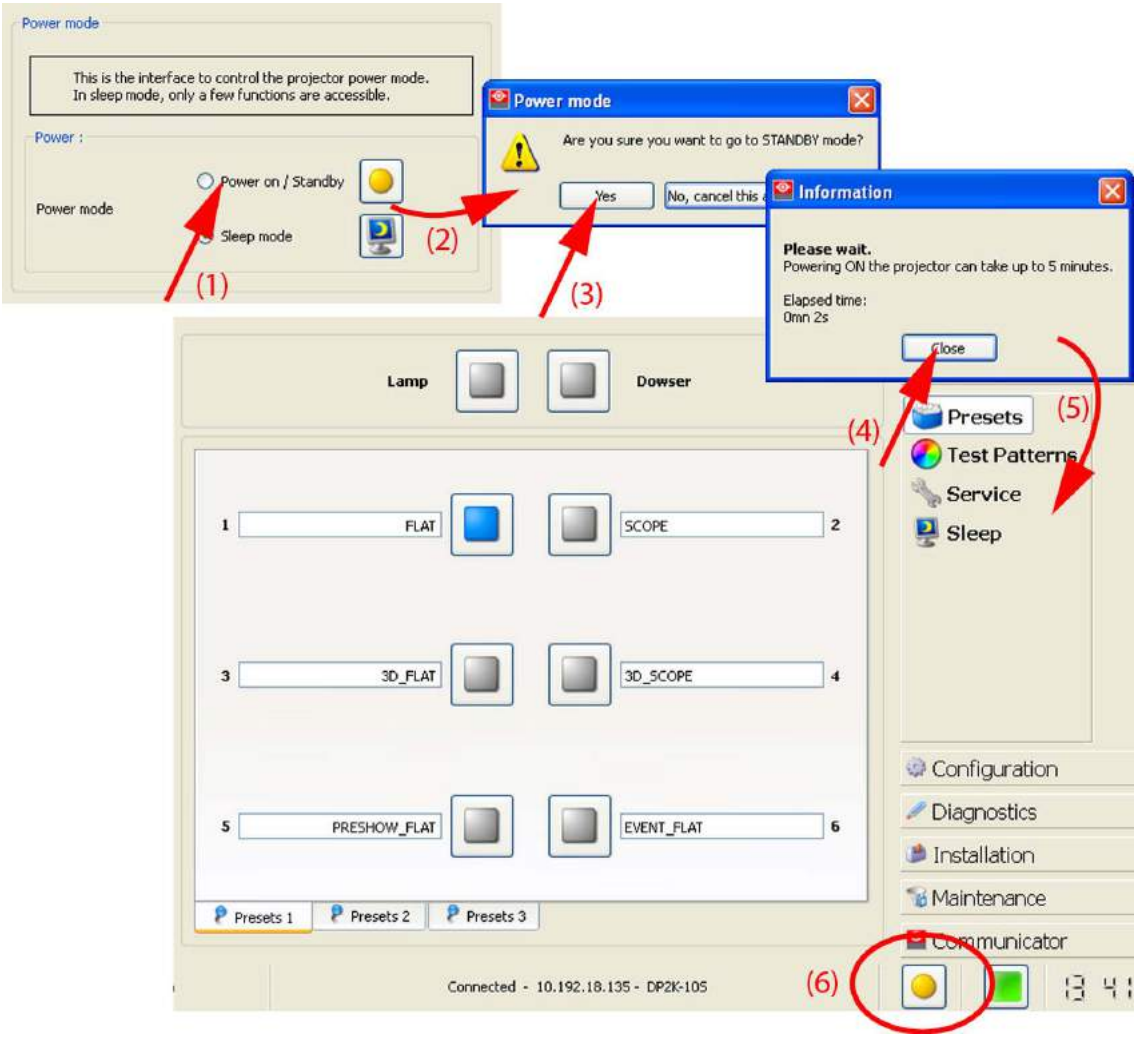


Image 3-20
From Sleep to Power on

4. CONFIGURATOR

Overview

- About Configuration
- Presets
- Macro
- Input
- PCF
- Screen
- 3D
- Lens

4.1 About Configuration

Introduction

The configuration page can be used to create or edit macros and to associate existing macros on presets.

Next to that, the complete configuration from inputs over screen settings and lens adjustments can be set in the different configuration windows.

4.2 Presets

4.2.1 About the preset page

Overview

The preset page under Configuration shows all possible presets even when there are no macros assigned to a preset on that page. If you have the correct rights, presets can be managed. The association with a macro can be broken and new associations can be created. The current macro associated with a preset can be edited.

Each preset can be activated or deactivated without you have to go the *Control* pane.

4.2.2 Macro association

How to associate

1. Click on the association icon next to the button to which the macro must be associated (1). (image 4-1)
   Note: *A macro can be associated to free button or to a button with an existing macro. In the latter, it will replace the macro.*

   A retrieving window (2) appears for a while until the list of macro files, available in the projector, is displayed.

2. Click on a file to select (3) and then click **OK** (4).

   The selected macro is associated with the button (5). The name of the macro file is added next to button.

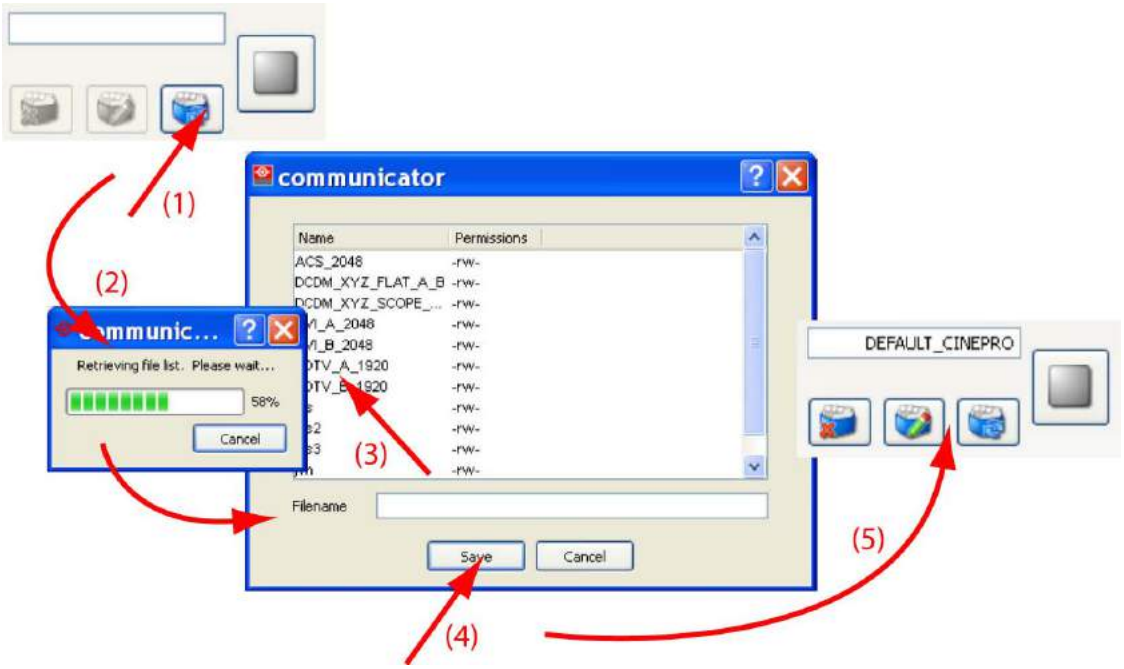


Image 4-1
Macro association

4.2.3 Removing an association

How to remove

1. Go to the button where the association must be removed.
2. Click on the Remove icon. (image 4-2)

   The associated macro is removed from the button.

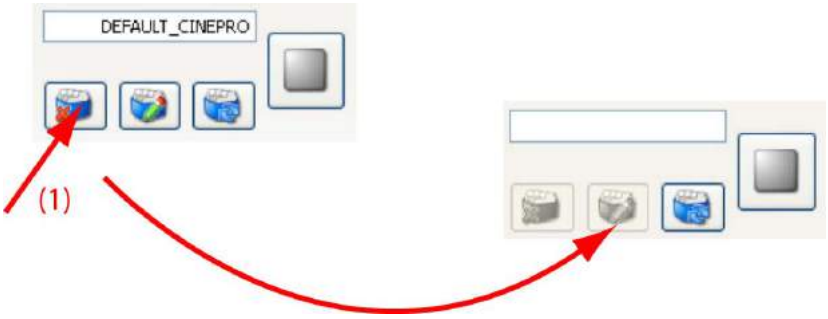


Image 4-2
Delete a macro association

4.2.4 Edit a macro

How to edit

1. Go to the button for which the macro has to be edited.
2. Click on the Edit macro icon (1). (image 4-3)

   The Macro editor starts and shows the content of the associated macro (2).

   For more explanation about the Macro editor, see "Macro editor", page 239.

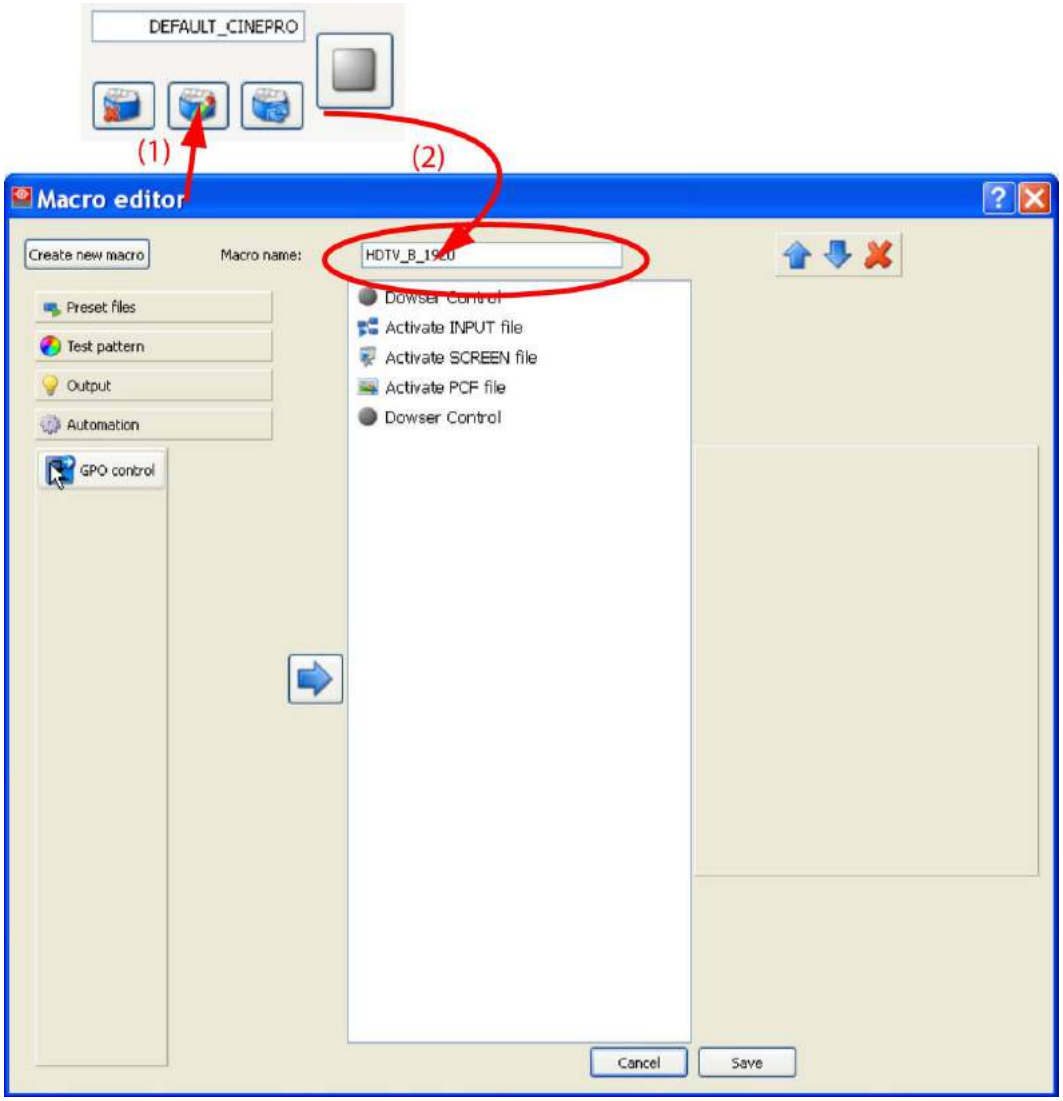


Image 4-3
Edit existing macro

4.2.5 Activate or deactivate a preset

How to activate

1. To activate a button, just click on that button.

   The color of the button changes to blue.

2. To deactivate a button, activate another button.

   The blue button color changes to the standard gray color.

4.3 Macro

4.3.1 Activate Macro

What is possible

A macro can be activated via one of the preset buttons or directly via activate a macro. When a macro is activated via a preset button, the name of the active macro is filled out below the *Activate a macro file* button.

How to activate a macro

1. While in the Macro tab page, click on **Activate a macro file** (1). (image 4-4)

   The *Select a macro file* window opens (2).

2. Scroll to the desired file and click on that file to select (3).

3. Click **OK** to activate the macro file (4).

   The macro file is activated and the name of the macro is indicated below the activation button (5).

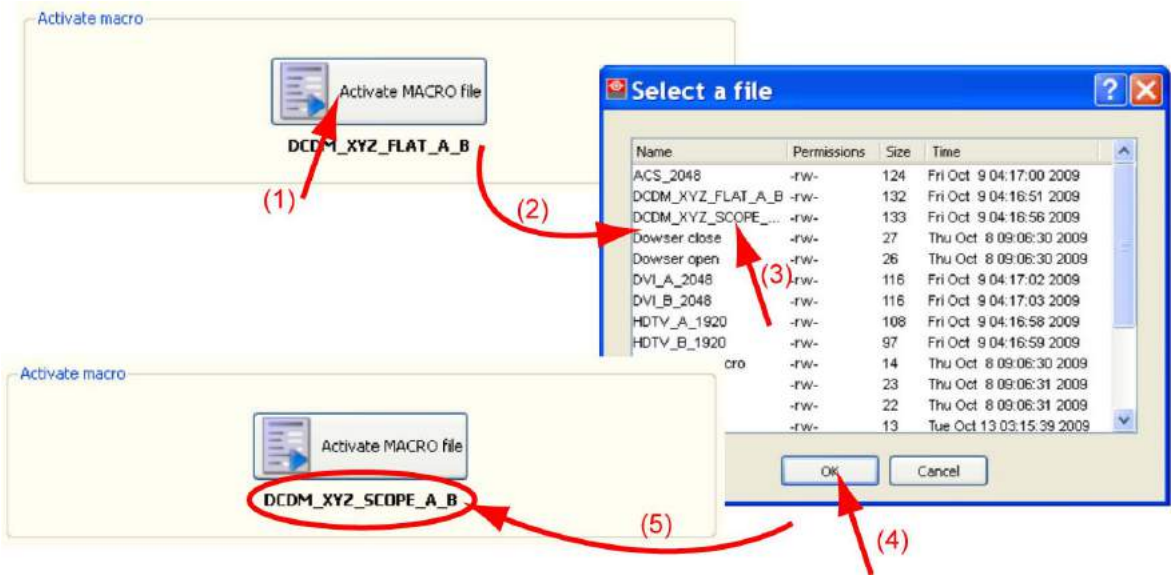


Image 4-4
Activate a macro

4.3.2 Edit macro

How to edit a macro

1. While in the Macro tab page, click on **Edit macro** (1). (image 4-5)

   The *Select a file* window opens (2).

2. Browse to the macro file which must be edited and click on that file to select (3).

3. Click **OK** (4).

   The macro editor window opens and the current content of the selected macro file is loaded (5).

   For more information about the macro editor, see "Macro editor", page 239

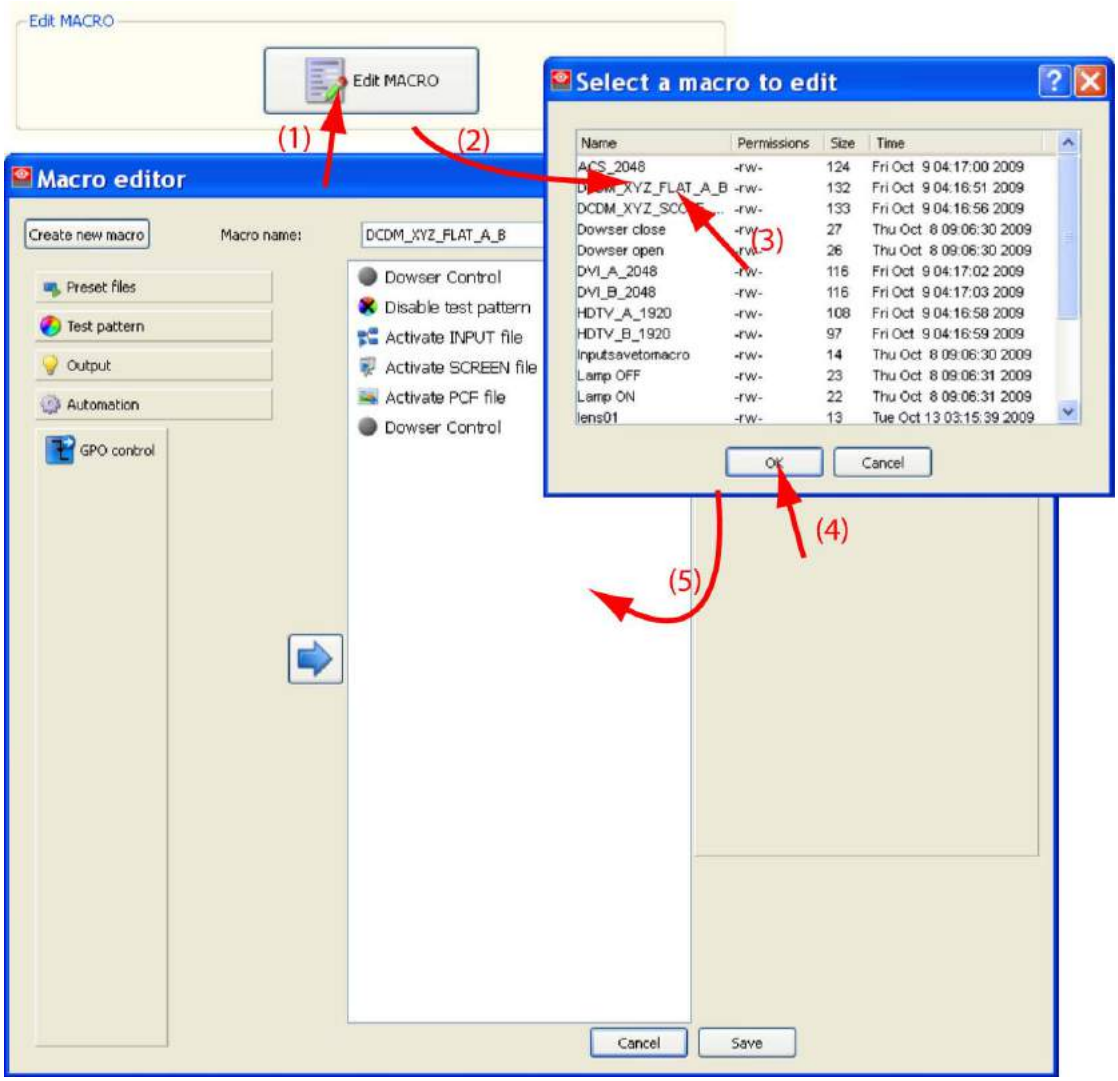


Image 4-5
Edit macro file

4.3.3 Save to macro

What can be done?

The current projector settings can be completely or selectively converted into a new macro or can be used to override existing information in a macro.

The Save to macro procedure is a step by step procedure, guided by a wizard.

How to save to macro

1. While in the Macro tab page, click on **Save to macro** (1). (image 4-6)

   The save to macro wizard starts up (2).

2. Fill out a name for the macro (3)
   Or,
   click on **Select** to open the file selection window (4).
   Select a file (5) and click **OK** (6). The name of the selected macro will be filled out.

3. Click **Next** (7).

4. Select the items which must be included in the macro (8). (image 4-7)
   Note: *If you overwrite an existing macro file, only the selected items will be overwritten. All other data remains in the file.*

5. Click **Next** (9).

   A Confirmation window with the selected items is displayed (10).

6. Click **Next** (11). If *Extra data* was selected within a new macro file, an Extra data input window opens. If *Screen data* was selected within a new macro file, a Screen data input window opens. If *PCF data* was selected within a new macro file, a PCF data input window opens.

   A new name has to be entered for this extra data and then click **Apply**).

   The new macro file is created and saved.

7. Click **Next** (14). (image 4-8)

   The execute macro window opens.

   If you want to run the macro immediately, click on **Activate macro** (15).

8. Click on **Finish** to terminate the creation procedure (16).

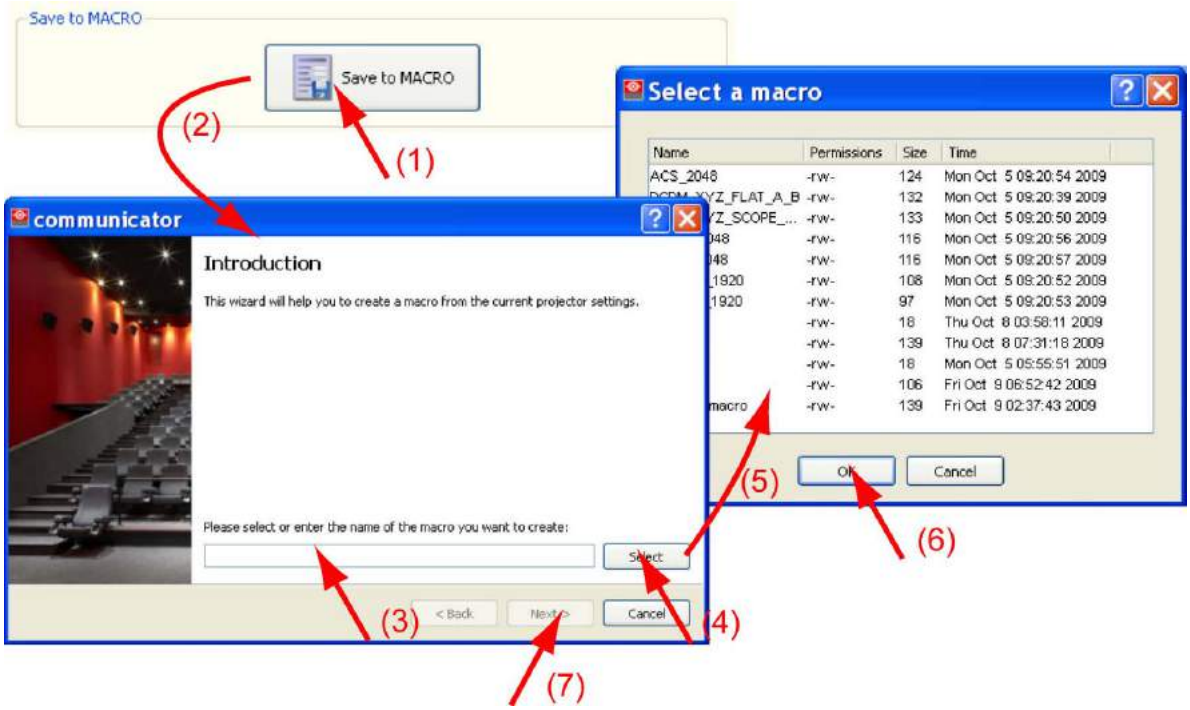


Image 4-6
Start up Save to macro wizard

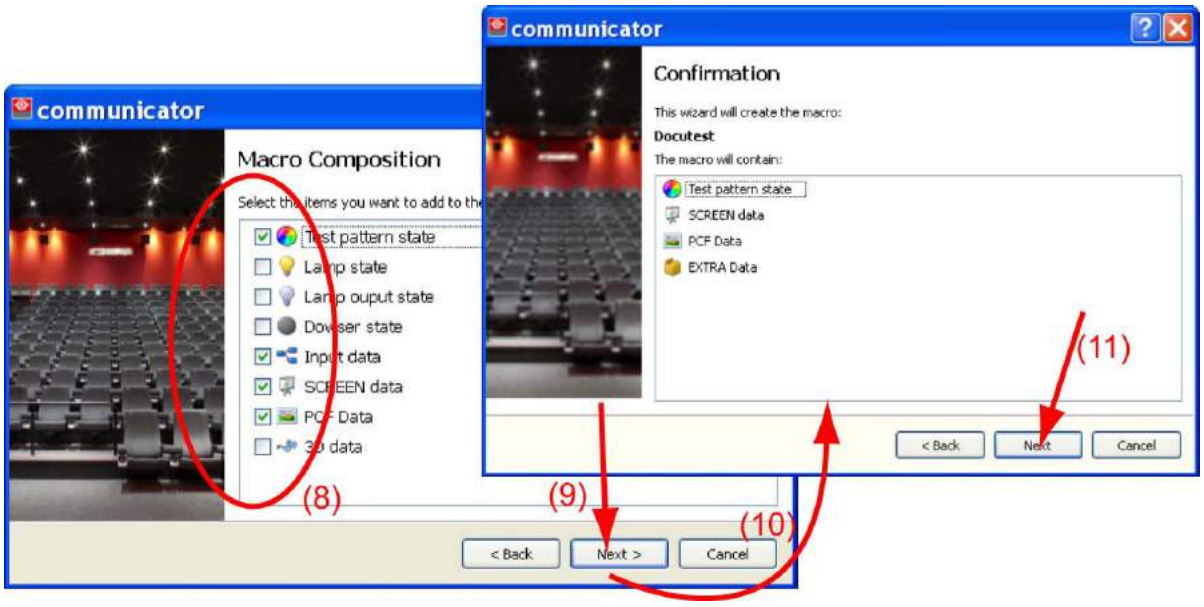


Image 4-7
Make macro composition

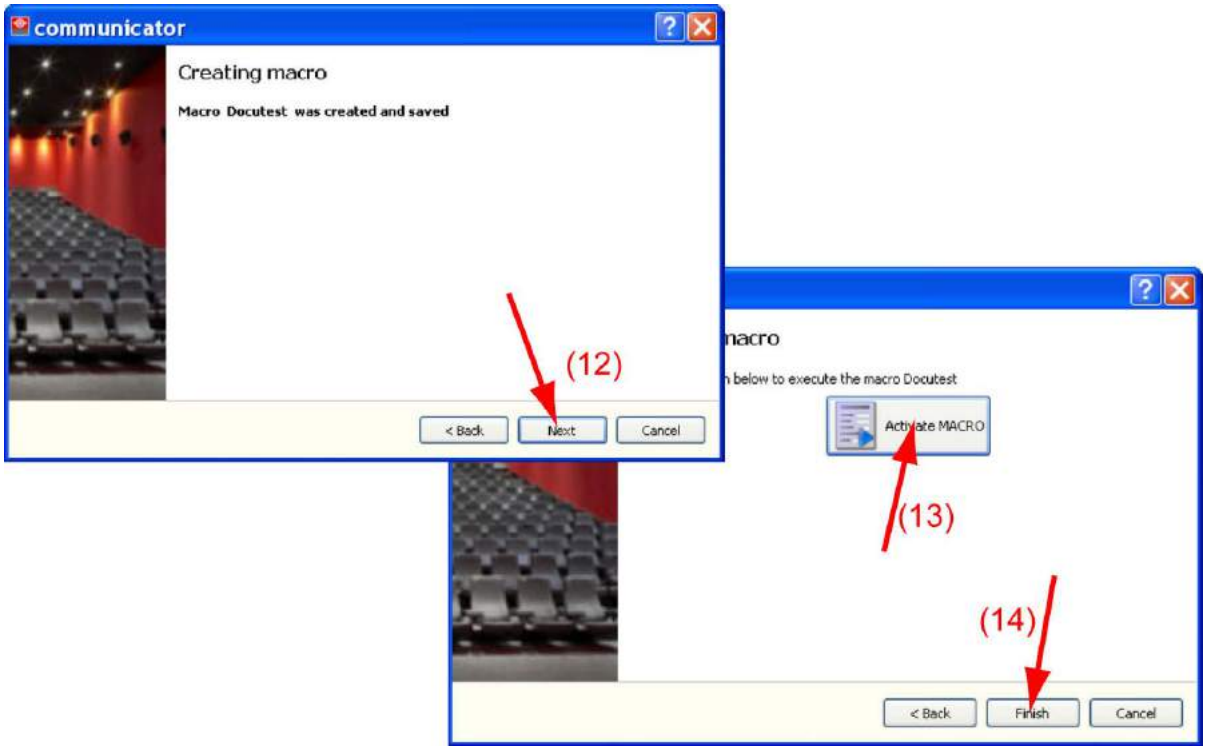


Image 4-8
Finish macro creation

4.4 Input

List of supported sources is given in the appendix “List of Input formats”

No DVI input available on DP2K-S series !

4.4.1 Activate an Input file

What is possible ?

An input file can be activated via activate INPUT file. When an input file is activated, the name of the file is filled out below the *Activate INPUT file* button.

The specific settings of this file are loaded.

How to activate an input file

1. While in *Configuration*, click on **Input**.

   The Input overview is displayed.

2. Click on **Activate INPUT file** (1). (image 4-9)

   The *Select a file* window opens (2).

3. Browse to the desired input file and click on it to select (3).

4. Click on **OK** (4).

   The selected input file is activated. The name of the file is indicated below the **Activate INPUT file** button.

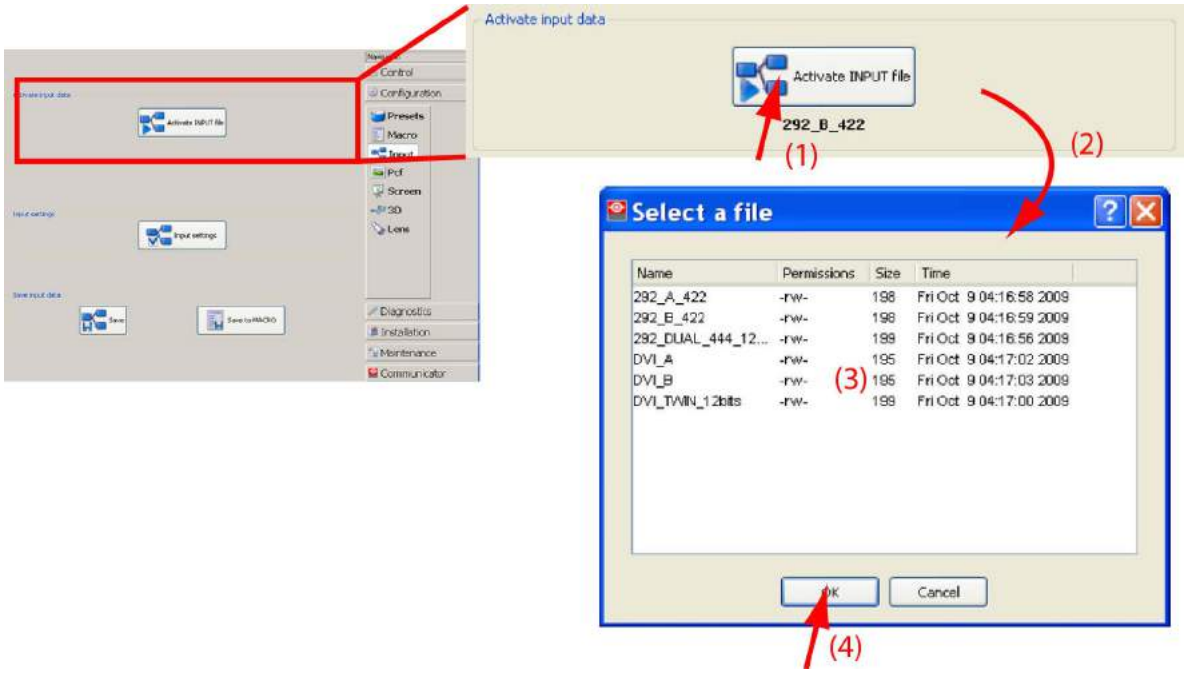


Image 4-9
Activate Input file

4.4.2 Input settings, HD-SDI

4:2:2

A commonly used term for a component digital video format. A ratio of sampling frequencies used to digitize the luminance and color difference components (Y, R-Y, B-Y) of a video signal. It is generally used as shorthand for ITU-R 601. The term 4:2:2 describes that for every four samples of Y, there are two samples each of R-Y and B-Y, giving more chrominance bandwidth in relation to luminance compared to 4:1:1 sampling.

4:4:4

Similar to 4:2:2, except that for every four luminance samples, the color channels are also sampled four times.

The HD-SDI source and port selection windows changes depending the HD-SDI input board (board with 2 or 4 inputs)

What can be done?

For a HD-SDI source, the corresponding source type must be selected. The selected source can then be connected to corresponding port. General and advanced settings can be selected.

How to select

1. While in *Configurator*, click on **Input**.

   The *Input* overview is displayed.

2. Click on **Input settings** (1). (image 4-10)
3. Click on **HD-SDI** tab[1].
4. Select the source type

   The following sources are possible

Standard HD-SDI board	Quad-SDI board
2K	2K
2K-3D	2K-3D
2K-HFR	2K-HFR
4K	2K 3D-HFR
	4K

5. Select the port to which the source is selected.

   The following ports are possible:

   For a standard HD-SDI board : A, B, A+B

   For a quad-SDI board: A, B, A+B, A+B+C+D

6. Set general parameters for the selected source and port. Click on the corresponding drop down and select the desired setting.

   Overview table of sources and parameters can be found on page 271.

7. Click **Close** (12).

1. Default selected for DP2K-S series as there is no DVI tab available)

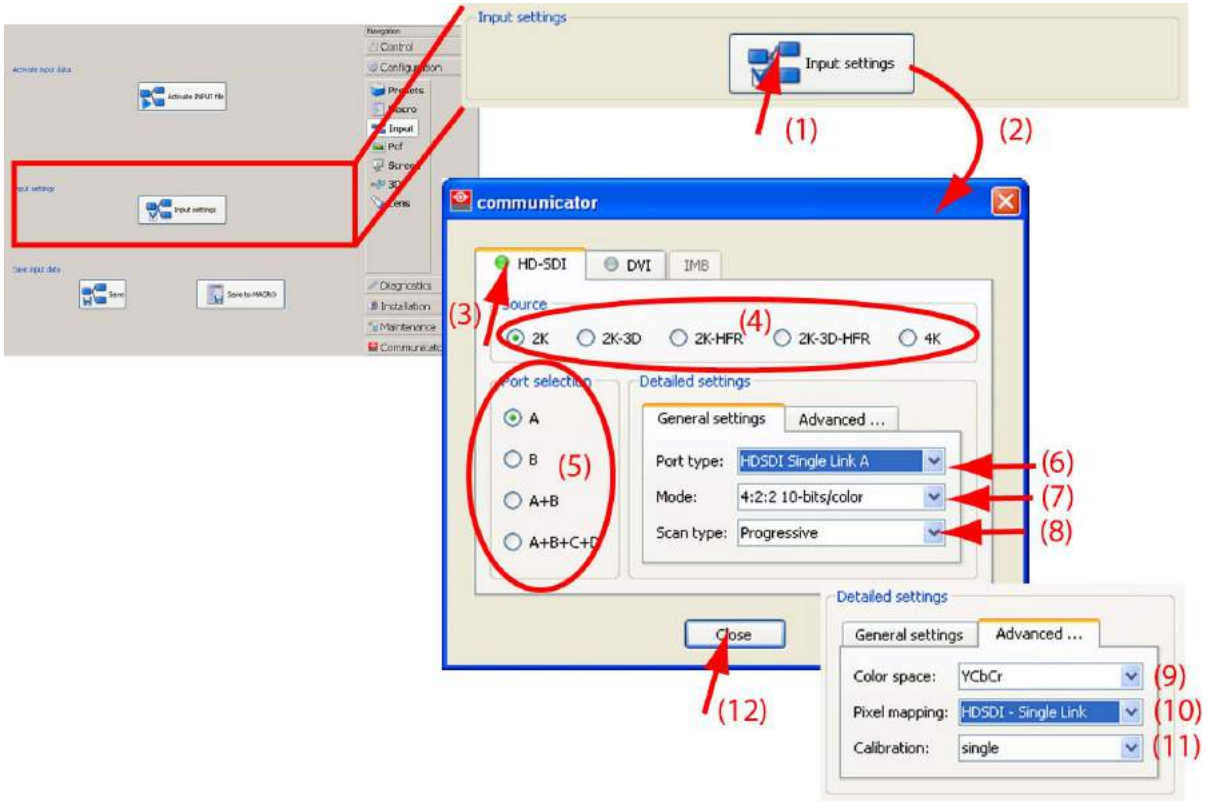


Image 4-10

4.4.3 Input settings, DVI

Not for DP2K-S series.

DVI-EDID

Digital Visual Interface – Extended Display Identification Data

DVI sources that are reported to the projector via the VESA E-EDID standard. These will be autodetected and displayed at the source format size, using standard processing.

How to select

1. While in *Configurator*, click on **Input**.

   The *Input* overview is displayed.
2. Click on **Input settings** (1). (image 4-11)
3. Click on **DVI** tab.
4. Select the input and set the parameters

   Overview table of sources and parameters can be found on page 271.
5. Click **Close** (7).

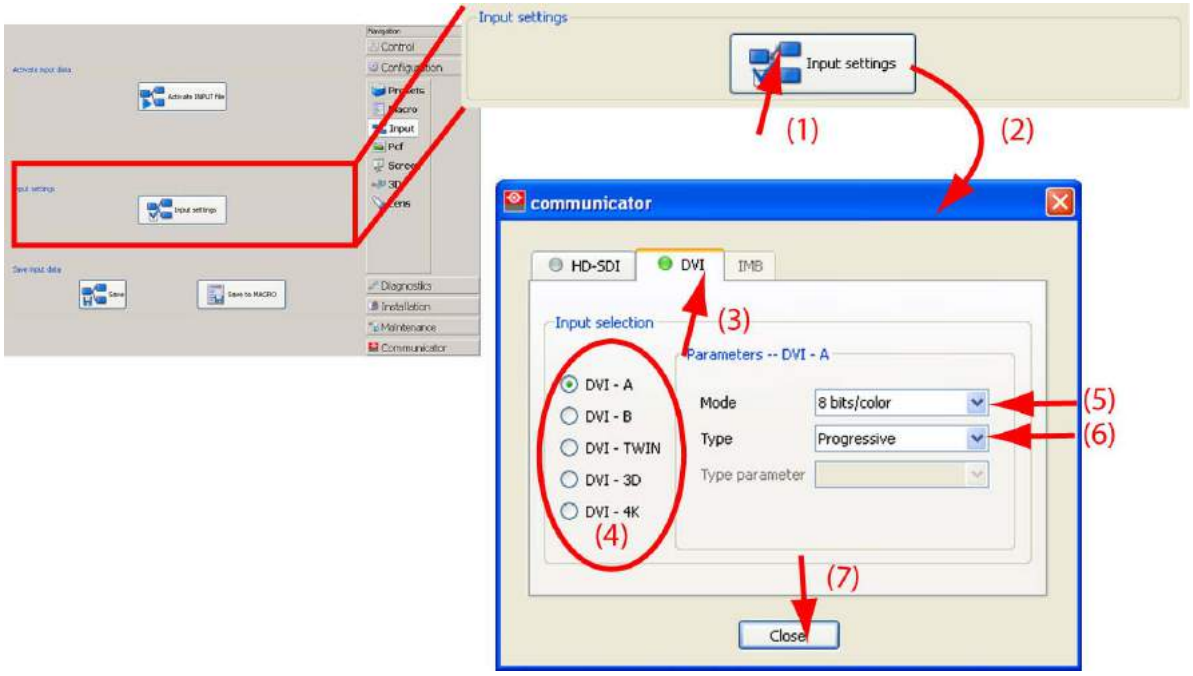


Image 4-11

4.4.4 Input settings, Mediablock

Mediablock

A mediablock accepts encrypted files for a server and processes these files according the DCI-compliancy rules for digital cinema so that the images can be displayed on the screen.

How to select

1. While in *Configurator*, click on **Input**.

   The *Input* overview is displayed.

2. Click on **Input settings** (1). (image 4-12)
3. Click on **MED** tab[2].
4. Select he correct parameters

Mode	Type	Type parameter	Color calibration
4:2:2	Progressive	-	Single (default)
			Dual (separate eye)
4:4:4	Progressive	-	Single (default)
			Dual (separate eye)

5. Click **Close** (7).

2. Default selected for DP2K-S series as there is no DVI tab available)

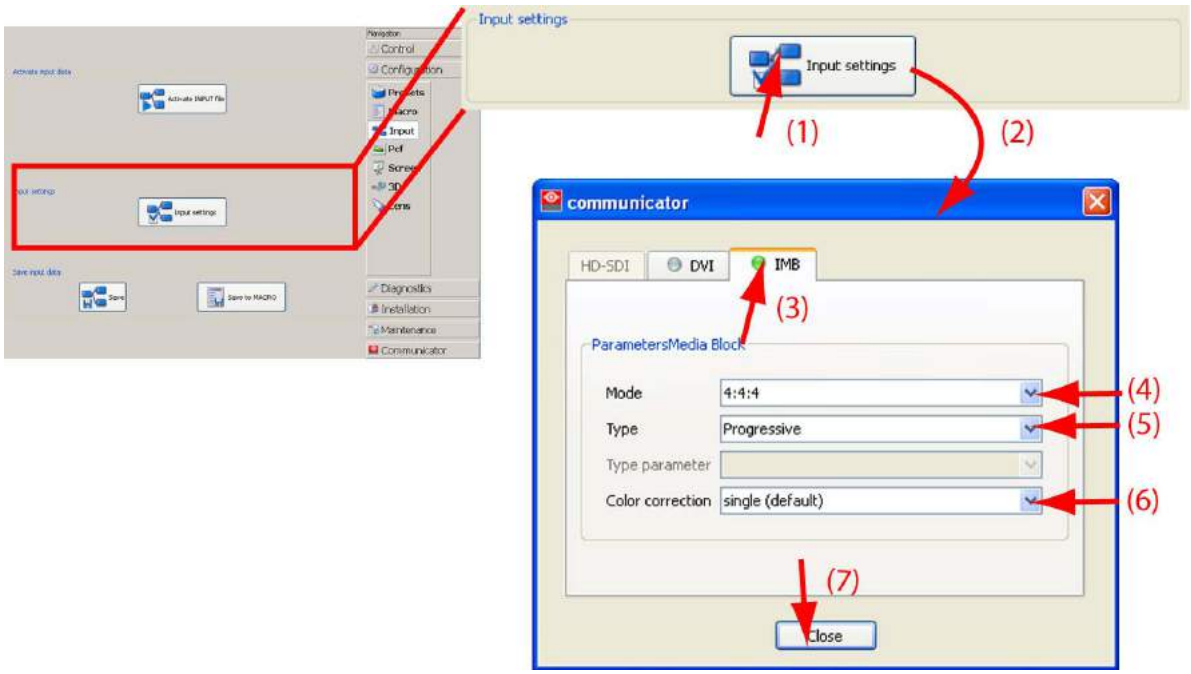


Image 4-12

4.4.5 Save to file

What can be done ?

The input settings can be saved to file. This file can be used to create or update macros.

How to save

1. While in *Configuration*, click on **Input**.

   The *Input* overview is displayed.

2. Click **Save**. (image 4-13)

   The Communicator file selection window opens.

3. Select a file to overwrite (3a) or click in the input field next to Filename and enter a name (3b).
4. Click **Save**.

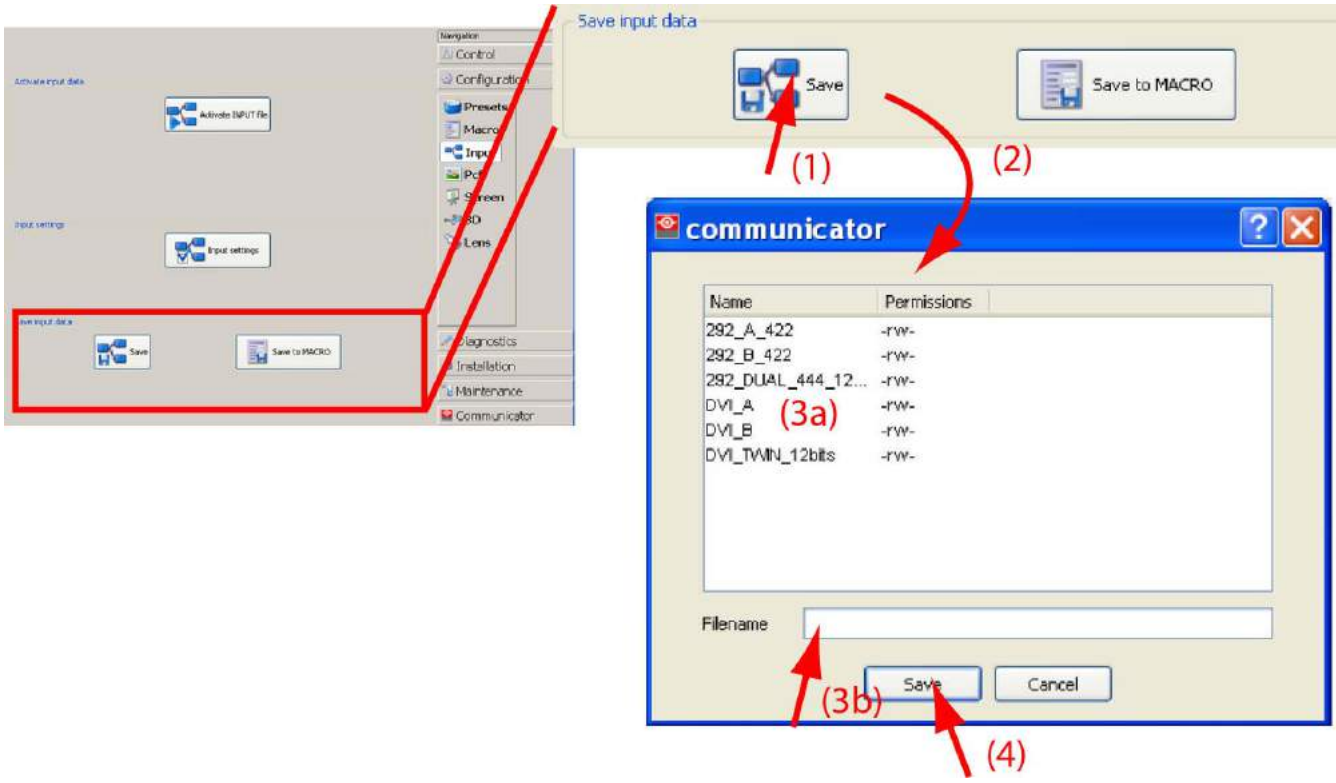


Image 4-13
Save input data to file

4.4.6 Save to Macro

What can be done ?

The new input information can be saved in a new or existing macro file.

How to save

1. While in *Configuration*, click on **Input**.

   The *Input* overview is displayed.

2. Click **Save to MACRO**. (image 4-14)

   The Save to macro wizard starts up.

   For more information about save to macro, see "Macro editor", page 239.

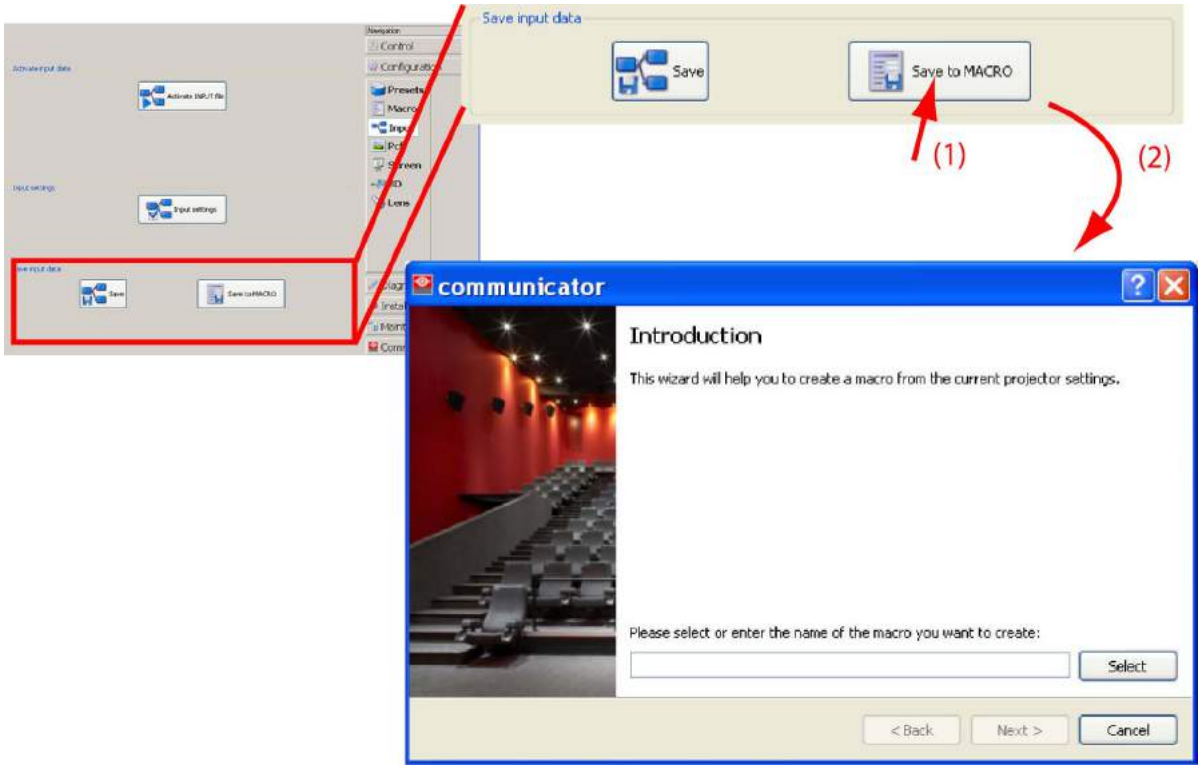


Image 4-14
Save input data to macro

4.5 PCF

Overview

- Activate a PCF file
- Active area selection and Aspect ratio
- Save to file
- Save to Macro

4.5.1 Activate a PCF file

PCF File

Projector Configuration File. This file is a file that will be delivered with each movie. It contains all data needed to display a certain movie as it is defined by the movie distributor.

How to activate a PCF file

1. While in *Configuration*, click on **PCF**.

   The *PCF* overview is displayed.

2. Click on **Activate a PCF file** (1). (image 4-15)

   The *Select a PCF file* window opens (2).

3. Browse to the desired PCF file and click on it to select (3).

4. Click on **OK** (4).

The selected PCF file is activated. The name of the file is indicated below the **Activate a PCF file** button.

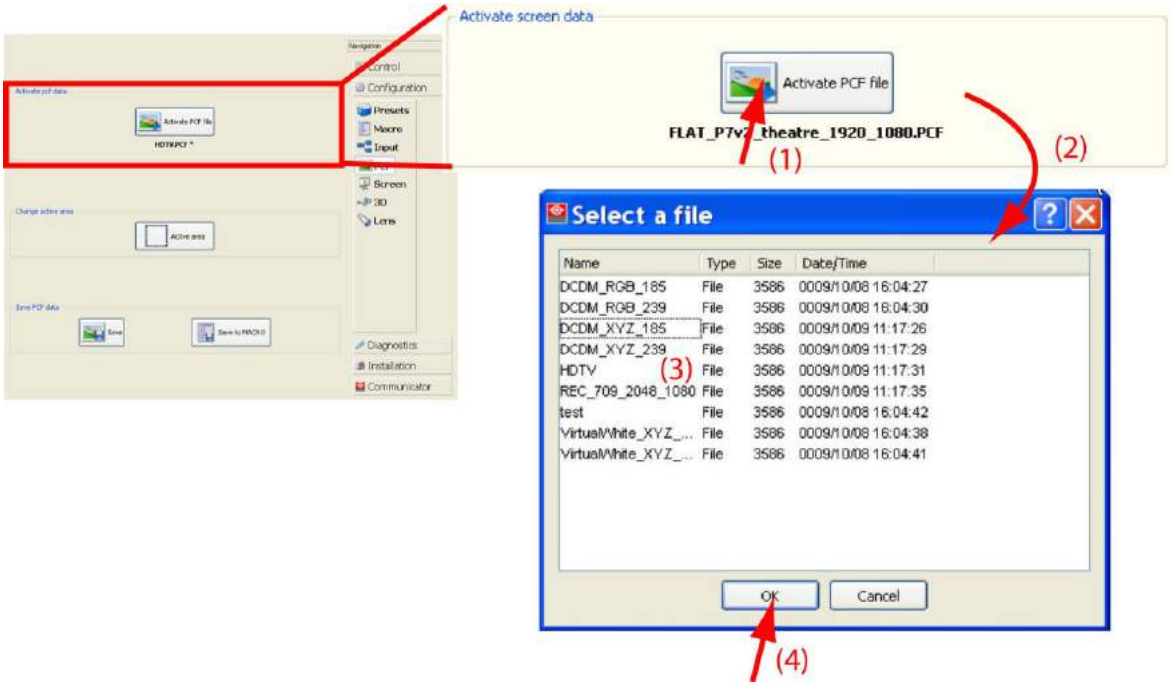


Image 4-15
Activate a PCF file

4.5.2 Active area selection and Aspect ratio

Active Area

The active area within a source frame equals the relevant movie information within the movie stream. E.g. : 1280 x 1024 movie can be mastered in a 1920 x 1080 stream.

Only the 1280 x 1024 frame contains the relevant movie information. In this case, the active area is 1280 x 1024.

Frequently used active areas or predefined behind shortcuts.

How to set up

1. While in *Configuration*, click on **Image (PCF)**. (image 4-16)

   The *Image* overview is displayed.

2. Click on **Active Area**.

   The *Active Area* window opens.

3. If you need a predefined active area, click on a shortcut at the right hand of the window and click Close to return to the configuration window.
   For a dedicated active area, continue with the next steps.

4. Click on the slider of *Width* and *Height* and drag to set up the active area
   Or,
   click on the up down control of the spin box of *Width* and *Height* to set up the active area
   Or,
   click in the input field of *Width* and *Height*, select the current value and enter a new value with the keyboard to set up the active area.

5. Click on the slider of *X-offset* and *Y-offset* and drag to set the offset.
   Or,
   click on the up down control of the spin box of *X-offset* and *Y-offset* to set the offset

Or,
click in the input field of *X-offset* and *Y-offset*, select the current value and enter a new value with the keyboard to set the offset.

The offset is referring to the center of the active area and to the center of the source frame. (image 4-17)

6. Select the image aspect ratio by clicking in the drop down box and selecting an aspect ratio

   When *Automatic* is selected, the system assumes square pixels and calculates the aspect ratio based on the Active Area Size.
   When the image pixels are not squared, select one of the following aspect ratios:
   - 1.25 [5:4]
   - 1.33 [4:3]
   - 1.77 [16:9 HDTV]
   - 1.85 [Flat]
   - 2.39 [Scope]

7. Click **Close** to return to the configuration window.

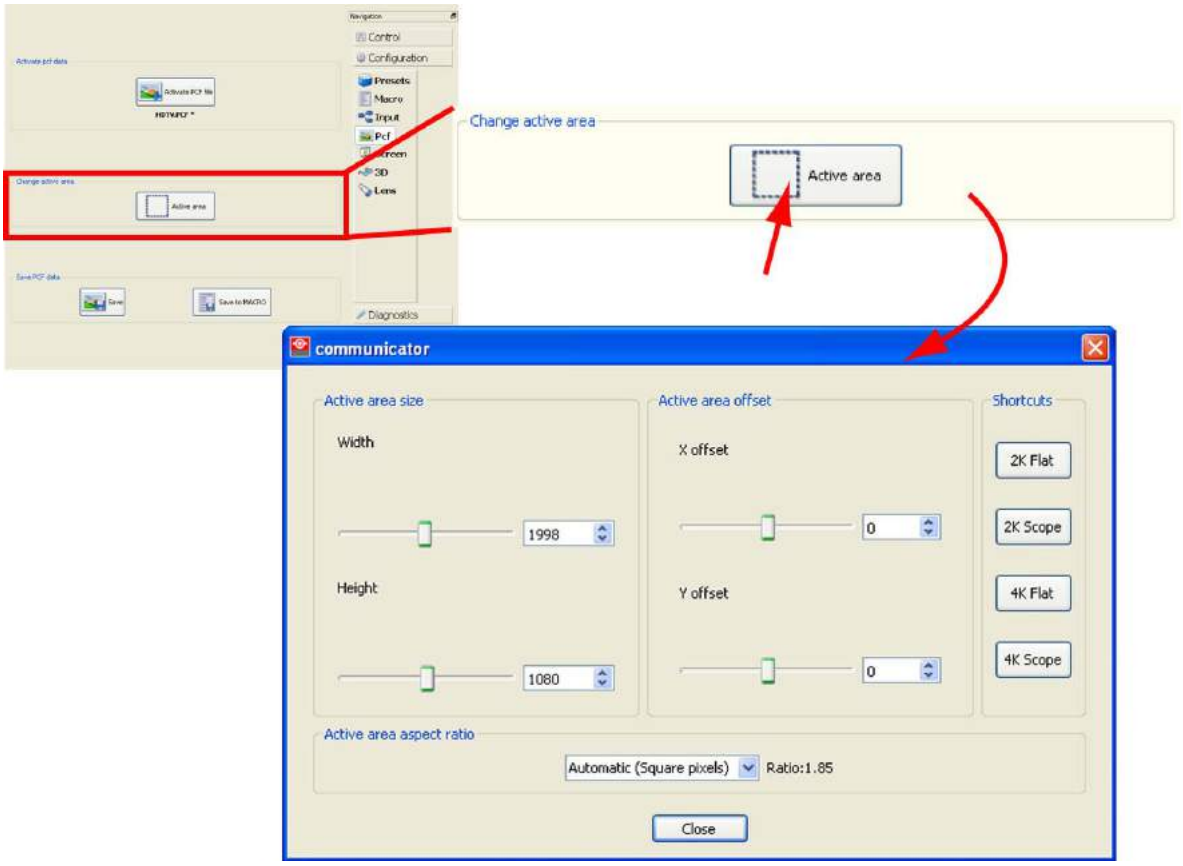


Image 4-16
Active area selection

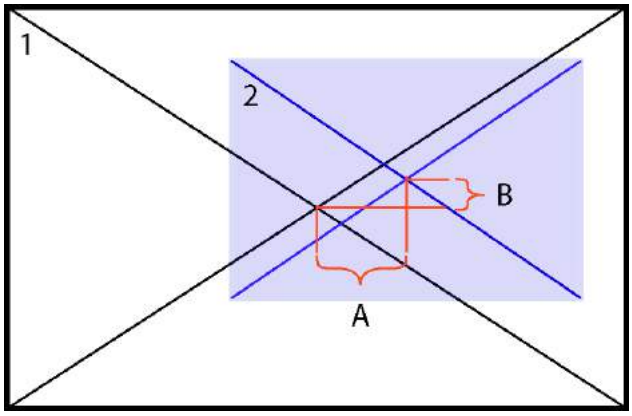


Image 4-17
Center offset indication

1 source frame
2 Active area on source frame
A Horizontal offset
B Vertical offset

4.5.3 Save to file

What can be done?

The new PCF information can be save in a new or existing PCF file. This file can be used to create or update macros.

How to save

1. While in *Configuration*, click on **PCF**. (image 4-18)

   The *PCF* overview is displayed.

2. Click on **Save**.

   The file selection window starts up.

3. Select an existing file to overwrite or click in the *filename* input field and enter a new file name.

4. Click **Save**.

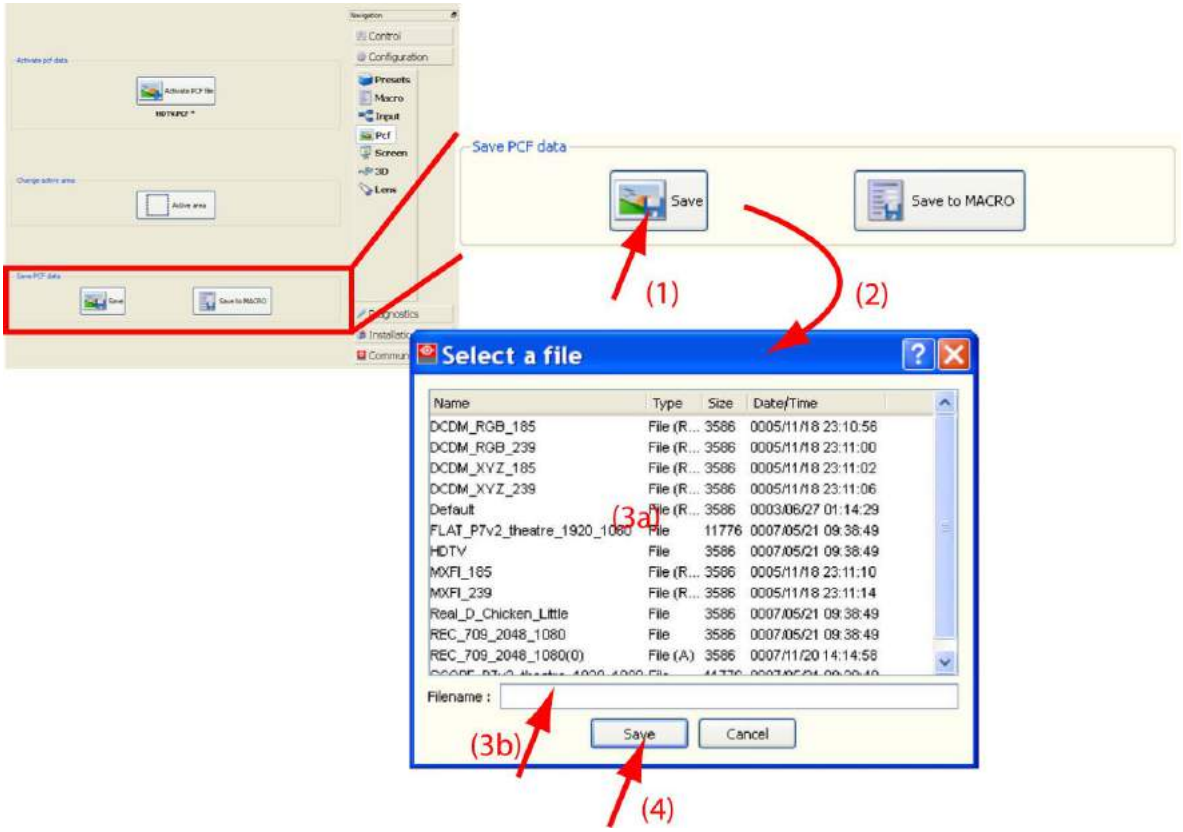


Image 4-18
Save to file

4.5.4 Save to Macro

How to save

1. While in *Configuration*, click on **PCF**.

   The *PCF* overview is displayed.

2. Click on **Save to Macro**. (image 4-19)

   The *Save to macro* wizard starts up.

   For more information about save to macro, see "Macro editor", page 239.

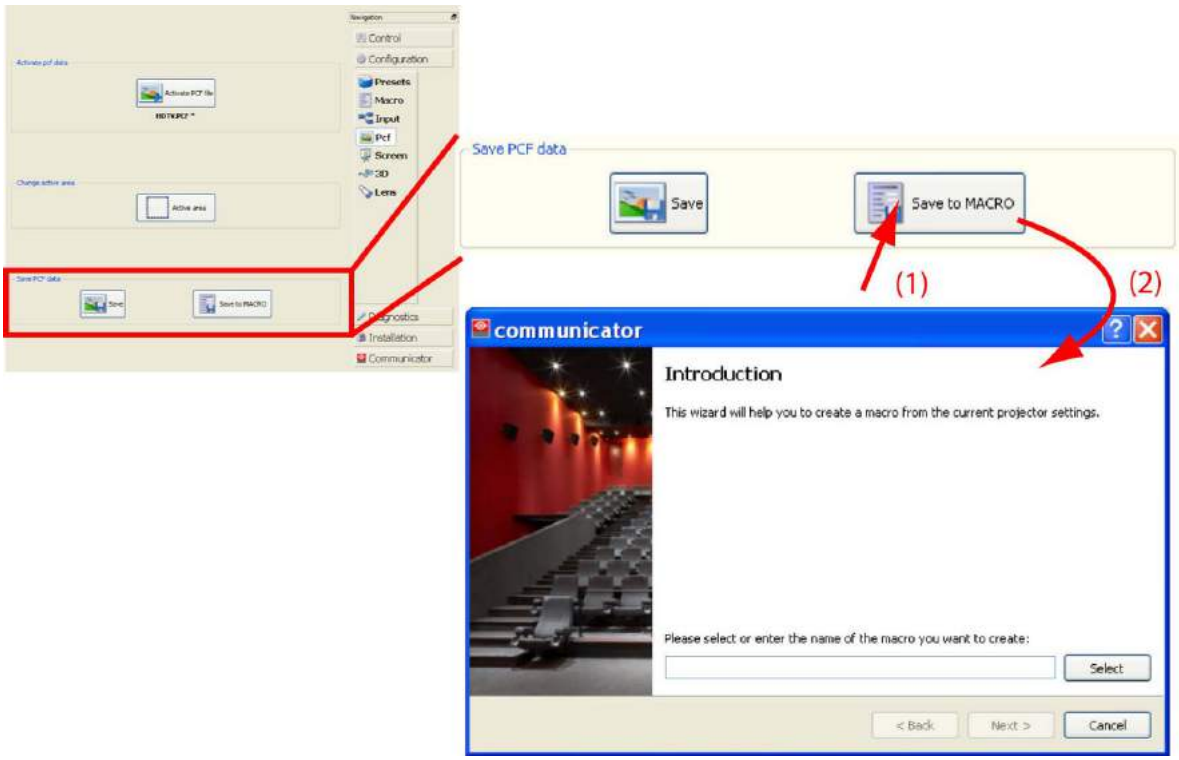


Image 4-19
Save to macro

4.6 Screen

Overview

- Activate a SCREEN file
- Resizing the image
- Masking the image
- Save to file
- Save to Macro

4.6.1 Activate a SCREEN file

Screen File

Screen presentation configuration file. This file contains information about resizing, letterboxing, masking and lens factor.

How to activate a SCREEN file

1. While in *Configuration*, click on **SCREEN**.

   The *Screen* overview is displayed.

2. Click on **Activate a SCREEN file** (1). (image 4-20)

   The *Select a SCREEN file* window opens (2).

3. Browse to the desired SCREEN file and click on it to select (3).

4. Click on **OK** (4).

The selected SCREEN file is activated. The name of the file is indicated below the **Activate a SCREEN file** button.

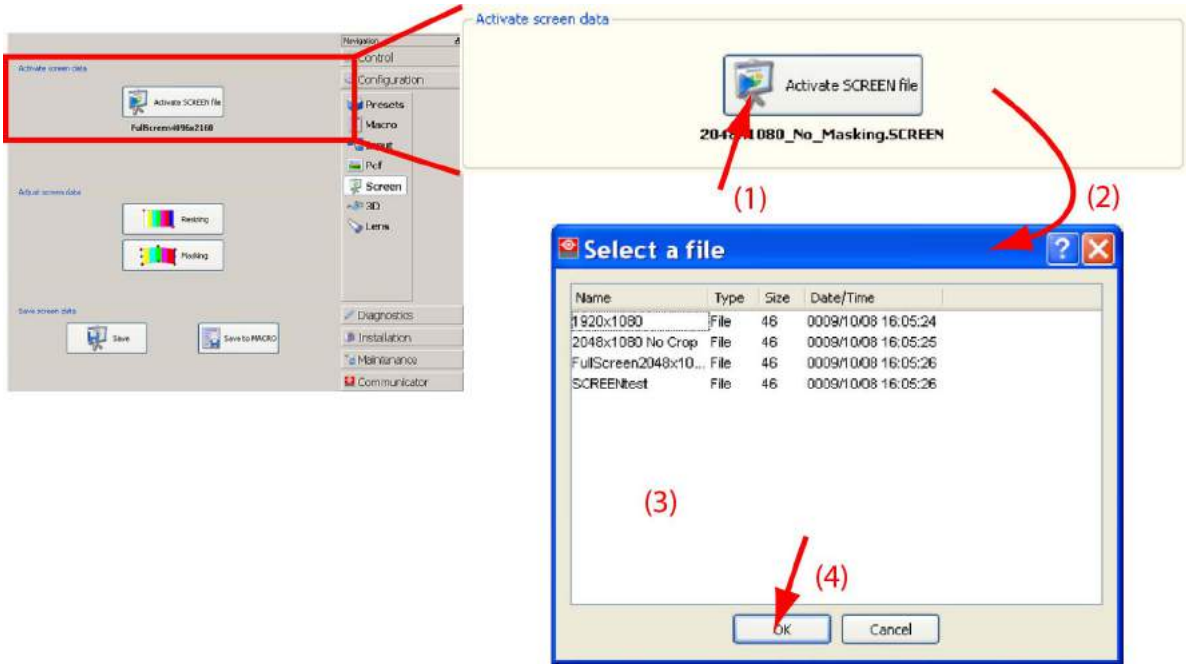


Image 4-20
Activate a SCREEN file

4.6.2 Resizing the image

Overview

- What is Resizing?
- Resizing with the arrow keys
- Resizing with direct user input
- Letterbox function

4.6.2.1 What is Resizing?

Definition

With the resizing tool it is possible to adapt the projected image on the screen size (defining the area available for image display). So, look always to the screen when resizing the image.

The projector will always attempt to keep the image centered within this defined area, and the correct aspect ratio of the image will always be preserved.

The key function that determines how the image will be displayed is the Letterbox function. For a more detailed explanation, see "Letterbox function", page 62.

As the projector project an image under an angle, the original image will be shown as trapezium.

The image will be squared with the masking function by masking the shaded areas.

4.6.2.2 Resizing with the arrow keys

Click on to return to the initial values for he selected dots while resizing the image.

Before starting the resizing, it is preferable to select a test pattern.

How to resize?

1. While in *Configuration*, click on **SCREEN**.

   The *Screen* overview is displayed.

2. Click on **Resizing**. (image 4-21)

   The *Resizing* window opens. (image 4-22)

3. As it is preferable to resize on a test pattern rather then on the normal image, select a pattern by clicking on one of the pattern short cuts. (image 4-23)
   The following patterns can be selected:
   - full white
   - RGB 12 bit alignment pattern
   - Framing_uncorrected pattern
   - Focus green pattern

4. Select a red button by clicking on it. To select both buttons together, click first on the shift key of the virtual keyboard and then select the second button. (image 4-24)
   Note: *Shift key remains pressed until it is tipped again.*

   A selected button becomes clear red.

5. Move the selected button by clicking on the arrow keys on the keypad interface.
   Note: *The representation on the interface is not an exact representation of the resizing on the screen. Therefore, always look to the screen to see the exact resizing.*

6. When finished, click **Close** to return to the *Screen overview* menu.

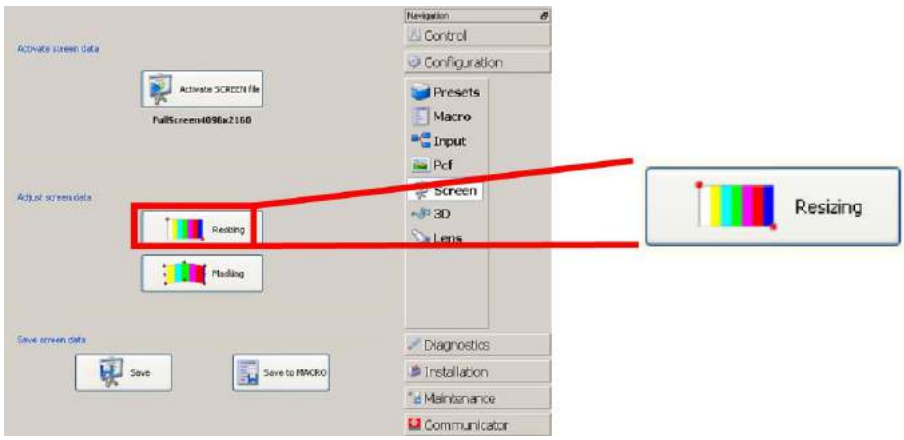


Image 4-21
Start resizing

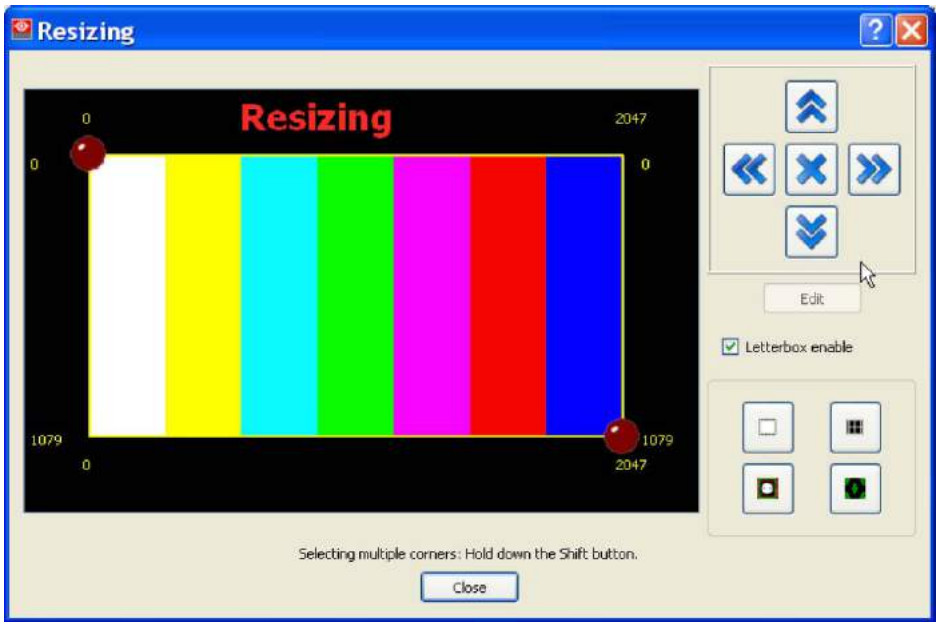


Image 4-22
Resizing window

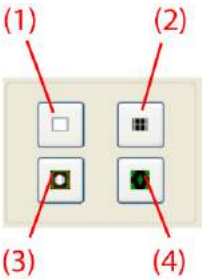


Image 4-23
Shortcuts to patterns

(1) Full white pattern
(2) RGB 12 bit alignment pattern
(3) Framing_uncorrected pattern
(4) Focus green pattern

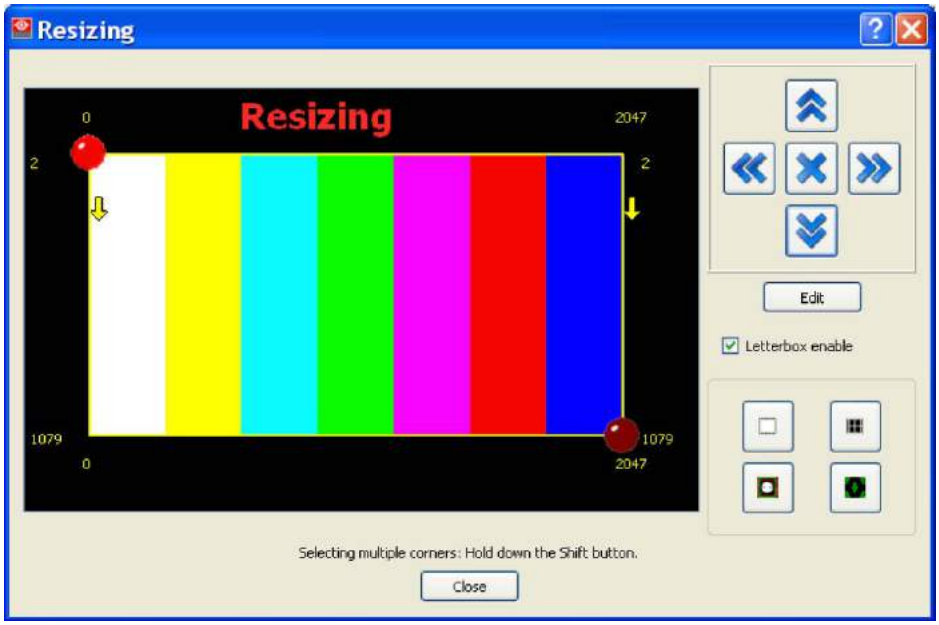


Image 4-24
Resizing indication

When leaving the Resize window without switching off the test pattern, this pattern will still be available for masking.

As the resizing is best done on a test pattern, when finished, switch back to the normal image to check the resizing settings.

4.6.2.3 Resizing with direct user input

What can be done

With direct user input it is possible to enter the resizing values with the keyboard.

How to resize

1. While in *Configuration*, tip on **SCREEN**.

   The *Screen* overview is displayed.

2. Click on **Resizing**.

   The Resizing window opens.

3. As it is preferable to resize on a test pattern rather then on the normal image, select a pattern by clicking on one of the pattern short cuts.
   The following patterns can be selected:
   - full white
   - RGB 12 bit alignment pattern
   - Framing_uncorrected pattern
   - Focus green pattern

4. Select a red button by clicking on it. To select both buttons together, tip first on the shift key of the virtual keyboard and then select the second button.

   A selected button becomes clear red.

5. Click on **Edit** (1). (image 4-25)

   The coordinate window opens on the resize window (2).

6. Click in the input fields for *X* and *Y* and fill out the desired value (3).

7. Click on **Apply** to activate the resizing (4).

8. When finished, click **Close** to return to the *Screen overview* menu.

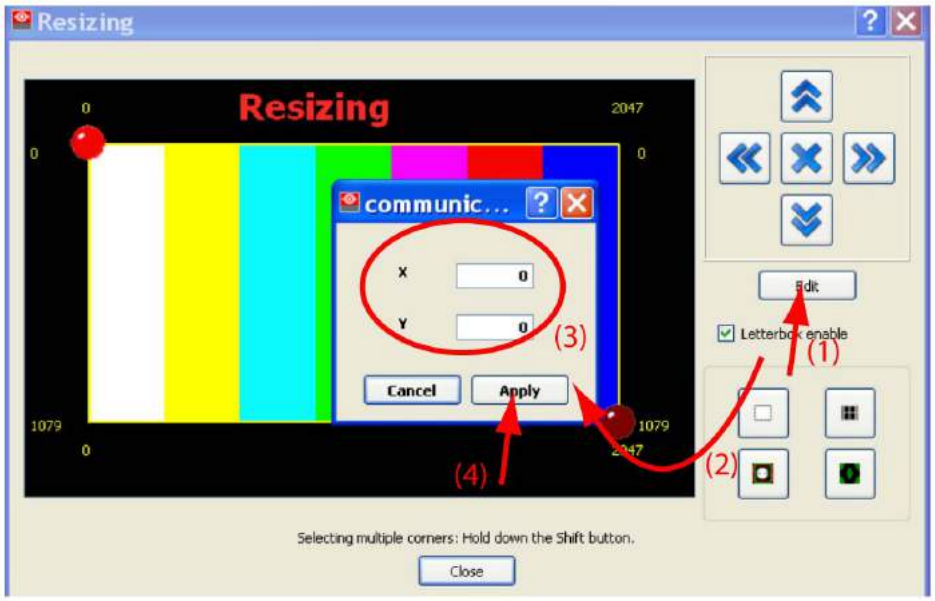


Image 4-25

When leaving the Resize window without switching off the test pattern, this pattern will still be available for masking.

As the resizing is best done on a test pattern, when finished, switch back to the normal image to check the resizing settings.

4.6.2.4 Letterbox function

Function

The letterbox function determines how the image will be displayed.

If Letterbox enabled is checked, the system will show all of the original image data on the screen. This may require that the system letterbox the image, either on the top and bottom, or left and right side.

If Letterbox enabled is not checked, the system will fill all the screen with image data. This may require that the system discard image data, either from the top and bottom, or the left and right side.

The following two examples show what will be displayed based on the state of the letterbox function.

Letterbox enabled.

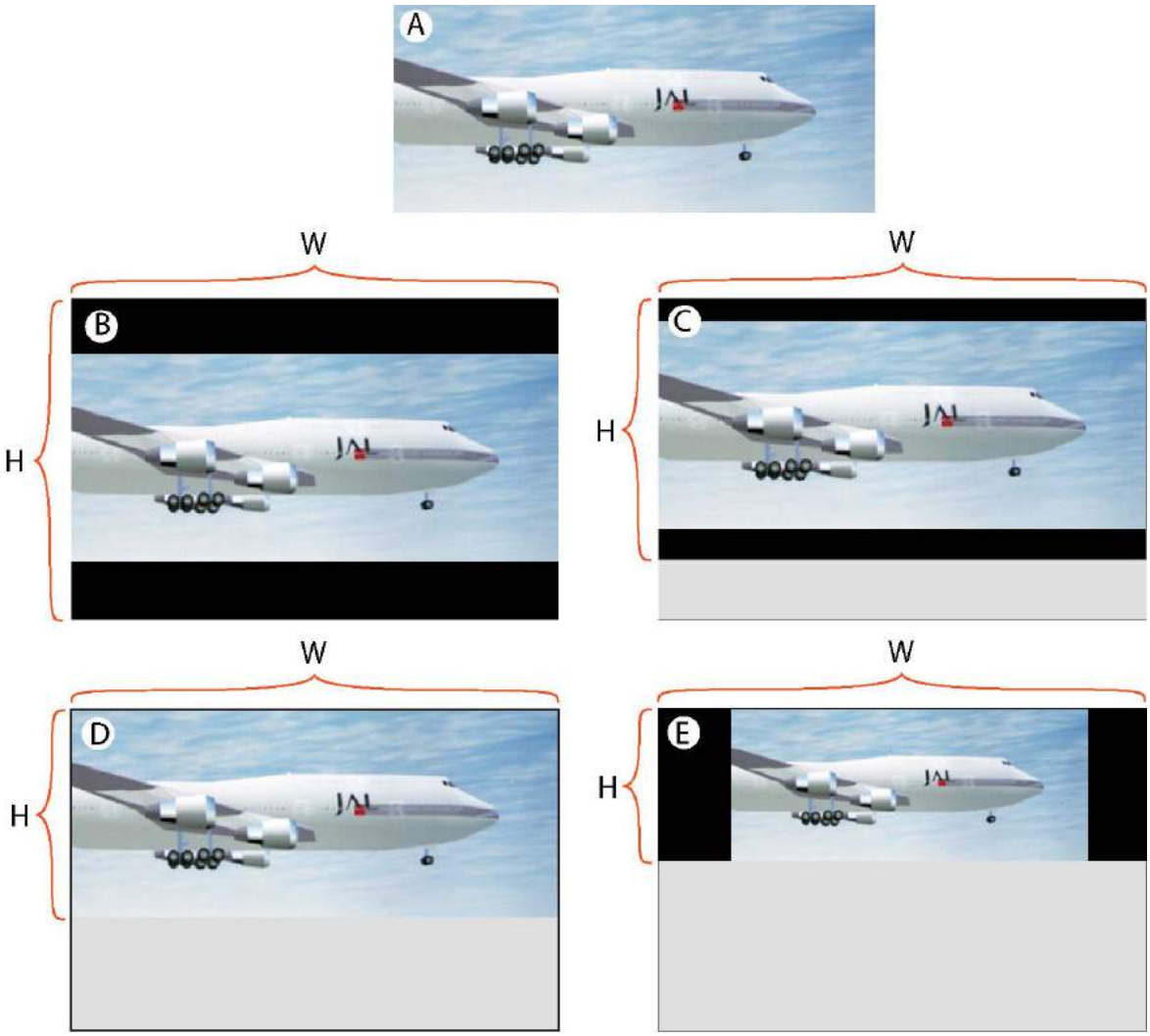


Image 4-26
Example letterboxing enabled

W and H are width and height of the resized area.

- A : input source
- B :
  - Resized area equals the maximum DMD size
  - The input image has a different aspect ratio from the resized area.
  - Full image is letterboxed (top and bottom) and centered within the resized area.
- C :
  - The screen height is narrowed, bottom is moved upwards.
  - The input image has a different aspect ratio from the resized area.
  - Full image is letterboxed (top and bottom) and centered within the resized area.
- D :
  - Bottom of resized area is moved upward to where image fills this area.
  - The input image has now the same aspect ratio from the resized area.
  - Full input image centered within the resized area and letterboxing is not required.
- E :
  - Bottom of resized area has moved upward to where image at previous size cannot be fully displayed.
  - Resized area reduced in both directions (maintaining aspect ratio) so full scaled image can be displayed.
  - Image is letterboxed (right side and left side).

Letterbox disabled

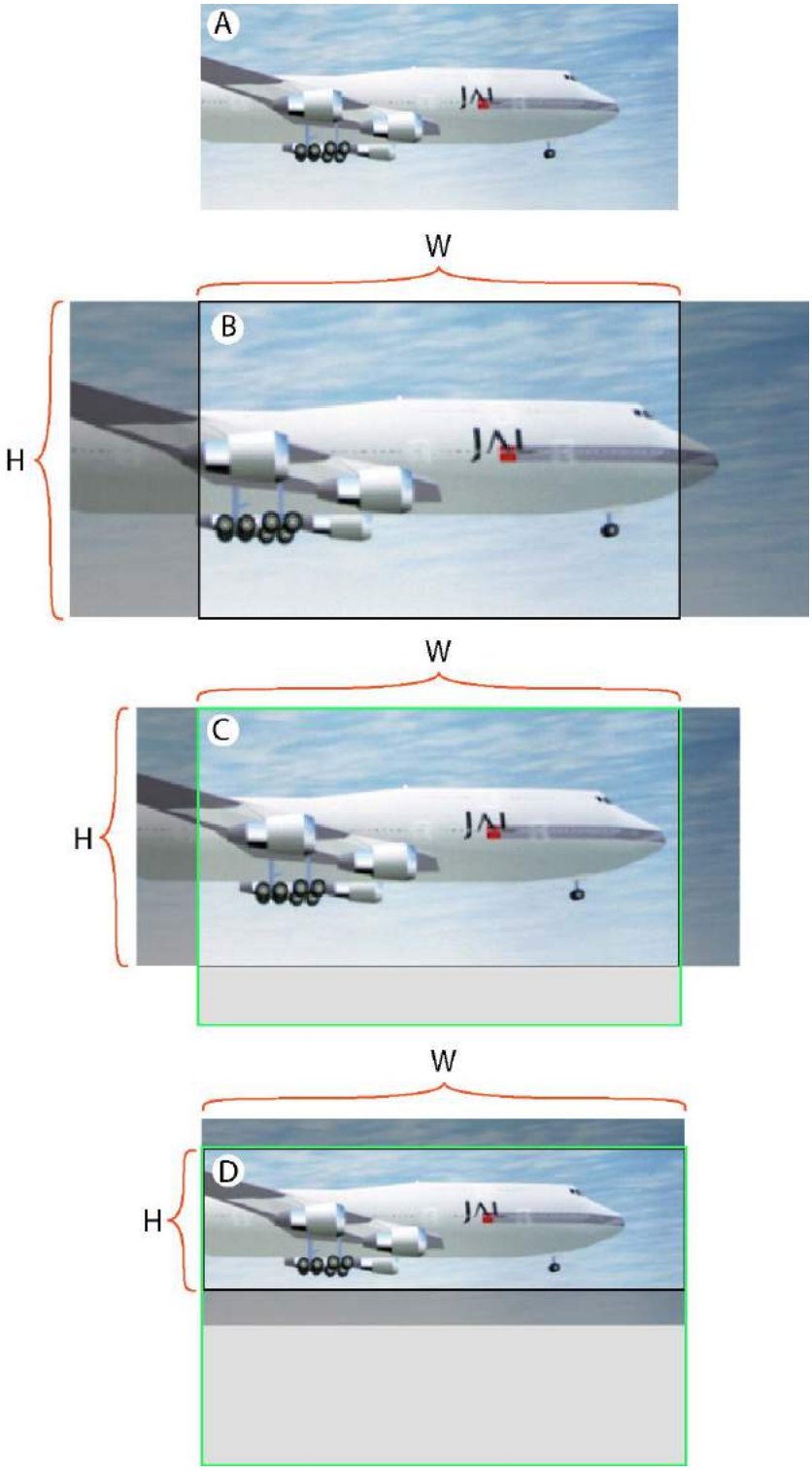


Image 4-27
Example letterboxing disabled

W and H are width and height of the resized area.

- A : input source
- B :
  - Resized area equals the maximum DMD size
  - The input image has a different aspect ratio from the resized area.
  - Image is scaled up to fill resized area, requiring that some input data be discarded because it falls outside the resized area (dark transparent areas left and right).
- C :
  - Bottom of resized area has moved upward.
  - The input image has a different aspect ratio from the resized area.
  - Image is scaled up to fill resized area, requiring that some input data be discarded because it falls outside the resized area (dark transparent areas left and right).
- D :
  - Bottom of resized area has moved upward so that the height is smaller than the image height.
  - The input image has a different aspect ratio from the resized area.
  - Input image is not scaled, however, data at the top of the image must be discarded because it falls outside of the resized area, and data at the bottom of the image must be discarded because it falls outside the resized area.

4.6.3 Masking the image

Overview

- What is masking
- Masking via the arrow keys
- Masking with direct user input

4.6.3.1 What is masking

Definition

After resizing the image, it may be still need to mask away pixels on the screen due to keystone and/or bow distortion of the projected image. So look always at the screen while masking pixels.

shaded areas will be masked.

Image 4-28
Masking indication

4.6.3.2 Masking via the arrow keys

Click on to reset the masking for the selected button.

Before starting masking, it is preferable to select a test pattern.

How to mask?

1. While in *Configuration*, click on **SCREEN**.

   The *Screen* overview is displayed.

2. Click on **Masking**. (image 4-29)

   The masking window opens. (image 4-30)

   In most cases, test pattern will be on. If not continue with step 3, otherwise with step 4.

3. As it is preferable to resize on a test pattern rather then on the normal image, select a pattern by clicking on one of the pattern short cuts.
   The following patterns can be selected:
   - full white
   - RGB 12 bit alignment pattern
   - Framing_uncorrected pattern
   - Focus green pattern

4. Click on a red button in one of the corners. To select extra corner buttons together, click first the shift key and then select the another corner button. (image 4-31)
   Note: *Shift key remains pressed until it is clicked again.*

   A selected button becomes clear red.

5. Move the selected button by clicking on the arrow keys of the keypad.

   The image will move in the direction of the clicked arrow. Yellow arrows on the interface image will indicate the direction. The values in the corner will change accordingly.

6. Click on a red square in the middle of a side. (image 4-32)
   Note: *Only one square button can be selected at a time.*

7. Move the selected square by clicking on the arrow keys of the keypad

   The moving will blind the side-curves. A yellow arrow with a curved yellow line will show the direction of the correction. The value will change accordingly.

8. Press **Close** to return to the *Screen menu*.

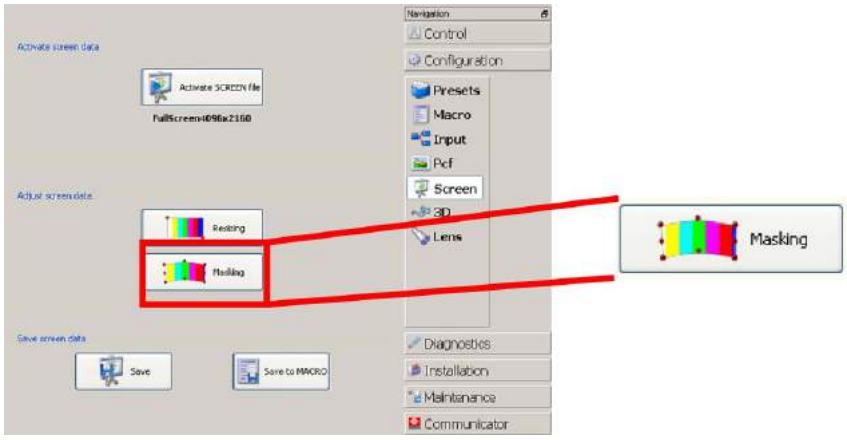


Image 4-29
Start up masking

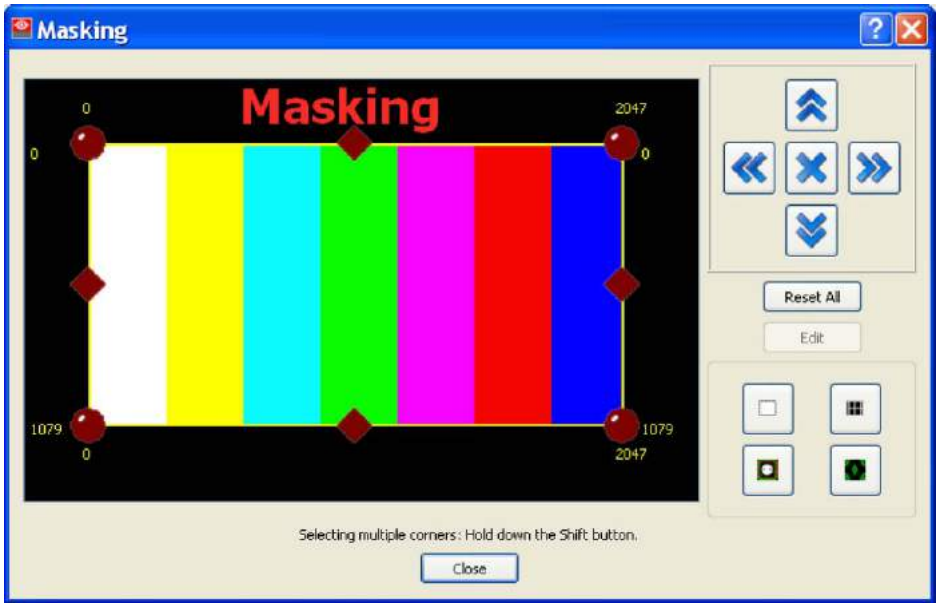


Image 4-30
Masking window

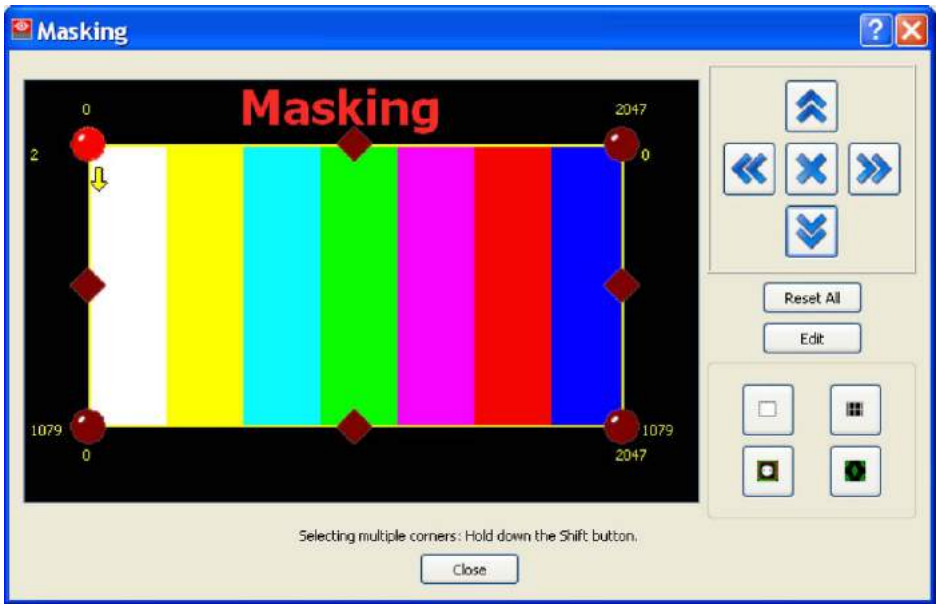


Image 4-31
Masking the corners

Image 4-32
Curve masking

Press the Reset All button to reset the complete masking.

As the masking is best done on a test pattern, when finished, switch back to the normal image to check the masking settings

Do not forget to switch off the test patterns.

4.6.3.3 Masking with direct user input

What can be done

With direct user input it is possible to enter the masking values with the keyboard.

Before starting masking, it is preferable to select a test pattern.

How to mask

1. While in *Configuration*, click on **SCREEN**.

   The *Screen* overview is displayed.

2. Click on **Masking**.

   The masking window opens.

   In most cases, test pattern will be on. If not continue with step 3, otherwise with step 4.

3. As it is preferable to resize on a test pattern rather then on the normal image, select a pattern by tipping on one of the pattern short cuts.
   The following patterns can be selected:
   - full white
   - RGB 12 bit alignment pattern
   - Framing_uncorrected pattern
   - Focus green pattern

4. Click on a red button in one of the corners. To select extra corner buttons together, tip first the shift key and then select the another corner button. (image 4-33)

   A selected button becomes clear red.

5. Click on **Edit** (1).

   The coordinate window opens on the masking window (2).

6. Click in the input fields for *X* and *Y* and fill out the desired value (3).

7. Click on **Apply** (4).

   The corner masking is applied to the image on the screen.

8. Select a square button in the middle of a side and click on **Edit** (5). (image 4-34)

   The curve factor window opens on the masking window (6).

9. Click on the input field and enter the curve factor (7).
   Or,
   click on the up down control of spin box until the desired curve factor is obtained.

10. Click on **Apply** (8).

    The curve masking is applied to the image on the screen.

11. Press **Close** to return to the *Screen menu*.

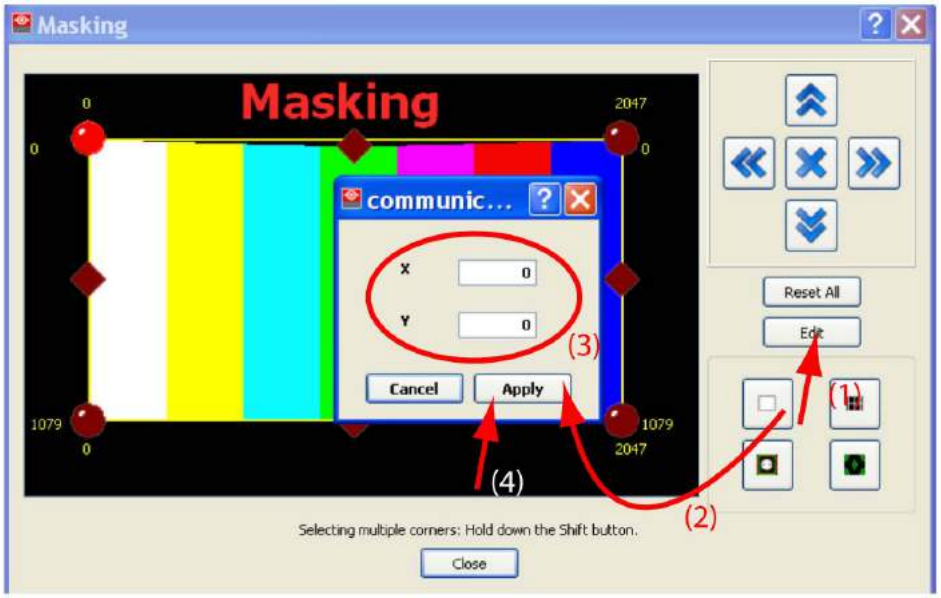


Image 4-33
Masking corners via direct input

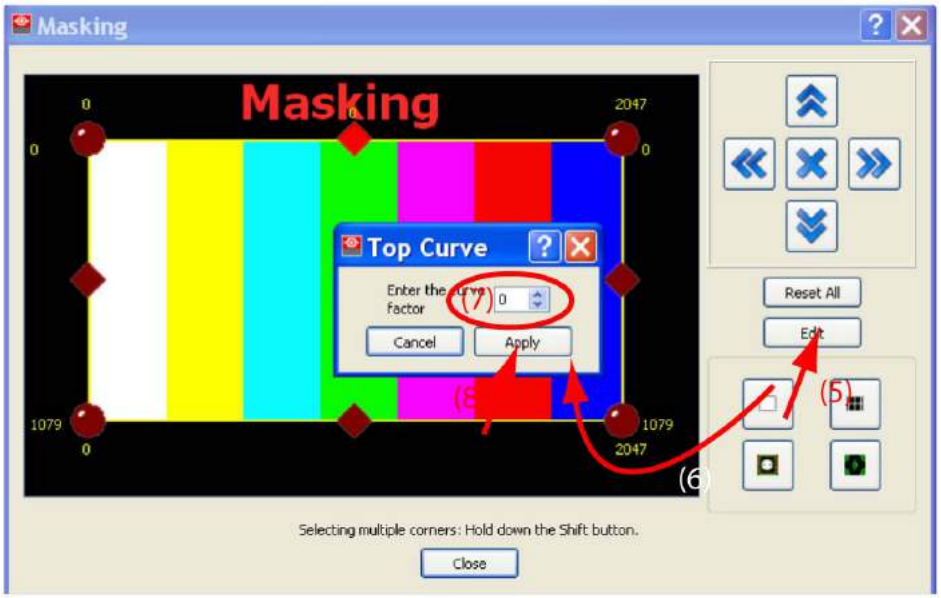


Image 4-34
Direct curve masking

Press the Reset All button to reset the complete masking.

As the masking is best done on a test pattern, when finished, switch back to the normal image to check the masking settings

Do not forget to switch off the test patterns.

4.6.4 Save to file

What can be done?

The new Screen information can be save in a new or existing screen file. This file can be reused in different macros.

How to save

1. While in *Configuration*, click on **Screen**. (image 4-35)

   The *Screen* overview is displayed.

2. Click on **Save** (1).

   The file selection window starts up (2).

3. Select an existing file to overwrite (3a) or click in the filename input field and enter a new file name (3b).

4. Click **Save** (4).

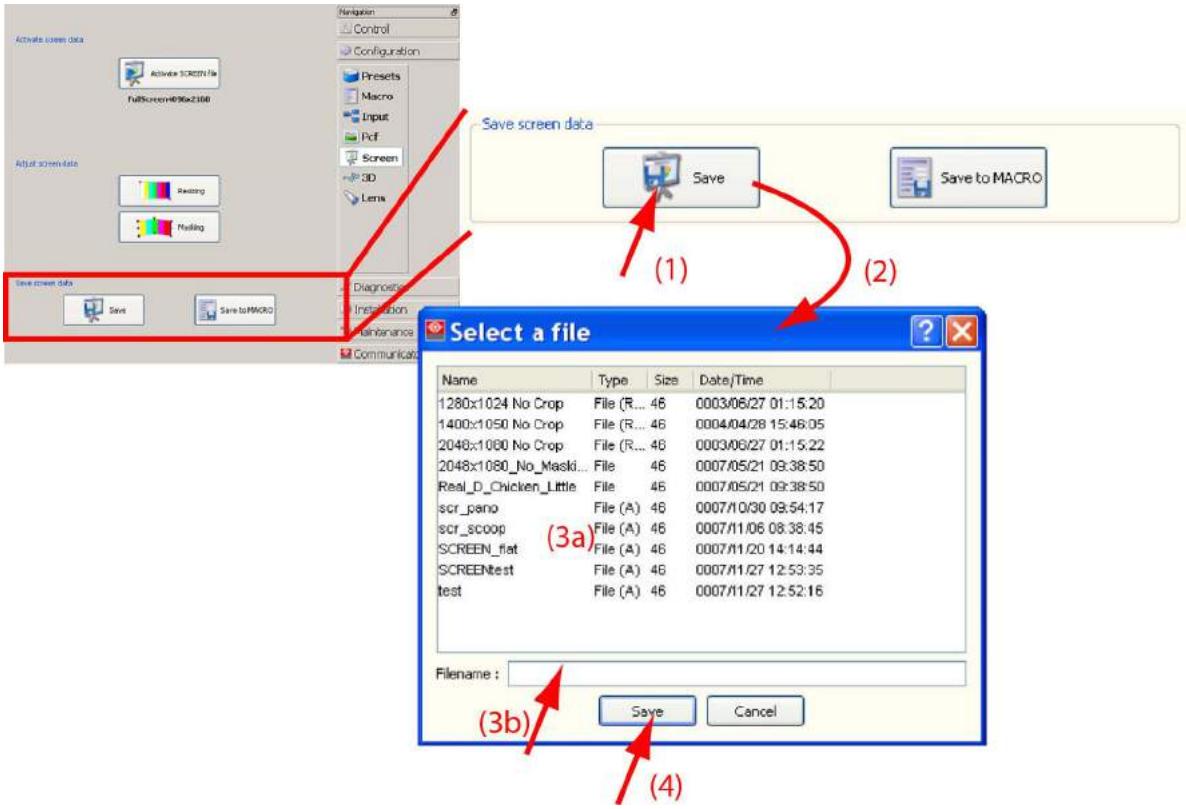


Image 4-35
Save Screen data to file

4.6.5 Save to Macro

What can be done?

The new Screen information can be save in a new or existing macro file.

How to save

1. While in *Configuration*, click on **Screen**.

   The *Screen* overview is displayed.

2. Click on **Save to Macro**. (image 4-36)

   The *Save to macro* wizard starts up.

   For more information about save to macro, see "Macro editor", page 239.

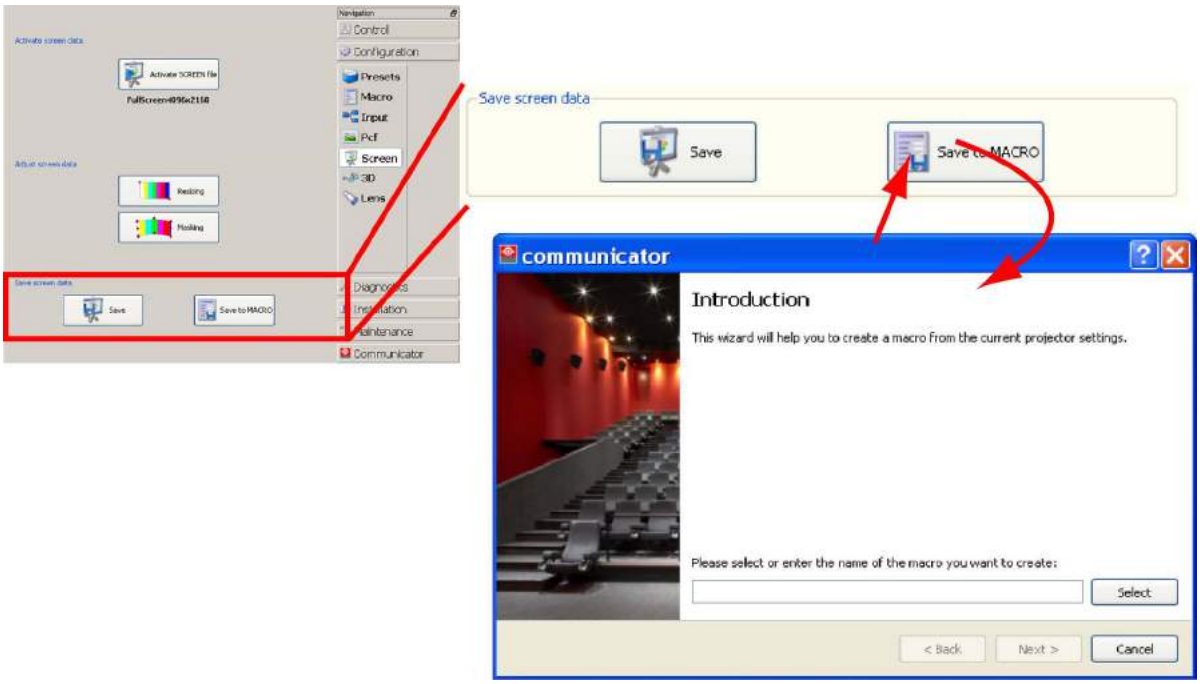


Image 4-36
Save Screen data to macro file

4.7 3D

Overview

- Activate 3D file
- 3D settings
- 3D settings, integrated color wheel
- Save to file
- Save to Macro

4.7.1 Activate 3D file

How to activate a 3D file

1. While in *Configuration*, click on **3D**.

   The *3D* overview is displayed.

2. Click on **Activate 3D file** (1). (image 4-37)

   The *Select a file* window opens (2).

3. Browse to the desired 3D file and click on it to select (3).

4. Click on **OK** (4).

The selected 3D file is activated. The name of the file is indicated below the **Activate 3D file** button.

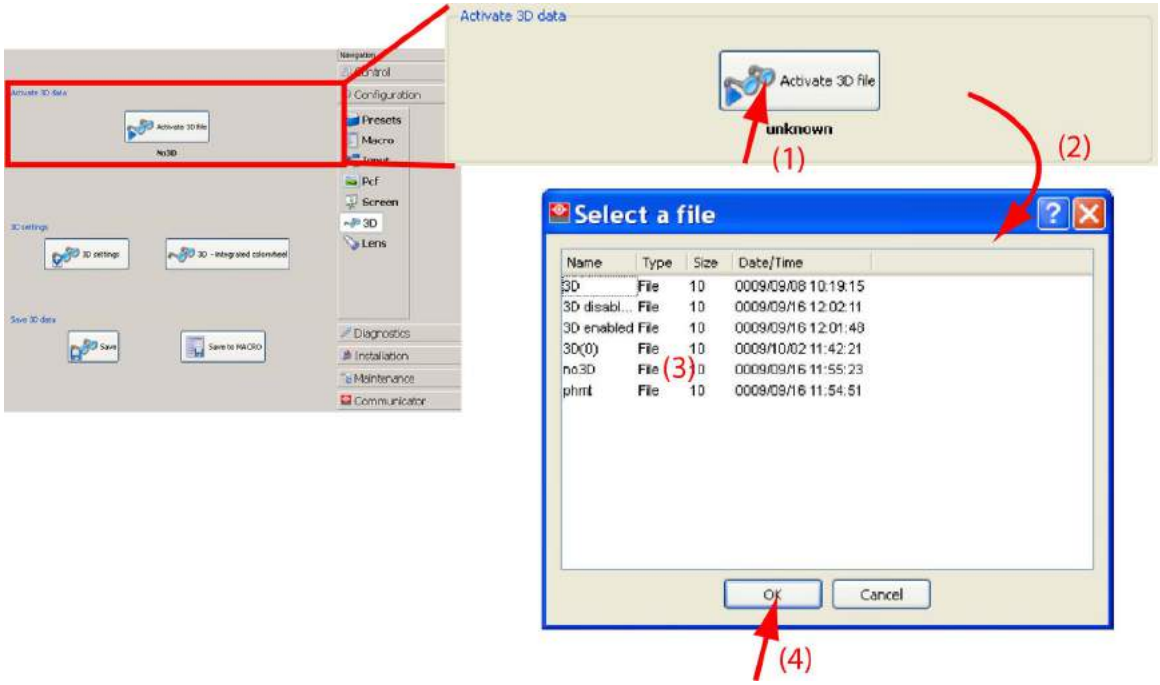


Image 4-37
Activate 3D file

4.7.2 3D settings

4.7.2.1 About 3D projection

Summary

Typical scenario for 3D projection:

The left eye image data comes in over a HD-SDI 24 p signal on port A on the projector.

The right eye image data comes in over a HD-SDI 24p signal on port B of the projector.

On the interface board both signals are combined to a 48 Hz signal. Left and right frames are combined. The signals are further up scaled to 96 Hz at the level of the Modular Formatter and DMD

The 48 Hz signals can be outputted to an external polarizer system, or active polarity glasses. They can be outputted through the GPO connection.

For 3D projection, with Dual link HD-SDI input where the input A represents the left eye stream, and input B represents the right eye stream, the following settings should be enabled.

Input selection	Source selection	292 3D
3D settings		
	Frame rate Multiplication	6:2
	L/R Input Reference	Use input reference - frame sequence mode

Set 3D Dark Time adjustment, 3D L/R Output Reference Delay and 3D L/R Output Polarity as needed.

4.7.2.2 Start up the 3D settings

How to start up

1. While in *Configuration*, click on **3D**.

   The *3D* overview is displayed.

2. Click on 3D settings. (image 4-38)

   The *3D Control* window opens.

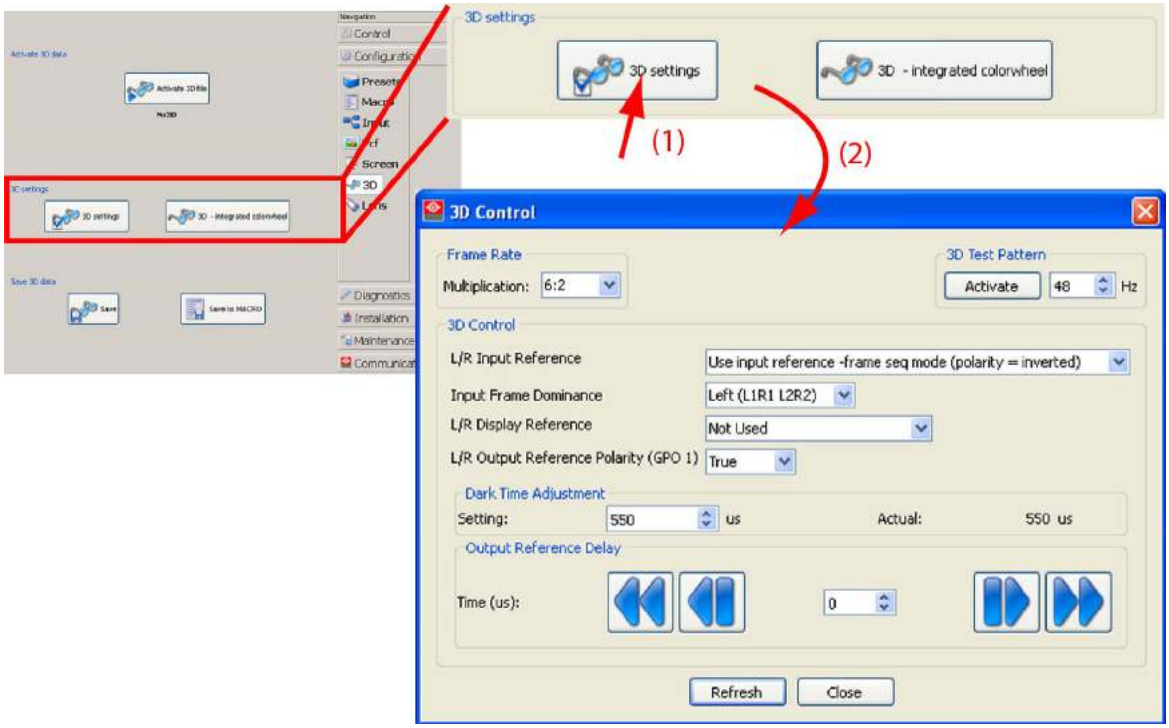


Image 4-38
3D controls

4.7.2.3 Frame rate multiplication

Introduction

The system provides the capability to do frame rate multiplication based on an N/M system.

For this system, M and N are defined as follows:

- M is defined as the number of input frames of data (defined by input vertical sync) that are required to constitute a full frame of image data. This parameter is used to determine the “base” or “full” image frame rate for the input data, in the form: Base rate (Hz) = Input frame rate (Hz) / M.
- N is defined as the number of frames of data to be displayed during a base rate time. This parameter is used to determine the output vertical rate, in the form: Output rate (Hz) = Base rate (Hz) * N

The following are a few examples:

Example 1:

- Full frame of picture data input each vsync, therefore M = 1
- One frame of picture data output each base rate, therefore N = 1

E.g. 24 Hz input, 24 Hz output (Normal projector use)

Example 2:

- ½ frame of picture data input each vsync, therefore M = 2
- frames of picture data output each base rate, therefore N = 4

E.g. LR data input at 48Hz, LRLR output at 96Hz (LRLR 3D)

6:2 is generally used for 3D.

Frame rate Setup

Tip on the combo box next to *Multiplication* and select the desired multiplication.

1:1 is normal projector use.

6:2 is generally used for 3D

others are used for experimental purposes.

4.7.2.4 3D Test pattern

What can be done?

With the 3D test pattern, it is possible to test the complete setup in combination with an external polarizer system, or active polarity glasses. The output frequency of the test pattern can be entered so that the simulation of the input signal is completely.

Entering the output frequency

1. Click in the input field next to *Activate*. (image 4-39)
2. Enter the new frequency with the keyboard.
   Or,
   click on the up down control of the spin box until the desired frequency is reached.

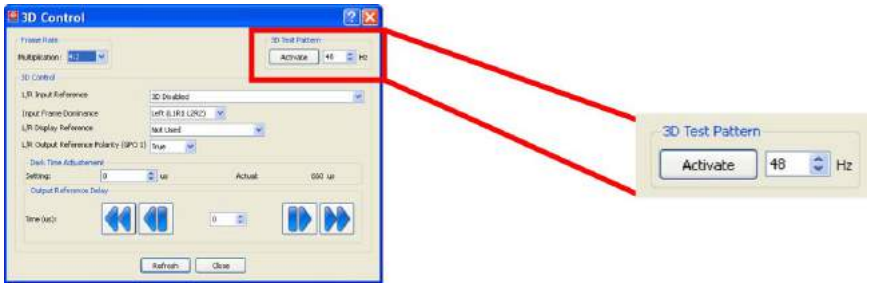


Image 4-39
3D test pattern setup

How to check the complete setup

1. Click on **Activate** to run the test pattern.

   A 3D test pattern generated on the interface board will be displayed. A blue square is displayed before Activate to indicate that the test pattern is activated. (image 4-40)

   Alternating, the left and the right pattern will be displayed.

   For the best test pattern and to display the pattern for the left or the right eye:
   - set the frequency on 48 Hz
   - set frame rate multiplication on 4:2
   - set 3D control, 3D L/R Input Reference on *White Line Code True* or *Blue Line Code True*.
   - set 3D L/R Display Reference on *Use GPI 2(polarity = true)*
   - set 3D Dark Time Adjustment, 3D L/R Output Reference Delay and 3D L/R Output Reference Polarity as needed.

Either the left or the right eye pattern will be displayed.

When e.g. the left pattern (indicated with L) is displayed, only the left eye may see this image. When it is not so, the setup is wrong and should be corrected.

2. Change the 3D setting L/R Display Reference to *Use GPI 2(polarity = inverted)*.

When the left patterns was displayed, now the right pattern will be displayed. Only the right eye may see this pattern. When it is not so, the setup is wrong and should be corrected.

Image 4-40
Test pattern activated

When changes are made to *Dark Time* and *Output Reference Delay* while the test pattern was active, then these changes can be saved for the normal image when deactivating the test pattern. Click Yes to do so.

Image 4-41
Deactivation message

4.7.2.5 3D Controls

Overview

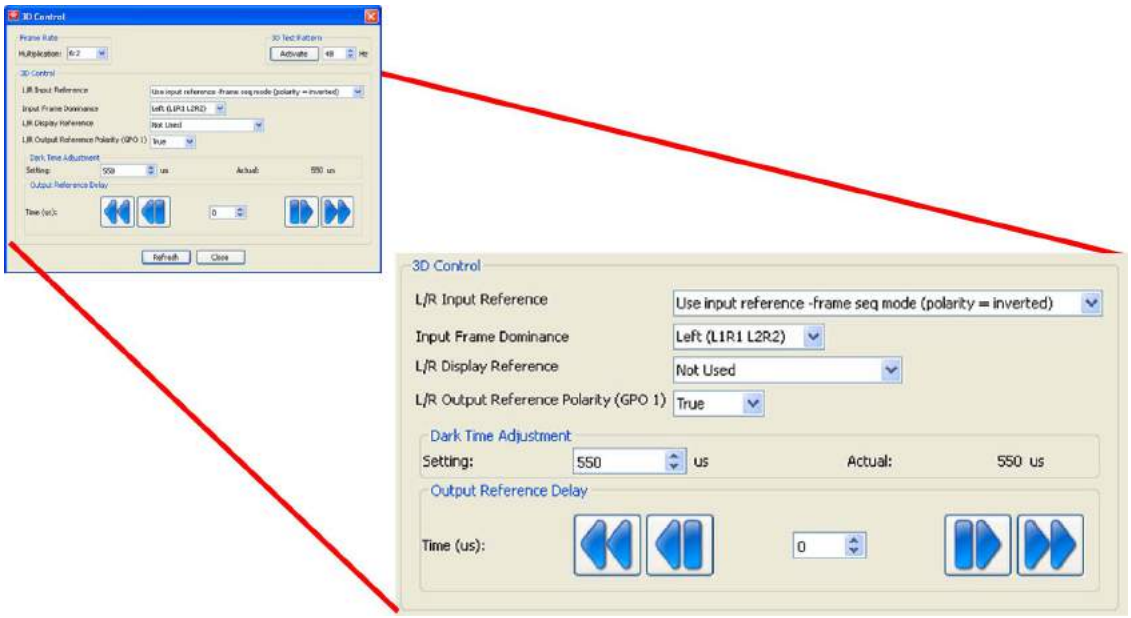


Image 4-42
3D controls

L/R Input Reference

The Input Reference indicates which frame is Right and which frame is Left.

The following choices are possible:

Setting	Description
3D disabled	no 3D images possible
None Provided	no 3D L/R input reference provided
Use GPI 2(polarity = true)	Can be used for single stream inputs High : Left is Active Low : Right is Active
Use GPI 2(polarity = false)	Can be used for single stream inputs High : Right is Active Low : Left is Active
Use input reference - frame sequence mode (polarity = true)	Use Active data port assignment (for dual port sources) to determine 3D L/R input reference.
Use input reference - frame sequence mode (polarity = inverted)	Use Active data port assignment (for dual port sources) to determine 3D L/R input reference
Use <White Line Code / Blue Line Code> (polarity = true)	Use “White Line Code / Blue Line Code” embedded in data stream as 3D L/R input reference.
Use <White Line Code / Blue Line Code> (polarity = inverted)	Use “White Line Code / Blue Line Code” embedded in data stream as 3D L/R input reference.
Use line interleave where first line = left, second line = right	

About <White Line Code> or <Blue Line Code>

The **White/Blue Line Code** is an embedded methodology for specifying whether a specific frame of input data has left or right eye data.

- The bottom pixel-row of the left-eye subfield should be pure white (blue) for the left-most 25% of the pixel-row, and pure black for the remainder of the row.
- The bottom pixel-row of the right-eye subfield should be pure white(blue) for the left most 75% of the pixel-row, and pure black for the remainder of the row.

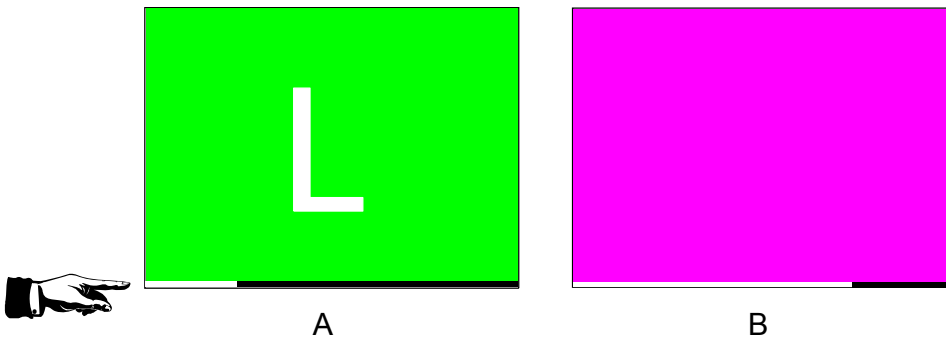


Image 4-43
White (Blue) line code

A Green field with white L and last lines 25 % white, 75 % black
B Magenta field with last lines 75 % white, 25% black

The system will only sample the blue channel, allowing the external user to use either White or Blue Line Code. The system will blank out the encoded line so that it is not displayed.

This mechanism is only relevant when using a single stream input. The input reference is encoded in the content. (Information is on R, G and B channels).

This information can also be on blue channel only (Blue line bottom) Blue Line Code.

About Line interleave

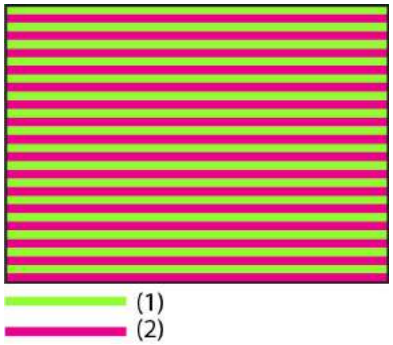


Image 4-44
Line interleave

(1) Odd lines
(2) Even lines

The system alternates the lines between the left and the right eye. It starts with the first line containing the left eye information and the second line containing the right eye information. It continues in that way until a full frame is produced.

Input frame dominance

Only relevant for dual stream input.

The frames are arriving at the same time, but they will be inserted sequentially.

Insert order selection:

- Left (L1, R1, L2, R2 ...)
- Right (R1, L1, R2, L2 ...)

L/R Input Reference GPI

Only relevant if *L/R Input Reference* is set to *Use GPI* 2. Polarity can be true or inverted.

L/R Display Reference

The optional 3D L/R Display Reference signal is used to specify which frame of eye data is to be displayed during a specific display frame. This signal is referenced to the display frame rate which is specified by the Frame Rate Multiplication command. The system will sample this reference in the middle of each display frame, inverting the sample for use during the following display frame.

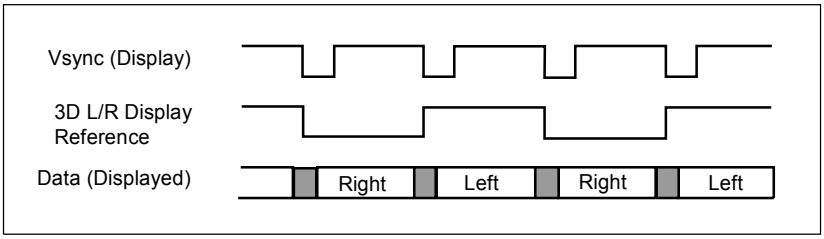


Image 4-45
Relationship of 3D L/R Display Reference and displayed data

L/R Output Reference Polarity

Indicates the polarity of the outgoing reference signal on GPO 1.

The L/R Output Reference signal provides an external reference to the start of dark time for each displayed frame, as well as specifying which frame of eye date (left or right) is being displayed.

It is used to synchronize external polarizer systems, or active polarity glasses.

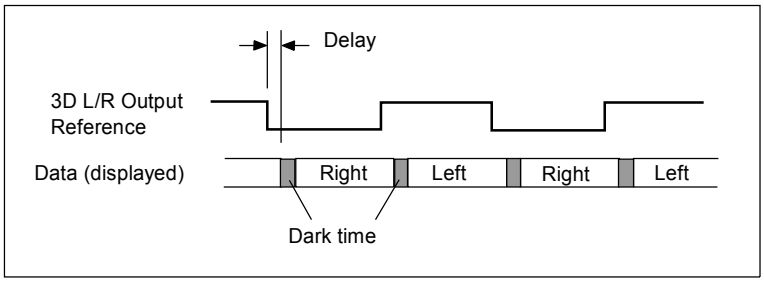


Image 4-46
Output reference - displayed data

Dark Time Adjustment

Between switching the frames the image needs to be black the same time the external devices need to switch (external devices can be 3D Glasses, or polarizing filter).

For 3D applications, systems typically need a period of time where the image projected on the screen is black. This black or “dark time” is used to switch the mechanism that controls what a viewers left eye and right eye sees. This software command is used to adjust the projector dark time to meet the requirements of whatever switching mechanism is being used.

3D dark time adjustment will be disabled (set to 0) whenever 3D is disabled. With 3D enabled and 3D dark time adjustment disabled, the projector will be set to its default dark time of approximately 388 µs. There is no dark time when 3D is disabled.

The system will have a minimum and maximum dark time that can be achieved. If the specified value is smaller than the system can provide, the dark time will be set to the systems minimum value, which will be reported as the actual dark time value. If the specified value is larger than the system can provide, the dark time will be set to the systems maximum value, which will be reported as the actual dark time value.

For 3D applications, systems typically need a period of time where the image projected on the screen is black. This black or “dark time” is used to switch the mechanism that controls what a viewers left eye and right eye sees. For most 3D applications, the system will provide an output reference signal that indicates whether left or right eye data is being displayed, as well as the start of dark time. This signal is the 3D L/R Output Reference.

Output Reference Delay

Delay value from Delay – Time is added to the nominal timing between the displayed dark time and the 3D L/R Output Reference.

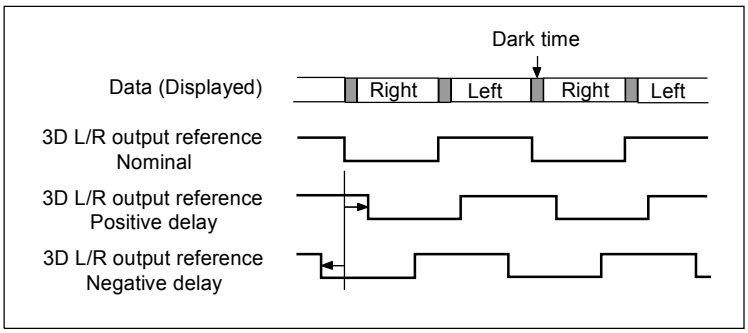


Image 4-47
Delay example for 3D L/R Output Reference

Click on the left or right coarse and fine buttons to adjust the delay.

4.7.3 3D settings, integrated color wheel

Overview

- Start up of the advanced Integrated 3D settings
- Integrated 3D settings (integrated color wheel)
- 3D control

4.7.3.1 Start up of the advanced Integrated 3D settings

How to start up

1. While in *Configuration*, click on **3D**. (image 4-48)

   The *3D* overview is displayed.

2. Click on **3D integrated color wheel** (1).

   The *3D settings integrated color wheel* opens (2).

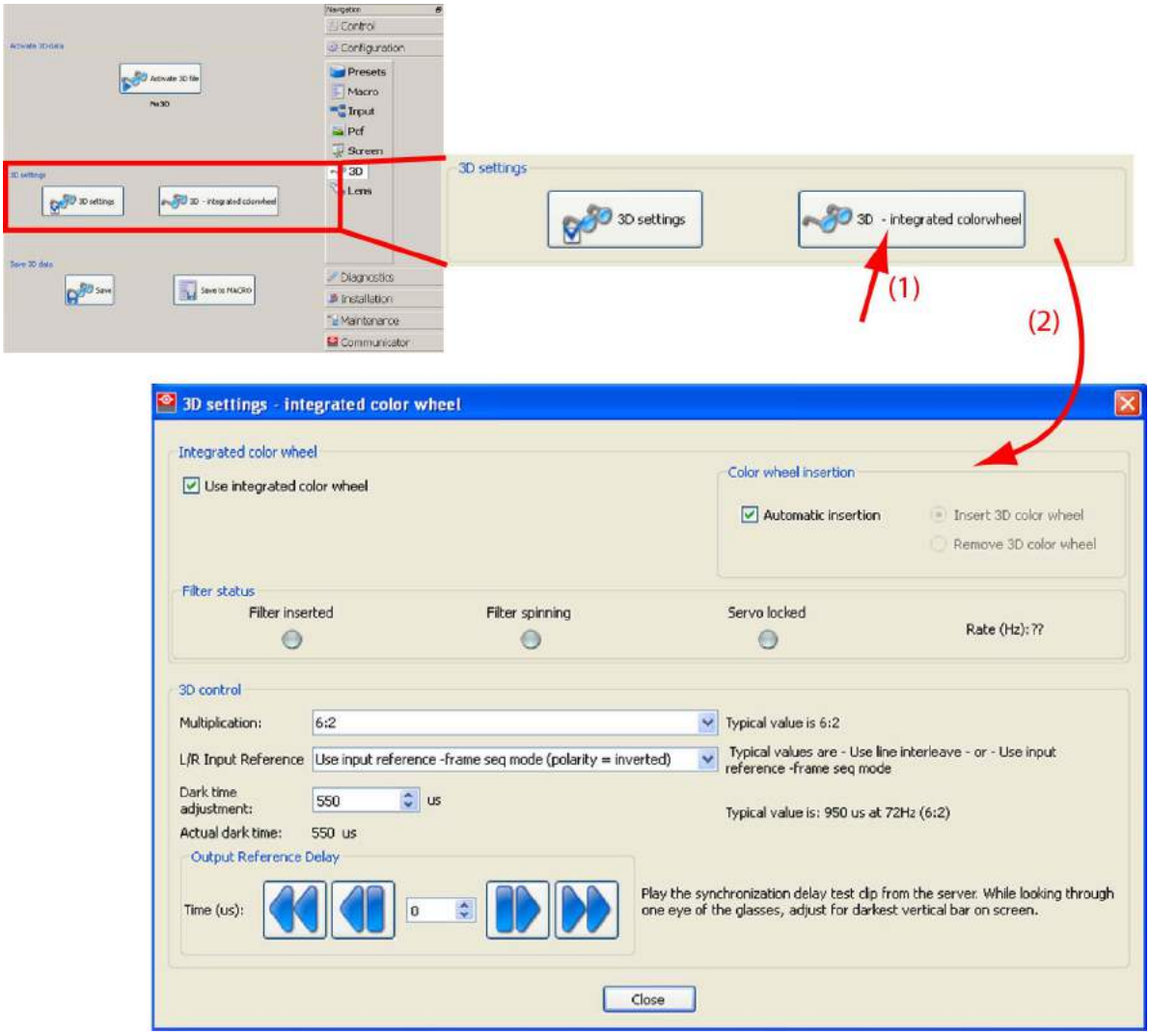


Image 4-48
3D settings with integrated color wheel

4.7.3.2 Integrated 3D settings (integrated color wheel)

3D used/not used

The 3D system uses an integrated color wheel in the light path of the projector. Before that color wheel can be used, the projector has to know if the projector is equipped with such a color wheel or not.

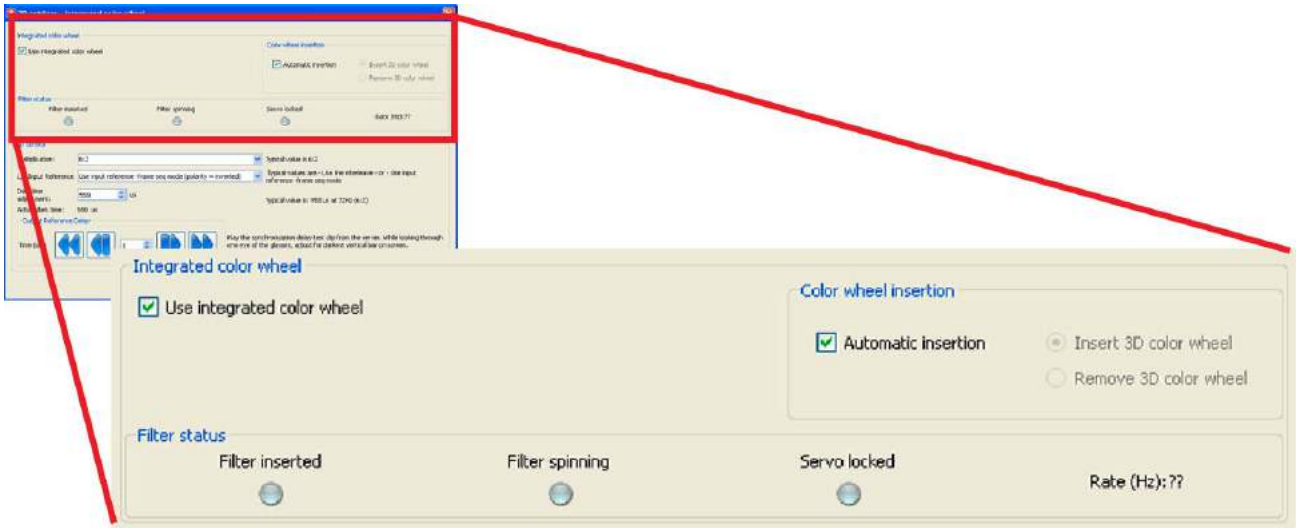


Image 4-49
Filter status

Check the check box in front of *Use the integrated color wheel* to indicate that an integrated color wheel is available. When checked when no such a color wheel is available, an error will be generated.

Color wheel insertion

The color wheel can be inserted automatically or manually.

When Automatically is selected, the color wheel will be inserted automatically when a L/R reference settings is selected different from *3Ddisabled*. When 3D disabled is selected, the color wheel is moved out from the light path.

When automatically insertion is not checked, use the radio buttons next to *Insert 3D color wheel* to insert the color wheel in the light path or *Remove 3D color wheel* to remove the color wheel from the light path.

Filter status

A LED indication show the status of the filter.

These are the possibilities:

Function	LED color	Description
Filter inserted	Gray	filter wheel not inserted in light path
	Green	filter wheel inserted in light path
	Red	integrated color wheel in a position in between. Check the hardware
Filter spinning	Gray	no spinning of the filter wheel
	Green	motor is spinning the filter wheel
Servo locked	Gray	filter wheel servo is not lock on the reference signal
	Green	filter wheel servo is lock on the reference signal

4.7.3.3 3D control

Multiplication

The typical operating mode 6:2.

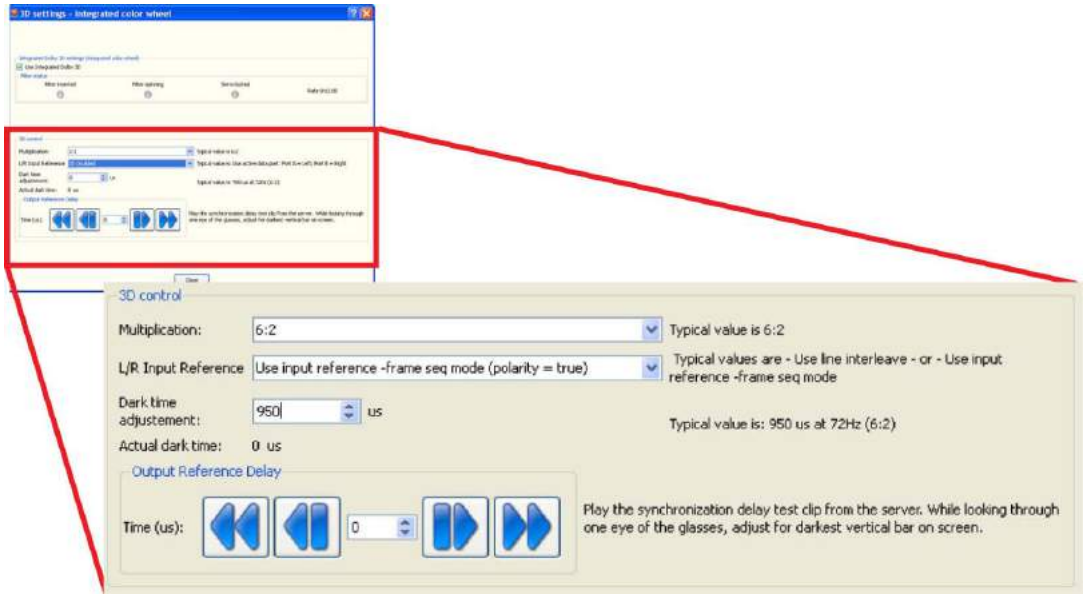


Image 4-50
3D controls

Other operating modes are available but are not used for the moment.

L/R input reference

The Input Reference indicates which frame is Right and which frame is Left

The following choices are possible:

Setting	Description
3D disabled	no 3D images possible
None Provided	no 3D L/R input reference provided
Use assigned GPI (polarity = true)	Can be used for single stream inputs High : Left is Active Low : Right is Active
Use assigned GPI (polarity = false)	Can be used for single stream inputs High : Right is Active Low : Left is Active
Use input reference - frame sequence mode	Use Active data port assignment (for dual port sources) to determine 3D L/R input reference.
Use input reference - frame sequence mode	Use Active data port assignment (for dual port sources) to determine 3D L/R input reference
Use <White Line Code> (polarity = true)	Use “White Line Code” embedded in data stream as 3D L/R input reference.
Use <White Line Code> (polarity = inverted)	Use “White Line Code” embedded in data stream as 3D L/R input reference.

Setting	Description
Use <Blue Line Code> (polarity = true)	Use “Blue Line Code” embedded in data stream as 3D L/R input reference.
Use <Blue Line Code> (polarity = inverted)	Use “Blue Line Code” embedded in data stream as 3D L/R input reference.

The color will be inserted into the light path as soon as the l/R input reference is not set to *3D Disabled*. If you want to control the insertion of the color wheel from a macro, you should use an extra file with the L/R input reference to a value that is not 3D disabled, typically use active data port: *Port A = Left, Port B = Right*

Dark Time Adjustment

Between switching the frames the image needs to be black.

For 3D applications, systems typically need a period of time where the image projected on the screen is black. This black or “dark time” is used to switch the mechanism that controls what a viewers left eye and right eye sees. This software command is used to adjust the projector dark time to meet the requirements of whatever switching mechanism is being used.

3D dark time adjustment will be disabled (set to 0) whenever 3D is disabled. With 3D enabled and 3D dark time adjustment disabled, the projector will be set to its default dark time of approximately 900 µs. There is no dark time when 3D is disabled.

The system will have a minimum and maximum dark time that can be achieved. If the specified value is smaller than the system can provide, the dark time will be set to the systems minimum value, which will be reported as the actual dark time value. If the specified value is larger than the system can provide, the dark time will be set to the systems maximum value, which will be reported as the actual dark time value.

For 3D applications, systems typically need a period of time where the image projected on the screen is black. This black or “dark time” is used to switch the mechanism that controls what a viewers left eye and right eye sees. For most 3D applications, the system will provide an output reference signal that indicates whether left or right eye data is being displayed, as well as the start of dark time. This signal is the 3D L/R Output Reference.

Output Reference delay

The output reference delay shifts the output reference signal. That results in the best 3D viewing with the least possible crosstalk between eyes.

If you require corrective lenses to see a cinema screen clearly, be sure you have them available.

To adjust the reference delay, handle as follow:

1. Start the synchronization delay test clip on the server.
2. Put on the glasses and view the screen, covering or closing first one eye and then the other. Do not adjust the reference delay value with both eyes open.

3. Start e.g. with the left eye, adjust the delay until the white stripes disappear in the black column. Continue with the right eye and adjust the delay again.

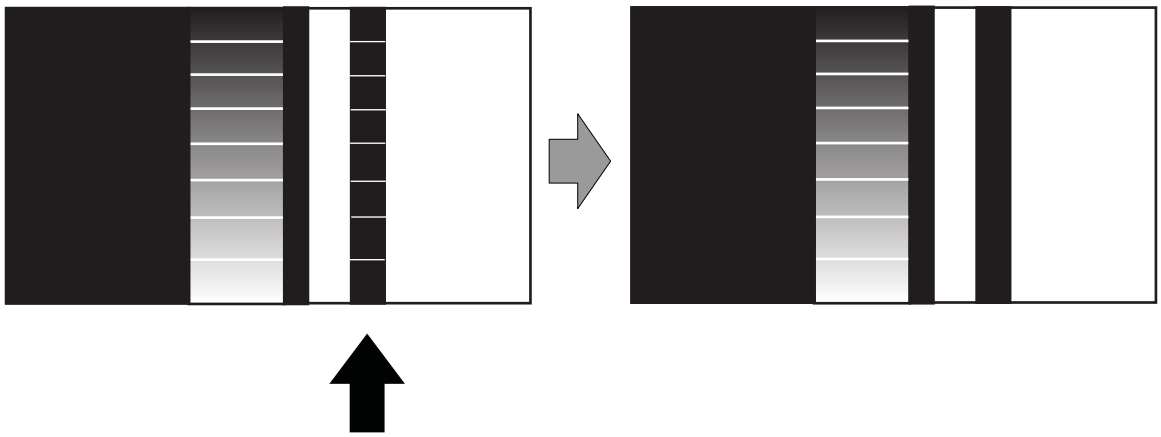


Image 4-51
Left eye delay test content

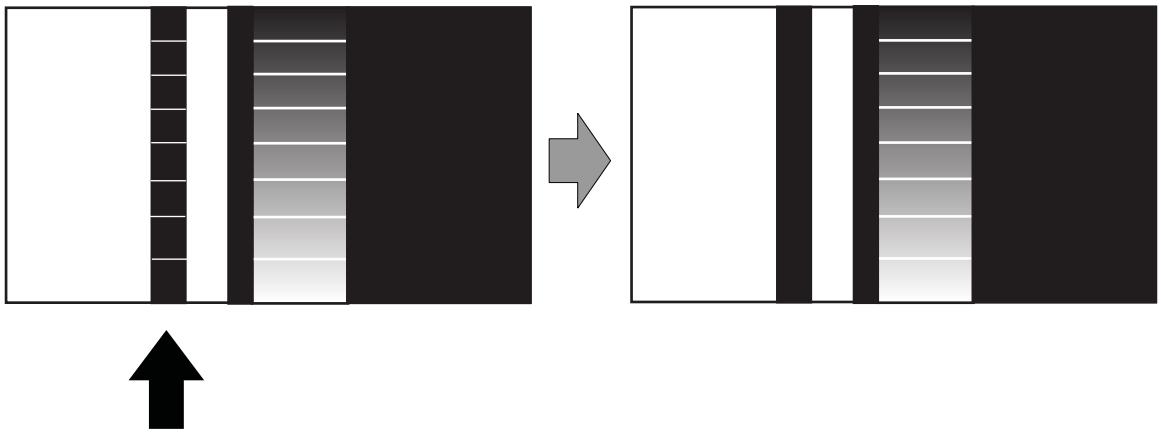


Image 4-52
Right eye delay test content

4. When the left and right eye image appear superimposed the Reference delay is not correctly optimized. Repeat the procedure.

4.7.4 Save to file

What can be done ?

The new 3D information can be saved in a new or existing file. This file can be used in different macros.

How to save

1. While in *Configuration*, click on **3D**.

   The *3D* overview is displayed.

2. Click on **Save** (1). (image 4-53)

   The file selection window starts up (2).

3. Select an existing file to overwrite (3a) or click in the filename input field and enter a new file name (3b).

4. Click **Save** (4).

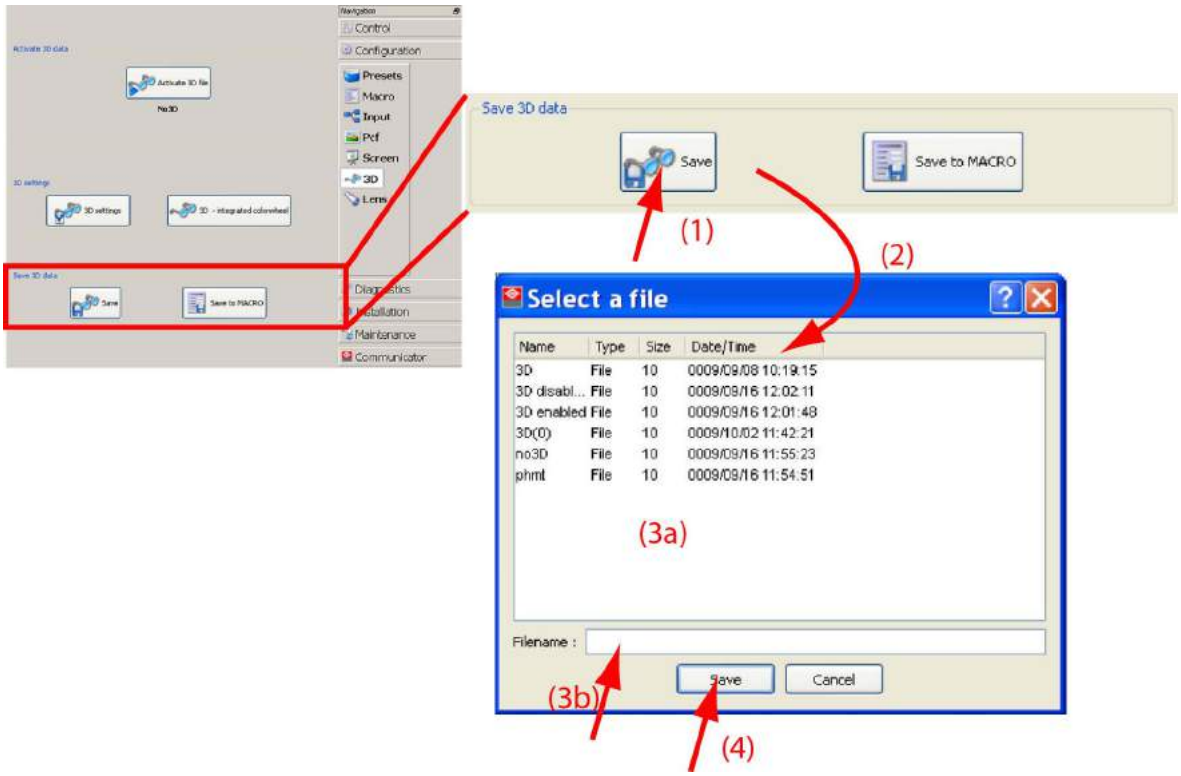


Image 4-53
Save 3D data to file

4.7.5 Save to Macro

What can be done?

The new 3D data can be saved in a new or existing macro file.

How to save

1. While in *Configuration*, click on **3D**.

   The *3D* overview is displayed.

2. Click on **Save to Macro**. (image 4-54)

   The *Save to macro wizard* starts up.

   For more information about save to macro, see "Macro editor", page 239.

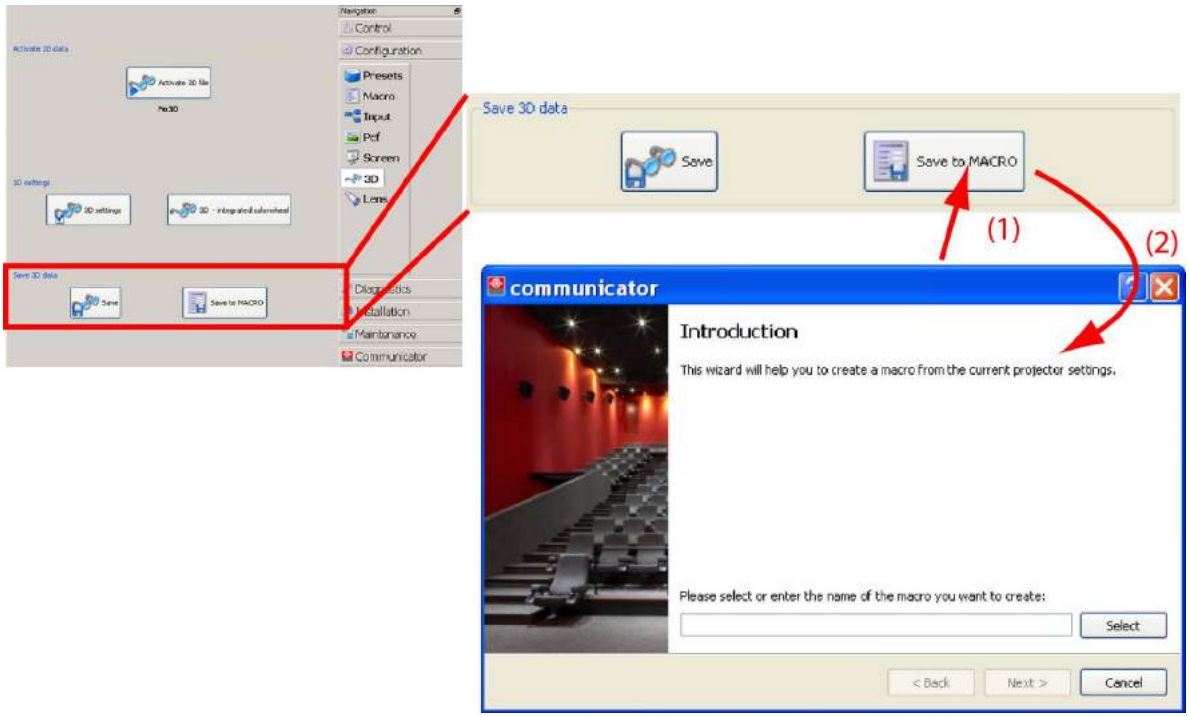


Image 4-54
Save to macro

4.8 Lens

Overview

- Current lens
- Activate Lens file
- Lens shift and focus
- Save to file
- Save to macro

4.8.1 Current lens

Overview

The current lens is indicated at the bottom of the lens overview pane. It is given with the article number and the full description of the lens.

Image 4-55
Current lens

4.8.2 Activate Lens file

When the lens parameters are not selected, you will be prompted to select the correct lens that is used in conjunction with this projector. The lens parameters dialog box opens.

How to activate

1. While in *Configuration*, click on **Lens**.

   The *Lens* overview is displayed.

2. Click on **Activate LENS file** (1). (image 4-56)

   The *Select a file* window opens (2).

3. Browse to the desired LENS file and click on it to select (3).

4. Click on **OK** (4).

   The selected LENS file is activated. The name of the file is indicated below the **Activate LENS file** button.

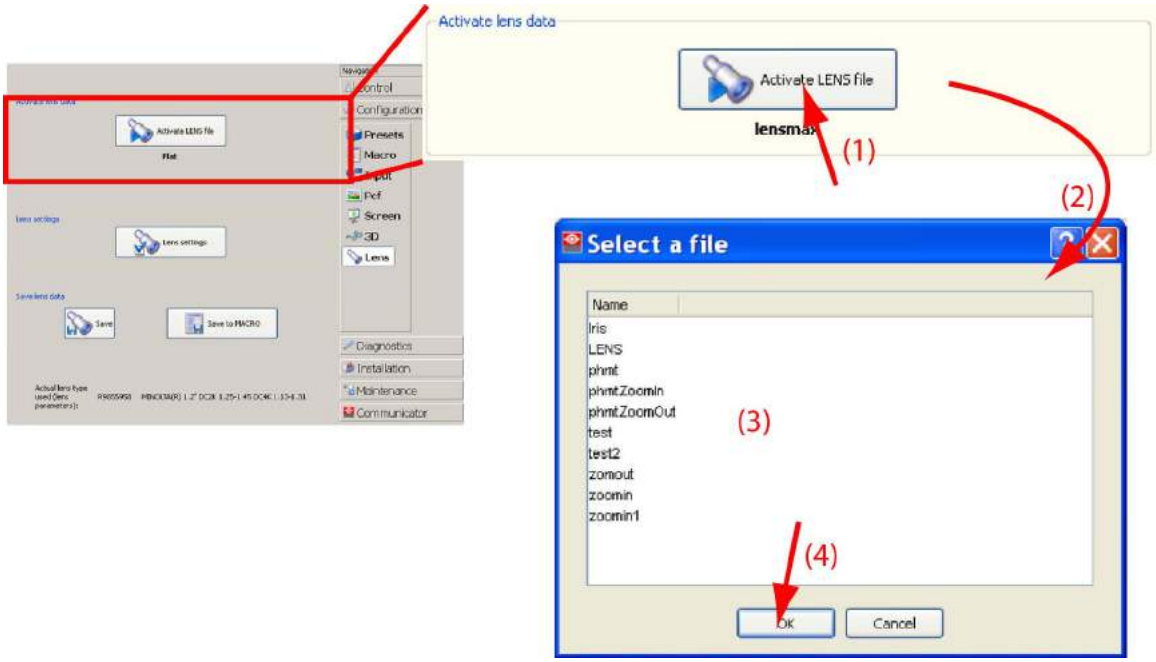


Image 4-56
Activate lens file

4.8.3 Lens shift and focus

Only possible for projectors equipped with motorized lenses.

How to adjust the lens

1. While in *Configuration*, click on **Lens**.

   The *Lens* overview is displayed.

2. Click on *Lens Settings*. (image 4-57)

   The lens adjustment settings window is displayed.

3. To shift the image, click on the arrow buttons under *Lens shift*.
   Note: *Use the pattern short cut keys at the right side to activate or deactivate an test pattern.*

   Note: *When pressing several times after each other on the same button, an acceleration of the movement starts.*

   The image can be moved left-right and up-down.
4. To zoom the image, click on the arrow buttons under *Lens zoom*.
5. To focus the image, click on the arrow buttons under *Lens focus*.

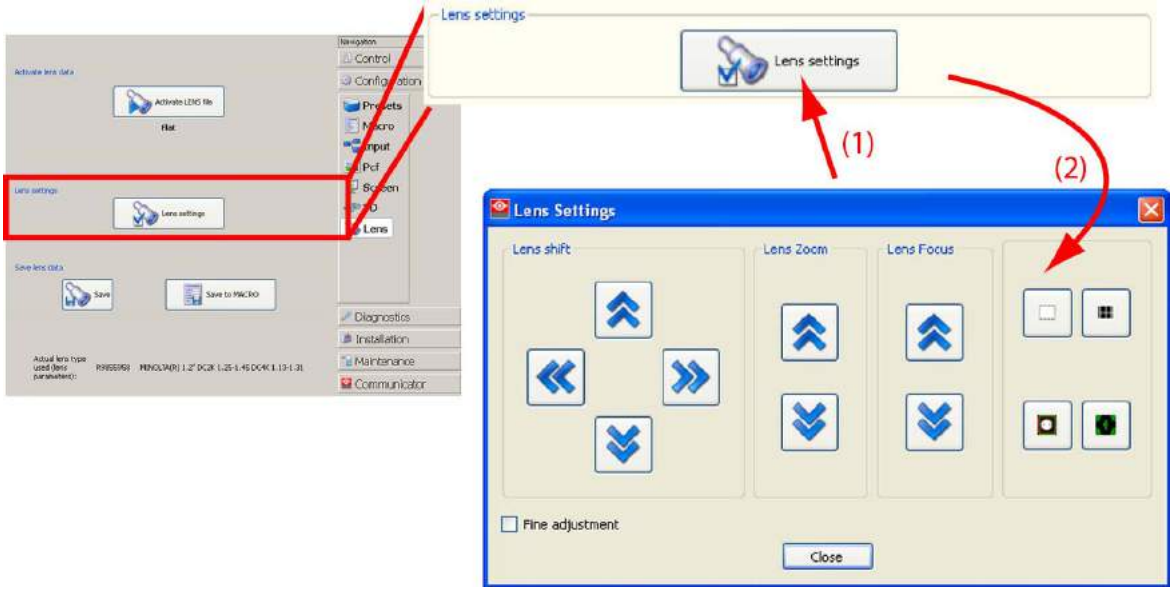


Image 4-57
Lens settings

Check *Fine adjustment* to switch off the acceleration function of the buttons.

4.8.4 Save to file

What can be done?

The new Lens data can be saved in a new or existing file. This file can be used in different macros.

When the lens parameters are not selected, you will be prompted to select the correct lens that is used in conjunction with this projector. The lens parameters dialog box opens.

How to save

1. While in *Configuration*, click on **Lens**. (image 4-58)

   The *Lens* overview is displayed.
2. Click on **Save** (1).

   The file selection window starts up (2).
3. Select an existing file to overwrite (3a) or click in the filename input field and enter a new file name (3b).
4. Click **Save** (4).

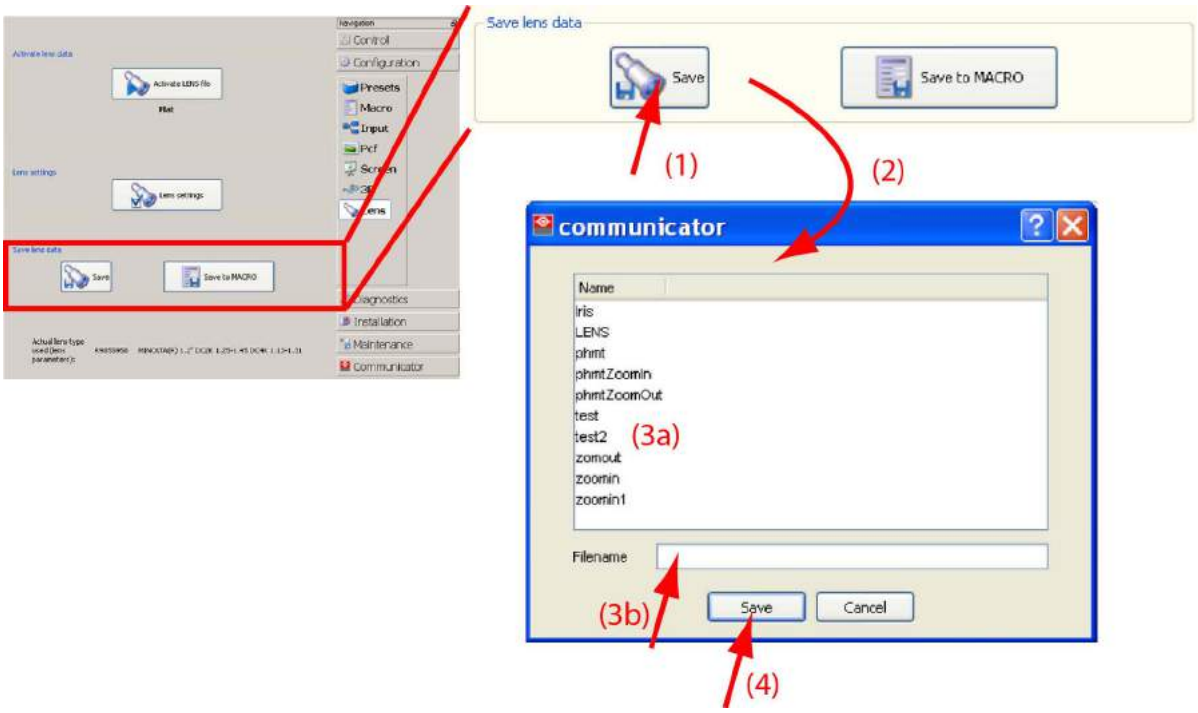


Image 4-58
Save lens data to file

4.8.5 Save to macro

What can be done?

The new Lens data can be saved in a new or existing macro file.

How to save

1. While in *Configuration*, click on **Lens**.

   The *Lens* overview is displayed.

2. Click on **Save to Macro**. (image 4-59)

   The Save to macro wizard starts up.

   For more information about save to macro, see "Macro editor", page 239.

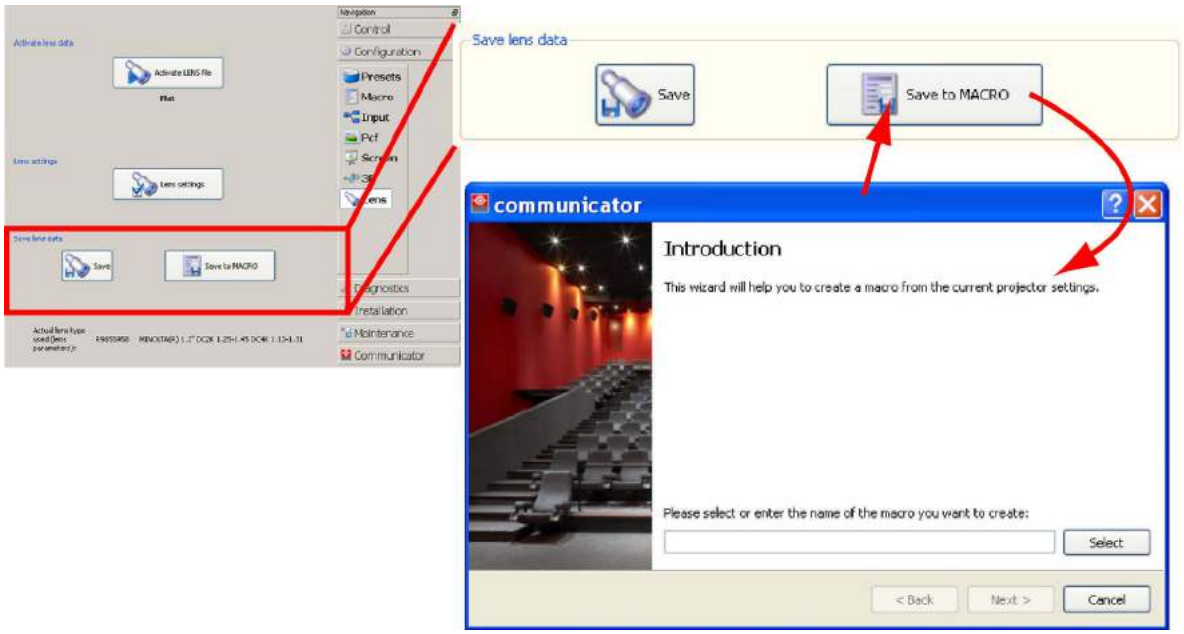

Control
Configuration
Presets
Macro
Input
Pcf
Diagnostics
Installation
Maintenance
Communicator
Save lens data
Save
Save to MACRO
communicator
Introduction
This wizard will help you to create a macro from the current projector settings.
Please select or enter the name of the macro you want to create:
Select
< Back
Next >
Cancel

Image 4-59

5. DIAGNOSTICS

Overview

- Actual diagnostics
- History, logging
- Version info
- Diagnostic package
- Tests
- CineCanvas

5.1 Actual diagnostics

5.1.1 Error messages

Overview

The scroll list gives an overview of the current errors inside the projector. The errors are given with an identifier (error number) and a description.

Each error line ends on a question mark symbol. Click on that question mark symbol to see a *Diagnostic Companion* window.

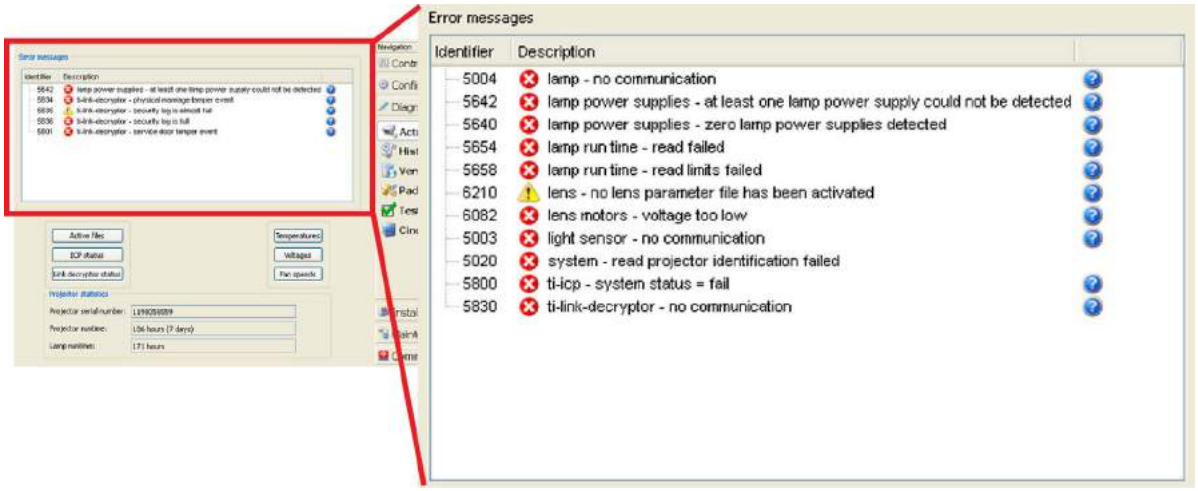


Image 5-1
Error messages

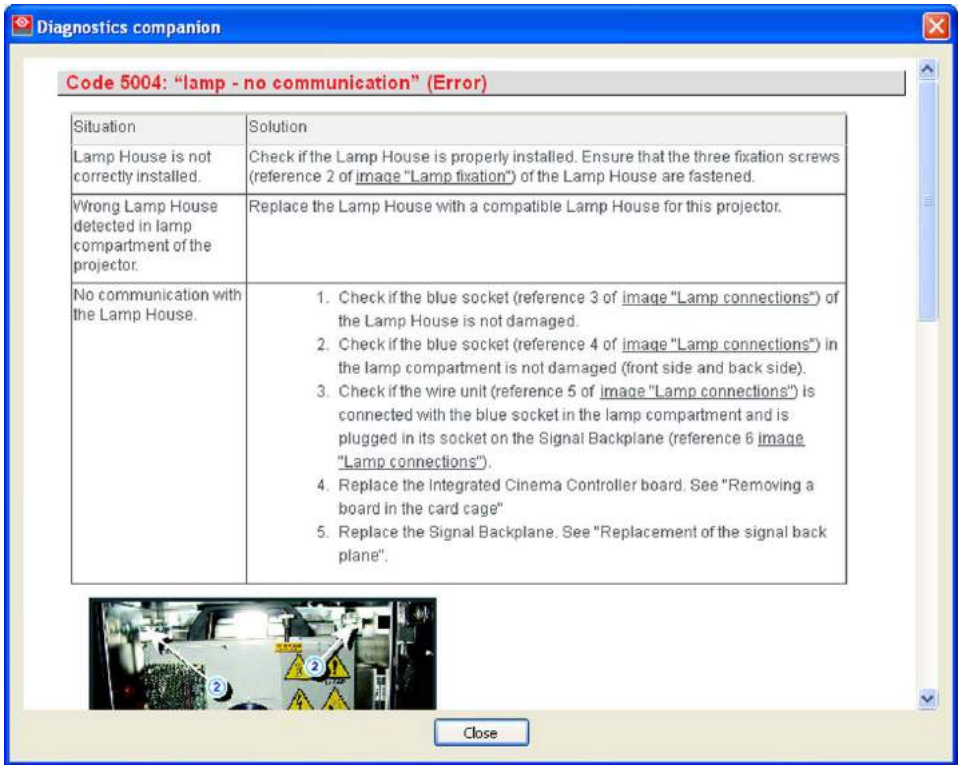


Image 5-2

This diagnostic companion window gives for a given situation a possible solution. For a certain error number, multiple situations and solutions are possible and are helpful to solve the error.

5.1.2 Integrated cinema controller

ICP

Integrated Cinema Processor

For projectors with integrated mediablock, only the ICP status button is available.

How to select

1. While in *Diagnostics*, click on **Actual**.

   The *Actual* overview pane is displayed.

2. Click on **ICP status** (1). (image 5-3)

The integrated cinema processor status opens (2).
The following statuses are given:

- General status
  - System status
  - System self test
- Software status
  - Load release package
  - Install release package
  - FMT mode operation: OK = normal mode, otherwise it can be in boot mode.
  - ICP mode operation: OK = normal mode
- Error messages
- Hardware: installed ICP type

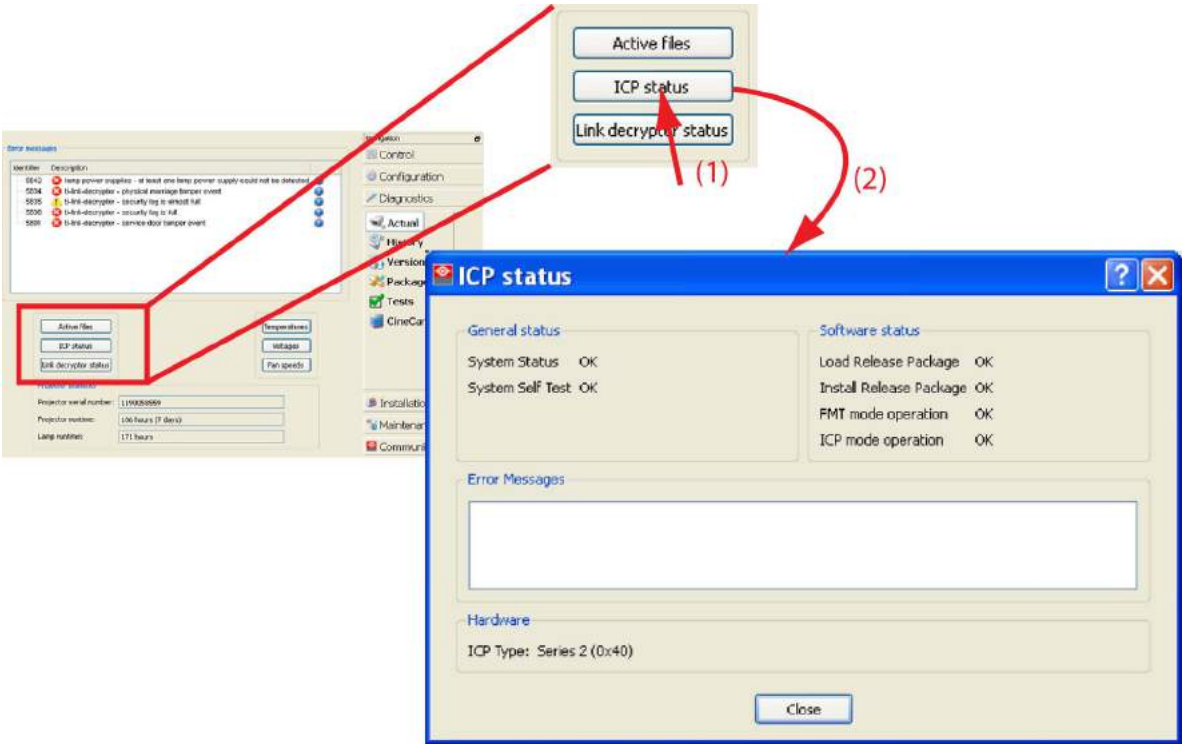


Image 5-3
ICP status

5.1.3 Link decryptor

Only for projectors without integrated mediablock.

What is done ?

Encrypted input signals are decrypted on the link decrypting unit which is protected with a security enclosure to avoid making illegal copies.

How to display the status

1. While in *Diagnostics*, click on **Actual**.

   The *Actual* overview pane is displayed.

2. Click on **Link decryptor**. (image 5-4)

The link decryptor status is displayed.
The following status are given:

- General status
  - System status
  - System self test
  - Marriage
  - HD-SDI Link A
  - HD-SDI Link B
- Error messages: overview of the error messages on the link decryptor unit.

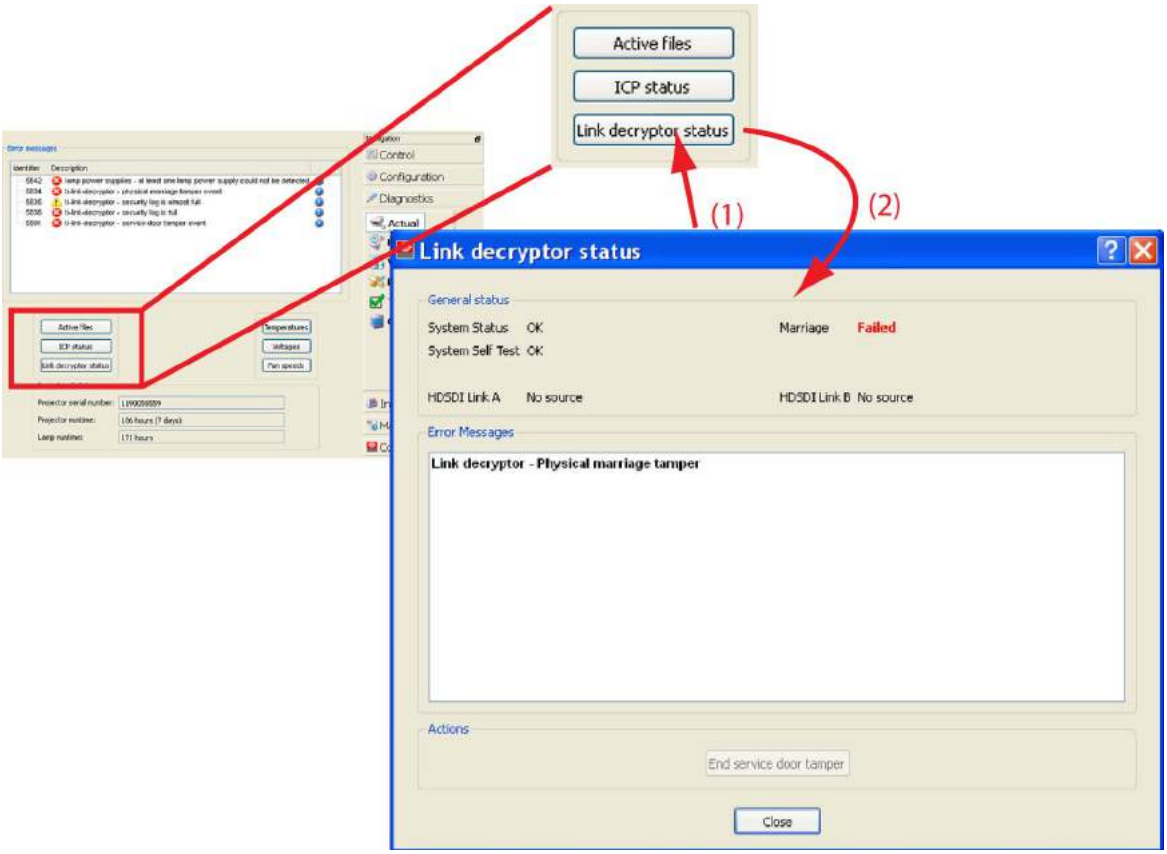


Image 5-4
Link decrypting status

About Marriage

The ICP board and HD-SDI input board are linked together. These board should always be replaced together. Replacing only one board will introduce Logical marriage tamper. The link decryptor will stop decrypting images with no image as result.

A marriage tamper can be cleared with the dallas key mechanism.

Actions

To clear a service door tamper only. Will only be accessible when the Service door tamper is active.

Click **Yes** to clear the tamper.

5.1.4 Active files

What is possible ?

All current active files in the projector can be listed in a separate window.

How to display

1. While in *Diagnostics*, click on **Actual**.

   The *Actual* overview pane is displayed.

2. Click **Active files...** .. (image 5-5)

   A separate window opens with all active files.
   Information about the response in the file name column:

   - <DEFAULT> : Default data was used (typically when a PCF is loaded which does not specify some settings)
   - <CALCULATED> : Typical return for CSC-P7 data, since this data is calculated each time new MCGD or TCGD data is entered
   - <DIRECT> : Used when data are directly changed by the user, not with the means of a file (typically values in the PCF editor)
   - <COLORS-MIXED> : Used for LUT-DG when actively updated with a file for only one color
   - <TESTPATTERN> : Used when values have been modified for showing a test pattern (original values are restored after clearing the test pattern)

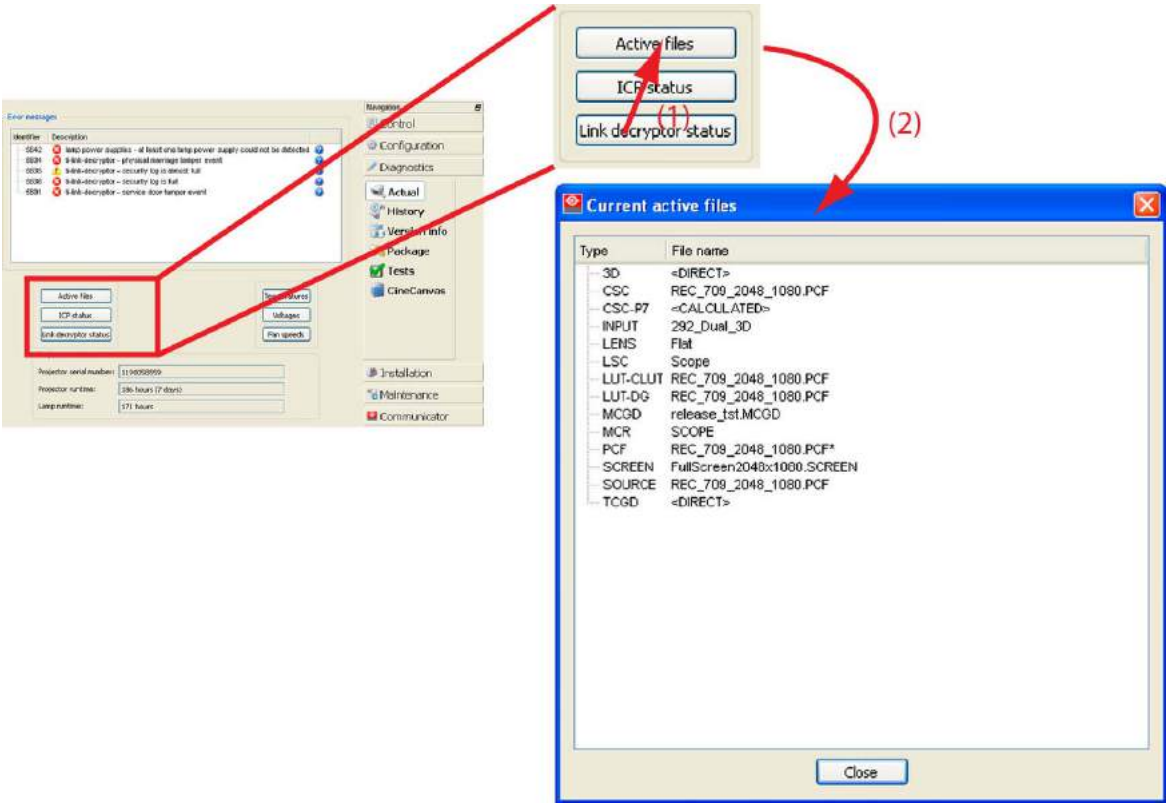


Image 5-5
Active files

5.1.5 Diagnostics about other electronics

Temperatures

When one of the temperatures are out of specification, the indication will be in red.

To see the maximum allowed temperature and the maximum warning and minimum warning temperature, click on the '+' in front the item. The tree expands and shows for the selected item the 3 values.

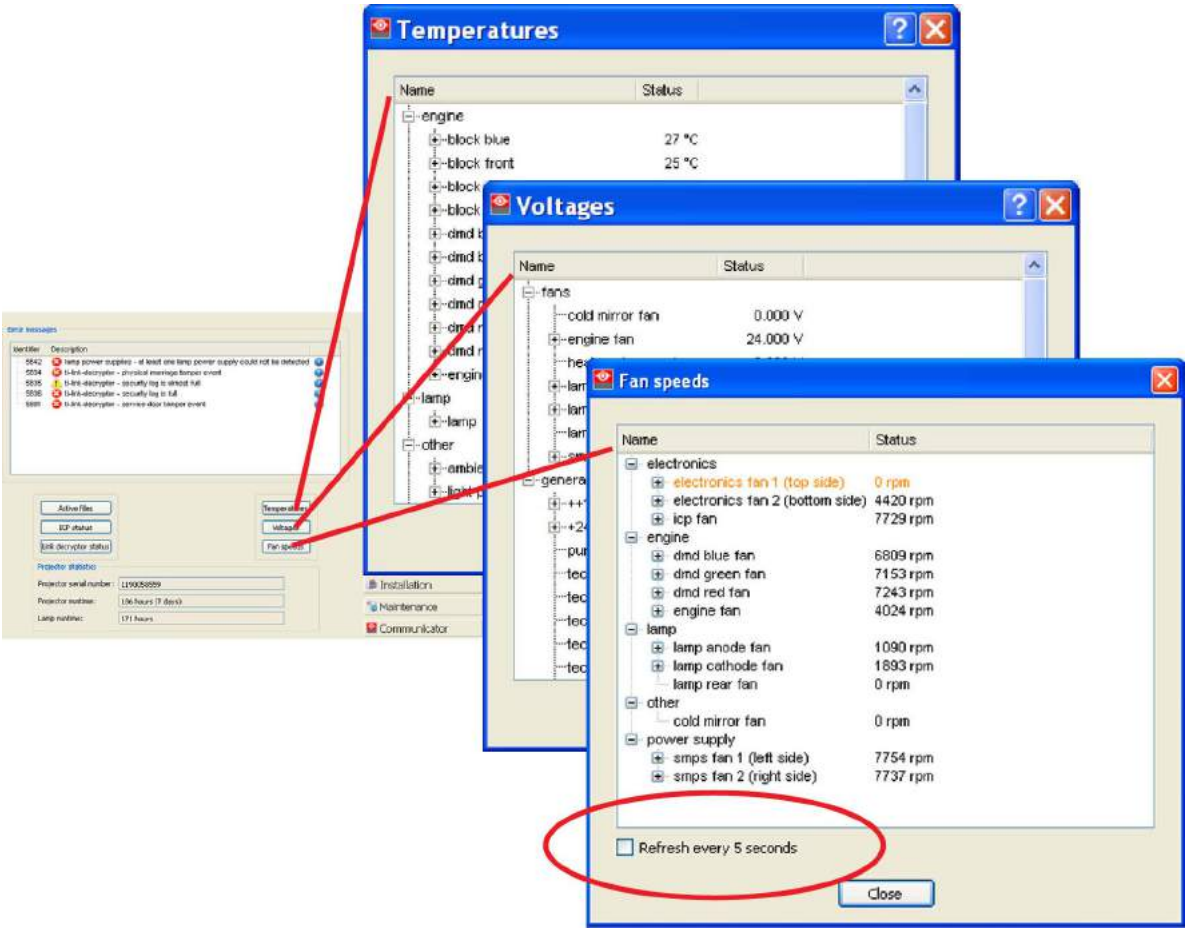


Image 5-6

Voltages

When one of the voltages are out of specification, the voltage indication will be in red.

To see the allowed limits and the warning limits, click on the '+' in front the item. The tree expands and shows for the selected item the values.

Fan speed

If one of the fans fail, the corresponding indication will be displayed in red.

To see the allowed limits and the warning limits, click on the '+' in front the item. The tree expands and shows for the selected item the values.

Automatic refresh is possible by checking the check box in front of *Refresh every 5 seconds*.

5.1.6 Projector information

Projector serial number

Indicates the serial number of the projector.

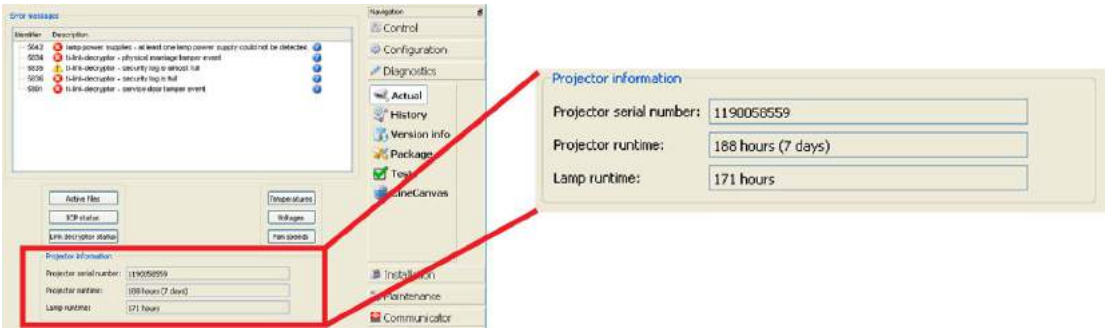


Image 5-7
Projector diagnostics

Projector run time

Indicates the time the projector has run since it first start up. The indication is given in hours and in days.

Lamp run time

Indicates the time the lamp was on since it first start up.

5.2 History, logging

Overview

- ICP history logging
- Projector log file
- Projector lamp power supply

5.2.1 ICP history logging

About the ICP history log file

When something goes wrong on the ICP board, a logging of this failure is done in the ICP history log file.

Get log file

1. While in *Diagnostics*, click on **History**.

   The *History log* selection menu is displayed.

2. Click on **Read history log file** next to *ICP*. (image 5-8)

   The downloaded log file contains the information of the 27 days.

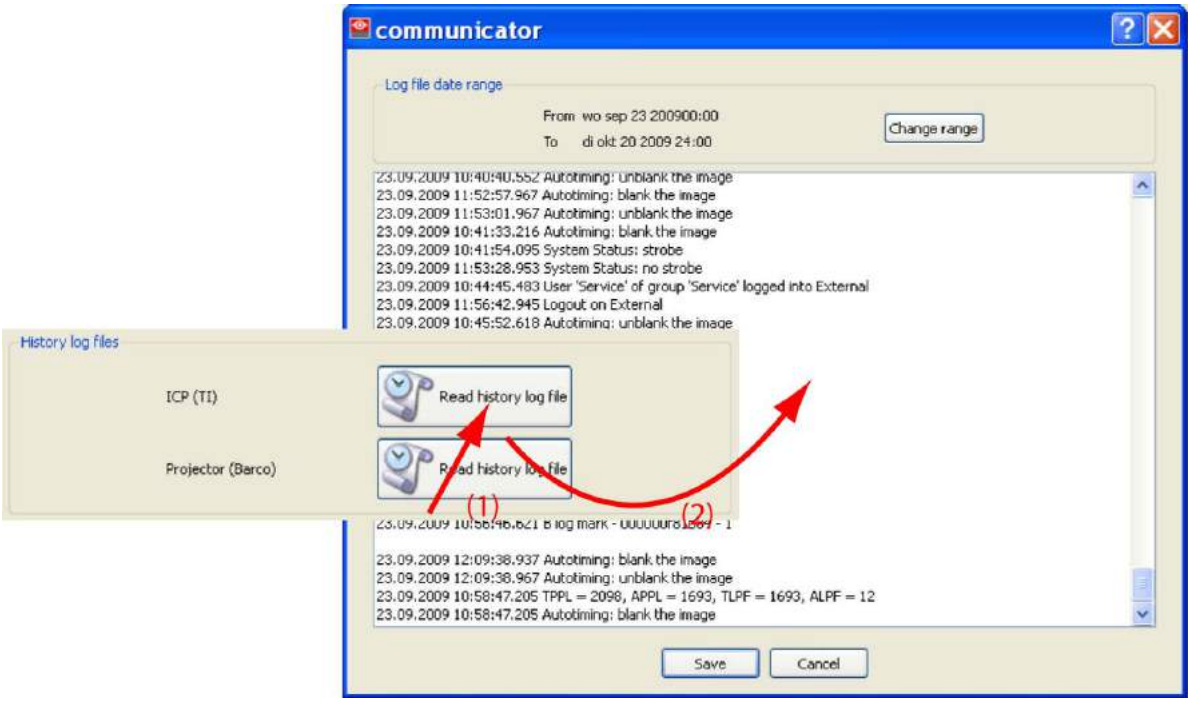


Image 5-8
ICP history log

Save logging

1. Click on **Save** (1). (image 5-9)

   A window browser opens (2).

2. Browse to the desired location (3).
3. If desired, change the proposed name (4)
4. Click **Save** (5)

   The log file is saved as a txt file.

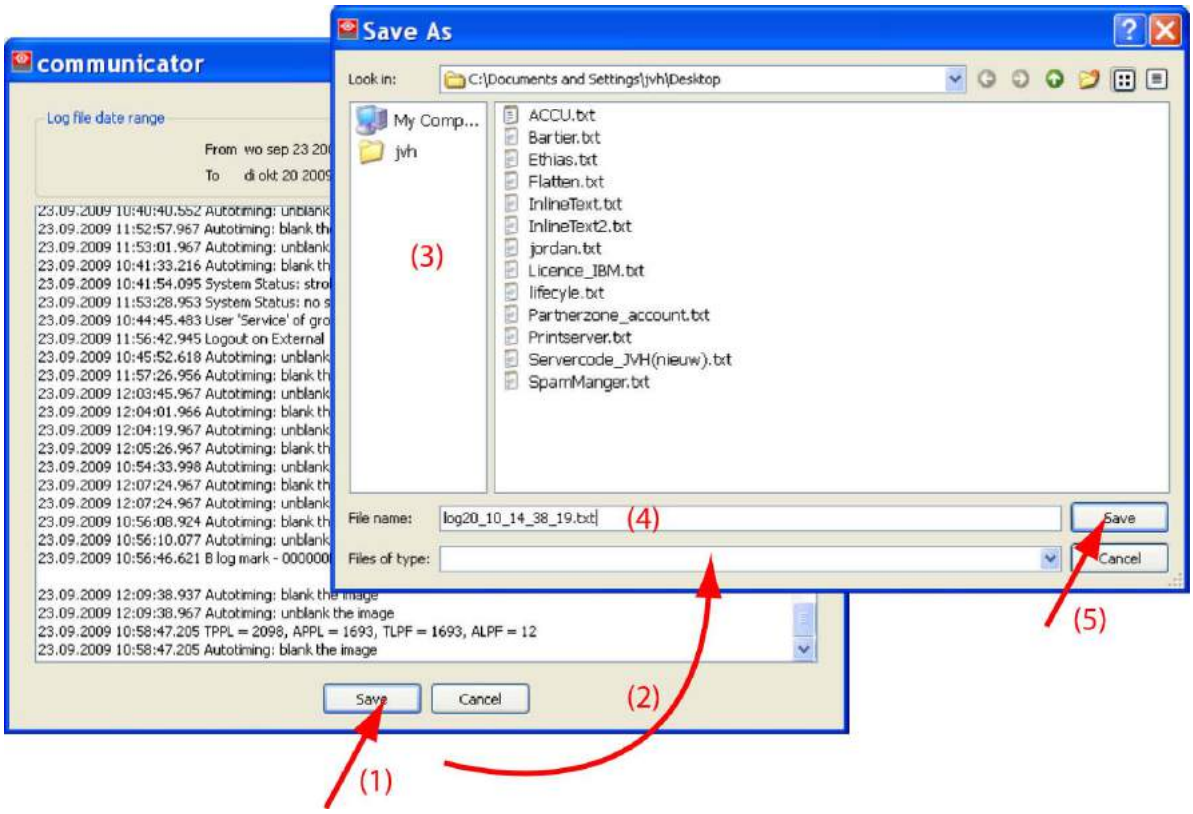


Image 5-9

5.2.2 Projector log file

About projector history log file

When something goes wrong inside the projector, a logging of the failure is done in the projector history log file.

Get log file

1. While in *Diagnostics*, click on **History**.

   The *History log* selection menu is displayed.

2. Click on **Read history log file** next to *Projector (Barco)*. (image 5-10)

   The log file is downloaded via an FTP connection.

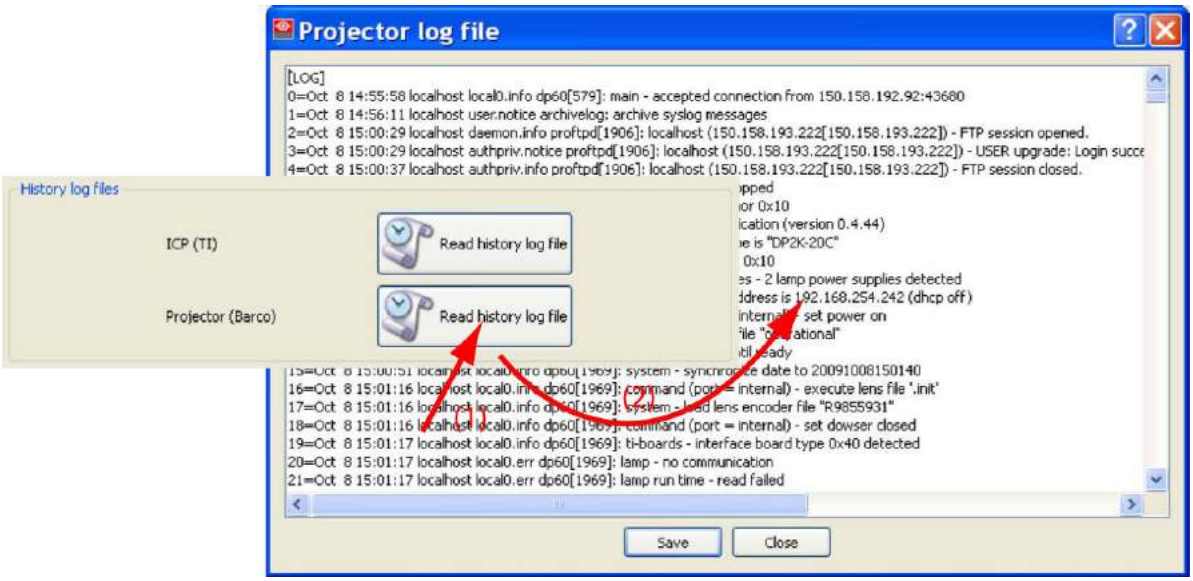


Image 5-10
Projector log file

Save logging

1. Click on **Save** (1). (image 5-11)

   A window browser opens (2).

2. Browse to the desired location (3).

3. If desired, change the proposed name (4)

4. Click **Save** (5)

   The log file is saved as a txt file.

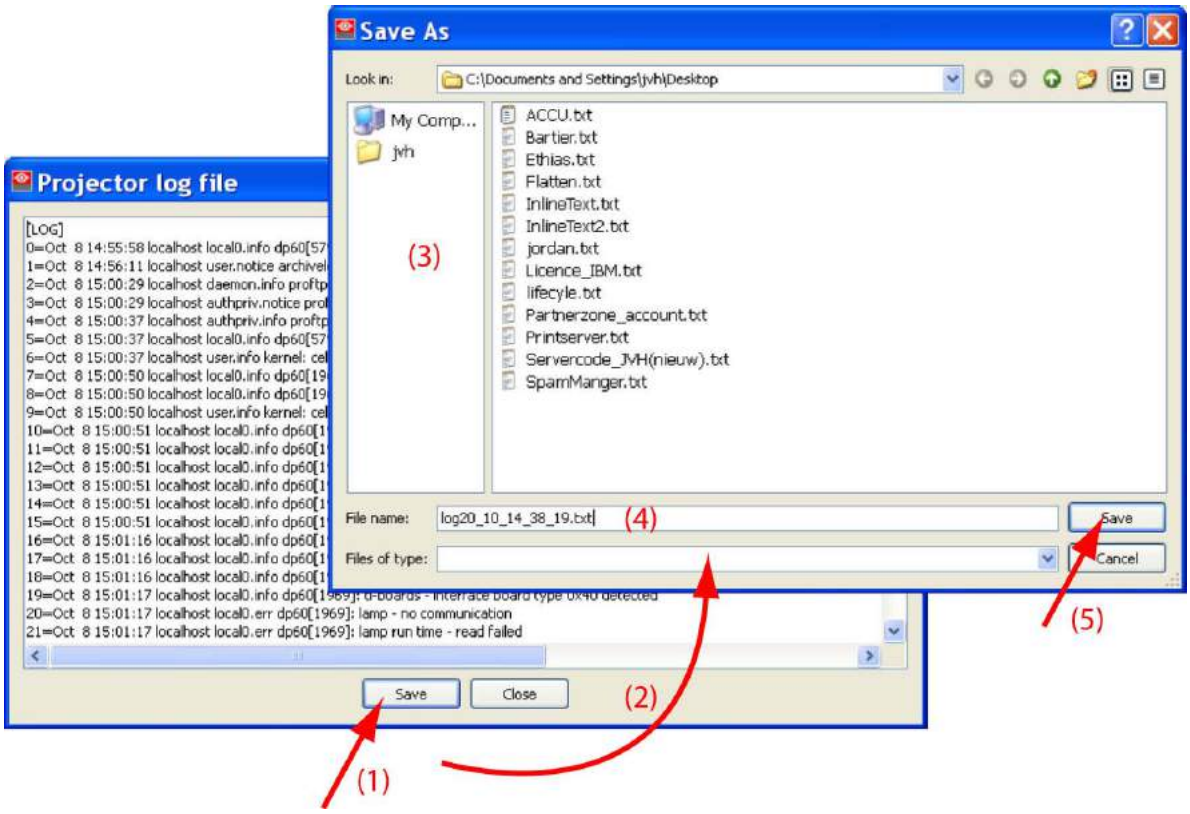


Image 5-11
Save projector log file

5.2.3 Projector lamp power supply

Get log file

1. While in *Diagnostics*, click on **History**.

   The *History log* selection menu is displayed.

2. Click on **Read history log file**.

   The log file is downloaded.

5.3 Version info

Get version info

While in *Diagnostics*, click on **Version info** to get an overview of the projector and TI software. Click on the '+' before an item to see more in detail the current software version. An asterisk is added next to the item which is different in the installed software and the package version.

Version info is split up in a Barco part, package indicated next to the projector name, a TI part and a TI enigma part.

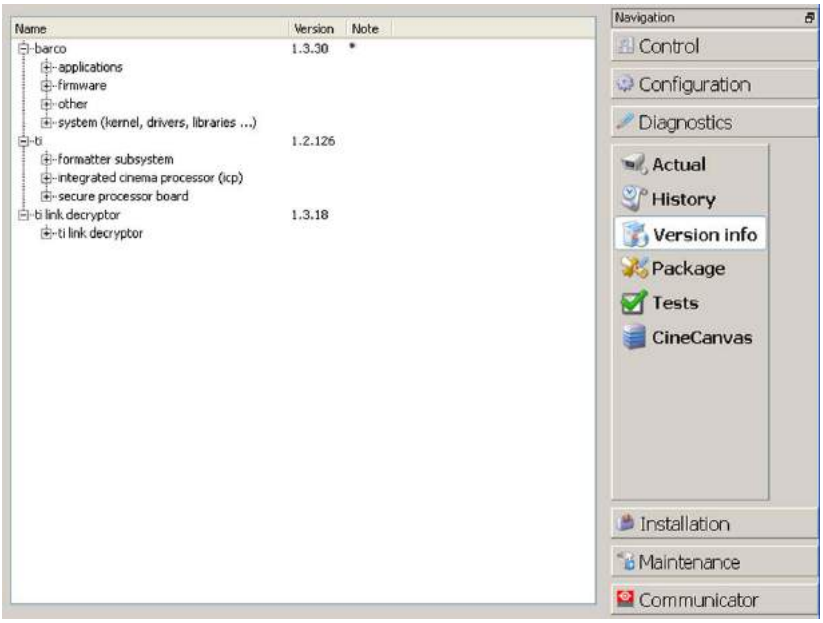


Image 5-12
Version info

5.4 Diagnostic package

About a diagnostic package

A zip file with all diagnostic files and relevant projector properties inside is created and can be sent to the service technician for further analyze. Or this diagnostic package can be opened with the diagnostic package reader included in the PC version of the Communicator software.

How to create

1. While the *Diagnostic* tab is open, click on **Package** (1). (image 5-13)

   The package pane opens.

2. Click on **Create diagnostics package** (2).

   A *Save* window opens.

3. Browse to the storage location (3).

4. If the proposed file name is not OK, change this file name (4) and click **Save**.

   The diagnostics package creation starts (5).

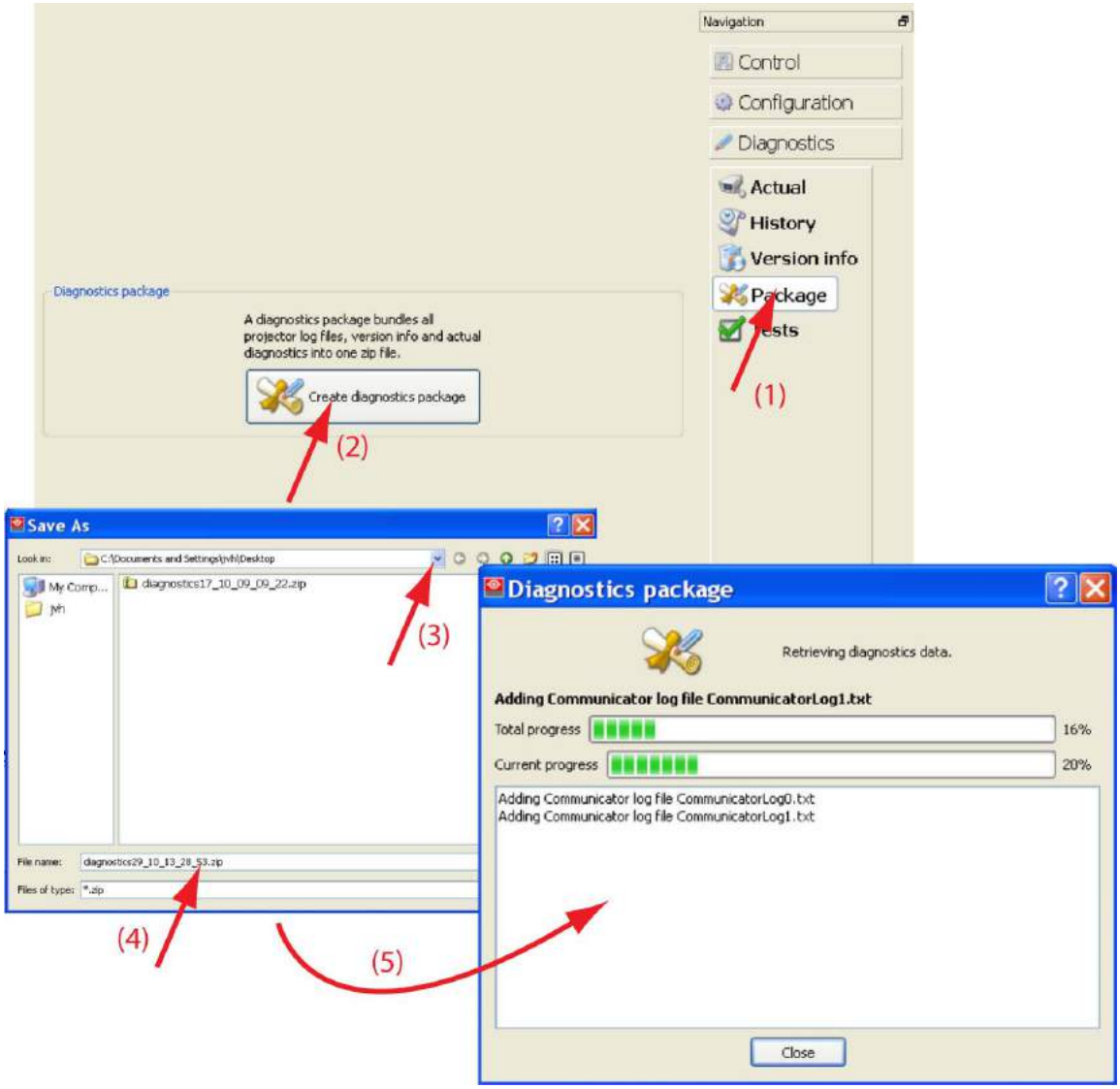


Image 5-13
Diagnostic package

5.5 Tests

5.5.1 Tests, Video path

Test patterns used in the video path are adapted according the connected projector.
4K projector will use 4K test patterns, 2K projector will use 2K test patterns.

5.5.1.1 Diagnostic companion, Video path start up

How to start up

1. While in *Diagnostics*, click on **Tests**
   The *Tests* overview page is displayed.
2. Click on **Video path**. (image 5-14, image 5-15)

The *Diagnostic companion* window opens.

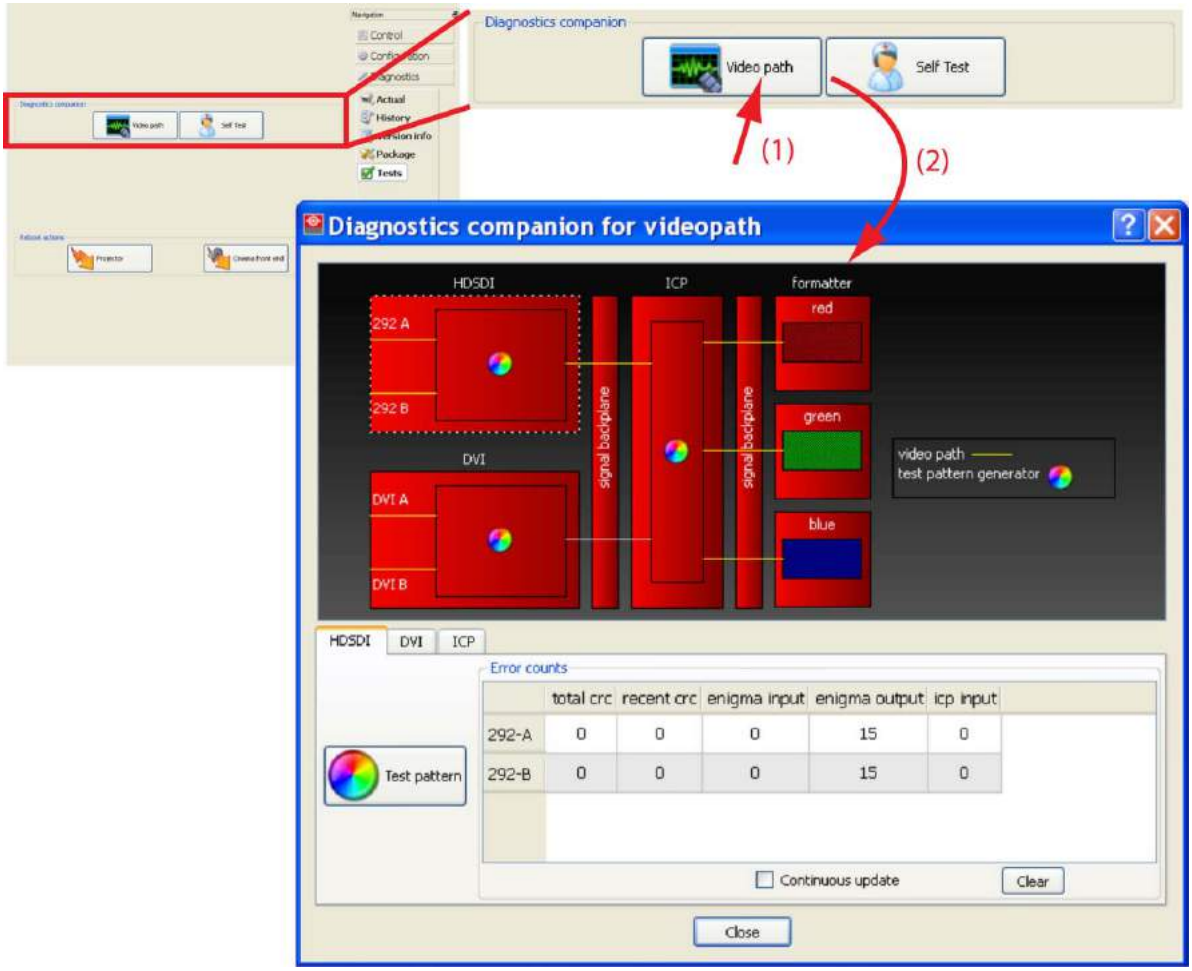


Image 5-14
Diagnostic companion window for videopath ,DPxK B & C-series

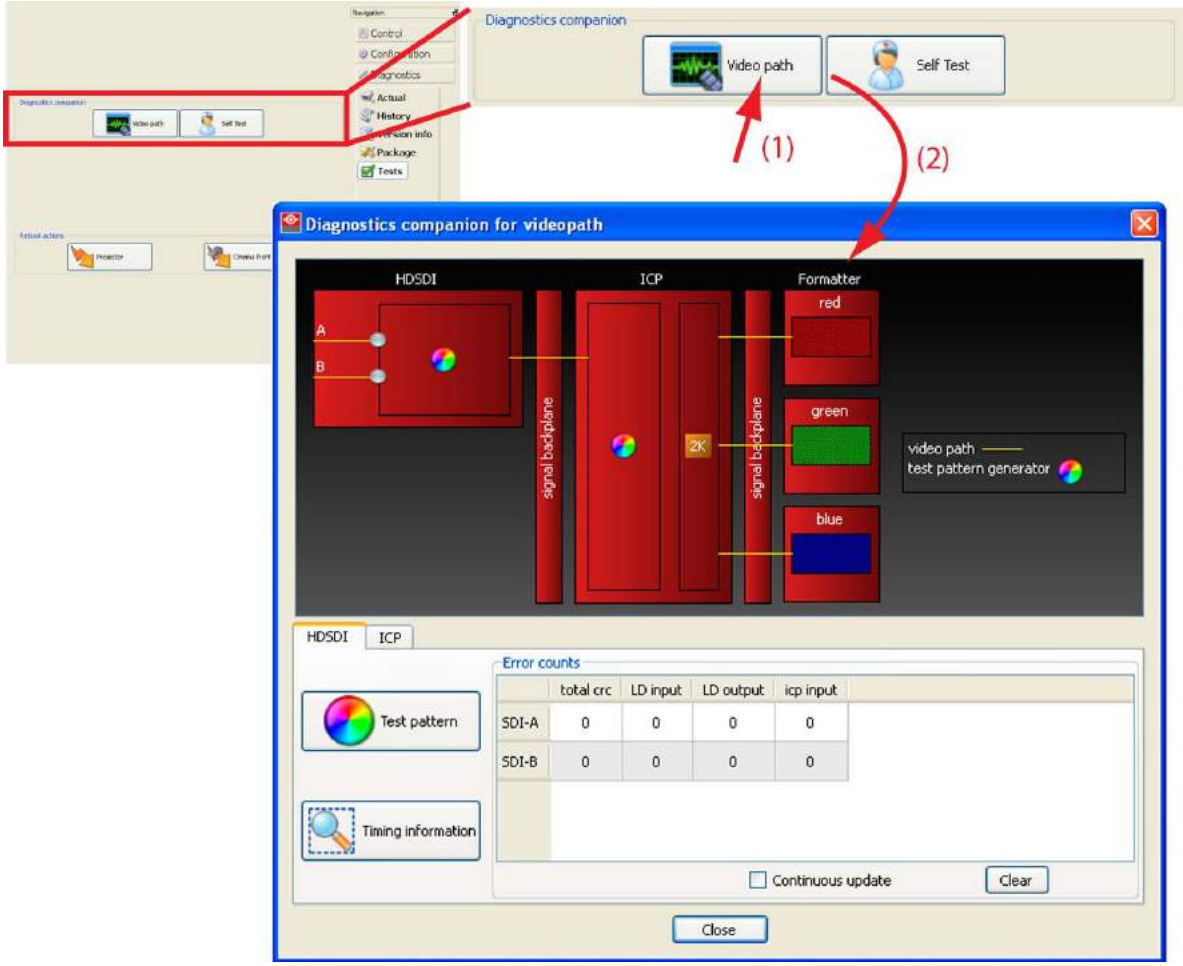


Image 5-15
Diagnostic companion window for videopath, DP2K S-series

5.5.1.2 Display a HD-SDI test pattern

How to display

1. Click on the tab page **HD-SDI** (1). (image 5-16, image 5-17)
2. Click on **Test pattern** (2).

   The test pattern window opens (3).
3. Select a test pattern by clicking on one of the short cut keys (4).
4. Enable the desired colors by checking the corresponding check box (5).
   Click **Clear pattern** to clear the test pattern.
5. Click **Close** (6).

   The selected test pattern is started on the HD-SDI board and the video path cab be tested. The number of error counts since the last clear action are indicated in the table (7). This table is not updated if continuous update is not checked.

   For a continuous update of this table, check the checkbox in front of *Continuous update* (8).

   To clear (reset) the error counters, click on **Clear** (9).

Image 5-16
HD-SDI video path test, for DPxK- C&B-series

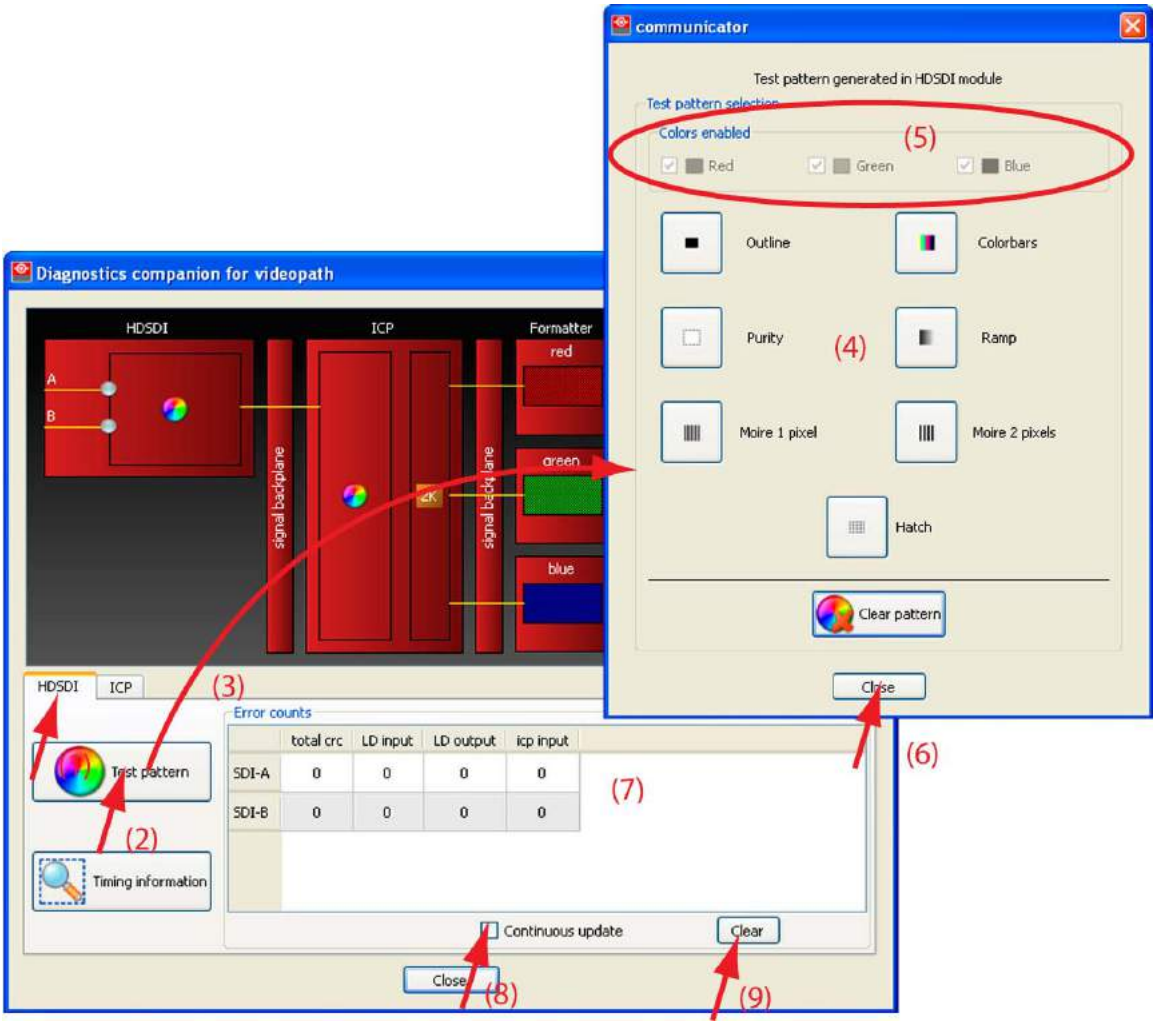


Image 5-17
HD-SDI video path test, for DPxK- S-series

5.5.1.3 HD-SDI timing information

How to display

1. Click on the tab page **HD-SDI** (1). (image 5-18)
2. Click on **Timing information** (2).

   The Timing information window opens. 3 tab pages show information about the inputs and the output.

   For the inputs, the detected timings, VPID info and status is given. For the output, output timings are given.
3. Click on the desired tab to show the information (4).

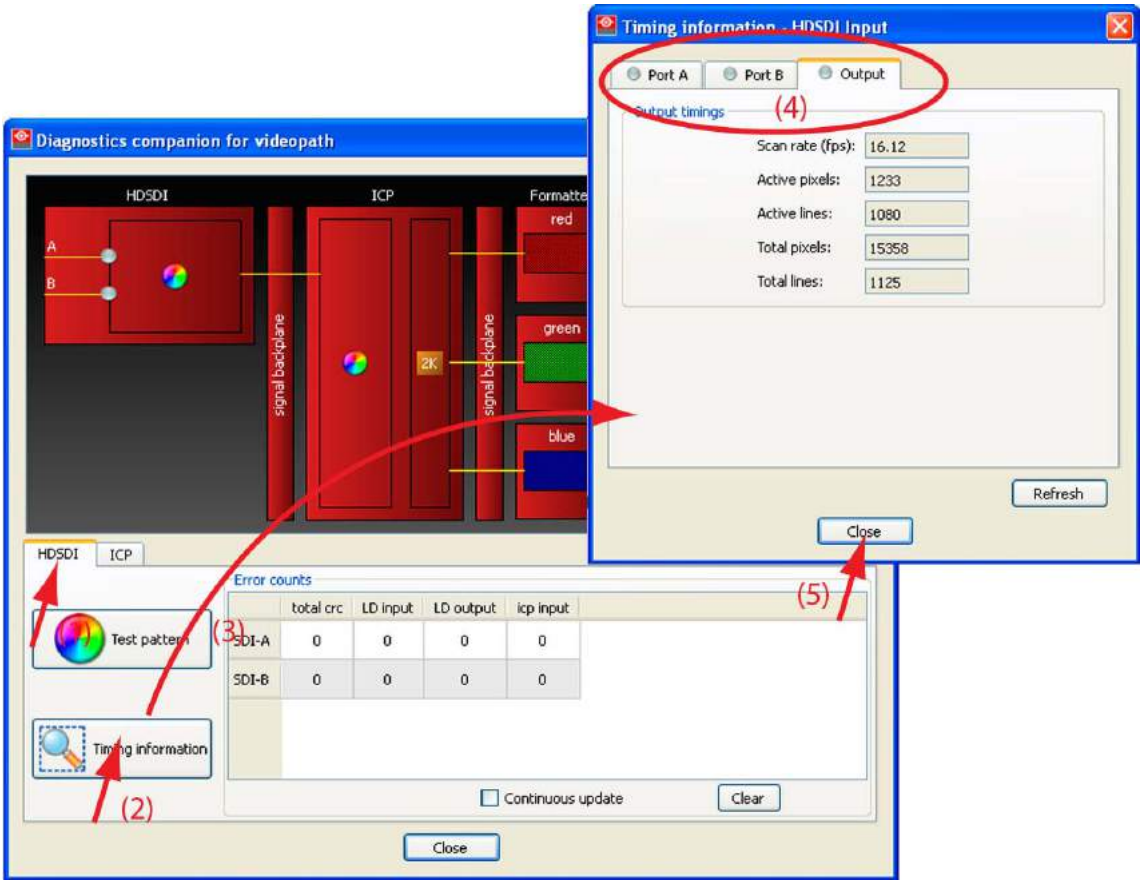


Image 5-18

5.5.1.4 Display a DVI test pattern

Not for DP2K S-series.

How to display

1. Click on the tab page **DVI** (1). (image 5-19)
2. Click on **Test pattern** (2).

   The test pattern window opens (3).
3. Select a test pattern by clicking on one of the short cut keys (4).
4. Enable the desired colors by checking the corresponding check box (5).
5. Click **Close** (6).

   The selected test pattern is started on the DVI board and the video path cab be tested. The number of error counts since the last clear action are indicated in the table (7). This table is not updated if continuous update is not checked.

   For a continuous update of this table, check the checkbox in front of *Continuous update* (8).

   To clear (reset) the error counters, click on **Clear**.

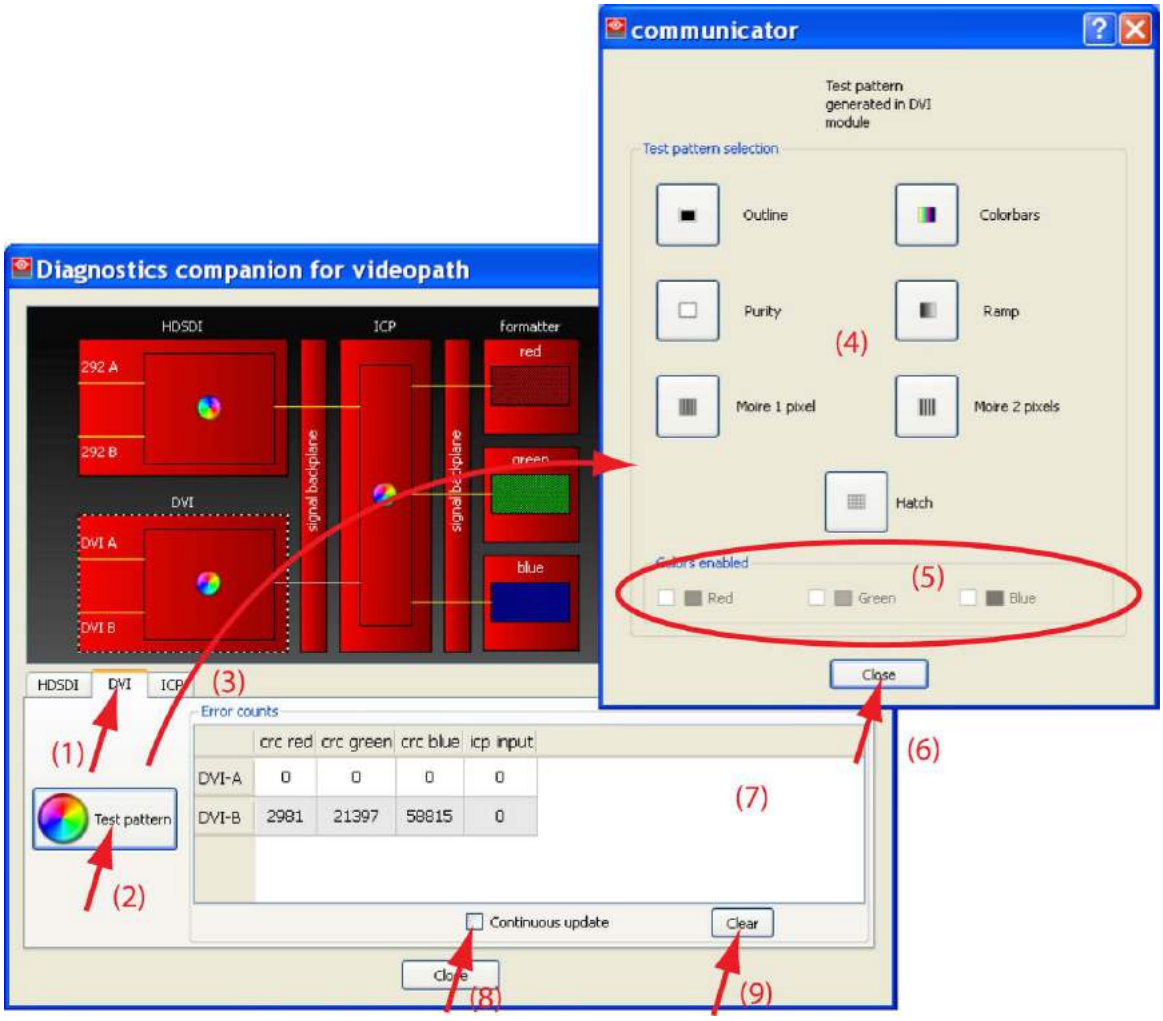


Image 5-19
DVII video path test

5.5.1.5 Display a ICP test pattern

How to display

1. Click on the tab page **ICP** (1).
2. Click on **Test pattern** (2).

   The test pattern window opens (3). The same functions are available as in Control → Test patterns. For more information on activating, changing or clearing a test pattern.

5.5.2 Tests, Self tests

5.5.2.1 Self test, activation

How to activate

1. While in *Diagnostics*, click on **Tests**

   The *Tests* overview page is displayed.
2. Click on **Self Test** (1). (image 5-20)

   A self test message appears (2) to make sure that no show is running while starting up the self test procedure. Some tests result in image interruption, degradation or lens move.

3. Click **Yes** to continue (3).

   The self test selection window opens (4).

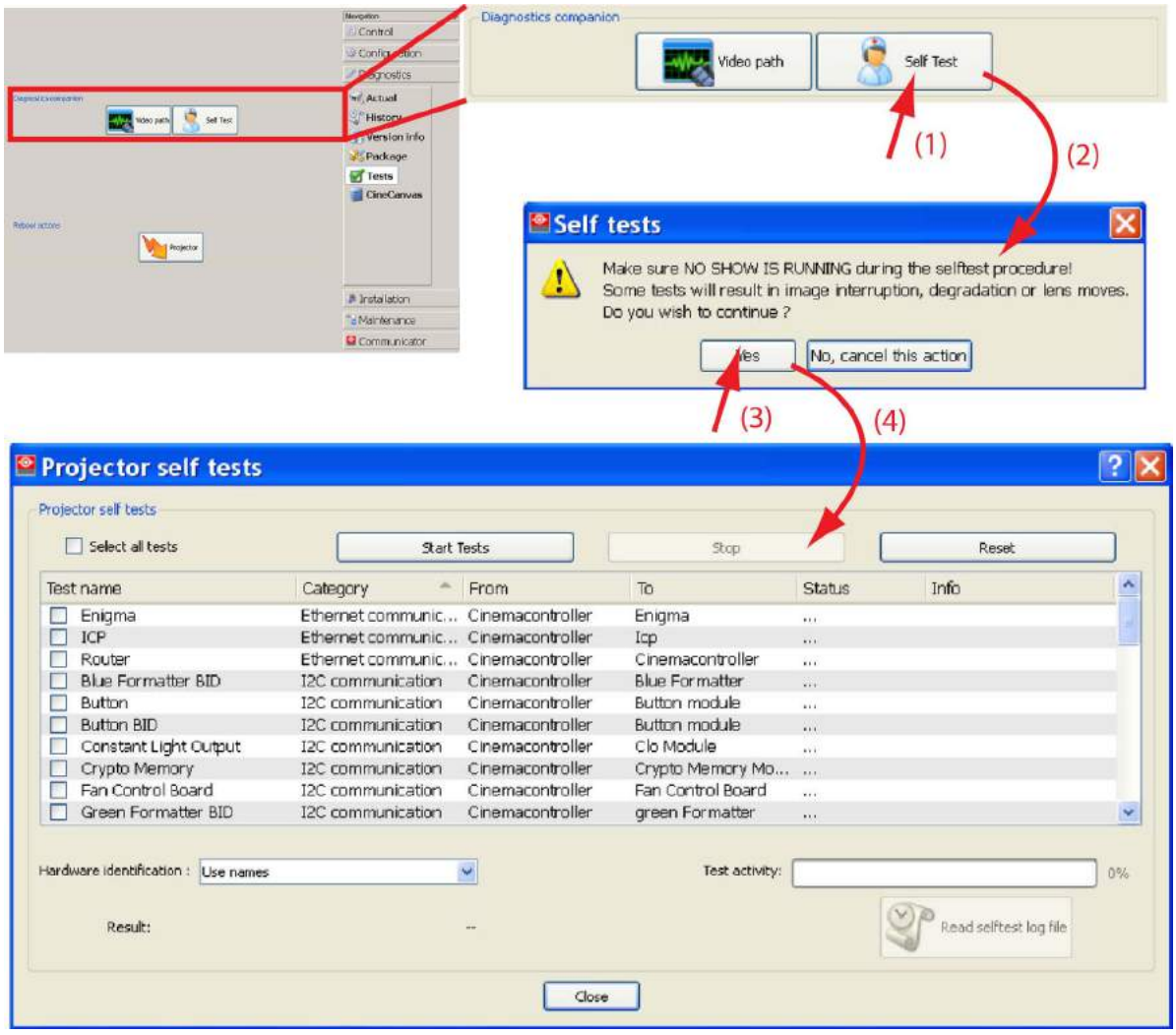


Image 5-20
Start self test

Name view - article number view

The self test window can contain module names or module article numbers. To switch from one to the other, click on the drop down menu next to *Hardware identification* and select the desired view.

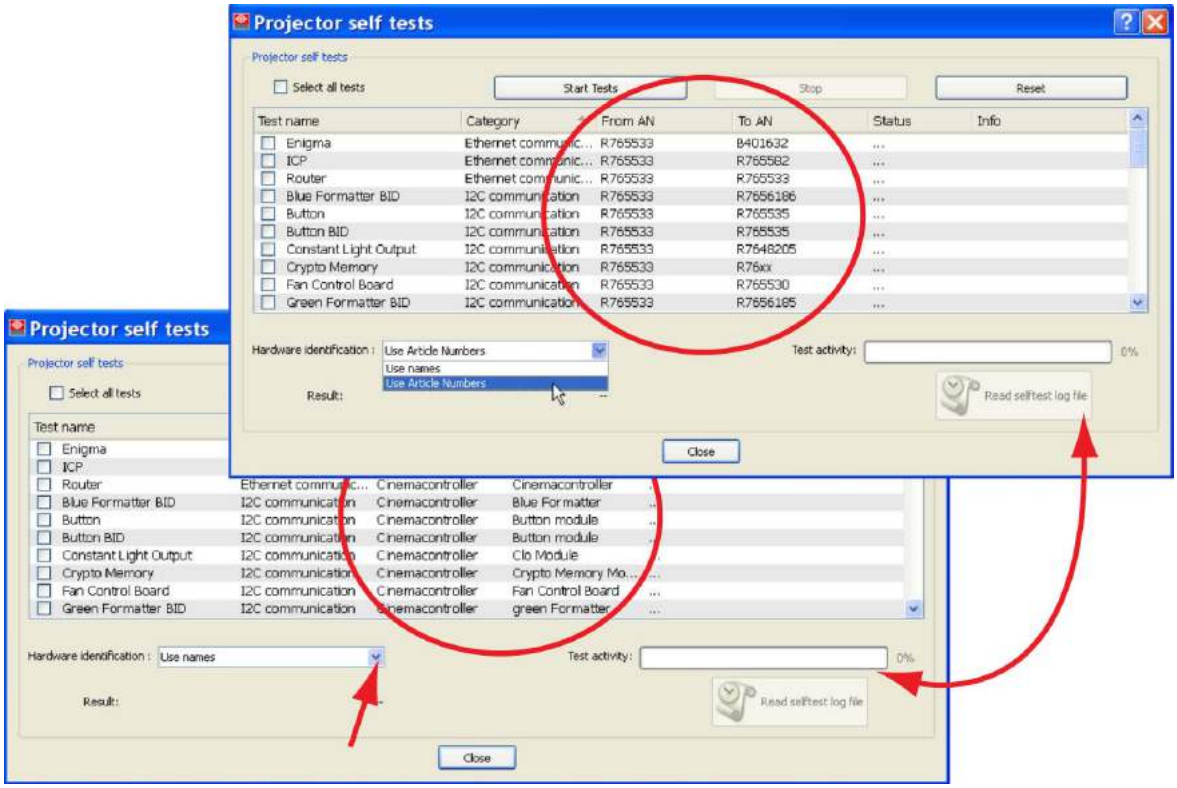


Image 5-21
Self test window, view

5.5.2.2 Start self test

About self tests

It is possible to select one or more individual tests or to select all tests at once. The status column indicates the status of the test. The result, number of fails and passes, is indicated next to *Result*.

How to start

1. Check the check box in front of one or more individual tests (1a)
   Or,
   check the check box in front of *Select all tests* (1b) (image 5-22)
2. Click **Start tests** (2).

   A test activity bar shows the progress of the tests (3).

   When finished, a result window is displayed. (image 5-23)
3. Click **OK** to continue (4).

   The status for each test is indicated next to the test (5).

   The overall result is indicated next to *Result* (6).

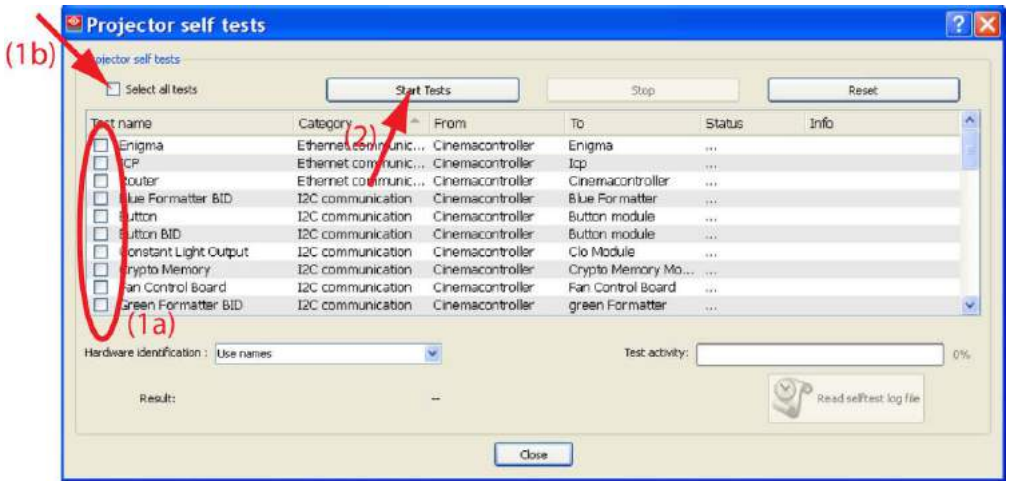


Image 5-22
Self test selection

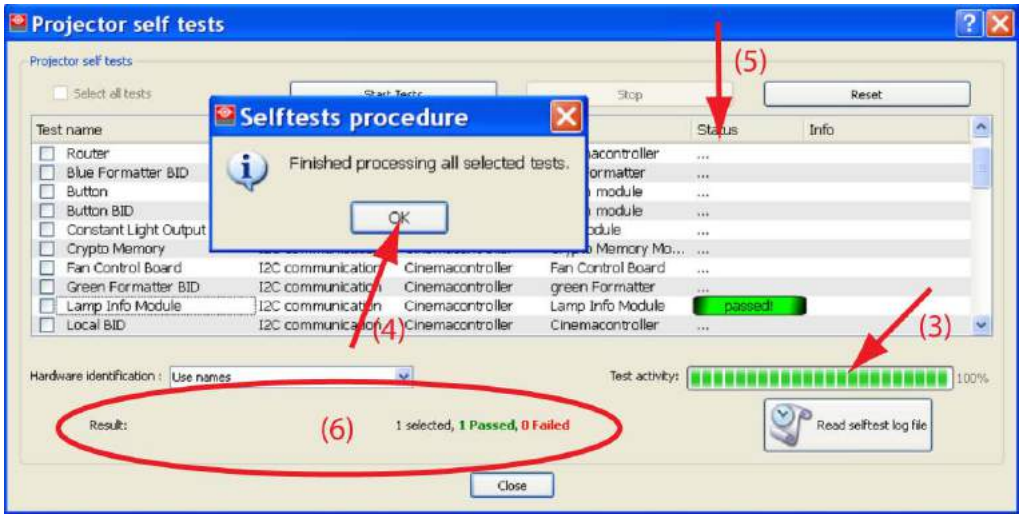


Image 5-23
Self test result

To restart the self test, click on Reset.

5.5.2.3 Read and Save log file

What can be done ?

The results of the tests are written in a log file. This log file can be consulted and saved.

How to read and save the log file

1. Click on **Read self test log file**. (image 5-24)

   The *Projectors self tests log file* window opens.

2. To save the log file, click on **Save**.

   A browser window opens. A file name is already filled out.

3. Browse to the desired location, change the name if necessary and click **Save**.

The log file is locally saved.

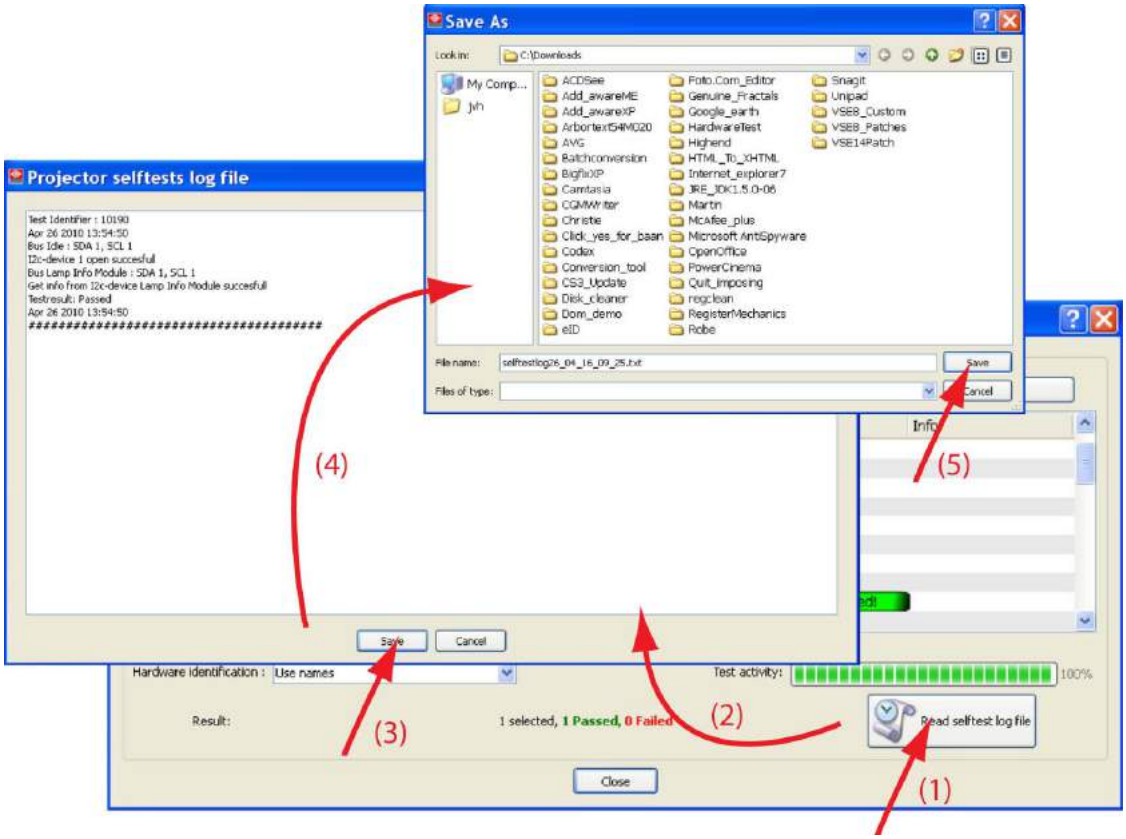


Image 5-24

5.5.3 Reboot actions, projector

What can be done?

The complete projector can be rebooted. While rebooting, the image will be lost and the connection with the projector is broken.

How to reboot

1. While in *Tests*, click **Reboot actions, Projector** (1). (image 5-25)

   A projector reboot question window opens (2).

2. Click **Yes** to continue with the reboot of the complete projector (3).

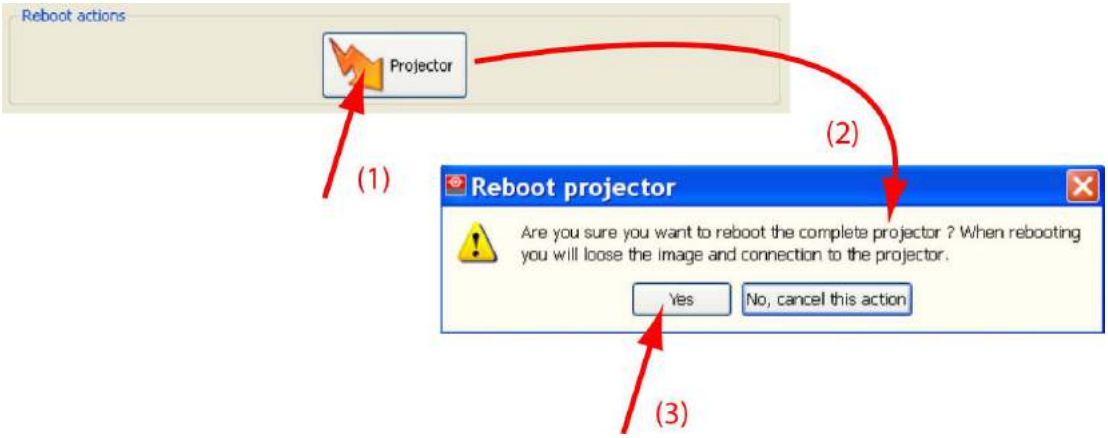


Image 5-25
Projector reboot

5.6 CineCanvas

Overview

- Introduction
- Server overview interface
- Timeline control
- Subtitle Control
- Metadata Control

5.6.1 Introduction

Overview

The projectors are equipped with the possibility to process Subtitle and metadata information coming from a server.

Principal diagram :

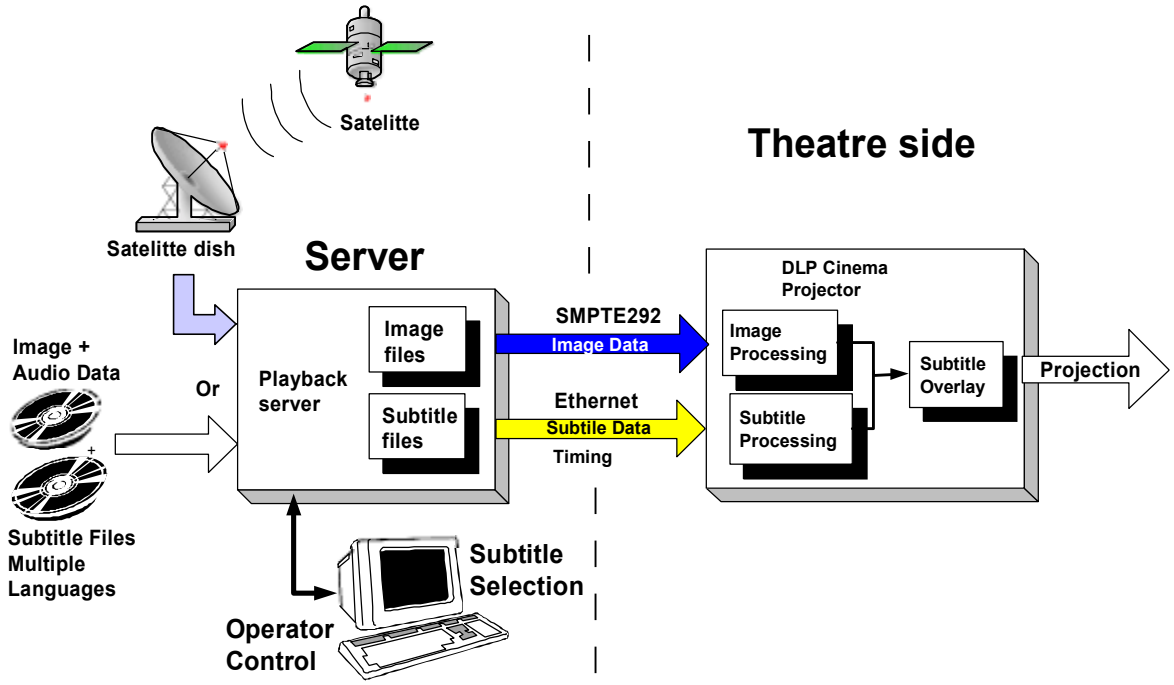


Image 5-26
Principal diagram subtitling

The following process happens :

Image information together with audio data enters the server. Next to it, separate subtitle files in multiple languages are stored on the same server as well as metadata files.

The operator of the Cinema theatre selects the film and the additional subtitling on the server.

The image data will be sent over the SMPTE292 line to the projector. When the subtitling mechanism is activated inside the projector, this projector will process subtitle data and timings which are sent over a Ethernet network to the projector. The projector will render the subtitling in overlay to the image.

5.6.2 Server overview interface

Overview of the layout

In order to simulate a server triggering the projector's subtitling mechanism, or to check if a server is configured as it should be, Barco provides an interface as shown above.

The following is visualized from left to right and from top to bottom :

- time code, internal or external
- time code itself
- Status, running or not running
- Subtitle status, enables or disabled
- Subtitle file location
- Subtitle 'time to live' (TTL)
- Metadata status, enabled or disabled
- Metadata file location
- Metadata 'time to live' (TTL)

5.6.3 Timeline control

Overview

- Time source
- Input frequency
- Timeline stamp
- Timeline adjustment
- Control

5.6.3.1 Time source

Why used

The selected time source will be used to synchronize the subtitling and metadata information with the image stream.

How to select

1. Click on one of the radio buttons in the *Time source* field. (image 5-27)

292 External	The projector will take the time code that is inserted in the SMPTE292 stream for subtitle synchronization
Internal	The projector will take the time code from its internal time code generator.

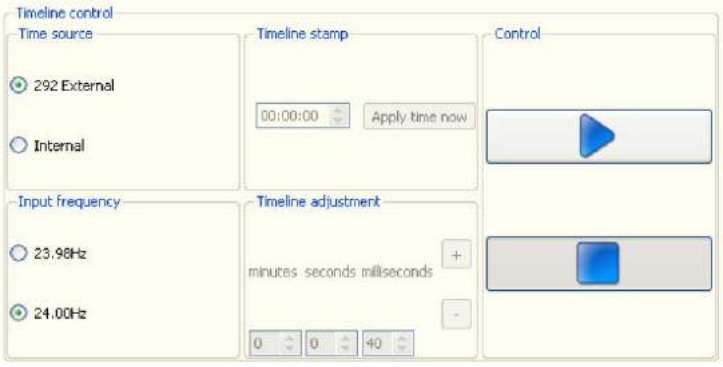


Image 5-27
Time source selection

When 292 External is selected, the Timeline stamp and Timeline adjustment are grayed out.

5.6.3.2 Input frequency

Why necessary

The projector needs to know the frequency of the input signal presented to the projector so that it can calculate internal synchronization parameters.

How to select

1. Tip on one of the radio buttons in the *Input frequency* field. (image 5-28)
   Possible choices :
   - 23.98 Hz
   - 24.00 Hz

Image 5-28
Input frequency selection

5.6.3.3 Timeline stamp

Only available for an internal time source.

What is the purpose

The internal time code will be set to the value of the timeline stamp. The image displayed will be the image with eventually the subtitling overlay at the time of the timeline stamp. When the play button is pressed, the time code starts running from the value in the timeline stamp.

How to enter a timeline stamp

1. Click on the hours, minutes or seconds value and enter the new value with the digit keys of the keyboard
   Or,
   click on the hours, minutes or seconds value and click then on the up down control of the spin box to change the value to the desired one. (image 5-29)
   Tip: *Use the bottom right button to display or hide the keyboard.*
2. Click on **Apply time now** to apply the new time to the time code.

Image 5-29
Set up timeline stamp

5.6.3.4 Timeline adjustment

Only available for an internal time source.

What is the purpose

While the time code is running, the timeline can be adjusted by adding time to current time or by subtracting time from the current time. With these small corrections, it is possible to adjust small misalignments between the spoken text and the subtitling.

How to add a correction

1. Click into the minutes, seconds or milliseconds field and select the actual value. Change that value by entering the new value with the digit keys of the keyboard

Or,
click on the up down control of the spin box next to the minutes, seconds or milliseconds input field to change the value to the desired one. (image 5-30)

40 milliseconds corresponds with 1 frame for an input frequency of 24 Hz.

2. Click on **+** or **-** button to activate the correction.

+ Entered correction will be added to the current time

- Entered correction will be subtracted from the current time

Image 5-30
Timeline adjustment

5.6.3.5 Control

Only available for an internal time source.

How to control

1. Click on the Start button ( ) to start the internal time code.
2. Click on Stop button ( ) to stop the internal time code.

5.6.4 Subtitle Control

Overview

- Steps to be taken for subtitle control
- Access to the subtitle control
- Subtitle file
- Time to live (TTL)
- Subtitle Control activation

When the projector is reset or power-cycled, the subtitling function will be disabled.

5.6.4.1 Steps to be taken for subtitle control

Overview

1. With Subtitle enable not checked, fill out first the subtitle server address.
2. Set up the subtitle file.
3. Set up the “time to live”.
4. Activate the subtitling

5.6.4.2 Access to the subtitle control

How to get access

1. Go to **Diagnostics** and click on **CineCanvas**.
2. Then click on **Subtitle Control** (1). (image 5-31)

   The *Subtitle control* window opens (2).

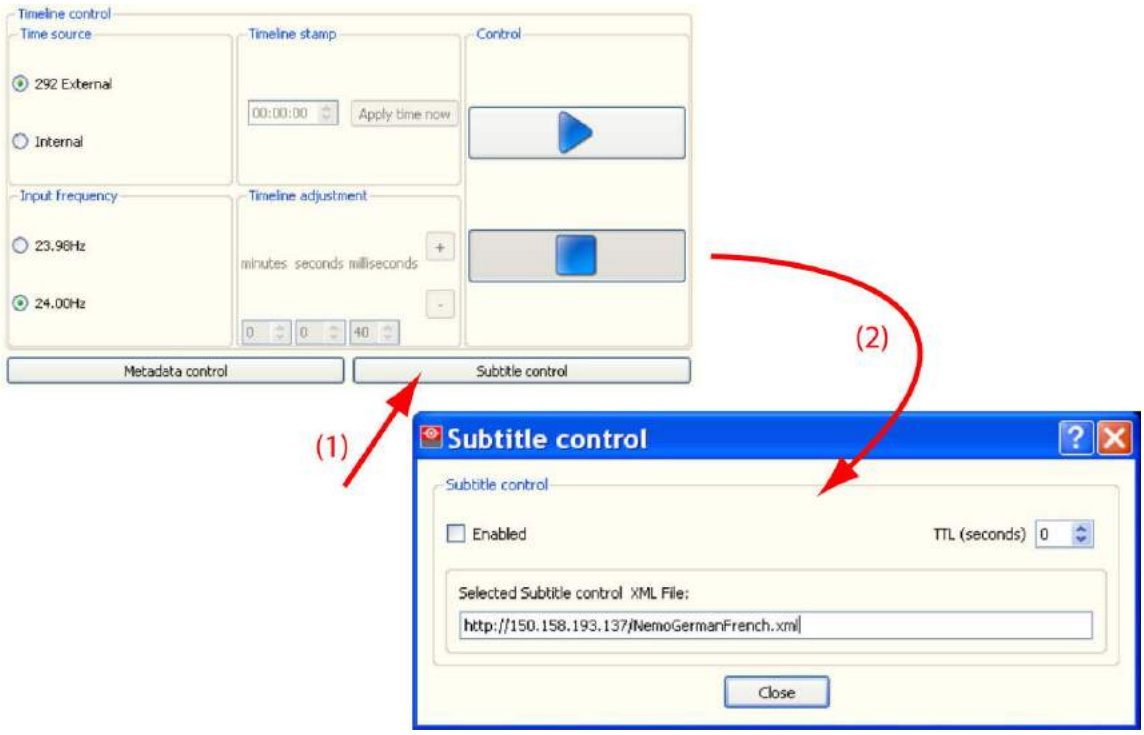


Image 5-31
Subtitle control

5.6.4.3 Subtitle file

How to select

1. Click in the input field below *Selected Subtitle control XML file*. (image 5-32)
2. Enter the IP address of the server followed by a slash ('/') and the name of the XML file.
   input mask : http:// *IP address* / *filename.xml*

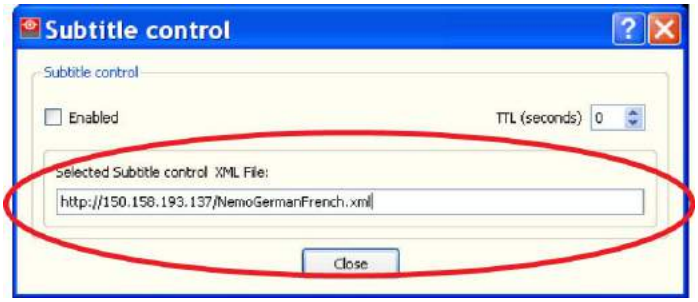


Image 5-32
Subtitle file input

5.6.4.4 Time to live (TTL)

Why used

The TTL (Time to live) is a countdown time-out used to prevent subtitles from being left on the screen through loss of communication.

The server or touch panel will continuously ask for the subtitle status. As long as the 'time to live' counter has not been expired and the subtitle status command is executed, this TTL value will be reset to its original value set in the TTL interface.

If the TTL value reaches '0', the system will disable the subtitle function and the subtitling will be removed from the screen.

How to set up

1. Click into the TTL input field and select the current value. Change that value by entering the new value with the digit keys on the keyboard (the value must be in seconds)
   Or,
   click on the up down control of the spin box next to the TTL input field to change the value to the desired one. (image 5-33)

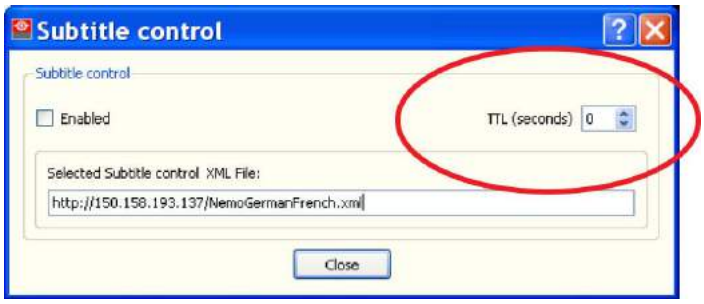


Image 5-33
Time to live setting subtitling

5.6.4.5 Subtitle Control activation

How to activate

1. Check the check box in front of *Subtitle enabled*. (image 5-34)
   Note: *This is only possible when a correct path (server address + filename) to the subtitle file are filled out.*

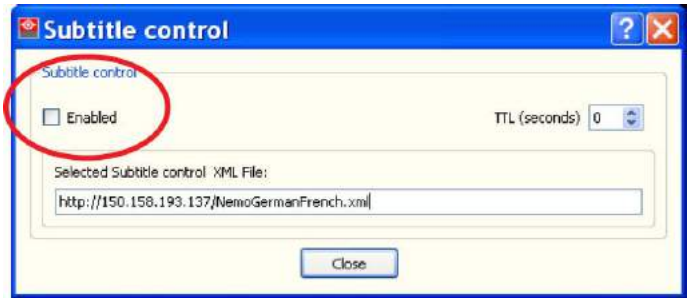


Image 5-34
Activating subtitling

5.6.5 Metadata Control

Metadata

Generally referred to as "data about data" or "data describing other data". More specifically, information that is considered ancillary to or otherwise directly complementary to the essence. Any information that a content provider considers useful or of value when associated with the essence being provided.

Overview

- Introduction
- Steps to be taken for metadata control
- Access to the metadata control
- Metadata file
- Time to live (TTL)
- Metadata Control activation

5.6.5.1 Introduction

Overview

In case of a digital Cinema projector, Metadata contains all the data the projector needs, to be able to display a certain content as it should be. Typically the Metadata is the data that we find in PCF files.

Metadata mode means that the server has control over the projector's active PCF Data. Accessing the Active PCF data of a projector in Metadata mode from the touch panel will fail. Metadata Control needs to be disabled first.

Content of the metadata info

Metadata Control from a server:

- Provides projector setup instructions without operator action
- Contains instructions provided by content creator (PostProduction)
- Information sent from server to projector at start of the movie
- Setup parameters include:
  - Target color space (7-point) (TCGD)
  - Color space conversion parameters (CSC)
  - Gamma (LUT-DG)
  - Incoming image size (SOURCE)
  - Projector Lookup tables (LUT-AL, LUT-CLUT)

5.6.5.2 Steps to be taken for metadata control

Overview

1. With *Metadata enable* not checked, fill out first the metadata server address together with the metadata file.
2. Set up the "time to live".
3. Activate the metadata

5.6.5.3 Access to the metadata control

How to get access

1. Go to **Diagnostics** and click on **CineCanvas**.
2. Then click on **Metadata Control** (1). (image 5-35)

   The *Metadata control* window opens (2).

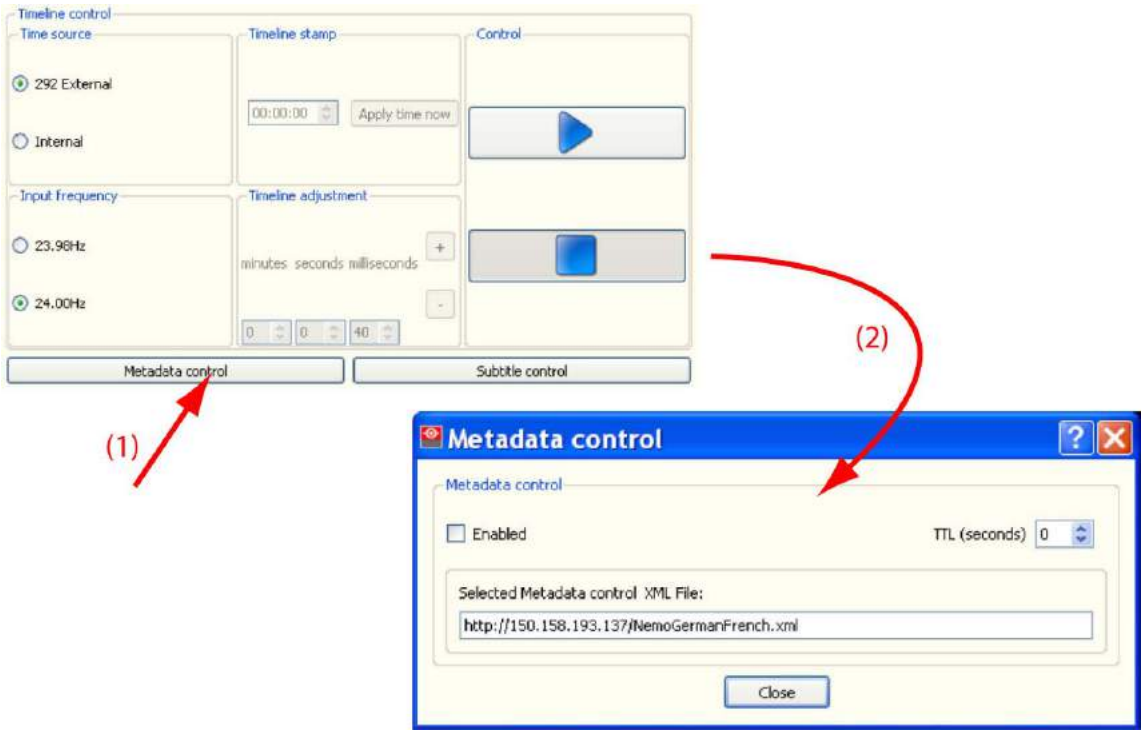


Image 5-35
Startup metadata control

5.6.5.4 Metadata file

How to select

1. Click in the input field below *Selected Metadata control XML file*. (image 5-36)
2. Enter the IP address of the server followed by a slash ('/') and the name of the XML file.
   input mask : http:// *IP address* / *filename.xml*

Image 5-36
Metadata server and file setup

5.6.5.5 Time to live (TTL)

Why used

The TTL (Time to live) is a countdown time-out used to prevent the use of metadata information through loss of communication.

The server or touch panel will continuously ask for the metadata status. As long as the 'time to live' counter has not been expired and the metadata status command is executed, this TTL value will be reset to its original value set in the TTL interface.

If the TTL value reaches '0', the system will enable the metadata function.

How to set up

1. Click into the TTL input field and select the current value. Change that value by entering the new value with the digit keys on the keyboard (the value must be in seconds)
   Or,
   click on the up down of the spin box next to the TTL input field to change the value to the desired one. (image 5-37)

Image 5-37
Time to live

5.6.5.6 Metadata Control activation

How to activate

1. Click the check box in front of *Metadata enabled*. (image 5-38)
   Note: *This is only possible when the path (server address + filename) to the metadata file are filled out.*

   Note: *An indication in the Setup Control interface will be added.*

Image 5-38
Enable Metadata

CAUTION: When metadata control is enabled, the following functions are not possible : execution of macros, applying a PCF file (e.g. on Setup page, when connecting), changing the Active Area and using the PCF editor.

6. INSTALLATION

Overview

- Communication
- Lamp and Lamp parameters
- Lamp alignment
- Lamp information
- Lamp recovery
- Linked lamp output
- Color calibration
- Automation
- Advanced settings
- Functionality keys
- SNMP configuration
- Security
- Security
- Certificate

6.1 Communication

Overview

- Ethernet Connections
- Get overview current Ethernet addresses
- Hostname of projector used as projector name
- Assign an Ethernet address via DHCP
- Manually assign an Ethernet address

6.1.1 Ethernet Connections

A new projector is delivered with a default IP address : 192.168.100.2

IP

Internet Protocol. The network layer of TCP/IP. Required for communication with the internet.

Overview

In the user interface the IP address can be changed

When the projector is set up in a network configuration, this Ethernet address should be applied to the projector.

After changing any Ethernet configuration setting, it is NECESSARY to reset/restart the projector's electronics

Subnet mask

A number that is used to identify a subnetwork so that IP addresses can be shared on a local area network.

Default Gateway

A router that serves as an entry point into and exit point out of a network. For example, a local network (LAN) may need a gateway to connect it to a wide area network (WAN) or to the Internet.

DNS server

Computers, Projectors, Touch panels connected to a network are referenced by their IP address. The only problem is that remembering IP addresses is not easy. If you need to use hundreds of addresses then it will become impossible to remember them. This is why domain names are created. Internet names (domain and host names) are just aliases to these IP addresses. When you use an Internet address it is automatically translated to an IP address. In fact a program or device that translates those Internet names to IP addresses is called a DNS Server.

Host name

This is the name that will be returned, along with the IP address in response to the UDP broadcast query for projectors/touch panels.

DHCP

Dynamic host configuration protocol. DHCP is a communications protocol that lets network administrators manage centrally and automate the assignment of IP addresses in an organization's network. Using the Internet Protocol, each machine that can connect to the Internet needs a unique IP address. When an organization sets up its computer users with a connection to the Internet, an IP address must be assigned to each machine. Without DHCP, the IP address must be entered manually at each computer and, if computers move to another location in another part of the network, a new IP address must be entered. DHCP lets a network administrator supervise and distribute IP addresses from a central point and automatically sends a new IP address when a computer is plugged into a different place in the network.

UDP

User Datagram Protocol

What should be set up for the Ethernet address

2 ways can be used to assign addresses:

- use the DHCP setting so that a automatic address will be assigned.
- Assign manually an IP address, Subnet-mask, default gateway and DNS server address.
  - Set the IP-Address field to the desired value. This must NOT be 0.0.0.0 for static IP-Address assignment. The IP address identifies a projector's location on the network in the same way a street address identifies a house on a city block. Just as a street address must identify a unique residence, an IP address must be globally unique and have a uniform format.
  - Set the Subnet-Mask as appropriate for the local subnet.
  - Set the Default-Gateway to the IP-Address of the local router (MUST be on the local subnet!) on the same network as this projector that is used to forward traffic to destinations beyond the local network. This must not be 0.0.0.0. If there is no router on the projector's local subnet then just set this field to any IP-Address on the subnet.
  - Set the DNS server address to the IP address if the DNS server obtained from your network administrator or Internet Service Provider. That address can be any address.

6.1.2 Get overview current Ethernet addresses

How to get an overview

1. First click **Installation** and then **Communication**.

   An overview of the current IP addresses is displayed.

6.1.3 Hostname of projector used as projector name

Use as Projector name

The hostname of the projector is also used as projector name in the title of the touch panel window.

An empty hostname is not allowed.

Restrictions for the hostname

- Valid characters are a to z, A to Z, 0 to 9 and dash.
- First character can be a letter or a digit.
- Starting or ending with a dash is not allowed.
- Hostname with all digits is not allowed.
- Maximum 32 characters.

How to set up

1. While in *Communication*, click **Edit** (1) button under *Projector IP address*. (image 6-1)

   The *Edit the Barco IP address* window opens (2).

2. Click in the *hostname* input field and enter the desired name (3).
3. Click on **Apply** to activate (4).

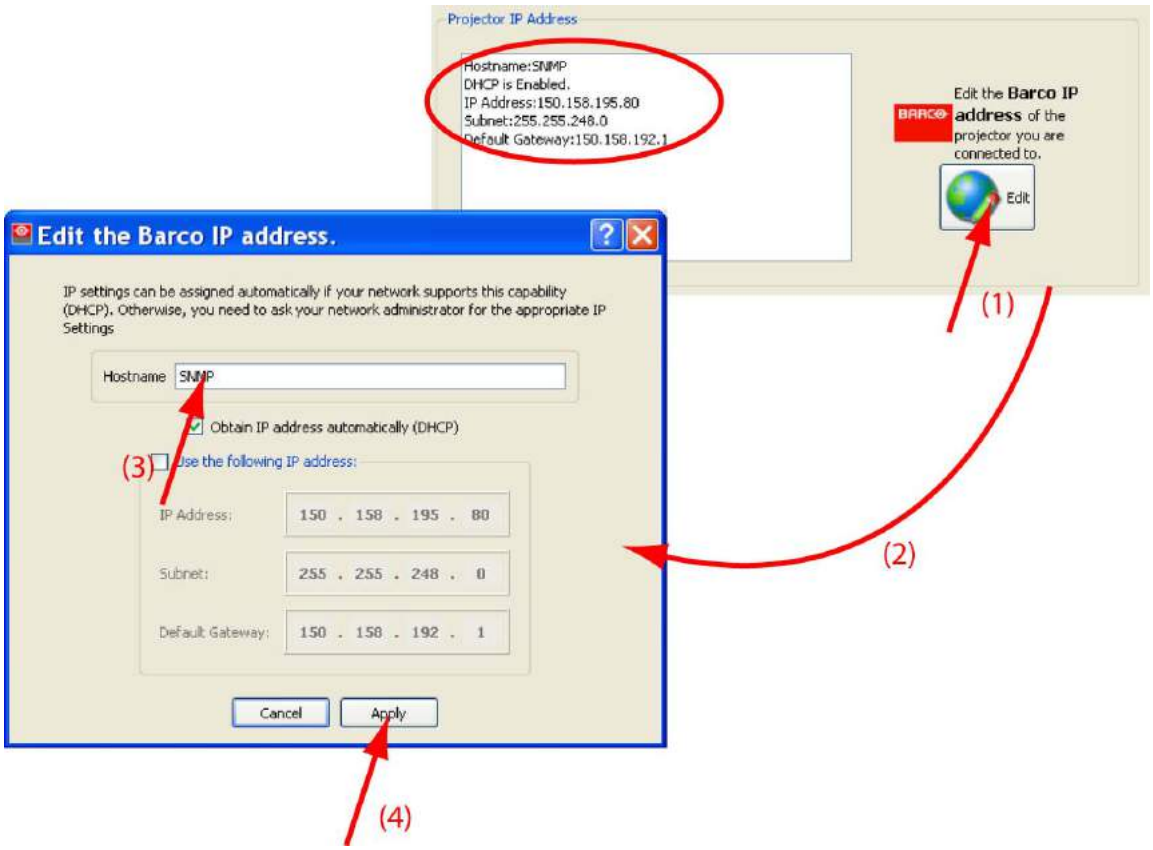


Image 6-1
Assign a hostname

6.1.4 Assign an Ethernet address via DHCP

How to set up

1. While in *Communication*, click **Edit** (1) button under *Projector IP address*. (image 6-2)
   The *Edit the Barco IP address* window opens (2).
2. Check the check box next to *Obtain an IP address automatically (DHCP)* (3).
   This selection will become active. Other selections are grayed out.
3. Click on **Apply** to activate (4).

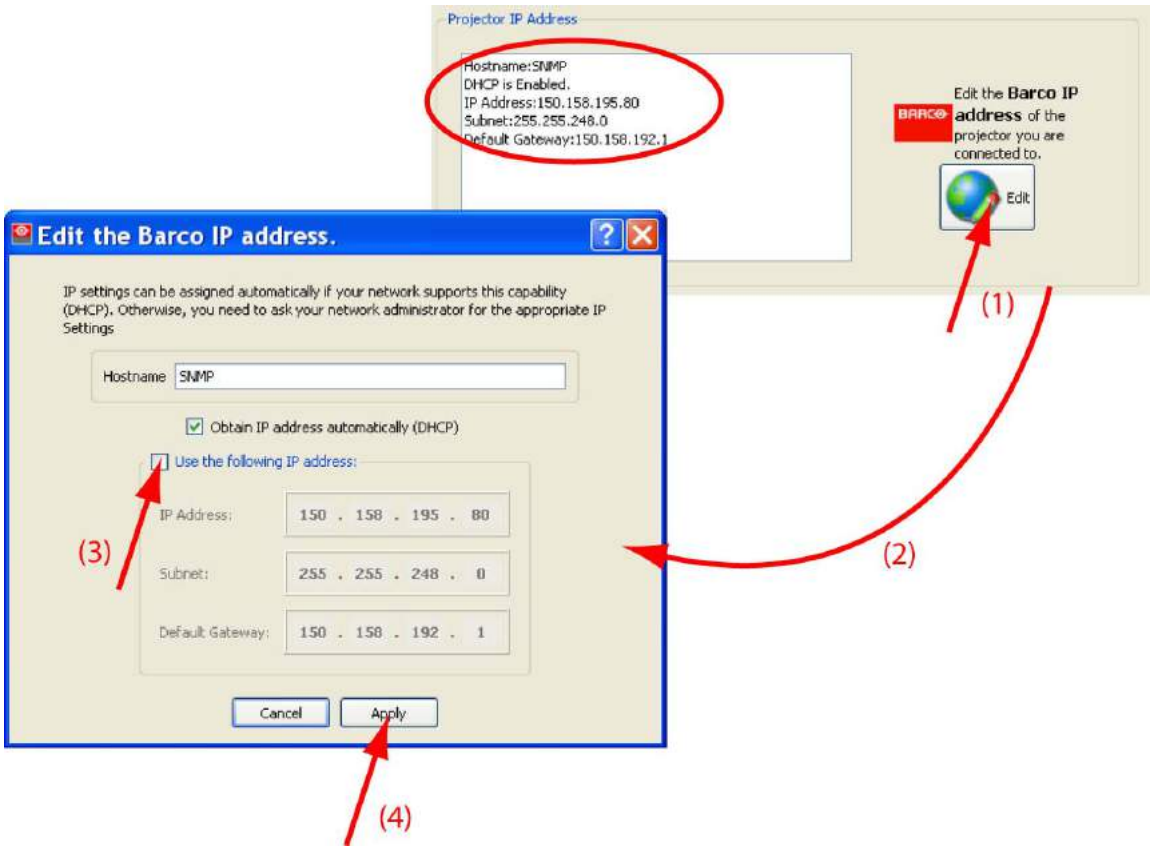


Image 6-2
Assign IP address via DHCP

When DHCP is enabled and the projector does not find a DHCP server on the network, or the projector is not connected to a network, than the projector will be in a fail state. The hardware Fail LED on the interface board will be on. The status (Status tab) will indicate 'Ethernet Not OK'

6.1.5 Manually assign an Ethernet address

How to set up

1. While in *Communication*, click **Edit** (1) button under *Projector IP address*. (image 6-3)

   The *Edit the Barco IP address* window opens (2).

2. Check the check box next to *Use the following IP address* (3).

3. Click in the input field of the *IP address* and fill out the 4 fields.
   Note: *An address contains 4 octets with a maximum value of 255.*

   This must NOT be 0.0.0.0 for static IP-Address assignment

4. Click in the *Subnet mask* input fields and fill out the 4 fields as appropriate for the local subnet.

5. Click in the *Default Gateway* input fields and fill out the 4 fields. Set the Default-Gateway to the IP-Address of the router (MUST be on the local subnet!).
   Note: *This must NOT be 0.0.0.0.*

   If there is no router on the projector's local subnet then just set this field to any IP-Address on the subnet.

6. Click **Apply** to activate (4).

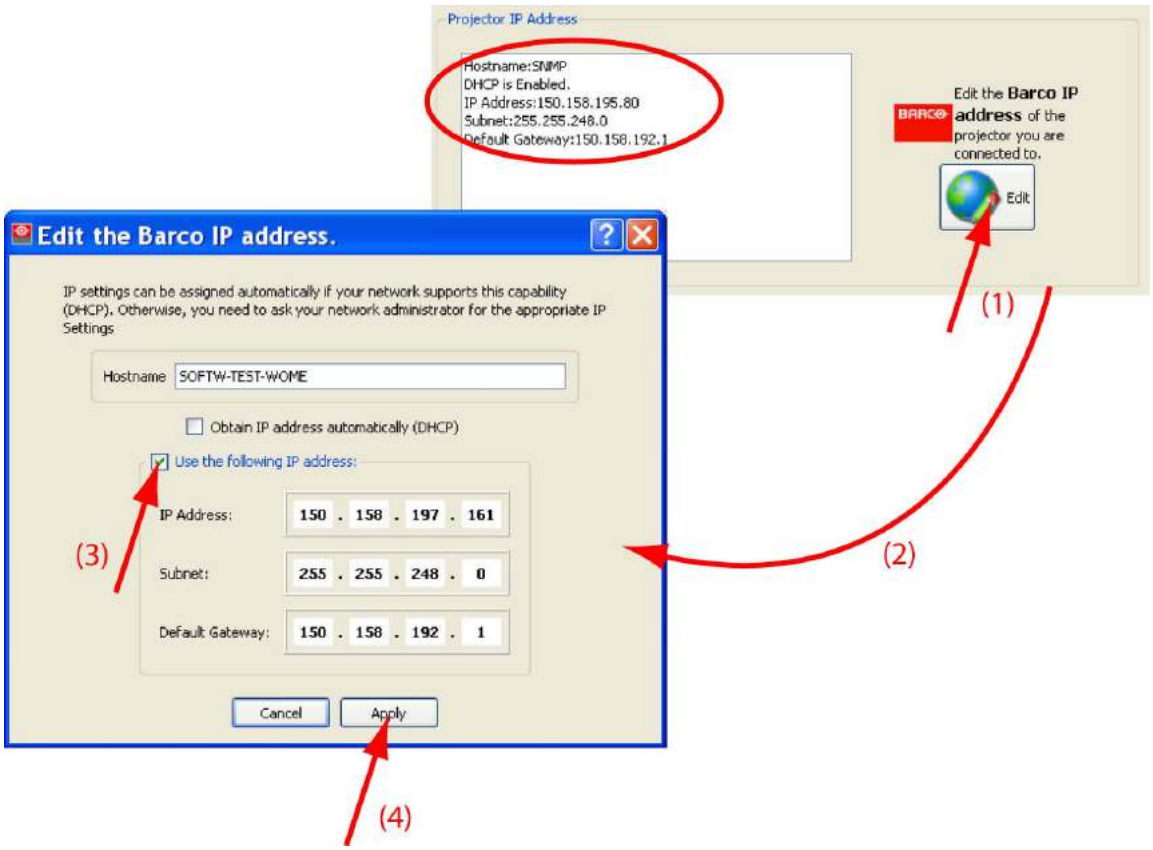


Image 6-3
Projector IP address, manually assign

The Touch panel's IP Address MUST be within the same subnet as the projector's IP Address in order for communication to be possible. This requires checking the Touch panel's and projector's Subnet-Mask settings

IP address examples

First example

- Touch panel IP Address : 192.168.100.5
- Touch panel Subnet Mask : 255.255.255.0
- Projector IP Address : 192.168.100.2
- Projector Subnet Mask: 255.255.255.0

Result : Communication possible. Touch panel address is in the subnet range of the projector's IP address.

Second example

- Touch panel IP Address : 10.16.236.100
- Touch panel Subnet Mask : 255.255.255.0
- Projector IP Address : 192.168.100.2
- Projector Subnet Mask: 255.255.255.0

Result : No communication possible. Touch panel address is not in the subnet range of the projector's IP address.

Third example

- Touch panel IP Address : 192.168.200.1
- Touch panel Subnet Mask : 255.255.255.0
- Projector IP Address : 192.168.100.2
- Projector Subnet Mask: 255.255.255.0

Result : No communication possible. Touch panel address is not in the subnet range of the projector's IP address. The third group in the Touch panel IP address and Projector IP address must be the same.

Fourth example

- Touch panel IP Address : 192.168.200.1
- Touch panel Subnet Mask : 255.255.0.0
- Projector IP Address : 192.168.100.2
- Projector Subnet Mask: 255.255.0.0

Remark : Communication possible. Touch panel address is in the subnet range of the projector's IP address. The third group in the IP¨ addresses can be any value as the third group in the subnet mask is 0.

6.2 Lamp and Lamp parameters

Overview

- Light output and calibration

6.2.1 Light output and calibration

6.2.1.1 Start up light output

Get overview and setup window

1. While in *Installation*, click **Lamp** and then click **Light output** button. (image 6-4)

   The *light output/Calibration* window opens.

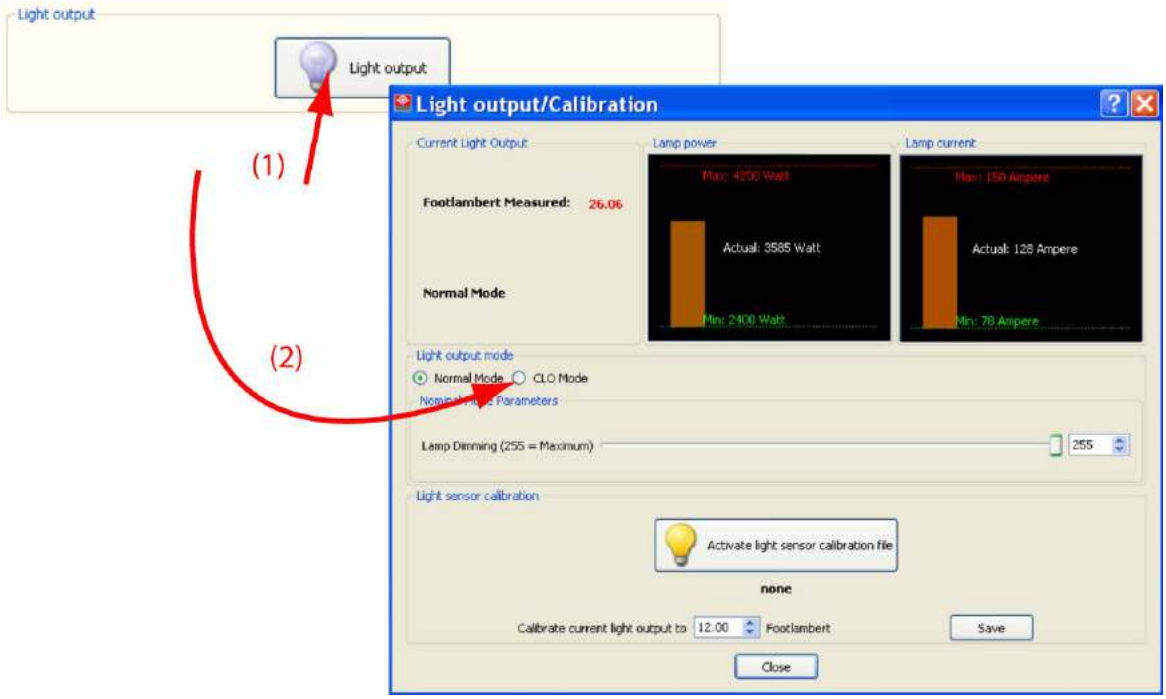


Image 6-4
Start up light output/calibration window

6.2.1.2 Lamp and lamp information

Current light output

The current light output is indicated in FootLambert.

Image 6-5
Current light output

It indicates also in which mode the projector is working.

Lamp power/current

A histogram indicates the power value / current value of the lamp. The diagram indicates also the minimum and maximum limits for the lamp currently in use.

The color of that histogram changes from green when lamp power is minimum to red when lamp power is maximum.

6.2.1.3 Lamp output mode

6.2.1.3.1 Target set up for Normal mode

How to setup

1. Click on the radio button next to *Normal Mode*.

The mode selection pane changes to the Normal mode parameters (image 6-6)

2. Adjust with the slide bar until the desired lamp power is obtained.
   Or,
   click on the up down control of the spin box until the desired value is reached
   Or,
   click inside the text box and enter a new value with the keyboard.

   The Current lamp output and Lamp current pane will change accordingly.

Image 6-6
Light output, normal mode

6.2.1.3.2 Target set up for CLO mode

Target set up for CLO mode is lens dependent.

CLO mode is only available when a valid CLO key is installed.

How to setup

1. Click on the radio button next to *CLO Mode*. (image 6-7)

   The mode selection pane changes to the CLO mode parameters.

2. Click on the up down control of the spin box until the desired target value is reached.
3. Click on **Set target now**.

   The lamp power will change accordingly between maximum and minimum until the entered light output is reached each time the lamp is switched off and is ignited again.

   When the entered value is to high, the lamp power goes to its maximum. When the value is to low, the lamp power goes to its minimum.

Image 6-7
Light output, CLO mode

6.2.1.4 Light sensor calibration

What can be done ?

Depending on the used screen type, flat or scope, a different file has to be loaded for the light sensor before starting the calibration. By loading a different file the light output can be made equal for both screen types.

How to select a calibration file calibrate

1. Switch on a white test pattern via the pattern short cuts.
2. Click on **Activate light sensor calibration file** to select the light sensor calibration file (1). (image 6-8)

   A file selection window opens (2).
3. Select a file out of the list (3) and click **OK** (4).

   The selected file is loaded and will be used to calibrate the light output

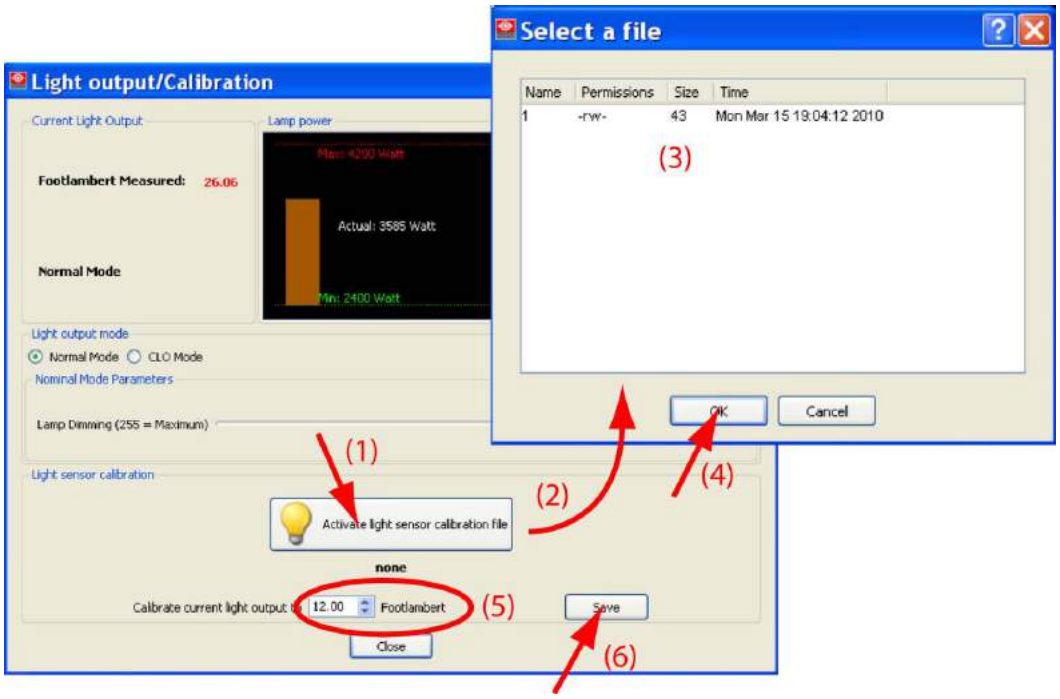


Image 6-8
Light sensor calibration

Create new calibration file

1. Enter the footlambert value to be used in the new calibration file (5).
2. Click **Save** (6).

   A browser window opens. enter a file name and click **Save**.

   The new file is ready to be used as LSC file.

It only makes sense to create a LSC file when the lamp is on !

A LSC file can be recalled from a macro.

6.3 Lamp alignment

Overview

- About lamp alignment
- Lamp light output history
- Automatic lamp alignment motorized lamp house
- Manual lamp alignment for motorized lamp house

For motorized lamp houses, lamp alignment can be added as a function in a macro.

6.3.1 About lamp alignment

Overview

Due to ageing of the lamp, the light output will be reduced if no corrective actions are taken. To bring the light output again on its normal level, lamp alignment should be performed on a regular time. Also when the lamp is replaced physically the alignment procedure has to be done. Normal Z-axis alignment is enough to bring the light output again on its normal level. But sometimes, alignment of the other axes are also necessary to reach the maximum light output. Depending on the used lamp house, these alignments can be done manually on the lamp house itself or motorized by tipping on the motor keys in the lamp alignment menu.

6.3.2 Lamp light output history

Visual presentation

The current measured value is indicated on top of the window together with the minimum and maximum values.

The graph gives an overview of the measured values in the time.

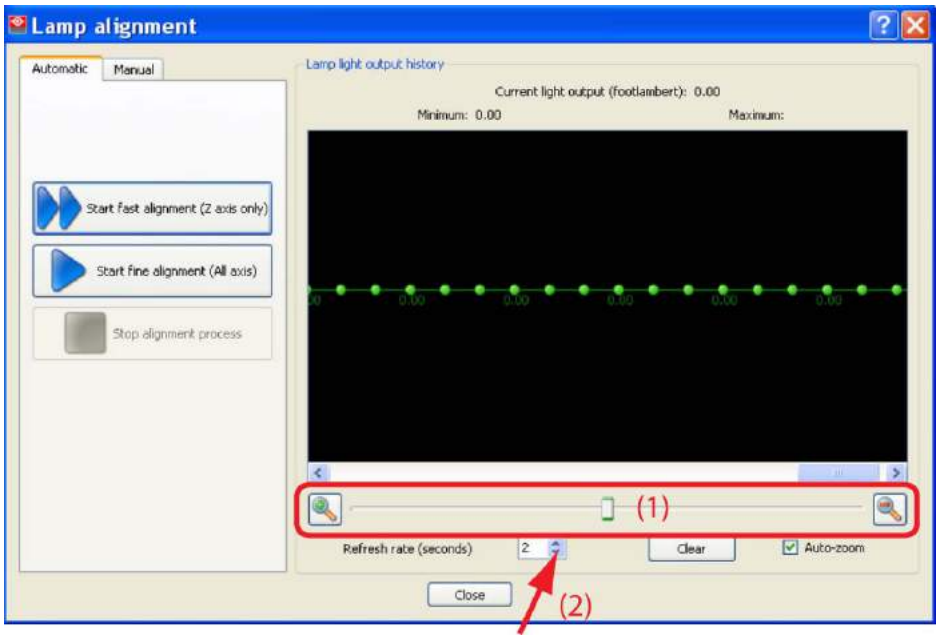


Image 6-9
Lamp light output history

Zoom in / zoom out

A zoom in or zoom out (1) on the graphic preview is possible via:

- the zoom in or zoom out buttons.
- the slide between both zoom buttons. Move the slider to left or to the right to zoom in or out.

Refresh rate

The refresh rate (2) is the time between to updates of the preview (2 measurements). To change this refresh rate, click inside the input box next to *Refresh rate* and enter the desired value with the keyboard or click on the up down control of the spin box until the desired value is reached.

Clear graphic

The current preview of the graphic can be cleared.

Click on **Clear**.

6.3.3 Automatic lamp alignment motorized lamp house

What can be done?

Both automatic lamp alignment functions adjust the lamp in either the Z-axis or in all axis to obtain the maximum light output. Wait until the process stops or interrupt the processes by stopping it manually.

How to fast align?

1. While the automatic *Lamp alignment* is selected and the *Lamp alignment* window is open, click on **Automatic** tab.
2. Click on **Start Fast alignment (Z-axis only)**. (image 6-10)

   The software starts with the alignment. The intermediate light output results can be followed on the preview graph.

   Once the light output reaches its maximum value the process stops automatically.
3. To interrupt the alignment procedure, click on **Stop Alignment process**.

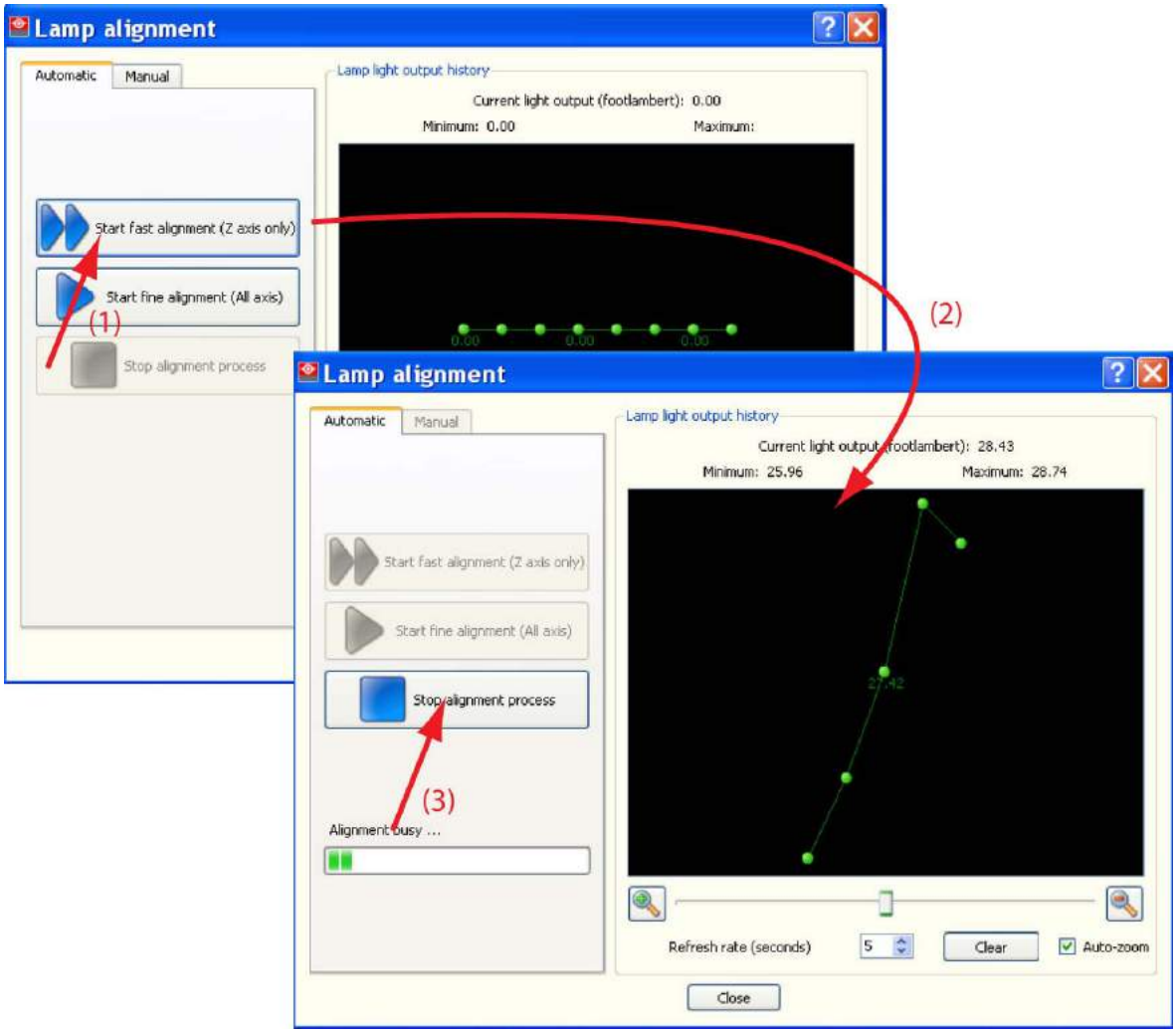


Image 6-10
Lamp alignment, Z-axis

How to fine align?

1. While the automatic *Lamp alignment* is selected and the *Lamp alignment* window is open, click on **Automatic** tab.
2. Click on **Start fine alignment (all axis)**.

   The software starts with the alignment. The intermediate light output results can be followed on the preview graph.

   The alignment can take a while. Once the light output reaches its maximum value the process stops automatically.
3. To interrupt the alignment procedure, click on **Stop Alignment process**.

6.3.4 Manual lamp alignment for motorized lamp house

What can be done?

The light output of the lamp can be adjusted manually using the motor functions on the lamp house or by turning manually on the adjustment knobs on the lamp house. In both cases a preview is given in the *Lamp light output history*.

Z-axis alignment is the fast alignment to improve the light output. While the X and Y axis alignment is fine alignment to further improve the light output.

How to align?

1. For the Z-axis alignment, click on left or right arrow keys below *Z alignment*. (image 6-11)

   Click first in one direction and look to the preview to see if there is an improvement. If there is an improvement, continue in the same direction. If not, click in the other direction until the maximum light output is obtained.

2. For a fine adjustment, adjust the X and Y axis. Click on the corresponding buttons.

   Adjust the X-axis (left - right keys) and the Y-axis (up down keys) for maximum current light output (Footlambert Measured). Carefully adjust for maximum light output. Once over the maximum, click slightly in opposite direction to reach the maximum light output again.

   Do this for each direction and minimum repeat this adjustment cycle twice.

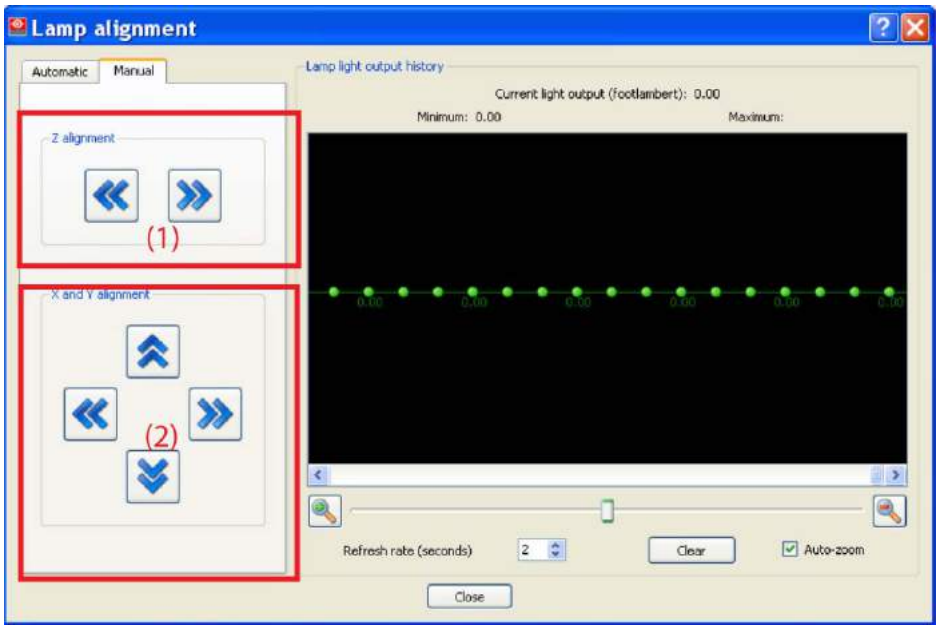


Image 6-11

6.4 Lamp information

About the information

The lamp information window displays read only information about:

Run time in hours	Run time since first start up of the lamp or since the last reset.
Remaining run time in hours	Remaining run time that the lamp can be used without risk of damaging the projector.
Strikes	Number of strikes since the first start up or the lamp or since the last reset.
Article number	Article number of spare lamp which must be used in this projector.
Serial number	Serial number of current installed lamp inside the projector.

When using the reset button

This reset button has to be used:

- when installing a new lamp, to set the value for run time and the number of strikes back to zero and to reset the remaining run time.
- when reinstalling a used lamp, to set back the values for the run time and the number of strikes and to adapt those values to new values.

How to display the lamp information

1. While within *Installation*, click on **Lamp** and then click on **Lamp information** (1). (image 6-12)

   The *Lamp information* window opens (2).

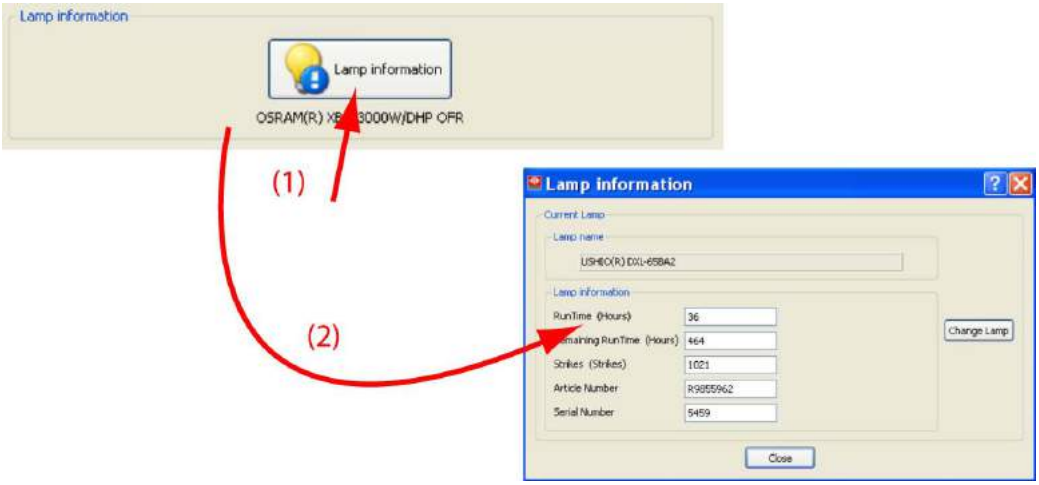


Image 6-12
Lamp info

For a new lamp, how to reset the values?

1. While the *Lamp information* window is displayed, click on **Change lamp** (1). (image 6-13)

   A Reset lamp parameters selection window opens (2).

2. To get new lamps, click on **From new list** (3).

   The lamp article and serial number opens (4).

3. Fill out the article number of the new lamp (5a)
   Or,
   click on **Select** (5b) to display a list of possible article numbers (6). Select a article number (7) and click **OK** (8).

   The software will check if the entered article number is a valid number (9).

4. Fill out the serial number of the lamp (10).

5. Click **Reset** (11).

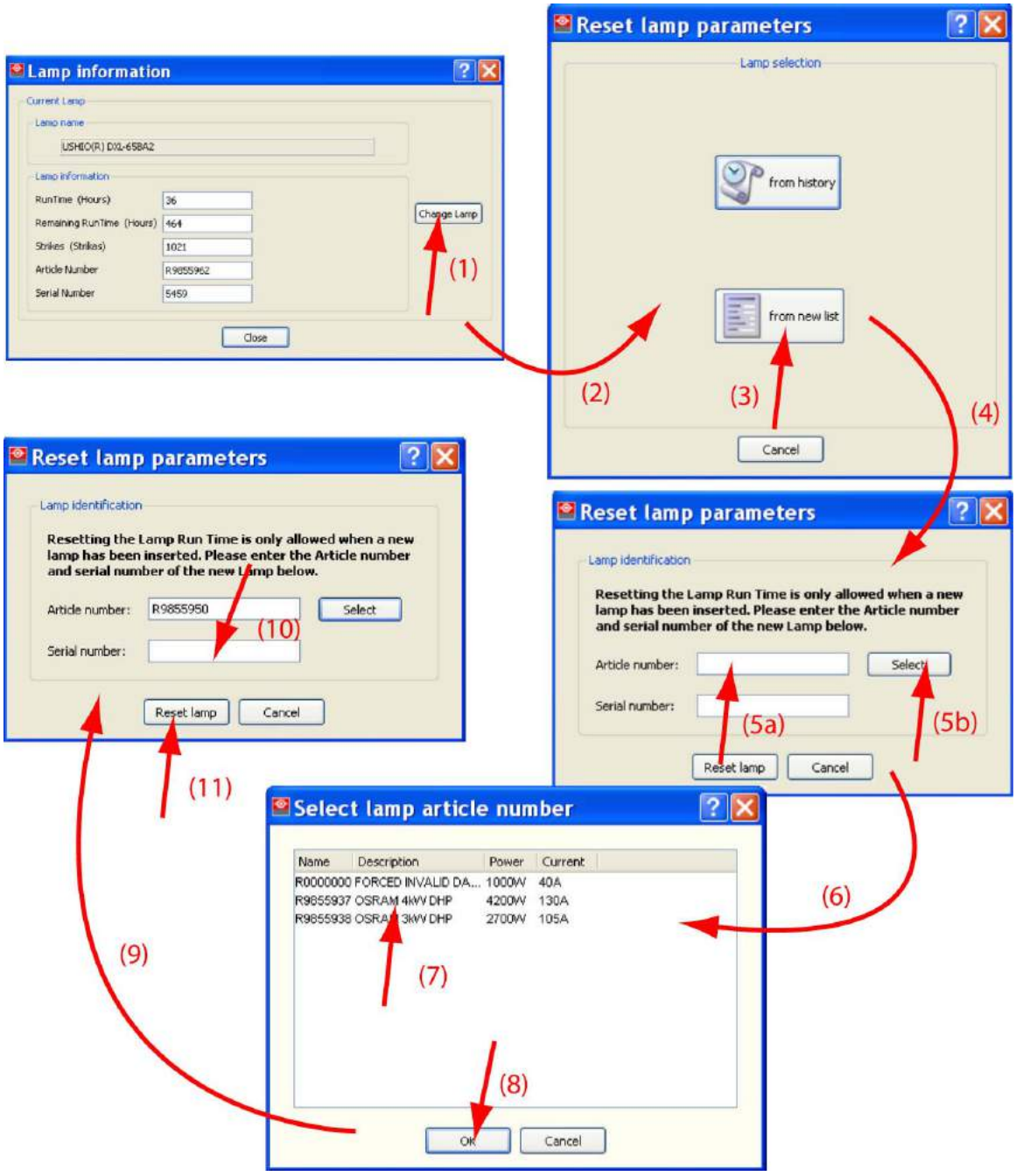


Image 6-13
Reset lamp info, new lamp

For a used lamp, how to set back the original values?

1. While the *Lamp information* window is displayed, click on **Change lamp** (1). (image 6-14)

   A *Reset lamp parameters* window opens (2).

2. To get history of the used lamps, click **from history** (3).

   The Reset lamp history selection window opens (4).

3. Click on **Select** (5) to display a list of possible lamps (6).

4. Select the desired lamp (7) and click **OK** (8).

   The article number and serial number of the selected lamp is added to the *Reset lamp parameters* window (10). The lamp run time and number of strikes of this lamp are added in *Lamp parameter preview* (12).

5. The lamp parameters can be edited by the user under personnel maintenance and responsibility. If you want to change these parameters, check the check box in front of *Edit lamp parameters* (11).

   The current parameter fields become active (12).

6. Click in an input field and change to the desired value.

7. Click **Reset lamp** (13).

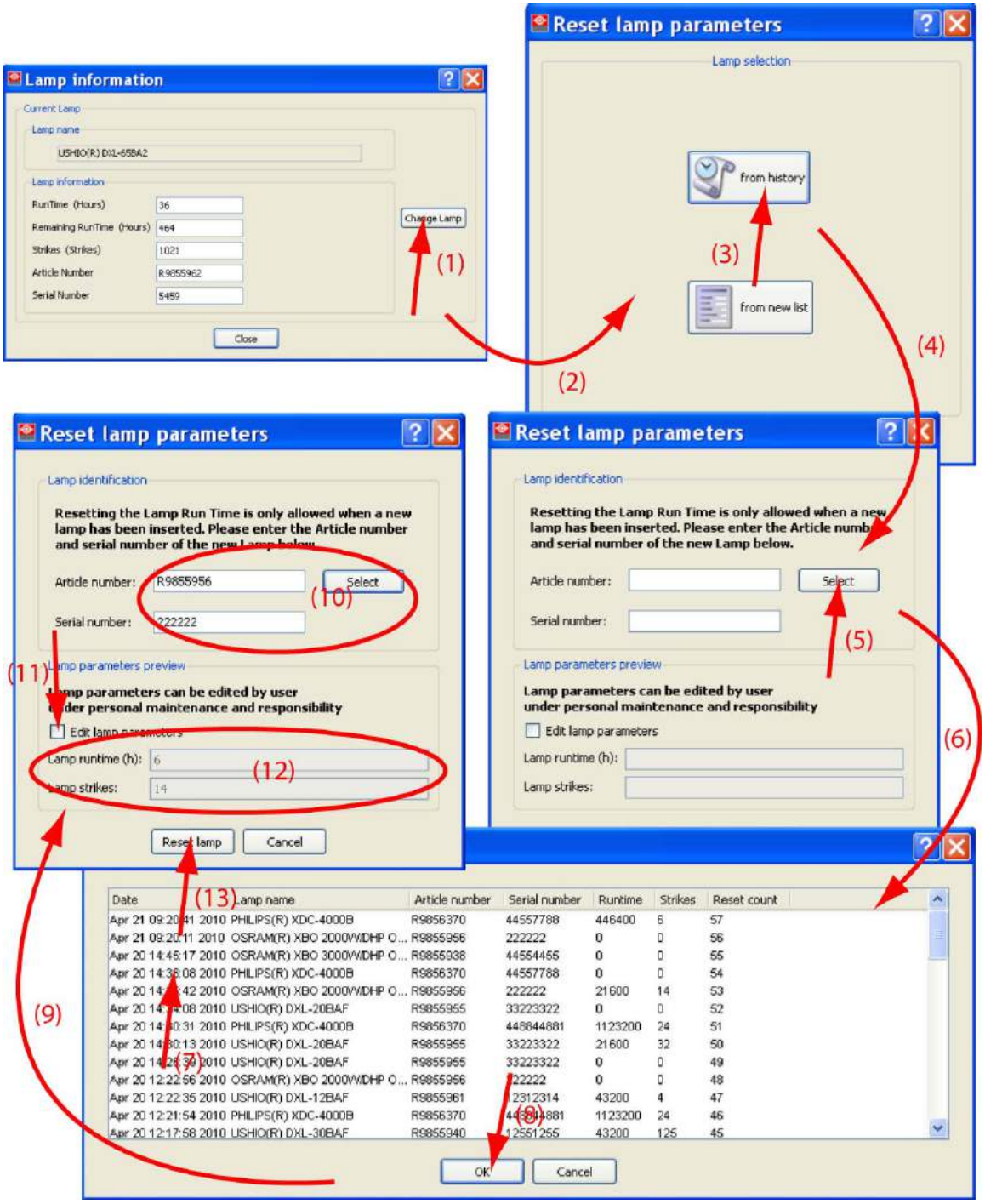


Image 6-14
Reset lamp info, used lamp

6.5 Lamp recovery

Only for DP2K-C series and DPxK-B series.

About lamp recovery

When there was an external power failure and the power is coming up again, the projector lamp starts up again in the same state as before the power failure.

The projector software has to know if the projector must remember its recovery settings.

About the use of an UPS system

When the projector is connected to an UPS system the electronics remains powered during an external power failure. The lamp power supply is down and the lamp is out. When the external power is coming up again, the lamp power supply starts again and the lamp starts in the same state as before the power failure.

This UPS system reduces the restart of the complete system significantly.

As the projector software has to know if an UPS system is connected or not, a check box must be checked in the lamp recovery window.

How to setup

1. While in *Installation*, click **Lamp** and then click **Lamp recovery** button (1). (image 6-15)

   The *Lamp recovery* window opens (2).

2. To activate the lamp recovery mode, check the check box next to *Lamp recover mode*.

3. When the projector is connected to an UPS system, check the check box next to UPS installed.

Image 6-15
Lamp recovery

6.6 Linked lamp output

6.6.1 About linked lamp output

Goal

When 2 projectors are projecting on the same screen, e.g. for projecting 3D images, then it necessary that both projectors are using the same light output, otherwise a difference in brightness will be visible between both images.

To obtain this goal, one projector will be set as master and this master will manipulate the target CLO value of the slave so that the lamp output will be aligned between both projectors. When the lamp output of the master changes, then the lamp output of the slave will follow.

6.6.2 Set up of the master projector

How to setup

1. Click on **Linked lamp output** (1). (image 6-16)

   The *Linked Lamp output* window opens (2).

2. To set the projector as master, check the check box in front of *Is master projector* (3).

3. Click on the up down control (4) next to *Master CLO target* until the desired value is reached and click then on **Set target now** (5).

4. To set the slave CLO IP address, click on **Change**. (6)

   The Slave IP address window opens.

5. Fill out the IP address (7a) and click **OK** (10)
   or click on **Device scan** (7b).

   When Device scan is used, all projectors on the network are displayed in Projector on Network window.

6. Click on the IP address of the slave projector (8) and click **OK** (9).

   The IP address will be filled out as slave IP address.

7. Click **OK** on the Slave IP address window (10).

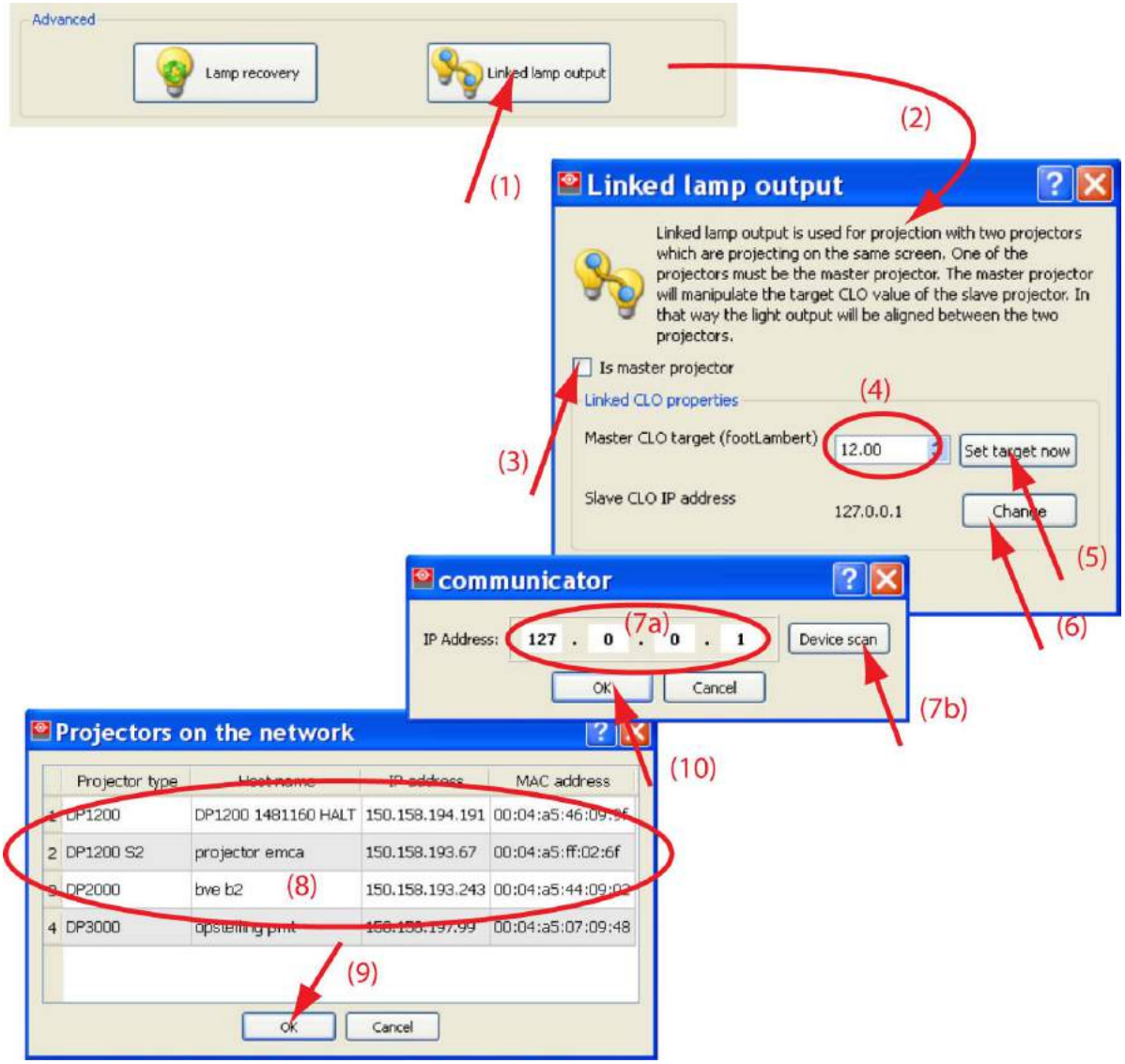


Image 6-16
Linked lamp output

6.7 Color calibration

Overview

- Introduction to Color Calibration
- Color path selection
- Color Correction Process
- Color Measuring
- Verifying the colors after correction

6.7.1 Introduction to Color Calibration

Overview

The color coordinates for the projected primary colors must be measured on the screen. The values can be different than those originally inside the projector due to reflection on the screen or due to the influence

of the glass between the projection booth and the theatre and even the projected colors are different from setup to setup.

These measured color coordinates are references for the projector and will be entered so that the projector knows how its colors are projected on the screen.

This reference measuring, together with the delivered gamut file of the film will introduce a color correction so that the film will be projected with the correct color settings.

6.7.2 Color path selection

Overview

The hardware allows for 3D images, left and right, to have an independent color correction path. This can be used to calibrate differently the left and right eye when using e.g; a Dolby or Panavision 3D color wheel without any correction being done in the server.

When calibrating the color for the left and the right eye at the same time, than select *Single*.

When calibrating the color for the left and the right eye separately, then select *Dual*.

6.7.3 Color Correction Process

Step to be taken

1. Measuring of the color gamut of the projector.
2. Select a target color gamut file or upload a target color gamut file.
3. Verify the colors on screen after correction (optional step).

While executing step 2, the previous color corrections on the projector will be removed. 3D tables are bypassed.

When standard processing is selected the cinema color correction is not valid. The active TCGD data is not taken into account.

6.7.4 Color Measuring

CAUTION: Set anamorphic lens factor to 1.0 before starting the color measuring.

How to measure

1. Click on **Measure Native Colors** (1). (image 6-17)

   The *Color Gamut Measurement* window is displayed showing the current color values (2).

2. Set the Color path selection (same as for the 3D input settings). Click on the drop down box and select *Single* or *Dual*.
   When for both eyes the same color corrections are used, select *Single*.
   When each eye a color correction is used, select *Dual*.

   When Dual is selected, continue with the left eye and repeat for the right eye.

3. Select a color by clicking on the color name (3). (image 6-18)

A loading color test pattern message will be displayed. After a while, the selected color will be projected **without any color correction** on the screen.

The selected input fields of that specific color becomes white (4).

4. Measure the color coordinates for that specific color.
   When single was selected, measure the x and y coordinate and enter in the white input field.
   When dual was selected, select the color, wait for the color wheel to be locked on the correct frequency (72 Hz). Measure the values behind the left glass and behind the right glass. Enter the values in the corresponding white boxes.
   Note: *Enter just the digits of the decimal value.*
5. Repeat this procedure for the other colors and for white by starting at step 3.
6. Do you want to use the color calibration values in a macro file?
   If yes, press **Save to file** (5).
   Depending on the color path selection setting, the procedure continues as follow:
   Tip: *This is handy when using the same projector for normal cinema projection and for 3D cinema projection. The color calibration can then be done via a macro file but first, both color calibration files must be saved.*

   For a single color path, press Save to file

   The *Save Color Gamut measurement* window opens (6).

   Enter a name in the *Filename* input field (7) and press **Save** (8). (image 6-19)

   For a dual color path, press Save to file (image 6-20)

   Enter a MCGD name (7). Two separate files will be created, both with the same MCGD name followed by an extension (9)

   If you want to specify individual files for the left and right eye, check the check box in front of *Specify individual files* (8), Than enter both file names or browse for the files (9). Click **Save** (10) to save both files.
   If no, continue with step 7.
7. To use the measured values immediately, press now **Apply and Exit** .
   Note: *It is still possible to return to the previous coordinates by clicking* ***Cancel****.*

   The measured values are written to file and become active.
8. Set the anamorphic lens factor back to its original value.

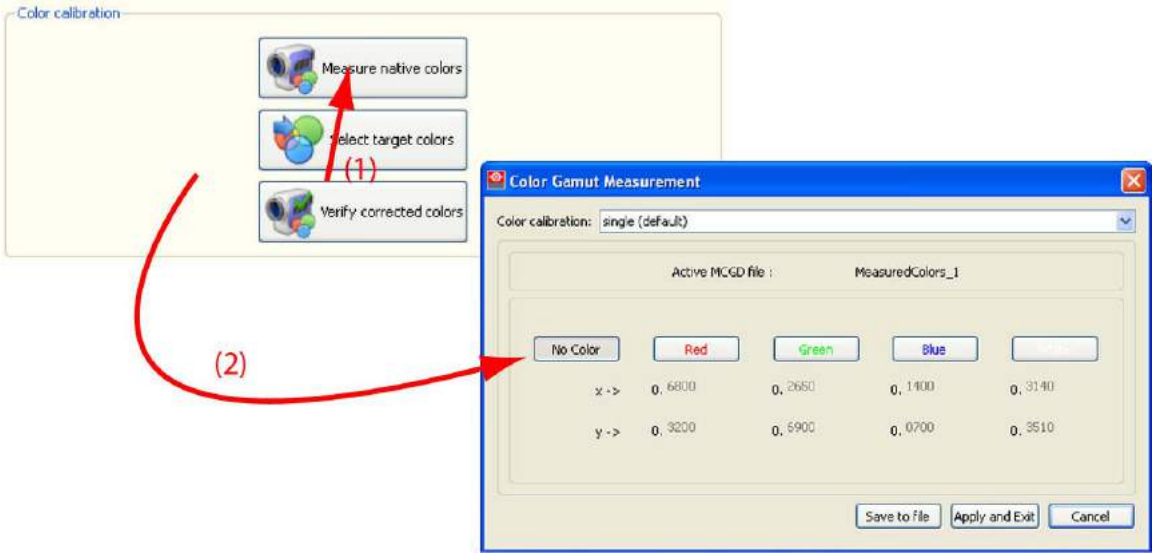


Image 6-17
Startup color gamut measurement

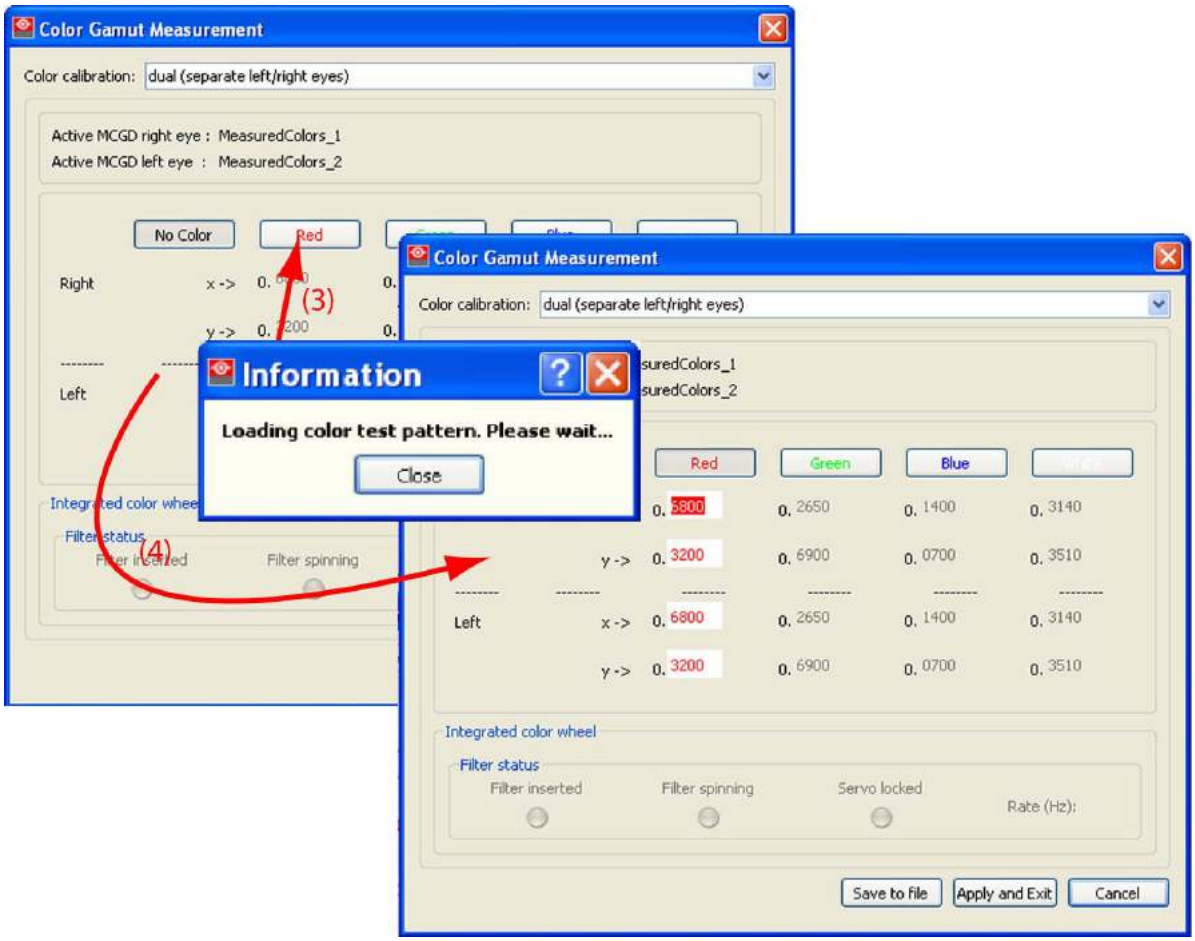


Image 6-18
Color gamut, Color selected

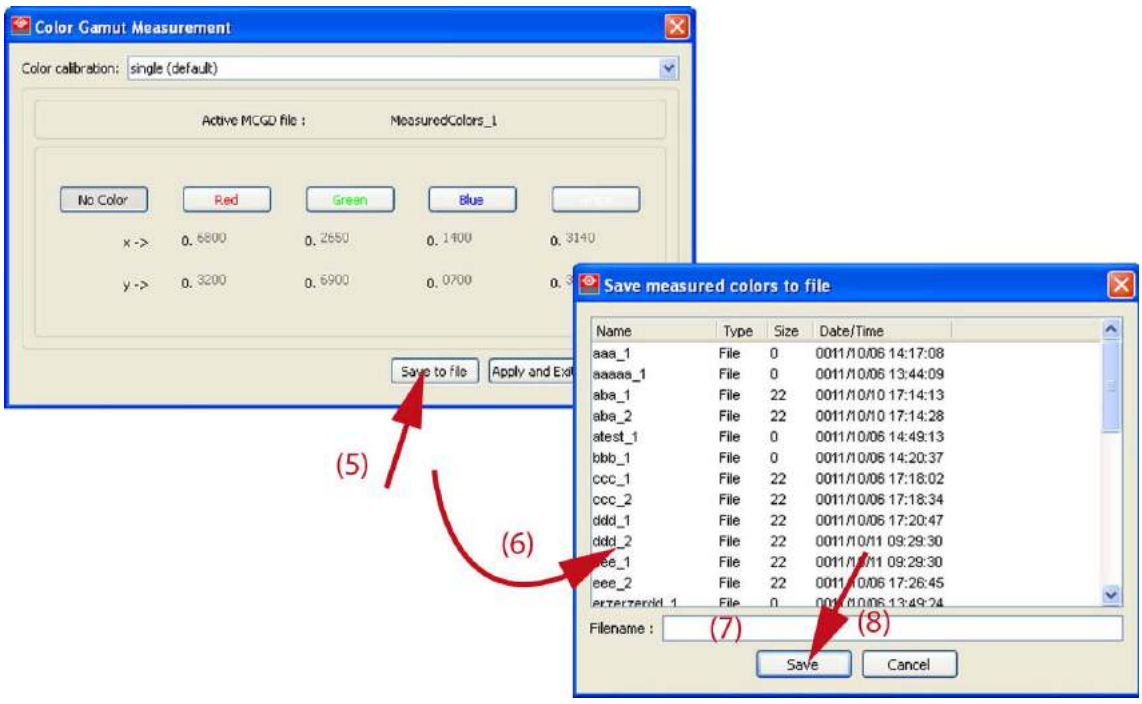


Image 6-19
Save coordinates to file

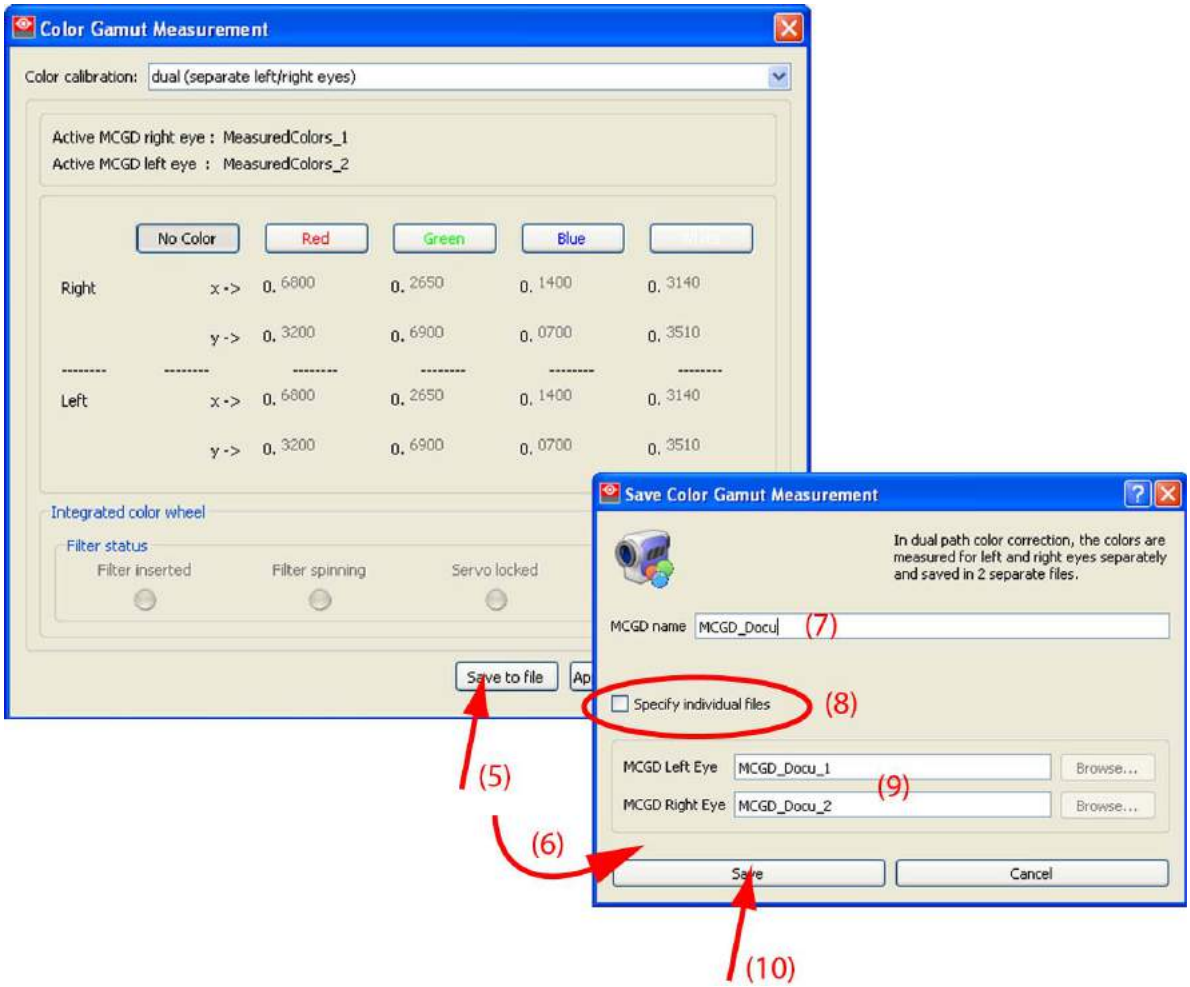


Image 6-20
Save coordinates to file

6.7.5 Verifying the colors after correction

CAUTION: Set anamorphic factor to 1.0 before verifying the colors after correction.

Overview

The color coordinates of the projected image after correction can be verified by measuring the coordinates on the screen again. The measured values should be the values as indicated on the interface.

This part of the color correction procedure is optional.

How to verify for Color path selection “Single”

1. Click on **Verify Corrected Colors** (1). (image 6-21)

   The verify colors window opens (2)).

2. Select a color button.

A loading message will be displayed.

The selected color is displayed on the screen **with color correction**.

3. Measure the coordinates with a colorimeter on the screen and check with the values below the color button (for dual, measure behind the glasses)
   Note: *This only allow to verify TCGDs that differ only with gain adjustments with the same color targets. Therefore one would only see here the common/left eye TCGD values.*
4. Repeat this procedure for other colors, starting by step 2.
5. When finished, click on **Remove Color**.

   A remove color pattern message will be displayed.

   The color pattern is removed.
6. Set the anamorphic lens factor back to its original value.

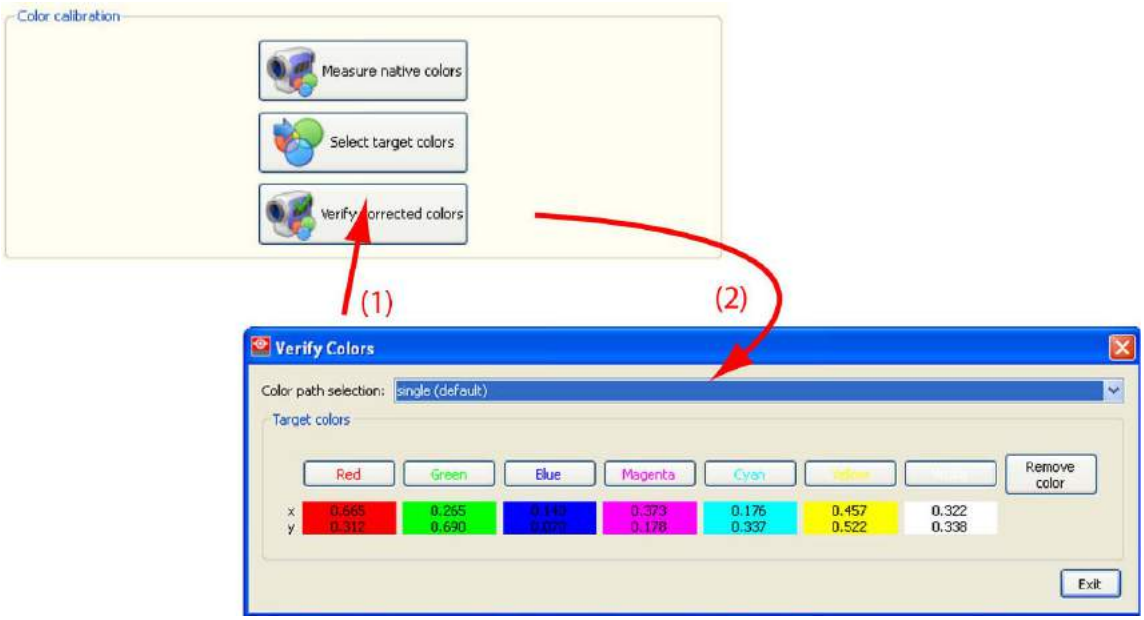


Image 6-21
Verify colors

How to verify for Color path selection “Dual”

1. Click on **Verify Corrected Colors** (1). (image 6-22)

   The verify colors window opens (2)).
2. Select **Left eye White** button.

   A loading message will be displayed.
3. Measure the coordinates with a colorimeter on the screen and check with the values below the button
4. Repeat this procedure for *Right eye White*.
5. When finished, click on **Remove Color**.

   A remove color pattern message will be displayed.

   The color pattern is removed.
6. Set the anamorphic lens factor back to its original value.

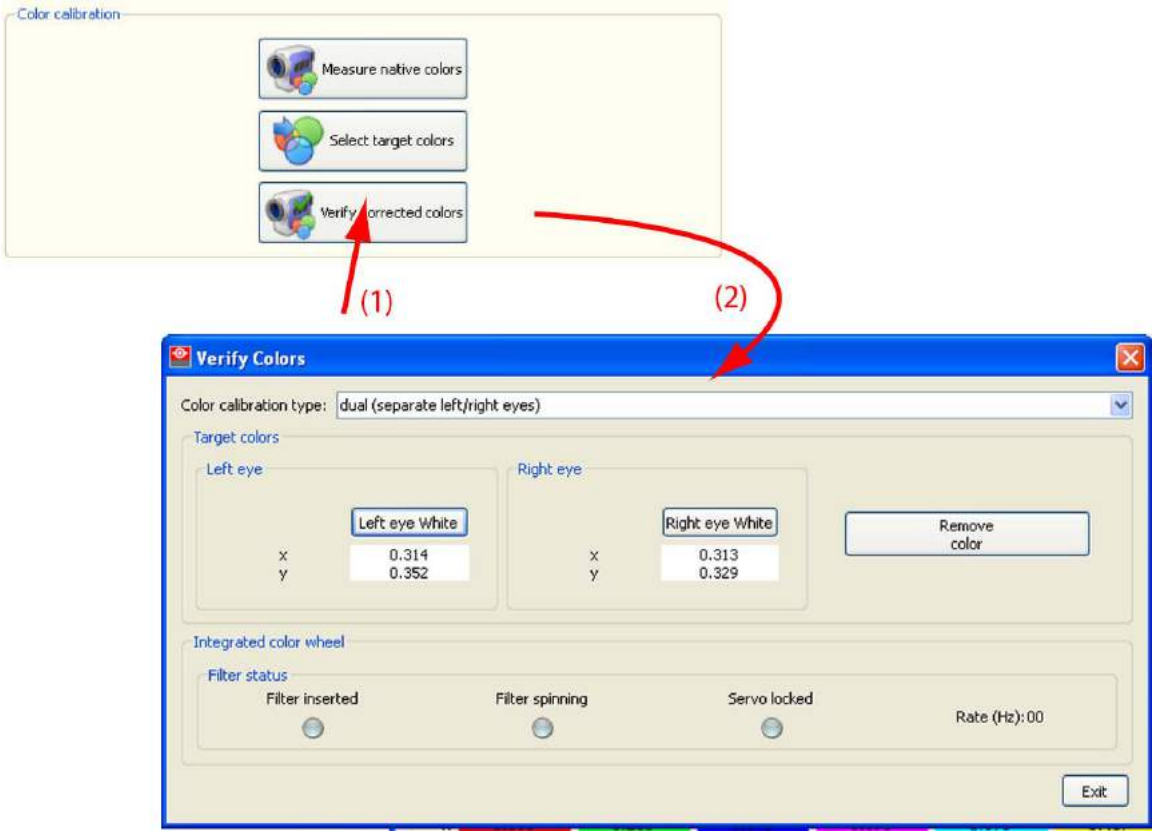


Image 6-22
Verify colors

6.8 Automation

6.8.1 General purpose inputs configuration

What is possible

This interface enables the user to configure the automation system that is present inside the projector (standard GPI configuration). The touch panel enables the user to couple a macro file to a rising edge or falling edge on one of the inputs of the GPI connector (DB37).

GPI 1 and GPI 2 are reserved for 3D purposes and cannot be changed by the user.

GPI 1 : rising edge triggers the 3D L/R input reference. This reference indicates which frame is Right and which frame is Left depending and the used polarity. For more info, see 3D settings.

GPI 2 : rising edge triggers the 3D L/R display reference. It is used to specify which frame of eye data is to be displayed during a specific display frame.

How to associate a macro

1. While in *Installation*, click on **Automation**.

   The automation overview window is displayed.

2. Click on tab **GPI configuration** (1). (image 6-23)

3. Select the desired GPI to update the falling edge macro and/or the rising edge macro (2) and click on **Edit** (3).

The macro association window opens (4).

4. Click **Change** next to falling or rising edge (5).

   The select a macro window opens (6).

5. Select the desired macro file (7) and click **OK** (8).

   The selected macro is added in the macro association window (9).

6. If necessary, repeat for the other edge and finally click **Apply** (10).

   The associations are filled out in the automaton window.

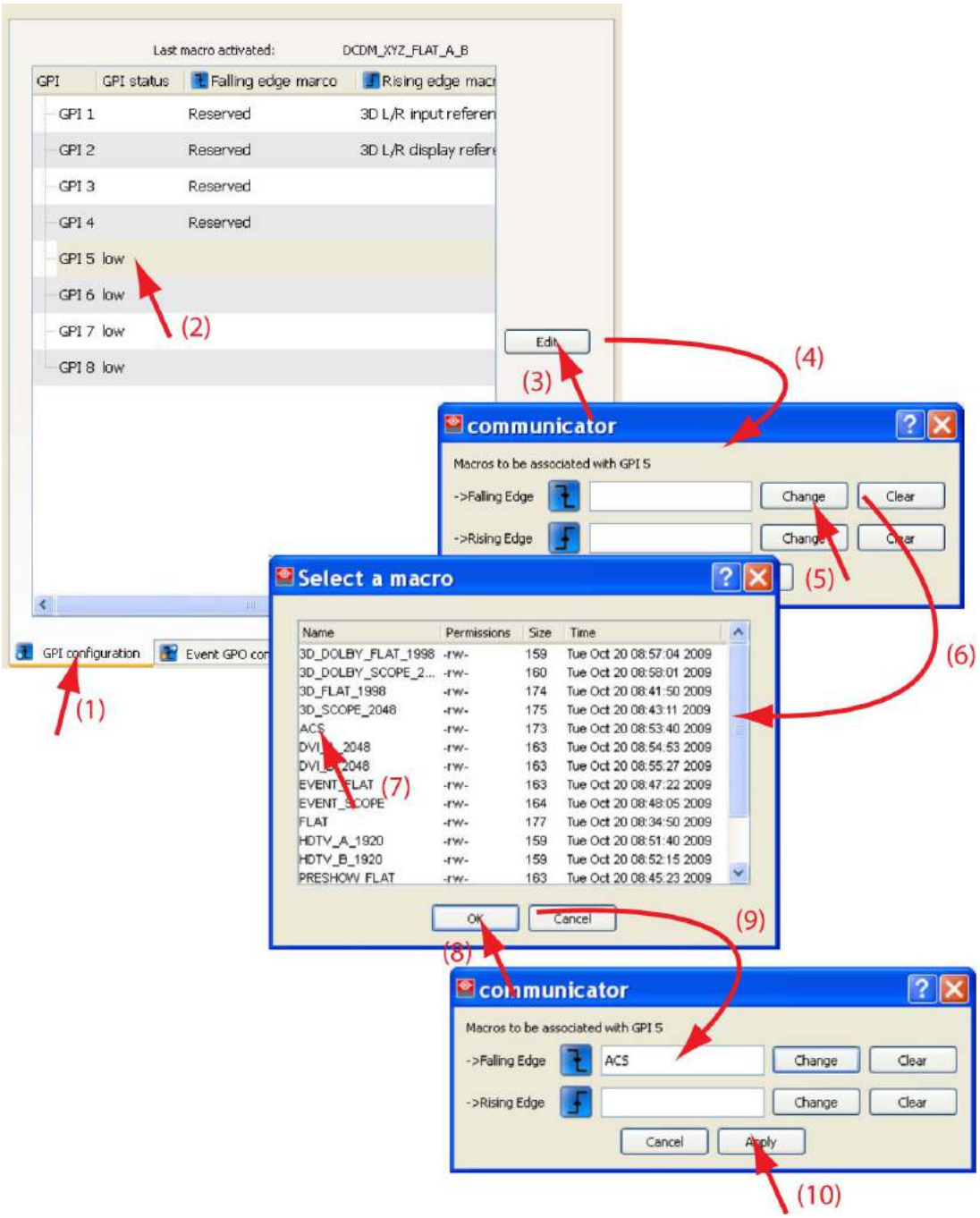


Image 6-23

6.8.2 Event GPO configuration

What can be done ?

When an event happens, e.g. lamp power on, a GPO can be set in certain state. The output of this GPO can be used to trigger processes in the theatre or control room.

How to set up

1. While in *Installation*, click on **Automation**.

   The automation overview window is displayed.

2. Click on tab **Event GPO configuration** (1). (image 6-24)
3. Select the desired event (2) and click **Edit** (3).

   The GPO association window opens (4).

4. Click on the drop down box next to *GPO* and select the desired GPO (5).
5. Click on he drop down box next to *GPO* action and select the desired action (6).

   The selected action is the action the GPO will take when the associated event happens.

6. Click **Apply** to make the association (7).

   The GPO name and GPO action are added on the event line.

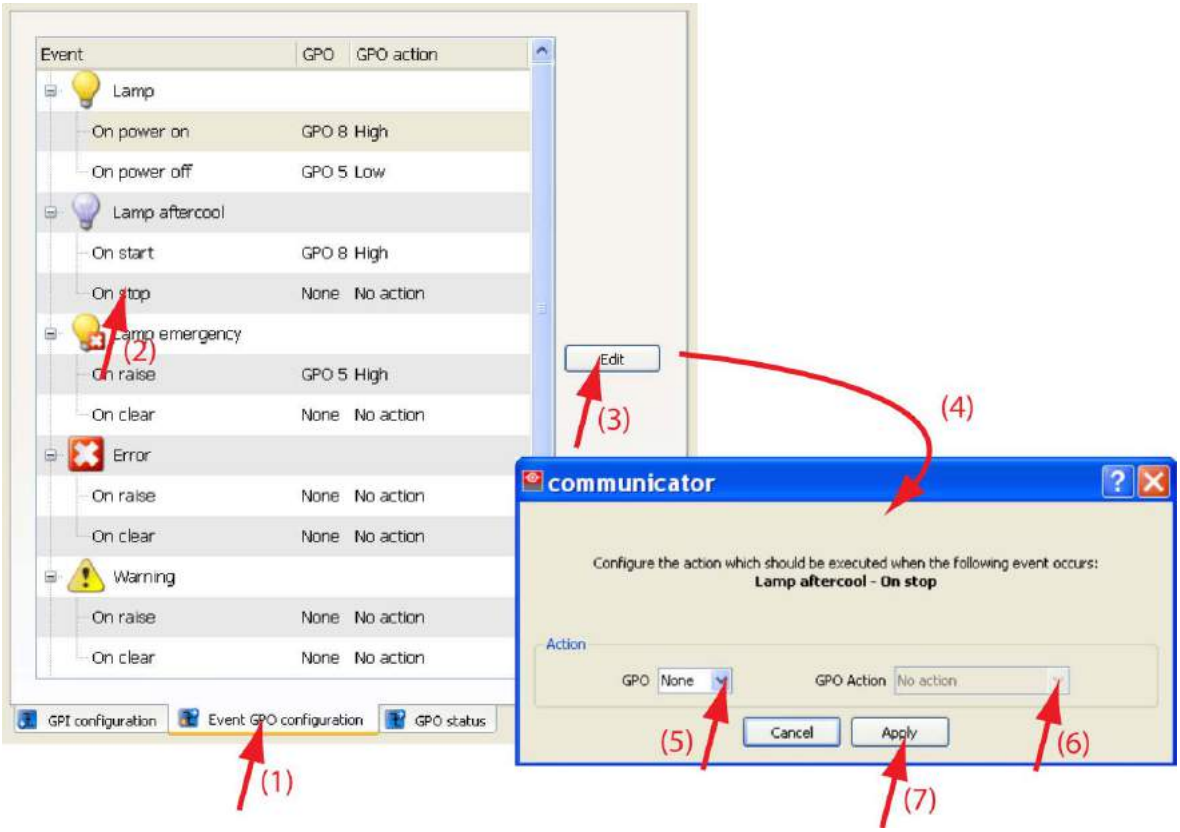


Image 6-24

Events overview

Lamp	On power on: GPO signal can be set to specific state. On power off : Same GPO signal can be switched to a different state.
Lamp aftercool	On start : GPO state can be switched at the start of the after cooling period. On stop : Same GPO state can be switched to a different state when the after cooling period is finished.

Lamp emergency	On raise :GPO state can be set to a specific state when a lamp emergency happens.
	On clear : Same GPO state can be reset to a specific state when the lamp emergency is cleared.
Error	On raise : GPO state can be set to a specific state when an error happens.
	On clear: Same GPO state can be reset to a specific state when the error is cleared.
Warning	On raise : GPO state can be set to a specific state when a warning happens.
	On clear : Same GPO state can be reset to a specific state when the warning is cleared.
Notification	On raise : GPO state can be set to a specific state when a notification happens.
	On clear : Same GPO state can be reset to a specific state when the notification is cleared.

About :

Error : a show stopping event happens on the projector.

Warning : show can continue but a technical intervention will be necessary to prevent an error.

Notification : no show stopping event, but a maintenance of the projector will be necessary in the very near future.

6.8.3 GPO status

What can be done ?

With the GPO status tab, the automation systems triggered by a GPO can be tested. The state of the selected GPO can manually be changed between high, low or continuous toggle.

GPO 1, GPO 2 and GPO 3 are reserved and cannot be toggled by the user.

How to change the status

1. While in *Installation*, click on **Automation**.

   The automation overview window is displayed.

2. Click on tab GPO status (image 6-25)

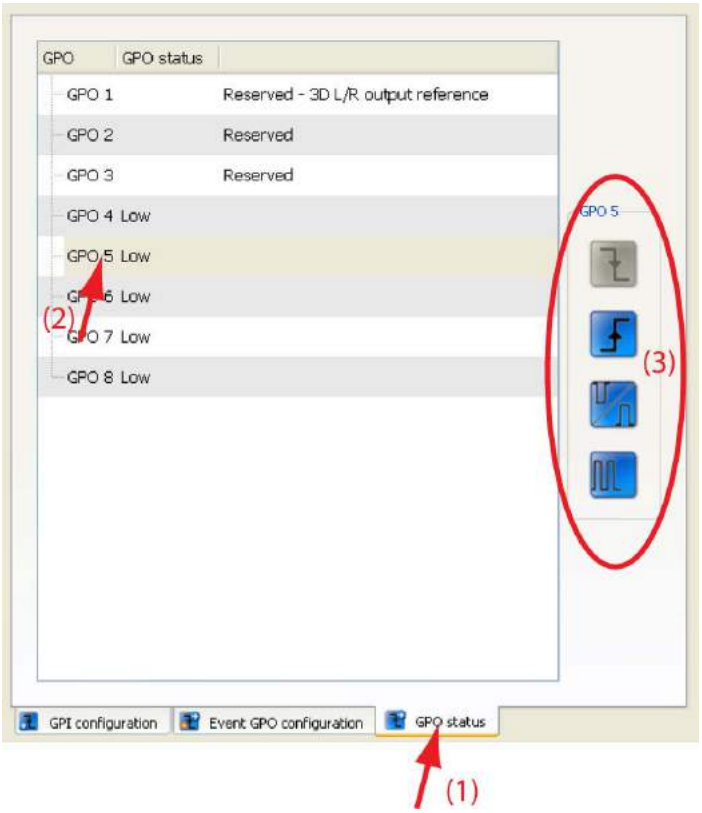
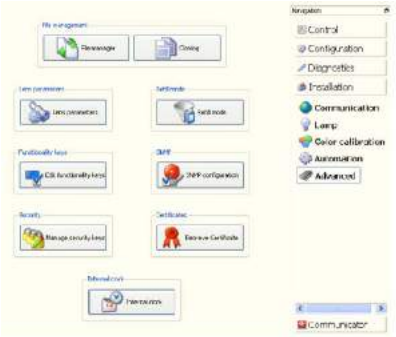


Image 6-25
GPO status

6.9 Advanced settings

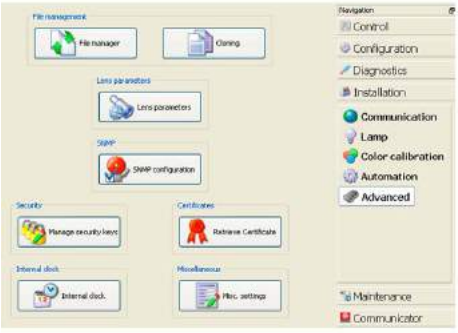
About the Advanced settings window

The Advanced settings window for DP2K-xxB and DP4K-xxB projectors contains an extra Miscellaneous button. The window for DP2K-xxS has no Refill mode and no Functionality keys.



DP2K-xxC

DP2K-xxB, DP4K-xxB



DP2K-xxS

Image 6-26

Overview

- Set up of the ICP clock
- Set up of the Link Decryptor Clock
- File manager
- File management, cloning
- Restoring a clone file
- Lens selection (parameters)
- Lens homing and return
- Refill mode
- External exhaust fan selection
- Image orientation
- Web application credentials

6.9.1 Set up of the ICP clock

About the ICP clock

This clock can be set to:

- Current PC time
- User defined time
- UTC/GMT time calculated from current PC time
- UTC/GMT time using NTP (time based on a server time)

Most of the logging is done by the ICP board and uses the internal clock of that board.

How to set the clock to user defined time

While in the Advanced tab page:

1. Click on **Internal clock** (1). (image 6-27)

   The *Projector internal clock* window opens.

2. **ICP** tab is open by default.

3. Select the clock synchronization source. Click on the radio button of your source.
   Select *User defined* time (4).

4. To change the month, click on the left or right arrow button next to the current month indication (5).

5. To select the day, click on a day in the calender view (6).

   The background of the selected day changes to dark blue.

6. To set the time, hour, minutes and seconds, click on the up down control of the corresponding spin box until the correct value is displayed (7)
   Or,
   click in the input field, select the current value and enter the new value with the keyboard.

7. Click on **Apply all** to set the new time as current time (8).
   Click on **OK** to set the new time as current time and to close the system clock window at the same time.

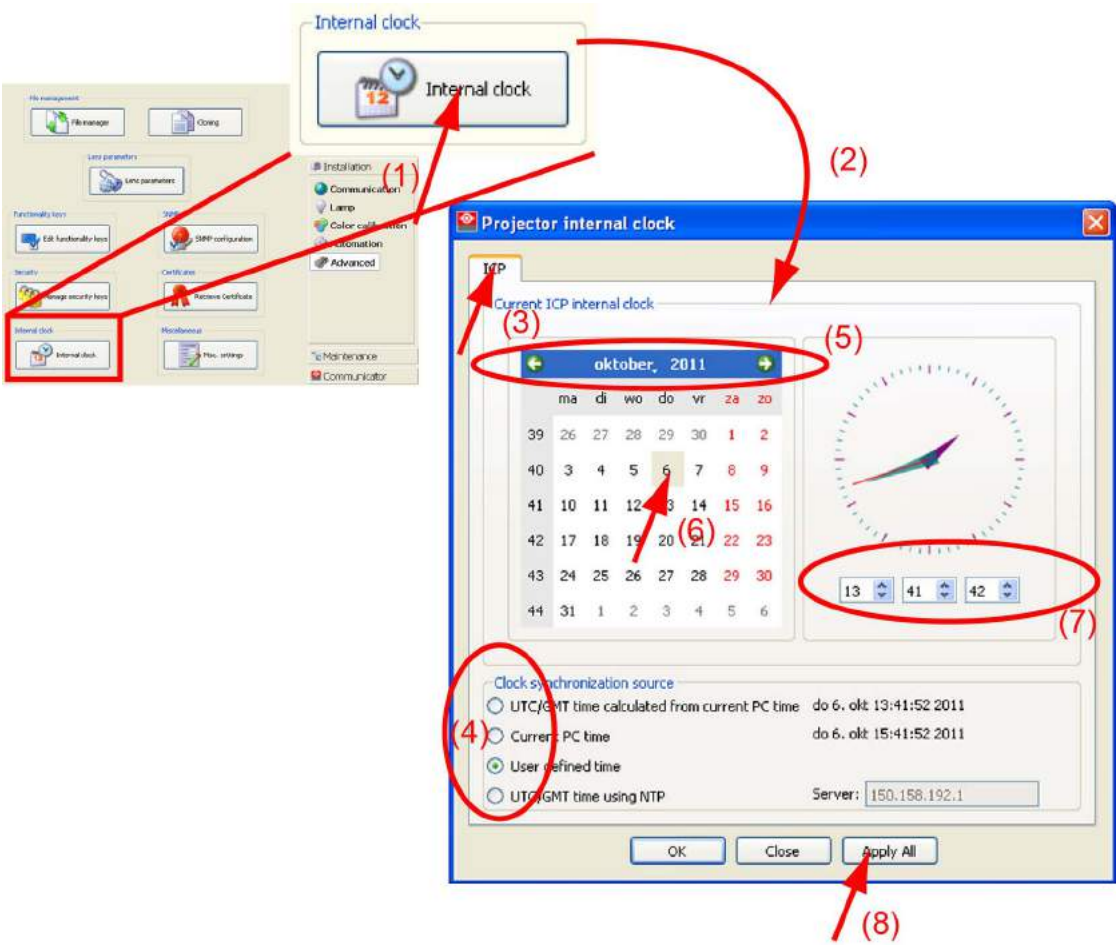


Image 6-27
Internal clock ICP

To set the clock to the PC clock or the UTC/GMT time based on the PC time

1. Click on **Internal clock** (1). (image 6-28)

2. **ICP** tab is opened by default.

3. Select the clock synchronization source. Click on the radio button of your source (4).
   Select *Current PC* time (4) to set to the Internal clock of the PC
   Select *UTC/GMT time calculated from current PC time* (4) to set the clock to the UTC/GMT time but based on the current PC time.

   The clock selection functions are grayed out.

   The ICP clock is set to the selected source.

4. Click **Apply All** (5).
   Click on **OK** to set the new time as current time and to close the system clock window at the same time.

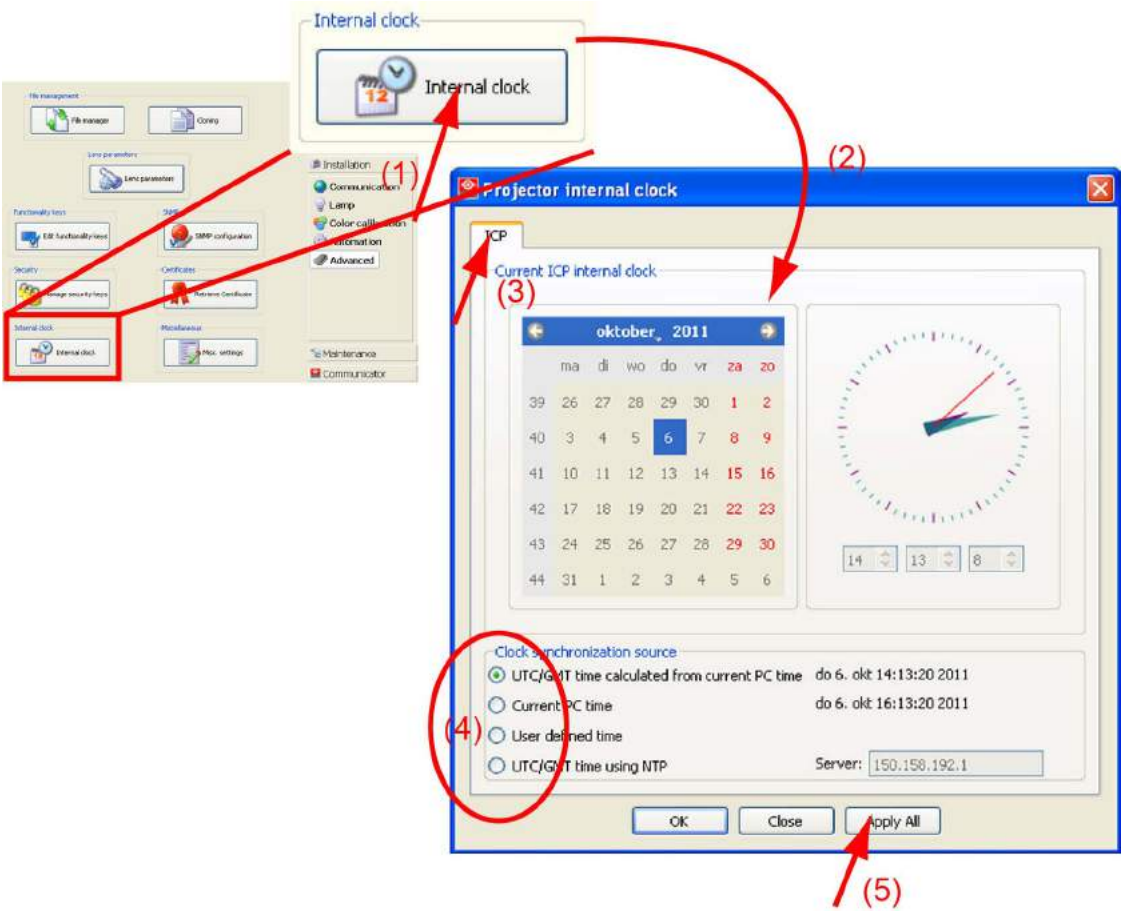


Image 6-28
ICP clock via a PC time

To set the clock to UTC/GMT time using NTP

1. Click on **Internal clock** (1). (image 6-29)
2. **ICP** tab is opened by default.
3. Click on the radio button before UTC/GMT using NTP (4)
4. Fill out the server IP address (5).
   Note: *An address contains 4 octets with a maximum value of 255.*
5. Click **Apply All** (6).
   Click on **OK** to set the new time as current time and to close the system clock window at the same time.

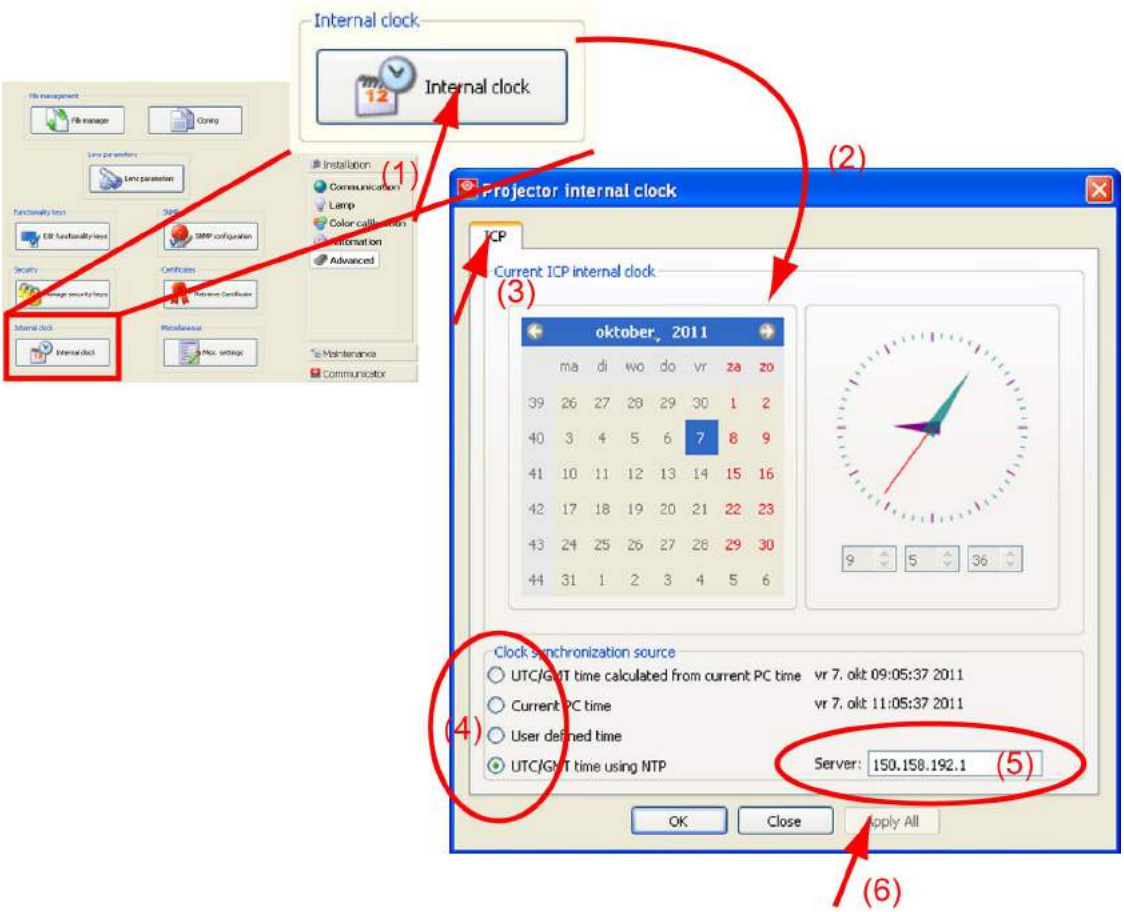


Image 6-29
ICP clock using UTC/GMT based on NTP

6.9.2 Set up of the Link Decryptor Clock

CAUTION: This clock must always be set to UDC GMT.

Maximum allowed deviation per year is 15 minutes.

What can be done ?

The link decryptor clock can be set to UTC/GMT time or to a user defined time. But the user define time must be the UTC/GMT time with a deviation of maximum 15 minutes

Logging is using internal clock but to make it easy readable for the different time zones, an offset can be added to the UTC/GMT time. This new time will then be used as logging time.

How to set the clock

While in the Advanced tab page:

1. Click on **Internal clock** (1). (image 6-30)

   The *Projector internal clock* window opens (2).

2. Click on **Link decryptor** tab (3).

3. Make your choice about the clock synchronization source (4)
   Select *UTC/GMT* time to synchronize with the internal PC GMT time. No other set up is necessary except an offset.
   Select *User defined* time and set up the clock.
4. To change the month, click on the left or right arrow button next to the current month indication (5).
5. To select the day, click on a day in the calender view (6).

   The background of the selected day changes to dark blue.
6. To set the time, hour, minutes and seconds, click on the up down control of the corresponding spin box until the correct value is displayed (7)
   Or,
   click in the input field, select the current value and enter the new value with the keyboard.
7. To enter an offset, click on the up down control of the corresponding spin box until the desired offset is displayed (8)
   Or,
   click in the input field, select the current value and enter the new value with the keyboard.
8. Click on **Apply all** to set the new time as current time (9).
   Click on **OK** to set the new time as current time and to close the system clock window at the same time.

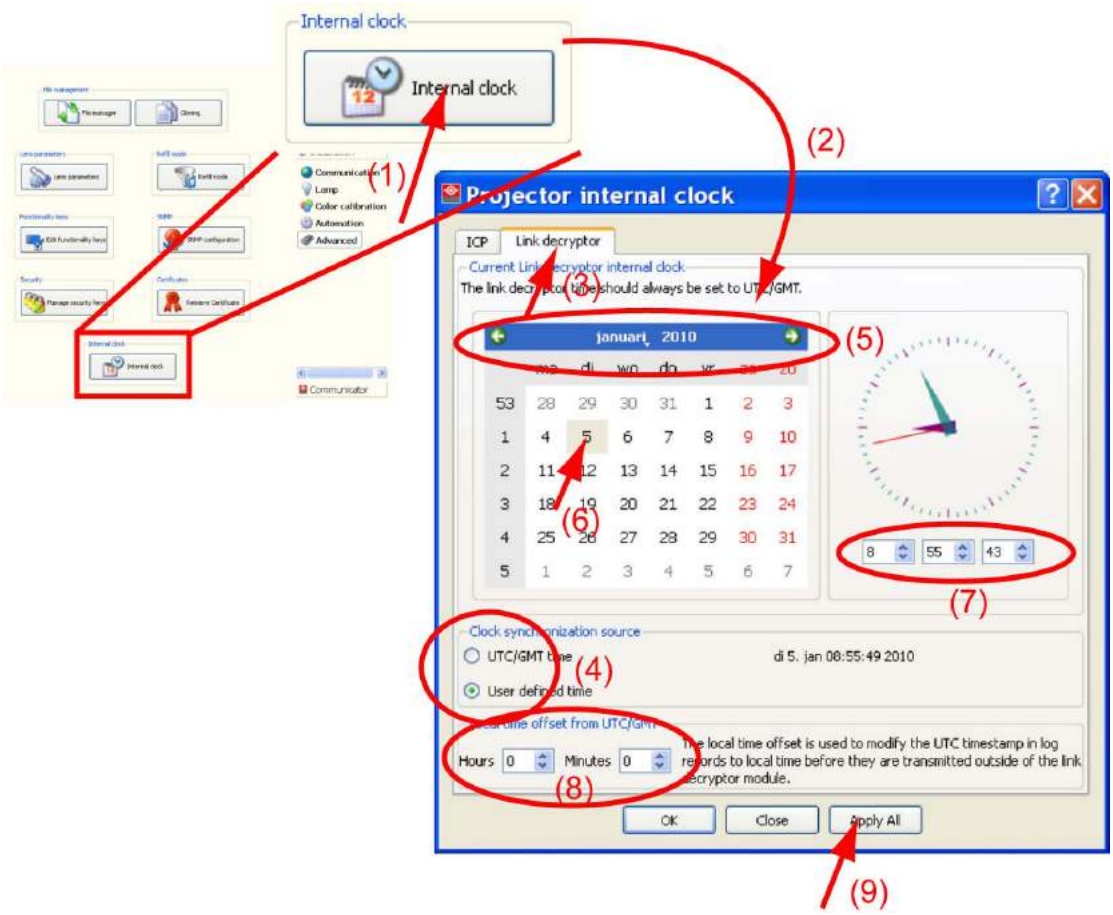


Image 6-30
Internal clock, link decryptor

6.9.3 File manager

Overview

- Introduction
- Activating the file manager
- Changing the view
- Create new local folder
- Refresh folder
- Delete a file or folder
- File upload
- File download
- Activate a Spacial Color Calibration file

6.9.3.1 Introduction

Overview

The file manager allows to copy files from a local computer to the projector file system or from the projector file system to a local computer.

6.9.3.2 Activating the file manager

How to activate the file manager

1. While in *Installation*, click on **Advanced**.

   The Advanced overview menu is displayed.

2. Click on **File manager**. (image 6-31)

   The *File manager* window opens.

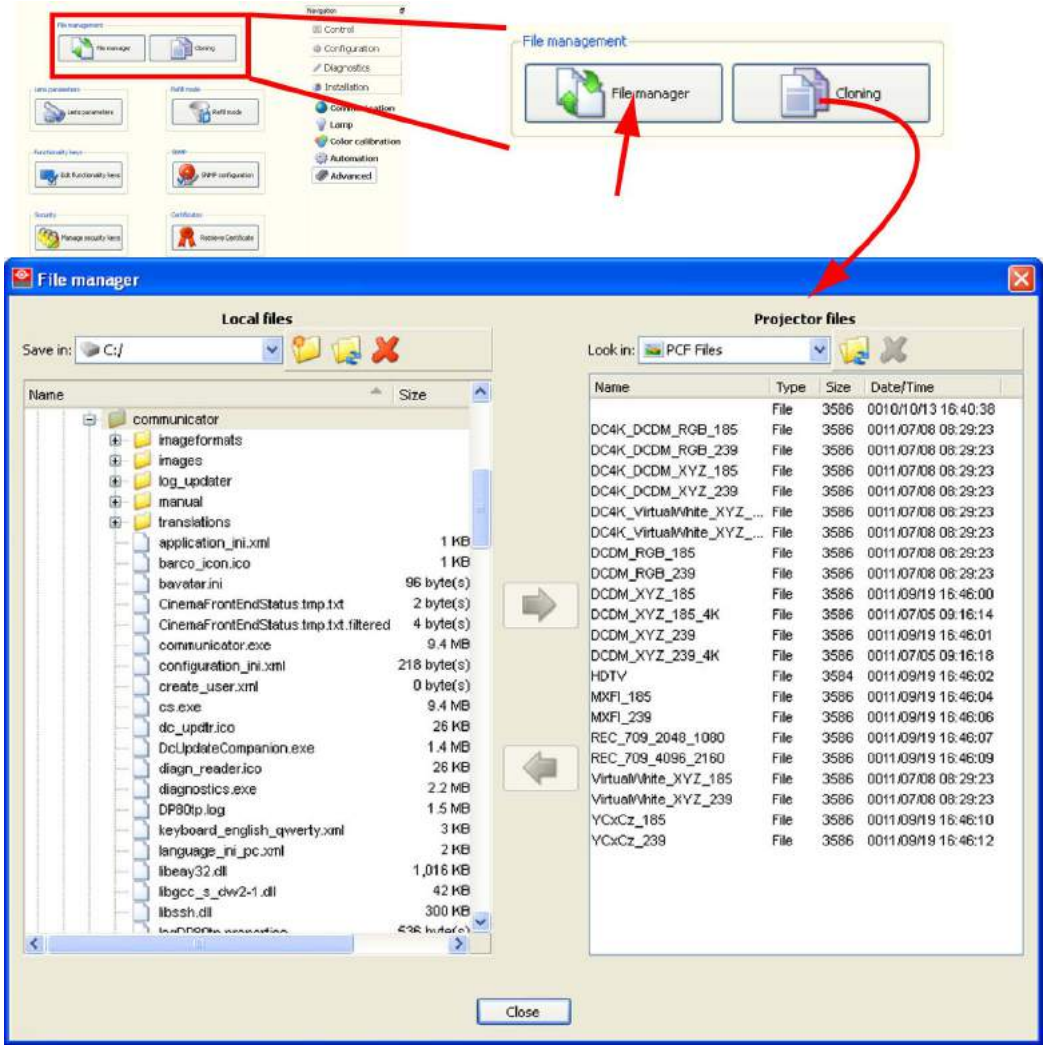


Image 6-31
File manager startup

6.9.3.3 Changing the view

How to change the view for Projector files

1. Click on the drop down box just below *Projector files* and select the file type to be displayed. (image 6-32)

   The content of the list changes to the selected file type.

   The following file types are possible:

Mode	Explanation
CSC	Color Space Converter Defines the Color Space to be used. It can be RGB or YcbCr.
TCGD	Target Color Gamut Data These files defines the Target Color Gamut. For each movie, it is possible to select a 'Target' Color Gamut File, which defines the color gamut values for that specific movie. Together with the measured color coordinates of the projector, the corrections for the projector are calculated so that the color gamut of the movie is reached.

Mode	Explanation
LUT-DG	De-Gamma Lookup table.
LUT-CLUT	Complex LUT lookup table.
PCF	Projector Configuration File. This file is a file that will be delivered with each movie. It contains all data needed to display a certain movie as it is defined by the movie distributor. This file includes : • LUT-CLUT data • LUT-DG data • Color Space Convertor data • Target Color Gamut data • Input data
MCGD	Measured color Gamut Data This file contains the measured color gamut data (color reference values) for a specific projector installation. This type of file can be created with the 'measure color gamut' function in the color gamut tab.
CSC-P7	Color Space Convertor – P7 Normal projector use has the CSC-P7 values calculated based on MCGD and TCGD parameters. Therefore, downloading CSC-P7 values is typically done for debug purposes, rather than normal operation.
INPUT	Input files contain information about the input: Source selection • Port 292-A Source Type and Packing • Port 292-B Source Type and Packing • Port 292-Dual Source Type and Packing • Port DVI-A Source Type and Packing • Port DVI-B Source Type and Packing • Port DVI-Dual/Twin Source Type and Packing Color spacing Field bid and field dominance info LUT-CLUT and LUT-DG information
3D	3D settings • Frame Rate Multiplication • 3D Control commands (All)
SCREEN	Screen presentation configuration These type of files include: • Resizing information • Letterboxing information • Masking information • Anamorphic factor of projector lens information All information in the SCREEN file can be set with the Resizing, Masking and Lens Type interface.
MACRO	Macro files Macro files contain a sequence of commands that need to be executed when executing the macro file.

Mode	Explanation
PNG	Portable Network Graphics files These files are typically used as test patterns.
LENS	Lens data file. Stores information about the lens adjustment in a typical setup.
LSC	Light sensor calibration file Stores information about the calibration setting according the light output for a certain type of screen.
LUT-SCC	Spacial color calibration lookup table (only for DP2K S-series and DP4K-P) Stores information about color uniformity of the image. The factory measured values are stored in a default LUT-SCC files and uploaded on the file system of the projector. This file will be activated. LUT-SCC files can only be activated via the file manager and cannot be part of a macro.

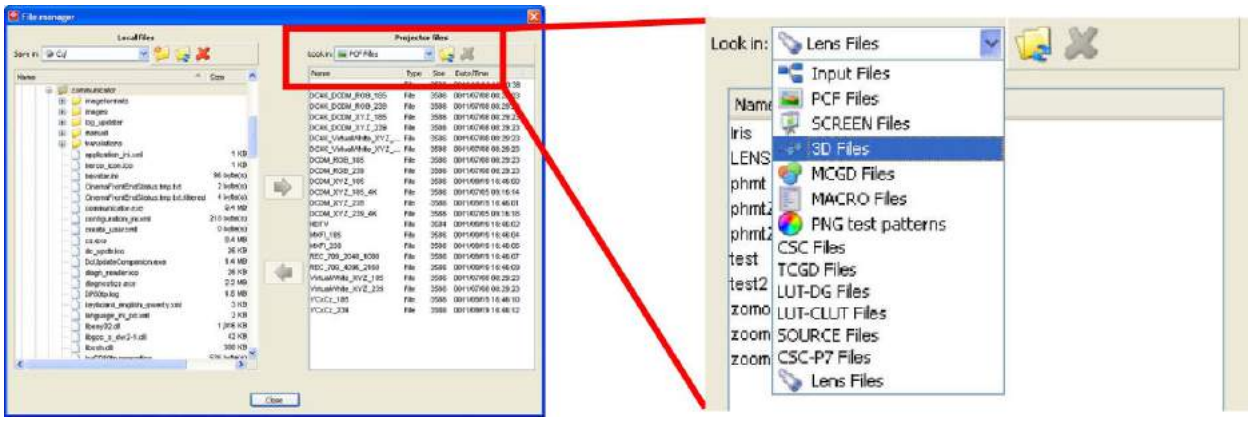


Image 6-32
File selection

6.9.3.4 Create new local folder

How to create

1. Click on the drop down box, select the drive and browse to the desired location (1). (image 6-33)
2. Click on the new folder icon (2).

   A *New folder name* window opens (3).
3. Enter a new name for the folder (4).
4. Click on **Apply** (5).

   The new folder is created.

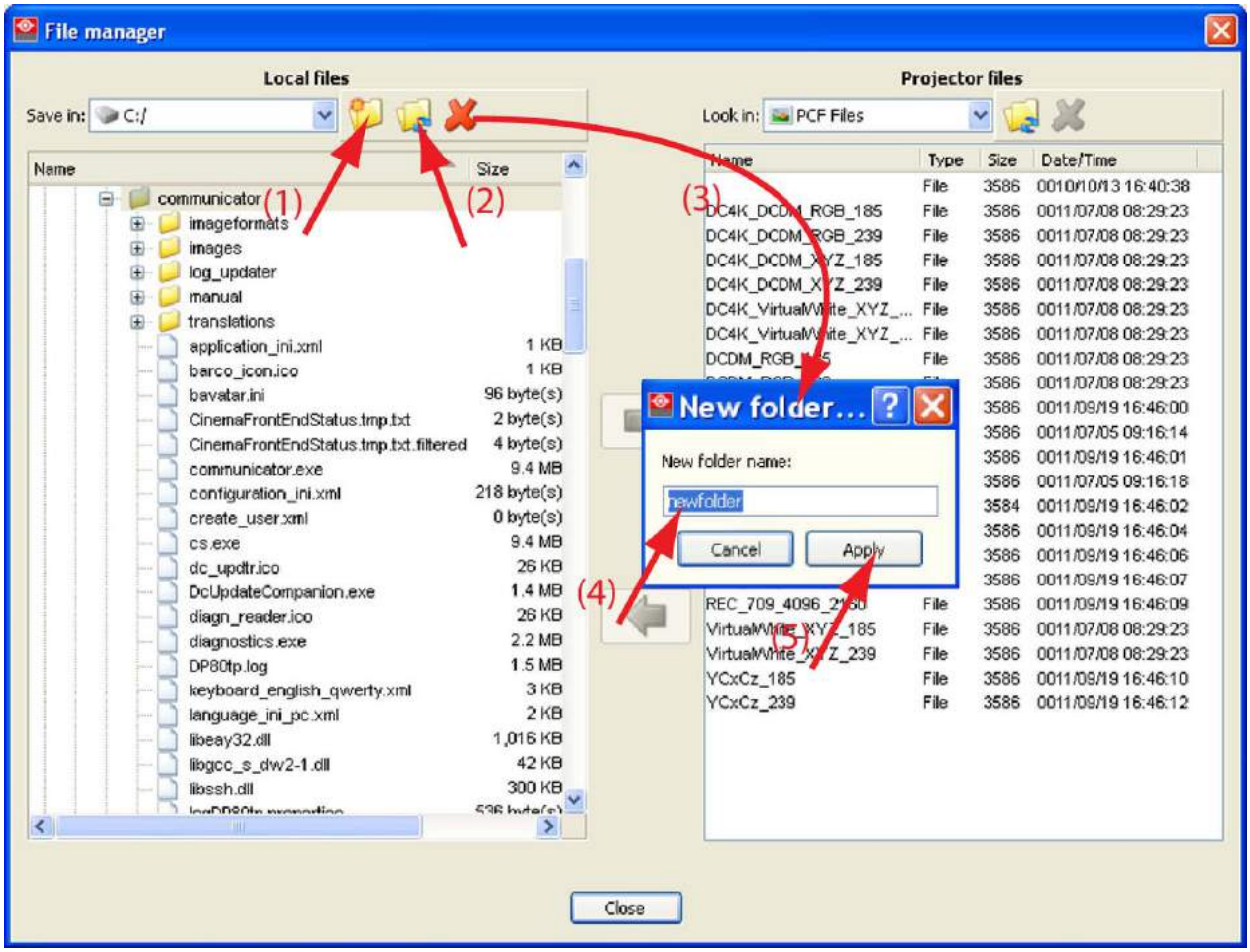


Image 6-33
Create new folder

6.9.3.5 Refresh folder

How to refresh

Click on the refresh icon ( ) on the *local* side or on the *Projector* side to refresh the current folder.

6.9.3.6 Delete a file or folder

How to delete

1. Click on a file or folder to select.
2. Click on the delete icon.

   A confirmation message opens.
3. Click **Yes** to really delete the selected file or folder.

6.9.3.7 File upload

What can be done?

A file on the computer can be uploaded to the projector. Only the file type which is selected in Projector files can be uploaded. E.g. if you have to upload a PCF file, then select first PCF files in Projector files.

How to upload a file

1. While the File manager window is open, click on the drop down box (1) and browse to the file to be uploaded (2). (image 6-34)
2. Click on the drop down box in *Projector files* and select the corresponding file type (3).
3. Click on the arrow pointing to the right (4).

   The file is uploaded from its original location to the projector file system.

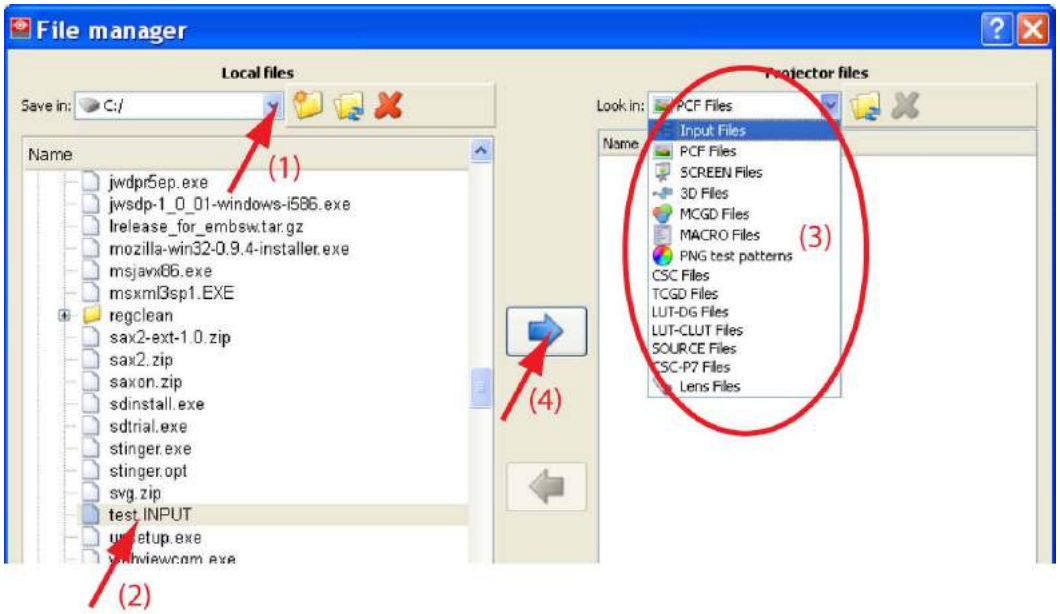


Image 6-34
File upload

6.9.3.8 File download

What can be done?

A typical file on the projector file system can be downloaded to the computer.

How to download

1. While the *File manager* window is open, click on the drop down box below projector to select the desired file type (1). (image 6-35)

   The list of possible files opens.
2. Select the file you want to download (2).
3. On the local side, click on the drop down box below *Local files* and select the location to store the file (3).
4. Once a location is selected, browse to the desired folder (4).
5. Click on the arrow pointing to the left.

   The projector file is downloaded on the selected medium.

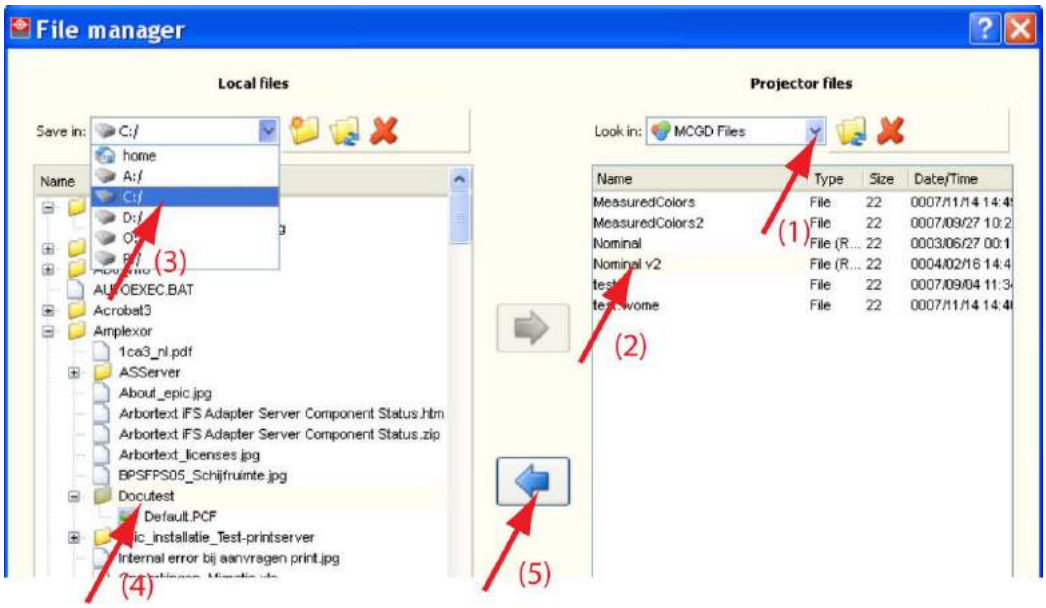


Image 6-35
Download a file

6.9.3.9 Activate a Spacial Color Calibration file

Only for DP2K-10S and DP4K-P projectors

About LUT-SCC file

The LUT-SCC file contains information to improve the color uniformity from the left to the right of the image. These uniformity is measured at the factory and stored in a LUT-SCC file. This LUT-SCC files is activated on the projector. As this file is projector specific, when replacing the light processor of the projector a new file should be uploaded and set as active file. Extra LUT-SCC files can be uploaded on the file system of the projector and set as active. Activating a LUT-SCC file is only possible via the File manager and not via a macro.

How to activate

1. While *File manager* is selected, click on the drop down box (1) next to *Look in* and select *LUT-SCC files* (2). (image 6-36)
2. Select the desired file (4).
3. Click **Select active** (5).

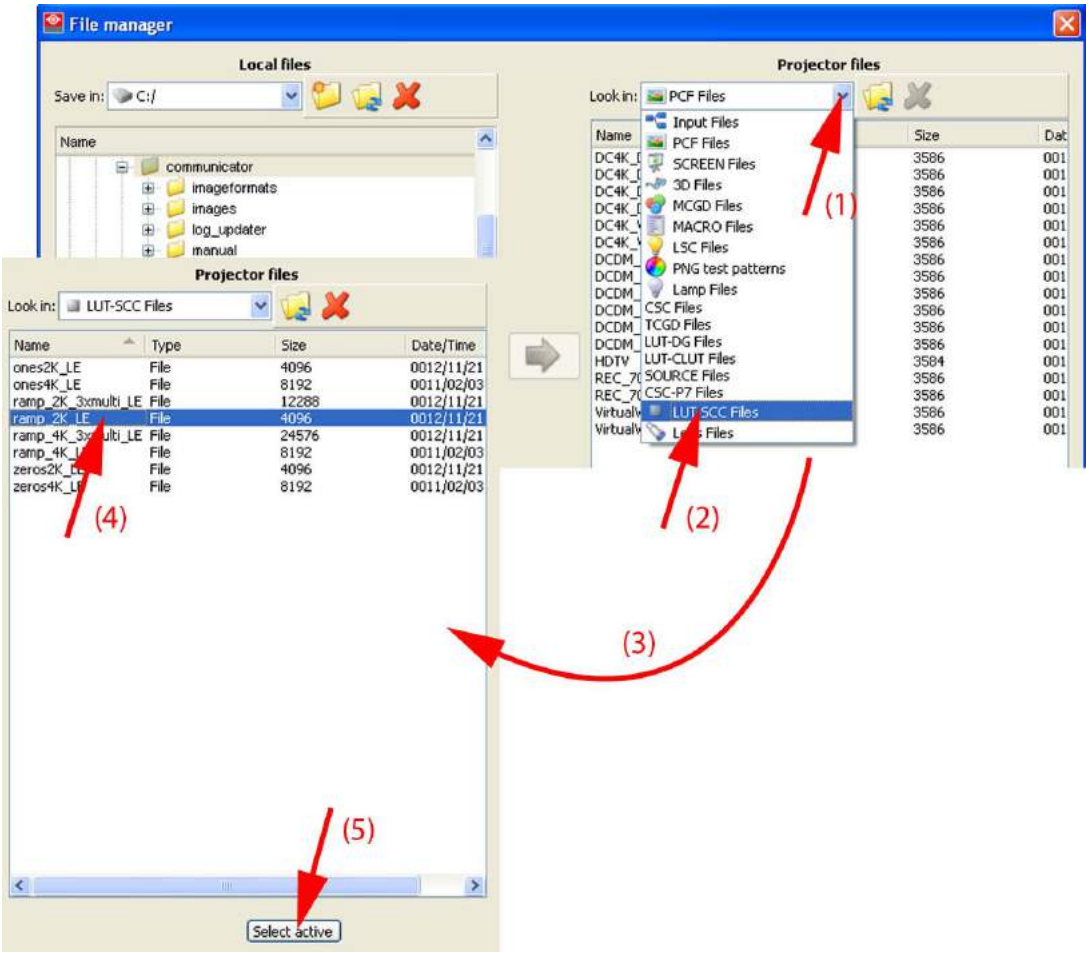


Image 6-36
Activate LUT-SCC file

6.9.4 File management, cloning

Overview

- Introduction
- Start up the cloning
- Create a Basic clone file
- Create an individual preset clone
- Create a clone for a typical file type
- Full backup clone
- Backup clone TI board only
- Backup clone Barco controller only

6.9.4.1 Introduction

Overview

Users with multiple installations want to setup these installation in the same way. The same macros linked with the same buttons, etc. Therefore it is handy to setup one system and then to make a copy of the created macro files with all its links. This is called cloning.

Also, before changing the Input and Communication interface, make a clone of the specific settings so that these settings can be restored in a new unit.

A clone file can be restored on identical projectors.

Different options are available to create a clone file:

- Basic cloning with a preset clone mode: all presets (macros) that are linked to a button and the files the presets are pointing to, including the position on the touch panel and local keypad are zipped in the clone file. Setup specific files are normally not included in the zip file.
- Advanced cloning, individual preset clone: only one specific preset (macro) and the files the preset is pointing to is included in the zip file.
- Advanced cloning, specific file type: clones all files of a specific file type. E.g. clone of all PCF files.
- Advanced cloning, individual files: clones specific files of different types you want to clone.
- Full backup clone, clones every setting and file of the projector.
- Full backup, backup clone TI board only.
- Full backup, backup clone Barco controller only.

6.9.4.2 Start up the cloning

How to start up

1. While in *Installation*, click on **Advanced**.
2. Click on **Cloning**. (image 6-37)

   The *Projector cloning* window opens.

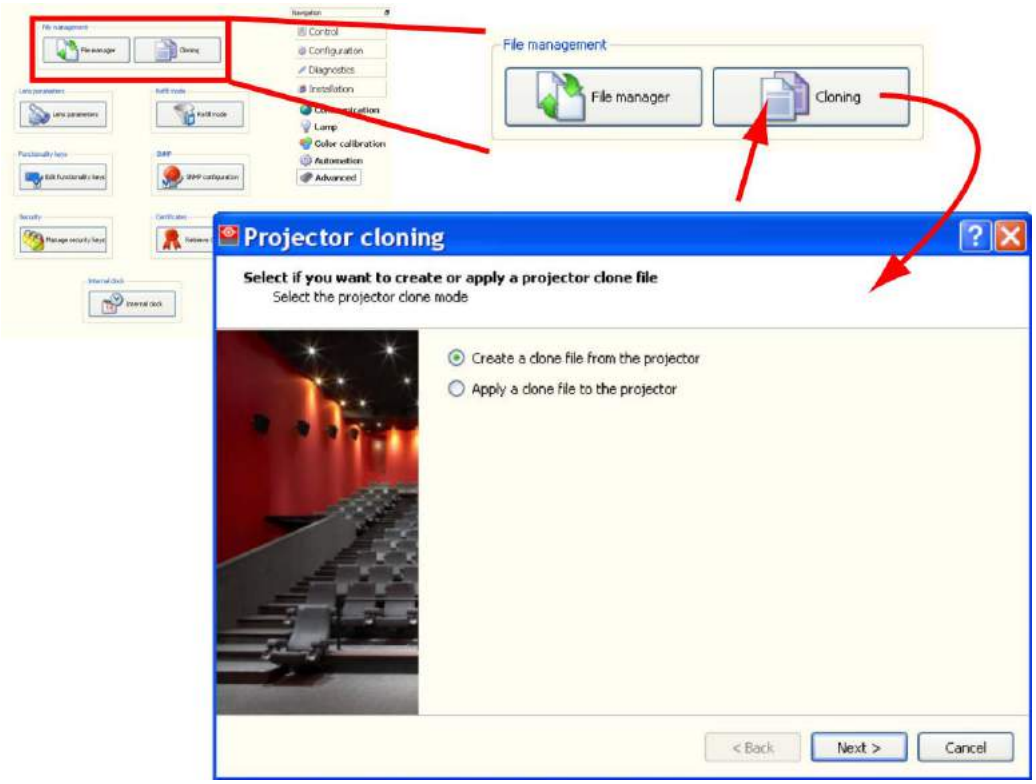


Image 6-37
Startup file cloning

6.9.4.3 Create a Basic clone file

What can be done ?

All presets (macros) that are linked to a button and the files these presets are pointing to, together with its position on the keypad and/or touch panel are copied in a zip file. By default, projector specific files are

not included in the zip file. These files can be included if desired so that a restore on the same projector is possible.

How to make a basic clone

1. Check the radio button next to *Create a clone file from the projector* and click on **Next>**. (image 6-38)
2. Check the radio button next to *Preset clone* and click on **Next>**.

   The software gathers all presets, the pointed files and the locations and display it for confirmation.

   By default, setup specific files will not be included in the clone file.
3. Do yo want to include setup specific files?
   If yes, Check the check box in front of *Clone setup specific settings* and click then on **Next>**.

   A message is displayed. Sharing MCGD and SCREEN data is not recommended. Use it only for backup purposes. (image 6-39)
   If no, click immediately on **Next>** without checking the check box. (image 6-40)

   In both cases, data will be retrieved and an overview is given from what is included.
   The state:
   - included : data is include in the clone file.
   - not included : a pointer to the file is included but no data.
4. A default file name is given. To change this name, click **Change** (4). (image 6-41)

   A browser window opens. A default file name is already filled out (5).
5. Browse to the desired location (6)
6. If you want to change the file name, click on it, select the file name and enter a new name with the keyboard.
7. Click **Save** to accept the selected location and file name (7).
8. If you want to enter extra command, click in the command field and enter the command with the keyboard (8).
9. Click **Create clone file >** (9).

   The clone file is created and stored on the selected location.

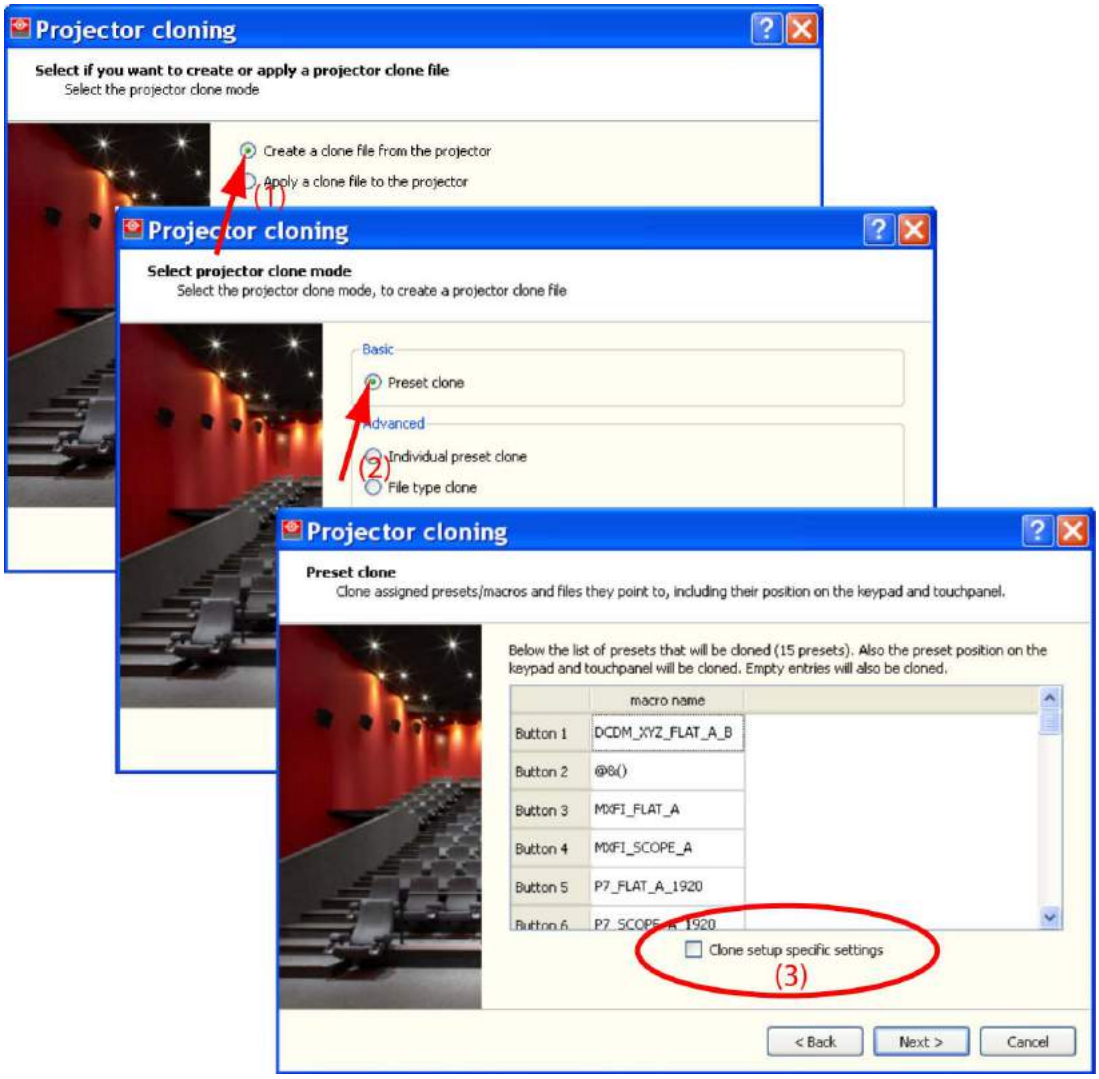


Image 6-38
Basic cloning

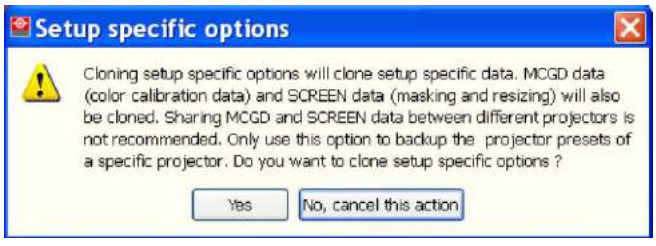
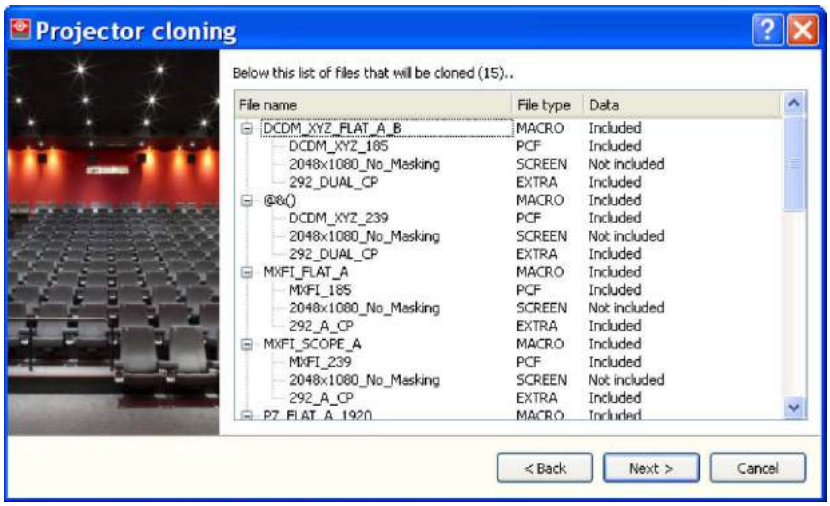


Image 6-39


Projector cloning
Below this list of files that will be cloned (15)..
File name
File type
Data
DCDM_XYZ_FLAT_A_B MACRO Included
DCDM_XYZ_185 PCF Included
2048x1080_No_Masking SCREEN Not included
292_DUAL_CP EXTRA Included
@&() MACRO Included
DCDM_XYZ_239 PCF Included
2048x1080_No_Masking SCREEN Not included
292_DUAL_CP EXTRA Included
MXFI_FLAT_A MACRO Included
MXFI_185 PCF Included
2048x1080_No_Masking SCREEN Not included
292_A_CP EXTRA Included
MXFI_SCOPE_A MACRO Included
MXFI_239 PCF Included
2048x1080_No_Masking SCREEN Not included
292_A_CP EXTRA Included
< Back
Next >
Cancel
Image 6-40

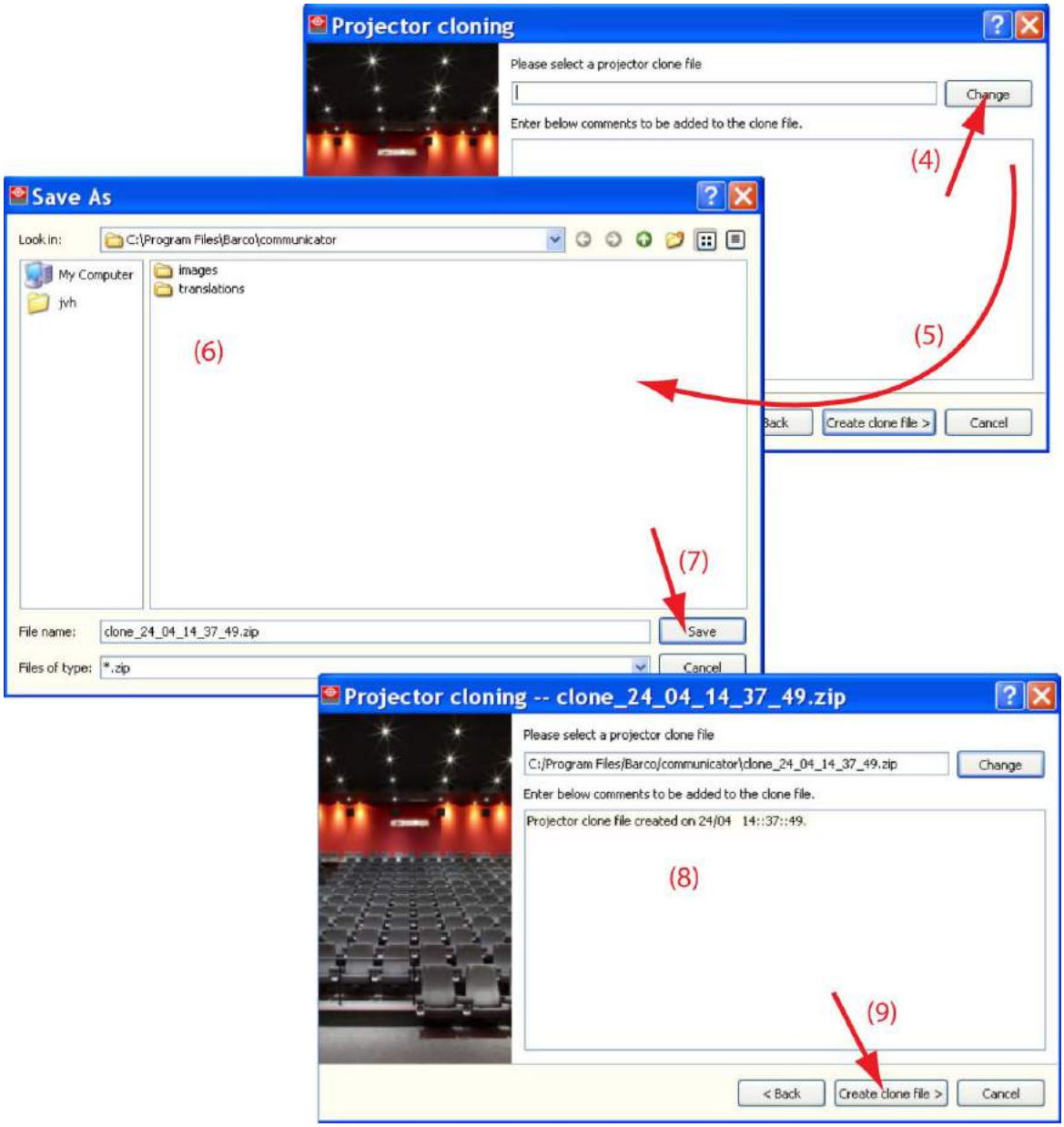


Image 6-41
Create clone file

6.9.4.4 Create an individual preset clone

What can be done ?

An individual preset (macro) and the files it points to can be cloned in a single clone file. Projector specific data is not included in the clone file.

How to make an individual preset clone

1. Check the radio button next to *Create a clone file from the projector* and click on **Next>** (1). (image 6-42)
2. Check the radio button next to *Individual preset clone* (2).

   The individual preset clone window opens.
3. Click on **Select** (3).

   The file selection window opens.

4. Select the desired macro file out of the list (5) and click on **OK** (6).

   The selected file is filled out in the selection window (6). Click **Next>** to display an overview of the pointed files (7). (image 6-43)

5. Click **Next>** to start the clone file selection

6. A default file name is filled out. To change this file name, click **Change** (9). (image 6-44)

   A browser window opens. A default file name is already filled out (10).

7. Browse to the desired location (11)

8. If you want to change the file name, click on it, select the file name and enter a new name with the keyboard.

9. Click **OK** to accept the selected location and file name (12).

10. If you want to enter extra command, click in the command field an enter the command with the keyboard (13).

11. Click **Create clone file >** (14).

    The clone file is created and stored on the selected location.

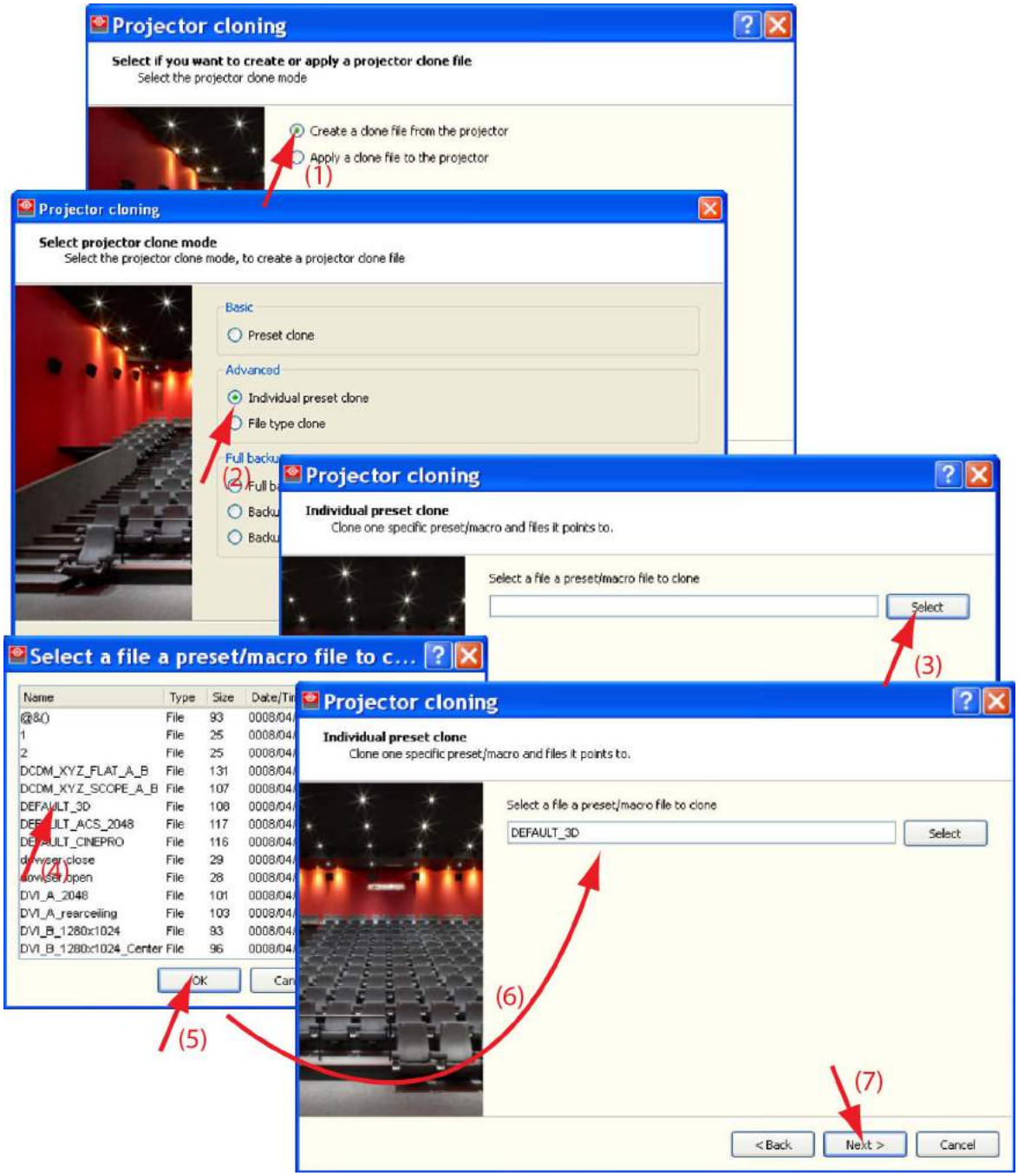


Image 6-42
Clone individual preset

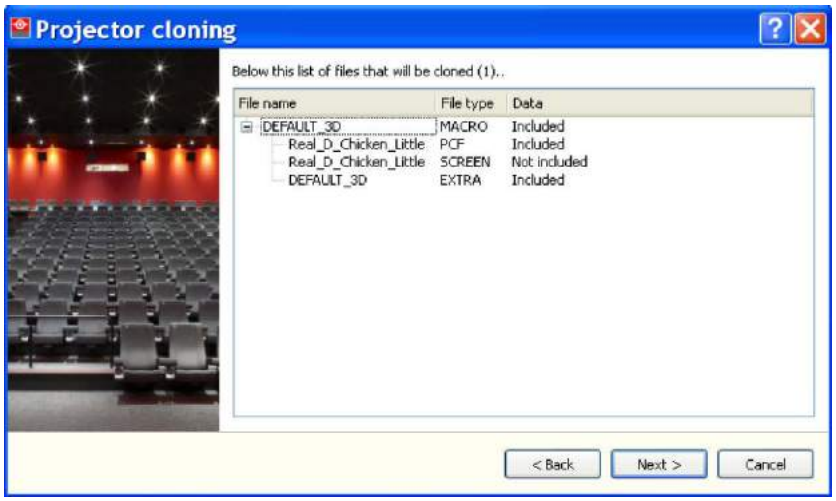

Projector cloning
Below this list of files that will be cloned (1)..
File name
File type
Data
DEFAULT_3D
MACRO
Included
Real_D_Chicken_Little
PCF
Included
Real_D_Chicken_Little
SCREEN
Not included
DEFAULT_3D
EXTRA
Included
< Back
Next >
Cancel

Image 6-43

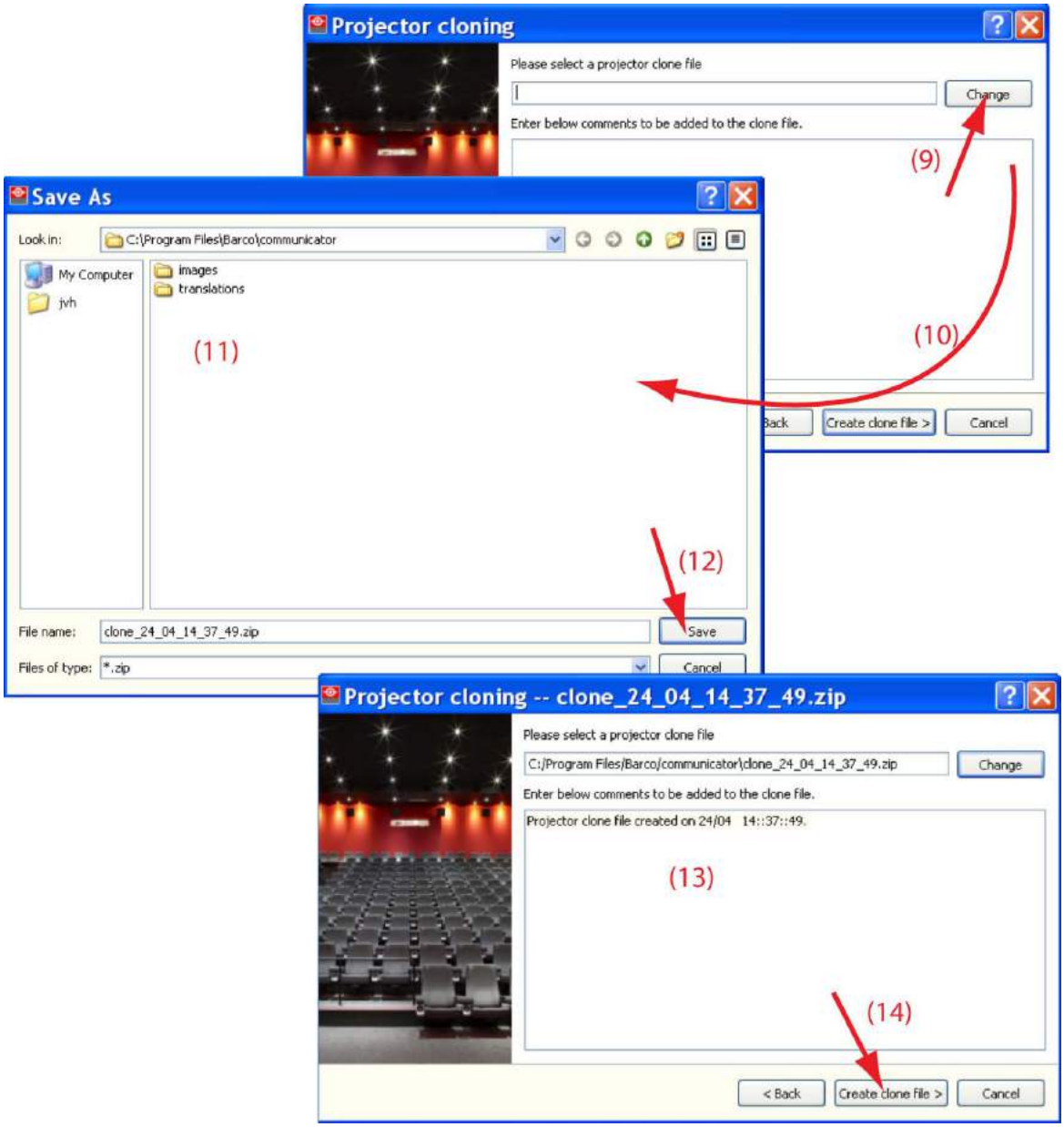


Image 6-44
Create individual clone file

6.9.4.5 Create a clone for a typical file type

What can be done ?

All files with a specific extension can be cloned in a clone file. For projector specific files, it is recommended to restore these files only on the same projector.

How to make clone file

1. Check the radio button next to *Create a clone file from the projector* and click on **Next>** (1). (image 6-45)
2. Check the radio button next to *File type clone* (2).

   The file type selection window opens.
3. Click on the drop down box (3) and select the desired file type out of the list (4).

   An overview of the files is displayed.

4. Click **Next>** to start the clone file selection (5).
5. Click **Change** (6). (image 6-46)

   A browser window opens. A default file name is already filled out (7).
6. Browse to the desired location (8)
7. If you want to change the file name, click on it, select the file name and enter a new name with the keyboard.
8. Click **OK** to accept the selected location and file name (9).
9. If you want to enter extra command, click in the command field an enter the command with the keyboard (11).
10. Click **Create clone file >** (12).

    The clone file is created and stored on the selected location.

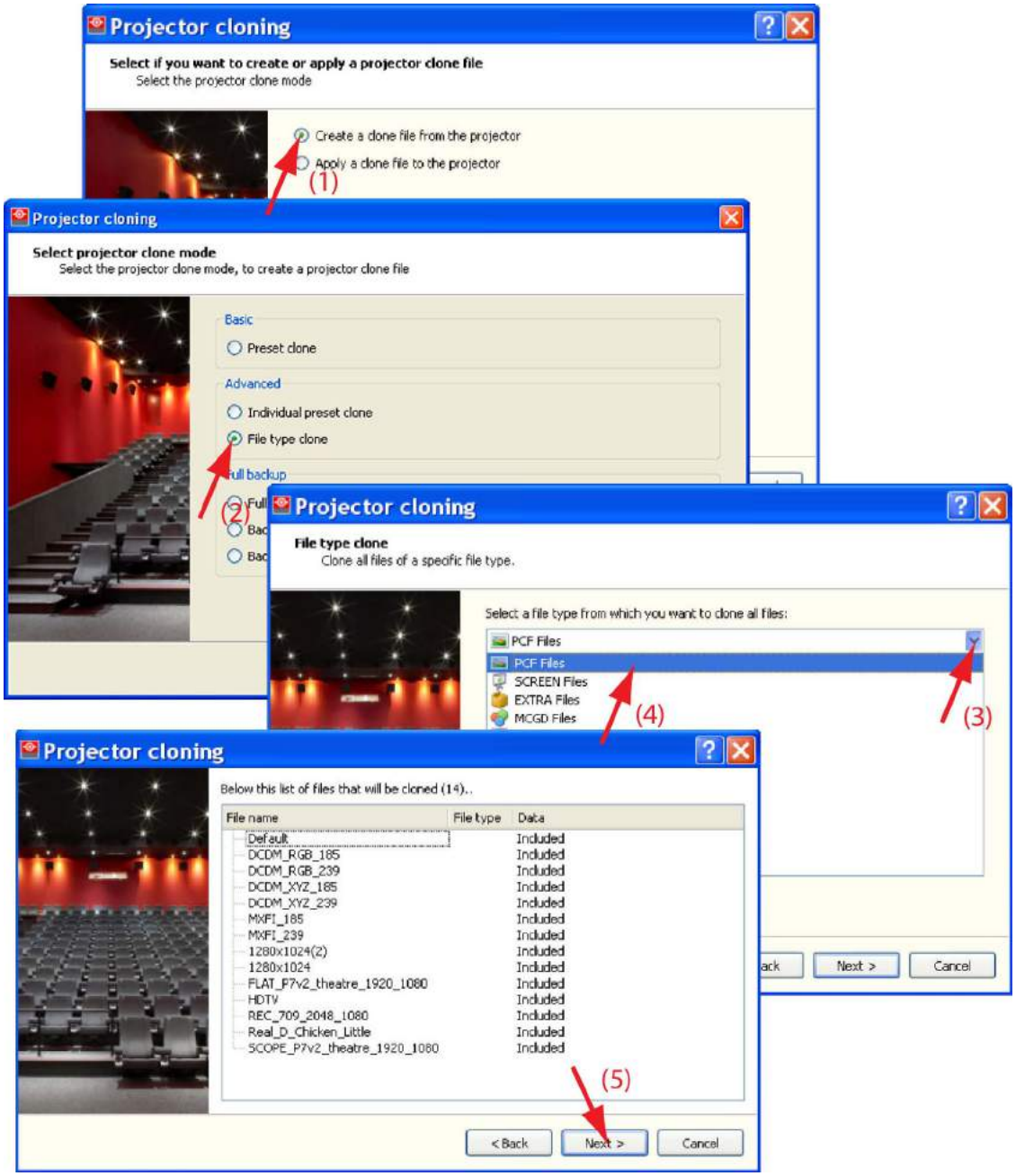


Image 6-45
Clone typical file type

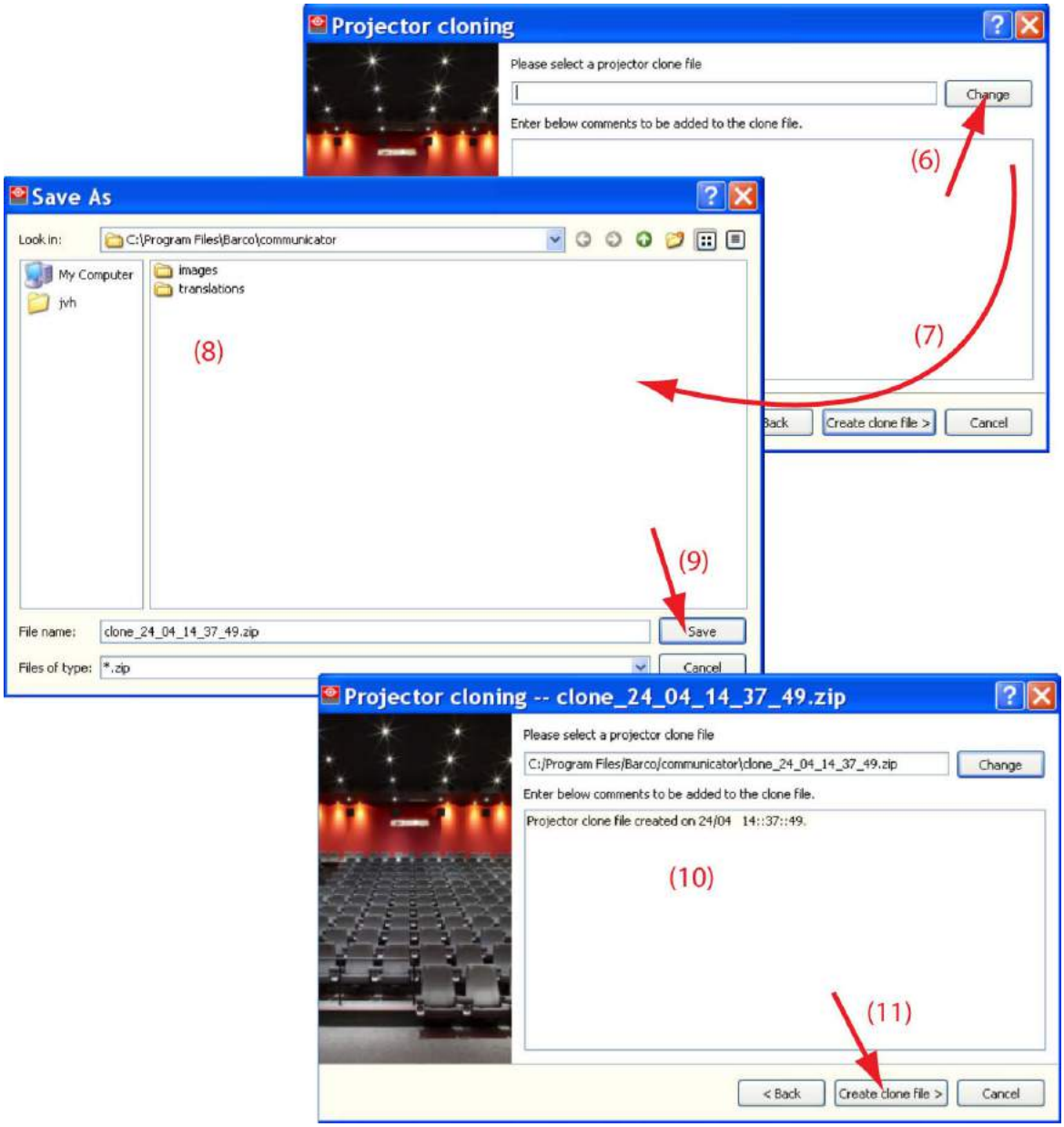


Image 6-46
File name selection

6.9.4.6 Full backup clone

What can be done ?

All settings and files in the projector are included in the full backup clone. This full backup clone can be restored on the same projector after a service action.

How to make a backup clone

1. Check the radio button next to *Create a clone file from the projector* and click on **Next>** (1).
2. Check the radio button next to *Full backup clone* and click on **Next>** (2). (image 6-47)

   List of all files and setup specific files is given.
3. Click Next (3)

   The files are retrieved.

4. Click Next (4)

   The file location window opens. A file name is already proposed.

5. If the location is not the desired one, click **Browse** (5). (image 6-48)

   A *Save as* window opens (6). Select the desired location and change the name. Click **Save**.

6. Click **Create clone file** (8).

   The clone file is created and stored on the selected location.

7. Click **Finish** to terminate the backup procedure.

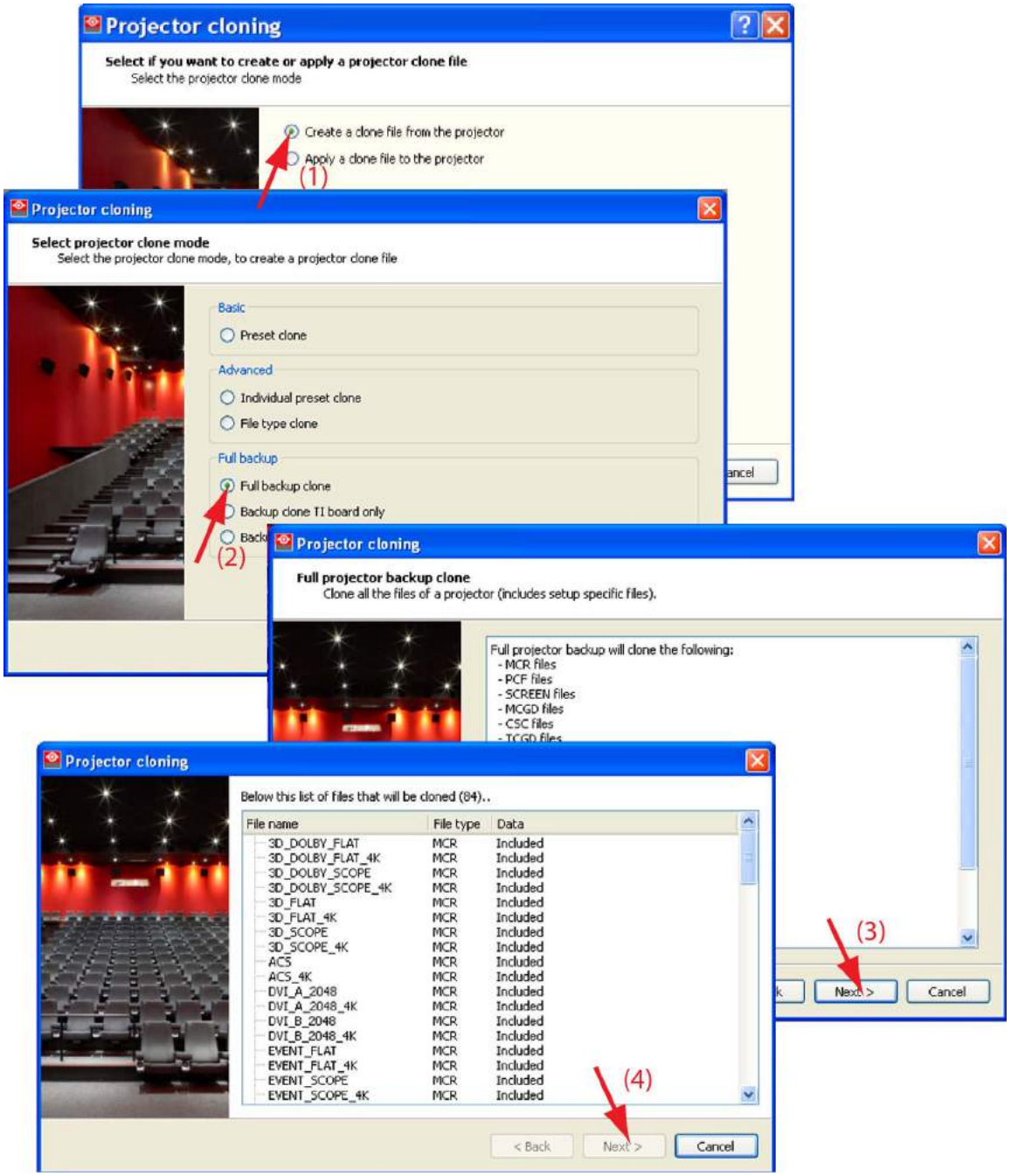


Image 6-47
Full backup clone

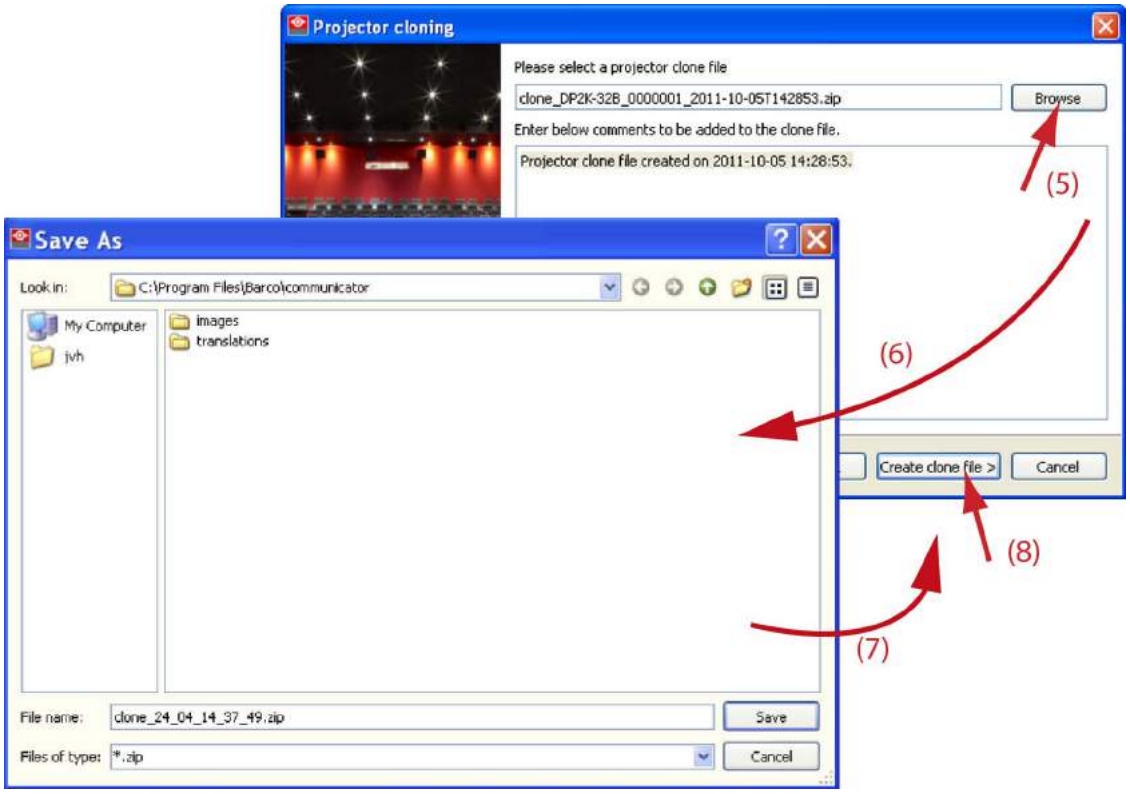


Image 6-48
File location selection

6.9.4.7 Backup clone TI board only

What can be done ?

All files and settings stored on the TI board are added in this specific backup. These files can be restored when the TI board is replaced during a service intervention.

How to clone a TI board

1. Check the radio button next to *Create a clone file from the projector* and click on **Next>** (1). (image 6-49)
2. Check the radio button next to *Backup clone TI board only* and click on **Next>** (2).

   List of all files and setup specific files is given.
3. Click **Next** (3).

   The information is gathered
4. Click **Next** to open the file location window (4).

   A file name is already proposed.
5. If the location is not the desired one, click **Browse** (5). (image 6-50)

   A *Save as* window opens (6). Select the desired location and change the name. Click **Save**.
6. Click **Create clone file** (8).

   The clone file is created and stored on the selected location.
7. Click **Finish** to terminate the backup procedure.

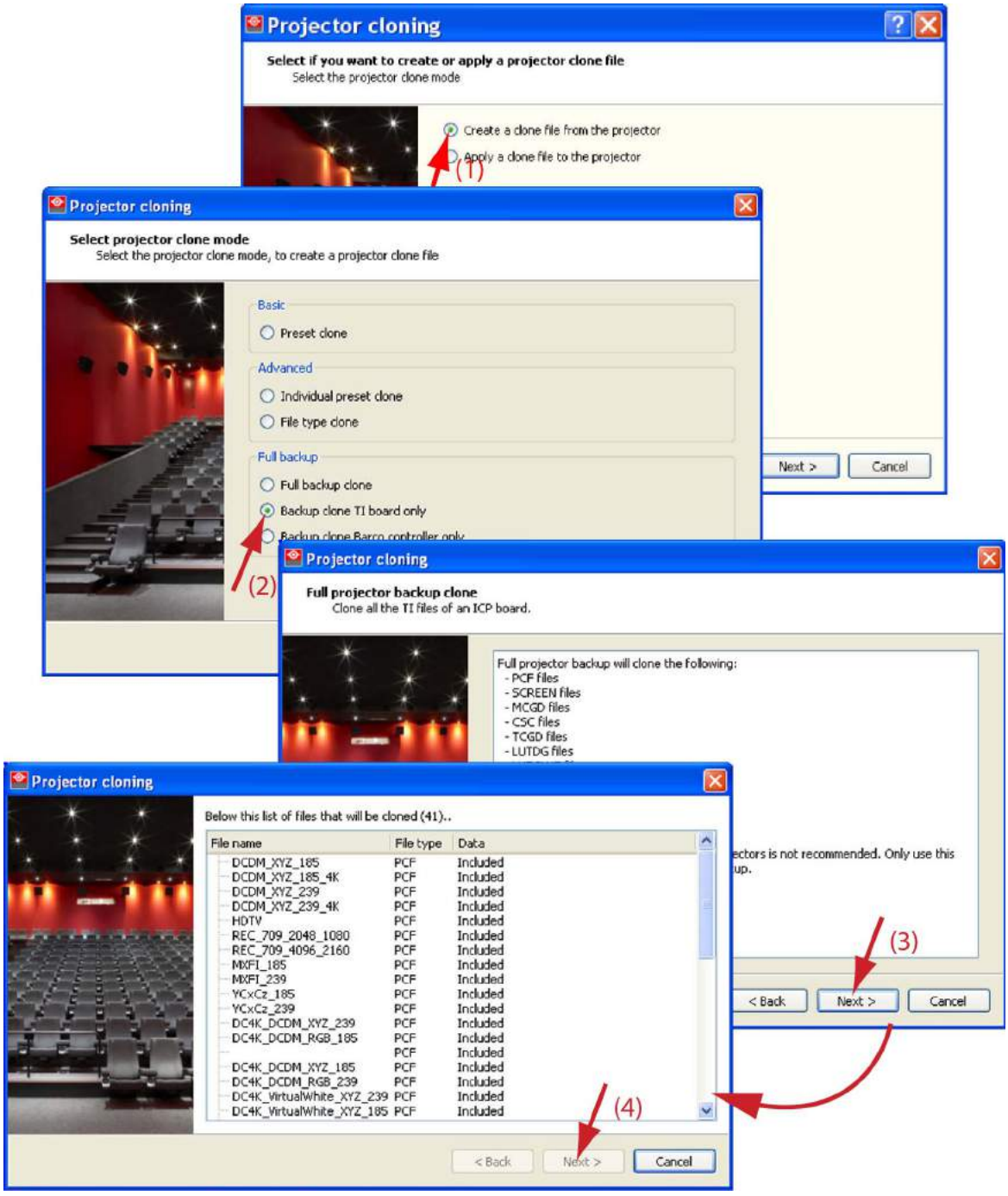


Image 6-49
Cloning TI board

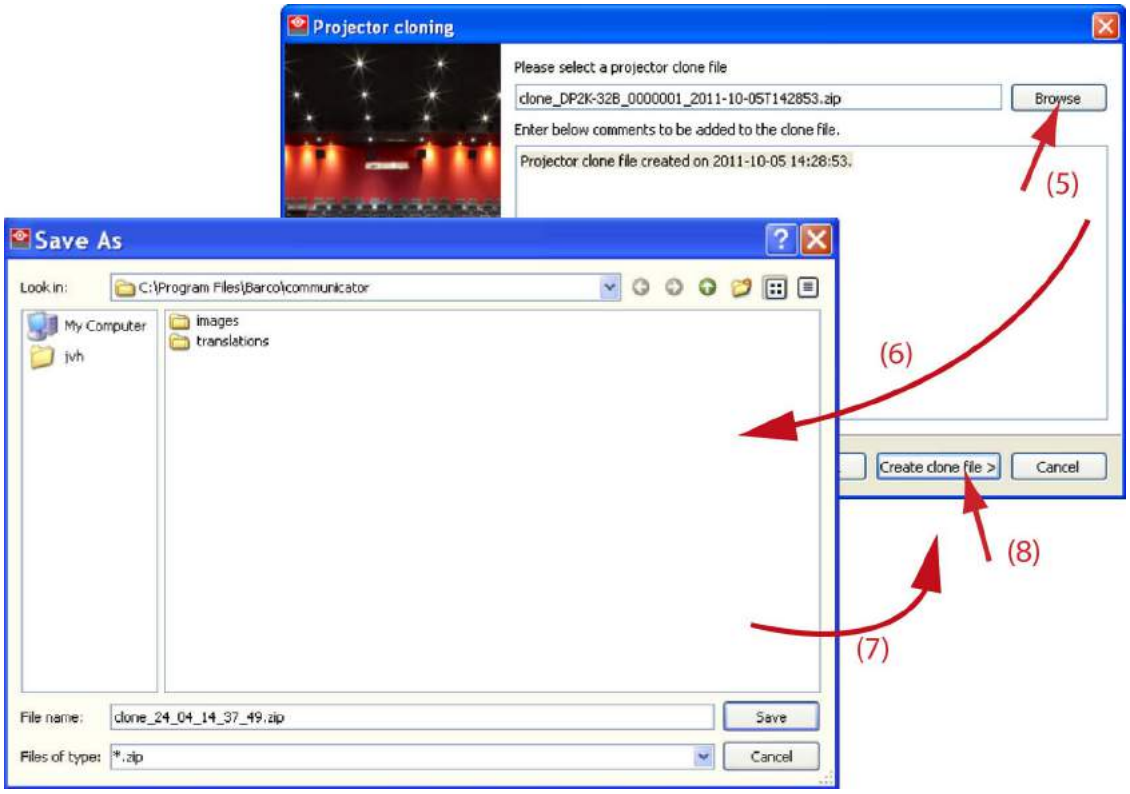


Image 6-50
File location selection

6.9.4.8 Backup clone Barco controller only

What can be done ?

All files on the Barco controller board are included in the backup.

How to clone the Barco controller

1. Check the radio button next to *Create a clone file from the projector* and click on **Next>** (1). (image 6-51)
2. Check the radio button next to *Backup clone Barco board only* and click on **Next>** (2).
   List of all files and setup specific files is given.
3. Click **Next** (3).
   The information is gathered
4. Click **Next** to open the file location window (4).
   A file name is already proposed.
5. If the location is not the desired one, click **Browse** (5). (image 6-52)
   A *Save as* window opens (6). Select the desired location and change the name. Click **Save**.
6. Click **Create clone file** (8).
   The clone file is created and stored on the selected location.
7. Click **Finish** to terminate the backup procedure.

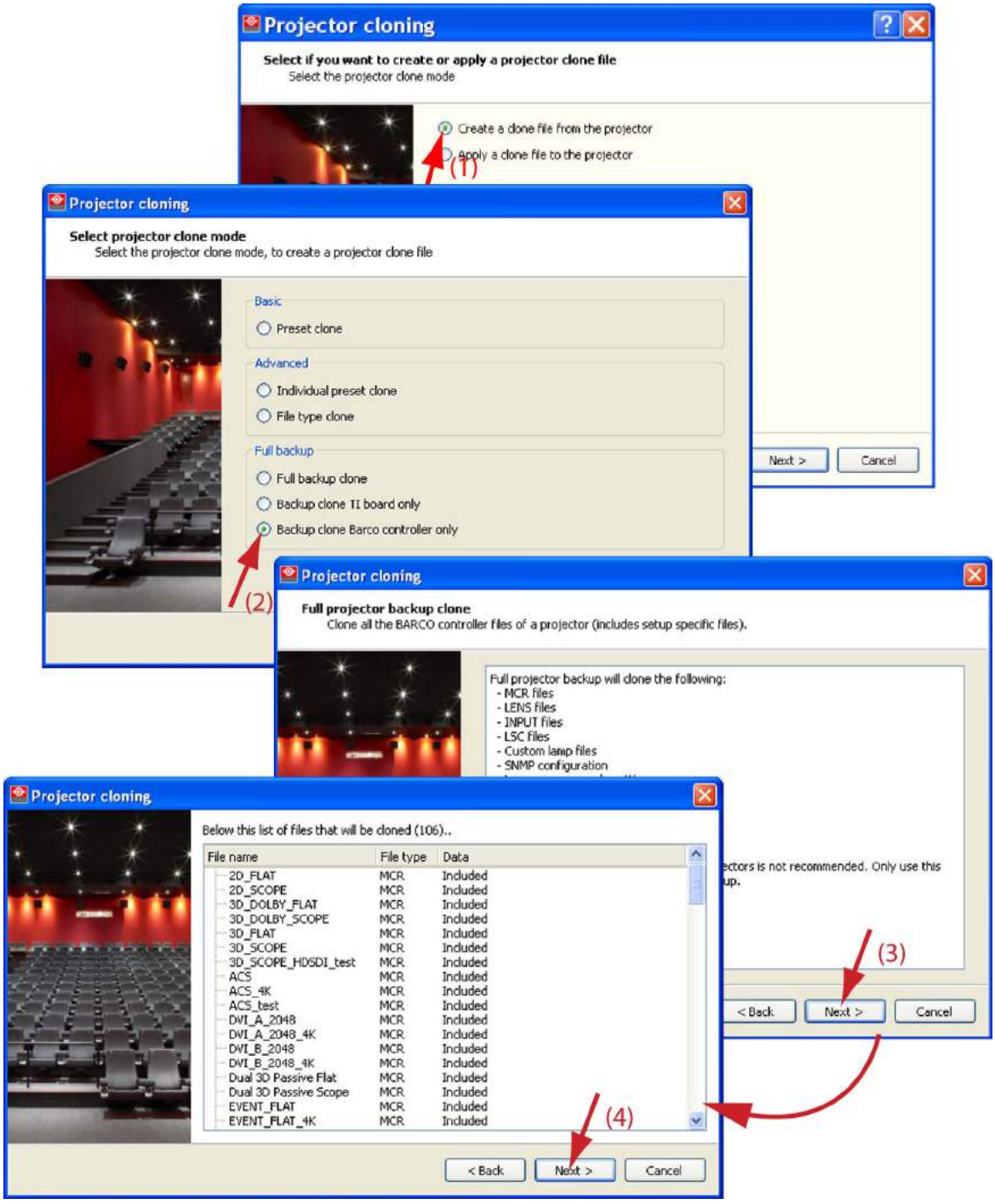


Image 6-51
Cloning Barco controller files

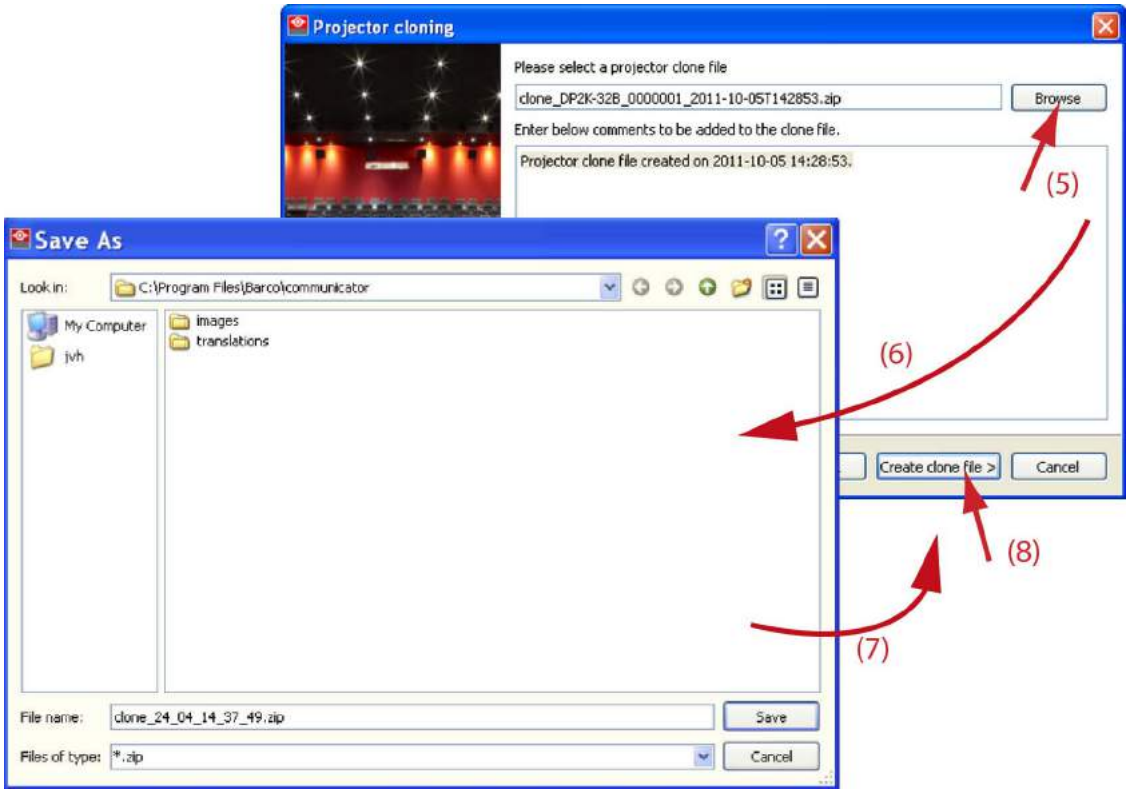


Image 6-52
File location selection

6.9.5 Restoring a clone file

What can be done ?

A clone file can be restored on the same projector or on a projector of the same type. If some components in the clone file already exist on the projector, then the software will ask to overwrite the existing file.

How to restore

1. While in *Installation*, click on **Advanced** and then click on **Cloning**.
2. Check the radio button next to *Apply a clone file to the projector* (1) and click on **Next>**. (image 6-53)

   The file selection window opens.
3. Click on **Select** (2).

   A browser window opens.
4. Browse to the file location and click on the desired file (3). click **Open** (4).

   The file is loaded and the and the file comment is visible.
5. Click on **Apply clone file>** (5).

   An overview of all files in the clone file is displayed.
6. Click **Next>**.

   The restore starts. Each time it finds a file which is already on the projector, it asks to overwrite or not.
   - Yes : projector file will be overwritten with the clone file.
   - No : projector file remains on the projector, clone file will be ignored.
7. Click **Finish** to terminate the restore process.

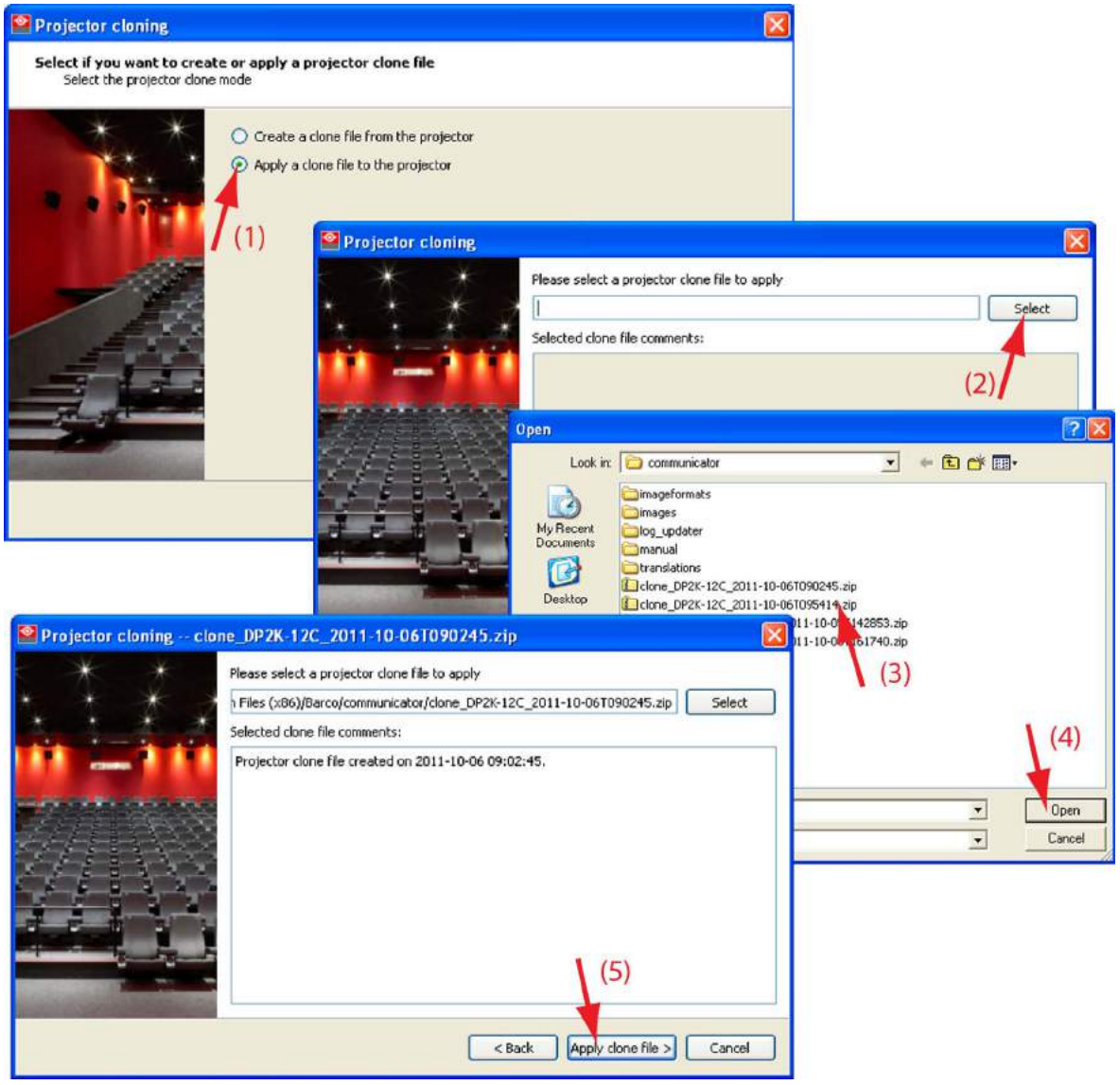


Image 6-53
Restore clone file

6.9.6 Lens selection (parameters)

What must be done?

The software must know the article number of the used lens in the current installation so that it can enter the correct lens parameters.

How to enter the lens

1. While in the *Advanced* tab page, click on **Lens parameters** (1). (image 6-54)

   The *Lens parameters* window opens (2).

2. Click on **Change** (3).

   The *Lens selection* window opens (4).

3. Click on the article number (5) of the current installed lens and click **OK** (6).

   The *Lens parameters* window returns with the selected lens information filled out (7).

4. Click **Close** to enter the lens parameters (8).

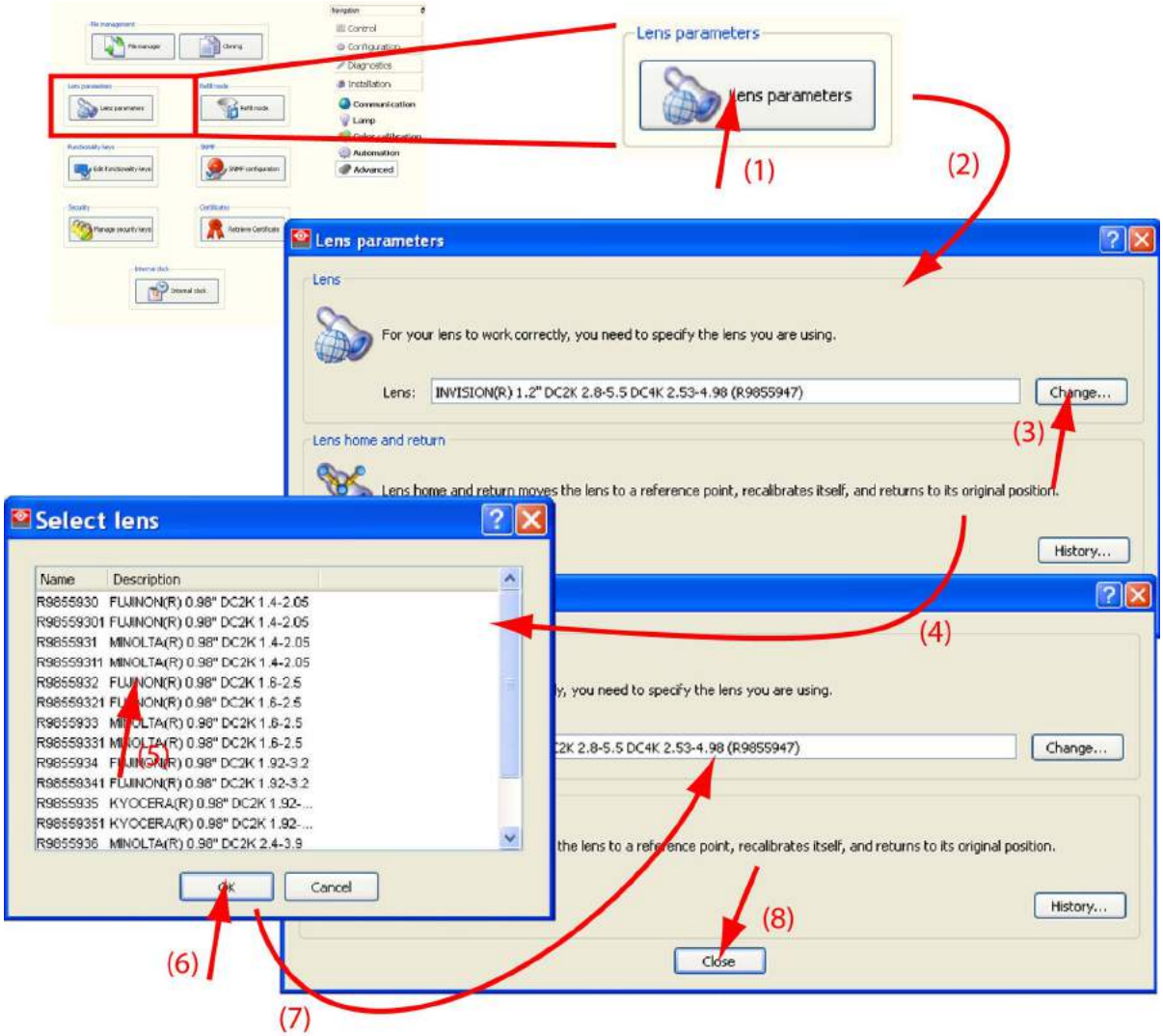


Image 6-54
Lens selection

6.9.7 Lens homing and return

About lens homing

Homing the lens and return at any time is possible.

To access the homing function, select **Lens parameters** (1) to open the *Lens parameters* window (2).

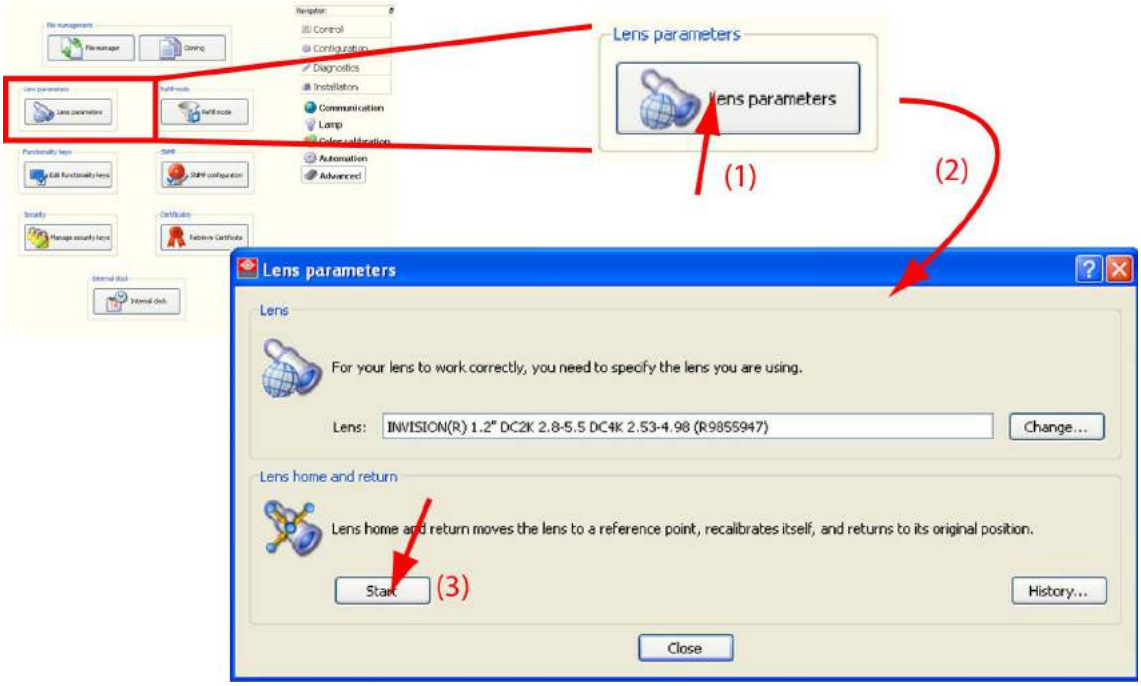


Image 6-55
Lens homing

To home the lens at anytime, click on **Start** (3).

Each time a lens is manipulated e.g. removed and inserted in a projector, or a new one is inserted, it needs to be homed and returned.

The home and return function homes the lens to a reference point and then returns it to its original position.

The projector will home and return automatically, at boot time, when it has lost its reference point.

Lens home history

To view the last performed action, click on **History** (1).

The *Lens home and return history* window opens and indicates the lens, time and date of last execution and the status of that execution.

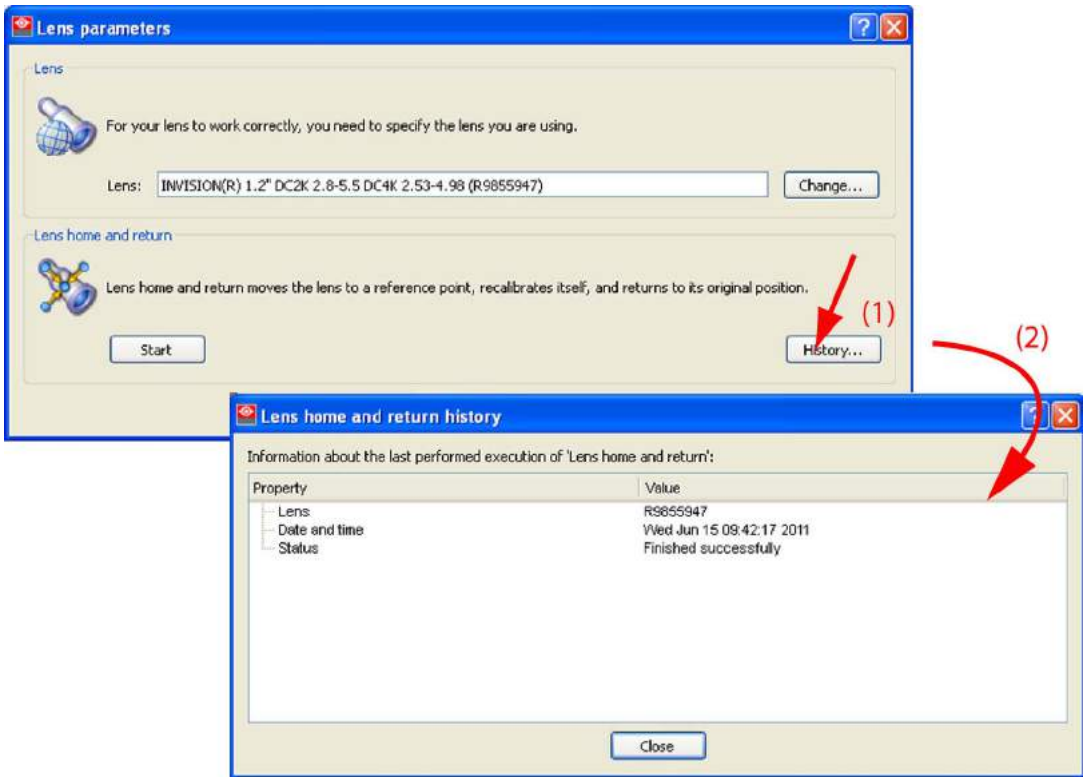


Image 6-56
Lens homing, last performed action

6.9.8 Refill mode

Not for DP2K-12C and DP2K S-series projectors.

What can be done ?

When the cooling liquid has to be refreshed, the refill mode must be used to activate only the cooling pump. The rest of the projector is deactivated. When the refreshing is done, the projector can be set back in normal operation mode.

Before starting the refill mode, the lamp must be off and cooled down.

How to handle

1. While in the Advanced tab page, click on **Refill mode** (1). (image 6-57)

   The Refill mode window opens with the message that this mode must be used for refreshing the cooling liquid (2).

2. Click on **Activate the refill mode** (3).

   A question window opens (4). Before continuing, the lamp must be off and cooled down.

3. When all previous conditions are OK, click **Yes** to start the refill mode (5).

   The *Refill mode* window opens again with the indication *Refill mode active* in red (6).

4. When cooling liquid refreshing is finished, click on **Exit refill mode** (7).

Projector returns to its normal operating conditions.

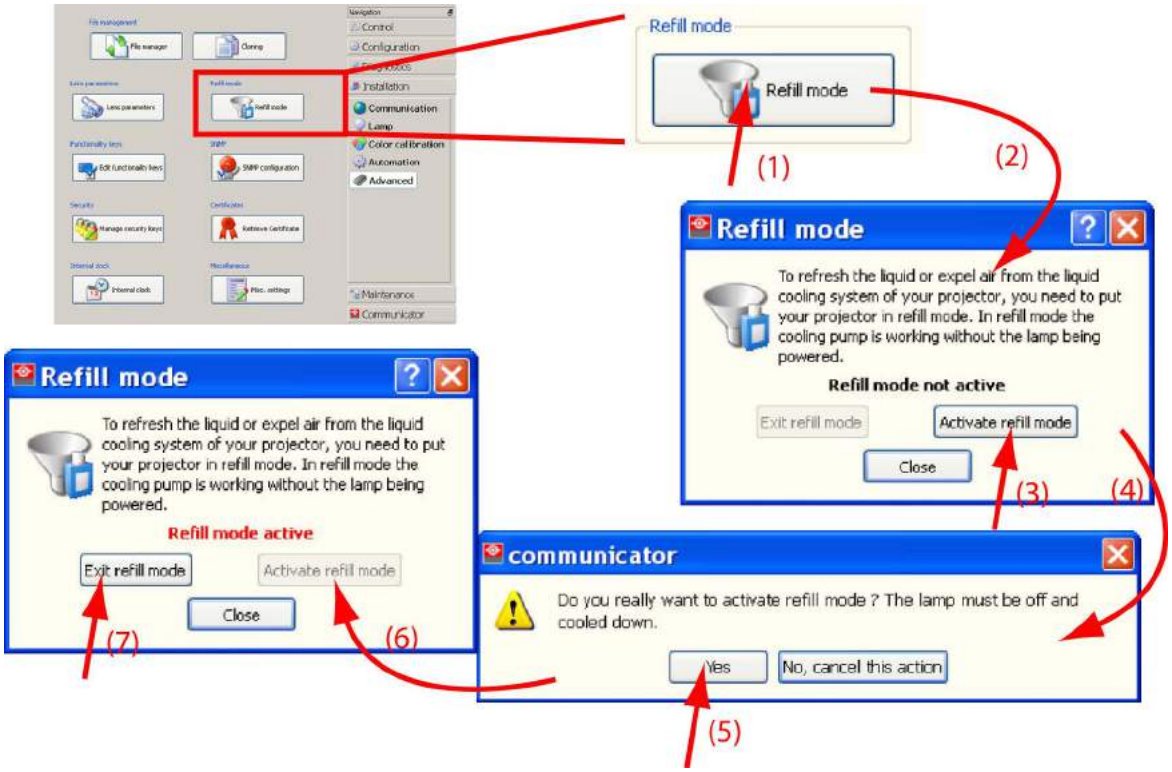


Image 6-57
Refill mode

6.9.9 External exhaust fan selection

What is possible ?

The power to the external exhaust fan can be interrupted so that the fan is not in use.

Only for DP2K-xxB and DP4K-xxB series

How to make the selection

1. While in the Advanced tab page, click on **Miscellaneous** (1). (image 6-58)

   The *Miscellaneous* window opens.

2. To use an external exhaust fan via the exhaust outlet, check the check box in front of *Use external exhaust fan*.

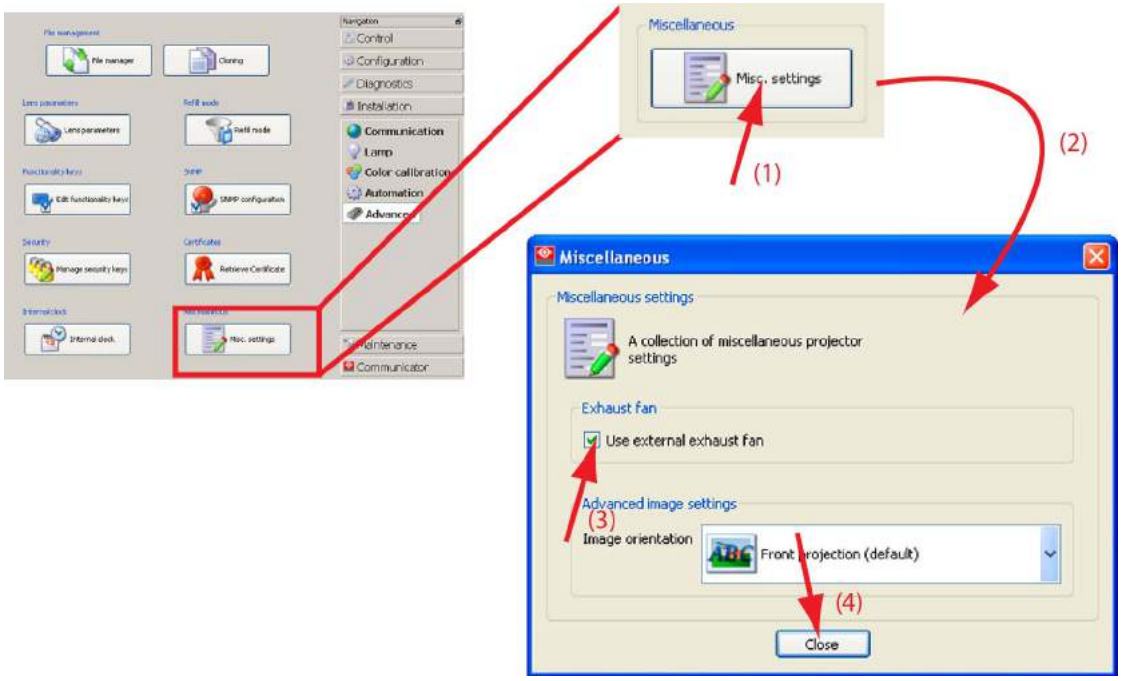


Image 6-58
External exhaust fan selection

6.9.10 Image orientation

What is possible ?

The image orientation can be changed from front projection (default) to rear projection and from a normal image to an upside down image.

How to change the orientation

1. While you are in *Advanced* mode, click on **Misc. settings** (1). (image 6-59)

   The *Miscellaneous* window opens (2).

2. Click on the drop down box and select the desired image orientation (3).

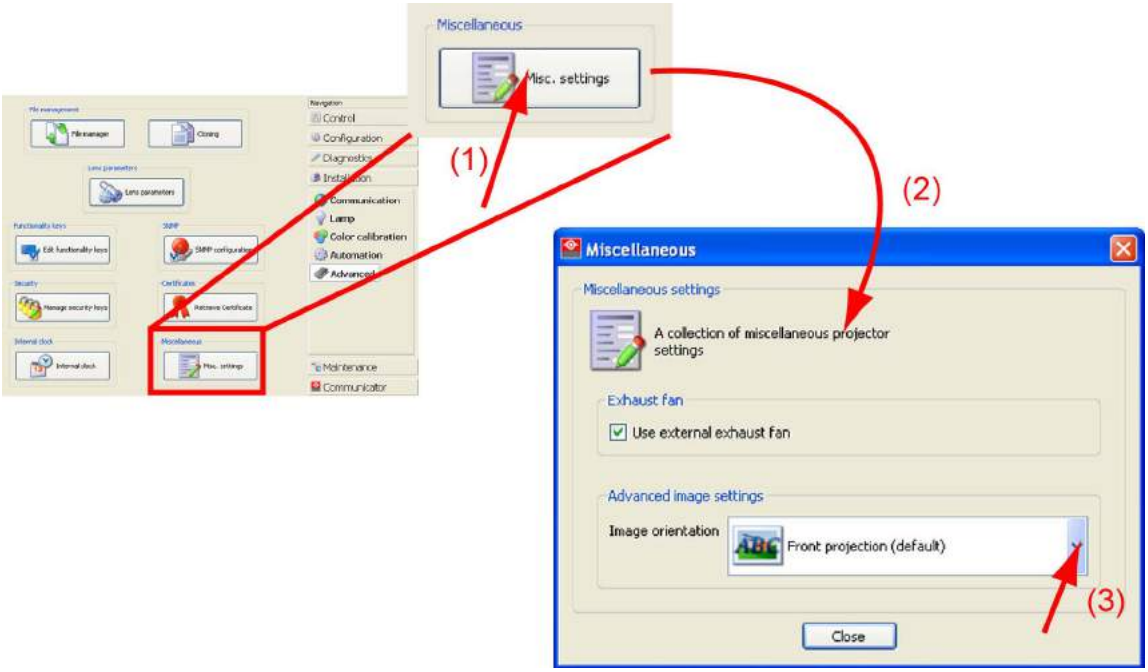


Image 6-59

6.9.11 Web application credentials

About the user and password

To use the web application Communicator Lite you have to login with default as user name and the password set with the full Communicator.

The default user name is: projectionist

The default password is: default

Edit the default password

1. While in the Advanced tab page, click on **Miscellaneous**.

   The *Miscellaneous* window opens. (image 6-60)
2. Click **Manage credentials** (1) to start up the *Manage credentials for the web application* window.
3. Click on the default user (3) and click **Edit** (4) to open the *Edit user credentials* window. (image 6-61)

   The current password is blinded with asterisks.
4. Select the current password field (5).

   The asterisks change to readable characters.
5. Enter the new password (6).

   At that moment, the *Password Confirmation* field will be cleared (7).
6. Click in the *Password Confirmation* field and re-enter the new password.
7. Click **OK** (8).

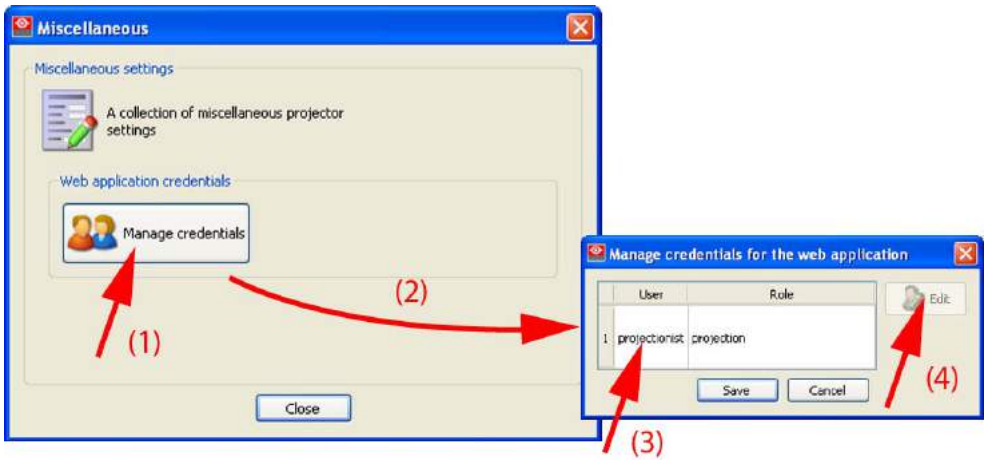


Image 6-60
Change password web application

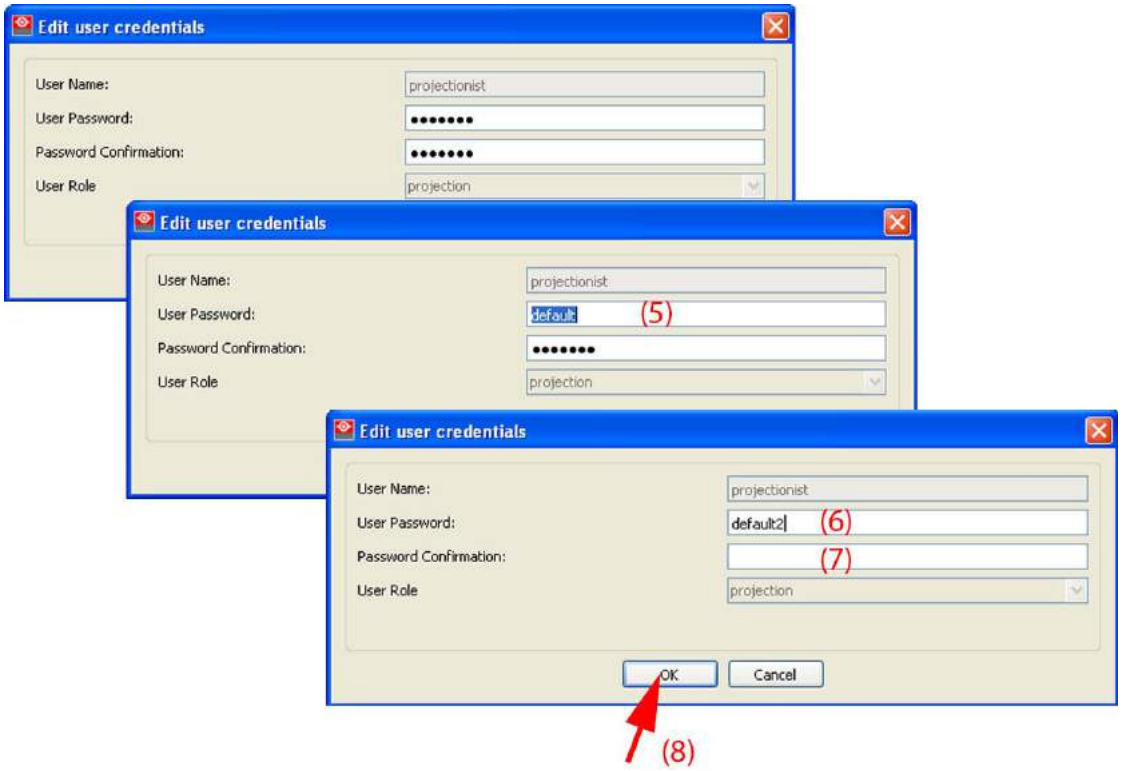


Image 6-61
Create new password

6.10 Functionality keys

No functionality keys necessary for DP2K S-series.

6.10.1 Enter a single key

SNMP

Simple Network Management Protocol is the protocol governing network management and the monitoring of network devices and their functions.

What can be done?

Depending whether the option has been ordered, it is necessary to enter the key that has been delivered with the projector. When the key is correctly entered, the option will be enabled. The following options need a key : SNMP, CLO and Lens.

For the SNMP option, from the moment the key is entered the SNMP mechanism is enabled and an agent will send alarms to a specific person when something goes wrong with the projector.

How to enter a key

1. While in the *Advanced* tab page, click on **Edit functionality keys** (1). (image 6-62)

   The functionality keys window opens with the current active keys (2).

2. Click in the corresponding key input field and select the current setting (3).

3. Enter the key exactly as indicated on your registration card.
   Note: *Input is not case sensitive.*

4. Click on **Save** (4).

   A check window appears to confirm your key entry (5).

5. When OK, click **Yes** (6).

   The option becomes available. *Valid key* is indicated next to the option (7).

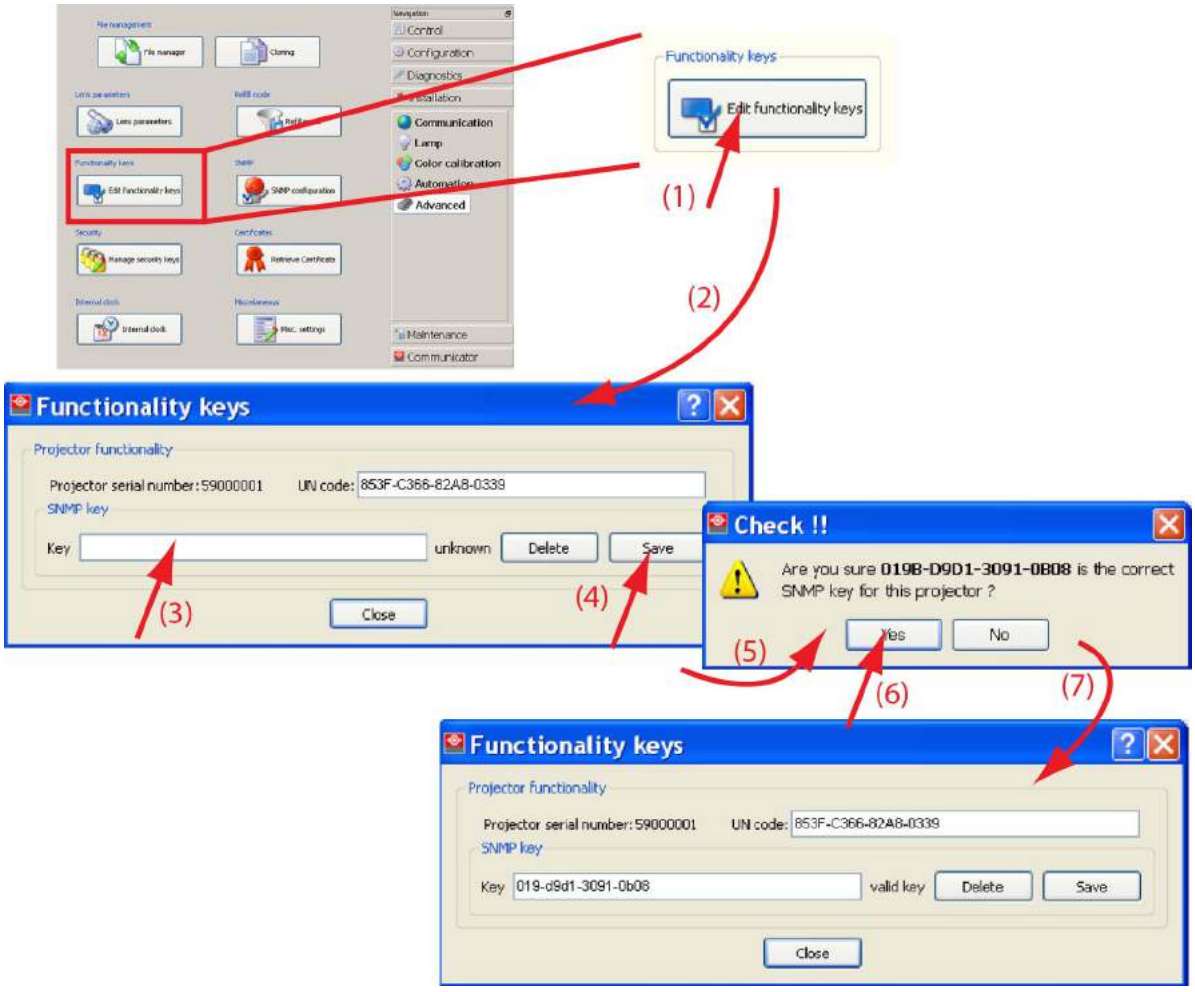


Image 6-62
Enter a single key

Delete a single key

1. While in the *Advanced* tab page, click on **Edit functionality keys** (1). (image 6-63)

   The *Functionality keys* window opens with the current active keys (2).

2. Click on **Delete** next to the key which must be removed (3).

   A question message is displayed to ask if you are sure to delete (4).

3. Click **Yes** to delete the key (5).
   Click **No, cancel this action** if you want to keep the key installed.

   When Yes is clicked, the key will be removed and all values are set to zero (6).

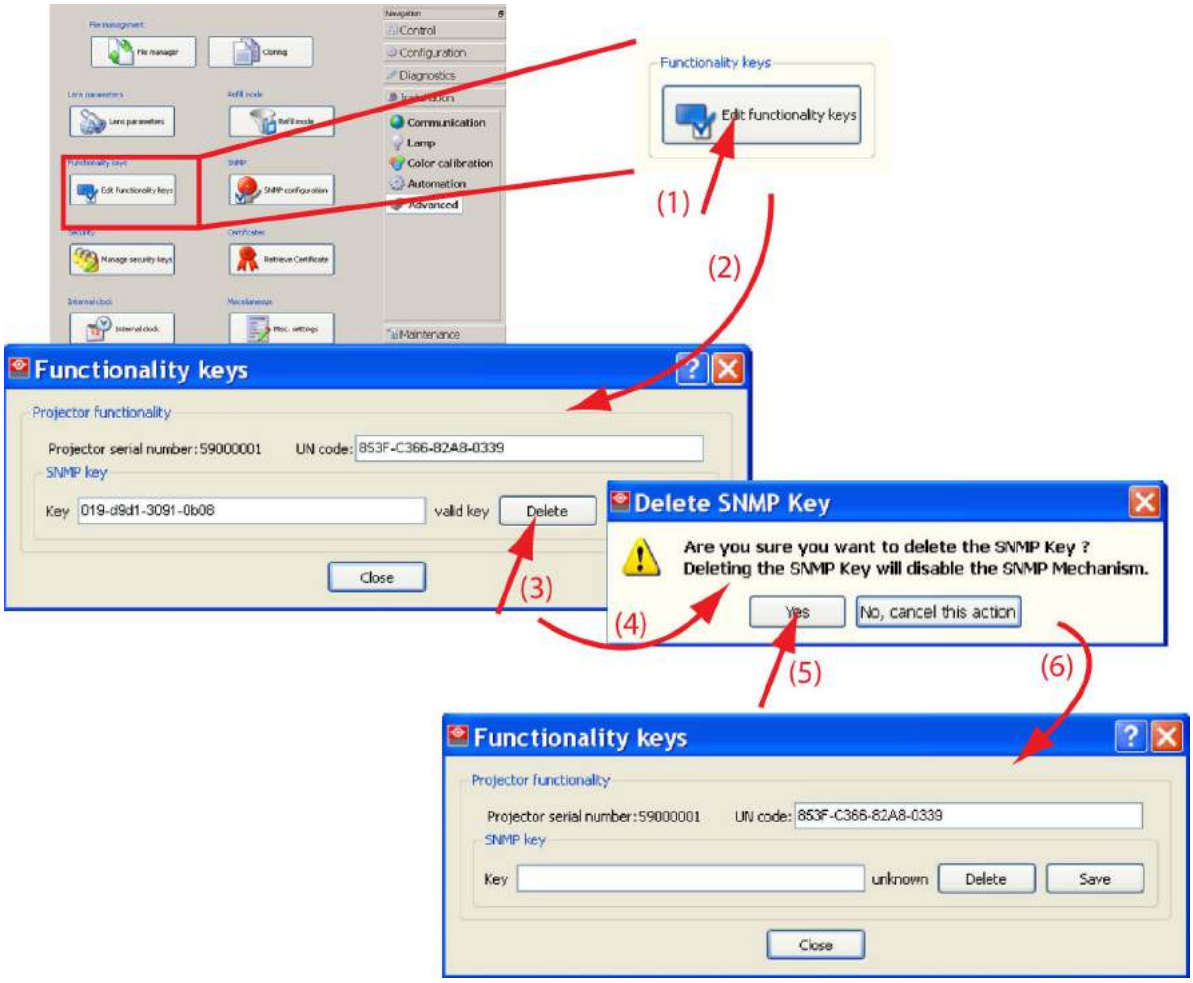


Image 6-63
Delete a single key

6.10.2 Request for new keys

What can be done ?

When changing the Input & communication unit, a code must be entered before you can continue using your projector. This code contains the run time and the different keys necessary for your projector. This unique code can only be generated by Barco. Therefore, copy the UN code and send it to Barco.

How to enter a new PM code

1. While in the *Advanced* tab page, click on **Edit functionality keys** (1). (image 6-64)

   The functionality keys window opens with the current active keys (2).

2. Copy the unique UM code and send this code to Barco (3).

   This code contains the serial number and the installed keys. A new code will be generated by Barco.

3. When the new code is arrived, go back to the *Functionality keys* window. Click first the Shift button and then double click on the word *serial number*.(4)

   The programing mode window opens (5).

4. Enter the new code exactly as you received it (6) and click **Program now** (7).

   The new serial number and keys are activated.

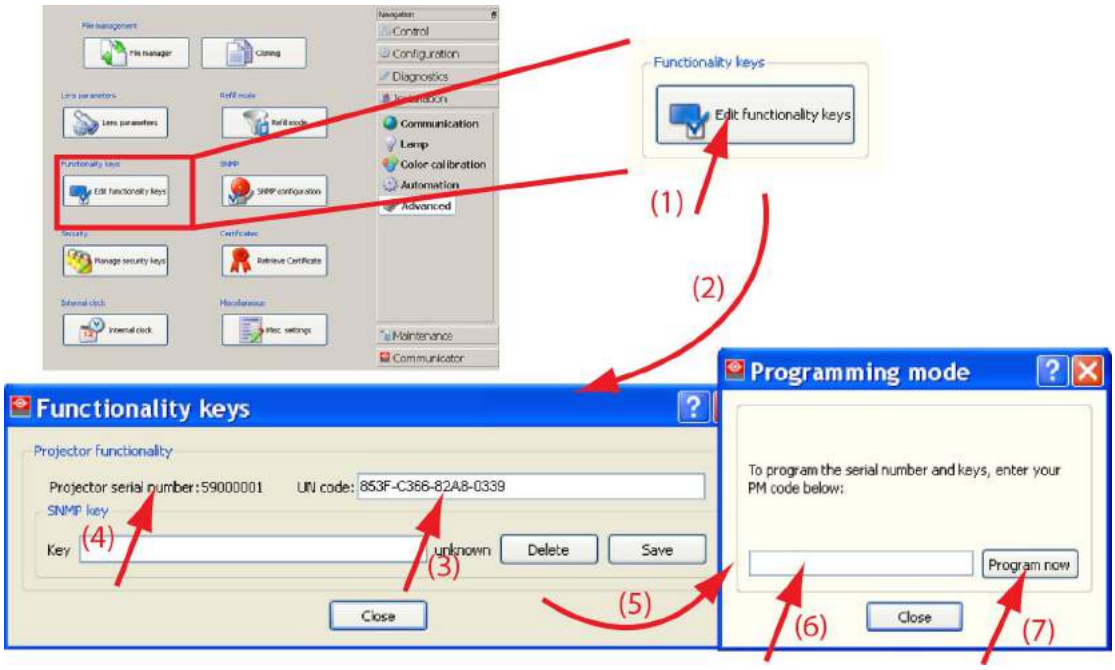


Image 6-64
Entering the PM code

6.11 SNMP configuration

SNMP configuration start up

1. While in the Advanced tab page, click on **SNMP configuration**. (image 6-65)

   The *SNMP configuration* window opens.

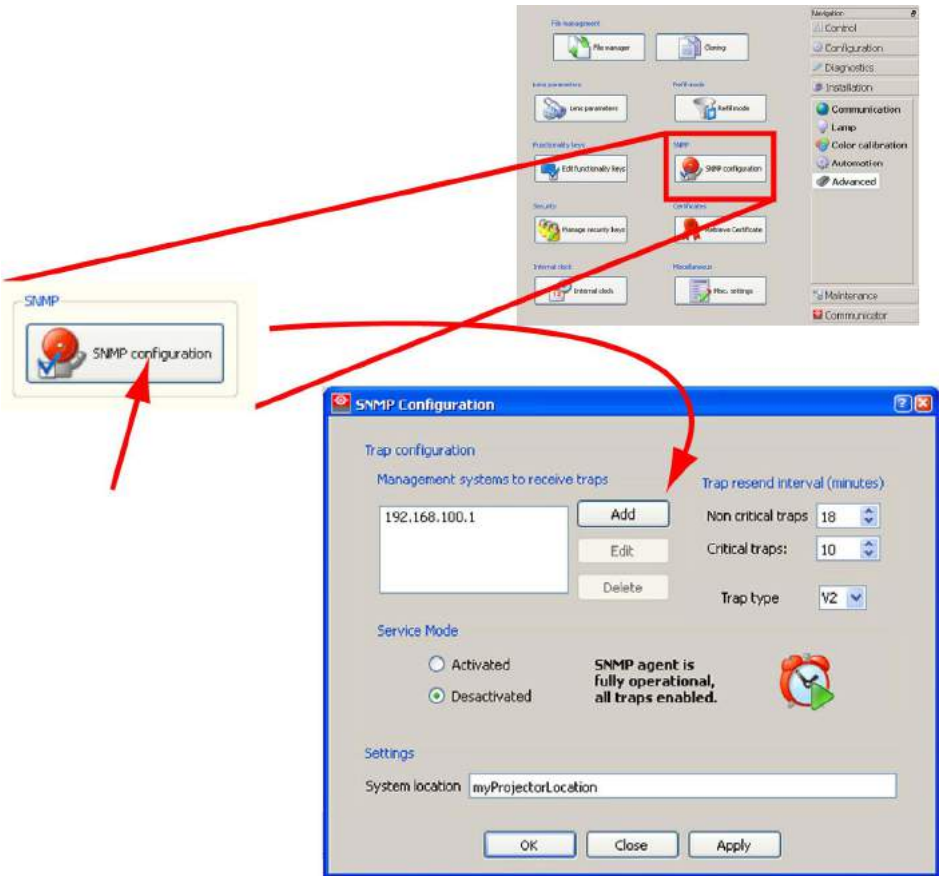


Image 6-65
SNMP configuration

Management System address to receive traps, add address

1. Click on Add

   The IP address input window opens.

2. Enter the IP address of the management server.

3. Click on **OK** to activate.

   The new server is added to the list of management servers.

Trap resend interval

Time between two traps to be send to the management servers. This time is set in minutes and can be different for Non critical trap and Critical traps.

To change the time, click on the up down control of the spin box of the corresponding trap type until the desired interval is reached.

Trap type

SNMP exists in different versions. You have SNMP V1 and SNMP V2. The difference is basically the format of the SNMP messages. Some management systems will support V1, others will support V2. Depending on the management system used one should select V1 or V2 traps to be sent out to the management system.

To change the trap type, click on the combo box next to Trap type and select the corresponding type.

Service mode

When service action should be done on the projector while the projector is running, check the radio button before *Activated*. SNMP alarms generated during the servicing time will be blocked so that no unnecessary SMS or E-mails are sent to the control room.

Once the servicing action is finished, check *deactivated* again. SNMP alarms can be sent out again.

If the services is not disabled again within 6 hours, the SNMP agent will automatically disable this function so that SNMP alerts can be sent out.

System location

To add the location of the system, click in the input field next to *System location* and enter a location with the keyboard.

6.12 Security

For DP2K C-series and DPxK B-series.

Overview

- Overview list of keys as root user
- Overview list of keys as default user
- Add extra key to the list
- Change PIN code of an existing key

6.12.1 Overview list of keys as root user

How to get an overview list

1. While in the Advanced tab page, click on **Manage Security Keys** (1). (image 6-66)

   The security window opens (2).

2. Click on the show key list button (3).

   An overview of the available keys is displayed (4).

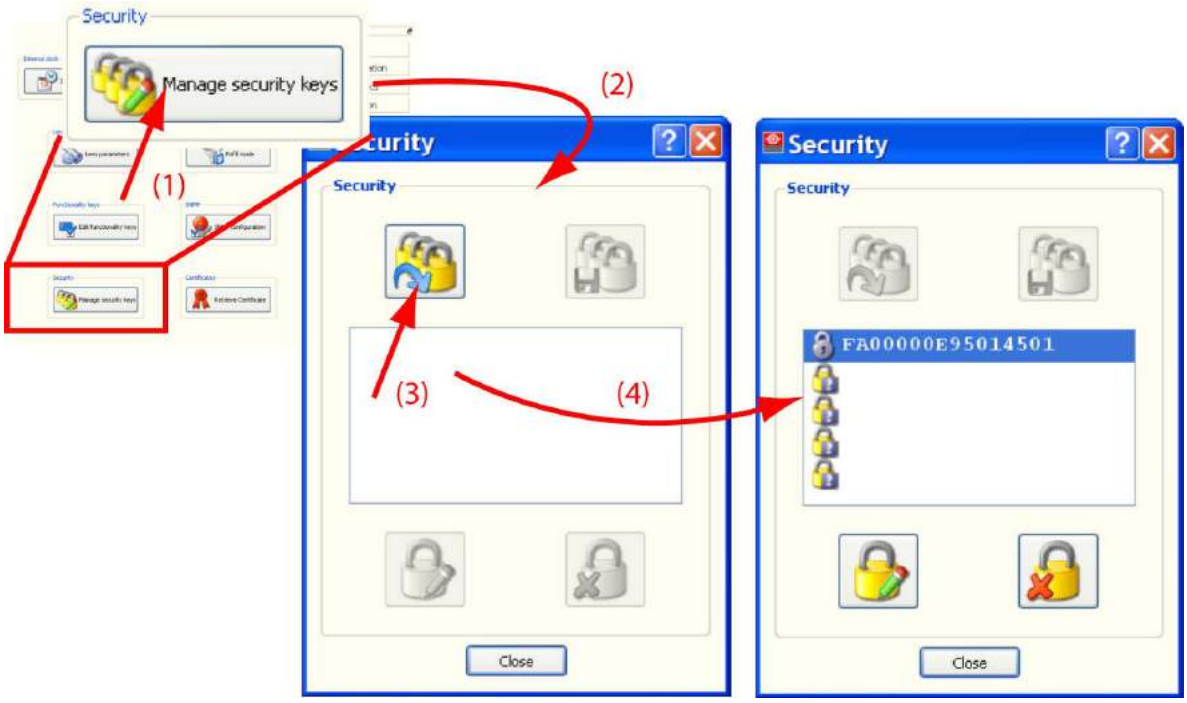


Image 6-66
Key list as root user.

6.12.2 Overview list of keys as default user

How to get an overview list

1. While in the Advanced tab page, click on **Manage Security Keys** (1). (image 6-67)

   The security window opens (2).

2. Click on the show key list button (3).

   The key code window opens (4).

3. Enter the key code of the original dallas iButton® (master key) (5).

4. Enter the corresponding pin code (6) and click **OK** (7).

   An overview of the available keys is displayed.

   When the entered key code was the master key, the list will show also the master key. (image 6-68)

   When the entered key was another key out of the available keys, the list will show *No access* on the place of the master key. (image 6-69)

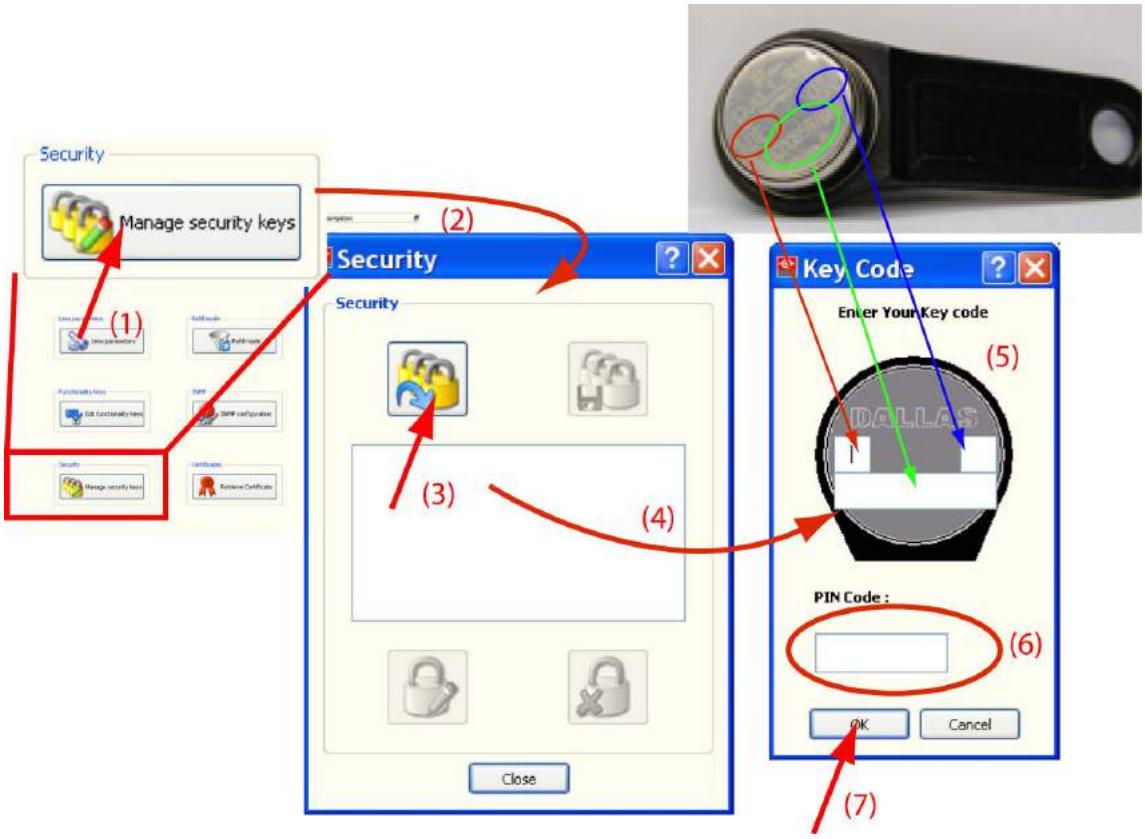


Image 6-67
Entering access key

Image 6-68
List of available keys

Image 6-69
List without master key

6.12.3 Add extra key to the list

Only root users are user holding the master key can add extra keys.

How to add an extra key

1. Display first a list of all available keys.
2. Click on a free key location (1). (image 6-70)
   The background changes.
3. Click on the **Add key** icon (2).
   The key code window opens (3).
4. Enter the key code of the dallas iButton® (4).
5. Enter a pin code for this key (5) and click **OK** (6).
   The new key is added to the key list (7).
6. Click on **Save key list** icon to make the changes active (8).

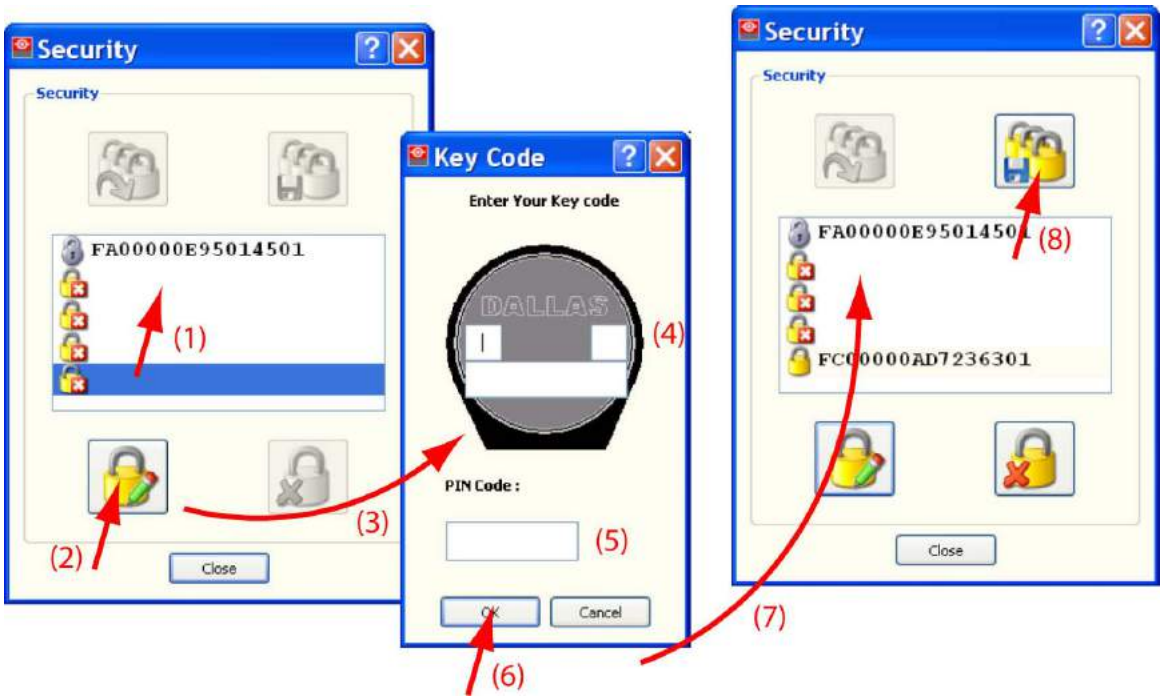


Image 6-70
Add new key to key list

6.12.4 Change PIN code of an existing key

Can only be done as root user or when enter the security via the master key.

How to change

1. Display first a list of all available keys.
2. Click the key to change the pin code (1). (image 6-71)
3. Click on the Add key button (2).
   The key code window opens with the current values filled out (3).
4. Enter a new pin code (4) and click **OK** (5).
5. Click on **Save key list** icon to make the changes active (6).

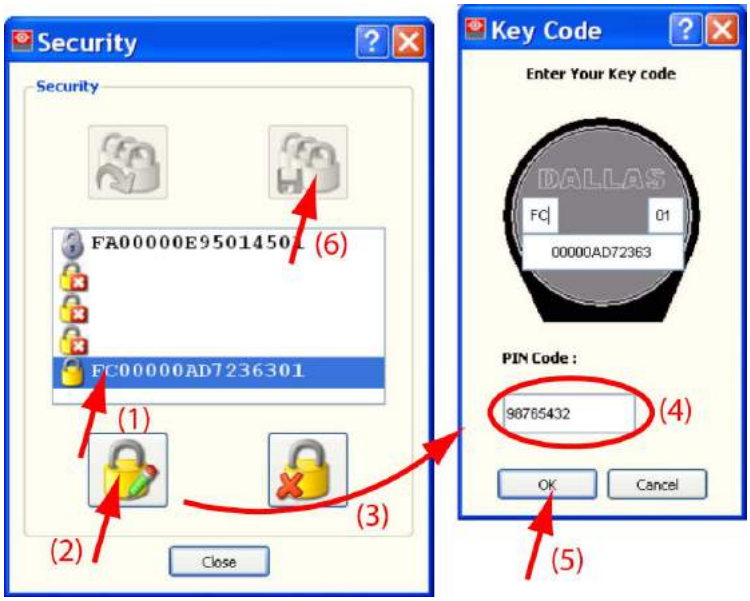


Image 6-71
Change pin code

6.13 Security

For DP2K S-series.

Overview

- Overview list of security PIN codes
- Add extra PIN code
- Change existing PIN code
- Delete a PIN code

6.13.1 Overview list of security PIN codes

How to get an overview list

1. While in the Advanced tab page, click on **Manage Security Keys** (1). (image 6-72)

   The *Security* window opens (2).

2. Click on the show PIN list button (3).

   An overview of the available PIN codes is displayed (4).

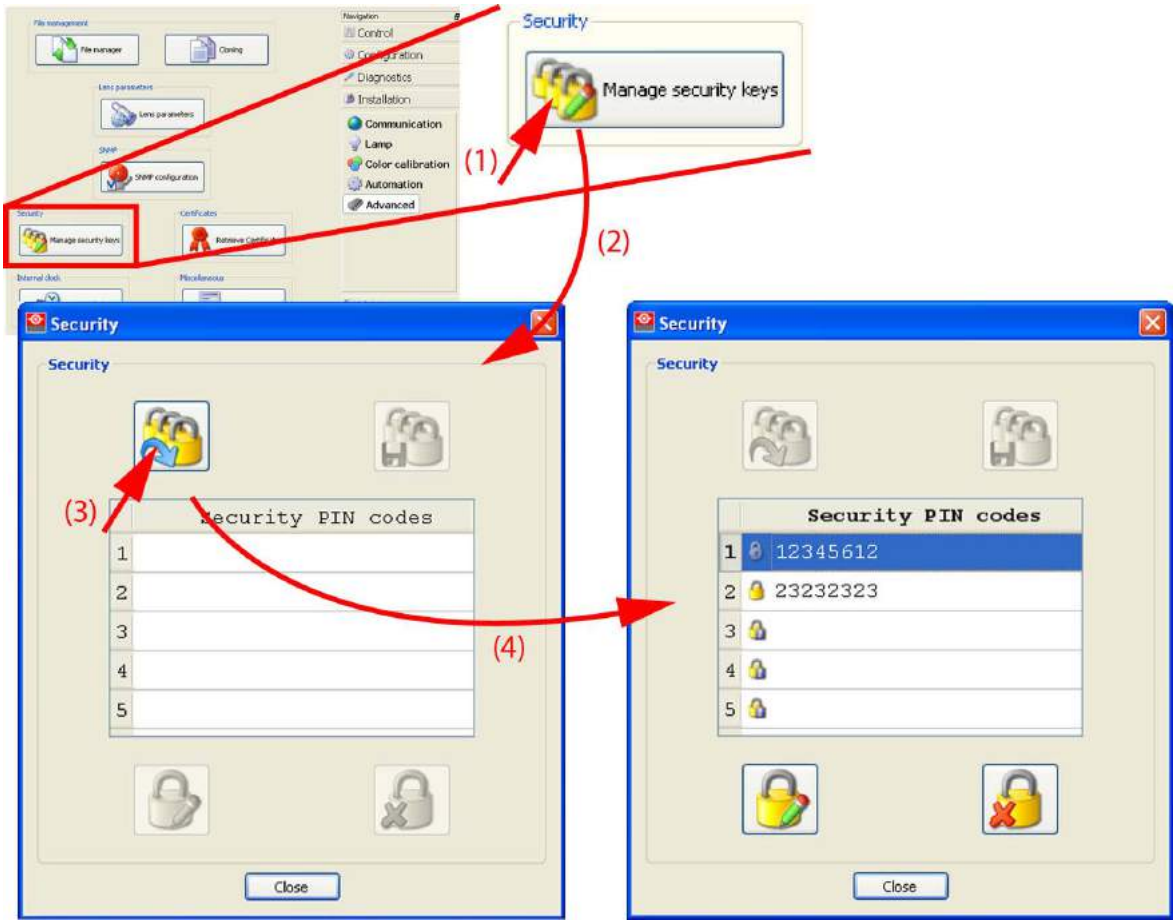


Image 6-72
PIN code list

About the PIN code

A PIN code must contain 8 digits. These 8 digits can be any combination of the digits 1 to 6. The first 3 digits are a public user identifier and these 3 leading digits of the PIN code are used to identify a user in the log files.

6.13.2 Add extra PIN code

How to add an extra PIN code

1. While in the Advanced tab page, click on **Manage Security Keys**.

   The *Security* window opens.

2. Click on the show PIN list button to display the available PINs. (image 6-73)
3. Select a free location in the list (1).
4. Click on the Add new PIN button (2).

   The PIN code entry window opens (3)

5. Click in the input field and enter an eight digit PIN code with the numeric keys. Use only digits 1 to 6 (4).
6. Click **OK** to add the new PIN code to the list (5, 6)
7. Click Save button to save the list (7).

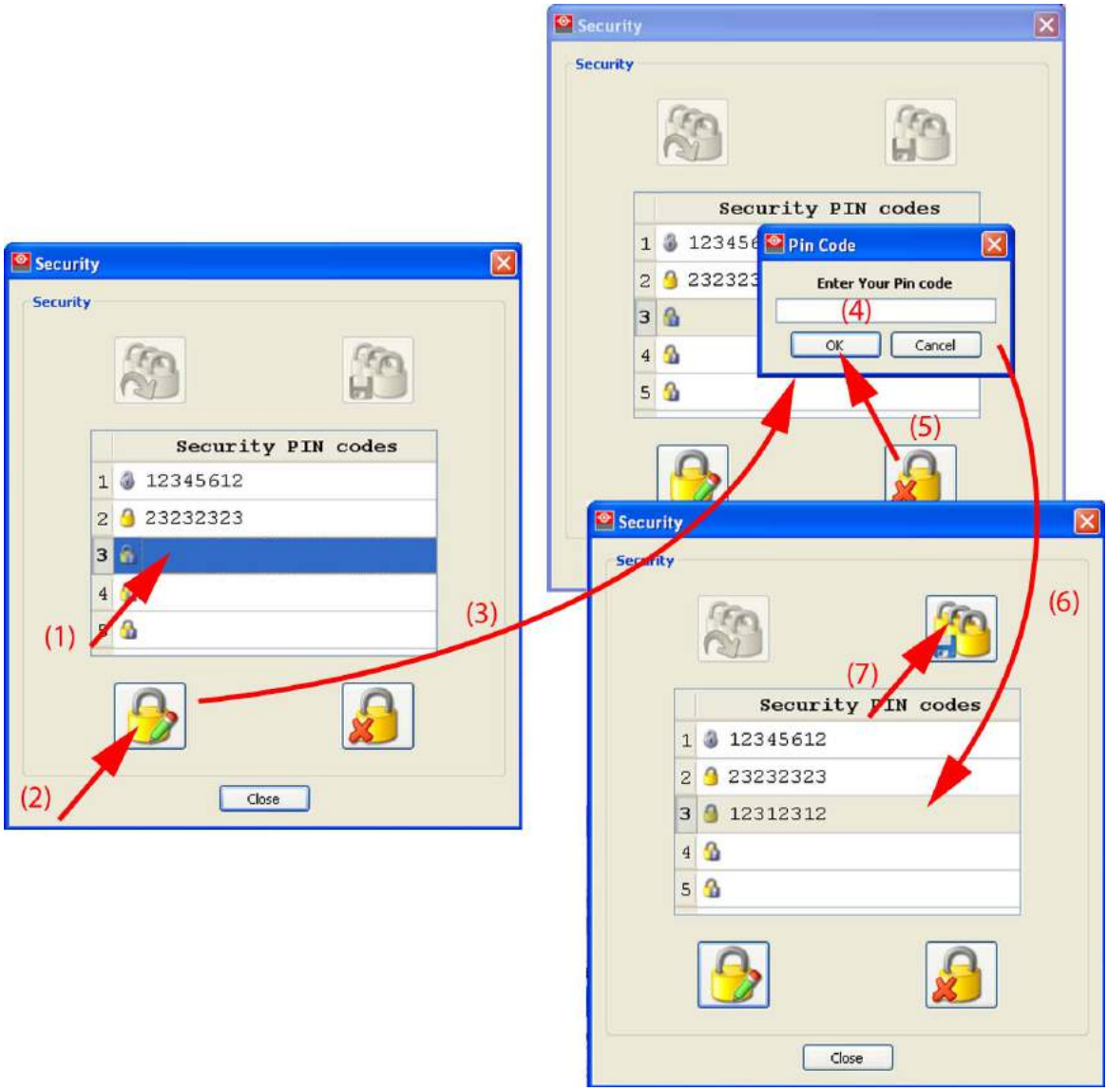


Image 6-73
Add new PIN code

6.13.3 Change existing PIN code

How to change a PIN code

1. While in the Advanced tab page, click on **Manage Security Keys**.

   The *Security* window opens.

2. Click on the show PIN list button to display the available PINs. (image 6-74)
3. Select the PIN code to change (1).
4. Click on the new PIN code button (2).

   The PIN code input window opens (3).

5. Select the current displayed PIN code and enter a new PIN code with the digit buttons (4). Only digits 1 to 6 are allowed.
6. Click **OK** to add the new pin code to the list (5, 6).
7. Click Save button to save the updated list (7).

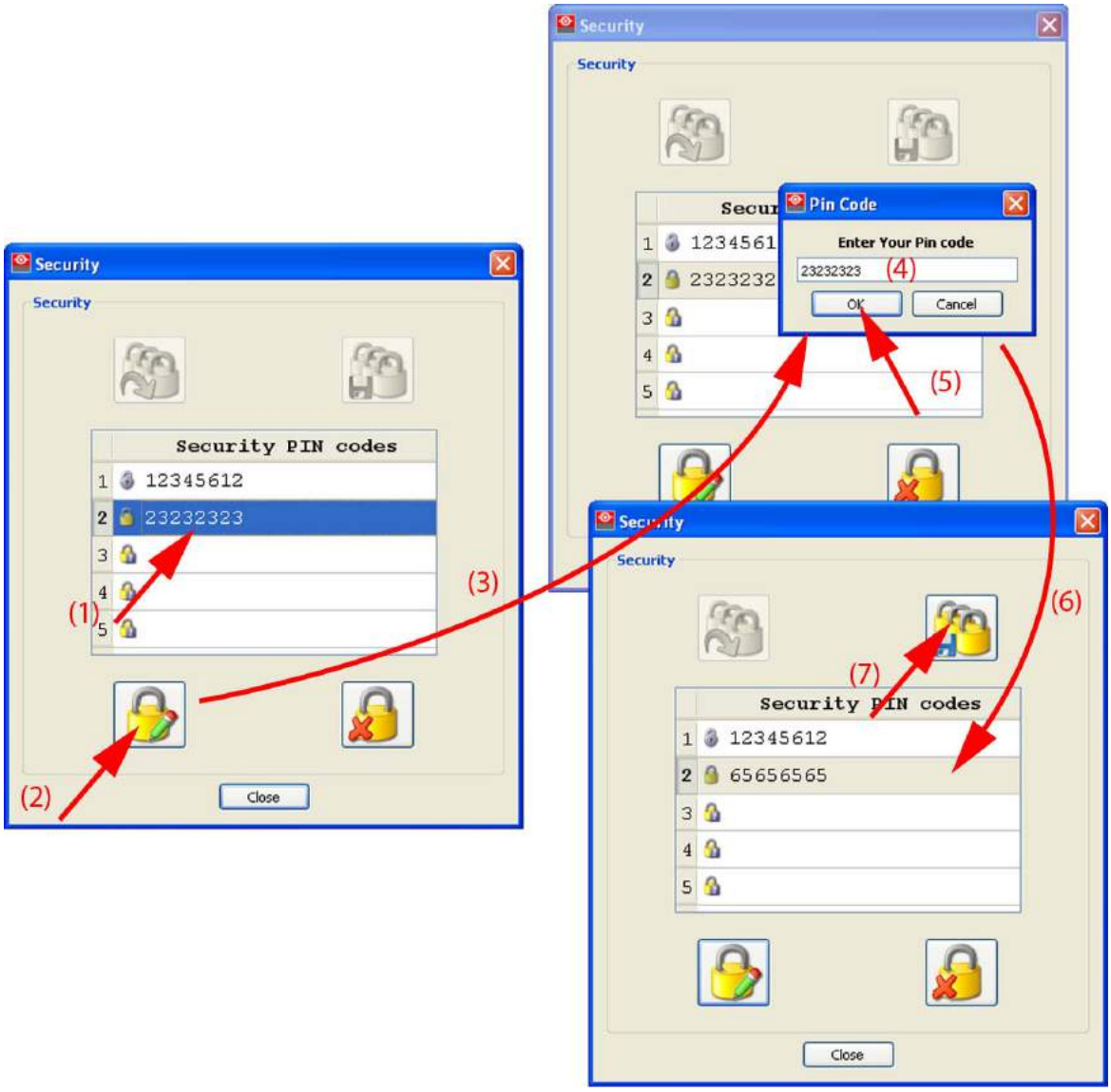


Image 6-74
Change PIN code

6.13.4 Delete a PIN code

How to delete PIN code

1. While in the Advanced tab page, click on **Manage Security Keys**.

   The *Security* window opens.
2. Click on the show PIN list button to display the available PINs. (image 6-75)
3. Select the PIN code to delete (1).
4. Click Delete button (2).

   The selected PIN code is removed from the list (3).
5. Click Save button to save the new security settings (4).

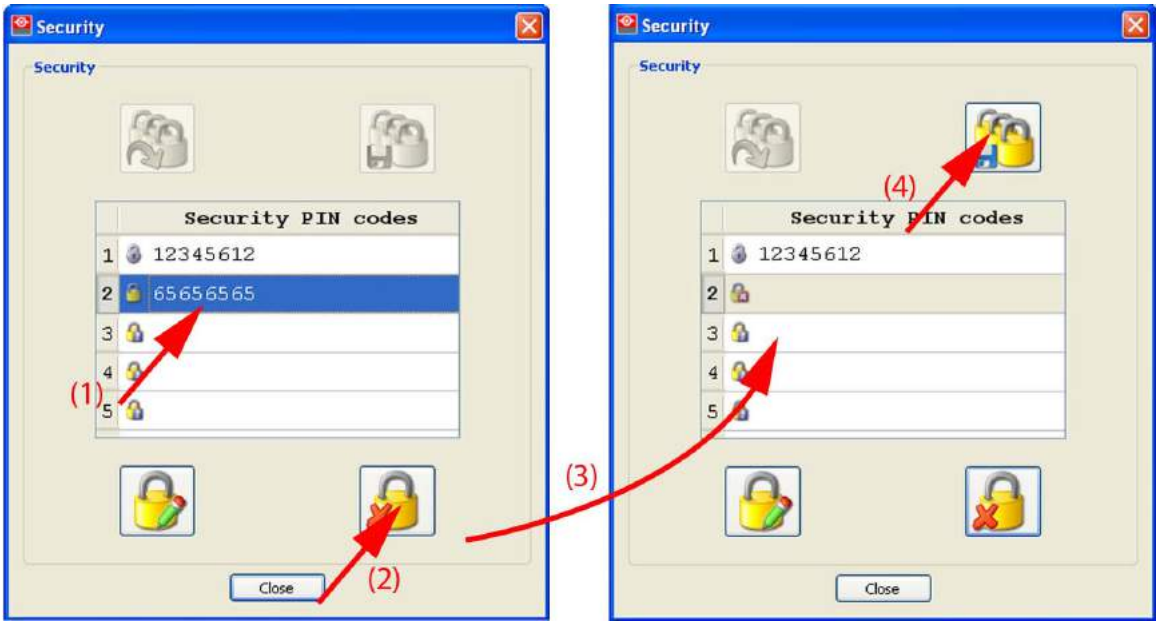


Image 6-75
Delete PIN code

6.14 Certificate

About certificates

Before some productions are authorized to be displayed with a certain projector, the film distributor must distribute a key to the theatre owners. This key is associated with the projector certificate which will be available for the film distributors on a web portal.

The certificate file must be uploaded on that web portal during the installation of the projector or after changing the link decryptor board or IMB.

How to get the certificates

1. While in the *Advanced* tab page, click on **Retrieve Certificate** (1). (image 6-76)

   A certificate selection window opens.

   There is a choice to download an IMB/LD certificate or an ICP certificate.

2. Select the certificate to download.

   The *Save certificate* window opens and a suggested file name is filled out.

3. Browse to the desired storage location (3).

4. If you want to change the proposed file name, click on it (4), select the file name and enter a new name (5).

5. Click on **Save** (6).

   The file will be saved as an .crt file.

6. Repeat for the second certificate.

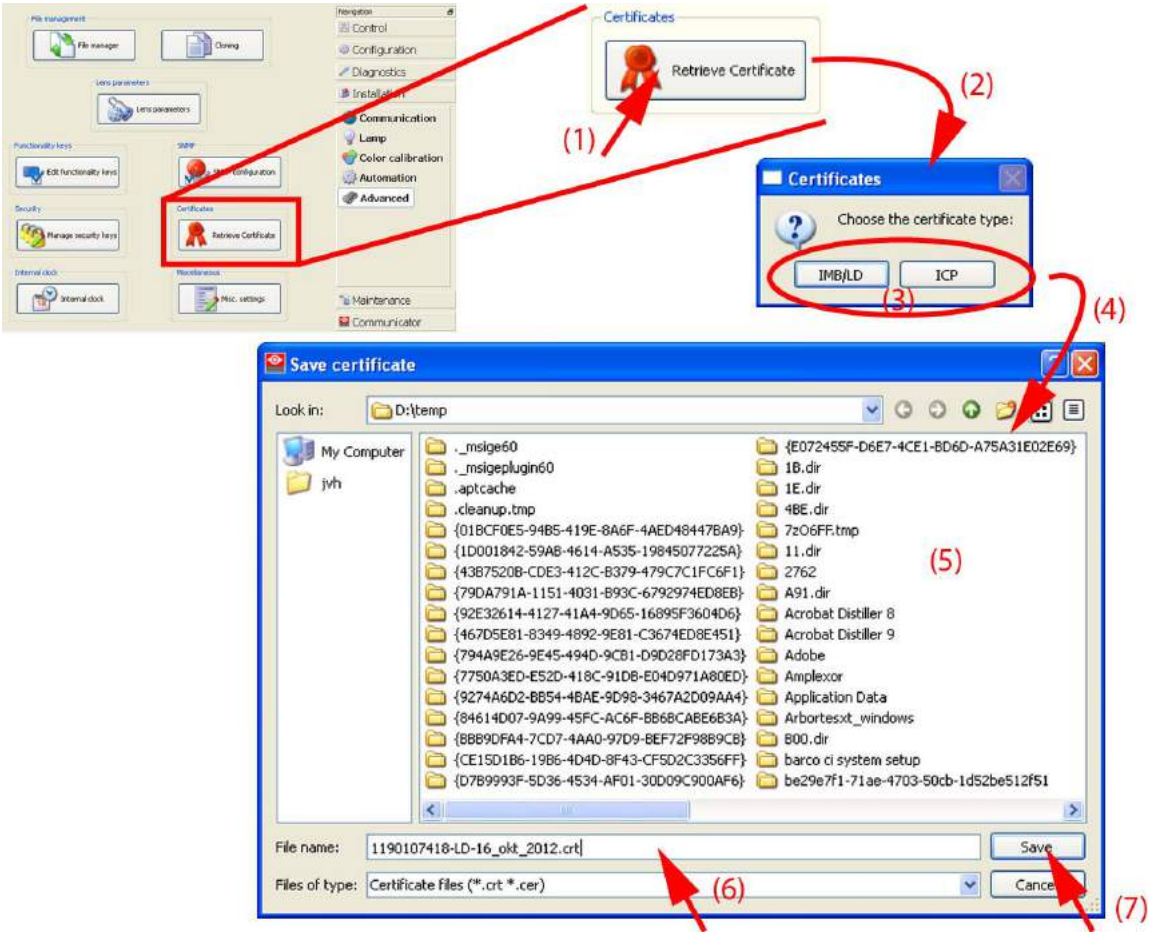


Image 6-76
Certificate

7. MAINTENANCE

Overview

- About smart maintenance
- Maintenance info for specific maintenance type
- Software upgrade, launch DC update companion
- Software upgrade, projector or touch panel package
- ICP software upgrade
- Link decryptor software update
- Update logging

7.1 About smart maintenance

Overview

Error messages with identifier 620x, displayed during start up or when consulting the Diagnostic window are maintenance notifications. That means that an maintenance action on the projector is necessary as soon as possible.

When a maintenance action is pending, the tail light of the projector will turn blue.

Besides, preventive maintenance actions can also be performed on the projector even if the remaining time is still positive.

Go to *Maintenance → Smart maintenance*.

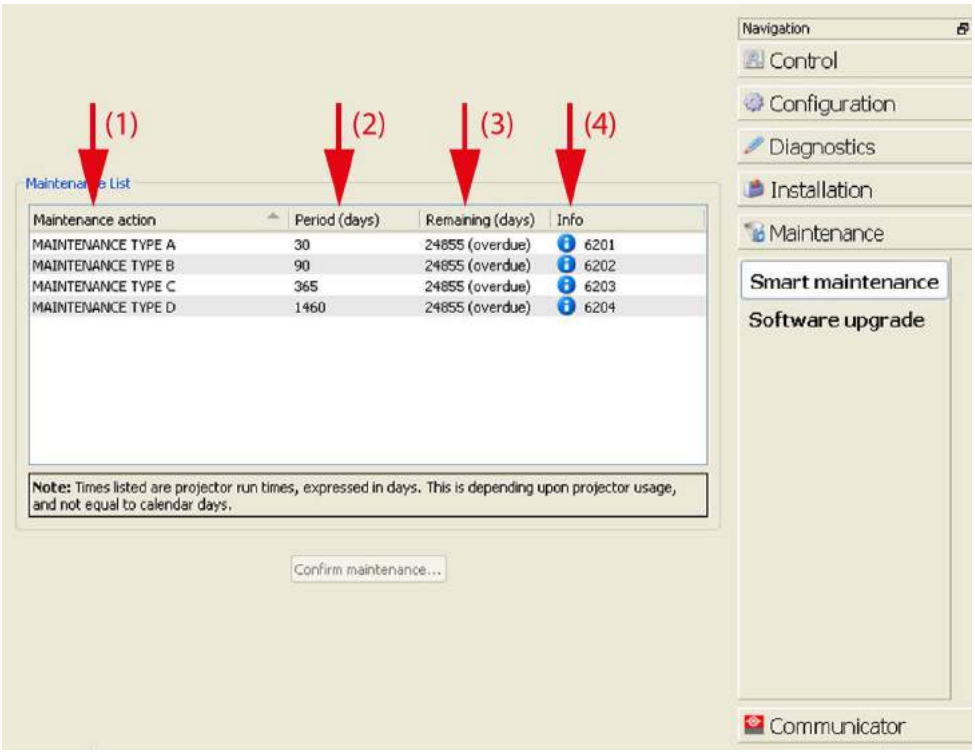


Image 7-1
Smart maintenance

The *Smart maintenance* window displays the four types of maintenance foreseen for a Cinema projector (1). For each type, the maintenance interval period (2) is indicated.

The remaining period (3) indicates the time left before a new maintenance has to be done. When this value is negative, that means that the maintenance action is 'overdue' and should be done immediately. The info button (4) displays an overview of the maintenance actions for that typical type of maintenance.

The following maintenances are possible:

- Maintenance type A : interval 30 days (cleaning filters, check porthole for dust, dust on lens, etc.)
- Maintenance type B : interval 90 days (clean air grids, check cooling liquid level, etc)
- Maintenance type C : interval 1 year (check for dust inside projector, software upgrade, check complete cooling circuit, electrical connections, lamp module, lens holder, 3D color wheel, etc.)
- Maintenance type D : interval 4 years (replace cooling pump, check fans, etc)

All indicated times in the maintenance window are expressed in days. Only projector run time hours are taken in account to calculate the remaining time.

7.2 Maintenance info for specific maintenance type

How to display

1. While in the *Maintenance* tab page, click on **Smart maintenance**.
2. Click on the "i" symbol next to the maintenance type you want to open (1). (image 7-2)

   The *Diagnostics companion* opens with an overview of the maintenance actions for the selected type (2).
3. Click **Close** to close the *Diagnostic companion* (3).
4. Once the maintenance actions are executed for that specific type, click on the maintenance action in the list (4). (image 7-3)

   The full row is selected.
5. Click on **Confirm maintenance ...** to reset the remaining days (5).
   Note: *When a preventive maintenance is performed before the remaining time is zero or negative, then it is also possible to reset the remaining days.*

   A confirmation window opens (6).
6. Click **Yes** to reset the remaining days (7).

   The blue tail light will be turned off.

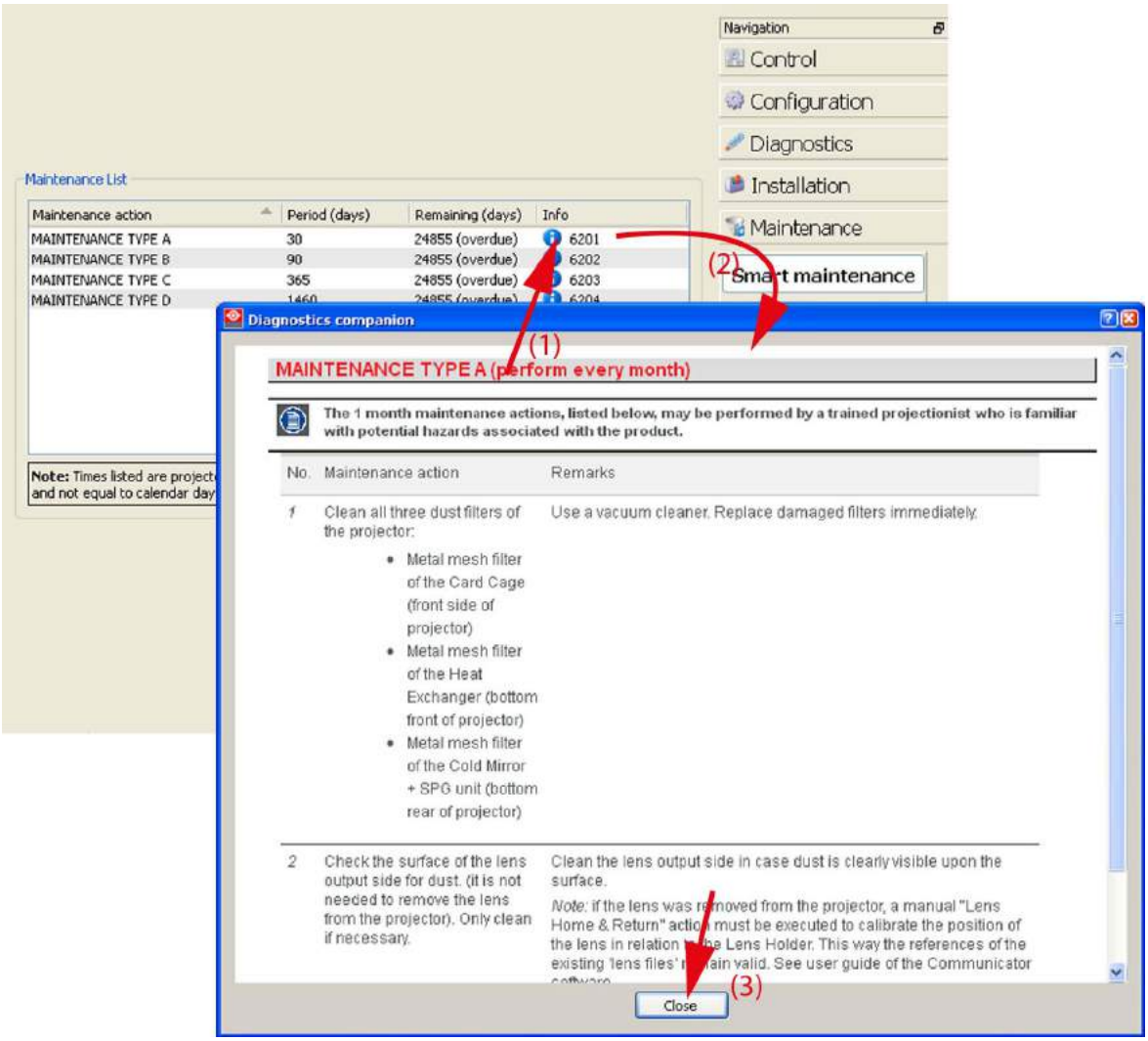


Image 7-2
Maintenance info

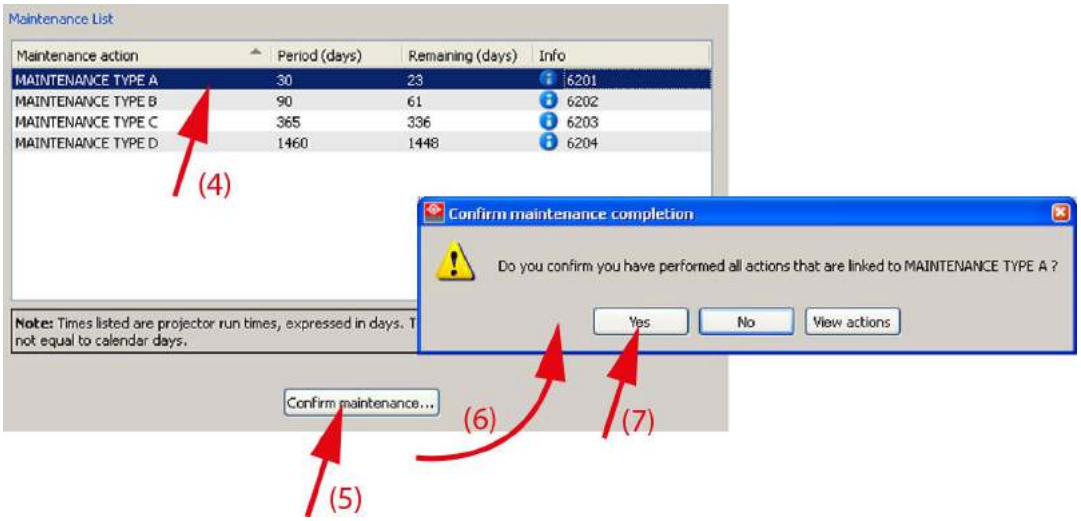


Image 7-3
Maintenance clearing

7.3 Software upgrade, launch DC update companion

What can now be done ?

The following updates of the software are possible with Communicator 4.4 or higher:

- Barco DC package update:
  - Projector software
  - Touch panel software
- Enigma link decryptor software
- Integrated Cinema Processor (ICP) software

Download the corresponding update package from the secured Barco web site, https://my.barco.com on your PC.

For Enigma link decrypor and ICP update package, unzip the package file into a new directory. For the projector software and the touch panel software package, unzipping is not possible. the file can be used as is.

The ICP and Linkdecryptor package file contains at least

- a zipped version of the update program which contains a *setup.exe* file to install the program. Can also be unzipped.
- a release file with the new software.
- a release note (pdf document)
- a Software Manifest for ICP Production Release (pdf document)

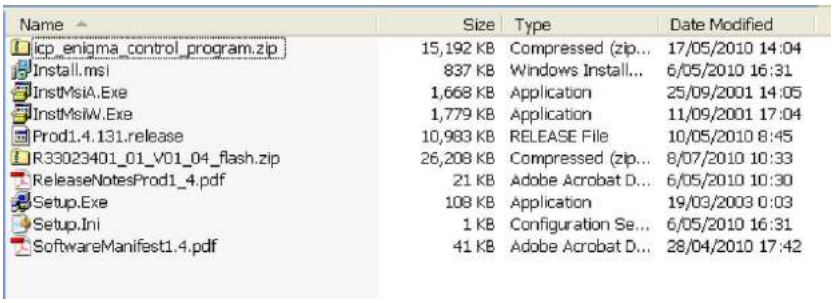


Image 7-4
Content ICP update package

DC Update Companion can also be started as a separate application. The start up button is located next to the Communicator start button in the start programs tree.

How to launch

1. While in the *Maintenance* tab page, click on **Software update** (1). (image 7-5)
2. Click on **Launch DC update companion** (2).

   The *DC update companion* window starts up (3).
3. Click **Next** to continue (4).
4. Read the licence agreement and check accept. Click **Next** to continue. (image 7-6)
5. Continue with the specific procedure for each type of package.

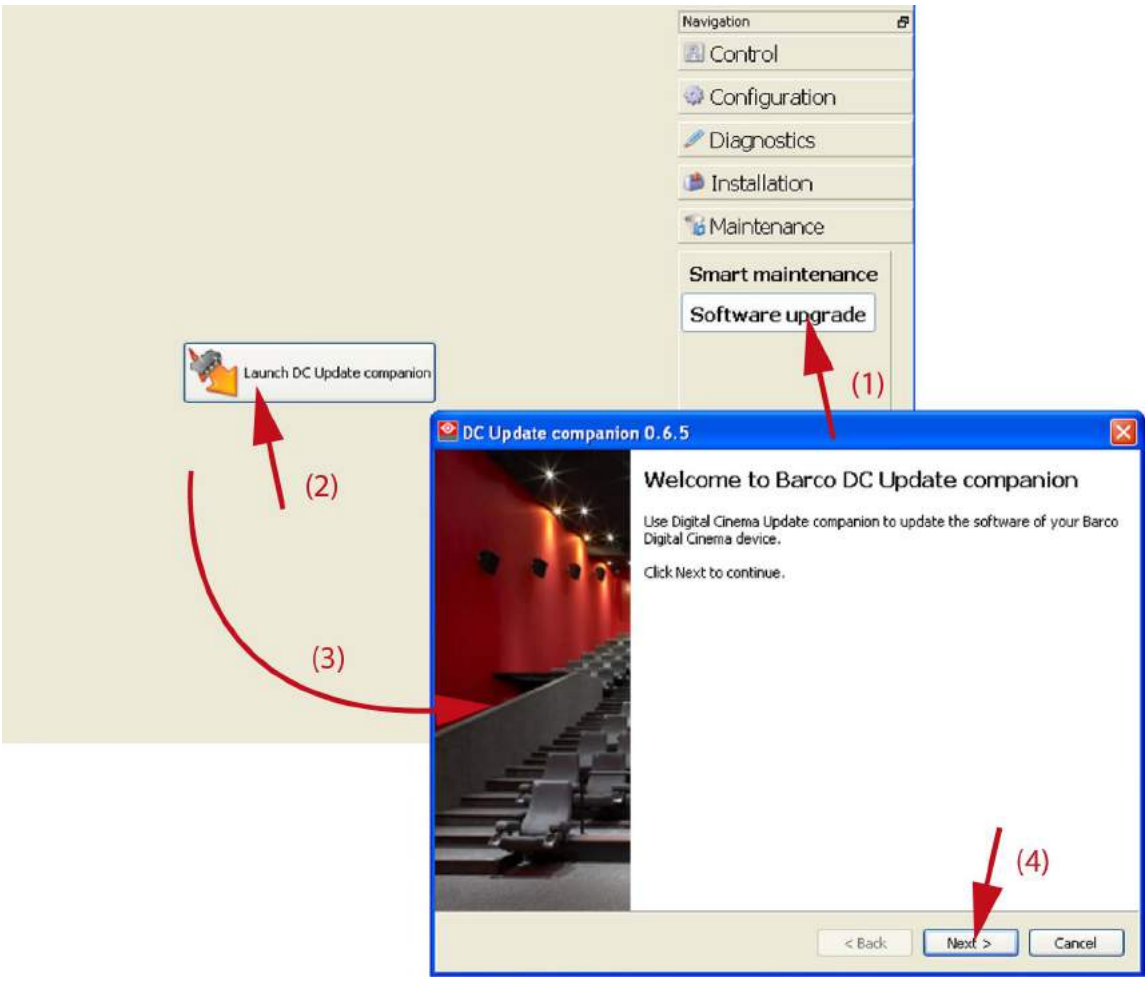


Image 7-5
Launch DC update companion

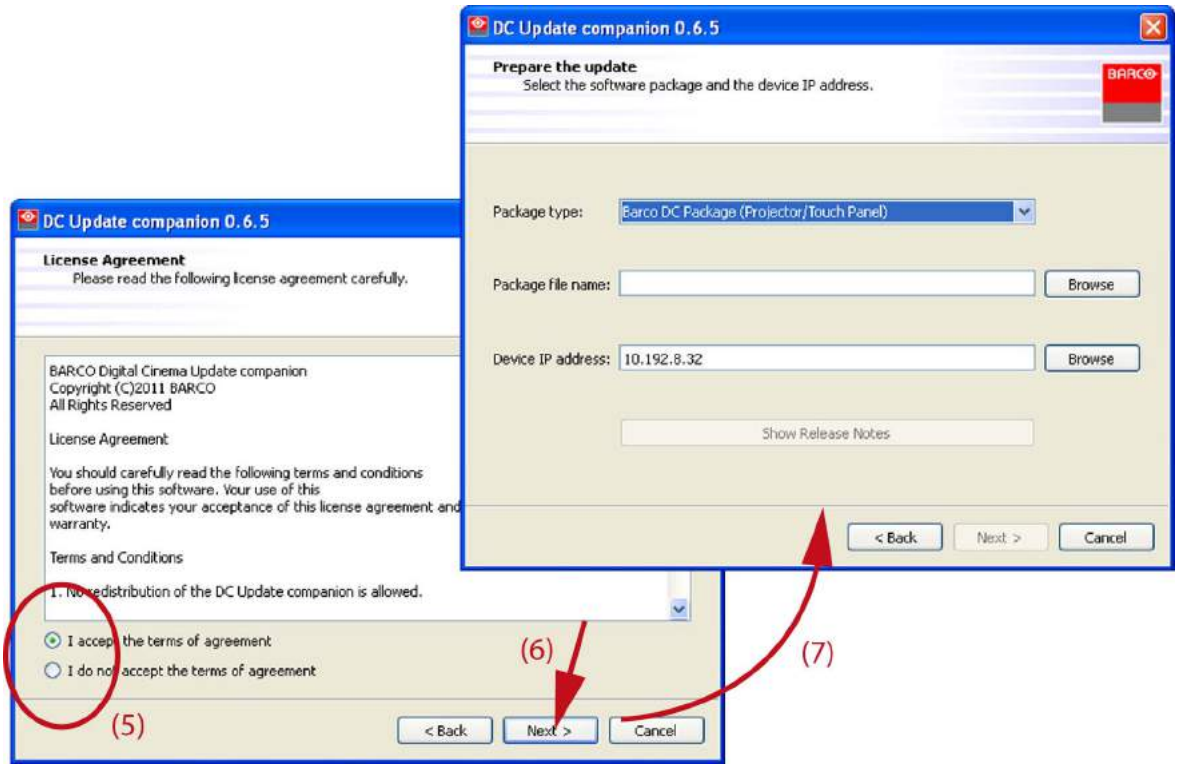


Image 7-6
Start up selection window

7.4 Software upgrade, projector or touch panel package

How to update

1. Launch the *DC Update Companion* as described in "Software upgrade, launch DC update companion", page 212.
2. Select package type. Click on the drop down box (1) and select Barco DC Package. (image 7-7)
3. Browse the package file name. Click on **Browse** (2) to open the Browser window (3).

   The correct file type is already filled out (4).
4. Browse for the desired file (5), select the file and click on **Open** (6).

   The Package file name line is filled out (7).
5. To read the release notes, click on **Show Release Notes** (8). (image 7-8)
6. Enter the device IP address (10) or click on **Browse** to open a device selection window (11). (image 7-9)
   Note: *The IP of the connected projector is already filled out. When using the DC Update Companion as stand alone program, then this field is blank.*
7. Select the desired IP address (12) and click **Select** (13).

   The selected IP address is filled out next to *Device IP address*.
8. Click **Next** to continue.

   The necessary information is gathered.

   The current installed version is shown next to the package version (15). (image 7-10)
9. Select the way the wizard will update the package. Check the desired radio button (16).

10. If automatically is selected the wizard gathered the information (17). Then click **Next** to start the update (20).
    If custom update (for advanced users) is selected, the wizard starts collecting the information (17) of the different software modules.
11. Select the modules to update (19) and click **Next** to start the update (20).

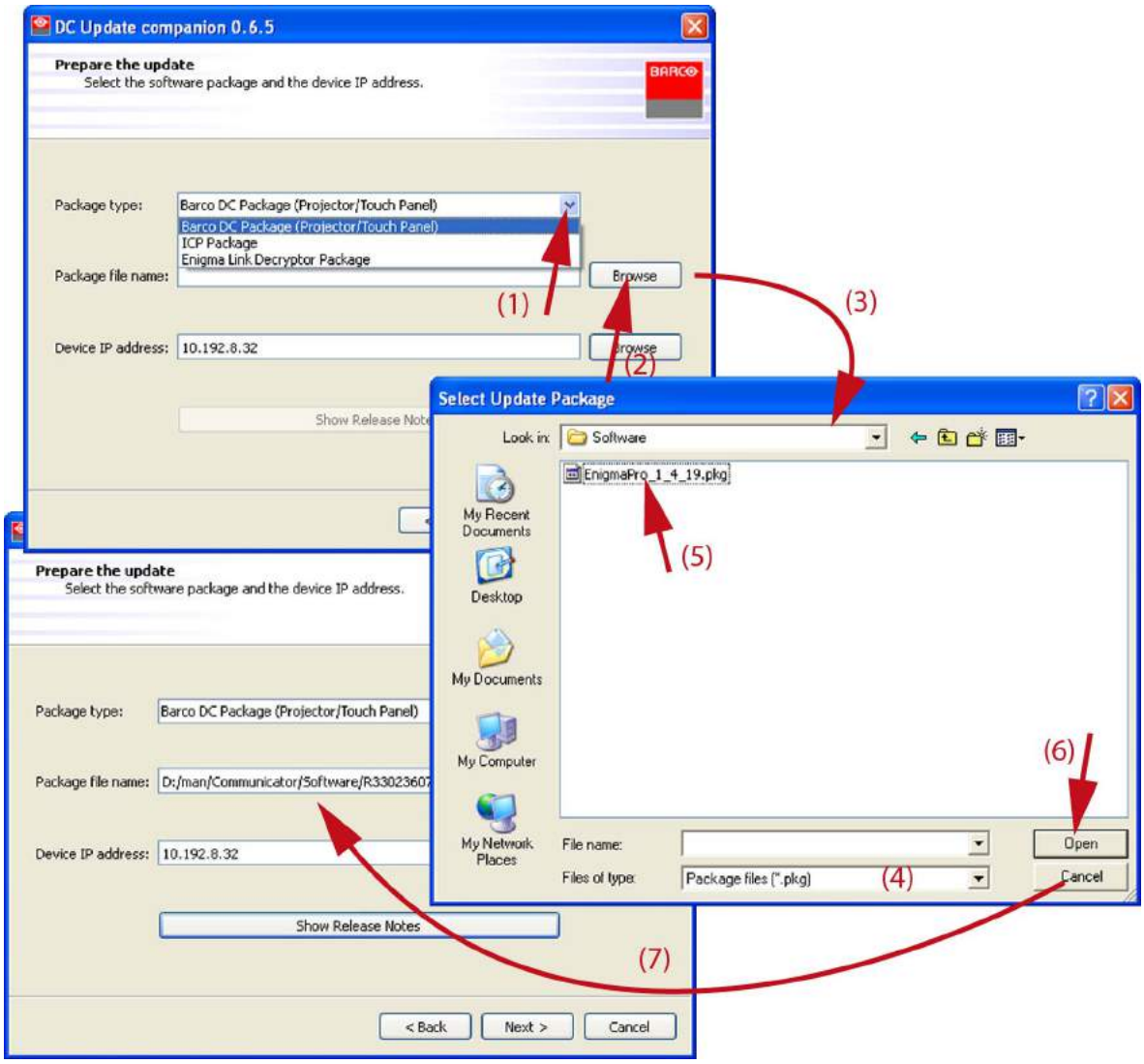


Image 7-7
Package file selection

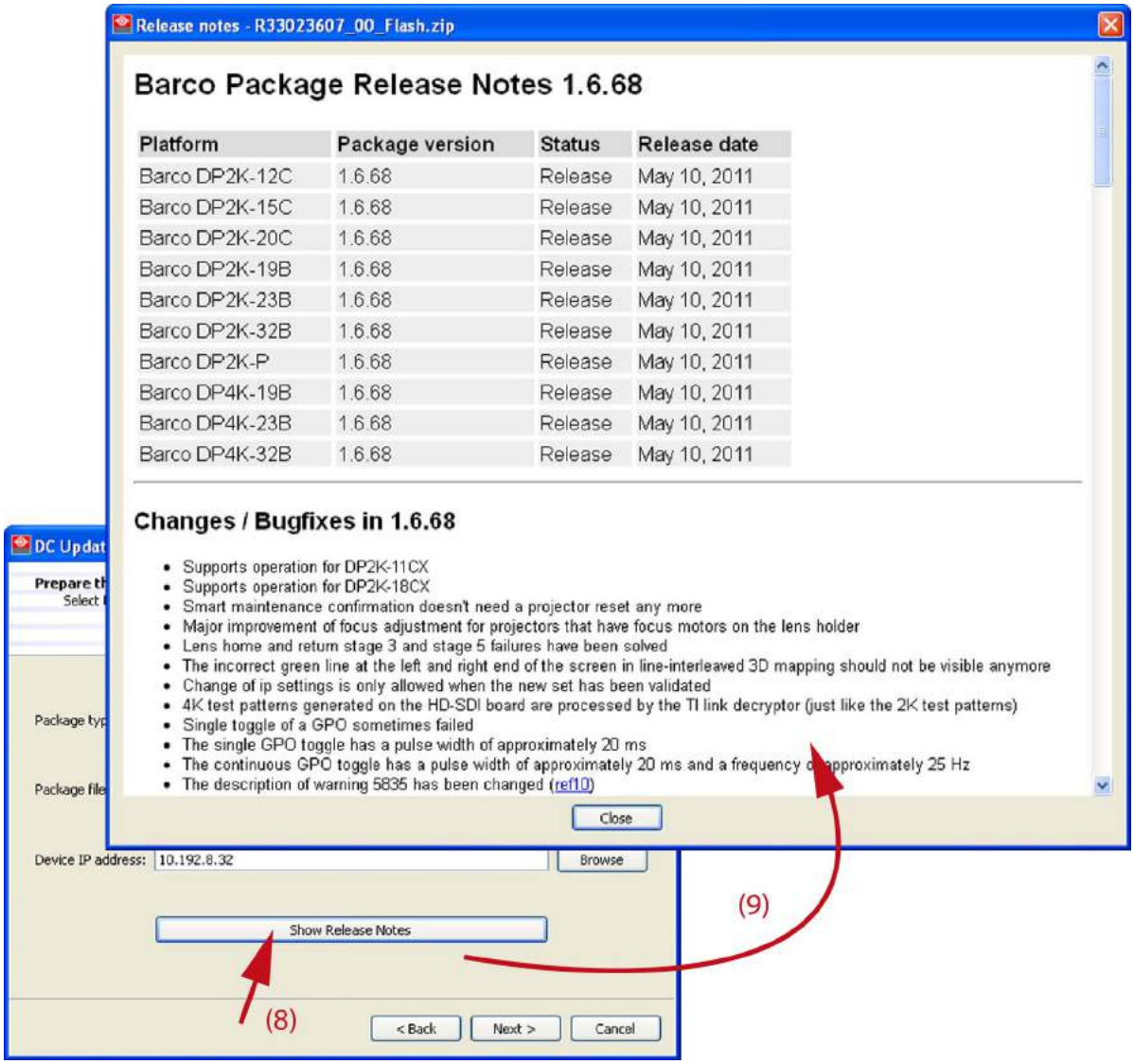


Image 7-8
Barco release notes

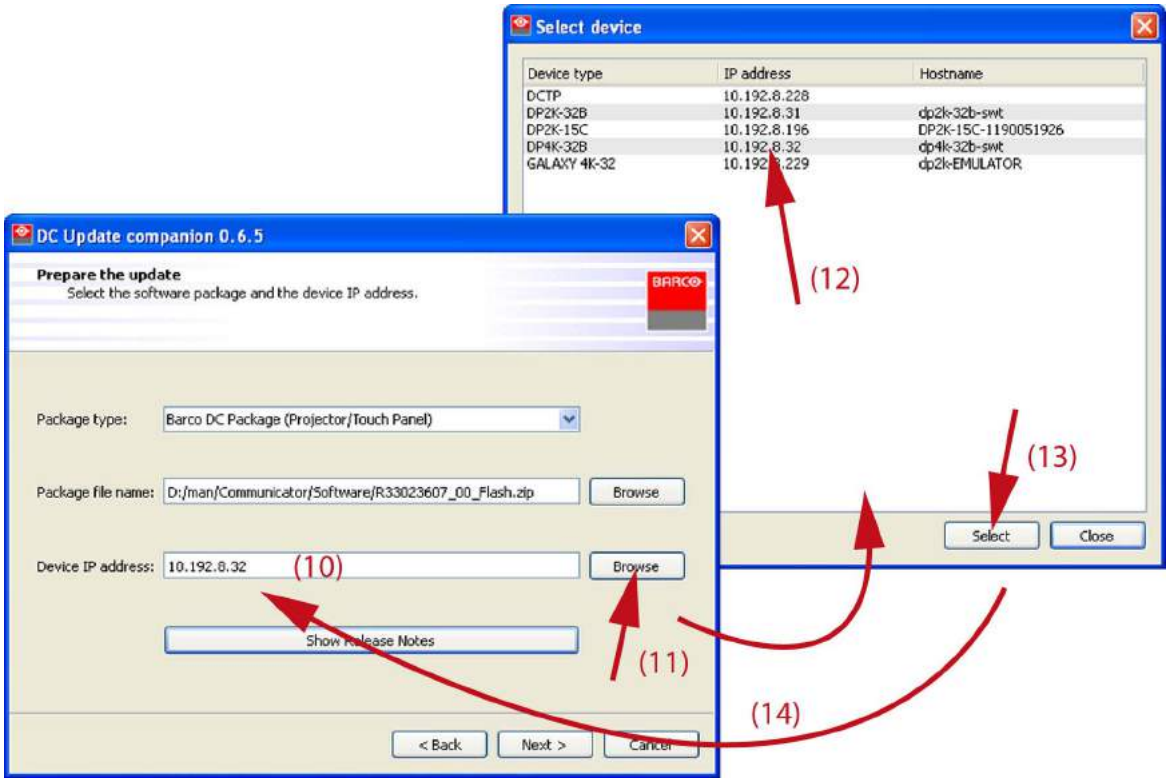


Image 7-9
IP selection

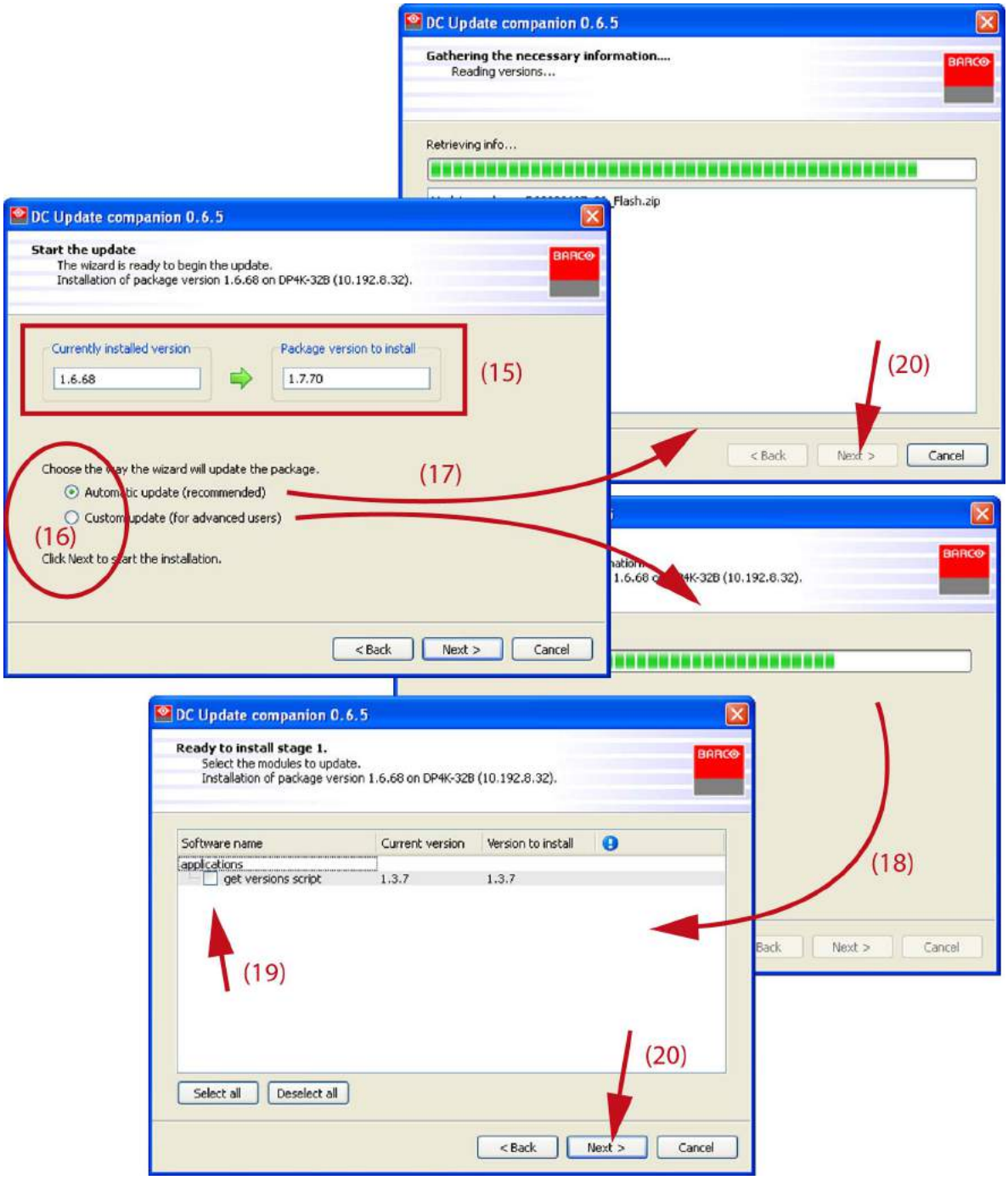


Image 7-10
Projector software update

The update can take a lot of time. Make sure not to interrupt the power during the update process. At the end, an update status will be displayed.

7.5 ICP software upgrade

About updating ICP board

The ICP board contains 2 slots to store software before this software can be installed. Therefore it is recommended to store the previous version of the software in a location and the current version in the other. When an new update becomes available, overwrite always the oldest version.

These 2 loaded versions make it possible to switch on an easy way between the current version and the previous one.

How to upgrade

1. Launch the *DC Update Companion* as described in "Software upgrade, launch DC update companion", page 212.
2. Select package type. Click on the drop down box (1) and select *ICP Package* . (image 7-11)
3. Browse the package file name. Click on **Browse** (2) to open the Browser window (3).
   Note: *File has extension release.*

   The correct file type is already filled out (4).
4. Browse for the desired file (5), select the file and click on **Open** (6).

   The Package file name line is filled out (7).
5. Enter the device IP address (10) or click on **Browse** to open a device selection window (11). (image 7-12)
   Note: *The IP of the connected projector is already filled out. When using the DC Update Companion as stand alone program, then this field is blank.*
6. Click **Next** to continue.

   The necessary information is gathered.

   The current installed version is shown next to the package version (13). (image 7-13)
7. Select the way the wizard will update the package. Check the desired radio button (14).
8. If automatically is selected the wizard will load the software in the oldest slot and install the software immediately (15).
   If custom update (for advanced users) is selected, the wizard displays the selection for slot A or slot B (16). Check the radio button of your choice and press **Next** (17).

   The software will be loaded to the selected slot and will be installed immediately

   When the update is finished, an status window is displayed.

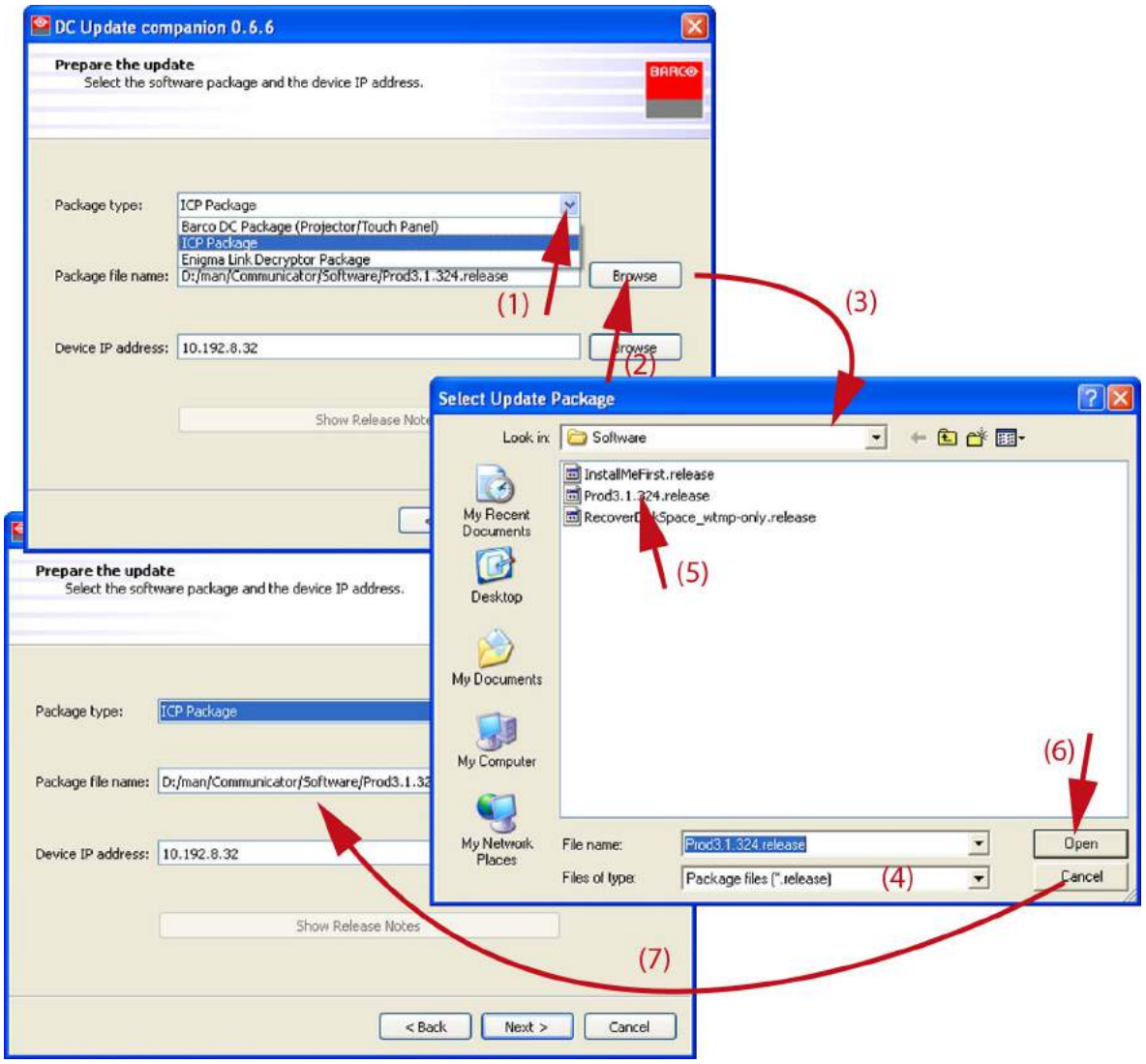

DC Update companion 0.6.6
Prepare the update
Select the software package and the device IP address.
Package type:
ICP Package
Barco DC Package (Projector/Touch Panel)
ICP Package
Enigma Link Decryptor Package
Package file name:
D:/man/Communicator/Software/Prod3.1.324.release
Browse
(1)
(2)
(3)
Device IP address:
10.192.8.32
Browse
Show Release Notes
Select Update Package
Look in:
Software
InstallMeFirst.release
Prod3.1.324.release
My Recent Documents
Desktop
My Documents
My Computer
My Network Places
(5)
(6)
File name:
Prod3.1.324.release
Open
Files of type:
Package files (*.release)
(4)
Cancel
Prepare the update
Select the software package and the device IP address.
Package type:
ICP Package
Package file name:
Device IP address:
10.192.8.32
Show Release Notes
(7)
< Back
Next >
Cancel

Image 7-11

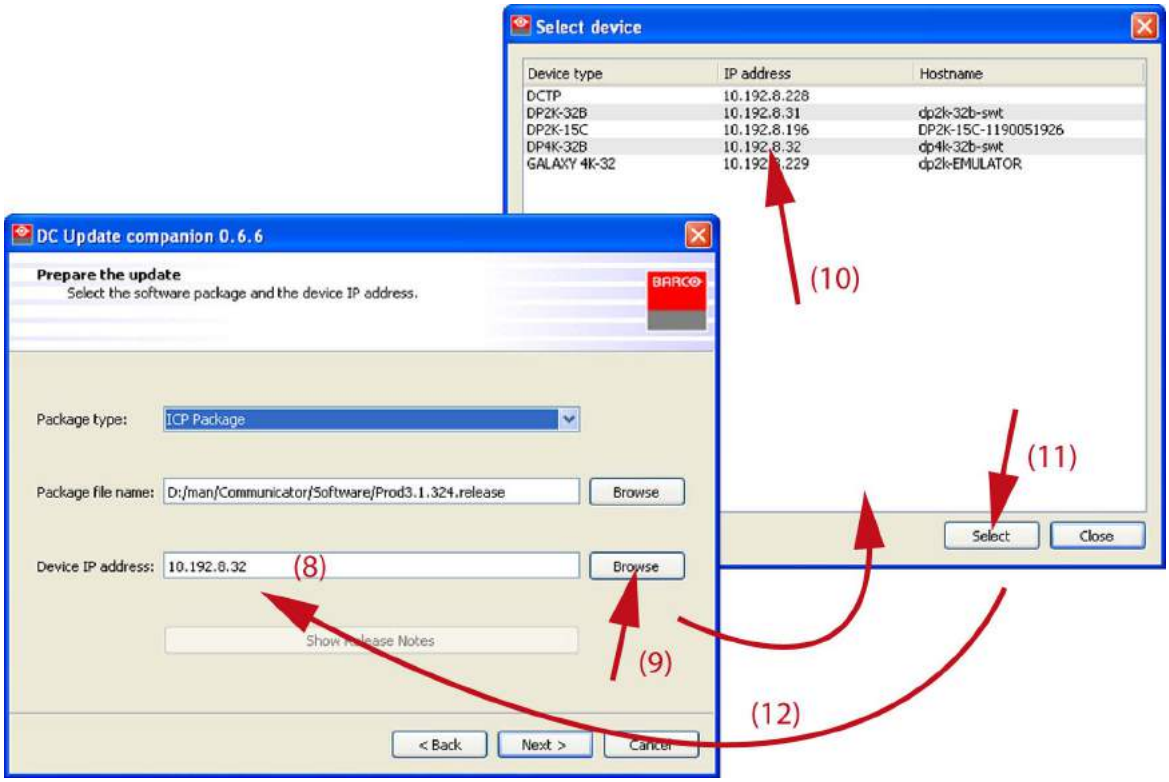


Image 7-12
IP selection

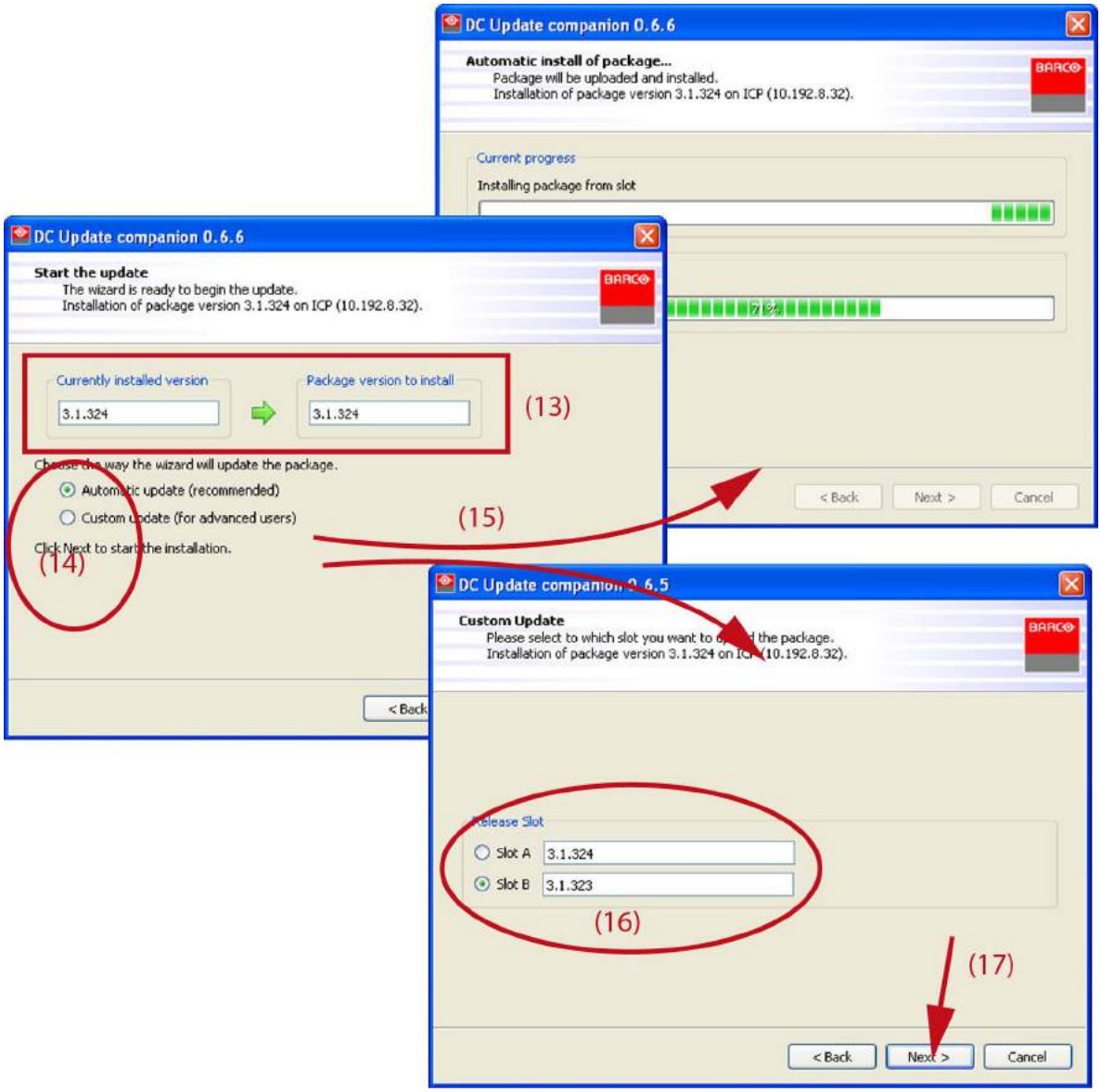


Image 7-13
Load and install software

7.6 Link decryptor software update

How to update

1. Launch the *DC Update Companion* as described in "Software upgrade, launch DC update companion", page 212.
2. Select package type. Click on the drop down box (1) and select *Enigma Link Decryptor Package* . (image 7-14)
3. Browse the package file name. Click on **Browse** (2) to open the Browser window (3).

   The correct file type is already filled out (4).
4. Browse for the desired file (5), select the file and click on **Open** (6).
   Note: *File has extension pkg.*

   The Package file name line is filled out (7).

5. Enter the device IP address (10) or click on **Browse** to open a device selection window (11). (image 7-15)
   Note: *The IP of the connected projector is already filled out. When using the DC Update Companion as stand alone program, then this field is blank.*
6. Click **Next** to continue.
   The necessary information is gathered.
   The current installed version is shown next to the package version (13). (image 7-16)
7. Click **Next** to start the software update (14).

   When the update is finished, an status window is displayed.

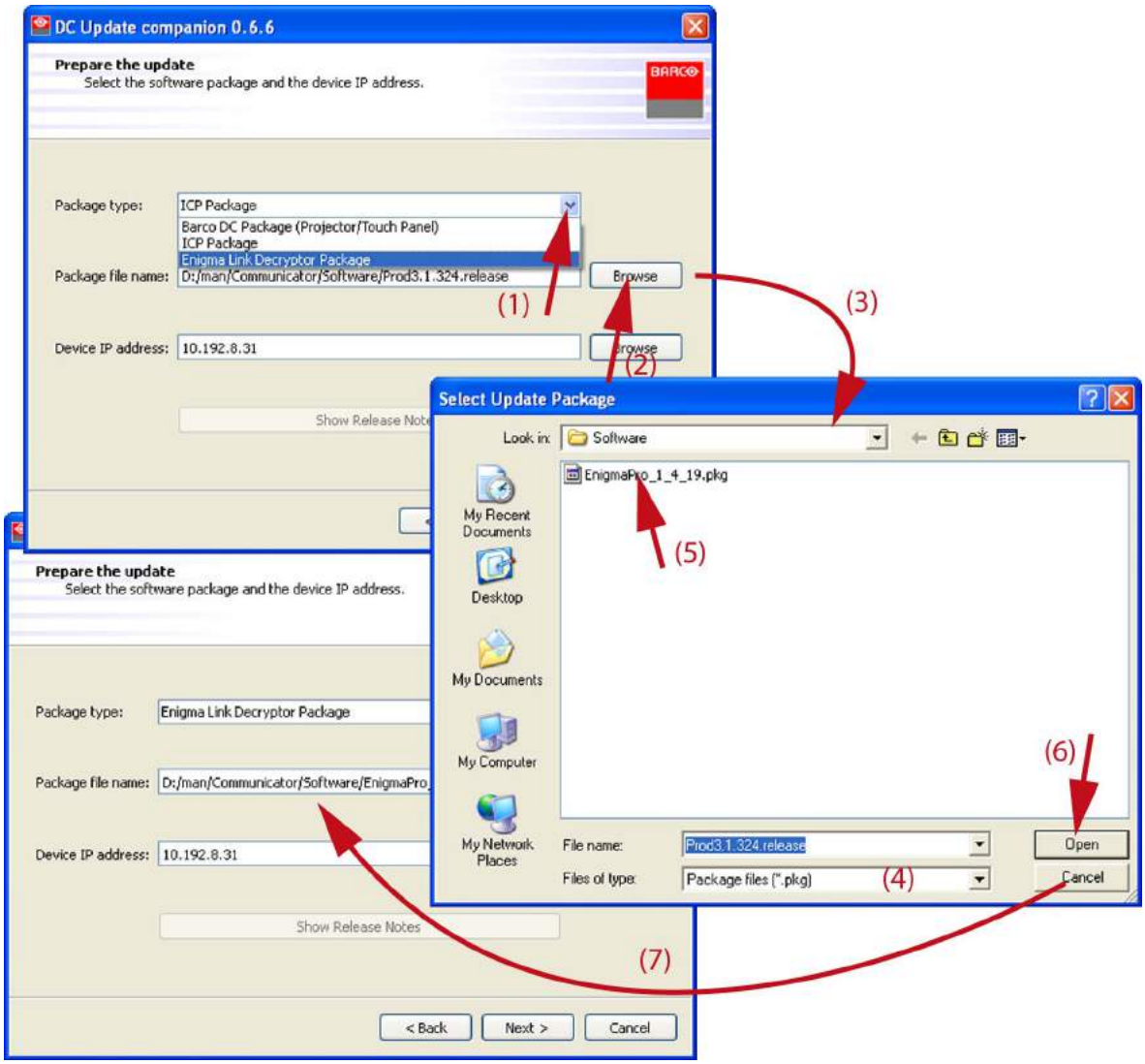


Image 7-14

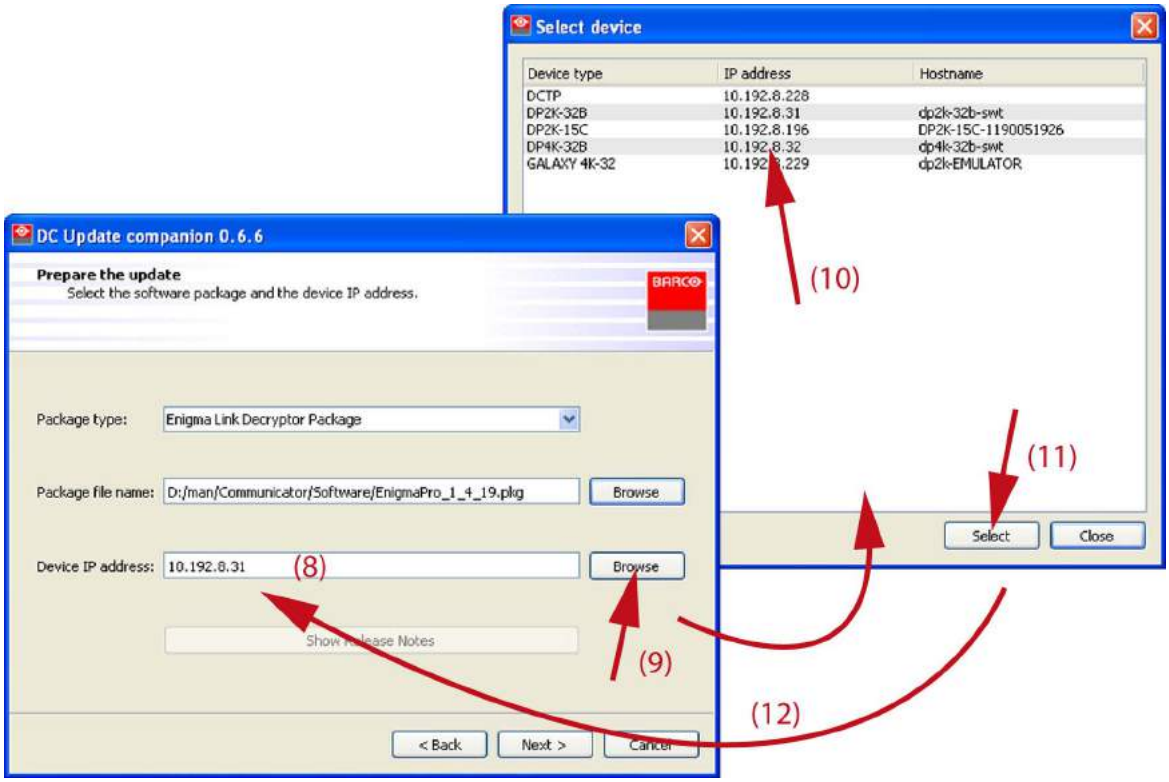


Image 7-15
IP selection

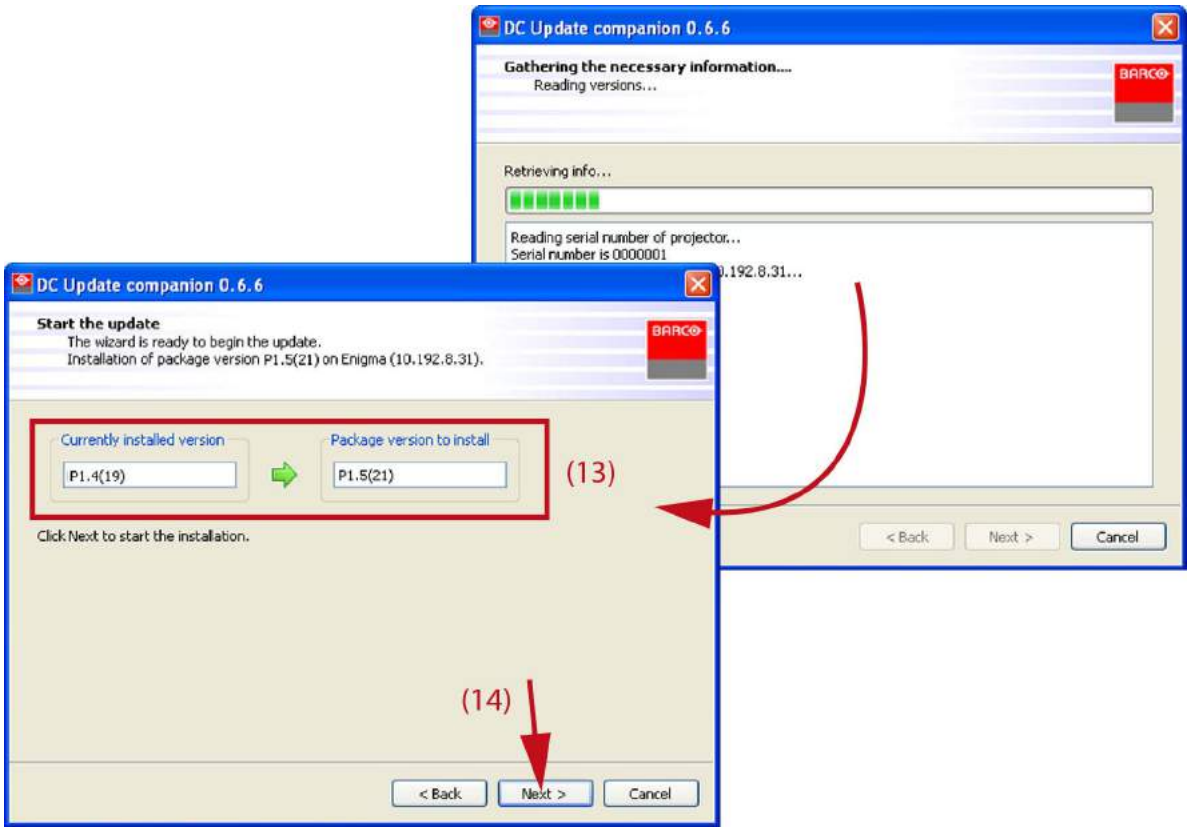


Image 7-16

7.7 Update logging

Installation logging

When the software update is finished, a status window is displayed. This window is almost equal for all possible updates.

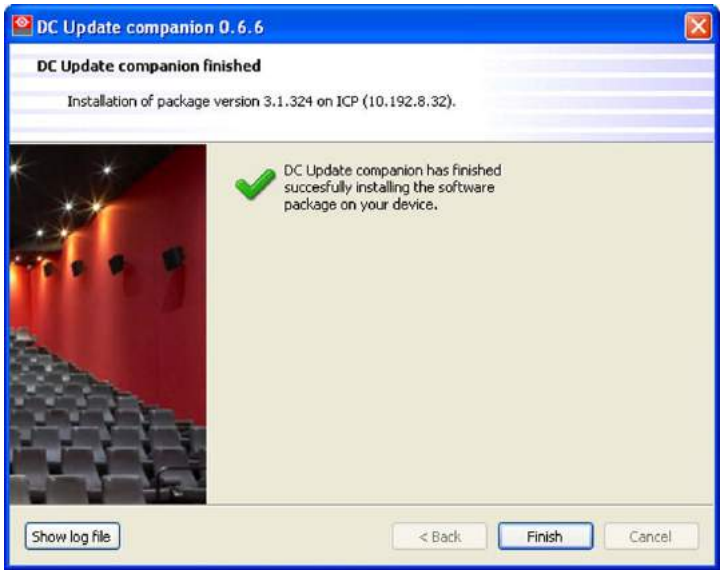


Image 7-17
Status window.

To show the log file, click on **Show log file**.

All information about the update process is logged in this log file.

8. COMMUNICATOR

Overview

- User management
- User access settings
- Change Language
- Edit units
- Communicator Diagnostics

8.1 User management

Overview

- Add new user
- Edit user properties
- Delete a user

8.1.1 Add new user

What is possible?

Depending on the role of the user, this user can add extra users with the same properties as the creating user or with lower properties.

New created user→ User role ↓	Default	Theatre technician	Service technician
Default	-	-	-
Theatre technician	x	x	-
Service technician	x	x	x

How to add a user

1. While in *Communicator*, click on **Users**.

   The user overview pane is displayed.

2. Click on **Add** (1). (image 8-1)

   The *Add users* window opens (2).

3. Click in the input field and fill out the necessary data (3).

Real name	Full name of the user.
User name	Abbreviated name, used to login.
Password	PIN code associated with the user name to login in the system.
Password confirmation	Confirmation of the PIN code.
User role	Defines what the user can do once he is logged in. The following roles are available: • Theatre technician : Can operate projector, can create presets and macros and can install a new lamp, can change the configuration.

- Service technician : Can do everything necessary to service the projector.

4. Click **OK** (4).

   The *User created* window opens (5).

5. Click **OK** to finalize the creation (6).

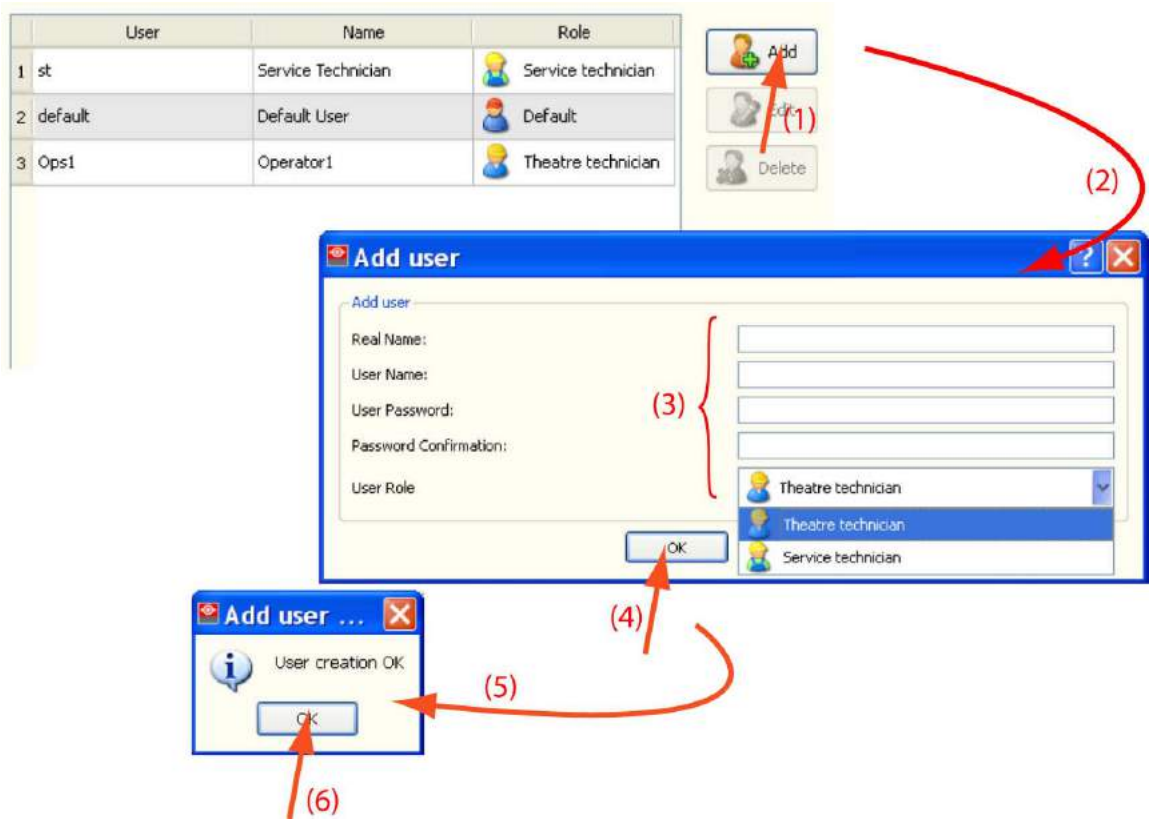


Image 8-1
Add new user

Temporary root users can be created with the Projector Toolset software.

8.1.2 Edit user properties

What is possible?

A theatre technician or a service technician can change the password of his own login. He is not allowed to change the role of a user. A root user can change anything for a user with lower priorities.

How to edit the properties

1. While in the *Touch panel* tab page, click on **Users**. (image 8-2)

   The user overview pane is displayed.

2. Click on your user name when not a root or
   when a root user, tip on any non root user (1).

3. Click **Edit** (2).

   The *Edit user* window opens (3).

4. Change the desired properties (4).

5. Click **OK** (5).

   A Change user result window opens (6).

6. Click **OK** to finalize the edit (7).

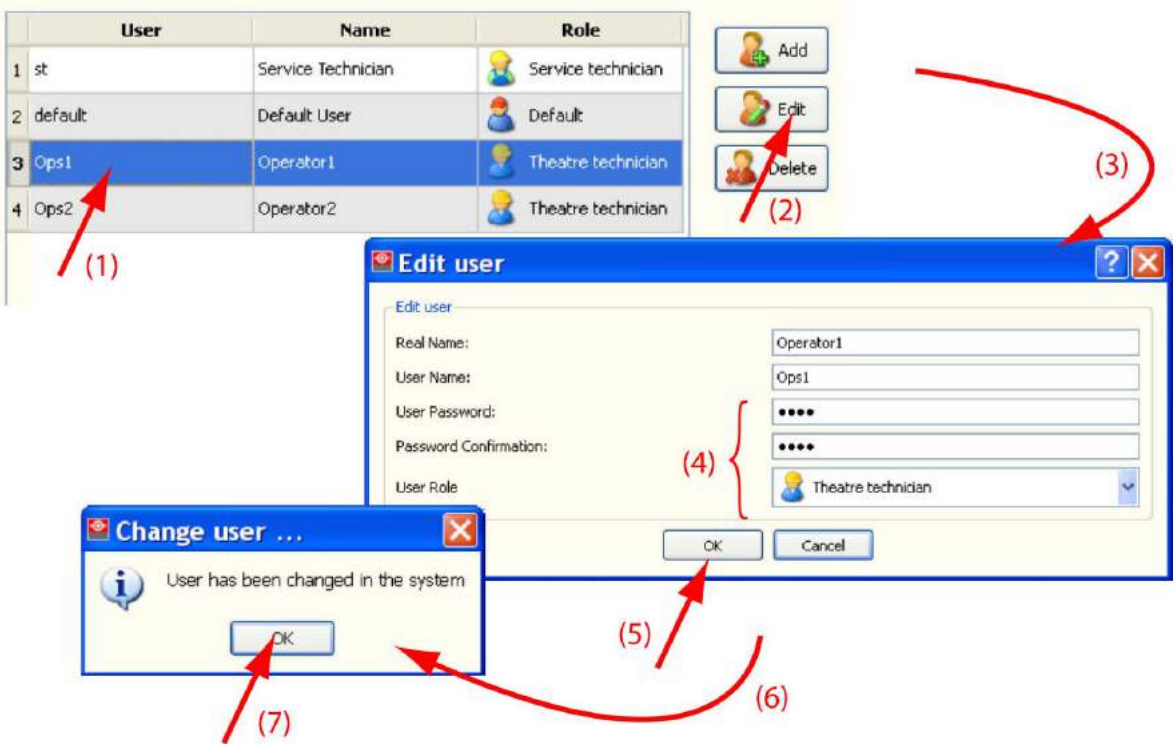


Image 8-2
Edit user

8.1.3 Delete a user

What is possible?

A user with higher priorities can delete a user with lower priorities.

How to delete a user

1. While in the *Touch panel* tab page, click on **Users**.

   The user overview pane is displayed.

2. Click on the user to be deleted (1). (image 8-3)

   If you have enough rights to delete this user, the delete button becomes active.

3. Click on **Delete** (2).

   A delete confirmation window opens (3).

4. Click **OK** to delete the selected user (4).
   Click **No, cancel this action** to interrupt the deletion.

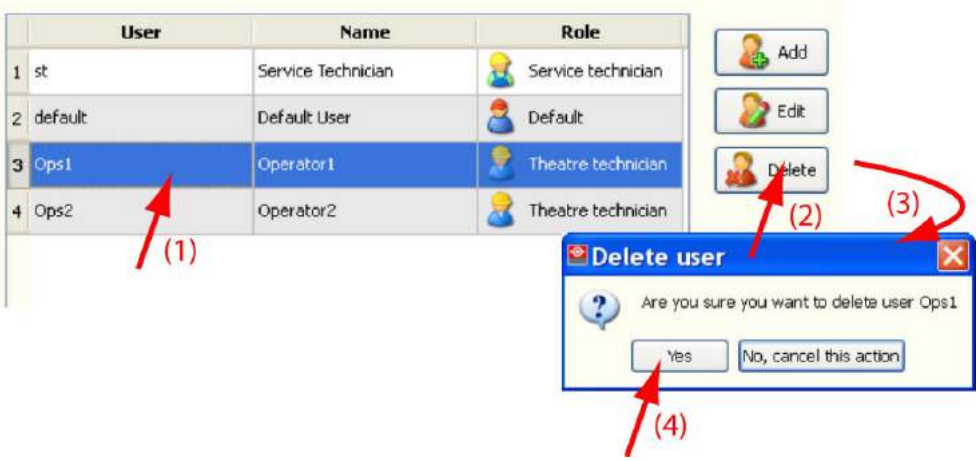


Image 8-3
Delete user

8.2 User access settings

8.2.1 Reset default settings

What is possible ?

When the access settings were changed, it is possible to return to the default settings by tipping on **Reset to default settings**.

How to reset

1. While **Shift** key is pressed, double click in the gray area next to *User*. (image 8-4)

   The *User Access settings* window opens.

2. Click on **Reset to default settings**.

   A restart message opens. Before the default user settings are applied, the application should be restarted.

3. To restart the application, click **Yes**.

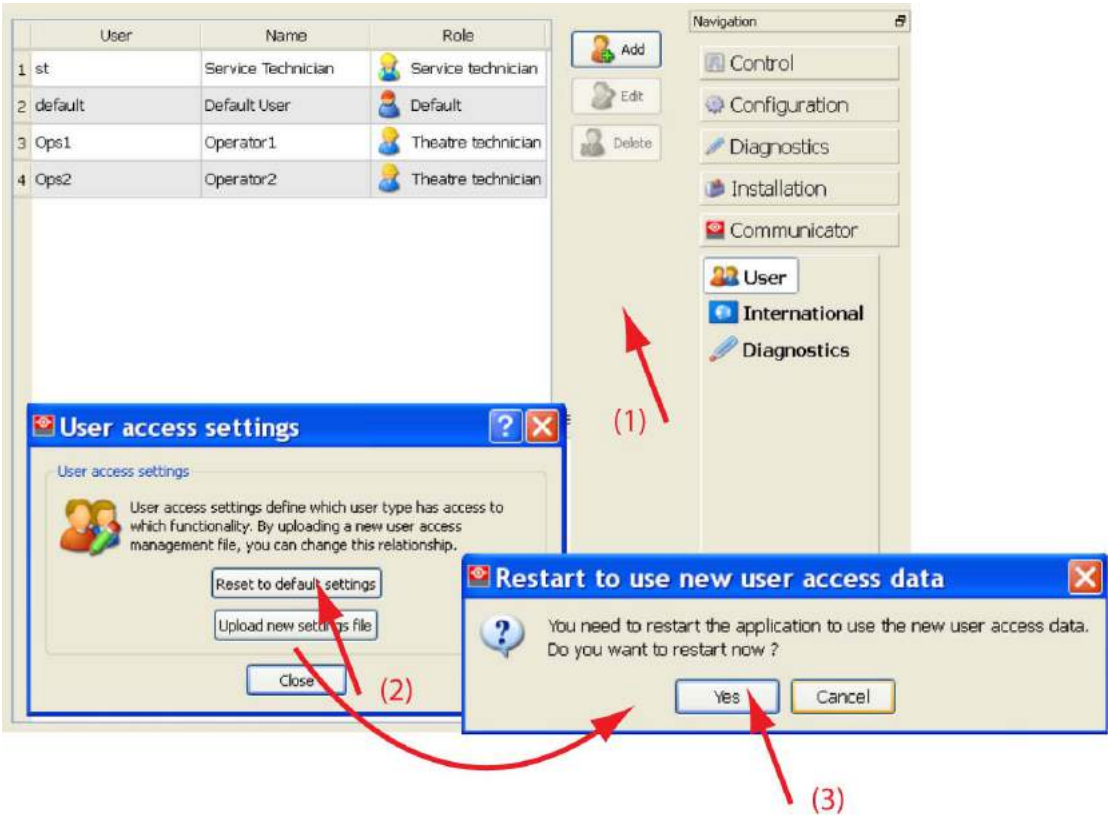


Image 8-4
Reset to default user settings

8.2.2 About custom settings

Overview

It is possible to define what each type of user can do with the touch panel application. A difference can be set for users and service technicians.

The setup is done in an user management xml file which can be edited externally and then uploaded via Load custom settings.

Each item can have a *Read* attribute or a *ReadWrite* attribute or both. This attribute can be 50, 100 or 150. The attribute value defines what is accessible for certain user profile.

50	default user access level
100	theatre technician access level
150	service technician access level

When an attribute is set to 50, then the default user, theatre technician and service technician have access. When set to 150, only the service technician has access. So, the higher the value, the less people with access rights.

The default access file is given below.

This file can be used as starting point to create your own file. Copy and paste the file below in an XML editor or notepad and edit the file. Only the lines which are different to the current setting should be included in the file. When finished, save the file on a USB stick or upload it on the touch panel so that it can be loaded as new settings.

Default user access file

This file contains all available items which are possible on the touch panel. This file is not multilingual.

```
<UserAccess>
```

```
<!--=========================================================================-->
<!-- Control related                                                         -->
<!--=========================================================================-->
<presets.lampControl Read="50" ReadWrite="50"/>
<presets.dowserControl Read="50" ReadWrite="50"/>
<presets.presetControl Read="50" ReadWrite="50"/>
<testpatterns.patternControl Read="50" ReadWrite="50"/>
<testpatterns.otherPatternControl Read="50" ReadWrite="50"/>
<service.lampControl Read="50" ReadWrite="50"/>
<server.connection.properties ReadWrite="150"/>

<!--=========================================================================-->
<!-- Configuration related                                                   -->
<!--=========================================================================-->
<presets.configuration Read="50" ReadWrite="100"/>
<macro.readActiveMacroFile Read="50"/>
<macro.activateMacroFile ReadWrite="50"/>
<macro.saveToMacroFile ReadWrite="100"/>
<macro.editMacroFile ReadWrite="100"/>
<image.readActivePcfFile Read ="50"/>
<image.activatePcfFile ReadWrite="50"/>
<image.changeActiveArea Read="50" ReadWrite="100"/>
<image.saveToMacroFile ReadWrite="100"/>
<image.save ReadWrite="100"/>
<screen.readActiveScreenFile Read ="50"/>
<screen.activateScreenFile ReadWrite="100"/>
<screen.anamorphicFactor Read="50" ReadWrite="100"/>
<screen.resizing Read="50" ReadWrite="100"/>
<screen.masking Read="50" ReadWrite="100"/>
<screen.saveToMacroFile ReadWrite="100"/>
<screen.save ReadWrite="100"/>
<lens.readActiveLensFile Read="50" ReadWrite="100"/>
<lens.activateLensFile ReadWrite="100"/>
<lens.control Read="50" ReadWrite="100"/>
<lens.anamorphic.control Read="50" ReadWrite="100"/>
<lens.saveToMacroFile ReadWrite="100"/>
<lens.save ReadWrite="100"/>
<other.readActiveExtraFile Read="50"/>
<other.activateExtraFile ReadWrite="50"/>
<other.changeInputSelection Read="50" ReadWrite="100"/>
<other.changeInputPacking Read="50" ReadWrite="100"/>
<other.changeProcessingPath Read="50" ReadWrite="100"/>
<other.editChange3DSettings ReadWrite="100"/>
<other.GPIConfiguration Read="50" ReadWrite="100"/>
<other.editAdvancedSourceSettings Read="50" ReadWrite="100"/>
<other.saveToMacroFile ReadWrite="100"/>
<other.save ReadWrite="100"/>
<!--=========================================================================-->
<!-- Diagnostics related                                                     -->
<!--=========================================================================-->
<actual.diagnostics Read="50"/>
<history.projector Read="50"/>
<history.security Read="50"/>
<tests.testPattern ReadWrite="100"/>
<tests.imageFreeze ReadWrite="100"/>
<tests.selfTests ReadWrite="100"/>
<tests.port292ErrorCounts Read="50" ReadWrite="100"/>
<tests.generalPurposeOutputs Read="50" ReadWrite="100"/>
<tests.reboot.projector Read="50" ReadWrite="100"/>
<tests.reboot.ti Read="50" ReadWrite="100"/>
<serversettings.graphicalOverview Read="50"/>
<serversettings.timelineControl Read="50" ReadWrite="100"/>
<serversettings.subtitleControl Read="50" ReadWrite="100"/>
<serversettings.metadataControl Read="50" ReadWrite="100"/>
<cinepro.setup Read="50"/>
<versioninfo.versionInfo Read="50"/>
<!--=========================================================================-->
<!-- Installation related                                                    -->
```

```
    <!--=========================================================================-->
    <communication.networkProperties Read="50" ReadWrite="100"/>
    <communication.cineproProperties Read="50" ReadWrite="100"/>
    <lamp.currentLightOutput Read="50"/>
    <lamp.modeSelection Read="50" ReadWrite="150"/>
    <lamp.lightOutputCalibration Read="50" ReadWrite="150"/>
    <lamp.CLOKey Read="50" ReadWrite="150"/>
    <lamp.autoLampAlignment ReadWrite="100"/>
    <lamp.advanced ReadWrite="150"/>
    <lamp.lampSettings Read="50" ReadWrite="50"/>
    <lamp.reset ReadWrite="50"/>
    <colorcalibration.measureNativeColorGamut Read="50" ReadWrite="150"/>
    <colorcalibration.selectTCGDFile ReadWrite="150"/>
    <colorcalibration.verifyCorrectedColorGamut Read="50" ReadWrite="150"/>
    <automation.GPIConfiguration Read="50" ReadWrite="100"/>
    <automation.exceptionMacro Read="50" ReadWrite="100"/>
    <advanced.SNMP Read="50" ReadWrite="150"/>
    <advanced.internalCheck Read="50" ReadWrite="100"/>
    <advanced.filemanager ReadWrite ="100"/>
    <advanced.lens.parameters ReadWrite="150"/>
    <advanced.functionality.key ReadWrite="150"/>
    <!-- <filemanager.verifyCorrectedColorGamut Read="50" ReadWrite="100"/>  Not availa
    <keymanager.securityKeyManager Read="50" ReadWrite="50"/>
    <keymanager.securityKeyManager.masterkey ReadWrite="150"/>
    <certificate.retrieval ReadWrite="150"/>
    <!--=========================================================================-->
    <!-- Touchpanel related                                                      -->
    <!--=========================================================================-->
    <communication.touchpanelIpAddress Read="50" ReadWrite="100"/>
    <communication.primaryProjectorIpAddress Read="50" ReadWrite="100"/>
    <communication.secondaryProjectorIpAddress Read="50" ReadWrite="100"/>
    <user.management Read="100"/>
    <user.createUser ReadWrite="150"/>
    <user.changeUser ReadWrite="100"/>
    <user.deleteUser ReadWrite="150"/>
    <display.navigationMenuPosition Read="50" ReadWrite="100"/>
    <display.touchpanelBrightness Read="50" ReadWrite="100"/>
    <display.touchpanelSound Read="50" ReadWrite="100"/>
    <display.screensaver Read="50" ReadWrite="100"/>
    <display.orientation Read="50" ReadWrite="100"/>
    <display.color.palette Read="50" ReadWrite="100"/>
    <display.calibrate  Read="50" ReadWrite="100"/>
    <display.icon ReadWrite="50"/>
    <language.language Read="50" ReadWrite="100"/>
    <diagnostics.versionInfo Read="50"/>
    <diagnostics.touchpanelId Read="50"/>
    <diagnostics.touchpanelLogfile Read="50"/>
    <diagnostics.loglevel ReadWrite="100"/>
    <systemclock.set Read="50" ReadWrite="150"/>
</UserAccess >
```

Example of custom access level file

```
<UserAccess>
  <!--==================================-->
  <!-- This is a user access file, to override definitions which      -->
  <!-- user type had access to which functionality.                   -->
  <!--==================================-->
  <!--==================================-->
  <!-- This example file gives the "user type Default user"           -->
  <!-- additional access to                                           -->
  <!--                                Screen masking                 -->
  <!--                                Input/Packing Selection        -->
  <!--==================================-->
  <!--==================================-->
  <!-- 50 = Default user access level                                 -->
  <!-- 100 = Theatre technician access level                          -->
  <!-- 150 = Service technician access level                          -->
```

```
  <!--==================================-->
   <screen.masking  ReadWrite="50"/>
   <other.changeInputSelection  ReadWrite="50"/>
   <other.changeInputPacking ReadWrite="50"/>
</UserAccess >
```

This file gives the Default user additional access to Screen masking and Input/Packing selection. All other settings remain the same.

8.2.3 Load custom settings

What can be done ?

The externally created user access definition file can be loaded as new settings.

How to load

1. While **Shift** key is pressed, double click in the gray area next to *User* (1). (image 8-5)

   The *User Access settings* window opens.

2. Click on **Upload new setting file** (2).

   The *Open user access file* window opens (3).

3. Browse to he storage location (4a)

4. Select the desired file (4b.

5. Click on **Open** (5).

   A restart message opens. Before the new user settings are applied, the application should be restarted.

6. Click **Yes** to restart the application (7).

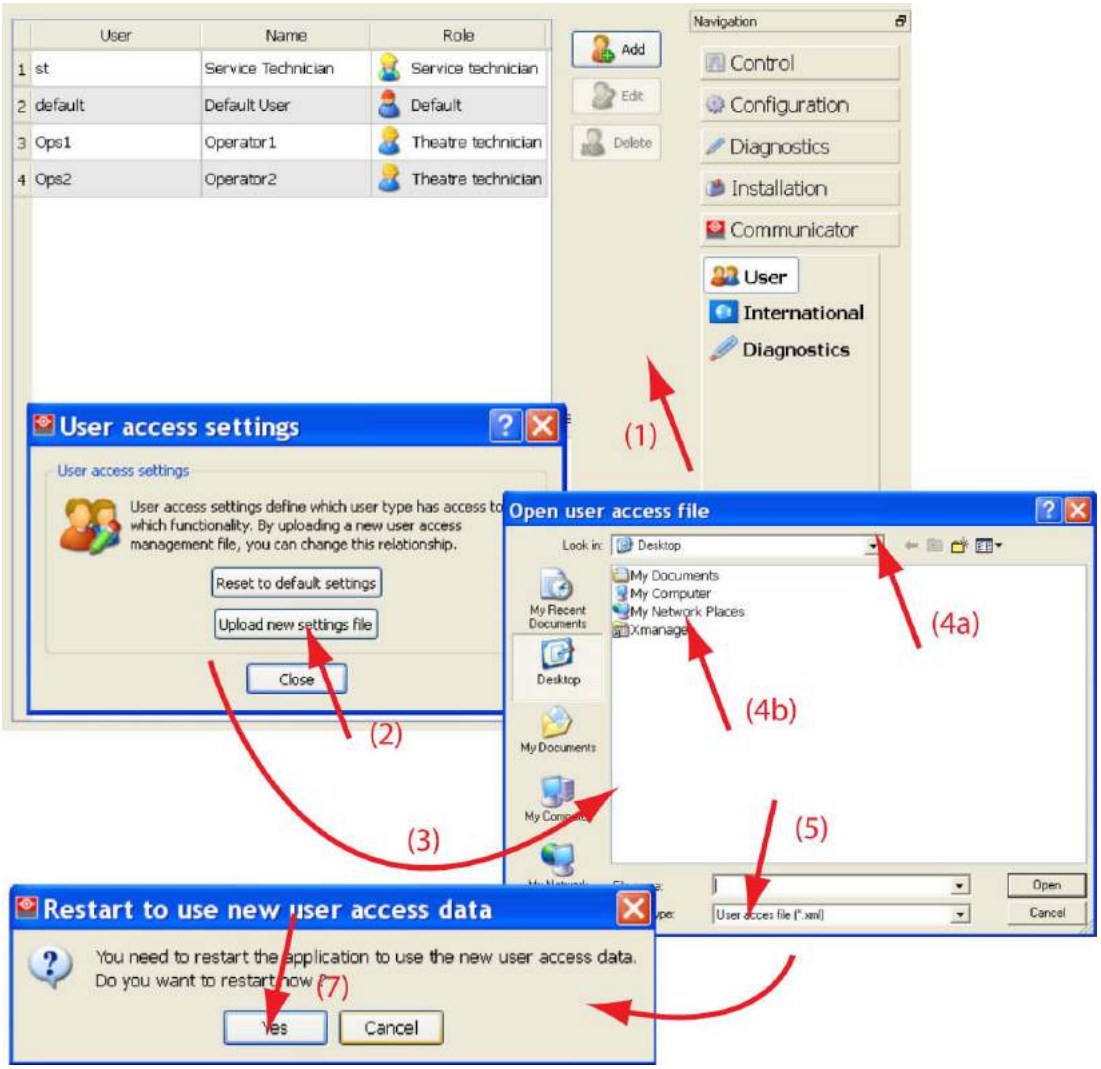


Image 8-5
Load custom access settings

8.3 Change Language

About language selection

The touch panel menus can be displayed in different languages. When a new language is selected, a restart of the touch panel is necessary.

How to change

1. While in the *Communicator* tab page, click on **International**. (image 8-6)

   The possible languages are displayed in the overview pane.

2. Click on the desired language.

   A restart message is displayed. (image 8-7)

3. If one agree to restart immediately, click **Yes**.

   The application restarts in the selected language.

Image 8-6
Change language

Image 8-7

8.4 Edit units

Temperature units

The temperature can be displayed in °C or in °F. While in the *Communicator* tab page, click on **International**. Then, click on the radio button before Celsius or Fahrenheit.

Image 8-8
Edit temperature units

8.5 Communicator Diagnostics

Version info

Version info gives information about the software version. This is interesting information when calling for technical support.

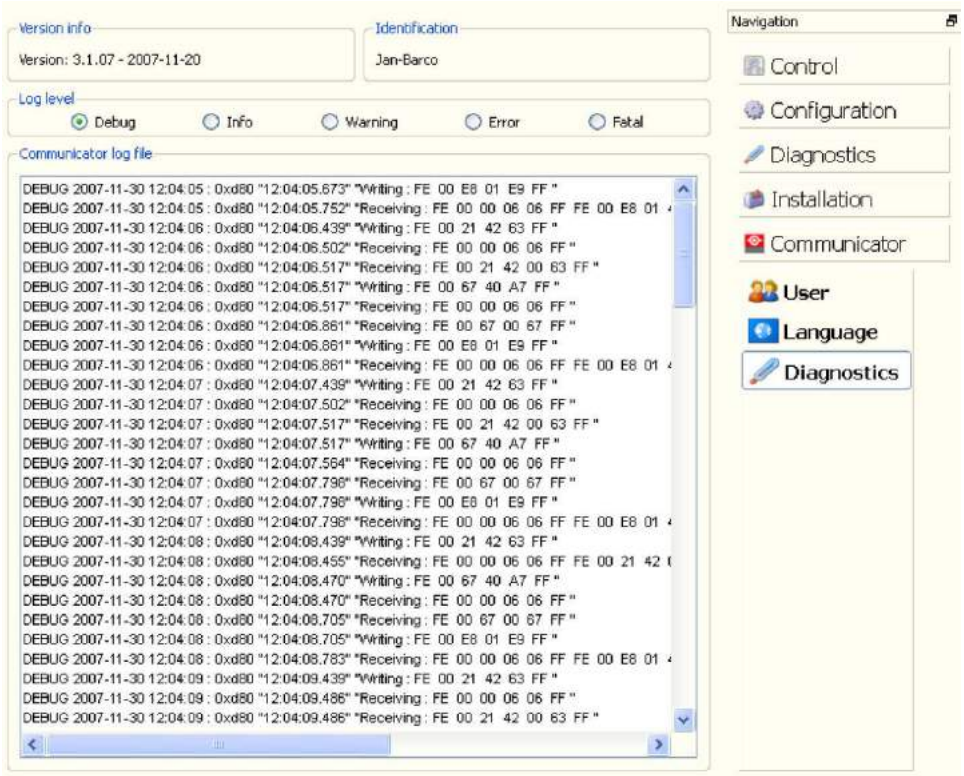


Image 8-9
Touch panel diagnostics

Identification

Gives the identification of the theatre as entered during the installation of this application.

Communicator log level

Log level can be set for the logging in *Communicator log file*.

Just click on the desired radio button next to the desired level. The list in *Communicator log file* changes accordingly.

9. MACRO EDITOR

Overview

- Create a new Macro
- Save a Macro
- Edit a macro
- Edit the attributes (values) of the items

9.1 Create a new Macro

How to create

1. Click on **Create new macro**. (image 9-1)

   A message is displayed. (image 9-2)

2. Click **Yes** to create a new macro.

   The current settings are not saved.

   A new macro file is created. The macro editor is displayed without any command filled out.

3. Insert the desired commands.
4. Enter a new name for the macro.
5. Click on **Save/Exit** to save your new created macro.

   The macro is added to the list of macro files.

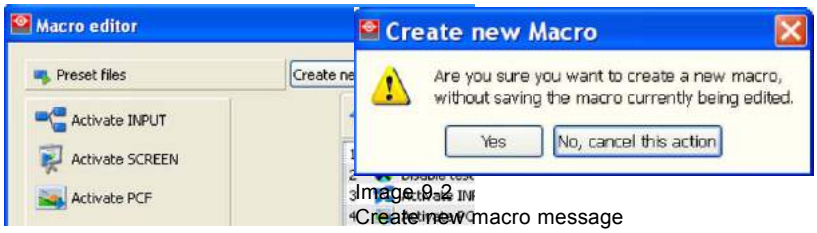


Image 9-1
Create new macro

Image 9-2
Create new macro message

9.2 Save a Macro

Save macro with same name

1. When a macro has already a name, just click on **Save**. (image 9-3)

   The macro is saved and the macro editor is closed.

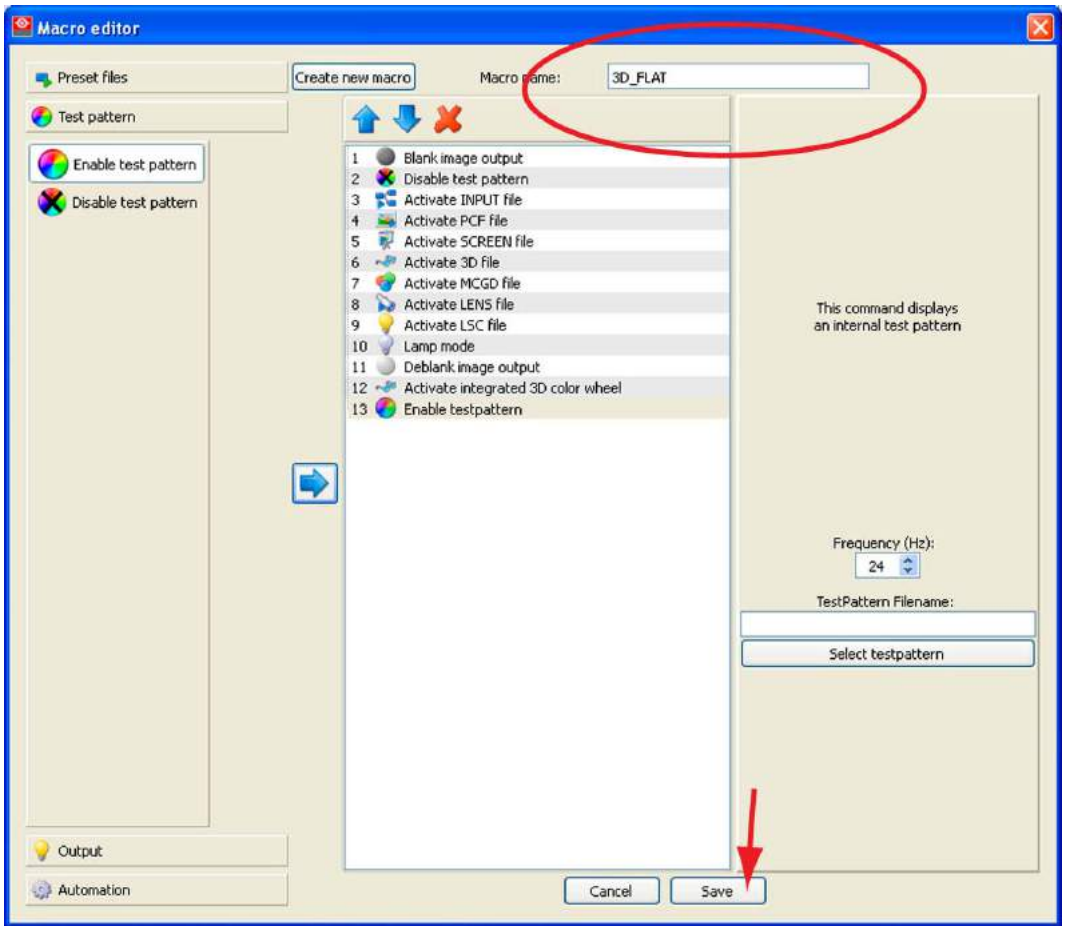


Image 9-3
Save a macro

Save macro on a different name

1. Click in the *Macro name* input field.
2. Delete the actual indicate name and enter a new name with your keyboard.
3. Click on **Save**.

   When the save operation is successfully, a message is displayed.
4. Click on **OK** to continue.

9.3 Edit a macro

Overview

- Selecting a Macro file
- Delete a command out of a macro file
- Add commands to a macro file
- Change the order of the Macro commands

9.3.1 Selecting a Macro file

How to select

The macro editor can be activated from different start points:

- When in *Configuration*, *Presets*, go to the desired preset button and click on the edit macro button.
- When in *Configuration*, *Macro*, click on **Edit macro** and select the macro file to edit.

9.3.2 Delete a command out of a macro file

How to delete

1. Click on the item to delete (1) (image 9-4)

   The background color changes to dark.

2. Click on the delete icon (2).

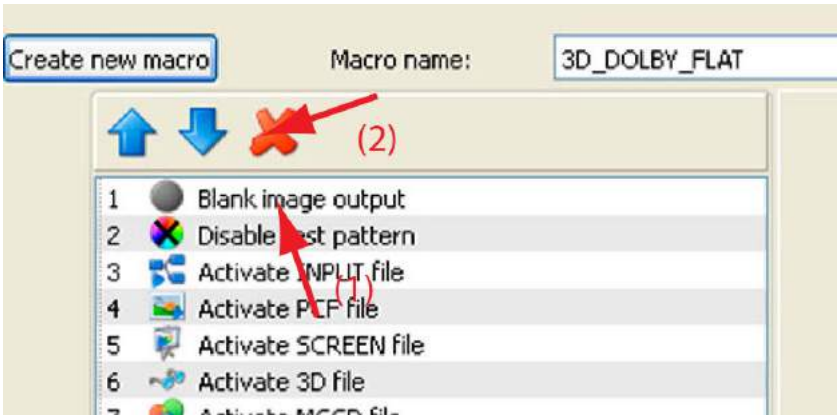


Image 9-4
Delete command

9.3.3 Add commands to a macro file

How to add

1. To insert an item, click first on a command set tab which contains that item.
   The following commands tabs are available:
   - Preset files
   - Test pattern
   - Output
   - Automation

   The selected tab opens and the commands become available. If the command list is larger than the available space, it will show a double arrow facing downwards, then click on this arrow to expand the command list. (image 9-5)

2. Select a command (1) and click → (2).

   The selected command is added as last one in the list (3).

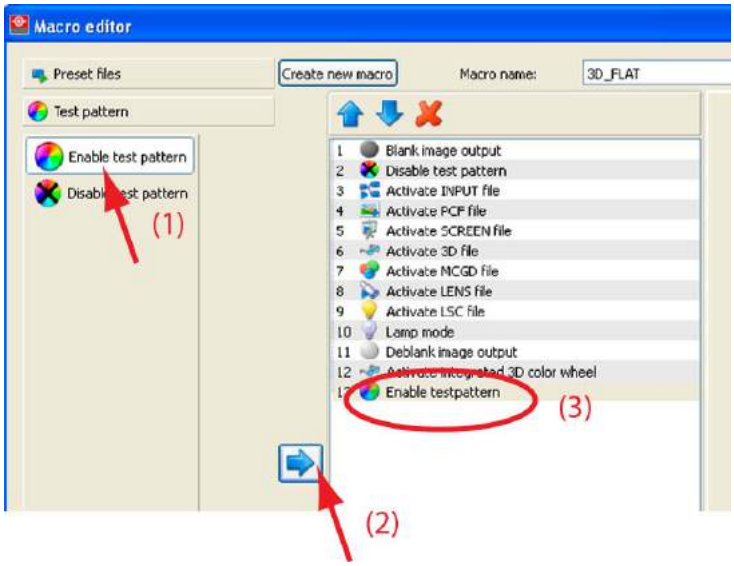


Image 9-5
Add command

9.3.4 Change the order of the Macro commands

How to change

1. Click on an item in the list of added commands (1). (image 9-6)
2. Click on the up or down button to move the command in the list (2).

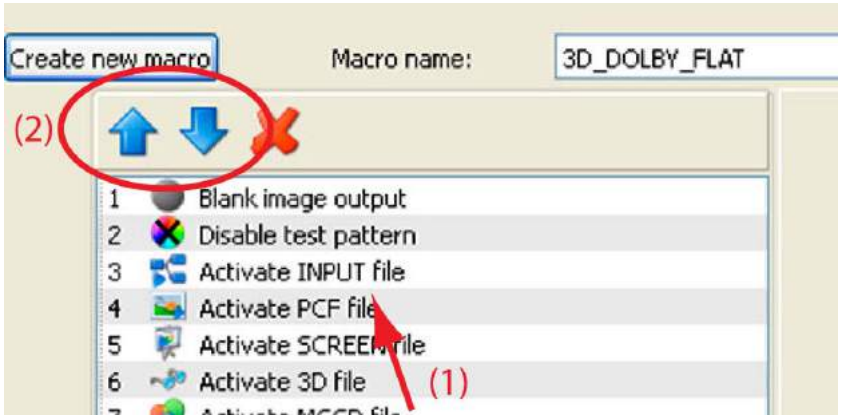


Image 9-6
Change macro file list

9.4 Edit the attributes (values) of the items

Overview

- Preset files
- 3D extended
- Test pattern
- Output
- Automation

9.4.1 Preset files

9.4.1.1 Activate Input File

What can be done ?

The active INPUT file (contains information about the input configuration) can be installed in the projector via the Activate Input file command.

How to select a file

1. Click on *Activate Input File*. (image 9-7)

   The right pane shows the current selected file.

2. Click on **Select file**. (image 9-8)

   A files overview window is displayed.

3. Select the desired file out of the list and click **Save**.
   Or,
   double click on the desired file.

   The selected file name appears next to *Filename*.

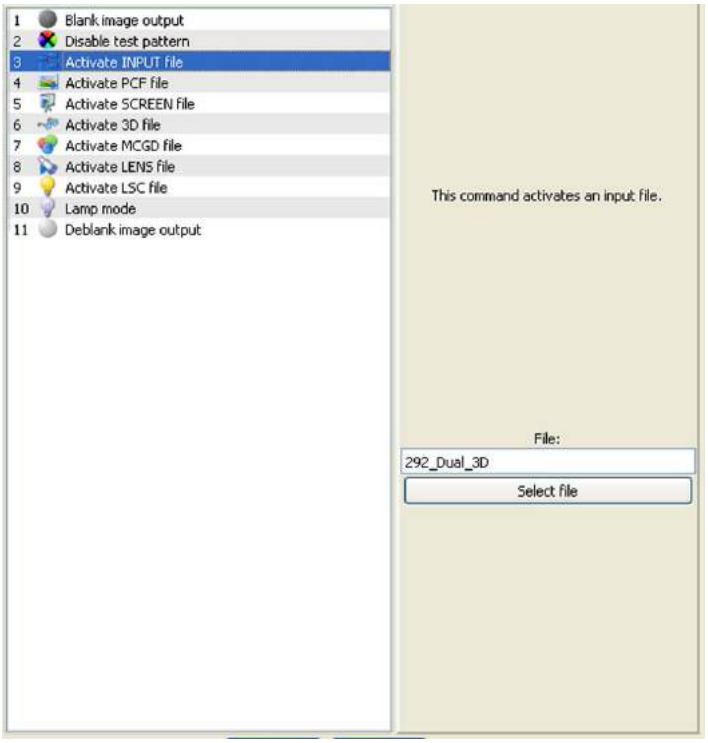


Image 9-7
Activate Input file

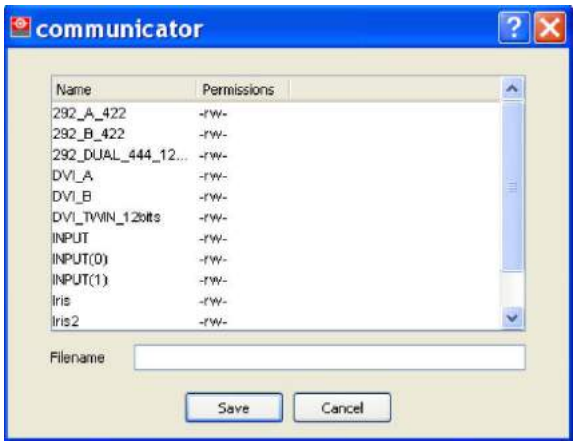


Image 9-8
Select input file

9.4.1.2 Activate SCREEN file

What can be done ?

The active SCREEN file (contains information about the screen configuration) can be installed in the projector via the Activate SCREEN file command.

How to select a file

1. Click on *Activate SCREEN file*. (image 9-9)

   The right pane shows the current selected file.

2. Click on **Select file**.

   A files overview window is displayed. (image 9-10)

3. Select the desired file out of the list and click **OK**.
   Or,
   double click on the desired file.

   The selected file name appears next to *Filename*.

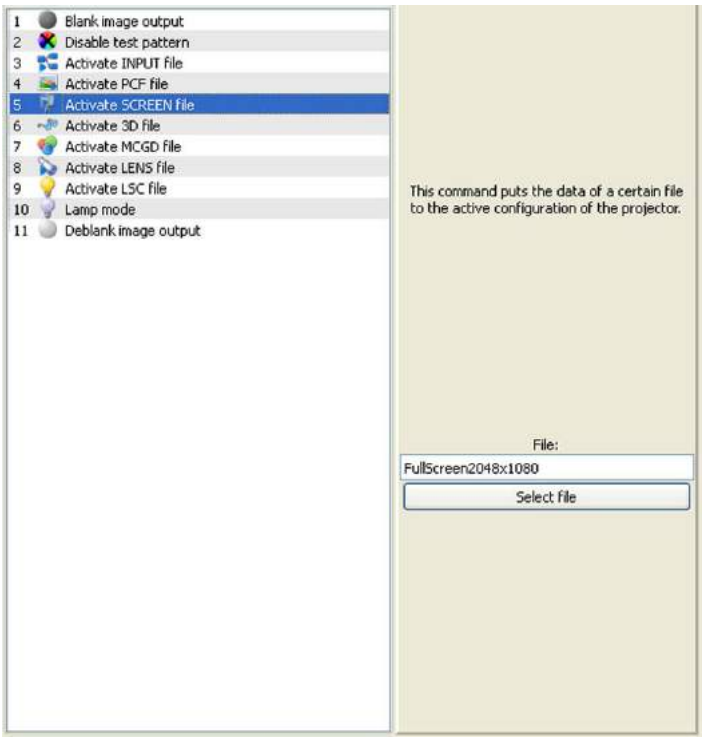


Image 9-9
Active SCREEN file command

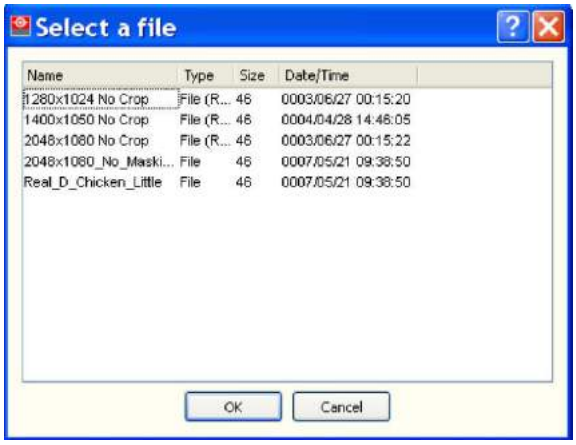


Image 9-10
Select SCREEN file

9.4.1.3 Activate PCF file

What can be done ?

The active PCF file can be installed in the projector via the Activate PCF file command.

How to select a file

1. Click on *Activate PCF file*. (image 9-11)

   The right pane shows the current selected file.

2. Click on **Select file**.

   A files overview window is displayed. (image 9-12)

3. Select the desired file out of the list and click **OK**.

Or,
double click on the desired file.

The selected file name appears next to *Filename*.

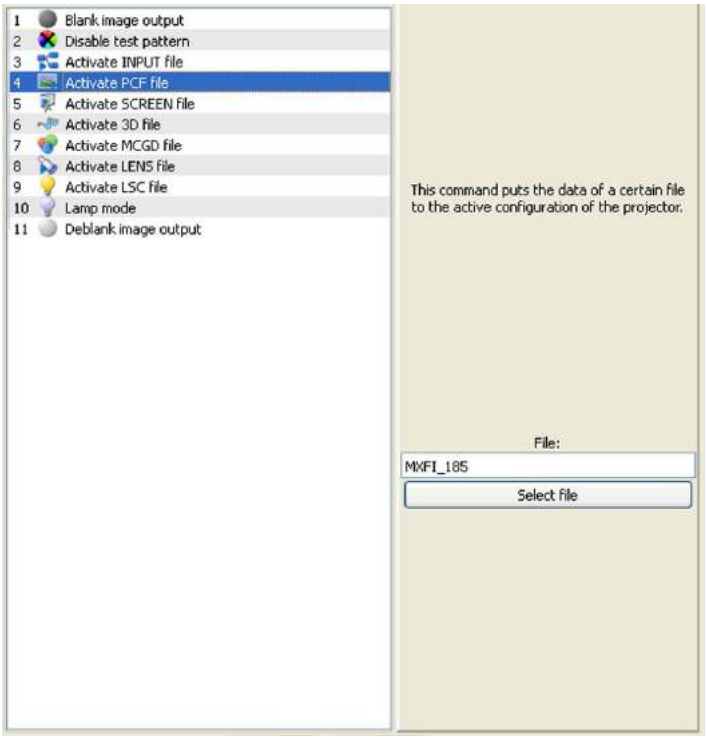


Image 9-11
Active PCF file command

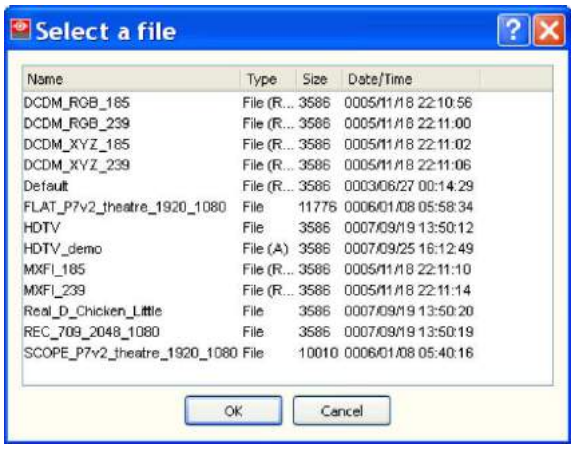


Image 9-12
Select PCF file

9.4.1.4 Activate 3D file

What can be done ?

The active 3D file (containing the 3D settings for the selected source) can be installed in the projector via the Activate PCF file command.

How to select a file

1. Click on *Activate 3D file*. (image 9-13)

The right pane shows the current selected file.

2. Click on **Select file**.

   A files overview window is displayed. (image 9-14)

3. Select the desired file out of the list and click **OK**.
   Or,
   double click on the desired file.

   The selected file name appears next to *Filename*.

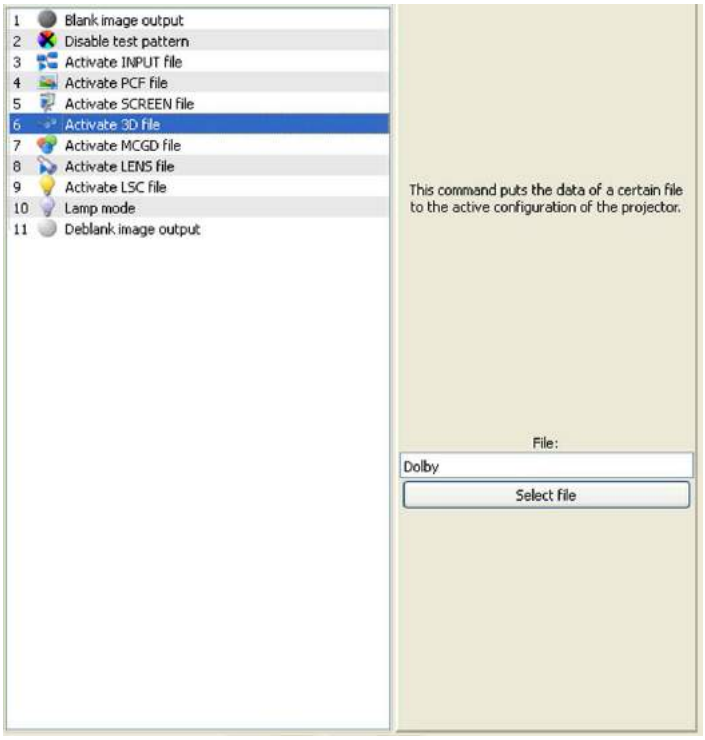


Image 9-13
Activate 3D file

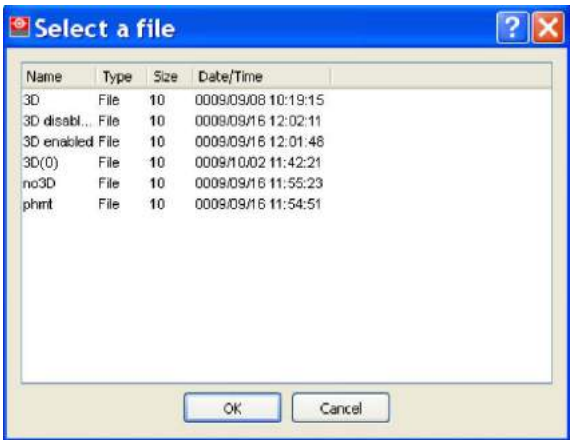


Image 9-14
Select a file

9.4.1.5 Activate 3D color wheel

What can be done ?

The 3D color wheel can be inserted or removed from the light path.

How to activate or de-activate

1. Click on *Activate 3D color wheel* (image 9-15)

   The right pane shows the possible selections.

2. Check the corresponding radio button.
   - Insert color wheel
   - Remove color wheel

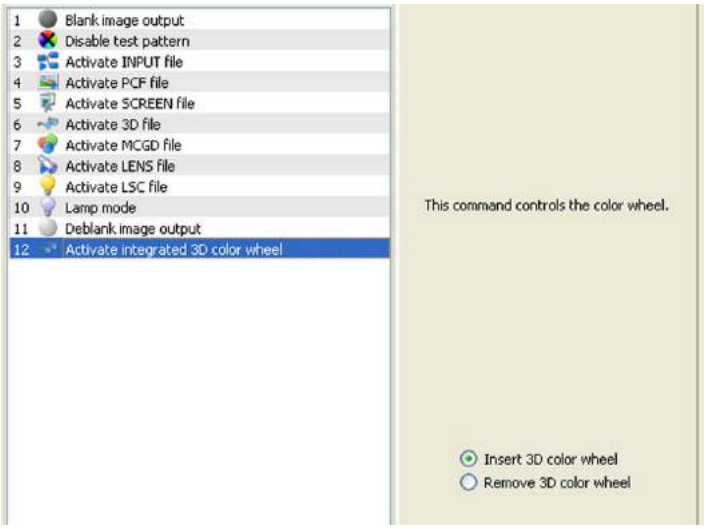


Image 9-15
Insert or remove color wheel

Note that if automatic color wheel insertion is active on the projector (see "Integrated 3D settings (integrated color wheel)", page 81) this command is not needed as the 3D command will trigger an automatic insertion of the color wheel. If the automatic insertion setting is not active, it is necessary to add this command to the macro

9.4.1.6 Activate MCGD file

What can be done ?

The active MCGD file (contains color calibration information) can be installed in the projector via the Activate MCGD file command.

How to select a file

1. Click on *Activate MCGD file*.

   The right pane shows the current selected file. (image 9-16)

2. Click on **Select file**.

   A files overview window is displayed. (image 9-17)

3. Select the desired file out of the list and click **OK**.
   Or,
   double click on the desired file.

   The selected file name appears next to *Filename*.

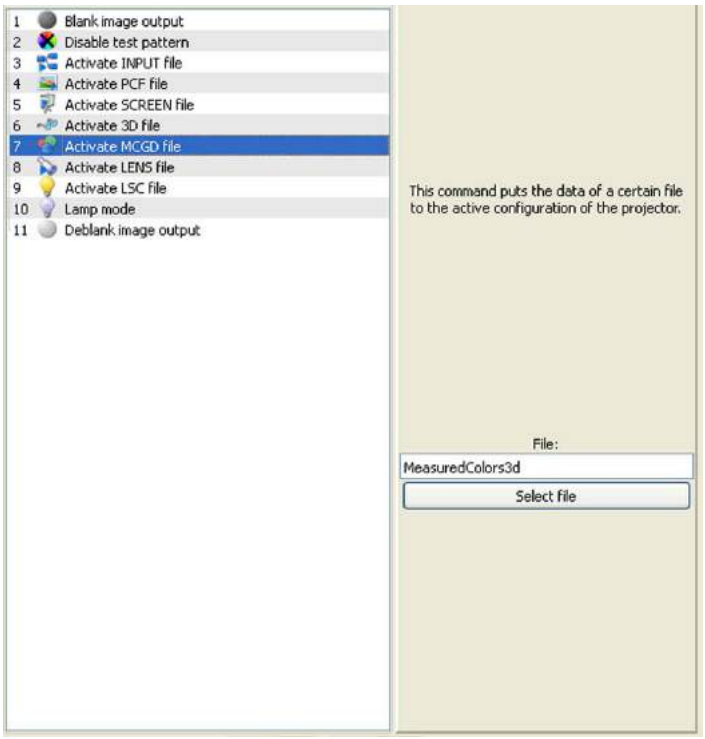


Image 9-16
Activate MCGD file command

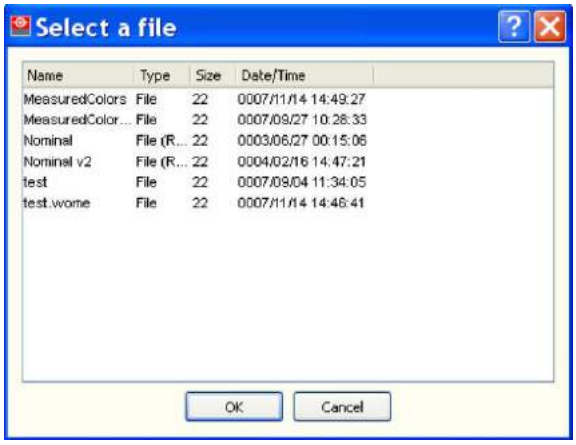


Image 9-17
Select MCGD file

9.4.1.7 Activate LSC file

What can be done ?

The light sensor calibration file, which takes in account the image aspect ratio, can be installed in the projector via the Activate LSC file command.

How to select a file

1. Click on *Activate LSC file*. (image 9-18)

   The right pane shows the current selected file.

2. Click on **Select file**.

   A files overview window is displayed. (image 9-19)

3. Select the desired file out of the list and click **OK**.
   Or,
   double click on the desired file.

   The selected file name appears next to *Filename*.

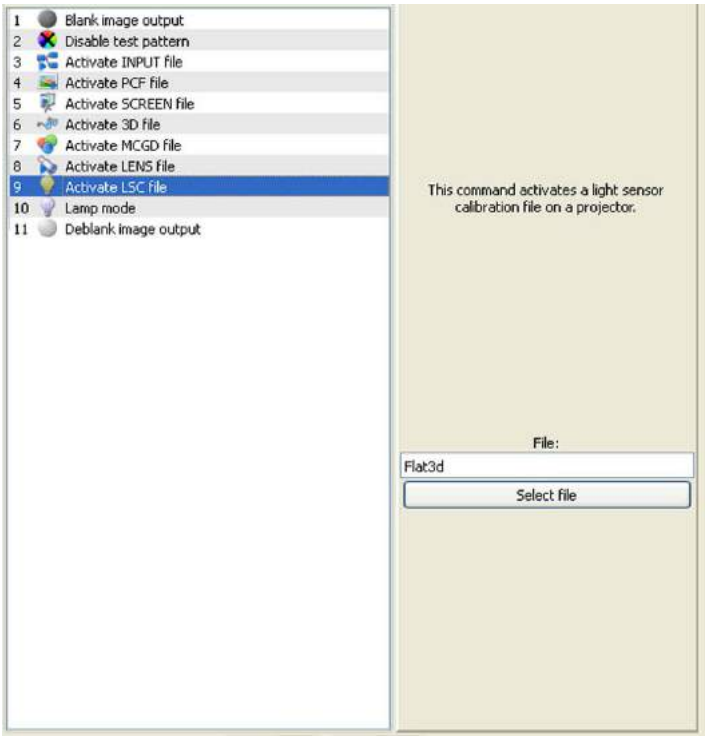


Image 9-18
Activate LSC file

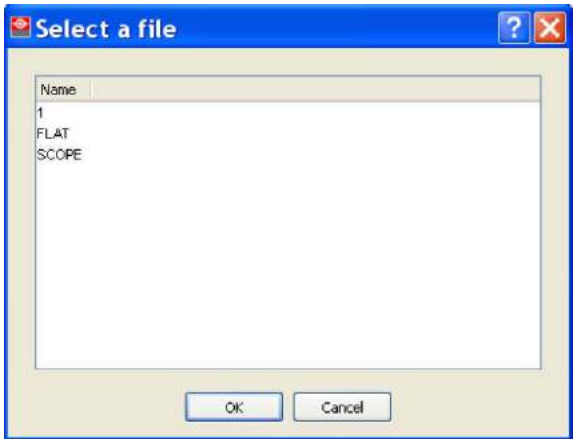


Image 9-19
Select a LSC file

9.4.1.8 Activate lens file

What can be done ?

The active lens file (contains zoom, shift and focus information) can be installed in the projector via the Activate lens file command.

How to select a file

1. Click on *Activate Lens file*. (image 9-20)

The right pane shows the current selected file.

2. Click on **Select file**.

   A files overview window is displayed. (image 9-21)

3. Select the desired file out of the list and click **OK**.
   Or,
   double click on the desired file.

   The selected file name appears next to *Filename*.

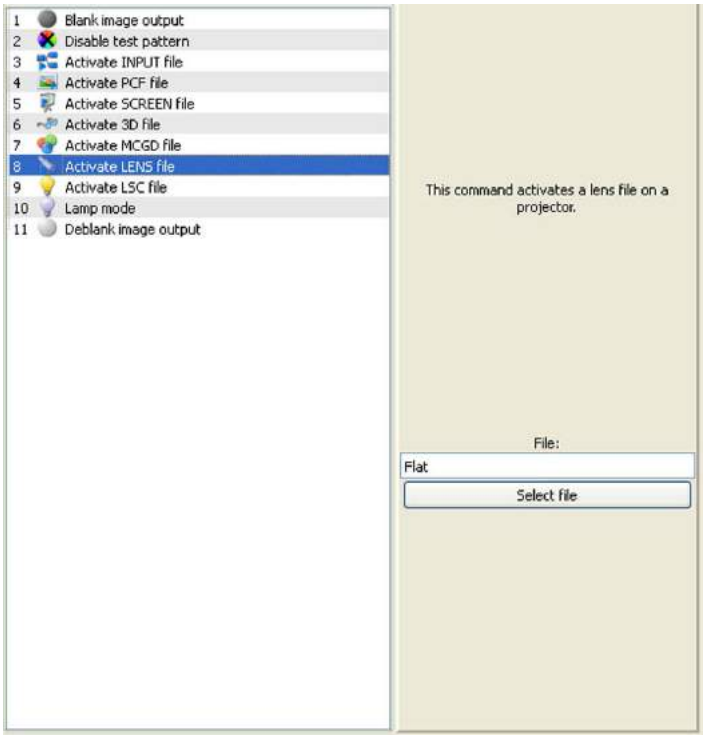


Image 9-20
Activate lens file

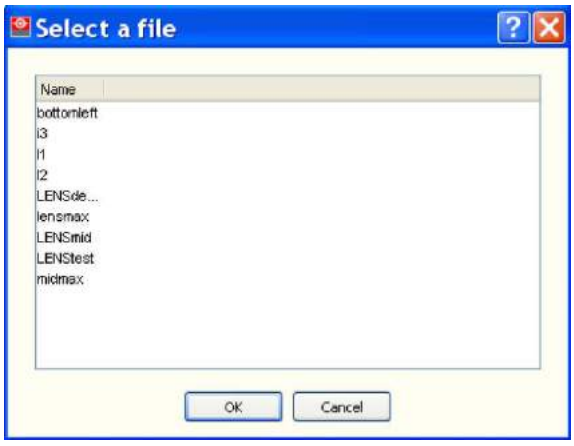


Image 9-21
Select a lens file

9.4.2 3D extended

9.4.2.1 Activate MCGD2

What can be done ?

When the color path selection is set to dual (left and right eye separately), the measured color information for the right eye must be added via a macro.

How to select

1. Click on *Activate MCGD2 file*.

   The right pane shows the current selected file. (image 9-22)

2. Click on **Select file**.

   A files overview window is displayed. (image 9-23)

3. Select the desired file out of the list and click **OK**.
   Or,
   double click on the desired file.

   The selected file name appears next to *Filename*.

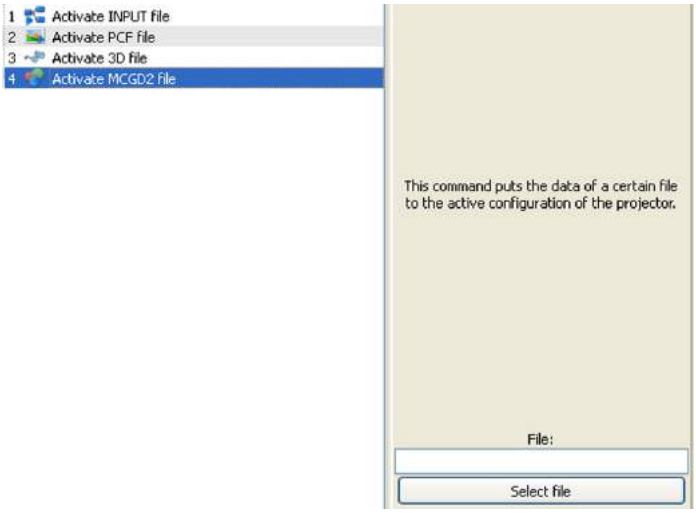


Image 9-22
Activate MCGD2 file

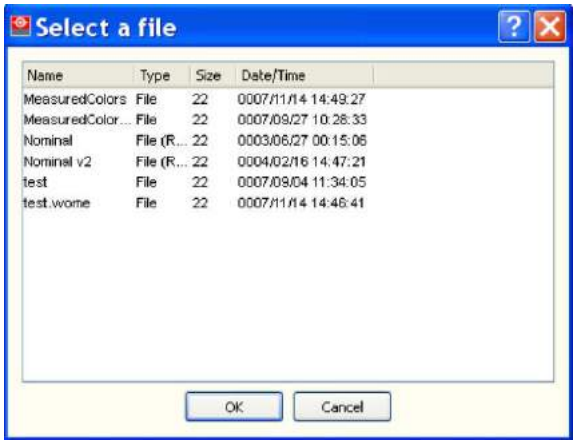


Image 9-23
Select MCGD2 file

9.4.2.2 Activate TCGD2

What can be done ?

When the color path selection is set to dual (left and right eye separately), the target color information for the right eye must be added via a macro.

How to select

1. Click on *Activate TCGD2 file*.

   The right pane shows the current selected file. (image 9-24)

2. Click on **Select file**.

   A files overview window is displayed. (image 9-25)

3. Select the desired file out of the list and click **OK**.
   Or,
   double click on the desired file.

   The selected file name appears next to *Filename*.

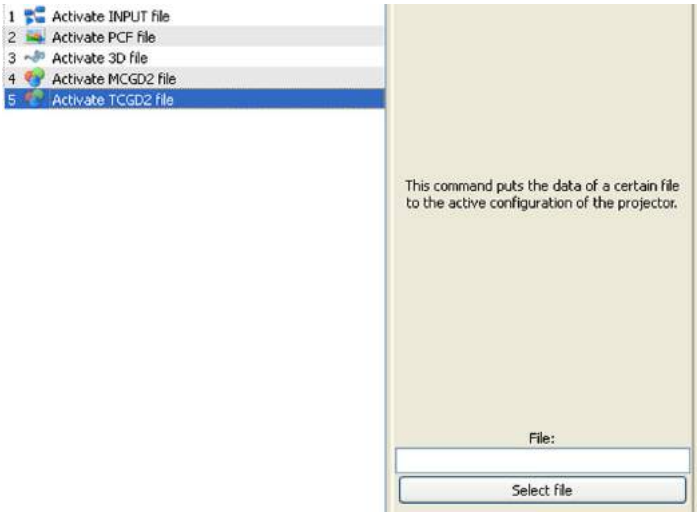


Image 9-24
Activate TCGD2 file

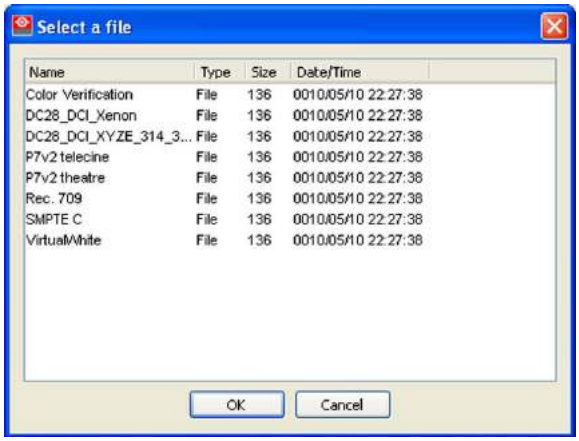


Image 9-25
Select TCGD2 file

9.4.3 Test pattern

9.4.3.1 Enable test pattern

What can be done ?

A test pattern which is stored in a file can be enabled.

How to select a test pattern

1. Click on *Enable test pattern*. (image 9-26)

   The right pane shows the current selected test pattern file.

2. Click on **Select testpattern**.

   The test pattern selection window opens. (image 9-27)

3. Select a file and click **OK**.

   The selected file will be filled out in the *Testpattern Filename* field.

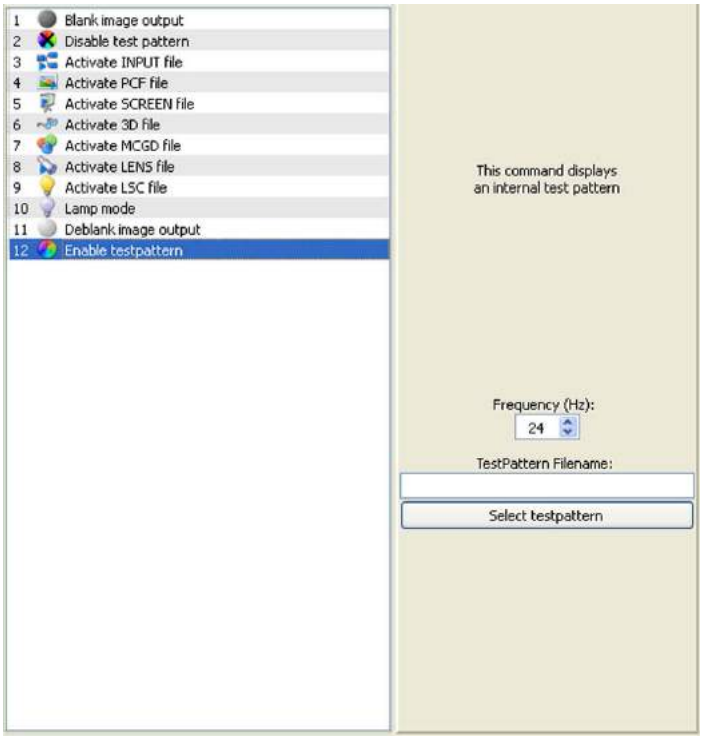


Image 9-26
Enable test pattern file

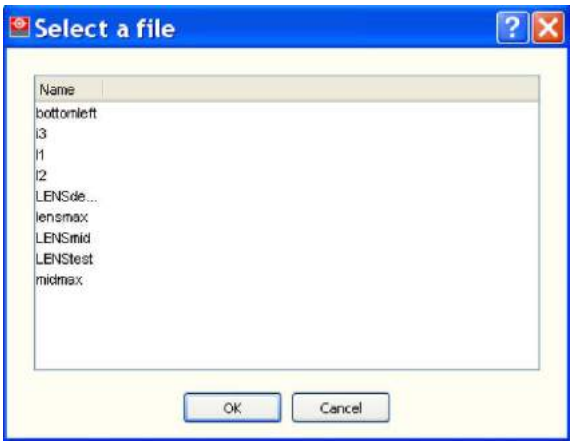


Image 9-27
Select test pattern

9.4.3.2 Disable test pattern

How to disable

1. Insert the command Disable test pattern in the macro list. (image 9-28)

   All current test patterns will be disabled when running this macro.

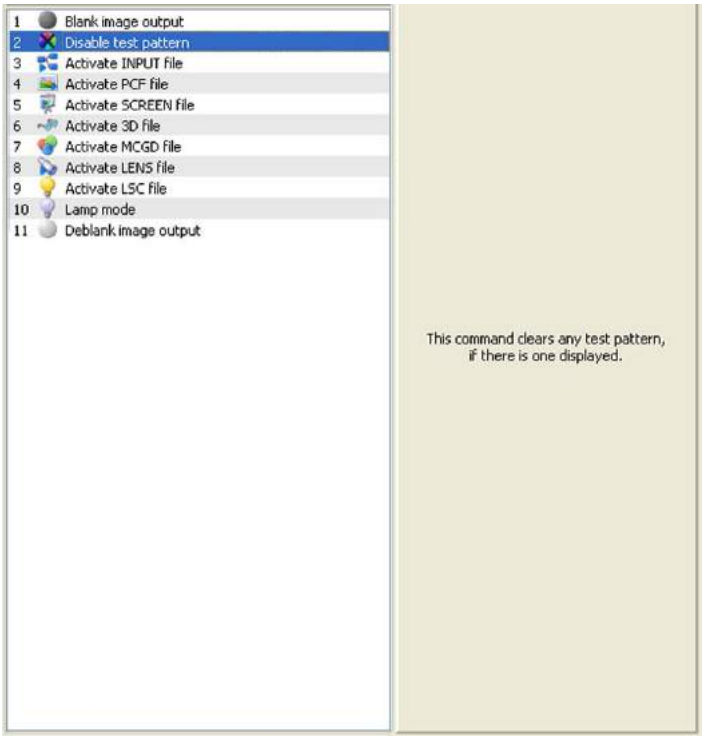


Image 9-28
Disable test pattern

9.4.4 Output

9.4.4.1 Lamp control

What can be done ?

The lamp can be switched on or off via this macro command.

How to switch the lamp

1. Click on *Lamp control*. (image 9-29)

   The right pane shows the selection buttons.

2. Select the radio button of your choice.

lamp on	lamp will be switched on
lamp off	lamp will be switched off

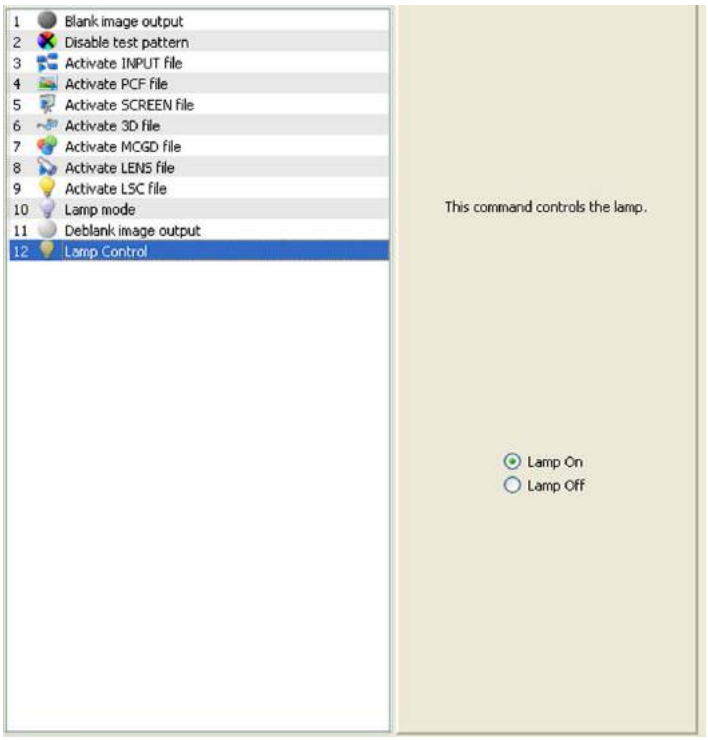


Image 9-29
Lamp control command

9.4.4.2 Lamp mode

What can be done ?

The light output mode can be set between Normal mode and CLO mode. For each mode, the necessary parameters can be added.

How to select

1. Click on *Lamp mode*. (image 9-30)
2. Select the radio button of your choice.

   Normal mode: a lamp dimming value can be set with the slider or directly in the input box.

   CLO mode: a target footlambert value can be entered in the input box.

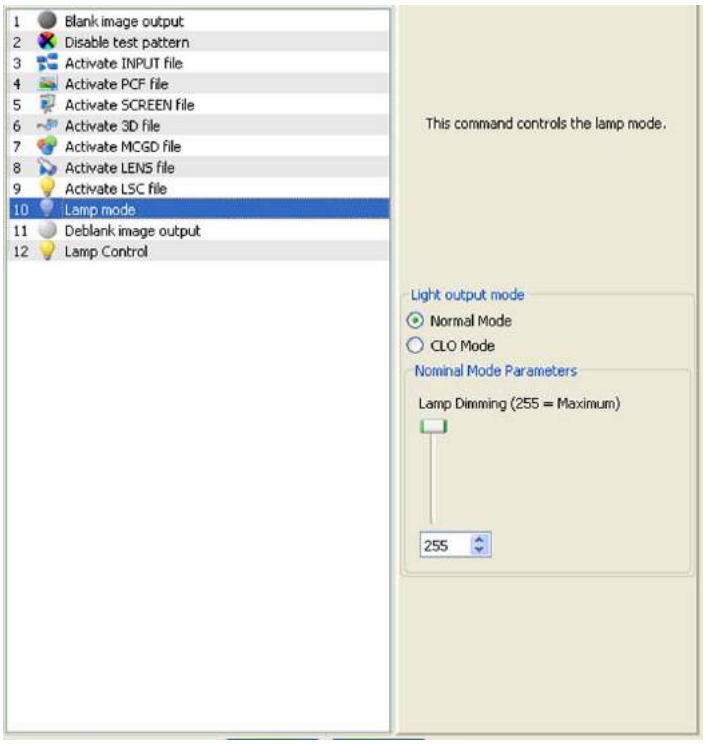


Image 9-30
Lamp mode command

9.4.4.3 Dowser control

What can be done ?

The dowser can be closed or opened via this macro command.

DP2K-S series projector has no dowser build in, but for compatibility reasons with existing macros, the dowser control function in a macro is implemented as the blanking and/or the deblanking function.

How to change the status

1. Click on *Dowser control*. (image 9-31)
2. Select the radio button of your choice.

   Dowser open : image projection is not blocked.

   Dowser closed : image projection is blocked.

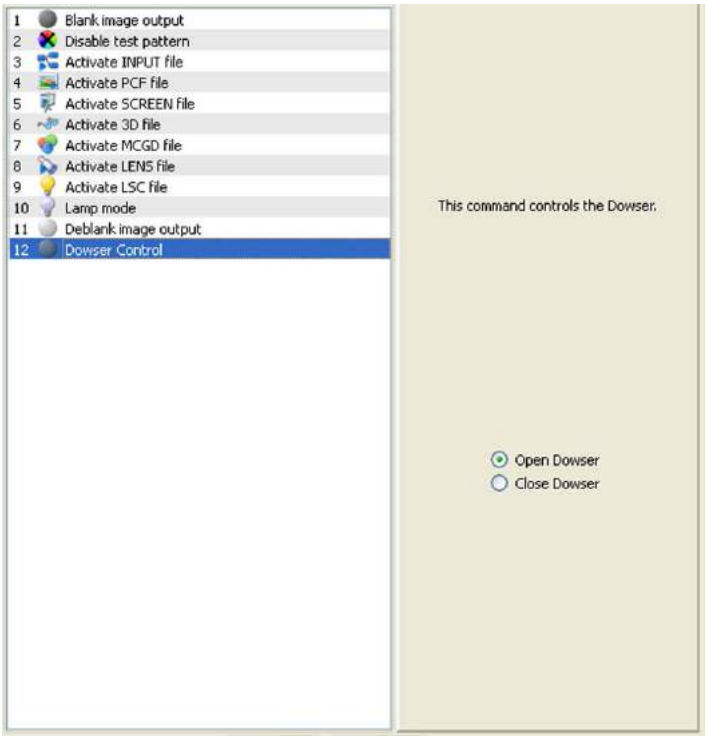


Image 9-31
Dowser control

9.4.4.4 Lamp alignment

Only for motorized lamp houses

What can be done ?

The X-Y-Z axis can be adjusted for optimal alignment in the reflector to produce its maximum light output.

How to set

1. Click on *Lamp alignment*. (image 9-32)

   The right pane shows the possible adjustments.

2. Select the radio button of your choice.

   Z-axis only for a fast adjustment.

   X-Y-Z axis for a fine adjustment

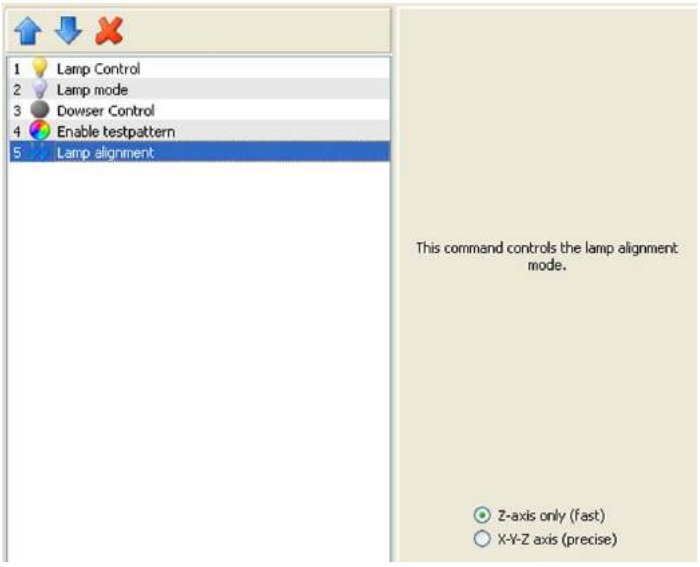


Image 9-32
Lamp alignment

9.4.4.5 Execution delay for a 'blank image'

What can be done ?

The image can be blanked electronically after a certain delay time.

How to set

1. Click on *Blank Image Output*. (image 9-33)

   The right pane shows the execution delay input field. The value is expressed in milliseconds.

2. Click on the up down control of the spin box to change the value. The value change in steps of 10.
   Or,
   click in the input field and enter the desired value with the keyboard.

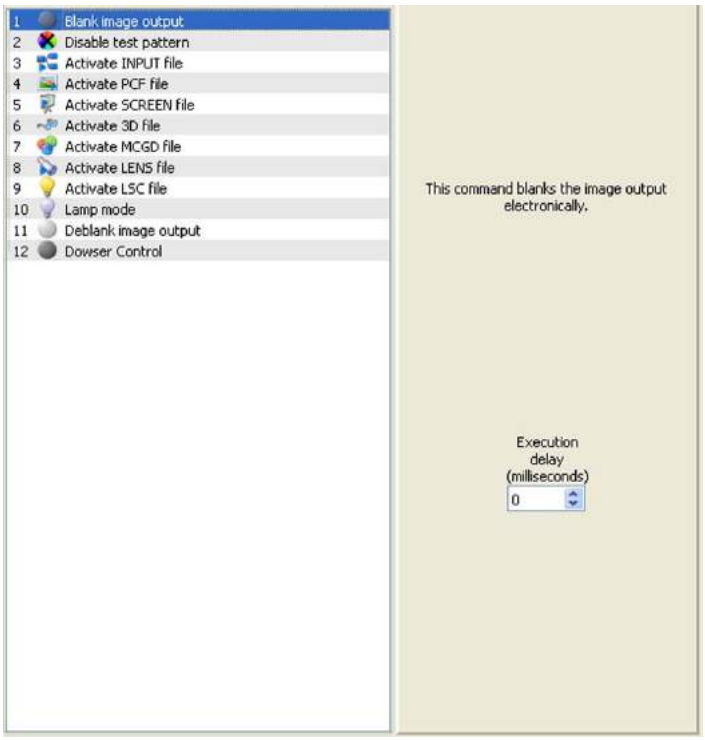


Image 9-33
Execution delay

9.4.4.6 Execution delay for a 'deblank image output'

How to set

1. Click on *Deblank Image Output*. (image 9-34)

   The right pane shows the execution delay input field. The value is expressed in milliseconds.

2. Click on the up down control of the spin box to change the value. The value change in steps of 10.
   Or,
   click in the input field and enter the desired value with the keyboard.

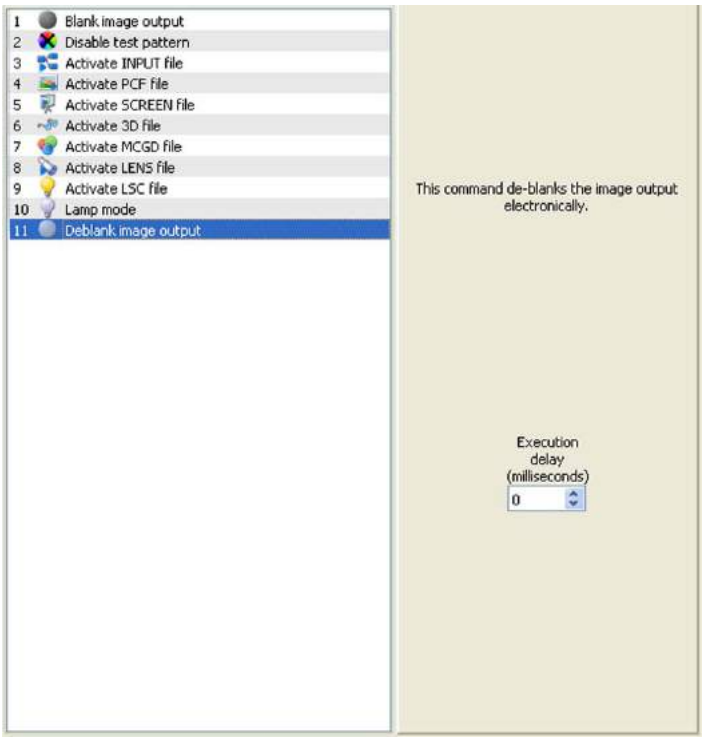


Image 9-34
Deblank image command

9.4.4.7 Lamp link mode

What can be done

The projector can be set as master and the target CLO value for the slaves can be selected.

How to set up

1. Click on *Lamp link mode*. (image 9-35)
2. To set the projector as master, check the check box next to *Is master projector*.
3. To set the Target footlambert value, click on the up down control of the spin box until the desired value is obtained
   Or,
   click inside the input box and enter a new value with keyboard.

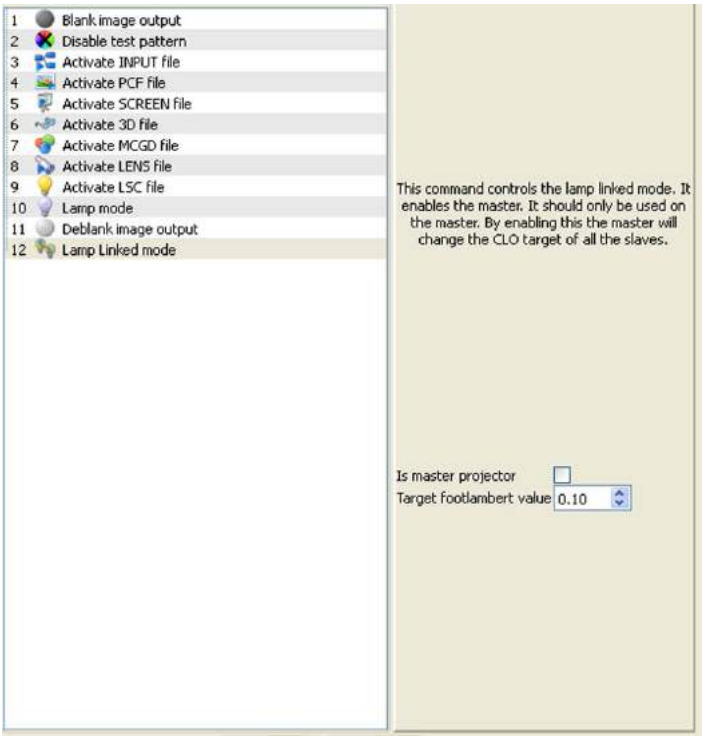


Image 9-35
Link mode setup

9.4.5 Automation

9.4.5.1 GPO control

What can be done ?

A function can be associated to a general purpose output.

How to add a function

1. Click on *GPO Control*. (image 9-36)

   The right pane shows a GPO selection box and function box.

2. Click on the drop down box next to *Output*.
3. Select a GPO out of the list.
4. Click on the drop down box next to *Function* to associate a function to the selected Output.
   Possible functions:
   - Set low
   - Set high
   - Toggle
   - Continuos toggle

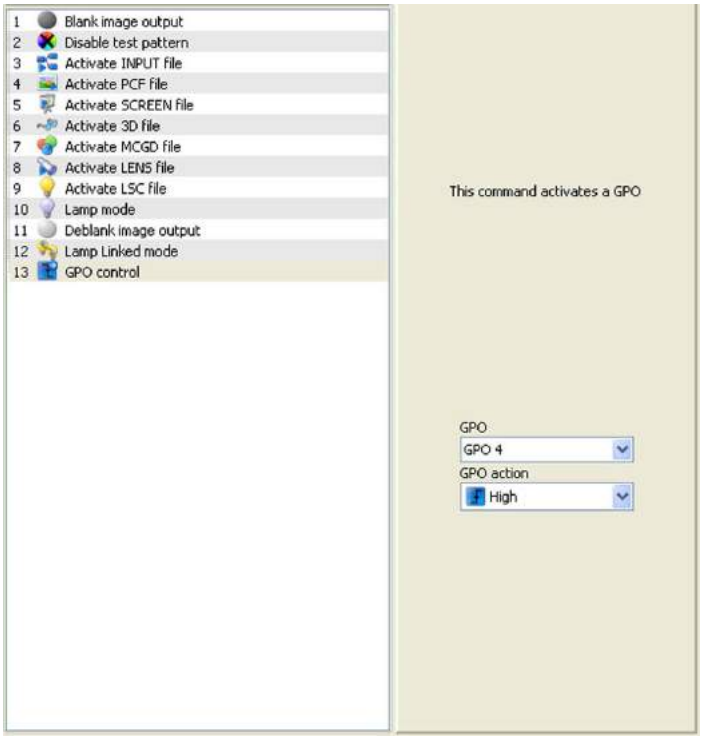


Image 9-36
GPO control command

10. DIAGNOSTIC PACKAGE READER

Overview

- About the diagnostic package reader
- Open a diagnostic package file

10.1 About the diagnostic package reader

About

Diagnostic package files generated on the touch panel of the projector or via the Communicator are compressed files. These files contain a lot of valuable information about the status of the projector. The Diagnostic Package reader opens these files and split up the information in different tab pages.

The Diagnostic Package reader is distributed together with Communicator software and is automatically installed when installing the Communicator software.

Start up

Diagnostic Package reader is installed with the same install path as the Communicator software.

To start up, click Start → All programs → Barco → Communicator → Diagnostic package reader.

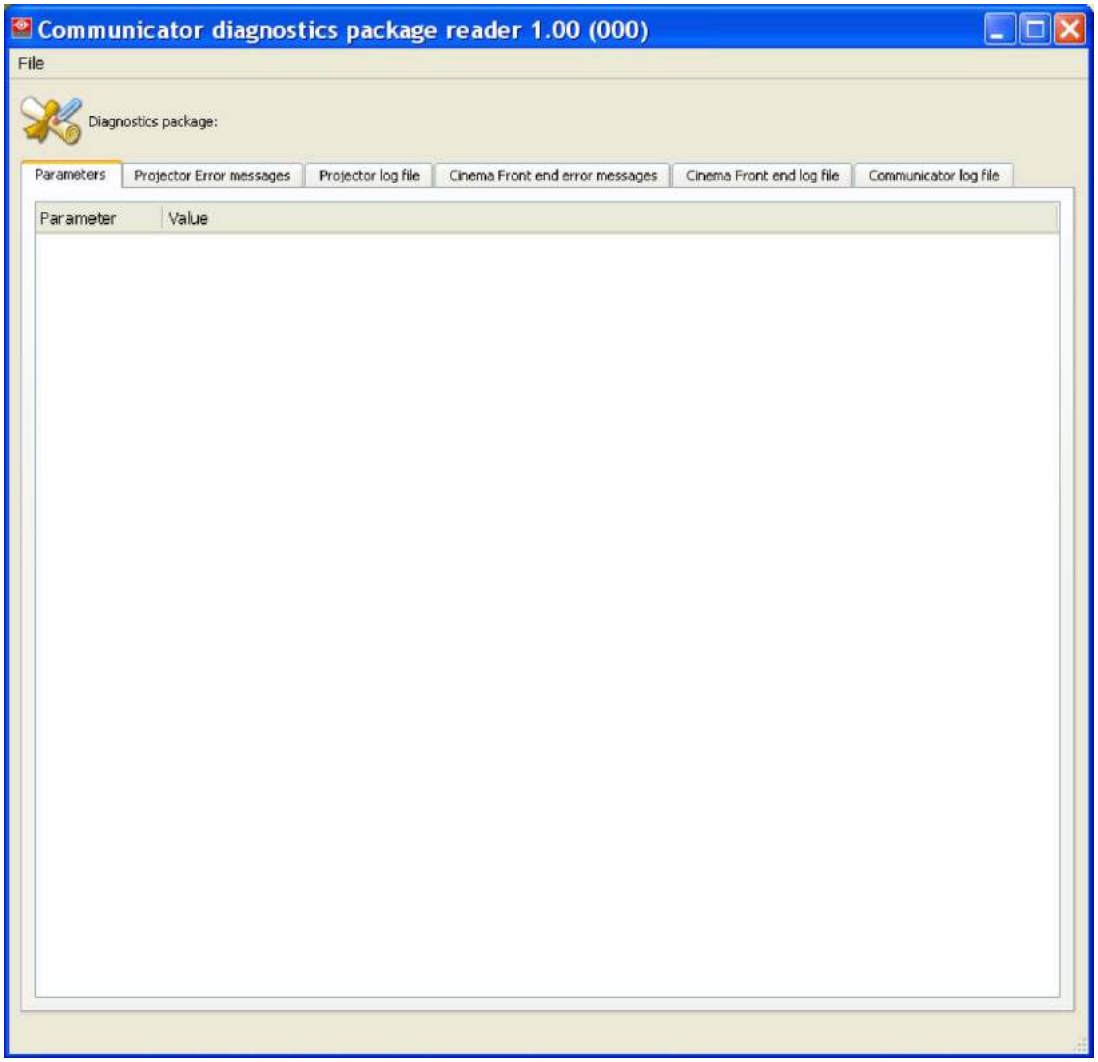


Image 10-1
Start window

10.2 Open a diagnostic package file

How to open

1. Click on **File** and select *Open* (1). (image 10-2)

   A browse window opens (2).

2. Browse to the location of a diagnostic package file (3).
3. Select the file (4) and click **Open** (5).

   The file is loaded in the diagnostic package reader and all information is split in the different tab pages.

   Click on a tab to open specific information.

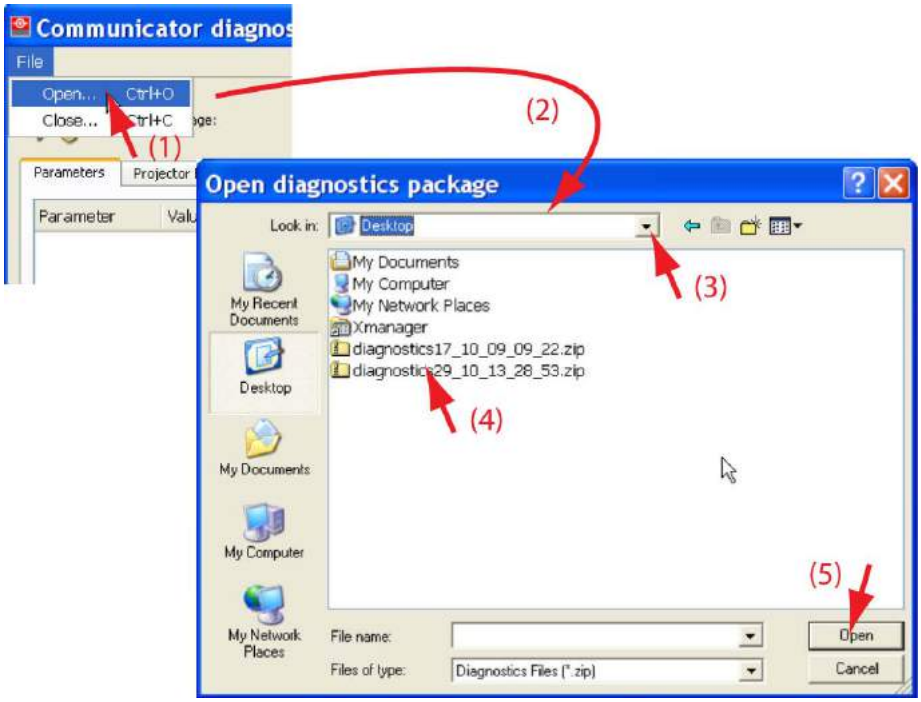

Communicator diagnos
File
Open... Ctrl+O
Close... Ctrl+C
(1)
(2)
Parameters
Parameter
Open diagnostics package
Look in:
Desktop
My Documents
My Computer
My Network Places
Xmanager
diagnostics17_10_09_09_22.zip
diagnostics29_10_13_28_53.zip
(3)
(4)
(5)
My Recent Documents
Desktop
My Documents
My Computer
My Network Places
File name:
Files of type:
Diagnostics Files (*.zip)
Open
Cancel

Image 10-2

11. DC UPDATE COMPANION - COMMAND LINE INTERFACE

11.1 Introduction

Overview

It is possible to use the “DC Update companion” software through a Shell using the command line interface. The commands are supported on Windows, Linux and Mac OS X platform.

11.2 Using the command line interface

Getting started

First you will need to install the *Communicator* on you computer.

The DcUpdateCompanion application resides in the root folder of the installed *Communicator* application software.

- **On Windows** :
  Open the command prompt by starting “cmd.exe” and change directory to the directory where resides the DcUpdateCompanion.exe binary.
- **On Linux/Mac OS X**:
  Open a shell (terminal window) and change directory to the directory where resides the DcUpdateCompanion binary.

Help information

Use the “-h” argument.

- **On Windows** :
  `DcUpdateCompanion.exe –h`
- **On Linux/Mac OS X**:
  `./DcUpdateCompanion –h`

Version of the application

Use the “-v” argument.

- **On Windows** :
  `DcUpdateCompanion.exe –v`
- **On Linux/Mac OS X**:
  `./DcUpdateCompanion –v`

Starting an upgrade

Use the “-silent” argument in order to use the command line mode.

Extra arguments or needed in order to specify the update type.

Arguments to use when executing an upgrade:

Argument	Description
-type	The upgrade package type. The supported types are: • “barco” : Barco DCTP (touch panel) or DP2K- or DP4K-series projector. • “icp” : TI ICP device • “enigma” : the Enigma Link Decryptor
-f	The URL of the package file. This can be an absolute or relative path.
-ip	The IP address of the projector
-verbose	(optional) Use this option to get extra progress information during the update.

Examples :

Example 1 : Upgrade of package version 1.6.68 on Projector with IP address 10.192.32.68

```
DcUpdateCompanion.exe -silent -verbose -ip 10.192.32.68 -f
R33023607_R_1_6_68.zip -type barco
```

Example 2 : Upgrade of package version 4.3.13 on DC Touch Panel with IP address 10.192.8.207

```
DcUpdateCompanion.exe -silent -verbose -ip 10.192.8.207 -f DCTPUP-
DATEPKG_D_4_3_13.zip -type barco
```

Example 3 : Upgrade of package version 2.2.291 on ICP device of Projector with IP address 10.192.32.68

```
DcUpdateCompanion.exe -silent -verbose -ip 10.192.32.68 -f Prod2.2.291.re-
lease -type icp
```

Return values

The application will return an error code when it has finished. In order to check if the upgrade has been done successfully, you can check on the resulted error code.

Arguments to use when executing an upgrade:

Error code	Description
0	The application returns 0 when no error has occurred
-1	The application returns -1 when an error occurred. When upgrade failure occurred, you should consider to check the log in the created log file.

Log files

Log files are being created in the subfolder “log_updater” (created relatively from where you start the commands).

All log files contain the serial number of the projector in the filename. When an upgrade has failed, the filename starts with the “failed_” prefix.

A. SOURCE SETTINGS

A.1 Input settings

HDSDI settings

Source: 2K						
	General settings			Advanced settings		
Port	**Port type**	**Mode**	**Scan type**	**Color space**	**Pixel mapping**	**Calibration**
A or B	HDSDI Single link	4:2:2 10 bits/color	Progressive	YCbCr	HDSDI-Single link	Single
			Progressive - field bit normal			
			Progressive - field bit inverted			
			Progressive SF - 2nd field dominant			
			Progressive SF - 1st field dominant			
	3GSDI link	4:2:2 12 bits/color	Progressive	YCbCr	3G-level A-Single link	Single
					3G-level B-Dual link	
		4:4:4 10 bits/color	Progressive	RGB	3G-level A-Single link	
					3G-level B-Dual link	
		4:4:4 12 bits/color	Progressive	XYZ/RGB	3G-level A-Single link	
					3G-level B-Dual link	
A+B	HDSDI Duallink AB	4:4:4 10 bits/color	Progressive	RGB	HDSDI-Dual link	Single
			Progressive - field bit normal			
			Progressive - field bit inverted			
			Progressive SF - 2nd field dominant			
			Progressive SF- 1st field dominant			
		4:4:4 12 bits/color	Progressive	XYZ/RGB		
			Progressive - field bit normal			
			Progressive - field bit inverted			
			Progressive SF- 2nd field dominant			

Source: 2K						
	General settings			Advanced settings		
Port	**Port type**	**Mode**	**Scan type**	**Color space**	**Pixel mapping**	**Calibration**
			Progressive SF-1st field dominant			

Source: 2K-3D						
	General settings			Advanced settings		
Port	**Port type**	**Mode**	**Scan type**	**Color space**	**Pixel mapping**	**Calibration**
A or B	3GSDI link - 3D	4:2:2 10 bits/color	Progressive	YCbCr	3G - Level B - Dual stream	Single
						Dual (separate left / right eye)
			Progressive SF-1st field dominant	YCbCr	3G - Level B - Dual stream	Single
						Dual (separate left / right eye)
			Progressive SF - 2nd field dominant	YCbCr	3G - Level B - Dual stream	Single
						Dual (separate left / right eye)
A+B	HDSDI 3D	4:2:2 10 bits/color	Progressive	YCbCr	HDSDI - Interleaved	Single
						Dual (separate left / right eye)
			Progressive SF-1st field dominant	YCbCr	HDSDI - Interleaved	Single
						Dual (separate left / right eye)
			Progressive SF - 2nd field dominant	YCbCr	HDSDI - Interleaved	Single
						Dual (separate left / right eye)
	3GSDI 3D	4:2:2 12 bits/color	Progressive	YCbCr	3G - Level A - Interleaved	Single
						Dual (separate left / right eye)
					3G - Level B - Interleaved	Single

Source: 2K-3D						
	General settings			Advanced settings		
Port	**Port type**	**Mode**	**Scan type**	**Color space**	**Pixel mapping**	**Calibration**
						Dual (separate left / right eye)
		4:4:4 10 bits/color	Progressive	RGB	3G - Level A - Interleaved	Single
						Dual (separate left / right eye)
					3G - Level B - Interleaved	Single
						Dual (separate left / right eye)
		4:4:4 12 bits/color	Progressive	XYR/RGB	3G - Level A - Interleaved	Single
						Dual (separate left / right eye)
					3G - Level B - Interleaved	Single
						Dual (separate left / right eye)

Source: 2K-HFR						
	General settings			Advanced settings		
Port	**Port type**	**Mode**	**Scan type**	**Color space**	**Pixel mapping**	**Calibration**
A or B	3GSDI link - HFR	4:2:2 10 bits/color	Progressive	YCbCr	3G - Level B - Dual stream	Single
					3G - Level B - Single link	
A+B	HDSDI HFR	4:2:2 10 bits/color	Progressive	YCbCr	HDSDI - Interleaved	Single
			Progressive SF- 1st field dominant			
			Progressive SF - 2nd field dominant			
	3GSDI HFR	4:2:2 12 bits/color	Progressive	YCbCr	3G - Level A - Interleaved	Single
					3G - Level B - Interleaved	
		4:4:4 10 bits/color	Progressive	RGB	3G - Level A - Interleaved	Single
					3G - Level B - Interleaved	

Source: 2K-HFR						
	General settings			Advanced settings		
Port	**Port type**	**Mode**	**Scan type**	**Color space**	**Pixel mapping**	**Calibration**
		4:4:4 12 bits/color	Progressive	XYZ/RGB	3G - Level A - Interleaved	Single
					3G - Level B - Interleaved	

Source: 3D-HFR						
	General settings			Advanced settings		
Port	**Port type**	**Mode**	**Scan type**	**Color space**	**Pixel mapping**	**Calibration**
A+B	3GSDI 3D HFR	4:2:2 10 bits/color	Progressive	YCbCr	3G - Level A - Interleaved	Single
						Dual (separate left / right eye)
			Progressive SF- 1st field dominant	YCbCr	3G - Level A - Interleaved	Single
						Dual (separate left / right eye)
			Progressive SF- 2nd field dominant	YCbCr	3G - Level A - Interleaved	Single
						Dual (separate left / right eye)

Source: 4K						
	General settings			Advanced settings		
Port	**Port type**	**Mode**	**Scan type**	**Color space**	**Pixel mapping**	**Calibration**
A+B	3GSDI HS-4K	4:2:2 10 bits/color	Progressive	YCbCr	3G - Level A - Single Link	Single
			Progressive - field bit normal			
			Progressive - field bit inverted			
			Progressive SF - 2nd field dominant			
			Progressive SF - 1st field dominant			

Source: 4K						
	General settings			Advanced settings		
Port	**Port type**	**Mode**	**Scan type**	**Color space**	**Pixel mapping**	**Calibration**
A + B + C + D	3GSDI 4K	4:2:2 10 bits/color	Progressive	XYZ/RGB	3G - Level A - Quad Link	Single
					3G - Level B - Quad Link	
			Progressive SF - 1st field dominant	YCbCr	3G - Level A - Quad Link	Single
					3G - Level B - Quad Link	
			Progressive SF - 2nd field dominant	YCbCr	3G - Level A - Quad Link	Single
					3G - Level B - Quad Link	
		4:4:4 10 bits/color	Progressive	RGB	3G - Level A - Quad Link	Single
					3G - Level B - Quad Link	
			Progressive SF - 1st field dominant	RGB	3G - Level A - Quad Link	Single
					3G - Level B - Quad Link	
			Progressive SF - 1st field dominant	RGB	3G - Level A - Quad Link	Single
					3G - Level B - Quad Link	
		4:4:4 12 bits/color	Progressive	XYZ/RGB	3G - Level A - Quad Link	Single
					3G - Level B - Quad Link	
			Progressive SF - 1st field dominant	XYZ/RGB	3G - Level A - Quad Link	Single
					3G - Level B - Quad Link	
			Progressive SF - 2nd field dominant	XYZ/RGB	3G - Level A - Quad Link	Single
					3G - Level B - Quad Link	
	HDSDI - 4K	4:2:2 10 bits/color	Progressive	YCbCr	HDSDI - Quad Link	Single
			Progressive SF - 1st field dominant	YCbCr	HDSDI - Quad Link	Single
			Progressive SF - 2nd field dominant	YCbCr	HDSDI - Quad Link	Single

DVI settings

Input selection	Port	Parameters			
		Mode	type	Type parameter	Color correction
DVI - A	A	8 bits/color	Progressive	-	-
			Interlaced	Field bit normal (default) Field bit inverted	-
DVI - B	B	8 bits/color	Progressive	-	-
			Interlaced	Field bit normal (default) Field bit inverted	-
DVI - TWIN	A+B	10 bits/color 12 bits/color	Progressive	-	-
DVI - 3D	A+B	8 bits/color	Progressive	-	single (default) dual (separate eyes)
DVI - 4K Horizontal spanning	A+B	8 bits/color	Progressive	-	-

Mediablock settings

Mode	Type	Type parameter	Color calibration
4:2:2	Progressive	-	Single (default)
			Dual (separate eye)
4:4:4	Progressive	-	Single (default)
			Dual (separate eye)

B. COMMUNICATOR SILENT, COMMAND LINE INTERFACE

Overview

- Introduction
- Getting started
- Arguments
- Creating a diagnostics package
- Creating a clone package
- Applying a clone package
- Applying NTP settings
- Applying Lens home and return
- Applying Maintenance confirmation
- Sending Projector Command
- Rebooting the Projector
- Return values
- Log files

B.1 Introduction

Overview

The Communicator Silent is built as a separate program called “cs”. It is a command line program used to create diagnostics packages and to create or apply clone packages to Barco digital cinema projectors.

It is part of the Communicator software.

B.2 Getting started

What to do

First you will need to install Communicator (or Communicator post-production) on your computer.

The Communicator Silent (CS) application resides in the root folder of the installed Communicator application software.

On Windows

1. Open the command prompt by starting `cmd.exe`.
2. Change the directory to the root folder of the installed Communicator application software.
3. Starts `cs.exe` .

On Linux/Mac OS X

1. Open a shell (terminal window).
2. Change the directory to the root folder of the installed Communicator application software.
3. Starts `cs` . binary.

B.3 Arguments

Help information

Use the “-h” (or --help) argument.

Example:

(Windows) `cs.exe –h`

(Linux/Mac) `./cs –h`

Version of the application

Use the “-V” or “--version” argument.

Verbose option

Use the “-v” or “--verbose” option to have detailed information output to the console during execution of a command.

B.4 Creating a diagnostics package

Command

```
cs [options] create diagnostics-package
```

Options

Options to use when creating a diagnostics package:

Option	Description
-f, -file	(optional) The package file name. The file name should have the .zip extension. When this option is not set, it will create a default file name.

Example:

Create a Diagnostics package of projector with IP address 10.20.30.40

Write the following command : `cs create diagnositics-package 10.20.30.40`

B.5 Creating a clone package

Command

```
cs [options] create clone-package
```

Options

Options to use when creating a diagnostics package:

Option	Description
-f, -file	(optional) The package file name. The file name should have the .zip extension. When this option is not set, it will create a default file name.
-m, -mode	The mode on how the clone package should be created. • `all` : full backup clone • `macros` : clone all macro files • `macros-setup` : clone all macro files together with setup specific files. • `barco` : clone all Barco files • `ti` : clone all TI files • `type=?` : clone all files of the specified type. The supported types vary depending on Series 1 or Series 2 projector.

Examples:

First example : Create a full clone package of Projector with IP address 10.20.30.40, using package file name full_backup.zip .

Write the following command : `cs –m all –f full_backup.zip create clone-package 10.20.30.40`

Second example : Create a clone package containing all Macro files of Projector with IP address 10.20.30.40

Write the following command : `cs –m macros create clone-package 10.20.30.40`

Third example : Create a clone package containing only the PCF files of Projector with IP address 10.20.30.40

Write the following command : `cs –m type=pcf create clone-package 10.20.30.40`

B.6 Applying a clone package

Command

`cs [options] apply clone-package`

Options

Options to use when applying a clone package:

Option	Description
-f, --file	The package file name. The file name should have the .zip extension.
-o, --overwrite	Overwrite the existing files when applying a clone package
-r, --reboot	Reboot projector after clone package upload (required for some settings to take effect)

Examples :

First example : Apply the clone package `clone_dp2k.zip` to Projector with IP address 10.20.30.40

Write the following command : `cs –f clone_dp2k.zip apply clone-package 10.20.30.40`

Second example : Apply the clone package `full.zip` to Projector with IP address 10.20.30.40, with overwrite option enabled (existing files will be overwritten).

Write the following command: `cs –o –f full.zip apply clone-package 10.20.30.40`

B.7 Applying NTP settings

Command

cs [options] apply ntp [host]

Options

Options to use when applying NTP settings:

Option	Description
-s, -status	Status of the NTP: “enabled” or “disabled”
-u, --url	URL or server name of the NTP server
-r, --reboot	Reboot projector after apply NTP enabled (required for the NTP settings to take effect)

Example :

Enable NTP and set the NTP server ‘ntp.barco.com’ on the Projector with IP address 10.192.32.68

Write the following command: `cs –s enabled –u ntp.barco.com apply ntp 10.192.32.68`

B.8 Applying Lens home and return

Command

cs apply lens-home-return [host]

Options

No options for this command.

Example :

Execute a lens home and return on Projector with IP address 10.192.32.68

Write the following command: `cs apply lens-home-return 10.192.32.68`

B.9 Applying Maintenance confirmation

Command

cs [options] apply maintenance-confirm [host]

Options

Options to use when applying Maintenance confirmation:

Option	Description
-r, -type	The type of maintenance: A, B, C or D

B.10 Sending Projector Command

Command

cs [options] projectorcommand [host]

Option	Description
-c, –command	Command string containing the command bytes. Put "0x" in front of each byte to use hex format. Separate each command byte with a comma.
-f, –file	File containing the command bytes. Note: when using a file, the option '-c' becomes obsolete.
-t, --timeout	Timeout value in milliseconds for receiving the answer from the projector.

Examples:

- Read serial number (command: '61' hex) of projector with IP address 10.192.10.10
  `cs projectorcommand 10.192.10.10 –c 0x61`
- Read lamp article number (command: '76 84' hex) of Projector with IP address 10.192.8.33, using time out value of 2 seconds.
  `cs projectorcommand 10.192.8.33 –c 0x76,0x84 –t 2000`
- Send command to Projector with IP address 10.192.8.33, using an external file:
  `cs projectorcommand 10.192.8.33 –f command.txt`

B.11 Rebooting the Projector

Command

cs reboot [host]

Options

No options for this command.

Example :

Reboot Projector with IP address 10.192.32.68

Write the following command: `cs reboot 10.192.32.68`

B.12 Return values

Overview

The application will return an error code when it exits.

In order to check if the command has been done successfully, check the returned error code.

On normal operation it returns the value zero. On error it returns a positive value.

Possible return values

Error code	Description
0	No errors occurred
1	Argument not valid
2	Invalid IP address
3	Invalid file name
4	Invalid command
5	Invalid action
6	Action not supported

Error code	Description
7	Action failed
8	Connection error
9	Connection time out
10	Device not supported

B.13 Log files

Where to find

Log files are being created in the subfolder “cs_log”. The files are created relatively from where you start the commands. A log file name is composed of the serial number and the device name of the Projector.

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