

XLite ToolSet



User Guide

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1. INTRODUCTION

1.1 General introduction

Overview

The display and configuration "Xlite ToolSet Software" is designed preliminary as a user interface (GUI).

This software works in combination with the existing :

- Barco Digitizers D310
- Barco Digitizers D320 series
- Barco DLite, ILite and SLite Displays
- Barco MiPix Displays
- FiberLink
- AEC
- Barco projectors (D320PL)

Windows is the operating environment (Windows NT/2000) for the software.

The "Xlite ToolSet Software" is a DHTML based application and runs out of Microsoft Internet Explorer 5.5 or later. The software is divided in six main work sections, after logging on.

The Control Software can be used to control and configure of Barco ILite Systems, SLite Systems, DLite Systems or MiPix systems, either locally or via a network. (LAN, WAN or internet).

Connection Configurations

When connected through a serial RS232 connection.

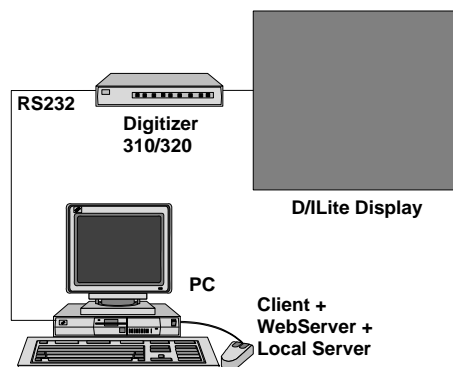


Image 1-1
Configuration with client & server on one PC

Connection configurations can be achieved directly from a PC to a Digitizer or via a PC connected to an local Server on a local area network (LAN). With the Digitizer connected to the local server.

1. Introduction

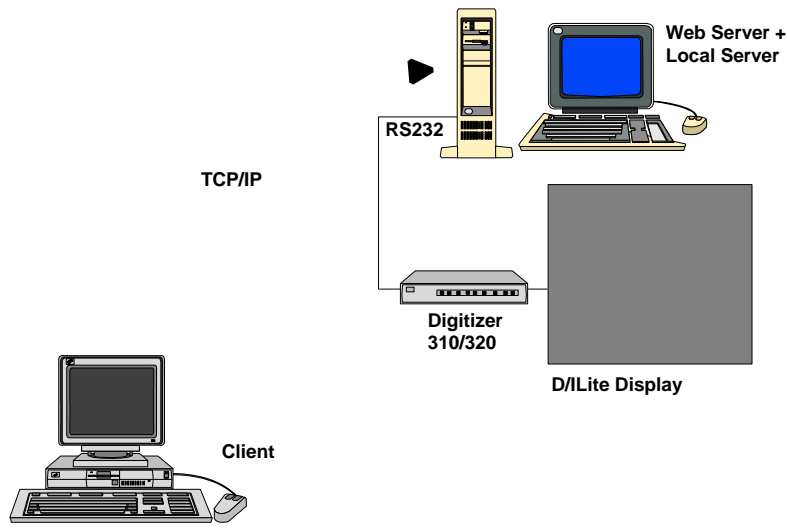


Image 1-2
Configuration with client & server on a different PC.

2. INSTALLATION

Overview

- General Requirements
- Software installation
- Starting up
- Troubleshooting Guide
- Updating XLite ToolSet
- Uninstalling XLite ToolSet

2.1 General Requirements

Before you begin

It assumes you are familiar with the Windows operating system at your site.

The CD-ROM in your package contains a Windows-based installation program. You can install the software from the CD-ROM.

System requirements

A minimum configuration of a Pentium II processor, 160 MHz and 128 MB of RAM.

At least 50 MB of disk space. A CD-ROM drive.

The operating system required is a 32 bit Windows version:

- Windows NT 4.0. with service pack 4.0
- Windows 2000
- Windows XP

Microsoft Internet Explorer 5.5 or higher

The screen resolution of the software is 1024*768 for a good working environment.

2.2 Software installation

To install

The process of installing your software involves the following basic steps:

1. Insert the CD-ROM in the CD-ROM drive.
2. Is the AutoPlay active on your PC.
If yes, continue with step 7.
If no, from within the Windows environment go to the Start Menu. Choose Run... from the menu and proceed with the next steps.
3. Open windows explorer.
4. Select the CD-ROM Drive.
5. Double click 'setup.exe' file.
6. Press 'OK' to run the installation.
7. For a new installation select 'Typical'.
With 'Typical', everything necessary to run the program will be installed (Tomcat webserver, Java environment variables and plug ins for the applets).

2. Installation

With 'Custom' you have the choice to install only the Xlite part or only the Java part.

8. Press 'Enter' to execute the installation program.
9. Complete installation is automatic.

'XLite ToolSet' item will be added to the program list.

Check

Some settings of the PC must be checked before launching the software:

1. Check if the Java Virtual machine (VM) is enabled on the PC.
2. Open your Internet Explorer.
Select Tools → Internet Options → Temporary Internet Files → Settings.
3. Check 'Every visit to the page' and press OK. (image 2-1)

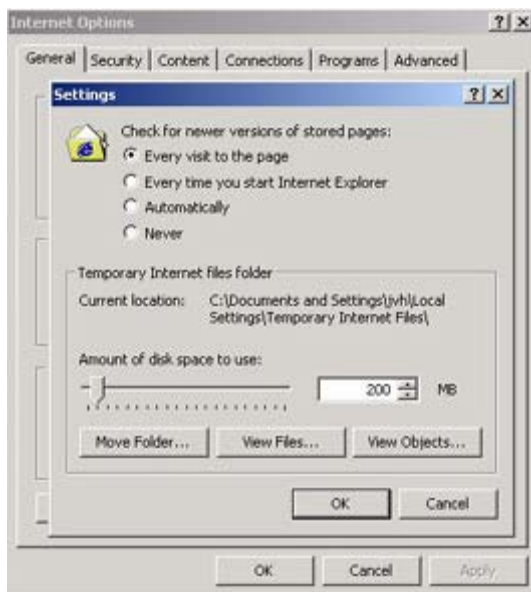


Image 2-1
Internet options Settings

2.3 Starting up

Start up

To start up the XLite ToolSet software, the following steps are involved:

1. Go to the Start menu, select *Programs*.
2. Drag your mouse to the right and select *XLite ToolSet v2*. Drag further to the right and select *XLite ToolSet*. (image 2-2)

This action starts first the service launcher which contains the following processes :

- Tomcat Webserver
- Driver
- Admin engine
- sysid

And it start then XLite ToolSet itself.



Image 2-2
Start up of XLite ToolSet

2.4 Troubleshooting Guide

Overview

A troubleshooting guide with the most frequently discovered problems is online available on the CD-ROM.

2.5 Updating XLite ToolSet

Where to find update

From time to time, updates or new versions of the XLite ToolSet are released in the PartnerZone on the internet.

As a registered partner, you can download these updates.

If you are not yet a partner, you can register yourself as a new partner. For more information, surf to <http://events.barco.com> and follow the link *Services -> Secure Zone*.

Once you have access to the Partner Zone, download the latest version of the XLite ToolSet and save it to your local hard disk. The file is a self-extracting zip file.

How to update

1. Browse in Windows Explorer to the directory where the zip file was saved.
2. Extract the zip file in the desired directory.
3. Go to the directory in which the zip file is extracted and double click on *setup.exe*.

The setup file will automatically update the current version of the XLite ToolSet.

If you have already installed the update, a notice will be shown asking you if you want to uninstall the update. Uninstalling the update will make the current installation corrupt.



You cannot uninstall an update to return to the previous version. If you uninstall an update, the files are removed and the XLite ToolSet will no longer work properly.

If you want to go back to an older version, re-install the original version (the one on the CD, delivered with the digitizer), and install the updated version over it.

2.6 Uninstalling XLite ToolSet



If you have also installed an update for XLite ToolSet, this should be removed first before uninstalling XLite ToolSet itself.

How to uninstall

1. Open the Control Panel of your windows (Start → Settings → Control Panel).
2. Select XLite ToolSet from the list and click on the **Change/Remove** button.
The uninstall procedure for XLite ToolSet will start.
3. The uninstall wizard asks for confirmation. (image 2-3)
4. Click **No** to remove completely.
5. Do you want to remove the data files too? Data files are the user files, preset files, configuration, etc.

2. Installation

If yes, click on Yes. Every thing will be deleted. (image 2-4)

If no, click on No. XLite ToolSet will be able to work on the same configuration when reinstalled later.

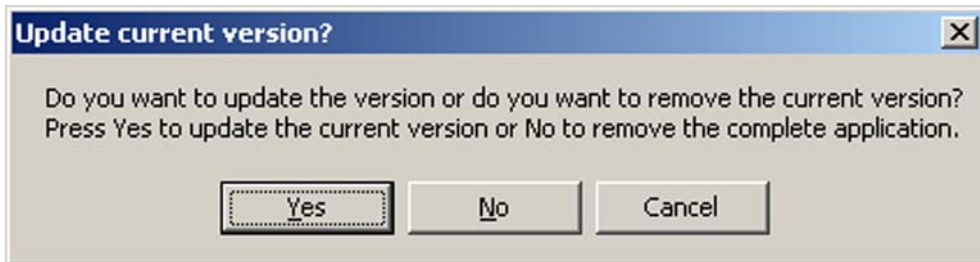


Image 2-3
Uninstall confirmation

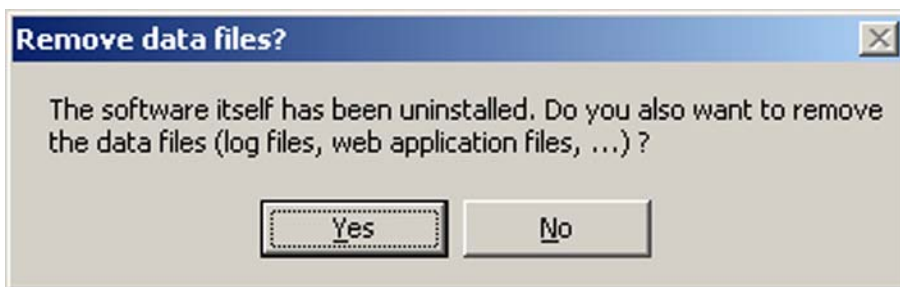


Image 2-4
Data files removal during uninstall

3. LOGGING ON

Overview

- Log on page
- Start up Page

3.1 Log on page

Overview

- User Log on
- Add user
- Delete user

3.1.1 User Log on

Overview

The login page is the first page of the GUI after starting up the software.

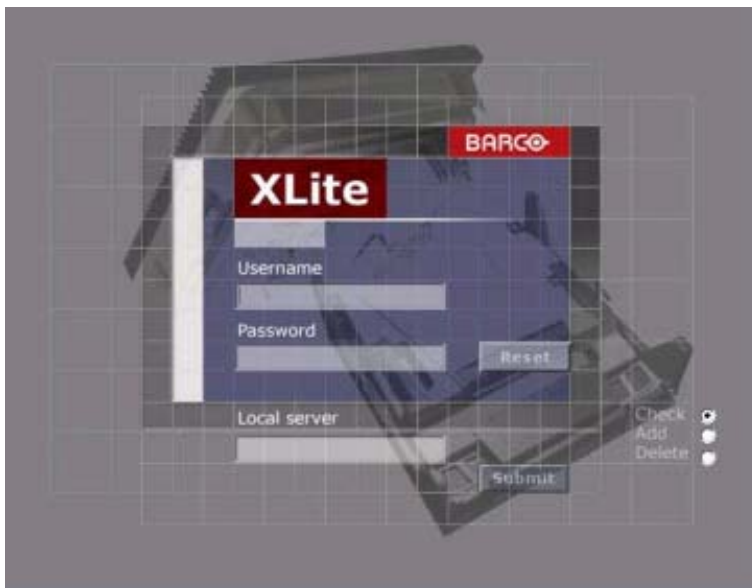


Image 3-1
Log on page

There are 3 actions you can do on this page:

- check
- add
- delete

This is specified with the 3 radio buttons (right corner of the login screen).

When user name and password are filled in, with the button both boxes can be cleared.

Check

1. Check the check radio button. (image 3-2)
2. Fill in a user name and password.

3. Logging On

3. Click on submit to login.

The software validates the entry.

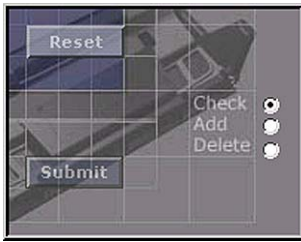


Image 3-2

3.1.2 Add user

Add

1. Enter a specific user name and password.
2. Check the add radio button. (image 3-3)
3. Click on *submit* to add the new user.

A confirmation screen will be displayed. (image 3-4)

4. Click on *Click here to return to the logon page* to return to the logon page.

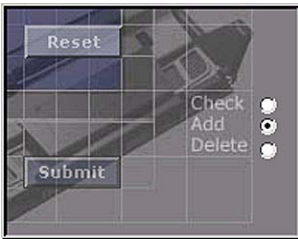


Image 3-3

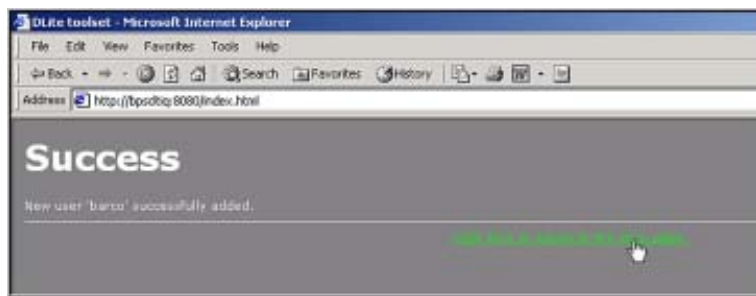


Image 3-4

3.1.3 Delete user

Delete

1. Enter the user name and password.
2. Check the delete radio button. (image 3-5)
3. Click on *submit* to delete the user.

A confirmation screen will be displayed. (image 3-6)

4. Click on *Click here to return to the logon page* to return to the logon page.

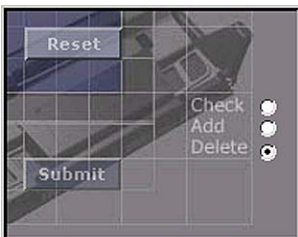


Image 3-5

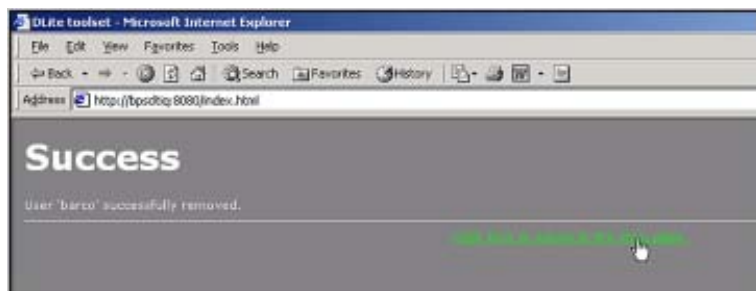


Image 3-6

3.2 Start up Page

Start up menu

When correctly logged on, the following start up menu will be displayed.

1. When a no configuration is detected, the software starts up with the Autodetect window.

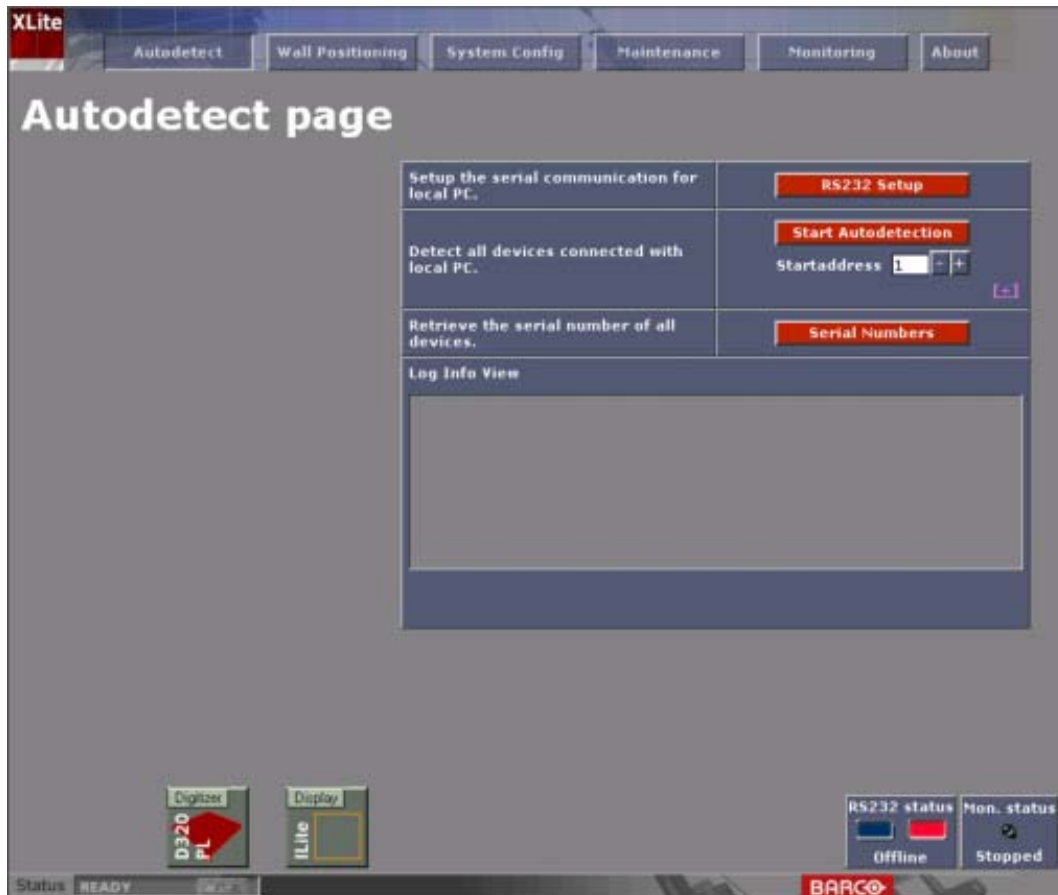


Image 3-7
Autodetect start up page

3. Logging On

2. When the configuration is known, but no wall positioning is already entered, the software starts up with the Wall Positioning window.



Image 3-8
Wall positioning start up page

- When everything is already configured (e.g. for an existing installation), the software starts up with the System Config window.

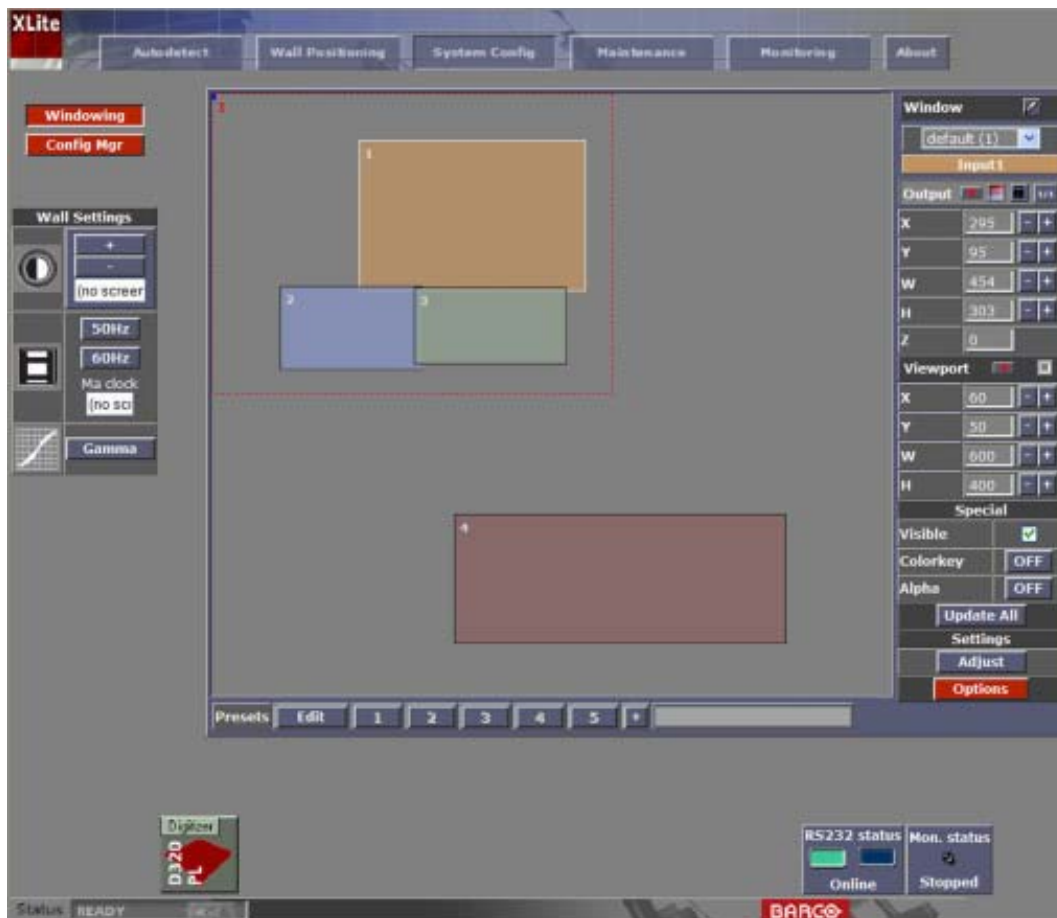


Image 3-9

Menu Structure Overview

The basic menus are built up in 4 frames:

- Top Frame for navigating the software.
- Main Frame for the application windows.
- Overview Frame for displaying the connected devices.
- Status Bar.

3. Logging On

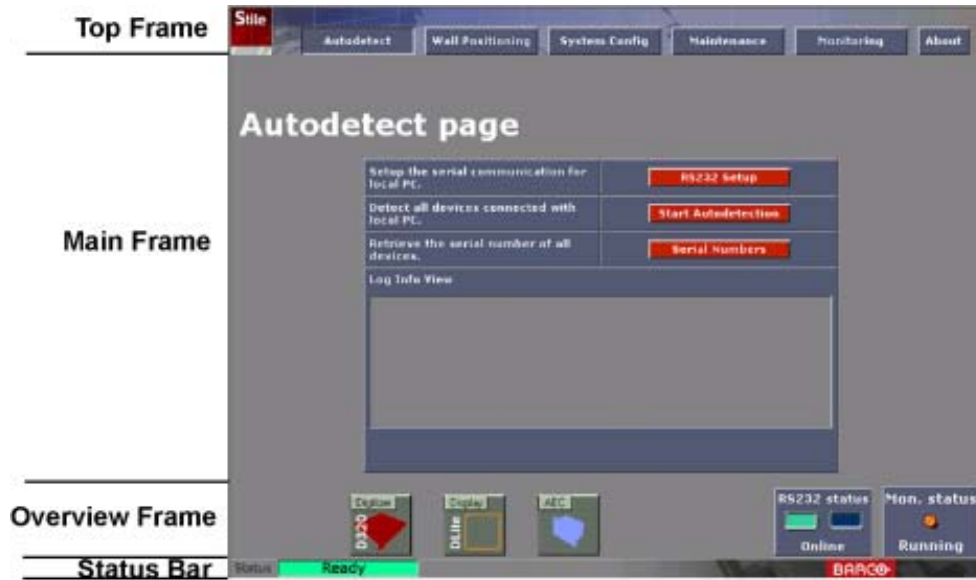


Image 3-10
Menu structure overview page

4. AUTODETECT PAGE

Overview

- Autodetect page startup
- RS232 Communication Settings
- Start Autodetection
- Reload parameters from devices
- Serial Numbers

4.1 Autodetect page startup

Start up

1. Click on *Autodetect*.

Note: Autodetection must be done on each occasion after logging on.

This window is used for the primary detection of devices connected to the local PC.

During autodetection, all devices will be addressed in the order in which they are detected in the data link. (image 4-1)



Image 4-1
Autodetect start up page

4. Autodetect Page

Status

The status bar can have 3 states :

- Busy : searching for devices or busy with calculating
- Loading : retrieving device information
- Ready : everything is loaded

Detected devices

Detected devices will be visible in the 'overview' frame.

Icons of detected devices will appear if connected within the system configuration.

The following icons are possible:



Image 4-2



Image 4-3



Image 4-4



Image 4-5



Image 4-6

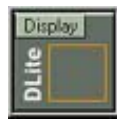


Image 4-7

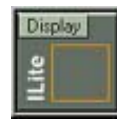


Image 4-8



Image 4-9



Image 4-10



Image 4-11



Image 4-12



Image 4-13



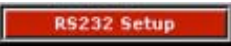
Image 4-14



Image 4-15

4.2 RS232 Communication Settings

Start up

1. Click  to reveal the RS232 parameter box. (image 4-16)

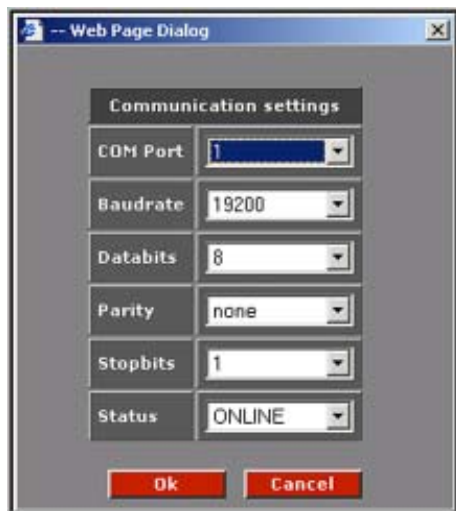


Image 4-16
RS232 Communication settings

Parameter values

Adjust the parameter values to suit the serial RS232 communication values between the local PC and Digitizer.

Default values will already be filled in.

Communication port	Change the Communication port to the serial port as used for connecting the PC to the Digitizer.
Baudrate	Read only value. Set up on 19200.
Databits	Read only value. Set to 8.
Parity	Read only value. Parity is set to none. No parity check is used.
Stopbits	Read only value. Stopbits is set to 1.
Status	This setting is very important as it indicates as to whether the software commands have effect on the system being talked to by the XLite ToolSet software. When online all commands are sent and acted on, when off-line all commands are not sent to the system devices.

When the Status is set to 'off-line', during some adjustments in system configuration a message will appear to asked if you want to stay working offline.(image 4-17)

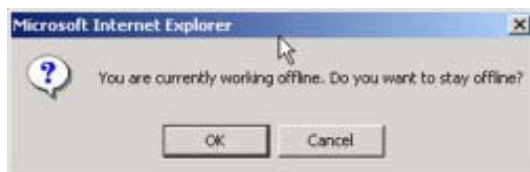


Image 4-17

To stay working off line, click on OK. To return to online, click Cancel.

To finish the Communication settings:

- When the values are entered, click on **Ok** to update any changes made
- Click on **Cancel** to exit without updating any changes and leaving the existing values unchanged.

Quick Status Change of RS232

Click on the non selected square of the RS232 window to change the status.



Image 4-18

Status change RS232

When a green square is visible : online

When a red square is visible : offline

4.3 Start Autodetection

What will be executed?

Depending on the download mode the following will be executed during an autodetection:

Normal download mode (by default):

- Detection of all devices
- Addressing of all devices
- Downloading of device parameters

4. Autodetect Page

Simple download mode:

- Detection of all devices
- Addressing of all devices

Status info will be given in the *Log Info View* field during the downloading procedure.



Image 4-19

Wait until the status bar indicates 'Ready' before proceeding with further operations. Continuing with further operations could result in the program locking due to conflicts in communication sending and receiving.

Check in the 'Log Info View' that detection has finished successfully, if so: continue and go to chapter "Wall Positioning Page", if not: check the system devices and the cabling connections between them. Also check all device have been switched on and are in full operational mode.



Repeat the **Start Autodetection** procedure once again if a rectified problem prevented successful detection originally.

Set up of the Start address

The start address can be filled out by entering with the digit keys. Default = 1.

Set up the download mode

1. Click on the + button just below *Start address*. (image 4-20)

The download options become available. (image 4-21)

2. Click on the desired radio button to select the download mode.

Normal download	Default selected. Devices will be detected, addressed and all necessary parameters will be downloaded during an auto-detection.
Simple download	Devices will be detected, addressed and only the basic parameters will be downloaded from these devices. This option is faster, but may result in undefined values for certain settings. Practical use : hot swap of a tile. Tile can be detected and addressed. Then tile can be first calibrated etc. and then a download parameters of all devices can be executed.



Image 4-20
Select download options



Image 4-21
Download options

Start up the Autodetection

1. Click on **Start Autodetection** to initiate the detection process.

Detected devices will be visible in the 'overview' frame.

Available icons

The following icons of detected devices will appear if connected within the system configuration.



Digitizer D310



Digitizer D320

4. Autodetect Page



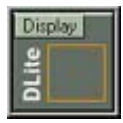
Digitizer D320L



Digitizer D320Lite



Digitizer D320PL



DLite Display



ILite Display



SLite Display



MD Display



OLite Display



MiPix Display



FiberLink



FiberLink 2



AEC

4.4 Reload parameters from devices

When can it be applied ?

A reload is mostly useful after an auto-detection has taken place with simple download mode.

The devices parameters will be downloaded locally.

How to reload ?

1. Click on the **Download Parameters** button.

The parameters of all devices will be reloaded.

4.5 Serial Numbers

Start up

1. Click on **Serial Numbers** to initiate the serial detection process.
2. A pop up screen appears to ask to display the information in a separate window. (image 4-22)
3. Do you want the overview in a separate window?
If yes, click ok (image 4-23)
Note: *Print out this page or save this page in a text file for later use.*
If no, click **Cancel**. (image 4-24)



Image 4-22

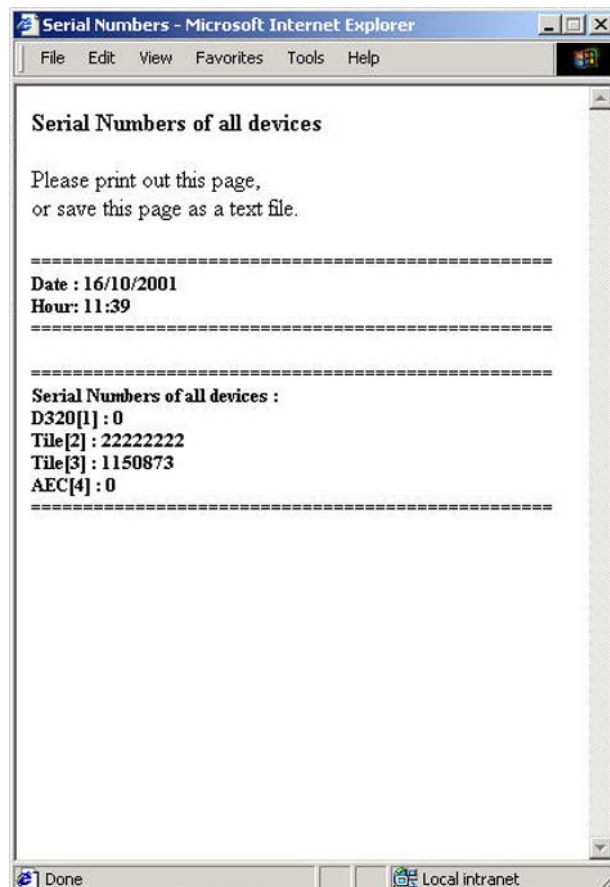


Image 4-23

Serial numbers on separate page

4. Autodetect Page



Image 4-24
Serial numbers on Autodetect page

5. WALL POSITIONING PAGE

Overview

- Start up
- Grid positioning
- Manual Positioning
- MiPix Configurator

5.1 Start up

Why?


The next step after the *autodetection*, is wall positioning.

This is necessary to position the LED wall in the total video output field.

Two ways are possible to position the tiles:

- Grid positioning, automatic positioning of the tiles.
- Manual positioning.

Start Up

1. Click on  to start up the wall positioning page. (image 5-1)

Selection between Grid positioning and Manual positioning is possible for DLite, ILite, ILite MD and SLite displays.

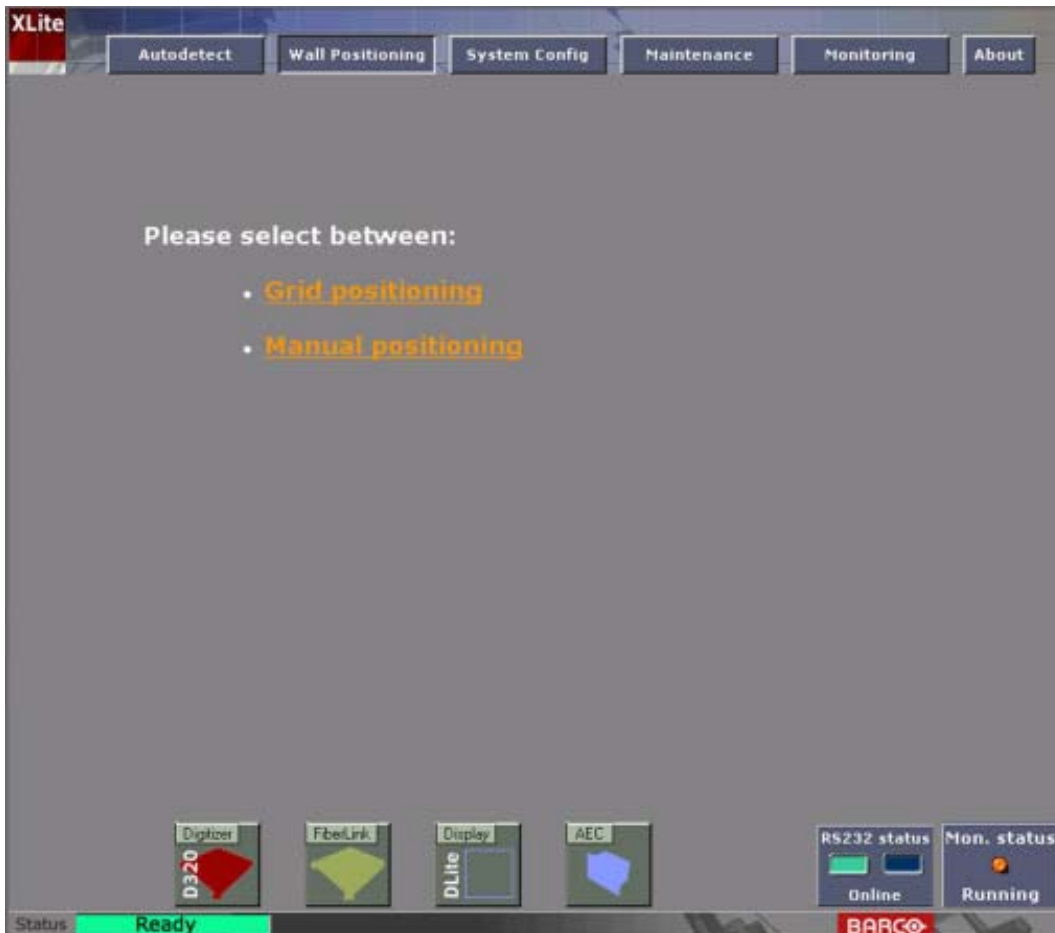


Image 5-1
Wall positioning start up page

5.2 Grid positioning

Overview

- Selecting Grid positioning
- Grid Dimensions
- Define the Tile Linkage
- Wall Positioning for DLite, SLite, OLite and ILite walls
- Wall Positioning for MiPix
- MiPix setup

5.2.1 Selecting Grid positioning

Why?

The Grid positioning positions automatically all tiles. It provides the possibility to define the start-position (upper left corner), and also the tile resolution of the LED wall.

Start Up

1. Click on *Grid positioning* to start up the wall positioning page. (image 5-2, image 5-3, image 5-4)
Note: When 'include' in 'Tile Linkage' is not checked, the dark orange square is not a tile.

The dark-orange field corresponds with the start of the data linkage.

Every orange square on the wall positioning screen corresponds with a tile in the wall or with a string when MiPix.

For ILite 6/8/10/12, DLite, SLite and OLite

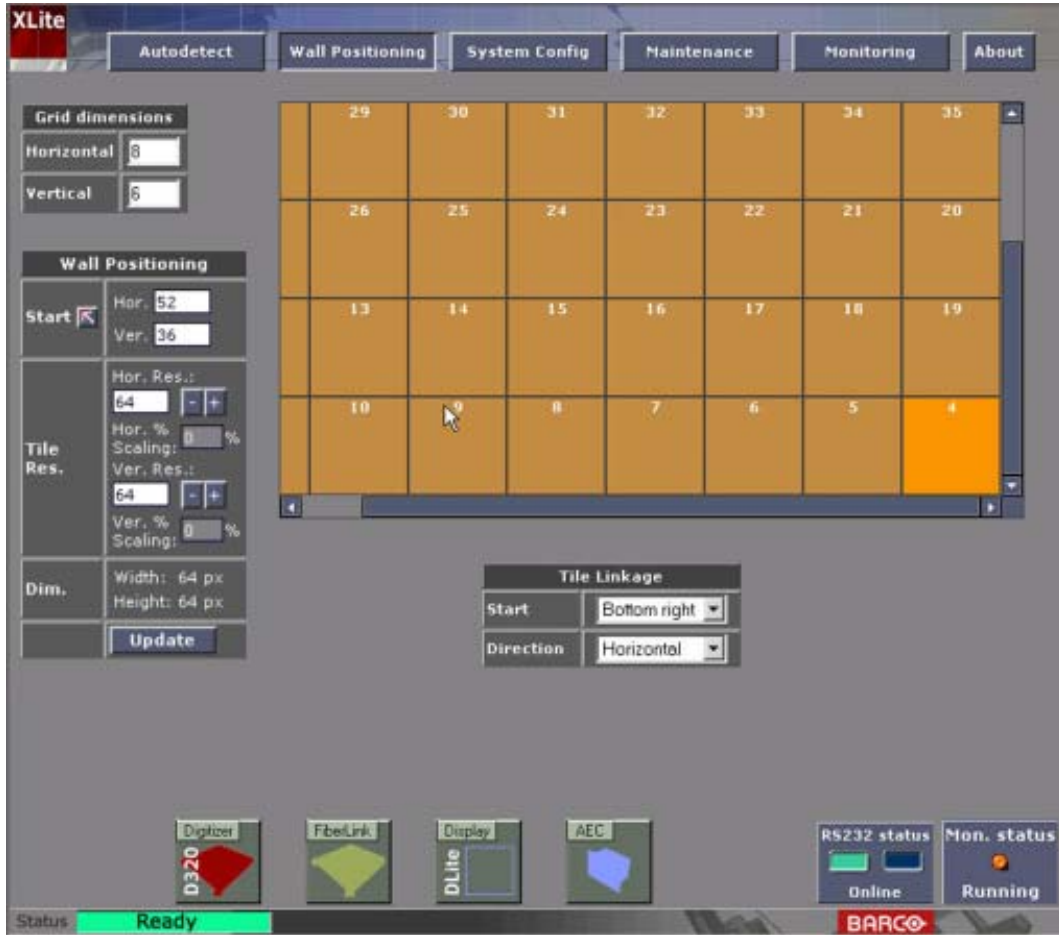


Image 5-2
Wall position start page after Grid positioning (for DLite, SLite, OLite and ILite 6/8/10/12).

5. Wall Positioning Page

For ILite 3:

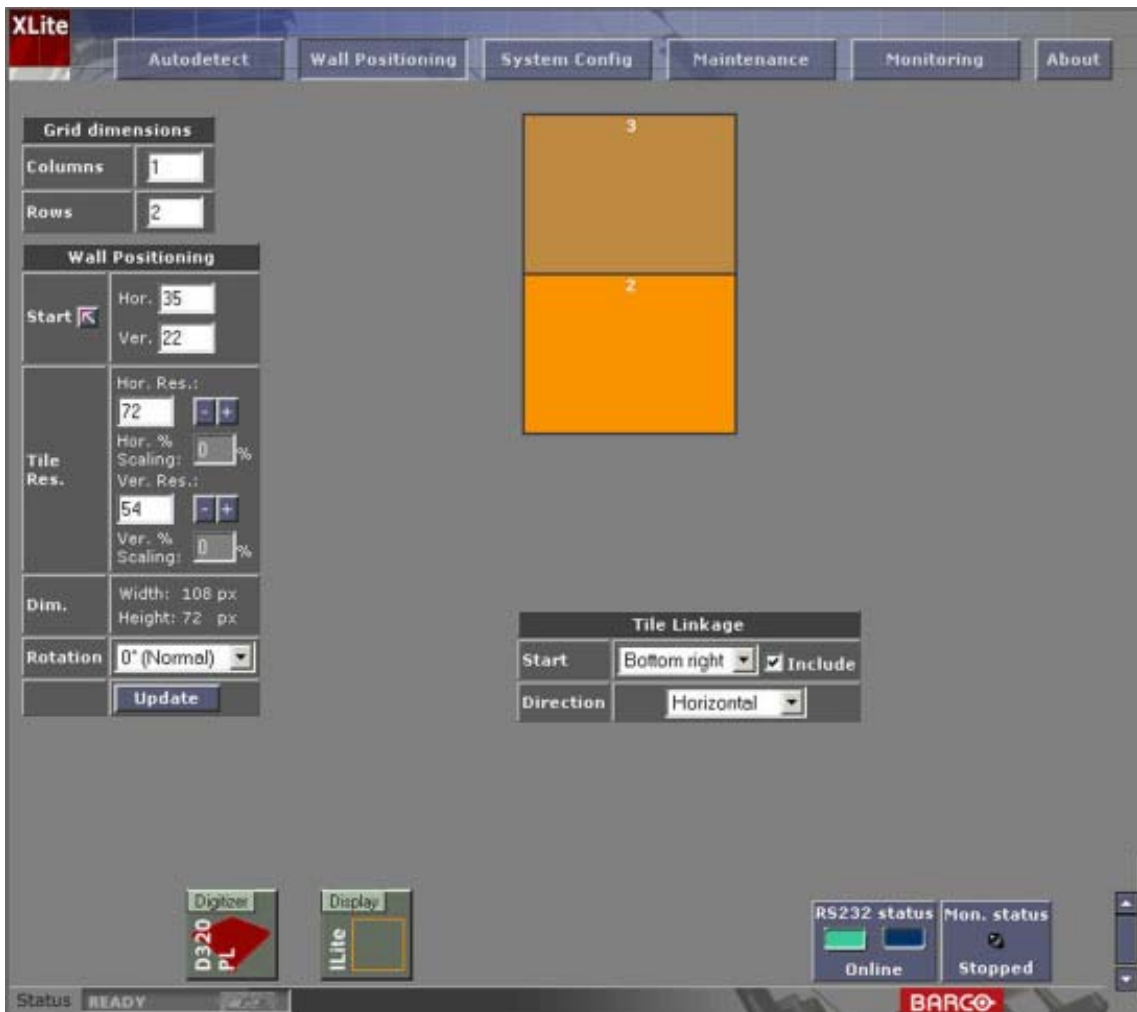


Image 5-3
Wall positioning start page after Grid positioning (for ILite 3)

For MiPix :

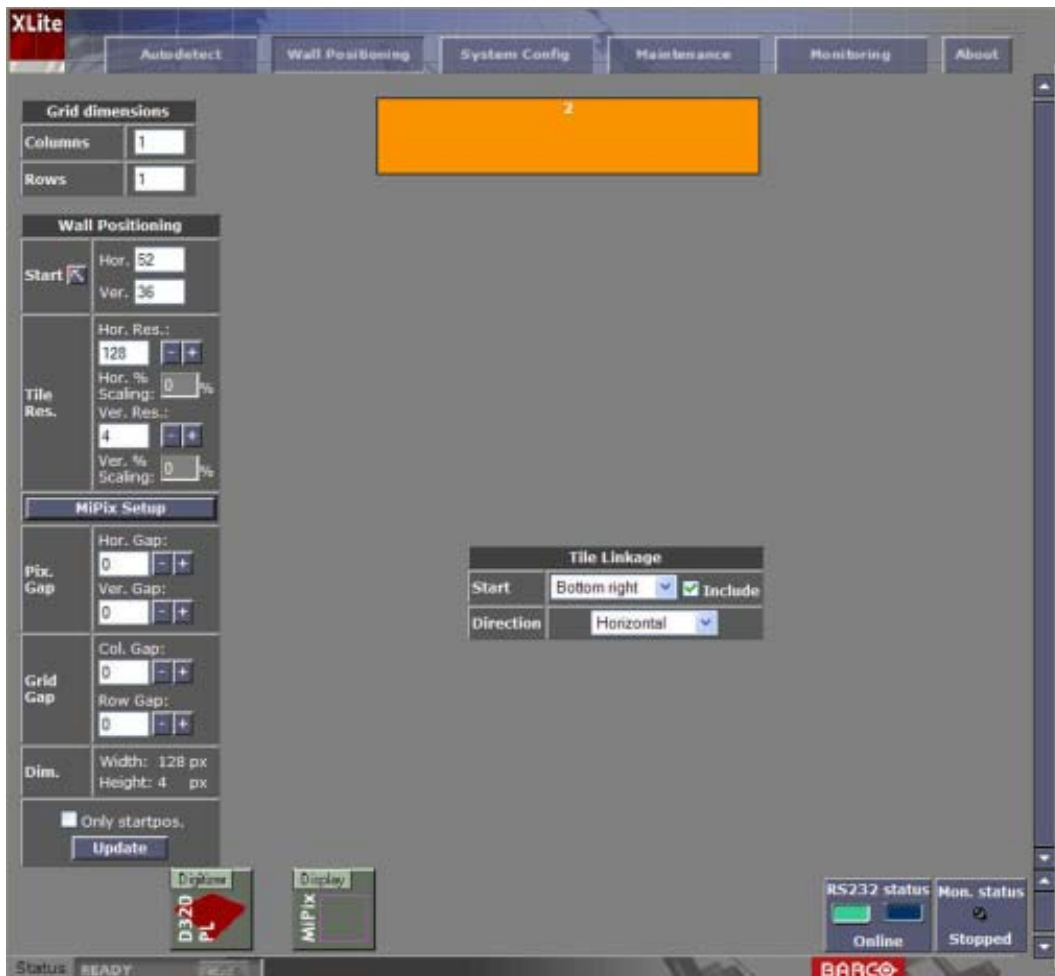


Image 5-4
Wall positioning start page after Grid positioning (for MiPix)

5.2.2 Grid Dimensions



In a stack configuration, wall positioning has to be done for each screen of the display.

Horizontal (Rows)

Fill in the number of tiles horizontally, which form the display area.

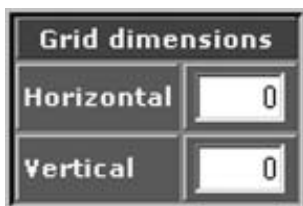


Image 5-5

Vertical (Columns)

Fill in the number of tiles vertically, which form the display area. image 5-5

5.2.3 Define the Tile Linkage

Start

This refers to the data link orientation. Select the start corner of the data cable while viewing the screen from the front. This is the location of the first tile (the tile that is connected directly to the Digitizer or FiberLink RX) in the display.

Possible positions :

- Bottom left
- Bottom right
- Top left
- Top right



Image 5-6

Direction

Direction specifies how the tiles of the LED wall are linked together. image 5-6

Select the data link direction, either horizontally or vertically, according to the data cabling path. It is recommended that this is normally done horizontally to make possible trouble shooting more easy.

The dark-orange field in the GUI corresponds with the start point of the data linkage.

When *Include* is checked, the first tile is incorporated.

Tile Addressing

Individual addresses are given in accordance to the sequence in which devices are detected during the Auto Detection procedure. Hence addresses start with the digitizer and follow the data cabling path to sequential address all other devices. It is not possible to manipulate the addresses manually.

5.2.4 Wall Positioning for DLite, SLite, OLite and ILite walls

Start

Give up the coordinates in pixels for the horizontal and vertical start position of the upper left corner of the wall.

Normal values are :

- Horizontal = 52
- Vertical = 36

For ILite 6/8/10/12, DLite,
SLite and OLite



Image 5-7

For ILite 3



Image 5-8

Tile resolution

Give up the tile resolution in pixels. (image 5-7)

The tile resolution depends on the type of wall.

Maximum default values are already filled in for the connected display. To change the resolution click on the - or + button next to *horizontal* or *vertical*. The up scaling indication will change while clicking on the + or - button.

Dimensions

Overview of the wall dimensions.(image 5-7)

Rotation (only for ILite 3)

The result of combination of ILite 3 tiles can be landscape or portrait. As the content can be created in the other direction, it is possible to rotate the content so that is perfectly displayed.

To rotate the content, click on the drop down box next to Rotation and select the desired rotation.

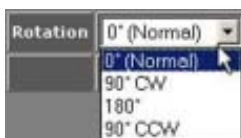


Image 5-9
Rotating content for ILite3

The following rotations are possible:

- normal
- 90° clockwise
- 180°
- 90° counter clockwise

Update

Click on  to apply this wall positioning.

5.2.5 Wall Positioning for MiPix

Start

Give up the coordinates in pixels for the horizontal and vertical start position of the upper left corner of the MiPix wall.

Normal values are :

- Horizontal = 52
- Vertical = 36



Image 5-10

Tile resolution

The resolution depends on the selected working mode for MiPix.

The maximum default values are already filled in for the connected display. To change the resolution click on the - or + button next to *horizontal* or *vertical*. The up scaling indication will change while clicking on the + or - button.

MiPix setup

For more explanation see "MiPix setup", page 37.

Pixel gap

Number of pixels between 2 MiPix units.

Grid gap

Number of pixels between 2 strings (chains) of MiPixes. Column way and row way.

Dimensions

Overview of the wall dimensions.

Update

Click on  to apply this wall positioning.

When *Only start pos* is checked, only the start positions of each MiPiX module will be sent. This is a faster update as the pixel mapping will not be sent to the MiPiX modules.

5.2.6 MiPix setup

Start up and Introduction

1. Click on  button.

The Device set up window appears. (image 5-11)

Overview of the specific areas in the device set up window:

- 1 Working mode selection
- 2 String setup (chain)
- 3 Direction string (chain)
- 4 Number of blocks per string (chain). Maximum allowed : 32
- 5 Preview area
- 6 Preview color index

For a chain configuration, one module can contain maximum 4 chains and each chain can contain 32 blocks. Each block is 4 pixels.

For a tile configuration, one module can contain 1 tile with 4 nested chains in it. Each chain contains 32 blocks. Each block is 4 pixels.

For a custom configuration, one module can contain maximum 4 strings of blocks which can be placed at random. Each string can contain 32 blocks. Each block is 4 pixels.

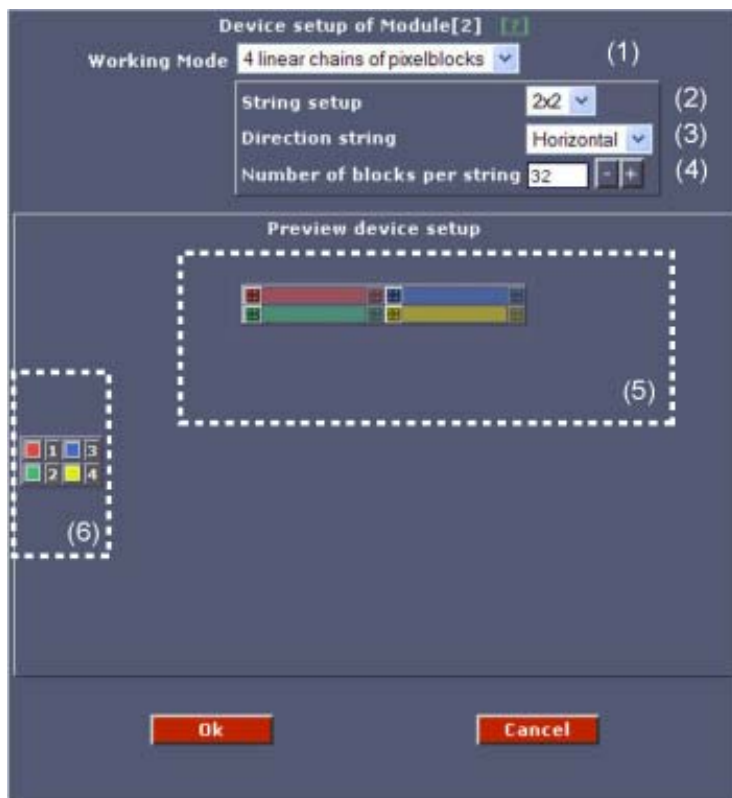


Image 5-11
MiPix device setup window

Working mode

1. Click on the drop down box and select the corresponding working mode.

5. Wall Positioning Page

Available working modes:

4 linear chains of pixelblocks : One module can contain 4 different chains of blocks which can be placed 2 x 2 or 4 x 1 or 1 x 4, depending on the direction.

Tiles Rental : 11 x 11 blocks

Tiles : 11 x 11 blocks

Custom pixel-mapping : blocks can be placed as desired on the working field.

Working mode : 4 chains of pixelblocks

1. Click on the drop down box and select *4 linear chains of pixelblocks*. (image 5-12)

2. Select the *String setup* by clicking on the drop down box.

The choices will be different for Vertical and Horizontal:

Vertical

- o 2x2
- o 1x4
- o 4x1

Horizontal

- o 2x2
- o 1x4

3. Select the *String direction* by clicking on the drop down box.

Possible choices:

- Horizontal
- Vertical

Overview drawings: (image 5-13)

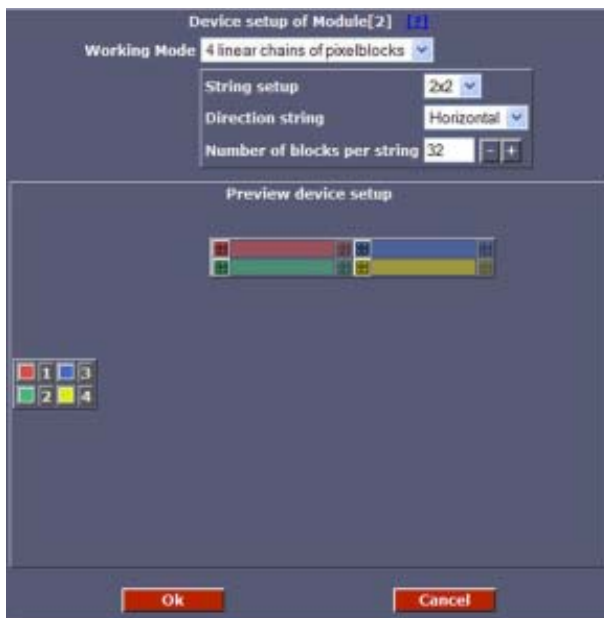


Image 5-12
Linear chain setup

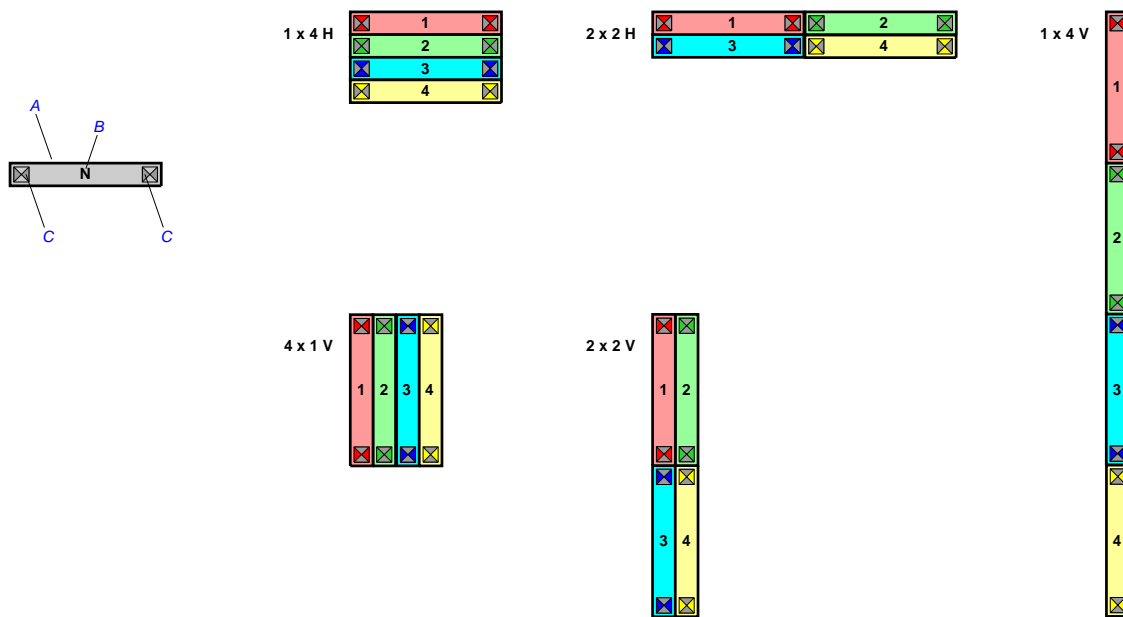


Image 5-13
Configuration overview

- A Chain
- B Port number (see installation manual for more explanation)
- C Possible start position of data connection

Working mode : Rental tiles 11 x 11 blocks

1. Click on the drop down box and select *tile Rental : 11 x 11*.
The corresponding preview window will be displayed. (image 5-14)

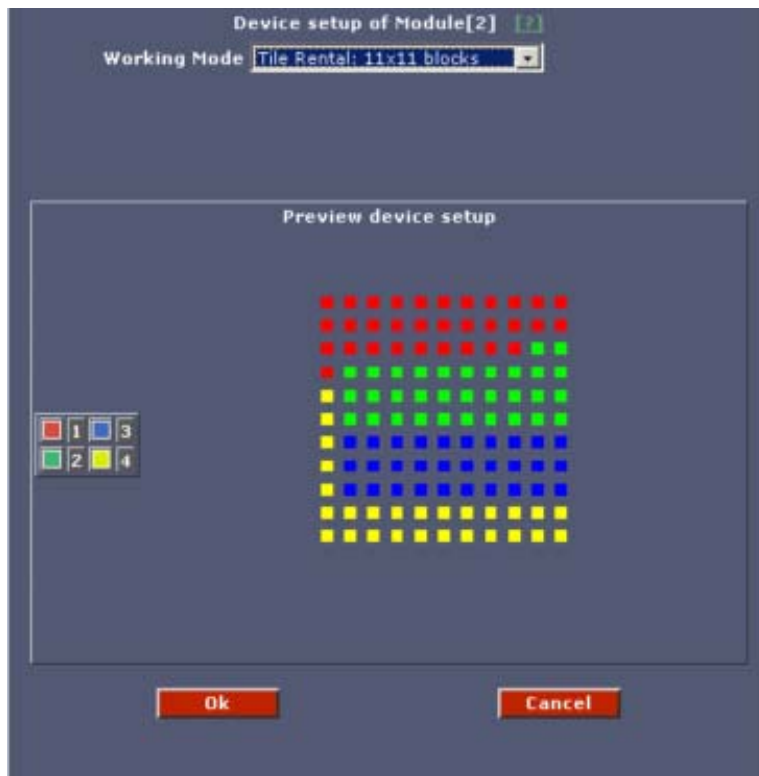


Image 5-14
Rental tile 11 x 11 setup

Working mode : 11 x 11 tiles

1. Click on the drop down box and select *tile : 11 x 11*.

The corresponding preview window will be displayed. (image 5-15)

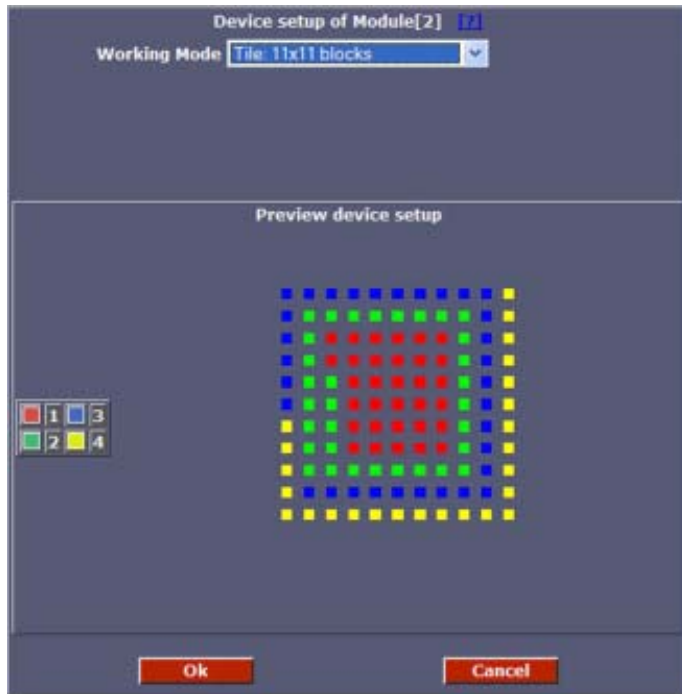


Image 5-15
11 x 11 tile setup

Working mode : Custom pixel-mapping

1. Click on the drop down box and select *Custom pixel-mapping*.

A corresponding preview window will be displayed. (image 5-16)

2. Click **OK**.

The MiPix configurator applet will be loaded (see "MiPix Configurator", page 49 for more explanation).

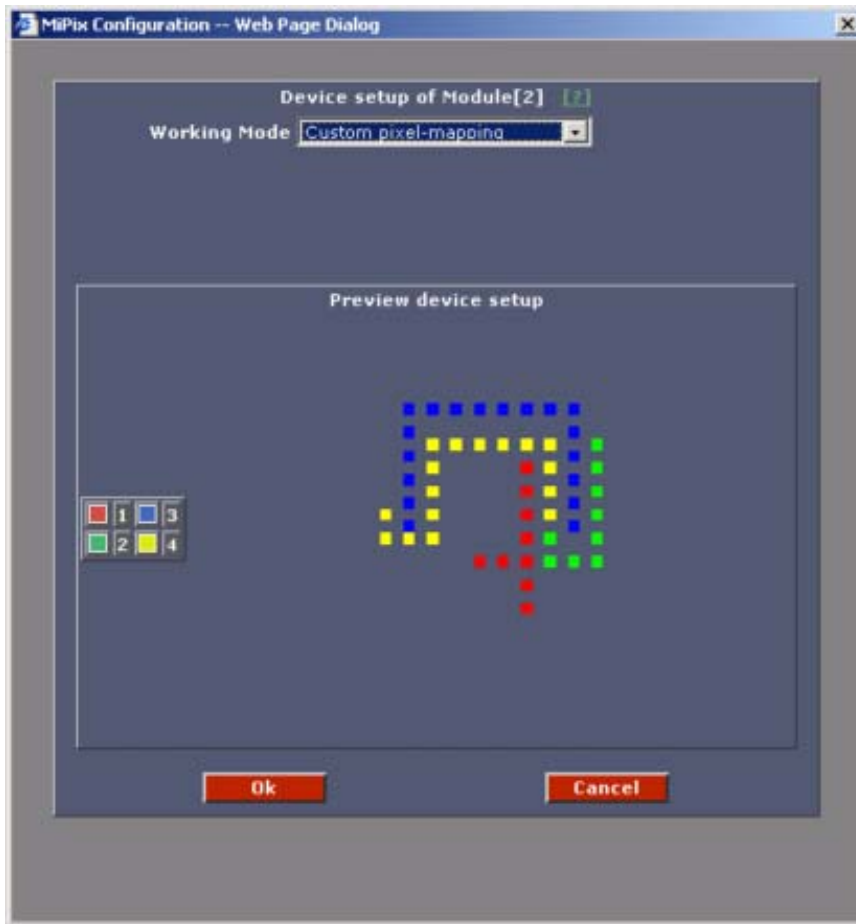


Image 5-16
MiPix custom pixel-mapping selection

5.3 Manual Positioning

Overview

- Selecting Manual positioning
- Selection mode
- Cutout coordinates for DLite/SLite/ILite/OLite
- Cutout coordinates for MiPix
- String functions for MiPiX
- Export Cutout coordinates

5.3.1 Selecting Manual positioning

Why?

The *Manual positioning* makes it possible to position your tiles in the way you want to have them.

Start Up

1. Click on *Manual positioning* to start up the wall positioning page. (image 5-17, image 5-18)

Note: When 'include' in 'Tile Linkage' is not checked, the dark orange square is not a tile or string for MiPix.

5. Wall Positioning Page

The dark-orange field corresponds with the start of the data linkage.

Every orange square on the wall positioning screen corresponds with a tile in the wall.

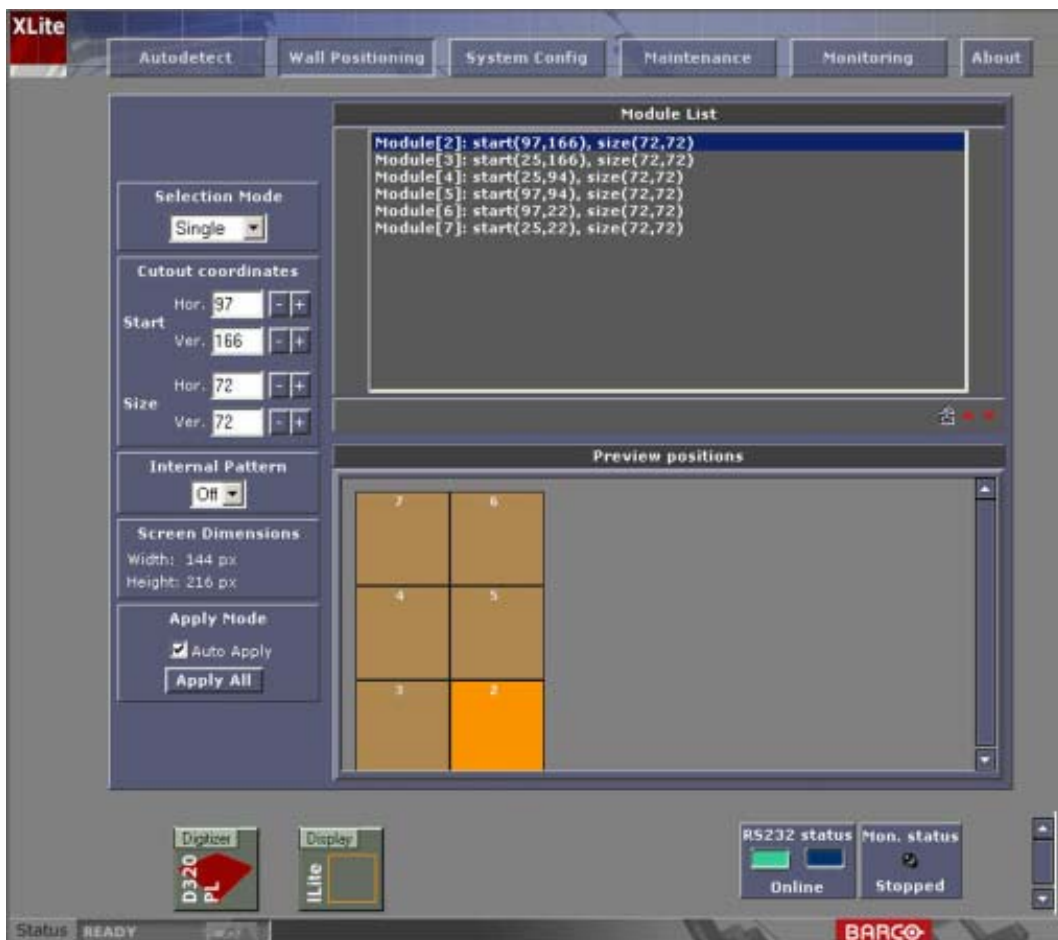


Image 5-17
Wall positioning page for manual positioning for D//S/OLite

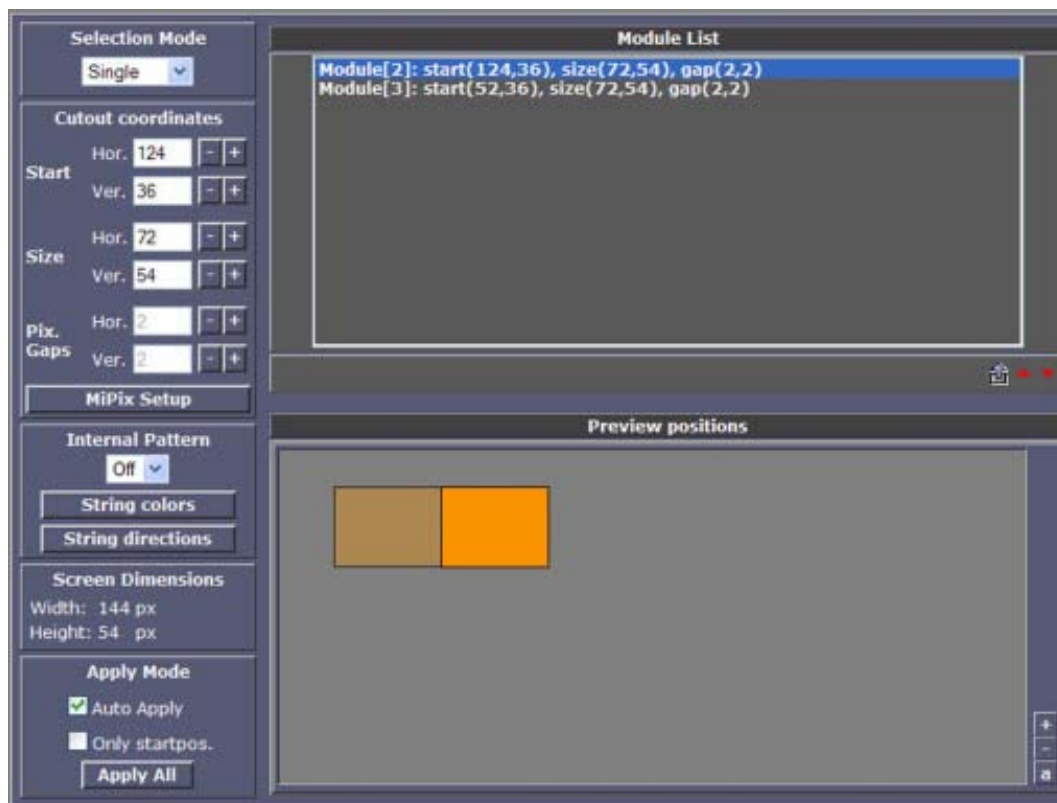


Image 5-18
Wall positioning page for manual positioning for MiPix

5.3.2 Selection mode

Possibility

Tile selection can be done on a single base or on a multiple base. When multiple tile (strings for MiPix) selection is done, moving the tiles at once are possible.

Set up of the selection mode

1. Click on the drop down box just below Selection mode. (image 5-19)
The drop down box opens. *Single* or *Multiple* are possible.
2. Select the desired mode.



Image 5-19
Selection mode

How to make a multiple selection

1. If the tiles (strings for MiPix) you want to select are just below each other in the Module list, push the **Shift** button and click with your mouse on the first and a last one in the desired selection. (image 5-20)
The selected tiles (strings for MiPix) become orange.
2. If the tiles (strings for MiPix) you want to select are not below each other in the Module list, push the **CTRL** button and click with your mouse on each tile (string for MiPix) you want to select. (image 5-21)
The selected tiles (strings for MiPix) become orange.

5. Wall Positioning Page

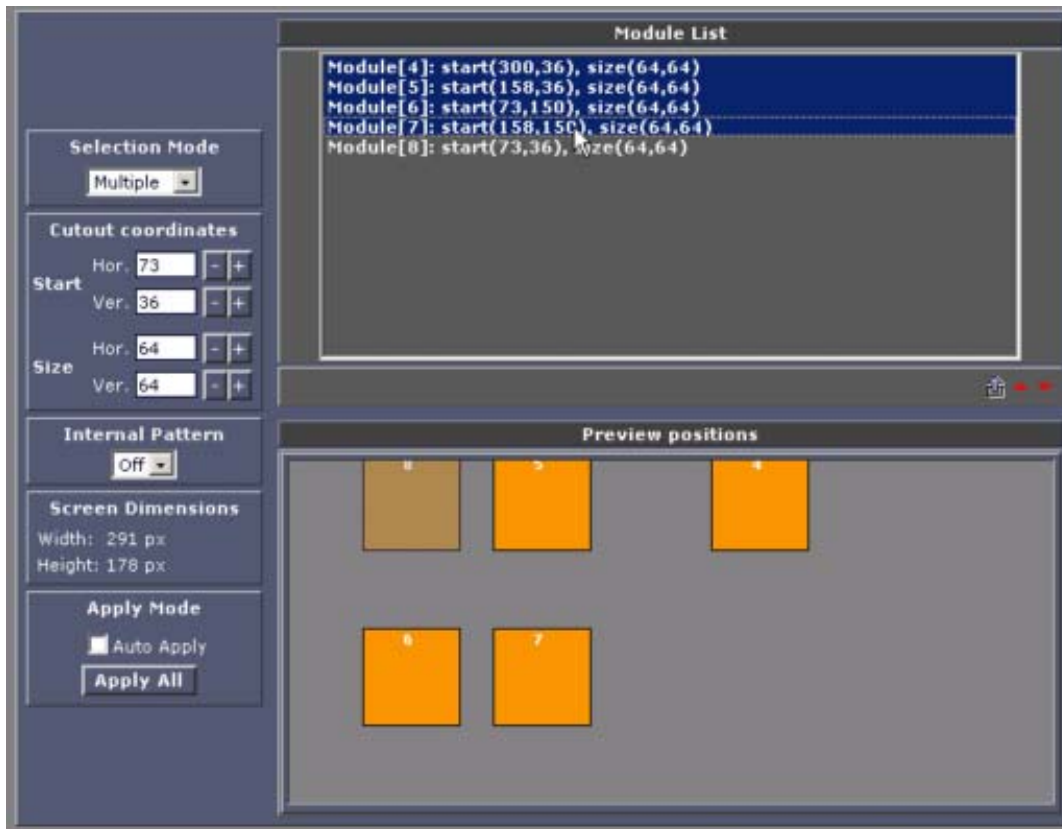


Image 5-20
Multiple selection via Shift button

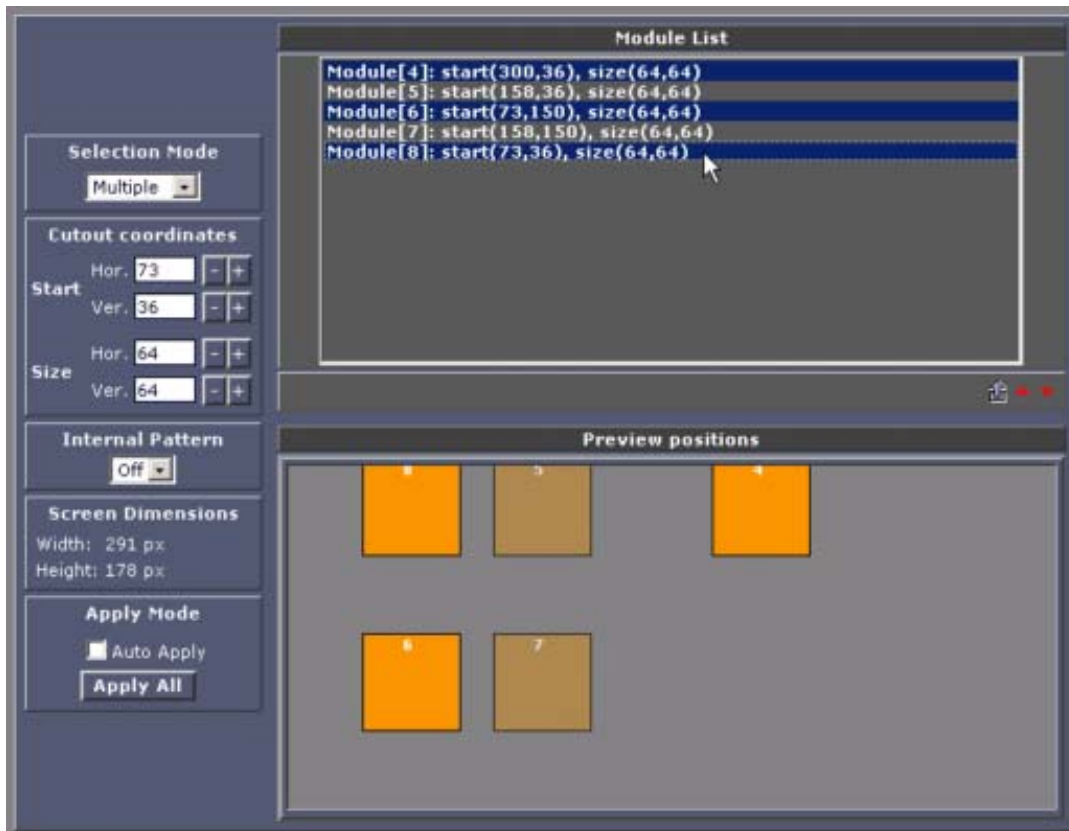


Image 5-21
Multiple selection via CTRL button



To physically see which tile is selected in the wall, switch *Internal Patterns* from *Off* to *On*. The selected tile will display an internal pattern.



To scroll true the file list, use the red up or down arrows in the right bottom corner of the Module list pane.

5.3.3 Cutout coordinates for DLite/SLite/ILite/OLite

What can be filled out

The start coordinates determine the position of each tile in the wall. These coordinates have to be entered for each tile.

The size values determine the displayed resolution of the image. To calculate these values, starting from the native tile resolution, use the following formulas:

Vertical Size = (image width / display width) * maximum tile resolution.

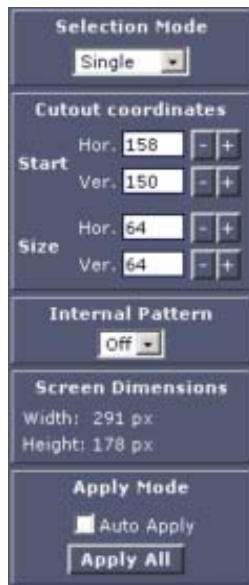
Horizontal Size = (image height / display height) * maximum tile resolution

The result of the calculation should be rounded to the lower digit. These result values for Vertical Size and Horizontal Size should be entered for each tile. When the values are lower than the tile resolution, the image will be scaled (enlarged) to be displayed on the hole screen.

If you use the native resolution of the tile (depending on the type of wall) instead of the calculated values, the image will only be displayed on a part of the wall instead of on the hole wall.

How to fill out the cutout coordinates

1. Fill out the start position (horizontal and vertical) of the tile by clicking on the input field and entering the value with the keyboard. (image 5-22)
Or,
click on the - or + button next to *Horizontal* or *Vertical*.
2. Calculates the pixels size with the above mentioned formulas.
3. Click in the input fields and enter the appropriate value with the keyboard.
Or,
click on the - or + button next to *Size Hor.* or *Size Vert.*



The image shows a software interface titled "Selection Mode". It features a dropdown menu set to "Single". Below this, there are two sections: "Cutout coordinates" and "Internal Pattern". The "Cutout coordinates" section has two rows: "Start" and "Size". Each row has two input fields, "Hor." and "Ver.", with increment (+) and decrement (-) buttons. The "Start" row has values 158 and 150, and the "Size" row has values 64 and 64. The "Internal Pattern" section has a dropdown menu set to "Off". Below that, the "Screen Dimensions" section shows "Width: 291 px" and "Height: 178 px". At the bottom, there is an "Apply Mode" section with a checked "Auto Apply" checkbox and an "Apply All" button.

Image 5-22
Cutout coordinates

Screen dimensions

Overview of the wall dimensions are given in pixels.

Apply mode

When Auto apply is checked, the changes will be applied immediately to the wall (online mode).

When the Auto apply is not checked, off line working is possible. Everything can be changed. Click then on **Apply All** to send all changes to the wall.

5.3.4 Cutout coordinates for MiPix

What can be filled out

The start coordinates determine the position of each string in the wall. These coordinates have to be entered for each string.

The size values determine the displayed resolution of the image. These values are filled out when the working mode is selected.

Pixel gap : the horizontal and vertical distance between two MiPix blocks.

How to fill out the cutout coordinates

1. Fill out the start position (horizontal and vertical) of the string by clicking on the input field and entering the value with the keyboard. (image 5-23)
Or,
click on the - or + button next to *Horizontal* or *Vertical*.

2. Click now first on **MiPix Setup** button before changing any values for size and pixels gap.

For a complete explanation about MiPix setup, see "MiPix setup", page 37.

When finishing the MiPix setup, the Size and Pixel gap will be filled out.

3. As the size is already filled out, small corrections can be made to the horizontal and vertical size.

4. The pixel gap can be freely adapted for string configuration.

The pixel gap for the tile mode is by default 2 pixels.

Image 5-23
Cutout coordinates MiPix

Screen dimensions

Overview of the wall dimensions are given in pixels.

Apply mode

When Auto apply is checked, the changes will be applied immediately to the wall (online mode).

When the Auto apply is not checked, off line working is possible. Everything can be changed. Click then on **Apply All** to send all changes to the wall.

When Only start pos. is check, only the start position of the modules will be sent to the wall when **Apply All** is clicked.

5.3.5 String functions for MiPiX

String colors

1. Click on **String colors**.

An internal pattern with fixed colors per string will be generated to check the string connections.

String 1 = red, string 2 = green, string 3 = blue and string 4 = yellow.

String directions

1. Click on 

A running light pattern is activated so that the directions of the strings can be checked.

5.3.6 Export Cutout coordinates

How to export

1. Click on the export icon in the Module list pane. (image 5-24)

The cutout coordinates will be displayed in a separate window. (image 5-25)

2. Print out this window or save it in text file for further use.

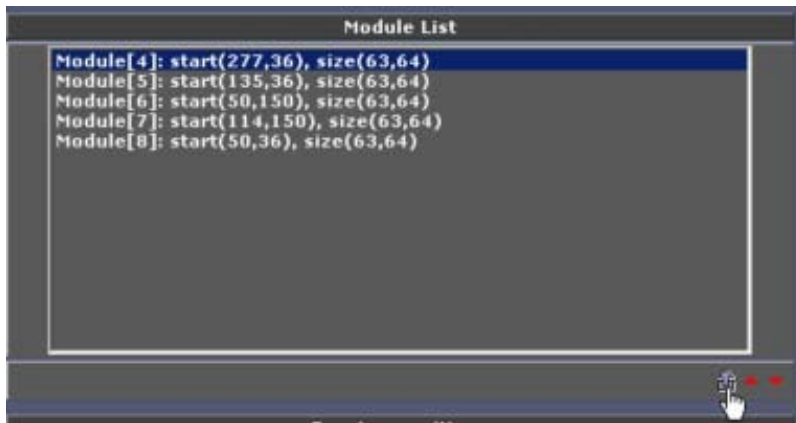


Image 5-24
Export data selection

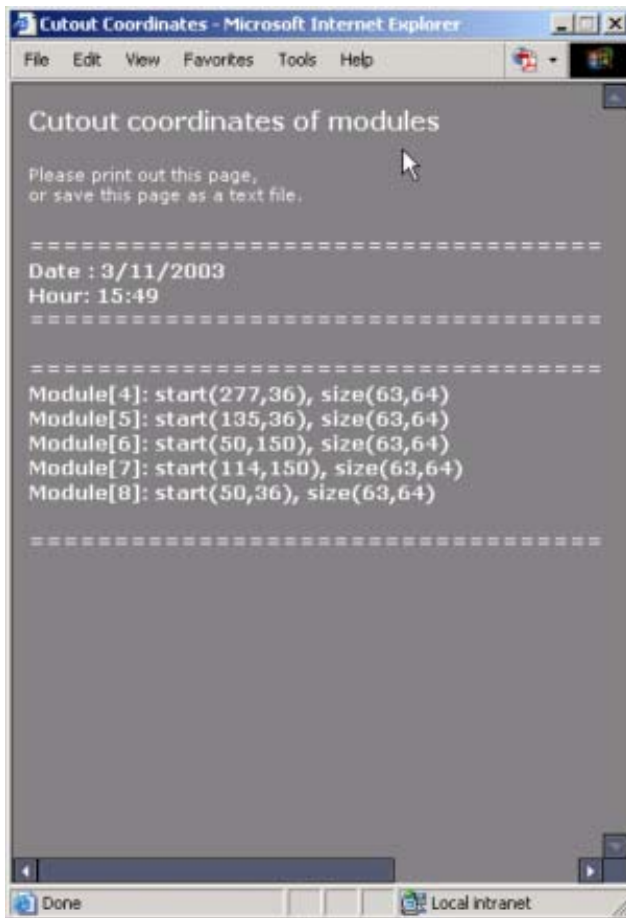


Image 5-25
Cutout coordinates exported

5.4 MiPix Configurator

Overview

- MiPix configurator overview
- Show preview stored design
- Create new design
- Add blocks to a design
- Edit existing design
- Block manipulations
- Delete a design
- Zoom in - Zoom out
- Associate designs to devices
- Internal pattern



When starting up the MiPix configurator for the first time, a security warning will be displayed. To avoid displaying this warning in the future, select Always.

5.4.1 MiPix configurator overview



Pixel block

One block, unit containing several pixels. E.g. 4 pixels. Each pixel can light up in the 4 different colors.

Objectives of the MiPix configurator

The MiPix configurator allows the user within the designer part of the configurator to place pixel blocks in a custom way on the workspace and create in that way a design (template) configuration. Therefore, two ways to place these pixels blocks in a workspace are possible.

- the manual way : this way can place the blocks from a particular string on any place in the workspace.
- the auto fill way : the software calculates the best position of the blocks within a viewport on the workspace.

Once the blocks are placed in one or the other way,

- it is possible to reposition each block
- to rotate a block for easy physical mounting of that block or to comply with the physical mounting.
- delete blocks or add extra blocks if still blocks left to be placed.

Once the design (template) configuration is finished, it can be saved. This design can now be associated with one or more controller modules (devices).

MiPix configurator window

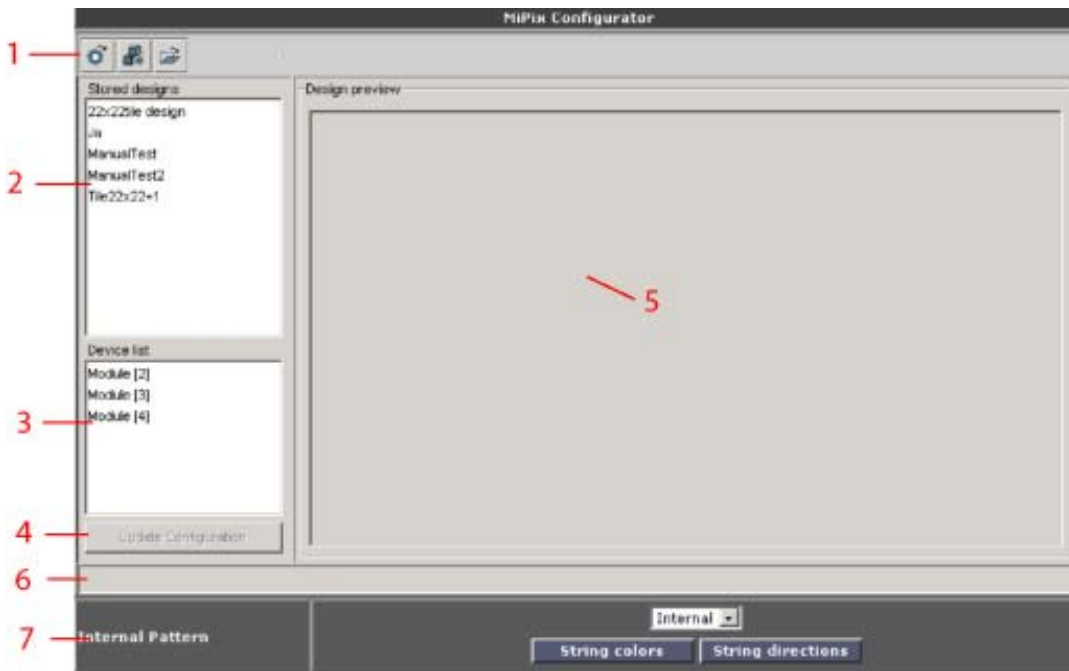


Image 5-26
MiPix configuration start up window

1. Tool bar
2. Stored designs (templates)
3. Device list (controller modules)
4. Update configuration
5. Design preview window
6. Status bar
7. Physical check with real wall.

5.4.2 Show preview stored design

What is possible ?

A preview of each stored design can be given in the preview pane.

How to show a preview ?

1. Single click on a design name in the *Stored designs* pane (1). (image 5-27)

A preview will be displayed in the preview pane (2).

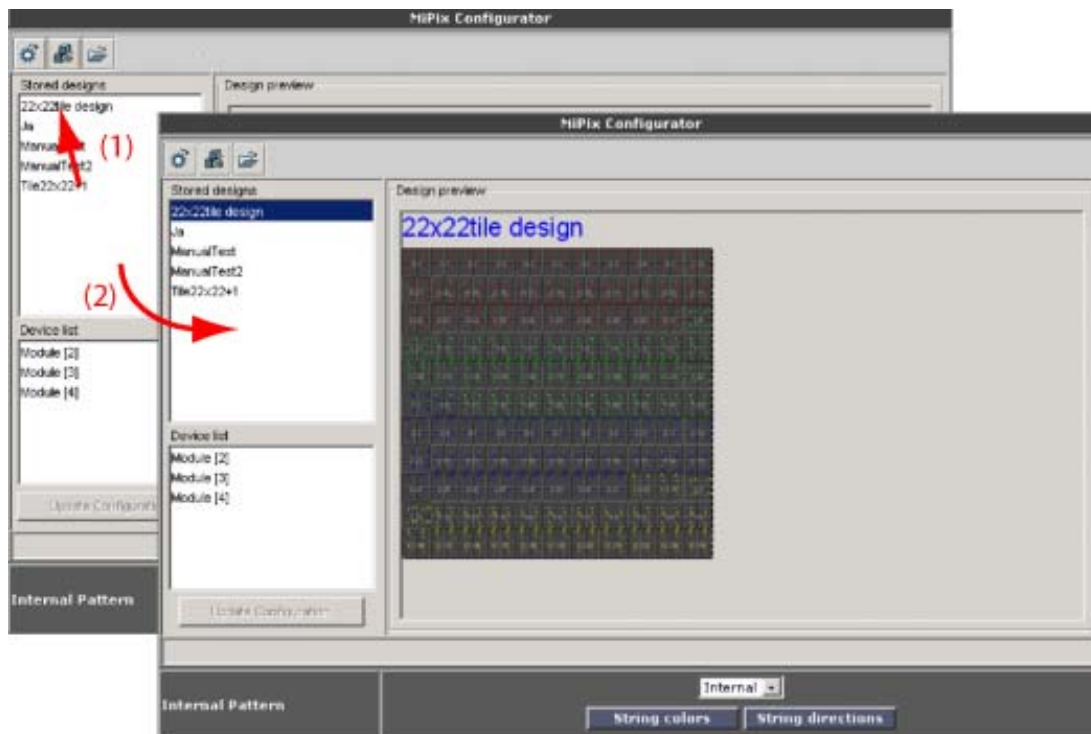


Image 5-27
Show preview


5.4.3 Create new design

Overview

- Start up
- New block configuration
- Outline in Grid
- Auto fill
- Advanced settings for auto fill
- Some typical examples where auto fill is very useful
- Manual fill
- Outline border On or Off
- The design window
- Save a design

5.4.3.1 Start up

How to start up ?

1. Click on *Create a new design* icon ().

The *New control block configuration* window opens. (image 5-28)

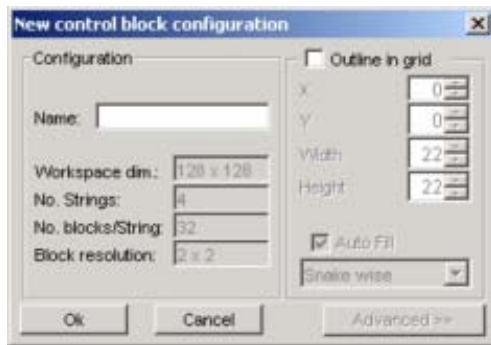


Image 5-28
New control block configuration window

5.4.3.2 New block configuration

Name

Enter a name for the new configuration.

Workspace dimensions (read only)

The workspace is the area where a design (template) can be created.

The workspace dimensions are limited by the hardware of the controller unit.

As only one controller unit is available (at the moment), only 128 x 128 pixels are possible.

Number of Strings (read only)

The number of strings are limited by the used controller. As many strings can be connected to the controller as the number of output ports mounted on this control.

Number of blocks per string (read only)

The number of blocks per string depends on the maximum number of pixels that can be driven by the used controller and by the number of pixels per block.

E.g. when using a controller with a maximum output of 128 pixels per output port and MiPix blocks of 4 pixels, then only 128 divided by 4, 32 blocks can be connected in one string.

Block resolution (read only)

Block resolution is the number of pixels available in one block. E.g. 2 x 2

The block resolution influences the number of blocks per string.

5.4.3.3 Outline in Grid

Definition

Outline in grid is a well defined area within the workspace to facilitate the user with placing its blocks on the design or to allow an auto fill. The outline is indicated by a well defined border which can be switched off and on again.

Defining a Outline in Grid

The outline is defined by its start position, its width and height.

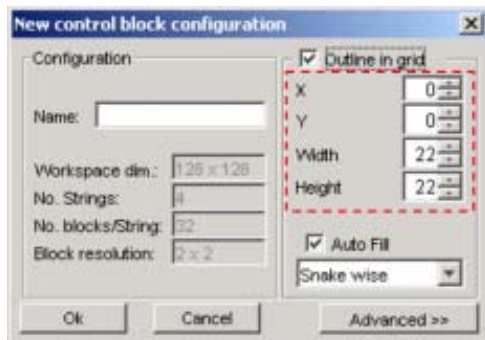


Image 5-29
Viewport in grid set up

Enter first the X and Y coordinate to define the start position. Therefore, click in the input field and enter the desired value or click on the up or down arrows next to the coordinate value until the desired value is reached.

Enter the desired width or height to define a viewport in grid. Therefore, click in the input field and enter the desired value or click on the up or down arrows next to the coordinate value until the desired value is reached.

5.4.3.4 Auto fill



Auto fill can only be activated when *Outline in Grid* is defined.

How to set up ?

1. Check the check box just before *Auto fill* (1). (image 5-30)

The auto fill function is activated.

2. Select the way auto fill should handle. Click in the drop down box (2) and select the desired way (3).

- **Snake wise**: the software starts by default in the upper left corner of the outline and goes from left to right until the boundaries of the outline are reached. Then it goes one down and continues from right to left. It starts with the first string, continues with the second string, then the third string and ends with the fourth string. It interrupts the auto fill when the outline is filled up or when the blocks (4 x 32) are placed. (image 5-31)

There are some special cases where snake wise fill up always starts for the 4 strings at the same side. E.g. when outline set up matches exactly the number of pixels blocks, such as 64 with no gap. The rows or columns will be filled up starting at the same side and that to make the connection with the controller more easier.

- **By quadrant** : the software will start at the joining corners of the quadrants of the viewport. Each quadrant will be filled up with another string and in most cases each string will contain the same amount of blocks. This depends on the width and height setting of the outline. E.g. width = 5 and height = 7 all string will contain the same amount of blocks. (image 5-32)

Whether or not the same amount of blocks for each string is used depends on the combination of width, height, horizontal gap, vertical gap and the dimension of the block. E.g. for outline and auto fill with width = 27, height = 35, horizontal gap = 1 and vertical gap = 1 and a MiPix block (2x2), this method will not fill the area with the same amount of blocks for each string.

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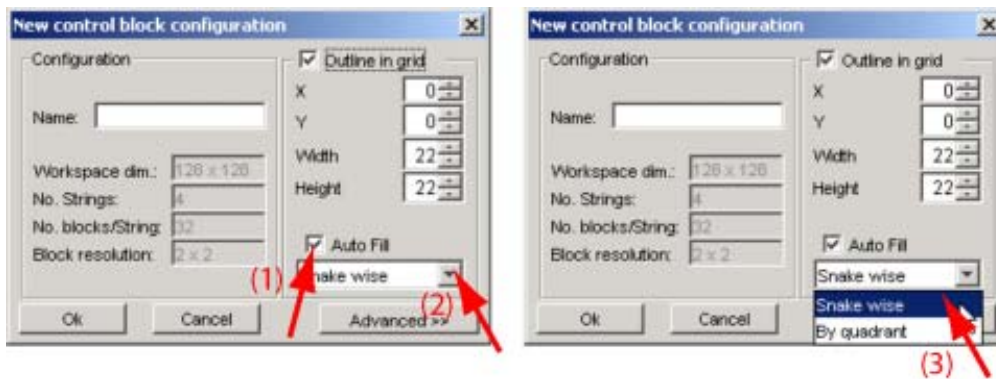


Image 5-30
Set up auto fill

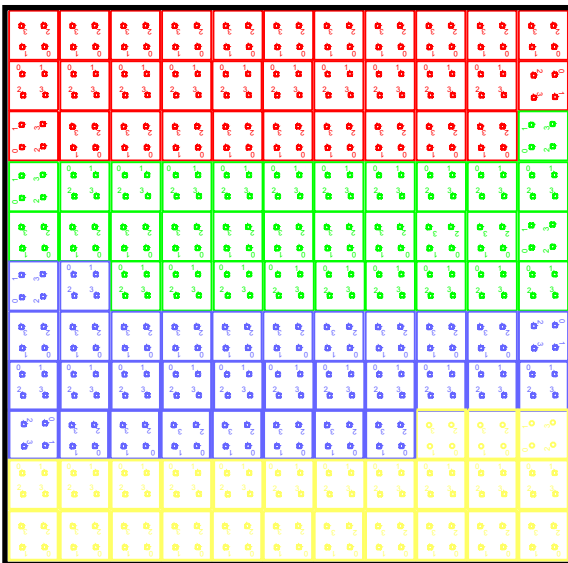


Image 5-31
Auto fill snake wise, viewport area 22 x 22

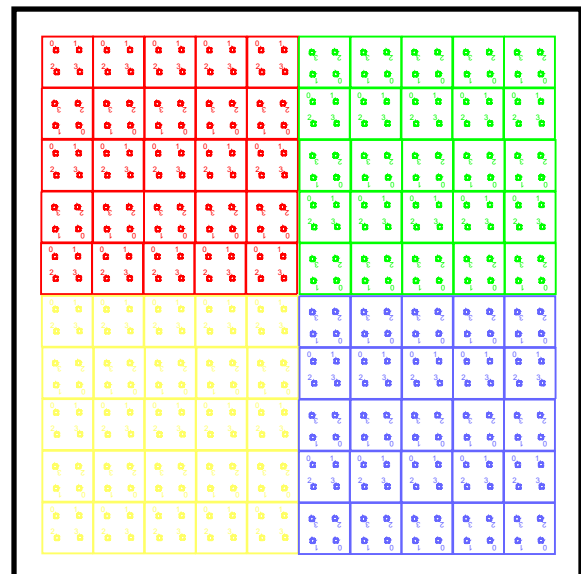


Image 5-32
Auto fill by quadrant, outline area 22 x 22

Remarks

The auto fill will search for the best rotation of the blocks. Those block where the software cannot calculate the best rotation are indicated by a light blue background. These blocks should be manually rotated till the correct position is obtained. For more information, see "Rotate selected blocks", page 67.



When the auto fill is finished, it is still possible to place extra blocks manually in the design and that as long as there are blocks available.

5.4.3.5 Advanced settings for auto fill

What is possible with the advanced settings ?

The following items can be defined :

- Horizontal and vertical pixel gap.
- String direction, horizontal or vertical
- Start position of the first string when using snake wise fill up.

By default :

- Horizontal and vertical gap = 0
- String direction = horizontal
- Start position = upper left

Start up the advanced settings

1. Click on the **Advanced >>** button. (image 5-33)

Note: Only active when Viewport in Grid and Auto fill are checked.

The options window will be added.

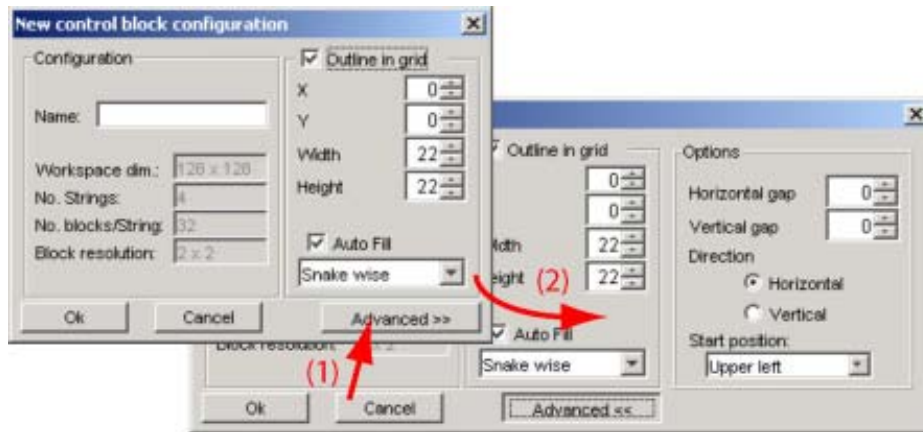


Image 5-33
Advanced auto fill options

Gap set up

1. If you want to set a *Horizontal gap*, click in the input field next to *Horizontal gap* and enter the pixel gap you want to use.
Or,
click on the up or down arrow next to *Horizontal gap* until the desired value is reached. (image 5-34)
2. If you want to set a *Vertical gap*, click in the input field next to *Vertical gap* and enter the pixel gap you want to use.
Or,
click on the up or down arrow next to *Vertical gap* until the desired value is reached.

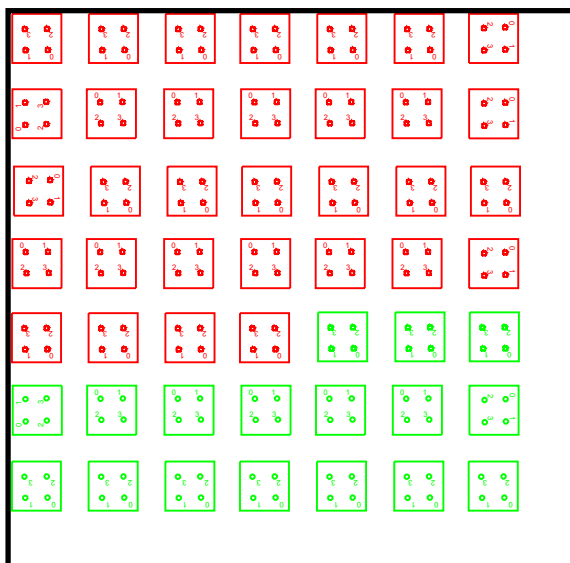


Image 5-34
Auto fill, viewport 22 x 22, horizontal and vertical gap 1

String direction

1. Click on the desired radio button to set up the string direction.

Note: The block connected with the controller has a shaded background.

Horizontal the blocks will be placed in a horizontal way. From left to right or from right to left.

Vertical the blocks will be placed in a vertical way. From top to bottom or from bottom to top.

See image 5-35, image 5-36.

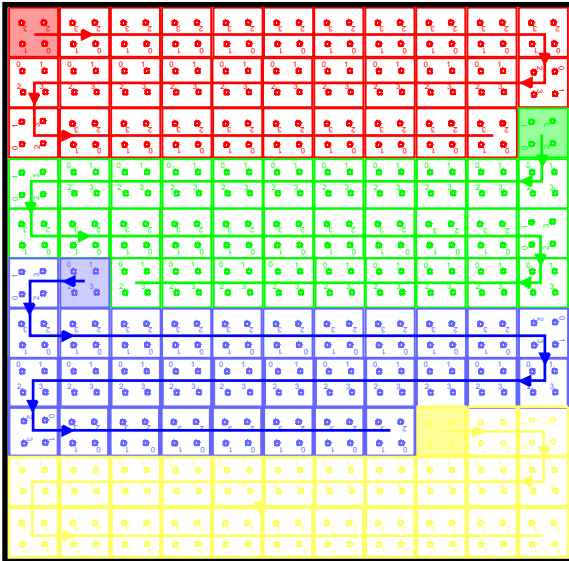


Image 5-35
Auto fill, viewport 22 x 22, horizontal string direction

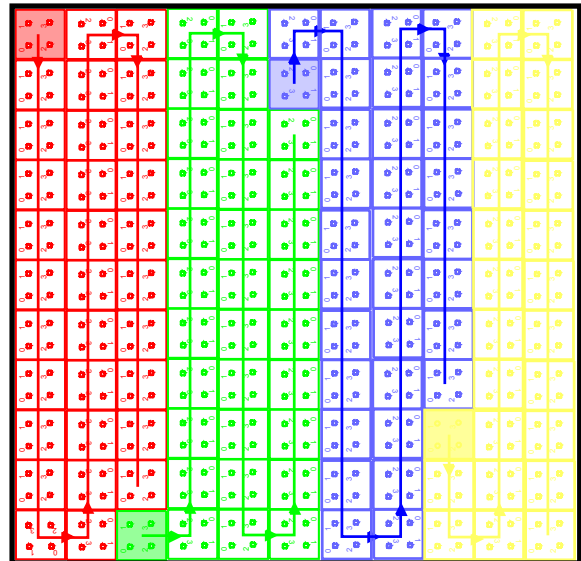


Image 5-36
Auto fill, viewport 22 x 22, horizontal string direction

Start position

1. Click on the drop down box.

The possible choices will be displayed.

- Upper left
- Upper right
- Lower right
- Lower left

2. Select the desired start position.

This start position will only be used when snake wise auto fill is selected.

5.4.3.6 Some typical examples where auto fill is very useful

For horizontal string directions

When the width matches exactly the number of blocks to be placed, the height does not matter:

e.g. width = 64 with no gap : each row will be filled up with one string.

e.g. width = 32 with no gap : the first string will be divided over the first 2 rows. The second string will start on the third row, etc.

e.g. width = 95 with gap = 1 : each row will be filled up with one string. Between each block there is one pixel gap.

e.g. width = 126 or 127 or 128 with gap = 2 : each row will be filled up with one string. Between each block there are two pixel gaps.

For vertical string directions

When the height matches exactly the number of blocks to be placed, the width does not matter:

e.g. height = 64 with no gap : each column will be filled up with one string.

e.g. height = 32 with no gap : the first string will be divided over the first 2 columns. The second string will start on the third column, etc.

e.g. height = 95 with gap = 1 : each column will be filled up with one string. Between each column there is gap of one pixel.

e.g. height = 126 or 127 or 128 with gap = 2 : each column will be filled up with one string. Between each column there is gap of two pixels.

5.4.3.7 Manual fill



When *Outline in Grid* is not selected, manual fill is automatically active.

How to set up

1. Uncheck *Outline in Grid* (image 5-37)

Or,

check *Outline in Grid* and uncheck *Auto fill*. (image 5-38)

Now it is possible to manually place blocks on the work space.

To see how to place blocks, see "Add blocks to a design", page 59.

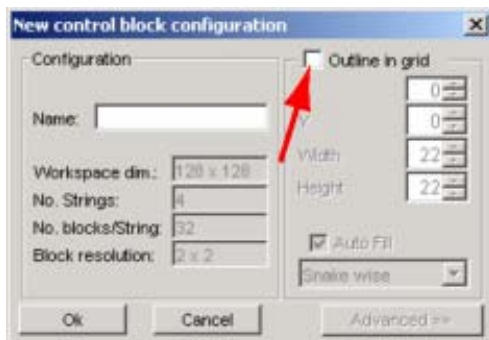


Image 5-37
No viewport selected

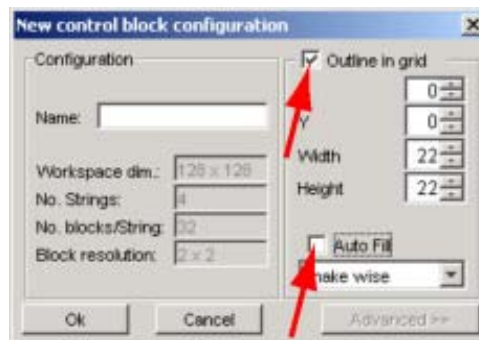


Image 5-38
No auto fill

5.4.3.8 Outline border On or Off



This function is only active when an outline is defined during the design configuration.

How to switch ?

1. Right click in the workspace.

A popup window appears. (image 5-39)

2. Select View and move your mouse to the right.
3. Select Show outline.

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- When checked : the outline is shown with the dimensions as chosen in the configuration set up.
- When not checked : the outline is not shown.

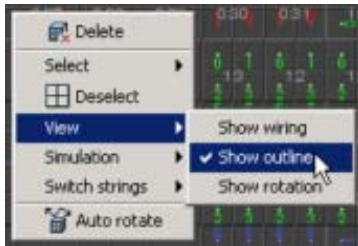


Image 5-39
Show outline

5.4.3.9 The design window

Overview

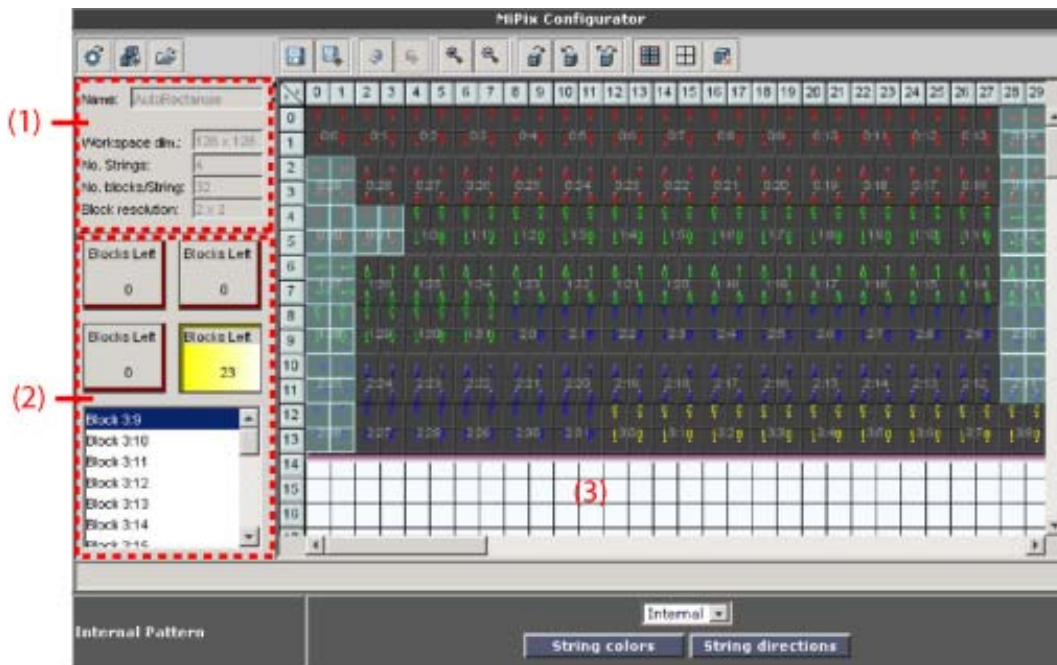


Image 5-40
The result window of a design

The following parts can be recognized:


- Configuration settings (1)
Blocks left per string (2). Each string is represented by a recipient which is colored according the string. The more background color visible on the recipient, the more blocks are available to be placed. The value inside the recipient gives the quantity of blocks which are not placed on the preview. A list of the block numbers is given just below those recipients.
 - 0.x represents blocks of the first string (red one)
 - 1.x represents blocks of the second string (green one)
 - 2.x represents blocks of the third string (blue one)
 - 3.x represents blocks of the fourth string (yellow one)
- The preview of the configuration (3).

What is possible ?

- If there are still blocks available, these can be manually added to the configuration.
- Blocks can be moved within the work space.
- Blocks can be rotated left or right.
- Blocks can be removed from the configuration.
- When moving the mouse over a block, the block number and the orientation angle will pop up.

5.4.3.10 Save a design

How to save ?

1. Click on the *Save this design icon* ().

If the design already has a name. The design will be saved on that name.

Otherwise, a pop up window will appear. (image 5-41)

2. Enter a name for the design.
3. Click on **OK**.

The design will be saved.

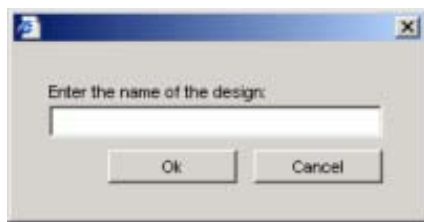


Image 5-41
Save file, enter name

5.4.4 Add blocks to a design

What is possible ?

As long as there are blocks available in one of the 4 recipients, these blocks can be placed on any free place in the work space.

How to place block by block ?

1. Click on a recipient to select a string (1). (image 5-42)

Note: *Only the recipients with a background color and value higher than 0 are possible.*

The first free block of the selected string will be selected.

Or,

click in the list below the recipients for a specific block.

2. Hold down the **Shift** button while clicking with the left mouse button on the center or near the center (within the shaded area) of a grid where the block has to be placed (2). When clicking outside this grid, the block will be centered around another point.

The first free block of the selected string will be placed on the selected position (see blue outline on image 5-42).

If the block cannot be placed on that center, the software will search for the next free position.

E.g. when clicking on the indicated place (image 5-43), the software should place the block on the place of the red outline, but due to the blue block it is not possible. Now the software will search for the first possible free place (red shaded area).

The software will follow a well defined way to find a free place (green loop). (image 5-44)

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- To continue placing blocks of the same string, hold down the **Shift** button and click on the next possible center.
To place blocks of another string return to step 1.

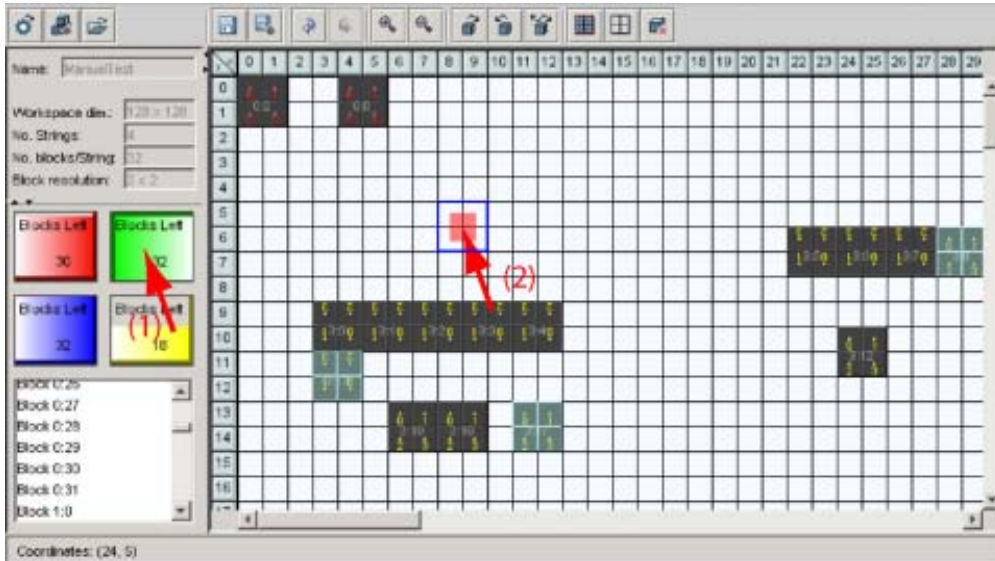


Image 5-42
Add block

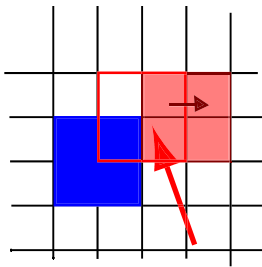


Image 5-43
First free place

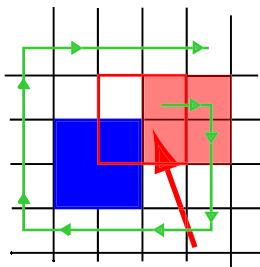


Image 5-44
Search for free place

How to place multiple blocks at once ?

- Click on a recipient to select a string.
- Hold down the **Ctrl** button and click in the work area to define the start position. (image 5-45)
- Click in the work area to define the start position, hold down the mouse button and drag to the end position.
- Release the mouse button.

The possible positions within the selected area will be filled up with pixel blocks, using the snake wise default pattern.

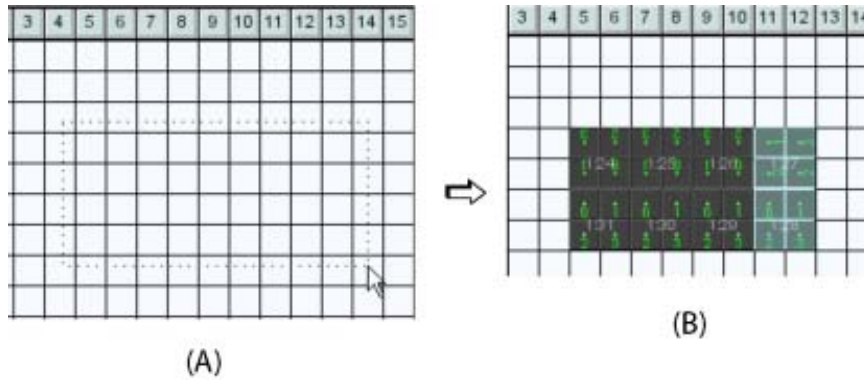



Image 5-45
Place multiple blocks

- A Drag place area
B Area filled up

5.4.5 Edit existing design

5.4.5.1 Load a design

First method

1. Click on the *load design* icon ().

The *Choose design* window opens. (image 5-46)

2. Select the desired design out of the list.
3. Click **OK**.

The selected design will be loaded in the designer window.

All block manipulations are now possible on that design. Therefore, follow the instructions given in "Block manipulations", page 63.



Image 5-46
Choose design

Second method

1. Right click on a design in *stored designs* pane. (image 5-47)
A pop up window appears.
2. Select *Load design*.

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The selected design will be loaded in the designer window.

All block manipulations are now possible on that design. Therefore, follow the instructions given in "Block manipulations", page 63.

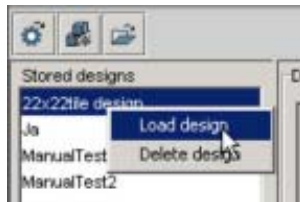


Image 5-47
Load design

Third method

1. Double click on a design in the *stored designs* pane. (image 5-48)

The selected design will be loaded in the designer window.

All block manipulations are now possible on that design. Therefore, follow the instructions given in "Block manipulations", page 63.

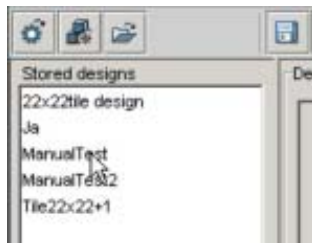


Image 5-48
Load design by double click

5.4.5.2 Save current version of the design


How to save the current design ?

1. Click on the *Save this design* icon.

The current design will be saved with the same name. A message will be given in the status bar.

5.4.5.3 Save current design under a new name

How to save with a new name ?

1. Click on the *Save design as* icon ().
2. Enter a name for the design.
3. Click on **OK**.

The design will be saved with the new name.

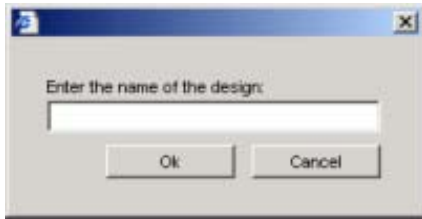


Image 5-49
Enter new name

5.4.6 Block manipulations

5.4.6.1 Selecting one block

How to select ?

1. Click on a block.

The background color of that block will change to light grey. (image 5-50)

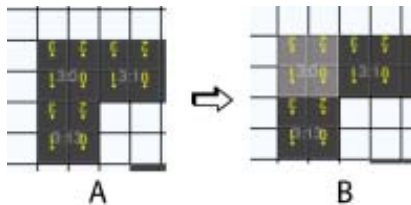


Image 5-50
Select a block

5.4.6.2 Selecting multiple blocks

First method

1. Click first on a block to select.

The background color will change to light grey.

2. Push **Ctrl** and hold it down. Click on the next blocks you want to select.

The background color will change too.

Second method

1. Click outside the blocks and hold down the mouse button. (image 5-51)


2. Drag the mouse pointer over the blocks you want to select.

The background of the blocks in the selection will change to light grey.



Image 5-51
Select multiple blocks

Select all blocks, first method

1. Click on the *Select all blocks* icon ().

All blocks will be selected.

Select all blocks, second method

1. Right click in the preview window.
A popup selection menu appears. (image 5-52)
2. Select *Select* and move your mouse to the right.
3. Select *Select all*.
All blocks will be selected.

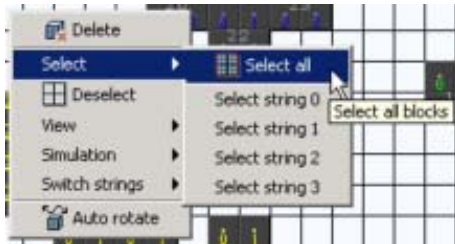


Image 5-52
Select all via right click

5.4.6.3 Selecting a complete string

How to select ?

1. Right click in the preview window.
A popup selection menu appears. (image 5-53)
2. Select *Select* and move your mouse to the right.
3. Select the desired string description.
The following strings are possible :
 - Select string 0 (red string)
 - Select string 1 (green string)
 - Select string 2 (blue string)
 - Select string 3 (yellow string)

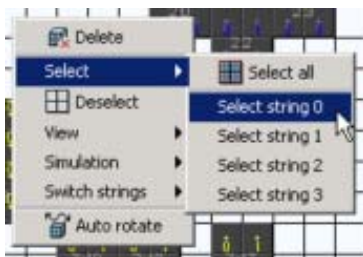


Image 5-53
Select a string

5.4.6.4 Deselect all blocks

First method

1. Click on the *Deselect all blocks* icon (.

Second method

1. Right click in the preview window.
A popup selection menu appears. (image 5-54)

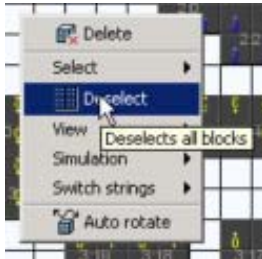
2. Select *Deselect all*.

Image 5-54
Deselect all blocks

Third method

1. Left click in the grid.

All blocks will be deselected.

5.4.6.5 Moving a block or multiple blocks**How to move**

1. Select first the block or the blocks which must be moved (A). See "Selecting one block", page 63 or "Selecting multiple blocks", page 63. (image 5-55)

2. Click on a selected block and hold down the mouse button.

3. Drag to the desired position (B) and release the mouse button (C).

Note: You can only drag to possible locations.

The selected block or blocks are moved to the new location.

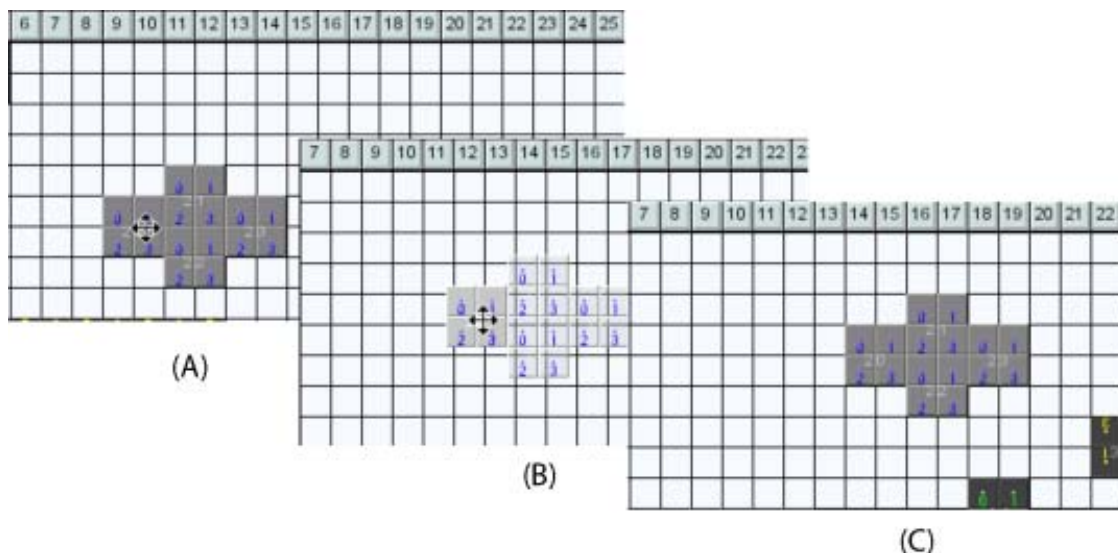


Image 5-55
Move blocks to new location

A Select blocks


B Drag blocks

C Release on new location

5.4.6.6 Delete selected blocks

First method

1. Select the blocks which must be deleted. See "Selecting one block", page 63 or "Selecting multiple blocks", page 63.

2. Click on the *Delete all selected blocks* icon ()

The selected blocks will be removed from the workspace.

Second method

1. Select the blocks which must be deleted. See "Selecting one block", page 63 or "Selecting multiple blocks", page 63.

2. Right click in the workspace.

A popup window appears. (image 5-56)

3. Select *Delete*.

The selected blocks will be removed from the workspace.

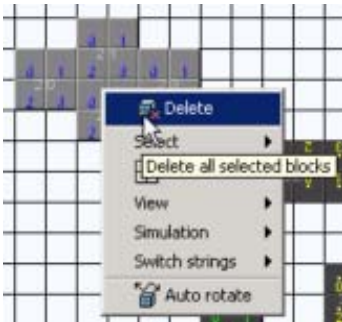


Image 5-56
Delete all selected blocks

5.4.6.7 Swap two strings

What is possible ?

Sometimes it becomes handy to replace e.g. the red string by the yellow string. With this function, the operation can be done by a single mouse click. All red blocks will be replaced by yellow ones and the yellow blocks will be replaced by the red ones.

How to swap strings ?

1. Right click in the workspace.

A popup window appears. (image 5-57)

2. Select *Switch strings* and move your mouse to the right.

3. Select the desired switch function.

The strings of the selected combination will be swapped. Even when no blocks of a certain string are used in the design, the swap will be executed.

E.g. if string 0 (red string) contains more blocks than string 2 (blue string), the blue string takes the place of the red string and extra blocks will be taken automatically out of the blue recipient. The surplus of blocks for the red string will be dropped in the red recipient.

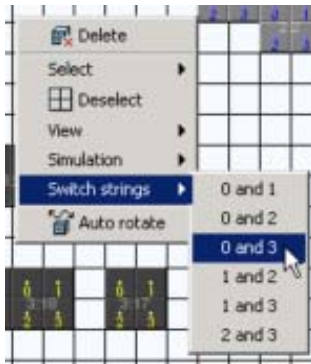


Image 5-57
Switch strings



5.4.6.8 Rotate selected blocks

Why rotating block ?

From a hardware point of view, during the build up of a MiPix wall, it can become handy that some block or parts of a string can be rotated to the left or to the right over 90° or 180°. Otherwise, it would be possible that the cables will be twisted or that an input cable covers an output so that easy cabling is impossible.

How to rotate, first method

1. Select the blocks which must be rotated (multiple selection possible) (1). See "Selecting one block", page 63 or "Selecting multiple blocks", page 63. (image 5-58)

2. Click on the rotate left () or rotate right () button.

The selected blocks will be rotated over 90° to the left or to the right.

A second rotation for the same blocks is still possible.

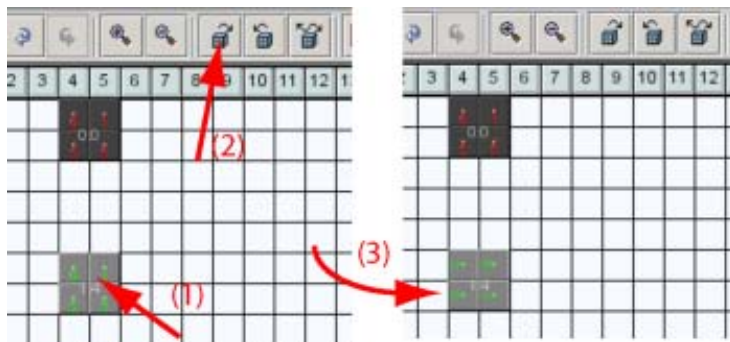


Image 5-58
Rotation to the right

How to rotate, alternative method

This method can only be used when your computer is equipped with a mouse with mouse wheel.

1. Select the blocks which must be rotated (multiple selection possible). See "Selecting one block", page 63 or "Selecting multiple blocks", page 63.
2. Press and hold the Shift key, turn your mouse wheel up or down to rotate the block(s) to the left or to the right.


5.4.6.9 Auto rotation

What is possible ?

Once the blocks are placed in a design, the software can make for each block a proposal how it should be rotated in a string. Those blocks where the software cannot find a good solution are indicated with a light blue background. Those blocks must be checked and manually rotated if necessary.

The blocks will be placed in the proposed position. An undo is still possible.

First method

1. Click on the Auto rotate icon ().

All block will be automatically rotated according the wiring. Those blocks for which the software finds more than one favorable solution a good rotation are indicated with a light blue background. Manual rotation of those blocks is still possible. (image 5-59)

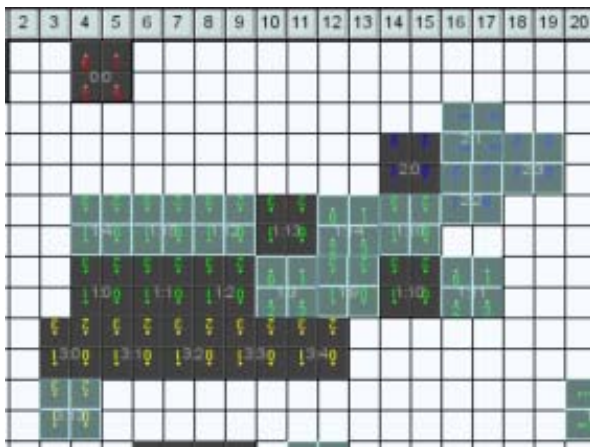


Image 5-59
Auto rotate result

Second method

1. Right click in the workspace.
A popup window appears. (image 5-60)
2. Select *Auto rotate*.

The software will rotate the blocks for the best rotation. The blocks having more than one equally favorable rotation, will have a light blue background. Manual rotation is now possible. (image 5-59)



Image 5-60
Auto rotate

5.4.6.10 View wire direction of a string

How to display ?

1. Right click in the workspace.

A popup window appears. (image 5-61)

2. Select *View* and move your mouse to the right.
3. Select *Show wiring*.

When checked, the blocks will be connected with a line in the same way as the blocks should be hardware connected. The start block, block connected with the controller unit, has a colored background. (image 5-62)

As this function is a toggle function, the show wiring stays active until it is switched off again.

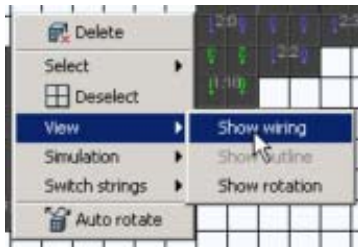


Image 5-61
Show wiring

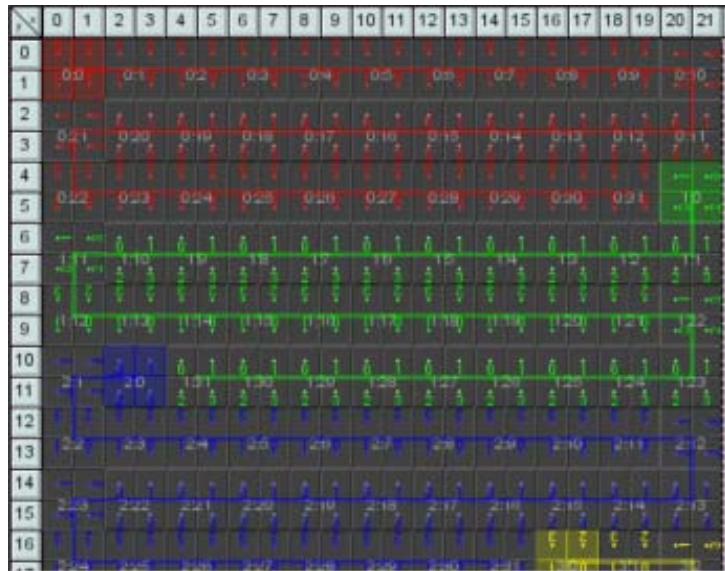


Image 5-62
Show wire direction, result

5.4.6.11 Show rotation

What is possible ?

To check the rotation of each block on an easy way, with show rotation pixel 1 and 3 of each block will light up.

How to show the rotation ?

1. Right click in the workspace.
A popup window appears. (image 5-63)
2. Select *View* and move your mouse to the right.
3. Select *Show rotation*.

Pixel 1 and 3 will light up of each block simultaneously. (image 5-64)



Image 5-63
Show rotation

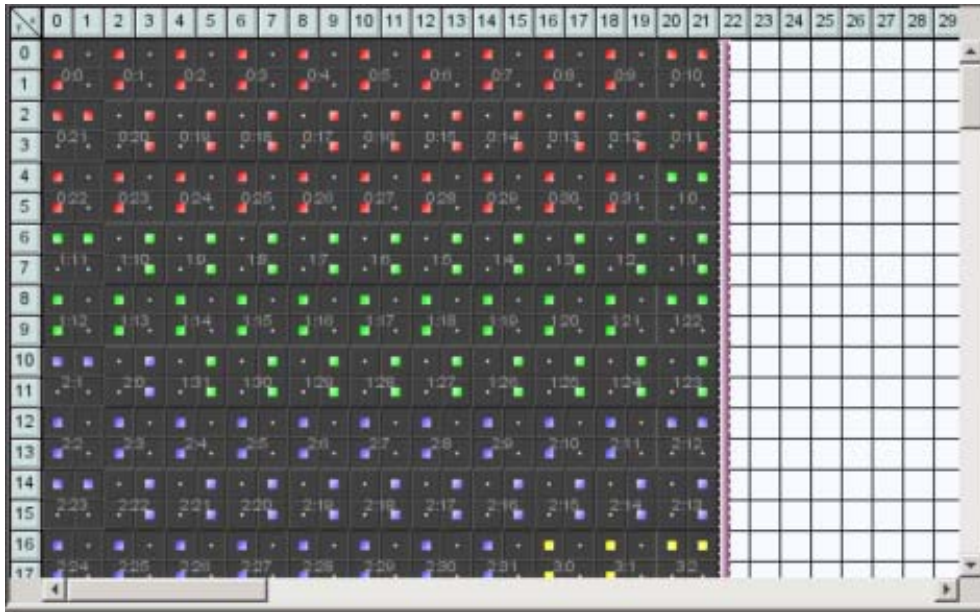


Image 5-64
Show rotation, result window

5.4.6.12 Simulate wire direction

What is possible ?

The wire direction for each block, which correspond with the input side of the block, can be simulate by a running light started by the first block connected with the controller and running through the string in the direction of the wiring of the string. The pixels 1 and 3 of each block, input side of block, will light up one after each other during the simulation. This running light simulation should be exactly the same as the function internal pattern, string direction which is executed on the wall itself. With this comparison it is possible to set up the correct rotation of the blocks.

Once this function is activated, it stays active until it is switched off.

How to simulate ?

1. Right click in the workspace.
A popup window appears. (image 5-65)
2. Select *Simulation* and move your mouse to the right.
3. Check *Simulate string direction*.

When checked, the running light will start. (image 5-66)

Once this function is activated, it stays active until it is switched off.



Image 5-65
Simulate string direction

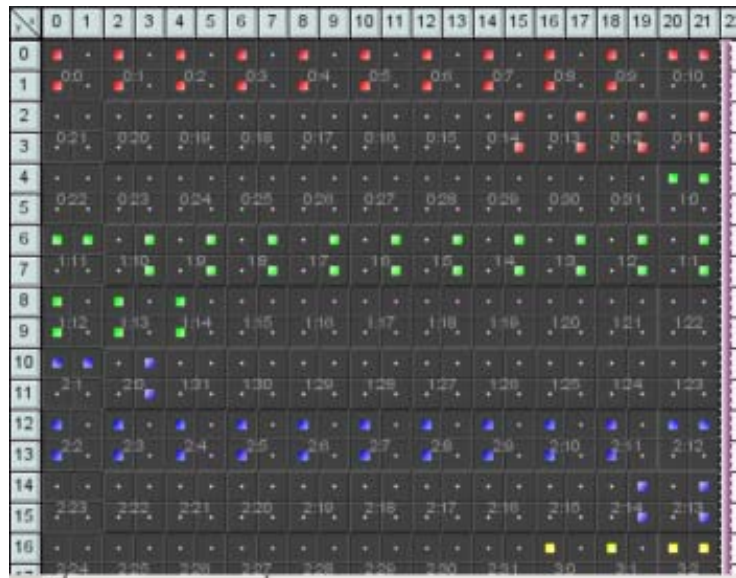


Image 5-66
Simulate string direction, result

5.4.7 Delete a design

How to delete a design ?



1. Right click in *Stored designs* on the design which has to be deleted.
A popup window appears. (image 5-67)
2. Select *Delete design*.
The selected design will be deleted.



Image 5-67
Delete design

5.4.8 Zoom in - Zoom out

How to zoom ?

1. To zoom in, click on the zoom in icon ().
- To zoom out, click on the zoom out icon (.
- Or,
press and hold the **Ctrl** key and scroll the mouse wheel up to zoom out, down to zoom in.

5.4.9 Associate designs to devices

How to make an association ?

1. Click on a design in the *Stored designs* pane (1).

2. Click on a device or on multiple devices, by holding down the shift button, in the *Device list* pane (2).
3. Click on **Update Configuration** (3).

The information about the setup (design) will be loaded in the controller module.

5.4.10 Internal pattern

Internal or external pattern

1. Click in the drop down box and select internal or external.

Internal Internal pattern will be used to check the strings
nal

Exter- External pattern will be used to check the strings
nal

String colors

1. Click on .

A pattern will be generated to check the hardware string connections.

String directions

1. Click on .

A running light pattern is activated so that the hardware directions of the strings can be checked.

6. STACK MANAGER

Overview

- Basic principle of stacking
- Restrictions on stacking
- Before using the Stack manager
- Stack overview
- Start up of the Stack Manager
- Building the layout of the display
- Creating an extra display
- Assigning screens to a display
- Removing a display
- Changing the properties of an existing display
- Layout screens
- Changing the position of a display
- Timings Overview master Digitizer
- Zoom/pan in the screen representation pane
- Reloading a configuration
- Show or Hide Apply Settings
- Adjustment Apply Level Settings

6.1 Basic principle of stacking



Stack

A stack is configuration in which several digitizers are connected with each other through the stack connector. This configuration makes it possible to create big images.



Screen

A screen is the output of one digitizer.



Display

A display is a group of screens which are combined together by stacking the respective digitizers.

General overview

When a display is too large to be controlled by a single digitizer, this display can be split up in different screens, each controlled by a digitizer which is responsible for a part of the complete image. This principle is called stacking.

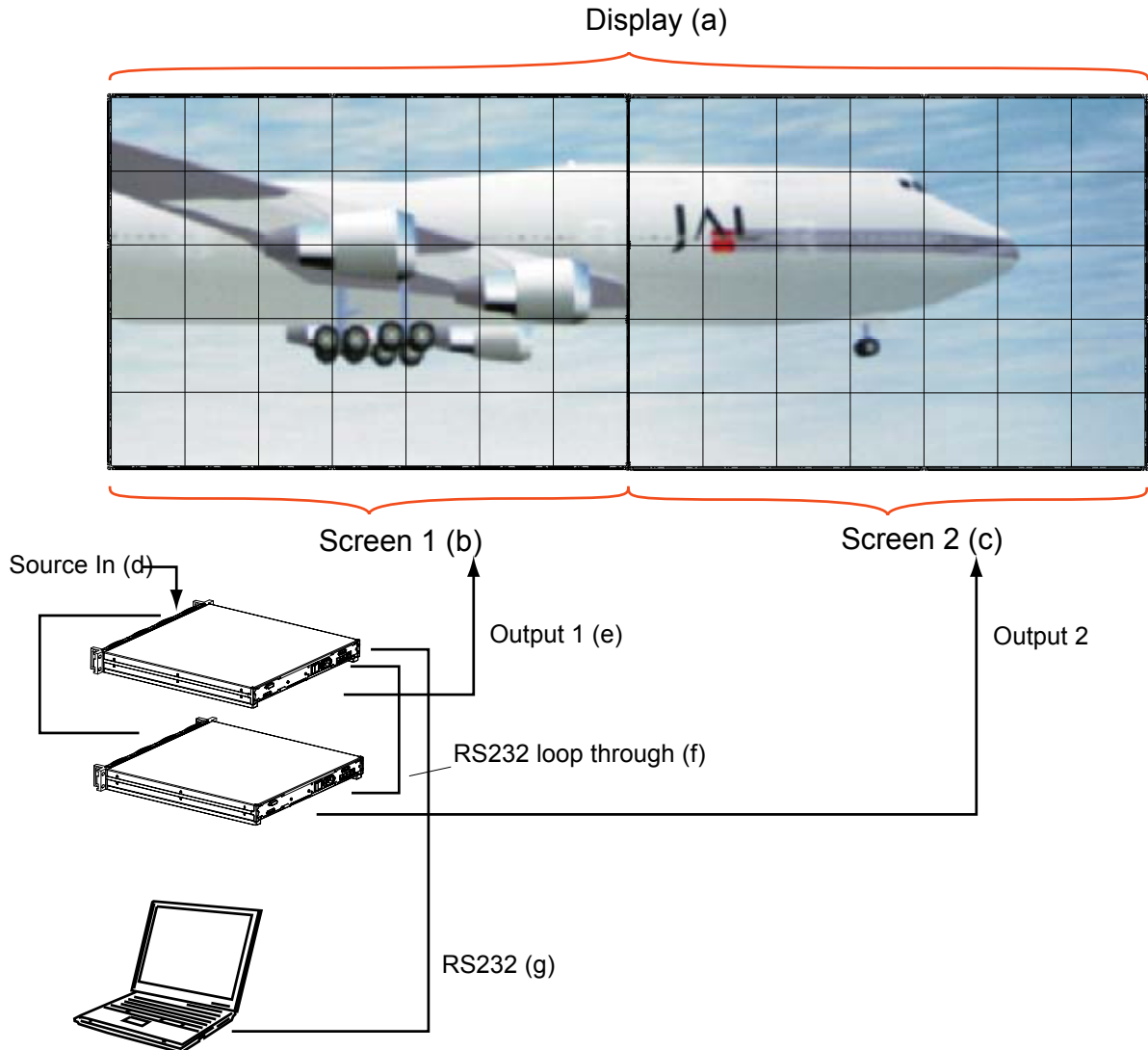


Image 6-1
Stacking principle

- a Display
- b Screen 1
- c Screen 2
- d Source in
- e Output 1
- f RS232 loop through
- g RS232

Display a is split up into two screens, screen 1 and screen 2. Two digitizers configured in a stack configuration are producing the image on the display. For more information about stacking digitizers, consult the installation manual of the used digitizers.

Another example of stacking :

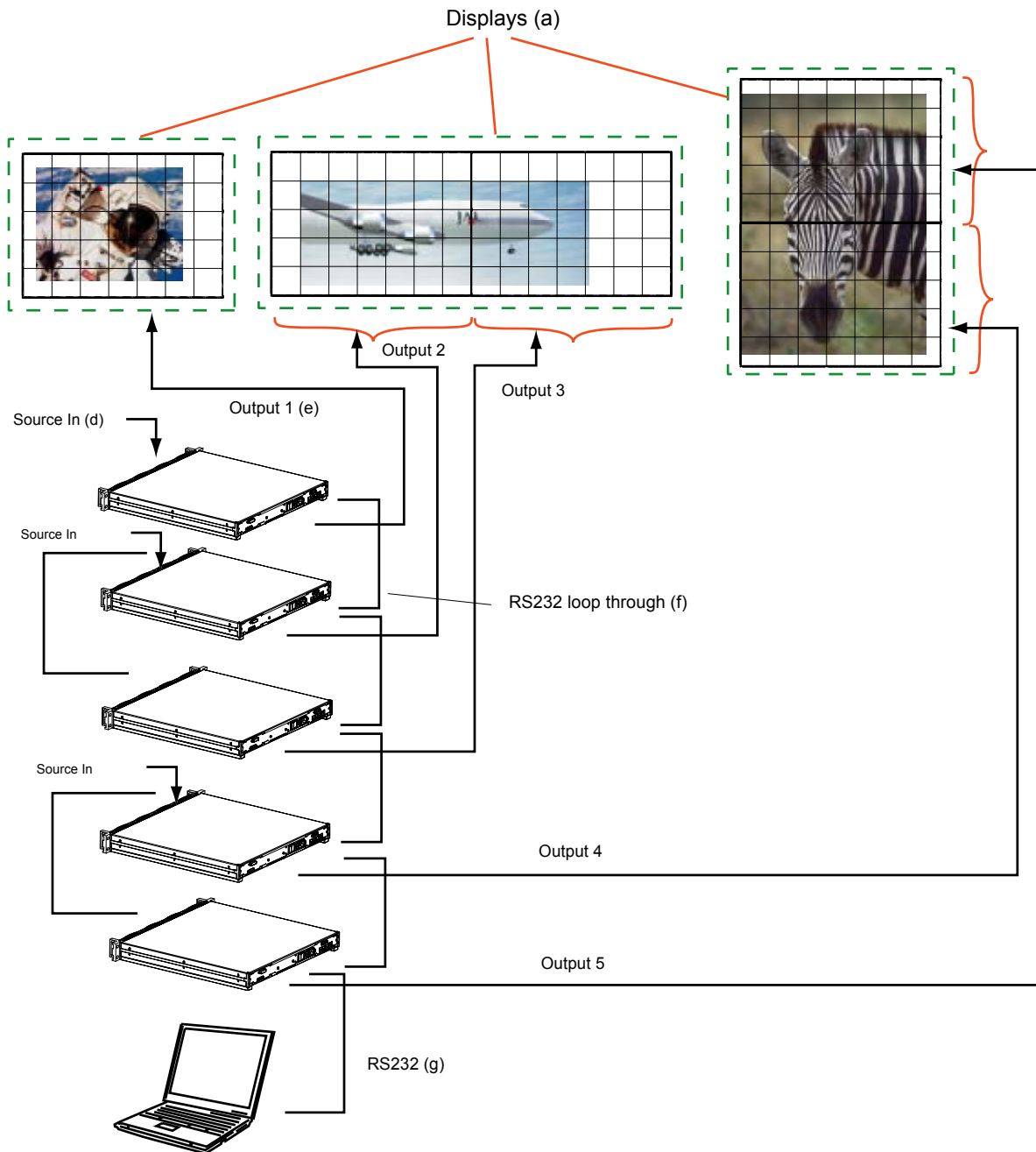


Image 6-2
Stacking example with 3 displays

- a Display
- c Source in
- d Source in
- e Output
- f RS232 loop through
- g RS232

This configuration contains 3 displays. First display with one screen, second display with 2 screens next to each other and a third displays with 2 screen above each other.

To realize this combination, 5 digitizers stacked on each other are necessary.

The customer will see this combination as 3 separate displays.

6.2 Restrictions on stacking

Overview

- Stack manager works only for LED displays.
- Each screen must contain the same type of tiles.

6.3 Before using the Stack manager

Steps to be taken for a new configuration

1. Go to Autodetect and click on .

The software scans the configuration for the available hardware and reads out the settings. When a stack configuration is detected, a new window will be added in the 'overview' frame. All detected screens will be added in a default display. (image 6-3)

2. Click on .

3. Select Screen 1 by clicking on the pop down next to screen.

The configuration icons for screen 1 will be displayed in the 'overview' frame.

4. Fill out the grid dimensions, tile linkage and tile resolution for the selected screen.

Caution: Execute this step very carefully as the Stack Manager needs the entered values for future calculations.

For more explanation, consult chapter wall positioning.

Grid dimensions	see "Grid Dimensions", page 33
Tile linkage	see "Define the Tile Linkage", page 34
Wall positioning (start, tile resolution)	see "Wall Positioning for DLite, SLite, OLite and ILite walls", page 34

5. If there are still screens which must be configured, repeat procedure from step 3 for the next not configured screen. Otherwise the configuration is ready to start up the Stack Manager.



Image 6-3
Stack configuration icon

6.4 Stack overview

Content of the Stack overview

The stack overview groups the different displays and screens in a stack. From this overview it is possible to manage the different displays and the different screens in a display so that a complete installation can be configured.

Display selection

By clicking on the first drop down list, the available displays will be shown. Select the display you have to configure.

By changing the display, all settings in the XLite ToolSet will change to the settings of the selected screen in that display. The icons in the 'overview' frame will change according the hardware configuration of the selected screen in the chosen display. The windowing will be adapted to show the new display configuration.



Image 6-4
Selecting a display



The default display is always available.

Display Name

Move the mouse over the *i* to pop up the name of the display indicated in the display field.

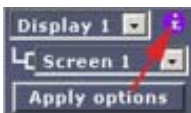


Image 6-5
Getting display name

Screen selection within a display

By clicking on the second drop down list, the available screens for the chosen display will be shown. The configuration settings in the XLite ToolSet will be different for each screen. The icons and the settings behind the icons will be different for each screen according the hardware configuration of that specific screen.



Image 6-6
Selecting a screen

E.g. for screen 1, the digitizer and wall icons correspond with the hardware configuration of screen 1. For screen 2, the digitizer and the wall icons correspond with the hardware configuration of screen 2. The icons can look the same, but each are pointing to another hardware device with possible other settings.

Configuring a complete display

To configure a complete display, configure each individual screen of that display or after configuring one display, click on **Stacker**. A question window will be displayed.

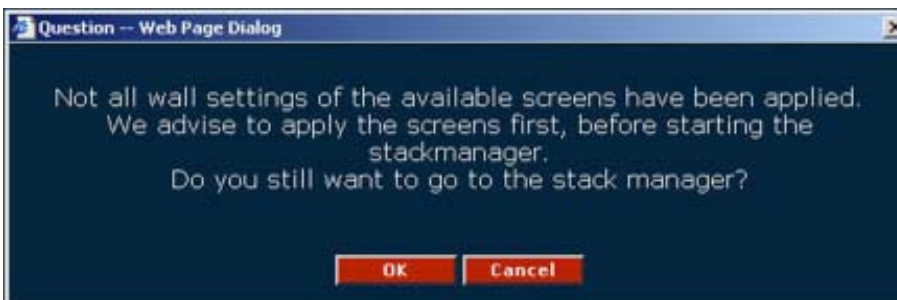


Image 6-7
Question window stacker

If you still want to go to the stack manager, press **OK**.

6. Stack Manager

If you want to configure yourself, press **Cancel**.

6.5 Start up of the Stack Manager

How to start up

1. In the Wall Positioning pane, click on **Stacker**.

The Stacker applet will be loaded. During the loading process an info window will be displayed. (image 6-8)

All screens will be grouped together in the default display and represented in a line. (image 6-9)

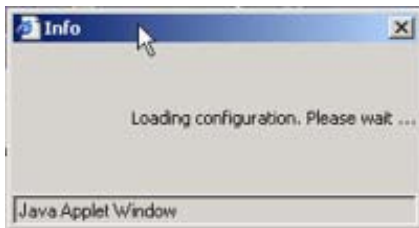


Image 6-8
Loading the Stack Manager

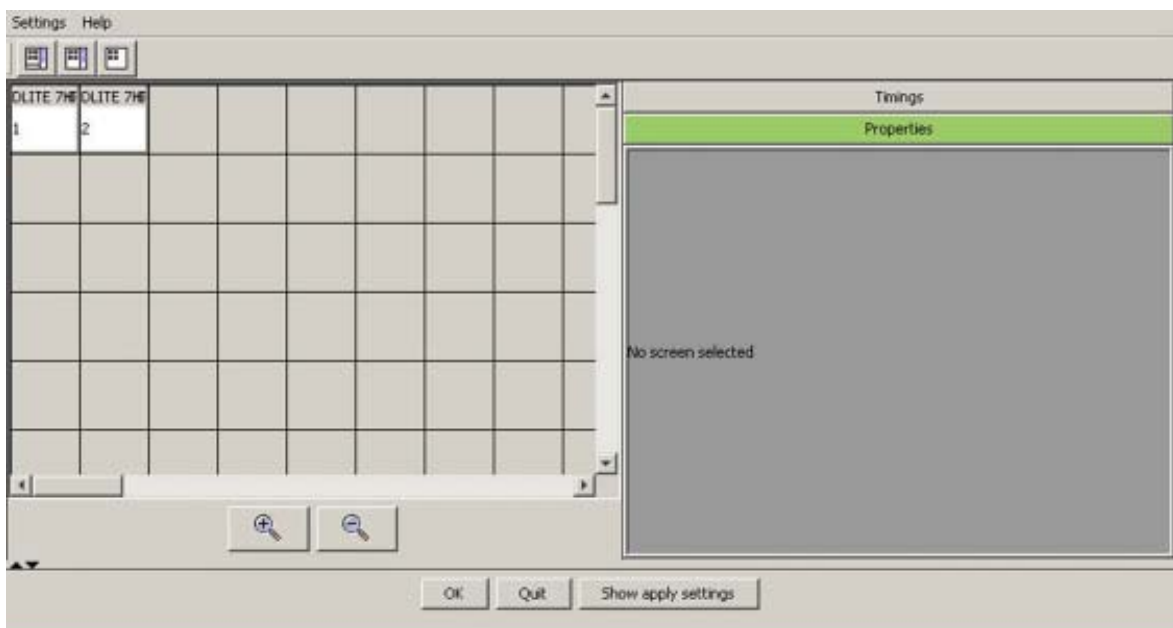


Image 6-9
Stack manager start up window

6.6 Building the layout of the display

Purpose

Within the stack manager the virtual representation of the display can be reconstructed by moving the different screens (building blocks of the display) to there real location within the display.

How to move a screen

1. Click on screen.

The background changes to gray and the cursor becomes a 4 arrow cursor. (image 6-10)

2. Move the selected screen to the desired place by holding down the left mouse button.

When starting the move of the selected screen, the outline of the original screen position becomes red. When dragging to another position the outline of the nearest possible position becomes red. When releasing the mouse button, the screen jumps to the position with a red outline. (image 6-11)

Any combination is possible as long as the next screen is joining the previous one with one side (within the same display).

Some examples of possible combinations: (image 6-12, image 6-13)

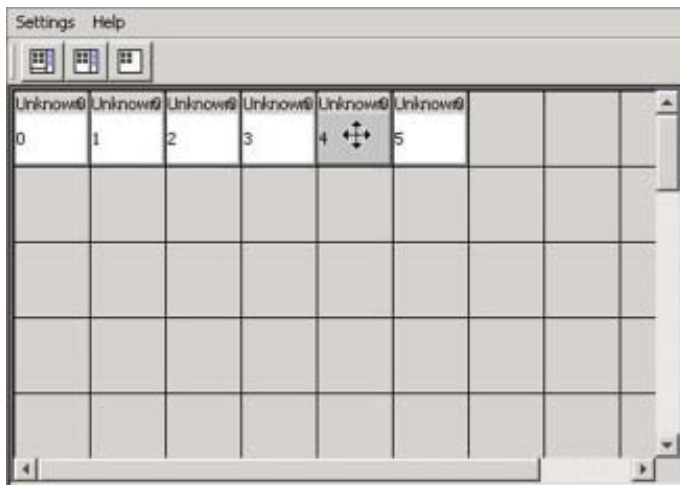


Image 6-10
Screen selected

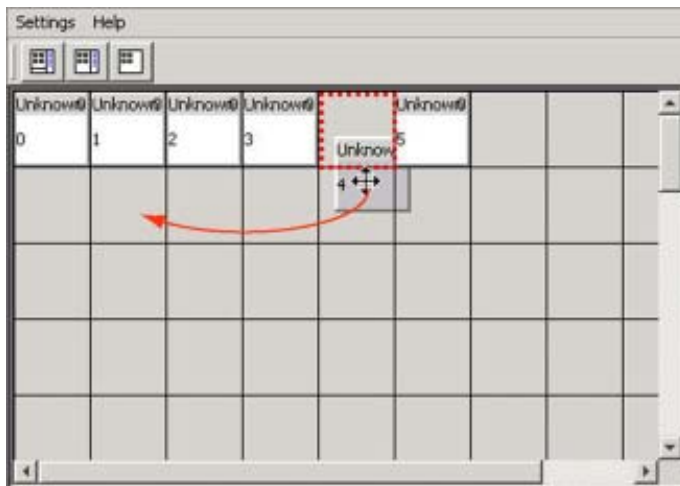


Image 6-11
Moving screens

6. Stack Manager

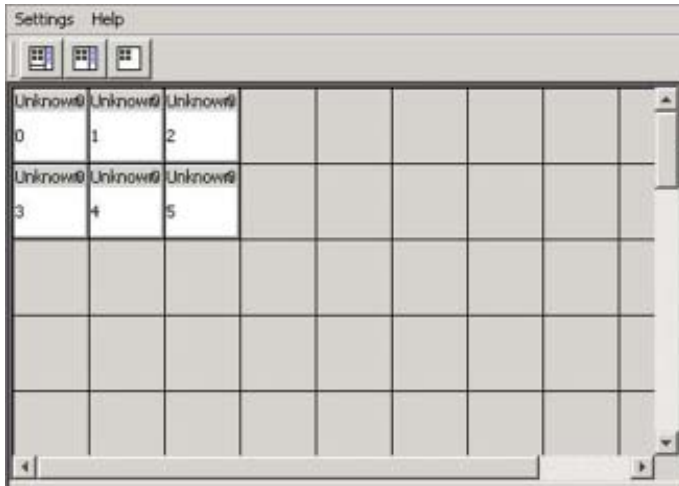


Image 6-12
A 2 x 3 display

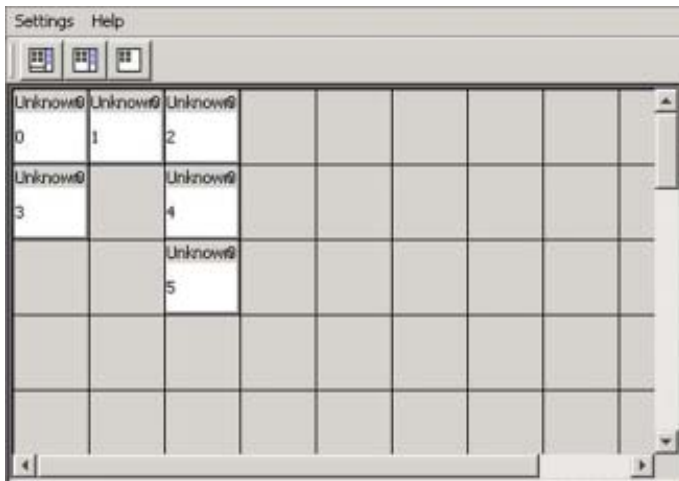


Image 6-13
A special shape of display



Within the same display, all screens must be connected with each other with at least one side.



Multiple selection of screens is possible by clicking with the mouse and dragging the mouse over the screens which you want to have into the selection.

6.7 Creating an extra display

Overview

The available screens which are grouped by default in the default display can be reorganised in different display.

How to create a display

1. Click on *Settings* and select *Display Properties*. (image 6-14)

The Display Properties window will be displayed. (image 6-15)

2. Click on **Add**. (image 6-16)

The *Create display* window opens.

3. A display Id is already filled out. That Id can be changed by clicking in the input field and changing the setting to the desired value.

Click also in the name field and enter a name for the created display.

The software will also assign a background color for the representation of the screen to the display.

4. Click on **OK** to create the display.



Image 6-14
Select Display properties

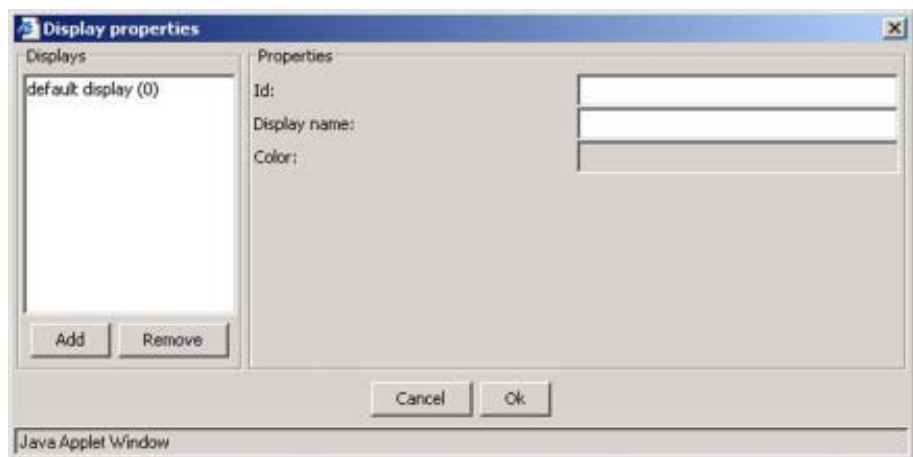


Image 6-15
Display properties window

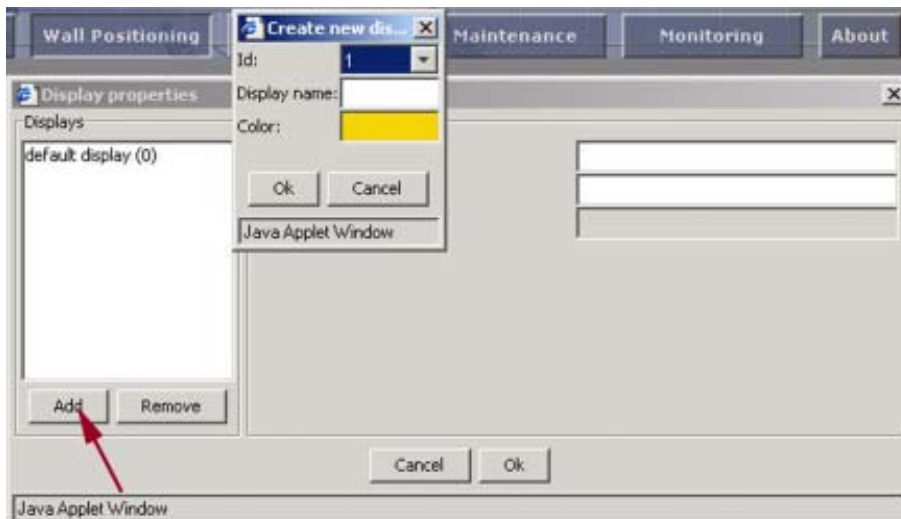


Image 6-16
Add a new display

6.8 Assigning screens to a display

Overview

- Assigning single screens to a display
- Assigning all screens to the same display

6.8.1 Assigning single screens to a display

How to assign a single screen

1. Click on the screen you want to assign to a display or make a multiple selection.

The screen or screens will be selected and the background colored gray.

2. Right click on the selected screen(s).

A display selection window will popup. (image 6-17)

3. Click in the check box in front of the display name to which you want assign the screen.

The popup window disappears and the screen background gets the color of the display. (image 6-18)

4. Repeat this procedure if more screens must be added to the display.

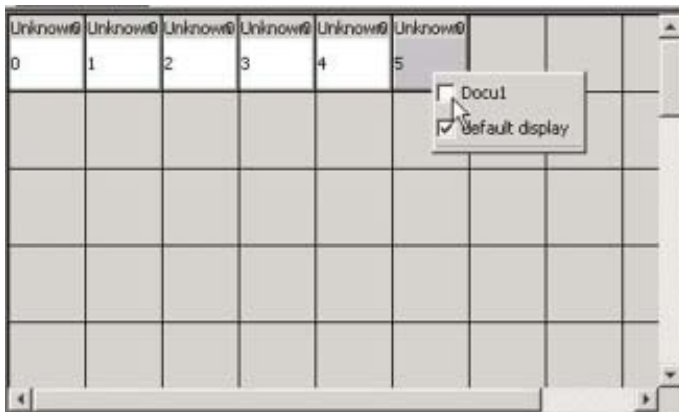


Image 6-17
Assigning a screen to a display

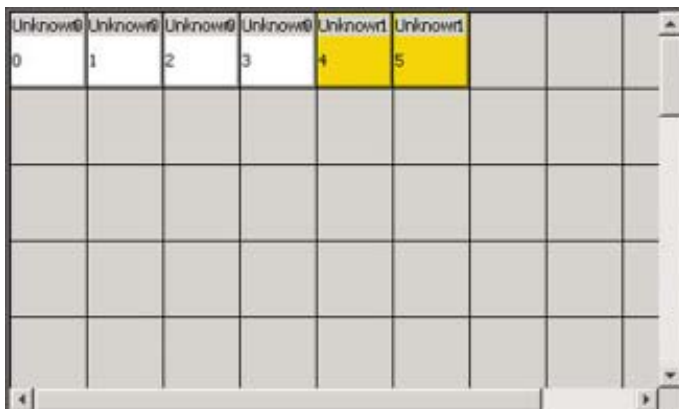


Image 6-18
Screen 4 & 5 added to the same display

6.8.2 Assigning all screens to the same display

How to assign all screens to same display

1. Right click in the screen representation pane (not on a screen). (image 6-19)
A popup window pops up.
2. Select *Assign to..* and move you mouse to the right.
3. Select the display which will contain all the screens.

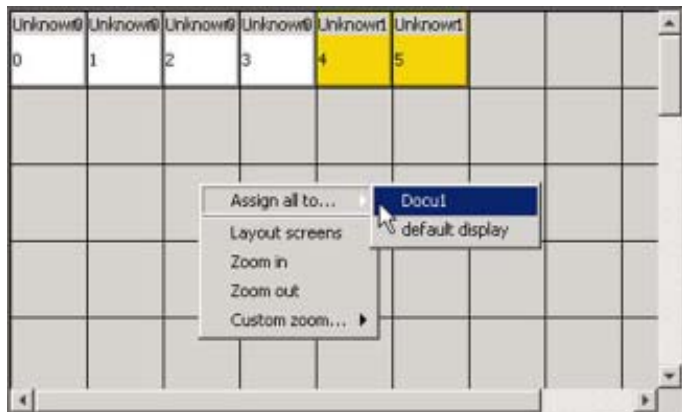


Image 6-19
Assign all screens to a display

6.9 Removing a display



Before removing a display, assign first all screens of that display to another display.



The default display (0) cannot be deleted !

How to remove

1. Click on *Settings* and select *Display Properties*.(image 6-14)
The Display Properties window will be displayed (image 6-15).
2. Select a display out of the list and click on **Remove**. (image 6-20)
If no screen are assigned to the display, the display will be removed. Otherwise a message will be displayed. (image 6-21)
Click **OK**, the removing process will be terminated. Assign now first the screens to another display before restarting the display remove.

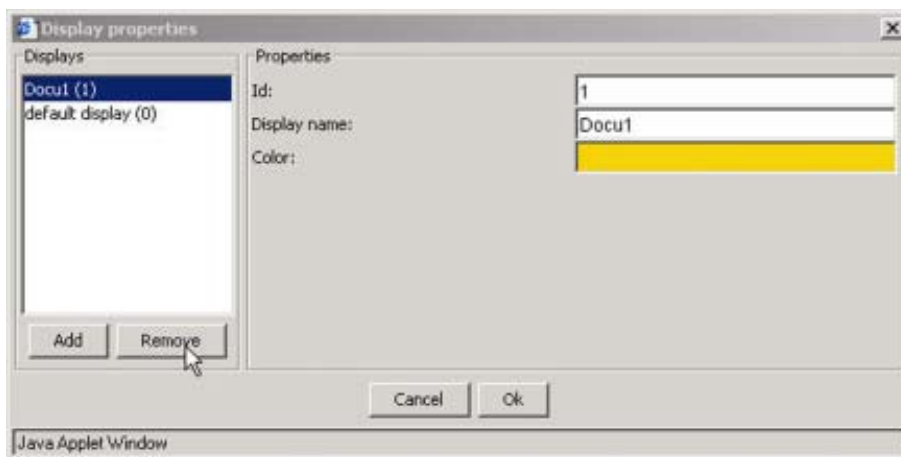


Image 6-20



Image 6-21

Message display contains screens

6.10 Changing the properties of an existing display

How to change

1. Click on *Settings* and select *Display Properties*. (image 6-14)
The Display Properties window will be displayed (image 6-15).
The Id field and the name field can be changed.
2. Click in the input field you want to change and delete the actual value.
Enter a new value with the keyboard.

6.11 Layout screens

Purpose

Screens, grouped in displays located all over the preview pane will be reorganised beginning on the left side.

How to handle

1. Right click in the preview pane and select *Layout Screens..* (image 6-22)
The screens will be reorganised on the left side of the preview pane. (image 6-23)

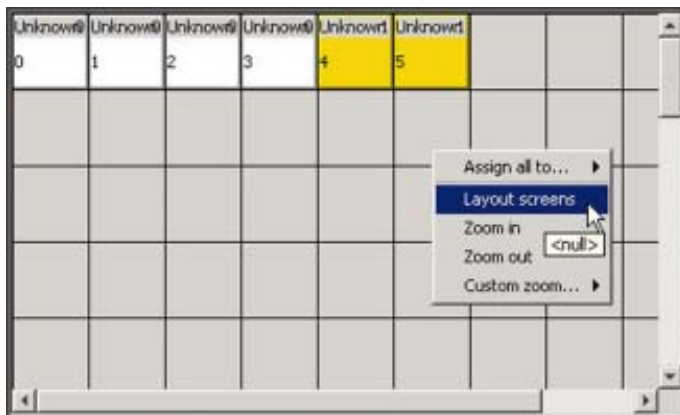


Image 6-22
Layout screens

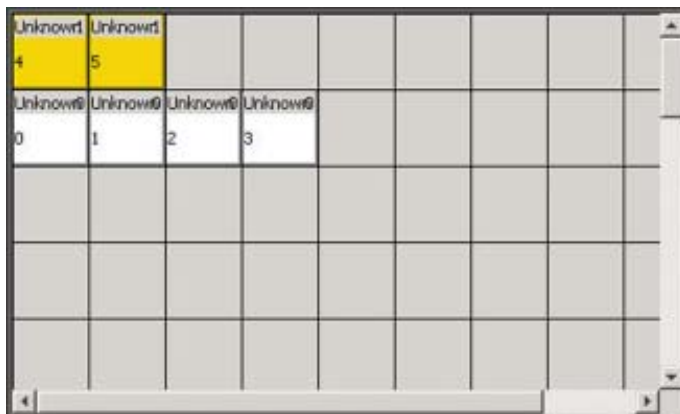


Image 6-23
Layout screens result

6.12 Changing the position of a display

How to change the position

1. Click first on the Display ID drop down box and select a display. (image 6-24)
2. Fill out the horizontal and vertical start position for the selected display.
3. Repeat both steps for the other displays if necessary.

The screenshot shows a configuration window titled "Screen 1 selected". It has two main sections: "Timings" (highlighted in blue) and "Properties" (highlighted in green). The "Properties" section contains a list of settings for a display:

ID	0
Display id	default display
X position (in display)	0
Y position (in display)	0
Width	800
Height	600
Nr of digitizers	2
Output mode	LED wail
Screen type	LED screen
LED screen	Unknown
Number of tile rows	0
Number of tile columns	0

Image 6-24
Display position

Some examples

If you have two displays with a width (800) and a height (800) and with the following coordinates :

Display 1 : x-position = 0, y-position = 0

Display 2 : x-position = 800, y-position = 0

Display 3: x-position = 0, y-position = 0

Display 4: x-position = 0, y-position = 0

The following image will be displayed on the different displays:

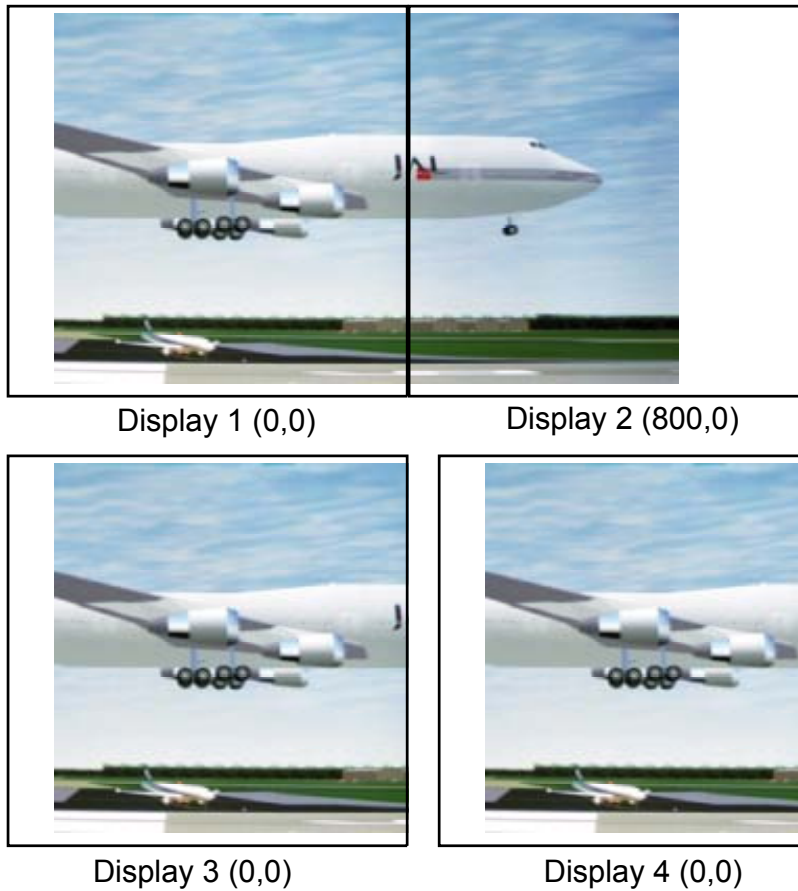


Image 6-25

6.13 Timings Overview master Digitizer

Overview

- Output mode dependent timings
- How to start up an Timings Overview
- Overview of the Timings for LED Wall output
- Overview of the Timings for Digital output
- Overview of the Timings for Analog output

6.13.1 Output mode dependent timings

Overview

The timings of the master digitizer depends on the output mode which is set in the digitizer settings.

For a D320, the output mode can be:

- Barco LED walls

For a D320PL, the output mode can be:

- Barco LED walls
- Digital
- Analog

6.13.2 How to start up an Timings Overview

Steps to be taken

1. Click on the first screen of the display.

The screen properties will be displayed on the right pane, together with the output mode. (image 6-26)

2. Click on **Timing** in the right pane.

The default timings for the selected output mode will be filled out.

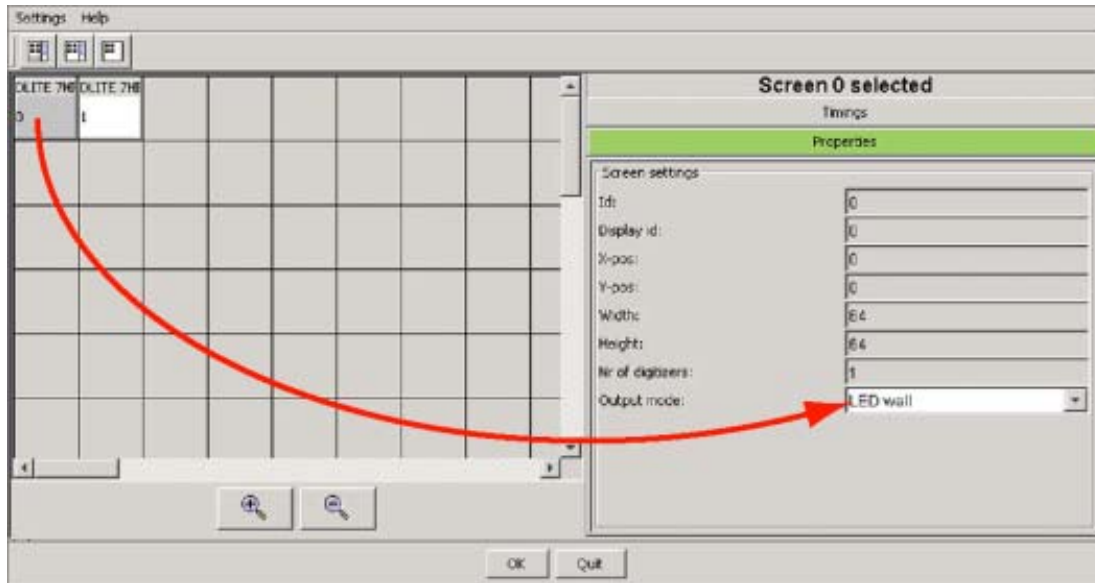


Image 6-26
Displaying the screen properties

6.13.3 Overview of the Timings for LED Wall output

Timings overview

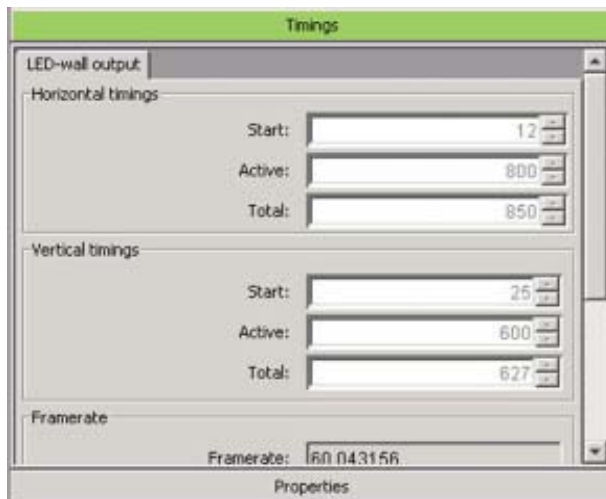


Image 6-27
LED wall output timings

Horizontal timings

- Start** Horizontal start active pixels, the horizontal start position of the active image area, referenced from HSync. The value must be greater than HSync Width.
- Active** Width active pixels, the number of pixels that are really used (= the actual width of the image/video that will be shown)
- Total** Total number of pixels in line (= max. width)
total = (hor. start active pixels) + (width active pixels) + (number of trailing blanking pixels)

Vertical timings

- Start** Vertical start active pixels, the vertical start position of the active image area, referenced from VSync. The value must be greater than VSync Width.
- Active** Height active pixels, the number of pixels that are really used (= the actual height of the image/video that will be shown)
- Total** Total number of pixels in field (= max. height)
total = (vert. start active pixels) + (height active pixels) + (number of trailing blanking lines)

Frame rate

Indication of the vertical frequency.

Frequencies

- Dual path** The pixel clock can work in 2 ways: single or dual. Check this box if you want to work in dual mode.
- Pixel clock** The clock speed of the digitizer. Typically 32 MHz in single mode.
- H-sync** The width of the horizontal sync signal. This should always be 10 pixels.
- V-sync** The width of the vertical sync signal. This should always be 10 pixels.

6.13.4 Overview of the Timings for Digital output

Overview

The timings overview are the seem as for LED wall output mode. For a detailed explanation, see "Overview of the Timings for LED Wall output", page 88.

6.13.5 Overview of the Timings for Analog output

Timings Overview

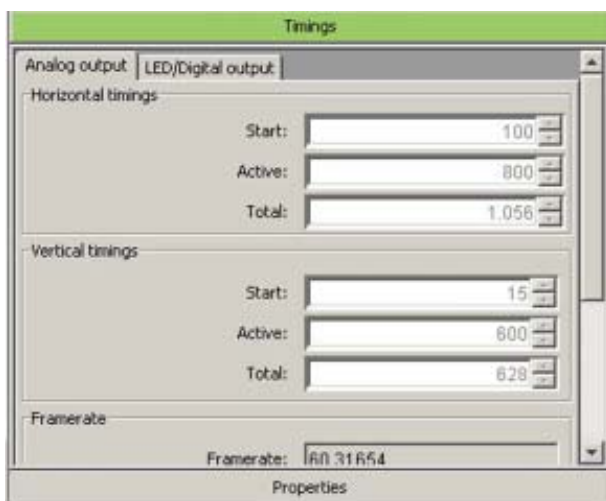


Image 6-28
Timings overview for Analog output

The explanation for each item is the same as for LED wall output, see "Overview of the Timings for LED Wall output", page 88.

Switching between Analog output and LED/digital output is possible by clicking on the tab page.

6.14 Zoom/pan in the screen representation pane

Overview

Zoom/pan can be executed with the buttons just below the screen representation pane.

Zoom/pan is also possible by right click in the screen representation pane and clicking on **Zoom in** or **Zoom out**, or by selecting **Custom zoom** and selecting one of the preprogrammed values.

6.15 Reloading a configuration

How to reload

1. Click on **Select** and select *Reload configuration*.

The complete configuration will be reloaded starting in the left corner of the representation pane.

6.16 Show or Hide Apply Settings

Overview

- Starting up Apply settings
- Reset windows after apply stack

6.16.1 Starting up Apply settings

What is possible?

When clicking on show/hide apply settings, extra apply settings will become available or disappear. These apply settings determine how a configuration will be executed (loaded).

Show/hide apply settings

1. Click on Show apply settings. (image 6-29)

The apply settings check list appears just below.

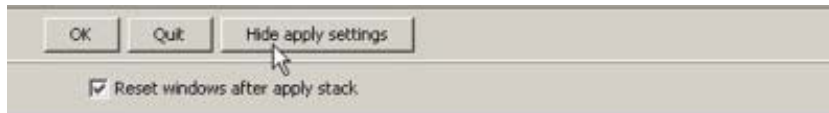


Image 6-29
Show apply settings

6.16.2 Reset windows after apply stack

What is possible?

When applying a stack configuration, by default all windows will be reset (placed in cascade on the wall). It can be interesting in some case to switch off this setting, e.g. when a new tile is inserted in the wall. The stack configuration will be processed but the windows not reset.

How to activate

1. Click in the check box in front of *Reset windows after apply stack*.

The feature is activated now.

This feature is activated by default.

6.17 Adjustment Apply Level Settings

Overview

When multiple screens/displays are used, changing a setting can be interpreted in different ways. E.g. changing a setting on an input of the master digitizer can be interpreted as changing only the setting for that specific input or for the stacked inputs or even for all similar inputs. The same thing can be happen for a screen and for tiles.

Possible settings:

Apply changes to inputs	selected input only	Only the input on which the setting is changed will be adapted.
	the stacked inputs	The selected input and its stacked inputs will be changed according to the changes of the selected input (within the same display).
	all similar inputs	All similar inputs of the stacked digitizers will be changed (even those which are not in the same display).

Apply changes to screens	selected screen only	Change will only be applied to the selected screen
	all screens in display	Changes will be applied to all screens in the display.
	all screens	Changes will be applied to screens in the stack even if they are linked to another display.
Apply changes to tiles	selected tile only	Changes will be applied to the selected tile.
	all tiles in the same screen	Changes will be applied to all tiles in the screen.
	all tiles in the same display	Changes will be applied to all tiles in the display.
	all tiles	Changes will be applied to all tiles connected to the stack.

How to use these settings

1. Before starting an adjustment, set first the apply levels correct.
2. Click on **Apply options**. (image 6-30)
The apply level settings window opens. (image 6-31)
3. Select the correct statement by clicking first on the drop down boxes.
4. Click on **Ok** to apply the settings.
5. Continue now with the setting you want to change.



Image 6-30
Click on Apply options



Image 6-31
Apply level settings

Changing from display

1. Click on the first drop down box indicating the displays.
2. Select the desired display out of the list of available displays.

Changing from screen within a specific display

1. Select first the display for which the screens must be visible.
2. Click on the second drop down box indicating the screens.
3. Select the desired screen out of the list of available screens for that specific display.

The icons next to selection will change according the hardware configuration of the selected screen.

E.g. when screen 2 is selected, the icon of the digitizer for screen 2 will be shown. When clicking on that digitizer icon, the input settings only for screen 2 will be shown.

7. SYSTEM CONFIGURATION

Overview

- Start up System configuration
- Input & Display Configuration
- Windowing
- Work Space Resolution
- Wall Settings
- Device Configuration
- Configuration Manager

Overview

This involves the manipulation of the devices connected within the system and also the tuning of the sources connected to the digitizer.



Before clicking on a device when on the start up window of the software, click first on System configuration.

7.1 Start up System configuration

Start up

1. Click on **System Config**.

By default the windowing page, will be loaded. (image 7-1, image 7-2)

7. System Configuration

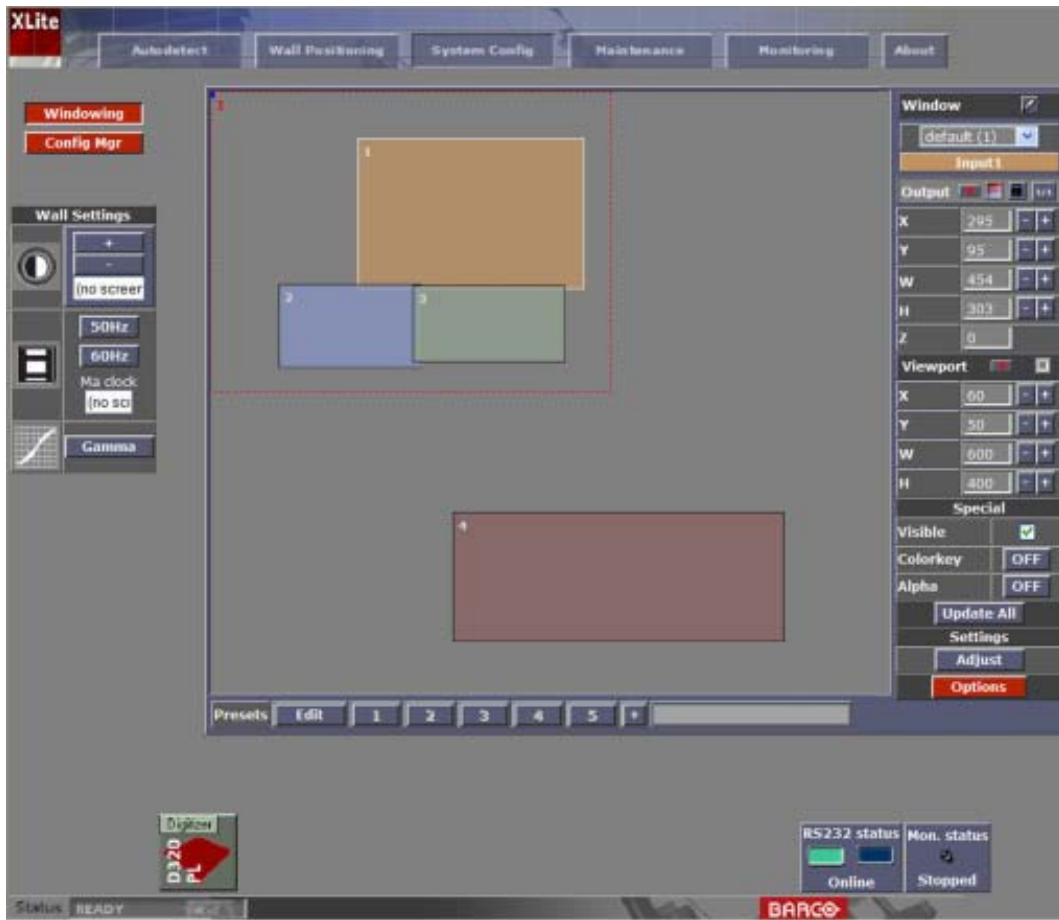


Image 7-1
System configuration start up page

When a stack configuration is used, the windowing page looks a little bit different.

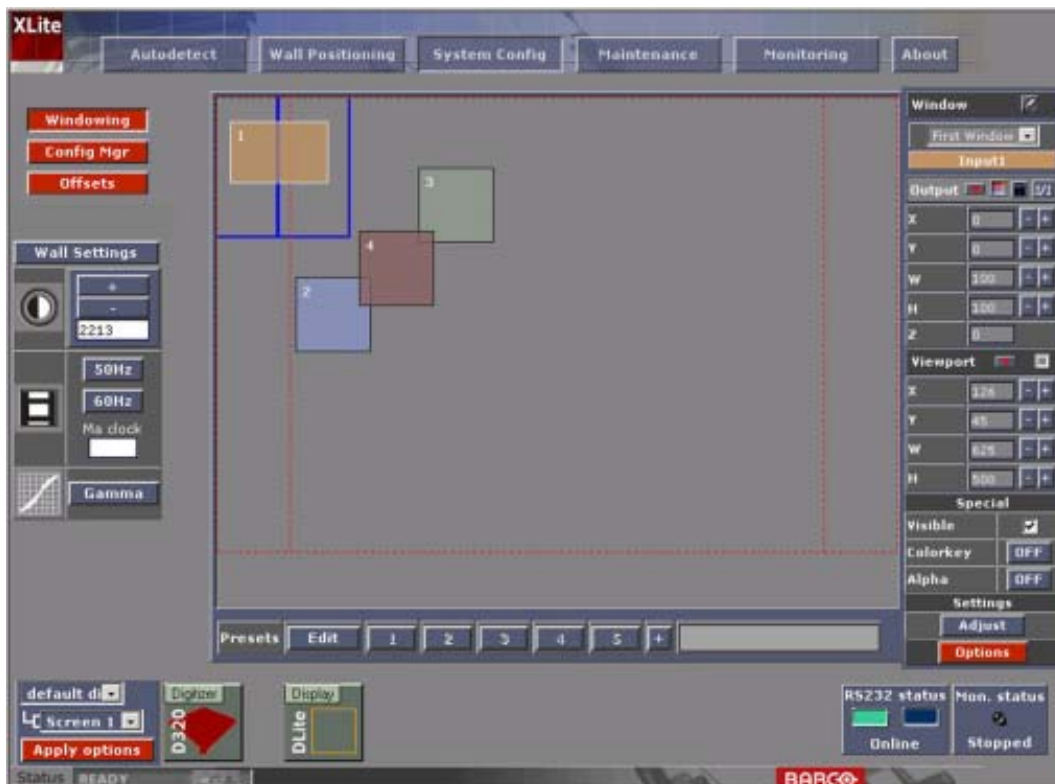


Image 7-2
System configuration start up page for a stacked configuration

7.2 Input & Display Configuration

What can be done with this configuration

This page enables:

- Windowing changes on various inputs.
- Wall settings
- Wall position
- Device configuration
- Style manager
- Stack manager (only for stacked configurations)

About boxes in the window

Blue rectangular : the blue bordered rectangular box with no filling represents a screen in a display, in the workspace (non stacked configuration, screen = display).

Red rectangular : the red (dotted) rectangle indicates the timing window of the digitizer (in stacked configuration, as many timing windows are available as screens are). Only the information within this rectangular will be displayed on the wall.

E.g. for a single wall and if you want to display all information on the wall, the blue rectangular (wall representation) must be equal to the red rectangular (active field).

Other boxes in the workspace represent input sources and are color filled. The currently selected input has a white border while not selected sources have a black border.

All input sources are identified by numbering and color.

7. System Configuration

Some example :

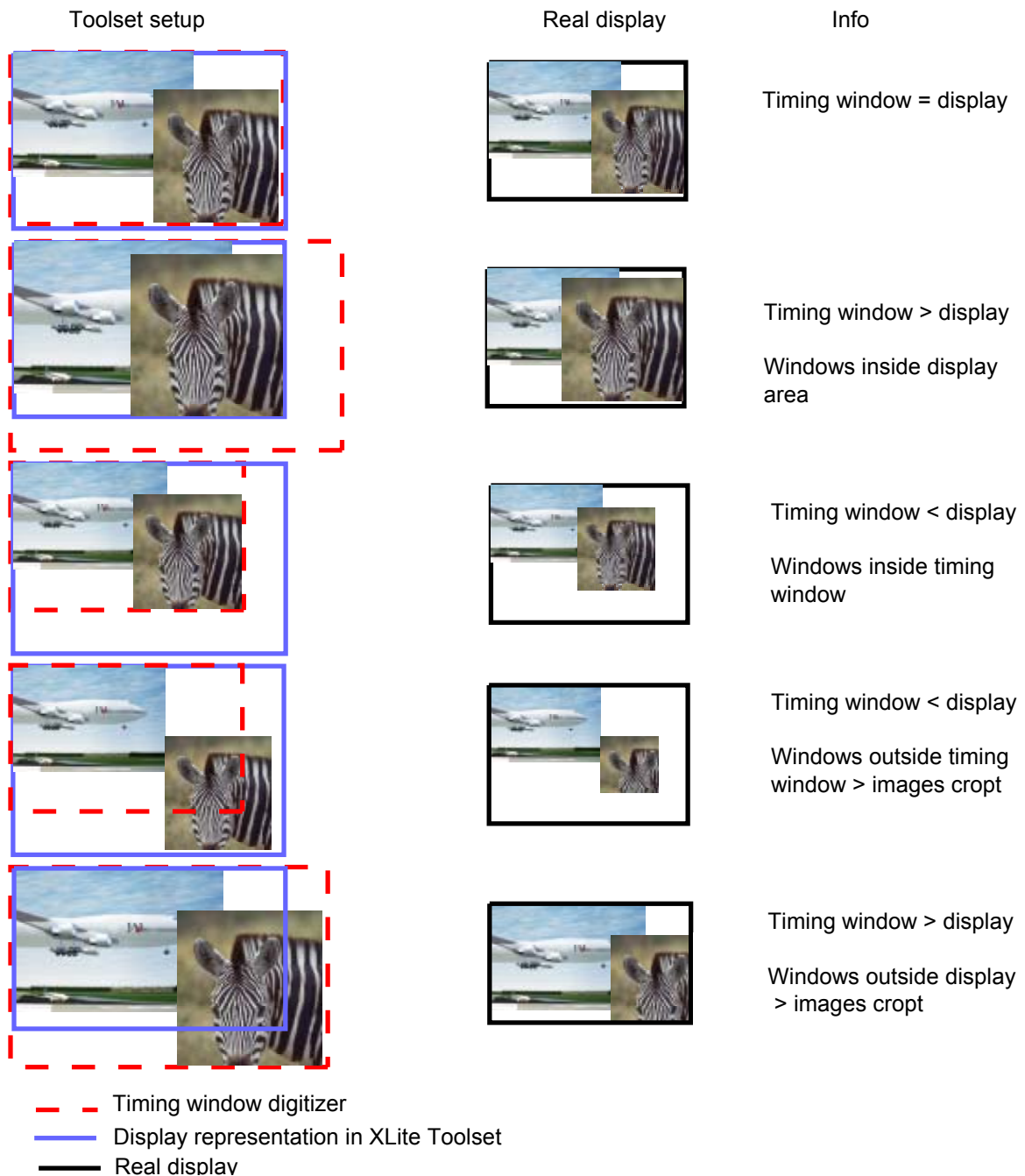


Image 7-3
Result of windowing

The toolbox on the right allows input specific changes and effects.

These include:

- input positioning
- input viewporting
- input visibility
- input color keying
- input alpha blending

The workspace allows for locating, moving, scaling up/down sources, enable or disable sources and make adjustments to the display and source environment. Additional functionalities exist by interaction with display and input toolboxes on either side.

The button 'Windowing' opens the windowing environment.

The button **Config Mgr** opens the Configuration Style Manager environment which is utilized for saving and loading the systems dynamic configuration parameters.

Note for a stacked configuration

Example configuration: two screens are forming one display (image 7-2). So 2 digitizers are stacked. As the inputs are configured as stacked inputs only 4 input box representations are visible on the display.

These boxes can now be managed as in a single configuration (moving, z-order, scaling, aspect ratio, etc.). but remark that each box can be placed over both screens so that a part of the image is shown on screen 1 and the other part on screen 2.

7.3 Windowing

Overview

- General representation
- Window Selection
- Changing a window name
- Locking a window
- Window, no scaling
- Moving Windows
- Scaling Windows
- Making group changes to a window
- Z-Order
- Aspect Ratio
- ViewPort
- Visibility setup of a source
- Color Key
- Alpha Blending
- Update All
- Settings
- Preset Configurations

7.3.1 General representation

Overview

The following is a representation of the work space (windows), from here all connected sources are visible graphically with relation to the display screen. Only window boxes overlapping the display box (dark blue outline) will be visible on screen.

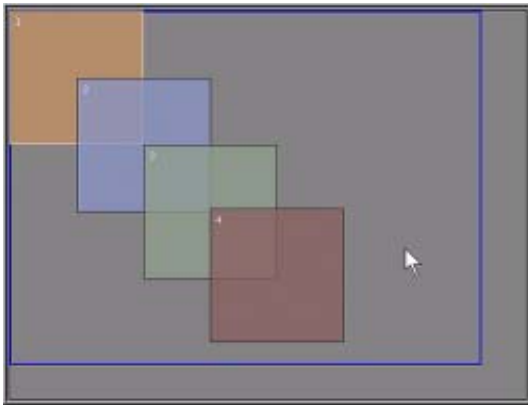


Image 7-4

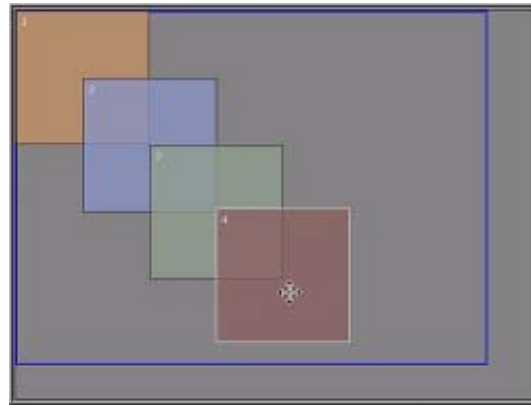




Image 7-5

There are 3 ways to change a window:

- with the mouse (see "Moving Windows", page 102 and "Scaling Windows", page 102)
- by pushing on the - and + buttons in the input box.
- by selecting  in the input box, changing all the values and clicking again on the  icon.

7.3.2 Window Selection

Select a window

There are two way to select a window (source):

- Select the window by scrolling down the click down menu to reveal all the possible windows that can be selected. The windows are indicated by a nick name or by a default name.
- Alternatively select a window in the work area by clicking on it, the parameters of the selected window will be updated automatically in the *Window Input Box*.

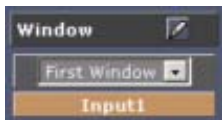


Image 7-6

When a window is selected, the corresponding input or inputs will be indicated in the Input box. Normally this is one input for one window, but when the window is background window, several inputs can be combined to form that background window.

7.3.3 Changing a window name

Overview

Each window can have a specific name. That name can be entered while configuring the configuration but can be changed at any time while working in the window workspace.

How to change

1. Select first the window (source) you want to change the name.
2. Click on the name change icon. (image 7-7)
A user prompt window will be displayed. (image 7-8)
3. Enter a new name with the keyboard.
4. Click **OK** to change the name of the selected window.



Image 7-7
Click on change name icon



Image 7-8
Name change prompt window

7.3.4 Locking a window

Why

A window can be locked so that no changes can be made to dimensions and the relative position in the display. Z-ordering is still possible.

How to lock

1. Select an input (window).
2. Click on the padlock icon. (image 7-9)

The selected window is locked on its actual position.



Image 7-9
Window lock

7.3.5 Window, no scaling

What can be done

A scaled window can be displayed as 1/1 window, without scaling.

How to return to no scale

1. Select an input (window).
2. Click on the no scale button (1/1). (image 7-10)

The window will be displayed as a 1/1 window.



Image 7-10
No scaling

7.3.6 Moving Windows

Moving via the workspace

1. Click on a window and hold the mouse button down to grab the selected window.
2. Move the window as is required. (image 7-11, image 7-12)

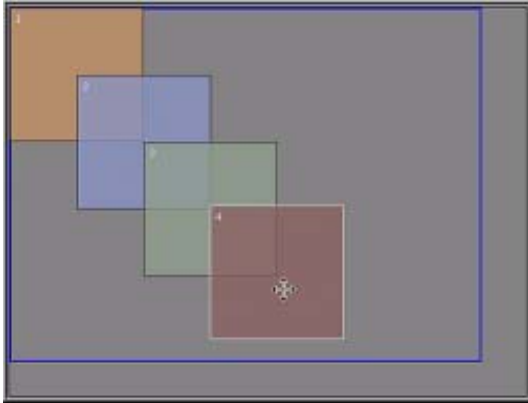


Image 7-11

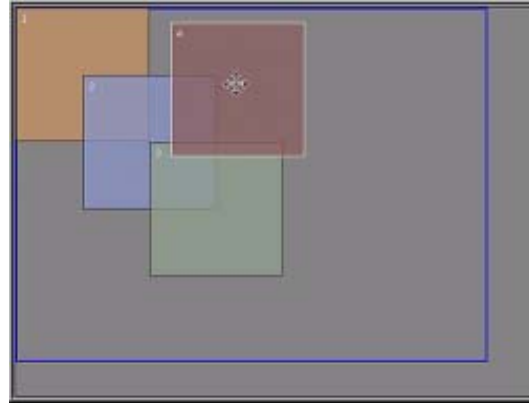


Image 7-12
Moving windows

Moving via the Window Input Box

1. Select the window you want to move.
2. Change the X and Y value indicating the start position of the window by clicking on the + or - keys
Or,
by entering a new value with the keyboard. (image 7-13)

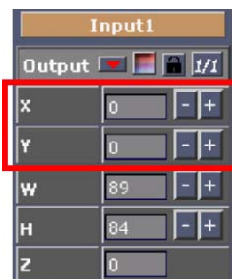


Image 7-13
Moving via the Input box

7.3.7 Scaling Windows

Scaling via the workspace

1. Click on the corner of a window while holding the mouse down. (image 7-14)
2. Move the mouse to either down-scale or upscale the selected source, as is required. The coordinates of the selected window will be automatically adjusted in the windowing menu box, in relation to any re-sizing or moves. (image 7-15)

The coordinates of the selected window will be automatically adjusted in the windowing menu box, in relation to any re-sizing or moves.

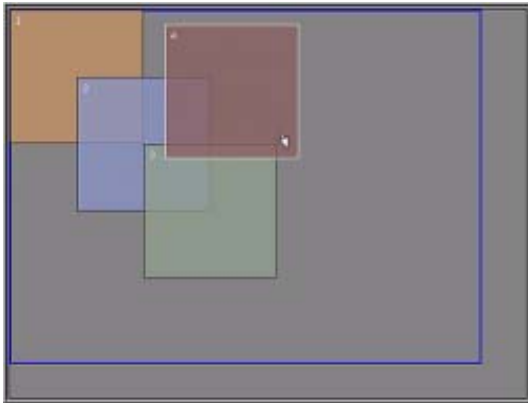
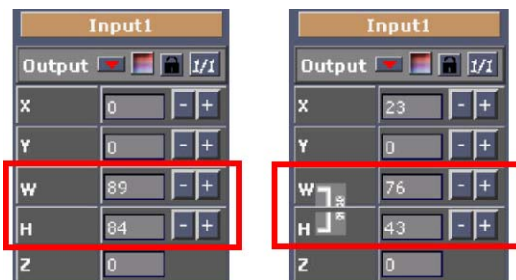


Image 7-14

Image 7-15
Scaling windows

Scaling via the Window Input Box

1. Select first a window.
2. Change the width and height value by pushing the + or - button.
Or,
by entering the new value with the keyboard. (image 7-16)
Note: The upper left corner is fixed during the scaling.

Image 7-16
Scaling via the Input Box

When a typical aspect ratio is associated with the selected window, the height and width are linked to each other. When changing one of them, the other dimension will change accordingly.

7.3.8 Making group changes to a window

What is possible?

The dimensions and the relative position of a window can be changed by entering new values in the input box but the changes will only be applied to the real window at the end after effectively applying the changes. The preview in the workspace will change each time a value is adapted.

How to make group changes

1. Select an input (window).
2. Click on the group change icon. (image 7-17)
The background of the adjustable fields will change to white. The group change icon will blink. (image 7-18)
3. Change the values for X, Y, W and H to the desired values.
4. Click on the blinking group change icon.

7. System Configuration

The changes will be applied to the display.



Image 7-17
Group changes selected



Image 7-18
Group changes

7.3.9 Z-Order



Z-order

The layer sequence in which windows will be displayed in relation to one another.

Z-order change

It is possible to adjust the Z-Order or layering scheme of the windows in relation to one another.

1. Click with the right mouse button upon any particular source. (image 7-19)

A pop-up window appears. (image 7-20)

2. Select from the four choices to change the order of the layering.

One Up	moves the selected source up one layer
One down	moves the selected source down one layer
To front	moves the selected source to the top layer
To back	moves the selected source to the bottom layer

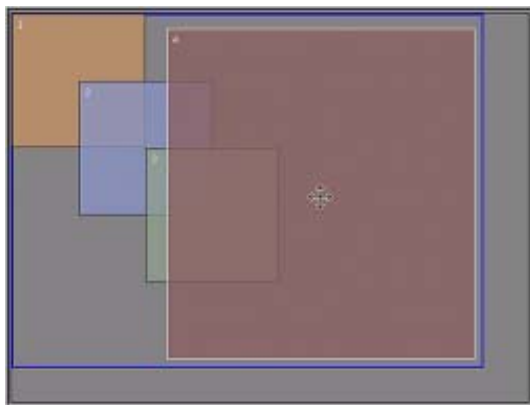


Image 7-19

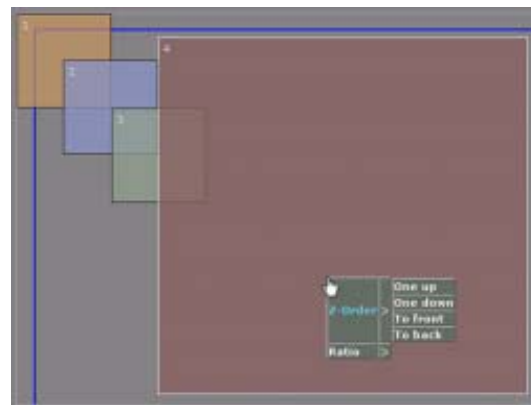


Image 7-20
Z-order windows

7.3.10 Aspect Ratio



Aspect ratio

horizontal & vertical dimension in which the window will be displayed, e.g. 4 by 3 or 16 by 9.

How to change

It is possible to adjust the Aspect Ratio of a window.

1. Click with the right mouse button upon a source.

A pop-up window appears.

2. Select Ratio and move the mouse to the right.

The menu will expand with the different ratios. (image 7-21)

3. Select the desired ratio.

Note: while selecting a typical aspect ratio, the width and height in the window box are coupled.

The following ratios are available:

- 3/2
- 4/3
- 14/9
- 16/9
- 21/9
- Snap to : set ratio to current dimensions
- None : no typical aspect ratio installed.

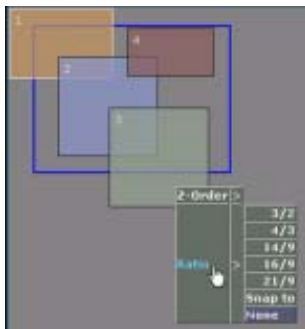


Image 7-21
Aspect ratio of a window

7.3.11 ViewPort



ViewPort

A part of the complete input signal (cut out of the complete signal) which will be displayed in a window.

7.3.11.1 General

Overview

ViewPort refers to a positional point on the input image (with X & Y coordinates). Associated to that point is a horizontal distance along, plus a vertical distance down. This then defines a viewport or cutout specific to that input.



Image 7-22

7. System Configuration

- X Horizontal start position of source window in pixels referenced to the input source reference.
- Y Vertical start position of source window in pixels referenced to the input source reference.
- W Horizontal size of source window in pixels (width)
- H Vertical size of source window in pixels (height)

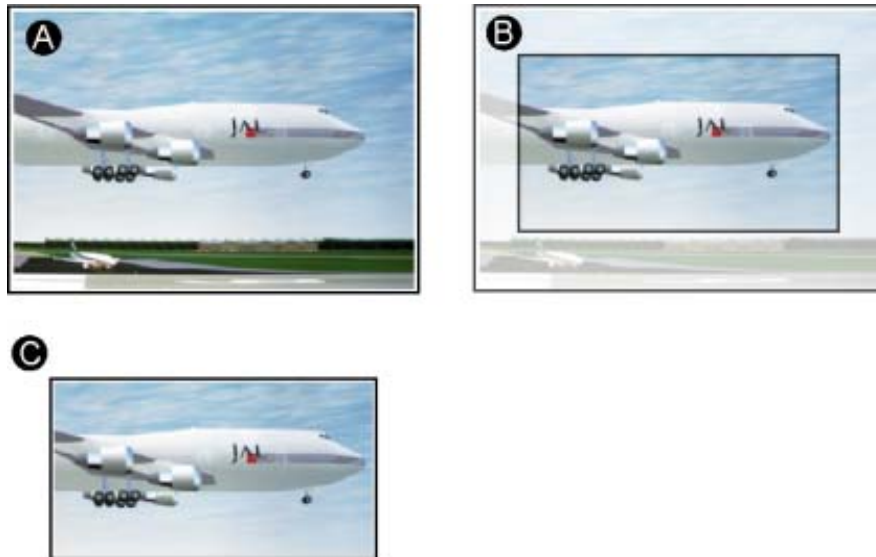


Image 7-23
Viewport

- A Input signal
- B Viewport creation
- C Result signal to be displayed in the window

7.3.11.2 Creating a ViewPort

By entering the coordinates

1. Click on the '+' or '-' button next to X, Y, W, H to create the desired viewport.

By dragging with the mouse

1. Click on the view Control icon. (image 7-24)

The View Control window reveals. (image 7-25)

- The colored window indicates the actual viewport for the indicated source. The color of the window is the same as the color of the source in the system configuration window.
 - The gray background with the indication 'Input source' is the real size of the input source.
2. To resize the Viewport, move your mouse to a corner of the colored square. The cursor changes to a white arrow. Hold down the left mouse button and move to the desired position. (image 7-26)
 3. To move the viewport, move your cursor to the center area of the colored square, hold down the left mouse button and move the complete square to the desired position on the input source. (image 7-27)



Image 7-24

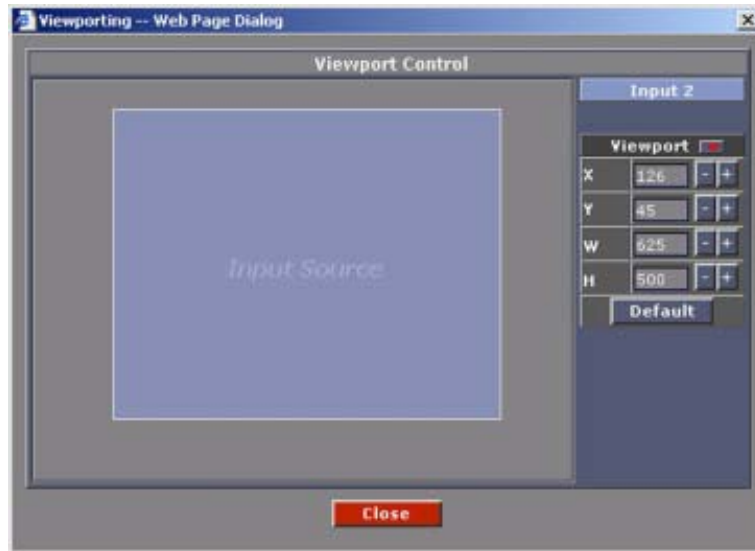


Image 7-25
Viewport Control window

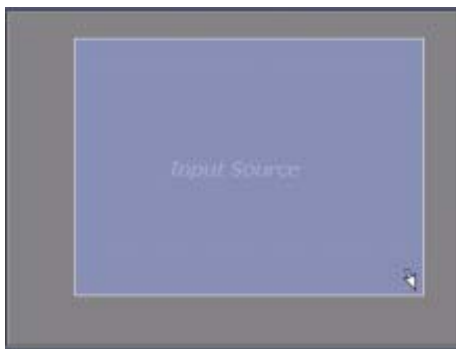


Image 7-26
Resizing a viewport

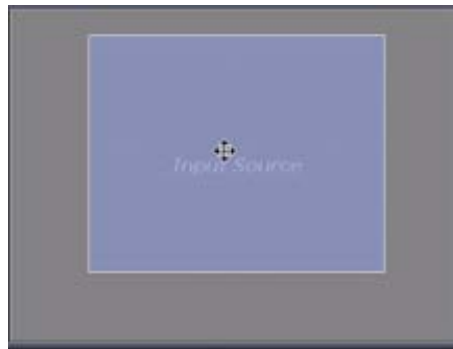


Image 7-27
Moving a viewport



While in the Viewport Control window, it is still possible to enter the values yourself.

Go back to the default values

1. Click on **Default**.
A message will be displayed to indicate that the default settings will be loaded. (image 7-28)
2. Click on **OK** to load the default settings.

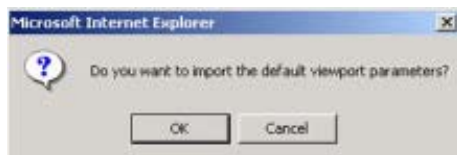


Image 7-28
Message default settings will be loaded

7.3.11.3 Making group changes

Making group changes



To make a group change in ViewPort, select the  button. The background of the adjustable fields will change to white. Make any changes now to these fields. To apply the changes made click the now flashing  button, all changes in these fields will be updated simultaneously.



Image 7-29



Image 7-30

7.3.11.4 Apply Viewport setting source A to source B

How to apply

1. Click on the Viewport Control icon and hold down mouse button. (image 7-31)
2. Drag the icon to the desired source square in the System Configuration window. (e.g. to source 4)
3. Release your mouse button when on the desired source square.

The settings will be copied from the original source to the new source (in the image example from source 2 to source 4).

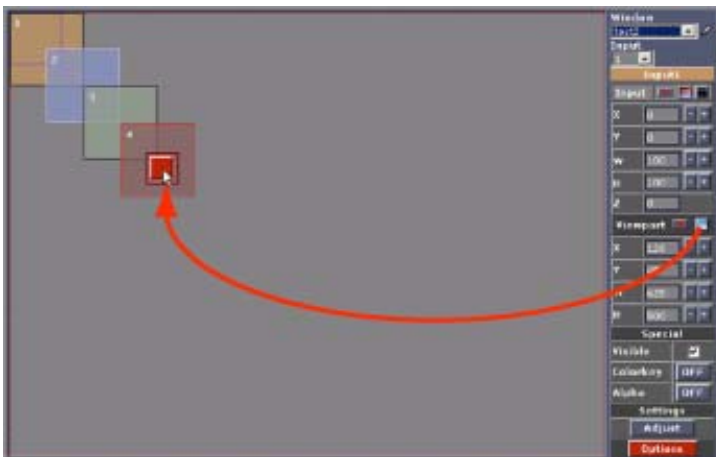


Image 7-31
Copy viewport settings to another source

7.3.12 Visibility setup of a source

To set up

1. Uncheck the checkbox next to Visible in the Special input box. (image 7-32)

The selected source will not longer visible. The representation of this source on the workspace will be shaded grey to indicate that the content is invisible.

Default : checkbox is checked.



Image 7-32
Select Visible

7.3.13 Color Key



Color key

Sometimes also called chroma key. This is a method of combining two video images. An example of chroma keying in action is the nightly news person standing in front of a giant weather map. In actuality, the person is standing in front of a blue or green background and their image is mixed with a computer-generated weather map. This is how it works: a TV camera is pointed at the person and fed along with the image of the weather map into a box. Inside the box, a decision is made. Wherever it sees the blue or green background, it displays the weather map. Otherwise, it shows the person. So, whenever the person moves around, the box figures out where he is, and displays the appropriate image.

Example images of color keying

Take e.g. two image. One taken on a full color background and the other a normal image. The full color background will be replaced by the second image via the principle of color keying.



Image 7-33
Zebra on a single color



Image 7-34
Full color image



Image 7-35
Result image after color keying

Start up

- Click on the **ON** or **OFF** toggle button of the Window Input Box to either activate or disable the color key operation. (image 7-36, image 7-37)

Note: a. Color Key not available with Digitizer D310 without Windowing Option.

b. Color key with a Digitizer D310 with Windowing Option is only available on input 2.

c. Color key with a Digitizer D320 available for all inputs.



Image 7-36
Color key input window



Image 7-37

Status

ON indicates Color key status active

OFF indicates Color key status disabled.

Color values

Manually enter in the values of Red, Blue & Green between a ranges 0-255.

This will generate the color that will be color keyed upon.

The color key color will be visible in the box above the values on image 7-37.

Range

Definition of color key value range. This range can be used to avoid color keying on one specific color value.

Algorithm

Algorithm for the Video insertion. You can insert the video starting from the color value and every value higher than this color starting from the color value and every value lower than this color, inside the range or outside the range.

Possible selections:

higher	color higher than the range will be inserted
lower	color lower than the range will be inserted
equal	color equals the color value will be inserted
inside range	colors inside the range will be inserted
outside range	colors outside the range will be inserted

Color Palette

Keying on Red, Green & Blue together

Keying on only Red or Green or Blue : this can be useful when there is some (white) noise on the image.

Apply changes

Click on **Ok** to store any change and activate any action performed.

Click on **Cancel** to exit without storing any changes performed.

7.3.14 Alpha Blending



Alpha Blending

Alpha Blending enables the ability to add transparency to any selected source.

Overview

Alpha blending can be executed on a graduation scale of 0–255. With 255 being transparent or invisible and 0 being solid.



Image 7-38



Image 7-39



Image 7-40

7. System Configuration

Start up

1. Click on the **ON** or **OFF** toggle button of the Window Input Box to either activate or disable the Alpha blending operation. (image 7-41, image 7-42)

Note: a. Alpha Blending not available with Digitizer D310 with or without Windowing Option.

b. Alpha Blending with a Digitizer D320 available for all inputs.



Image 7-41
Alpha Blending input window



Image 7-42

Status

ON indicates Alpha blending status active

OFF indicates Alpha blending status disabled.

Alpha Value

The lower the value the image is solid.

0 = solid image (opaque)

255 = transparent or invisible

Move the slider bar to change the transparency.

Apply changes

Click on **Ok** to store any change and activate any action performed.

Click on **Cancel** to exit without storing any changes performed.

7.3.15 Update All

When using this button ?

As long as XLite toolset has the control of the wall, all settings will be saved in preset and update all is not necessary.

When another application will take control after setup of the wall with XLite Toolset, then the latest settings should be communicated to this other application. So, when pressing Update All, the actual settings will be saved in the configuration file. The other application will use this configuration file to control the wall.

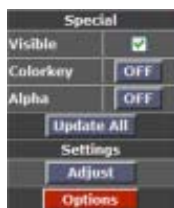


Image 7-43
Update all

7.3.16 Settings

Adjust

1. Select an input (window).
2. click on **Adjust** (image 7-44)

The settings window of the selected source will appear.

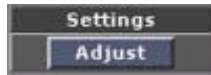


Image 7-44

7.3.17 Preset Configurations

Overview

- Saving a configuration
- Loading a configuration, way 1
- Loading a configuration, way 2
- Removing a predefined configuration

7.3.17.1 Saving a configuration

How to save

1. Make your configuration as described before.
2. Click on **Edit**
The Preset web dialog box opens. (image 7-45)
3. Select one of the 10 presets with the mouse. The first 5 are on the screen. Use the scroll bar to see the next 5 presets.
The selected preset line becomes blue. (image 7-46)
4. Click on **Save** to save the configuration.
If preset is empty, the configuration will be saved.
If the preset is not empty, a message appears. (image 7-47)
Before really saving the preset layout configuration, a preset information input window will pop up. (image 7-48)
5. Click in the input field and enter a name or information about the preset. Click on **OK**.
6. Click **OK** to override the old settings.
Or,
Click **Cancel** to select an empty preset.

7. System Configuration



Image 7-45
Preset configuration window



Image 7-46

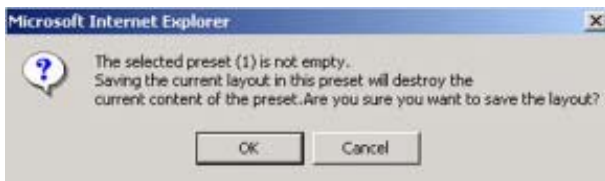


Image 7-47



Image 7-48
Info preset layout configuration

7.3.17.2 Loading a configuration, way 1

way 1

1. Click on one of the four preset buttons on the system configuration screen. (image 7-49)

If a configuration is stored behind the selected button, this configuration will be loaded. If nothing is stored behind the selected button, nothing will change on the screen.



Image 7-49



When moving your mouse over a preset button, info about this preset will be displayed in the info window next to the buttons.



Image 7-50
Preset info on mouse over.

7.3.17.3 Loading a configuration, way 2



When moving your mouse over a preset button, info about this preset will be displayed in the info window next to the buttons.



Image 7-51
Preset info on mouse over.

Way 2

1. Click on **Edit**

The Preset web dialog box opens. (image 7-52)

2. If it stored on preset 1 to 5, click on desired preset button on the system configuration screen. If stored on preset 6 to 10, click first on + to display the next 5 presets and click then on the desired preset button.

The selected preset line becomes blue. (image 7-53)

3. Click on **Load** to load the predefined configuration.

A load message screen appears. (image 7-54)

4. Click **OK** to load the selected configuration.

Or,

Click **Cancel** to abort the loading operation.



Image 7-52



Image 7-53



Image 7-54

7.3.17.4 Removing a predefined configuration

How to remove

1. Click on **Edit**

7. System Configuration

The Preset web dialog box opens.

2. Select a used preset with the mouse. Use the scroll bar if necessary to reach preset 6 to 10.

The selected preset line becomes blue. (image 7-55)

3. Click on **Remove** to remove the selected preset.

4. A warning message will appear. (image 7-56)



Image 7-55



Image 7-56

7.4 Work Space Resolution

How to start up?

1. Click upon **Options** in the Window Input Box to reveal the Windowings Options page. (image 7-57)

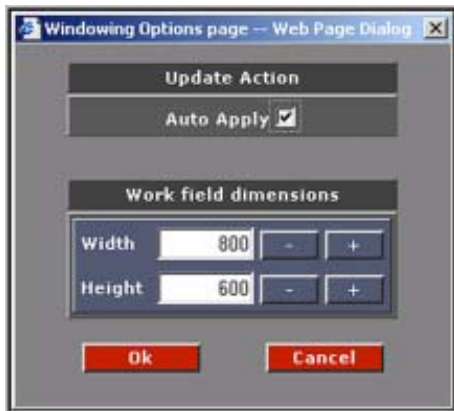



Image 7-57




Work space resolution input window

Size adjustment of the resolution

1. Adjust the size of the resolution of the work area using the buttons  to either zoom in or out of the window and display boxes.

The width and height aspect ratio change simultaneously according the adjustments.

See image 7-58, image 7-59.

2. Check the  box to update immediately any changes made.
3. Click upon  to apply any changes made
4. Click upon  to exit without applying changes

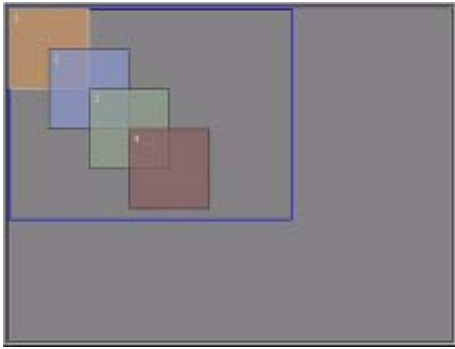


Image 7-58

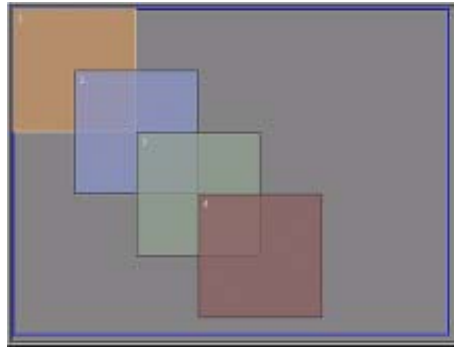


Image 7-59

7.5 Wall Settings

7.5.1 Wall settings overview

Start up

1. Click on **Wall Settings** to expand its controls. (image 7-60)

From here it is possible to edit three important display variables.

- Contrast
- Flicker adjustments
- Gamma



Image 7-60

Contrast

The light output of the screen in Nit value dependent on the wall type.

ILite max 2000 Nit

DLite max 5000 Nit

Flicker Adjustments

Master clock set up depending on the frame rate. Default value already filled in. These default values depend on the wall type and output frame rate of the digitizer. For an overview of these default values, see "Flicker adjustment" within "Screen Settings" in the specific display configuration chapter.

7.5.2 Gamma (non-linear color tracking)

7.5.2.1 Starting Gamma adjustment

Start up

1. Click on **Gamma** to load the Gamma adjustment environment window.

Possible actions:

- to either adjust the gamma independently in six regions of the characteristic gamma curve
- to select from the ten presets Controls

How to change the gamma curve?

1. The gamma curve is represented through 4 points and 2 slopes. Changing any of the points or slopes results in a different gamma. One can change the points by clicking the arrows below the gamma curve. Or, by moving the crosses (representing the positions of the 4 points) with the mouse.

The black curve shows then the last selected preset as a reference for the altered gamma curve.

2. Push **Apply** to update the gamma immediately.

7.5.2.2 Gamma Curves overview

Gamma Preset Curves

General Gamma option enables control on the gamma of the displayed source. The curve represents the gamma curve that will be selected for that source. There are 10 gamma presets available to choose from.



The number of buttons can vary when using ILite or ILite XP tiles.



Image 7-61

Gamma curves selection buttons.

Push the according button for the gamma preset

Click upon these buttons **Apply** **Quit** to either 'apply' your new settings or select 'quit' to leave this environment.

Flat Gamma Curve

F (Flat) represents no gamma

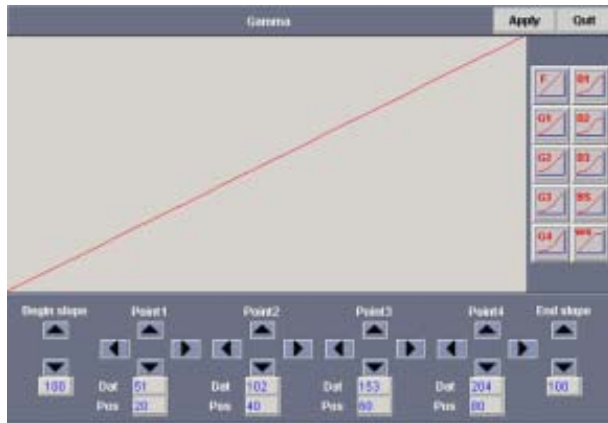


Image 7-62

G1-G4 (General curves) general gamma adjustment

Example : G1 Gamma Curve

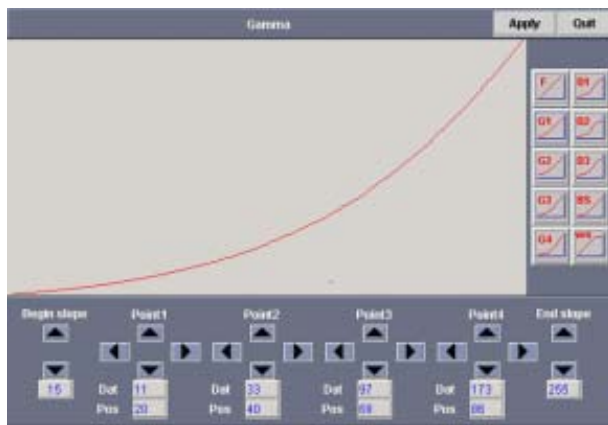


Image 7-63

D1-D3 (S-curves) dark = darker & light = lighter, hence better relative contrast

Example : D1 Gamma Curve

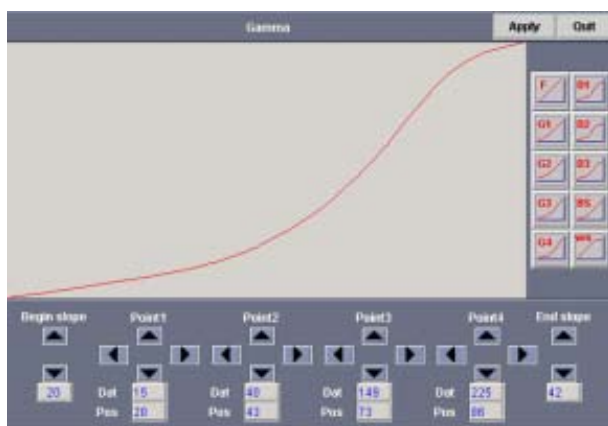


Image 7-64

WS (White Stretch) gives more gamma in the high lights, hence brighter impression

WS Gamma Curve

7. System Configuration

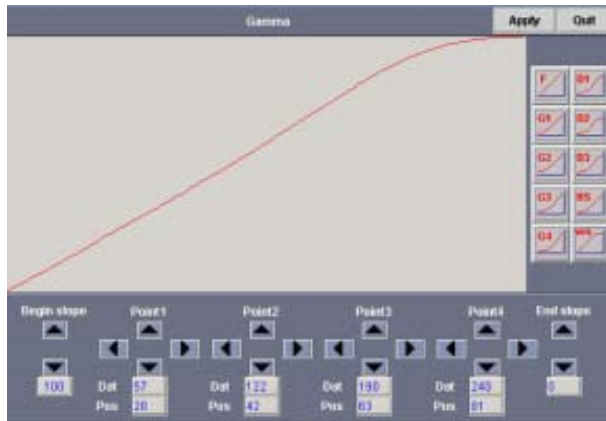


Image 7-65

BS(Black Stretch) will give more gamma in the low lights, hence darker impression

BS Gamma Curve

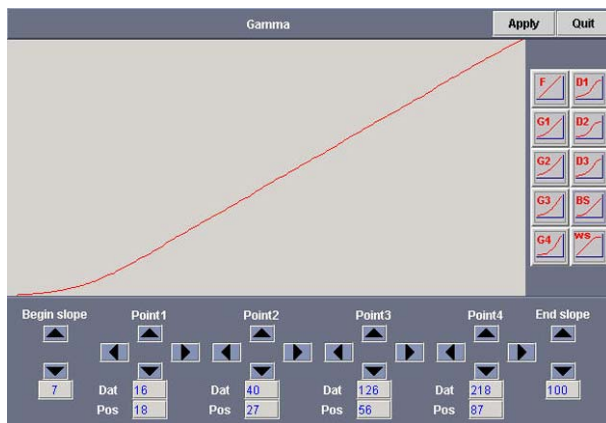


Image 7-66

7.6 Device Configuration

What can be done?

By pressing on the icons in the overview, it is possible to access new menus specific for that device. Icons of detected devices will be immediately visible in the 'overview' frame, appearing during Auto Detect.



Ensure all devices are connected correctly for good system operation.

For more explanation of the typical devices see one of the following chapters.

Possible Devices

The possible device icons that can appear are as follows:



D310 Digitizer

Consists of maximum 1 video output source and 1 Data output source (Windowing option installed)



D320 Digitizer

Consists of maximum 4 Video/Data output sources (D320 digitizers can be chained together, hence each additional D320 adding 4 more additional independent output windows)



D320L Digitizer

Consists of maximum 4 Video/Data output sources (D320L digitizers can be chained together, hence each additional D320L adding 4 more additional independent output windows)



D320Lite Digitizer

Consists of maximum 2 Video/Data output sources.



D320PL Digitizer

Consists of maximum 4 Video/Data output sources (D320PL digitizers can be chained together, hence each additional D320PL adding 4 more additional independent output windows)

Consists of maximum 2 Video/Data output sources.



DLite Display

A DLite display is constructed from D7/10/14/28 display tiles.



ILite Display

A ILite display is constructed from I3/6/8/10 display tiles.



SLite Display

A SLite display is constructed from S10/14/22 display tiles.



MD Display

A MD display is constructed from ILite MD tiles.



OLite Display

A OLite display is constructed from OLite510 tiles. Each tile contains 64 OLite modules.

7. System Configuration



MiPix Display

A MiPix display is constructed from MiPix pixels blocks.



FiberLink

Long distance transmission link between digitizer and LED Display.



FiberLink 2

Long distance transmission link between digitizer and LED Display (new generation).



Ambient Environment Controller (AEC).

Monitors ambient light conditions and compensates the light output of the display.

7.7 Configuration Manager

Overview

- Overview of the configuration manager
- Saving a Configuration
- "Save as" a Configuration
- Deleting a Configuration
- Loading a Configuration

7.7.1 Overview of the configuration manager

Start up

1. Click on **Config Mgr**. (image 7-67)

The config Manager environment starts up.



Image 7-67
Configuration manager start up window

What is a Config Mgr. ?

A Config Mgr is a collection of system settings, that can be saved under a specific config name.

Settings that can be saved by Config manager are:

- All display settings: contrast, gamma, flicker adj.
- The display positioning
- The input settings of digitizer
- The digitizer settings (also the selected source)

The current configuration name is visible next to Current config.

There is also a list of saved configurations, displayed under Config List.

It is possible to Load, Save or Delete a configuration.

7.7.2 Saving a Configuration

To Save

1. Click on **Save** on the config Mgr page to save the configuration on the same name.

A pop up window will appear. (image 7-68)

2. Fill in a config name

Config name The name of the configuration is already filled in.

Description space to enter a description of this configuration if it should be necessary

3. Click on **Cancel** to abort the save operation.

Click on **Save** to save the configuration.

If the save is successfully, a confirmation page will be displayed (image 7-69)

4. Click upon the text to return to the config management page.



Image 7-68



Image 7-69

7.7.3 “Save as” a Configuration

To Save as

1. Click on **Save as** on the Configuration Mgr page to save the new configuration on a different name.
A pop up window will appear. (image 7-70)
2. Fill in a config name

Config name you fill in the name of the configuration you want to save.

Description space to enter a description of this configuration if it should be necessary

3. Click on **Cancel** to abort the save as operation.
Click on **Save** to save the configuration.

If the save is successfully, a confirmation page will be displayed (image 7-71)

4. Click upon the text to return to the Config management page.



Image 7-70



Image 7-71

7.7.4 Deleting a Configuration

To delete

To delete a configuration, follow the next steps:

1. Select a configuration in the list to delete. (image 7-72)
2. Click **Delete**.

A confirmation box appears, asking if this configuration should be deleted or not. (image 7-73)

3. Click to abort.
Click to continue.

The message 'Style xxx was successfully deleted' will be displayed to confirm the deletion of that specific configuration. (image 7-74)

4. Click upon the text to return to the Configuration management page.
5. To return to the main section page, click **Config Mgr**.



Image 7-72



Image 7-73



Image 7-74

7.7.5 Loading a Configuration

To load

To load a configuration, handle as follow:

1. Select the configuration in the list with the mouse.
2. Click on **Load** (image 7-75)

Note: If this configuration is loaded for a non compatible configuration (e.g. device removed) the indication not compatible will be added next to the device. This device will be not selectable.

The Update Config page will be displayed with the name of the loaded style and a description.

In this page you can make your update selection choice. (image 7-76)

3. Make your update selection choice by checking the selection boxes.
The following choices are possible :

- Wall settings
- Wall positioning
- Digitizer settings
- Input settings

4. To apply the loaded settings, click the **Apply** button.

During the update, logging information is viewable in the Log Info View window. On completion, the following confirmation page is viewable. (image 7-77)

5. Click upon the text to return to the Config manager page.
6. To return to the main section page click **Config Mgr**.

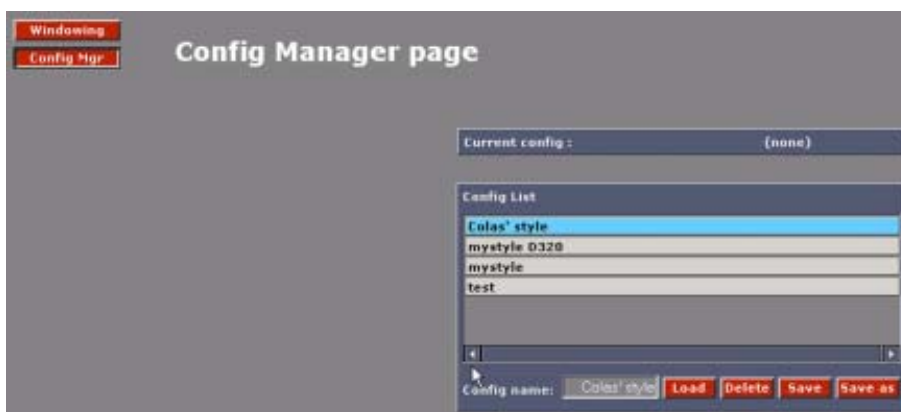


Image 7-75



Image 7-76



Image 7-77

8. D310 CONFIGURATION

Overview

- D310 Configuration start up
- Settings
- Device Properties Windowing Option
- Device Properties Digitizer

8.1 D310 Configuration start up



Before clicking on the D310 icon, be sure Wall Positioning is executed.

Start up

1. Click the D310 icon to reveal the following pop menu. (image 8-1)

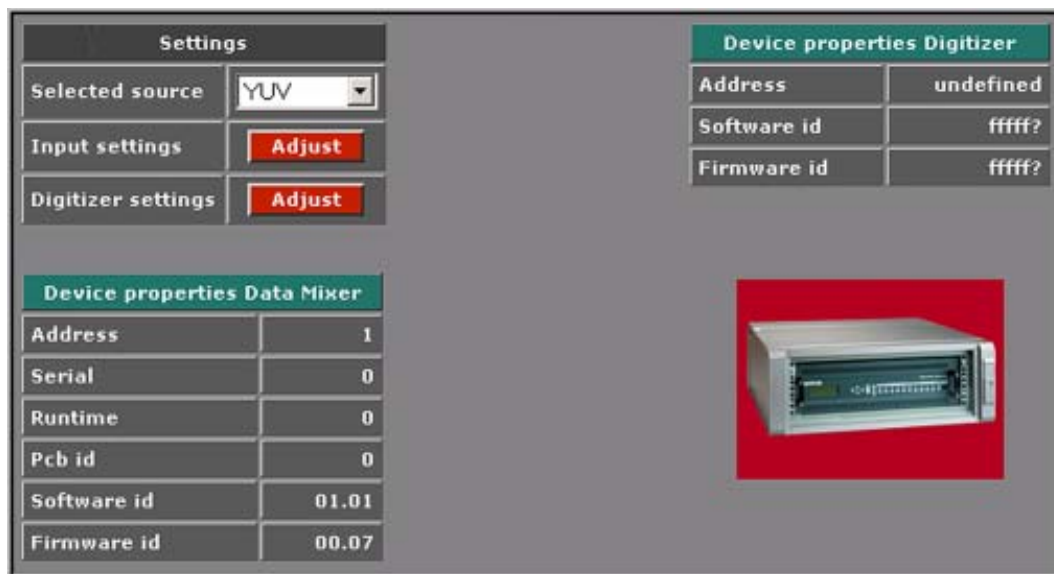


Image 8-1
Settings window D310

8.2 Settings

Overview

- Selected source
- Input Settings
- Digitizer Settings

8.2.1 Selected source

Overview

Select the source that relates to the input source on the back of the digitizer D310.

The following choices are possible:

- YUV
- VID1
- VID2
- SVID1
- SVID2
- RGsB
- SDI
- DATA

8.2.2 Input Settings

Overview

- Starting up the Input Settings
- Image Processing
- Video Equalizing
- Dynamic Image Stabilizer
- Color Matrix

8.2.2.1 Starting up the Input Settings

How to select?

1. Click **Adjust** to access input setting parameters. (image 8-2)

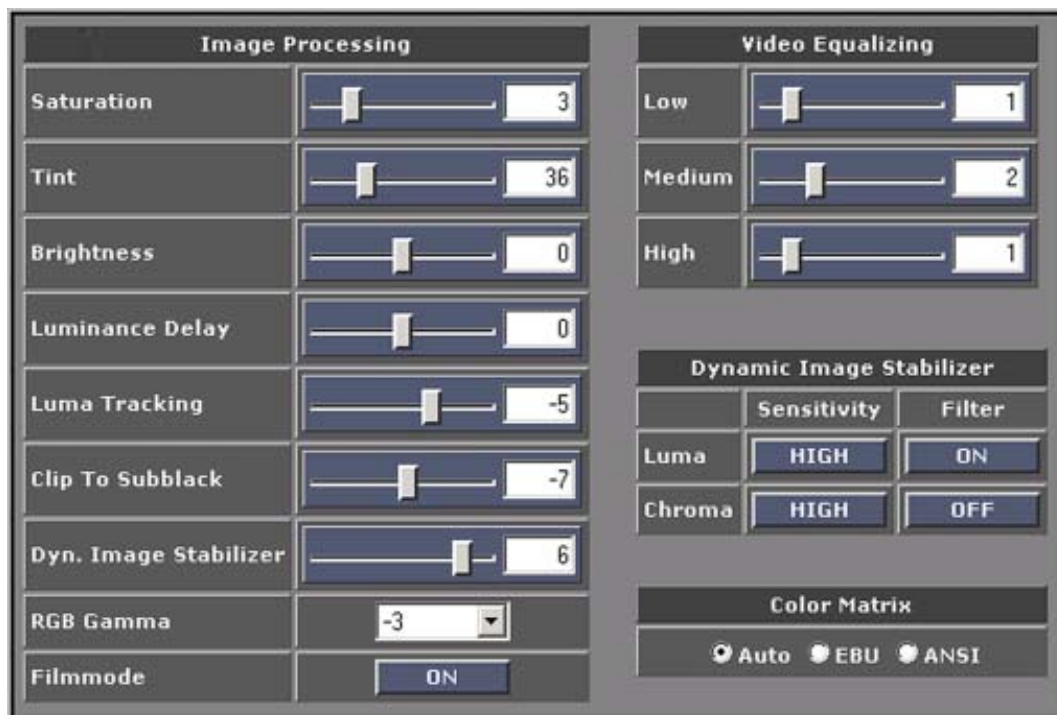


Image 8-2
Input settings window D310

8.2.2.2 Image Processing

Saturation

Adjustable from 0 to 15 with the corresponding slider. Saturation is the intensity of the color, 0 will be black & white.

Tint

Adjustable from 0 to 127 with the corresponding slider.

Tint (or hue) is the parameter of color that allows to distinguish between colors, 0 will give a more red image and 127 a greener one.

Only possible for NTSC video / S-video input.

Brightness

Adjustable from -31 to +31 with the corresponding slider.

Brightness is the intensity of the displayed signal. Brightness will add or subtract ... to the luminance part of the signal.

Luminance Delay

Adjustable from -7 to +7 with the corresponding slider.

Luminance Delay adjust the phase between the Luma- and the Chroma- signal of the incoming video., so Luma-Chrome timing errors in sources (color information is shifted) can be corrected.

Luma Tracking

Adjustable from -15 to 0 with the corresponding slider.

Luma Tracking prevents green haze appearing in low lights.

Clip to Subblack

Adjustable from -15 to 0 with the corresponding slider.

Clip To Subblack will filter spurious LSB's in low lights under black-level, to prevent that spurious pixels appear in black planes, even after Dynamic Image Stabilization.

Dynamic Image Stabilizer

Adjustable from 0 to 7 with the corresponding slider.

The DIS causes the image to be more stabilized. In high gain displays like the DLite Display this is very important. The DIS will filter the video in time, where 0 means no filtering and 7 very high filtering. Too high filtering can causes smearing in fast moving video. Therefore the DIS is adjustable to achieve an optimal performance. DIS will minimize spurious pixels in low lights, makes high contrast performance possible and will clean up sources of lesser quality for display.

RGB Gamma

Adjustable:flat/-1/-2/-3

The RGB Gamma provides adjustable gamma curves on R G and B outputs, which causes to reserve a high relative contrast, also in low lights. RGB gamma is processed in the digitizer.



If the general gamma is used, the RGB gamma should be in the "flat" position.

General Gamma

General gamma is a more accurate gamma adjustment, performed in the tiles to reserve a better relative contrast for the images (video / data ..) and for a more accurate color representation. See General Gamma

Filmmode

ON/OFF

Select ON to enable detection and processing of video, originating from film. (2 to 2 / 3 to 2 pull down)

8.2.2.3 Video Equalizing

General

Adjustment of the sharpness impression of the image in three frequency ranges.

Adjust sharpness completely conform own preferences or use predefined preset.

8.2.2.4 Dynamic Image Stabilizer

DIS Sensitivity

Select the amplitude sensitivity of the DIS.

For low video quality sources choose Luma Low/ Chroma Low for video sources of high quality choose Luma High/ Chroma High (preferable)

DIS Filter

Select the frequency sensitivity of the DIS.

For low video quality sources choose Luma On/ Chroma On (preferable) for video sources of high quality choose Luma Off/ Chroma Off

8.2.2.5 Color Matrix

Overview

Select Color Matrix:

- AUTO : automatic adapted to incoming source, depending on measured raster frequency
- EBU : European Standard (PAL/SECAM)
- ANSI : American Standard (NTSC)

8.2.3 Digitizer Settings

8.2.3.1 Digitizer Settings Start up

How to start up?

1. Click **Adjust** to access the Digitizer parameters image 8-1.

The Digitizer settings window will be displayed. (image 8-3)

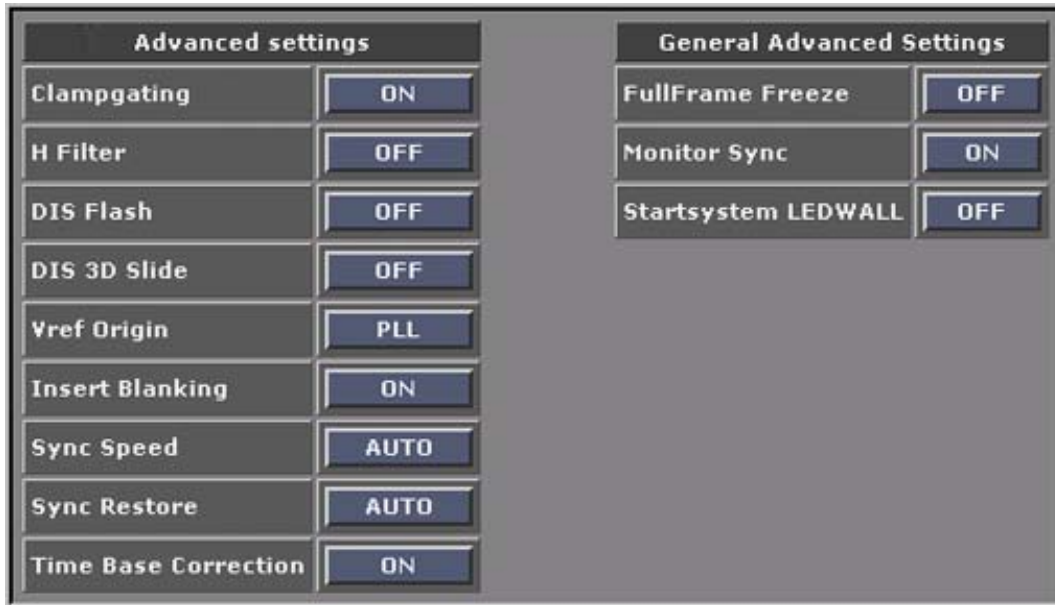


Image 8-3
Digitizer D310 settings



All settings are source specific.

8.2.3.2 Advanced Settings

Clampgating (ON/OFF)

Clampgating is to be used for video with Macrovision Protection and Time Base Correction ON. Macrovision Protection: Pseudo Sync Pulses and modulated AGC pulses With Clampgating ON, clamp is switched off during vertical flyback, what avoid clampdrift on Macrovision AGC pulses.

H Filter (ON/OFF)

H-filter is to be used with image-compression with a factor higher than two.

Dynamic Image Stabilizer Flash (ON/OFF)

To compensate for fast changing images, the DIS Flash will detect such changes from frame to frame and automatically adjust the DIS response.

Dynamic Image Stabilizer 3D Slide (ON/Off)

DIS 3D Slide will keep the same characteristic than the DIS but the effect will be more intense.

Vref Origin (From PLL/ From Direct Composite)

Vref Origin, possible selections :

- From PLL
- From Direct Composite

Use Direct composite only for a VCR if this VCR is in fast forward mode or Freez mode.

Use PLL for all other situations.

Insert Blanking (ON/OFF)

Will insert blanking on the monitor in the parts of the image that are not displayed on the DLite Display.

Sync Speed (Automatic/Fast)

Select FAST to avoid bad sync on low quality VHS-video sources. With AUTOMATIC this will be detected automatically.

Sync Restore (Automatic/Off)

Select AUTOMATIC if picture distortions appear due to Macrovision copy protection.

Time Base Correction (On/Off)

For the Time Base Correction, select ON which cleans-up low quality videotape noise for a more stable image. When Time Base Correction put on, Clampgating is best put ON also.

8.2.3.3 General Advanced Settings

Full Frame Freeze (On/Off)

Full frame definition is stored and displayed.

Monitor Sync (On/Off)

With Monitor Sync OFF a 'green' certified monitor will go in standby.

Start system LED Wall (On/Off)

Activate/disactivate start system.

8.3 Device Properties Windowing Option

Overview

Viewable Static information specific to the Windowing Option on the D310 is available here.

Parameters include its:

- Address
- Serial number
- Run time
- PCB identification
- Software Version
- Firmware Version

8.4 Device Properties Digitizer

Overview

Viewable Static information specific to the Digitizer D310 is available here.

Parameters include its:

- Address
- Software Version
- Firmware Version

9. D320 CONFIGURATION

Overview

- D320 Configuration start up
- Digitizer Settings

9.1 D320 Configuration start up



Before clicking on the D320 icon, be sure Wall Positioning is executed.

Start up

1. Click the D3120 icon to reveal the following pop menu. (image 9-1)

Digitizer Settings			
Operation Mode	<input checked="" type="radio"/> Master <input type="radio"/> Slave Direct <input type="radio"/> Slave Resync		
Sync Generator	Timings		
Startsystem LEDWALL	ON		
Input Slots			
Detect	Type	Firmware	Settings
Input 1	NO INPUTBOARD	0.0	Adjust
Input 2	NO INPUTBOARD	0.0	Adjust
Input 3	CVBS	02.00	Adjust
Input 4	NO INPUTBOARD	0.0	Adjust

Device properties of D320 NORMAL	
Address	1
Serial	0
Runtime	640
Software id	02.04.09

Image 9-1
Configuration window D320 digitizer



To restore the default settings, click on **Restore default settings** button.

9.2 Digitizer Settings

Overview

- Operational Mode
- Sync Generator

9.2.1 Operational Mode

Overview

3 operation modes are possible:

- Master : the addressed device is the first in a chain of multiple devices.
- Slave Direct
- Slave Resync



Image 9-2



Image 9-3



Image 9-4



Slave direct

slave is directly connected to the previous digitizer by using the sync clock of the previous one.



Slave resync

slave is directly connected to the previous digitizer but the sync clock is restored.

Example

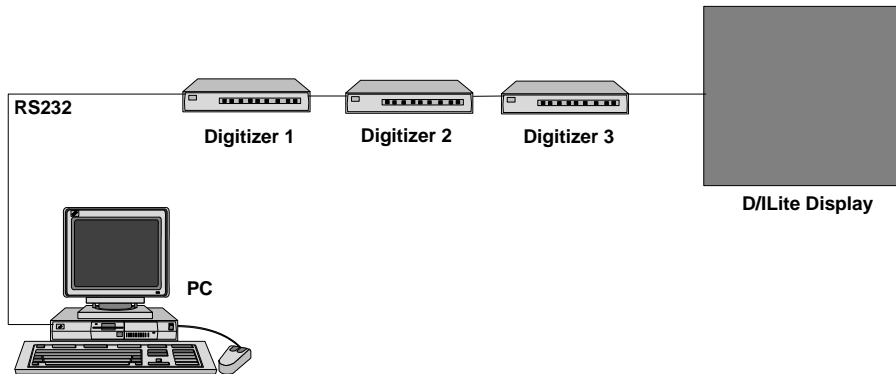


Image 9-5


Digitizer 1 : master

Digitizer 2 & 3 : slave

9.2.2 Sync Generator

9.2.2.1 How to start up

Timings window

1. Click  to access the D320 timings window.

See image 9-6.

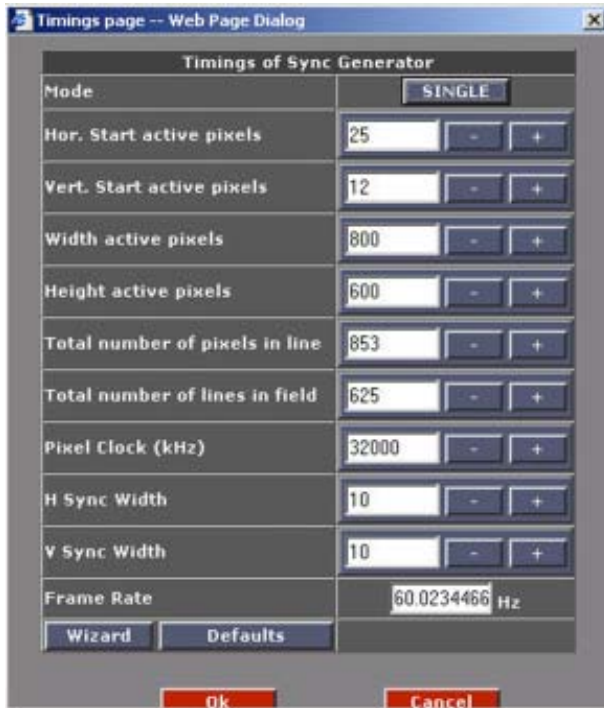


Image 9-6
Timings of sync generator window

How to enter the timings

To enter the timings of the sync generator, the following methods are possible:

- Customize : manual fill in of the values.
- Wizard : a guided way to fill in the values.
- Defaults : to enter the default values.

Settings on a wall

The following drawing illustrates the settings on a wall.

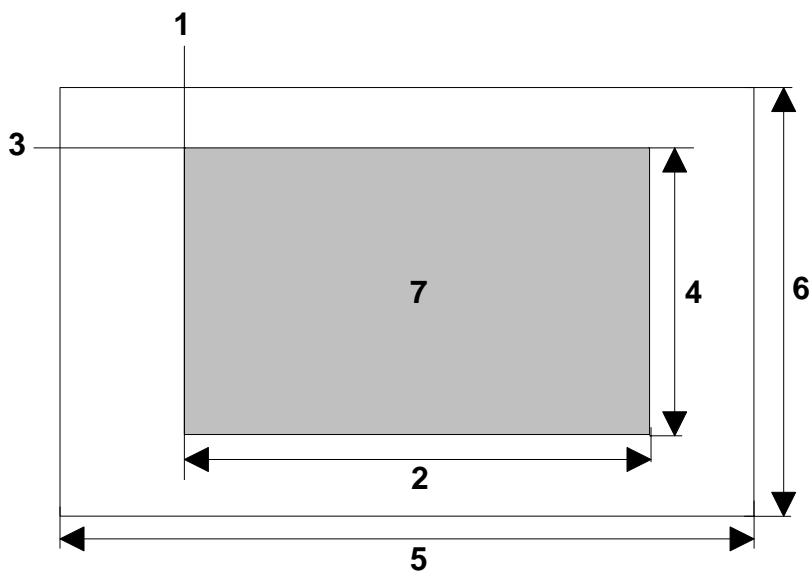


Image 9-7
1 Horizontal start active pixels
2 Width active pixels
3 Vertical start active pixels

- 4 Height active pixels
- 5 Total number of pixels in line
- 6 Total number of lines in field
- 7 Active area

9.2.2.2 Timings of Sync Generator

Mode

The pixel clock can work in 2 ways: single or dual path. This toggle button makes it possible to change the clock mode.



Working in dual path doubles the pixel clock speed.

Horizontal Start Active Pixels

The horizontal start position of the active image area, referenced from HSync. The value must be greater than Hsync Width.



Image 9-8

Width active pixels

The number of pixels that are really used (= the actual width of the image/video that will be shown).

Vertical Start Active Pixels

The vertical start position of the active image area, referenced from VSync. The value must be greater than Vsync Width.

Height active pixels

The number of lines that are really used (= actual height of the image/video that will be shown).

Total number of pixels in line.

The total number of pixels in a line (= max. width).

total= (hor. Start active pixels) + (width active pixels) + (number of trailing blanking pixels).

Total number of lines in field.

The total number of lines in a field (= max height).

total=(vert. Start active pixels) + (height active pixels) + (number of trailing blanking lines)

Pixel Clock (kHz)

The clock speed of the digitizer. Typically, this will be 32 MHz (in single mode)

H Sync Width

The width of the horizontal sync signal. This should always be 10 pixels.

V Sync Width

The width of the vertical sync signal. This should always be 10 pixels.

9.2.2.3 The Timing Wizard

How to start up?

1. Click on **Wizard** to start up the timing wizard.

The timing wizard start up screen will be displayed. (image 9-9)

2. If you want to abort the wizard without making any changes, press **Cancel**. Otherwise press **Next >>** to continue to the next screen.

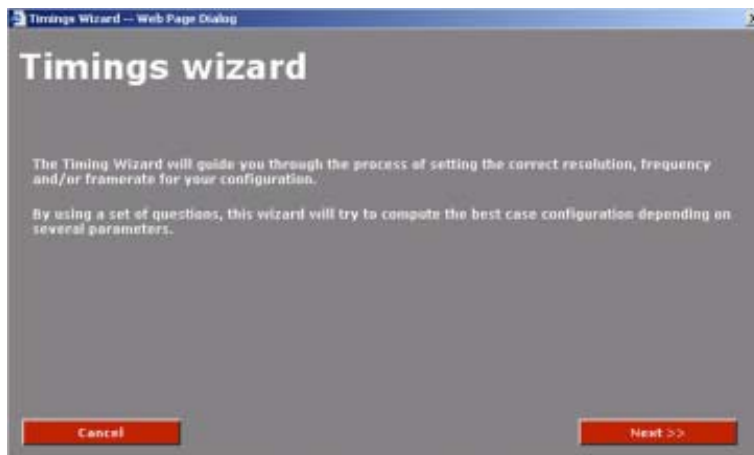


Image 9-9
Timing wizard start up

Type of input

1. Click with the mouse on the radio button of your choice. (image 9-10)

The following type of inputs are available:

- motion sensitive video (video a lot of moving images)
- static or semi static images (e.g. graphics)

2. Click **Cancel** to abort the timings wizard
Use the **<< Back** button to return to the previous page.
Choose **Next >>** to continue with the next page.



Image 9-10

Frame rate (when Motion sensitive video is selected)

1. Click with the mouse on the radio button corresponding with your video input source. (image 9-11)

9. D320 Configuration

The possible choices to enter the frame rate (vertical frequency) of your video source are:

- PAL/SECAM (50Hz)
- NTSC (60Hz)
- Other : any frequency in the range 10 Hz to 64 Hz can be filled in.

2. Click **Cancel** to abort the timings wizard

Use the **<< Back** button to return to the previous page.

Choose **Next >>** to continue with the next page.

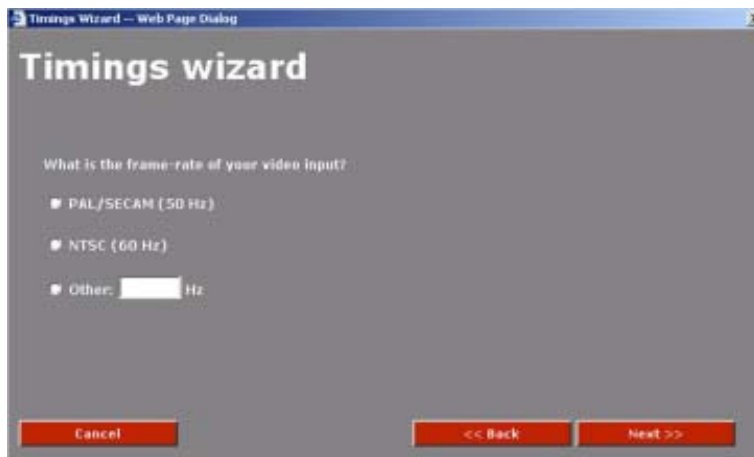


Image 9-11

Wall resolution (when static or semi static images is selected)

1. Fill out the resolution of your wall. (image 9-12)

Horizontal resolution : pixels

Vertical resolution : lines

2. Click **Cancel** to abort the timings wizard

Use the **<< Back** button to return to the previous page.

Choose **Next >>** to continue with the next page.

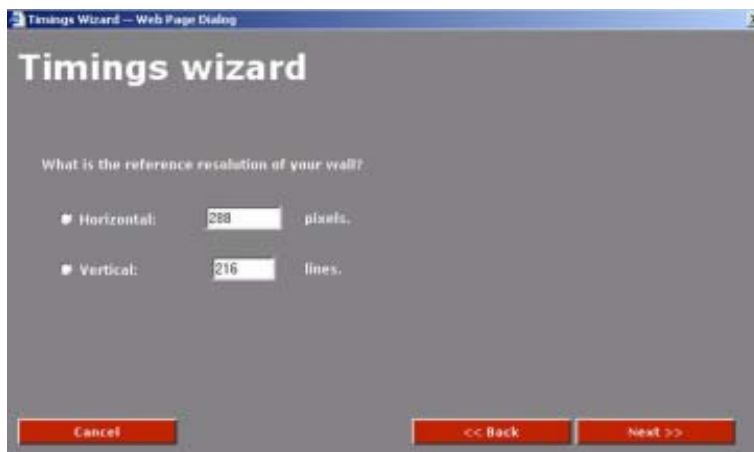


Image 9-12

Finishing the timings wizard

The final screen will give an overview of the calculated timings based on the entered data. It is still possible to adjust the resolution and/or blanking settings according your needs.

1. Click with the mouse in the filled in field of the desired setting. (image 9-13)

2. Enter the new value.

- Click **Cancel** to abort the timings wizard
- Use the **<< Back** button to return to the previous page.
- Choose **Next >>** to terminate the timings wizard and to apply the settings.



Image 9-13

9.2.2.4 Finishing the Timings of the Sync Generator

How to finish

- Click on **Ok** on the *Timings of the Sync Generator* window image 9-6.
A pop up window appears. (image 9-14)
The software can auto adjust the following settings for a better view on the LED display:
 - Ma-clock of wall : refresh rate
 - Wall positioning
- If you want to update both click on update.
If you want to update only one of them uncheck the box and click on update.
If you do not want to update automatically, click on cancel.



Image 9-14

10. D320PL CONFIGURATION

Overview

- D320PL Configuration start up
- Digitizer Settings

10.1 D320PL Configuration start up



Before clicking on the D320PL icon, be sure Wall Positioning is executed.

Start up

1. Click the D320PL icon to reveal the following pop menu. (image 10-1, image 10-2)

Note: Lay out of Configuration windows depends on the Output Selection choice.



Image 10-1
Configuration window D320PL digitizer Digital or Analog output selected

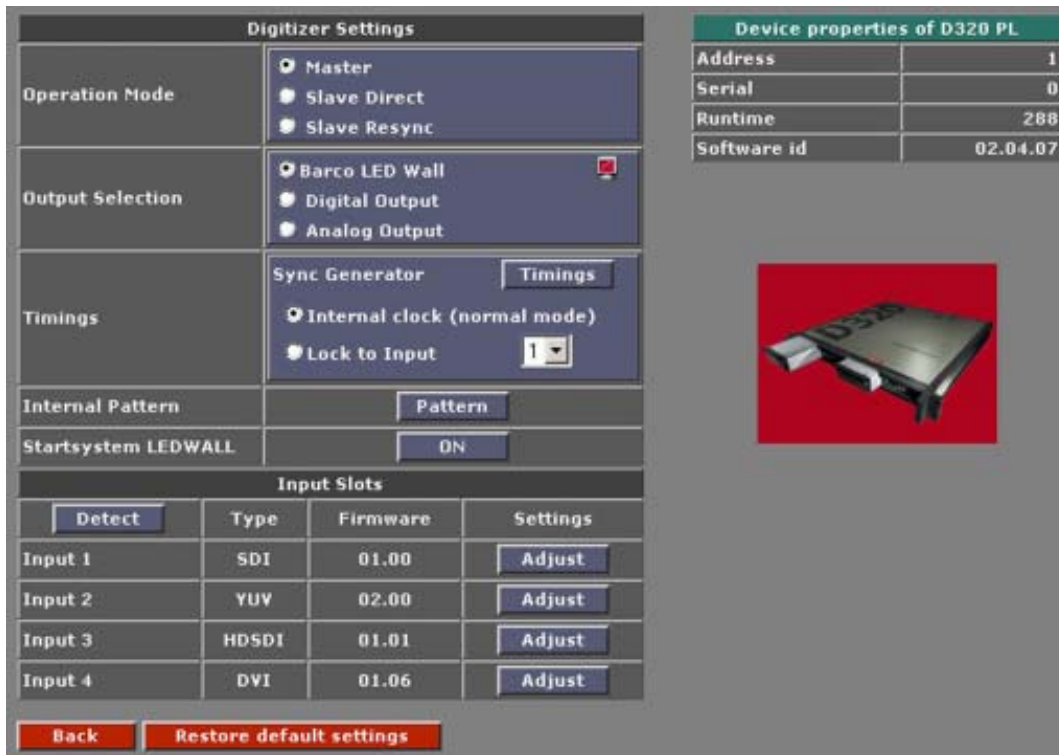


Image 10-2
Configuration window D320PL digitizer Barco LED Wall output selected



To restore the default settings, click on **Restore default settings** button.

10.2 Digitizer Settings

Overview

- Operational Mode
- Output Selection
- Monitor Preview of an image on a LED wall
- Timings
- Pattern Generation

10.2.1 Operational Mode

Overview

3 operation modes are possible:

- Master : the addressed device is the first in a chain of multiple devices.
- Slave Direct
- Slave Resync



Image 10-3



Image 10-4



Image 10-5

Example

Master - Slave in a chained configuration

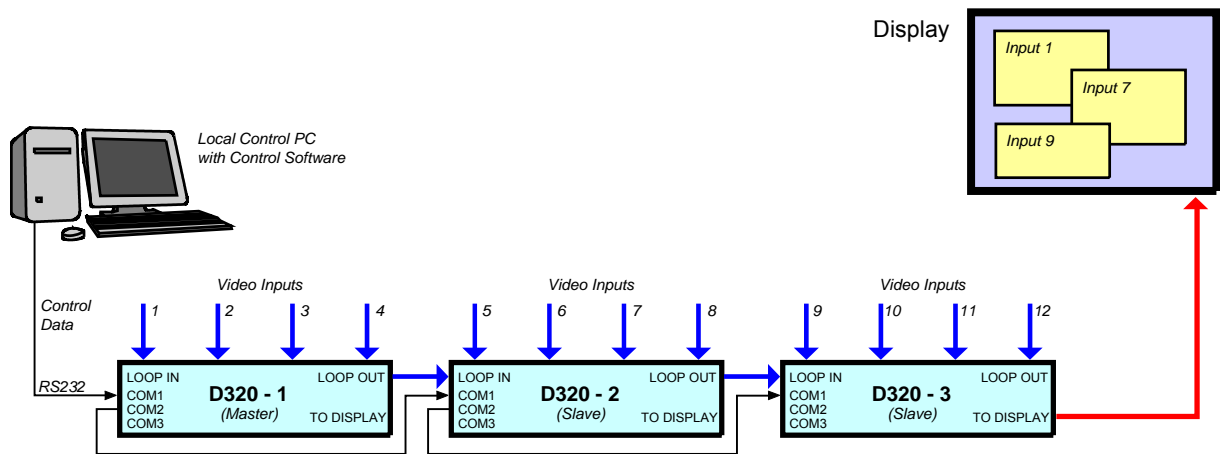


Image 10-6

Master - Slave in a stacked configuration

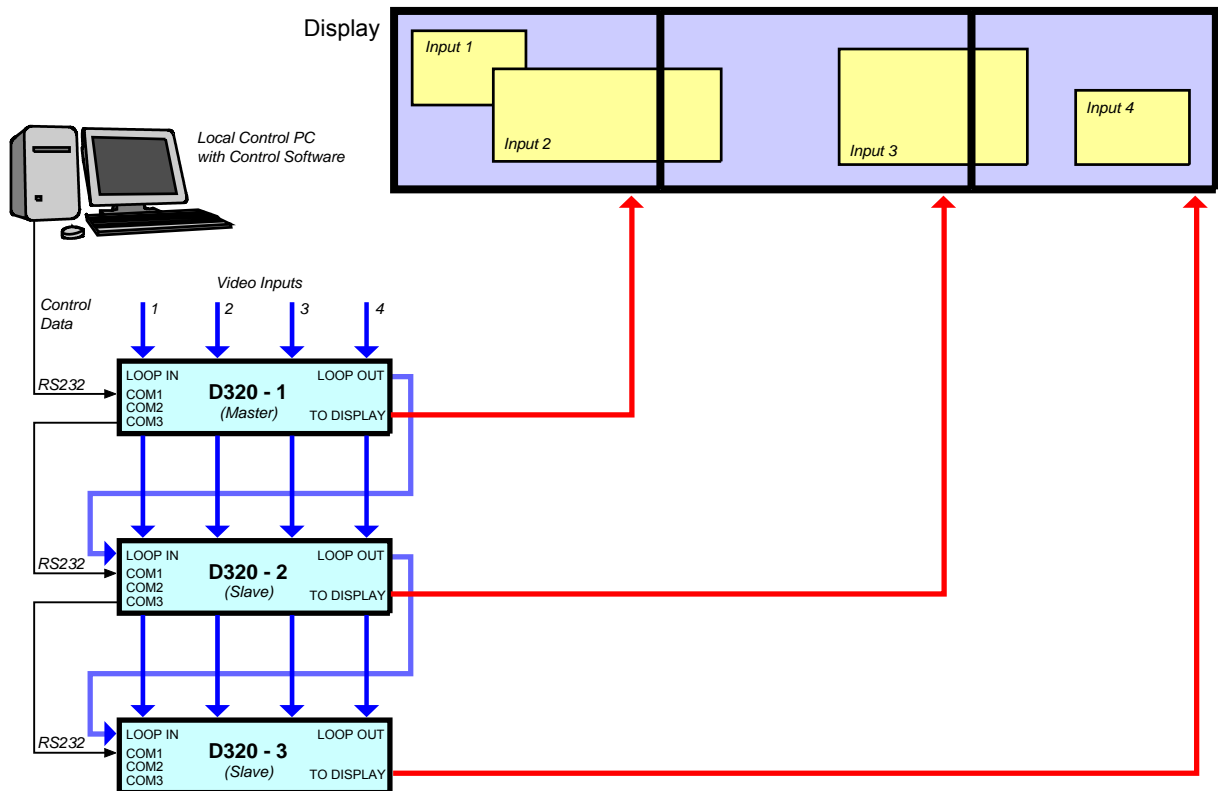


Image 10-7

10.2.2 Output Selection

Overview

3 different outputs are possible:

- Barco LED Wall, can only be used by a Barco LED Wall.
- Digital Output, can be used by any display device which has a digital input.
- Analog Output, can be used by any display device which has an analog input.



Switching the output selection from Barco LED Wall to Digital Output or Analog Output will switch the Barco LED wall.

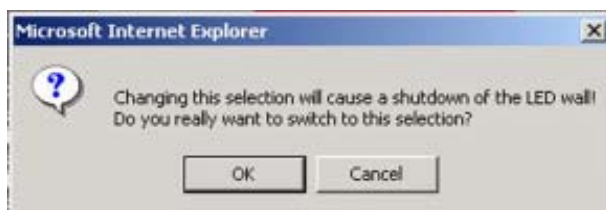


Image 10-8

10.2.3 Monitor Preview of an image on a LED wall

Overview

- Introduction and Start up
- Moving the monitor preview in the active area
- Settings

10.2.3.1 Introduction and Start up

When possible

A monitor preview is only possible when the digitizer is connected to a Barco LED wall via a split cable.

Cable to be used : Z3499213

For DLite, SLite Z3499213

For ILite Z3499211

The content of the LED wall becomes visible on the monitor screen. The window view can be moved over the complete active area of the LED wall.

How starting up

1. When in LED WALL mode, click on the red monitor icon next to Barco LED Wall.

The Panning control window opens. (image 10-9)

The green dotted line indicates the active area on the led wall.

The colored area indicates the effective view on the monitor.

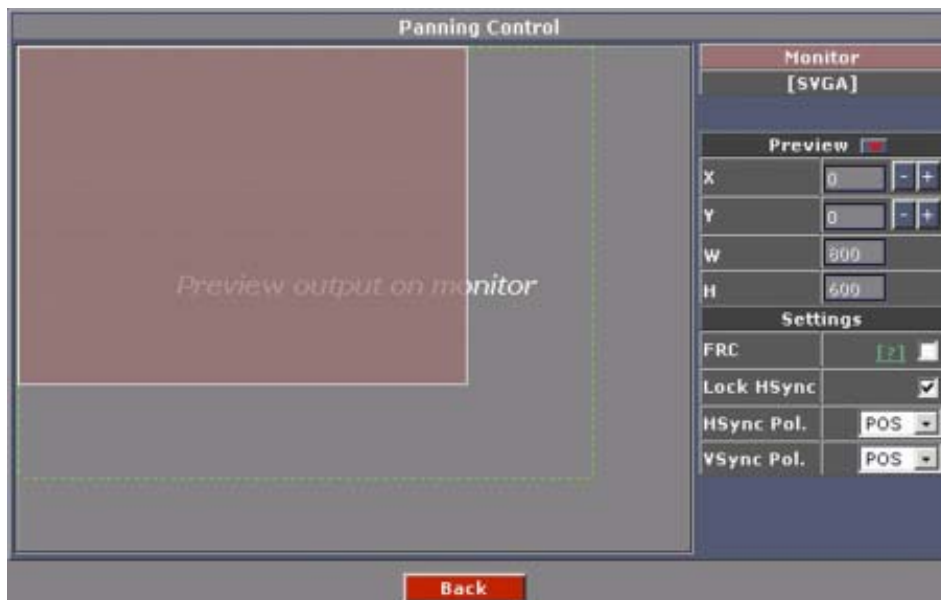


Image 10-9
Panning control

10.2.3.2 Moving the monitor preview in the active area

Moving via de mouse

1. Move your mouse in the colored area.

The cursor becomes a four arrow mouse. (image 10-10)

10. D320PL Configuration

2. Click and drag the colored window to any desired position within the active area.

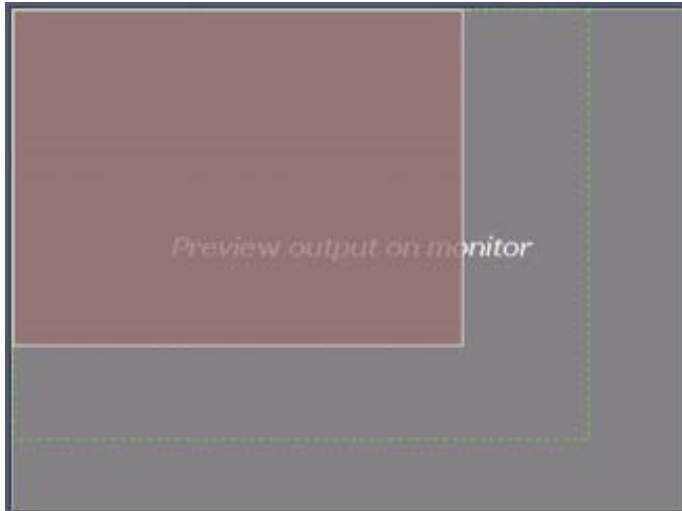


Image 10-10
Move monitor preview

Moving via the coordinates

1. Change the X and Y coordinate of the monitor preview by pushing the + or - button
Or,
by entering the new values with the keyboard. (image 10-11)



Image 10-11
Changing the position



The width and height of the monitor preview window is fixed on 800 x 600 pixels.

10.2.3.3 Settings

How to set

1. Check *FRC* (Frame rate conversion) if the video signal is out of range. (image 10-12)
When checked, it generates a continuous sync with delay.
This *Frame Rate Conversion* option exclude the *Lock on HSync*.
2. Check *Lock on HSync* in all other cases, especially when working with moving images.

When checked, it generates discontinued sync with minimal delay. It avoids shaking images. This *Lock on HSync* option exclude the *Frame Rate Conversion*.

3. Horizontal sync polarity can be positive or negative. The position depends on the monitor.
4. Vertical sync polarity can be positive or negative. The position depends on the monitor.



Image 10-12
Settings

10.2.4 Timings

Overview

- Using predefined timings for digital or analog output
- Using the advanced timing settings for digital or analog output
- Timings of Sync Generator for Digital or Analog output
- Timings of Display Interface for Digital or Analog output
- Lock mode for Barco LED Wall output
- Timings of Sync Generator for Barco LED Wall output selected



The timings menu depends on the selection of the output.

10.2.4.1 Using predefined timings for digital or analog output

How to select

1. Click on the drop down box. (image 10-13)
2. Select the corresponding setting.
The following settings are possible
 - SVGA
 - XGA
 - SXGA
 - SXGA+
 - UXGA
3. Make your choice between manual selected refresh rate (50 or 60 Hz) and lock to input (only the inputs of the master can be selected).



Image 10-13
Selecting a preset timing

10.2.4.2 Using the advanced timing settings for digital or analog output

How to select

1. Select first a predefined setting, see "Using predefined timings for digital or analog output", page 149.

2. Click on **- Advanced -**.

The timings menu expands. (image 10-14)

Different timing settings are available for:

Analog output

Sync generator and display interface timings are available

Digital output

Only sync generator timings are available

3. Click on **Timings** next to *Sync Generator*.

The Sync Generator timing window reveals. (image 10-15)

For more explanation see "Timings of Sync Generator for Digital or Analog output", page 152.

4. Click on **Timings** next to *Display Interface*.

The Display Interface timings window reveals. (image 10-16)

For more explanation see "Timings of Sync Generator for Digital or Analog output", page 152

5. Check *Frame Rate Conversion* when you are working with CRT projectors.

When checked, it generates a continuous sync with delay.

This *Frame Rate Conversion* option exclude the *Lock on HSync*.

6. Check *Lock on HSync* in all other cases, especially when working with moving images.

When checked, it generates discontinued sync with minimal delay. It avoids shaking images.

This *Lock on HSync* option exclude the *Frame Rate Conversion*.

7. Horizontal sync polarity can be positive or negative. The position depends on the display.

8. Vertical sync polarity can be positive or negative. The position depends on the display.

9. You have checked *Lock on input* ?

If yes, then adapt the frame delay in lines until the full image is displayed.

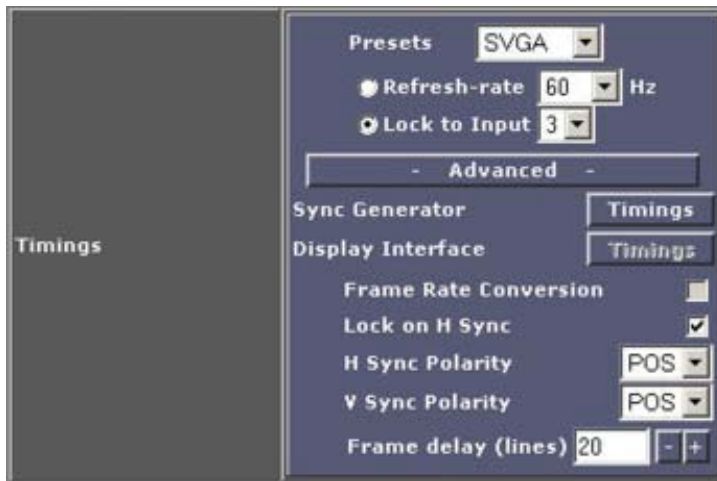


Image 10-14
Advanced Timings menu

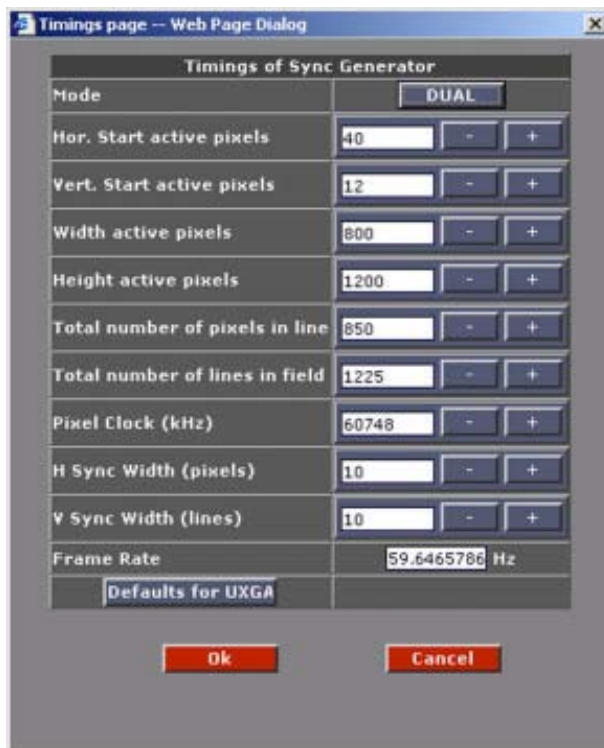


Image 10-15
Sync generator timings window

10. D320PL Configuration

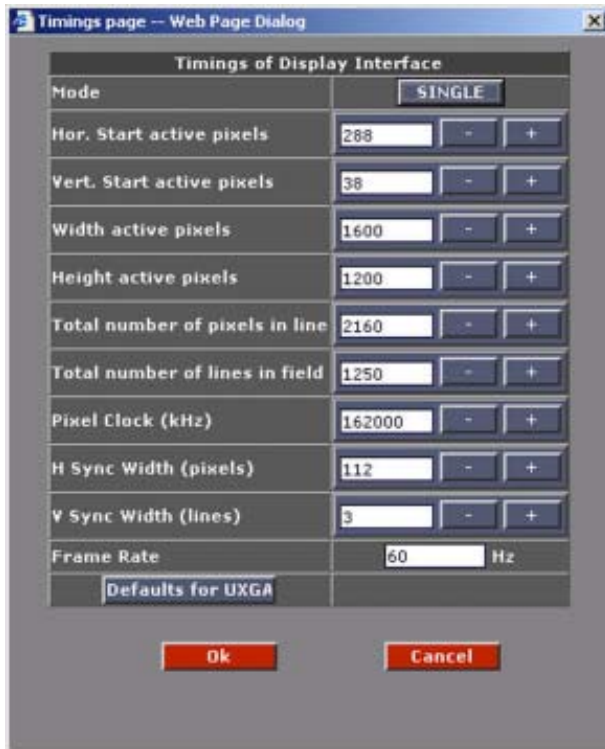


Image 10-16
Display Interface timings window



Tune last line length : only active if *Frame rate conversion* and *H sync lock* are not checked. In some situation the last image line is not a full line and causes a locking problem so that no image is visible. When that happens, push the button **Tune last line** and the clock will be tuned so that the last line becomes as long as the other lines.

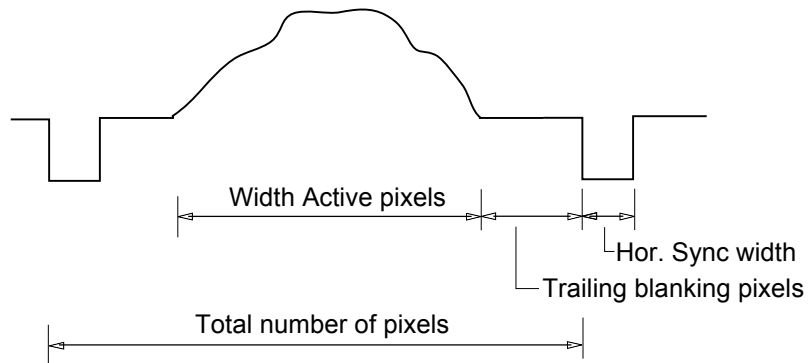
10.2.4.3 Timings of Sync Generator for Digital or Analog output



The values which are filled in are the default values for the selected preset.

Schematic overview

Hor. line



Field

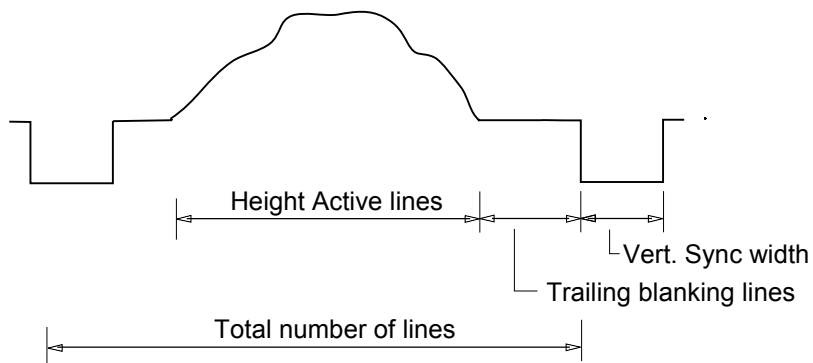


Image 10-17
Explanation of the terms

Mode

The pixel clock can work in 2 ways: single or dual path. This toggle button makes it possible to change the clock mode.



Working in dual path doubles the pixel clock speed.

Horizontal Start Active Pixels

The horizontal start position of the active image area, referenced from HSync. The value must be greater than Hsync Width.



Image 10-18

Vertical Start Active Pixels

The vertical start position of the active image area, referenced from VSync. The value must be greater than Vsync Width.

Width active pixels

The number of pixels that are really used (= the actual width of the image/video that will be shown).

Height active pixels

The number of lines that are really used (= actual height of the image/video that will be shown).

Total number of pixels in line.

The total number of pixels in a line (= max. width).

total= (hor. Start active pixels) + (width active pixels) + (number of trailing blanking pixels).

Total number of lines in field.

The total number of lines in a field (= max height).

total=(vert. Start active pixels) + (height active pixels) + (number of trailing blanking lines)

Pixel Clock (kHz)

The clock speed of the digitizer. Typically, this will be 32 MHz (in single mode)

H Sync Width

The width of the horizontal sync signal. This should always be 10 pixels.

V Sync Width

The width of the vertical sync signal. This should always be 10 pixels.

Frame Rate

Vertical frequency of the input signal.

Defaults for the selected preset

To return to the defaults for the selected preset, press **Defaults for xxxx**. Where xxxx is the value entered in the presets input field.

10.2.4.4 Timings of Display Interface for Digital or Analog output



The values which are filled in are the default values for the selected preset.

Mode

The pixel clock can work in 2 ways: single or dual path. This toggle button makes it possible to change the clock mode.



Working in dual path doubles the pixel clock speed.

Horizontal Start Active Pixels

The horizontal start position of the active image area, referenced from HSync (number of pixels between the beginning of the input signal and the start of the video information). The value must be greater than Hsync Width.

Vertical Start Active Pixels

The vertical start position of the active image area, referenced from VSync (number of lines between the start of the input signal and the start of the image on the screen). The value must be greater than Vsync Width.

Width active pixels

The number of pixels that are really used (= the actual width of the image/video that will be shown) This value is normally given in the source specifications. If not, adjust until full image is displayed (no missing pixels).

Height active pixels

The number of lines that are really used (= actual height of the image/video that will be shown). This value is normally given in the source specifications. If not, adjust until full image is displayed (no missing lines).

Total number of pixels in line.

The total number of pixels in a line (= max. width).

total= (hor. Start active pixels) + (width active pixels) + (number of trailing blanking pixels).

Total number of lines in field.

The total number of lines in a field (= max height).

total=(vert. Start active pixels) + (height active pixels) + (number of trailing blanking lines)

Pixel Clock (kHz)

The clock speed of the processing unit.

H Sync Width

The width of the horizontal sync signal.

V Sync Width

The width of the vertical sync signal.

Frame Rate

Vertical frequency of the input signal.

Defaults for the selected preset

To return to the defaults for the selected preset, press **Defaults for xxxx**. Where xxxx is the value entered in the presets input field.

10.2.4.5 Lock mode for Barco LED Wall output

Only available from digitizer firmware version 2.5.00 or higher.

How to select

1. Check on the radio button of the desired Lock mode. (image 10-19)

Internal clock The internal clock of the digitizer will be used (normal mode)

Lock to Input The clock of the selected input will be used.

2. When *Lock to Input* is selected, select the input out of the drop down box next to *Lock to Input*.

When applied, and the locking is successful, the *Lockmode* window will be displayed. (image 10-20)

The vertical frequency of the source is given as information.

3. Select algorithm for new timings.

10. D320PL Configuration

The following choices are possible:

Adjust the number of lines per field

The processor will calculate the timings on Master digitizer. When the calculated value of the number of lines is lower than the active lines, an alert box will be displayed to try it via the *Adjust the number of pixels per line* method.

Adjust the number of pixels per line

The processor will calculate the timings on Master digitizer. When the calculated value of the number of pixels per lines is lower than the active number of pixels per line, an alert box will be displayed to try it via the *Adjust number of lines per field* method.

When both methods give a alert box, it is not possible to lock on the selected source.

The Timings given in the *New timings on Master Digitizer* are given as information.

4. Click **OK** to continue.



Image 10-19
Timings LED wall



Image 10-20
Lockmode window

10.2.4.6 Timings of Sync Generator for Barco LED Wall output selected

How to select

As this is the same procedure as for a D320, for more info see chapter "9. D320 Configuration", "Sync Generator", page 136.

10.2.5 Pattern Generation

Overview

- Overview and activation
- Test pattern set up

10.2.5.1 Overview and activation

Overview

The digitizer can generate patterns for testing purposes.

Different available patterns are:

- Bytelevel : a one color pattern
- Crosshatch
- HRamp : horizontal bars
- Multiburst : pixel on, pixel off pattern
- Blocks : block pattern
- VRamp : vertical bars

Use the 'pattern' button to go to the pattern page. On this page you can activate the pattern generation and change the pattern settings.

How to activate test patterns

1. Click on **Pattern** to activate the test pattern generator.
The test pattern generator window opens. (image 10-21)
2. Toggle the status by clicking on the ON/OFF button.
 - ON : test pattern will be generated
 - OFF : no test pattern will be generated

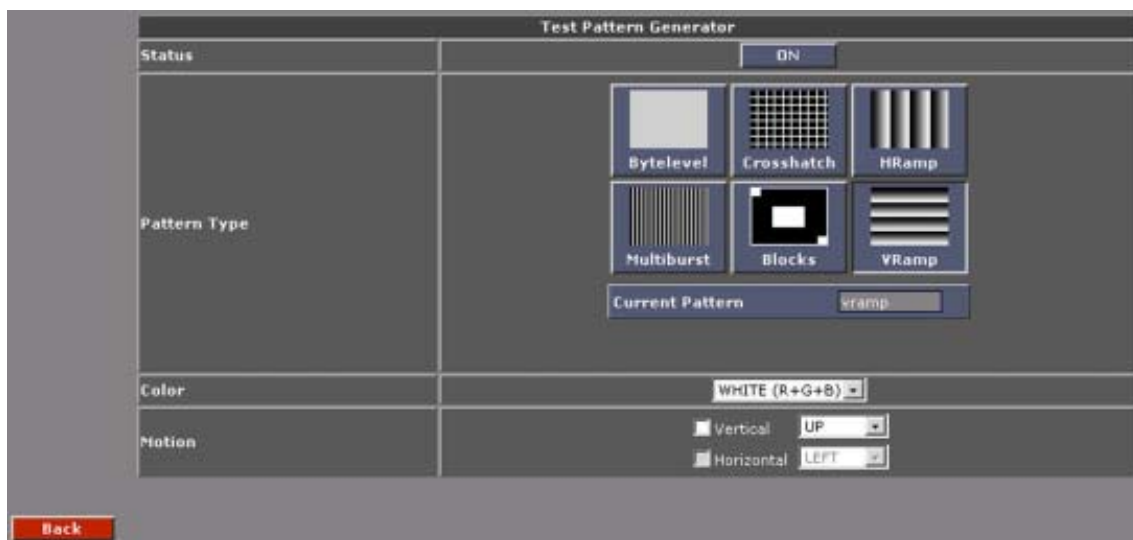


Image 10-21
Test pattern generator window

10.2.5.2 Test pattern set up

How to configure a test pattern

1. Click on of the 6 available patterns.

10. D320PL Configuration

The name of the selected pattern will be displayed in the box *Current pattern*. (image 10-22)
Depending on the selected pattern, an extra input box appears.

Pattern	Extra input box
Bytelevel	Amplitude: the amplitude (brightness) of the pattern.
Crosshatch	Pixelwidth: the width of the pixels (lines). Value between 1 and 4.
HRamp	no extra input box
Multiburst	Type: type of the multiburst pattern (width of the pixels). Can be a value between 0 and 7.
Blocks	no extra input box
VRamp	no extra input box

2. Select the color that will be used to generate the pattern.
The following options are possible:

- Red
- Green
- Blue
- Yellow (R + G)
- Cyan (G + B)
- Magenta (R + B)
- White (R+ G + B)
- Loop all

Select 'LOOP ALL' to loop through all the available colors.

3. If the pattern has to move over the screen, check Vertical and/or horizontal and select the direction.
Note: Only available for 'Crosshatch', 'HRamp' and 'VRamp' patterns.

Note: Important to avoid a burn in.

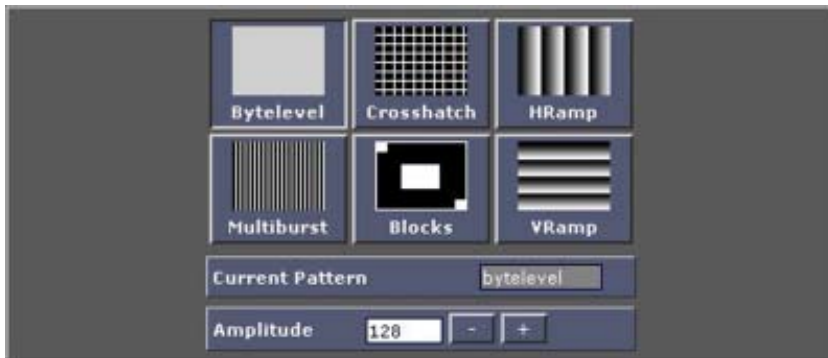


Image 10-22
Pattern choices

11. D320L CONFIGURATION

Overview

- D320L Configuration start up
- Digitizer Settings

11.1 D320L Configuration start up



Before clicking on the D320L icon, be sure Wall Positioning is executed.

Start up

1. Click the D320L icon to reveal the following pop menu. (image 11-1)

The screenshot displays the 'Digitizer Settings' window for the D320L digitizer. It includes sections for 'Operation Mode', 'Sync Generator', 'Monitor Preview', 'Internal Pattern', 'Startsystem LEDWALL', and 'Input Slots'. The 'Input Slots' section contains a table with columns for 'Type', 'Firmware', and 'Settings'.

Input Slots			
	Type	Firmware	Settings
Input 1	CVBS	02.00	Adjust
Input 2	DVI	01.06	Adjust
Input 3	NO INPUTBOARD	0.0	Adjust
Input 4	NO INPUTBOARD	0.0	Adjust

At the bottom of the window are buttons for 'Back' and 'Restore default settings'. To the right, a 'Device properties of D320 L' table is shown:

Device properties of D320 L	
Address	1
Serial	0
Runtime	643
Software id	02.04.09

Below the device properties is a small image of the D320L digitizer hardware.

Image 11-1
Configuration window D320L digitizer



To restore the default settings, click on **Restore default settings** button.

11.2 Digitizer Settings

Overview

- Operational Mode
- Sync Generator
- Monitor preview of an image on the LED wall
- Pattern Generator

11.2.1 Operational Mode

Overview

3 operation modes are possible:

- Master : the addressed device is the first in a chain of multiple devices.
- Slave Direct
- Slave Resync



Image 11-2



Image 11-3



Image 11-4

Example

Master - Slave in a chained configuration

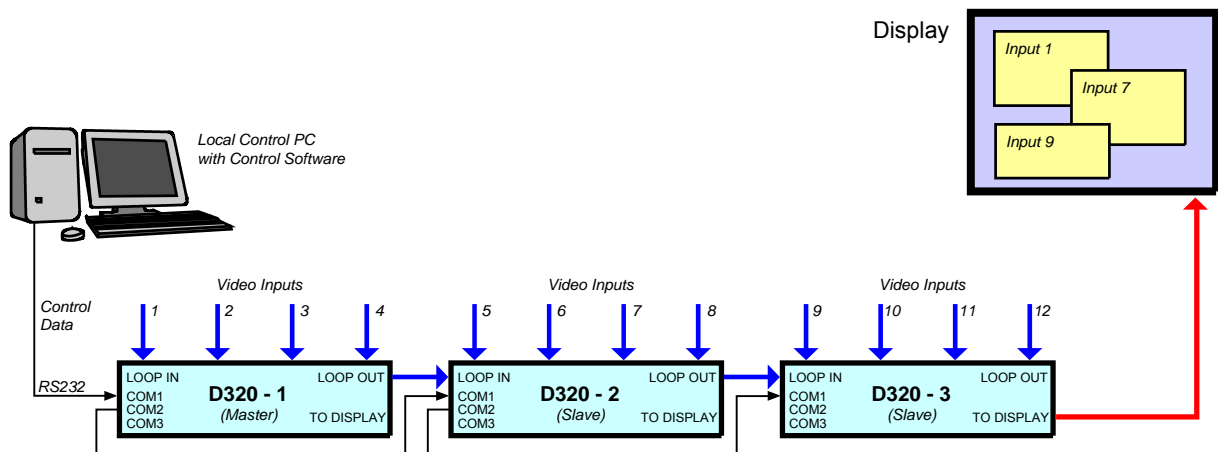


Image 11-5


11.2.2 Sync Generator

Overview

- How to start up
- Timings of Sync Generator
- The Timing Wizard
- Lock mode

11.2.2.1 How to start up

Timings window

1. Click  to access the D320L timings window.

See image 11-6.

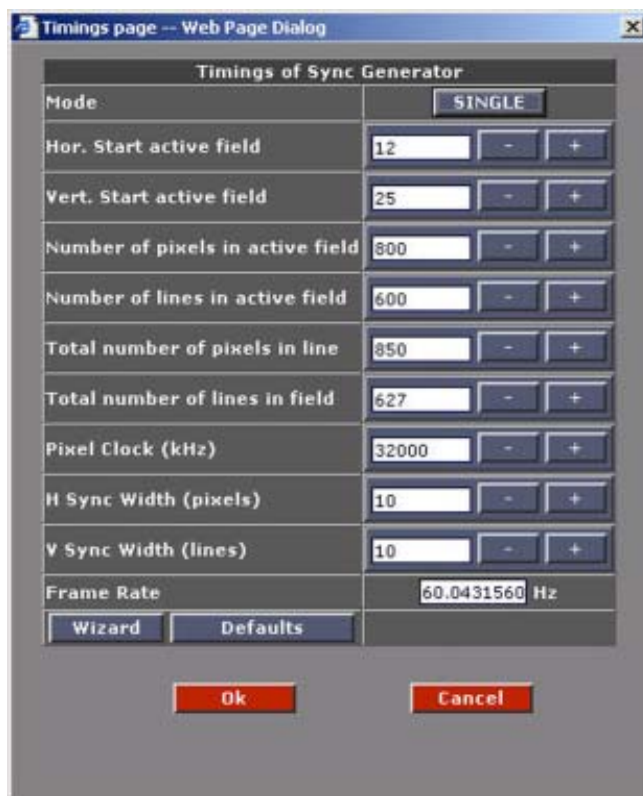


Image 11-6
Timings of sync generator window

How to enter the timings

To enter the timings of the sync generator, the following methods are possible:

- Customize : manual fill in of the values.
- Wizard : a guided way to fill in the values.
- Defaults : to enter the default values.

Settings on a wall

The following drawing illustrates the settings on a wall.

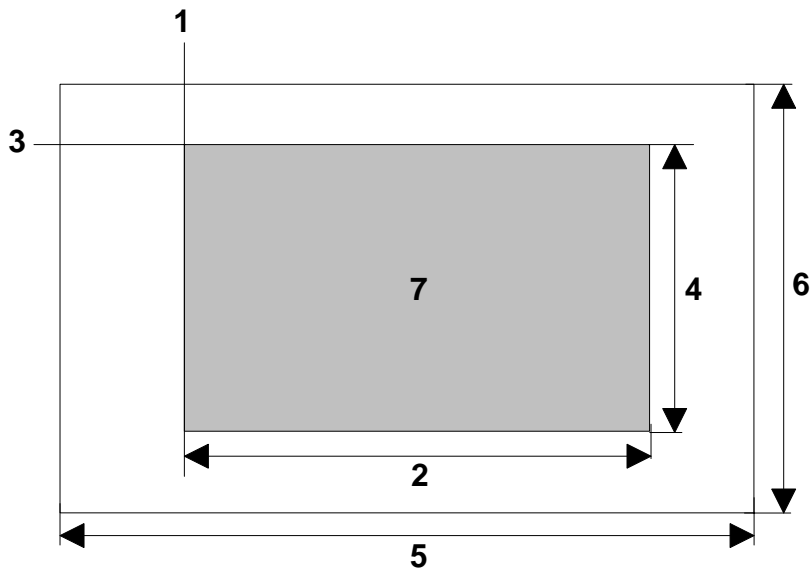


Image 11-7

- 1 Horizontal start active pixels
- 2 Width active pixels
- 3 Vertical start active pixels
- 4 Height active pixels
- 5 Total number of pixels in line
- 6 Total number of lines in field
- 7 Active area

11.2.2.2 Timings of Sync Generator

Mode

The pixel clock can work in 2 ways: single or dual path. This toggle button makes it possible to change the clock mode.



Working in dual path doubles the pixel clock speed.

Horizontal Start Active Field

The horizontal start position of the active image area, referenced from HSync. The value must be greater than Hsync Width.

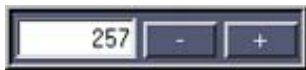


Image 11-8

Vertical Start Active Field

The vertical start position of the active image area, referenced from VSync. The value must be greater than Vsync Width.

Number of pixels in the active field

The number of pixels that are really used (= the actual width of the image/video that will be shown).

Number of lines in the active field

The number of lines that are really used (= actual height of the image/video that will be shown).

Total number of pixels in line.

The total number of pixels in a line (= max. width).

total= (hor. Start active pixels) + (width active pixels) + (number of trailing blanking pixels).

Total number of lines in field.

The total number of lines in a field (= max height).

total=(vert. Start active pixels) + (height active pixels) + (number of trailing blanking lines)

Pixel Clock (kHz)

The clock speed of the digitizer. Typically, this will be 32 MHz (in single mode)

H Sync Width

The width of the horizontal sync signal. This should always be 10 pixels.

V Sync Width

The width of the vertical sync signal. This should always be 10 pixels.

Frame Rate

Vertical frequency of the input signal

11.2.2.3 The Timing Wizard**How to start up?**

As the procedure is the same as for a D320 digitizer, see chapter "9. D320 Configuration", "The Timing Wizard", page 139.

11.2.2.4 Lock mode**How to select**

1. Check on the radio button of the desired Lock mode. (image 11-9)

Internal clock The internal clock of the digitizer will be used (normal mode)

Lock to Input The clock of the selected input will be used.

2. When *Lock to Input* is selected, select the input out of the drop down box next to *Lock to Input*.

When applied, and the locking is successful, the *Lockmode* window will be displayed. (image 11-10)

The vertical frequency of the source is given as information.

3. Select algorithm for new timings.

11. D320L Configuration

The following choices are possible:

Adjust the number of lines per field

The processor will calculate the timings on Master digitizer. When the calculated value of the number of lines is lower than the active lines, an alert box will be displayed to try it via the *Adjust the number of pixels per line* method.

Adjust the number of pixels per line

The processor will calculate the timings on Master digitizer. When the calculated value of the number of pixels per lines is lower than the active number of pixels per line, an alert box will be displayed to try it via the *Adjust number of lines per field* method.

When both methods give a alert box, it is not possible to lock on the selected source.

The Timings given in the *New timings on Master Digitizer* are given as information.

4. Click **OK** to continue.

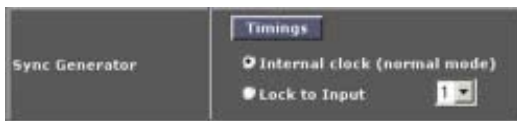


Image 11-9
D320L sync generator, lock mode



Image 11-10
Lockmode window



Only available from digitizer firmware version 2.5.00 or higher.

11.2.3 Monitor preview of an image on the LED wall

Overview

- Introduction and Start up
- Moving the monitor preview in the active area
- Settings

11.2.3.1 Introduction and Start up

When possible

A monitor preview is only possible when the digitizer is connected to a Barco LED wall via a split cable.

Cable to be used : Z3499213

For DLite, SLite Z3499213

For ILite Z3499211

The content of the LED wall becomes visible on the monitor screen. The window view can be moved over the complete active area of the LED wall.

How starting up

1. Click on the red monitor icon next to Monitor preview.

The Panning control window opens. (image 11-11)

The green dotted line indicates the active area on the led wall.

The colored area indicates the effective view on the monitor.

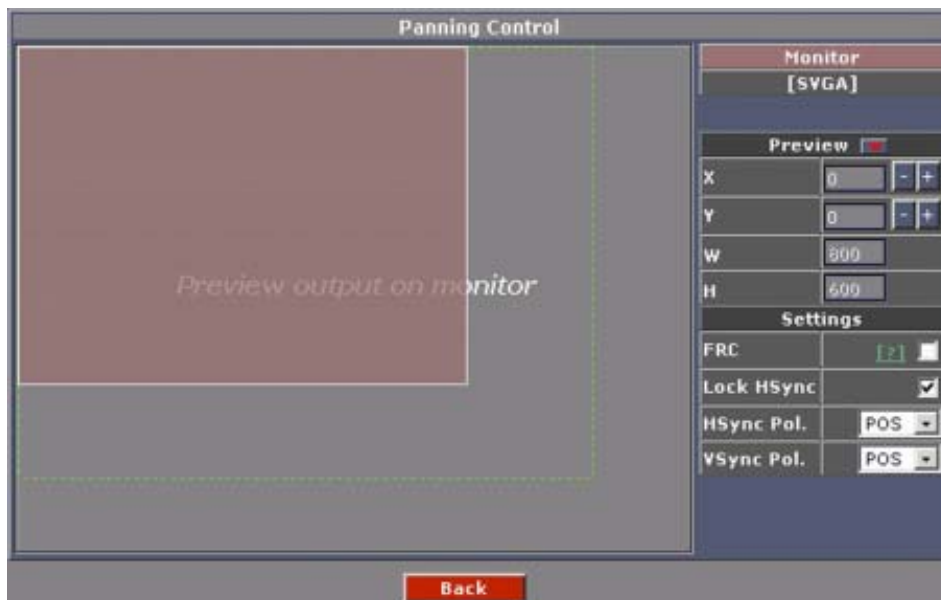


Image 11-11
Panning control

11.2.3.2 Moving the monitor preview in the active area

Moving via de mouse

1. Move your mouse in the colored area.

The cursor becomes a four arrow mouse. (image 11-12)

11. D320L Configuration

2. Click and drag the colored window to any desired position within the active area.

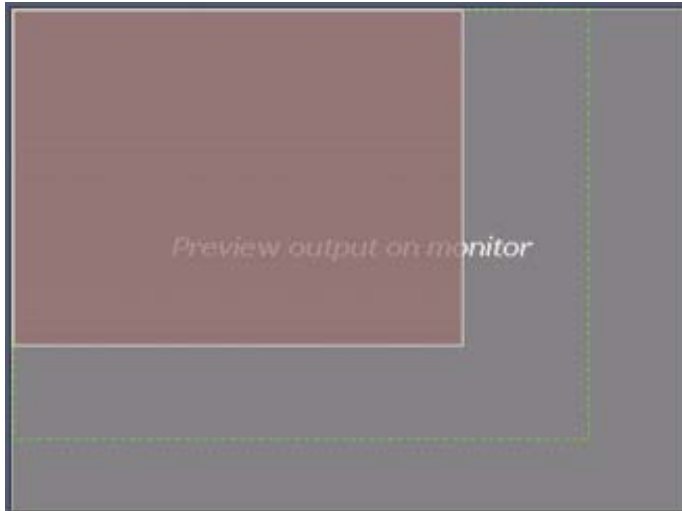


Image 11-12
Move monitor preview

Moving via the coordinates

1. Change the X and Y coordinate of the monitor preview by pushing the + or - button
Or,
by entering the new values with the keyboard. (image 11-13)



Image 11-13
Changing the position



The width and height of the monitor preview window is fixed on 800 x 600 pixels.

11.2.3.3 Settings

How to set

1. Check *FRC* (Frame rate conversion) if the video signal is out of range. (image 11-14)
When checked, it generates a continuous sync with delay.
This *Frame Rate Conversion* option exclude the *Lock on HSync*.
2. Check *Lock on HSync* in all other cases, especially when working with moving images.

When checked, it generates discontinued sync with minimal delay. It avoids shaking images. This *Lock on HSync* option exclude the *Frame Rate Conversion*.

3. Horizontal sync polarity can be positive or negative. The position depends on the monitor.
4. Vertical sync polarity can be positive or negative. The position depends on the monitor.



Image 11-14
Settings

11.2.4 Pattern Generator

Overview

- Overview and activation
- Test pattern set up

11.2.4.1 Overview and activation

Overview

The digitizer can generate patterns for testing purposes.

Different available patterns are:

- Bytelevel : a one color pattern
- Crosshatch
- HRamp : horizontal bars
- Multiburst : pixel on, pixel off pattern
- Blocks : block pattern
- VRamp : vertical bars

Use the 'pattern' button to go to the pattern page. On this page you can activate the pattern generation and change the pattern settings.

How to activate test patterns

1. Click on **Pattern** to activate the test pattern generator.
The test pattern generator window opens. (image 11-15)
2. Toggle the status by clicking on the ON/OFF button.
 - ON : test pattern will be generated
 - OFF : no test pattern will be generated

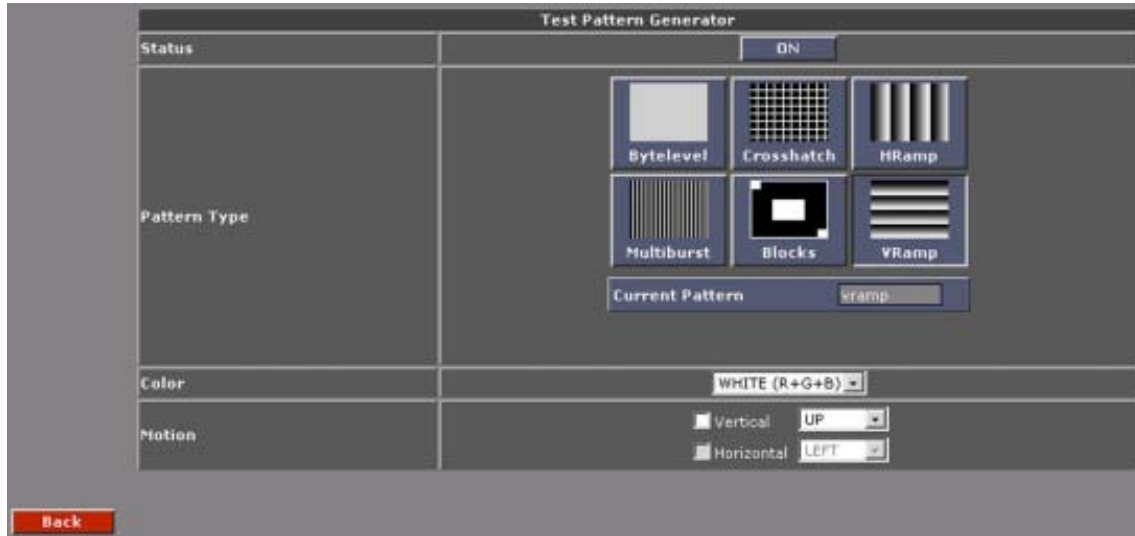


Image 11-15
Test pattern generator window

11.2.4.2 Test pattern set up

How to configure a test pattern

1. Click on of the 6 available patterns.

The name of the selected pattern will be displayed in the box *Current pattern*. (image 11-16)

Depending on the selected pattern, an extra input box appears.

Pattern	Extra input box
Bytelevel	Amplitude: the amplitude (brightness) of the pattern.
Crosshatch	Pixelwidth: the width of the pixels (lines). Value between 1 and 4.
HRamp	no extra input box
Multiburst	Type: type of the multiburst pattern (width of the pixels). Can be a value between 0 and 7.
Blocks	no extra input box
VRamp	no extra input box

2. Select the color that will be used to generate the pattern.

The following options are possible:

- Red
- Green
- Blue
- Yellow (R + G)
- Cyan (G + B)
- Magenta (R + B)
- White (R+ G + B)
- Loop all

Select 'LOOP ALL' to loop through all the available colors.

3. If the pattern has to move over the screen, check Vertical and/or horizontal and select the direction.
Note: Only available for 'Crosshatch', 'HRamp' and 'VRamp' patterns.

Note: Important to avoid a burn in.

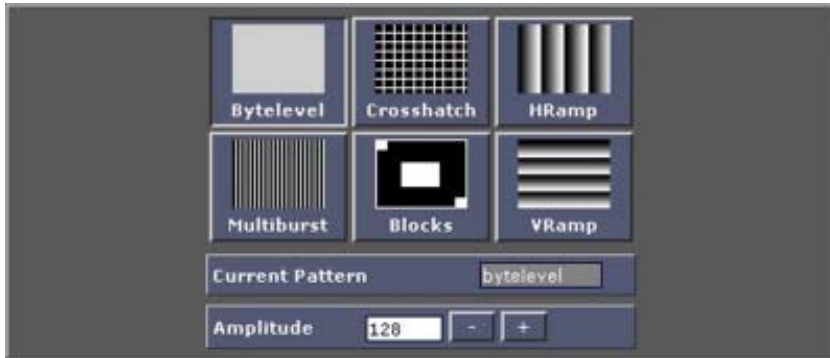


Image 11-16
Pattern choices

12. D320LITE CONFIGURATION

Overview

- D320Lite Configuration start up
- Operational Mode
- Sync Generator
- Monitor preview of an image on the LED wall
- Pattern Generator

12.1 D320Lite Configuration start up



Before clicking on the D320Lite icon, be sure Wall Positioning is executed.

Start up

1. Click the D320Lite icon to reveal the following pop menu. (image 12-1)

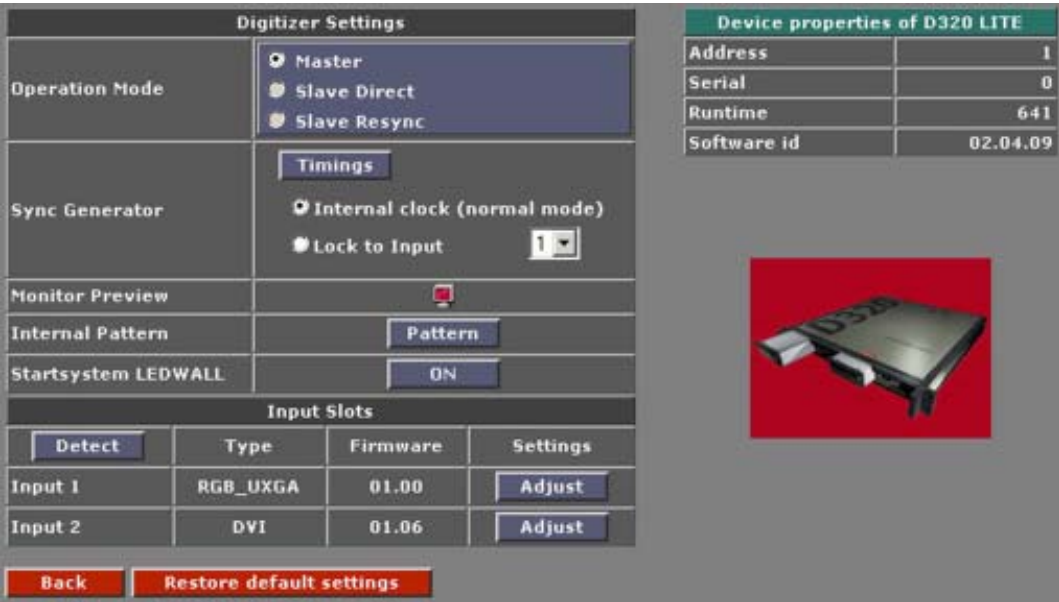


Image 12-1
Configuration window for D320Lite digitizer



To restore the default settings, click on **Restore default settings** button.

12.2 Operational Mode

Overview

Can only be used as stand alone digitizer (= master) or as last one in chain (slave).



Image 12-2



Image 12-3



Image 12-4

Example



Image 12-5


12.3 Sync Generator

Overview

- How to start up
- Timings of Sync Generator
- The Timing Wizard
- Lock mode

12.3.1 How to start up

Timings window

1. Click  to access the D320Lite timings window.

See image 12-6.

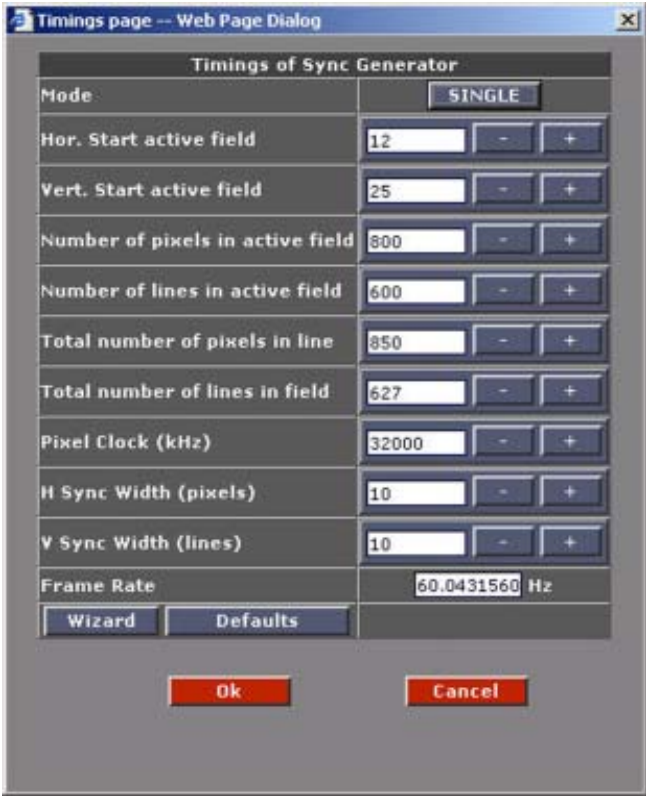


Image 12-6
Timings of sync generator window

How to enter the timings

To enter the timings of the sync generator, the following methods are possible:

- Customize : manual fill in of the values.
- Wizard : a guided way to fill in the values.
- Defaults : to enter the default values.

Settings on a wall

The following drawing illustrates the settings on a wall.

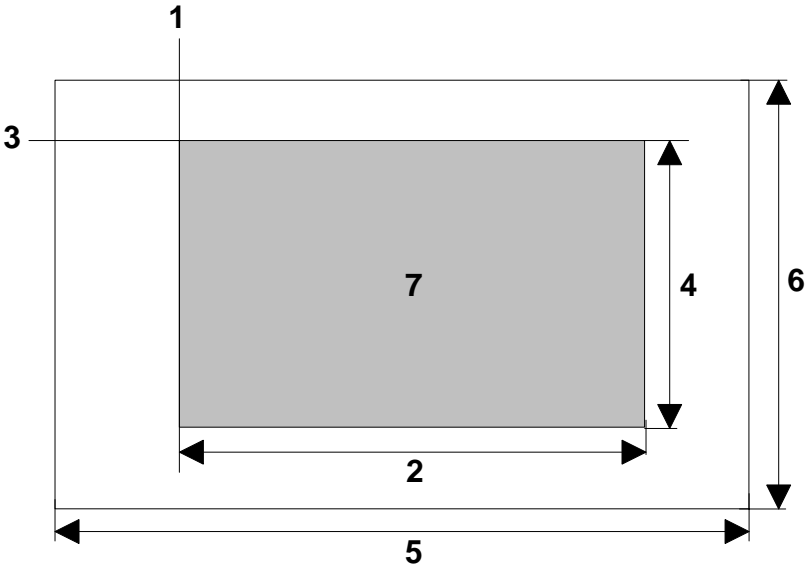


Image 12-7

- 1 Horizontal start active pixels
- 2 Width active pixels
- 3 Vertical start active pixels
- 4 Height active pixels
- 5 Total number of pixels in line
- 6 Total number of lines in field
- 7 Active area

12.3.2 Timings of Sync Generator

Mode

The pixel clock can work in 2 ways: single or dual path. This toggle button makes it possible to change the clock mode.



Working in dual path doubles the pixel clock speed.

Horizontal Start Active Field

The horizontal start position of the active image area, referenced from HSync. The value must be greater than Hsync Width.



Image 12-8

Vertical Start Active Field

The vertical start position of the active image area, referenced from VSync. The value must be greater than Vsync Width.

Number of pixels in the active field

The number of pixels that are really used (= the actual width of the image/video that will be shown).

Number of lines in the active field

The number of lines that are really used (= actual height of the image/video that will be shown).

Total number of pixels in line.

The total number of pixels in a line (= max. width).

total= (hor. Start active pixels) + (width active pixels) + (number of trailing blanking pixels).

Total number of lines in field.

The total number of lines in a field (= max height).

total=(vert. Start active pixels) + (height active pixels) + (number of trailing blanking lines)

Pixel Clock (kHz)

The clock speed of the digitizer. Typically, this will be 32 MHz (in single mode)

H Sync Width

The width of the horizontal sync signal. This should always be 10 pixels.

V Sync Width

The width of the vertical sync signal. This should always be 10 pixels.

Frame Rate

Vertical frequency of the input signal

12.3.3 The Timing Wizard

How to start up?

As the procedure is the same as for a D320 digitizer, see chapter "9. D320 Configuration", "The Timing Wizard", page 139.

12.3.4 Lock mode

How to select

1. Check on the radio button of the desired Lock mode. (image 12-9)

- | | |
|----------------|--|
| Internal clock | The internal clock of the digitizer will be used (normal mode) |
| Lock to Input | The clock of the selected input will be used. |

2. When *Lock to Input* is selected, select the input out of the drop down box next to *Lock to Input*.

When applied, and the locking is successful, the *Lockmode* window will be displayed. (image 12-10)

The vertical frequency of the source is given as information.

3. Select algorithm for new timings.

The following choices are possible:

- | | |
|--------------------------------------|--|
| Adjust the number of lines per field | The processor will calculate the timings on Master digitizer. When the calculated value of the number of lines is lower than the active lines, an alert box will be displayed to try it via the <i>Adjust the number of pixels per line</i> method. |
| Adjust the number of pixels per line | The processor will calculate the timings on Master digitizer. When the calculated value of the number of pixels per lines is lower than the active number of pixels per line, an alert box will be displayed to try it via the <i>Adjust number of lines per field</i> method. |

When both methods give a alert box, it is not possible to lock on the selected source.

The Timings given in the *New timings on Master Digitizer* are given as information.

4. Click **OK** to continue.



Image 12-9
D320Lite sync generator, lock mode

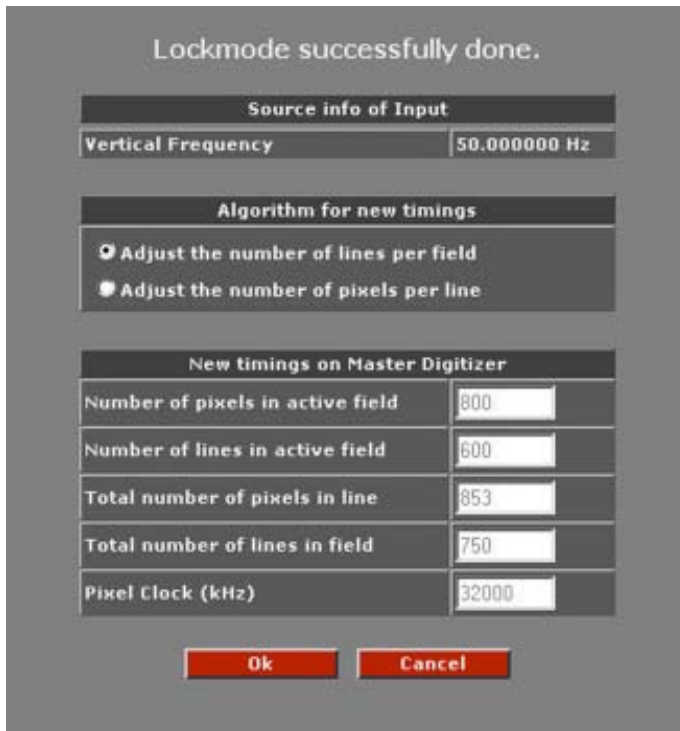


Image 12-10
Lockmode window



Only available from digitizer firmware version 2.5.00 or higher.

12.4 Monitor preview of an image on the LED wall

Overview

- Introduction and Start up
- Moving the monitor preview in the active area
- Settings

12.4.1 Introduction and Start up

When possible

A monitor preview is only possible when the digitizer is connected to a Barco LED wall via a split cable.

Cable to be used : Z3499213

For DLite, SLite Z3499213

For ILite Z3499211

The content of the LED wall becomes visible on the monitor screen. The window view can be moved over the complete active area of the LED wall.

How starting up

1. Click on the red monitor icon next to Monitor preview.

The Panning control window opens. (image 12-11)

The green dotted line indicates the active area on the led wall.

The colored area indicates the effective view on the monitor.



Image 12-11
Panning control

12.4.2 Moving the monitor preview in the active area

Moving via de mouse

1. Move your mouse in the colored area.

The cursor becomes a four arrow mouse. (image 12-12)

2. Click and drag the colored window to any desired position within the active area.

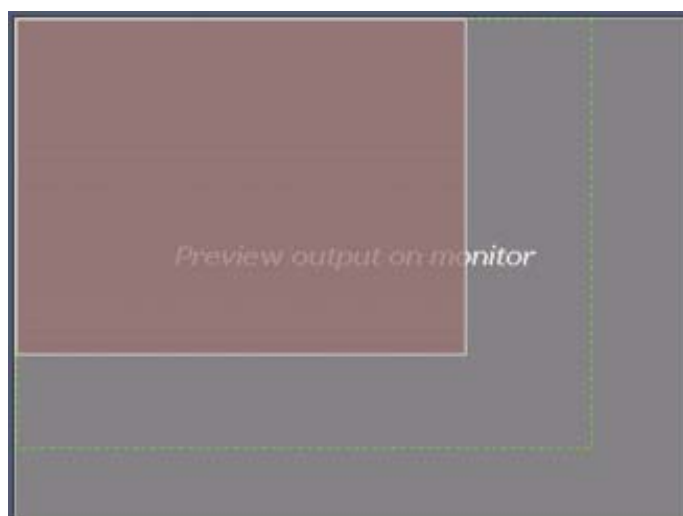


Image 12-12
Move monitor preview

Moving via the coordinates

1. Change the X and Y coordinate of the monitor preview by pushing the + or - button
Or,
by entering the new values with the keyboard. (image 12-13)



Image 12-13
Changing the position



The width and height of the monitor preview window is fixed on 800 x 600 pixels.

12.4.3 Settings

How to set

1. Check *FRC* (Frame rate conversion) if the video signal is out of range. (image 12-14)
When checked, it generates a continuous sync with delay.
This *Frame Rate Conversion* option exclude the *Lock on HSync*.
2. Check *Lock on HSync* in all other cases, especially when working with moving images.
When checked, it generates discontinued sync with minimal delay. It avoids shaking images.
This *Lock on HSync* option exclude the *Frame Rate Conversion*.
3. Horizontal sync polarity can be positive or negative. The position depends on the monitor.
4. Vertical sync polarity can be positive or negative. The position depends on the monitor.



Image 12-14
Settings

12.5 Pattern Generator

Overview

- Overview and activation
- Test pattern set up

12.5.1 Overview and activation

Overview

The digitizer can generate patterns for testing purposes.

Different available patterns are:

- Bytelevel : a one color pattern
- Crosshatch
- HRamp : horizontal bars
- Multiburst : pixel on, pixel off pattern
- Blocks : block pattern
- VRamp : vertical bars

Use the 'pattern' button to go to the pattern page. On this page you can activate the pattern generation and change the pattern settings.

How to activate test patterns

1. Click on **Pattern** to activate the test pattern generator.

The test pattern generator window opens. (image 12-15)

2. Toggle the status by clicking on the ON/OFF button.

- ON : test pattern will be generated
- OFF : no test pattern will be generated

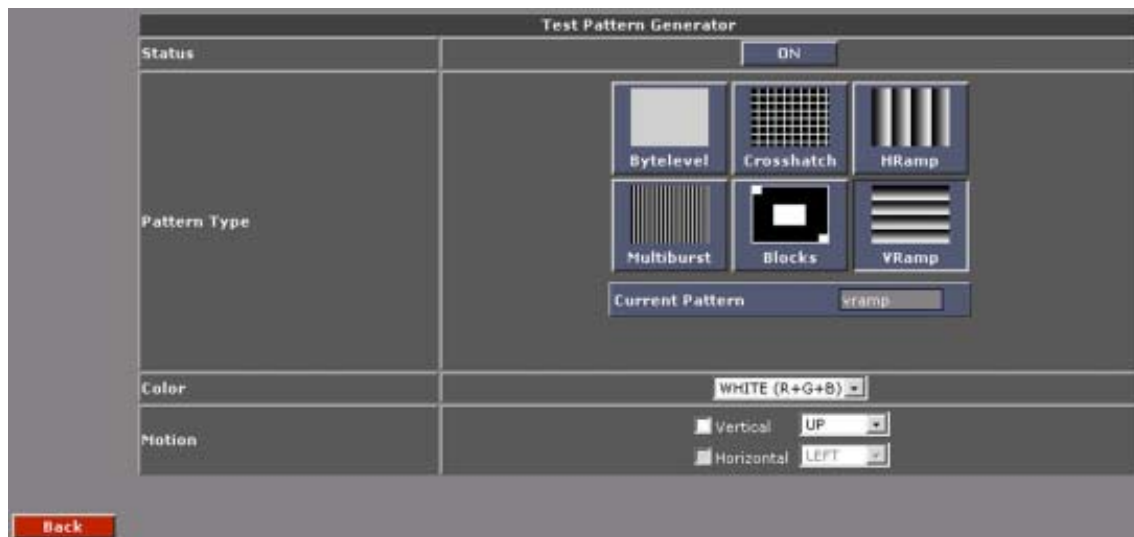


Image 12-15
Test pattern generator window

12.5.2 Test pattern set up

How to configure a test pattern

1. Click on of the 6 available patterns.

12. D320Lite Configuration

The name of the selected pattern will be displayed in the box *Current pattern*. (image 12-16)
Depending on the selected pattern, an extra input box appears.

Pattern	Extra input box
Bytelevel	Amplitude: the amplitude (brightness) of the pattern.
Crosshatch	Pixelwidth: the width of the pixels (lines). Value between 1 and 4.
HRamp	no extra input box
Multiburst	Type: type of the multiburst pattern (width of the pixels). Can be a value between 0 and 7.
Blocks	no extra input box
VRamp	no extra input box

2. Select the color that will be used to generate the pattern.
The following options are possible:

- Red
- Green
- Blue
- Yellow (R + G)
- Cyan (G + B)
- Magenta (R + B)
- White (R+ G + B)
- Loop all

Select 'LOOP ALL' to loop through all the available colors.

3. If the pattern has to move over the screen, check Vertical and/or horizontal and select the direction.
Note: Only available for 'Crosshatch', 'HRamp' and 'VRamp' patterns.

Note: Important to avoid a burn in.

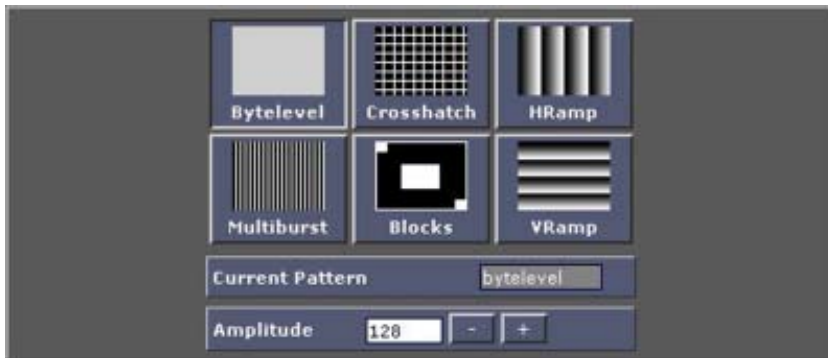


Image 12-16
Pattern choices

13. INPUT SLOTS FOR D320 SERIES

Overview

- General info
- Input D320 DVI-D
- Input D320 YUV/RG(s)B
- Input D320 SDI
- Input D320 HDSDI
- Input D320 CVBS/S-Vid
- Input D320 RGB analog
- Input D320 RGB analog (UXGA)
- Input D320 RGB UXGA 2



Important when using a stack configuration of D320 digitizers.

Check the **Apply Level Settings** before starting any adjustment on the inputs. For more info about apply level settings, see "Adjustment Apply Level Settings", page 91.

13.1 General info

Refresh/update input detection

1. Click **Detect** on the Input slots part of the configuration screen to update/refresh the input detection process. (image 13-1)

Note: Only use the detect button when new input slots are inserted.

A confirmation window will be shown. (image 13-2)

2. Click **OK** to proceed.
Click **Cancel** to abort.

Input Slots			
Detect	Type	Firmware	Settings
Input 1	SDI	01.00	Adjust
Input 2	YUV	02.00	Adjust
Input 3	HDSDI	01.01	Adjust
Input 4	DVI	01.06	Adjust

Image 13-1

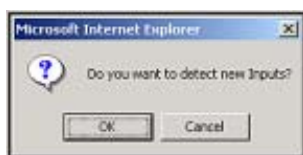


Image 13-2

Type of inputs

Input types and the input port they are connected to in accordance to the front of the D320 will be indicated.

The following inputs are available for the D320:

- DVI
- YUV/RG(s)B
- SDI
- CVBS/S-Vid
- RGB analog (SXGA)
- RGB analog (UXGA)

Clicking **Adjust** against any specific input will give access to that inputs adjustment parameter window.

13.2 Input D320 DVI-D

13.2.1 Settings start up



DVI

Digital Visual Interface. DVI is a high speed serial display interface developed in response to the proliferation of digital flatpanel displays.

How to start up

1. Click **Adjust** against DVI input on the Input Slots part of the menu gives the DVI parameter window. (image 13-3)
2. Click on the **Back** to return to the general D320 window.
3. Click on **Restore default settings** to restore the default settings.



Image 13-3
Setting DVI input slot D320

13.2.2 Image Processing

DDC Resolution

The DDC setting allows to configure the RGB input according a VESA standard or according a custom created file. There are seven selectable resolution setup values that can be recognized by the graphic card through DDC communication plus one custom setting.

The DDC setting can be switch off by selecting No DDC.

No DDC	No DDC communication between graphic card and the input module
Custom	Custom file will be used to force the graphic card into certain resolution
VGA	85Hz refresh rate
SVGA	60Hz refresh rate
XGA	60Hz refresh rate
SXGA	60Hz refresh rate
SXGA	75Hz refresh rate
SXGA	85Hz refresh rate
UXGA	60Hz refresh rate

The graphic card will boot up in the selected display mode as far as the selected display mode is within the card's capabilities.

Before selecting *Custom*, place the corresponding file into the following directory : [install drive]:\Program Files\Barco\XLite Toolset V2\LSToolset\Driver\DDCfiles.

The name of the file is standardized :

- for RGB analog module : D320rgban_custom.txt
- for DVI module : D320dvi_custom.txt

13.3 Input D320 YUV/RG(s)B

13.3.1 Settings start up

How to start up

1. Click **Adjust** against YUV/RG(s)B input on the Input Slots part of the menu gives the YUV/RG(s)B parameter window. (image 13-4)
2. Click on the **Back** to return to the general D320 window.
3. Click on **Restore default settings** to restore the default settings.

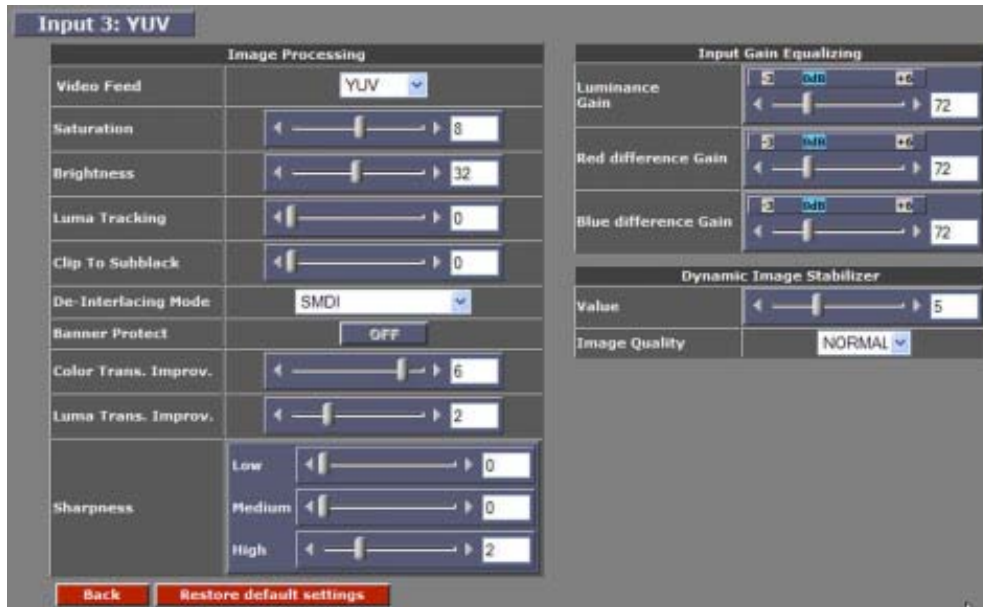


Image 13-4
Settings YUV/RG(s)B input slot D320

What can be adjusted?

This window consists out of 3 parts:

- Image processing
- Input Gain Equalizing
- Dynamic Image Stabilizer

13.3.2 Image Processing

Video Feed

Two possible choices:

- YUV
- RGsB

Select the input type which has to be displayed.

Saturation

Adjustable from 0 to 15 with the corresponding slider.

Saturation is the intensity of the color, 0 will be black & white.

Brightness

Adjustable from 0 to 63 with the corresponding slider.

Brightness is the intensity of the displayed signal.

Brightness will add or subtract ... to the luminance part of the signal.

Luma Tracking

Adjustable from 0 to 15 with the corresponding slider.

Luma Tracking adjusts the level of green haze appearing in the low lights.

Clip to Subblack

Adjustable from 0 to 15 with the corresponding slider.

Clip To Subblack will filter spurious LSB's in low lights under black-level, to prevent that spurious pixels appear in black planes, even after Dynamic Image Stabilization.

De-interlacing Mode

Select between :

- SMDI (Smart Motion De-Interlacing) : is effective when the source signal has interlaced fields between frames.
- SMDI + Filmmode : is effective when the source signal has interlaced fields between frames and enables 2 to 2/3 to 2 pull down processing.
- Line Repetition : is effective for a non-interlace field sources (static images). The lines of the odd field will be doubled to obtain a complete image.
- Field Insertion : both fields of a interlaced image will be added together to form one de-interlaced image.

For normal video, *SMDI* should be selected.

Banner Protect

Banner protect ON or OFF. Is only effective when *SMDI + Filmmode* is selected in *De-interlacing mode*.

With banner protect ON, the bottom 1/4 of the lines will not be processed in Filmmode detection. That avoid scrolling banners or "ticker tapes" causing FILM mode errors.

Color Transient Improvement (CTI)

CTI sharpen the transient between two next to each other projected colors. The degree of improvement can be adjusted with the slider bar.

When on 0, the image is displayed without CTI. 7 represents the sharpest CTI.

Luma Transient Improvement (LTI)

LTI accentuates the transient between two parts of the image with different intensity. The degree of improvement can be adjusted with the slider bar.

When on 0, the image is displayed without LTI. 7 represents the sharpest LTI.

Sharpness

Adjustment of the sharpness impression of the image in three frequency ranges (low, medium, high). Adjust sharpness completely conform own preferences or use predefined preset.

13.3.3 Input Gain Equalizing

Overview

Each gain can be adjusted between 0 and 255 (-3dB and +6dB).

Any value can be entered by

- clicking first in digit box and entering the desired value or
- sliding the corresponding slider to the desired value.

3 values, -3dB, 0dB, +6dB or preprogrammed and can be selected by clicking on the corresponding indication.

The slider jumps immediately to the correct value.

The following input gain adjustments are possible:

- Luminance Gain
- Red difference Gain
- Blue difference Gain

13.3.4 Dynamic Image Stabilizer (DIS)

Value

between 0 and 14.

Image Quality

Selection possible between :

- Normal : if the input signal is normal signal, select normal
- Noisy : if the input signal contains noise, select noisy to approve the output signal.

13.4 Input D320 SDI



SDI

Serial Digital Interface

13.4.1 Settings start up

How to start up

1. Click **Adjust** against SDI input on the Input Slots part of the menu gives the SDI parameter window. (image 13-5)
2. Click on the **Back** to return to the general D320 window.
3. Click on **Restore default settings** to restore the default settings.

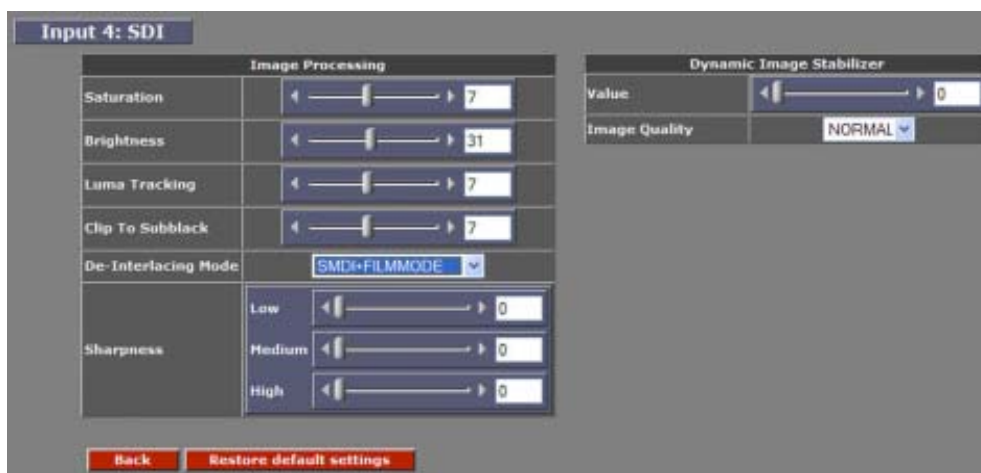


Image 13-5
Settings SDI input slot D320

What can be adjusted?

This window consists out of 2 parts:

- Image processing
- Dynamic Image Stabilizer

13.4.2 Image Processing

Saturation

Adjustable from 0 to 15 with the corresponding slider.

Saturation is the intensity of the color, 0 will be black & white.

Brightness

Adjustable from 0 to 63 with the corresponding slider.

Brightness is the intensity of the displayed signal.

Brightness will add or subtract ... to the luminance part of the signal.

Luma Tracking

Adjustable from 0 to 15 with the corresponding slider.

Luma Tracking adjusts the level of green haze appearing in the low lights.

Clip to Subblack

Adjustable from 0 to 15 with the corresponding slider.

Clip To Subblack will filter spurious LSB's in low lights under black-level, to prevent that spurious pixels appear in black planes, even after Dynamic Image Stabilization.

De-interlacing Mode

Select between :

- SMDI (Smart Motion De-Interlacing) : is effective when the source signal has interlaced fields between frames.
- SMDI + Filmmode : is effective when the source signal has interlaced fields between frames and enables 2 to 2/3 to 2 pull down processing.
- Line Repetition : is effective for a non-interlace field sources (static images). The lines of the odd field will be doubled to obtain a complete image.
- Field Insertion : both fields of a interlaced image will be added together to form one de-interlaced image.

For normal video, *SMDI* should be selected.

Sharpness

Adjustment of the sharpness impression of the image in three frequency ranges (low, medium, high). Adjust sharpness completely conform own preferences or use predefined preset.

13.4.3 Dynamic Image Stabilizer (DIS)

Value

between 0 and 14.

Image Quality

Selection possible between :

- Normal : if the input signal is normal signal, select normal
- Noisy : if the input signal contains noise, select noisy to approve the output signal.

13.5 Input D320 HDSDI

13.5.1 Settings start up

How to start up

1. Click **Adjust** against HDSDI input on the Input Slots part of the menu gives the HDSDI parameter window. (image 13-6)
2. Click on the **Back** to return to the general D320 series window.
3. Click on **Restore default settings** to restore the default settings.

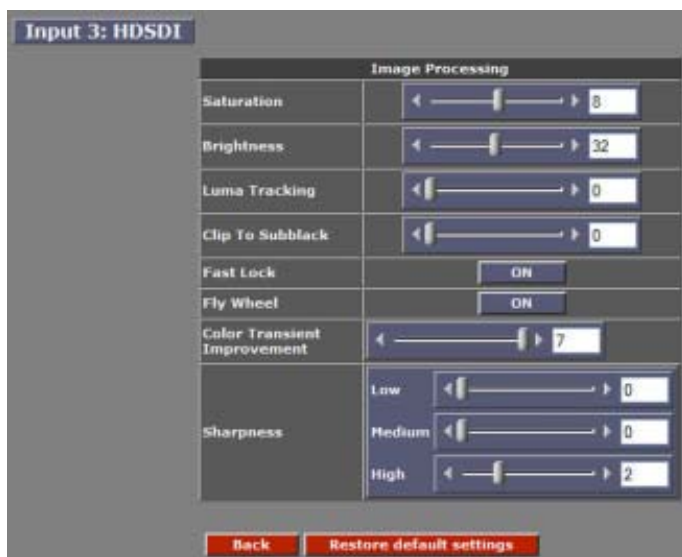


Image 13-6
Setting HDSDI input slot for D320 series

What can be adjusted?

This window consists only 1 part:

- Image processing

13.5.2 Image Processing

Saturation

Adjustable from 0 to 15 with the corresponding slider.

Saturation is the intensity of the color, 0 will be black & white.

Brightness

Adjustable from 0 to 63 with the corresponding slider.

Brightness is the intensity of the displayed signal.

Brightness will add or subtract ... to the luminance part of the signal.

Luma Tracking

Adjustable from 0 to 15 with the corresponding slider.

Luma Tracking adjusts the level of green haze appearing in the low lights.

Clip to Subblack

Adjustable from 0 to 15 with the corresponding slider.

Clip To Subblack will filter spurious LSB's in low lights under black-level, to prevent that spurious pixels appear in black planes, even after Dynamic Image Stabilization.

Fast Lock

Way of locking of the PLL of the sync generator.

Default position : ON

When interference is visible on the image, switch to OFF. If the image is not yet improved, continue to Fly Wheel and switch also to OFF.

Fly Wheel

To continue the locking of the PLL of the sync generator when a lock pulse is missing.

Default position : ON

When interference is still visible in the image after Fast Lock is switched off, switch off Fly Wheel too.

Color Transient Improvement

To improve the transition from one color to another.

Adjustable between 0 and 7. With 0 less improvement and 7 the highest improvement.

Sharpness

Adjustment of the sharpness impression of the image in three frequency ranges (low, medium, high). Adjust sharpness completely conform own preferences or use predefined preset.

13.6 Input D320 CVBS/S-Vid

13.6.1 Settings start up

How to start up

1. Click **Adjust** against CVBS/S-Vid input on the Input Slots part of the menu gives the CVBS/S-Vid parameter window. (image 13-7)
2. Click on the **Back** to return to the general D320 window.
3. Click on **Restore default settings** to restore the default settings.



Image 13-7
Settings CVBS/S-Vid input slot D320

What can be adjusted?

This window consists out of 3 parts:

- Image processing
- Dynamic gain stabilizing
- Video Equalizing

13.6.2 Image Processing



CVBS

Composite Video Broadcast System. For D320 CVBS module, also S-Video and Composite Video available.

Video Feed

Two possible choices:

- Video
- S-Video

Select the input type which has to be displayed.

Click on the icon next to the Video Feed to get info about the connections. A pop up window opens.



Image 13-8



Image 13-9
Connection info

Saturation

Adjustable from 0 to 15 with the corresponding slider.

Saturation is the intensity of the color, 0 will be black & white.

Tint

If your input source is NTSC, click on **NTSC**. The slider will be available. If your source is Pal/Secam, click on **PAL**. The slide will disappear.

Adjustable from 0 to 255 with the corresponding slider.

Only for NTSC 4.43 or NTSC 3.58

Brightness

Adjustable from 0 to 63 with the corresponding slider.

Brightness is the intensity of the displayed signal.

Brightness will add or subtract to the luminance part of the signal.

Luma Tracking

Adjustable from 0 to 15 with the corresponding slider.

Luma Tracking adjusts the level of green haze appearing in the low lights.

Clip to Subblack

Adjustable from 0 to 15 with the corresponding slider.

Clip To Subblack will filter spurious LSB's in low lights under black-level, to prevent that spurious pixels appear in black planes, even after Dynamic Image Stabilization.

De-interlacing Mode

Select between :

- SMDI (Smart Motion De-Interlacing) : is effective when the source signal has interlaced fields between frames.
- SMDI + Filmmode : is effective when the source signal has interlaced fields between frames and enables 2 to 2/3 to 2 pull down processing.
- Line Repetition : is effective for a non-interlace field sources (static images). The lines of the odd field will be doubled to obtain a complete image.
- Field Insertion : both fields of a interlaced image will be added together to form one de-interlaced image.

For normal video, *SMDI* should be selected.

Banner Protect

Banner protect ON or OFF. Is only effective when *SMDI + Filmmode* is selected in *De-interlacing mode*.

With banner protect ON, the bottom 1/4 of the lines will not be processed in Filmmode detection. That avoid scrolling banners or “ticker tapes” causing FILM mode errors.

Color Transient Improvement (CTI)

CTI sharpen the transient between two next to each other projected colors. The degree of improvement can be adjusted with the slider bar.

When on 0, the image is displayed without CTI. 7 represents the sharpest CTI.

Luma Transient Improvement (LTI)

LTI accentuates the transient between two parts of the image with different intensity. The degree of improvement can be adjusted with the slider bar.

When on 0, the image is displayed without LTI. 7 represents the sharpest LTI.

Sharpness

Adjustment of the sharpness impression of the image in three frequency ranges (low, medium, high). Adjust sharpness completely conform own preferences or use predefined preset.

13.6.3 Input Gain Equalizing

Overview

Each gain can be adjusted between 0 and 255 (-3dB and +6dB).

Any value can be entered by

- clicking first in digit box and entering the desired value or
- sliding the corresponding slider to the desired value.

3 values, -3dB, 0dB, +6dB or preprogrammed and can be selected by clicking on the corresponding indication.

The slider jumps immediately to the correct value.

The following input gain adjustments are possible:

- For S-Video
 - Luma gain
- For Video
 - Gain

13.6.4 Dynamic Image Stabilizer (DIS)

Value

between 0 and 14.

Image Quality

Selection possible between :

- Normal : if the input signal is normal signal, select normal
- Noisy : if the input signal contains noise, select noisy to approve the output signal.

13.7 Input D320 RGB analog

13.7.1 Settings start up

How to start up

1. Click **Adjust** against RGB input on the Input Slots part of the menu gives the RGB parameter window. (image 13-10)
2. Click on the **Back** to return to the general D320 window.
3. Click on **Restore default settings** to restore the default settings.

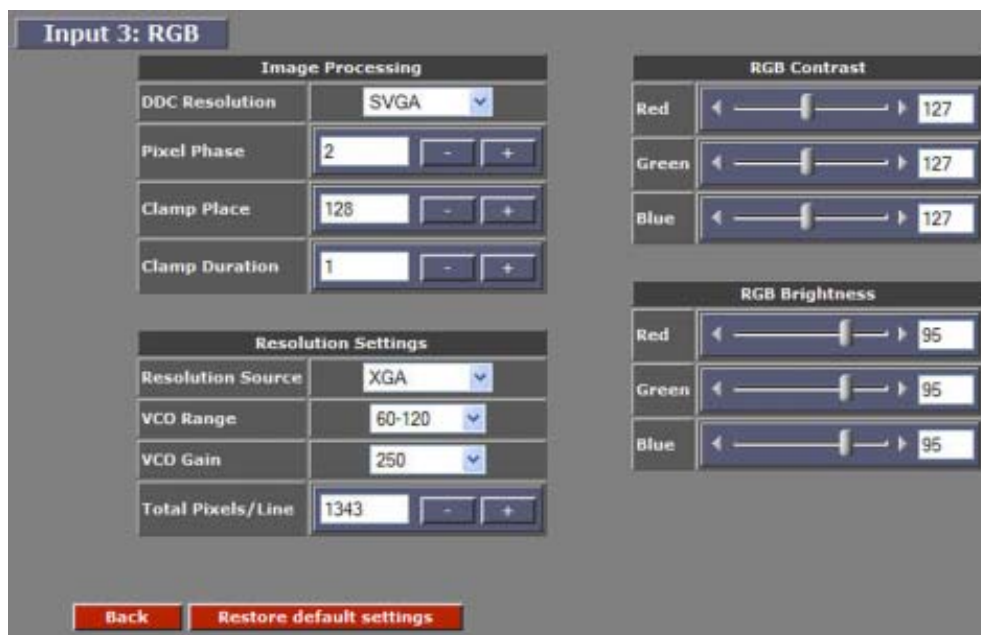


Image 13-10

What can be adjusted?

This window consists out of 4 parts:

- Image processing
- Resolution Settings
- RGB Contrast
- RGB Brightness

13.7.2 Image Processing

DDC Resolution

The DDC setting allows to configure the RGB input according a VESA standard or according a custom created file. There are seven selectable resolution setup values that can be recognized by the graphic card through DDC communication plus one custom setting.

The DDC setting can be switch off by selecting No DDC.

No DDC	No DDC communication between graphic card and the input module
Custom	Custom file will be used to force the graphic card into certain resolution
VGA	85Hz refresh rate
SVGA	60Hz refresh rate
XGA	60Hz refresh rate
SXGA	60Hz refresh rate
SXGA	75Hz refresh rate
SXGA	85Hz refresh rate
UXGA	60Hz refresh rate

The graphic card will boot up in the selected display mode as far as the selected display mode is within the card's capabilities.

Before selecting Custom, place the corresponding file into the following directory : [install drive]:\Program Files\Barco\XLite Toolset V2\LSToolset\Driver\DDCfiles.

The name of the file is standardized :

- for RGB analog module : D320rgban_custom.txt
- for DVI module : D320dvi_custom.txt

Pixel Phase

Fine adjustment for the sampling of the signal.

Clamp Place

To properly digitize the incoming signal, the dc offset of the input must be adjusted to fit the range of the A/D converter. Most Graphic systems produce RGB signals with black at ground and white at +0.75V. With this setting you can program the number of pixel times that should pass after the trailing edge of HSYNC before clamping starts.

Range 0 -255

Clamp Duration

This sets the duration of the clamp. These both adjustments, providing considerable flexibility, to have a good image

Range 0 - 255

13.7.3 Resolution Settings

Resolution Source

Set Resolution Source according to the resolution of your source. When your graphic card has DDC communication, the resolution source setting should be the same as DDC resolution.

The following settings are possible:

VGA

SVGA

XGA

SXGA 60Hz

SXGA 75Hz

VCO Range

This setting will automatically set when the 'Resolution source' setting is entered.

15 - 30 MHz

30 - 60 MHz

60 - 120 MHz

110 - 140 MHz

VCO Gain

Default value will be filled in. Change this value to a higher or lower value to improve the image.

50

100

150

250

350

500

750

1500

Total Pixels/Line

Default value. Fine adjustment of the image possible by changing the value up or down. Change by one digit up or down and look to the result before changing more.

Changing the Total Pixels/Line, changes the horizontal sync value.

13.7.4 RGB Contrast

Changing the contrast

Utilize the sliders to determine a good color balance between Red, Green & Blue . Each has a range between 0 and 255

13.7.5 RGB Brightness

Changing the Brightness

Utilize the sliders to determine a good brightness between Red, Green & Blue. Each has a range between 0 and 126.

13.8 Input D320 RGB analog (UXGA)

13.8.1 Settings start up

How to start up

1. Click **Adjust** against RGB input on the Input Slots part of the menu gives the RGB parameter window. (image 13-11)
2. Click on the **Back** to return to the general D320 window.
3. Click on **Restore default settings** to restore the default settings.



Image 13-11

What can be adjusted?

This window consists out of 4 parts:

- Image processing
- Resolution Settings
- RGB Contrast
- RGB Brightness

13.8.2 Image Processing

DDC Resolution

The DDC setting allows to configure the RGB input according a VESA standard or according a custom created file. There are seven selectable resolution setup values that can be recognized by the graphic card through DDC communication plus one custom setting.

The DDC setting can be switch off by selecting No DDC.

No DDC	No DDC communication between graphic card and the input module
Custom	Custom file will be used to force the graphic card into certain resolution
VGA	85Hz refresh rate
SVGA	60Hz refresh rate
XGA	60Hz refresh rate
SXGA	60Hz refresh rate
SXGA	75Hz refresh rate
SXGA	85Hz refresh rate
UXGA	60Hz refresh rate

The graphic card will boot up in the selected display mode as far as the selected display mode is within the card's capabilities.

Before selecting Custom, place the corresponding file into the following directory : [install drive]:\Program Files\Barco\XLite Toolset V2\LSToolset\Driver\DDCfiles.

The name of the file is standardized :

- for RGB analog module : D320rgban_custom.txt
- for DVI module : D320dvi_custom.txt

Pixel Phase

Fine adjustment for the sampling of the signal.

Clamp Place

To properly digitize the incoming signal, the dc offset of the input must be adjusted to fit the range of the A/D converter. Most Graphic systems produce RGB signals with black at ground and white at +0.75V. With this setting you can program the number of pixel times that should pass after the trailing edge of HSYNC before clamping starts.

Range 0 - 255

Clamp Duration

This sets the duration of the clamp. These both adjustments, providing considerable flexibility, to have a good image

Range 0 - 255

13.8.3 Resolution Settings

Resolution Source

Set Resolution Source according the resolution of your source. When your graphic card has DCC communication, the resolution source setting should be the same as DDC resolution.

The following settings are possible:

- VGA
- SVGA
- XGA

SXGA 60Hz

SXGA 75Hz

SXGA 85Hz

UXGA 60Hz

VCO Range

This setting will automatically set when the 'Resolution source' setting is entered.

15 - 30 MHz

30 - 60 MHz

60 - 120 MHz

110 - 140 MHz

VCO Gain

Default value will be filled in. Change this value to a higher or lower value to improve the image.

50

100

150

250

350

500

750

1500

Total Pixels/Line

Default value. Fine adjustment of the image possible by changing the value up or down. Change by one digit up or down and look to the result before changing more.

Changing the PLL divider, changes the horizontal sync value.

13.8.4 RGB Contrast

Changing the contrast

Utilize the sliders to determine a good color balance between Red, Green & Blue . Each has a range between 0 and 255

13.8.5 RGB Brightness

Changing the Brightness

Utilize the sliders to determine a good brightness between Red, Green & Blue. Each has a range between 0 and 126.

13.9 Input D320 RGB UXGA 2

13.9.1 Settings start up

How to start up

1. Click **Adjust** against RGB input on the Input Slots part of the menu gives the RGB parameter window. (image 13-12)
2. Click on the **Back** to return to the general D320 window.
3. Click on **Restore default settings** to restore the default settings.

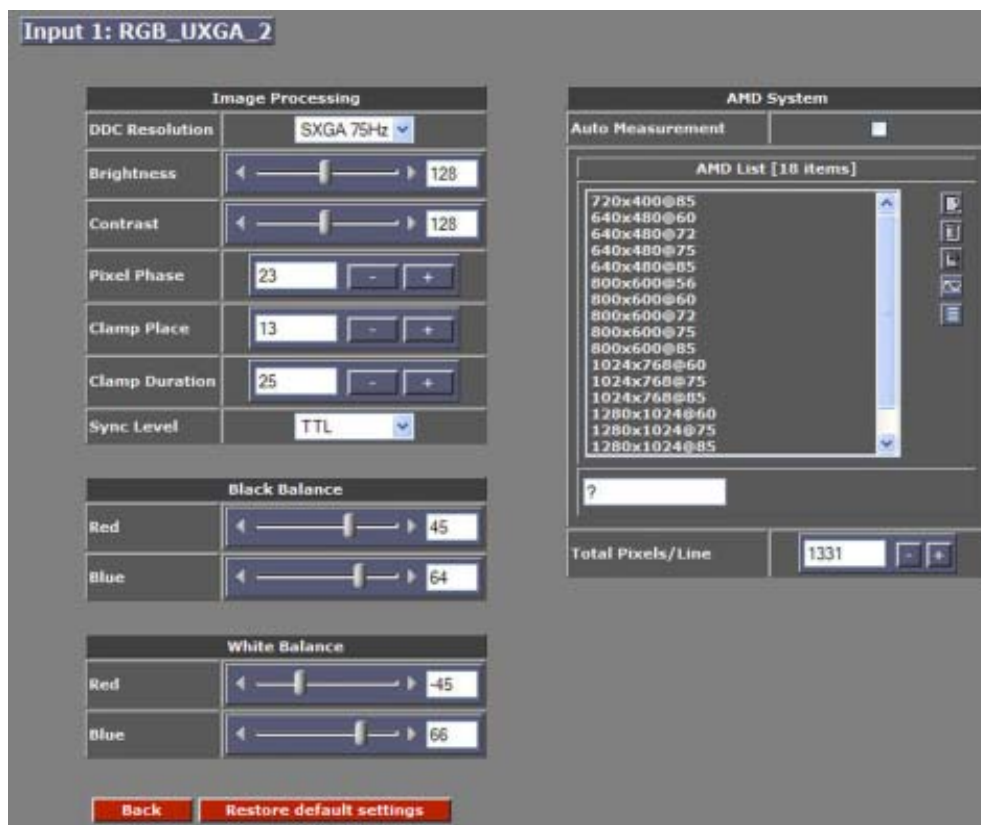


Image 13-12
Settings RGB UXGA input for D320 series

What can be adjusted?

This window consists out of 4 parts:

- Image processing
- Black balance
- White balance
- AMD system

13.9.2 Image Processing

DDC Resolution

The DDC setting allows to configure the RGB input according a VESA standard or according a custom created file. There are seven selectable resolution setup values that can be recognized by the graphic card through DDC communication plus one custom setting.

The DDC setting can be switch off by selecting No DDC.

13. Input Slots for D320 series

No DDC	No DDC communication between graphic card and the input module
Custom	Custom file will be used to force the graphic card into certain resolution
VGA	85Hz refresh rate
SVGA	60Hz refresh rate
XGA	60Hz refresh rate
SXGA	60Hz refresh rate
SXGA	75Hz refresh rate
SXGA	85Hz refresh rate
UXGA	60Hz refresh rate

The graphic card will boot up in the selected display mode as far as the selected display mode is within the card's capabilities.

Before selecting Custom, place the corresponding file into the following directory : [install drive]:\Program Files\Barco\XLite Toolset V2\LSToolset\Driver\DDCfiles.

The name of the file is standardized :

- for RGB analog module : D320rgban_custom.txt
- for DVI module : D320dvi_custom.txt

Brightness

Utilize the slider to determine a good brightness (overall light output) or click in the input field and enter the desired value. The range is between 0 and 255.

Contrast

Utilize the slider to determine a good color reproduction (between light and dark areas of the displayed image) or click in the input field and enter the desired value. The range is between 0 and 255.

Pixel Phase

Fine adjustment for the sampling of the signal.

Clamp Place

To properly digitize the incoming signal, the dc offset of the input must be adjusted to fit the range of the A/D converter. Most Graphic systems produce RGB signals with black at ground and white at +0.75V. With this setting you can program the number of pixel times that should pass after the trailing edge of HSYNC before clamping starts.

Range 0 - 255

Clamp Duration

This sets the duration of the clamp. These both adjustments, providing considerable flexibility, to have a good image

Range 0 - 255

13.9.3 Black balance

Overview



Image 13-13
Black balance

As the input balance is factory adjusted, the black balance can be used to correct mismatches of the input signal. Green will be taken as a reference. Adjust Red and Blue until the correct black balance is obtained (relative cut-off adjustment in comparison with green). Utilize the slider of each color or click in the input field and enter the desired value (range -127 to +127).

13.9.4 White balance

Overview



Image 13-14
White balance

As the input balance is factory adjusted, the white balance can be used to correct mismatches of the input signal. Green will be taken as a reference. Adjust Red and Blue until the correct white balance is obtained (relative gain adjustment in comparison with green). Utilize the slider of each color or click in the input field and enter the desired value (range -127 to +127).

13.9.5 AMD System

13.9.5.1 Auto Measurement

What can be done ?

The system will search for the best fitting file (resolution and frame rate). This file will be loaded.

Setup

1. Check the checkbox next to Auto Measurement

Checked Auto Measurement active

Not checked Manual selection of file activated.

13.9.5.2 Manual file selection

How to select ?

1. Double click on the desired file (1). (image 13-15)

This file will be loaded. The name of the file will be displayed in the box just below the list of files (3).

13. Input Slots for D320 series

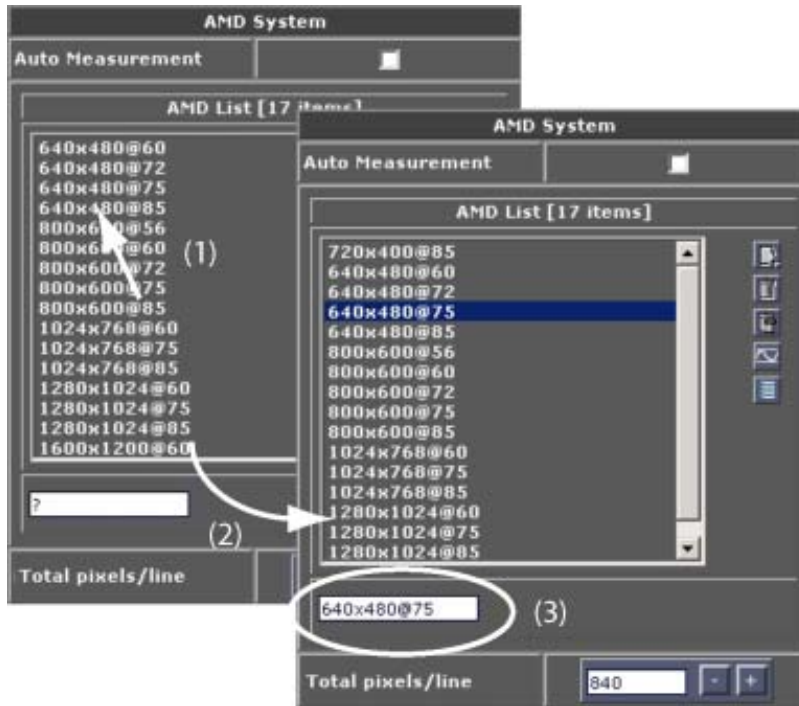


Image 13-15
Select file

13.9.5.3 Add new item to list

How to add ?

1. Click on the *new item* icon (1). (image 13-16)
The file input box displays [enter a name] (2).
2. Fill out a name for that new item (3).
3. Click on **Save** (4).

The new file will be saved and added to the list of files.

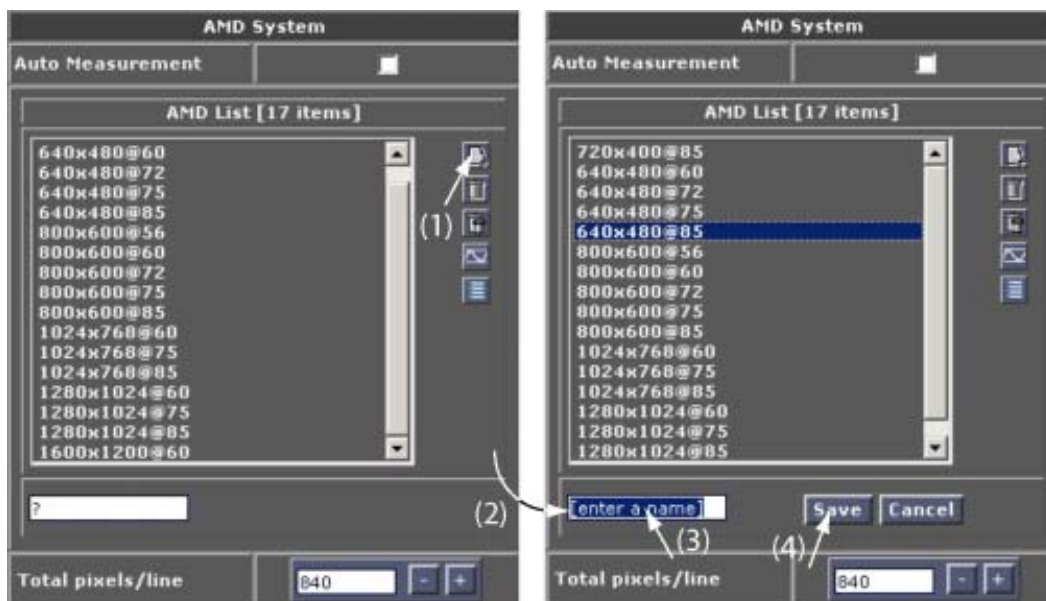


Image 13-16
Add custom file

13.9.5.4 Remove item from list

How to remove an item ?

1. Select an item out of the list (1). (image 13-17)
The background of the selected item becomes dark blue.
2. Click on the *Remove from list* icon (2).
- The item will be removed from the list (3).

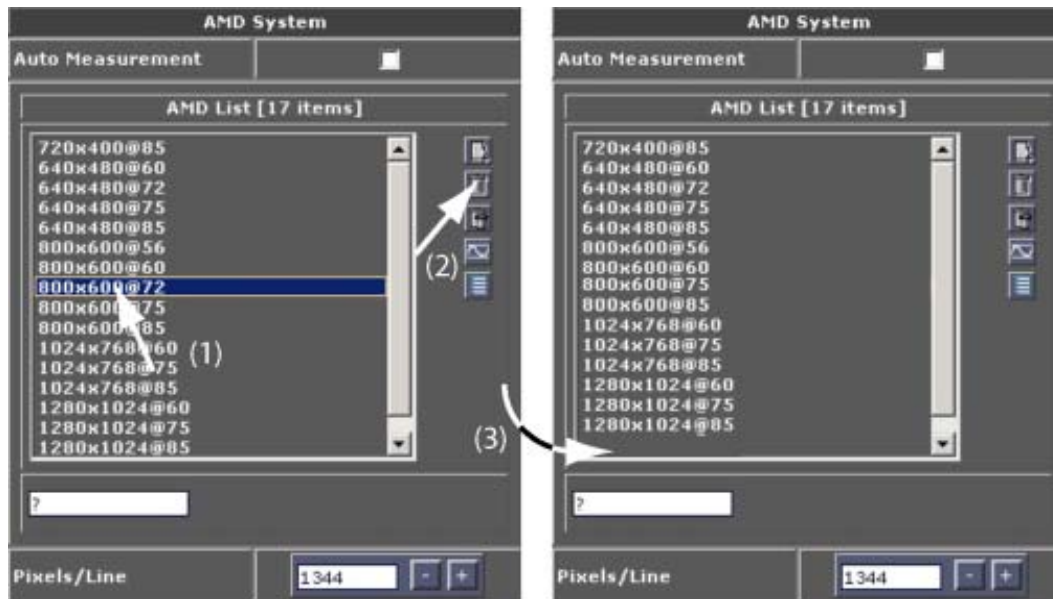


Image 13-17
Remove one file

13.9.5.5 Remove all items from the list

How to remove all ?

1. Click on the *Remove all items from list* icon (1). (image 13-18)
A remove all confirmation message will be displayed.
2. Click **OK** to remove all items.
All files will be removed.

13. Input Slots for D320 series

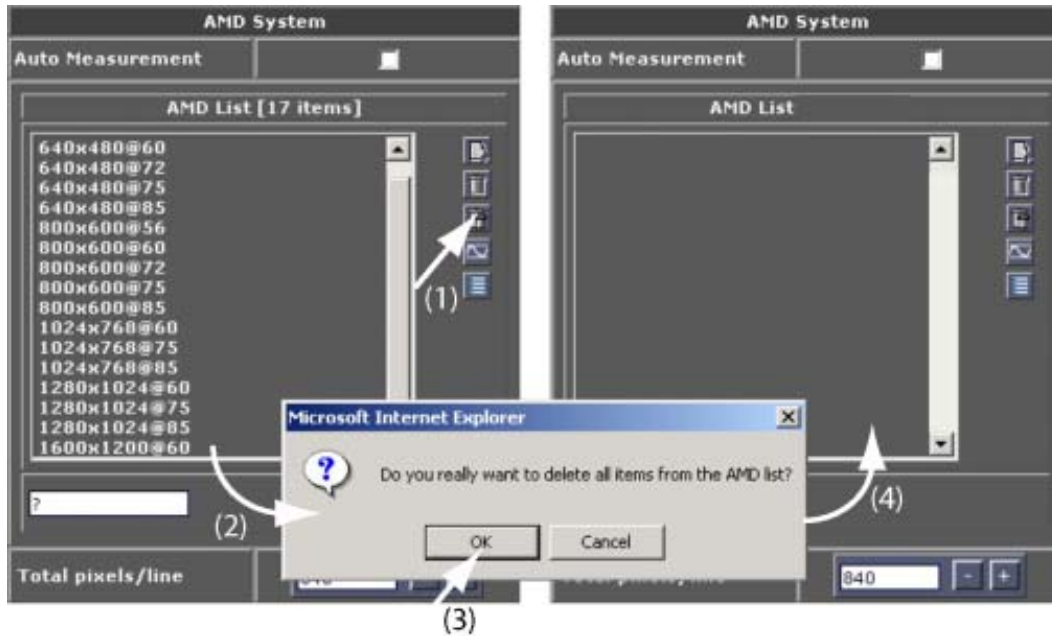


Image 13-18
Remove all files in the list

13.9.5.6 Best ADC setting

What can be done ?

When no file is selected or you do not know which one is the best. The system can measure the input source and select the best fitting file in the same way as when auto measurement was checked.

How to select ?

1. Click on *Suggest best ADC setting* icon. (image 13-19)

The system will measure the input signal and suggest the best file.

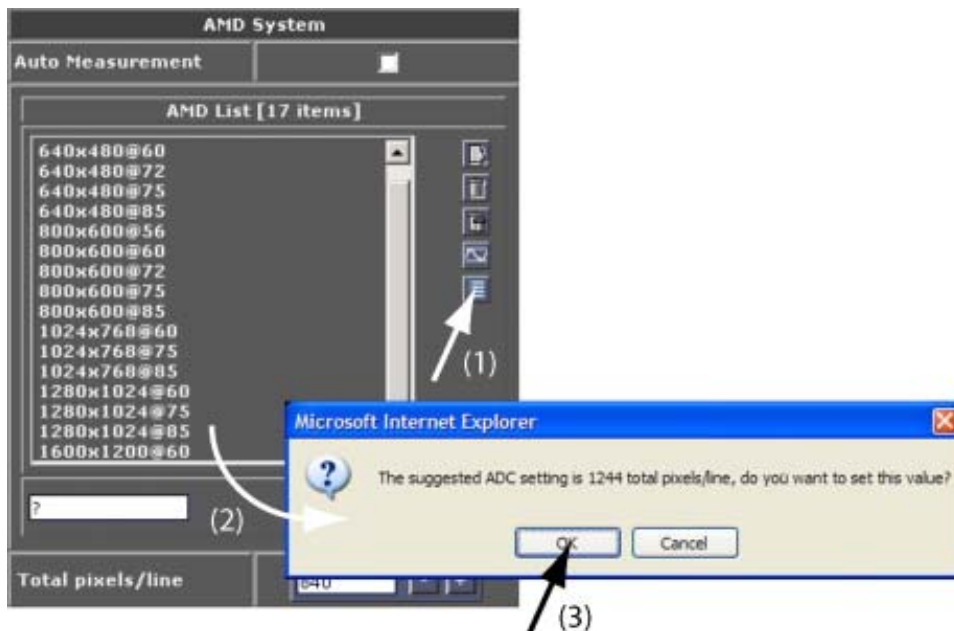


Image 13-19
Suggest ADC setting

13.9.5.7 Default list

How to return to the default list ?

1. Click on *Default list* icon (1). (image 13-20)

A confirmation will be displayed to warn that all custom settings will be lost (2).

2. Click **OK** to return to the default list (3).

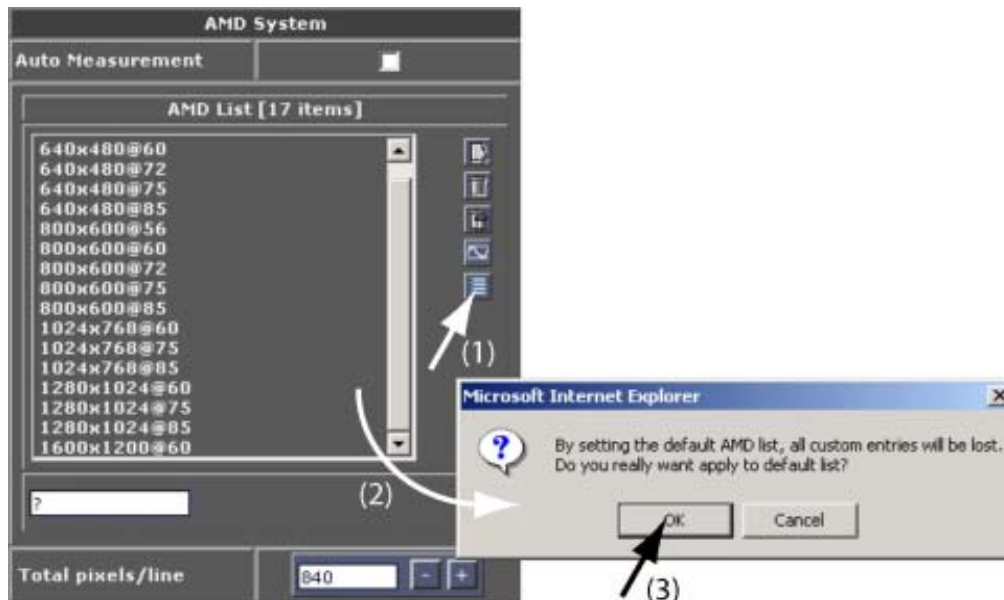


Image 13-20
Return to default list

13.9.5.8 Total pixels per line

Overview



Image 13-21
Total pixels

The total pixels per line are filled out by selecting a file but can be adapted when necessary by pressing on the + or - button next to *Total pixels/line*.

14. FIBERLINK CONFIGURATION



FiberLink

Long distance link

Overview

- Start up
- FiberLink Selection
- Pattern Generator
- Reconstruction Filter
- Key Reference
- LED Wall Power
- Device Properties FiberLink

14.1 Start up

Overview

The FiberLink is a digital fiber optic transmission system from Digitizer to D/ILite Display. It covers very long distances and has a very high bandwidth (1.5 GB/s). This enables the end-user for instance to setup the Digitizer in a remote control room. The FiberLink transmits not only the video signals but also the communication to the display. Therefore an extensive self-diagnose system is implemented for possible failure of transmission.

Start up



1. Click on the FiberLink icon

The FiberLink configuration window will reveal. (image 14-1)

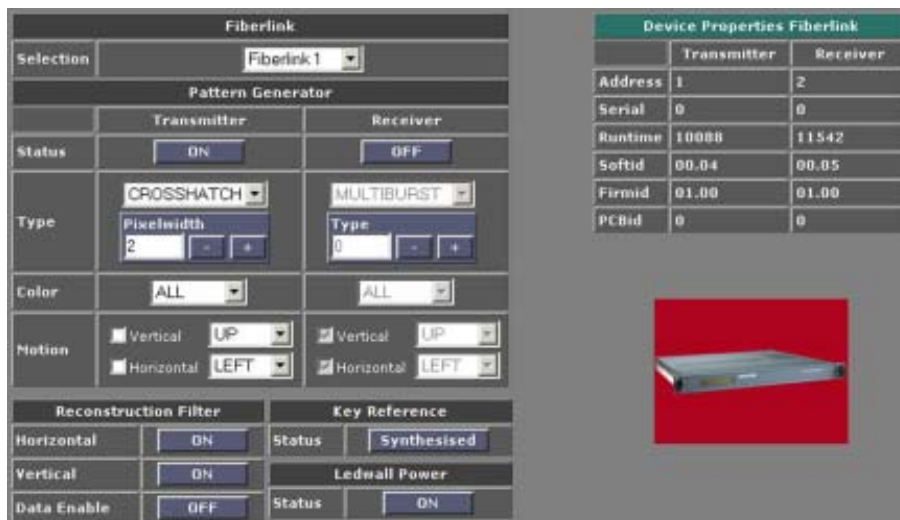


Image 14-1
FiberLink settings window

14.2 FiberLink Selection

How to select

1. Click on the drop down box next to Selection.
2. Select the FiberLink you want to set up.

14.3 Pattern Generator

Overview

Status transmitter : On/Off

Status receiver : On/Off

Possibilities for the transmitter:

- Multiburst : Type 0 to 7
- Hramp
- Vramp
- Crosshatch : Width of pattern in pixels (pixelwidth 1 to 4)
- Byte level: amplitude of byte level

Possibilities for the receiver:

- Multiburst : Type 0 to 7
- Hramp
- Vramp
- Crosshatch : Width of pattern in pixels (pixelwidth 1 to 4)
- Byte level: amplitude of byte level

Possibilities for Color Transmitter & Receiver:

- Red
- Green
- Blue
- All

Possibilities for Motion Transmitter & Receiver:

- Vertical : up/down
- Horizontal : left/right

14.4 Reconstruction Filter

Horizontal

The horizontal sync is reconstructed at receiver side through a reconstruction algorithm. This is useful when signal deterioration (e.g. bad cable quality) occurs.

Vertical

The vertical sync is reconstructed at receiver side through a reconstruction algorithm. This is useful when signal deterioration (e.g. bad cable quality) occurs.

Data Enable

The Data enable is reconstructed at receiver side through a reconstruction algorithm. This is useful when signal deterioration (e.g. bad cable quality) occurs.

The Receiver Controls tab appears if a FiberLink Receiver is selected at the top. In this tab, one can adjust some receiver controls in the event of lesser transmission quality. One can switch on three filters: the Horizontal Reconstruction Filter, the Vertical Reconstruction Filter and the Data Enable Reconstruction Filter.

14.5 Key Reference

Status

One can also choose between Synthesized or Transmitted Key Reference. In case the original or Transmitted Key Reference gets lost, a Synthesized Key Reference can be used to improve transmission quality.

14.6 LED Wall Power

Status

“Power off” shuts down the LEDwall and pushing the same button - now with the text “Power ON” - restarts the LEDwall.

14.7 Device Properties FiberLink

Overview

This box contains a FiberLink Transmit tab and a FiberLink Receive tab.

Provided are the corresponding read only information such as address, serial number, software version, and run time in the FiberLink Info tab.

15. FIBERLINK 2 CONFIGURATION

Overview

- Start up
- FiberLink 2 Selection
- Pattern Generator
- LED Wall Power
- Device Properties FiberLink

15.1 Start up

Overview

The FiberLink 2 is a digital fiber optic transmission system from Digitizer to D/I/S/OLite and MiPIX Display. It covers very long distances and has a very high bandwidth (1.5 GB/s). This enables the end-user for instance to setup the Digitizer in a remote control room. The FiberLink 2 transmits not only the video signals but also the communication to the display. Therefore an extensive self-diagnose system is implemented for possible failure of transmission.

Start up



1. Click on the FiberLink 2 icon

The FiberLink 2 configuration window will reveal. (image 15-1)

Device Properties Fiberlink		
	Transmitter	Receiver
Address	2	3
Serial	1258817	1258823
Runtime	11072	9339
Softid	00.04	00.05
Firmid	Input: 0.0 Controller: 0.0	01.00

Image 15-1
FiberLink2 settings window

15.2 FiberLink 2 Selection

How to select

1. Click on the drop down box next to Selection.
2. Select the FiberLink you want to set up.
Note: FiberLinks can be connected in cascade.

15.3 Pattern Generator

Overview

Status transmitter : On/Off

Status receiver : On/Off

Possibilities for the transmitter:

- Multiburst : Type 0 to 7
- Hramp
- Vramp
- Crosshatch : Width of pattern in pixels (pixelwidth 1 to 4)
- Byte level: amplitude of byte level

Possibilities for the receiver:

- Multiburst : Type 0 to 7
- Hramp
- Vramp
- Crosshatch : Width of pattern in pixels (pixelwidth 1 to 4)
- Byte level: amplitude of byte level

Possibilities for Color Transmitter & Receiver:

- Red
- Green
- Blue
- All

Possibilities for Motion Transmitter & Receiver:

- Vertical : up/down
- Horizontal : left/right

15.4 LED Wall Power

Status

“Power off” shuts down the LEDwall and pushing the same button - now with the text “Power ON” - restarts the LEDwall.

15.5 Device Properties FiberLink

Overview

This box contains a FiberLink Transmit tab and a FiberLink Receive tab.

Provided are the corresponding read only information such as address, serial number, software version, firmware version, and run time in the FiberLink Info tab.

16. DLITE DISPLAY CONFIGURATION

Overview

- Configuration Start up
- Screen Settings



Important note when multiple screens are used in a display (stack configuration).

Before making any adjustment to the DLite display or to a tile, check first the Apply Level Settings. For more info about the apply level settings, see "Adjustment Apply Level Settings", page 91.

16.1 Configuration Start up

Start Up



1. Click on the DLite icon to reveal the following pop menu. (image 16-1)

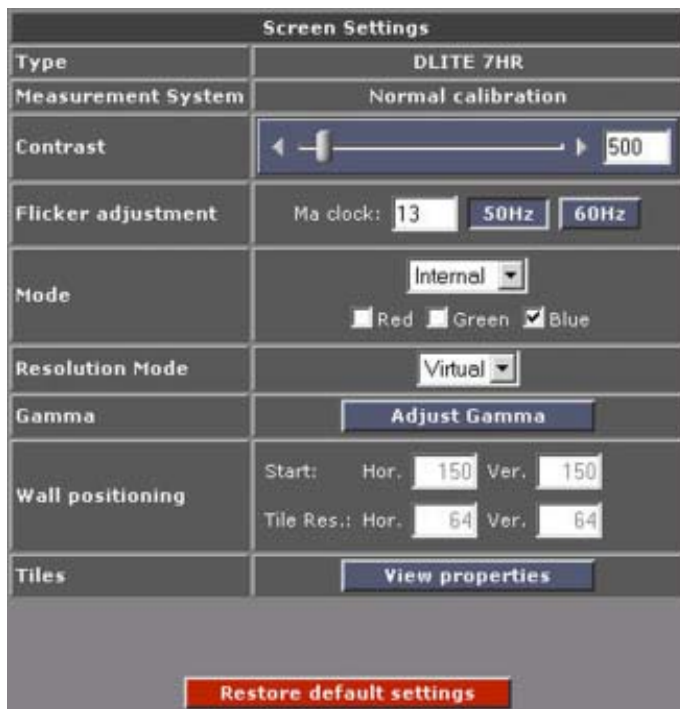


Image 16-1
Screen Settings window for I/DLite displays



To restore the default settings, click on button.

16.2 Screen Settings

16.2.1 Overview

Type

The type of the LED wall is indicated : DLite.

Measurement System

Indicates type of measurement system during manufacturing.

Contrast

The light output of the screen in Nit value dependent on the wall type.

To change the contrast:

- Move the slide bar with the mouse. The value in the next to the slide bar will be adapted. or
Click in the digit window next to the slide bar and change the value by direct entering via the keyboard.
 - DLite Display : 0 to 5000 Nit

Flicker Adjustment

Master clock set up depending on the frame rate.

When clicking on 50Hz or 60Hz, the default value will be filled in. This default value depends on the wall type.

Display Type	50Hz	60Hz
DLite7	13	3
DLite10	18	5
DLite14	13	3
DLite28	13	3

Another value can be entered by clicking in the digit area and entering the desired value with the keyboard.

Mode

Mode can be Internal or External.

Internal internal test pattern will be displayed.

 The color can be selected (R – G – B).

External images from a digitizer will be displayed.

 Color selection is grayed out.

Resolution mode

For DLite displays, the 'Resolution mode' can be set on *Real* or *Virtual*.

Real one pixels contains 5 LEDs (2 red, 2 green and 1 blue).

Virtual one pixels contains 3 LEDs (1 red, 1 green and a common blue)

Gamma

Click on  to load the Gamma adjustment environment window.

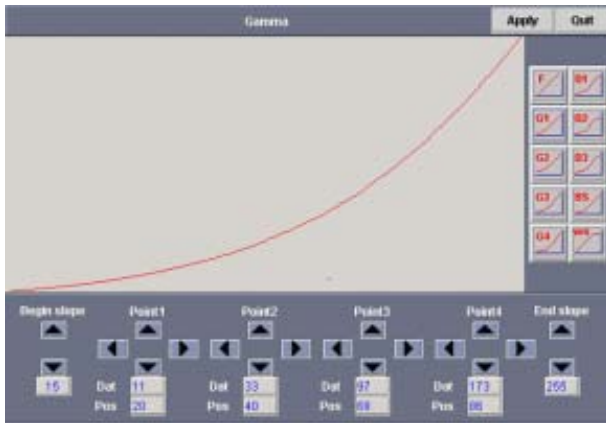


Image 16-2

For more explanation about changing the gamma or working with the preprogrammed curves, see "Gamma (non-linear color tracking)", page 118.

Wall Positioning

Static information about the start position and the tile resolution are indicated.

Tiles

Click on **View properties** to start up the Tile properties window.

For more detailed explanation see "Tile Settings", page 217

16.2.2 Tile Settings

How to start up

1. Click on **View properties** on the Screen Settings window (image 16-1).

The tile overview window will be displayed. (image 16-3)

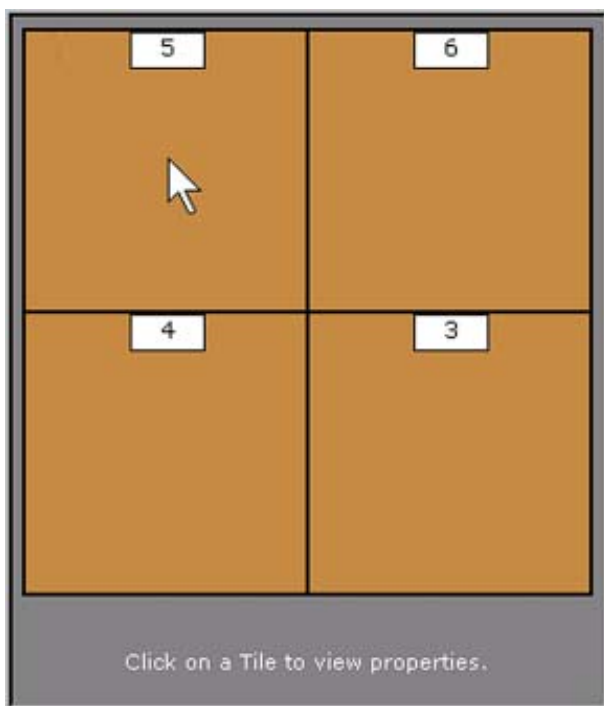


Image 16-3

Displaying the tile properties

1. Click on one of the rectangular orange area, to open the Tile properties page.

This page mainly consist of read-only properties, except for the Mode (internal/external), which can be switched.

All indicated values are tile specific. (image 16-4)

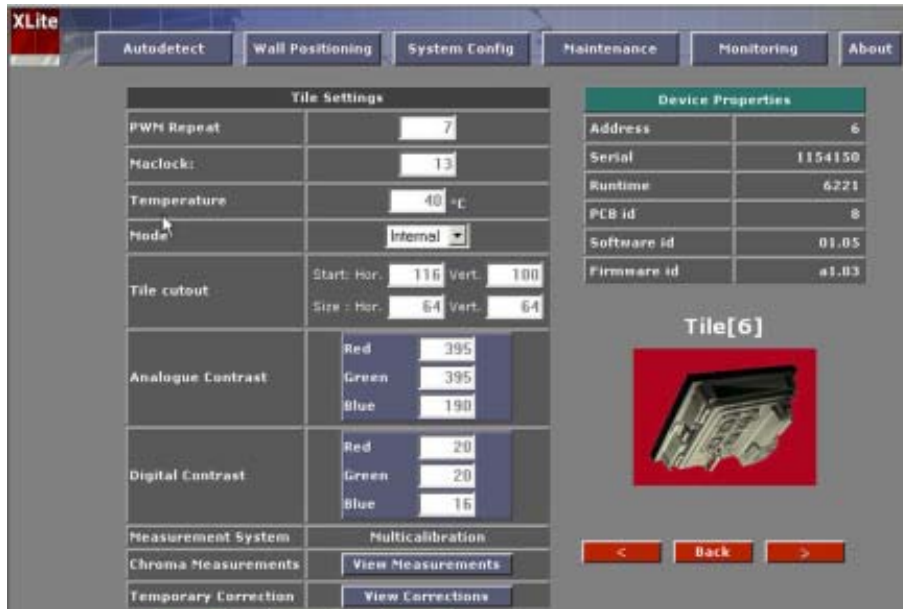


Image 16-4
Tile settings window

Available Tile Settings

PWM Repeat

PWM peak

Mode : this can be switched between internal and external.

internal internal test pattern will be displayed on that specific tile.

external external source for digitizer will be displayed on that specific tile.

Tile Cutout

Analogue Contrast

Digital Contrast

Measurement System: calibration system per tile, normal calibration or multi-calibration.

Chroma Measurements: Chroma measurement overview per tile.

Temporary Correction: Color overview per tile which can be edit temporary.

Device Properties

Address The tiles address, each tile is addressed individually

Serial number The tiles serial number, each tile has its own Serial Number.

Runtime The tiles time in use.

PCB Identification The version of controller printed circuit board used.

Software Identification The version of embedded software a tile uses.

Firmware Identification The version of Firmware a tile uses.

Returning to the previous screen

Select the **Back** button to return to the previous screen.

View previous or next tile

Select the **<** button to go to the previous tile.

Select the **>** button to go to the next tile.

Chroma Measurements

Click on **View Measurements** to get an overview of the color settings per quadrant for each tile.

Chroma Measurements of Tile[6]

Quadrant[1]			Quadrant[2]		
r	g	b	r	g	b
38.390	0.694	0.304	36.620	0.695	0.304
89.370	0.136	0.664	87.890	0.135	0.659
11.200	0.130	0.671	11.400	0.130	0.672

Quadrant[3]			Quadrant[4]		
r	g	b	r	g	b
39.630	0.694	0.305	39.240	0.694	0.304
94.100	0.135	0.664	91.960	0.135	0.663
11.200	0.130	0.669	11.300	0.131	0.670

< Tile Overview >

Image 16-5
Chroma measurements of tile

To go back to the complete tile overview window, click on **Tile Overview** ..

Temporary Correction Data

Click on **View Corrections** to get an overview of the color settings per quadrant for each tile. These settings can be adapted by entering a new value (between 0 and 255) or by pushing on the - or + button.

16. DLite Display Configuration

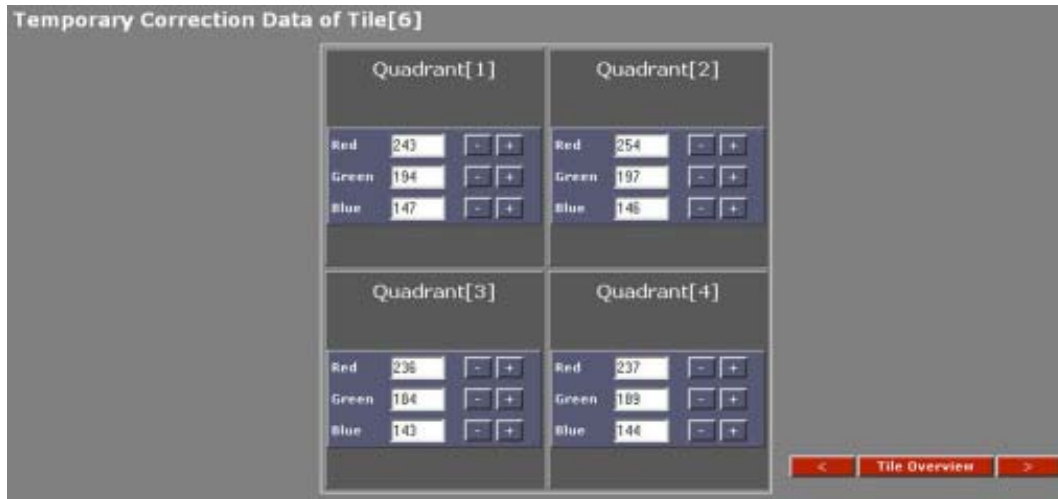


Image 16-6
Temporary correction data of tile.

To go back to the complete tile overview window, click on **Tile Overview** ..

17. ILITE DISPLAY CONFIGURATION

Overview

- Configuration Start up
- Screen settings



Important note when multiple screens are used in a display (stack configuration).

Before making any adjustment to the ILite display or to a tile, check first the Apply Level Settings. For more info about the apply level settings, see "Adjustment Apply Level Settings", page 91.

17.1 Configuration Start up

Start Up



1. Click on the ILite icon to reveal the following pop menu. (image 17-1)



Image 17-1
Screen Settings window for ILite display



To restore the default settings, click on **Restore default settings** button.

17.2 Screen settings

Overview

- Overview
- OSD functions for I Lite 6/8/10/12
- OSD function for I Lite 3
- Tile Settings

17.2.1 Overview

Type

The type of the LED wall is indicated, I Lite.

Measurement System

Type of measurement during manufacturing

Contrast

The light output of the screen in Nit value dependent on the wall type.

To change the contrast:

- Move the slide bar with the mouse. The value in the next to the slide bar will be adapted. or
Click in the digit window next to the slide bar and change the value by direct entering via the keyboard.
 - I Lite Display : 0 to 2000 Nit

Contrast on RGB

Click on the RGB in the contrast selection. The slider changes to 3 sliders, one for each color.

The contrast can be adjusted for each color separately.



Image 17-2
RGB contrast settings

Flicker Adjustment

Master clock set up depending on the frame rate.

When clicking on 50Hz or 60Hz, the default value will be filled in. This default value depends on the wall type.

Display Type	50Hz Ma-clock	60Hz Ma-clock
I Lite3	4444	37703
I Lite6	47	37
I Lite8	61	51
I Lite10	94	78
I Lite 12	138	115

Another value can be entered by clicking in the digit area and entering the desired value with the keyboard.

Mode

Mode can be Internal or External.

- Internal internal test pattern will be displayed.
 The color can be selected (R – G – B).
- External images from a digitizer will be displayed.
 Color selection is grayed out.

Resolution mode

Fixed for I Lite displays.

Gamma

Click on **Adjust Gamma** to load the Gamma adjustment environment window.

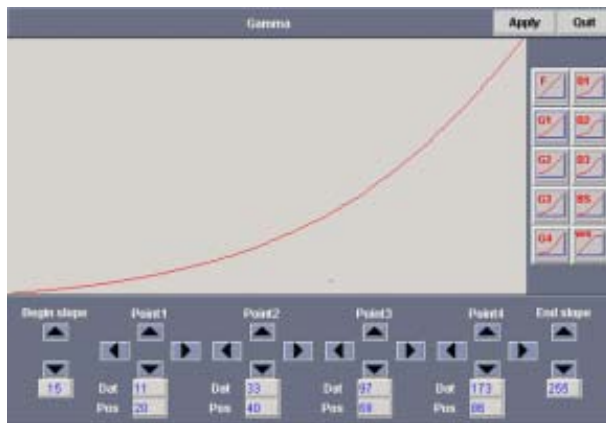


Image 17-3

For more explanation about changing the gamma or working with the preprogrammed curves, see "Gamma (non-linear color tracking)", page 118.

Gamma for I Lite3 and I Lite XP

Click on **Adjust Gamma** to load the Gamma adjustment environment window.

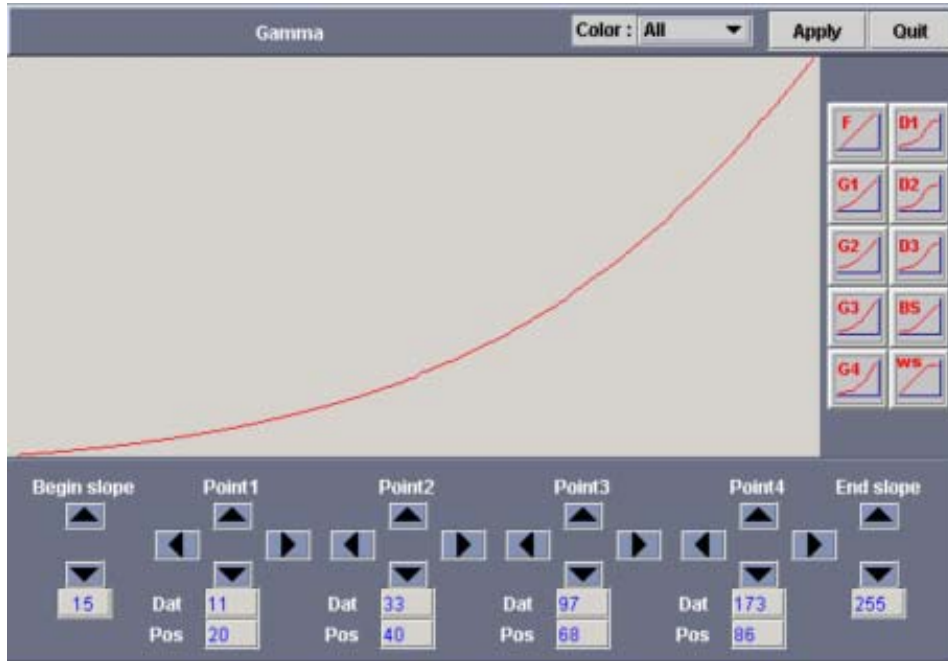


Image 17-4

Gamma can be adjusted for all colors at once or color per color. Therefore, select first the color before adjusting the gamma.

For more explanation about changing the gamma or working with the preprogrammed curves, see "Gamma (non-linear color tracking)", page 118.

OSD functions

For ILite 6/8/10/12, see "OSD functions for ILite 6/8/10/12", page 224.

For ILite 3, see "OSD function for ILite 3", page 227.

Wall Positioning

Static information about the start position and the tile resolution are indicated.

Tiles

Click on **View properties** to start up the Tile properties window.

For more detailed explanation see "Tile Settings", page 230

17.2.2 OSD functions for ILite 6/8/10/12

17.2.2.1 OSD functions for ILite 6/8/10/12

How to start up

1. Click on **OSD Function** to display an overview of all the OSD functions. (image 17-5)

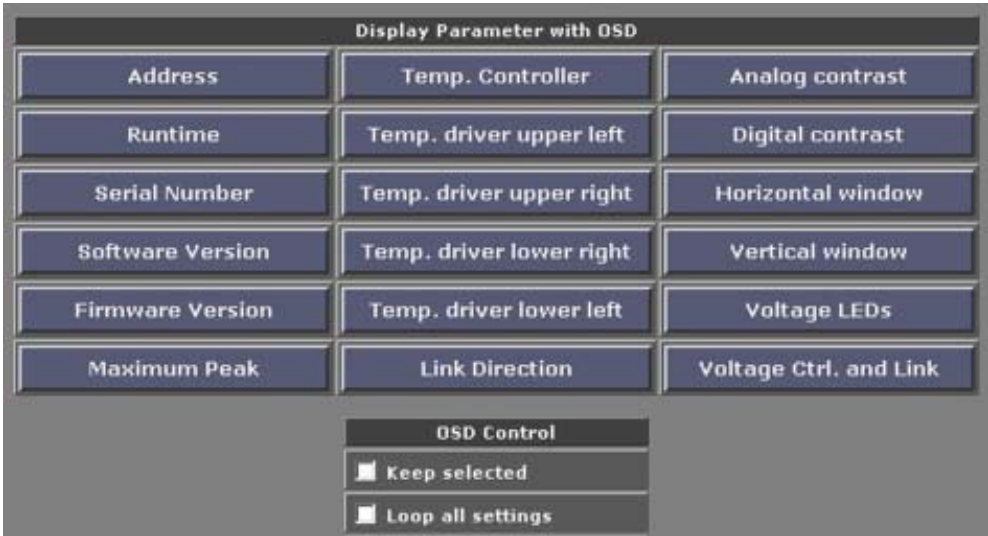






Image 17-5
OSD functions overview









17.2.2.2 Overview OSD Screens







Overview

The following functions are possible:

Address	To get an overview of the addresses of the tiles	
Runtime	Gives the total run time of the wall	
Serial number	Gives an overview of the serial numbers of the tiles	
Horizontal window	Horizontal start cut out window tile	

17. ILite Display Configuration

Vertical window	Vertical start cut out window tile	
Maximum peak	Maximum PWM (pulse width modulation) peak	
Software version	Installed software version	
Temp. driver upper left	Temperature of driver upper left in a tile	
Temp. driver lower right	Temperature of driver lower right in a tile	
Temp. driver upper right	Temperature of driver upper right in a tile	
Temp. driver lower left	Temperature of driver lower left in a tile	
Temp. controller	Temperature of controller	

Firmware version	installed firmware version	
Analog contrast	Contrast values are given per color	
Digital contrast	Contrast values are given per color	
Voltage control and Link voltage		
Voltage LED's	voltage on the LED's per color	
Link direction	The direction how the tiles are linked. E.g. from left to right and from up to down.	

17.2.2.3 OSD control

OSD control


- Keep selection Keeps selected setting visible on the tiles.
If not selected, then after 10 seconds the OSD setting disappears.
- Loop all If selected, then all settings will be shown after each other with an interval of 10 seconds.

Return to the screen settings

To go back click on .

17.2.3 OSD function for I Lite 3

How to start up

1. Click on  to display an overview of all the OSD functions. (image 17-6)

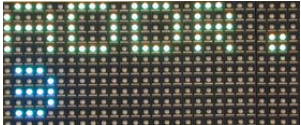



17. ILite Display Configuration

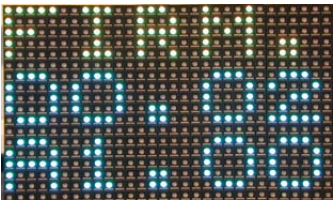

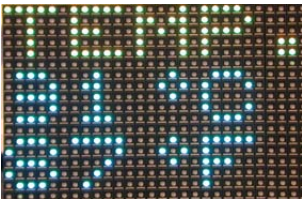
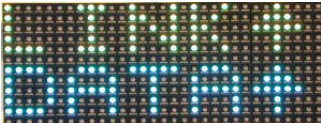


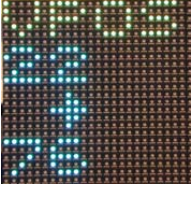



Image 17-6
OSD parameters ILite 3



Overview OSD Screens

The following functions are possible:

Address	To get an overview of the addresses of the tiles	
Runtime	Gives the total run time of the wall	
Serial number	Gives an overview of the serial numbers of the tiles	
Software version	Installed software version	

<p>Firmware version</p>	<p>installed firmware version</p>	
<p>Maximum peak</p>		
<p>Temp. controller</p>	<p>Temperature of controller</p>	
<p>Link direction</p>	<p>The direction how the tiles are linked. E.g. from left to right and from up to down.</p>	
<p>Digital contrast</p>	<p>Contrast values are given per color</p>	
<p>Horizontal window</p>	<p>Horizontal start cut out window tile</p>	
<p>Vertical window</p>	<p>Vertical start cut out window tile</p>	
<p>Calibration</p>	<p>Calibration status for each color</p>	

17. ILite Display Configuration

Mea- sure- ment system	
Scan direction	Indicates the direction of the scanning of the video signal. It can be Normal, +90°, -90° or 180°
	

OSD Disable – Enable

Check the checkbox next to *Disable system OSD message* to enable the OSD messages at runtime. When unchecked, a message will be displayed.



Image 17-7

Click **OK** to switch of the OSD messages.

To re-display the OSD message, click on a OSD item or when the tiles are rebooted the OSD is automatically switched on.

Return to the screen settings

To go back click on **Back**.

17.2.4 Tile Settings

How to start up

1. Click on **View properties** on the Screen Settings window (image 17-1).
The tile overview window will be displayed. (image 17-8)

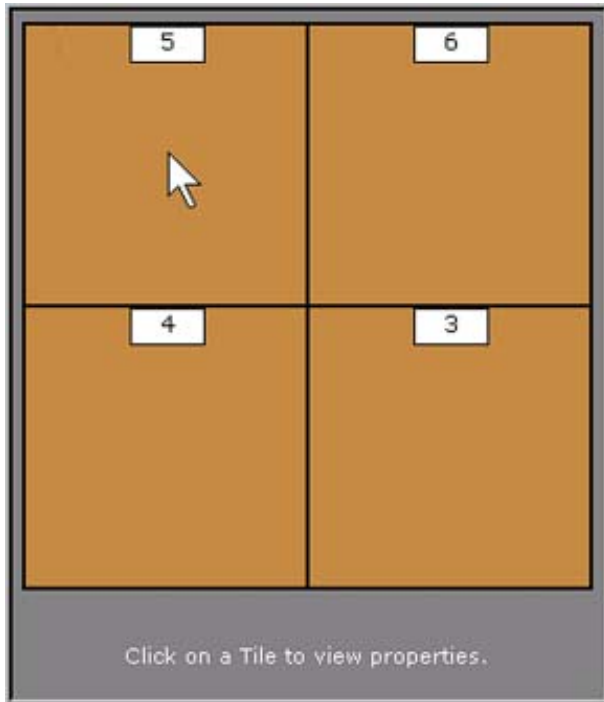


Image 17-8

Displaying the tile properties

1. Click on one of the rectangular orange area, to open the Tile properties page.

This page mainly consist of read-only properties, except for the Mode (internal/external), which can be switched.

All indicated values are tile specific. (image 17-9)



Image 17-9
Tile settings page

Available Tile Settings

PWM Repeat

PWM peak

17. ILite Display Configuration

Mode : this can be switched between internal and external.

internal internal test pattern will be displayed on that specific tile.

external external source for digitizer will be displayed on that specific tile.

Tile Cutout

Analogue Contrast

Digital Contrast

Measurement System: calibration system per tile, normal calibration or multi-calibration.

Chroma Measurements: Chroma measurement overview per tile.

Temporary Correction: Color overview per tile which can be edit temporary.

Device Properties

Address The tiles address, each tile is addressed individually

Serial number The tiles serial number, each tile has its own Serial Number.


Runtime The tiles time in use.

PCB Identification The version of controller printed circuit board used.


Software
Identification The version of embedded software a tile uses.

Firmware
Identification The version of Firmware a tile uses.

Returning to the previous screen

Select the  button to return to the previous screen.

View previous or next tile

Select the  button to go to the previous tile.

Select the  button to go to the next tile.

18. ILITE MD DISPLAY CONFIGURATION

Overview

- Configuration Start up
- Screen Settings



Important note when multiple screens are used in a display (stack configuration).

Before making any adjustment to the SLite display or to a tile, check first the Apply Level Settings. For more info about the apply level settings, see "Adjustment Apply Level Settings", page 91.

18.1 Configuration Start up

Start Up



1. Click on the MD icon to reveal the following pop menu. (image 18-1)



Image 18-1
Screen settings ILite MD display



To restore the default settings, click on **Restore default settings button.**

18.2 Screen Settings

Overview

- Overview
- OSD functions
- Tile Settings

18.2.1 Overview

Type

The type of the MD display is indicated, ILite MD.

Measurement System

Type of measurement during manufacturing

Contrast

The light output of the screen in Nit value dependent on the wall type.

To change the contrast:

- Move the slide bar with the mouse. The value in the next to the slide bar will be adapted. or
Click in the digit window next to the slide bar and change the value by direct entering via the keyboard.
 - ILite Display : 0 to 1500 Nit

Contrast on RGB

Click on the RGB in the contrast selection. The slider changes to 3 sliders, one for each color.

The contrast can be adjusted for each color separately.



Image 18-2
RGB contrast settings

Flicker Adjustment

Master clock set up depending on the frame rate.

When clicking on 50Hz or 60Hz, the default value will be filled in. This default value depends on the wall type.

Display Type	50Hz Ma-clock	60Hz Ma-clock
ILite6 MD	47	37
ILite8 MD	61	51
ILite10 MD	94	78
ILite 12 MD	138	115

Another value can be entered by clicking in the digit area and entering the desired value with the keyboard.

Mode

Mode can be Internal or External.

- Internal internal test pattern will be displayed.
The color can be selected (R – G – B).
- External images from a digitizer will be displayed.
Color selection is grayed out.

Resolution mode

Fixed for I Lite displays.

Gamma for I Lite8/10/12 MD

Click on **Adjust Gamma** to load the Gamma adjustment environment window.

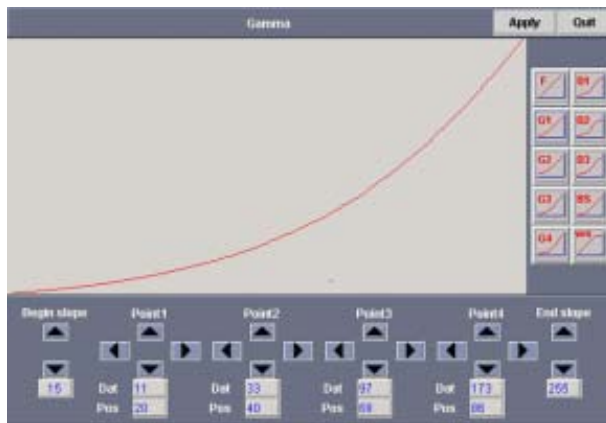


Image 18-3

For more explanation about changing the gamma or working with the preprogrammed curves, see "Gamma (non-linear color tracking)", page 118.

Gamma for I Lite6 MD

Click on **Adjust Gamma** to load the Gamma adjustment environment window.

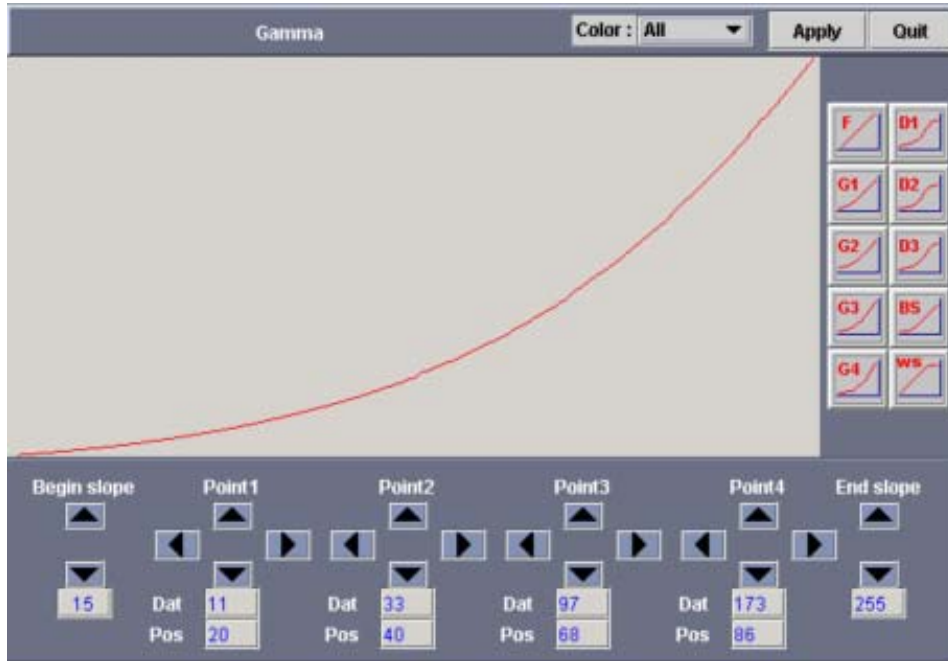


Image 18-4

Gamma can be adjusted for all colors at once or color per color. Therefore, select first the color before adjusting the gamma.

For more explanation about changing the gamma or working with the preprogrammed curves, see "Gamma (non-linear color tracking)", page 118.

OSD functions

For ILite MD, see "OSD functions", page 236.

Wall Positioning

Static information about the start position and the tile resolution are indicated.

Tiles

Click on **View properties** to start up the Tile properties window.

For more detailed explanation see "Tile Settings" further in this chapter.

18.2.2 OSD functions

How to start up

1. Click on **OSD Function** to display an overview of all the OSD functions. (image 18-5)

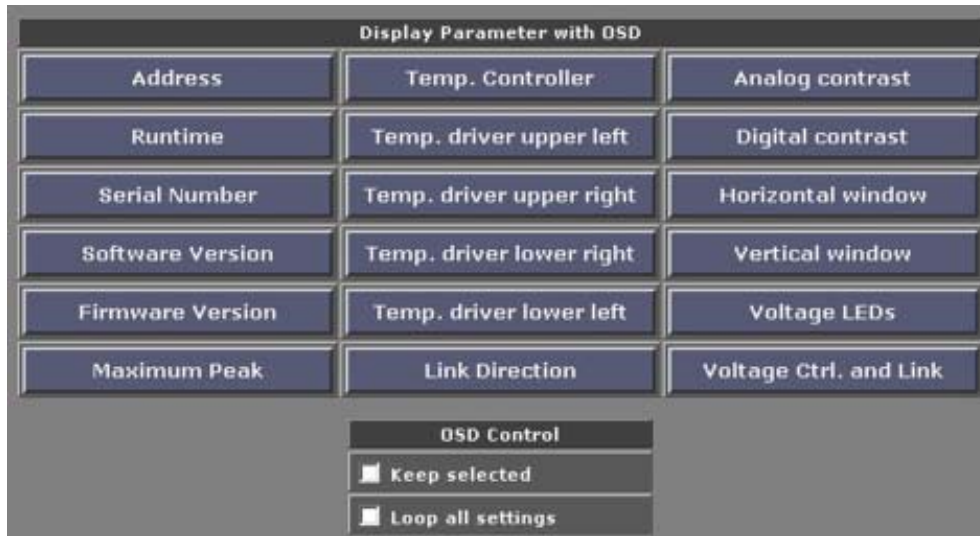


Image 18-5
OSD functions overview

Overview OSD Screens

For an overview, see "Overview OSD Screens", page 225.

OSD control

- | | |
|----------------|--|
| Keep selection | Keeps selected setting visible on the tiles.
If not selected, then after 10 seconds the OSD setting disappears. |
| Loop all | If selected, then all settings will be shown after each other with an interval of 10 seconds. |

Return to the screen settings

To go back click on **Back**.

18.2.3 Tile Settings

How to start up

- Click on **View properties** on the Screen Settings window (image 17-1).
The tile overview window will be displayed. (image 18-6)

18. ILite MD Display Configuration

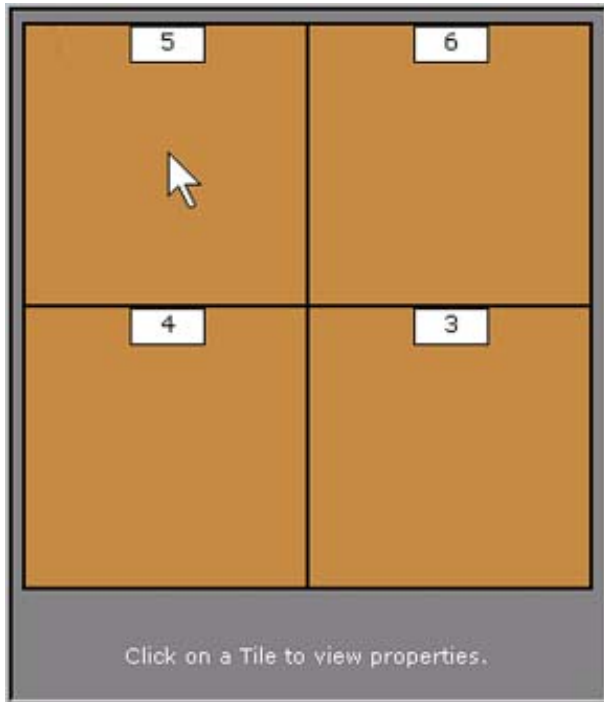


Image 18-6

Displaying the tile properties

1. Click on one of the rectangular orange area, to open the Tile properties page.

This page mainly consist of read-only properties, except for the Mode (internal/external), which can be switched.

All indicated values are tile specific. (image 18-7)



Image 18-7
ILite MD tile settings page

Available Tile Settings

PWM Repeat

PWM peak

Mode : this can be switched between internal and external.

internal internal test pattern will be displayed on that specific tile.

external external source for digitizer will be displayed on that specific tile.

Tile Cutout

Analogue Contrast

Digital Contrast

Measurement System: calibration system per tile, normal calibration or multi-calibration.

Device Properties

Address The tiles address, each tile is addressed individually

Serial number The tiles serial number, each tile has its own Serial Number.


Runtime The tiles time in use.

PCB Identification The version of controller printed circuit board used.


Software
Identification The version of embedded software a tile uses.

Firmware
Identification The version of Firmware a tile uses.

Returning to the previous screen

Select the  button to return to the previous screen.

View previous or next tile

Select the  button to go to the previous tile.

Select the  button to go to the next tile.

18. *ILite MD Display Configuration*

19. SLITE DISPLAY CONFIGURATION

Overview

- Configuration Start up
- Screen settings



Important note when multiple screens are used in a display (stack configuration).

Before making any adjustment to the SLite display or to a tile, check first the Apply Level Settings. For more info about the apply level settings, see "Adjustment Apply Level Settings", page 91.

19.1 Configuration Start up

Start Up



1. Click on the SLite icon to reveal the following pop menu. (image 19-1)

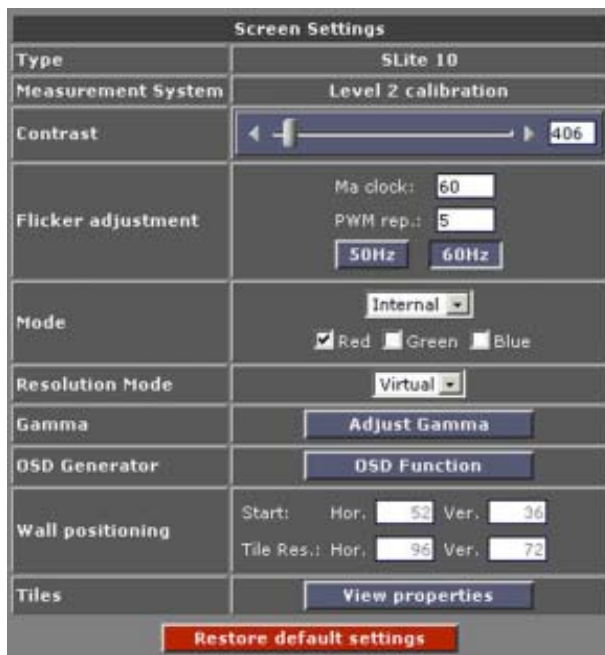


Image 19-1
Screen Settings window for SLite displays



To restore the default settings, click on **Restore default settings** button.

19.2 Screen settings

Overview

- Overview
- OSD functions
- Tile Settings

19.2.1 Overview

Type

The type of the LED wall is indicated, SLite.

Measurement System

Type of measurement during manufacturing

Contrast

The light output of the screen in Nit value dependent on the wall type.

To change the contrast:

- Move the slide bar with the mouse. The value in the next to the slide bar will be adapted. or
Click in the digit window next to the slide bar and change the value by direct entering via the keyboard.
 - SLite Display : 0 to 5000 Nit

Flicker Adjustment

Master clock set up depending on the frame rate.

When clicking on 50Hz or 60Hz, the default value will be filled in. This default value depends on the wall type.

Display Type	50Hz	PWM	60Hz	PWM
	Ma-clock		Ma-clock	
SLite10	121	6	60	6
SLite14	121	6	60	6

Another value can be entered by clicking in the digit area and entering the desired value with the keyboard.

Mode

Mode can be Internal or External.

- Internal internal test pattern will be displayed.
 The color can be selected (R – G – B).
- External images from a digitizer will be displayed.
 Color selection is grayed out.

Resolution mode

For SLite displays, the 'Resolution mode' can be set on *Real* or *Virtual*.

- Real one pixels contains 5 LEDs (2 red, 2 green and 1 blue).
- Virtual one pixels contains 3 LEDs (1 red, 1 green and a common blue)

Gamma

Click on **Adjust Gamma** to load the Gamma adjustment environment window.

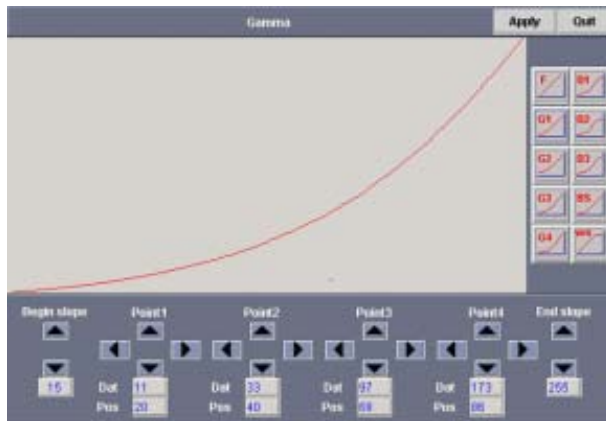


Image 19-2

For more explanation about changing the gamma or working with the preprogrammed curves, see "Gamma (non-linear color tracking)", page 118.

OSD functions

For more info about the OSD functions, see "OSD functions", page 243.

Wall Positioning

Static information about the start position and the tile resolution are indicated.

Tiles

Click on **View properties** to start up the Tile properties window.

For more detailed explanation see "Tile Settings", page 247

19.2.2 OSD functions

How to start up

1. Click on **OSD Function** to display an overview of all the OSD functions. (image 19-3)

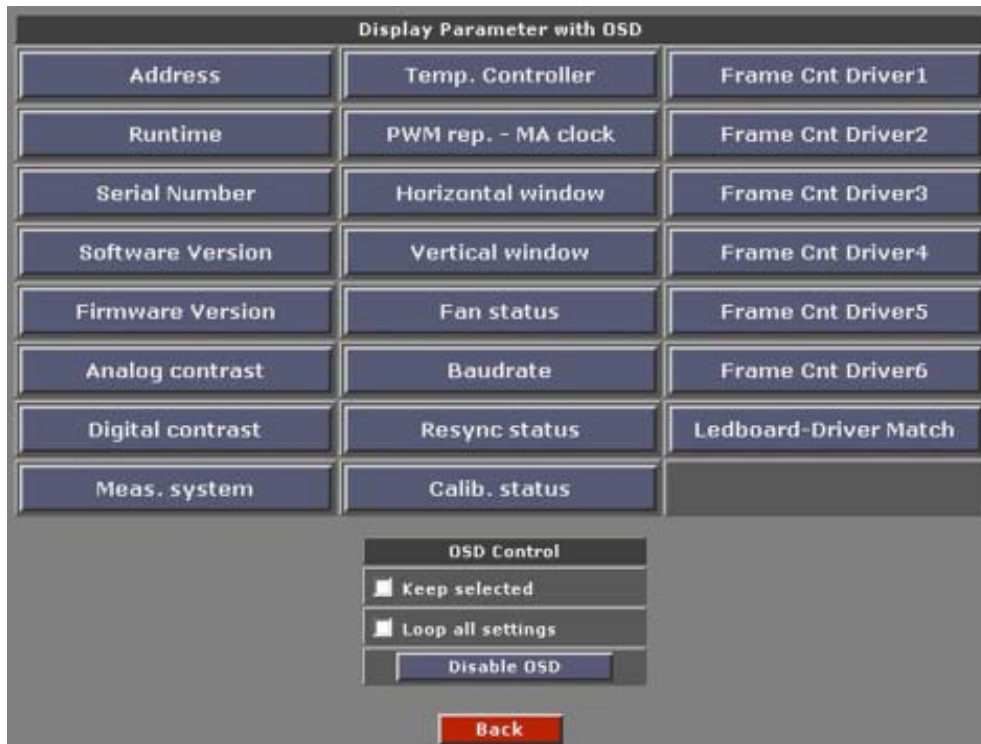


Image 19-3
OSD functions overview

OSD screen displays

Overview:

Address To get an overview of the addresses of the tiles










Runtime Gives the total run time of the wall









Serial number Gives an overview of the serial numbers of the tiles



Software version	Installed software version	
Firmware version	Installed firmware version	
Analog contrast		
Digital contrast		
Measurement system	Type of measurement system used	
Temp. controller	Temperature of controller Value given in degree Celsius and degree Fahrenheit.	
PWM repeat	Gives the pulse width modulation	

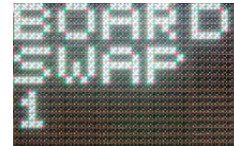
19. SLite Display Configuration

Horizontal window	Horizontal start cut out window tile Horizontal begin and end position is given of the window	
Vertical window	Vertical start cut out window tile Vertical begin and end position is given of the window	
Fan status	Gives information about the status of the fans, ON or OFF	
Baudrate	Gives information about the baudrate	
Resync status		
Calibration status		

Frame
Count
driver 1-6



Led board driver match Check if led board is still the original led board



OSD control

- Keep selection Keeps selected setting visible on the tiles.
If not selected, then after 10 seconds the OSD setting disappears.
- Loop all If selected, then all settings will be shown after each other with an interval of 10 seconds.

Returning to the Screen settings

To go back click on **Back**.

19.2.3 Tile Settings

How to start up

1. Click on **View properties** on the Screen Settings window (image 19-1).
The tile overview window will be displayed. (image 19-4)

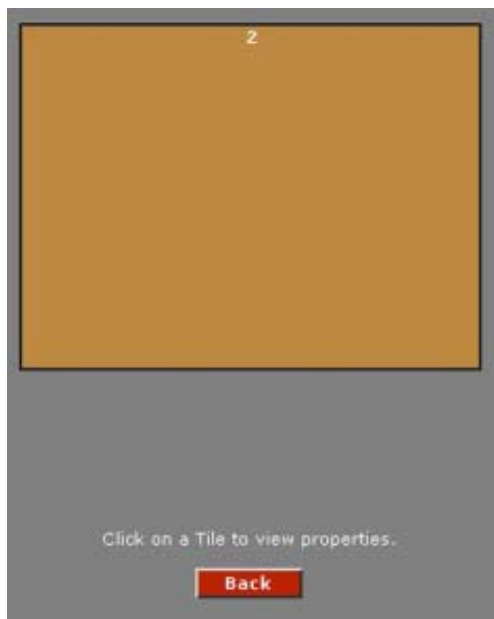


Image 19-4
Tile overview

Displaying the tile properties

1. Click on one of the rectangular orange area, to open the Tile properties page.

This page mainly consist of read-only properties, except for the Mode (internal/external), which can be switched.

All indicated values are tile specific. (image 19-5)

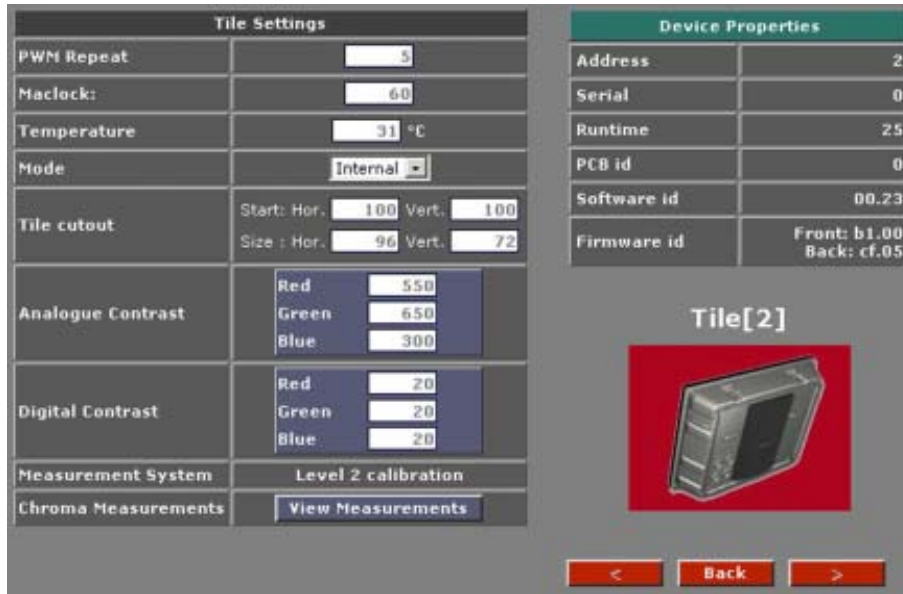


Image 19-5
Tile settings window

Available Tile Settings

PWM Repeat

PWM peak

Mode : this can be switched between internal and external.

internal internal test pattern will be displayed on that specific tile.

external external source for digitizer will be displayed on that specific tile.

Tile Cutout

Analogue Contrast

Digital Contrast

Measurement System: calibration system per tile, normal calibration or multi-calibration.

Chroma Measurements: Chroma measurement overview per tile.

Device Properties

Address The tiles address, each tile is addressed individually

Serial number The tiles serial number, each tile has its own Serial Number.

Runtime The tiles time in use.

PCB Identification The version of controller printed circuit board used.

Software Identification The version of embedded software a tile uses.

Firmware Identification The version of Firmware a tile uses.

Returning to the previous screen

Select the **Back** button to return to the previous screen.

View previous or next tile

Select the **<** button to go to the previous tile.

Select the **>** button to go to the next tile.

Chroma Measurements

Click on **View Measurements** to get an overview of the color settings per quadrant for each tile.

Chroma Measurements of Tile[2]

LedBoard[1]			LedBoard[2]			LedBoard[3]			LedBoard[4]		
Y	X	Y	Y	X	Y	Y	X	Y	Y	X	Y
39.668	0.698	0.302	39.392	0.698	0.302	39.492	0.698	0.302	38.205	0.698	0.302
84.766	0.141	0.689	84.964	0.141	0.689	83.069	0.140	0.683	81.653	0.140	0.687
12.006	0.134	0.064	12.130	0.134	0.064	12.221	0.133	0.065	12.130	0.134	0.064
LedBoard[5]			LedBoard[6]			LedBoard[7]			LedBoard[8]		
Y	X	Y	Y	X	Y	Y	X	Y	Y	X	Y
39.352	0.698	0.302	38.660	0.699	0.301	43.211	0.698	0.302	42.164	0.698	0.302
84.909	0.141	0.692	84.214	0.141	0.689	82.786	0.140	0.681	81.994	0.140	0.681
12.249	0.134	0.064	12.174	0.134	0.064	10.291	0.134	0.066	10.288	0.134	0.065
LedBoard[9]			LedBoard[10]			LedBoard[11]			LedBoard[12]		
Y	X	Y	Y	X	Y	Y	X	Y	Y	X	Y
39.963	0.699	0.301	38.604	0.699	0.301	42.220	0.700	0.300	41.820	0.701	0.299
86.287	0.140	0.687	85.427	0.141	0.688	88.320	0.146	0.674	87.170	0.146	0.674
12.358	0.134	0.064	12.203	0.133	0.066	12.600	0.134	0.063	12.500	0.134	0.063

< Tile Overview >

Image 19-6
Chroma measurements of tile

To go back to the complete tile overview window, click on **Tile Overview**.

20. OLITE DISPLAY CONFIGURATION

Overview

- Configuration Start up
- Screen settings



Important note when multiple screens are used in a display (stack configuration).

Before making any adjustment to the OLite display or to a tile, check first the Apply Level Settings. For more info about the apply level settings, see "Adjustment Apply Level Settings", page 91.

20.1 Configuration Start up

Start Up



1. Click on the OLite icon to reveal the following pop menu. (image 20-1)

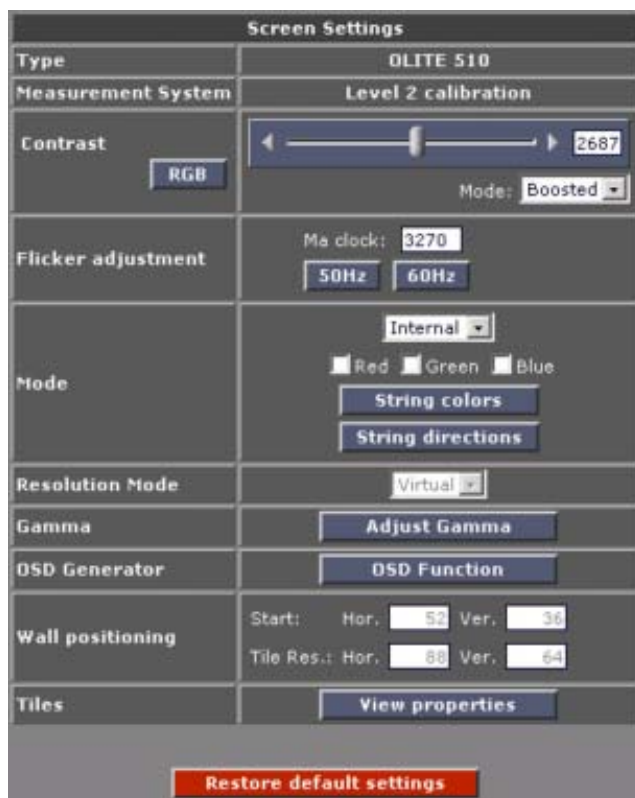


Image 20-1
Screen settings window for OLite displays



To restore the default settings, click on **Restore default settings** button.

20.2 Screen settings

Overview

- Overview
- OSD functions
- Tile Settings
- View properties modules

20.2.1 Overview

Type

The type of the LED wall is indicated, OLite.

Measurement System

Type of measurement during manufacturing

Contrast

The light output of the screen in Nit value depends on the wall type.



Image 20-2
Contrast setting, mode setting

To change the contrast:

- Move the slide bar with the mouse. The value in the next to the slide bar will be adapted. or
Click in the digit window next to the slide bar and change the value by direct entering via the keyboard.
 - OLite Display : 0 to 5000 Nit

Contrast mode can be :

- Normal
- Boosted : the contrast is internally increased to a higher value (up to 7000 Nit).

To select the contrast mode, click on the combo box and select the desired mode.

A warning message will be displayed.

- It is recommended to use the boosted mode only with moving images.
- The maximum Ambient temperature may not exceed 30°C. Therefore, enable the temperature monitoring (see "Monitoring Page", page 289 and follow topic "Temperature Control Set up", page 290)

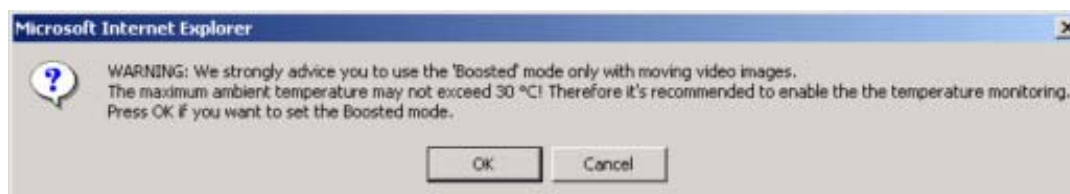


Image 20-3
Contrast boost message

Contrast on RGB

Click on the RGB in the contrast selection. The slider changes to 3 sliders, one for each color.

The contrast can be adjusted for each color separately.



Image 20-4
RGB contrast settings

Flicker Adjustment

Master clock set up depending on the frame rate.

When clicking on 50Hz or 60Hz, the default value will be filled in. This default value depends on the wall type.

Display Type	50Hz Ma-clock	60Hz Ma-clock
OLite 510	3410	2831

Another value can be entered by clicking in the digit area and entering the desired value with the keyboard.

Mode

Mode can be Internal or External.

- Internal internal test pattern will be displayed.
 The color can be selected (R – G – B).
- External images from a digitizer will be displayed.
 Color selection is grayed out.

Resolution mode

Fixed for OLite displays

Gamma

Click on **Adjust Gamma** to load the Gamma adjustment environment window.

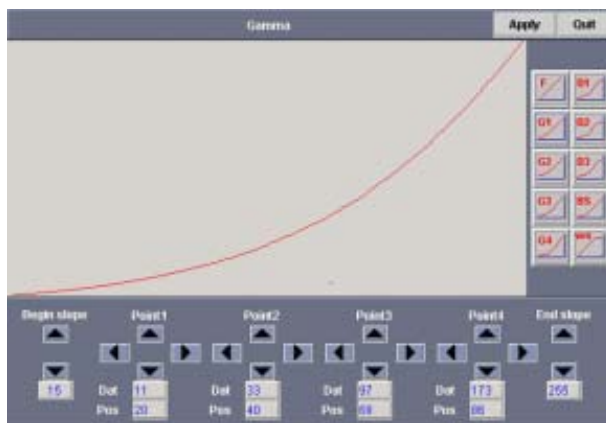


Image 20-5

For more explanation about changing the gamma or working with the preprogrammed curves, see "Gamma (non-linear color tracking)", page 118.

OSD functions

For more info about the OSD functions, see "OSD functions", page 254.

Wall Positioning

Static information about the start position and the tile resolution are indicated.

Tiles

Click on  to start up the Tile properties window.

For more detailed explanation see "Tile Settings", page 255

20.2.2 OSD functions

How to start up


1. Click on  to display an overview of all the OSD functions. (image 20-6)



Image 20-6
OSD functions overview

OSD screen displays

Address	To get an overview of the addresses of the tiles
Runtime	Gives the total run time of the tile
Serial Number	Gives an overview of the serial numbers of the tiles
Software version	Installed software version
Firmware version	Installed firmware version
Maximum peak	Maximum PWM (pulse width modulation) peak
Digital Contrast	Contrast values are given per color
Horizontal window	Horizontal start cut out window tile

Vertical window	Vertical start cut out window tile
Calibration status	Calibration status for each color
Calibration check	Modules with a calibration error will be colored red.
Fan status	Status of the fan is given.

OSD control

Keep selection	Keeps selected setting visible on the tiles. If not selected, then after 10 seconds the OSD setting disappears.
Loop all	If selected, then all settings will be shown after each other with an interval of 10 seconds.
Disable system OSD messages	If selected, the system generated OSD messages will be disabled.
Disable OSD	All OSD will be disabled till tile is rebooted or new OSD command is sent.

Returning to the Screen settings

To go back click on **Back**.

20.2.3 Tile Settings

How to start up

- Click on **View properties** on the Screen Settings window (image 19-1).
The tile overview window will be displayed. (image 20-7)

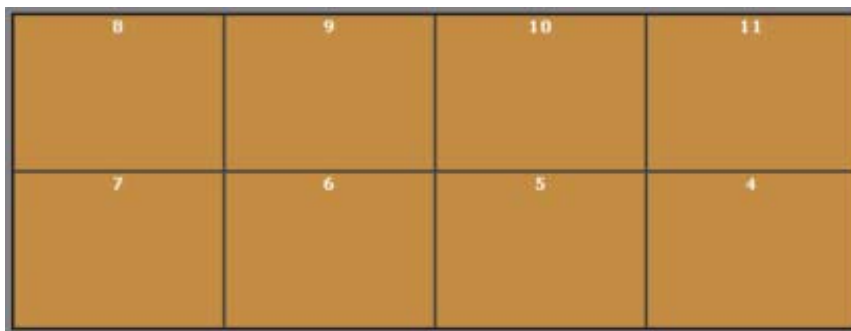


Image 20-7
OLite tile overview

Displaying the tile properties

- Click on one of the rectangular orange area, to open the Tile properties page.
This page mainly consist of read-only properties, except for the Mode (internal/external), which can be switched.
All indicated values are tile specific. (image 20-8)

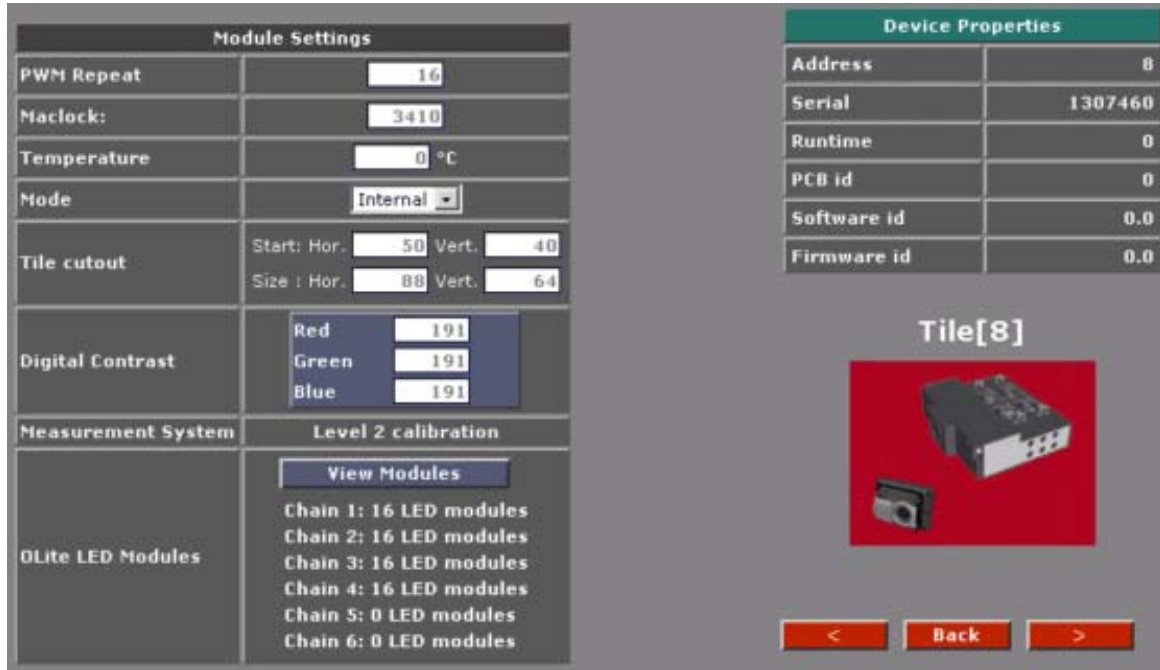


Image 20-8
OLite tile settings page

Available Tile Settings

PWM Repeat

MAClock

Mode : this can be switched between internal and external.

internal internal test pattern will be displayed on that specific tile.

external external source for digitizer will be displayed on that specific tile.

Tile Cutout, start and size

Digital Contrast per color

Measurement System: calibration system per tile, normal calibration or multi-calibration.

OLite LED modules: The different chains are indicated. Click on **View Modules** to get an overview. (see "View properties modules", page 257)

Device Properties

These are the device properties of the control unit.

Address The tiles address, each tile is addressed individually

Serial number The tiles serial number, each tile has its own Serial Number.

Runtime The tiles time in use.

PCB Identification The version of controller printed circuit board used.

Software Identification The version of embedded software a tile uses.

Firmware Identification The version of Firmware a tile uses.

Returning to the previous screen

Select the **Back** button to return to the previous screen.

20.2.4 View properties modules

Tile view mode

Click in the combo box *Overview mode* and select *Tile*.



Image 20-9
Tile overview in tile mode

One tile contains 4 chains. 1 chain contains 16 modules. Each module has its own properties and can be read out by clicking on the module.

By selecting module view, in *Overview mode*, it is possible to display a list of the modules.

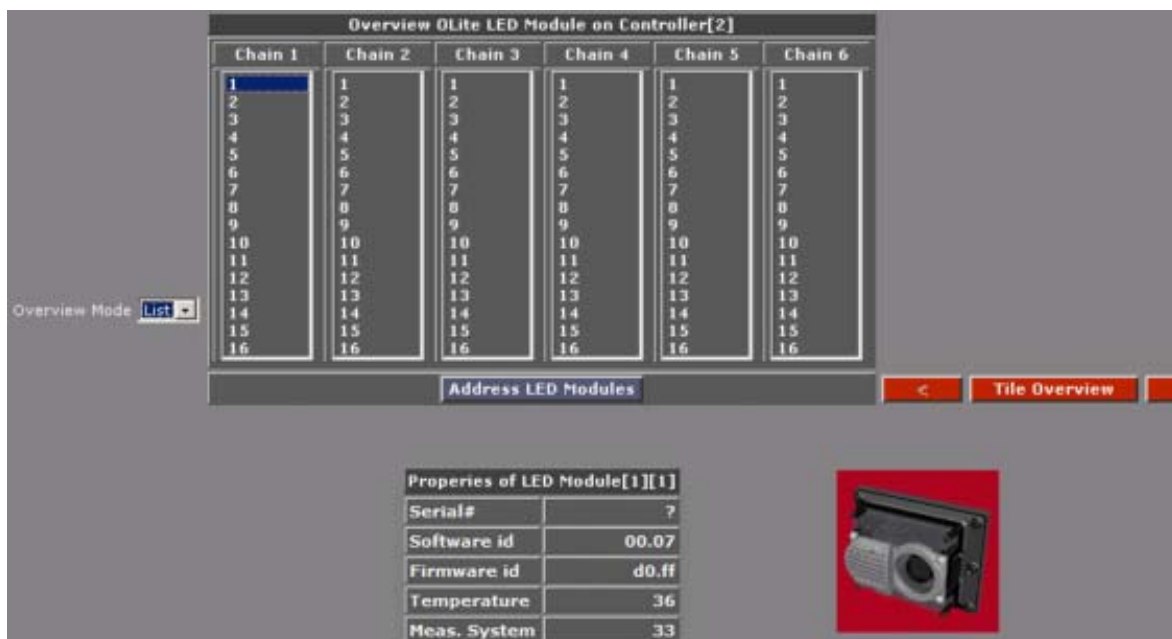



Image 20-10
List view

20. OLite Display Configuration

Click on a number to get the properties of it.

View previous or next tile

Select the  button to go to the previous tile.

Select the  button to go to the next tile.

21. MIPIX DISPLAY CONFIGURATION

Overview

- Configuration Start up
- Screen settings

21.1 Configuration Start up

Start up



1. Click on the MiPix icon to reveal the following pop menu. (image 21-1)

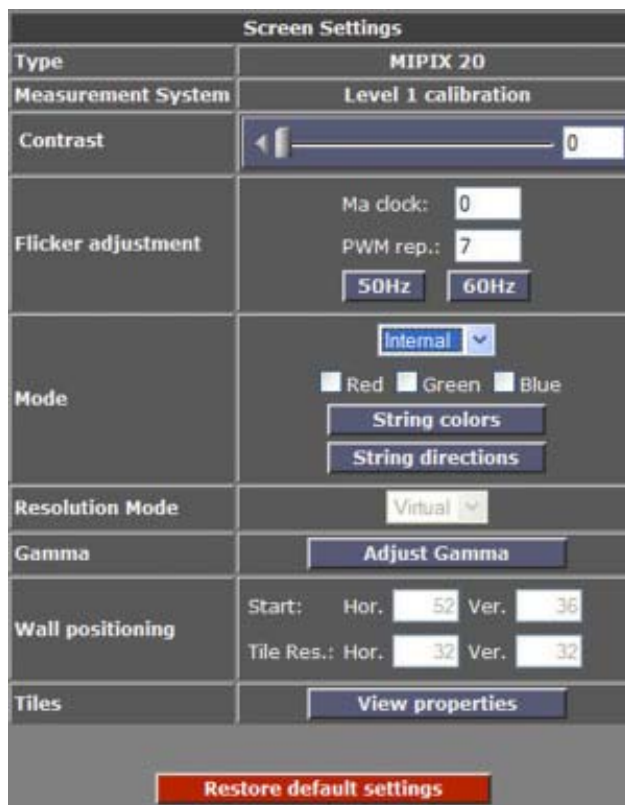


Image 21-1
Screen settings window for MiPix display



To restore the default settings, click on **Restore default settings** button.

21.2 Screen settings

Overview

- Overview
- Tile Settings

21.2.1 Overview

Type

The type of the LED wall is indicated, MiPix.

Measurement System

Type of measurement during manufacturing

Contrast

The light output of the screen in Nit value dependent on the wall type.

To change the contrast:

- Move the slide bar with the mouse. The value in the box next to the slide bar will be adapted. or
Click in the digit window next to the slide bar and change the value by direct entering via the keyboard.
 - MiPix Display : 0 to 1300 Nit

Flicker Adjustment

Master clock set up depending on the frame rate.

When clicking on 50Hz or 60Hz, the default value will be filled in. This default value depends on the wall type.

Display Type	50Hz Ma-clock	PWM	60Hz Ma-clock	PWM
MiPix20	150	10	305	8

Another value can be entered by clicking in the digit area and entering the desired value with the keyboard.

Mode

Mode can be Internal or External.

Internal	internal test pattern will be displayed. The color can be selected (R – G – B).
External	images from a digitizer will be displayed. Color selection is grayed out.
String colors	An internal pattern with fixed colors per string will be generated to check the string connections. String 1 = red, string 2 = green, string 3 = blue and string 4 = yellow.
String directions	A running light pattern is activated so that the directions of the strings can be checked.

Resolution mode

For MiPix displays, the 'Resolution mode' can only be *Real*.

Real one pixels contains 1 full color LED (with 1 red, 1 green and 1 blue segment).

Gamma

Click on **Adjust Gamma** to load the Gamma adjustment environment window.

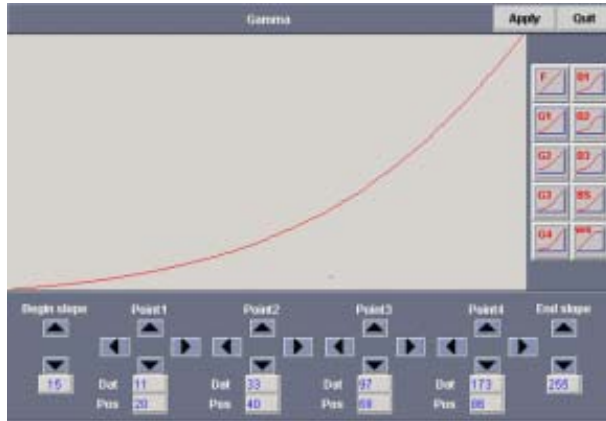


Image 21-2

For more explanation about changing the gamma or working with the preprogrammed curves, see "Gamma (non-linear color tracking)", page 118.

Wall Positioning

Static information about the start position and the tile resolution are indicated.

Tiles

Click on **View properties** to start up the Tile properties window.

For more detailed explanation see "Tile Settings", page 261.

21.2.2 Tile Settings

How to start up

1. Click on **View properties** on the Screen Settings window (image 21-1).

The tile (module) overview window will be displayed. (image 21-3)

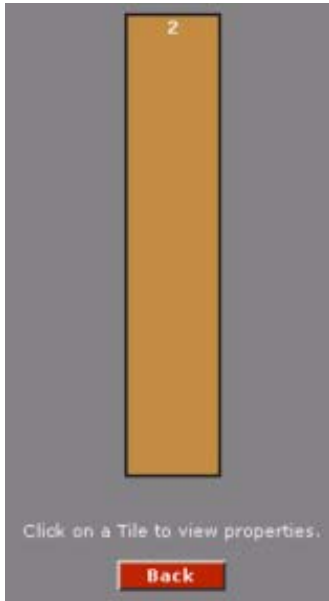


Image 21-3

Displaying the tile properties

1. Click on one of the rectangular orange areas, to open the Tile properties page.

This page mainly consist of read-only properties, except for the Mode (internal/external), which can be switched.

All indicated values are tile specific. (image 21-4)

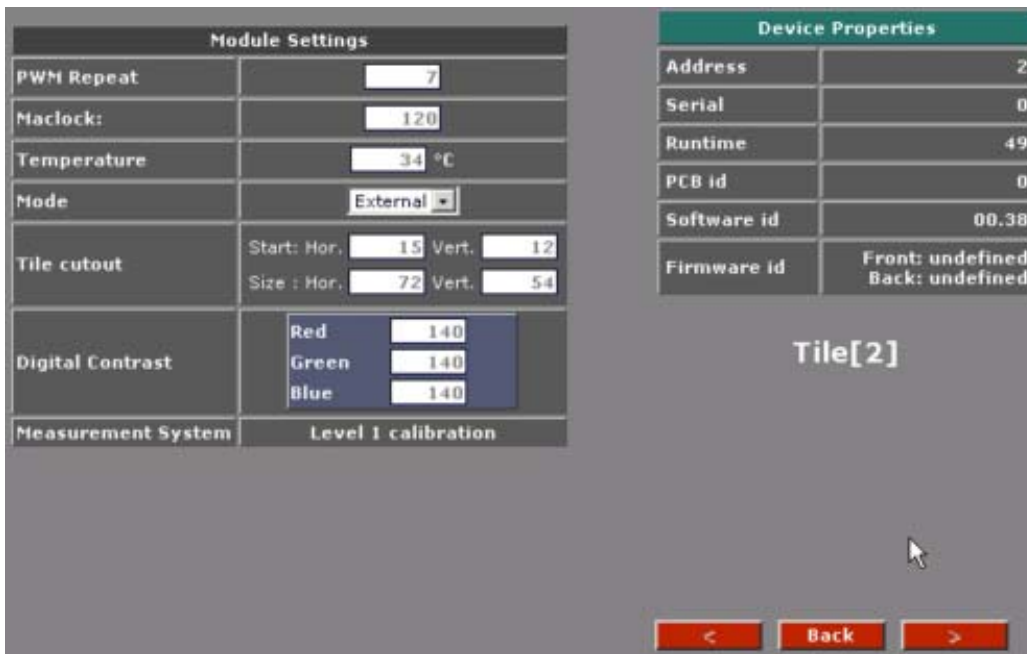


Image 21-4
Module settings

Available Module Settings

PWM Repeat

PWM peak

Temperature read out

Mode : this can be switched between internal and external.

internal internal test pattern will be displayed on that specific tile.

external external source for digitizer will be displayed on that specific tile.

Tile Cutout

Digital Contrast

Measurement System

Device Properties

Address The tiles address, each tile is addressed individually

Serial number The tiles serial number, each tile has its own Serial Number.


Runtime The tiles time in use.

PCB Identification The version of controller printed circuit board used.


Software
Identification The version of embedded software a tile uses.

Firmware
Identification The version of Firmware a tile uses.

Returning to the previous screen

Select the  button to return to the previous screen.

View previous or next tile

Select the  button to go to the previous tile.

Select the  button to go to the next tile.

22. AEC CONFIGURATION



AEC

Ambient environment controller, to measure the temperature and the light environment.

Overview

- Start up
- AEC settings
- Device Properties AEC

22.1 Start up

Overview

The Ambient Environment Controller (AEC) is a device containing one temperature sensor and four light sensors used to measure the ambient environment.

One or more AEC's can be placed next to the D/ILite Display to measure the environmental light during the day. Each AEC is assigned a certain percentage of weight, dependent on it's relevance. (e.g. an AEC is positioned next to a light spot and extremely influenced by variances of light). A percentage of weight can even be assigned at the level of the light sensors. A weighted average is calculated out of all the measurements and the software responds according to a certain reaction slope. The reaction slope determines the time of response to filter out peaks in light measurements. The light output is changed accordingly to the value which the AEC is calibrated at.

Start Up



1. Click the AEC icon

The AEC configuration window appears. (image 22-1)

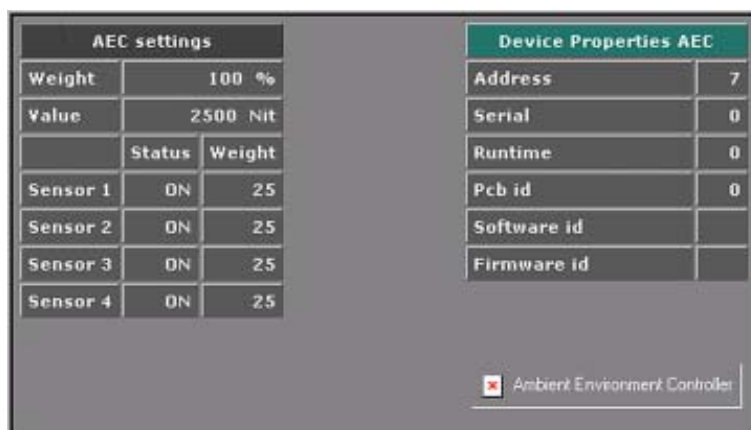


Image 22-1
AEC configuration window

22.2 AEC settings

Weight

An AEC is assigned with a certain weight, depending on it's relevance. If only one AEC is available this value will be 100%.

Value

Calibration value

Sensors with status and weight tab

Each sensor of an AEC can be ON or OFF and can have also a weight for the AEC measurement system.

22.3 Device Properties AEC

Overview

All values are static information.

Address	The AEC address.
Serial Number	The AECserial number.
Runtime	The AEC time in use.
PCB Identification	The version of controller printed circuit board used.
Software Identification	The version of embedded software a AEC uses.
Firmware Identification	The version of Firmware a AEC uses.

23. MAINTENANCE PAGE

Overview

- Start up
- Update Software
- Color Calibration


23.1 Start up

Introduction

From this page you select, whether you want to perform:

- Software/Firmware Update (flash update) for all connected devices.
- Color Calibration Adjustment

Start Up

1. Click on the  button to start up the maintenance page. (image 23-1)

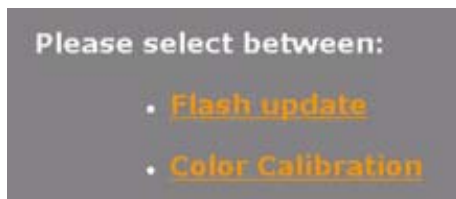


Image 23-1

23.2 Update Software

Overview

- Update Software Start up
- ILite Display
- DLite Display
- OLite Display
- SLite Display
- Windowing Option
- FiberLink Option
- FiberLink2 update software
- AEC

23.2.1 Update Software Start up

Start up

1. Click on *Flash update*. (image 23-2)
The Flash Update page opens. (image 23-3)
2. Click on the device icon for which the software has to be updated.

A popup window for the corresponding device will appear.



Image 23-2



Image 23-3

Where to put the update files?

1. Search for the Barco directory on your PC.
2. Follow the next path : BARCO → XLite ToolSet → LSToolset → driver → FlashFile.
3. Drop all new flash files in this directory.

When the pop up window is filled in

To abort the update procedure, click on **Cancel**.

To apply, click on **Ok**.

The following screen appears:



Image 23-4

In the log info view appears the following message : Flash update started, please wait...

The status bar indicates Busy.

When it switches to Ready the following screen appears:



Image 23-5

The log info view displays : Update process finished successfully. Flash update done.

Check tile version

Click on **Tile versions overview** to get the tiles overview window.

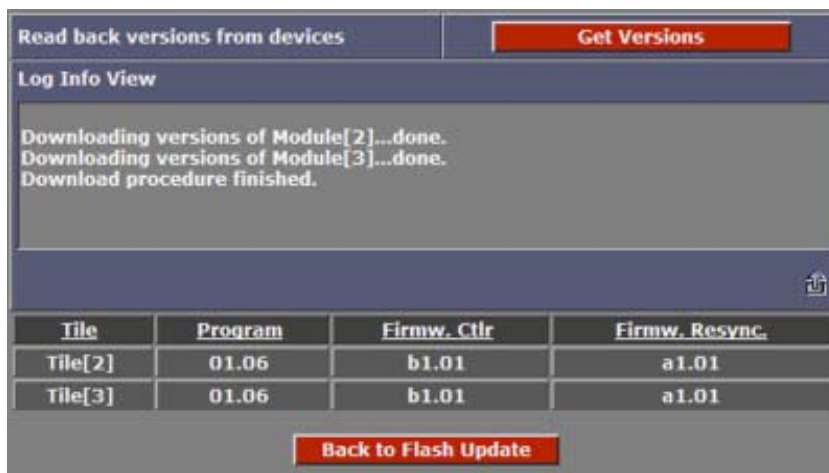


Image 23-6
Tile version overview

Click on **Get Versions**.

On overview will be logged containing the tile, program number, firmware Ctrl version and firmware resync version.

23.2.2 ILite Display

Overview

The following popup window appears for an ILite display

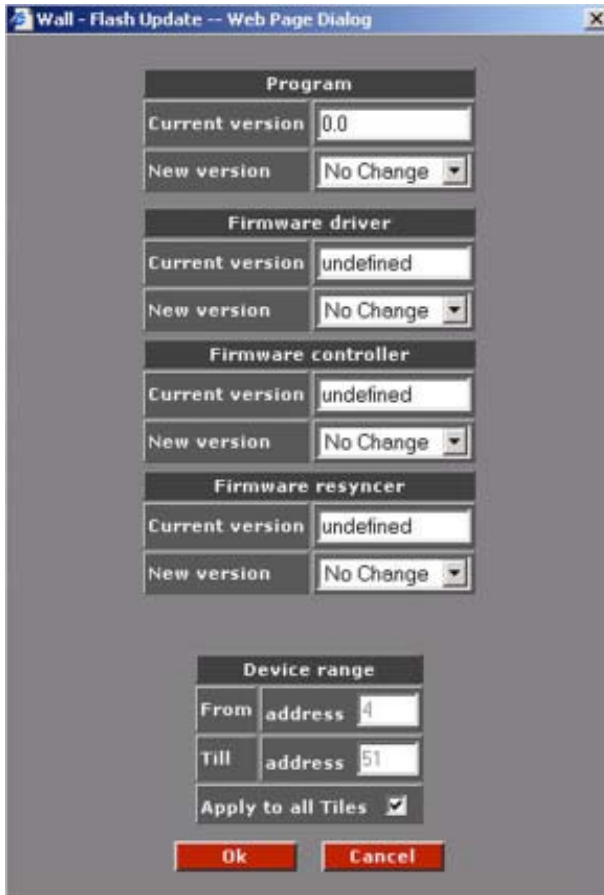


Image 23-7
ILite soft/firmware update window

The following software can be upgraded:

- Program software
- Firmware driver
- Firmware controller
- Firmware resyncer

How to execute?

The procedure is the same for all for.

1. Enter the new version number (e.g. 2.1) next to the box 'New version' (The current version is indicated next to the box 'Current version').

Note: only the version number is required. The system itself selects the correct file and installs the new software.

2. Is the update for the complete range?

If yes, Only 'Apply to all tile' should be checked.

If no, Indicate the range in the device boxes and de-select 'Apply to all tiles'.

Note: By default the complete range will be indicated in the device range boxes.

23.2.3 DLite Display

Overview

The following popup window appears for a DLite display



Image 23-8
DLite soft/firmware update

The following software can be upgraded:

- Program software
- Firmware

How to execute?

The procedure is the same for all for.

1. Enter the new version number (e.g. 2.1) next to the box 'New version' (The current version is indicated next to the box 'Current version').

Note: only the version number is required. The system itself selects the correct file and installs the new software.

2. Is the update for the complete range?

If yes, Only 'Apply to all tile' should be checked.

If no, Indicate the range in the device boxes and de-select 'Apply to all tiles'.

Note: By default the complete range will be indicated in the device range boxes.

23.2.4 OLite Display

Overview

The following popup window appears for a OLite display



Image 23-9
OLite soft/firmware update

The following software can be upgraded:

- Program software
- Firmware

How to execute?

The procedure is the same for all for.

1. Enter the new version number (e.g. 2.1) next to the box 'New version' (The current version is indicated next to the box 'Current version').

Note: only the version number is required. The system itself selects the correct file and installs the new software.

2. Is the update for the complete range?
If yes, Only 'Common update' should be checked.

All control units will be updated in parallel.

If no, Indicate the range in the device boxes and de-select 'Common update'.

Note: By default the complete range will be indicated in the device range boxes.

Only the selected range will be update but one after each other.

23.2.5 SLite Display

Overview

The following popup window appears for a SLite display

Program	
Current version	00.23
New version	No Change

Firmware front	
Current version	b1.00
New version	No Change

Firmware back	
Current version	cf.05
New version	No Change

Device range	
From address	
Till address	
Apply to all Tiles	<input checked="" type="checkbox"/>

Ok Cancel

Image 23-10
SLite soft/firmware update

The following software can be upgraded:

- Program software
- Firmware front
- Firmware back

How to execute?

The procedure is the same for all for.

1. Enter the new version number (e.g. 2.1) next to the box 'New version' (The current version is indicated next to the box 'Current version').

Note: only the version number is required. The system itself selects the correct file and installs the new software.

2. Is the update for the complete range?

If yes, Only 'Apply to all tile' should be checked.

If no, Indicate the range in the device boxes and de-select 'Apply to all tiles'.

Note: By default the complete range will be indicated in the device range boxes.

23.2.6 Windowing Option

Overview

The following popup window appears for a Windowing Option



Image 23-11
Windowing option soft/firmware update

The following software can be upgraded:

- Program software
- Firmware

How to execute?

The procedure is the same for all for.

1. Enter the new version number (e.g. 2.1) next to the box 'New version' (The current version is indicated next to the box 'Current version').

Note: only the version number is required. The system itself selects the correct file and installs the new software.

23.2.7 FiberLink Option

Overview

The following popup window appears for a FiberLink Option



Image 23-12
FiberLink soft/firmware update

The following software can be upgraded:

- Program software Transmitter
- Program software Receiver

How to execute?

The procedure is the same for both.

1. Enter the new version number (e.g. 2.1) next to the box 'New version' (The current version is indicated next to the box 'Current version').

Note: *only the version number is required. The system itself selects the correct file and installs the new software.*

23.2.8 FiberLink2 update software

Overview

The following popup window appears for a FiberLink2.

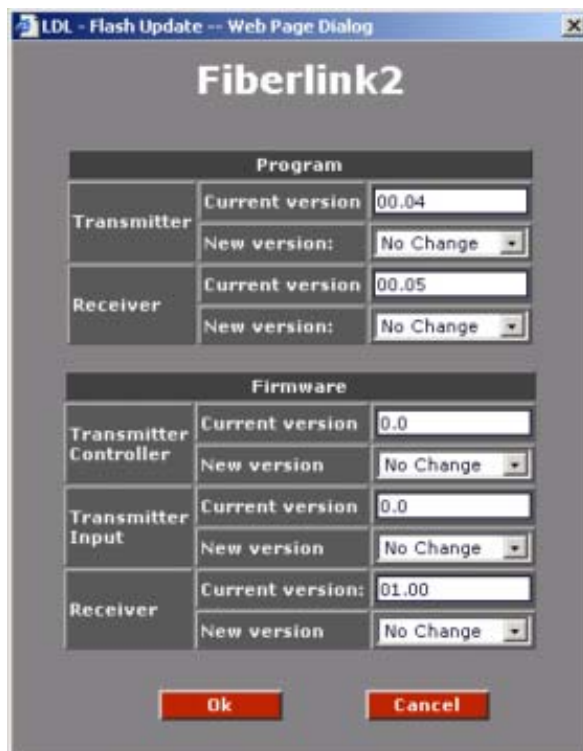


Image 23-13
FiberLink2 soft/firmware update

The following software can be upgraded:

- Program software transmitter
- Program software receiver

The following firmware can be upgraded:

- Transmitter controller
- Transmitter input
- Receiver

How to execute ?

1. Enter the new version number next to the box 'New version' (The current version is indicated next to the box 'Current version').

Note: *Only the version number is required. The system itself selects the correct file and installs the new software.*

23.2.9 AEC

Overview

The following popup window appears for a FiberLink Option



Image 23-14
AEC soft/firmware update

The following software can be upgraded:

- Program software
- Firmware

How to execute?

The procedure is the same for both.

1. Enter the new version number (e.g. 2.1) next to the box 'New version' (The current version is indicated next to the box 'Current version').

Note: only the version number is required. The system itself selects the correct file and installs the new software.

23.3 Color Calibration

Overview

- Color Calibration for DLite, SLite, ILite (embedded soft < 2.05) except ILite3 and MiPiX
- Color Calibration for ILite and OLite

23.3.1 Color Calibration for DLite, SLite, ILite (embedded soft < 2.05) except ILite3 and MiPiX

Overview

Calibration enables the user to calibrate again the D//SLite Display. Normally ALL tiles are calibrated and this should only be performed when one or more tiles do not match the other tiles in the D//SLite Display.

All tiles are equipped with the unique system color signature, which guarantees color uniformity across the whole screen and across time. Tiles are calibrated at some temperature color to achieve color uniformity for the entire wall.



For MiPiX, no color calibration will be done. Only the color temperature will be set.

Start up the color calibration for a display with only one screen.

1. Click on *Color Calibration*. (image 23-15)

The color calibration page appears, depending on the wall type. (image 23-16, image 23-17, image 23-18)

2. Do you want to calibrate the complete wall?

If yes, Select 'Apply to all tiles' if you want to calibrate the complete wall.

If no, Enter a range of tiles which have to be calibrated or exclude some tiles via the Device list.

To exclude some tiles, click on a tile or make a multiple selection by pressing the Ctrl key. The background becomes red. Check the box *Exclude from calibration*.

3. Select the color temperature in the combo box 'Color temperature' the wall has to be calibrated with.

4. Only for second generation ILite 8 and ILite 10 tiles, if you want to use the level 2 calibration (a more precise and more accurate calibration), check the box in front of it.

Note: Complete wall must be equipped with same tiles.

To get more info about this item, click on i-button. (image 23-19)

5. Only for SLite tiles, select *White balance* or *RGB + white balance*.

6. Click to start calibration.

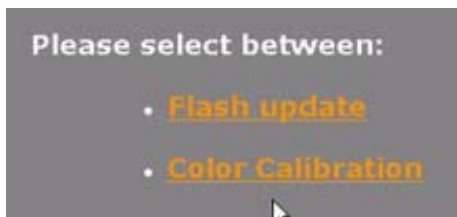


Image 23-15

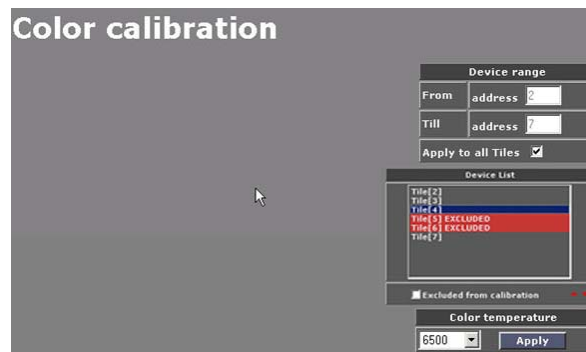


Image 23-16
Color calibration for DLite tiles

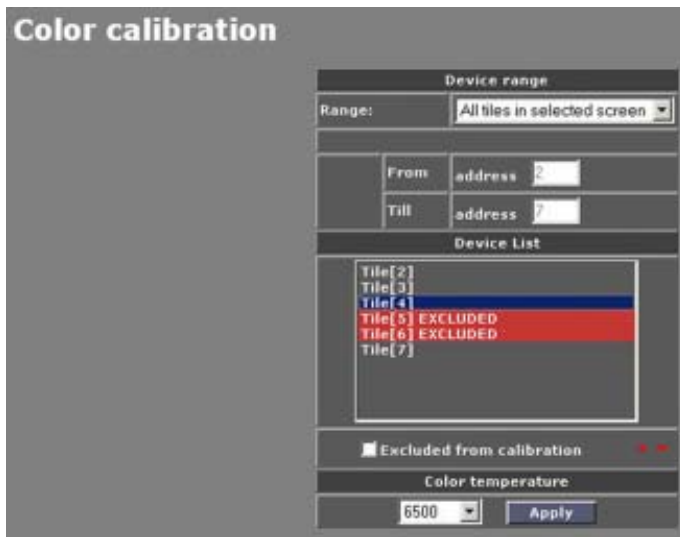


Image 23-17
Color calibration for ILite 8 and ILite 10 tiles (embedded soft < 2.05)

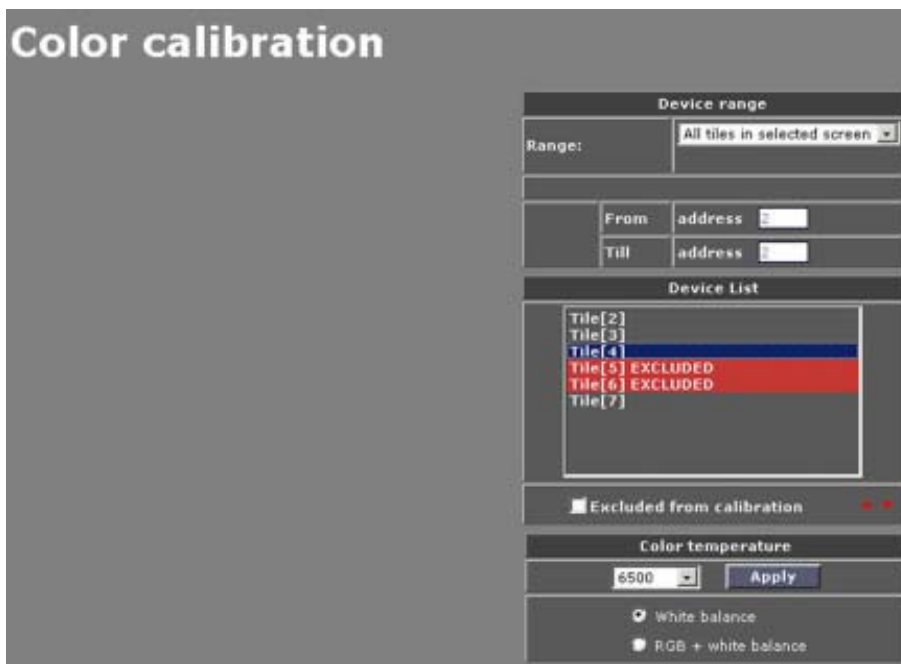


Image 23-18
Color calibration window for SLite tiles



Image 23-19
Info window level 2 calibration ILite 8 and ILite 10

Start up of the color calibration for a stacked configuration

1. Click on *Color Calibration*. (image 23-20)

The color calibration page for a stacked configuration appears. (image 23-21)

2. Select the calibration range.

From / to address	Fill out the from till address in the box below. Only this range will be calibrated.
All tiles in selected screen	All tiles in the selected screen will be calibrated.
All tiles in selected display	All tiles in the selected display will be calibrated.
All similar tiles	All similar tiles in the stack will be calibrated.

To exclude some tiles, click on a tile or make a multiple selection by pressing the Ctrl key. The background becomes red. Check the box *Exclude from calibration*.

3. Select the Color temperature in the combo box 'Color temperature' the tiles have to be calibrated with.
4. For SLite tiles, select *White Balance* or *RGB + White Balance*.
5. Click to start calibration.

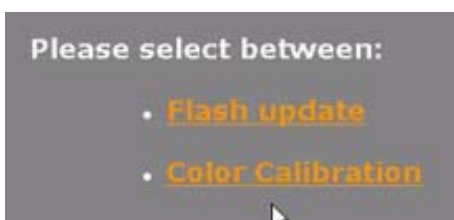


Image 23-20

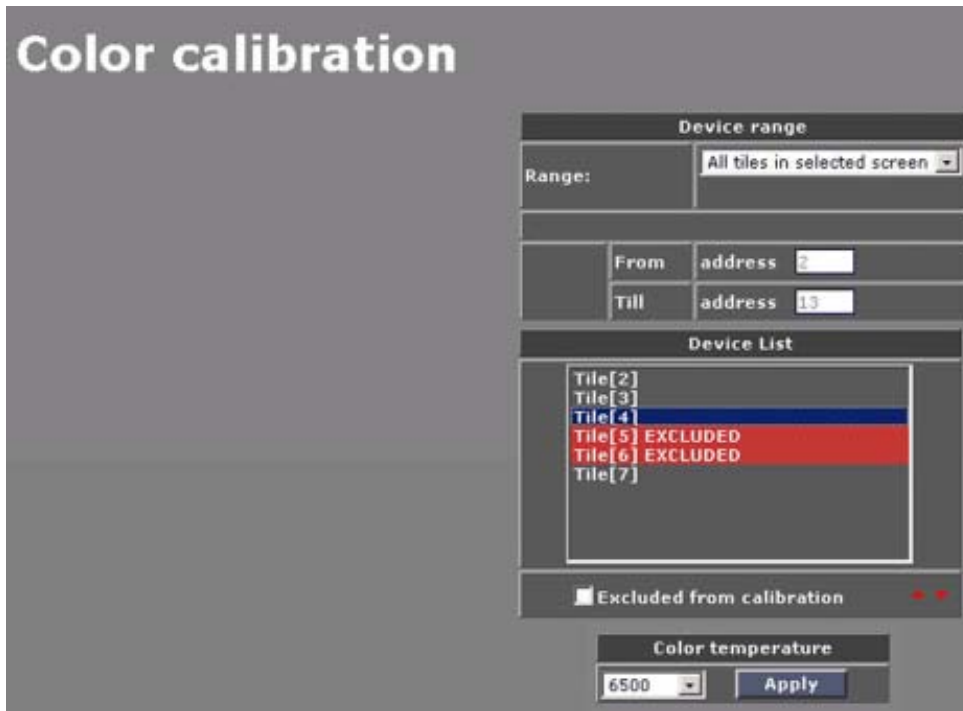


Image 23-21
Color calibration window for a stacked configuration

23.3.2 Color Calibration for ILite and OLite

Application

- ILite 3
- ILite8, ILite10 and ILite12 (embedded soft > 2.05)
- ILite XP
- ILite MD
- OLite 510

23.3.2.1 Start up

Start up of the color calibration

1. Click on *Color Calibration*. (image 23-22)

The color calibration page appears. (image 23-23)

2. Select the calibration range.

From / to address	Fill out the from till address in the box below. Only this range will be calibrated.
All tiles in selected screen	All tiles in the selected screen will be calibrated.
All tiles in selected display	All tiles in the selected display will be calibrated.
All similar tiles	All similar tiles in the stack will be calibrated.

To exclude some tiles, click on a tile or make a multiple selection by pressing the Ctrl key. The background becomes red. Check the box *Exclude from calibration*.

3. Click on **Next**.

The *Download Measurement Data* window appears. (image 23-24)

The software calculates the measured targets and the default targets.

4. Press **Next** to perform the calibration.

The *Color calibration chart* opens on the targets tab. (image 23-25)

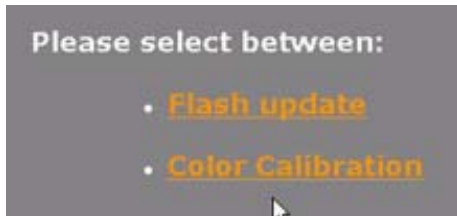


Image 23-22



Image 23-23

Color calibration for ILite3 and ILite XP and OLite

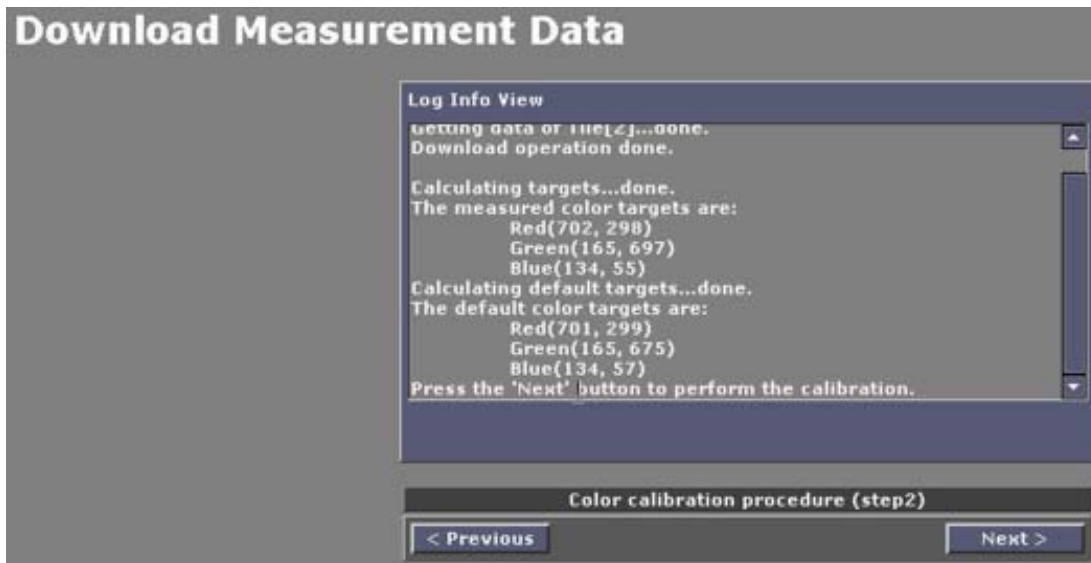


Image 23-24
Download Measurement data window

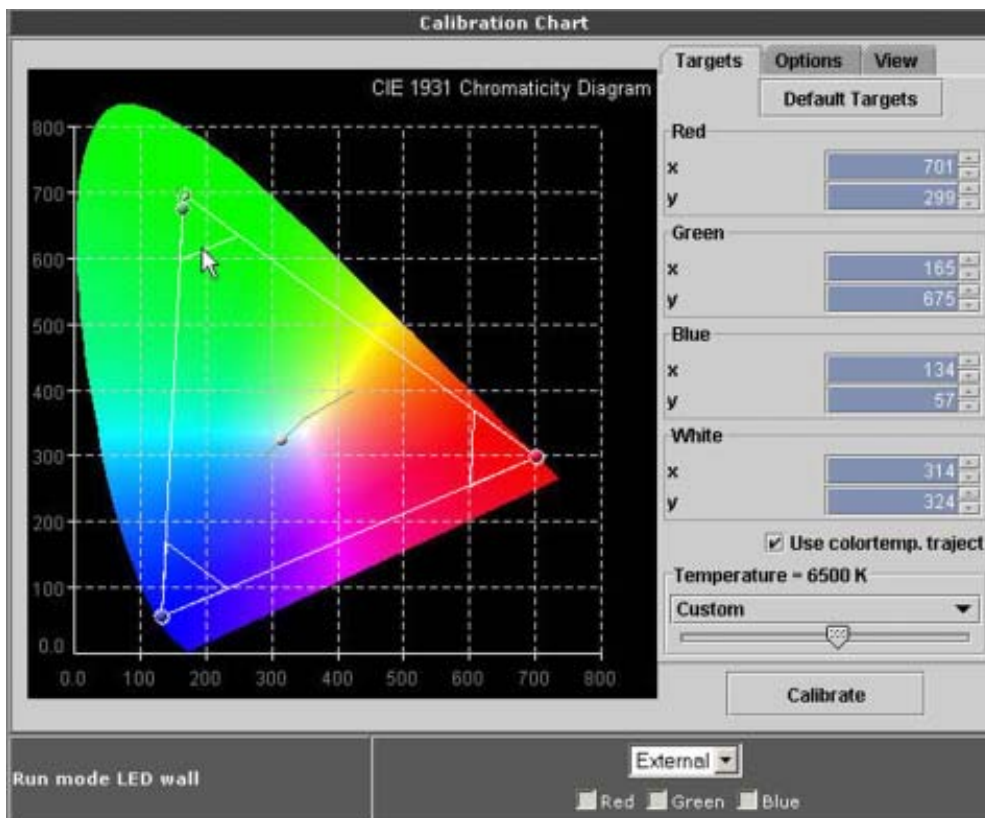


Image 23-25
Color calibration chart

23.3.2.2 Preview set up of the diagram

How to set up

1. Click on the **View** tab.

The different selections become visible. (image 23-26)

Grid lines	Grid lines in the background inside the xy coordinate system.
CIE diagram	Representation of the colors within the xy coordinate system. Chromaticity diagram
Wavelength values	Wavelength values displayed or not around the chromaticity diagram.
Global region	Color gamut, maximum colors which can be reproduced by the wall.
Target region	Region in which a color end point can vary.

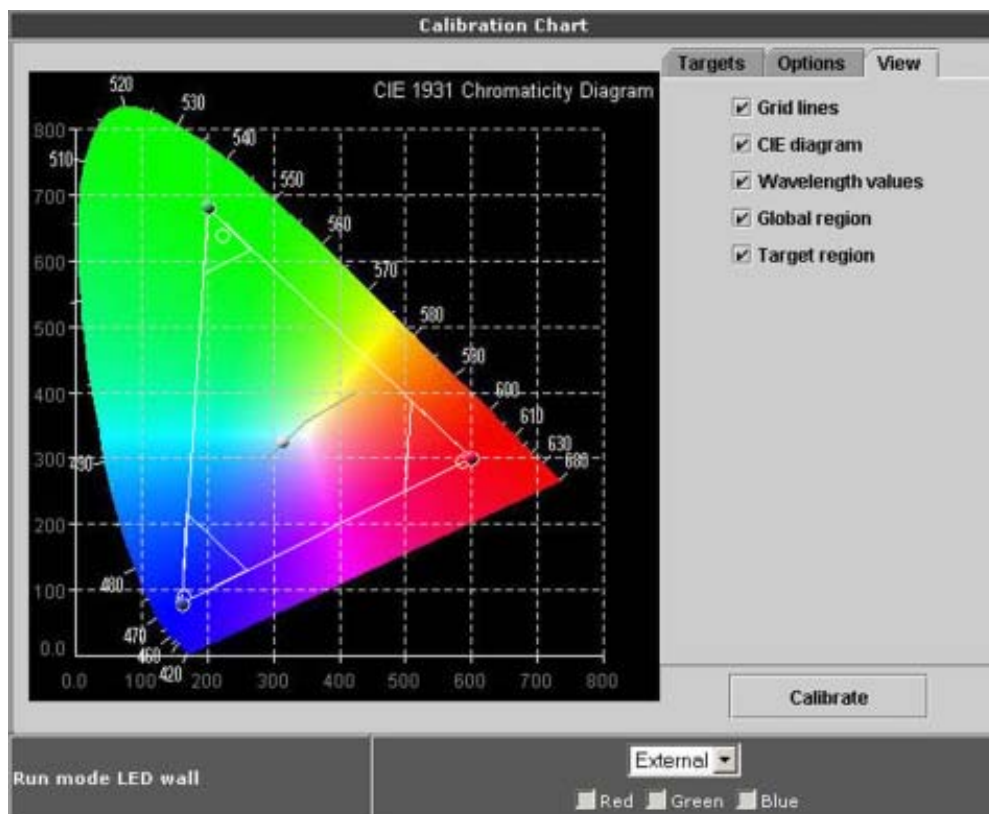


Image 23-26
Diagram preview

23.3.2.3 Changing a color point

Via drag and drop

1. Click on a color point and hold down the left mouse button.
2. Drag the color end point to the desired position. (image 23-27)

Dragging is only possible within the drawn rectangular area.

The values for x and y will change accordingly.

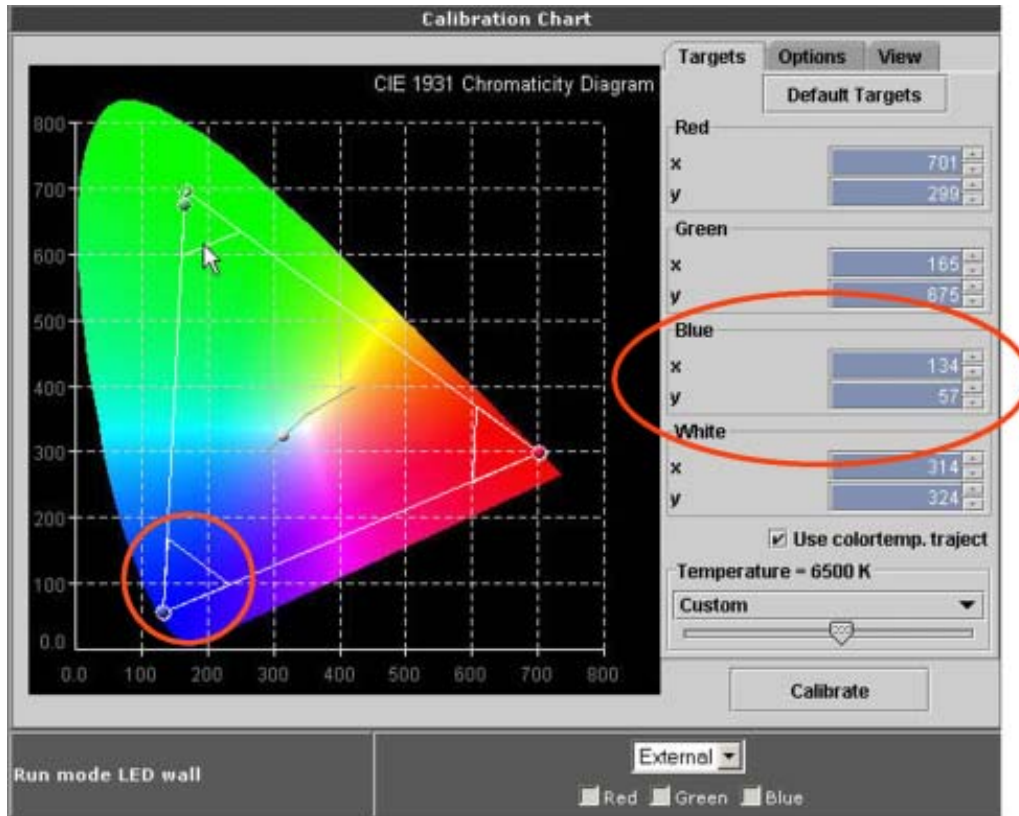


Image 23-27
Moving a color end point

Via the coordinates

1. Click on color point to select.
2. Click on the '+' or '-' key to change the value for x and y.
Or,
click on the input field and enter the desired value with your keyboard.

23.3.2.4 Color temperature (white point)

Color temperature via color temperature trajet curve

1. Check off the check box in front of *Use colortemp. trajet* (1). (image 23-28)
2. Click on the white point to select.
3. Hold down the left mouse button and move the point to the desired value along the curve (2).
Or,
click in the White coordinate field and change the coordinates by clicking on the + or - button (4)
Or,
by clicking in the input fields and entering the desired value with the keyboard.
Or,
click on the slider button and move to the right or left until the white point is on the desired position (5)

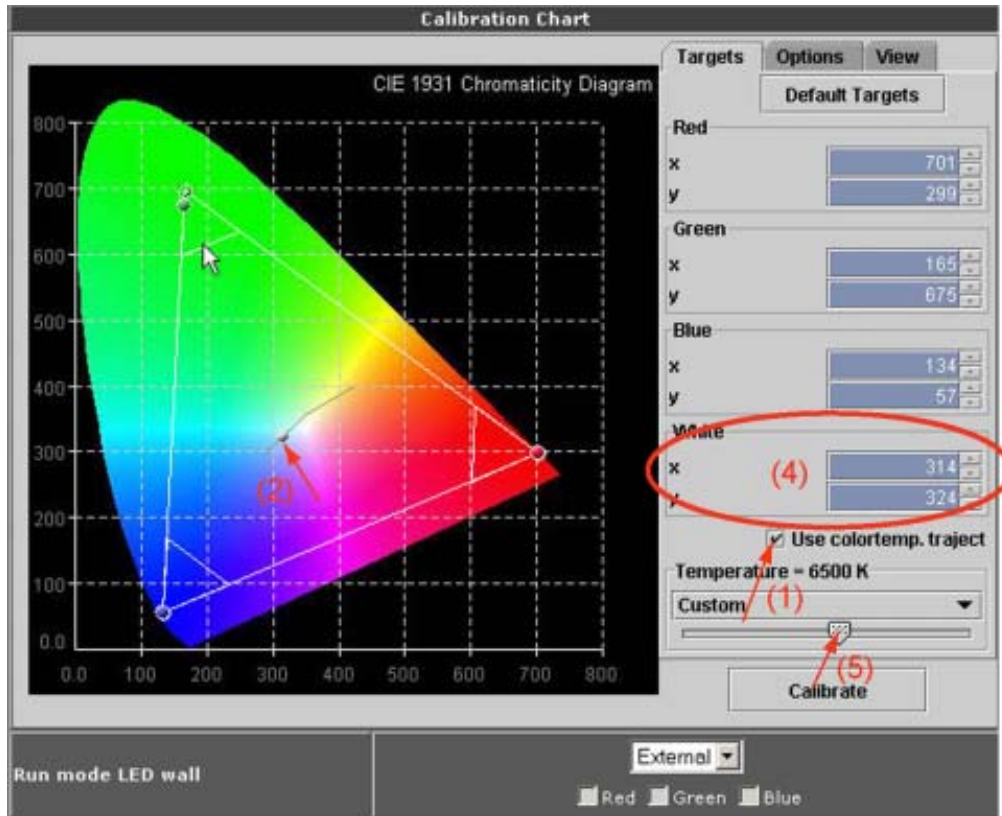


Image 23-28
White point adjustment via curve

Custom color temperature set up

1. Verify that the check box in front of *Use colortemp. trajet* is not checked off (1) (image 23-29)
2. Click on the end point white to select.
3. Hold down the left mouse button and drag the white point to the desired coordinates (2).

Note: The white point cannot move out of the predefined rectangular.

Or,

Click on the + or - buttons of the x and y coordinate of white until the desired value is reached (3).

Or,

Click in the input field and enter the desired value with the keyboard (3).

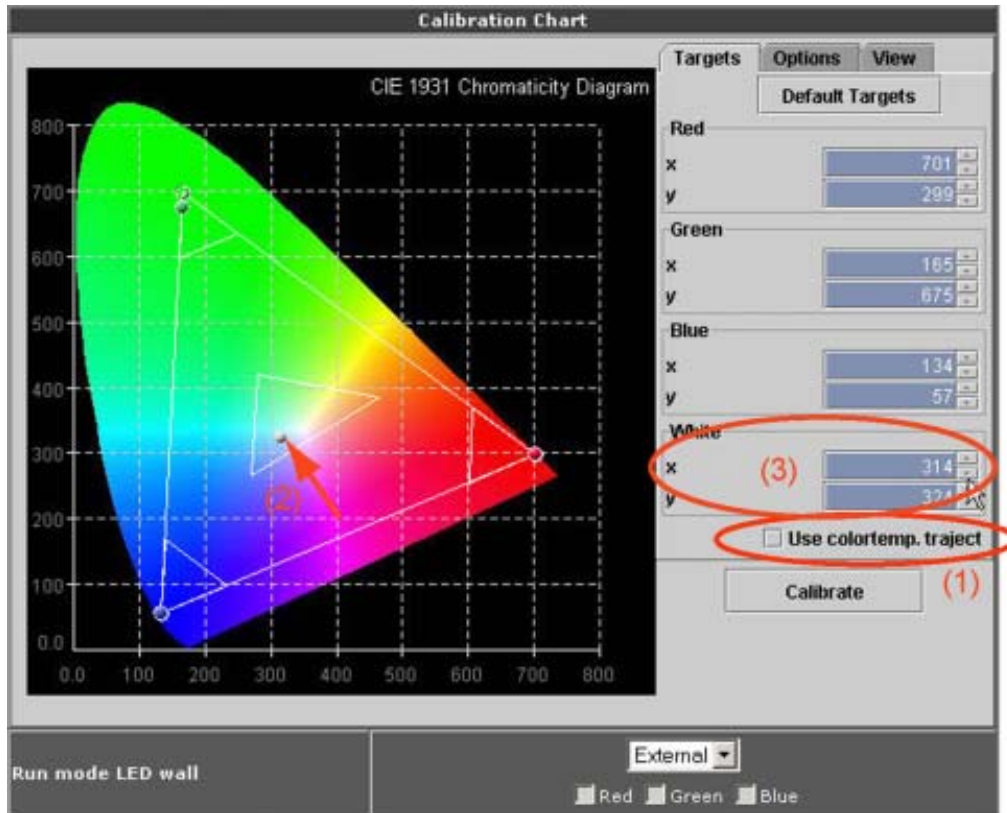


Image 23-29
White point adjustment

23.3.2.5 Loading the default Targets

How to load

1. Click on **Defaults Targets** button.
The color end points jump to the calculated default targets.

23.3.2.6 Calibration levels

About the different levels

Level 1 is a calibration via a LMT light meter.

Level 2 is a calibration via camera.

How to select

1. Click on the **Options** tab.
The level selection window opens. A level can be set up for each color. (image 23-30)
2. Click on the drop down box and select the desired level.

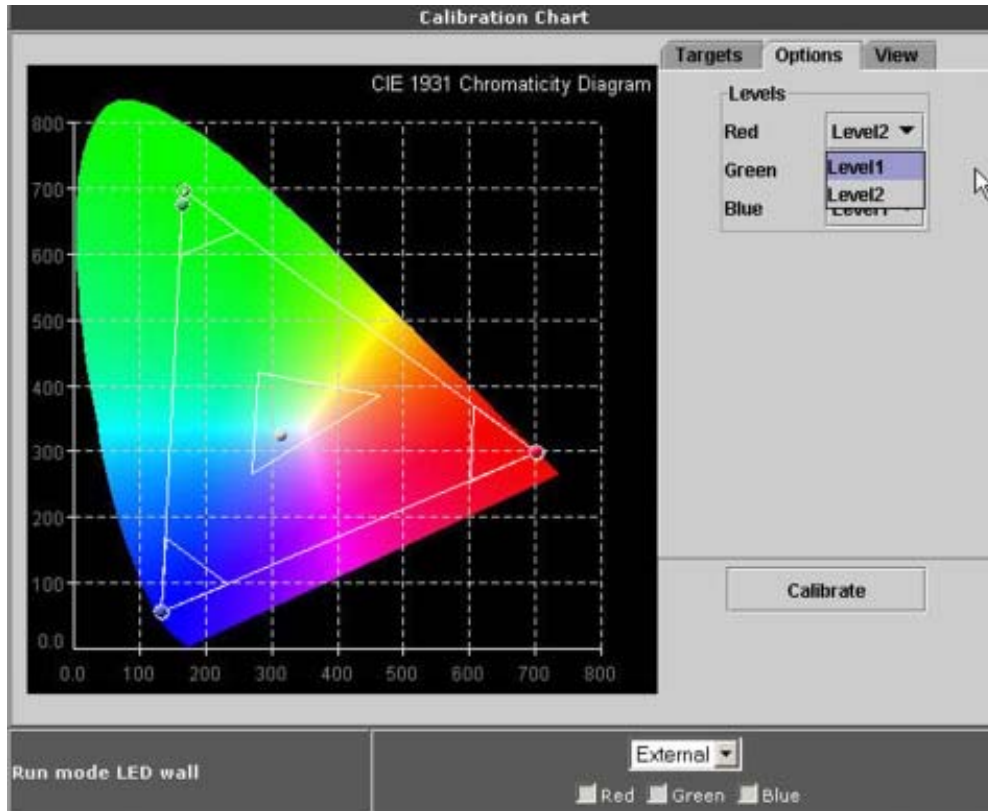


Image 23-30
Calibration level

23.3.2.7 Run mode LED wall

How to set the run mode

1. Click on the drop down box next to *Run mode LED wall* and select the desired setting.

See image 23-31.

external external source will be used to calibrate the projector

internal internal test pattern will be displayed on the wall.

When all 3 colors are checked, a white test pattern will be displayed.

When one of the colors is selected, the corresponding test pattern will be displayed.

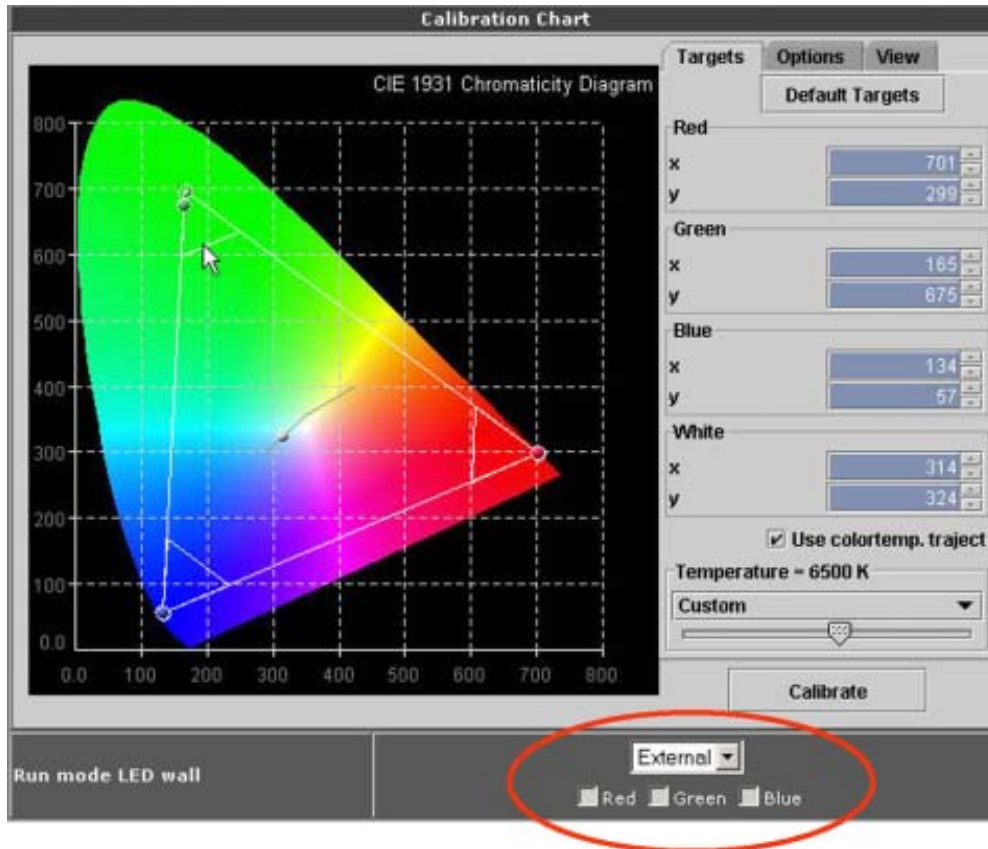



Image 23-31
Run mode LED wall

23.3.2.8 Start up the calibration procedure

How to start

1. When all settings are set up, click on the  button.

24. MONITORING PAGE

Overview

- Start up of the Monitoring Page
- Monitoring Status
- Monitor Settings
- Monitor Reminder Message
- Log Data

24.1 Start up of the Monitoring Page

Start up

1. Click on  (image 24-1)

This page provides the AEC monitoring setting.

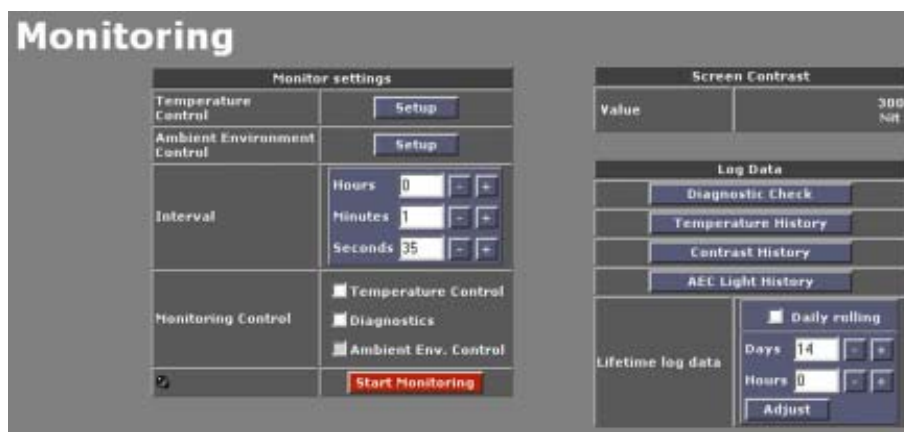


Image 24-1
Monitoring set up window



If no AEC is connected, a message 'No AEC's connected'.

24.2 Monitoring Status

Overview

On every overview page, the monitoring status is visible in a small overview window.



Image 24-2
Monitoring overview

LED status:

- Led is blinking : monitoring is running
- Led is not blinking : monitoring is stopped.

24.3 Monitor Settings

24.3.1 Temperature Control Set up

Purpose

To set up the maximum allowed temperature of tiles. When this temperature is reached, the contrast of the wall will be reduced so that the temperature will decrease. The reduction goes step by step until the temperature is below the maximum allowed temperature. The reduction of the contrast continues until the minimum contrast is reached, no further reduction is possible.

How to set up

1. Click on **Setup**.
- The Temperature set up control window appears. (image 24-3)
2. Enter the minimum contrast by clicking on the '+' or '-' button.
3. Enter the maximum temperature of the tiles by clicking on the '+' or '-' button.
4. Click on **Update**.
5. Click on **<< Back** to return to Monitoring start up page.



Image 24-3

24.3.2 Ambient Environment Control set up for Monitoring

Overview

- Monitor Settings
- AEC Settings

24.3.2.1 Monitor Settings

How to set up

1. Set the maximum contrast by pushing the '+' or '-' key.
2. Set the minimum contrast by pushing the '+' or '-' key.
3. Set the reaction slope by pushing the '+' or '-' key.
4. Click on **Update**

24.3.2.2 AEC Settings

How to set up

1. Select one of the AEC devices out of the combo box to which the settings are applied. (image 24-4)
2. Enter the weight of the selected AEC by clicking in the field next to *Weight* and entering with digit keys on your keyboard.
Note: When only one AEC is available the value will be 100%.
3. Activate the sensors 1 to 4 by clicking on the **On** or **Off** key.
4. Enter the weight for each sensor by clicking in the input field of the sensor and entering the value with the digit keys on your keyboard.
5. Click on **Set Weights** to activate the sensors.
6. Click on **Init AEC** to calibrate the AEC.
Note: Only at installation



Image 24-4
AEC Monitoring window

How to initialise the AEC for optimal working

Initialising the AEC is setting the contrast of the display in proportion to the environment light.

1. Set the working limits of the AEC: these are the minimum and maximum contrast. (These limits actually limit the contrast of the display, not the AEC measurements).
2. Set the contrast of the wall so the image on the wall is visible for the current environment light.
If it is a normal clear day set the wall on 3000 nit. If it is a very sunny day, you might set the wall to 4500 nit.
3. When the Init AEC is pressed, the AEC will measure the environment light and get the display contrast that has been set. Both values are then used for calculating the new display contrast for the changing environment light.



For proper working of the AEC, beware that the display contrast, set before the initialisation, is within the working limits of the AEC. If it is not the display contrast will directly clip to one of the limits once the AEC monitoring is started and therefore the wall will have a wrong contrast for that situation. So initialisation of the AEC should be done at a normal day (not very cloudy or sunny). e.g. if the display contrast is 4000 for a sunny day, and the limits are 3500 and 500, when starting the AEC monitoring the display contrast will directly clip to 3500. As a result the image will be too dark for the given environment light and therefore less visible.



CAUTION: Once the AEC is initialised it does not require further initialisation, even not when the XLite ToolSet software is updated.

24.3.3 Monitoring set up

How to set up

1. Click on the '+' or '-' buttons of the hours, minutes and seconds to enter the Interval time.
Or,
click on the input field and enter the hours, minutes and seconds with the digit keys on your keyboard.
2. Click the monitoring controls by checking the check box.
The following items can be controlled:
 - Temperature Control
 - Diagnostics
 - Ambient Environment control
3. Click on **Start Monitoring** to start the monitoring. The button changes in 'Stop Monitoring'.
Click on **Stop Monitoring** to stop the monitoring.
Note: When started, screen contrast will be updated.

24.4 Monitor Reminder Message

Reminder while closing XLite ToolSet

When the monitoring is started during the actual session of XLite ToolSet and stopped again during the same session, when closing the XLite ToolSet a message will be displayed to announce that the monitoring is stopped. If you want to start the monitoring again, you have to login into XLite ToolSet to restart the monitoring.

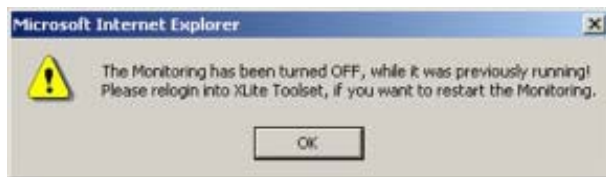


Image 24-5
Monitoring message on exit

Reminder while starting XLite ToolSet

When the monitoring was switched off during the previous session of XLite ToolSet, while logging in a message box will be displayed to asked if you want to restart the monitoring.

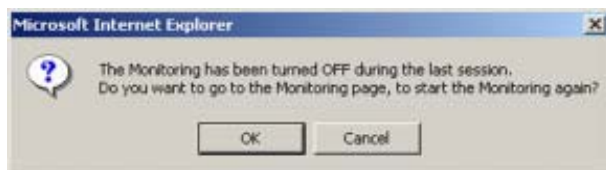


Image 24-6
Monitoring message on login

Click on **OK** to open automatically the monitoring page so that the monitoring can be switched on.

Click on **Cancel** if you do not want to switch on the monitoring.

24.5 Log Data

Overview

- Diagnostic Check
- Temperature History
- Contrast History
- AEC Light History

24.5.1 Diagnostic Check

How to display

1. Click on **Diagnostic Check**.
The diagnostic overview window will be displayed. (image 24-7)
2. Click on **View Log**.
The log info view pane will be filled up with the overview.
3. Click on **Save** to display the log view in a separate window.
Note: That window can be printed out or saved on your file system.



Image 24-7

How to clear the log

1. Click on **Clear Log**.
The log messages will be cleared.

24.5.2 Temperature History

How to display

1. Click on **Temperature History**.
The temperature history window opens. (image 24-8)
2. Select a tile number by pushing on the up or down arrow keys next to the tile
Or,
click on the input field and enter the tile number with the keyboard.
3. Click on **View Log**.
The log info view pane will be filled up with the overview.

24. Monitoring Page

- Click on **Save** to display the log view in a separate window.
Note: That window can be printed out or saved on your file system.



Image 24-8

How to clear the log

- Click on **Clear Log**.
The log messages will be cleared.

How to view a chart of the temperature history.

- Click on **View Chart**.
A chart will be displayed. (image 24-9)



Image 24-9
Temperature history chart

24.5.3 Contrast History

How to display

- Click on **Contrast History**.
The contrast history window opens. (image 24-10)
- Click on **View Log**.
The log info view pane will be filled up with the overview.

- Click on **Save** to display the log view in a separate window.
Note: That window can be printed out or saved on your file system.



Image 24-10
Contrast history window

How to clear the log

- Click on **Clear Log**.
The log messages will be cleared.

How to view a chart of the contrast history.

- Click on **View Chart**.
A chart will be displayed. (image 24-11)



Image 24-11
Overview chart contrast history

24.5.4 AEC Light History

How to display

- Click on **AEC Light History**.
The AEC light history window opens. (image 24-12)
- Click on **View Log**.
The log info view pane will be filled up with the overview.
- Click on **Save** to display the log view in a separate window.
Note: That window can be printed out or saved on your file system.



Image 24-12
AEC light history window

How to clear the log

1. Click on **Clear Log**.
The log messages will be cleared.

How to view a chart of the AEC light history.

1. Click on **View Chart**.
A chart will be displayed. (image 24-13)

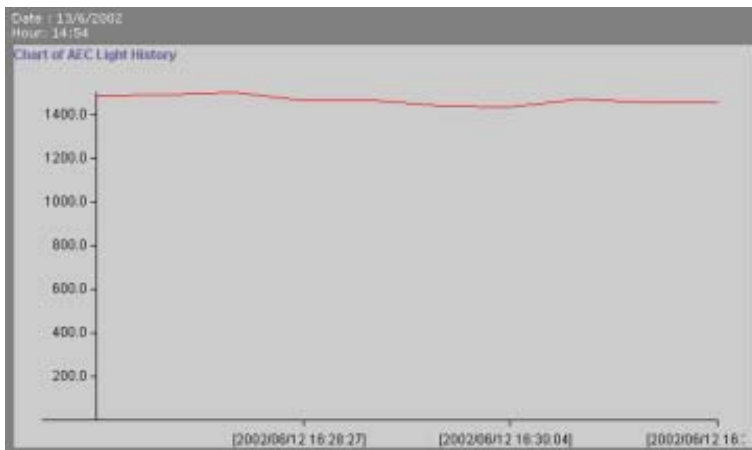


Image 24-13
AEC light history chart

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