USER MANUAL

Version 2.0. - April - 2018

XEEBRA

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Table of Contents

What's New?

In the User Manual the icon NEW ! has been added on the left margin to highlight information on updated features.

The changes linked to new features in version 2.0. are listed below.

Xeebra 2.0 runs on a new hardware platform: PMX-4601D.

- See section "XEE2-4601D" on page 2.

Up to 8 embedded audio tracks can be ingested and exported again.

- See section "Setting the Audio Tracks to Ingest" on page 19
- See section "Selecting the File Types to Export" on page 108.
- See section "Video and Audio Encoding" on page 130.

SD (PAL 625i, NTSC 525i) is no longer supported.

- See section "Selecting the Video Resolution" on page 18.

The onscreen Browse Bar has an additional browsing area which allows you to browse the camera feeds using simple finger gestures.

- See section "Enabling the Browse Bar" on page 43
- See section "Browsing Camera Feeds" on page 60.

You can now also browse for a background image .

- See section "Setting a Mosaic Background Image" on page 51.

Offside Line Mode has been added.

- See section "Configuring Offside Line Mode" on page 54.
- See section "Offside Line Events" on page 83.

1. Introduction

1.1. Product Overview

1.1.1. Description

Xeebra is an instant video review system that enables referees to focus on the content review with the utmost clarity and convenience. It allows the referees to see a multitude of HD camera feeds on up to two (touchscreen) monitors in a fast, synchronized and efficient way from a variety of locations.

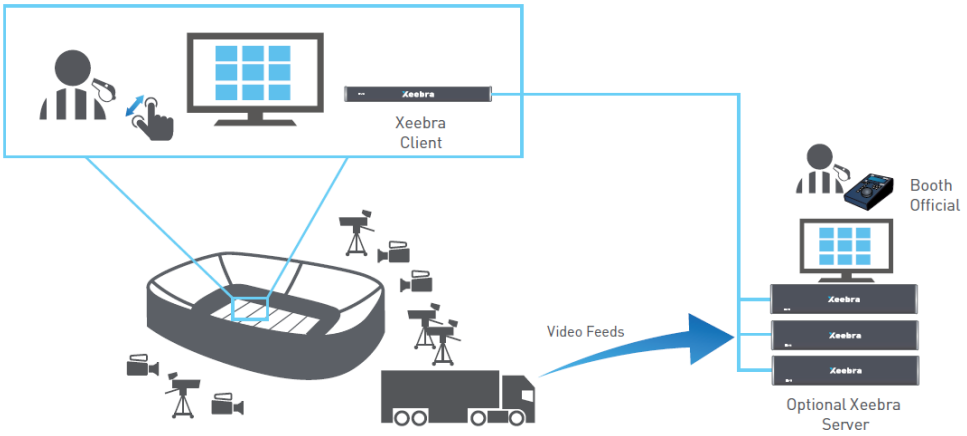
Xeebra is simple enough to be operated by a video referee in the game or can be operated by a dedicated operator. Using a touchscreen or mouse in conjunction with a dedicated BEPlay controller, referees can browse and navigate the camera feeds, instantly zoom into the replay directly with a touch and zoom, and mark and label the most important situations for review and export later.

With Artificial Intelligence inside, Xeebra can simplify the calibration and execution of offside calls for VAR reviews.

Xeebra is based on a client/server architecture that guarantees the highest level of flexibility and scalability.

1.1.2. Setup

The following diagram shows a setup with a dedicated Xeebra 1U client workstation for the on-field official. The client workstation is connected via a 1 Gigabit network cable with up to six 2U Xeebra servers operated by a booth official.



1.2. Hardware

1.2.1. Introduction

The 2U Xeebra server is primarily used to record and store up to 8 incoming HD or up to two SLSM 3x camera feeds. This server can also host the Xeebra Client application, the application which allows to view live and browse the recorded camera feeds and mark important events. It can also host the Xeebra Export application, the application used to export the event markers together with the corresponding media.

The camera feeds can be viewed on up to two (touchscreen) monitors connected to the Xeebra server. The Xeebra Client application can be controlled with a mouse or touchscreen gestures together with a dedicated BEPlay remote. It can also be controlled using keyboard shortcut keys, a ShuttlePRO v2 or an X-keys device.

The system can be expanded with a 1U Xeebra client workstation that can be connected with a network cable to 1 or more Xeebra servers. It allows to run the Xeebra Client application anywhere. The same amount of (touchscreen) monitors can be connected to the client workstation and the same type of control devices are provided.

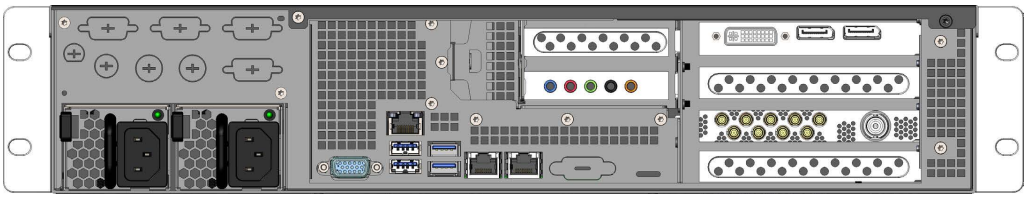
1.2.2. Xeebra Server

XEE2-4601D

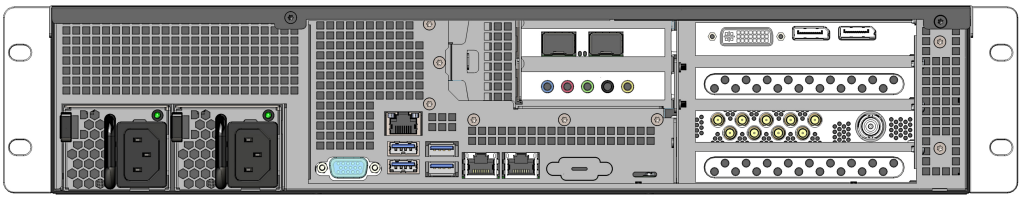
Front View

Rear View

Without 10 Gig SFP+ Modules



With 10 Gig SFP+ Modules



Server Hardware & Operating System

The Xeebra server has the following technical specifications:

- **Chassis Dimensions:** height = 89 mm, width = 482 mm, depth = 620 mm
- **Power Supply:** Redundant (= if one module fails, the remaining module will provide enough power to the server) and hot-swappable (= one module can be changed when the server is running, as long as the other module is still powered).
- **Motherboard:** Supermicro motherboard X10DRW-i
- **GPU:** Nvidia Quadro K2200
- **CPU:** 2x Xeon E5-2680 v4 (2.40 GHz, 14C/28T, 35M, LGA2011-3)
- **RAM:** 8x RAM 8GB (DDR4-2400 ECC Registered DDR4-2400)
- **System disk:** 200 GB SSD SATA Micron 2.5" MTFDDAK240TCC-1AR1ZABYY
- **RAID:** 8 x 900GB 2.5" HDD - SAS12G 10K 128MB (HGST Ultrastar C10K1800) or 8 x 450GB 2.5" HDD - SAS12G 10K 128MB (HGST Ultrastar C10K1800)
- **SDI In:** 8x 3G-SDI
- **I/O Board:** Deltacast Compact versatile 8-channel SDI card+LTC+2 brackets
- **OS:** CentOS (Linux)
- **USB:** 4x 3.0 USB ports at the back, 1 USB 3.0 port at the front
- **Network ports:** 2x 1 Gigabit ethernet ports, 21x SFP+ 10 Gigabit dual ethernet port (optional)

Supported Video Formats

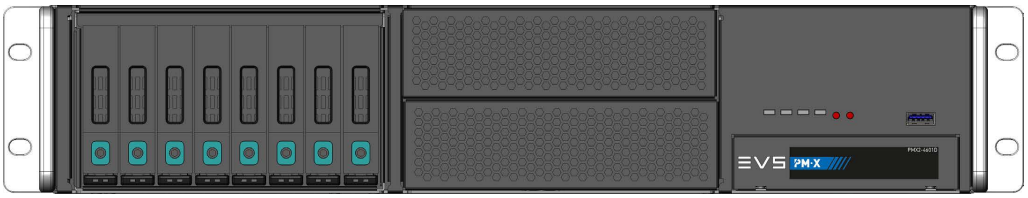
PAL 720p, 1080i, 1080p

NTSC 720p, 1080i, 1080p

PMX-4601D

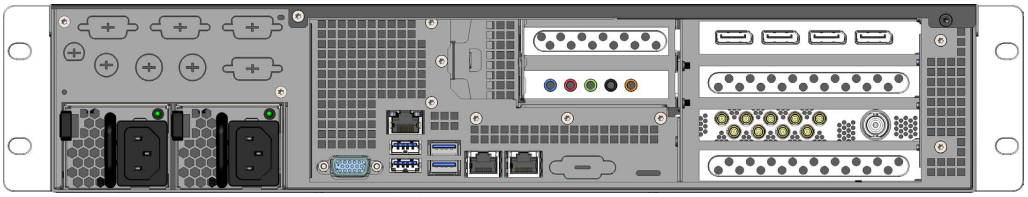
NEW !

Front View

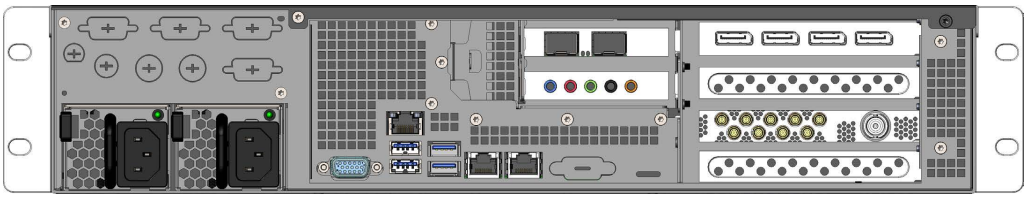


Rear View

Without 10 Gig SFP+ Modules



With 10 Gig SFP+ Modules



Server Hardware & Operating System

The Xeebra server has the following technical specifications:

- **Chassis Dimensions:** height = 88 mm, width = 481 mm, depth = 607 mm
- **Power Supply:** Redundant (= if one module fails, the remaining module will provide enough power to the server) and hot-swappable (= one module can be changed when the server is running, as long as the other module is still powered).
- **Motherboard:** Supermicro motherboard X10-DRW-i
- **GPU:** Nvidia Quadro P4000
- **CPU:** 2x Xeon E5-2680 v4 (2.40 GHz, 14C/28T, 35M, LGA2011-3)
- **RAM:** 8x 8GB (DDR4-2400 ECC Registered
- System disk: 200 GB SSD SATA Micron 2.5" MTFDDAK240TCC-1AR1ZABYY
- Live PAM disk: 200 GB SSD SATA Micron 2.5" MTFDDAK240TCC-1AR1ZABYY
- RAID: 8 x 900GB 2.5" HDD - SAS12G 10K 128MB (HGST Ultrastar C10K1800) or 8 x 450GB 2.5" HDD - SAS12G 10K 128MB (HGST Ultrastar C10K1800)
- **SDI In:** 8x 3G-SDI
- **OS:** CentOS (Linux)
- **I/O Board:** Deltacast Compact versatile 8-channel SDI card+LTC+2brackets
- **USB:** 4x 3.0 at the back, 1 USB 3.0 port at the front
- **Network ports:** 2x 1 Gigabit ethernet ports, 2x SFP+ 10 Gigabit dual ethernet port (optional)

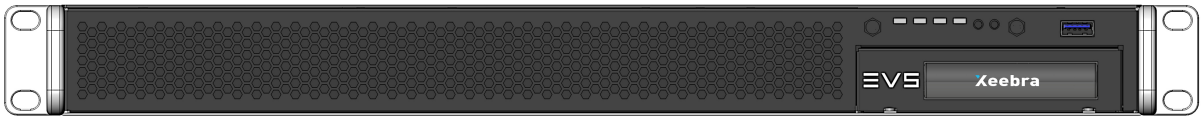
Supported Video Formats

PAL 720p, 1080i, 1080p

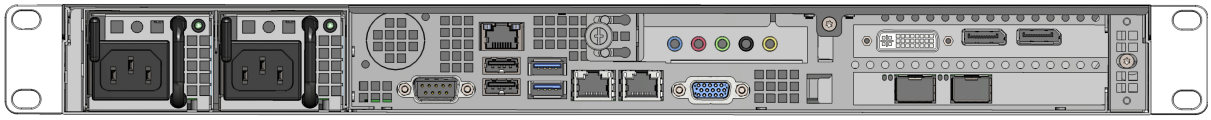
NTSC 720p, 1080i, 1080p

1.2.3. Xeebra Client Workstation

Front View



Rear View



Client Workstation Hardware & Operating System

The Xeebra client workstation has the following technical specifications:

- **Chassis Dimensions:** height = 44,5 mm, width = 482 mm, depth = 400 mm
- **Power Supply:** Redundant (= If one module fails, the remaining module will provide enough power to the server) and hot-swappable (= One module can be changed when the server is running, as long as the other module is still powered).
- **Motherboard:** Dual CPU
- **GPU:** Nvidia Quadro K2200
- **CPU:** Xeon E5-2620 v4
- **RAM:** 32GB DDR4 ECC Reg 2400
- **Storage:** 1x 200GB (Intel SSD, 2.5")
- **OS:** CentOS (Linux)
- **USB:** 4x 3.0 ports at the back, 1 USB 3.0 port at the front
- **Network connector:** 2x 1 Gigabit ethernet ports, 2x SFP+ 10 Gigabit dual ethernet port (optional)

1.2.4. Main Controllers

Touchscreen Monitor

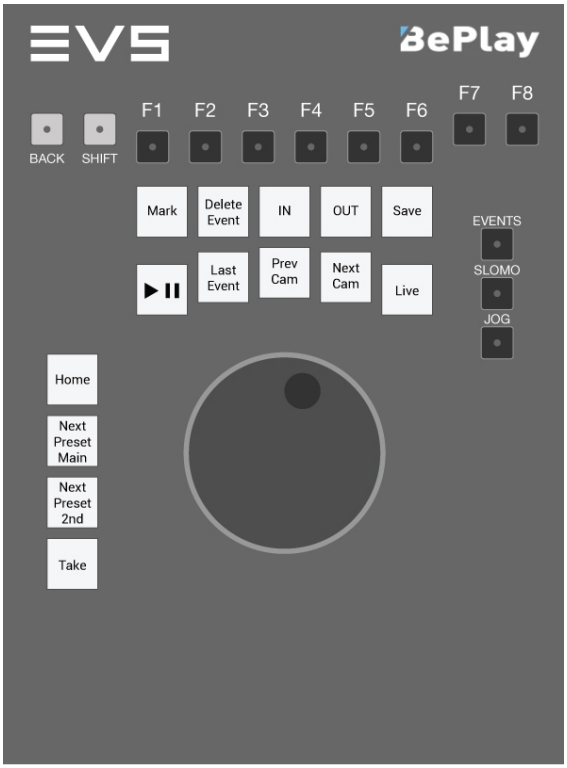
EVS recommends to use a iiyama ProLite 24" Touch Monitor [T2435MSC-B2] full HD.

The Dell 23" Touch Monitor [P2314T] full HD is also supported, but is end-of-life.

The monitor allows you to narrow down your camera angles and to zoom into a single fullscreen image using simple touch gestures.

BEPlay Remote

The Xeebra applications can be controlled by a dedicated BEPlay remote.



Computer Keyboard

EVS recommends to use a QWERTY computer keyboard.

1.2.5. Secondary Controllers

ShuttlePRO v2

The Xeebra Client can also be controlled by a ShuttlePRO v2 device.

This device will mainly be used as secondary controller and mostly in case of a Xeebra setup involving two screens. In such a setup, each screen can be monitored by a person. The first person, i.e. the operator, will then mainly monitor the Mosaic on the main screen and use the BEPlay remote to control the Xeebra Client. The second person, i.e. the video referee, will sit in front of the secondary screen. He will refine the angle selection performed by the operator and perform some zooming as well. With the ShuttlePRO v2 device he will be able to the control the review.

This device can also be used as primary controller in environments where space is at a premium, e.g. at the side of a pitch.

A default mapping of the ShuttlePRO v2 controls onto the Xeebra keyboard shortcut keys has already been performed and the mapping file has been installed on the Xeebra server. See section "ShuttlePRO v2 Button Assignments" on page 126 for the mapping.

X-Keys

The Xeebra Client can also be controlled by an X-keys input device.

The mapping of the buttons is not fixed and has to be performed on a Windows machine.

1.3. Software

The Xeebra software, namely the applications (Configuration, Client and Export) and services (Ingest and Storage) are all installed on the Xeebra server, but the applications can also be installed on a dedicated Xeebra client workstation.

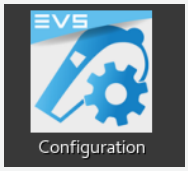
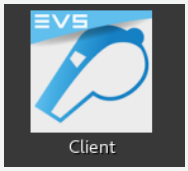
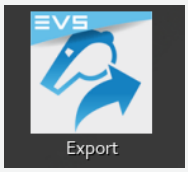
2. Xeebra Server/Client Workstation Desktop

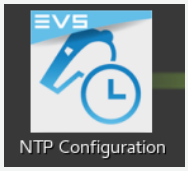
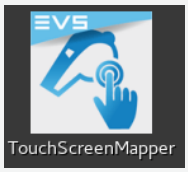
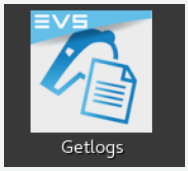
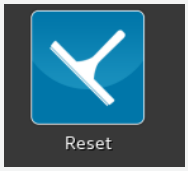
Once you have powered on your Xeebra server or client workstation and turned on your monitor(s), you will be asked to log in. Enter your Xeebra username (**xeebra**) and password (**xeebra**) and then click **OK**.

The desktop of your Xeebra server or client workstation will be loaded.

From this desktop you will be able to launch the different Xeebra software components.

The desktop contains shortcuts to the following components:

Shortcut	Component	Description
	**Xeebra Configuration**	Xeebra Configuration application used to select and configure the local and remote Xeebra servers you are going to work with. See section "Selecting and Configuring the Xeebra Servers" on page 13.
	**Xeebra Client**	Xeebra Client application used to view, browse and play back simultaneously the different camera feeds, zoom into a specific region and to mark important events. See section "Starting and Configuring the Xeebra Client" on page 25.
	**Xeebra Export**	Xeebra Export application. Allows you to configure the export of events created with the Client application and monitor the status of the export process. See section "Exporting Events" on page 98.

Shortcut	Component	Description
	**NTP Configuration**	This tool allows you to synchronize the time on all Xeebra servers using the NTP protocol so that the images recorded on the servers can be played back synchronously in the Client application. See the Xeebra Technical Reference Manual for more information.
	**TouchScreenMapper**	This tool should only be used in case you will be working with two touchscreen monitors. It allows you to map the touch gestures. See the Xeebra Technical Reference Manual for more information.
	**GetLogs**	This tool allows you to generate, export and remove system log files. These logs can be used for troubleshooting and support purposes. See the Xeebra Technical Reference Manual for more information.
	**License Management**	This application allows you to request and activate the necessary product license keys. See the Xeebra Technical Reference Manual for more information.
	**Reset**	This tool allows you to reset all Xeebra services. See the Xeebra Technical Reference Manual for more information.

Each Xeebra server also comes with services that run in the background and for which no shortcut is provided.

These services are not available on a dedicated Xeebra client workstation.

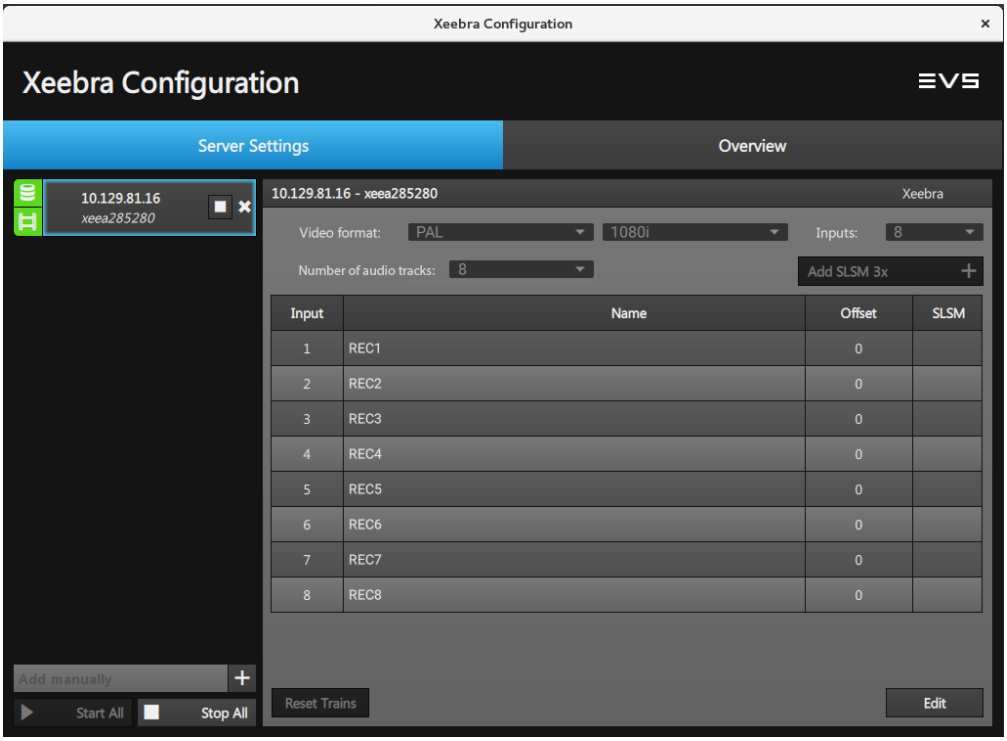
3. Selecting and Configuring the Xeebra Servers

3.1. Configuration Application

You can open the Xeebra Configuration application by double-clicking or double-tapping the Configuration shortcut on the desktop of your Xeebra server or client workstation.

This configuration tool allows you to determine the Xeebra servers you want to work with. You can specify the Xeebra servers your Client application has to connect to at startup and you are able to configure the names of the inputs for each of these servers individually.

It also allows you to quickly view all the servers you have specified and see their configuration (e.g. number of camera inputs, video resolution, timecode system, number of embedded audio tracks to ingest) at a glance.



The Xeebra Configuration application has two main areas: the Server Settings tab and the Overview tab.

The Server Settings tab is opened by default. It shows the list of Xeebra servers on the left, and the configuration for the currently selected server on the right. See section "Selecting the Servers" on page 14 and "Configuring the Servers" on page 16.

The Overview tab summarizes the configuration of the different servers. See section "Checking the Server Configuration" on page 24.

To exit the Configuration application again, click or tap **X** in the top right corner of the application window or press **ALT + F4**.

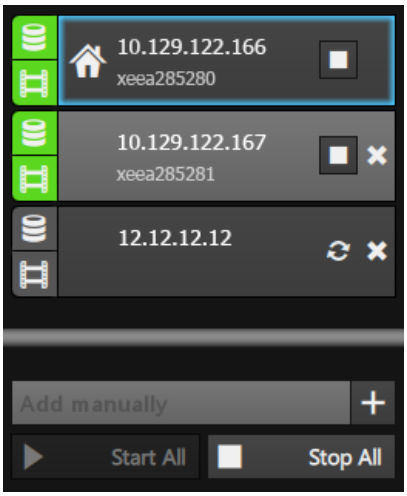
3.2. Selecting the Servers

3.2.1. Server List

Overview

If you have launched the Configuration application from a Xeebra client workstation, then the Server List will initially display no servers. You will have to add each server manually. See below for more information.

If you are running the Xeebra Configuration application directly on a Xeebra server, then the Configuration application will automatically detect and display this host server in the Server List.



The Server List displays the following information about a server:

- name and IP address;
- status of the ingest and storage;
- a button to start or stop the ingest;
- a button to remove the server again. This button is not present for the host server;

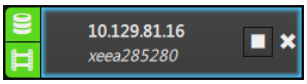
The host server is marked with a Home icon.

A retry button appears when you have manually added a server, but a connection could not be made. The Configuration application will retry to connect to the server.

You can manually add other Xeebra servers to this list and remove them again.

Checking the Server Status

The status of a server is determined by the status of its ingest and storage. Both processes are represented by an icon positioned to the left of the server name and IP address. Their status can be derived from the color of their icon. The top icon represents the status of the storage. The bottom icon represents the status of the ingest.



The storage is automatically started when the Xeebra server is powered on. You can manually start the ingest once you have configured the server.

The icon of both the storage and ingest is highlighted in green if they are up and running. Else, it is grayed out. In case of an error, their icon is highlighted in orange.

3.2.2. Adding and Removing Servers

Adding a Server

The Configuration application automatically populates the Server List with the server it is hosted by.

If you want to manually add a server, enter the IP address of that server in the field at the bottom of the Server List, and then click the **+** button.

If no connection can be made with the server, the Configuration application will not try to reconnect.

If a connection can be made, the Configuration application will try to recover the status of the ingest and storage. If their status is:

- found, the server appears in the Server List together with the other server(s).
- not found, the server appears in the Server List grayed out.

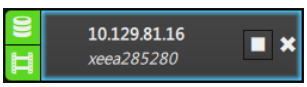
If at a certain moment the IP address of the server is changed, it will not be detected any longer by the Configuration application. You will have to remove and add the server again with its new IP address.

WARNING

You are not allowed to change the IP address of a server while the Configuration application is running.

Removing a Server

To remove a server, because you do not want to work with it any longer, or because its IP address is no longer valid, click **X**.



You will be prompted to confirm your action. Click **Yes** to continue, **No** to keep the server in the list. The server will disappear from the Server List.

NOTE

You cannot remove the server that hosts the Configuration application.

3.3. Configuring the Servers

3.3.1. Server Configuration Pane

Overview

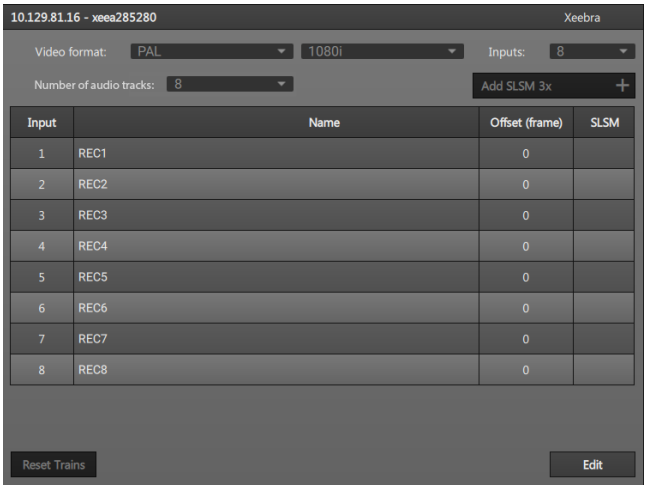
Once you have selected your servers, you can start configuring each one. This can be done in the Server Configuration pane.

This pane is located next to the Server List and displays the current configuration for the selected server. The very first time you launch the Configuration application, it will contain a default configuration.

You can set the server in the appropriate video format (video system and resolution), specify the number of embedded audio tracks to ingest, specify the correct number of camera inputs, and add up to two SLSM 3x recorders.

The Server Configuration pane lists the available camera inputs and the server recorder they are linked to. You can give a custom name to each recorder and apply an offset.

Finally, from here you can clear all video content from the server's record trains without removing the record trains themselves.



Default Server Configuration

The first time you launch the Configuration application, the following default server configuration is set:

- PAL 1080i;
- 0 audio tracks;
- 8 camera inputs;
- no offset;
- no SLSM 3x cameras.

Opening the Server Configuration Pane in Edit Mode

By default, the Server Configuration pane is opened in read-only mode. To be able to change the configuration of a particular server, you need to switch to Edit Mode.

Click the **Edit** button at the bottom of the pane to switch to Edit Mode.

If the ingest of the selected server was already running when you entered into Edit Mode, you will only be able to change the names of the server recorders. Exit Edit Mode, stop the ingest and then re-enter Edit Mode if you want to be able to modify all server parameters.

NOTE

While you are in Edit Mode, you will not be able to perform any action in the Server List, nor switch to the Overview tab. You won't even be able to exit the Configuration application.

Saving the Server Configuration

The configuration is applied to the server when you click the **Save** button. If you click **Cancel**, your changes are canceled and the Server Configuration pane is refreshed.

NOTE

Saving the server settings can take some time.

3.3.2. Setting the Server Video Format

The servers you will work with need to be set in the same video format (video system and video resolution). If not, you will not be able to launch your Xeebra Client application.

Selecting the Video System

You can choose between PAL and NTSC. PAL is selected by default. Your choice here will determine the available video resolutions (see below).

If you select the wrong video system, you will have no images in the Mosaic of your Xeebra Client application. A 'Video Not Available' icon will appear instead.

Selecting the Video Resolution

Depending on the video system you have selected, the following video resolutions will be available:

PAL	NTSC
720p 1080i 1080p	720p 1080i 1080p

By default, PAL 1080i is selected.

NEW ! As of version 2.0, SD (PAL 625i, NTSC 525i) is no longer supported.

Your choice here will determine the number of camera inputs you can configure for the server (see below).

WARNING

If you change the video format of a server, all its record trains will be cleared, deleted and re-created.

3.3.3. Setting the Audio Tracks to Ingest

NEW !

The Server Configuration pane allows you to specify the number of **embedded** audio tracks (0, 2, 4 or 8) to ingest per video track. By default, 0 is selected.

NOTE

The number of audio tracks to ingest is the same for all video tracks.

WARNING

If you change the number of audio tracks to ingest, all the record trains of the server will be cleared, deleted and re-created.

It is not possible to listen to the ingested audio in the Xeebra interface. The audio ingested on an input will, however, be exported in the video file.

The audio must be embedded on all the input channels where you want to export audio.

3.3.4. Setting the Camera Inputs

Select the desired number of camera inputs from the corresponding combo box.

By default, the maximum number of allowed camera inputs is selected. This number is related to the selected video resolution. Only 4 camera inputs are supported for 1080p, 8 are supported for all other resolutions.

If you select more camera inputs than are actually connected to the Xeebra server, then in the Client's Mosaic certain cameras will have an image and others will have an 'No Signal' icon.

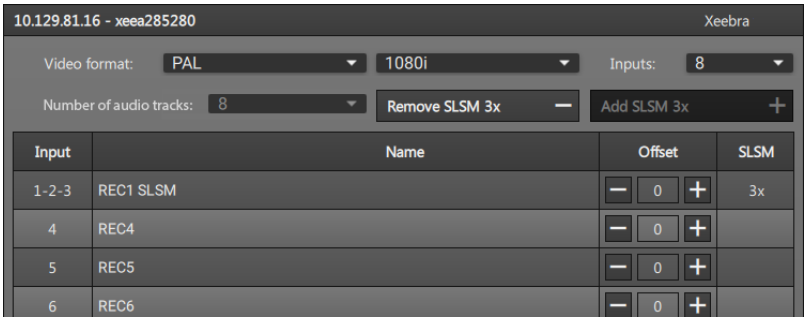
If you select less camera inputs than are actually connected, then not all camera feeds will be recorded by the Xeebra server.

WARNING

If you change the number of camera inputs of a server, all its record trains are cleared, deleted and re-created.

3.3.5. Adding SLSM 3x Recorders

You can add up to two SLSM 3x recorders by clicking the **Add SLSM 3x** button. The first time you click the button, a recorder is added on input 1-2-3. The second time, a recorder is added on input 4-5-6. After that, the **Add SLSM 3x** button becomes unavailable.



To remove a SLSM 3x recorder again, click the **Remove SLSM 3x** button. This button only becomes available after you have added at least one SLSM 3x recorder. The recorder on input 4-5-6 will first be removed.

WARNING

If you add a SLSM 3x recorder to a server, all its record trains will be cleared, deleted and re-created.

To be able to make use of the SLSM recorders, you need a valid 30 - Xeebra SLSM license key. See the Xeebra Technical Reference Manual for more information.

The availability and status of the license key will determine if you will be able to use the SLSM 3x recorders.

When you start the ingest of the server after having completed your configuration, the availability and status of the 30 - Xeebra Super Motion ingest license key is checked:

- If a license is present and current, the Ingest service is started.
- If the license is going to expire within two weeks, a warning message is displayed: 'Xeebra Super Motion license will expire in xx days'. Click **OK** to continue. The ingest will be started.
- If the license is expired and you have configured a SLSM 3x recorder, a warning message is displayed: 'Super Motion License expired on server, please reconfigure server ingest'. You will be able to remove the SLSM 3x recorder again. You will no longer be able to add a new SLSM 3x recorder.
- If the license is not present and you have configured a SLSM 3x recorder, a warning message is displayed: 'Xeebra Super Motion License not present on server, please reconfigure server ingest.' You will be able to remove the SLSM 3x recorder again. You will no longer be able to add a new SLSM 3x recorder.

3.3.6. Configuring the Recorders

Changing the Recorder Name

Each recorder is assigned a default name of the form RECx, where x is the number of the corresponding camera input. The recorder will appear with this name in the Mosaic of a connected Client application once it gets assigned and also in the list of cameras in Camera Assignation Mode.

If you are not satisfied with the default name, you can assign a custom name. Click inside the **Name** field and type the desired name.

NOTE

A recorder name cannot contain more than 24 characters. If you keep the name empty and save the configuration, then the recorder will get the default RECx name.

Setting a Timecode Offset

If there is a difference between the timecodes of certain camera inputs, for example the timecode of RF or SLSM cameras lags one or two frames behind, you can set a positive offset for each recorder.

By default, no offset is defined. You can set a maximum positive offset of 255 frames.

The offset will be applied at the time of ingest. It is not possible to apply an offset to already ingested material.

Changing the Number of Recorders

You can change the number of recorders by changing the number of inputs. See above for more information.

If you remove recorders, the last recorders are removed and the parameters of the recorders that remain are kept.

If you add extra recorders, the parameters of the first recorders are kept and recorders with default parameters are added. Note that if you have set two SLSM 3x recorders, the custom name and offset of the second SLSM 3x recorder is not retained when you add additional recorders. The second SLSM 3x recorder is given a default name and offset instead.

3.3.7. Resetting the Record Trains

To erase the recorded video content from a server, for example to start with a fresh production, without deleting and recreating the server record trains, click the **Reset Trains** button.

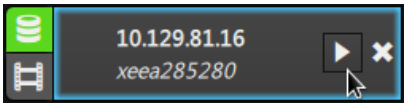
You will be prompted to confirm the deletion. Click **Yes** to proceed, **Cancel** to stop.

3.4. Starting and Stopping the Ingest

3.4.1. Starting the Ingest

Once you have configured or reconfigured a server, you need to start the ingest.

To start the ingest of a single server, click the corresponding **Start** button in the Server List.



To start the ingest of all servers, click the **Start All** button at the bottom of the Server List. This button is only available if the ingest of none of the servers is running.

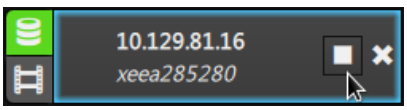
The Ingest icon of the servers will turn green (again).

A check is performed to see if the following license keys are present:

- 10 - Xeebra Server license
  - If the license is current, then the ingest is started.
  - If a license is present but is about to expire within two weeks, a warning message is logged in the Xeebra log files: 'Xeebra Server license will expire in xx days'. The ingest will be started.
  - If the license is expired, a warning message is logged in the Xeebra log files: 'License expired on server'. The ingest will not be started.
  - If the license is not present, a warning message is logged in the Xeebra log files: 'License not present on server'. The ingest will not be started.
- 30 - Xeebra Super Motion ingest license (See section "Adding SLSM 3x Recorders" on page 20).

3.4.2. Stopping the Ingest

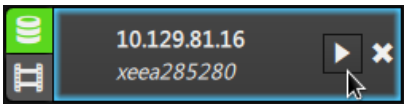
To be able to fully configure a particular server, you need to stop its ingest. Click the corresponding **Stop** button.



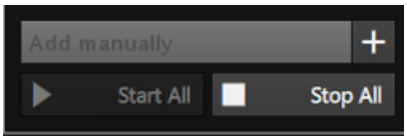
You will be prompted to confirm your action. Click **Yes** to continue.

As a result, the incoming camera feeds are no longer recorded by the server. If the Client applications connected to the server are already running and have one or more of its recorders assigned in their Mosaic, then the corresponding images will freeze at the last recorded frame. Browsing backwards on the record trains will still be possible.

In the Server List, the server's Ingest icon is grayed out. The **Start** button becomes available.



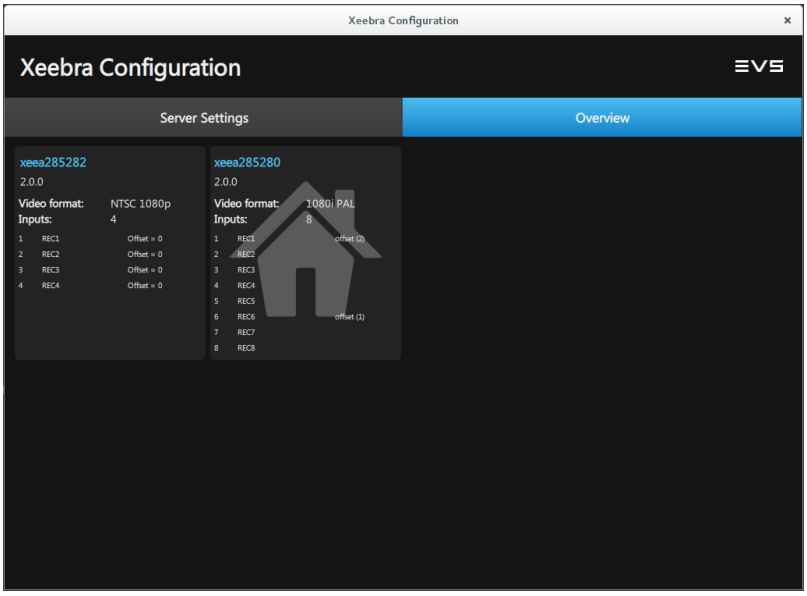
To stop the ingest of all servers in the Server List, click the **Stop All** button at the bottom of the Server List.



You will be prompted to confirm your action. Click **Yes** to continue.

3.5. Checking the Server Configuration

The Overview tab allows you to view at a glance if the configuration of all your servers is coherent. The server hosting the Xeebra Configuration application is marked with a Home icon.



4. Starting and Configuring the Xeebra Client

4.1. Starting the Xeebra Client

4.1.1. Xeebra Client Application

The Xeebra Client application is the tool which can be used to view, browse and play back simultaneously the camera feeds of the connected Xeebra servers on up to two screens, zoom into a specific region and mark and label important events.

4.1.2. Scaling of the Client Interface

The Xeebra Client application is designed to work with full HD 1920x1080 16/9 screens.

If you have one or two screens that have a 16/9 aspect ratio, but a different resolution than the expected one (e.g. 1366x768, 1600x900), the interface of the Client application is resized accordingly.

NEW ! If you have one or two screens that have a smaller aspect ratio (e.g. 1280x1024 4/3), the Client application interface is displayed over the entire width of the screens.

If you have one or two screens that have a bigger aspect ratio (e.g. 1920x1200,1680x1050,1440x900 16/10), the Client application interface adjusts itself to the width of the screens. As a result, the interface is too high. You can use the scrollbar that appears to scroll up or down the screen.

NEW ! If you have two screens that do not have the same resolution, the Client application will launch. In case of three screens, the Client application will not launch.

4.2. Exploring the Client's Mosaic

4.2.1. Overview of the Mosaic

The Mosaic allows you to view up to 16 different HD camera feeds recorded live from a particular sports game in a layout on your main screen, and up to 4 different camera feeds in a layout on your secondary screen.

Because all feeds are being recorded simultaneously by the connected Xeebra servers, you can easily and swiftly browse and instantly replay all feeds in a synchronized manner making use of the dedicated BEPlay remote in conjunction with a mouse or touchscreen. You can also make use of handy keyboard shortcut keys, a ShuttlePRO v2 or an X-keys device. See section "Browsing, Replaying and Zooming into Camera Feeds" on page 58.

Thanks to the dynamic nature of the Mosaic, you can quickly switch to a layout containing only the camera feeds of your choice and then turn back as rapidly to the full overview. In a workflow with two screens, you can delegate the selected camera feeds to your second screen, while keeping an overview of all camera feeds on your main screen. See section "Browsing Mosaic Layouts" on page 64.

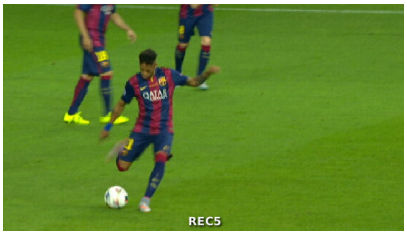
To help you make better judgments and take better game play decisions, you can select up to two camera feeds, view them (side by side) in Full Screen Mode and zoom in to see in more detail a specific region. See section "Zooming into Camera Feeds" on page 76.

At startup, you can configure the layout of the Mosaic to your needs. See section "Configuring the Mosaic Layout" on page 32.

4.2.2. Camera Feeds

Introduction

Each tile inside the Mosaic on one of your screens represents the feed of a particular video camera recorded live by the record channel of a particular Xeebra server. By default, the name of the record channel is displayed in overlay at the bottom center of the tile and is of the form `RECx`.



Record Channel Name

You can change the name of a record channel when using the Configuration application to configure the Xeebra servers. See section "Selecting and Configuring the Xeebra Servers" on page 13.

You can hide or display the name of all record channels in the Mosaic on a particular screen using the keyboard shortcut key **T** or when configuring the Mosaic layout. See section "Displaying and Hiding the Recorder Names" on page 43.

Default Number of Available Camera Feeds

The default number of available camera feeds in the Mosaic depends on the total number of available camera inputs from all connected servers. A maximum of 16 camera feeds will be available in a layout.

Default Camera Position

The default position of a camera feed in the Mosaic is determined by the total number of inputs (from all connected Xeebra servers), the server a camera is connected to, and also by the SDI In connection via which a camera is connected to a Xeebra server. You can change the position of a camera feed by a simple drag-and-drop operation. You can also replace the camera feed with another one or remove it from the Mosaic.

Layout Browsing

It is possible to select some camera feeds and switch to a layout that will only display the selected camera feeds. The size of the tiles will change accordingly. In case you select a single camera, you can switch to a full screen layout mode.See section "Browsing Mosaic Layouts" on page 64. The borders of a selected camera feed are highlighted in blue.

Zooming into Camera Feeds

In Full Screen Mode and in a 2 cameras layout, it is possible to zoom into a specific region using your mouse or the touch screen. See section "Zooming into Camera Feeds" on page 76.

Offside Line Cameras

NEW !

A maximum of three camera feeds can be identified as offside line cameras. See section "Configuring Offside Line Mode" on page 54. You can recognize these camera feeds by the flag icon in the top left corner.

Their feed will be used to determine whether a particular action is offside or not. See section "Offside Line Events" on page 83.

Status Icons

In certain situations, a status icon appears instead of an image.

Icon	Description
	A camera input is missing. It has been disconnected from the server, or it does not exist.
	The video format or field rate of the camera feed is not supported.

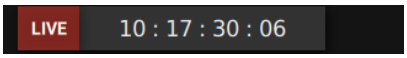
4.2.3. Timecode Field

Introduction

The timecode field displayed in overlay at the top center of the Mosaic contains the Xeebra server timecode in PAL or NTSC format. Among other things it is meant to help you determine the exact moment in time when a particular event occurred for which a decision has to be taken.

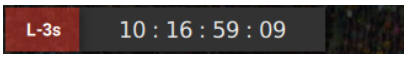
Live Mode

In Live Mode (= at the closest frame to LIVE action), it indicates the live timecode. A red LIVE sign is displayed to the left of the timecode field.



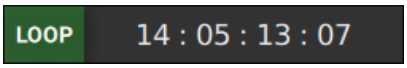
Delayed Live Mode

In Delayed Live Mode, it displays the live timecode with a delay as specified in the Global settings of the Xeebra Client. The red LIVE sign is replaced by a L-xs indication. The x stands for the value of the delay. See section "Configuring Global Settings" on page 51.



Loop Mode

In Loop Mode, it displays the timecode of the TC IN/TC OUT event that is being played back in loop. See section "Playing Back Events in a Loop" on page 96.

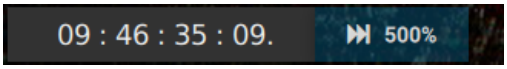


Browsing Mode

In Browsing Mode, it displays the timecode of the current position in the record train. The LIVE sign is then not visible. See section "Browsing and Replaying Camera Feeds" on page 58.

Browsing Speed Indication

When the playback speed is different from +100%, this is indicated to the right of the timecode field. Note that this indication will only be visible in your main screen.



Hide and Display the Timecode Field

Depending on how you configured the layout of the Mosaic on a particular screen, the timecode field will be visible or hidden. You can toggle the timecode field on or off using a keyboard shortcut key. See section "Displaying and Hiding the Server Timecode" on page 42.

Navigate to a Specific Timecode

If you double-click the timecode field, an overlay window appears. You can use this to enter and navigate to a specific timecode. See section "Browsing and Replaying Camera Feeds" on page 58.

4.2.4. Overlay Camera

The tile situated in the bottom right corner of the Mosaic displays the feed of one particular camera in overlay. It allows you to constantly keep an eye on a particular camera angle.

For example, during a basketball game the overlay camera can be used to provide the referee a constant view on the shot clock. In case of a buzzer beater situation, it can greatly help in deciding if a shot was taken before the game clock of a quarter expires or after.

Which camera feed is displayed in overlay and if the overlay camera is visible in one or both of your screens depends on the configuration of your Client application. See section "Displaying and Hiding an Overlay Camera" on page 42 and "Assigning Camera Feeds" on page 36.

You can toggle the overlay camera on or off using a keyboard shortcut key. See section "Displaying and Hiding an Overlay Camera" on page 42.

4.3. Configuring the Mosaic Layout

4.3.1. Layout Configuration Mode

About the Layout Configuration Mode

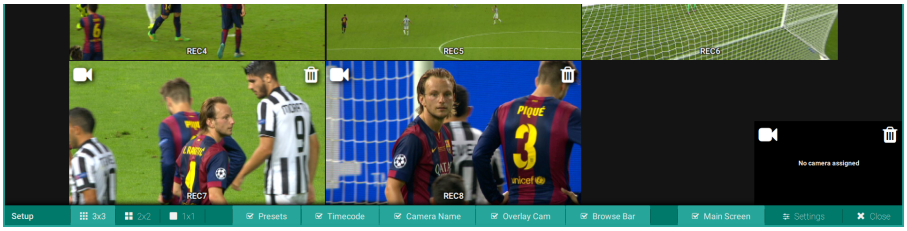
In Layout Configuration Mode, you can customize the Mosaic layout on both your main and secondary screen to your personal needs. You can determine the dimensions (i.e. number of camera tiles) of your Mosaic per screen, you can select the cameras whose feed you want to view and work with and assign them the appropriate position in the Mosaic, and finally, you can decide which information (recorder name, timecode, overlay camera, Browse Bar) you want to see displayed on each of your screens. In case you have two monitors, you will also be able to indicate which will be your main and secondary screen.

Layout Configuration Mode also allows you to create and save different Mosaic layouts for each of your screens.

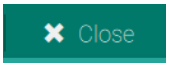
Entering Layout Configuration Mode

To set your Mosaic in Layout Configuration Mode, click or tap the gear wheel button in the bottom left corner of your main screen. Note that this button is only available if your Mosaic on your main screen is in the home layout.

A layout configuration toolbar will become available at the bottom of each screen and configuration buttons will become visible on each tile in the Mosaic.



To exit the Layout Configuration Mode again, click or tap the **Exit Configuration** button in the layout configuration toolbar on your main screen.



You can also press **ESC** on your keyboard.

Saving the Layout Configuration

Your configuration is saved as soon as you change a parameter. The next time you launch your Client application, it will look for and apply the configuration accordingly.

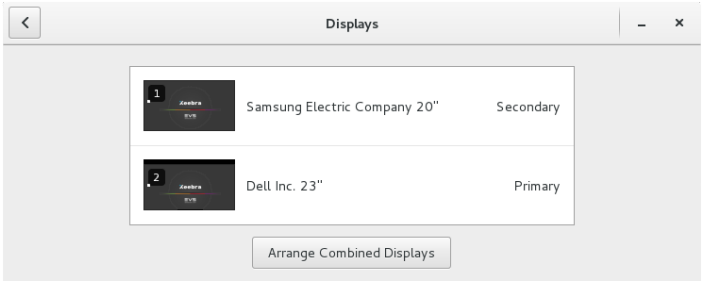
Exiting the Client Application

From the Layout Configuration Mode you can exit the Client application by clicking or tapping the button displayed in the top right corner of your main screen.

4.3.2. Choosing a Main Screen

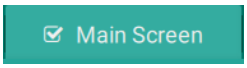
If you are working with two monitors, you can indicate which screen you are going to use as your main screen. Your main screen will mainly be used for viewing and browsing all camera feeds and your secondary screen for viewing and browsing a selection of camera feeds delegated from your main screen.

When you launch your Client application for the very first time, the monitor that has been configured on the Xeebra server or client workstation as primary display (see **Applications > System Tools > Settings > Displays**) is automatically selected as your main screen.



If you have already indicated a screen as your main screen during a previous production, the Client application will retake this.

If you want to promote your other monitor to main screen, select the **Main Screen** check box in the corresponding layout configuration toolbar.



The check box in the layout configuration toolbar of the other screen will be automatically deselected.

NOTE

When you turn your main screen into your secondary screen, or vice versa, the layout configuration (presets, timecode, camera names, overlay camera) also switches screen.

4.3.3. Selecting a Mosaic Home Layout

About the Home Layout

The home layout of your Mosaic is the layout you want to start from and eventually want to return to after having narrowed down your layout to only the camera feeds that actually matter, i.e. that display the relevant content.

4 Mosaic home layouts have been predefined:

- 1
- 2x2
- 3x3
- 4x4

You can select a home layout for both your main and secondary screen.

Default Home Layout

If you have not selected a home layout for your Mosaic before, the Xeebra Client application starts with a default home layout.

The Mosaic home layout that is selected by default at startup depends on the total number of available camera inputs from all connected servers. See section "Selecting and Configuring the Xeebra Servers" on page 13.

The table below displays the Mosaic home layout selected based on the number of available camera inputs.

# of Available Camera Inputs	Default Mosaic Home Layout
1	1
2-4	2x2
5-8	3x3
≥ 9	4x4

If you work with two screens, the Mosaic home layout on the second screen is 1.

The default home layout corresponds to the first preset in the screen's Presets bar. Initially, for your main screen this will be the default Main Preset, and for your secondary screen this will be the default Secondary Preset. See section "Default Presets" on page 46.

Selecting a Home Layout

You can select another home layout for both your main and secondary screen by clicking/tapping the corresponding button in the layout configuration toolbar.

The number of available predefined Mosaic home layouts depends on the total number of camera inputs that have been configured for the servers your Client application is connected to. See section "Selecting and Configuring the Xeebra Servers" on page 13.

The table below displays the available Mosaic home layouts per number of available camera inputs.

# of Available Camera Inputs	Available Home Layouts
1	1
2 - 4	1, 2x2
5-8	1, 2x2, 3x3
≥ 9	1, 2x2, 3x3, 4x4

If you switch to another Mosaic home layout, the camera assignation you might have performed is reset and the camera tiles are populated with the first x camera inputs found. See section "Assigning Camera Feeds" on page 36.

If the number of camera inputs found is smaller than the amount allowed in the layout, they are arranged accordingly. For example, if you switch to a 3x3 layout, but only 6 camera inputs are available, only 6 tiles will be available in the Mosaic. The tiles will be arranged in two rows of 3.

The next time you launch your Client application, the last saved Mosaic home layout will be loaded.

4.3.4. Assigning Camera Feeds

Default Camera Feed Position

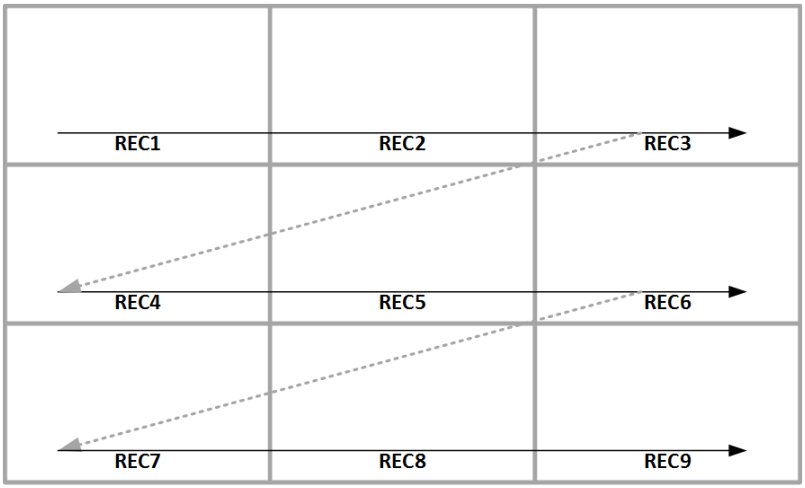
When you start your Client application for the very first time, the available camera inputs are automatically assigned a default position in the Mosaic.

This position is determined by the number of servers your Client application is connected to, the total number of camera inputs configured for all connected servers, and also by the SDI In connection via which each camera is connected to a Xeebra server.

As a rule, the camera inputs are positioned from left to right and from top to bottom. The camera inputs of the server that is detected first will be positioned first.

The camera feeds are positioned in order of connection. First REC1, then REC2, then REC3, etc.

In the example below, the default camera feed position in case of 9 inputs is displayed.



If a second screen is available, the layout on the second screen is 1 camera feed with the first recorder of the first server in the list.

About Camera Assignation Mode

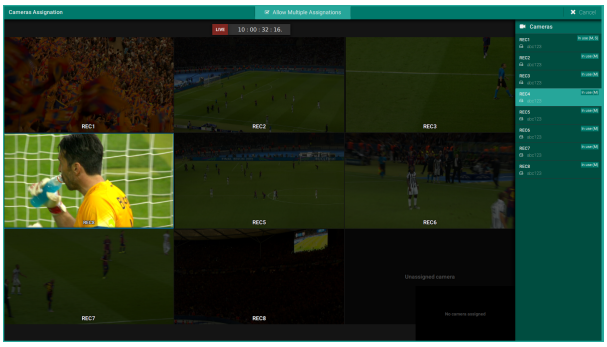
In Camera Assignation Mode, you can handpick the camera feeds you want to work with from the list of available camera feeds and assign them the appropriate position in the Mosaic home layout of your main and secondary screen.

Entering Camera Assignation Mode

To enter Camera Assignation Mode, proceed as follows:

1. Enter your main screen in Layout Configuration Mode. See section "Layout Configuration Mode" on page 32.
2. Click or tap the **Assign Camera** button on any tile in the Mosaic on one of your screens.

Both your main and secondary screen enter in Camera Assignation Mode. The camera feed you clicked will be selected. A list of available camera feeds appears in the right margin of the screen that contains the selected camera feed.



If you select a camera feed on the other screen, the list of camera feeds will move to that screen.

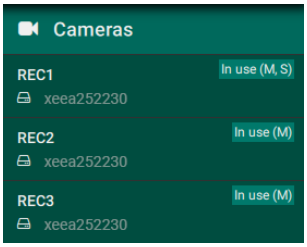
To exit Camera Assignation Mode again, press **ESC** or click or tap the cross in the top left corner of the screen.

If you try to leave Camera Assignation Mode without any camera feed assigned, you will be prompted to at least assign one camera feed.

List of Camera Feeds

Overview

The list of camera feeds contains the name of the recorders that have been configured for the Xeebra servers your Client application is connected to and that capture the incoming camera feeds. See section "Configuring the Servers" on page 16.



For each server recorder the following information is displayed:

- name;
- server name;
- an indication if the camera feed is already assigned in the layout of one of your screens;
- an icon showing that the camera feed is of the type SLMS 3x.

Camera Feeds in Use

In the top right corner of each camera feed you can see if it is in use on the main screen (M), secondary screen (S), as overlay camera (O) or in another preset (O).

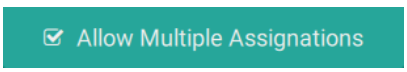
NOTE

A camera feed can only appear once in the layout of each screen. If you try to assign a camera feed twice, an error message will appear.

Assigning Camera Feeds

Single vs. Multiple Camera Feed Assignation

When you enter the Camera Assignation Mode for the first time, the option **Allow Multiple Assignations** is selected by default.



This means that, when you have assigned a camera feed from the list of camera feeds, the Camera Assignation Mode will remain open and you will be able to select another camera feed on your main or secondary screen and replace it with another camera feed.

If the option is deselected, Camera Assignation Mode will close as soon as you assign a camera feed. You won't be able to select another camera feed first.

Assigning a Single Camera Feed

Pick the camera feed from the Camera Feed List to replace the camera feed selected in the Mosaic.

Upon selection, the Camera Assignation Mode will close and you will be redirected to your Mosaic. The Mosaic will be in Layout Configuration Mode.

Assigning Multiple Cameras Feeds

Pick the camera feed from the Camera Feed List to replace the camera selected in the Mosaic. The old camera feed will be replaced by the newly picked one.

Highlight another camera feed in the Mosaic and repeat the same process.

Assigning an Overlay Camera

Pick the camera feed from the Camera Feed List to assign it as overlay camera or to replace the current overlay camera.

NOTE

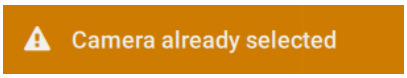
The camera feed you assign will be the same for both your main and secondary screen. If you change the camera feed on one screen, it will also be changed on the other screen.

Possible Camera Assignation Issues

Camera Feed Already Selected

A camera feed can only appear once in the Mosaic layout of a given screen. The only exception is the overlay camera. A camera feed can be part of the layout and be the overlay camera.

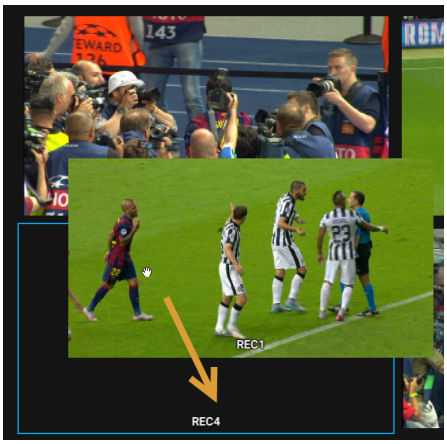
If you try to assign a camera feed twice to the same Mosaic layout, the assignation will be refused, and an error message will appear.



4.3.5. Moving Camera Feeds

To change the position of a specific camera feed in the Mosaic, proceed as follows:

1. Left-click the camera feed to select it.
2. Drag the selected camera feed onto the camera feed you want to swap positions with. The destination ishighlighted. The position switch is done dynamically.

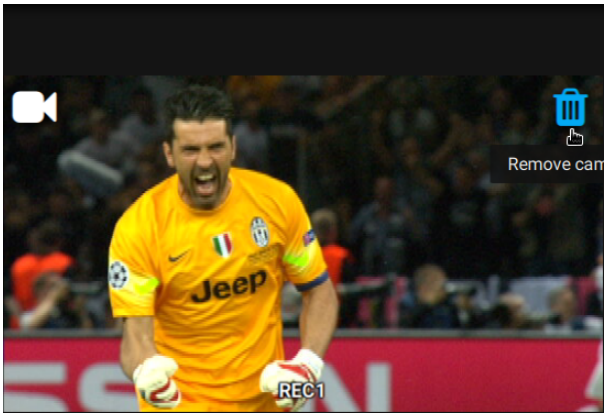


3. Release your mouse to drop the camera feed onto its new position.

Note that you can only move camera feeds within a single screen.

4.3.6. Removing Camera Feeds

To remove a camera feed from the Mosaic layout, click the garbage bin button in the top right corner of the tile.



The remaining camera feeds in the Mosaic layout will be reorganized to show you exactly how your screen will look like.

NOTE

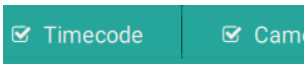
If the overlay camera is removed, it is removed only for the current screen. The assignation stays on the other screen if shown as well.

4.3.7. Displaying and Hiding OSD Information

Displaying and Hiding the Server Timecode

When you start your Client application for the very first time, the timecode of the connected Xeebra servers is visible both on your main and secondary screen at the top of the Mosaic.

To display or hide the server timecode on one of your screens, select or deselect the **Timecode** check box in the corresponding layout configuration toolbar, or press the keyboard shortcut key **T**.



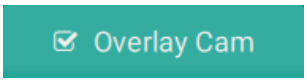
The configuration is saved as soon as you change the parameter.

The next time you launch your Client application, it will apply the Timecode parameter as saved in the configuration file.

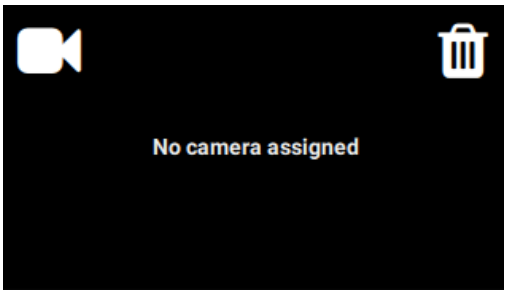
Displaying and Hiding an Overlay Camera

When you start your Client application for the very first time, no overlay camera tile is visible in the Mosaic on both your screens, nor has a camera feed been assigned as overlay camera.

To display an overlay camera in the Mosaic on one of your screens, select the **Overlay Cam** check box in the corresponding layout configuration toolbar, or press the keyboard shortcut key **Y**.



If no camera feed has been assigned yet as overlay camera, you are requested to do this. See section "Assigning Camera Feeds" on page 36.



If a camera feed has already been assigned, you can select and assign a different camera feed or remove the overlay camera again from the Mosaic layout. See section "Removing Camera Feeds" on page 41.

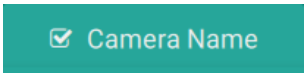
The configuration is saved as soon as you change the parameter.

The next time you launch your Client application, it will apply the Overlay Cam parameter as saved in the configuration file.

Displaying and Hiding the Recorder Names

When you start your Client application for the very first time, the name of the server recorders capturing the incoming camera feeds are displayed in overlay at the bottom center of the tiles in the Mosaic on both your screens.

To hide or display the recorder names on one of your screens, deselect the **Camera Name** check box in the corresponding layout configuration toolbar. If you have configured a screen to show the recorder names, you can hide or displays the recorder names by pressing the keyboard shortcut key **T**.



The configuration is saved as soon as you change the parameter.

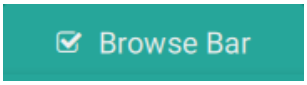
The next time you start up your Client application, it will apply the Camera Names parameter as saved in the configuration file.

4.3.8. Enabling the Browse Bar

How to Enable and Display the Browse Bar

Xeebra allows you to browse and play back the camera feeds visible in a particular screen using different types of controllers (e.g. BEPlay remote, ShuttlePRO, keyboard, etc.). To make use of a touchscreen or your mouse, you need to activate the Browse Bar, an on-screen navigation controls bar.

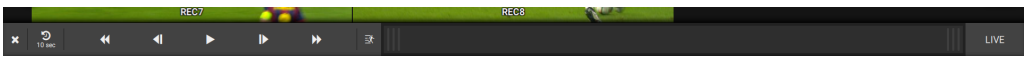
When you start your Client application for the very first time, this Browse Bar is disabled and not visible. To enable it for a particular screen, open that screen in the Layout Configuration mode and select the option **Browse Bar**.



Exit the Layout Configuration Mode again and click or tap the **Display Browse Bar** button that has appeared in the bottom left corner of your screen.

You can also press **R**.

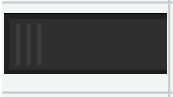
The Browse Bar appears at the bottom of your screen.



The close the Browse Bar again, click **X** in the bottom left corner.

Browse Bar Controls

The Browse Bar contains the following navigation controls:

Control	Description
	Used to close the Browse Bar again.
	Used to jump back 10 seconds in time and keep playing at the current speed.
	Used to play backward at normal speed or at 2x, 3x, 5x, 8x, 16x.
	Used to navigate 1 field backward.
	Used to pause playback.
	Used to initiate playback.
	Used to navigate 1 field forward.
	Used to play forward at normal speed or at 2x, 3x, 5x, 8x, 16x.
	Used to play backward or forward at 1/2, 1/3, 1/4 or 1/6 of the normal speed.
NEW ! 	Used to browse through the selected camera feeds using a simple finger gesture.
	Used to return to Live Mode (= head of the record train).

4.3.9. Managing Presets

About Presets

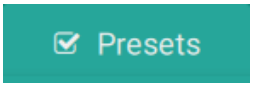
A preset allows you to (logically) group up to 16 camera feeds coming from the different connected Xeebra servers and arrange them in a layout and order that most suits your needs. For your main and secondary screen you can create and save up to 8 presets.

At any moment during the reviewing process, you can switch between the different presets and select the most interesting camera angles of each preset.

Presets are especially useful if you are working in a setup with more than 16 incoming camera feeds and you want to easily have access to all of them.

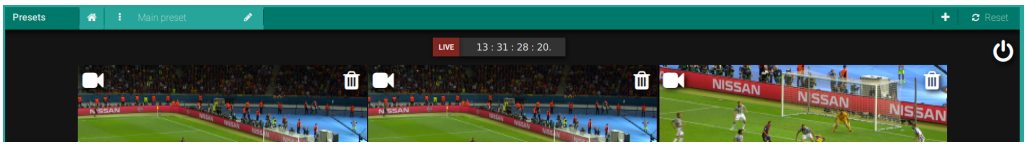
Enabling Presets

The very first time you launch the Client, presets are disabled. If you want to be able to make use of presets on your main and/or secondary screen, you need to enable them. To do this, simply select the **Presets** check box in the corresponding layout configuration toolbar.



A Presets bar will appear at the top of the Mosaic. With this toolbar you will be able to create up to 8 presets. Existing presets can be renamed, rearranged or removed again.

The very first time you launch the Client, the Presets bar on your main screen will contain a default Main Preset, the one on your secondary screen a default Secondary Preset.



Once you have enabled the presets and created some presets of your own, you will be able to switch between these presets on your main and/or secondary screen.

Default Presets

Introduction

The very first time you launch the Client, the Client creates a default preset for your main and secondary screen. This will also be the case when you reset all presets. See section "Resetting All Presets" on page 49.

The **Main Preset** will initially be taken as default home layout of your main screen. See section "Selecting a Mosaic Home Layout" on page 34. Depending on the total number of available camera inputs from all connected servers, it can contain up to 16 camera feeds. The camera feeds are taken from the first detected servers.

The **Secondary Preset** will initially be taken as default home layout of your secondary screen. It contains a single camera feed in a 1x1 layout. This camera feed corresponds to first camera feed present on the main screen.

You can rename these default presets, select a different home layout, rearrange, remove or replace camera feeds. Your changes are automatically saved in the configuration file.

The default presets are always loaded, even if the presets are disabled.

Check at Startup

The next time you launch your Client application, it will try to load the default presets as saved in the configuration file.

- If you have **disabled the presets**, and at restart it seems that **one or more cameras** you assigned to the Main and/or Secondary Preset **are no longer available** (because your Client is no longer connected to the corresponding server, or one or more cameras are no longer connected, or because a camera is already taken by two other Clients), then the Client will display the following message: "One or more servers/cameras are not available".

  Do one of the following:

  - Click **Yes** to continue with all available cameras.

    Both the Main and Secondary Preset are loaded. The missing cameras are not displayed and the layout is rearranged accordingly. The presets are not overwritten in the configuration file. This means that when the cameras come available again, and you reload that preset, they will become visible again.

  - Click **No** to reset the configuration.
  - Click **Cancel** to exit the Client again.
- If you have **disabled the presets**, and at restart **none of the cameras** you assigned to the Main and/or Secondary Preset **are available**, then the Client will display the following message: "One or more servers/cameras are not available".

Do one of the following:

- Click **Yes** to continue with all available cameras.

  The Main and/or Secondary Preset are loaded with the default camera assignation. In the configuration file, the Main and/or Secondary Preset are overwritten.
- Click **No** to reset the configuration.
- Click **Cancel** to exit the Client again.

Creating Presets

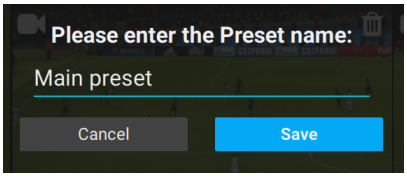
Procedure

To create a new preset for a particular screen, proceed as follows:

1. In the Presets bar on your main or secondary screen, click or tap the **+** button.

   The following popup window will appear:

2. Enter a meaningful name for the new preset, for example 'Wide Angles'.

   Note that the name is mandatory and can contain a maximum of 16 characters. As long as you have not entered a name, you will not be able to save the preset.
3. Click or tap the **Save** button to save the preset and return to the Mosaic.

   In the Presets bar, a new preset button has been added carrying the name you just entered. The Mosaic on your main or secondary screen has switched to the new preset.

   Depending on the number of connected servers and the total number of configured camera inputs, the Xeebra Client will have automatically filled the Mosaic on the main screen with up to 16 camera feeds coming from the servers it detected first. On the secondary screen, the Client will have filled the Mosaic with up to 4 camera feeds.
4. You can now start repositioning the automatically assigned camera feeds or replacing them with camera feeds from other connected servers. See section "Moving Camera Feeds" on page 41 and "Assigning Camera Feeds" on page 36. You can also select a different home layout for the preset. See section "Selecting a Home Layout" on page 35.

   The configuration is saved as soon as a change is made. Note that you can create a maximum of 8 presets.

Check at Startup

The next time you launch your Client application, it will try to load the presets as saved in the configuration file.

- If you have **enabled the presets**, and at restart it seems that **one or more cameras** you assigned **are no longer available** (because your Client is no longer connected to the corresponding server, or one or more cameras are no longer connected, or because a camera is already taken by two other Clients), then the Client will display the following message: 'One or more servers/cameras are not available. Do you want to keep your configuration?'.

  Do one of the following:

  - Click **Yes** to continue with all available cameras.

    Both the Main and Secondary Preset are loaded. The missing cameras are not displayed and the layout is rearranged accordingly. The presets are not overwritten in the configuration file. This means that when the cameras come available again, and you reload that preset, they will become visible again.
  - Click **No** to reset the configuration.
  - Click **Cancel** to exit the Client again.
- If you have **enabled the presets**, and at restart **none of the cameras** you assigned to the Main and/or Secondary Preset **are available**, then the Client will display the following message: 'One or more servers/cameras are not available'. Do one of the following:

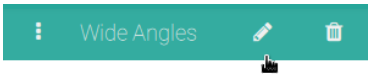
  - Click **Yes** to continue with all available cameras.

    The Main and/or Secondary Preset are loaded with the default camera assignation. In the configuration file, only the Main and/or Secondary Preset are overwritten.
  - Click **No** to reset the configuration.
  - Click **Cancel** to exit the Client again.

Renaming Presets

To change the name of a preset, proceed as follows:

1. Click or tap the **Rename Preset** button of the appropriate preset.

   The following popup window will appear:

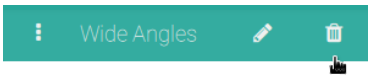
2. Enter a new name for the preset and then click or tap the **Save** button.

   The preset will appear with the new name in the Presets bar.

Deleting Presets

To delete a preset, proceed as follows:

1. Click or tap the **Delete Preset** button of the appropriate preset.



   You are prompted to confirm your action.

2. Click **Yes** to delete the preset.

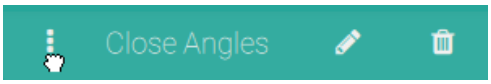
   The preset is removed from the Presets bar. The presets to the right of the deleted preset shift one position to the left.

NOTE

It the Presets bar just contains one preset, you will not be able to delete it.

Rearranging Presets

You can easily change the order of the presets in the Presets bar. Drag a preset button by its three-dotted button and drop it onto the preset button you want to swap positions with.



The three-dotted button only appears when the Presets bar contains more than one preset.

The preset you put in first position will be automatically taken as Home Preset of the screen.

Resetting All Presets

To delete all presets of a particular screen and reset the default preset, proceed as follows:

1. Switch to your main or secondary screen.
2. Switch to the Layout Configuration Mode.
3. In the right corner of the Presets bar, click or tap the **Reset Presets** button.

   You are prompted to confirm your action.

4. Click or tap **Yes** to continue.

   As a result, all presets you created for this screen will be removed. Changes you performed on the default preset will be undone. The original camera assignation will be restored.

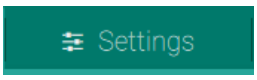
4.4. Configuring the Xeebra Client

4.4.1. Client Settings Window

Accessing the Client Settings Window

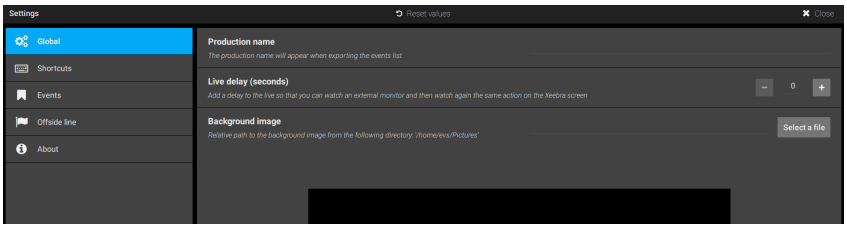
To be able to access the settings of your Client application, you first have to set your Mosaic in Layout Configuration Mode. To do this, click or tap the gear wheel button in the bottom left corner of your main screen. Note that this button is only available if your Mosaic on your main screen is in the home layout.

A layout configuration toolbar appears at the bottom of your screen. Click or tap the **Settings** button to access the Client Settings window.



Overview of the Client Settings Window

NEW ! The Settings window has five tabs: Global, Shortcuts, Events, Offside Line and About.



To exit the Settings window and return to your main screen again, press **ESC** or click/tap **X** in the top left corner of the window.

Saving and Resetting Settings

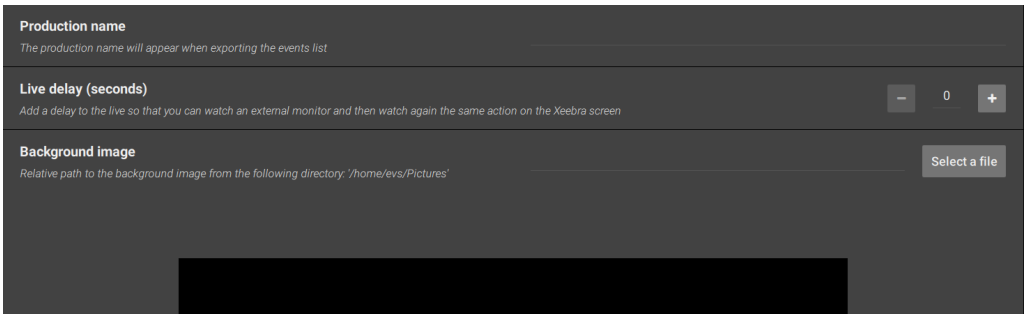
The moment you change the value for a particular setting or click/tap outside a text field after having entered a value, the setting is saved.

The next time you launch your Client application, it will look for and apply the settings accordingly.

You can reset all the settings to their default value by clicking or tapping the **Reset Values** button in the top right corner of the window. You will be prompted to confirm your action. Click **Yes** to revert to the original settings, **No** to keep the current settings.

4.4.2. Configuring Global Settings

The Global tab contains some settings related to the export of events, Live Mode and the configuration of the layout of the Mosaic.



Setting a Production Name

In this field you can enter the name of the production you will be working on. For example, 'My Football Production 1'. If configured in the Xeebra Export application, the production name you enter here will form part of the filename of the Event List and corresponding video files once they get exported. This will allow you to easily and quickly distinguish between the Event Lists and video files of different productions. See section "Configuring the Export" on page 106.

By default, no global production name is entered.

You can use a maximum of 64 characters for the name.

Adding a Delay to the Live

In this area you can specify by how many seconds of delay you want the live camera feeds to be played out in Xeebra. By default, no delay is set.

If you have an external monitor showing you the live footage, the set delay on the live will allow you to immediately view again a possible contentious action on the Xeebra just a few seconds after it happened. Based on this quick second view you can then decide to further review the action or not.

You can set a delay of maximum 30 seconds.

Setting a Mosaic Background Image

In this area you can set a background image for your Mosaic. The image will be visible on both your main and secondary screen.

By default, the image `Xeebra.jpg` is set.

If you want to set a different background image, you first have to store that image in the `/home/evs/Pictures/` directory on your Xeebra server or client workstation. Make sure the image has the correct dimensions (1920x1080) and format (.png, .bmp, .jpeg).

There are two ways to set a different background image:

- You can immediately enter the full file path of the background image including its file name.

NEW !

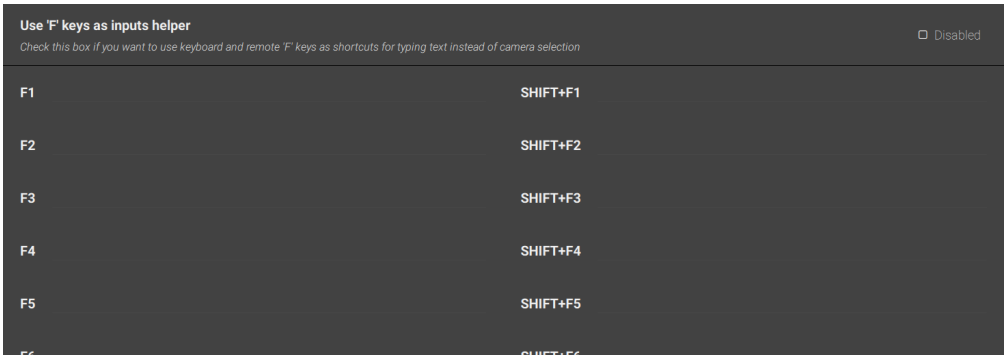
- You can tap or click the **Select a File** button to open the `/home/evs/Pictures/` directory and select the desired image. Select the image and tap or click OK to insert it.

If the image cannot be found, you will get a notification. If the image is found, a preview will be shown in the Global tab.

The image filename cannot contain more than 256 characters.

4.4.3. Configuring Shortcuts

The Shortcuts tab allows you to configure the F keys of your BEPlay remote and your keyboard as a help to quickly input some pre-defined text in an event marker label.



To activate this feature, select the **Enabled** check box in the top right corner of the tab. By default, this option is deactivated.

You can enter pre-defined text for the following F keys:

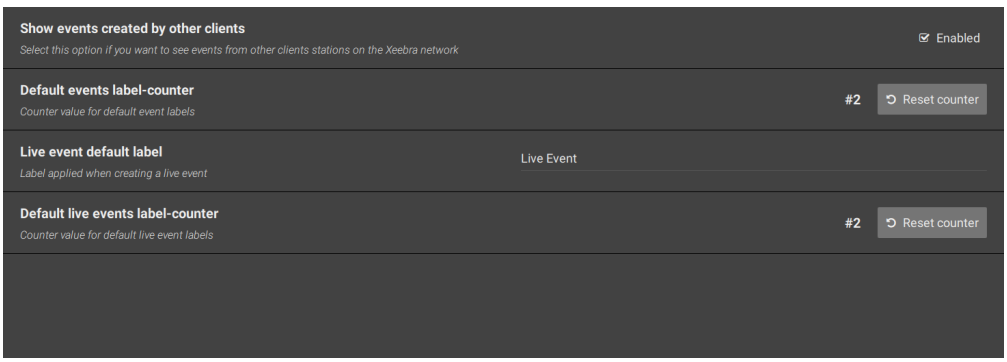
- **F1 → F12**
- **SHIFT + F1 → SHIFT + F12**

By default, no pre-defined text is entered.

If you enable this option, you will no longer be able to use the F keys to select particular camera angles in the Mosaic.

4.4.4. Configuring Events

The Events tab allows you to configure the creation of events and live events.



Showing Events Created by Other Clients

If you enable this option, your Event List will also contain events that were created with other Xeebra Client applications in the same network and that make use of at least one of your own server recorders.

By default, this option is enabled. If you disable it, your Event List will only contain the events created with your own Client application. See section "About Events" on page 78.

Resetting the Default Label Counter

This area displays the current value of the counter that is automatically assigned as label to a newly created event: '#x'. Each time a new event is created, the counter is incremented by 1.

Click/tap the **Reset Counter** button to reset the counter to 1.

See section "Marking and Managing Events" on page 78.

Setting a Default Label for Live Events

When marking a live event, Xeebra will automatically assign a label to the event. This label consists of two parts: a name and a counter (see below).

This area allows you to specify the value Xeebra should use as name. By default, 'Live Event' is used.

See section "Live Events" on page 82.

Resetting the Default Live Events Label Counter

This area displays the current value of the counter that is automatically assigned as label to a newly created live event: '#x'. Each time a new live event is created, the counter is incremented by 1.

Click/tap the **Reset Counter** button to reset the counter to 1.

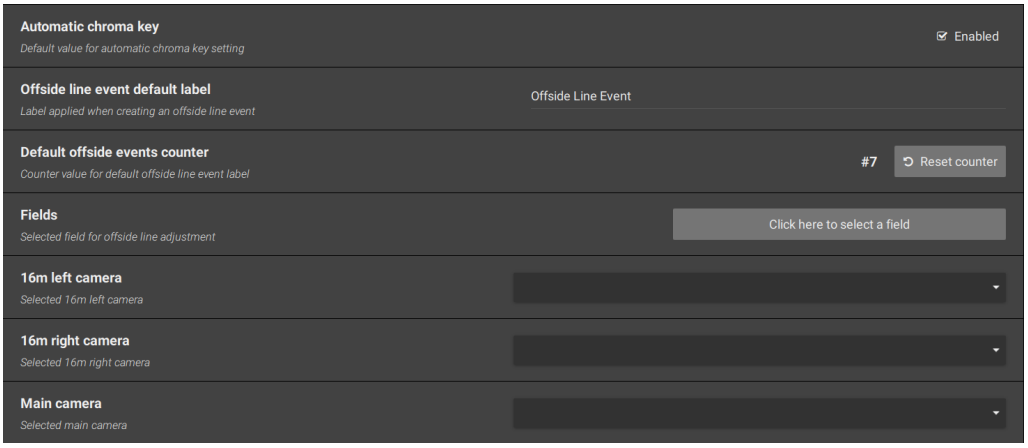
See section "Live Events" on page 82.

4.4.5. Configuring Offside Line Mode

NEW !

This section is only relevant for soccer.

The Offside Line tab allows you to configure the Offside Line Mode. See section "Offside Line Events" on page 83.



NOTE

Offside Line Mode is not supported by the XEE2-4601D server.

Enabling Automatic Chroma Key

In Offside Line Mode, the Xeebra Client will generate an offside line animation (virtual line and shading area).

If this option is enabled, the Xeebra Client will automatically blend it with the image of the selected offside line camera. The line and shading area will be transparent. The players will appear on top of the shaded area.

If this option is disabled, it will simply generate the offside line animation and lay it on top of the image of the selected offside line camera. There is no blending of both images.

By default, this option is enabled.

The color and transparency of the shading area and the color and thickness of the offside line are stored in a separate configuration file (`/home/evs/bin/offside.json`).

Setting a Default Label for Offside Line Events

When marking an offside line event, Xeebra will automatically assign a label to the event. This label consists of two parts: a name and a counter (see below).

This area allows you to specify the value Xeebra should use as name. By default, 'Offside Line Event' is used.

Resetting the Default Offside Line Events Label Counter

This area displays the current value of the counter that is automatically assigned as label to a newly created offside line event: '#x'. Each time a new offside line event is created, the counter is incremented by 1.

Click/tap the **Reset Counter** button to reset the counter to 1.

Specifying the Dimensions of the Soccer Pitch

The Fields area allows you to specify the dimensions of the actual soccer pitch.

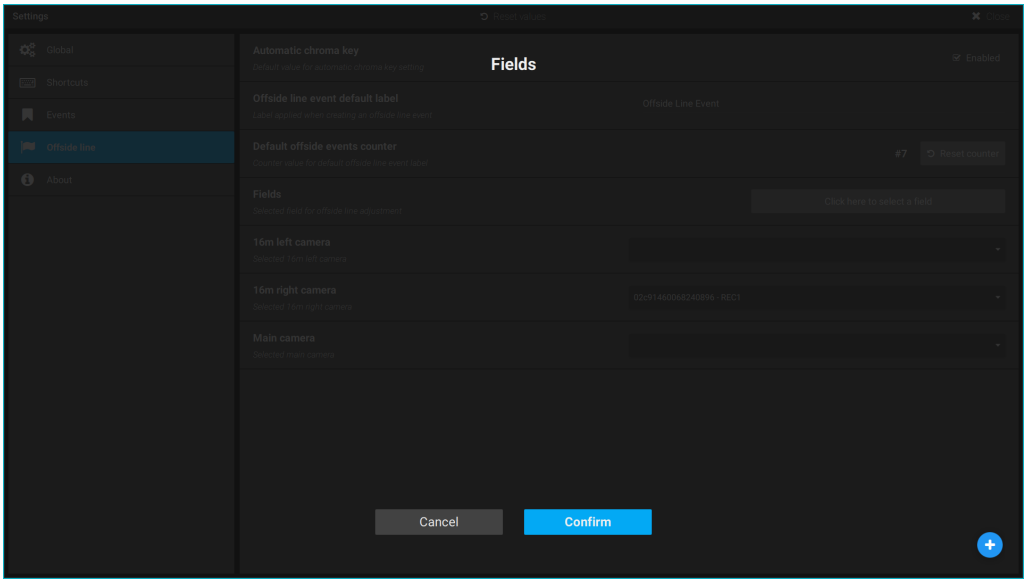
You can either select one of the existing soccer pitches, or create a new one. When you launch the Xeebra Client for the very first time, no pitch will be available.

The different pitches and their dimensions are saved in a separate configuration file (`/home/evs/bin/fields.json`). The configuration file can be easily moved between Xeebra clients so that you do not have to repeat this action each time.

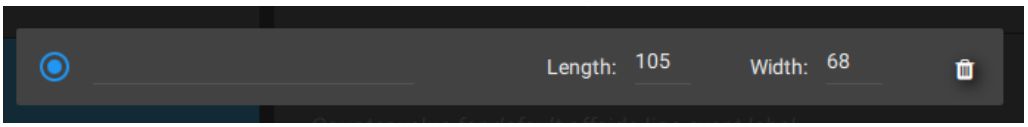
Create a New Soccer Pitch

Click or tap the **Click Here to Select a Field** button.

Click or tap the **+** button in the bottom right corner of the screen that appears.



Enter a name for the pitch and, if necessary, modify its default dimensions (105 m long and 68 m wide). Note that a pitch can be between 90 - 120 m long and between 45 - 90 m wide.

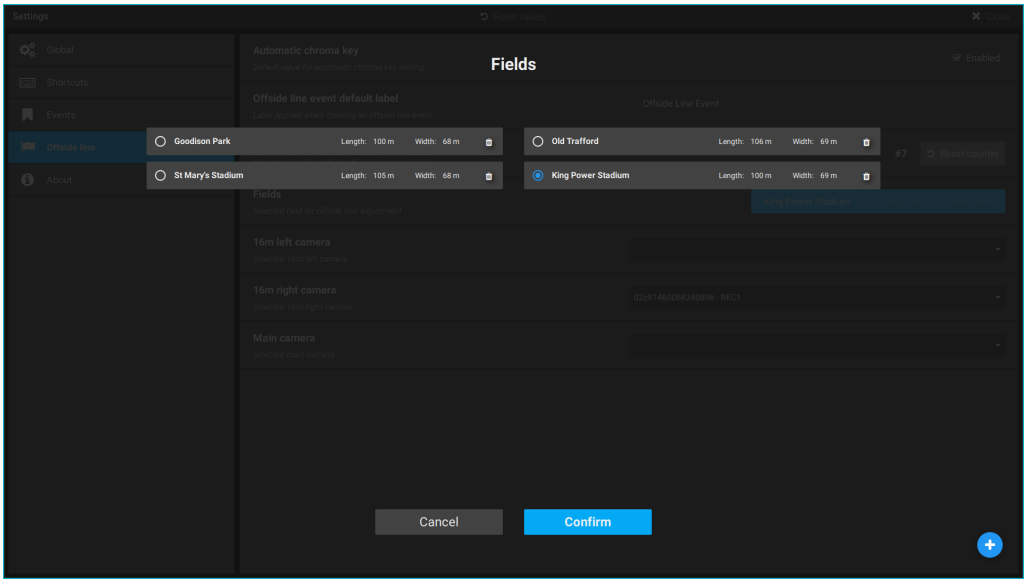


Click or tap **Confirm** to select and save the new pitch. The pitch will be added to the list of already existing soccer pitches.

Select an Existing Soccer Pitch

To select an existing soccer pitch, click the corresponding button on the right.

Select the check box of the appropriate pitch and click or tap **Confirm**.



To remove a pitch again, click or tap the corresponding delete button.

NOTE

If you do not select a soccer pitch, Offside Line Mode will not be available.

Identifying the Offside Line Cameras

The Cameras area allows you to select the camera(s) whose feed the Xeebra Client will use in Offside Line Mode to automatically recognize and detect the borders (goal area on the left or right, central circle area, touch lines) of the actual football pitch and to position the virtual offside zone and line.

At least one of the following three offside line cameras needs to be identified:

- **16m left/right camera:** Camera positioned high in the stadium in the vicinity of the 16m line.
- **main camera:** Wide angle camera located high in the stadium in the vicinity of the middle of the soccer pitch.

To select a camera, click or tap the corresponding button on the right. You will be able to select one of the cameras that have been configured for the servers your Xeebra Client application is connected to. The cameras are grouped per server in alphabetical order.

NOTE

Only cameras from servers with an active offside line license will be shown.

NOTE

If you do not specify at least one offside line camera, Offside Line Mode will not be available.

5. Browsing, Replaying and Zooming into Camera Feeds

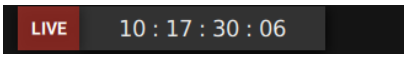
5.1. Browsing and Replaying Camera Feeds

5.1.1. Viewing Camera Feeds Live

Live Mode

The Xeebra Client application automatically starts up in Live Mode. The Xeebra servers record the incoming camera feeds and the Client application plays them out at the same time in the Mosaic. You get a view of what is actually happening during the sports game.

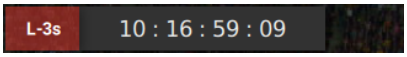
A red LIVE sign is displayed to the left of the timecode field in Live Mode.



Delayed Live Mode

You can configure your Client in such a way, that it will play out the incoming camera feeds with a certain delay. In the Global settings you can specify after how many seconds the live feeds will be played out in the Mosaic. See section "Configuring Global Settings" on page 51.

If you switch to Live Mode, the red LIVE sign is replaced by a L-xs indication. The x stands for the value of the delay.



NOTE

If you have defined a big delay, it is possible that there won't be any images available yet when you start the ingest and then rapidly afterwards launch the Client. The Client will not start and the following error message will be displayed: 'No data on storage'.

Switching to (Delayed) Live Mode

You can easily switch to (Delayed) Live Mode:

- by pressing the **LIVE** button on your BEPlay remote;
- by clicking or tapping the **LIVE** button on the Browse Bar;
- by pressing the keyboard shortcut keys **;** or **CTRL** + **;** or **END**.

The Mosaic immediately switches to its home layout. Whatever mode you were working in, for example Camera Assignation Mode, Layout Configuration Mode, or whatever window you had opened, for example the Event List or the Client Configuration window, will be closed automatically.

If you want to switch back to (Delayed) Live mode and keep your current camera selection:

- press the **SHIFT** + **LIVE** button on your BEPlay remote;
- press the keyboard shortcut keys **ALT** + **;** or **ALT** + **END**.

NOTE

To switch to (Delayed) Live Mode from the Client Configuration window, you can only use the BEPlay remote button **LIVE**. The keyboard shortcut keys do no work here.

5.1.2. Browsing Camera Feeds

Browsing Mode

In Browsing Mode, you can browse the recorded camera feeds in search of a particular game situation that needs to be judged.

Your Client application switches to Browsing Mode as soon as you perform one of the following actions:

- Press the **JOG** button on your BEPlay remote and move the jog dial clockwise or counter-clockwise.
- Press the keyboard shortcut keys ← or →.
- Click or tap the jog forward or jog backward button on the on-screen Browse Bar.
- NEW ! Drag or flick your finger left or right over the browsing area of the on-screen Browse Bar. You can also tap this area.

The LIVE indication next to the timecode field is no longer visible.

Browsing Field By Field

Moving the jog dial clockwise, pressing the keyboard shortcut key (→), or clicking or tapping the **Next Frame** button on the on-screen Browse Bar will force the Xeebra Client application to search forward field by field.

Moving the jog dial counter-clockwise, pressing the keyboard shortcut key (←), or clicking or tapping the **Prev Frame** button on the on-screen Browse Bar will force it to search backwards field by field. The most important thing to note is that the Xeebra servers never stop recording while you are browsing.

NEW ! If you drag your finger left or right over the browse area on the on-screen Browse Bar, the camera feeds are browsed back and forward in a precise and synchronized manner.

Fast Jogging

To search by 10 frames at a time using the jog dial, press the **FAST JOG** button on your BEPlay remote and move the jog dial clockwise or counter-clockwise. You can also press the keyboard shortcut keys **SHIFT** + ← or **SHIFT**+ →.

NEW ! To jump backwards 5 seconds at a time, tap the browsing area on the Browse Bar.

To jump backwards 10 seconds at a time, click the **-10** button in the Browse Bar.

NEW ! Flick your finger left or right over the browsing area on the Browse Bar. The browsing continues after releasing your finger. The faster you flick your finger, the faster the browsing happens.

If your cursor is positioned in a text field, for example when entering a label for a newly created event, you can fast jog by pressing the keyboard shortcut keys **CTRL** + **SHIFT** + ← or **CTRL** + **SHIFT** + →.

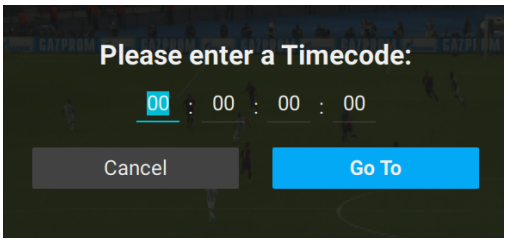
Browsing SLSM 3x Frames

When jogging very slowly clockwise or counter-clockwise, all frames of an SLSM 3x camera are browsed. When you go faster, they are skipped.

You can also make use of the keyboard shortcut keys **ALT +** ← and **ALT +** → to browse backward and forward through all frames of an SLSM 3x camera.

Navigating to a Specific Timecode

To quickly jump to a specific timecode, double-click or tap the timecode field. The following popup window will appear:



Click or tap each box and type the appropriate timecode unit (hours, minutes, seconds, frames). You can switch from one text box to another by pressing **TAB** or **SHIFT** + **TAB**.

Click or tap the **Go To** button to jump to the timecode.

If you enter an invalid timecode, an error message will appear.

If none of the cameras are available at that timecode, nothing will happen. The timecode is cleared and you will get a notification that the timecode cannot be found.

If at least one camera has images for that timecode, the whole Mosaic jumps to that timecode and the camera feeds are paused. Cameras with no images display grey or a predefined image.

If the timecode appears several times in the record trains, spread over two or three days, the Client application will jump to the timecode closest to the Live timecode.

5.1.3. Replaying Camera Feeds

Playback Mode

In Playback Mode, you can instantly play back a particular game situation, either at standard or augmented speed or in slow motion. During playback, the Xeebra servers never stop recording.

Replaying at Standard Speed

To play forward the camera feeds at standard speed or at 100%, do one of the following:

- press the **PLAY** button on your BEPlay remote; or
- press the keyboard shortcut key **SPACE** or **L**; or
- click or tap the **Play** button on the on-screen Browse Bar.

To play backwards the camera feeds at standard speed (= -100%), press the keyboard shortcut key **J** once. You can also use the keyboard shortcut keys **SHIFT** + **5**.

Pausing

To pause the camera feeds (= 0%), do one of the following:

- press the **PLAY** button on your BEPlay remote; or
- press the keyboard shortcut key **SPACE** or **K**; or
- click or tap the **Pause** button on the on-screen Browse Bar.

Replaying at Higher Speeds

To play backwards or forward the camera feeds at a speed that is 2x (= 200%), 3x (= 300%), 5x (= 500%), 8x (= 800%) or 16x (= 1600%) faster than standard speed, do one of the following:

- press the **J** or **L** key on your keyboard; or
- click or tap the **FR** or **FF** button on the on-screen Browse Bar.

Each additional tap, click or press will increase the speed.

You can also make use of one of the other keyboard shortcut keys as defined in the appendix. See section "Keyboard Shortcut Keys" on page 124.

Replaying in Slow Motion

To play backwards or forward the camera feeds in slow motion, press the **SLOMO** button on your BEPlay remote and move the jog dial clockwise or counter-clockwise. The slow motion speed goes linearly from 0 to 100% by turning the jog dial. The half range (= 50%) is covered by 1 full turn.

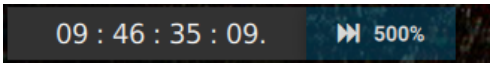
You can also make use of one of the keyboard shortcut keys as defined in the appendix, or click or tap the **Play Slomo** button on the on-screen Browse Bar. See section "Keyboard Shortcut Keys" on page 124 and "Enabling the Browse Bar" on page 43.

Replaying in Super Slow Motion

To replay the feeds of SLSM 3x cameras in super slow motion, i.e. at 33% of the standard speed, press **SHIFT** + **PLAY** on your BEPlay remote. You can also press **K** while holding down the **L** key on your keyboard to play backwards at 33%, or while holding down the **J** key to play forward at 33%. Release the **L** or **J** key to stop the playback.

Speed Feedback

When the playback speed is different from +100%, this is indicated to the right of the timecode field. Note that this indication will only be visible in your main screen.



5.2. Browsing Mosaic Layouts

5.2.1. Dynamic Mosaic Layout

Introduction

The layout of the Mosaic on both your screens is not fixed. You can select one or more camera feeds and then switch to a layout in which only the selected camera feeds will be visible. The layout switch can be performed on your main or secondary screen, but you can also delegate selected camera feeds from your main to your secondary screen.

For example, you can easily switch from a 8 Cameras layout to a 5 Cameras layout and then to a 2 Cameras layout. At any time, you can return to a previous view or to the home layout. See section "Browsing Mosaic Layouts" on page 64.

A Mosaic can have up to 16 different layouts.

4 pre-defined home layouts are available:

- 1x
- 2x2
- 3x3
- 4x4

Possible Layouts

The following Mosaic layouts can be available:

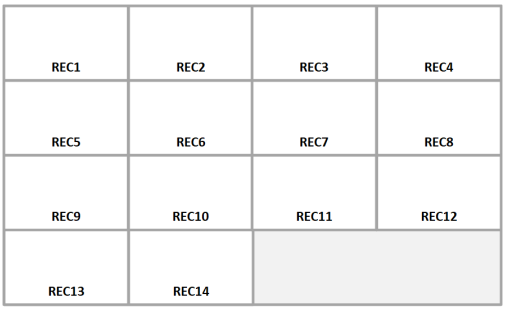
16 Cameras Layout

REC1	REC2	REC3	REC4
REC5	REC6	REC7	REC8
REC9	REC10	REC11	REC12
REC13	REC14	REC15	REC16

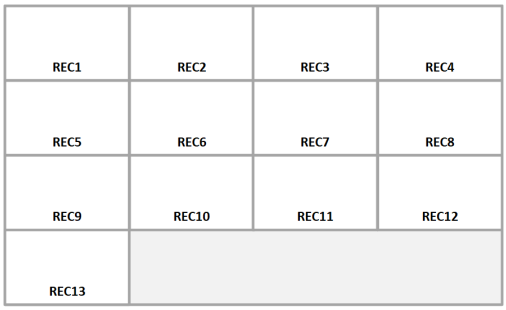
15 Cameras Layout

REC1	REC2	REC3	REC4
REC5	REC6	REC7	REC8
REC9	REC10	REC11	REC12
REC13	REC14	REC15	

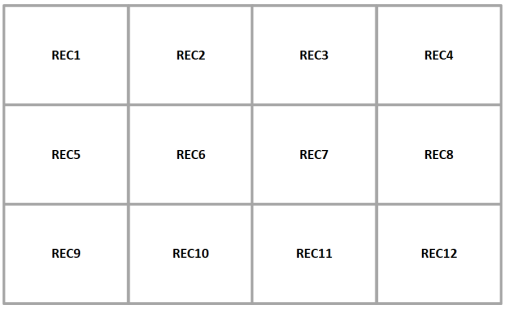
14 Cameras Layout



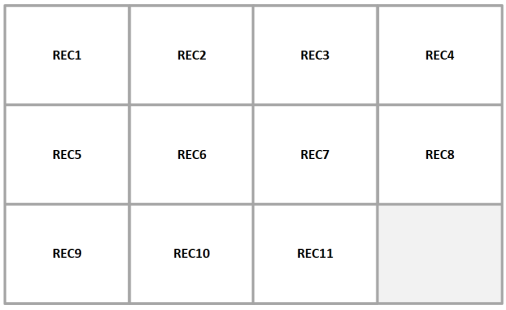
13 Cameras Layout



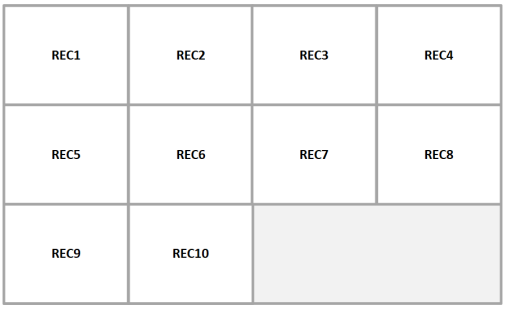
12 Cameras Layout



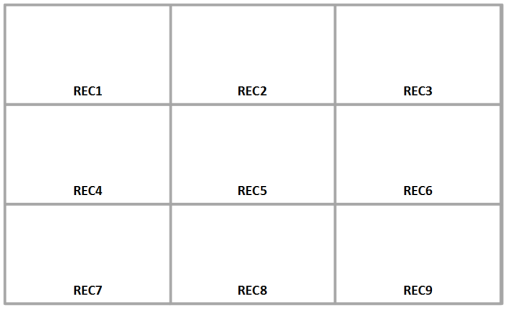
11 Cameras Layout



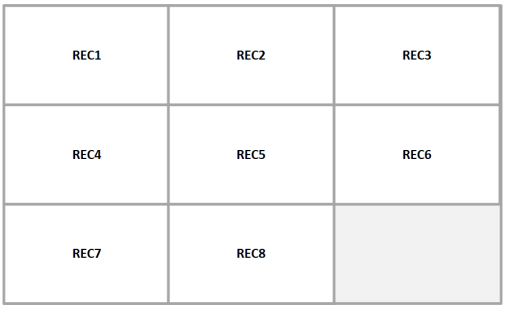
10 Cameras Layout



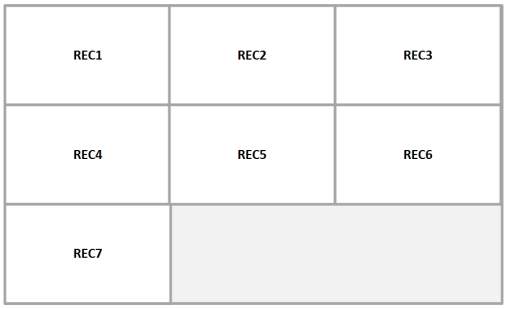
9 Cameras layout

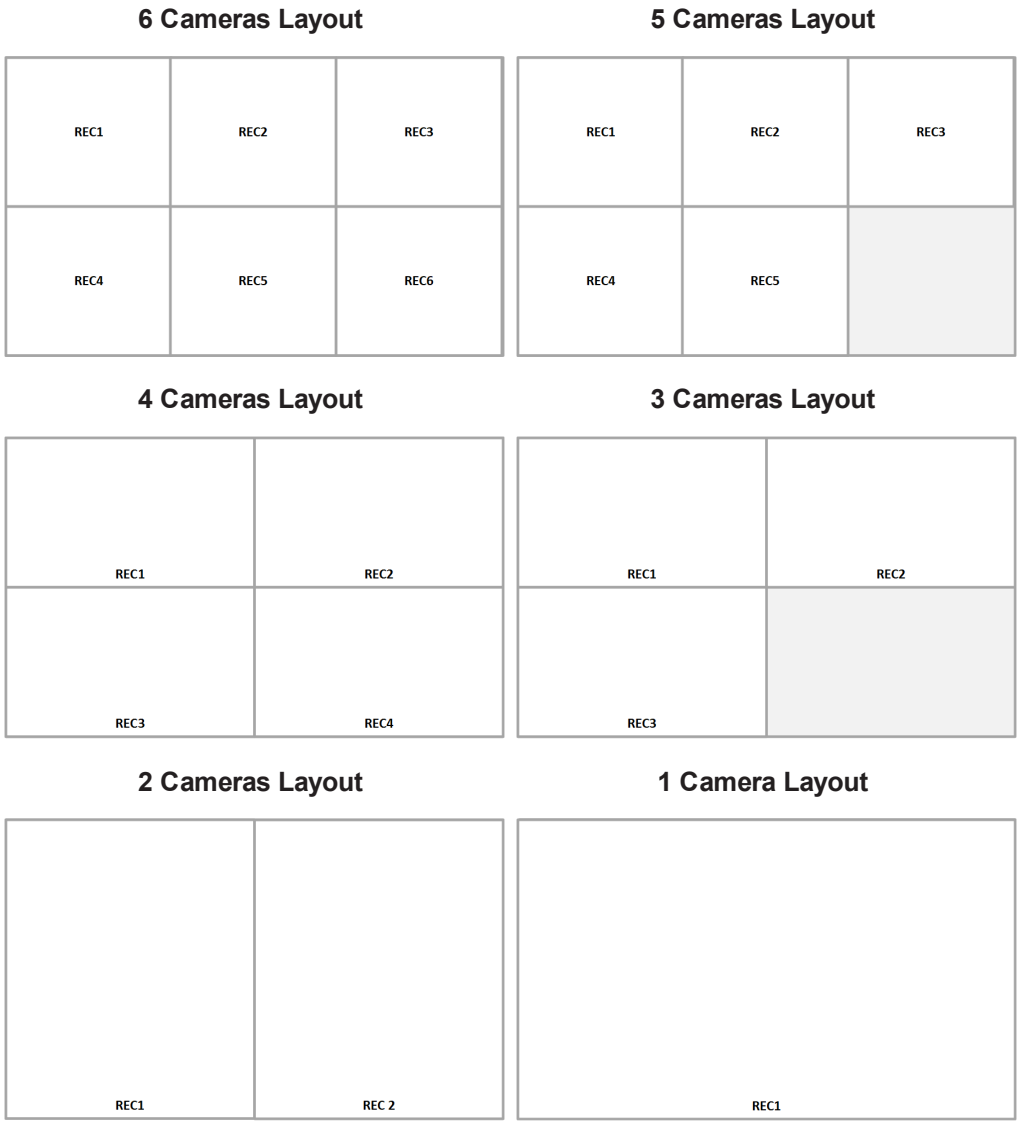


8 Cameras Layout



7 Cameras Layout





NOTE

If you select to display an overlay camera in a 4x4 camera layout, the camera in the bottom right corner will remain empty.

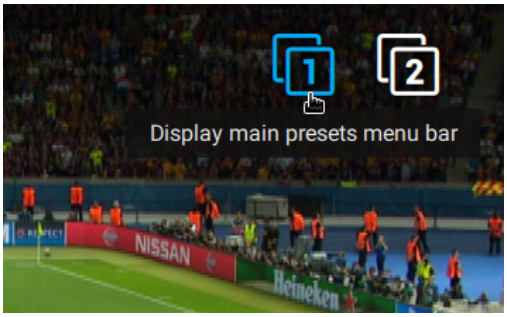
5.2.2. Switching Between Presets

Accessing the Presets of a Screen

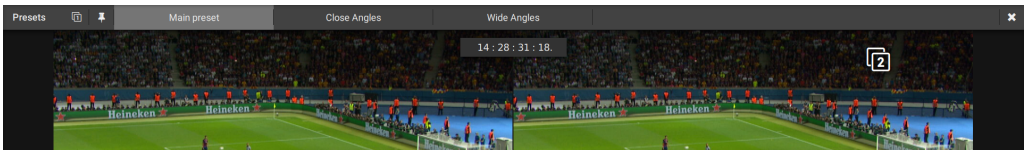
If you want to access and easily switch between the presets created for a particular screen, you have to make sure the presets are enabled for that screen. You can do this in the Layout Configuration Mode. See section "Enabling Presets" on page 45.

Once this is done and you exit the Layout Configuration Mode, the Client automatically loads the default preset in the screen. See section "Default Presets" on page 46.

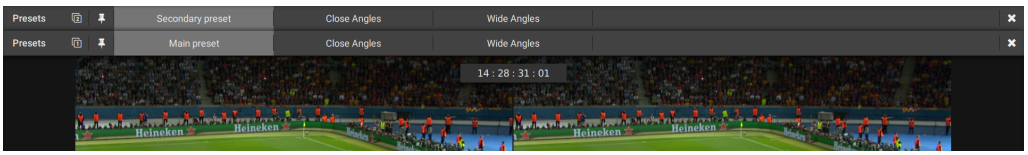
In addition, a presets button will appear in the top right corner of your main screen. Note that two buttons will be available in case you have enabled the presets for both your main and secondary screen. Click or tap a button to access the presets of a particular screen. Note that the presets of your secondary screen can only be accessed via your main screen.



A Presets bar will appear at the top of your screen. The default preset is selected.



To view at once the presets of your main and secondary screen, click both presets buttons. Two Presets bars will appear at the top of your screen.



Loading a Preset

To load a preset in a screen, do one of the following:

- In the corresponding Presets bar, click or tap the preset you want to load.
- Use the keyboard shortcut key NUM x (1-8) to load a specific preset on your main screen, or SHIFTx (1-8) to load it on your secondary screen.

- Use the keyboard shortcut key **TAB** (or **CTRL** + **TAB** when in a text field), or press the **Next Preset Main** button on your BEPlay Remote, to load the next preset in your main screen.
- Use the keyboard shortcut key **SHIFT** + **TAB** (or **CTRL** + **SHIFT** + **TAB** when in a text field), or press the **Next Preset 2nd** button on your BEPlay Remote, to load the next preset in your secondary screen.

The name of the loaded preset is shown for a few seconds on the screen. Then, the Presets bar is hidden.

Loading a Preset with Cameras Missing

It can happen that you load a preset of which some or even all cameras are missing:

- If you switch to a preset, and one or more of its cameras are missing, a popup is displayed at the bottom of your screen: 'One or more cameras are not available'. The missing cameras are not displayed and the layout is rearranged accordingly.

  The preset is not overwritten in the configuration file. This means that when the cameras come available again, and you reload that preset, they will become visible again.
- If you switch to a preset using keyboard shortcut keys or your BEPlay remote, and all its cameras are missing, then the preset is skipped and the next preset is loaded.
- If you switch to a preset by clicking or tapping the preset button, and all its cameras are missing, the last preset stays loaded and the following warning is displayed: 'No camera available for PresetName, do you want to erase this preset?'
  - Click **OK** to permanently delete the preset from the Presets bar and return to the last selected preset.
  - Click **Cancel** to return to the last selected preset without deleting the preset.

Pinning a Presets Bar

If you want to prevent the Presets bar from disappearing after you have loaded a preset, you can fix it by clicking or tapping the **Pin Presets Menu Bar** button.

5.2.3. Selecting and Deselecting Camera Feeds

To select particular camera feeds, do one of the following:

- left-click or tap them; or
- press the corresponding function buttons/keys on your BEPlay remote or keyboard:
  - press **F1** to **F8** to select camera feeds 1 to 8;
  - press **SHIFT** in combination with **F1** to **F8** to select camera feeds 9 to 16.

As soon as you select a camera feed, its borders light up blue.

You can select camera feeds on both your main and secondary screen and also from different presets.

If you select a camera feed that is also present on the other screen or in another preset, it will be selected on both screens or in both presets.

Perform the same action to deselect a camera feed again.

Selecting camera feeds is not possible when your Mosaic is in Layout Configuration Mode.

NOTE

If you use F keys/buttons to select camera feeds, they are acting only on your main screen, not on your secondary screen.

5.2.4. Switching to a Different Layout

When Working with a Single Screen

Narrowing Down Your Camera Feeds

To switch to a Mosaic layout containing only the camera feeds you just selected, do one of the following:

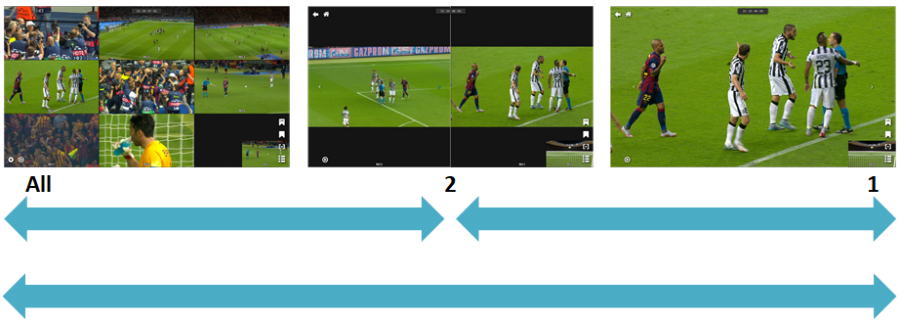
- press the **TAKE** button on your BEPlay remote; or
- click or tap the button that appears in the top right corner of your screen; or

  The number in the bottom right corner of the button indicates the number of camera feeds that are currently selected.

- right-click or double-left-click the selected camera feeds; or
- press the keyboard shortcut key **ENTER**.

You can narrow down the number of camera feeds and only focus on the camera feeds that actually matter, i.e. that display the relevant content.

The narrowing down of camera feeds can happen in steps. For example, first you select 2 camera feeds in an 8 Cameras layout and switch to the 2 Cameras layout. Next, you select 1 camera feed in the 2 Cameras layout and view that camera feed in Full Screen Mode. Finally, you zoom into that camera feed. At any time during this process, you can return to the previous layout or the home layout. See below for more information.



The way to narrow down your camera feeds is similar when you are working with presets. For example, first you select 2 camera feeds in the Main Preset. Then, you switch to a different preset and select another 2 camera feeds. Next, you switch to a layout that only contains the 4 selected camera feeds. Finally, you select the two most interesting feeds and switch to a 2 Cameras layout. You can compare the image of the two camera feeds positioned side by side and zoom into them.

Returning to a Previous Mosaic Layout

If you want to return to the previously selected Mosaic layout, do one of the following:

- press the (**SHIFT** and) **BACK** button on your BEPlay remote; or

- click or tap the back button in the top left corner of your screen; or

- press the keyboard shortcut key(s) (**SHIFT** +) **BACKSPACE**.

Note that zooming is considered a step in the layout browsing. If the Mosaic contains a single camera feed in Full Screen Mode and the user has zoomed in on a particular section of that camera feed, performing a back will first undo the zoom. A second back will return to the previously selected layout.

Returning to the Mosaic Home Layout

To directly return to the Mosaic home layout, do one of the following:

- press the **HOME** button on your BEPlay remote; or
- click or tap the home button in the top left corner of your screen; or

- press the keyboard shortcut key **ESC**.

If presets are enabled, your screen will return to the Home Preset.

If you switch to Live Mode by pressing the **LIVE** button on your BEPlay remote or by pressing the keyboard shortcut keys **;** or **CTRL** + **;** or **END**, the Mosaic also switches back to its home layout.

If you want to switch to Live Mode without losing the layout with the relevant cameras, press **SHIFT** + **LIVE** on your BEPlay remote, or press the keyboard shortcut keys **ALT** + **;** or **ALT** + **END**.

Switching Between Camera Feeds

If you have narrowed down the number of camera feeds in your Mosaic, but you suddenly realize that you selected one or more cameras that do not offer the proper view after all, you can easily replace those camera feeds with other ones without having to return to the Mosaic home layout or a previously selected layout.

To switch to another camera feed, select the camera feed you want to replace and do one of the following:

- press **PREV CAM** or **NEXT CAM** on your BEPlay remote; or

- hover your mouse cursor over the camera feed and click the left or right arrow that appears; or

- swipe left or right over the camera feed with a single finger; or

- press the keyboard shortcut keys ↑/↓ or **PAGE UP**/**PAGE DOWN**.

NOTE

Switching between camera feeds using the BEPlay remote or using keyboard shortcut keys is only possible in a 1 Camera layout.

If presets are not enabled, the tile loops between the camera feeds defined in the home layout of the Mosaic. Starting from the position of the selected camera feed in the home layout, the camera feeds are either run through from left to right and from top to bottom, or vice versa. You can only switch to a camera feed that is not pres-selected.

If presets are enabled and you have selected camera feeds from different presets, the behavior is a bit different. The tile loops between the current camera feed and the not pre-selected camera feeds of the last selected preset.

When Working with Two Screens

Narrowing Down Your Camera Feeds on One Screen

You can narrow down the Mosaic on your main or secondary screen to the camera feeds you selected while leaving the other screen unchanged. To achieve this, click or tap the icon that appears in the top right corner of the screen.

The number in the bottom right corner of the button indicates the number of camera feeds that are currently selected.

If presets are enabled, the camera feeds can be selected from the different presets created for the screen. To switch to a different preset on your secondary screen, click the corresponding button on your main screen and select the appropriate preset. See section "Switching Between Presets" on page 67.

Sending Camera Feeds to Your Secondary Screen

You can also select a number of camera feeds (from one or more presets) on your main screen and send them to your secondary screen. This way, you can keep an overview of all camera feeds on your main screen, and concentrate on the pre-selected camera feeds on your secondary screen.

To send the selected camera feeds to your secondary screen, do one of the following:

- press the **TAKE** button on your BEPlay remote; or
- click or tap the button that appears in the top right corner of your main screen; or

  The number in the bottom right corner of the button indicates the number of camera feeds that are currently selected.

- right-click or double-click your camera selection.

Finally, you can select camera feeds (from one or more presets) on both your main and secondary screen, and then send them to your secondary screen.

NOTE

Your secondary screen can contain a maximum of 4 different camera feeds. If you try to send more than 4 feeds, you will be notified that only the first 4 will be shown.

When a camera feed from the main screen is selected on your secondary screen, this tile on the main screen is highlighted in green. This allows you to quickly view which camera feeds you have on the "selection" screen.

NOTE

If you have selected the same camera feed on both your main and secondary screen, and you send it to your secondary screen, it is only taken into account once.

Returning to a Previous Mosaic Layout

You can return to the previously selected layout on one of your screens while leaving the other screen unchanged. Each screen has its own history.

To return to the previous layout on your **main screen**, do one of the following:

- press the **BACK** button on your BEPlay remote; or
- click or tap the back button in the top left corner of your screen; or

- press the keyboard shortcut key **BACKSPACE**.

To return to the previous layout on your **secondary screen**, do one of the following:

- press the **SHIFT** + **BACK** button on your BEPlay remote; or
- click or tap the back button in the top left corner of your screen; or

- press the keyboard shortcut keys **SHIFT** + **BACKSPACE**.

When a zoom is applied on a screen, back will first undo the zoom, even if the zoom was not the last action done.

Returning to the Mosaic Home Layout

The way to return to the Mosaic home layout of a screen works the same as for the single screen workflow. If presets are enabled, your main screen will revert to the Main Preset, and your secondary screen to the Secondary Preset. See above for more information.

Switching Between Camera Feeds

The way to switch between camera feeds on your main or secondary screen works the same as for the single screen workflow. See above for more information.

If you use the keyboard shortcut keys or BEPlay remote buttons to switch between camera feeds, the previous/next camera action is applied as follows:

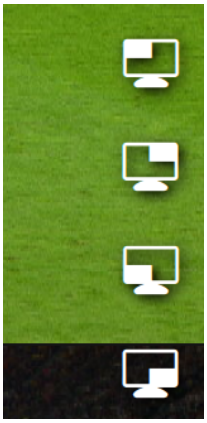
Context	Prev/Next Camera is applied to...
No camera feeds are selected. Both your main and secondary screen are in Full Screen Mode.	the secondary screen.
One of your screens is in Full Screen Mode, the other is in the Mosaic home layout. Camera feeds are selected.	the screen in Full Screen Mode.
One of your screens is in Full Screen Mode, the other is in the Mosaic home layout. No camera feeds are selected.	the screen in Full Screen Mode.

Replacing a Camera Feed on Your Secondary Screen

If your secondary screen contains 2 to 4 pre-selected camera feeds, you can easily replace one of these camera feeds. To do this, proceed as follows:

1. On your main screen, select the camera feed you want to send to your secondary screen to replace one of the pre-selected camera feeds.

   Depending on the number of preselected camera feeds in your secondary screen (2, 3 or 4), one or more buttons will appear in the top right corner of your main screen. Each button pictures a camera position in your secondary screen where you can send your selected camera feed to.

2. Tap or click the button picturing the position where the camera feed has to be sent to.

NOTE

If you have selected a camera feed that is already present in your secondary screen, the camera position buttons will not appear. This is because the same camera feed cannot appear twice in a Mosaic layout.

5.3. Zooming into Camera Feeds

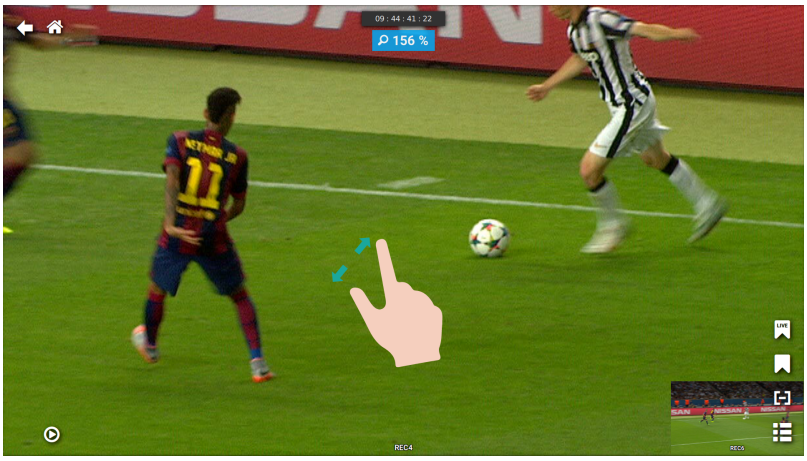
5.3.1. Introduction

The Xeebra Client application supports video zoom using mouse or touchscreen when replaying a single camera feed in Full Screen Mode, or two camera feeds displayed side by side. This can greatly help and improve the decision process of the referee.

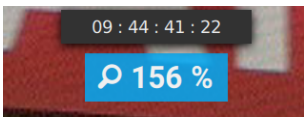
5.3.2. Zooming into a Single Camera Feed

To zoom in on a specific region of a particular camera feed in Full Screen Mode, do one of the following:

- Point your mouse cursor at the area in the image you want to zoom into. Move your mouse wheel forward (= zoom in) or backwards (= zoom out) until you have reached the desired level of magnification. Your mouse pointer will turn into a cross while zooming.
- Press down on the touchscreen with your index finger and thumb leaving only a small amount of space between them. Keeping your finger and thumb on the screen, simply move them away from each other, expanding the space between them. As you expand your fingers, the screen will zoom in. To zoom out, simply do the reverse: move your thumb and index finger towards each other while keeping them pressed to the screen.



While zooming, the current zoom level is briefly displayed at the top of the image. As soon as you stop zooming, the zoom level indication will disappear again.



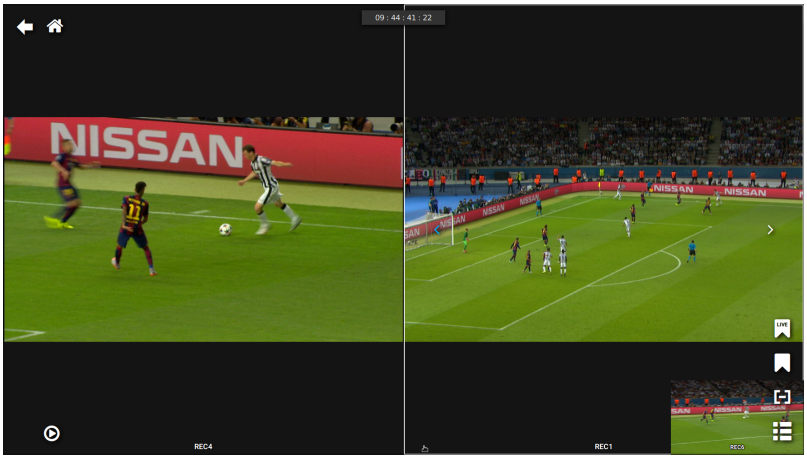
To move inside the zoomed image to find the best region, do one of the following:

- Press and hold down the left button of your mouse and move your mouse up, down, or left or right.
- Press down on the touchscreen with one finger and move around the image.

5.3.3. Zooming into Camera Feeds Positioned Side by Side

To compare the image of two camera feeds positioned side by side in a 2 camera Mosaic layout and zoom into them, proceed as follows:

1. Select the two camera feeds whose image you want to compare and zoom into, and switch to this layout on your main screen, or send them to your secondary screen.



2. To zoom into one of the two images, do one of the following:
   - Point your mouse cursor at the area in the image you want to zoom into. Move your mouse wheel forward (= zoom in) or backwards (= zoom out) until you have reached the desired level of magnification. Your mouse pointer will turn into a cross while zooming.
   - Press down on the touchscreen with your index finger and thumb leaving only a small amount of space between them. Keeping your finger and thumb on the screen, simply move them away from each other, expanding the space between them. As you expand your fingers, the screen will zoom in. To zoom out, simply do the reverse: move your thumb and index finger towards each other while keeping them pressed to the screen.

   The image goes progressively in the zoom, starting at 50% of the original image. The image also progressively takes more of its half of the screen and is based on the full resolution video, not on the proxy.

   While zooming, the current zoom level is briefly displayed at the top of the image. As soon as you stop zooming, the zoom level indication will disappear again.
3. Repeat this action for the other camera.
4. To move inside one of the zoomed image to find the best region, do one of the following:
   - Press and hold down the left button of your mouse and move your mouse left or right.
   - Press down on the touchscreen with one finger and move around the image.

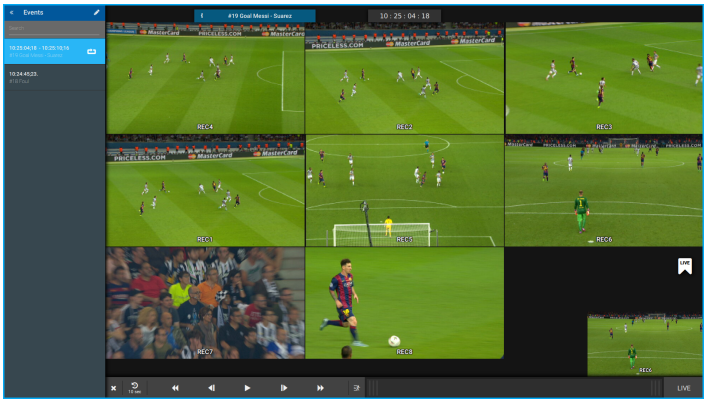
If you are working with two screens, the second screen is a read-only mirror of the first screen while in side-by-side zoom.

6. Marking and Managing Events

6.1. About Events

To keep track of all the events during a sports game where the video assistant referee had to intervene to come to a final decision, e.g. fouls, offside, buzzer beater situations, in or out calls, etc., and to easily jump to these moments at any time during the game or afterwards for analyzing the referee decisions, the Xeebra Client allows to mark each event and assign a meaningful label. The marker denoting the event can coincide with a single timecode, or can span a certain period of time, i.e. include a start and end timecode.

All events created by the user are kept in a list and can quickly be consulted from within the Client interface. If necessary, an event can be removed again or its label can be edited. Events created with other Xeebra Client application can be made visible. The user can quickly navigate to important situations by clicking the corresponding event in the Event List.



All events are stored on the connected Xeebra servers with the following characteristics:

- a single timecode or a start and end timecode;
- a meaningful label;
- the image of the offside line without wireframe (only in case of an offside line event);
- the list of all cameras assigned to the currently selected preset(s) (for both main and secondary screen);
- the list of cameras selected at the time the event was marked (i.e. the so-called "event related" cameras);
  - on the secondary screen in case you are working with two screens;
  - on the main screen in case there is only one screen.
- the ID of the Client.

The list of events and the corresponding video fragments can be exported from the Xeebra server using the Xeebra Export application. See section "Exporting Events" on page 98.

6.2. Marking Events

6.2.1. Single Timecode Events

To mark a single timecode event, proceed as follows:

1. Browse to the timecode of the situation you want to mark as being important and interesting.
2. Press the **MARK** button on your BEPlay remote, press the keyboard shortcut key **P**, or tap or click the bookmark icon in the bottom right corner of your main screen.

   Should you have marked the event too early or too late, you can easily rectify this by marking the event again at any time. The timecode will be updated accordingly.

   The Mosaic enters into Event Creation Mode. A blueborder appears around your main and secondary screen. At the bottom center of your main screen, a field appears which contains an automatically generated label. The default label is a counter of the form '#COUNTER' where COUNTER is the current value of the counter. Each time you mark a new event, the counter is incremented by 1.

   The current value of the counter is saved in the configuration file of the Client application. You can manually reset it in the Events settings. See section "Configuring Events" on page 52.
3. Enter a new label for the event or keep the default one.

   You can manually type the new label, press one of the F keys/buttons on your keyboard or BEPlay remote to enter a predefined piece of text, or do both. See section "Configuring Shortcuts" on page 52.

NOTE

A label can contain a maximum of 64 characters.

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4. To validate and save the event, press the **SAVE** button on your BEPlay remote, press the keyboard shortcut key **ENTER**, or tap or click the **Save** button in the bottom right corner of your main screen.

   A popup confirms the creation of the event and shows the event label and timecode.

After a few seconds, the popup disappears again.

The event is now kept in the Event List and is displayed there with the label you entered and the timecode grabbed from the Mosaic.

The event is also saved on the Xeebra servers your Client application is connected to.

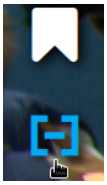
If you switch to Live Mode just after having created an event, Event Creation Mode will close and the event will be discarded.

To cancel the creation of the event, press the **BACK** or **HOME** button on your BEPlay remote, press **ESC** on your keyboard, click/tap **X** in the bottom left corner of your main screen, or click/tap the **Undo** button on the popup that appears when you save the event.

6.2.2. TC In/TC Out Events

To mark an event with a start and end timecode, proceed as follows:

1. Browse to the start or end timecode of the situation you want to mark as being important and interesting.
2. To mark the In point, press the **IN** button on your BEPlay remote, press the keyboard shortcut key **I**, or tap/click the icon in the bottom right corner of your screen.

   To mark the Out point, press the **OUT** button on your BEPlay remote, or press the keyboard shortcut key **O**.

   The Mosaic enters into Event Creation mode. A blueborder appears around your main and secondary screen. At the bottom center of your main screen, a field appears which contains an automatically generated label. The default label is a counter of the form '#COUNTER' where COUNTER is the current value of the counter. Each time you mark a new event, the counter is incremented by 1.

   The current value of the counter is saved in the Xeebra Client configuration file. You can manually reset this value in the Global settings of the client. See section "Configuring Global Settings" on page 51.

   The timecode grabbed from the Mosaic is displayed in the **IN** or **OUT** field. The other timecode field remains empty.

3. Browse to the end or start timecode of the situation.
4. Press the **OUT** or **IN** button on your BEPlay remote, press the keyboard shortcut key **CTRL** + **O** or **CTRL** + **I**, or tap/click the **OUT** or **IN** field.

   The timecode grabbed from the Mosaic is displayed in the corresponding field.

If you mark the In point at a timecode that surpasses the Out point, the Out point will be reset.

If you mark the Out point at a timecode that precedes the In point, the In point will be reset.

Should you have set an In or Out timecode too early or too late, you can easily rectify this by marking a new In or Out point at any time. The timecode will be updated accordingly.

If you press **ESC** or **LIVE** on your BEPlay remote, the timecodes are reset.

5. Enter a new label for the event or keep the default one.

   You can manually type the new label, press one of the F keys on your keyboard or BEPlay remote to enter a predefined piece of text, or do both.

NOTE

A label can contain up to 64 characters.

6. To validate and save the event, press the **SAVE** or **MARK** button on your BEPlay remote, press the keyboard shortcut key **ENTER**, or tap or click the **Save** button in the bottom right corner of your main screen.

   A popup briefly appears confirming the creation of the event and displaying the event label and start and end timecode.

   The event is now kept in the Event List and is displayed there with the label you entered and the timecodes grabbed from the Mosaic.

   The event is also saved on the Xeebra servers your Client application is connected to.

   To cancel the creation of the event, press the **BACK** or **HOME** button on your BEPlay remote, press **ESC** on your keyboard, click/tap **X** in the bottom left corner of your main screen, or click/tap the **Undo** button on the popup that appears when you save the event.

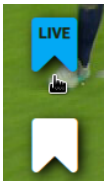
6.2.3. Live Events

Xeebra allows you to mark important events that are happening live while you are reviewing an event that happened earlier. After finishing the first review, you can easily switch to the event that was marked live to perform the second review.

This can be very useful in a review workflow where there is a video assistant referee continually watching the live on an external monitor and marking live events and a Xeebra operator reviewing events.

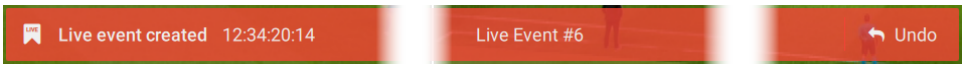
You can mark a live event by doing one of the following:

- Click or tap the LIVE icon in the bottom right corner of your main screen.



- Press the **SHIFT** + **MARK** button on your BEPlay remote.
- Press the keyboard shortcut key **M** or **CTRL** + **M**.

An orange popup appears at the bottom center of your main screen. It notifies you that a new live event has been created. The popup displays the timecode of the live event as well as the automatically assigned label.



The label consists of a name and a counter, for example 'Live Event #11'. The name corresponds to the value set in the Events settings of the Client. Each time you create a new live event, the counter is incremented by 1. You can manually reset it in the Events settings. See section "Configuring Events" on page 52.

After a few seconds, the popup disappears again.

The event is now kept in the Event List and is displayed there with the automatically generated label and the timecode grabbed from the live feeds. See section "Managing Events" on page 90.

The event is also saved on the Xeebra servers your Client application is connected to.

To cancel the creation of the event, click/tap the **Undo** button on the popup.

NOTE

You cannot mark a live event in the following cases:

- The Ingest service is not running on any of the connected servers. The live icon will not be available in the bottom right corner of your main screen.
- One of the configuration modes (e.g. Camera Assignation, Layout Configuration) or windows (e.g. Client settings) is open.

6.2.4. Offside Line Events

Offside Line Mode

About Offside Line Mode

NEW !

In Offside Line Mode, you can check in full screen the feed of one or more predetermined cameras to see if a particular action during a soccer game is offside or not and so help the referee make the correct decision.

To help you make this judgement more easily, the Xeebra Client application will try to automatically detect the dimensions of the actual soccer pitch. If the detection of the pitch was successful, it will draw a virtual offside line and zone on the image of the selected offside line camera (see section "Configuring Offside Line Mode" on page 54). You will be able to manually refine the position of the offside line taking into account the position of the players involved. In case the soccer pitch cannot be detected automatically, you will be able to perform a manual calibration of the cameras.

To keep track of the offside event and quickly jump to this action at any moment during the game or afterwards for analyzing the referee decision, you can mark the event and assign a meaningful label. The offside line event will then appear in the Event List together with the other saved events (e.g. single-timecode, TC In/TC Out and live events). See section "Managing Events" on page 90.

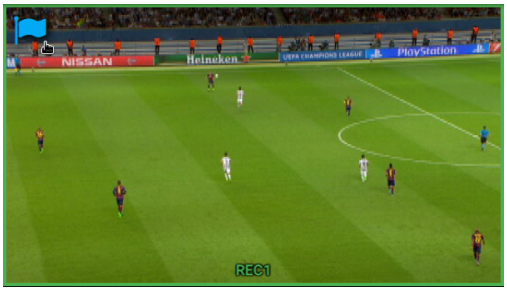
NOTE

If you do not have a valid '40 - Xeebra Offside line' license installed, then this mode will not be available.

Entering Offside Line Mode

In case of an offside phase, select the appropriate camera feeds in your Mosaic and browse until you reach the exact moment the ball leaves the foot of the attacker.

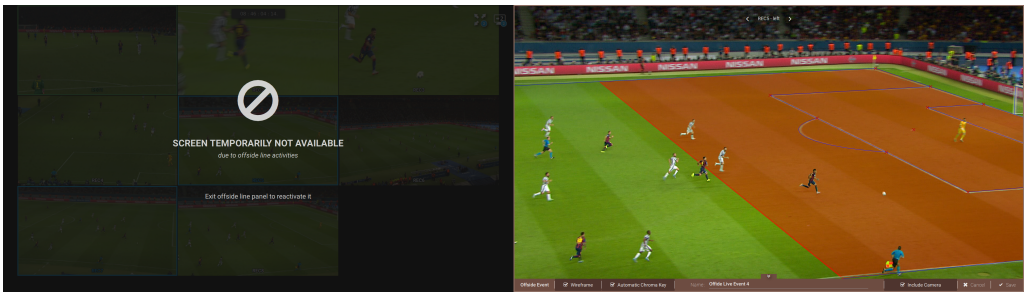
Once you have identified the right frame, select one of the predetermined offside line cameras. You can recognize them by the flag button displayed in the top left corner. Click or tap the flag button to enter Offside Line Mode.



NOTE

If no soccer pitch and offside line camera have been selected in the settings, you will not be able to enter Offside Line Mode. See section "Configuring Offside Line Mode" on page 54.

A brown border appears around your secondary screen and the selected offside line camera is displayed in full screen on your secondary screen. Your main screen will be grayed out and the following message will appear: 'Screen temporarily not available due to offside line activities. Exit offside line panel to reactivate it.'



Automatic Offside Line Camera Calibration

In Offside Line Mode, the Xeebra Client application will automatically try to calibrate the offside line cameras. In other words, it will try to detect on the image of the selected offside line camera the limits of the actual soccer pitch (e.g. touch lines, goal lines, 16-meter area, central circle) and match them with the boundaries of a virtual soccer pitch (i.e. wire frame).

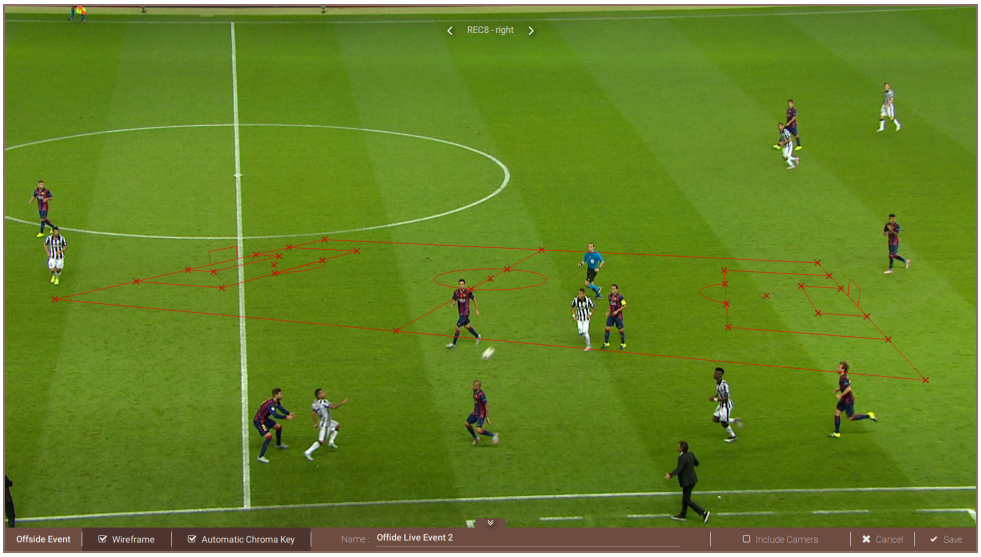
- If the automatic offside line camera calibration is successful, then the Xeebra Client application will automatically draw a shading area and a virtual offside line on the image of the offside line camera.

You can still manually change the position of the virtual offside line. See section "Repositioning the Offside Line" on page 87

You can hide the wireframe from the image by deselecting the **Wireframe** check box or by using the keyboard shortcut key **W**.

You can make the shading area and offside line non-transparent by deselecting the **ChromaKey** check box or by using the keyboard shortcut key **E**.

- If the boundaries of the actual and virtual soccer pitch (wireframe) cannot be automatically matched, no virtual offside line is drawn. Only the wireframe is displayed in a default position.



You will have the possibility to manually correct this. See section "Manual Camera Calibration" on page 86.

Saving the Offside Line Event

See section "Saving the Offside Line Event" on page 87.

Exiting Offside Line Mode

To exit without saving:

- Click or tap the **Cancel** button.
- Press **ESC**.
- Press the **BACK** or **HOME** button on your BEPlay remote.

To exit with saving:

- Click or tap the **Save** button.
- Press **ENTER**.
- Press the **SAVE** button on your BEPlay remote.

To exit Offside Line Mode and switch to Live Mode:

- Press the **LIVE** button on your BEPlay remote or by press the keyboard shortcut keys **;** or **CTRL** + **;** or **END**.

  The Mosaic also switches back to its home layout. The event is not saved.

- Press **SHIFT** + **LIVE** on your BEPlay remote, or press the keyboard shortcut keys **ALT** + **;** or **ALT** + **END**.

  The Mosaic returns to the layout with the cameras that were on the screen before entering Offside Line Mode. The event is not saved.

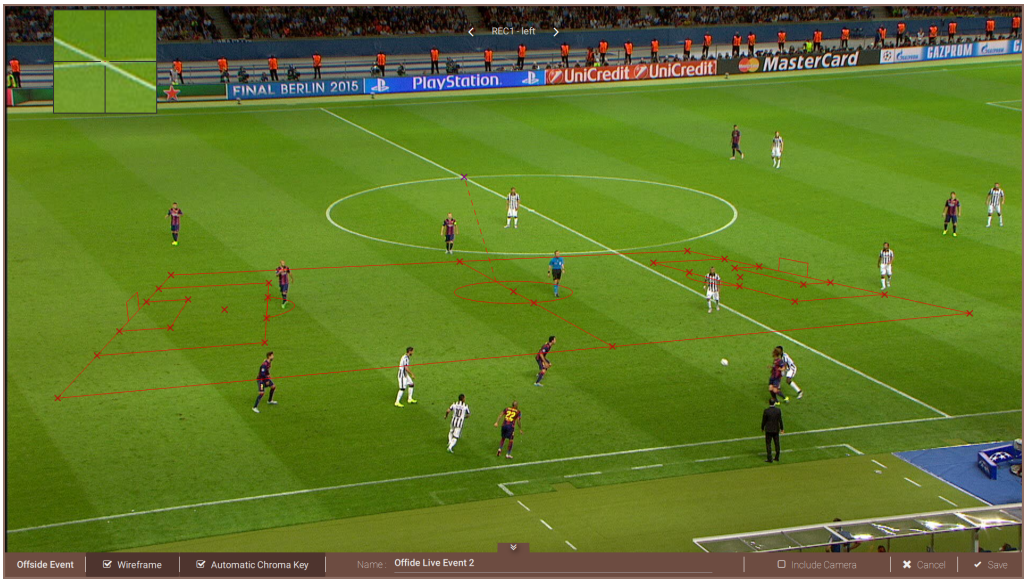
Manual Camera Calibration

If the automatic calibration of the offside line cameras was not successful, you can still do this manually.

Try to match one or more non-collinear virtual anchor points of the wireframe to the real position in the playfield.

Left-click or touch a virtual anchor point (crosses on the lines) and drag it to the corresponding position on the image of the actual soccer pitch, then release.

A dotted line is drawn between the virtual point and the matched point on the image.



To help you correctly position the anchor point, a zoom window is shown while you are dragging the point. A zoom of the zone where the cursor is appears in the top left hand corner except when the cursor is in that zone, then it switches to the top right hand corner.

Each time an anchor point is moved, the Xeebra Client will try to match the virtual soccer pitch with the limits of the actual soccer pitch.

Detection should be shown after positioning a maximum of 4 landmarks.

Double-click a repositioned virtual anchor point to cancel the move.

When you are happy with the position of the wireframe, you can hide it by deselecting the **Wireframe** check box or by pressing **W**.

Repositioning the Offside Line

By default, the virtual offside line is automatically positioned in the middle of the soccer pitch, so often out of sight.

You can easily change the position of the virtual offside line in different ways:

- Drag the offside line left or line on your touchscreen.
- Press the keyboard shortcut keys ← or →.
- Press the **JOG** button on your BEPlay remote and move the jog dial clockwise or counter-clockwise.
- Move the inner wheel of your ShuttlePRO device clockwise or counter-clockwise.
- Tap the on-screen Browse bar.

When positioning the offside line using your mouse or touchscreen, a zoom window will help you to perform the action more accurately.

Switching the Camera Feed

To switch to the feed of another offside line camera without exiting Offside Line Mode:

- press **PREV CAM** or **NEXT CAM** on your BEPlay remote; or
- click or tap the left or right arrow at the top of your screen; or

- swipe left or right over the camera feed with a single finger; or
- press the keyboard shortcut keys ↑/↓ or **PAGE UP**/**PAGE DOWN**.

If the automatic calibration is successful, the Xeebra Client application will position the virtual offside line in the same position as the last image.

If the automatic calibration is unsuccessful, you will have to manually calibrate the offside line camera. See section "Manual Camera Calibration" on page 86.

If you enter Offside Line Mode by clicking the flag icon of the main camera, you will be able to switch between the main camera and both 16m cameras.

If you enter Offside Line Mode by clicking one of the 16 cameras, you will only be able to switch between that camera and the main camera.

Saving the Offside Line Event

Once you have correctly positioned the offside line, you have to validate it and then save the offside line event. Before saving, you can assign a meaningful name to it.

Naming the Event

When you enter Offside Line Mode, a field appears in the bottom center of your main screen which contains an automatically generated label. The default label consists of a name and a counter, for example 'Offside Line Event #11'. The name corresponds to the value set in the Offside Line settings of the Client. Each time you create a new offside line event, the counter is incremented by 1. You can manually reset it in the Offside Line settings. See section "Configuring Offside Line Mode" on page 54.

The current value of the counter is saved in the configuration file of the Client application.

Enter a new label for the event or keep the default one.

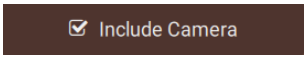
You can manually type the new label, press one of the F keys/buttons on your keyboard or BEPlay remote to enter a predefined piece of text, or do both. See section "Configuring Shortcuts" on page 52.

NOTE

A label can contain a maximum of 64 characters.

Including or Excluding a Camera

Select the **Include Camera** check box, if you want to save the camera together with the event. Deselect the check box, if you do not want to save the camera.



This could be the case for example because on the image of the camera the pitch limits could not be detected automatically and the virtual offside line and zone could not be positioned properly.

By default, a camera that has been viewed by the user and where the soccer pitch was detected, is automatically included.

Saving the Event

To validate the offside line and save the event, press the **SAVE** button on your BEPlay remote, press the keyboard shortcut key **ENTER**, or tap or click the **Save** button in the bottom right corner of your main screen.

A popup confirms the creation of the event and shows the event label and timecode.

After a few seconds, the popup disappears again.

The event is now kept in the Event List and is displayed there with the label you entered and the timecode grabbed from the Mosaic. You can recognize the offside event by its flag icon.

The event is also saved on the Xeebra servers your Client application is connected to.

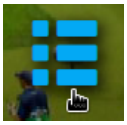
To cancel the creation of the event, press the **BACK** or **HOME**button on your BEPlay remote, press **ESC** on your keyboard, click/tap**X**in the bottom left corner of your main screen, or click/tap the **Undo**button on the popup that appears when you save the event.

6.3. Managing Events

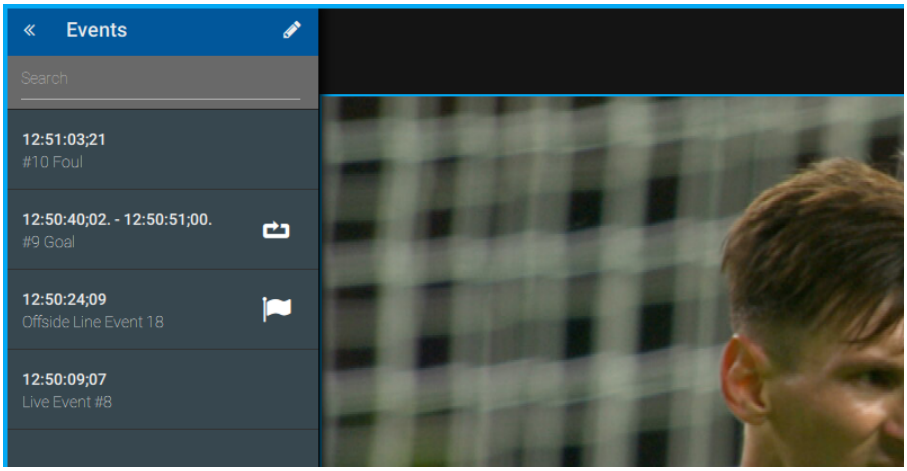
6.3.1. Event List

Overview

The label and timecode(s) of all situations or events you mark as being important are gathered and saved in a list of events. By default, this list is hidden. To access and consult this list, you can either press the keyboard shortcut key **U**, or click/tap the list icon in the bottom right corner of your main screen.



The Event List panel appears on the left of your main screen. The Mosaic adjusts itself accordingly to give room to the Event List.



The Event List consists of a title bar, a search bar and then all individual events. Each event is displayed with its label, timecode(s) and an indication in case it is an event created by another Client application. For all TC IN/TC OUT events a Loop button is available which enables you to play back the event from its TC IN until its TC OUT in an endless loop.

The most recent events are displayed at the top of the list. The events are ordered by descending timecode. For TC IN/TC OUT events, the TC IN is considered.

If the Event List contains a lot of events, you can scroll up or down the list in several ways. You can:

- move your mouse wheel up or down;
- slide one finger up or down the screen.

You can use this list to quickly navigate from one import event to another. See section "Loading and Navigating Between Events" on page 94.

To exit and hide the Event List again, click or tap the back button in the Event List title bar or press the keyboard shortcut key **U**.

Types of Events

Two types of events can be distinguished in the list: created by your own or by another Client application.

Events that you created with your Client application can be edited and removed without any problem.

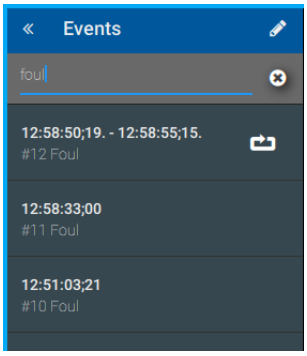
Events created by another Client application are labeled with 'Other Client' and are grayed out. You cannot edit or remove these events.

Depending on how you configured your client, events created by another Client application will be shown or remain hidden in the Event List. See section "Configuring Global Settings" on page 51.

6.3.2. Searching for an Event

If the Event List is crowded with events, and you want to quickly retrieve a specific event, you can easily filter the Event List by typing some words in the search field.

Only the events with a label containing all the words you typed will be displayed.



For example, if you enter 'go me' in the search field, then the filter will look in the label of the events for the words 'go' and 'me'. The following events are returned because they contain both words in their label: Messi has just scored a goal, a mesmerizing gold medal run.

Note that a space equals an AND operator. For example, 'red card' is the same as 'red AND card'. The search filter is case insensitive.

The filter is automatically applied to the Event List after you have typed something and pressed **ENTER** or paused for 2 seconds.

To cancel the filter, tap/click the **X**.

The following filter capabilities allow to make the search filter more complex:

- You can use both AND and OR operators in a search filter. For example, 'red AND card OR yellow AND card'.
- AND operators (or spaces) have a higher precedence than OR operators. They are executed before the OR operators. For example, in the search filter 'shot on target OR goal' the Client application will first look for 'shot on target' and then for 'goal'.

- Parentheses can be used to indicate an alternate order or to reinforce the default order to avoid confusion. For example, in the search filter '(shot on target) OR goal' the part between brackets will be executed first. In order to have OR executed before the AND, you need to put the OR between parentheses: (yellow OR red) card.
- One level of parentheses is enough. Any further parentheses are not taken into account.

When your search filter is not well-formed, the borders of the search box will turn red.

When you browse the filtered Event List, only the events in the filtered list are taken into account.

When you exit or hide the Event List without canceling the filter, and you re-open the Event List, the filter remains applied. The filter has no impact on the browsing of the events.

6.3.3. Editing an Event Label

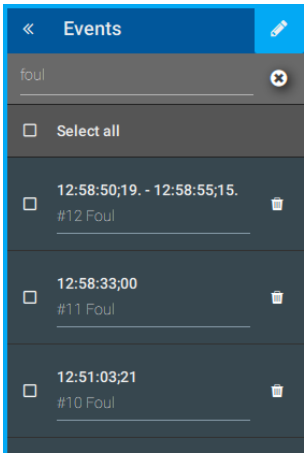
In the Event List it is possible to correct any mistakes in the label of local events. Note that the label of events created by another Client application cannot be edited.

To edit the label of an event created by you, proceed as follows:

1. Open the Event List in Edit Mode by clicking the pencil button in the title bar.

   The label of the events created by you becomes editable. The label field is enlarged to show more text.

2. Tap or click inside the text field that contains the event label you want to edit.



3. You can enter or modify a label by typing, or by pressing an F key/button on your keyboard or BEPlay remote. See section "Configuring Shortcuts" on page 52.
4. Click or tap outside the text field to save your new or changed event label.

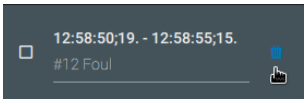
6.3.4. Deleting Events

The Event List allows you to remove the events you no longer need. You can remove event by event, or multiple events in one go. Events created by another Client application cannot be deleted.

Deleting a Single Event

To delete a single event, proceed as follows:

1. Open the Event List in Edit Mode by clicking/tapping the pencil button in the title bar.
2. Click/tap the delete button on the right of the event.



A popup appears confirming the deletion of the event. To undo the deletion, click/tap the **Undo** button. The event will reappear in the Event List.

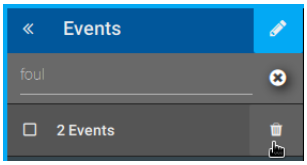
The event will not only be deleted from the Event List, it will also be deleted from the Xeebra servers your Client application is connected to.

Deleting Multiple Events

To delete a number of events in one go, proceed as follows:

1. Open the Event List in Edit Mode by clicking/tapping the pencil button in the title bar.
2. Tick the check box of the events you want to remove from the list. To quickly select all events, tick the check box just below the title bar.

   You can see the number of selected events.
3. Click/tap the delete button to the right of this indication.



A popup appears confirming the deletion of the selected events. To undo the deletion, click/tap the **Undo** button. The events will reappear in the Event List.

The events will not only be deleted from the Event List, they will also be deleted from the Xeebra servers your Client application is connected to.

6.4. Loading and Navigating Between Events

6.4.1. Loading Events

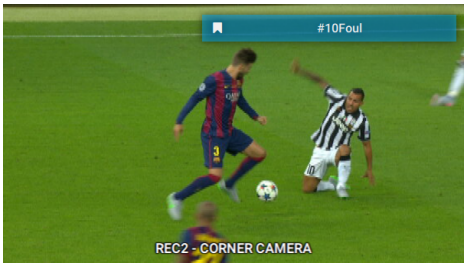
Procedure

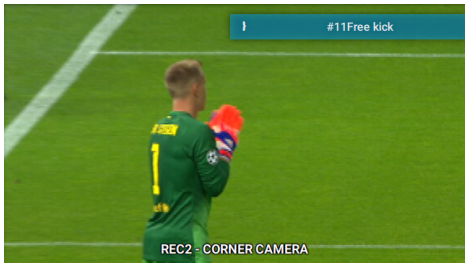
To load an event in the Mosaic, simply click or tap it in the Event List.

In case of an **event with a single timecode**, you can click anywhere on the event. The timecode of the event is always loaded in the Mosaic.

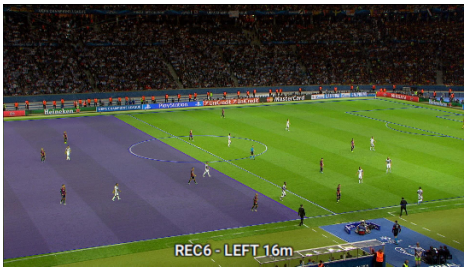
In case of an **event with a start and end timecode**, you can load the start timecode by clicking the **TC IN** field, and the end timecode by clicking the **TC OUT** field.

The loaded event is highlighted in the Mosaic. A box with the event label appears in overlay in the top right corner of the camera positioned in the top left corner of the Mosaic. An icon indicates if it concerns an event with a start and end timecode or just with a single timecode.





NEW ! In case of an offside line event, a clean (= without wireframe) offside line will also be visible on the image of the offside line cameras.



Saved Camera Feeds

Single Screen Workflow

If you load an event while working with a single screen, your main screen will display:

- all assigned cameras of the preset selected at event creation if there are no selected camera feeds.
- the saved selected camera feeds if there were any.
  - If some of the selected feeds are not available, they are not shown.
  - If none of the selected camera feeds are available, all assigned cameras of the preset selected at event creation are shown.

Two Screen Workflow

If you load an event while working with two screens:

- your main screen will display all assigned cameras of the preset selected at event creation.
- your secondary screen will display the saved selected camera feeds if there were any.
  - If some of the selected camera feeds are not available, they are not shown.
  - If none of the selected camera feeds are available, then the first available camera feed of the Mosaic (of the event) is displayed.

6.4.2. Navigating Between Events

Using the Event List

To navigate from one event to another, simply click the desired event in the Event List.

Using Keyboard Shortcut Keys or the BEPlay Remote

You can easily and quickly navigate through the various marked events without making use of the Event List. The table below gives an overview of the BEPlay remote buttons and keyboard shortcut keys you can use to navigate the various events.

Action	Description	BEPlay Remote	Keyboard Shortcut
Go to last event marker	Navigates to the event with TC (or TC In) earlier than the current TC and closest to the current TC.	**LAST EVENT**	**A**
Go to next event marker	Navigates to the event with TC (or TC In) later than the current TC and closest to the current TC.	**NEXT EVENT**	**S**
Browsing event markers		**EVENTS** + Jog wheel	

Pressing **LIVE** exits Event Browsing Mode.

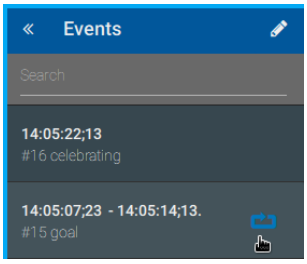
NOTE

In case several events have the same TC/TC IN, the system only navigates to the most recently created event and ignores the other events with the same TC/TC IN.

6.5. Playing Back Events in a Loop

To play back the same TC IN/TC OUT event over and over again, proceed as follows:

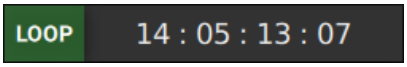
1. In the Event List, click or tap the **Loop** button of the TC IN/TC OUT event in question.



You can also first load the event in the Mosaic and then press the shortcut key **H** (or **CTRL** + **H** in case you are editing a text field).

The event is loaded in the Mosaic and automatically played back from its TC IN until its TC OUT at 100%.

A LOOP sign is displayed to the left of the timecode field in Loop Mode.



When reaching the TC OUT of the event, the Mosaic jumps back to TC IN of the event and starts playing back the event again.

In the Event List, the Loop button is highlighted in green.

2. At any moment during playout, you change the playout speed. Do one of the following:

- Use the **SLOMO** button in combination with the jog dial of your BEPlay Remote.
- Press the keyboard shortcut keys **1** to **5**.

3. To exit Loop Mode, do one of the following:
   - Click or tap the **Loop** button again.
   - Press the keyboard shortcut key **H** (or **CTRL** + **H**) again.
   - Press the **LIVE** button.
   - Click or tap another event in the Event List, or move to the previous or next event using keyboard shortcut keys or your BEPlay Remote.
   - Navigate to a specific timecode using the timecode field.
   - Enter the settings of the Client.

   The Client will keep the current playout speed.

NOTE

- If an event is deleted while in Loop Mode, the Loop Mode is not affected. You can stay in Loop Mode as long as you want.
- If an event is exited from the record train while in Loop Mode, the Goto IN will fail. The Loop Mode is exited. The Mosaic will be paused.

7. Exporting Events

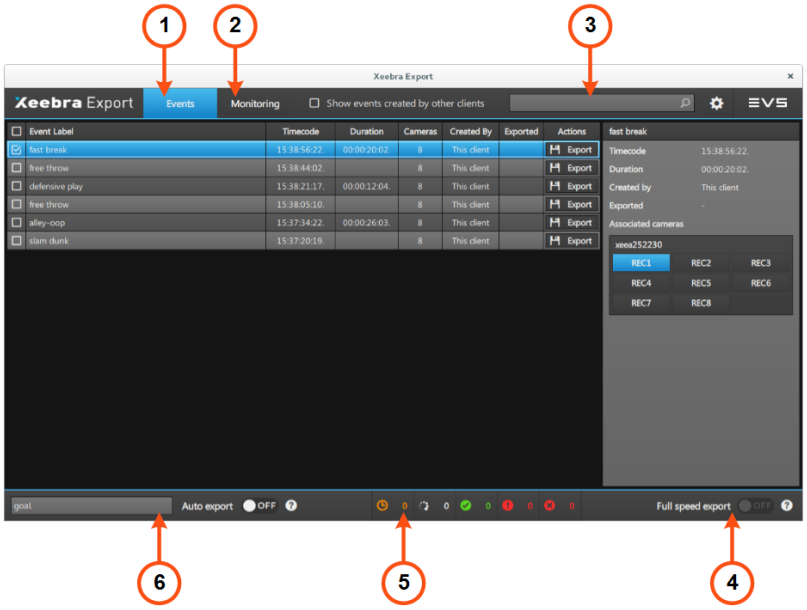
7.1. Xeebra Export Application

You can open the Xeebra Export application by double-clicking or tapping the Export shortcut on the desktop of your Xeebra server or client workstation.

With this tool you can manually or automatically export (a selection of) events created on your Xeebra servers together with the corresponding video fragments. You can specify the cameras to export, the video resolution (native or proxy) and filename pattern of the video files, and also the export destination (USB, external drive, shared folder).

Once you have launched the export of the events, you can check the status of each export job in a separate monitoring area. In case one or more export jobs go wrong, you can easily intervene by retrying or canceling them.

The Xeebra Export application contains the main areas highlighted on the screenshot below.



Events Tab (1)

The Events tab displays the events that were created on the Xeebra servers your Client application is connected to. It allows you to make a selection of events and manually start their export. See section "Selecting and Exporting Events" on page 100.

Monitoring Tab (2)

The Monitoring tab allows you to check the status of the various export jobs. See section "Monitoring the Export" on page 113.

Search Field (3)

The Search field allows you to quickly search for a particular event or export job by typing text. See section "Selecting and Exporting Events" on page 100.

Export Speed (4)

This button allows you to set the speed with which the export will be performed. See section "Selecting and Exporting Events" on page 100.

Export Status Bar (5)

The Export Status bar at the bottom of the window allows you to view the overall status of the export process. You can view the total number of export jobs that are still in the queue, that are being processed, that were successfully executed, that went wrong and that were canceled.

Auto-Export Rule (6)

This area allows you to activate and deactivate the Auto-Export Mode and to enter an auto-export rule. See section "Automatically Exporting Events" on page 104.

Note that you cannot run the Xeebra Export and Client application at the same time. An error message will appear if you try to do this.

A check is performed to see if a valid 20 - Xeebra Client and Export License is available and current. See section "Activating the Xeebra Licenses" on page 1.

- If a license is present and current, the Export application is opened.
- If a license is present but is about to expire within two weeks, a warning message is displayed: 'Xeebra Client license will expire in xx days'. Click **OK** to continue. The Export application will be started.
- If the license is expired, a warning message is displayed: 'License expired on server'. The Export application will not be started.
- If the license is not present, a warning message is displayed: 'License not present on server'. The Export application will not be started.

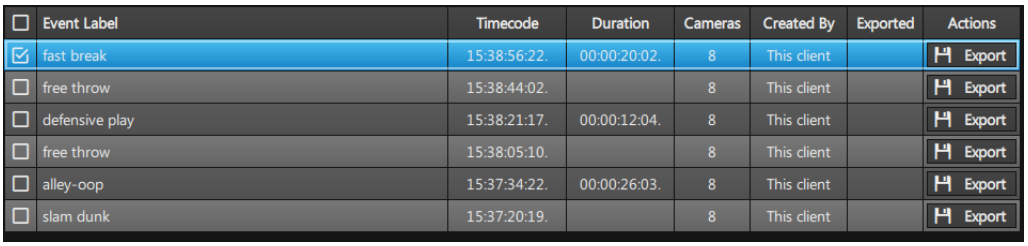
To exit the Export application again, click **X** in the top right corner of the application window or press **ALT + F4**. Exports that were being executed will be stopped and put nicely back into the job queue. Exports that were canceled will be retried automatically.

7.2. Selecting and Exporting Events

7.2.1. Overview of the Event Tab

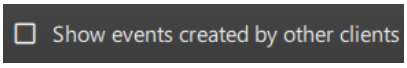
Event List

The Event List displays the events that were created on the Xeebra servers your Client application is connected to.



Event Label	Timecode	Duration	Cameras	Created By	Exported	Actions
fast break	15:38:56:22.	00:00:20:02.	8	This client		Export
free throw	15:38:44:02.		8	This client		Export
defensive play	15:38:21:17.	00:00:12:04.	8	This client		Export
free throw	15:38:05:10.		8	This client		Export
alley-oop	15:37:34:22.	00:00:26:03.	8	This client		Export
slam dunk	15:37:20:19.		8	This client		Export

Either all events are displayed, or only the ones that were created by your Client application. By default, only the events created with your Client application are displayed. If you want to view and be able to export events created by other Client applications as well, select the check box of the **Show Events Created by Other Clients** parameter.



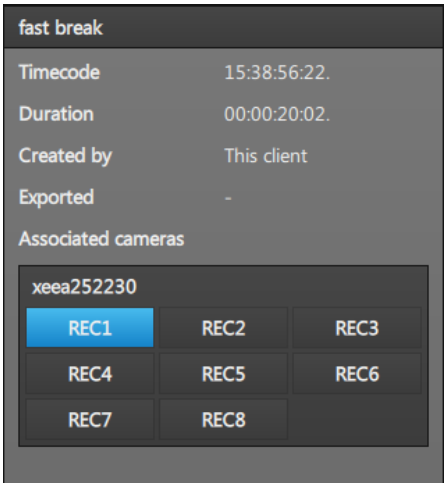
For each event, the following information is displayed:

- event label;
- (start) timecode;
- duration (in case of single timecode events this will be empty);
- the number of specific camera feeds saved for the event;
- the type of event (This Client or Other Client);
- the export type (empty, Native, Proxy or Both);
- an **Export** button.

The events are ordered in descending order by date and timecode. The most recently created events are displayed at the top of the Event List.

Event Details Pane

The Event Details pane located to the right of the Event List displays the details of the currently highlighted event.



It displays the following information about the event:

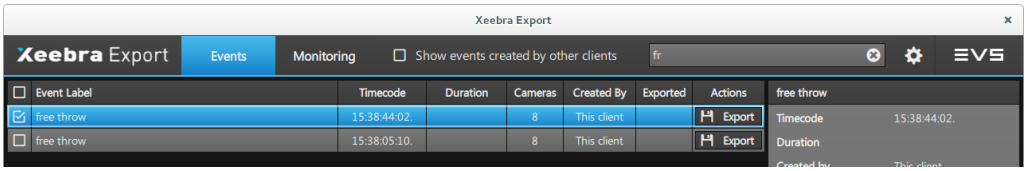
- (start) timecode;
- duration (in case of single timecode events this will be empty);
- the type of event (This Client or Other Client);
- the export type (empty, Native, Proxy or Both);
- the specific camera feeds saved for the event (i.e. the event related camera feeds).

If multiple events are selected, this pane will be empty.

7.2.2. Searching for an Event

If the Event List is crowded with events, and you want to quickly retrieve a specific event, you can easily filter the Event List by typing some words in the search field.

Only the events with a label containing all the words you typed will be displayed. Note that the filter is case insensitive.



For example, if you enter 'go me' in the search field, then the filter will look in the label of the events for the words 'go' and 'me'. The following events are returned because they contain both words in their label: Messi has just scored a goal, a mesmerizing gold medal run.

Note that a space equals an AND operator. For example, 'red card' is the same as 'red AND card'. The search filter is case insensitive.

The filter is automatically applied to the Event List after you have typed something and pressed **ENTER** or paused for 2 seconds.

To cancel the filter, tap or click the **X**.

The following filter capabilities allow to make the search filter more complex:

- You can use both AND and OR operators in a search filter. For example, 'red AND card OR yellow AND card'.
- AND operators (or spaces) have a higher precedence than OR operators. They are executed before the OR operators. For example, in the search filter 'shot on target OR goal' the Export application will first look for 'shot on target' and then for 'goal'.
- Parentheses can be used to indicate an alternate order or to reinforce the default order to avoid confusion. For example, in the search filter '(shot on target) OR goal' the part between brackets will be executed first. In order to have OR executed before the AND, you need to put the OR between parentheses: (yellow OR red) card.
- One level of parentheses is enough. Any further parentheses are not taken into account.

When your search filter is not well-formed, the borders of the search box will turn red.

7.2.3. Exporting Events

Setting the Export Speed

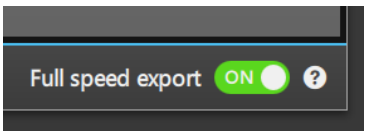
If the Ingest Service is Not Running

If the Ingest service is not running on the Xeebra servers you are connected with, you will be able to set a speed with which the events and their corresponding video files will be exported.

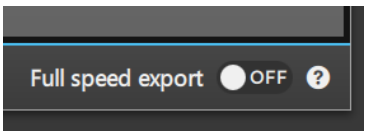
Two export speeds are available:

- **Full:** At full export speed, 4 export jobs can run at the same time and the video files will be exported at the maximum possible speed.
- **Limited:** At limited export speed, only 2 export jobs can run at the same time and the video files will be exported at 25 fps.

To activate full export speed, click the **Export Speed** button in the bottom right corner of the Export application.



Full Export Speed



Limited Export Speed

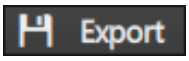
The export speed will be applied to all jobs you start after having selected the export speed. Export jobs that were already running will not be affected.

If the Ingest Service is Running

If the Ingest service is running on at least one of the connected Xeebra servers, then the limited export speed will be automatically applied to all export jobs. As long as the Ingest service is running on one of the connected servers, you will not be able to switch to the full export speed.

Manually Exporting a Single Event

To manually export a single event, click its **Export** button.



Depending on the configuration of the Export application, the Export Configuration window will open with the default settings allowing you to customize the export. See section "Configuring the Export" on page 106.

Switch to the Monitoring tab to check the progress and status of the export. See section "Monitoring the Export" on page 113.

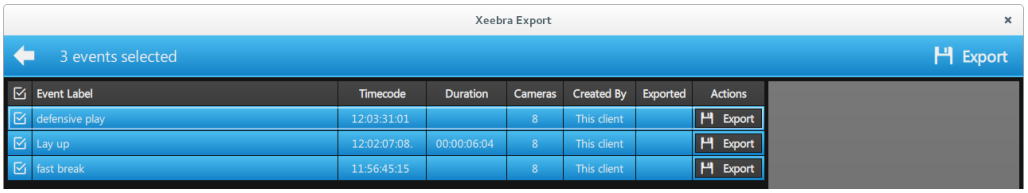
Manually Exporting Multiple Events

To manually export multiple events at once, first select the check box of each of these events. To select a consecutive group of events, click the first item, press and hold down the **SHIFT** key, and then click the last item. To select non-consecutive events, press and hold down the **CTRL** key, and then click each item you want to select.

To quickly select all events, click the check box in the top left corner of the Event List.

In the top left corner of the Export application window, the total number of selected events will be displayed. To cancel your selection again, click the arrow pointing to the left.

To start the export, click the **Export** button in the top right corner of the Export application.



Depending on the configuration of the Export application, the Export Configuration window will open with the default settings allowing you to customize the export. See section "Configuring the Export" on page 106.

Switch to the Monitoring tab to check the progress and status of the export. See section "Monitoring the Export" on page 113.

NOTE

If the timecodes of an event no longer exist on the record train at the moment the export is started, an error message will appear: 'Cannot export event, not enough material in record train.'

Automatically Exporting Events

Auto-Export Mode

In Auto-Export Mode, the Export application will check at regular time intervals all newly created and recently modified events and will automatically add to the export queue those that meet the criteria set in a simple export rule. Events that have already been exported will be skipped.

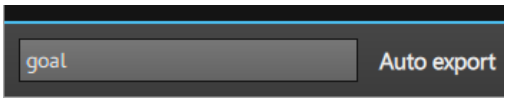
NOTE

You can only make use of the Auto-Export Mode if you have properly configured the export. See section "Configuring the Export" on page 106.

Composing an Auto-Export Rule

An auto-export rule is a text filter that can be applied to the events in the Event List. You can combine multiple criteria in a rule using one or more logical operators (AND, OR). Events that meet the criteria set in the rule will be automatically exported by the Export application in Auto-Export Mode.

You can enter the rule in the text box that is provided in the bottom right corner of the Export application.



Note that if you have not configured the export properly, the text box will be disabled.

If the rule is longer than the size of the box, there is a tool tip on the box showing the whole rule.

The auto-export rule is saved between two restarts.

Filter Capabilities

The following filter capabilities allow to make the auto-export rules more complex:

- The rules are case insensitive.
- A space equals an AND operator. For example, 'red card' is the same as 'red AND card'.
- You can use both AND and OR operators in a rule. For example, 'red AND card OR yellow AND card'.
- AND operators (or spaces) have a higher precedence than OR operators. They are executed before the OR operators. For example, in the rule 'shot on target OR goal' the Export application will first look for 'shot on target' and then for 'goal'.
- Parentheses can be used to indicate an alternate order or to reinforce the default order to avoid confusion. For example, in the rule '(shot on target) OR goal' the part between brackets will be executed first. In order to have OR executed before the AND, you need to put the OR between parentheses: (yellow OR red) card.

- Two levels of parentheses are enough. Any further parentheses are not taken into account.

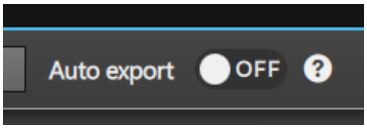
When your auto-export rule is not well-formed, the borders of the text box will turn red and one of the following error messages will appear in the form of a tooltip if you hover over the **Auto Export** button:

- 'Too many imbricated parentheses': The rule contains too many nested parentheses. (GOAL AND (2 OR 4)) is a valid example. (GOAL AND (2 AND (mo OR lol))) is an invalid example.
- 'Parentheses are malformed': One or more parentheses are missing in the rule. In the example '(GOAL' the closing parenthesis is missing.
- 'Incomplete rule': One or more criteria are missing. In the example 'GOAL AND' the second criterion is missing.
- 'Invalid rule': The Export application could not use the rule to determine which events it has to automatically export.

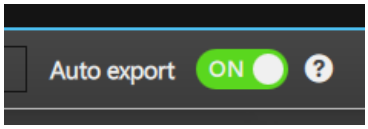
Activating the Auto-Export Mode

When you launch the Export application for the very first time, the Auto-Export Mode is disabled by default.

To activate the Auto-Export Mode, click or tap the **Auto Export** button.



Auto-Export Mode disabled



Auto-Export Mode enabled

Note that if you have not configured the export properly, or have not entered a valid export rule, you will not be able to activate the Auto-Export Mode.

The Export application will start checking the new and modified events:

- If there is no export rule, the Export application will automatically export all new and modified events.
- If there is an export rule, the Export application will only export the events that meet the conditions set in the export rule, provided they have not already been exported.

If the Event List already contained some events before you activated the Auto-Export Mode, the Export application will not take these events into account.

As long as the Auto-Export Mode is active, you will not be able to:

- change the auto-export rule;
- change the export configuration.

When you disable the Auto-Export Mode again, the Export application will no longer check and automatically export new and modified events. Any events already put in the queue by the Export application will stay in the queue and be exported.

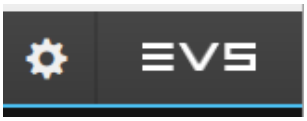
The Auto-Export status (on/off) of the Export application is saved. The next time you launch the Export application, it will look for and apply the status accordingly.

7.3. Configuring the Export

7.3.1. Export Configuration Window

Accessing the Export Configuration Window

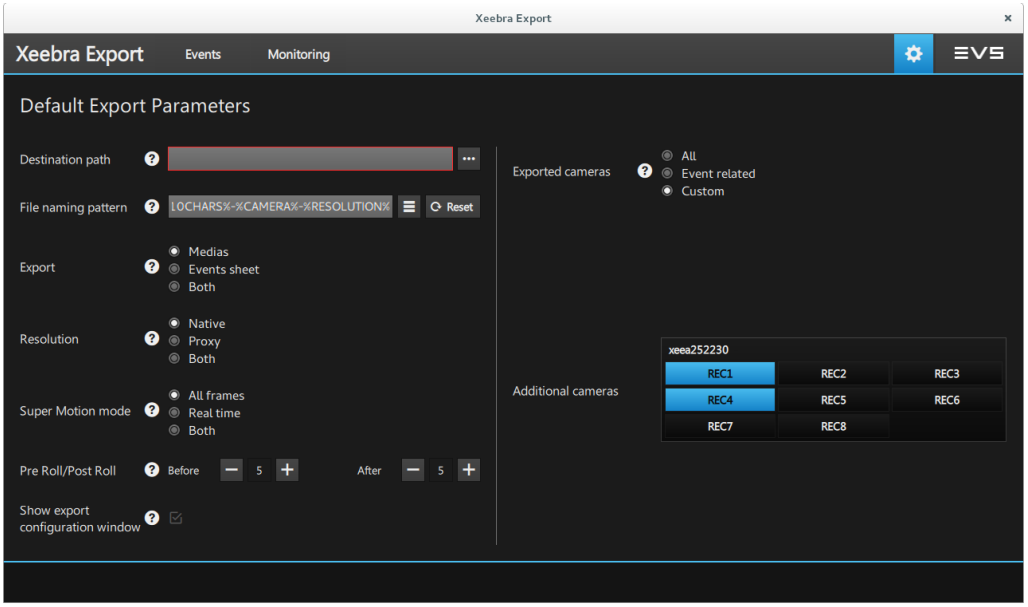
To gain access to the Export Configuration window, tap or click the gear wheel icon in the top right corner of the application's window.



Depending on the configuration, it will also appear automatically each time a user clicks the **Export** button in the Events tab. See section "Selecting and Exporting Events" on page 100.

Overview of the Export Configuration Window

The Export Configuration window contains the settings used to configure the export of events and the corresponding video files. All settings have been assigned a default value which you can adapt to your needs each time you perform an export.



To exit the Export Configuration window again, click the Events or Monitoring tab.

Note that you will not be able to change the export configuration as long as the Auto-Export Mode is active.

7.3.2. Selecting the Export Destination

In the **Destination Path** field, you can enter the path of the directory the events and/or corresponding media should be exported to. This can be a directory on your client workstation or local Xeebra server, a directory on an external storage device, e.g. an USB key or external hard drive, or a network shared directory. By default, this field is empty.

You can manually enter the path of the destination directory, or browse your server's or client workstation's file system in search of the appropriate directory. Click the icon to the right of the **Destination Path** field to start browsing.

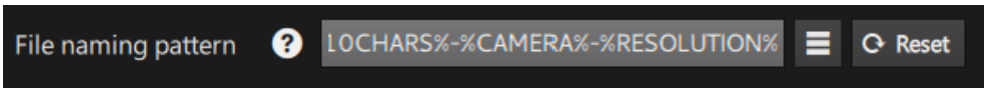
If you leave the field empty, it will be highlighted in red. You won't be able to apply your export settings.

WARNING

If the destination path does not exist, the export will fail.

7.3.3. Specifying the Filename Format

In the **File Naming Pattern** field you can determine what the name of the exported files (media and Event List) should be or how it should be formatted. The name can consist of a string value, or a number of predefined variables arranged in a specific order, or a combination of both. The variables are resolved during the export.



You can enter the variables manually or select them from a drop-down list. The table below gives an overview of the available variables:

Variable	Description
%PRODUCTIONNAME%	Name of the production you are working on. This is the name as entered in the Global settings of your Client application. See section "Configuring Global Settings" on page 51.
%LABEL%	Label of the event.
%LABELXXXCHARS%	The first XXX characters of the event label. This can be useful in case the event labels are very long. Note that an event label can contain up to 64 characters.
%CAMERA%	Name of the source camera or server recorder.
%SERVER%	Name of the source server.
%TC%	Represents the timecode of a single timecode event. Will be empty in case of a TC IN/TC OUT event.

Variable	Description
%TC IN%	Represents the start timecode of a TC IN/TC OUT event. Will be empty in case of a single timecode event.
%TC OUT%	Represents the end timecode of a TC IN/TC OUT event. Will be empty in case of a single timecode event.
%DATE%	Represents the date when a single timecode event was created. Will be empty in case of a TC IN/TC OUT event.
%DATEIN%	Represents the date when the start timecode of a TC IN/TC OUT event was marked. Will be empty in case of a single timecode event.
%DATEOUT%	Represents the date when the end timecode of a TC IN/TC OUT event was marked. Will be empty in case of a single timecode event.
%SUPERMOTION%	Will be replaced by '3x' for SLSM 3x media. Will be empty for all other media.
%RESOLUTION%	Will be replaced either by 'HIRES' or 'PROXY' depending on the resolution chosen.

Timecodes will be formatted as follows: HH_mm_ss_ff.

Dates will be formatted as follows: MMMM-DD-YY.

%PRODUCTIONNAME% - %LABEL10CHARS% - %CAMERA% is entered as default filename pattern.

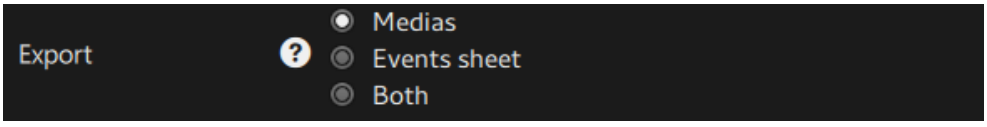
Click the **Reset** button to reset the filename pattern to the default value.

NOTE

If a file with the same name already exists on the storage, the file name is appended with a number (x). This number is incremented.

7.3.4. Selecting the File Types to Export

In the **Export** field, you can determine which type of files should be exported.



You can choose between the following three options: **Media**, **Event Sheet**, **Both:**

NEW !

- If you select the option **Media**, the Export application will only generate and export the video clips (.mp4) that correspond to the events. The embedded audio tracks that were recorded by the record train will be exported in the mp4 files as well. In case of an offside event, an image is generated (jpeg) for each offside camera displaying the virtual offside line.

- If you select the option **Event Sheet**, only a list with the events and their metadata will be exported. No video files will be exported. The list will be exported in two formats: as .csv file and as a JSON ZIP file.
- If you select the option **Both**, both Event List and corresponding media files will be exported.

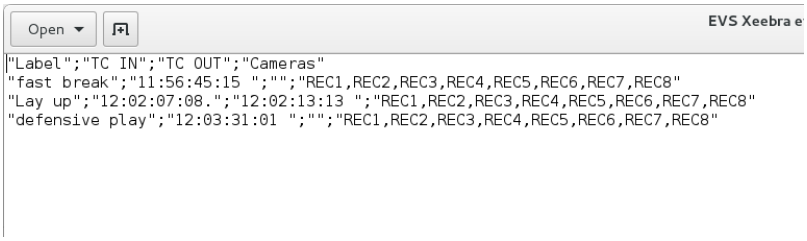
By default, both the event sheet (.csv and JSON ZIP) and corresponding media files are exported.

The event sheet is generated in the export directory specified in the configuration.

The name of the event sheet .csv file and JSON ZIP file is formatted as follows: EVS Xeebra events - %PRODUCTIONNAME% - %DATE-TIME GENERATED% where %PRODUCTIONNAME% is the production name and %DATE-TIME GENERATED% is the current date and time.

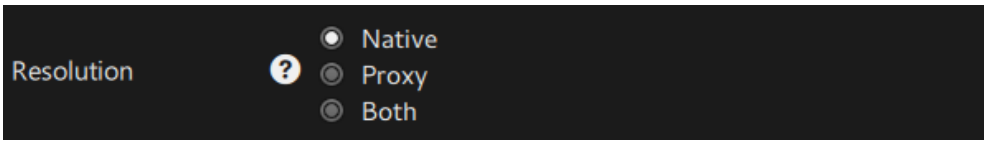
The .csv file contains the following information separated by a semi-colon:

- Label
- TC In
- TC Out (empty in case of a single timecode event)
- Cameras



7.3.5. Specifying the Export Resolution

The **Resolution** field allows you to select the resolution you want to export your video files in.



You can choose between the following three options:

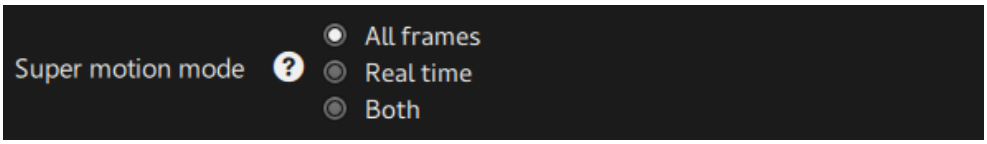
- **Native:** The video files will be exported in the same resolution as the recorded camera feeds.
- **Proxy:** The video files will be exported in a lower quality resolution.
- **Both:** The video files will be exported in both resolutions.

By default, the video files are exported in the same resolution as the recorded camera feeds.

The video and audio encoding in the mp4 file is described in a table in the appendix. See section "Video and Audio Encoding" on page 130.

7.3.6. Exporting Super Motion Content

The **Super Motion Mode** field allows you to define how content shot with SLSM 3x cameras should be exported.



You can choose between the following three options:

- **All Frames:** All frames shot with the SLSM 3x camera will be exported.
- **Real Time:** Every third frame shot with the SLSM 3x camera will be exported. The other two frames are dropped.
- **Both:** Both a file containing all frames and a file containing one third of the total number of frames shot will be exported for each SLSM 3x camera.

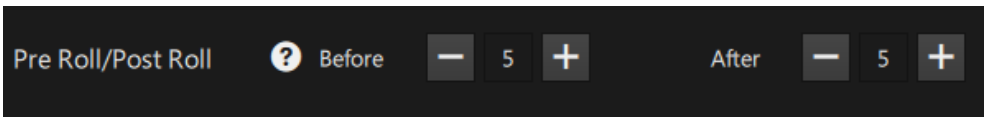
By default, video files having all frames are exported.

NOTE

If you select the option **All Frames**, then no audio will be exported.

7.3.7. Applying Pre and Post Roll

The **Pre Roll/Post Roll**field allows you to export video content for single timecode events. Here, you can specify how many seconds of video content should be exported before and after the event timecode.



By default, 5 seconds are taken before and after the event timecode. You can export a maximum of 60 seconds before and after the event timecode.

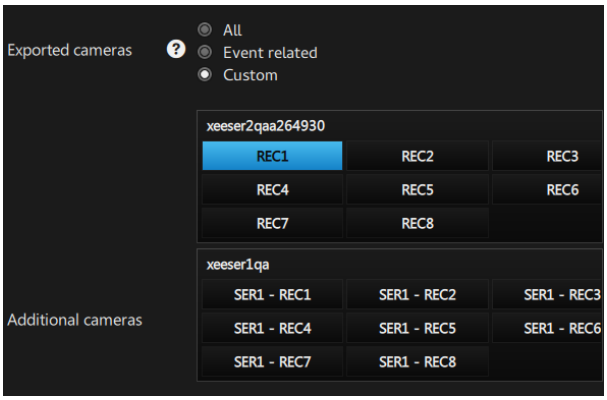
7.3.8. Hiding and Displaying the Export Configuration Window

If you want the Export Configuration window to appear each time you perform an export, select the corresponding check box. By default, this option is enabled.

This setting is not taken into account when the Auto-Export Mode is active.

7.3.9. Selecting the Camera Feeds to Export

The **Exported Cameras** field allows you to specify from which camera feeds you want to export the recorded content.



You can choose between the following three options:

- **All:** The Export application will export all the camera feeds configured in the Client Mosaic at the time the event was created.

  If you select this option, the **Additional Cameras** section is hidden.

- **Event Related:** The Export application will only export the content of the camera feeds that were selected on the main screen if working with one screen, on the secondary screen if working in two screen at the time of the event creation. On top of these event related camera feeds, you can select additional camera feeds to export.

  The **Additional Cameras** section displays per connected Xeebra server the number of configured camera inputs. Each camera input is represented by a button. Click the button of a camera input to export it on top of the event related cameras.

- **Custom:** The Export application will only export the content of the camera feeds you selected in the **Additional Cameras** section.

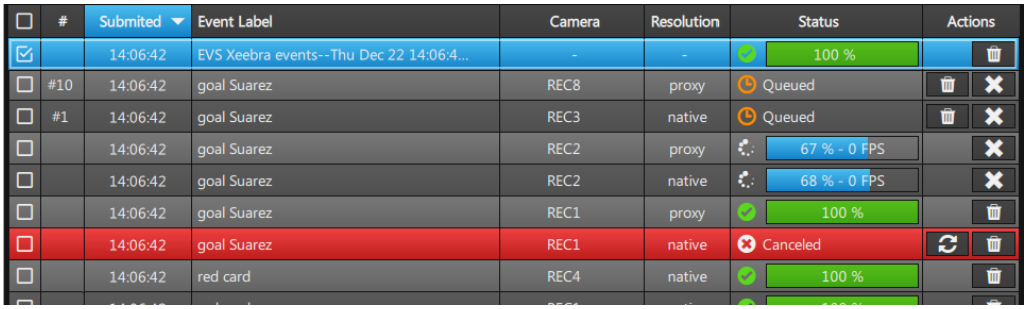
7.4. Monitoring the Export

7.4.1. Overview of the Monitoring Tab

Job List

Job Information

The Job List displays the export jobs requested by the local Xeebra server.



For each job, the following details are displayed:

- position of the job in the job execution queue;
- job submission date;
- event label;
- name of the exported camera;
- resolution of the corresponding video file (Native or Proxy);
- status of the job (see below);
- possible actions on the job (cancel, retry, delete).

Job Ordering

When the export jobs are created, they are put in the job queue first by resolution, then by event, and finally by camera:

- The jobs with a proxy resolution are queued first, then those with a native resolution.
- The events are queued in order of selection. If the events were selected with the **Select All** button, then they are queued in descending order according to their (start) timecode.
- The cameras are queued by server and then by their input number.

The jobs are ordered in the queue by job submission date by default. The jobs most recently added to the queue are displayed at the top.

You can order the jobs by another column (Position, Label, Camera) in ascending or descending order by clicking the column header once or twice.

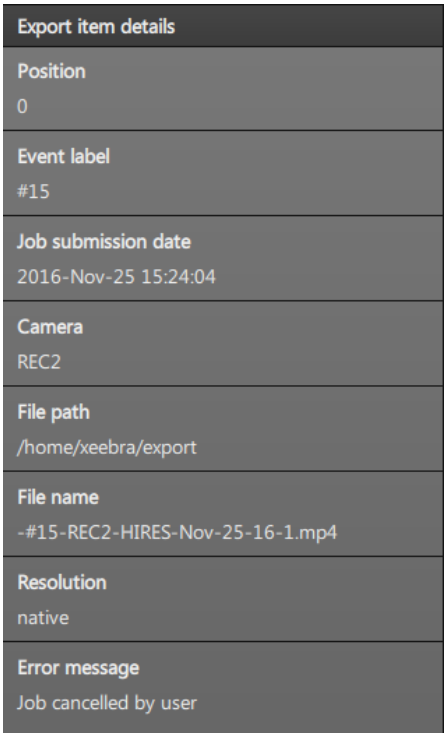
Job Status

A job can have 5 possible statuses:

Status	Description
Queued	The job has not been processed yet.
In Progress	The job is being processed. A progress bar is displayed with the current export speed (fps) and progress (%).
Finished	The job has been completed successfully.
Canceled	The job has been manually canceled by the user, or when the user left the application.
Error	The job finished with an error.

Job Details Pane

The Job Details pane located to the right of the Job List displays the details of the currently highlighted job.



It displays the following information about the job:

- position of the job in the job queue;
- event label;
- job submission date;
- name of the exported camera;
- path of the target directory;

- filename of the resulting file;
- resolution of the corresponding video file (Native or Proxy);
- error message;
- error detail.

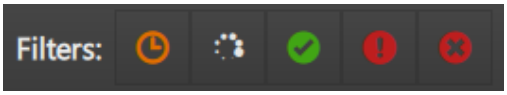
7.4.2. Searching and Filtering Jobs

Searching Jobs

The way to use the search field to find specific jobs is the same as the way to find certain events. See section "Selecting and Exporting Events" on page 100.

Filtering Jobs

You can filter the jobs in the Job List by their status. For each status, a toggle button is provided.



To apply a status filter, click the corresponding button. Click the button again to undo the filter. You can filter the jobs by more than one job status.

Filter Button	Action
	Only displays the jobs that are queued.
	Only displays the jobs that are being processed.
	Only displays the jobs that have been successfully executed.
	Only displays the jobs that went into error.
	Only displays the jobs that have been canceled.

By default, none of the filters are selected.

7.4.3. Canceling, Retrying and Deleting Jobs

Canceling Jobs

You can manually cancel jobs that are being processed or that are still in the queue waiting to be processed. To cancel a single job, tap or click the corresponding **Cancel** button.

The status of the job will change into 'Canceled'. If the job gets canceled while in progress, the destination file is erased.

NOTE

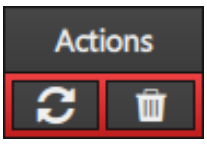
You can cancel only one job at a time.

When you exit the Export application, all jobs that were being processed will be automatically canceled.

Retrying Jobs

You can manually retry jobs that were canceled or that went into error.

To retry a single job, tap or click the corresponding **Retry** button.



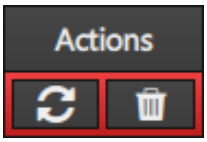
To retry two or more jobs, select their check box and tap or click the **Retry** button that appears in the top right corner of the Export application.

The status of the job will change into 'Queued'. The job is added at the bottom of the queue list.

Deleting Jobs

You can manually remove jobs from the Job List that are in the queue, that were successfully executed, that were canceled or that went into error.

To delete a single job, click the corresponding **Delete** button.



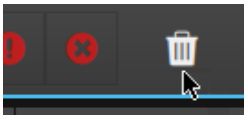
To delete two or more jobs, select their check box and click the **Delete** button that appears in the top right corner of the Export application.

NOTE

You cannot delete jobs that are being processed.

7.4.4. Cleaning the History

To clean the Job List and remove all jobs that were successfully executed, canceled or went into error, click the garbage bin button to the right of the filter bar.

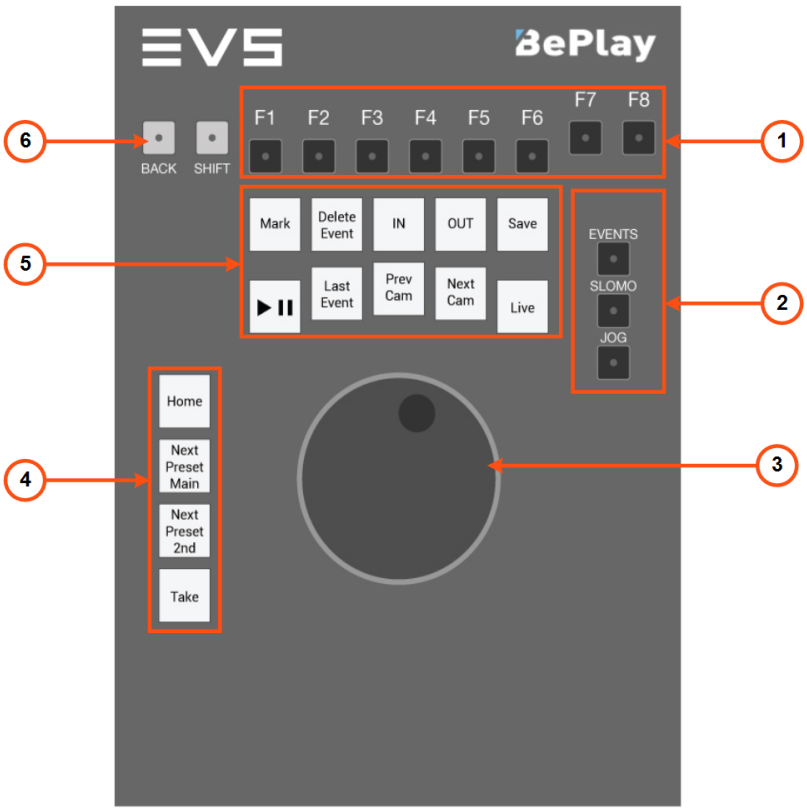


8. Appendix

8.1. BEPlay Remote Controls

Layout and Default Button Configuration

The following diagram shows the layout of the BEPlay remote controller buttons and the action assigned by default to each of these buttons.



Ref.	Command	Function
1.	F1-8	Used to select and deselect the corresponding camera feeds in the Mosaic. F1 to F8 will allow you to select camera feeds 1 to 8. SHIFT + F1 to F8 will allow you to select camera feeds 9 to 16. If enabled in the Global settings of the Client application, also used to enter a pre-defined text as label for an event.
2.	Operational Block 1	
	EVENTS	Used in combination with the jog dial to browse between events.
	SLOMO	Used in combination with the jog dial to replay camera feeds in slow motion.
	JOG	Used in combination with the jog dial to browse the camera feeds frame by frame.
3.	Jog Dial	The jog dial allows the operator to pass into Browsing Mode. Used in Offside Line Mode to move the virtual offside line left or right.
4.	Operational Block 2	
	HOME	Used to return to the Mosaic home layout.
	NEXT PRESET MAIN	Switch to another preset on the main screen.
	NEXT PRESET 2ND	Switch to another preset on the secondary screen.
	TAKE	Used to make the current camera selection into the new layout on the secondary screen. SHIFT + TAKE will allow you to make the current camera selection into the new layout on the main screen (in case of .
5.	Operational Block 3	
	MARK	Used to create a single TC event. SHIFT + MARK will allow you to create a live event.
	DELETE EVENT	Used to delete an event.
	IN	Used to mark the In point of a TC In/TC Out event.
	OUT	Used to mark the Out point of a TC In/TC Out event.
	SAVE	Used to save a single TC event, or the In or Out point of a TC In/TC Out event.

	PLAY/PAUSE	Initiates/pauses playback. SHIFT + PLAY will allow you to play back the camera feeds at 33% of the standard speed.
	LAST EVENT	Used to navigate to the event with TC (or TC In) earlier than the current TC and closest to the current TC.
	PREV CAM	Used to move to the previous camera feed.
	NEXT CAM	Used to move to the next camera feed.
	LIVE	Used to return to Live Mode (= head of the record train) and the Mosaic home layout. SHIFT + LIVE will allow you to return to Live Mode while keeping the current camera selection.
6.	BACK	Used to return to the previous Mosaic layout on the main screen.
	SHIFT	Used in combination with: • the F keys to select cameras 9 to 16 or to enter a pre-defined text as label for an event. • the PLAY button to play at 33% of the standard speed. • the JOG button to enter in Fast Jog Mode. • the BACK button to return to the previous Mosaic layout on the secondary screen. • the MARK button to create a live event. • the TAKE button to make the current camera selection into the new layout on the main screen. • the LIVE button to return to Live Mode while keeping the current camera selection.

Button Lighting

The status and availability of an action can be easily derived from the way the corresponding button is lighted.

General Rule

The button of an action that is not available remains unlighted. For example, the F5 button will remain unlighted if only 4 camera feeds are available.

The button of an action that is available lights green.

The button of an action that is already executed lights red. For example, the IN button will light red when the IN point of an event has already been marked.

The button of an action the user has to logically perform next flashes red. For example, the SAVE button will flash red after pushing the MARK button.

Per Button

The table below gives an overview per button of the lighting color and the context in which this happens.

Button	Lighting	Context
BACK	GREEN	The action is available.
	OFF	The action is unavailable.
SHIFT	GREEN	The SHIFT button has been activated.
	OFF	The SHIFT button has not been activated.
F1...F8	GREEN	• In text shortcut mode: A shortcut is available for the F key. • In channel selection mode: a camera can be selected (only for camera 1 to 8)
	BLINKING GREEN	• In text shortcut mode: A shortcut is available only in SHIFT mode.
	OFF	• In text shortcut mode: No shortcut is available for the F key. • In channel selection mode: a camera cannot be selected (e.g. in a 4 camera layout, buttons 5 to 8 are off).
	RED	• In channel selection mode: a camera is selected. There is no feedback for camera 9 to 16 accessed through the SHIFT button.
MARK	GREEN	The action is available.
	RED	An event marker has just been set.
	OFF	When creating an event marker with an In and Out point.
MARK LIVE	No lighting	
DELETE EVENT	GREEN	When time is stopped on a saved Mark, In or Out point.

Button	Lighting	Context
IN	GREEN	When creating an event marker with an In and Out point. No In and Out point have been set yet. The action is available.
	BLINKING RED	When creating an event marker with an In and Out point. The Out point has already been set.
OUT	GREEN	When creating an event marker with an In and Out point. No In and Out point have been set yet. The action is available.
	BLINKING RED	When creating an event marker with an In and Out point. The In point has already been set.
SAVE	BLINKING RED	The action is available and needs to be performed after pressing MARK, IN or OUT.
	OFF	The action is unavailable.
PLAY/PAUSE	GREEN	The action is available. In this case, always.
LAST EVENT	GREEN	The action is available. In this case, always.
	OFF	The action is unavailable if there is no event that is closer to the current TC than the current event.
LIVE	RED	The Mosaic is in Live Mode.
	BLINKING RED	The Mosaic is not in Live Mode.
PREV CAM	GREEN	The secondary screen is in Full Screen Mode. You can switch to a previous camera. .
	OFF	The secondary screen is not in Full Screen Mode.
NEXT CAM	GREEN	The secondary screen is in Full Screen Mode. You can switch to a next camera.
	OFF	The secondary screen is not in Full Screen Mode.
NEXT PRESET MAIN	GREEN	Presets are available on the main screen. You can switch to the next preset.

Button	Lighting	Context
NEXT PRESET 2ND	GREEN	Presets are available on the secondary screen. You can switch to the next preset.
EVENTS MODE	GREEN	The mode is available, but has not been activated.
	RED	The mode has been activated.
SLOMO MODE	GREEN	The mode is available, but has not been activated.
	RED	The mode has been activated.
JOG MODE	GREEN	The mode is available, but has not been activated.
	RED	The mode has been activated.
	BLINKING RED	FAST JOG mode is activated.
HOME	GREEN	The Mosaic is not in the Home layout.
TAKE	OFF	The action is unavailable. No camera angle is selected in the Mosaic.
	BLINKING RED	The action is available. One or more camera angles have been selected in the Mosaic.

Exceptions

In Settings Mode, all buttons are unlighted, except the LIVE, HOME, BACK and SAVE buttons.

In Events Mode, pressing the PLAY button will start playing the current event and the BEPlay remote switches to Jog Mode.

In Settings Mode, the LIVE, HOME or SAVE button can be used to exit the Settings Mode. You can press the BACK button to undo the previous action.

Erroneous Action Sound

If you press a button to perform an action that cannot be performed at that specific moment, for example press the SAVE button when nothing can be saved, an error sound (BEEP) is produced.

Customizing the BEPlay Buttons

It is possible to change the default action assignation of the white BEPlay buttons (operational block 2 and 3). See the Technical Reference Manual for more information.

8.2. Keyboard Shortcut Keys

The table below gives an overview of the Xeebra keyboard shortcut keys.

Action	Keyboard Shortcut Key
Play forward at 1/6 of the normal speed.	**1**
Play forward at 1/4 of the normal speed.	**2**
Play forward at 1/3 of the normal speed.	**3**
Play forward at 1/2 of the normal speed.	**4**
Play forward at normal speed.	**5**
Play forward at 2x the normal speed.	**6**
Play forward at 3x the normal speed.	**7**
Play forward at 5x the normal speed.	**8**
Play forward at 8x the normal speed.	**9**
Play forward at 16x the normal speed.	**0**
Play backward at 1/6 of the normal speed.	**SHIFT + 1 (!)**
Play backward at 1/4 of the normal speed.	**SHIFT + 2 (@)**
Play backward at 1/3 of the normal speed.	**SHIFT + 3 (#)**
Play backward at 1/2 of the normal speed.	**SHIFT + 4 ($)**
Play backward at normal speed.	**SHIFT + 5 (%)**
Play backward at 2x the normal speed.	**SHIFT + 6 (^)**
Play backward at 3x the normal speed.	**SHIFT +7 (&)**
Play backward at 5x the normal speed.	**SHIFT + 8 (*)**
Play backward at 8x the normal speed.	**SHIFT + 9 (()**
Play backward at 16x the normal speed.	**SHIFT + 0 ())**
Enable/disable Loop Mode.	**H**
Show/hide the overlay camera.	**Y**
Show/hide the timecode field.	**T**
Show/hide the Event List.	**U**
Show/hide the Browse Bar.	**R**
Take the selected camera feeds and make them into the new Mosaic layout.	**ENTER**
Take the selected camera feeds and make them into the new Mosaic layout on the main screen.	**SHIFT + ENTER**

Action	Keyboard Shortcut Key
Return to the previous Mosaic layout on the main screen.	**BACKSPACE**
Return to the previous Mosaic layout on the secondary screen.	**SHIFT + BACKSPACE**
Return to the Mosaic home layout.	**ESC**
Switch to another preset on the main screen.	**TAB**
Switch to another preset on the secondary screen.	**SHIFT + TAB**
Navigate to the previous event.	**A**
Navigate to the next event.	**S**
Create a single TC event.	**P**
Set an In point for a TC In/TC Out event.	**I**
Set an Out point for a TC In/TC Out event.	**O**
Create a live event.	**M**
Save an event.	**ENTER**
Delete an event.	**DEL**
Return to the Mosaic home layout.	**HOME**
Initiate/pause playback.	**SPACE**
Return to Live Mode and the Mosaic home layout.	**; or END**
Return to Live Mode without reverting to the Mosaic home layout.	**ALT + ; or ALT + END**
Navigate 1 field backwards.	←
Navigate 1 field forward.	→
Navigate 10 fieldsbackward.	**SHIFT +** ←
Navigate 10 fieldsforward.	**SHIFT +** →
Navigate 10 seconds backward.	**B**
Navigate forward through all SLSM fields.	**ALT +** →
Navigate backward through all SLSM fields.	**ALT +** ←
Play backward at normal speed or at 2x, 3x, 5x, 8x, 16x.	**J**
Stop playback. Used in combination with the J or L key to play back or forward at 33% speed.	**K**
Play forward at normal speed or at 2x, 3x, 5x, 8x, 16x.	**L**
Used to switch to the previous camera angle.	↑ **or PAGE UP**
Used to switch to the next camera angle.	↓ **or PAGE DOWN**
Load preset 1 on main screen	**NUM 1**

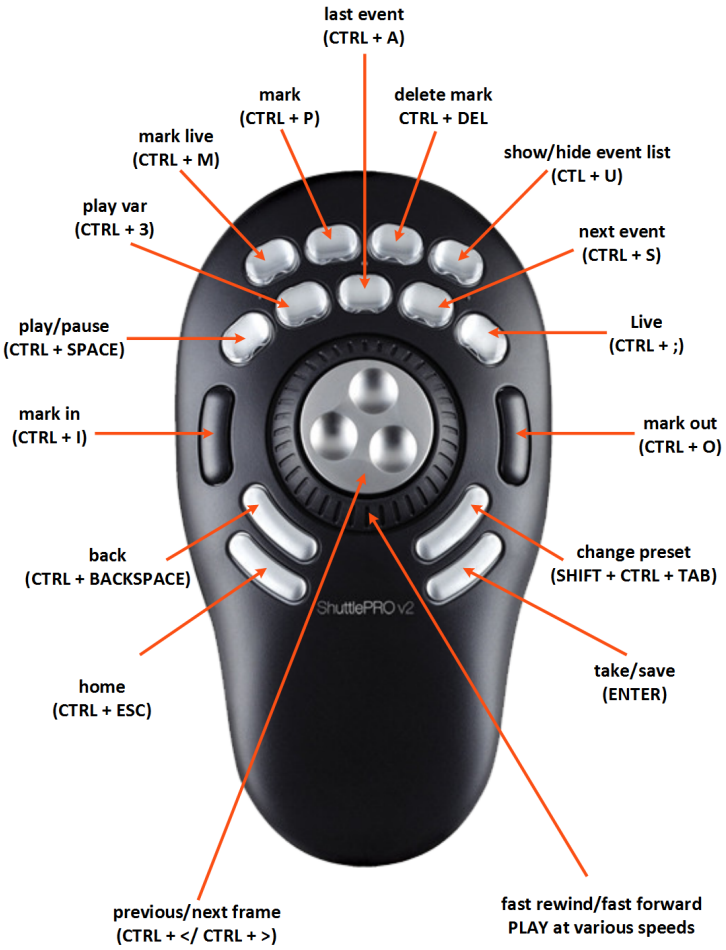
Action	Keyboard Shortcut Key
Load preset 2 on main screen	**NUM 2**
Load preset 3 on main screen	**NUM 3**
Load preset 4 on main screen	**NUM 4**
Load preset 5 on main screen	**NUM 5**
Load preset 6 on main screen	**NUM 6**
Load preset 7 on main screen	**NUM 7**
Load preset 8 on main screen	**NUM 8**
Load preset 1 on secondary screen	**ALT + NUM 1**
Load preset 2 on secondary screen	**ALT + NUM 2**
Load preset 3 on secondary screen	**ALT + NUM 3**
Load preset 4 on secondary screen	**ALT + NUM 4**
Load preset 5 on secondary screen	**ALT + NUM 5**
Load preset 6 on secondary screen	**ALT + NUM 6**
Load preset 7 on secondary screen	**ALT + NUM 7**
Load preset 8 on secondary screen	**ALT + NUM 8**
NEW ! Hide or display the wireframe in Offside Line Mode.	**W**
NEW ! Turn the Chromakey on or off in Offside Line Mode	**E**

WARNING

If you are in a text field, the keys are used as characters. To use them as a function, use them in combination with the **CTRL** key. Note that keyboard key combinations involving a **SHIFT** key will also be complemented with the **CTRL** key. For example, **SHIFT + 1** will become **CTRL + SHIFT + 1**.

8.3. ShuttlePRO v2 Button Assignments

The diagram below displays which ShuttlePRO v2 controls correspond to which keyboard shortcut keys and invoke which actions:


last event
(CTRL + A)
mark
(CTRL + P)
delete mark
CTRL + DEL
mark live
(CTRL + M)
show/hide event list
(CTL + U)
play var
(CTRL + 3)
next event
(CTRL + S)
play/pause
(CTRL + SPACE)
Live
(CTRL + ;)
mark in
(CTRL + I)
mark out
(CTRL + O)
back
(CTRL + BACKSPACE)
change preset
(SHIFT + CTRL + TAB)
ShuttlePRO v2
home
(CTRL + ESC)
take/save
(ENTER)
previous/next frame
(CTRL + </ CTRL + >)
fast rewind/fast forward
PLAY at various speeds

8.4. Storage Capacity

The number of hours of content that can be stored per server recorder depends on:

- the video resolution of the video content;
- the disk size of the server;
- the video system;
- the number of incoming cameras.

The tables below gives an overview per video resolution of the available storage capacity taking into account the criteria listed above.

Video Resolution	1080i			
Disk Size	450 GB		900 GB	
Video System	PAL	NTSC	PAL	NTSC
Number of Cameras	**Hours/Track**		**Hours/Track**	
1	34,9	29,1	72.5	60.5
2	17.5	14.6	36.3	30.3
3	11.6	9.7	24.2	20.2
4	8.7	7.3	18.1	15.1
5	7.0	5.8	14.5	12.1
6	5.8	4.9	12.1	10.1
7	5.0	4.2	10.4	8.6
8	4.4	3.6	9.1	7.6

Video Resolution	1080p			
Disk Size	450 GB		900 GB	
Video System	PAL	NTSC	PAL	NTSC
Number of Cameras	**Hours/Track**		**Hours/Track**	
1	40.8	34	84.6	70.6
2	20.4	17	42.3	35.3
3	13.6	11.3	28.2	23.5
4	10.2	8.5	21.2	17.6

Video Resolution	720p			
Disk Size	450 GB		900 GB	
Video System	PAL	NTSC	PAL	NTSC
Number of Cameras	**Hours/Track**		**Hours/Track**	
1	47.3	39.5	98.3	82
2	23.7	19.7	49.1	41
3	15.8	13.2	32.8	27.3
4	11.8	9.9	24.6	20.5
5	9.5	7.9	19.7	16.4
6	7.9	6.6	16.4	13.7
7	6.8	5.6	14	11.7
8	5.9	4.9	12.3	10.2

Video Resolution	SD			
Disk Size	450 GB		900 GB	
Video System	PAL	NTSC	PAL	NTSC
Number of Cameras	**Hours/Track**		**Hours/Track**	
1	172.6	197.4	358.4	409.8
2	86.3	98.7	179.2	204.9
3	57.5	65.8	119.4	136.6
4	43.1	49.3	89.6	102.4
5	34.5	39.4	71.6	81.9
6	28.7	32.9	59.7	68.3
7	24.6	28.2	51.1	58.5
8	21.5	24.6	44.8	51.2

8.5. Video and Audio Encoding

NEW !

The audio tracks that are associated to a server recorder channel are exported in the mp4 file. The video and audio encoding in the mp4 file is described in the following table:

Native/ Proxy	Input Format	Output Format	Video Codec	H264 Profile	H264 Level	Video Bitrate	Video Bitrate Mode	Audio Codec	Audio Sample Rate	Audio Bitrate	Audio Mono/ Stereo	Max Audio Channels	Wrapper
Native	1080i 50	1080i 50	H.264	High	4.1	10 Mbps	VBR	HE-AAC	48Khz	128 kbps	mono	16	mp4
Native	1080i 59.94	1080i 59.94	H.264	High	4.1	10 Mbps	VBR	HE-AAC	48Khz	128 kbps	mono	16	mp4
Native	720p50	720p50	H.264	High	4.1	10 Mbps	VBR	HE-AAC	48Khz	128 kbps	mono	16	mp4
Native	720p59.94	720p59.94	H.264	High	4.1	10 Mbps	VBR	HE-AAC	48Khz	128 kbps	mono	16	mp4
Native	1080p50	1080p50	H.264	High	4.2	12 Mbps	VBR	HE-AAC	48Khz	128 kbps	mono	16	mp4
Native	1080p59.94	1080p59.94	H.264	High	4.2	12 Mbps	VBR	HE-AAC	48Khz	128 kbps	mono	16	mp4
Proxy	1080i 50	576p25	H.264	Main	3.1	2 Mbps	VBR	AAC-LC	48Khz	128 kbps	mono	16	mp4
Proxy	1080i 59.94	480p29.97	H.264	Main	3.1	2 Mbps	VBR	AAC-LC	48Khz	128 kbps	mono	16	mp4

Native/ Proxy	Input Format	Output Format	Video Codec	H264 Profile	H264 Level	Video Bitrate	Video Bitrate Mode	Audio Codec	Audio Sample Rate	Audio Bitrate	Audio Mono/ Stereo	Max Audio Channels	Wrapper
Proxy	720p50	576p25	H.264	Main	3.1	2 Mbps	VBR	AAC-LC	48Khz	128 kbps	mono	16	mp4
Proxy	720p59.94	480p29.97	H.264	Main	3.1	2 Mbps	VBR	AAC-LC	48Khz	128 kbps	mono	16	mp4
Proxy	1080p50	576p25	H.264	Main	3.1	2 Mbps	VBR	AAC-LC	48Khz	128 kbps	mono	16	mp4
Proxy	1080p59.94	480p29.97	H.264	Main	3.1	2 Mbps	VBR	AAC-LC	48Khz	128 kbps	mono	16	mp4

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