Configuration Manual

Version 11.00 – November 2011

XT·3

Production & Playout Server

EVS

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Improvement Requests

Your comments will help us improve the quality of the user documentation. Do not hesitate to send improvement requests, or report any error or inaccuracy on this user manual by e-mail to doc@evs.tv.

Regional Contacts

The address and phone number of the EVS headquarters are usually mentioned in the Help > About menu in the user interface.

You will find the full list of addresses and phone numbers of local offices either at the end of this user manual (for manuals on hardware products) or at the following page on the EVS website: http://www.evs.tv/contacts.

User Manuals on EVS Website

The latest version of the user manual, if any, and other user manuals on EVS products can be found on the EVS download center, on the following webpage: http://www.evs.tv/downloadcenter.

Table of Contents

1. Introduction

1.1. Introduction to the Configuration of EVS Servers

New Configuration Module

The Multicam Setup application is used for configuration and maintenance operations on EVS video servers. It is also used to select which application to run, since EVS disk recorders have the ability to run various dedicated applications (Video Server, Slow Motion, …).

With the release of Multicam 11, a new configuration module has been implemented aiming at simplifying and clarifying the EVS server management and configuration tasks.

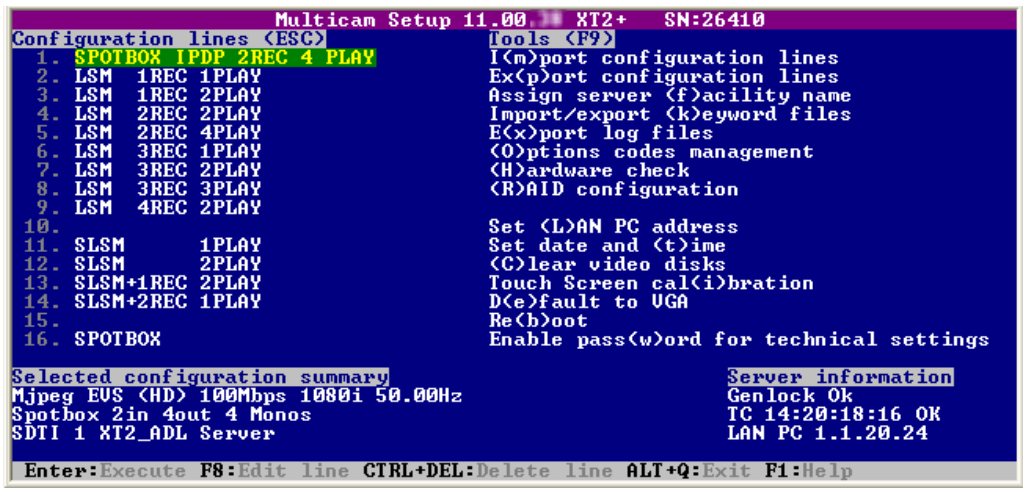
The new configuration module has been developed along the lines presented in this section.

Consolidation into a Single User Interface

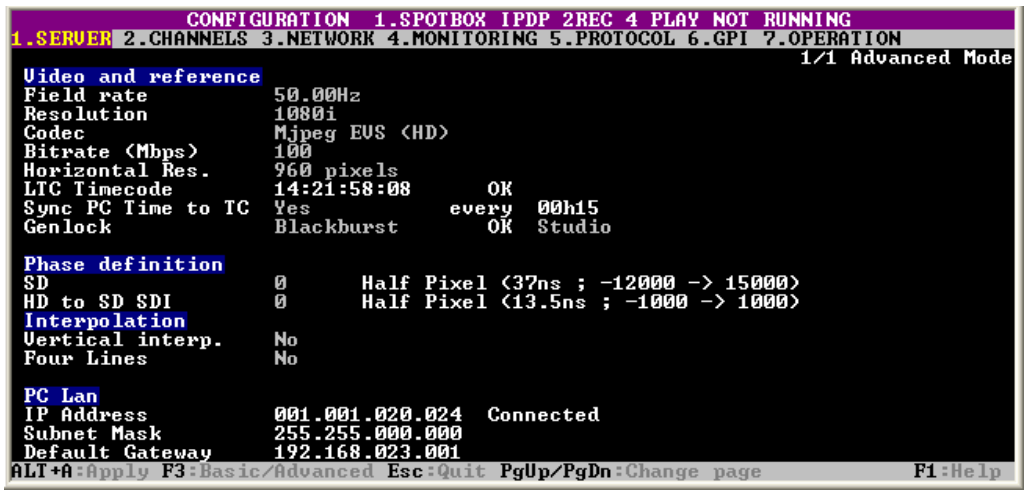
The server can now be fully configured from a single user interface.

The user interface includes:

- a setup section presented on one page with two main areas which give access to the configuration lines and the most used maintenance commands:



- a configuration section for each configuration line. It is presented in seven tabs which easily give access to all configuration parameters:



Simplification of the User Interface

The user interface has been simplified thanks to:

- the separation of basic and advanced parameters
  The most commonly used parameters are displayed in a Basic mode while more specific parameters are hidden, and can be displayed when you toggle to the Advanced mode.

- the filtering of the parameters displayed
  The parameters are only displayed when they are applicable to the chassis type, the video standard and option codes.

Parameter Changes While Server is Running

Changes to most parameters can now be performed and will be taken into account while the server is running.

Clarification of Audio Configurations

The audio configurations are more open and more easily configurable as it is now possible to:

- modify the audio parameters while the server is running
- configure individual outputs for Embedded, Digital and Analog audio.
- configure audio monitoring settings directly from the Remote Control panel.

Configuration Available from Server, Web and Remote Panel

You can configure the EVS server using one of the three available tools:

- The server-based application (VGA) features all settings and commands for the setup and configuration.
- The newly designed web-based interface is equivalent to the server-based application and enables engineers to configure the EVS server remotely.

- The Remote Control panel now includes:
  - a technical setup menu that gives access to the most commonly used technical settings.
  - an operational setup menu that only provides operational settings.

The following table gives an overview on the features available in each user interface:

	EVS Server Configuration		
	Setup Window	Configuration Window	
		Technical Settings	**Operational Settings**
Server-Based Application	Yes	Yes (tabs 1-6)	Yes (tab 7)
Web-Based Application	Yes (except some Tools commands)	Yes (tabs 1-6)	Yes (tab 7)
Remote Panel	No	Yes (Technical Setup F0)	Yes (Setup Menu SHIFT+D)

1.2. Introduction to the Manual

The XT3 server Configuration manual is the successor of the former Software Technical Reference manual and Multicam Configuration manual.

Both manuals have been merged into a single manual due to the in-depth reorganization of the software modules that allow configuring the EVS video servers. The Configuration manual is server-related.

The Server Configuration manual is organized in two sections:

- A section dedicated to the Multicam Setup window that mainly features:
  - the configurations lines and their management
  - the functions related to server administration and maintenance.
- A section dedicated to the Multicam Configuration windows that describes all server configuration parameters that can be defined for each configuration line. The section includes:
  - the parameter description itself
  - other server-related information needed for the configuration

Warning

Please note that this version of the configuration manual is not final. The section dedicated to the Multicam Configuration window is partial. A complete user manual will be published in the following weeks.

1.3. Starting the EVS Server

Introduction

When switching on the EVS server, the first step is the PC boot sequence, followed by the boot of the video I/O boards, and finally the Multicam Setup application is started.

When Starting the EVS Server for the First Time

Before you first use your EVS server, you need to perform the following tasks:

- Define the configuration lines your EVS server should run.
  For more information, see section "Configuration Lines" on page 7.
- Define the configuration parameters for each configuration line you will need.
  In this step, you will define, among others, the channel configuration for the selected configuration line, as well as audio and video parameters for the EVS server.
  For more information, see the section See "Multicam Configuration" on page 35.

When Starting the EVS Server After Initial Configuration

After the initial configuration, you will select a configuration line and press **ENTER** to run the server in this configuration. See also the section See "Launching a Configuration" on page 7. As soon as the EVS server is launched in a configuration, it starts the loop recording process.

1.4. Accessing the Web-Based Interface

Prerequisite

When the EVS server is started, you can access the web-based interface of the Multicam Setup application for that EVS server from any machine (PC or server) that is on the same network range as the EVS server. You can use any browser to open the web-based interface.

Procedure

To be able to open the web-based interface in a browser, you need to know the IP address of the PC LAN of the EVS server. For more information, see section "Setting the Server LAN PC Address" on page 19.

In your browser, enter the following URL: http://xxx.xxx.xxx.xxx/cfgweb/ where the crosses correspond to the PC LAN IP address of the EVS server you want to access.

2. Multicam Setup

2.1. Overview of User Interfaces

2.1.1. Overview on the Setup Areas

General Description

The Multicam Setup window is the window that first opens when the Multicam Setup application is launched. It is displayed when the EVS server is started but does not run a given configuration yet.

The Multicam Setup window allows users to:

- view and manage the various configuration lines.
- perform some administration and maintenance tasks on the EVS server.
- view summary information on the EVS server and the selected configuration line.

This is available in both server-based and web-based Multicam Setup applications.

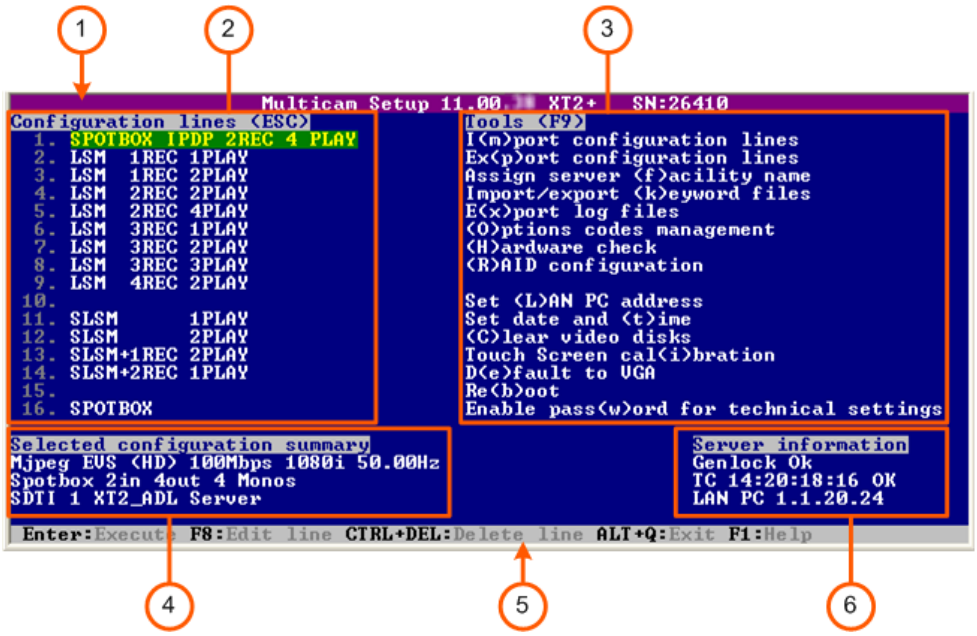
Both user interfaces include the same features, except that the Tools menu offers less commands in the web-based user interface.

User Interfaces

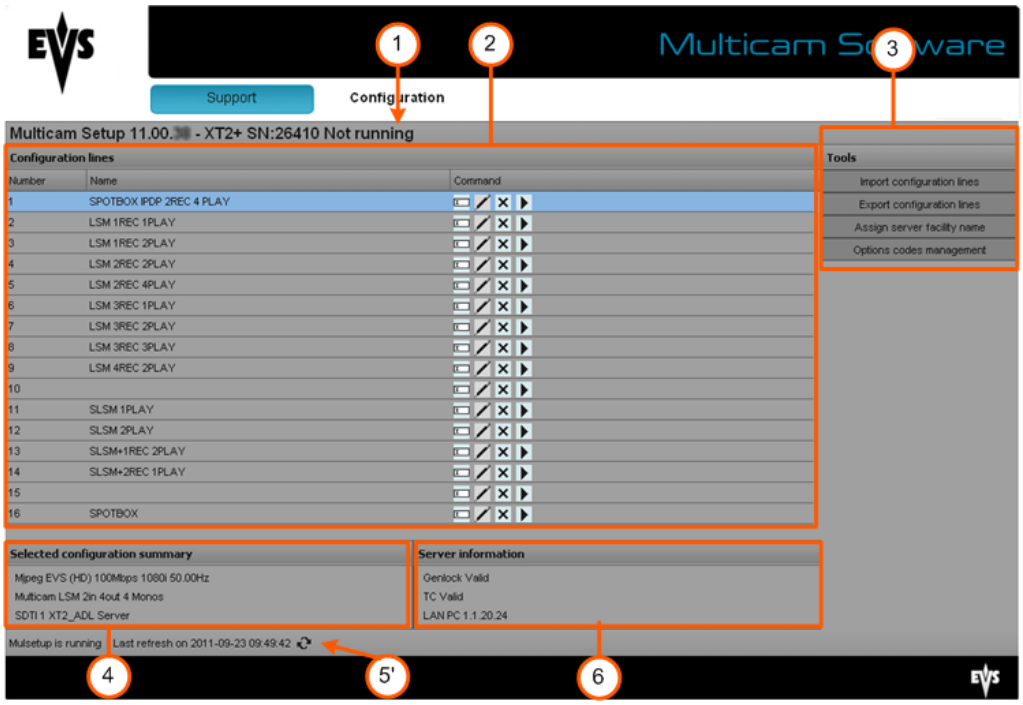
The Multicam Setup window contains six areas highlighted and described below.

These areas contain similar information in both web-based and server-based applications:

The following screenshot presents the Multicam Setup window in the server-based application:



The following screenshot presents the Multicam Setup window in the web-based interface:



Description of the Areas

The table below describes the various parts of Multicam Setup window:

#	Name of area	Description
1.	**Title bar**	The title bar displays the following information: • Multicam version • server facility name (if any) • chassis type • server serial number
2.	**Configuration Lines**	This area shows all configurations the EVS server can run. For more information, see sectionSee "Configuration Lines" on page 7
3.	**Tools**	This area provides the main commands for server administration and maintenance. For more information, click the Tools command below to go to the dedicated sections in the Multicam Setup chapter: • Import/export configuration lines • Assign server facility name • Import/export keyword files • Export log files • Options code management • Hardware check • Raid Configuration • Set LAN PC address • Set date and time • Clear video disks • Touch screen calibration • Default to VGA • Reboot • Enable password for technical settings
4.	**Configuration Summary**	This area shows a summary of the server parameters for the configuration line selected in the Configuration Lines area. The summary displays the following information: 1. codec type - bitrate - video standard 2. based config - INs/OUTs - No. audios 3. SDTI No. - server name - server type

#	Name of area	Description
5.	**Task bar**	(Server-based application) displays commands for the main actions in the window. For more information, See "Navigability and Commands" on page 4.
5'.	**Status bar**	(Web-based application) displays: • the Multicam Setup application status • the date and time of the last refresh • the **Refresh** button
6.	**Server Information**	displays the following information on the EVS server: • genlock status (OK or bad) • timecode and timecode status (OK or bad) • IP address of the LAN PC

2.1.2. Navigability and Commands

In the Server-Based Application

General Navigability

The following table presents the general commands to navigate in the Multicam Setup window:

Command description	Command key
Moving the cursor to the first item of the Tools menu	**F9**
Moving the cursor to the first configuration line	**ESC**
Moving down in the list of editable items (configuration lines and Tools commands)	**TAB**
Moving up in the list of editable items	**SHIFT+TAB**
Displaying a Help window that gives a summary of the commands	**F1**

Configuration Lines

In the Configuration Lines area, a configuration line is highlighted when it is selected.

The main commands for configuration line management are presented below:

Command description	Command key
Moving up in the list of configuration lines	**UP ARROW**
Moving down in the list of configuration lines	**DOWN ARROW**
Starting the server with a given configuration line	**ENTER** on selected line.
Entering the Configuration window to edit the settings related to a selected line	**F8**
Renaming a configuration line	**CTRL** + **F1**
Deleting a configuration line	**CTRL** + **DELETE**

More commands on configuration lines are explained in the section See "Configuration Lines" on page 7.

Tools Menu

Command description	Command key
Selecting a tool command	Pressing the shortcut key (between brackets in the command name)
Calling a tool command	**ENTER** on the selected command

In the Web-Based Interface

Note

To be sure that changes have been taken into account in the web-based interface, refresh regularly the page by clicking the **Refresh** button  in the Status bar.

Configuration Lines

Command description	Command icon
Renaming the configuration line	
Entering the Configuration window to edit the settings related the configuration line	
Deleting the configuration line	
Starting the server with the corresponding configuration line	

Tools Menu

To call a Tools command, simply click on the command in the Tools menu. This will open the corresponding window.

2.2. Configuration Lines

2.2.1. Chapter Contents

The table below presents the topics of this section and shows whether the feature described is available from the web-based interface and/or from the server-based interface.

Features	Server-Based	Web-Based
"Launching a Configuration" on page 7	Yes	Yes
"Editing a Configuration" on page 8	Yes	Yes
"Renaming Configuration Lines" on page 9	Yes	Yes
"Exporting and Importing Configuration Lines" on page 10	Yes	Yes (one by one)
"Changing the Position of Configuration Lines" on page 14	Yes	Yes (indirectly)
"Copying, Pasting and Deleting Configuration Lines" on page 14	Yes	Yes (indirectly)

2.2.2. Launching a Configuration

Introduction

When the EVS server has initialized, the Multicam Setup window stays open, by default, until the operator selects the requested configuration line and launches it.

How to Manually Launch a Configuration

In the Server-Based Application

To start a configuration in the server-based application, proceed as follows:

1. Press the **UP ARROW** or **DOWN ARROW** key to respectively move up and down in the list of configuration lines until the requested line is highlighted.
2. Press **ENTER** to run the configuration line on the EVS server.

In the Web-Based Interface

To start a configuration in the web-based interface, click the **Launch** icon  next to the configuration line you want to launch.

Automatic Launch

From the server-based application, it is possible to set the server so that the last used configuration line is automatically launched when the Multicam Setup window has stayed open for five seconds.

To activate the automatic launch, press **F7** on the requested configuration line in the Multicam Setup menu before launching this configuration. This configuration line is now highlighted in black (no longer in green) to indicate the automatic launch is active. The last used configuration line will then be launched automatically after a five seconds' delay the next time the EVS server will be restarted.

If you want to change the configuration line to be launched, you need to rapidly hit a key on the keyboard connected to the EVS server within five seconds after the Multicam Setup window has been displayed. Then, the Multicam Setup window will stay open and let you select another configuration.

2.2.3. Editing a Configuration

How to Edit a Configuration

When the operator hits a key on the keyboard connected to the EVS server (within five seconds if the automatic launch of a configuration is active), the Multicam Setup window stays open, and the operator can select and enter the selected configuration to edit it.

In the Server-Based Application

To edit a configuration line in the server-based application, proceed as follows:

1. Press the **UP ARROW** or **DOWN ARROW** key to respectively move up and down in the list of configuration lines until the requested line is highlighted.
2. Press **F8**.
   The Configuration window opens. See the section See "Multicam Configuration" on page 35 to edit the configuration parameters.
3. When the configuration is defined for a given line, press **ALT+A** in the Configuration window to validate the changes
4. Press **ESC** to come back to the Setup window.

In the Web-Based Interface

To edit a configuration line in the web-based interface, proceed as follows:

1. Click the **Edit** icon  for the configuration line you want to configure.
   The Configuration window opens. Refer to the section See "Multicam Configuration" on page 35 to edit the configuration parameters.
2. When the configuration is defined for the given line, click **Apply** to validate, and then **Quit** to come back to the Setup window.

Invalid Configuration

Invalid configuration lines are easily detected in the server-based application:

- When a configuration line becomes invalid, a red exclamation mark <!> is displayed next to the configuration line in both server-based and web-based interfaces.
- When the operator presses **F8** to edit the configuration line in the server-based application, a popup window indicates the line is invalid. When the operator acknowledges the message, the pages including the invalid parameters are displayed with the invalid parameters selected.

2.2.4. Renaming Configuration Lines

Introduction

When the EVS server is delivered, default names are assigned to the configuration lines. You can change them as explained below.

In the Server-Based Application

To rename the configuration line in the server-based application, proceed as follows:

1. Press the **UP ARROW** or **DOWN ARROW** key to respectively move up and down in the list of configuration lines until the requested line is highlighted.
2. Press **CTRL+F1**.
   The line if highlighted in pink and the cursor blinks on the first character.
3. Type the new name for the configuration line taking the following into account:
   - The space bar allows you to delete the selected character.
   - The **LEFT ARROW** and **RIGHT ARROW** keys allow you to move the cursor position on the line.
4. Press **ENTER** to validate the new name.

The new name is assigned to the configuration line and reflected in all user interfaces.

In the Web-Based Interface

To rename the configuration line in the web-based application, proceed as follows:

1. Click the **Rename** button  next to the configuration line you want to rename.
2. In the **Rename** dialog box, type the new configuration name.
3. Click **OK**.

The new name is assigned to the configuration line and reflected in all user interfaces.

2.2.5. Exporting and Importing Configuration Lines

How to Export Configuration Lines

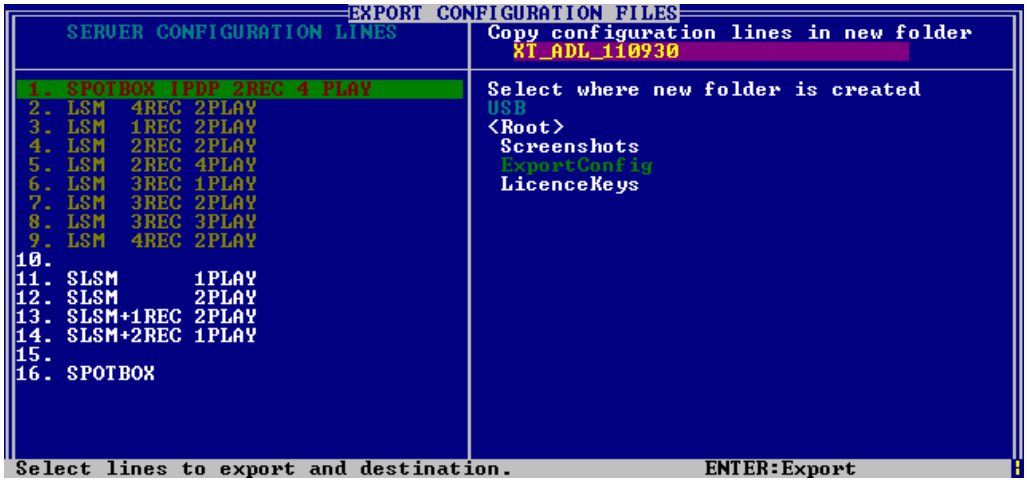
In the Server-Based Application

Note

In the server-based application, the configuration lines are exported onto a USB key. For this reason, you first need to insert a USB key on the USB port located on the front panel of the EVS server.

To export configuration lines from an EVS server in the server-based application, proceed as follows:

1. In the Multicam Setup window, press **P** to call the Export Configuration Lines command. The Export Configuration Lines window opens:
   - The left pane allows the selection of the configuration lines to be exported
   - The right pane allows the selection of the location where the export folder will be created on the USB key.



2. If requested, change the name of the folder the configuration lines will be exported to:
   - By default, the folder name, displayed in the upper right corner, follows the pattern: <server facility name_current date> where the date has the YYMMDD format.
   - To change the export folder name, type the requested name. You can do this any time in the procedure.
3. If requested, change the selection of configuration lines selected for export on the left pane:
   - By default, all configuration lines are selected for export (orange font).
   - To deselect a line, use the **UP ARROW** or **DOWN ARROW** key to highlight it in green, and press **SPACEBAR**. The deselected lines turn white.
4. Press **TAB** to shift the focus to the right pane.

5. If requested, change the location where the export folder will be created:
   - By default, the export folder is created on the root of the USB key, so <Root> is in a green font.
   - To change the folder where the export folder will be created, highlight the requested folder. The last highlighted folder will be considered as the requested location.
6. To start the export process, press **ENTER**.
7. When the selected lines are exported (as a .lin file) on the USB key, a message opens to confirm the export. Click **OK**to acknowledge the message.

In the Web-Based Interface

Note

In the web-based application, it is only possible to export configuration lines one by one.

To export configuration lines from an EVS server in the web-based application, proceed as follows:

1. From the Multicam Setup window, click Export configuration lines in the Tools menu. The Export configuration line window opens:

2. Click **Export** next to the configuration line you want to export.
3. In the File Download dialog box, click **Save**.
4. Select the location where you will save the export configuration file (.lin file) and, if requested, change the file name.
5. Click **Save**.

The export file is saved at the requested location.

If you want to export several configuration lines, repeat this operation for all requested configuration lines.

How to Import Configuration Lines

In the Server-Based Application

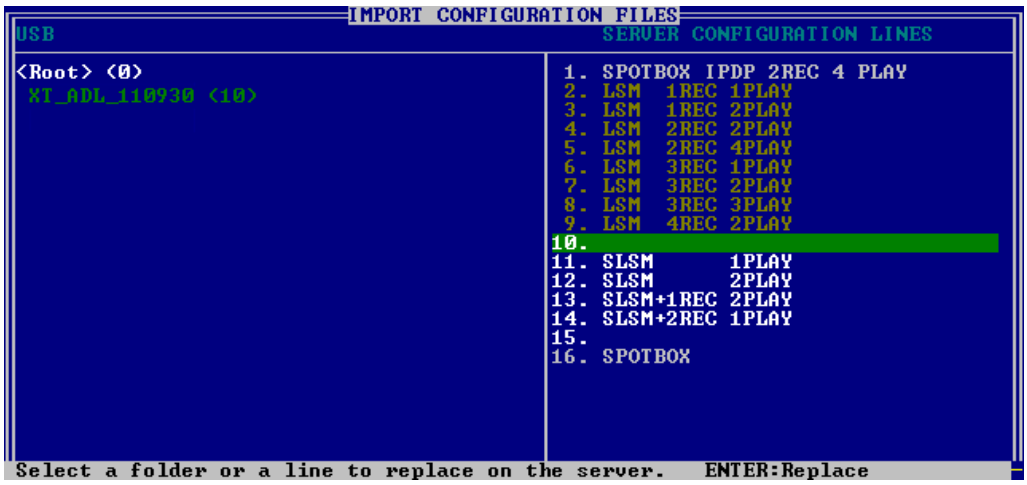
Note

In the server-based application, the configuration lines are imported from a USB key. For this reason, you first need to insert into EVS server (USB port on the front panel) the USB key that contains the .lin file to be imported .

Warning

If the EVS server is password-protected, you should deactive the password protection. Otherwise, you will only be able to import the operational settings of the configuration lines selected for import.

1. In the Multicam Setup window, press **M** to call the Import Configuration Lines command.
   A message informs you that the USB key is being parsed for the detection of folders containing configuration files (.lin files).
2. The Import Configuration Lines window opens:
   - The left pane allows the selection of the folder containing the configuration files to be imported.
   - The right pane allows the selection of the configuration lines to be imported onto the EVS server.



3. On the left pane, use the **UP ARROW** or **DOWN ARROW** key to highlight the folder that contains the configuration file you want to import.
   When the folder is selected, the right pane shows:
   - in orange the configuration lines that will be imported to the server.
     The lines are imported onto the same position and with the same name as in the export file.
   - in white the configuration lines that will remain unchanged on the EVS server (no import).
4. Press **TAB** to shift the focus to the right pane.

5. If requested, deselect lines you do not want to import:
   - By default, all configuration lines present in the .lin file will be imported onto the EVS server.
   - To deselect a line, use the **UP ARROW** or **DOWN ARROW** key to highlight it in green, and press **SPACEBAR**. The deselected lines turn light grey.
6. Press **ENTER** to validate the selection of configuration lines to import.
   A warning message informs you about which configuration lines will be imported, and tells the next screen will allow you to select which settings to replace.
7. Select 'Yes' using the **RIGHT ARROW**, and press **ENTER**.
8. In the Select settings to replace window, select the type of settings you want to import for the selected configuration lines:
   a. Press **SPACEBAR** to select or deselect a settings type.
   b. Press **TAB** to move to the next settings type.
   c. Repeat these steps for all settings types you want to import.
9. Press **ENTER** to start the import process.

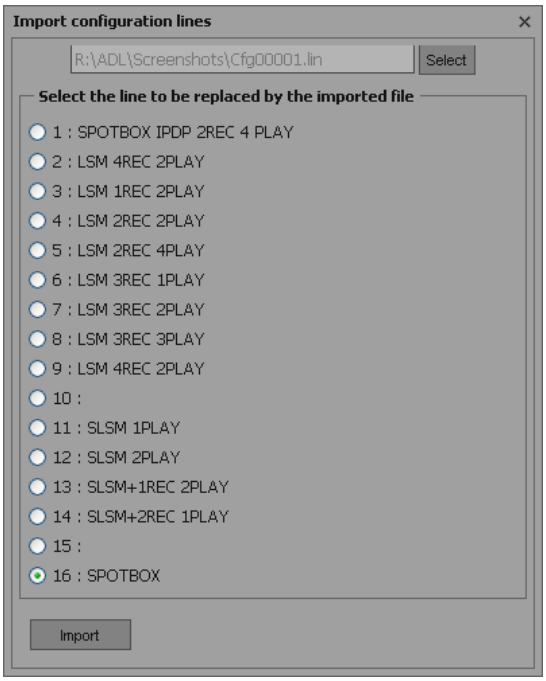
In the Web-Based Interface

Note

In the web-based application, it is only possible to import configuration lines one by one.

To import configuration lines onto an EVS server in the web-based application, proceed as follows:

1. From the Multicam Setup window, click Import configuration lines in the Tools menu.
   The Import configuration line window opens.



2. Click **Select** next to the top field and select the configuration file you want to import.
3. Tick the configuration line to be replaced on the EVS server.
4. Click **Import**.

The configuration line is imported with its original name onto the selected configuration line on the EVS server.

2.2.6. Changing the Position of Configuration Lines

In the Server-Based Application

To move a configuration line up in the list in the server-based application, proceed as follows:

1. Press the **UP ARROW** or **DOWN ARROW** key to respectively move up and down in the list of configuration lines until the requested line is highlighted.
2. Do one of the following:
   - To move the selected line up, press **CTRL** + **UP ARROW**.
   - To move the selected line down, press **CTRL** + **DOWN ARROW**.

In the Web-Based Interface

The feature to move configuration lines up and down in the list of configuration lines is not available as such in the web-based application.

You can however use the import and export feature to change the position of lines in the list of configuration lines.

2.2.7. Copying, Pasting and Deleting Configuration Lines

How to Copy/Paste Configuration Lines

In the Server-Based Application

Warning

Note that copying a line onto another position will erase the configuration on the selected position.

To copy and paste a configuration line in the server-based application, proceed as follows:

1. Press the **UP ARROW** or **DOWN ARROW** key to respectively move up and down in the list of configuration lines until the requested line is highlighted.
2. Press **CTRL**+**C** to copy the line to the clipboard.
3. With the **UP ARROW** and **DOWN ARROW** keys, move to the position where you want to copy the line.
4. Press **CTRL** + **V** to paste the line to the selected position.
5. Press **ENTER** to confirm that you agree to replace the former configuration line by the copied one on the selected position.

In the Web-Based Interface

The feature to copy and paste configuration lines is not available as such in the web-based application.

You can however use the import and export feature to change the position of lines in the list of configuration lines.

How to Delete Configuration Lines

Warning

When you delete a configuration line, the line is automatically be deleted, without prior warning message.

In the Server-Based Application

To delete a configuration line in the server-based application, proceed as follows:

1. Press the **UP ARROW** or **DOWN ARROW** key to respectively move up and down in the list of configuration lines until the requested line is highlighted.
2. Press **CTRL**+**D** to delete the line.

The line is directly deleted.

In the Web-Based Interface

To delete a configuration line in the web-based interface, click the **Delete** icon  next to the configuration line you want to delete.

The configuration line is directly deleted.

2.3. Server Parameters

2.3.1. Chapter Contents

The table below presents the topics of this section and shows whether the described features are available from the web-based interface and/or from the server-based interface.

2.3.2. Assigning a Server Facility Name

Introduction

You can assign a facility name to the EVS server. It allows the identification of the EVS server with a dedicated name, besides the server's serial number. This name is independent from any configuration.

The server facility name differs from the server net name, which can vary from a configuration to the other as it is defined in the configuration parameters.

The server facility name is displayed in the title bar of the Multicam setup and configuration windows, as well as on the OSD (on-screen display).

In the Server-Based Application

To assign a server facility name in the server-based application, proceed as follows:

1. In the Multicam Setup window, press **F** to call the Assign server facility name command. A dialog box opens:

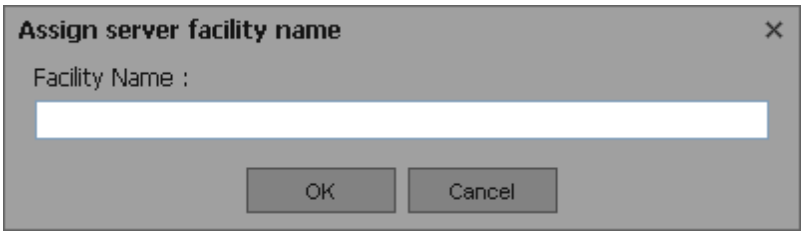
2. Type the server facility name and press **ENTER**.

The facility name is directly assigned and displayed in the title bar, as well as on the OSD.

In the Web-Based Interface

To assign a server facility name in the web-based interface, proceed as follows:

1. From the Multicam Setup window, click Assign server facility name in the Tools menu. A dialog box opens:



2. Type the server facility name and press **OK**.

The facility name is directly assigned and displayed in the title bar, as well as on the OSD.

2.3.3. Activating and Deactivating the Password Protection

Activating the Password on the EVS Server

Introduction

The administrator can protect the EVS server with a password. This password protection prevents unauthorized users from changing configuration settings. It does not prevent from using operational commands.

The password protection can only be activated and deactivated from the server-based application.

The password protection has the following impact on the various user interfaces:

- The password is required to apply changes to configuration parameters in the server-based application and in the web-based interface.
- On the Remote Panel, the Technical Setup menu is not available.

How to Activate a Password on the EVS Server

To activate a password on the EVS server, proceed as follows:

1. In the Multicam Setup window, press **W** to call the Enable password command. A warning message opens.
2. Read the warning message carefully. Press the **RIGHT ARROW** key to select 'Yes' and press **ENTER** to activate the password protection.

The password protection is directly active in all user interfaces, for all configuration parameters on all configuration lines.

Enabling Changes to Configuration Parameters

In the Server-Based Application

When the password protection is active, the following message is displayed in red at the top of each configuration tab in the Multicam Configuration window:

To enable changes in the configuration parameters during the session, you will be prompted for the password the first time you will save changes to configuration parameters in a session.

In the Web-Based Interface

When the password protection is active, the Multicam Configuration window is completely dimmed and a close lock icon is displayed at the top of the window: 

To enable changes in configuration parameters during the browser session, proceed as follows:

1. Click the Lock icon  .
2. Enter the password on the dialog box that is displayed.
3. Press **OK**.

The close lock icon changes to an open lock icon  , and the parameters can be modified and saved for the browser session.

How to Deactivate the Password on the EVS Server

Once the password protection is active, it can only be deactivated from the server-based application as follows:

1. In the Multicam Setup window, press **W** to call the Enable password command.
   A message opens to warn you that you are about to remove the password protection:

2. Press the **RIGHT ARROW** key to select 'Yes' and press **ENTER**
3. Type the password in the dialog box that opens, and press **ENTER** to validate:

The password protection is directly removed from all user interfaces.

2.3.4. Setting the Server LAN PC Address

Introduction

The MTPC board of an EVS server allows interaction with other EVS hardware on a setup via the LAN PC address. The port #1 of the MTPC board is used. The communication is established through telnet or FTP access. XNet Monitor will also use the LAN IP connection to transfer the monitoring data.

Note

You can only define the settings associated with the LAN PC address from the server-based application.

Settings

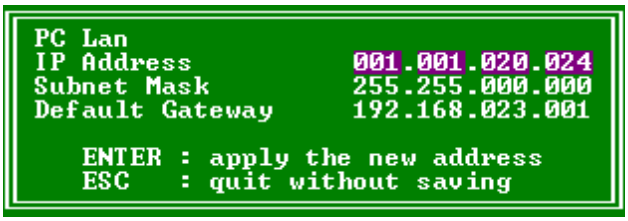
The MTPC board connection settings are described in the table below:

Setting	Description
IP Address	Specifies the IP address to connect to the port #1 of the MTPC board on the server. The IP addresses 0.0.0.0 and 255.255.255.255 are not allowed.
Subnet Mask	Specifies the range of logical addresses within the address space assigned to the MTPC board connection.
Default Gateway	Specifies the IP address of the router on the network that the MTPC board can use as an access point to external networks.

How to Set the LAN PC

To set up the LAN PC on the EVS server, proceed as follows:

1. In the Multicam Setup window, press **L** to call the Set LAN PC address command. The following window opens:



2. In this window, type the IP address, subnet mask, and default gateway using the **TAB** key to move from one field to the other.
3. Press **ENTER** to validate the definition of the LAN PC settings.

The LAN PC settings will automatically be taken into account when you will launch a configuration line.

2.3.5. Setting the Server Date and Time

Introduction

The Set Date and Time command allows you to adjust the system time & date from the Multicam Setup window in the server-based application. This is not available in the web-based interface.

Note

When you have just launched a configuration, a window displaying the system date and time gives you another opportunity to modify these parameters.

Supported Formats

The supported date format is DD-MM-YYYY, as shown in the example below:

- 15-03-2011 for March 15, 2011

The supported time format is hh:mm:ss, as shown in the example below

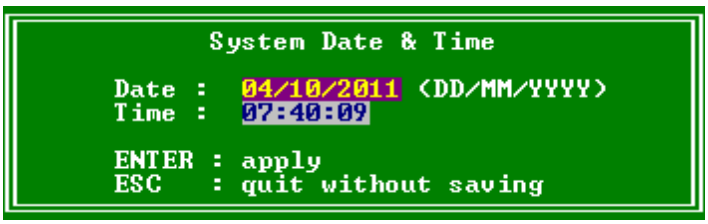
- 22:58:00 for 22 h 58 min 00 sec (24-hour display)

A warning message will inform you if the format you try to use is not valid.

How to Set the System Date and Time

To set up the system date and time from the Multicam Setup window, proceed as follows:

1. In the Multicam Setup window, press **T** to call the System date and time command. The following window opens:



2. In this window, type:
   - the date in the DD/MM/YYYY format
   - the time in the hh:mm:ss format (24-hour display)

   using **TAB** to move from one field to the other.
3. Press **ENTER** to apply the changes to the system date and time.

The date and time you have entered here will automatically be taken into account when you launch a configuration.

2.3.6. Setting the Default Output To VGA/Video

Introduction

Between the PC boot and the I/O boot, the video driver is loaded. The **Default Output to VGA/Video** command allows you to switch the video display from and to one of the following modes:

- VGA mode
- B&W video mode. This mode sends a video CVBS output on the VGA connector, which allows the VGA screen to be displayed on a standard composite video monitor using the VGA <==> BNC adapter provided with the unit.

Note

When a configuration has been launched, you can still switch from one mode to the other with **ALT** + **BACKSPACE**.

How to Change the Default Output

By pressing **E**, the shortcut key to the Default Output command, the default output will automatically toggle to one mode to the other.

The parameter displayed on the Multicam Setup window corresponds to the active value. This means that when the parameter displayed is 'Default to VGA', the active mode is the VGA mode.

2.3.7. Configuring Server Raids

Introduction

When the EVS server is started, the server raids are automatically detected, and built based on the default settings described in the 'Default Raid Configuration' section below.

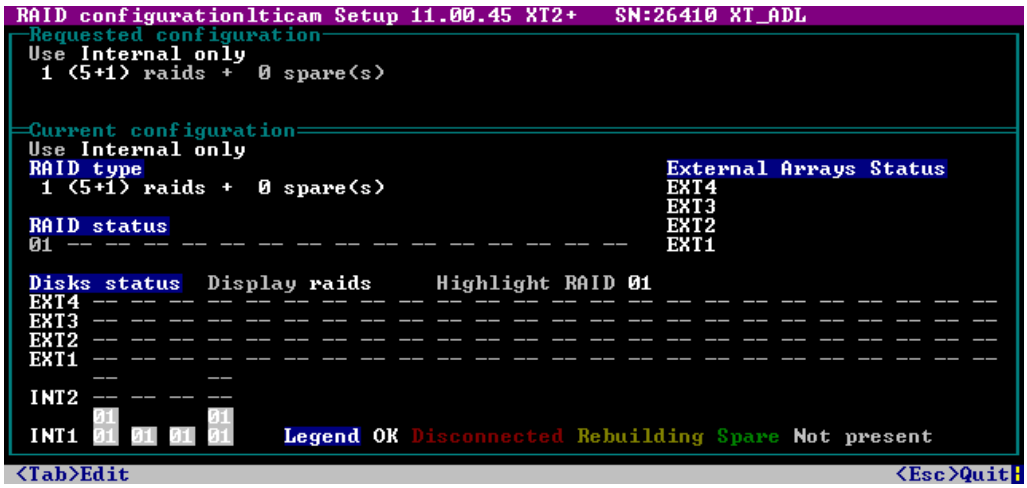
You can view the default raid configuration and modify it from the Raid Configuration window. This window is only available in the server-based application.

Note

Only SAS drives from EVS can be used as they are specifically configured to work with EVS video servers.

Overview on the Raid Configuration Window

The Raid Configuration window is available from the Multicam Setup window, when pressing **R** to call the **Raid Configuration** command in the **Tools** menu:



The Requested Configuration area, in the upper part of the window, displays the default raid configuration. You can modify the default raid configuration in this area. You will find more information on editable parameters below.

The Current Configuration area, in the lower part of the Raid Configuration window, provides raid and disk status information..

Default Raid Configuration

At the first start, the software builds the raids using the following settings:

- If internal and external storage are detected, both are used.
- (5+1) raid configuration with a maximum of 5 spares is used. First, all the raids are built. The remaining disks are used as spare disks. The construction of raids starts with internal arrays and carries on with external arrays. A raid can be created across several hardware arrays.

Requested Raid Configuration

Overview

In the Requested Raid Configuration, you can modify the following parameters in the default raid configuration:

- Use of internal and/or external storage.
- Use of spare disks.
- Number of raids to be used.

To modify one of these parameters, pressing **TAB** to select the requested field, and **SPACE BAR** to select the requested value, or type the requested value.

Field Description

The following table describes the fields editable in the Requested Configuration area in the Raid Configuration window. The fields are described in the sequence they are highlighted when using the **TAB** key.

Field Name	Description
Storage type	Specifies which storage type you will use. When both storage types are available, the following values are possible: • Internal only • External + Internal • External only
Number of raids	Specifies the number of raids you want to use. Type the number of raids you want to use.
Raid configuration type	Specifies the raid configuration type. The software is able to handle two raid organizations: • (4+1): raid of 5 disks • (5+1): raid of 6 disks

Current Raid Configuration

This area is used to display the raid status for the selected configuration when the EVS server is running a configuration.

2.4. Licenses and Maintenance

2.4.1. Overview on Options Codes Management

Introduction

To run a software application and/or specific software options, not only the software itself is required but also a license key (called 'license code' in Multicam), which is unique for every option on every system.

This license keys can be temporary, be valid only until a defined deadline for demonstration purposes, or be permanent with no time limit.

The license keys are managed from the Options codes management window. This window is available in both the server-based application and the web-based interface.

Note

When a temporary license code is about to expire within two weeks or is expired, the system will warn the operator when the Multicam Setup window opens.

Accessing the Options Codes Management Window

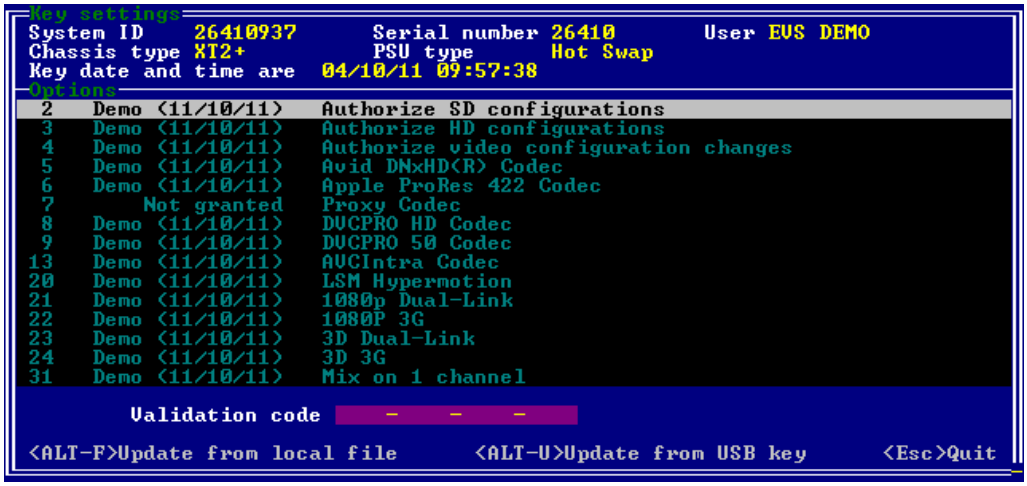
To open the Options codes management window in the server-based application, press **O** from the Multicam Setup window.

To open the Option codes management window in the web-based interface, click **Options code management** in the Tools menu from the Multicam Setup window.

2.4.2. Options Codes Management Window

In the Server-Based Application

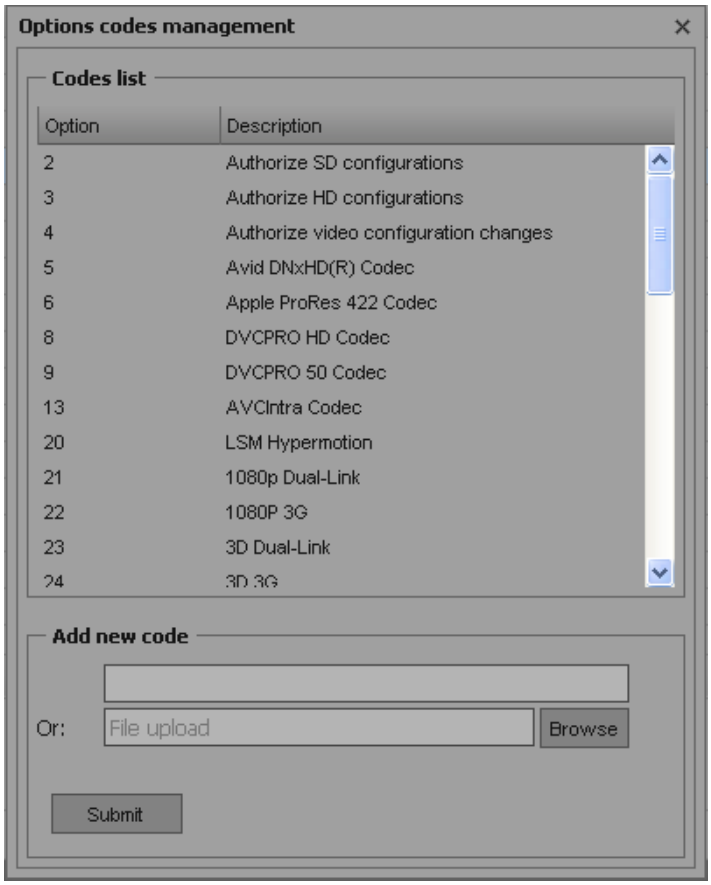
The window features three areas which contains the information mentioned below:



Area	Description
Upper area	List of key settings related to the EVS server: • **System ID:** ID code of the hardware key, necessary for license code calculation. • **Serial number:** Serial number of the mainframe, also written on the back plate of the mainframe. • **User:** The user name is a label for information's sake only. • **Chassis:** Type of mainframe. If this value is wrong, audio and video routing inside the system will not work properly. • **PSU type:** Type of CPU installed on the chassis: standard or hot swap. • **Key date and time:** Expiration date & time for temporary license codes. Not available when the permanent codes are installed.
Central area	All codes **valid for the given server chassis**. Next to each code name, the code number, the type of license (permanent, temporary, demo, or 'not granted'), as well as the expiration date are mentioned.
Lower area	Area where you can enter new license codes manually. The commands on how to import new license code from files are specified.

In the Web-Based Interface

The window features two areas which contain the information mentioned below:



Area	Description
Central area	All codes **valid for the given server chassis**for which a license key has been granted and is still valid. Next to each code name, the code number is mentioned.
Lower area	Area where you can enter new license codes manually or upload a license code file.

2.4.3. Entering and Removing License Codes

Introduction

When you request new license codes to activate one or more features, you can receive the license keys from EVS in the form of:

- a xxxxx.COD file (xxxxx = serial number of the server for which this file has been calculated). You need to apply this file to the EVS server from the Option codes management window.
- a license code that you can type in the Option codes management window.

Once the license codes have been entered, the corresponding options or features are automatically active when you launch a configuration, without having to reboot the server.

How to Enter Licence Codes from a COD File

In the Server-Based Application

To enter a new license code delivered via a COD file, proceed in one of the following ways:

1. Copy the .COD file on a USB key that you connect to the USB port of the EVS server.
2. From the Multicam Setup window, press **O** to open the Options codes management window.
3. Press simultaneously **ALT**+ **U** keys.

OR

1. Copy manually the .COD file to the C:\ drive of the EVS server
2. In the Multicam Setup menu, press **O** to open the Options codes management window.
3. Press simultaneously **ALT**+ **F** keys.

The license codes will be read from the .COD file and updated into the system. Next to the line corresponding to the code, the license type, and the expiration date, if any, are displayed.

In the Web-Based Interface

To enter a new license code delivered via a COD file, proceed as follows:

1. Copy the .COD file onto a drive available from your PC.
2. From the Multicam Setup window, click **Options code management** in the Tools menu to open the Options code management window.
3. Click the **Browse** button, select the .COD file and click **Open**.
4. Click **Submit**.

The license codes will be read from the local file and updated into the system.

The lines corresponding to the new codes area added to the code list.

How to Enter License Codes with a Key Number

In the Server-Based Application

To enter a new license code delivered via a key number, proceed as follows:

1. From the Multicam Setup window, press **O** to open the Options codes management window.
2. Type the code you have received. It will automatically be typed in the the Validation Code field:

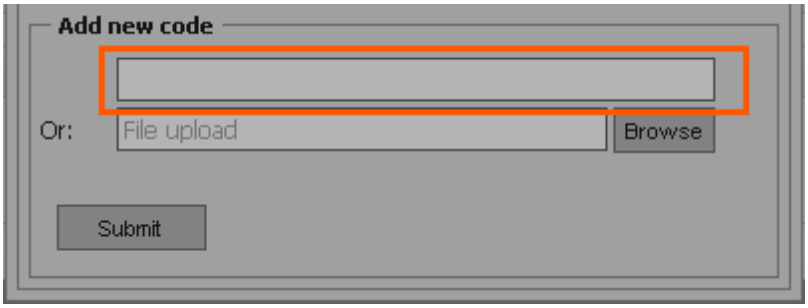
3. Press **ENTER**.

Next to the line corresponding to the activated codes, the license type, and the expiration date, if any, are displayed.

In the Web-Based Interface

To enter a new license code delivered via a key number, proceed as follows:

1. From the Multicam Setup window, click **Options code management** in the Tools menu to open the Options code management window.
2. Type the code number in the first field of the Add new code group box:



3. Click **Submit**.

The lines corresponding to the new codes are added to the code list.

How to Remove a License Code

You can remove a license code from the server-based application. Proceed as follows:

1. Press the **UP ARROW** and **DOWN ARROW** keys to move inside the options list and select the option to be removed.
2. When the option is selected (highlighted in white), press simultaneously **CTRL**+ **DELETE** on the keyboard.
3. Confirm the deletion of the option with **ENTER**.

2.5. Server Maintenance

2.5.1. Chapter Contents

The table below presents the topics of this section and shows whether the described features available from the web-based interface and/or from the server-based interface.

Commands	Server-Based	Web-Based
"Rebooting the EVS Server" on page 29	Yes	No
"Hardware Check" on page 29	Yes	No
"Clearing Video Disks" on page 33	Yes	No
"Calibrating a Touch Screen" on page 33	Yes	No
"Importing and Exporting Keyword Files" on page 33	Yes	No
"Exporting Log Files" on page 34	Yes	No

2.5.2. Rebooting the EVS Server

To reboot the EVS server, press **B** from the Multicam Setup window, then **RIGHT ARROW** and **ENTER** to validate the action.

2.5.3. Hardware Check

Overview on the Hardware Check

Purpose

During the hardware check, the following actions are performed:

- Retrieving and checking relevant information related to the various boards installed on the EVS server
- Verifying the validity of the data recorded on the video disk array

The hardware check is only available in the server-based application.

Tip

Hardware check is also used to rebuild the video and audio information after replacing a faulty disk.

Process

The hardware check runs the same steps and checks as the server boot process:

1. MTPC check
2. H3X check
3. Video Codec check
4. Quad booting
5. GigE download
6. Disk check
7. Data loading

After you have launched the hardware check by pressing **H** in the Multicam Setup window, the system automatically starts the test process.

One after the other, the various steps are displayed in the BOOT.H3X window. The test process is complete when the H3X board is initialized.

At the end of the hardware check, the hardware revisions information is displayed. The information is logged in the `bootwins.log`.

Disk Errors and Disconnection

Disconnection

When one disk of the video raid array has sustained errors, Multicam automatically disconnects that disk and uses the parity disk to rebuild the missing data and provide the video and audio data blocks to the application. The operator can thus continue working normally and the message “!Raid” appears on all monitoring outputs.

A message is displayed each time a disk is disconnected:

- if the faulty disk is a spare disk:

```
"Warning: a spare disk has been disconnected. The system will
          operate normally on the remaining disks.
                  At the next opportunity
please consider replacing the faulty disk. It can be identified
in the Shift-F5 screen or in the EVS - RAID configuration menu.
                      [Enter]=Continue"
```

- if the faulty disk is contained in a RAID:

```
"Warning: a disk has been disconnected. The system will operate
   normally on the remaining disks. At the next opportunity
please consider replacing the faulty disk. It can be identified
in the Shift-F5 screen or in the EVS - RAID configuration menu.
                      [Enter]=Continue"
```

Exit

When exiting the Multicam application, a warning will appear to remind the operator that one disk was disconnected, and invite him to perform a hardware check to repair the video raid. This is displayed even if a spare disk is available:

- if the faulty disk is a spare disk:

```
"Warning: a spare disk has been disconnected. At the next
opportunity please consider replacing the faulty disk. It can
be identified in the Shift-F5 screen or in the EVS - RAID
configuration menu. [Enter]=Continue"
```

- if the faulty disk is contained in a RAID:

```
"Warning: a disk has been disconnected. At the next opportunity
please consider replacing the faulty disk. It can be identified
in the Shift-F5 screen or in the EVS - RAID configuration menu.
[Enter]=Continue"
```

Restarting

If the Multicam is restarted without the RAID being rebuilt, the following message is displayed during the bootwins:

- if a spare disk is OK:
  [Bad] SEAGATE ST9300603SS 3SE10H1J 0006 279GB 02 07
- if no spare disk is OK and the RAID is no more complete:
  [Bad] SEAGATE ST9300603SS 3SE10H1J 0006 279GB 02 07
  WARNING !!! Tray XX is missing 1 disk(s) to be complete

Then when entering the Multicam, another message appears, even if a spare disk is available:

- if the faulty disk is a spare disk:

```
"Warning: a spare disk has been disconnected. The system will
operate normally on the remaining disks. At the next
opportunity please consider replacing the faulty disk. It can
be identified in the Shift-F5 screen or in the EVS - RAID
configuration menu. [Enter]=Continue"
```

- if the faulty disk is contained in a RAID:

```
"Warning: a disk has been disconnected. The system will operate
normally on the remaining disks. At the next opportunity please
consider replacing the faulty disk. It can be identified in the
Shift-F5 screen or in the EVS - RAID configuration menu.
[Enter]=Continue"
```

The operator can press **ENTER** and operate normally on 4 disks (configuration “4+1”) or on 5 disks (configuration “5+1”) or exit the software and return to Multicam Setup window to run a hardware check.

Rebuild Process

Introduction

The XT3 server is capable of performing a rebuild process of the RAID. This process can happen either while the Multicam application is not running (offline process – rebuild is faster) or while the Multicam application is running (online process – rebuild is slower).

Disconnection Process

As explained in the section "Disk Errors and Disconnection" on page 30, the software will disconnect a disk that does not behave as expected.

Two options are available for the operator:

- Replace the disconnected disk and restart the server
  - Start the Multicam application. The rebuild process will start automatically.
  - Start a hardware check from the EVS menu and launch the rebuild. The process starts offline. The operator can wait for the rebuild to be completed or cancel it (that is to say postpone it) and start the Multicam application, in which case the rebuild carries on in online mode.
- The operator can also force the disk to be reconnected by starting the rebuild process in the hardware check. The process starts offline. The operator can wait for the rebuild to be completed or cancel it and start the Multicam application, in which case the rebuild carries on in online mode.

Note

If errors are detected during the rebuild process, a message appears after the rebuild is complete to warn the operator, and the raid is not considered as properly rebuilt. In this state, the system will keep working on 4 disks (4+1 configuration) or on 5 disks (5+1 configuration). If you want to run on 5, or 6, disks again, you can try replacing the disk again and perform another rebuild, or clear all clips.

If you don’t need to retrieve the clips or the record trains, you don’t need to rebuild the RAID. In this case, select the 'Clear All Clips' answer when the message with this option appears in the hardware check.

If you don’t rebuild the RAID array or if you don’t clear clips, the XT3 will keep running on 4, or 5, disks only, and you will see a warning message appearing every time you start or close the Multicam application. Normal operation can be achieved on 4, or 5, disks, but then, if another disk fails, the system will hang and all video and audio data will be definitely lost.

Warning

By default, the online rebuild process takes up 10% of the disk bandwidth. If you want to change this, contact EVS support.

2.5.4. Clearing Video Disks

This function is used to erase all media from the RAID disk array.

Warning

This will definitely delete all video and audio data, including protected clip and record trains.

To clear video disks, proceed as follows:

1. In the Multicam Setup window, press **C** to call the Clearing Video Disks command.
2. Press **ENTER**.
3. Confirm the deletion with **ENTER** or cancel with **ESC**.

2.5.5. Calibrating a Touch Screen

When a touch screen option is connected and the touch screen option is installed, a touch screen can be calibrated using this command. If the touch screen is not installed, a warning message is displayed.

2.5.6. Importing and Exporting Keyword Files

Introduction

The keyword file is a simple text file with a name of 8 characters and a .KWD extension. All keyword files must be stored in the `C:\LSMCE\DATA\KWD` directory of the server. A sample keyword file (SAMPLE.KWD) is provided by EVS when Multicam is installed.

You can also import and export keyword files to and from the EVS server via a USB key.

You can only perform this action in the server-based application.

How to Import a Keyword File

To import a keyword file, proceed as follows:

1. Save the keyword file you want to import on a USB key, and plug it into the USB port of the EVS server as the Multicam Setup window is open.
2. In the Multicam Setup window, press **K** to call the Import/export keyword file command.
   The following dialog box opens:

3. If several keyword files are stored on the USB key, press **SPACEBAR** until the requested file is selected on the left field.
4. Press **ENTER** to import the keyword file from the USB key to the EVS server.
5. Press **OK** to close the message box that appears when the keyword file has been imported.
6. Remove the USB key.

How to Export a Keyword File

To import a keyword file, proceed as follows:

1. Plug a USB key into the USB port of the EVS server as the Multicam Setup window is open.
2. In the Multicam Setup window, press **K** to call the Import/export keyword file command.
   The following dialog box opens:

3. Press **ENTER** to export the keyword file from the EVS server to the USB key.
4. Press **OK** to close the message box that appears when the keyword file has been exported.
5. Remove the USB key.

2.5.7. Exporting Log Files

When the EVS support team requests the log files to investigate an issue, you can export the log files to a plugged-in USB key by pressing the **X** shortcut key from the Multicam Setup window.

When you call the **Export log file** command, a .zip file is created on the root folder the USB key. It contains:

- all files and folders located on `C:\LSMCE\DATA` folder of the EVS server
- an Excel spreadsheet that contains the definition of your configuration lines

After the export action, a message box asks you whether you want to delete the logs on the EVS server. If you answer 'Yes', the content of the folders `C:\LSMCE\DATA\LOG` and `C:\LSMCE\DATA\DUMP` are deleted.

You can also export log files from XNet Monitor. For more information, refer to the XNet Monitor user manual.

3. Multicam Configuration

3.1. Overview on User Interfaces

3.1.1. Introduction

Preliminary Remarks

Prior to using Multicam, the operator should set all necessary parameters in the Multicam Configuration window. If clips are stored with certain parameters and the operator wishes to change them afterwards, those clips and playlists will not change. It is thus important to set these parameters first.

Most parameters are factory preset, and should not be modified without advice of qualified EVS staff. Improper values for some parameters will prevent the proper operation of the system.

General Comparison Between User Interfaces

You can configure the EVS server using one of the three available user interfaces:

- Multicam Configuration window in the server-based application
- Multicam Configuration window in the web-based application
- Technical and Operational Setup menus in the Remote Panel

The Multicam Configuration windows in the server-based and web-based application are almost identical.

In the Remote Panel, however, only the most used technical settings are available in the Technical Setup menu, and all operational settings are available in the Operational Setup menu.

The following table provides an overview on the features available in each user interface:

	Configuration Window	
	Technical Settings	**Operational Settings**
Server-Based Application	Yes (tabs 1-6)	Yes (tab 7)
Web-Based Application	Yes (tabs 1-6)	Yes (tab 7)
Remote Panel	Yes (partly) (Technical Setup: F0)	Yes (Setup Menu: SHIFT+D)

Overview on Configuration Parameters

The first topic of each section in the Multicam Configuration chapter gives you an overview on the parameters available in this section, and specifies whether you will find the parameter:

- in the basic or advanced view in the server-based application and the web-based interface
- in the Technical Setup, Operational Setup, or not at all on the Remote Control panel

The following list provides a hyperlink to all overview topics in the various sections:

- Server settings
- Channels settings (not currently available)
- Network settings (not currently available)
- Monitoring settings (not currently available)
- Protocol settings (not currently available)
- GPI settings (not currently available)
- Operations settings (not currently available)

3.1.2. Overview on the Multicam Configuration Window

Introduction

In the server-based and web-based applications, all server settings related to each configuration file are now grouped in a single window: the Multicam Configuration window.

When the server is not running a given configuration, the Multicam Configuration window allows you to define any of the configuration available in the Multicam Setup window.

When the server is running a given configuration, the Multicam Configuration window allows you to modify the settings of the running configuration.

The Multicam Configuration window is organized in a similar way in both user interfaces:

- It consists of seven tabs.
- Each tab contains one or more pages in the server-based application.
- Each tab displays all settings on a single page in the web-based application.
- The settings on page/tab are organized in field groups having a dedicated name.

Accessing the Multicam Configuration Window

In the Server-Based Application

To access the Multicam Configuration window from the Multicam Setup window when the server is not running, proceed as follows:

1. Press the **UP ARROW** or **DOWN ARROW** key to respectively move up and down in the list of configuration lines until the requested line is highlighted.
2. Press **F8**.
   The Multicam Configuration window window opens.

To access the Multicam Configuration window from the Clips or Playlist window when the server is running, press **SHIFT+F2**.

In the Web-Based Interface

To access the Multicam Configuration window from the Multicam Setup window when the server is not running, click the **Edit** icon  for the configuration line you want to configure. The Multicam Configuration window opens.

The Multicam Configuration window will directly be displayed on the web-based interface when the server is running a given configuration. You will directly be able to edit the settings for the running configuration.

Display Mode

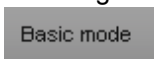
The settings in the Multicam Configuration window have been categorized as basic or advanced settings depending on whether they are commonly used or not.

Two display modes are consequently available:

- Basic mode
- Advanced mode

Selecting the basic mode will hide settings on some pages, or completely hide other pages.

To change the display mode in the server-based application, press F3.

To change the display mode in the web-based interface, click on the display mode label 

or 

.

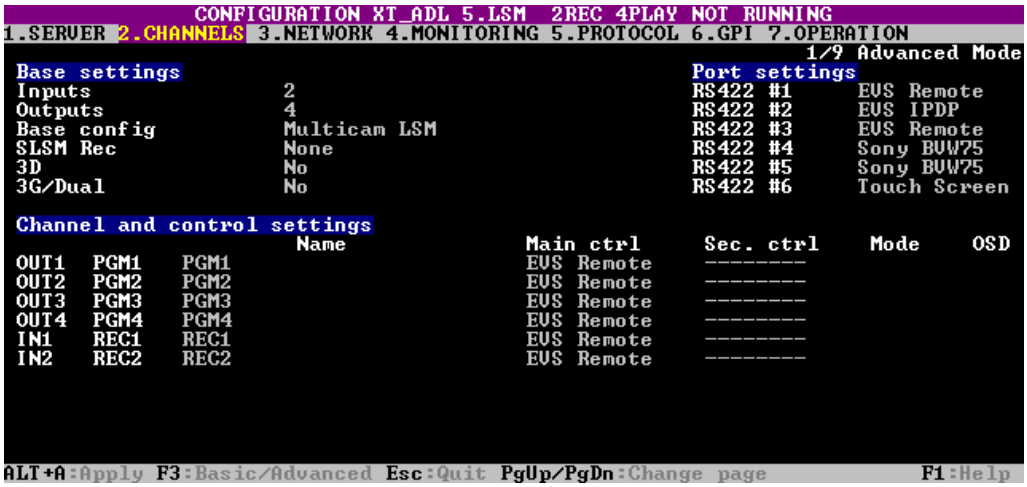
User Interfaces

Server-Based User Interface

The following screenshot presents the 1st tab, and 1st page of the Multicam Configuration window in the server-based application, shown in Advanced mode:

- The title bar displays the selected configuration, and specifies whether the configuration has been launched (running) or not (not running).
- The selected tab is highlighted in rose
- The current page and number of pages in the tab are specified in the top right corner.

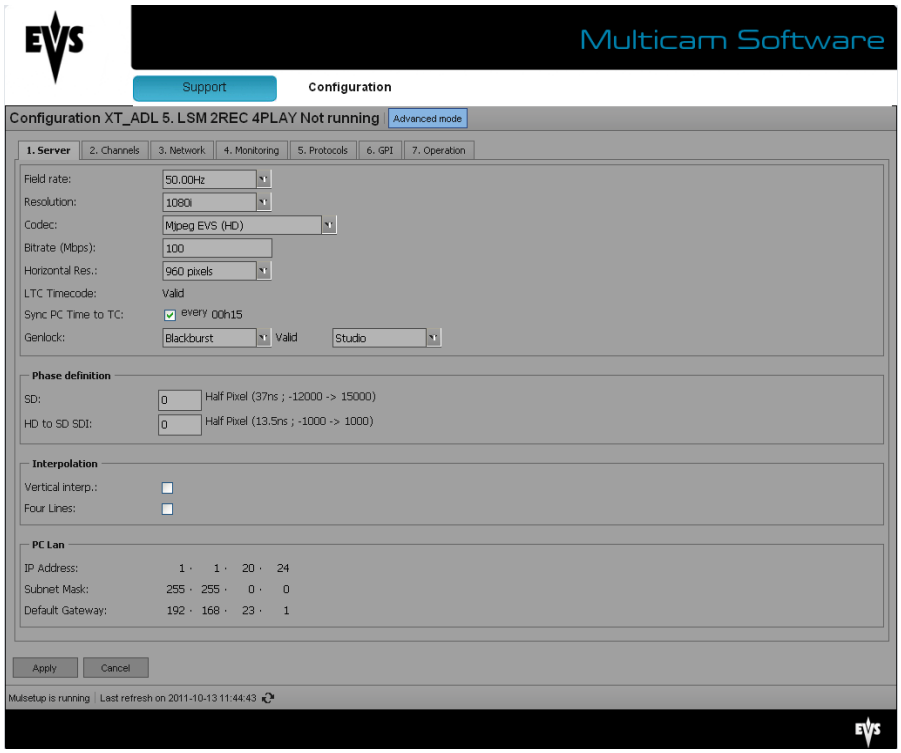
- The Display mode (basic or advanced) is specified in the top right corner.



Web-Based User Interface

The following screenshot presents the 1st tab of the Multicam Configuration window in the web-based application, shown in Advanced mode:

- The top line displays the name of the selected configuration, and specifies whether the configuration has been launched (running) or not (not running).
- The selected tab is displayed in a lighter gray color.
- The Display mode (basic or advanced) is specified on the top line.



3.1.3. Navigation and Editing in the Multicam Configuration Window

In the Server-Based Application

Navigation Commands

The following table presents the commands to navigate in the Multicam Configuration window:

Command description	Command key
Selecting a given tab	**CTRL** + tab number
Moving from one tab to the other (when the tab is selected, i.e. rose highlighted)	**LEFT ARROW / RIGHT ARROW**
Moving down/up in the pages of the active tab	**PAGE DOWN** or **PAGE UP**
Moving down in the list of editable settings	**TAB**
Moving up in the list of editable settings	**SHIFT + TAB**
Toggling between Basic and Advanced display mode	**F3**

Editing Commands

The following table presents the commands to edit the configuration settings in the Multicam Configuration window when the field has been selected (using the **TAB** key).

In text fields, you can directly type the requested value for a selected field. When a field value has been modified, the field value is in green color as long as the modifications have not been applied.

Command description	Command key
Increasing the value (or displaying the next value in the list)	**SPACEBAR**
Decreasing the value (or displaying the previous value in the list)	**SHIFT+SPACEBAR**
Moving the cursor position within a text field	**SHIFT+ RIGHT ARROW / LEFT ARROW**
Resetting value of the selected setting	**F5**
Resetting **all** values of **all** settings in the **current** tab for the selected configuration	**CTRL+F5**

Command description	Command key
Resetting all values of **all** settings in **all** tabs for the selected configuration	**SHIFT+F5**
Applying changes	**ALT+A**
Leaving without applying changes	**ESC**, **ENTER**

In the Web-Based Interface

The navigation and editing commands in the web-based interface are the commonly used commands in a web-based interface. The command buttons available are the following ones:

Command description	Command key
Activating the Advanced display mode	
Coming back to the Basic display mode	
Applying changes	
Canceling changes	

3.1.4. Overview on the Setup Menus in the Remote Panel

Introduction

When you work in LSM mode, the Technical and Operational Setup menus available on the Remote Panel allow you to define:

- the commonly used technical settings in the Technical Setup menu
- all operational settings in the Operational Setup menu.

The values assigned to the settings are saved as soon as they are modified.

Accessing the Technical Setup Menu

To access the Technical Setup menu, proceed as follows:

1. If you are in Playlist mode, press **RECORD** first to exit this mode.
2. Press **F0** to open the Technical Setup menu.

The Technical Setup menu opens on the 1st page.

The Technical Setup menu is divided in sections and subsections, named by Tx.y where x is the section number, and y the subsection number.

In all sections dedicated to a tab of the Multicam Configuration window in this manual, you will find an overview table that lists the settings available in the Technical Setup menu, as well as the sections where you will find them.

Accessing the Operational Setup Menu

To access the Operational Setup menu, proceed as follows:

1. If you are in Playlist mode, press **RECORD** first to exit this mode.
2. Press **SHIFT** + **MENU** to go to the Main menu:

3. Select Setup by pressing **SHIFT + D** to enter the Operational Setup menu.

The Operational Setup menu is divided in sections and subsections, named by x.y where x is the section number, and y the subsection number.

3.1.5. Navigation and Editing in the Setup Menus of the Remote Panel

Introduction

The way you navigate and edit settings is identical in the Technical Setup menu and Operational Setup menu. The navigation and editing commands are explained below.

Navigation Commands

The following table presents the commands to navigate in the Setup menus of the Remote Panel:

Command description	Command key
Moving to another section when you are inside a section	**SHIFT+F_** key corresponding to the section
Moving to the next page inside a section When you are on the last page of a section, you will go to the 1st page of the next section.	**F10**
Moving to the previous page inside a section When you are on the first page of a section, you will go to the last page of the previous section.	**F9**
Exiting the Setup menu	**Menu**
Scrolling through section pages with the jog wheel	**ENTER** (when no setting is selected) + jog

Editing Commands

The following table presents the commands to edit a setting in the Setup menus of the Remote Panel:

Command description	Command key
Selecting a setting in a section	**F_** key corresponding to the requested setting
Modifying the setting value	Turn the jog wheel
Validating the modification to a setting value	**ENTER**
Restoring the default value for the selected setting	**CLEAR + F_** key corresponding to the requested setting
Restoring the default values on the entire Setup menu	**CLEAR + F0**
Validating the changes in the Setup menu (to answer to the message when you try to leave the menu)	**MENU**
Cancelling the changes in the Setup menu (to answer to the message when you try to leave the menu)	**CLEAR**
Staying in the Setup menu (to answer to the message when you try to leave the menu)	**ENTER**

3.2. Server Tab

3.2.1. Overview

Server Tab

The Server tab consists of a single page in the basic or advanced mode in the server-based application. It covers the settings related to video codecs and standards, time reference, phase definition, interpolation activation, and PC LAN.

Settings List

The table below presents the settings of the Server tab. It specifies whether the setting is available:

- in the basic or advanced display mode in the server-based and web-based applications
- in the **Technical Setup** menu of the Remote Panel

Setting Name	Basic	Advanced	Technical Setup
Video and Reference group	P1	P1	
Field rate	X	X	
Resolution	X	X	
Codec	X	X	
Bitrate	X	X	
Horizontal Res.		X	
LTC Timecode	X	X	
Sync PC Time to TC		X	
Genlock	X	X	
Phase Definition group		**P1**	**T1.1**
SD		X	X
HD to SD SDI		X	X
Interpolation group		**P1**	**T1.2**
Vertical interp.		X	X
Four Lines		X	X
PC LAN group		**P1**	
IP Address	X	X	
Subnet Mask	X	X	
Default Gateway	X	X	

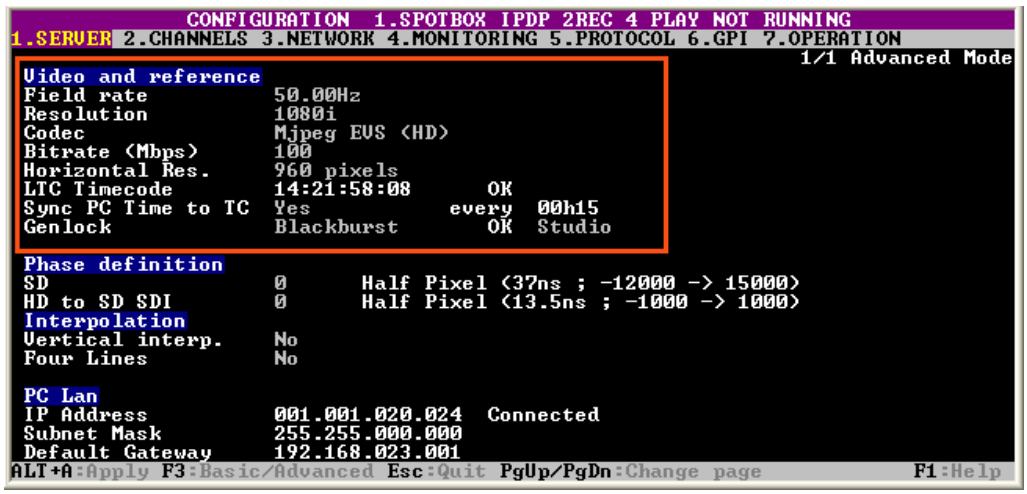
3.2.2. Video and Reference

Video and Reference Settings

Introduction

The Video and Reference settings are available on the Server tab in the server-based application (1st page) and web-based application. These settings are not available in the Technical Setup menu of the Remote Panel.

The Video and Reference settings are highlighted in the screenshot of the server-based application shown below:



Field Rate

Description	Field frequency used (Hz). Both field rate and resolution give the video standard.
Values	50.00 Hz (PAL) - default 59.94 Hz (NTSC) 59.94 Hz (J)

Resolution

Description	Vertical resolution used (number of white-to-black and black-to-white transitions that can be seen from the top to the bottom of the picture) (pixel + type). Both field rate and resolution correspond to the video standard. With XT3 server, SD and HD video standards can be available if the relevant license codes are activated.
Values	In SD: • 525i • 625i In HD: • 720p • 1080i • 1080p (only available with code 21 or 22)

Codec

Description	Algorithm used to compress and decompress the video signal. The codecs available on the EVS server depend on the video standard used, as well as on the active license codes. For detailed information on codec availability, see section "Codec Availability" on page 47.
Values	In SD: • Proxy (Jpeg) • Mjpeg (SD) • IMX • DVCPro 50 In HD: • Mjpeg EVS (HD) • Mjpeg Standard (HD) • Mpeg 2 Intra (HD) • Avid DNxHD 120, 185 or 185x (only in 50 Hz) • Avid DNxHD 145, 220 or 220x (only in 59.94 Hz) • Apple ProRes 422, 422 LT, 422 HQ or 422 HQ (10-bit) • DVCPro HD • AVC-Intra 50 or 100
Default values	• IMX in **SD** • Avid DNxHD 120 in **HD 50Hz:** • Avid DNxHD 145 in **HD 59.94 Hz:**

Bitrate

Description	Number of megabits processed per second (Mbps) The bitrate depends on the codec.
Values	For detailed information on bitrates per codec, see section "Codec-Related Information" on page 48see section "Codec-Related Information" on page 48.

Horizontal Res. (HD)

Description	Number of white-to-black and black-to-white transitions that can be seen from the left to the right of the picture (pixels). The setting value depends on the selected video standard.
Values	For detailed information on horizontal resolution for each video standard and codec, see section "Codec-Related Information" on page 48.

Recorded Lines (SD)

Description	Number of lines recorded from the left to the right of the picture. The setting value depends on the selected video standard.
Values	For detailed information on recorded lines for each video standard and codec, see section "Codec-Related Information" on page 48.

LTC Timecode

Description	Longitudinal timecode (timecode information stored on a separate track from the video) delivered to the EVS server, and timecode status.
Values	The timecode is given as HH:mm:ss:fr The timecode status can be 'OK', 'BAD', 'LOST' or 'DRIFT' (defined by the EVS server).

Sync PC Time to TC

Description	Specifies whether the PC time is synchronized with the timecode, and how often the synchronization takes place.
Values	**Synchronization:** 'Yes', 'No' **Frequency:** by default 'every 00h15' (not editable)

Genlock

Description	Specifies the type of genlock signal, the status and the frame synchronizer mode.
Values	**Type:** 'Blackburst' or 'Tri-Sync' (always 'Blackburst' in SD) **Status:** 'OK' or 'BAD' (defined by the EVS server) **Mode:** 'Studio' (no correction of a shifted video signal) or 'Resync' (resynchronization of a shifted video signal)

Codec Availability

Codec Availability Depending on License Codes

The following table presents the codec availability for XT3 server depending on the license code. 'Yes' in the **Available** column means the codec (and the related licence code) is available by default:

Codec	Available?
SD	-
IMX	yes
Mjpeg (SD)	yes
DVCPro 50	with code 9
Proxy (Jpeg)	with code 7
HD	-
Mjpeg EVS (HD)	yes
Mjpeg Standard (HD)	yes
Mpeg 2 Intra (HD)	yes
Avid DNxHD	with code 5
Apple ProRes 422, 422 LT, 422 HQ or 422 HQ (10-bit)	with code 6
DVCPro HD	with code 8
AVC-Intra 50 or 100	with code 13

Codec Availability Depending on Codec Board Type

Codec	V3X SD/HD
SD	
Proxy (Jpeg)	X
Mjpeg (SD)	X
IMX	X
DVCPro 50	X
HD	
Mjpeg EVS (HD)	X
Mjpeg Standard (HD)	X
Mpeg 2 Intra (HD)	X
Avid DNxHD	X
Apple ProRes 422	X
Apple ProRes 422 LT	X
Apple ProRes 422 HQ	X
Apple ProRes 422 HQ (10-bit)	X
DVCPro HD	X
AVC-Intra 50 or 100	X

Codec-Related Information

Bitrates and Recorded Lines in SD 525i

Codec Type	SD MJPEG Standard	SD IMX (D10)	DVCPro 50
Bitrate	20-100 Mbps	30; 40; 50 Mbps	50 Mbps
Default bitrate	30 Mbps	30 Mbps	50 Mbps
Recorded video lines	496 lines (L16-23; L278-525) default	512 lines (L7-262; L270-525)	480 lines (L23-262; L285-524)
	480 lines (L23-262; L286-525)		
	512 lines (L7-262; L270-525)		

Bitrates and Recorded Lines in SD 625i

Codec Type	SD MJPEG Standard	SD IMX (D10)	DVCPro 50
Bitrate	20-100 Mbps	30;40;50 Mbps	50 Mbps
Default bitrate	30 Mbps	30 Mbps	50 Mbps
Recorded video lines	576 lines (L23-310; L336-623) default	608 lines (L7-310; L320-623)	576 lines (L23-310; L335-622)
	592 lines (L15-310; L328-623)		
	608 lines (L7-310; L320-623)		

Bitrates and Horizontal Resolutions in HD 1080i/1080p (50 Hz)

Codec	HD MJPEG EVS	HD MJPEG Standard	HD MPEG2 Intra	DVCPro HD	AVC Intra 100	AVC Intra 50
Bitrate (Mbps)	20-360	20-360	20-360	100	111	54
Default bitrate	100	100	100	100	111	54
Horizontal Resolution	960	960	960	1440	1920	1440
	1152	1152	1152			
	1280 (default)	1280 (default)	1280 (default)			
	1372	1372	1372			
	1440	1440	1440			
	1536	1536	1536			
	1600	1600	1600			
	1920	1920	1920			

Codec	AVID DNxHD 120 Mbps	AVID DNxHD 185 Mbps	AVID DNxHD (10-bit) 185 Mbps	Apple ProRes 422 LT	Apple ProRes 422	Apple ProRes 422 HQ	Apple ProRes 422 HQ (10-bit)
Bitrate (Mbps)	1-120	121-185	121-185	85	120	185	185
Default bitrate	120	185	185	85	120	185	185
Horizontal Resolution	1920	1920	1920	1920	1920	1920	1920

Bitrates and Horizontal Resolutions in HD 1080i/1080p (59.94 Hz)

Codec	HD MJPEG EVS	HD MJPEG Standard	HD MPEG2 Intra	DVCPro HD	AVC Intra 100	AVC Intra 50
Bitrate (Mbps)	20-360	20-360	20-360	100	111	54
Default bitrate	100	100	100	100	111	54
Horizontal Resolution	960	960	960	1280	1920	1440
	1152	1152	1152			
	1280 (default)	1280 (default)	1280 (default)			
	1372	1372	1372			
	1440	1440	1440			
	1536	1536	1536			
	1600	1600	1600			
	1920	1920	1920			

Codec	AVID DNxHD 120 Mbps	AVID DNxHD 185 Mbps	AVID DNxHD (10-bit) 185 Mbps	Apple ProRes 422 LT	Apple ProRes 422	Apple ProRes 422 HQ	Apple ProRes 422 HQ (10-bit)
Bitrate (Mbps)	1-145	146-220	146-220	102	145	220	220
Default bitrate	145	220	220	102	145	220	220
Horizontal Resolution	1920	1920	1920	1920	1920	1920	1920

Bitrates and Horizontal Resolutions in HD 720p (50 Hz)

	HD MJPEG EVS	HD MJPEG Standard	HD MPEG2 Intra	DVCPro HD	AVC Intra 100	AVC Intra 50
Bitrate (Mbps)	20-360	20-360	20-360	100	111	54
Default bitrate	100	100	100	100	111	54
Horizontal Resolution	640	640	640	960	1280	960
	768 (default)	768 (default)	768			
	960	960	960			
	1024	1024	1024			
	1280	1280	1280 (default)			

Codec	AVID DNxHD 120 Mbps	AVID DNxHD 185 Mbps	AVID DNxHD (10-bit) 185 Mbps	Apple ProRes 422 LT	Apple ProRes 422	Apple ProRes 422 HQ	Apple ProRes 422 HQ (10-bit)
Bitrate (Mbps)	1-120	121-185	121-185	85	120	185	185
Default bitrate	120	185	185	85	120	185	185
Horizontal Resolution	1280	1280	1280	1280	1280	1280	1280

Bitrates and Horizontal Resolutions in HD 720p (59.94 Hz)

	HD MJPEG EVS	HD MJPEG Standard	HD MPEG2 Intra	DVCPro HD	AVC Intra 100	AVC Intra 50
Bitrate (Mbps)	20-360	20-360	20-360	100	111	54
Default bitrate	100	100	100	100	111	54
Horizontal Resolution	640	640	640	960	1280	960
	768 (default)	768 (default)	768			
	960	960	960			
	1024	1024	1024			
	1280	1280	1280 (default)			

Codec	AVID DNxHD 120 Mbps	AVID DNxHD 185 Mbps	AVID DNxHD (10-bit) 185 Mbps	Apple ProRes 422 LT	Apple ProRes 422	Apple ProRes 422 HQ	Apple ProRes 422 HQ (10-bit)
Bitrate (Mbps)	1-145	146-220	146-220	102	145	220	220
Default bitrate	145	220	220	102	145	220	220
Horizontal Resolution	1280	1280	1280	1280	1280	1280	1280

Note

The dynamic bitrate management system modifies compression tables for each recorded field to keep the bitrate of the encoded stream as close as possible to the target. A higher bitrate means better picture quality and less storage capacity but a higher bandwidth is required. Improper values can lead to exceed disks performance, causing frozen pictures during playback.

Warning

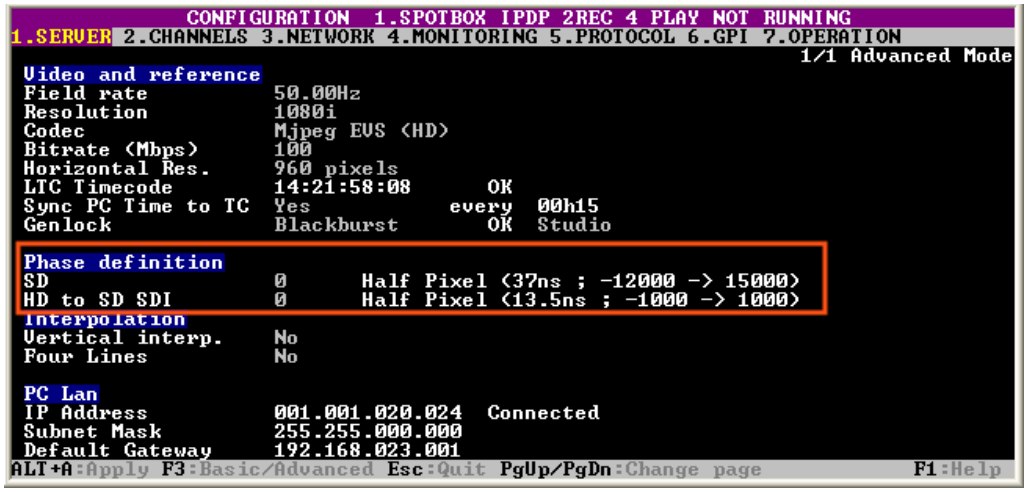
Some video formats allowed on XT3 hardware create clips that are not compatible with previous hardware. When an incompatible format is selected, a warning will be issued at the starting up of the application. In addition, the video format information displayed on the Server tab of the Multicam Configuration window indicates any incompatible information.

3.2.3. Phase Definition Settings

Introduction

The Phase Definition settings are available on the Server tab in the server-based application (1st page) and web-based application in the advanced mode.

The Phase Definition settings are highlighted in the screenshot of the server-based application shown below:



SD (Standard Definition)

Description	Allows adjusting the digital main phase of the mainframe for the standard definition. The value is adjusted by steps of half pixels. The values depends on the genlock type (See "Video and Reference Settings" on page 44).
Values	• If the Genlock type is set to 'Blackburst', the main phase for SD can be adjusted by steps of half pixels (37 ns) between - 12000 ns and +15000 ns. • If the Genlock type is set to 'Tri-Sync' (only possible in HD resolutions), the main phase for SD can be adjusted by steps of half pixels (37 ns) between - 30000 ns and +32000 ns.

HD to SD SDI / SD SDI to HD

Description	Allows adjusting the secondary phase of the mainframe, that is to say the relative phase of the: • HD SDI outputs compared to the phase of the SD SDI outputs with a 'Blackburst' genlock. • SD SDI outputs compared to the phase of the HD SDI outputs with a 'Tri-Sync' genlock. This setting only applies to HD resolutions. See "Video and Reference Settings" on page 44 for more information on genlock type.
Values	• If the Genlock type is set to 'BlackBurst', the secondary phase for HD to SD SDI can be adjusted by steps of half pixels (13.5 ns) between - 1000 ns and +1000 ns. • If the Genlock type is set to 'Tri-Sync', the secondary phase for SD SDI to HD can be adjusted by steps of half pixels (37 ns) between - 400 ns and +400 ns.

Warning

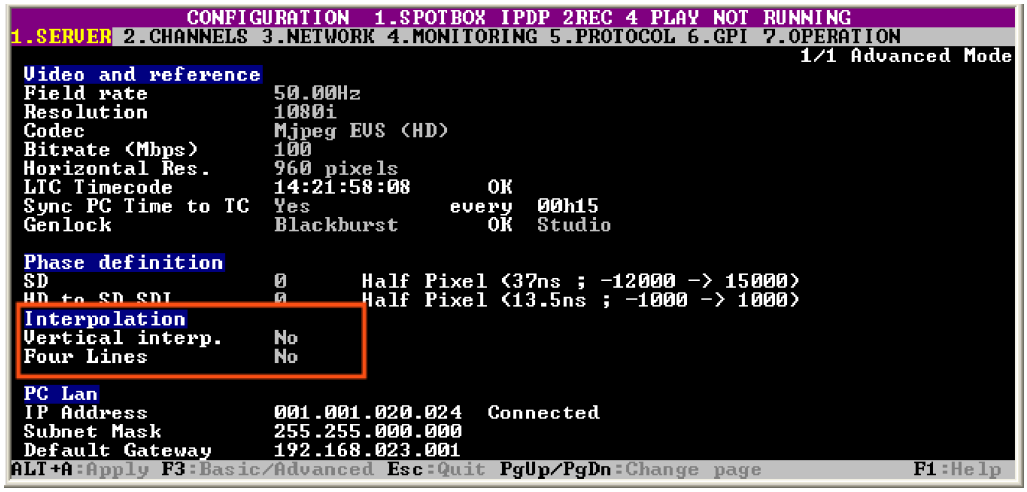
- The SD phase is always adjusted according to the SDI outputs. Internal CVBS outputs have a delay of 48 x 37 nsec compared to the corresponding SDI outputs.
- The internal CVBS outputs cannot be used to feed directly a vision mixer or any equipment performing video effects, since the phase of the chroma subcarrier is not adjustable internally.

3.2.4. Interpolation Settings

Introduction

The Interpolation settings are available on the Server tab in the server-based application (1st page) and web-based application in the advanced mode.

The Interpolation settings are highlighted in the screenshot of the server-based application shown below:



General Description

The interpolation process aims at reducing the vertical jitter of the pictures that is present during slow-motion replays. This vertical jitter is actually caused by a violation of the frame parity when playing back the pictures at less than 100 % speed.

The process consists in re-building new frames to produce a more transparent result. These frames have to be interpolated, that is calculated by making suitably weighted averages of adjacent lines.

There are two interpolation modes: 2-line interpolator and the 4-line interpolator:

- The two-line interpolator reduces the vertical jitter, but also the vertical bandwidth.
- The four-line interpolator makes it possible to have perfectly steady pictures, but reduces even more the vertical bandwidth.

Note

All VTRs use interpolation in PLAY VAR mode.

Vertical Interp. (Vertical Interpolation)

Description	Enables or disables the two-line interpolation process.
Values	• No (default) • Yes

Four Lines

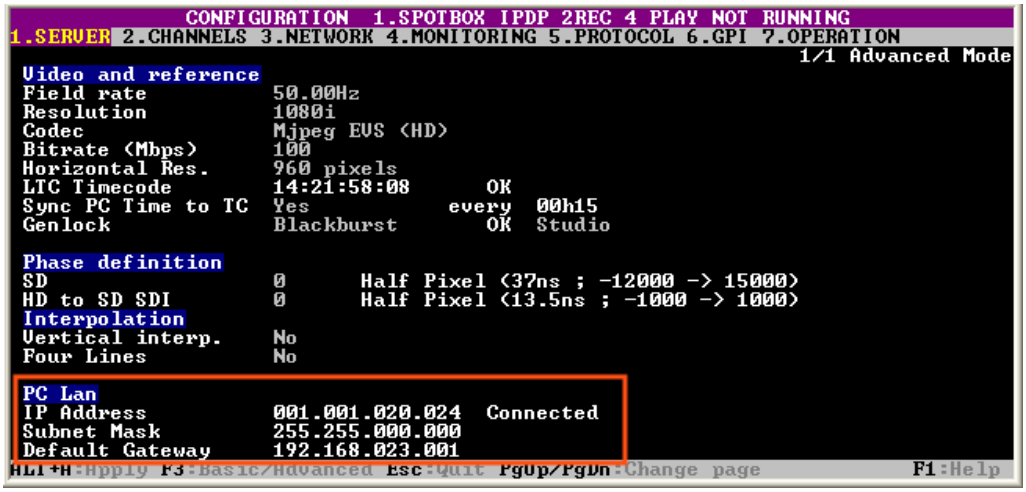
Description	Enables or disables the four-line interpolation process.
Values	• No (default) • Yes

3.2.5. PC LAN Settings

Introduction

The PC LAN settings are available on the Server tab in the server-based application (1st page) and web-based application in the advanced mode.

The PC LAN settings are highlighted in the screenshot of the server-based application shown below:



Note

The PC LAN settings are read-only in the Multicam Configuration window. You can modify them in the Multicam Setup window, using the **Set LAN PC address** command. For more information, see section "Setting the Server LAN PC Address" on page 19.

General Description

The PC LAN settings allow the MTPC board of an EVS server to communicate and exchange information with other EVS hardware on a setup.

IP Address

Description	IP address to connect to the port #1 of the MTPC board on the server.
Values	The IP addresses 0.0.0.0 and 255.255.255.255 are not allowed.

Subnet Mask

Description	Range of logical addresses within the address space assigned to the MTPC board connection.

Default Gateway

Description	IP address of the router on the network that the MTPC board can use as an access point to external networks.

Glossary

M

Multicam Configuration window

Window in the server-based and web-based Multicam Setup application from where you can define all configuration parameters.

Multicam Setup application

Term used to refer equally to the server-based or web-based user interface used to set up and configure the EVS servers

Multicam Setup window

Initial Window in the server-based and web-based Multicam Setup application, that is displayed when the EVS server is not running a given configuration yet. It gives access to the configuration lines defined on the EVS server and to the commonly used maintenance tools.

O

Operational Setup menu

Menu accessible on the Remote Panel using the SHIFT+D keys form the main menu. It allows users to define operational parameters.

S

Server-Based Multicam Setup application

Server-Based application used to set up and configure the EVS servers. The short form is 'Server-Based application' in this user manual. This is accessible from the EVS Server itself when it has been started.

T

Technical Setup menu

Menu accessible on the Remote Panel using the F0 key. It allows users to define currently used configuration parameters.

W

Web-Based Multicam Setup interface

Web-Based interface used to set up and configure the EVS servers. The short form is 'Web-Based interface' in this manual. This is accessible from any machine (PC or server) that is on the same network range as the EVS server. This can be accessed from a web browser using the

following URL pattern: http://xxx.xxx.xxx.xxx/cfgweb/ where the crosses correspond to the EVS server IP address of the PC LAN of the EVS server.

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