SONY ®

Ziris Canvas

Installation and User Manual
Before operating the software, please read this manual
thoroughly and retain it for future reference.

BZSQ-VW001

Version 4.00

ZIRIS
canvas™

1st Edition

NOTICE TO USERS

Material data used for content creation, such as video, graphics, and text, may be copyrighted. Unauthorized distribution and/or playout of such content may be contrary to the provisions of the copyright laws.
Also, the system allows you to use the fonts installed on the PC to create text material. Such fonts are copyrighted. Authorization or right of transmission is required to use them for playout.

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Introduction

Overview of Ziris Canvas on Playstation®3

Ziris Canvas is part of Sony's Ziris Digital Signage Network Solution adding support for multi-screen presentation using Ziris View on Sony's Playstation®3 (PS3).

Ziris View receives media content and associated control files via an IP network originating from Ziris Create, through Ziris Edge. These files are stored on the PS3's hard disk in preparation for playout to directly connected display devices. The presentation and layout of the media and the schedule of playout time(s) is specified by the control files.

Ziris Canvas supports a range of media types including Video (SD/HD), audio, text and graphics. It supports portrait or landscape format for displays in addition to multi-screen presentations which can be arranged to produce custom layouts.

Ziris View requires an Ethernet or wireless network connection between Ziris Manage and Ziris Edge, enabling Ziris Manage to control and monitor the display devices. In this way, the entire Ziris Digital Signage Network may be managed from a single location.
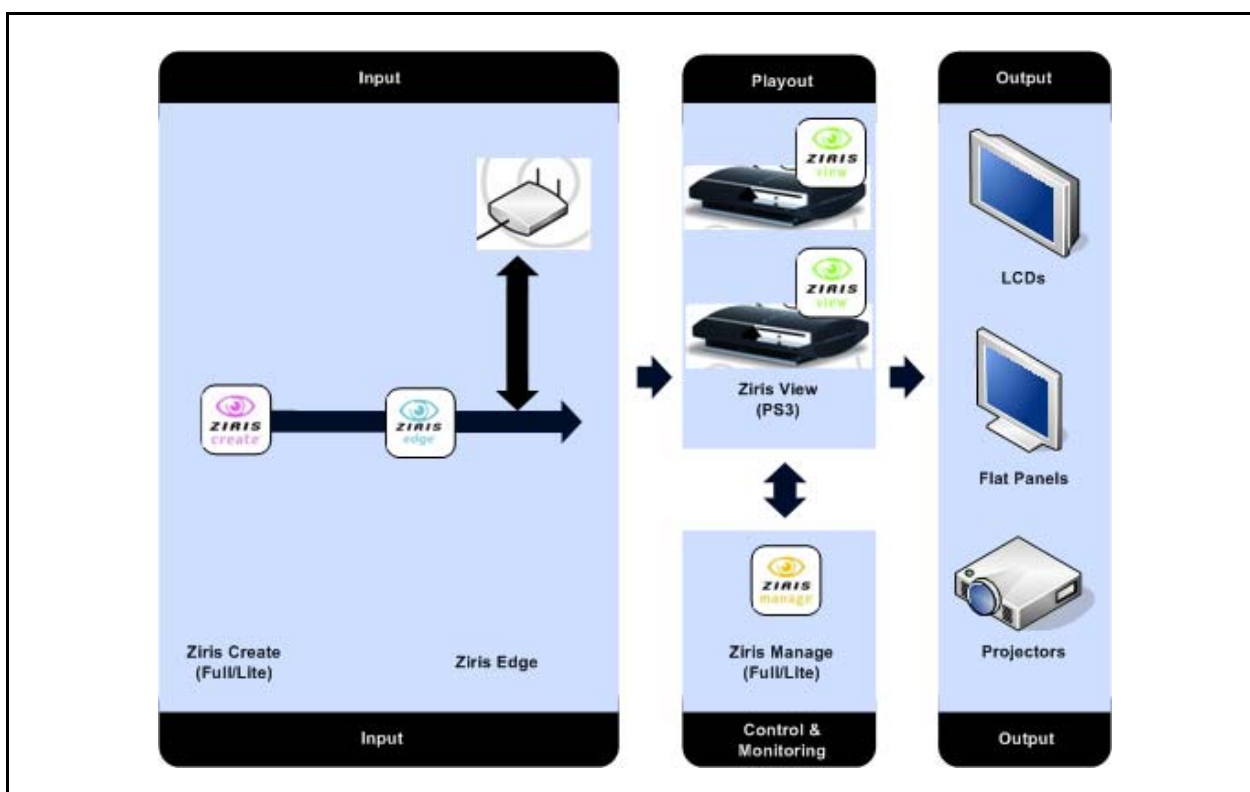
Multi screen presentation

As well as single screen displays in portrait and landscape, multiple Ziris View players can be combined for simple

regular matrix multi-screen video walls, or arranged in a custom layout to produce a complex presentation.

Associated documents

Users familiar with the other Ziris digital signage products: Create, Manage and Edge should find sufficient information in this manual to set up and operate Ziris Canvas. New users are recommended to use this manual and refer to the following manuals when necessary.

- Ziris System Manual
- Ziris Create Installation and Reference Manual for Administrator
- Ziris Create Operation and Reference Manual for Authors
- Ziris Manage Installation and User Manual
- Ziris Edge Installation and User Manual
- Sony Playstation®3 Quick Reference Guide (Visit http://uk.playstation.com/help-support/manuals/ps3/)

Content preparation using Ziris Create

Every Ziris system requires the Ziris Create application to prepare media content files, create a playlist, and schedule it for playout on an appropriate display device.

Content Delivery Using Ziris Edge

Ziris Edge buffers media content generated by Ziris Create, storing it on-board until requested by Ziris View. Ziris View 'pulls' content from the Ziris Edge server when required, using either a fixed or dynamic IP address.

The added flexibility of the system provided by the media content being stored by Ziris Edge means that changes made to the playlist do not require a new download from Ziris Create, only the missing parts of the media are downloaded.

The internet can be used to provide the network connections between Ziris Edge and associated Ziris View playout devices. When using the internet, it is recommended that a firewall is used to protect the severs.

Summary of Features

Ziris View provides the following playout features:

- High-quality video and audio playback.
- Single or synchronized multi-player presentations.
- Supports media designs with multiple layers, including up to two video items.
- Supports 'default playlist selection', ensuring a default programme is played out if no media is scheduled.
- Remote access and monitoring to any Ziris View network player. Ziris View integrates completely with Ziris Manage, providing you with current status and 'As run' logs – so you can be confident your content was played as scheduled.
- Remote daily reboot time can be set remotely for Ziris View via Ziris Manage.
- Fixed or dynamic IP address to 'pull' content from Ziris Edge, enabling fixed or mobile signage solutions.

Ziris View Supported Functions and Formats

The tables below detail the supported media formats and Presentation details for Ziris View.

Image format	Extension	Maximum size	Other details
JPEG	.jpg	2048 x 2048	Baseline-only; 'Progressive' JPEG is not supported.
PNG	.png	2048 x 2048	

Video format	Extension	Maximum size	Minimum duration	Maximum duration	Bit rate	Frame rate
MPEG 2 Elementary Stream MP@HL	.mpg	1920 x 1080	1 second	2 hours	Up to 25 Mbits/s recommended Absolute maximum 51 Mbit/s	24 fps 25 fps 30 fps

Audio format	Extension	Minimum duration	Maximum duration	Maximum bit rate	Channels	Sample rate
Dolby Digital	.ac3	1 second	2 hours	640 kbit/s	2.0 or 5.1	48 kHz

Description	Limit
Minimum duration	5 seconds
Maximum duration	24 hours
Maximum concurrent video items	2
Maximum concurrent audio items	2
Maximum bit rate for 1 video item	51 Mbit/s
Maximum total bit rate for 2 video items	41 Mbit/s
Maximum concurrent pixels of source media e.g. 1 full screen 1920 x 1080 image requires 2073600 pixels.	12441600

Disk Space for Content

Ziris View must maintain at least 2.5GB of disk space free for other files and for use by the PS3 system software.

The PS3 hard disk can be upgraded to a larger size if required.

Chapter 2

Setting up Ziris View PS3

Ziris View can be used in single display or multi-screen situations. In a multi-screen application all players will have to be configured individually. Thereafter they can be monitored through Ziris Manage.

Ziris View PS3 software

Software for Ziris View PS3 is supplied on a single Blu-ray PLAYSTATION3 Game disc. One disc is required per player as it requires the presence of the disc to run.

PS3 system software

Ziris View on PS3 will be supplied with the correct version of the PLAYSTATION3 System software. Do not attempt to upgrade the installed version.

Video & Audio

Ethernet to Ziris Manage & Ziris Edge

AC Power

Example: Multi-screen connection
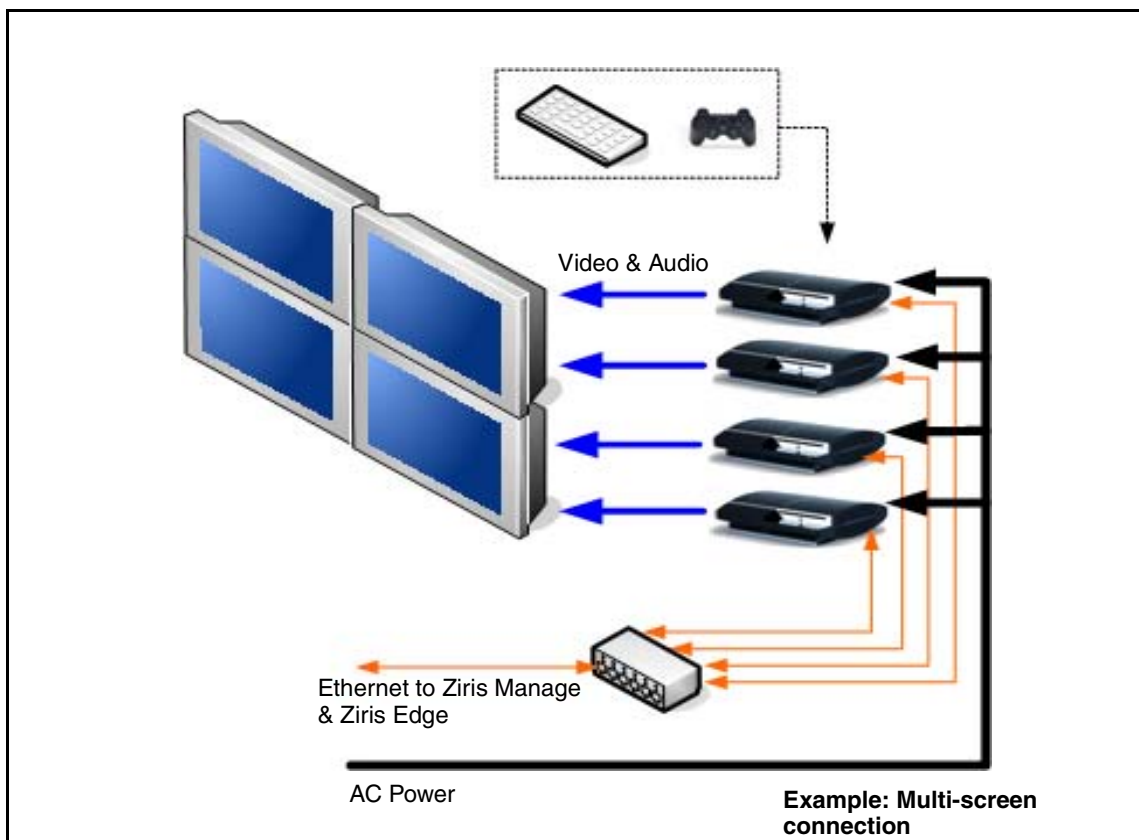
Workflow: Configuration

Connecting and configuring requires several steps to complete:

• Connection
• PS3 Configuration
• Ziris View Configuration
• Presentation

The figure below provides an overview of the configuration workflow. Each step is described in detail within the following paragraphs. When the configuration has been completed you will be able to schedule and view content from Ziris Create.

For additional information see the "Quick Reference Guide" supplied with your PS3 or visit:

 http://uk.playstation.com/help-support/manuals/ps3/

and download the appropriate Quick Reference Guide for your PS3. The Quick Reference Guide gives additional information on the following items:

• Position of connectors
• XMB (XrossMediaBar) used in the PS3 menus
• SIXAXIS controller (Wireless)
• Wireless LAN settings
• On-screen keyboard

Configuring Ziris PS3

- Video display
- Audio output
- Controller/keyboard
- LAN
- Power

- Unlock menu

- Network settings
- Display settings
- Set date and time

- Start Ziris View PS3
- Ziris Edge address
- Ziris Manage address
- Add PS3 to Manage
- Import licence
- General settings

- Time synchronisation
- Screen layout

Connection   PS3 Configuration   Ziris View Configuration   Presentation
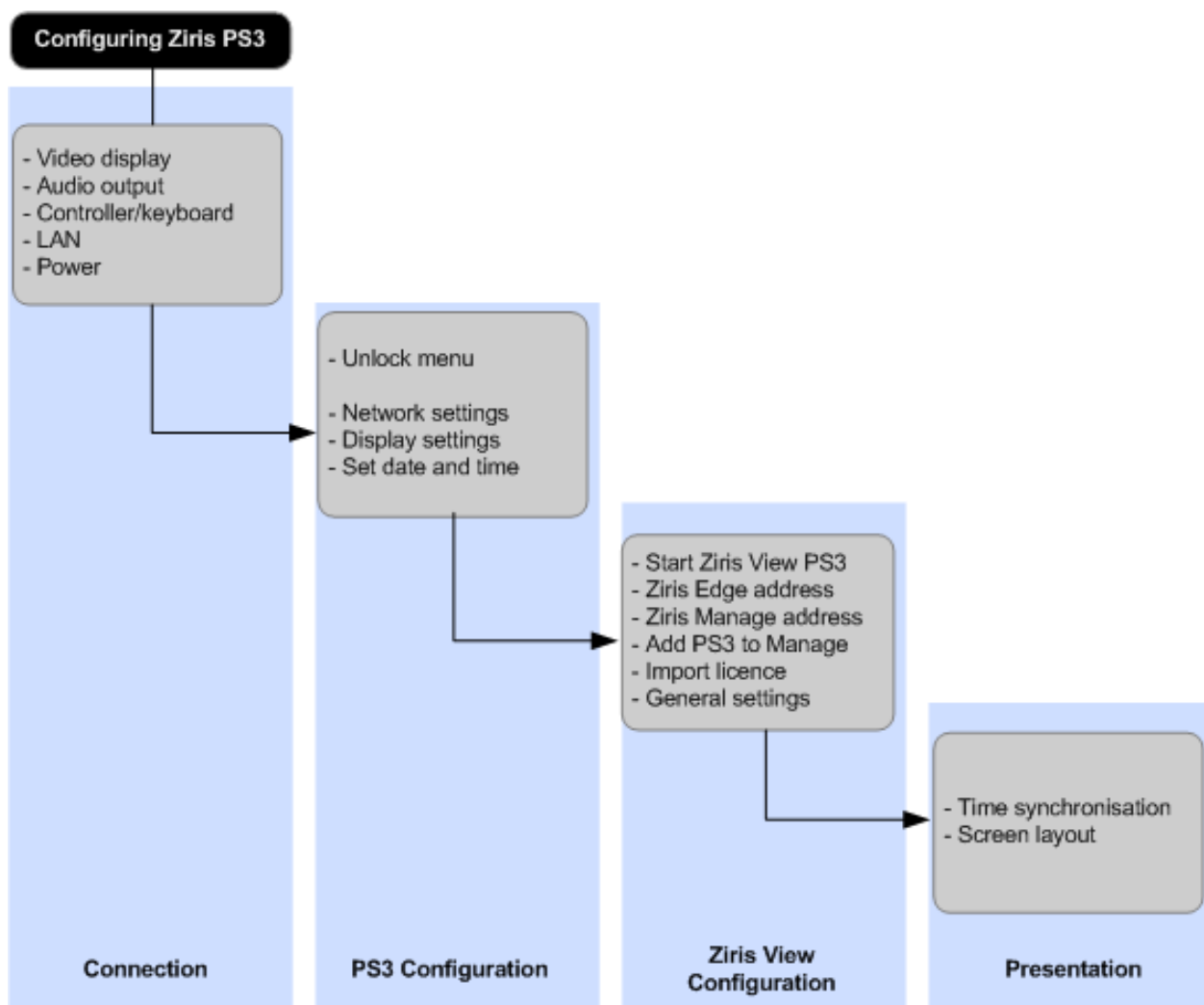
Connection

Before connecting, ensure that you have read, and can comply with any cautions and safety information supplied with your PS3.

Video

PS3 can provide the following video output formats to connect to your display device:

- HDMI (Preferred connection)
- Component
- S-Video
- AV (RCA Phono connectors)
- AV (SCART)

For the highest quality, use a display device capable of displaying full HD 1080p (1920 x 1080 resolution) connected to the HDMI connector.

Note

If connecting to a display using an HDMI to DVI adaptor cable the display must be HDPC compliant. This is required whether or not the media is copyright protected.

Audio

HDMI

Digital out (Optical)

AV (RCA Phono connectors)

Controller/Keyboard

Connect the SIXAXIS controller using the supplied USB cable. To use the controller in the wireless mode please refer to the PS3 Quick Reference Guide mentioned above.

In addition to the controller a USB keyboard may be connected to one of the PS3 USB ports. This allows a faster alternative to using the On-screen PS3 keyboard, particularly useful when configuring a multi-screen system.

LAN

Connect to the network containing Ziris Edge using an RJ45 Ethernet cable, or configure the wireless connection. PS3 will support speeds up to 1000BASE-T. To enable fast downloading of content ensure that all network components support this speed.

Power

Connect the AC power cord. Use only the supplied AC cord.

Caution

- Do not plug the AC cord for your system into an electrical outlet until you have made all other connections.
- The socket outlet shall be installed near the equipment and shall be easily accessible.

PS3 configuration

Use the supplied SIXAXIS controller to configure the Ziris View PS3. When the PS3 is switched on for the first time follow the on screen instructions.

Navigation of the PS3's menu and alterations of settings are done through the use of the SIXAXIS controller. To configure the PS3 settings, it is only necessary to use several of the controller's buttons, these are described below. For a full description of the controller see the PS3 Quick Reference Guide.

- ❶ Port indicators
- ❷ PS button
- ❸ Start button
- ❹ On-Screen
- ❺ Option button
- ❻ Cancel button
- ❼ Confirm button
- ❽ Select button
- ❾ Direction buttons
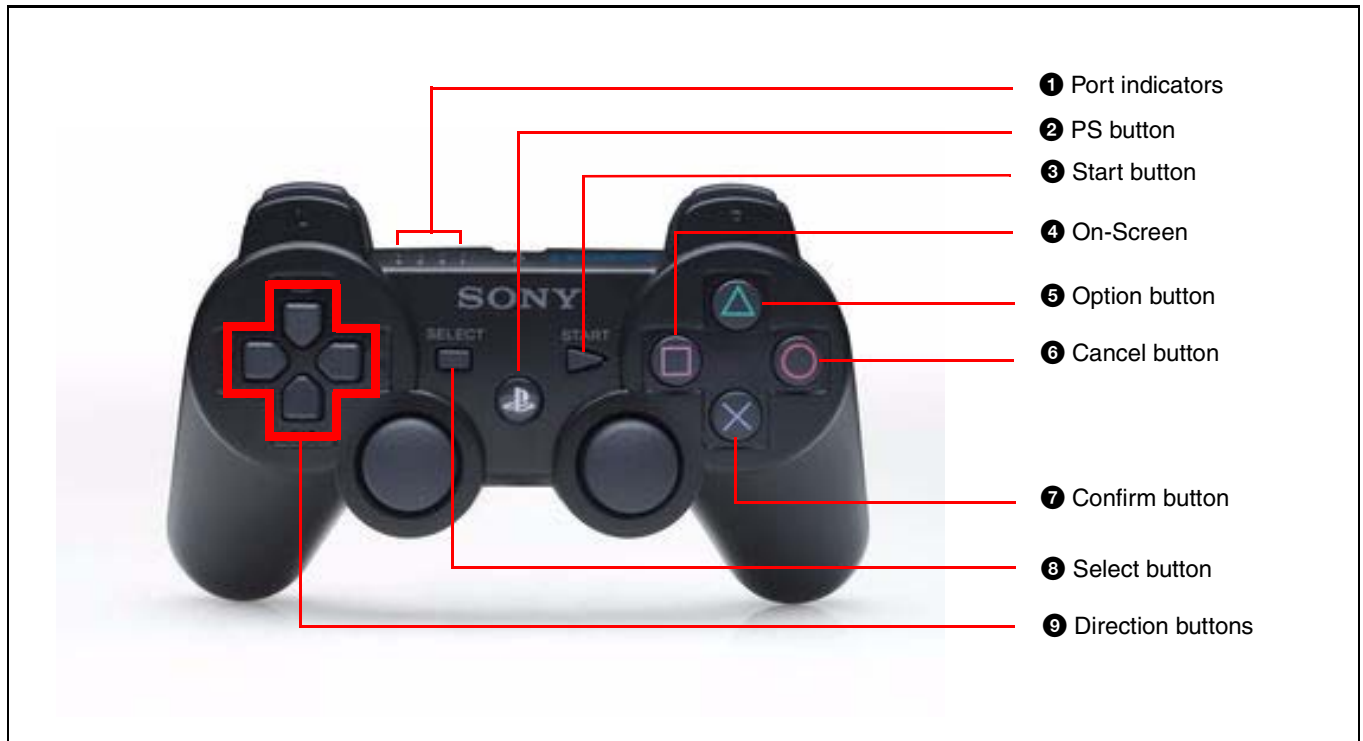
❶ Port indicators. These indicators will flash when the PS3 is powered on. Press the PS button briefly to assign the controller to a port. When assigned, one of the LEDs will remain lit red.

❷ PS button. Assigns a controller number to the SIXAXIS controller. To activate the controller press this button each time the system is turned on.

❸ Start button.

❹ On-Screen button. Displays the On-Screen configuration.

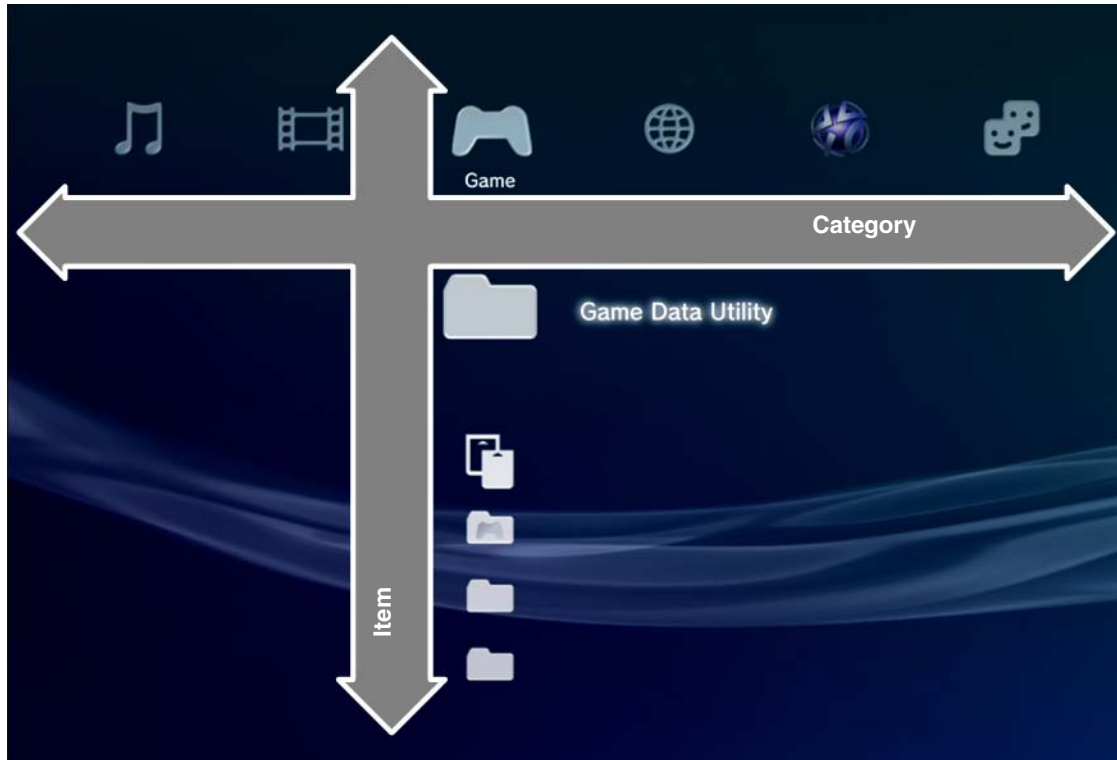❺ Option button. Shows/hides On-Screen settings

❻ Cancel button. Use to reject a setting or exit an option.

❼ Confirm button. Use to enter a menu option or confirm a setting.

❽ Select button.

❾ Direction buttons (Group). Use to navigate Up/Down, Left/Right.

Menu navigation

The PS3 system includes a user interface called "XMB" (XrossMediaBar) to navigate the various menu settings. Use the left and right Direction buttons to select the Category, then the up/down buttons to select the Item. Press the ⊗ button to enter the option screen for that item.

Note

Before you start ensure that one of the port indicators on the SIXAXIS controller is solidly lit. If not press the PS button before proceeding.

Unlocking the menu settings

PS3 has password security which prevents unauthorised changes to some of the menu settings. To configure those settings the PS3 Security must be unlocked by entering a password. To unlock follow the steps below.

1 Navigate using the Direction buttons to:
Category **Settings**
Item **Security Settings**
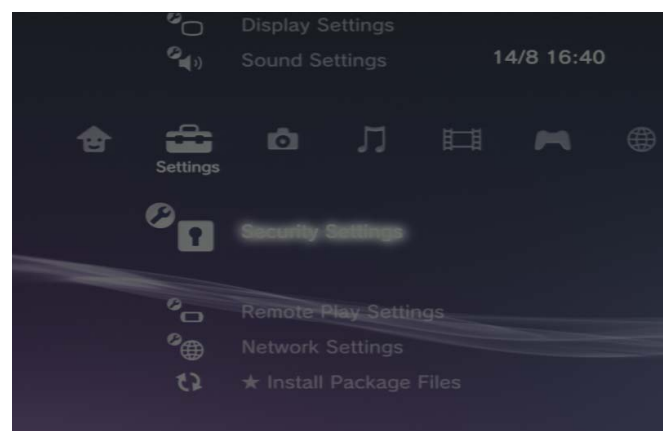
2 Press the following SIXAXIS buttons simultaneously: L1 + R1 + Select + ☐ (Square).

Press all four
buttons
simultaneously
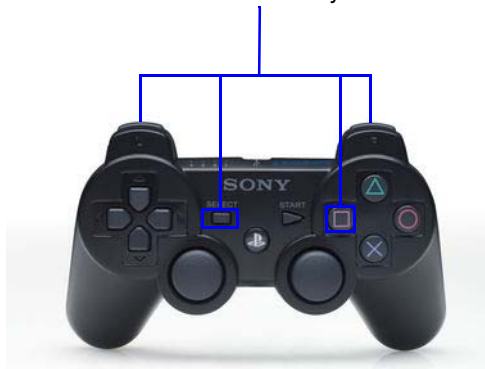
3 The PS3 displays "Enter your four-digit password"

4 Use the SIXAXIS direction buttons to enter the password "0000"

5 Press the ⊗ button to confirm the setting.

Note

The security setting will remain unlocked until the unit is powered down. It will then be locked when next powered on.

Network settings

To change the Network settings.

1 Navigate using the Direction buttons to:
Category **Settings**
Item **Network Settings**
Press ⊗
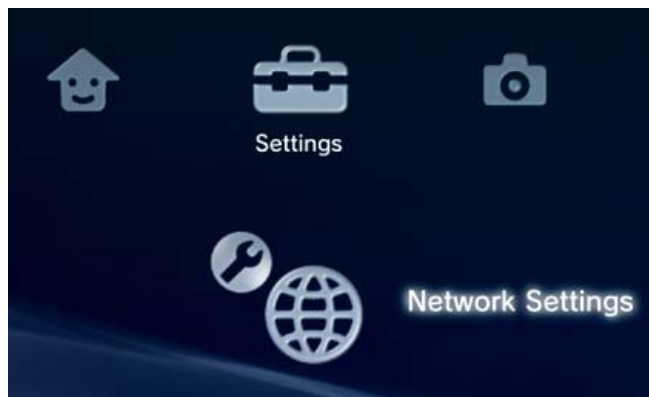
2 Select **Internet Connection Settings**
Press ⊗.
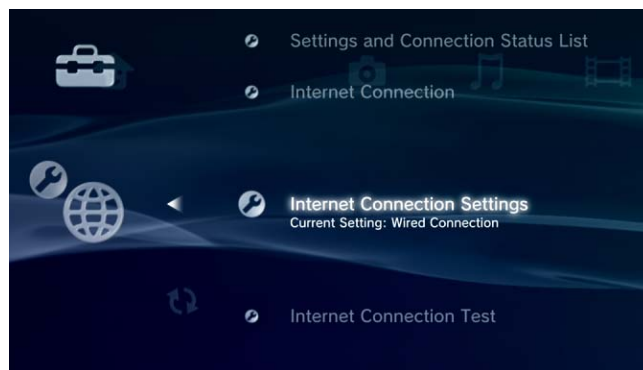
3 Select **Yes**
Press ⊗.
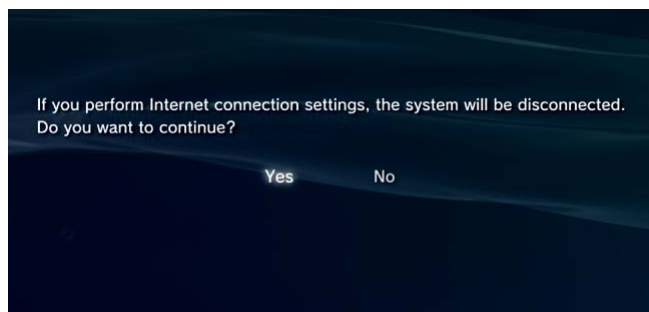
4 If your network supports automatic IP address (DHCP), select **Easy,** Press ⊗ and follow the on-screen instructions.
To specify a static IP address select **Custom** and continue with step 5.
.
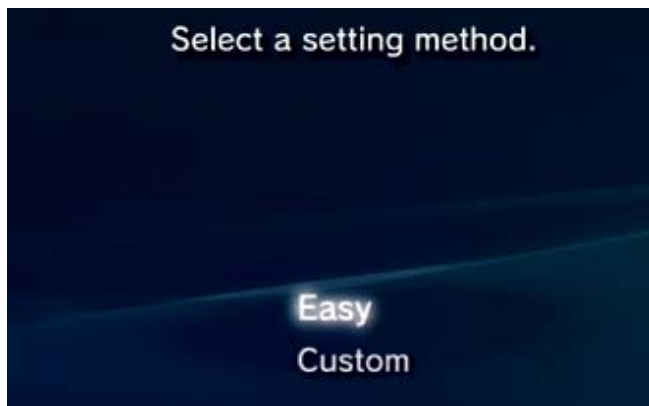
5 Select **Manual.**
Press Right Direction button.
(You can choose Automatic if your network contains a DHCP server).

6 Use the Direction buttons, or a USB keyboard to enter the network details. Alternatively use the on-screen keyboard. (Refer to the PS3 Quick Reference Guide).
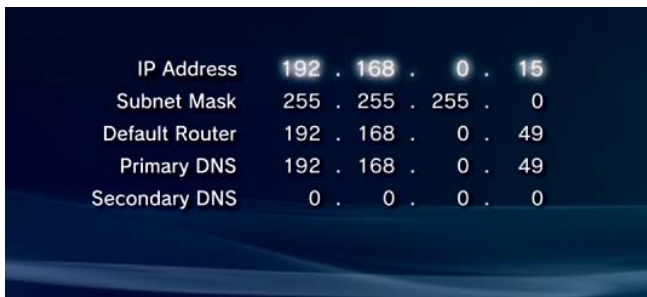
7 When the details are complete press the Right Direction button until the Settings List screen appears as below, then press ⊗ to accept the settings.
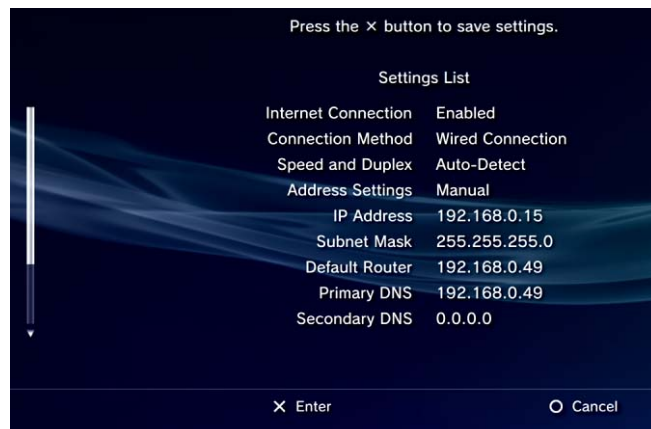
Display settings

1 Navigate using the Direction buttons to:
Category Settings
Item Display Settings
Press ⊗

2 The current setting is displayed. To change the settings press ⊗. To exit without changing press the Cancel ◯ button.
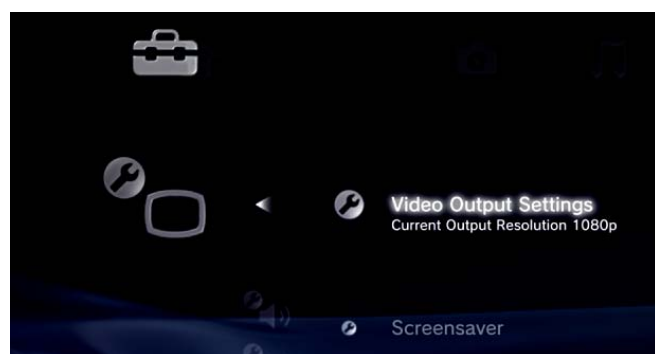
3 Select the required type of connector, then press the Right Direction button.

4 Select Custom, then press the right Direction button.
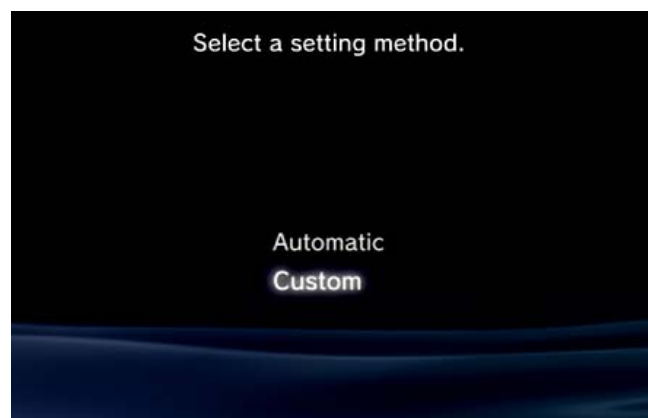
5 Use the Up/Down Direction buttons to select a resolution then press ⊗ to toggle the check-box setting.
Press ▢ to test the setting.
Press the Right Direction button to Display the Settings List.

6 To confirm the settings press ⊗.
Press the Left Direction button to go back to the settings.

Audio output settings

1 Navigate using the Direction buttons to:
Category Settings
Item Sound Settings
Press ⊗.
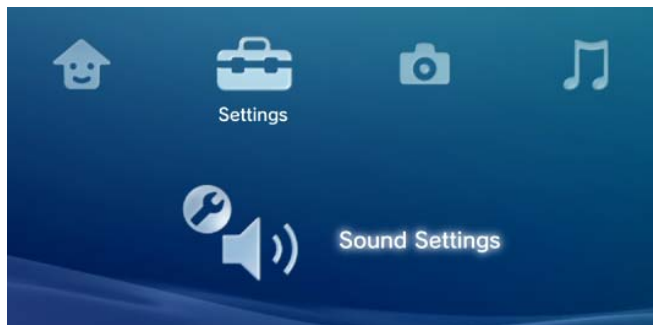
2 Press ⊗
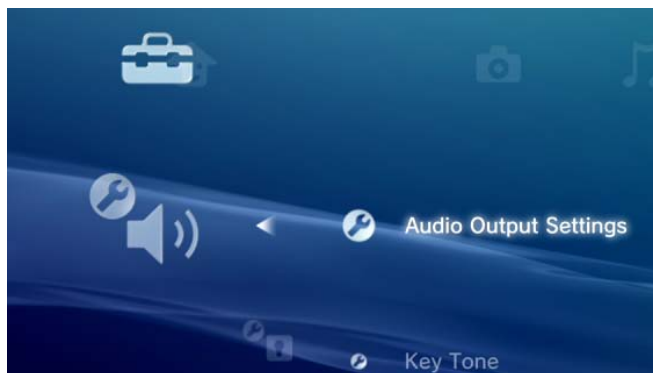
3 Use the Up/Down Direction buttons to select the required output connector, press ⊗ to select.

4 The Settings List is displayed. Press ⊗ to accept the setting. To exit without changing press the Cancel ○ button.
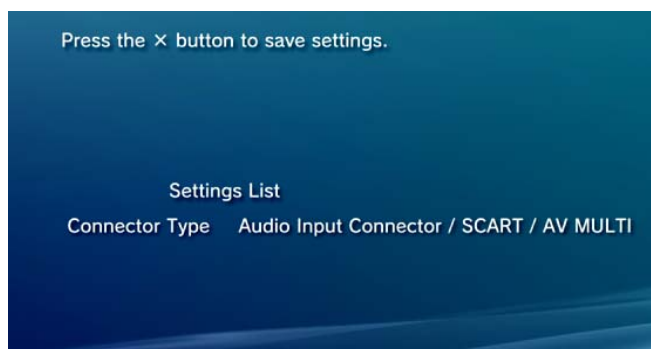
Date and time settings

1 Navigate using the Direction buttons to:
Category Settings
Item Date and Time Settings
Press ⊗
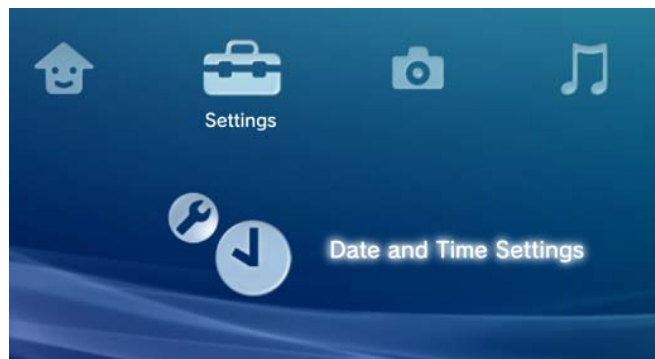
2 The current Date and Time settings are displayed.
Press ⊗.
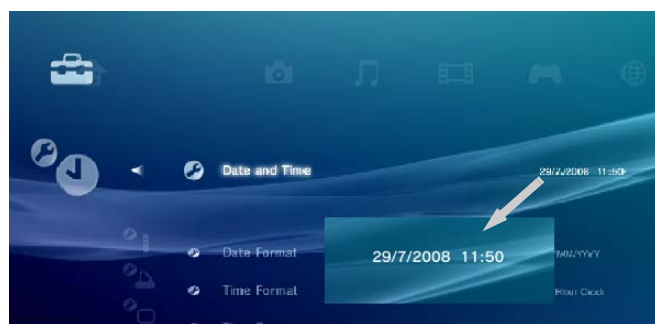
3 Use the Up/Down buttons to select the required
setting. Press ⊗.

4 Use the Direction buttons to change the current
settings. Press ⊗ to accept the changed settings. To
exit without changing press the Cancel ◯ button.
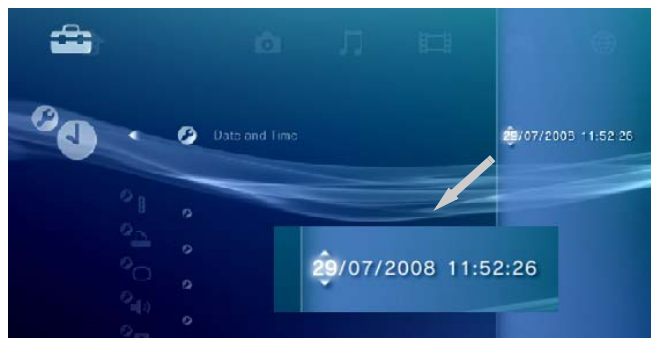
Recommended initial settings

Ziris View PS3 is delivered with settings as shown in the table below.

Menu	Setting	Value	Comment
System settings	System Language	English	Set as appropriate for non-UK customers.
	Dictionary Type	English (UK)	Set as appropriate for non-UK customers.
	Disc Auto Start	On	Required to start Ziris View at power-on.
	Automatic Update	Off	Required to prevent failure at start-up due to lack of Internet connection.
Date and Time Settings	Date and Time	*Current Time*	Required for correct scheduling and time synchronization. Set as accurately as possible. Set via Internet may be used if access available
	Date Format	DD/MM/YYYY	
	Time Format	24 hour clock	
	Time Zone	GMT+00:00 London	Set as appropriate for non-UK customers, however, all PS3 and Ziris servers in a given system should use the same time zone.
	Daylight Saving	Daylight Saving	Must be the same on all PS3s to avoid scheduling issues, particularly with multi-screen presentations.
Security Settings	Change Password	0000	Users must enter this password to allow menu settings to be changed.
Network Settings		Easy/Automatic	This setting may require changes depending on the network set-up.
Display Settings	Screen Saver	Do not use	
	RGB Full Range	Full	Set only for HDMI displays

Ziris View Start-up and Configuration

Follow the steps below to start Ziris View and configure the URL settings for Ziris Edge and Ziris Manage. On completion of these steps, all further settings are done using Ziris Manage.

Ziris View will normally run automatically from a PLAYSTATION®3 Game Disc. If it does not Auto-Start, select Game > Ziris View on the PS3 menu to start.

Note

If the disc is already inserted in the PS3 then Ziris View should automatically start at power on.

1 Insert the PS3 Game Disc, Ziris View will start automatically.

Insert the disc with the label side facing up.
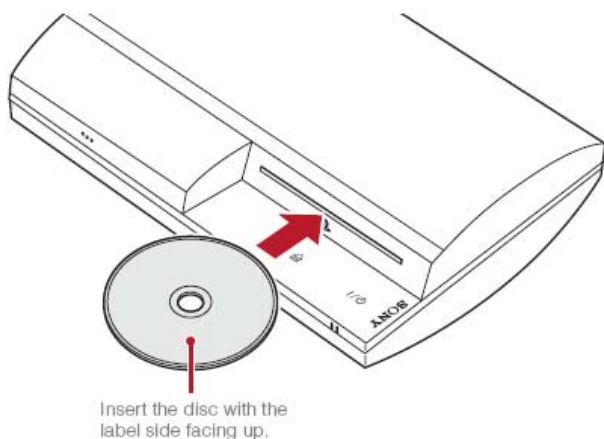
2 When Ziris View starts, the Ziris logo (or previously loaded content) appears on the screen.
Press the △ button to display the on-screen info/menu page.
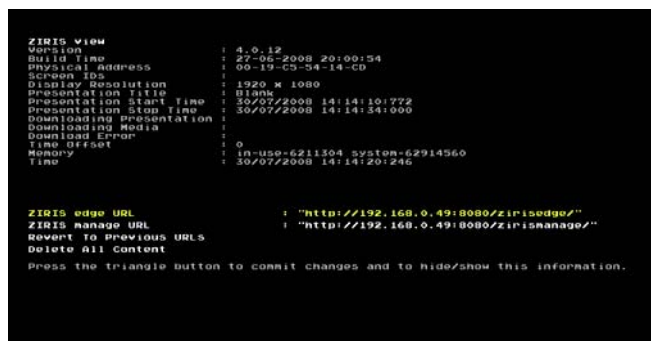
3 Use the Up/Down Direction buttons to highlight the *Ziris edge url*. Press ⊗ to display the on-screen

keyboard. You can type on the on-screen keyboard using either the SIXAXIS controller or a USB keyboard. Enter the URL in the format shown in the example below using the correct IP address for the Ziris Edge server associated with this device. Repeat the same instructions to highlight and enter the *ZIRIS manage URL*.

You can enter using any of the following formats:

- IP address e.g. 192.168.1.100
- IP address and port e.g. 192.168.1.100:8080
- Full URL e.g. http://192.168.1.101:8080/zirisedge
- e.g. http://192.168.1.101:8080/zirismanage

Please make sure that both the address and port are specified correctly on-screen in the final URL.

Note

If no port is specified when you enter a URL, the default HTTP port 80 will be used. This is not the default Ziris Manage and Ziris Edge port address which is 8080.

4 Before exiting this page make a note of the Physical Address (MAC), this is required by Ziris Manage. Press the △ button to confirm the settings and exit the menu.

Exiting Ziris View

There are three ways to cleanly exit Ziris View.

To Exit to the PS3 menu:

- Touch the Eject button in the PS3 to eject the Game Disc.
- Press the SIXAXIS PS button and select Quit Game
- Use Ziris Manage to schedule a Daily Restart and select Exit Only, at Restart Time. See *"Exit Only, At Restart Time" on page 26*

To put the PS3 in standby:

- Touch the Power On/Off button until it beeps.

Note

It is recommended that the PS3 is put into standby before switching off the mains power.

In cases where it is not convenient to manually power off the PS3, it is recommended to schedule Ziris View to exit to the PS3 menu before switching off the mains power.

Adding a Ziris View device to Ziris Manage

The steps below are intended be used as a guide to adding a Ziris View PS3 device using Ziris Manage.

If you are unfamiliar with Ziris Manage, please refer to the Ziris Manage Full Installation and User Manual for further details on using Ziris Manage.

1 Login to Ziris Manage.
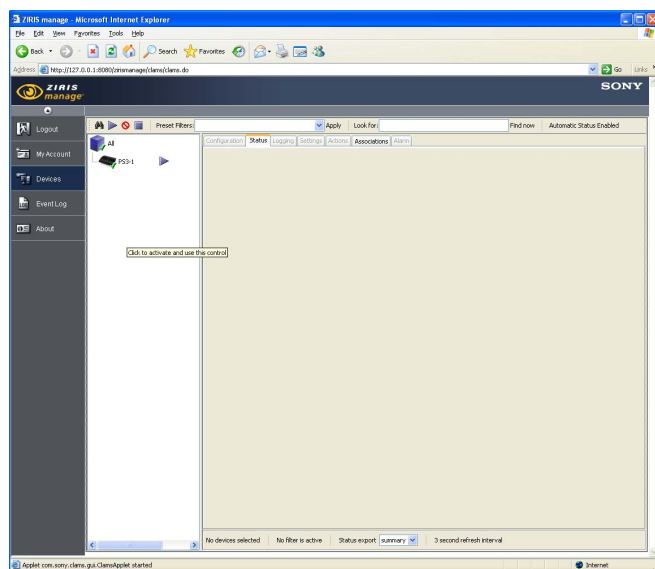
2 Left click on the group in the Device Tree where the device will be added.

3 Right-click on the Device Tree and select Add Device from the menu. A new device icon will appear in the Device Tree and the Configuration Tab will be displayed.
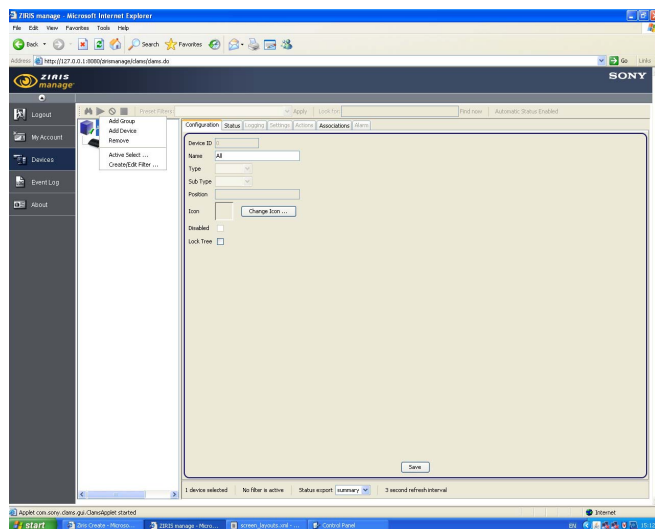
4 Enter the device Name, then select from the drop down box the Type (Playout Device) and Sub Type Ziris View PS3.
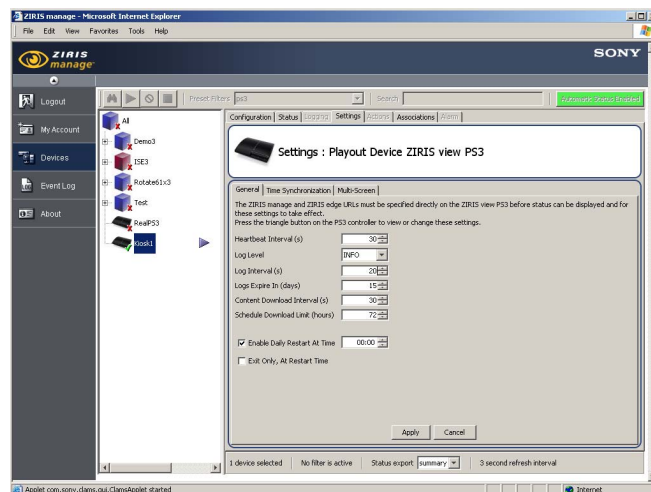
5 Enter the Physical Address noted from the previous section in the MAC Address entry field.

Note

Any alpha characters of the MAC address must be entered upper-case and the hexadecimal pairs must be separated by hyphens. For example: 00-19-C5-E4-8F-14

6 Select [Save].

Requesting a licence

Ziris View will periodically display an evaluation logo indefinitely until it is able to download a licence from Ziris Manage. To request a licence

1 Select one or more Ziris View devices, right click and select Request Licences.
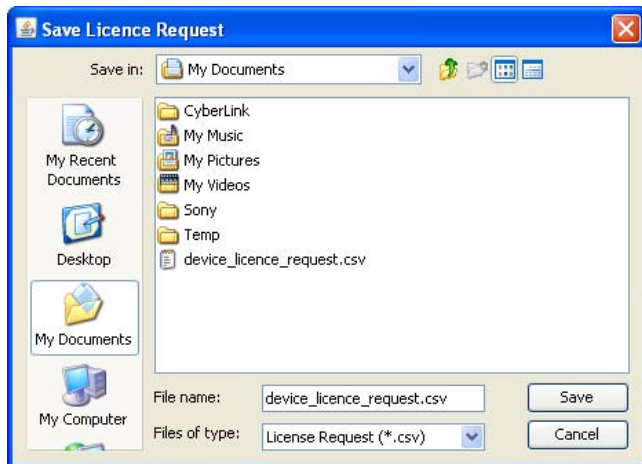
2 Browse to the desired location that the .csv file will be saved in. Click Save.

3 Email the file together with a licence request form available from the Ziris Manage About page to: ziris.licence@eu.sony.com

Importing licence files

1 Select any Ziris View device, right-click and select Import Licences.

2 Browse to the location of the received (.lic) licence files. Select one or more licence files. Click Import.

Note

There is no need to import licences individually, Ziris Manage will match up each licence with the corresponding device based on the serial number.

Ziris View PS3 Status tab

The status of the Ziris View PS3 can be viewed through Ziris Manage GUI Devices window. To view the status of a device click on the device in the Device Tree, then click the Status tab as shown below.

Status tab
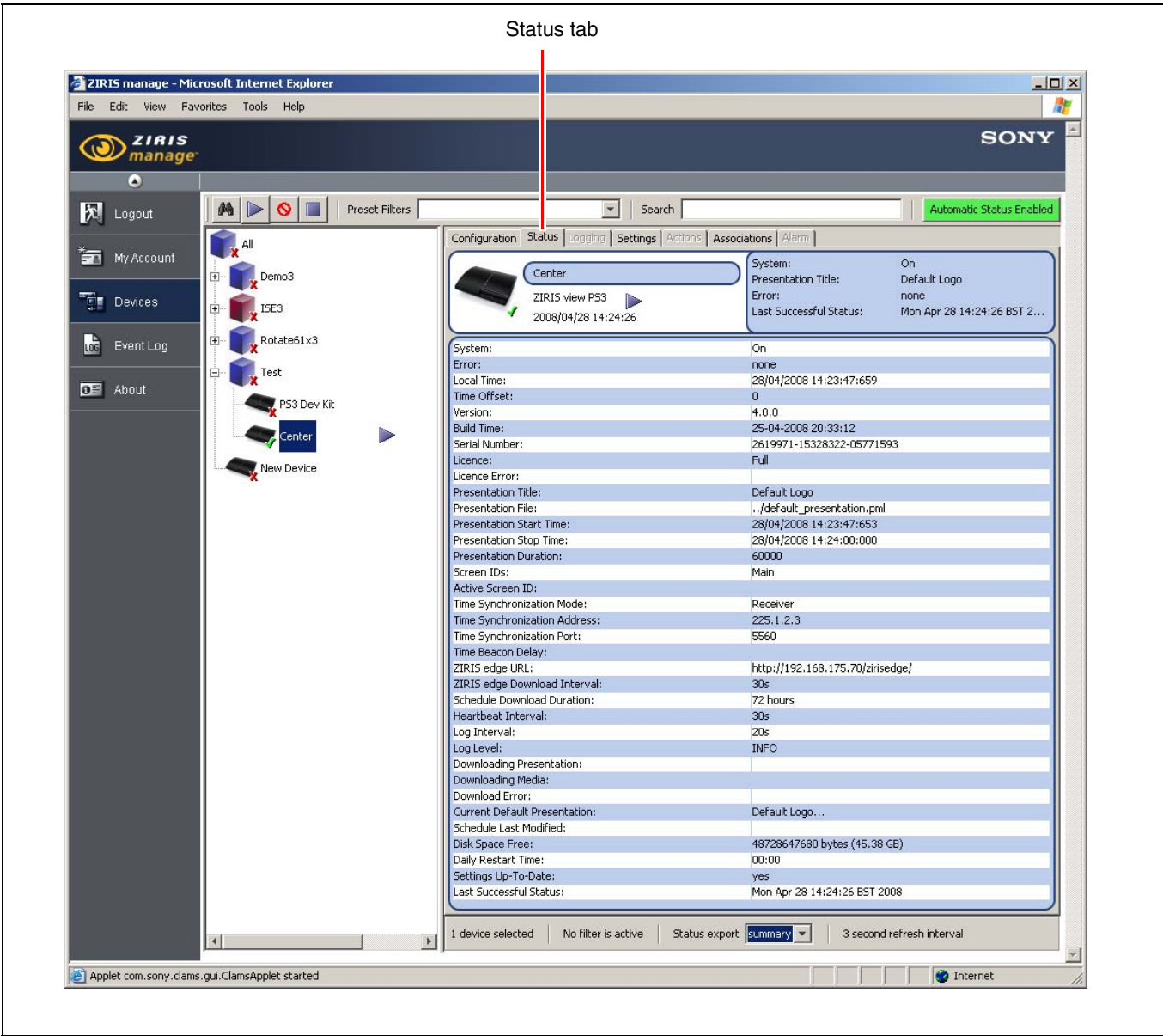
The following table lists the information available within the Status window. This is updated at the interval setting of the Heartbeat setting.

Information	Description
System	Indicates whether Ziris View is "On" or "Off". "Off" will only be displayed if Ziris View has exited normally or during a restart. In case of power failure, for example, the error "Status expired" will be displayed, but other status attributes will remain at their previous values.
Error	A summary of any current errors. Further details may be available in other attributes: Licence Error, Download Error
Local Time	The time on the PS3 when the current status was sent. If the Time Synchronization Mode is "Receiver", this is the synchronized time rather than the system clock time.
Time Offset	This is the time difference between the system clock and the synchronized time. This is always 0 when the Time Synchronization Mode is "Beacon" or "Disabled"
Version	The Ziris View software version.
Build Time	The Ziris View software build time.
Serial Number	This is the serial number required to request a license. See Licencing.
Licence	Indicates "Full" or "Evaluation". Ziris View initially has an evaluation licence that never expires, but causes an evaluation logo to be periodically displayed. An Evaluation licence is also indicated by a status flag:
Licence Error	Indicates any error relating to the licence that has been imported for this device. A license error is also indicated by a status flag:
Presentation Title	The display name of the current presentation.
Presentation File	The path of the current presentation relative to the media folder.
Presentation Start Time	The date/time that the current presentation started: day/month/year hours:minutes:seconds:ms
Presentation End Time	The date/time that the current presentation will end: day/month/year hours:minutes:seconds:ms
Presentation Duration	The duration of the current presentation in milliseconds.
Screen IDs	See Settings	Multi-screen.

Information	Description
Active Screen ID	The active screen of the current presentation. This is either the first of the player screen IDs that matches a presentation screen or the first (default) presentation screen if there is no match.
Time Synchronization Mode	See Settings	Time Synchronization.
Time Synchronization Address	See Settings	Time Synchronization.
Time Synchronization Port	See Settings	Time Synchronization.
Ziris edge URL	This is the URL currently configured via the on-screen menu on Ziris View.
Ziris edge Download Interval	See Settings	General
Schedule Download Interval	See Settings	General
Heartbeat Interval	See Settings	General
Log Interval	See Settings	General
Log Level	See Settings	General
Downloading Presentation	The path of a presentation that is currently being downloaded.
Downloading Media	The path of a media file that is currently being downloaded.
Download Error	Any errors relating to the download of schedule or content.
Current Default Presentation	The title of the current default presentation. Hover the cursor over the right hand column to display details including the path and the time that the presentation was last modified on Ziris Create. (NB. this is not necessarily the same as the time that the default content was set to this presentation)
Schedule Last Modified	This is the time on Ziris Create when the schedule was last uploaded to Ziris Edge.
Disk Space Free	This is the amount of free disk space available to Ziris View.
Daily Restart Time	See Settings	General
Settings up-to-date	Ziris View gets the current settings, if modified, in the response to a status update. After you click the Apply button on a Settings panel, the status will display "no", and the icon shown below will be displayed in the status flags until Ziris View receives the modified settings:
Last Successful Status	This is the time on Ziris Manage that the status indicator was last OK.

Ziris View PS3 Settings tab

The Settings tab is available when an individual device or several devices of the same type are selected within the Device Tree.

When a Ziris View device is selected, a General tab is shown. The settings are described below.

Settings tab
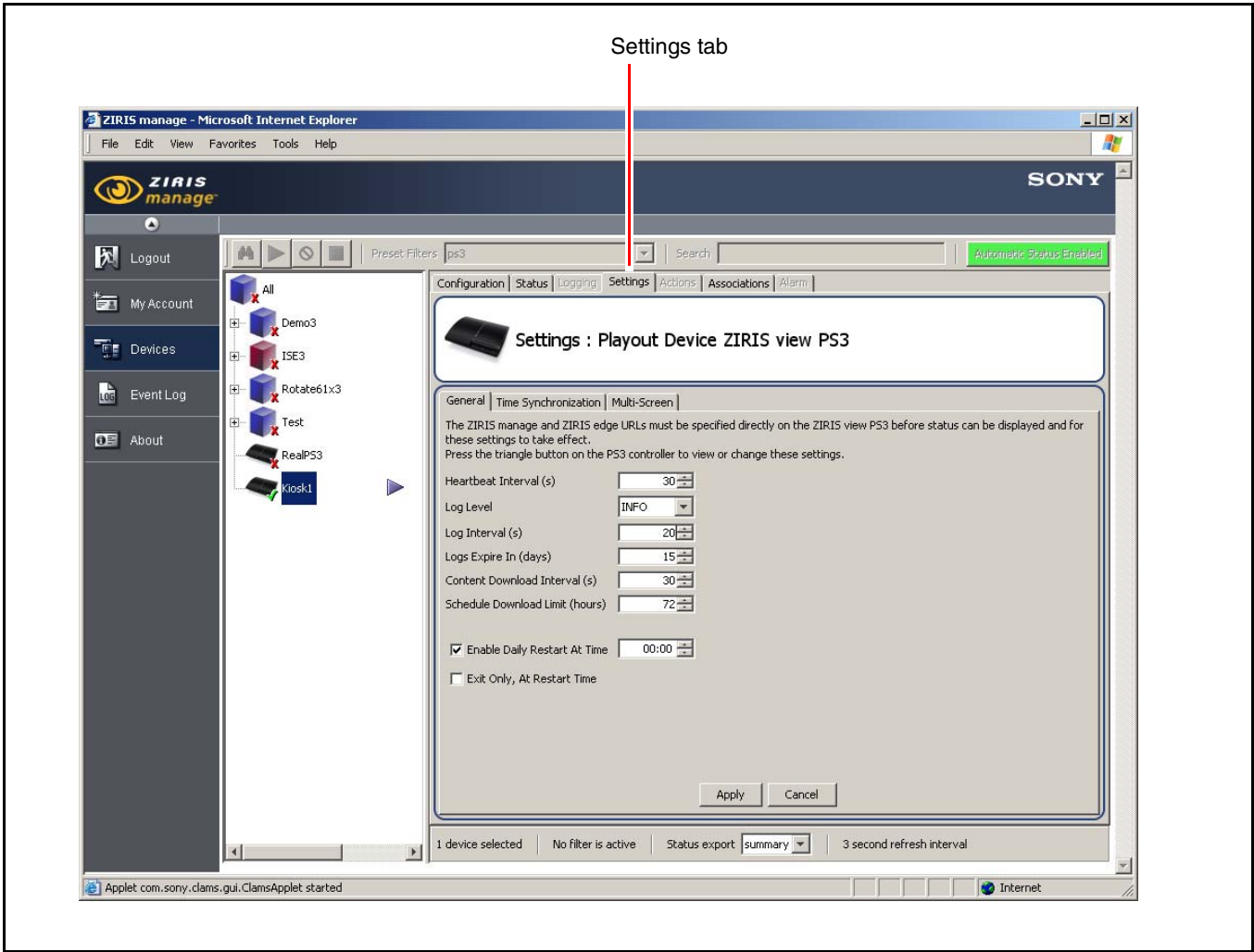
Heartbeat Interval (s)

The maximum time between each status update to Ziris Manage. Ziris View will send status to Ziris Manage whenever the status changes or after the specified interval from a previous status update. Ziris Manage will indicate that the status has expired if it does not receive any update for double the specified interval.

Log Level

Ziris View writes various messages to a log file. Each messages is assigned a level of severity/importance to the

operation of the software. Any messages below the current level will be not be output to the log file.

Level	Description
None	No messages will be output to the log.
Error	Severe problems that may be preventing the software from operating as required.
Warning	Less severe problems
Report	Messages about the show and hide times of presentations and media.
Info	General messages. This is the default level.

Level	Description
Debug	Verbose messages that may be useful to diagnose a problem. This level may generate very large log files and should not be used under normal circumstances.

Log Interval (s)

Ziris View periodically sends log messages to Ziris Manage in blocks of at most 100KB.

The log interval specifies the time period in seconds between sending each block of messages.

Log files can be found in <Ziris manage install folder>\data\device_logs

A separate log file is created per device and per day. The log file name consists of the MAC address and date.

For example: log_00-19-C5-44-95-17_20080428.txt
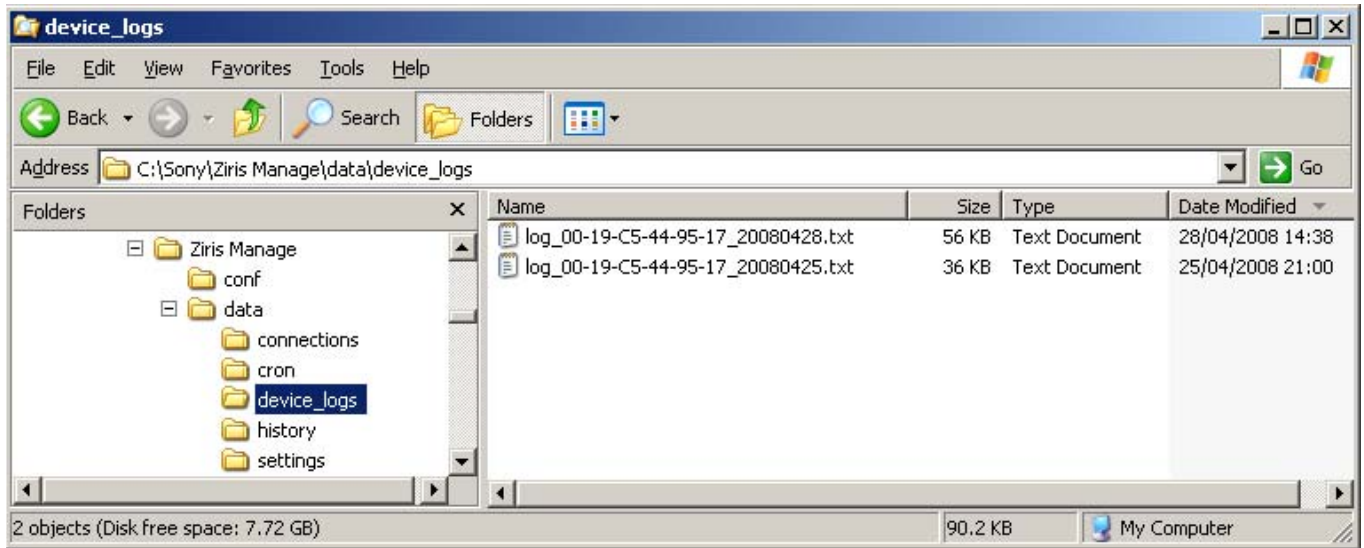
Log Expire In (days)

Once a complete log file has been transferred to Ziris Manage, it is deleted from Ziris View PS3.

If Ziris View PS3 is unable to send logs to Ziris Manage for any reason (e.g. network problem or power off), it will keep log files for the number of days specified, then delete them regardless of whether they have been transferred or not.

Content Download Interval (s)

This is the period of time between each check for new schedule updates from Ziris Edge.

Schedule Download Limit (hours)

This is the maximum hours of schedule to download in advance at each content download interval.

This avoids having to download the whole schedule before starting to play the current scheduled presentations and enables support of scheduling more content in advance than would actually fit on the PS3 HDD.

Enable Daily Restart At Time

It is recommended that this setting is enabled.

When set, automatically restarts the software every day. This makes it more realistic to validate that the system will run correctly for an indefinite number of days. A warning message is displayed if this is disabled.

Enter a suitable time of day for the software to restart i.e. at a time when it is unlikely to be viewed. At the restart time, the current presentation will stop and the screen will go black for up to ten seconds.

Exit Only, At Restart Time

If the previous check-box is ticked (Enable Daily Restart At Time) Then, ticking this check-box will prevent Ziris View restarting automatically

This feature may be used to exit all Ziris View applications in a multi-screen installation simultaneously, prior to powering down.

Presentation

This section of the configuration describes settings which are required only for multi-screen operation. If your presentation uses PS3 in single screen presentation then the settings for Time Synchronization and Screen IDs can be left at their default values. In this case please continue to *"Using Ziris View PS3 with Ziris Create" on page 31.*

Time Synchronization

Precise time synchronization allows multiple players to act as one, displaying different regions of a single presentation. Players in a multi-screen group must be connected to a network that supports multicast. One player should be configured as a time beacon and other players should be configured as time receivers. The local time on a receiver will be automatically offset to match the beacon which has the same address and port.

If several multi-screen groups are running on the same local network, you can either have one beacon for the whole network or several beacons using a different multicast address / port. To maintain independence of different groups, it is recommended that a different beacon is used for each multi-screen group. This will ensure that if a group containing the beacon is powered down it will not leave a group without a beacon.

Alternatively one 'always-on' player could be used to synchronize all the others.

Note

Time synchronization can only be guaranteed when all synchronized players are connected to the same network switch.
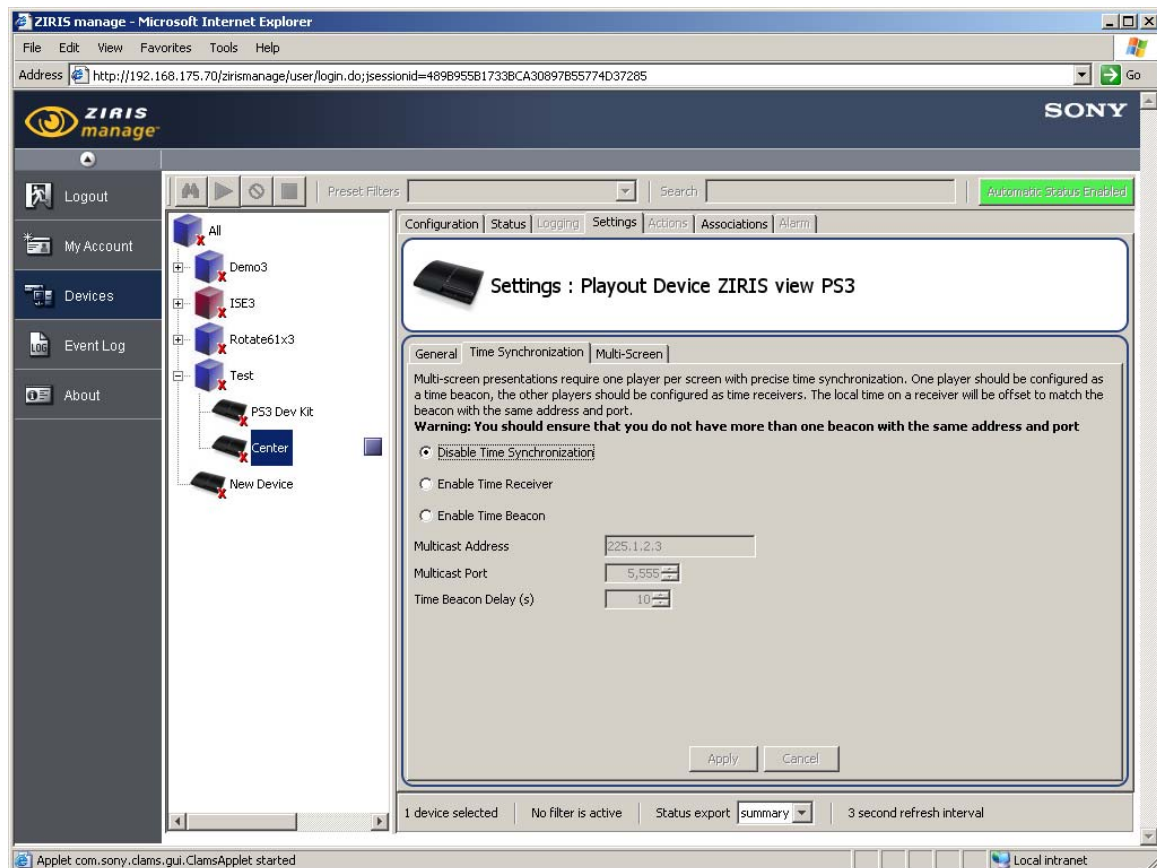
Disable Time Synchronization

No time information will be sent or received by this player.

Enable Time Receiver

The player will offset its time to match the beacon with the same address and port.

Enable Time Beacon

The player will periodically multicast its system time to the receivers.

Multicast Address

This must be a valid multicast address used to send time information.

Multicast Port

The multicast port used to send time information.

Time Beacon Delay (s)

The time interval between sending each time information packet. The recommended value is 10 seconds. This figure will affect how long a receiver has to wait for an update when first powered on.

Notes

- If a player configured as receiver, receives time information while playing such that its offset changes, the presentation display may be disrupted for up to four seconds.
- To allow for any clock drift, if the time offset change is small (< 0.5 seconds) the player will jump to the new time. Any video or audio may freeze momentarily if time jumps backward. In practice, if the beacon delay is small, any clock drift is unlikely to cause the offset to change by more than a frame at a time. This may result in a frame occasionally displayed for slightly more or less time than usual.
- For large time offset changes, such as when a time beacon starts after a receiver is already playing, the player will stop and reschedule the appropriate presentation at the new time. The screen will appear black for four seconds while the media is loaded and buffered ready to play.

Multi-screen IDs

The Multi-Screen settings tab is used to specify one or more screen IDs for the player. Each ID must be separated by a comma.

The screen IDs should correspond to the screen layout(s) selected for the Playlist within Ziris Create, and used for presentations scheduled on this player. See *"Creating a Playlist" on page 35* and *"Screen layouts"* in Appendix 1.
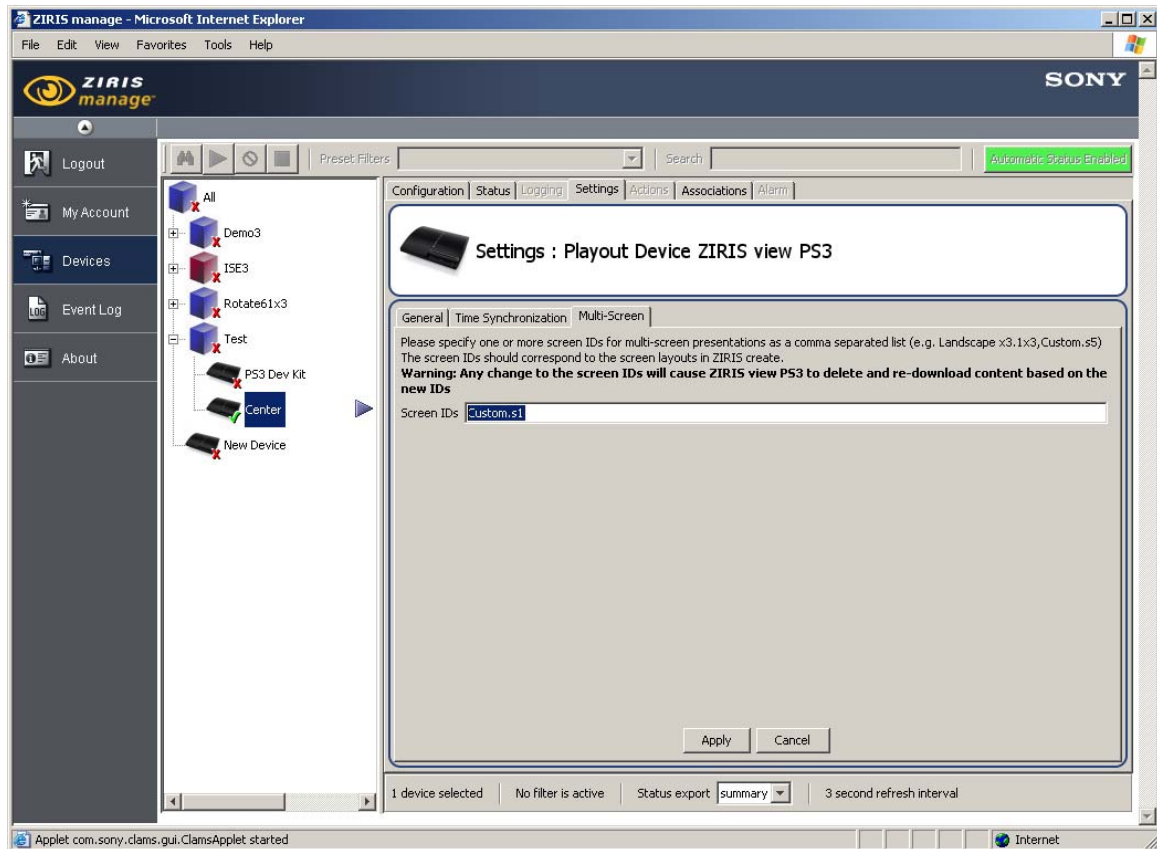
A player may use a different screen ID at different times to support different sub-groups of a larger multi-screen layout. For example, four screens could display a four screen presentation or a two screen presentation on each pair.

Note

If the player plays a presentation with no screens that match the current screen IDs, the first presentation screen will be used as default. In any case, the Active Screen ID is displayed on the Ziris Manage status tab.

To ensure that the correct ID is declared in the setting window, check the corresponding entry in the screen_layout.xml file. See *"screen_layout.xml" on page 48*. An example is included here for 'Landscape3x2'.
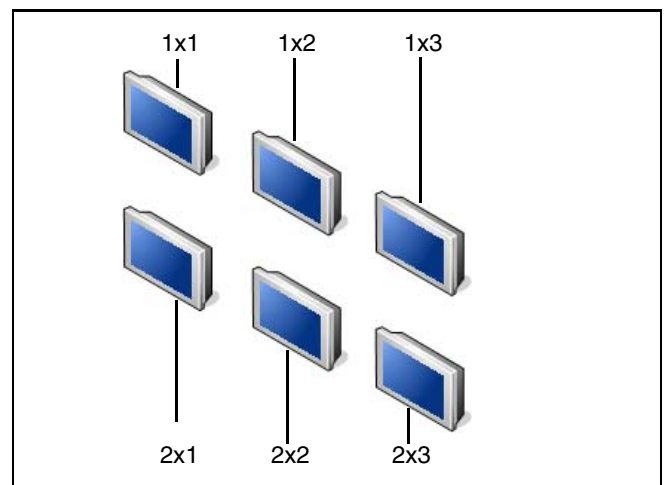
The Screen ID for the first PS3 will be:

Landscape3x2.1x1

Using with Ziris Create

Ziris Create requires a full licence before use with Ziris View on PS3

Ziris View displays presentations authored and scheduled using Ziris Create.

Please refer to the two Ziris Create manuals for full details on using Ziris Create:

- Ziris Create Operation and Reference Manual for Authors
- Ziris Create Installation and Reference Manual for Administrator

This section describes additional information relating to Ziris View PS3.

Default media

When Ziris View is first run, it will display the Ziris View logo continuously.

Ziris Create can be used to produce and schedule new content, including changing the default content.

Supported media formats

See *page 8* for details of supported media formats.

Creating a Channel for Ziris View PS3

In order to send content to Ziris View, it must be assigned to a channel. Shown on the next page is the procedure for creating a Channel for Ziris PS3. To access this function you must be logged on to Ziris Create as an administrator. For full details of Ziris Create please refer to the Ziris Create Installation and Reference Manual for Administrator.

Channel Manager Window

Channel Manager window allows the Ziris administrator to create new and edit existing channels. By clicking the [Distribution icon image] [Distribution] icon in the side-bar, the Channel Manager window is displayed, this shows the current channels' details. All these functions are described in the following pages.
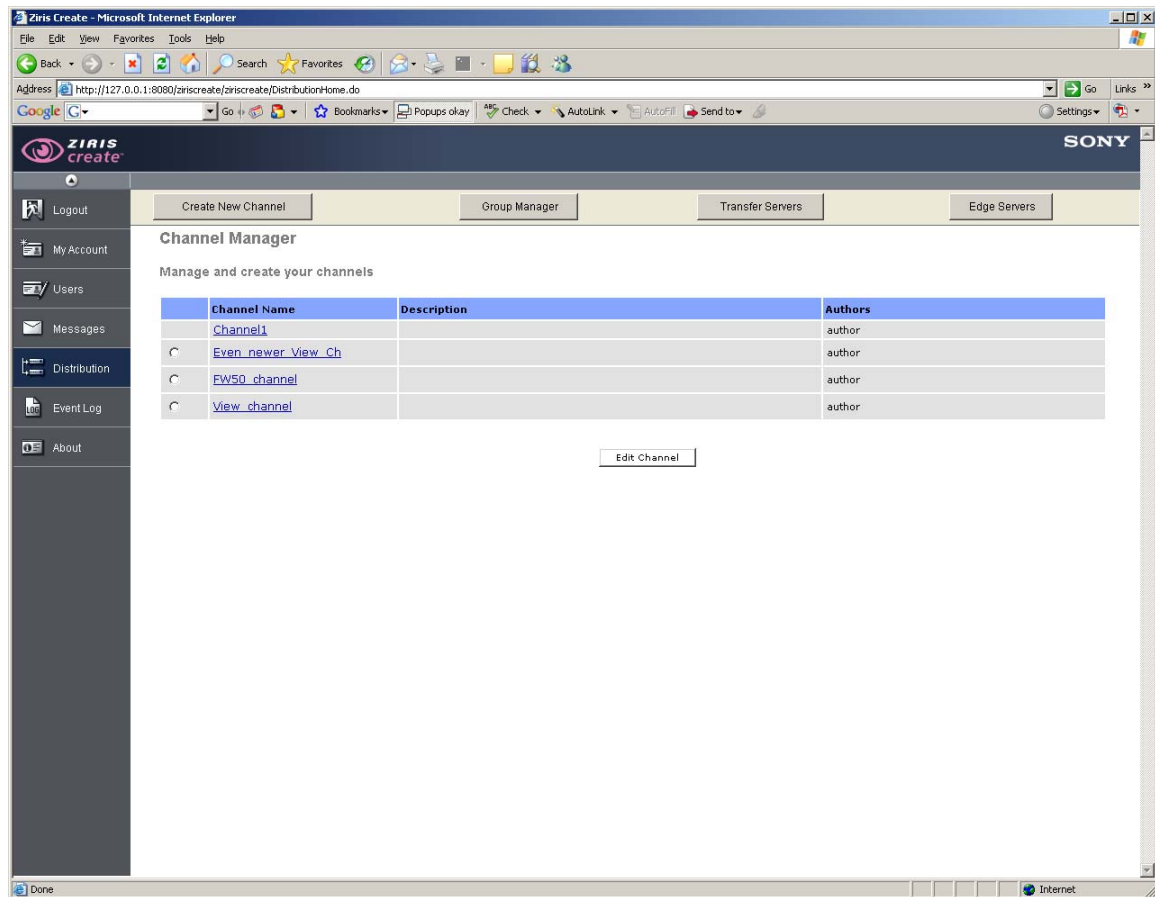
Creating new channels

Channels
A channel consists of one or more associated playout devices, and is assigned to a single author. All playout devices on a given channel play the same presentation at any given time. Ziris View playout devices on the same channel may display different areas of a multi-screen presentation. Content is scheduled and uploaded to the Ziris Edge server associated with the channel. The Ziris View playout devices download the schedule and media files from the Ziris Edge server based on their channel association.

Creating a new channel (Ziris View PS3, with Ziris Edge)

When you click the [Create New Channel] button at the top of the window, the Create Channel wizard starts. The wizard will guide you through the steps required to create a new channel and add devices to it. There are a number of choices within the steps which will depend on the different Ziris applications within your system.

Ensure that any Ziris Edge servers which will be used have already been installed and created before you start the Create Channel wizard.

1 To start the Create Channel wizard click the [Create New Channel] button. The first step of the wizard is displayed.

Create channel (Step 1)

Enter a name and select the author for this channel.

Name	Reception-Wall
Description	

	Name	Description	Details
⦿	author	Default author	User name=author Description=Default author

[Next] [Cancel]

Enter a name for the channel to be created and a description, select the author to be assigned to that channel from the displayed author account list.

For security the **Approval Required** check-box may be ticked, the author for that channel will then be required to seek approval from an approver before content can be distributed.

When the details are entered click the [Next] button.

Notes

- The channel name must be unique.
- Channel names may be up to 64 characters long and can contain only the characters a-z, A-Z, 0-9, '_' and '-'. characters.
- A channel may only be assigned to a single author.
- It is not possible to change the author associated with a channel once the channel has been created.
- Within the wizard, use the [Previous] or [Cancel] buttons to edit changes made in previous steps or to return to the Channel manager.

2 In this step choose the **Device Type**, in this case Sony Ziris View PS3. The **Distribution Type** is restricted **to Pull (Ziris Edge). The Network Type** is not applicable and has no effect for Ziris View. When the correct settings are chosen click [Next].

Create channel (Step 2).

Select the device and distribution type for this channel.

	Device Type	Description
◯	Sony BKM-FW50	Sony BKM-FW50
◯	Sony Ziris View HD	Sony Ziris View HD
⦿	Sony Ziris View PS3	Sony Ziris View PS3
◯	Sony Ziris View SD	Sony Ziris View SD
◯	Sony Ziris View Lite	Sony Ziris View Lite

	Distribution Type	Description
◯	Direct	Transfer direct to the device.
◯	Ziris Transfer	Transmit via Ziris Transfer
⦿	Pull (Ziris Edge)	Deploy to be pulled from Ziris Edge
◯	Pull (Ziris Edge) via Ziris Transfer	Deploy to be pulled from Ziris Edge, via Ziris Transfer
◯	Pull (Sony BKM-FW50)	Deploy to be pulled by Sony BKM-FW50

	Network Type
◯	WAN
⦿	LAN

[Previous] [Next] [Cancel]

The example below shows the creation of a channel for Ziris View with a Ziris Edge server. If your system contains only one of these then choose the appropriate radio buttons and follow the steps shown here, ignoring the steps which do not apply.

Click [Next] when you have selected the correct radio buttons.

3

Create channel (Step 3).

Select Ziris Edge servers

	Name	Host
☑	Edge1	192.168.175.70

[Previous] [Next] [Cancel]

Select Ziris Edge servers
Tick the check-boxes of the Ziris Edge servers which are to be used with this channel.
When all the selections have been made, click the [Next] button.

4

Create channel (Step 4).

Add end devices to this channel

	Name	Host
Delete	mpps3-1	00-15-C1-B0-F2-6F

Add Device

Create Channel   Cancel

Enter the details for the Ziris View device

Name: The name of the Ziris View PS3 device

Host: The MAC address of the PS3. The MAC address must be entered using a hyphen between each hexadecimal pair. For example: 00-19-C5-E4-8F-14

Note

You can add more devices to this channel now using the [Add Device] button, or you can edit the channel later.

Click [Create Channel] to complete the wizard and return to the **Channel Manager** window.

Importing Material

Please see the Importing Material section of the Ziris Create Operation and Reference Manual for Authors.

Please also see *"Ziris View Supported Functions and Formats" on page 8*

Creating a Playlist

Ziris Create is used to design multimedia presentations (or Playlists) for Ziris View PS3. To create a Playlist, Logon to Ziris Create as an "author":

1 From the Media window click File, then click New Playlist from the drop-down box.

2 Enter the details in the dialog box:

- Name for the new Playlist
- Description (optional)
- Click the Device entry field and select Sony Ziris View PS3 from the drop-down list.
- Choose a thumbnail for the Playlist (optional)
- Click the Screen Layout entry field and select a screen layout from the drop-down list

Tips

To avoid having to specify the Device field for every new Playlist, you can select
File > Set default device...

The default Screen Layout can also be set using
File > Set playlist defaults...

Note

If the desired screen layout does not exist, then it can be created and added by modifying one of the setup files within Ziris create. See Appendix 1*"Screen layouts" on page 47*.

Editing the Presentation Layout

Editing the presentation layout is done using the Layout Editor. Ziris View PS3 presentations use the same layout editor as Ziris View for PC, but with added support for showing multi-screen layout.

An example is described here to show the basic steps for a complex multi-screen display using one of the default screen layouts. For more details on using Ziris Create please see the Ziris Create Operation and Reference Manual for Authors.

Layout editor tab

New Playlist button

Layout Editor toolbar

Playlist Editor toolbar

New track with content
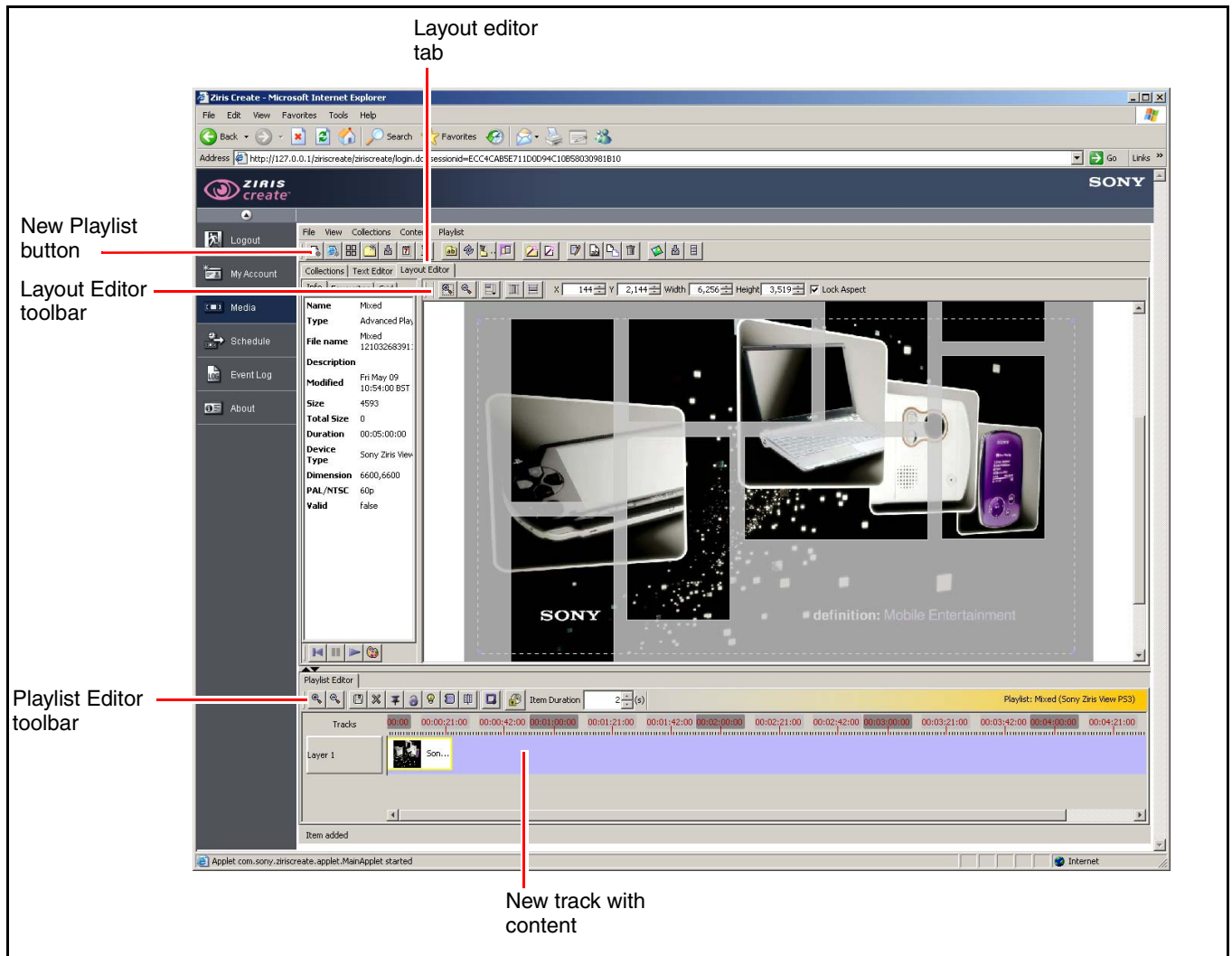
1 Create a New Playlist, selecting the MixedRotate screen layout.

2 Double-click the new playlist to open the Playlist Editor.

3 Click the ▢ New Track button on the Playlist Editor Toolbar.

4 Click and drag content onto the new track.

5 Click the Layout Editor tab. The content should be visible on the Layout Editor window. If not, you may have to use the ⚲ Smaller Screen button (zoom out) on the Layout Editor Toolbar.

6 Position the image on the desired area of the display. You can manipulate the size of the image by clicking and dragging the dotted outline.

NOTE

Any off-screen area of the presentation is overlaid with a translucent grey colour.

Validation

Ziris Create checks and warns of any potential problems with the presentation.

When a presentation is saved, a dialog may display both errors and warnings. Errors indicate that the presentation cannot be scheduled for playout because it exceeds the limits supported by Ziris View and may not display it correctly. Warnings are used to bring potential issues to your attention, such as a blank screen for a period of time.

Validation is done per screen. (Media displayed on one screen does not have any impact on any other screen).

Example 1

The screen shot below shows a presentation with three videos on one screen with a combined bit rate that exceed limit.
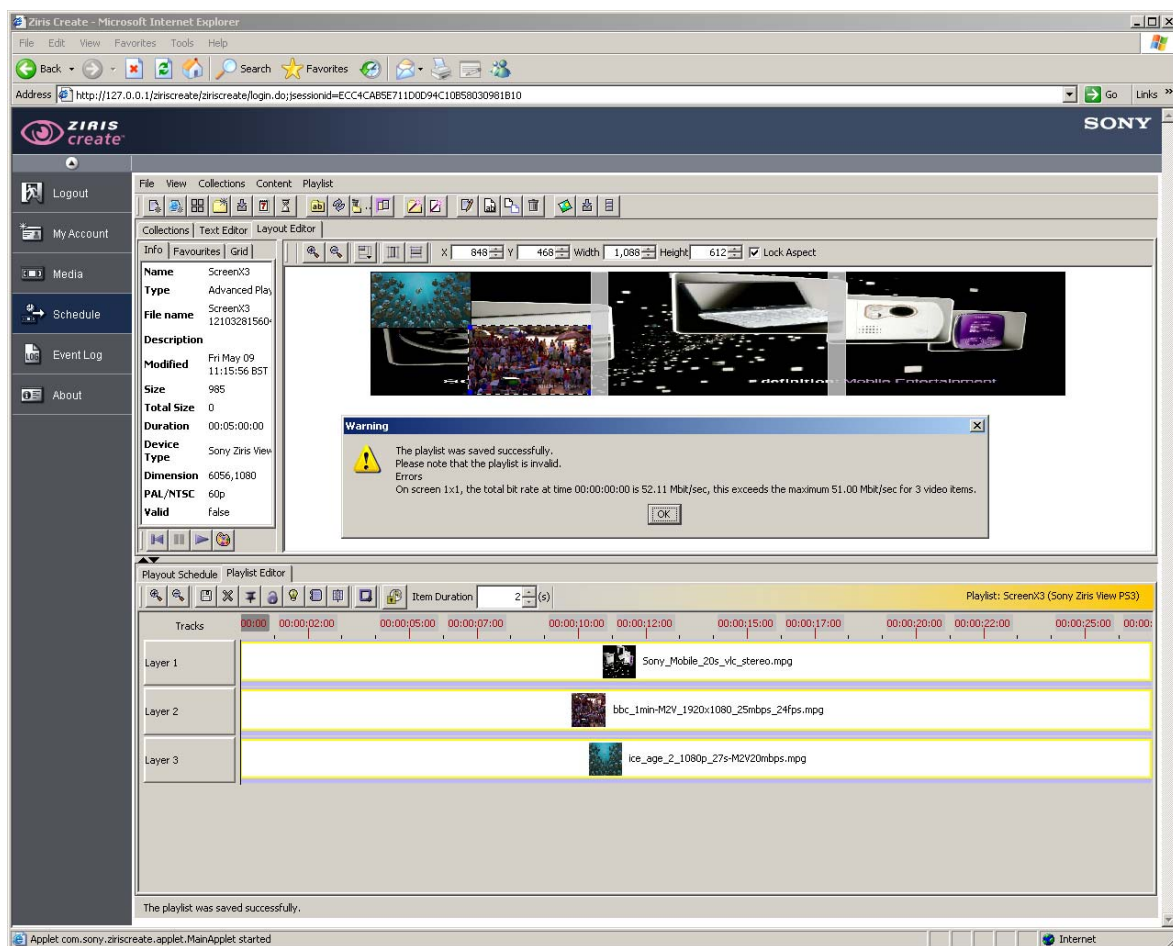
Example 2

The screen shot below shows a presentation with warnings due to two of the screens being blank for the whole duration of the presentation.
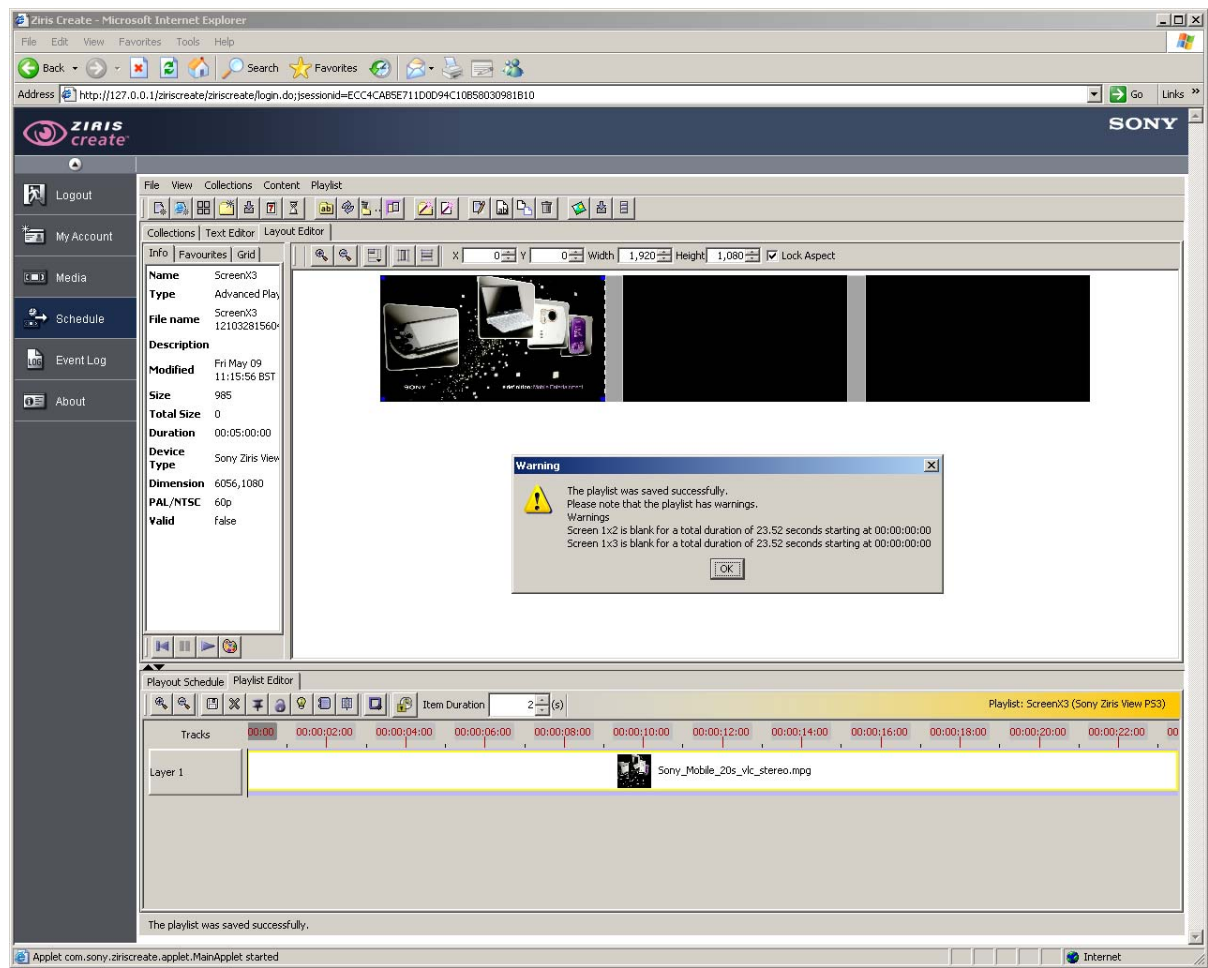
Synchronising Video and Audio

Ziris View currently only supports separate video and audio files. Video and audio files, even when encoded from the same source, can have a slightly different duration. In order to keep video and audio in sync, the audio duration must be adjusted to match the video exactly. This synchronisation is particularly important when repeating as the difference will accumulate with each loop of the content The audio and video must also be aligned on the presentation timeline.

Ziris Create allows the synchronization of the audio to video by adjustment of the audio meta-data to ensure that the two separate files match their start and end in real time. No alteration is made to the source file.

Note

This option is only enabled if an MPEG2 video and an AC3 audio file are selected, and their durations differ by less than 5 seconds.

To adjust the audio duration, select the two associated audio and video files, right click and select "Set audio to video duration" from the pop-up menu as shown below. This option is only enabled if an MPEG2 video and AC3 audio file are selected and their durations are different by less than 5 seconds. This does not change the audio file itself, it just changes the meta-data. Ziris View takes care of repeating the media based on the duration specified in the meta-data.
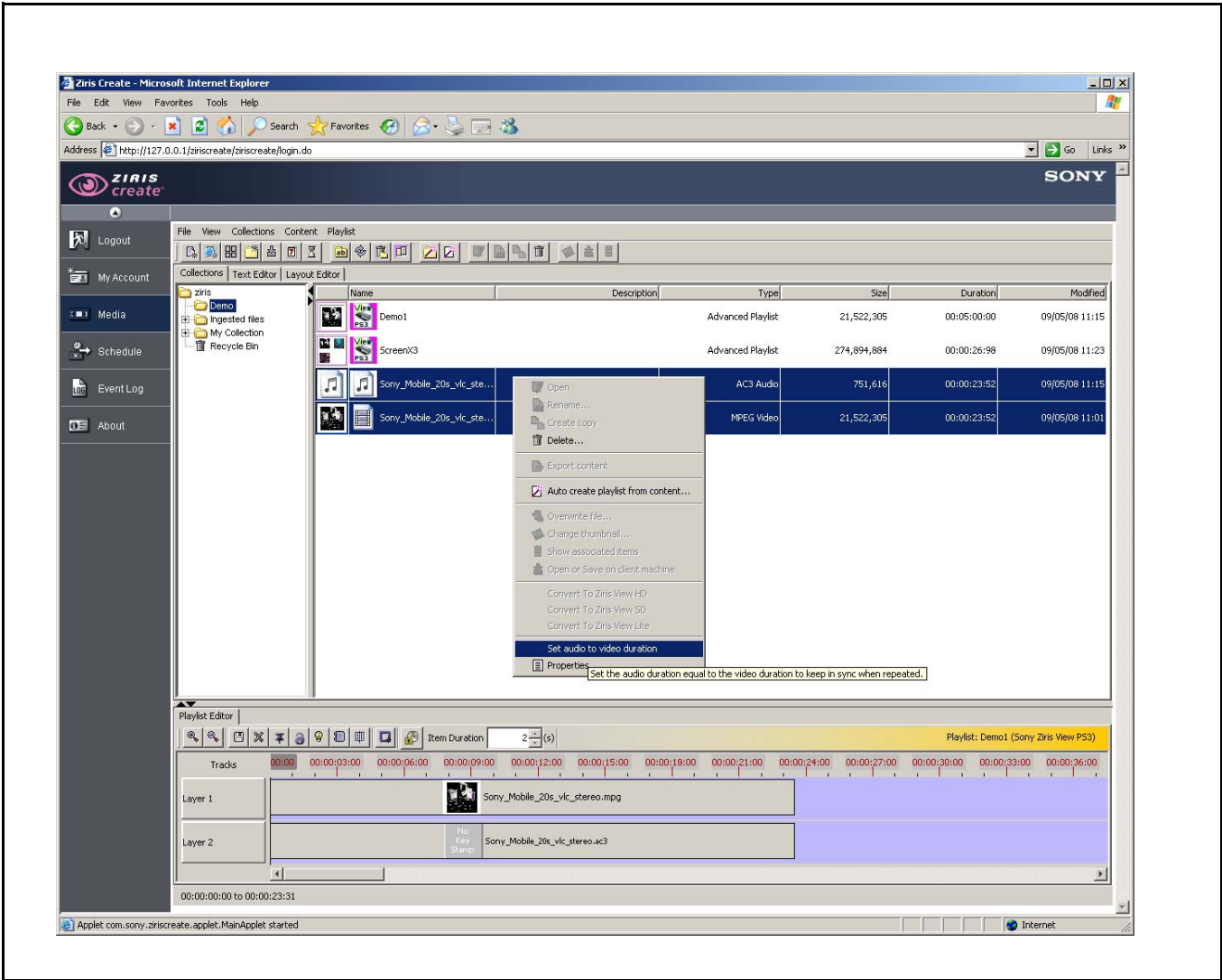
Text Editor

Ziris View PS3 supports still text (constant) or text scrolling left, right, up or down.

For scrolling text, a speed in the range 1 to 20 can be specified.

Text may be displayed on a coloured rectangular background with a specified transparency:

- none - opaque
- dark - translucent with alpha = 192
- light - translucent with alpha = 64
- full - fully transparent (i.e. no rectangle is visible)

Text may be displayed using any True Type font installed on the Ziris Create server.

Font files have to be downloaded by Ziris View PS3 in order to render the text in real-time.

The user must explicitly register fonts for use on Ziris View, due to copyright issues To register a font:

1 Click the Text Layout tab to display the Text Layout window.

2 Click the New button, enter a Name for the text then select Sony Ziris View PS3 from the drop down list. Click OK.

3 Click the "Add Font" button to display the "Font Registry".

4 Click to highligh the desired font within the Available Font list, click the > button to add the font to the Registered Font list. Click Save to complete the Add Font action.

> **Important**
>
> It is the users responsibility to ensure that they have permission to use and distribute the font in this way.
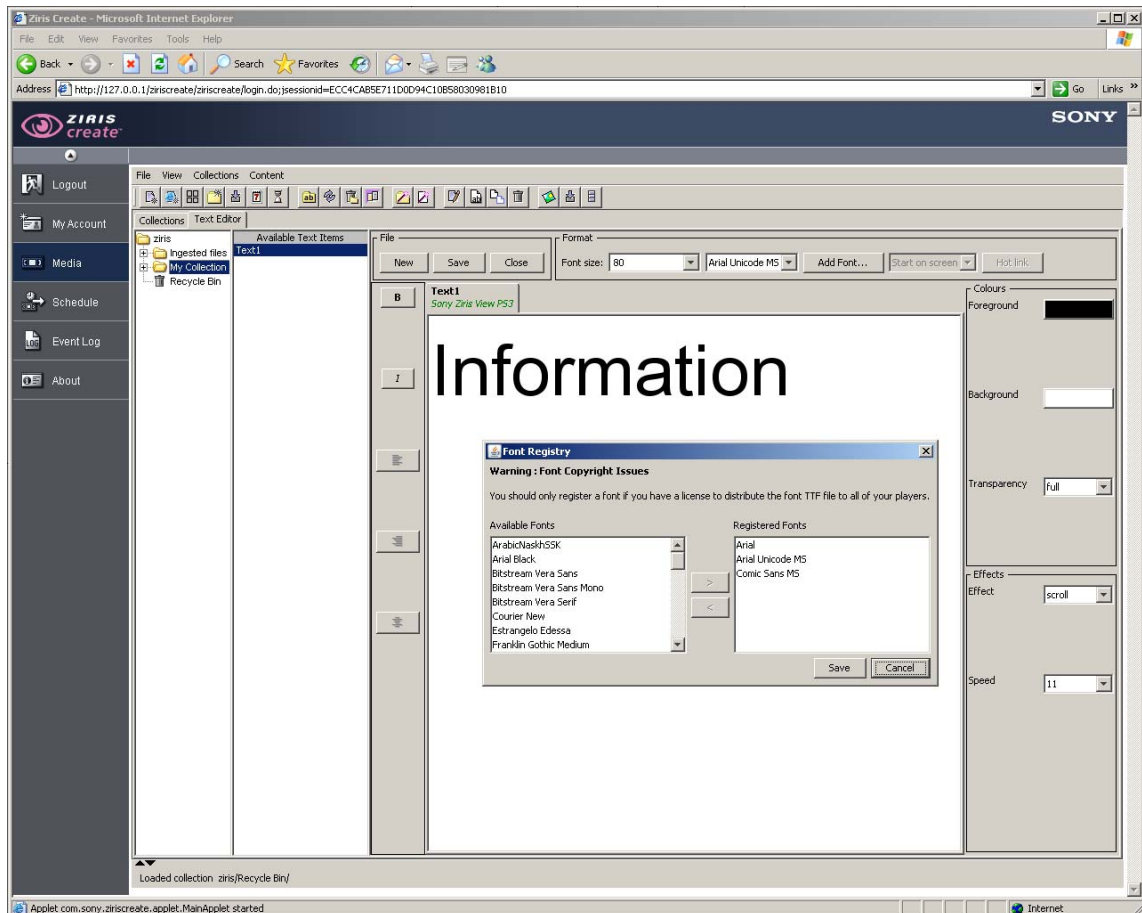
Troubleshooting

PS3 / Display Troubleshooting

Symptom	Description / Possible Cause
Unable to get any PS3 output on the screen.	Check that a HDMI cable is connected between the PS3 and the display. Check that the display power is on and the correct input selected. Check that the PS3 power is on, the power LED should be green. The display must be HDCP compliant when using HDMI to DVI. If the PS3 has previously been configured with incompatible display settings, the screen may appear blank. To reset the display settings: • Switch the PS3 to standby by holding your finger on the touch-sensitive power switch until it beeps. • The power LED will turn red when the PS3 is in standby. • Hold your finger on the touch-sensitive power switch until it beeps twice (once immediately then again after about 5 seconds) • The above display settings questions should be displayed. Please see the PS3 Quick Reference for further details about connecting to a display using different cables.
The information / menu appears partially off screen. The edges of a presentation are off screen.	Ideally, Ziris View PS3 should be used with a Full HD 1080p display to achieve optimal quality with media pixels mapping one-to-one with physical display pixels. Does the display pixel resolution match the PS3 output resolution? (typically either 1920 x 1080 or 1280 x 720) This may be due to a limitation / setting on the display itself. Some displays have an option to display the input image larger than the screen. This is called "overscan". Some lower resolution displays such as FWD 40-LX2 support 1920 x 1080 input but always overscan the input onto the 1366 x 768 display pixels. A workaround in this case, is to configure a screen layout in Ziris Create with a screen size of 1440 x 810 such that when this is scaled up to the 1920 x 1080 PS3 output by Ziris View then back down to 1366 x 768 by the display, the pixels of a 1366 x 768 image centred on the 1440 x 810 presentation should closely match the display pixels.

Ziris View Troubleshooting

Symptom	Description / Possible Cause
Screen displays image then black alternately.	This may be due to incorrect Time Synchronization settings. If the same multicast address and port is used by more than one Time Beacon, it is likely to cause any Ziris View configured as a Time Receiver on that address and port to continually re-schedule its content due to abrupt time changes each time it synchronizes with a different Time Beacon. If more than one Ziris View on the same network is configured as a Time Beacon, you must take care to ensure that they each use a different multicast address and port combination. This requirement is not enforced by Ziris Manage.
Screens not synchronized in a multi-screen presentation.	Screen synchronization requires the time on each PS3 to be accurately synchronized. Time Synchronization needs to be set-up correctly using Ziris Manage and also requires the PS3s to be connected to a network switch that supports multicast. Problems may also be caused by different time zone or daylight saving settings in the PS3 system software. The Local Time on Ziris View at last status update is available on the Status Tab in Ziris Manage.
Screen displays the wrong region of a multi-screen presentation.	Check the Multi-Screen settings in Ziris Manage. Ziris View must be configured with a screen ID corresponding to the screen layout in Ziris Create. The Active Screen ID is available on the Status Tab in Ziris Manage.
JPEG image not displayed.	Progressive JPEG is not supported. Ziris Create does not currently distinguish between 'normal' and 'progressive' JPEG images and will allow either to be used in a Ziris View presentation. However, 'progressive' JPEG is not supported on Ziris View so will not be displayed on screen. See the device logs for possible problems.
Video starts playing then disappears.	See Maximum Bit Rates for Video. See the device logs for possible problems.
An older version of an image or video is displayed.	Ziris View assumes that image and video files will not be modified. If an image or video file has already been downloaded, it will not attempt to download a later version. If you need to modify an image that has been used previously, you will need to ingest the image into Ziris Create with a different name to ensure that it is downloaded by Ziris View. This avoids issues that could arise from the need to overwrite media files that are currently being read for display. However, Ziris View will re-download text items and the presentation itself if modified.

Ziris View communication problems with Ziris Manage

Ziris View communication problems are indicated by the icon

Status Tab Error	Description / Cause
MAC address not specified in configuration	This indicates that the MAC address field on the Configuration tab is blank.
Status not received	No status has been received for this device since Ziris Manage was last started. Possible causes: • The PS3 or Ziris View is not running. • The MAC address specified on the Configuration tab does not match the address in the Ziris View on-screen information. • The Ziris Manage URL specified in the Ziris View on-screen menu is incorrect. The default HTTP port is 80 if no port is specified. Make sure that the port is specified in the URL if Ziris Manage is using anything other than port 80, e.g. 8080. • Ziris View cannot access the Ziris Manage URL due to network problems. Also check the Ziris Manage log. If Ziris Manage is receiving status from a MAC address that has not been added to the tree, a log message such as the following will be displayed: Failed to receive status for device id=unknown MAC=00-19-C5-44-95-17: Can't find device with MAC address 00-19-C5-44-95-17
Status expired	Status has been received for this device since Ziris Manage was last started, but there has been no update for more that double the current Heartbeat Interval (See Settings | General). Possible causes: • The PS3 or Ziris View is not running. • Ziris View cannot access the Ziris Manage URL due to network problems

Known Issues

Maximum Bit Rates for Video

The maximum bit rates specified in the Supported Media Formats section are the average bit rate limits enforced by Ziris Create for video items playing at the same time within a presentation. There are several circumstances not enforced by Ziris Create when the bit rate may be allowed to exceed the capabilities of Ziris View.

- During the 4 second initialisation period before a video starts to play.
- When one presentation ends (or at the point it is interrupted in the case of default content) with video at a high bit rate and the next presentation starts with video at high bit rate.
- Video for Ziris View is normally encoded using variable bit rate but Ziris Create enforces the limit based on the average bit rate. There may be spikes where the bit rate exceeds the maximum.

It is always recommended to preview your presentations and schedule on a 'preview' Ziris View channel before uploading to a 'live' channel, at least until you are familiar with the capabilities and limits of Ziris View on PLAYSTATION®3. If it is not possible to decode video fast enough, Ziris View may stop displaying a particular video item and log an error message such as:

ERROR Video "../ingest_videos/myvideo.mpg" stopped after too many failures to get correct picture for display

It is not recommended to encode all your content at the maximum supported bit rate. For example, 20-25 Mbit/s is probably sufficient for full screen 1080p HD video. Lower resolution video requires less bit rate. Higher bit rates will take longer to download, require more disk space and increase the chance of playout problems. At some point, depending on the resolution and original quality of the source video, using higher bit rates will not necessarily improve the visual quality on the display.

Change of current presentation is not synchronized

If you upload new scheduled or default content to a Ziris View PS3 channel, the download is unlikely to complete and take effect at the same time on different PS3's. Therefore, if the update results in a change to the current playing presentation, multi-screen presentations will not appear synchronised until all PS3's have downloaded the update.

If multi-screen synchronization is required at all times, it is recommended to always schedule new content sufficiently in advance to allow time for Ziris View to download the content before its play time. When changing default content, a presentation can be scheduled while the new content is being downloaded so that all Ziris View PS3's starts playing the new default content at the time the scheduled presentation ends. The old default presentation could be scheduled to play at the same time as it would play as default content if required.

Although default content is not given an explicit time to play, Ziris View implicitly schedules it based on the previous scheduled item end time in order to synchronise multiple players. Therefore, removing the last presentation scheduled before the current time may affect the play time of any current playing default content and force Ziris View to be re-schedule it.

Deleting large files (> 2GB) may interfere with playout.

When a large file is deleted from the PLAYSTATION®3 hard disk, there is a significant impact on the read performance for other files being read at the same time. This is particularly a problem when playing high bit rate video. Ziris View periodically deletes expired media, downloads new media and waits the specified Content Download Interval (see Settings) before checking again. By default, Ziris Create sets the delete times automatically based on when media is scheduled to play. This means that Ziris View may delete files at any time of day. When a large file is deleted, you may get an error for a current playing video such as:

ERROR Video "../ingest_videos/myvideo.mpg" stopped after too many failures to get correct picture for display.

If possible, it is recommended to encode your longer duration content as several shorter clips (e.g. up to 10 minutes depending on bit rate) to avoid this delete issue. Shorter files are also easier to manage and give you more flexibility in authoring your presentations in Ziris Create. Shorter files allow you to re-order, add or remove clips without re-encoding large video files.

In order to give the user some control over this problem, it is possible to specify a delete time window for Ziris Create to ensure that media always expires at a known time of day.

The delete time window can be set using a command line utility on the Ziris Create server:

Open a command prompt. (Start | Run | "cmd" or All Programs | Accessories | Command Prompt.

Type: c:

Type: cd "\Sony\Ziris Create\bin"

(replace with your Ziris Create installation folder if not installed in the default location)

This folder should contain a file called SetPS3DeleteWindow.bat

To set a single time of day to expire media e.g. 2am:

Type: SetPS3DeleteWindow 02:00:00

To set a delete window to expire media e.g. between 2am and 3am:

Type: SetPS3DeleteWindow 02:00:00 03:00:00

If the delete time would normally fall within this window, it is not changed, otherwise the delete time is set to the start of the next available time window.

To get the current delete time settings:

Type: SetPS3DeleteWindow

To disable the delete time setting:

Type: SetPS3DeleteWindow disable

Please restart the Ziris Create Web Server for any changes to take effect. The current time window settings should appear in the Ziris Create logs after the first upload. E.g.

  view-ps3 delete start time = 02:00:00

  view-ps3 delete end time = 03:00:00

Please be aware though that Ziris View may not delete an expired file for up to the Content Download Interval ahead of the expire time. The delete operation will be delayed further if Ziris View is downloading new media from Ziris Edge at the expire time. Also, Ziris View obviously cannot delete files while the PS3 is switched off, in standby or Ziris View is not running. In this case, expired media will be deleted at the first check after Ziris View is next started.

Cancel download in progress

Ziris View periodically checks Ziris Edge for any schedule or default content updates. Once Ziris View starts to download new content, it will continue until complete unless there is a network problem or Ziris View or the PS3 is shut down or restarted.

If the schedule or default content is changed while a download is in progress, Ziris View will not attempt to download the latest update until the previous download is complete. This may cause frustration if a large file is scheduled in error.

There is no explicit function to cancel a download once it has started. However, a remote restart of Ziris View can be performed by setting the Daily Restart Time as required using Ziris Manage.

Disk Space on Ziris Create and Ziris Edge

The Ziris Create and Ziris Edge server must have sufficient hard disk space to store the ingested or applauded media files. High resolution video files encoded at high bit rate can consume large amounts of disk space.

It is possible that a file used by Ziris may get corrupted if the disk becomes full while it is being written.

It may not be possible to recover these files automatically even when disk space is made available.

Screen layouts

Screen layouts explained

Ziris View PS3 as installed contains a number of pre-prepared single and multi-screen layouts. The presentation designer is also free to design custom screen layouts.

Ziris Create uses an XML file to specify the screen layouts. The XML file can be modified using a text editor such as Wordpad, included with Microsoft Windows XP.

The screen layouts are reloaded each time the "New Playlist..." dialog is opened, so it is not necessary to restart Ziris Create to use the modified layouts.

The preview icon and the screen mask in the layout editor are generated automatically from the XML definition.

The syntax is explained below, and should give most users the information required to customise an existing layout, or create more complex presentations to suit their needs.

The next section provides an insight to the syntax of XML. This is followed by examples of modifications based on the existing default *screen_layouts.xml* file

Custom layouts can be produced by changing a few default values. This figure shows how one number controls the horizontal positon of a screen.

<ScreenBounds id="s1" x="1518" y="500" width="1920" height="1200" rotation="61"/>

<ScreenBounds id="s2" x="3098" y="500" width="1920" height="1200" rotation="61"/>

<ScreenBounds id="s3" x="4678" y="500" width="1920" height="1200" rotation="61"/>

s1   s2   s3

Screen Layout "Rotate61x3"
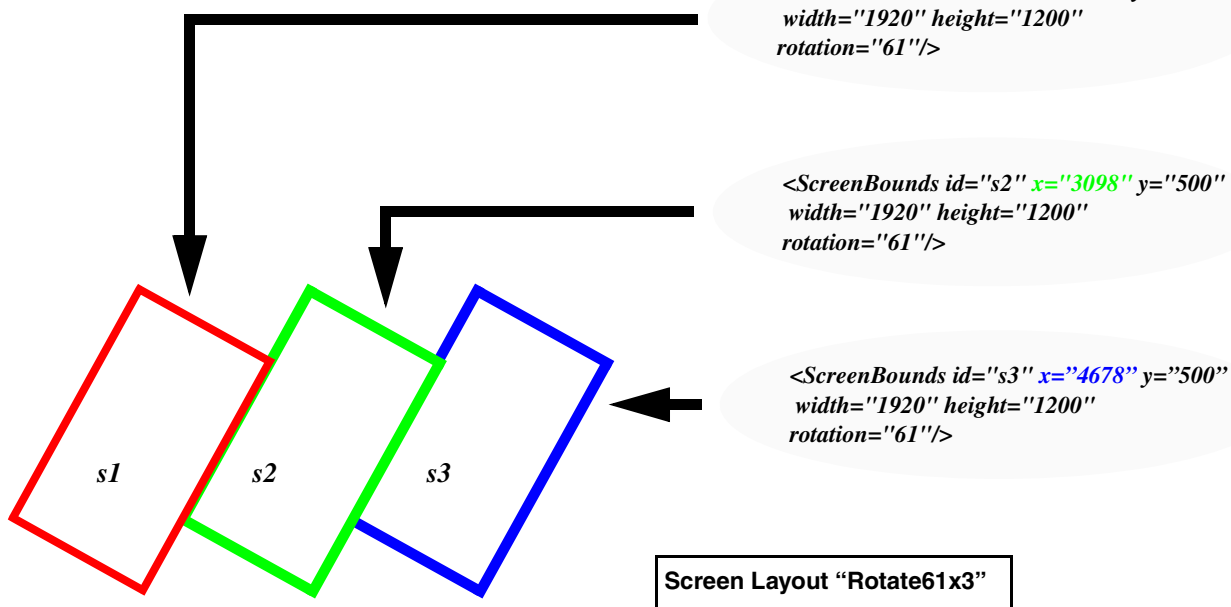
Introduction to XML

XML uses 'tags'. Tags are words or phrases enclosed inside a < (less than) and a > (greater than) sign, that describes an 'Open' tag.

Example: \<ScreenLayouts>

'Close' tags must use the same word or phrase but end in />.

Example: \</ScreenLayouts>

Open and close tags must be used when other tags are included (nested) as seen in the example on the opposite page.

A single tag which contains all the required information can combine the Open and closed tags.

Example: \<SingleScreen name="Landscape" width="1920" height="1080"rotation="landscape"/>

screen_layout.xml

This describes the layout of the default screen_layout.xml shown on the page opposite.

Header - This should not be modified

\<ScreenLayouts> - This contains all the available screen layouts. There are three tags that can be used to define screen layouts:

• \<SingleScreen>
• \<MatrixLayout>
• \<CustomLayout>

\<SingleScreen>

This is used for single screen layouts with a specified rotation.

It can also be used to support screens with resolutions other than 1920x1080.

For single screen presentations, it is not necessary to specify a Screen ID in the Ziris View settings as the first screen will be used by default.

\<MatrixLayout>

This is used for a layout consisting of regular rows and/or columns of same size screens with fixed spacing.

This avoids having to specify all the positions required by a more custom layout.

The appropriate Screen ID must be specified in the Ziris View settings.

The Screen ID has the format name.rowxcolumn

For example, the Screen ID for the centre screen in the Landscape1x3 matrix layout in the previous section would be Landscape1x3.1x2

\<CustomLayout>

This is used for more complex layouts of screens with different size, position and rotation.

The appropriate Screen ID must be specified in the Ziris View settings.

The Screen ID has the format name.id

For example, the Screen ID of the first screen in the MixedRotate custom layout in the previous section would be: MixedRotate.s1

Attribute	Description
name	The name of the layout. This will appear in the "Screen Layout" combo box of the "New Playlist" dialog
x y	The x and y position of the top left corner of the visible area of the screen in presentation pixel coordinates. This is the corner at the top left when the screen is in the default landscape orientation.
width height	This is the width and height of the area of the presentation that will be displayed on the screen in presentation pixel coordinates. This does not necessarily have to match the native pixel resolution of the screen. For \<CustomLayout> the width and height specifies the pixel resolution of the whole presentation and a \<ScreenBounds> tag for each screen specifies the size of each screen within the presentation.
rotation	This is the angle of the screen in degrees. The following constants are defined: landscape: 0 degrees portrait-cw: clockwise rotation to portrait: 90 degrees portrait-ccw: counterclockwise rotation to portrait: -90 degrees

```xml
<?xml version="1.0" encoding="UTF-8"?>
<ScreenLayouts>
    <SingleScreen name="Landscape" width="1920" height="1080" rotation="landscape"/>
    <SingleScreen name="PortraitCW" width="1920" height="1080" rotation="portrait-cw"/>
    <SingleScreen name="PortraitCCW" width="1920" height="1080" rotation="portrait-ccw"/>
    <SingleScreen name="Landscape1200" width="1920" height="1200" rotation="landscape"/>
    <SingleScreen name="Rotate60" width="1920" height="1080" rotation="60"/>
    <MatrixLayout name="Landscape1x3" rows="1" columns="3" rowGap="1" columnGap="148" rotation="landscape"
screenWidth="1920" screenHeight="1080"/>
    <MatrixLayout name="Landscape3x2" rows="2" columns="3" rowGap="148" columnGap="148" rotation="landscape"
screenWidth="1920" screenHeight="1080"/>
    <MatrixLayout name="Portrait2x1" rows="2" columns="1" rowGap="148" columnGap="0" rotation="portrait-ccw"
screenWidth="1920" screenHeight="1080"/>

    <CustomLayout name="MixedSize" width="5869" height="3320">
       <ScreenBounds id="s1" x="1080" y="700" width="1920" height="1080" rotation="portrait-cw"/>
       <ScreenBounds id="s2" x="1228" y="700" width="3413" height="1920" rotation="landscape"/>
       <ScreenBounds id="s3" x="5869" y="700" width="1920" height="1080" rotation="portrait-cw"/>
    </CustomLayout>
    <CustomLayout name="Rotate61x3" width="6196" height="3264">
       <ScreenBounds id="s1" x="1518" y="500" width="1920" height="1200" rotation="61"/>
       <ScreenBounds id="s2" x="3098" y="500" width="1920" height="1200" rotation="61"/>
       <ScreenBounds id="s3" x="4678" y="500" width="1920" height="1200" rotation="61"/>
    </CustomLayout>
    <CustomLayout name="MixedRotate" width="6600" height="6600">
       <ScreenBounds id="s1" x="1570" y="2150" width="1920" height="1080" rotation="portrait-cw"/>
       <ScreenBounds id="s2" x="1720" y="2150" width="1920" height="1080" rotation="landscape"/>
       <ScreenBounds id="s3" x="4860" y="1310" width="1920" height="1080" rotation="portrait-cw"/>
       <ScreenBounds id="s4" x="6080" y="470" width="1920" height="1080" rotation="portrait-cw"/>
       <ScreenBounds id="s5" x="1570" y="4210" width="1920" height="1080" rotation="portrait-cw"/>
       <ScreenBounds id="s6" x="2790" y="3380" width="1920" height="1080" rotation="portrait-cw"/>
       <ScreenBounds id="s7" x="2940" y="3380" width="1920" height="1080" rotation="landscape"/>
       <ScreenBounds id="s8" x="6080" y="2530" width="1920" height="1080" rotation="portrait-cw"/>
    </CustomLayout>
</ScreenLayouts>
```

Screen layouts explained

Third Party Licences

Table of Licences

Applicable third-party software licences are listed in the table below and reproduced in the installation Blu-ray disc.

Third-Party Component	Version	Description	Licence Name
Tiny XML	2.5.2	XML parser	zlib

TinyXML is released under the zlib license:

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