GV grass valley

K2™
MEDIA CLIENT

User Manual

SOFTWARE VERSION 3.0

071-8459-00
NOVEMBER 23, 2005

the most watched worldwide

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Revision Status

Rev Date	Description
November 23, 2005	Initial release of the K2 Media Client User Manual — 071-8459-00

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Safety Summaries

General Safety Summary

Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it.

Only qualified personnel should perform service procedures.

While using this product, you may need to access other parts of the system. Read the *General Safety summary* in other system manuals for warnings and cautions related to operating the system.

Injury Precautions

Use Proper Power Cord

To avoid fire hazard, use only the power cord specified for this product.

Ground the Product

This product is grounded through the grounding conductor of the power cord. To avoid electric shock, the grounding conductor must be connected to earth ground. Before making connections to the input or output terminals of the product, ensure that the product is properly grounded.

Do Not Operate Without Covers

To avoid electric shock or fire hazard, do not operate this product with covers or panels removed.

Do Not operate in Wet/Damp Conditions

To avoid electric shock, do not operate this product in wet or damp conditions.

Do Not Operate in an Explosive Atmosphere

To avoid injury or fire hazard, do not operate this product in an explosive atmosphere.

Avoid Exposed Circuitry

To avoid injury, remove jewelry such as rings, watches, and other metallic objects. Do not touch exposed connections and components when power is present.

Product Damage Precautions

Use Proper Power Source

Do not operate this product from a power source that applies more than the voltage specified.

Provide Proper Ventilation

To prevent product overheating, provide proper ventilation.

Do Not Operate With Suspected Failures

If you suspect there is damage to this product, have it inspected by qualified service personnel.

Safety Terms and Symbols

Terms in This Manual

These terms may appear in this manual:

⚠ *WARNING:* Warning statements identify conditions or practices that can result in personal injury or loss of life.

⚠ *CAUTION:* Caution statements identify conditions or practices that may result in damage to equipment or other property, or which may cause equipment crucial to your business environment to become temporarily non-operational.

Terms on the Product

These terms may appear on the product:

DANGER indicates a personal injury hazard immediately accessible as one reads the marking.

WARNING indicates a personal injury hazard not immediately accessible as you read the marking.

CAUTION indicates a hazard to property including the product.

Symbols on the Product

The following symbols may appear on the product:

⚡ DANGER high voltage

⏚ Protective ground (earth) terminal

⚠ ATTENTION – refer to manual

Service Safety Summary

⚠ *WARNING: Any service instructions are intended for use by qualified service personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries before performing service.*

Do Not Service Alone

Do not perform internal service or adjustment of this product unless another person capable of rendering first aid and resuscitation is present.

Disconnect Power

To avoid electric shock, disconnect the main power by means of the power cord or, if provided, the power switch.

Use Care When Servicing With Power On

Dangerous voltages or currents may exist in this product. Disconnect power and remove battery (if applicable) before removing protective panels, soldering, or replacing components.

To avoid electric shock, do not touch exposed connections

Certifications and Compliances

Canadian Certified Power Cords

Canadian approval includes the products and power cords appropriate for use in the North America power network. All other power cords supplied are approved for the country of use.

FCC Emission Control

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Changes or modifications not expressly approved by Grass Valley can affect emission compliance and could void the user's authority to operate this equipment.

Canadian EMC Notice of Compliance

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A préscrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

**EN55103 1/2
Class A Warning**

This product has been evaluated for Electromagnetic Compatibility under the EN 55103-1/2 standards for Emissions and Immunity and meets the requirements for E4 environment.

This product complies with Class A (E4 environment). In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

FCC Emission Limits

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesirable operation.

Laser Compliance

Laser Safety Requirements

The device used in this product is a Class 1 certified laser product. Operating this product outside specifications or altering its original design may result in hazardous radiation exposure, and may be considered an act of modifying or new manufacturing of a laser product under U.S. regulations contained in 21CFR Chapter 1, subchapter J or CENELEC regulations in HD 482 S1. People performing such an act are required by law to recertify and reidentify this product in accordance with provisions of 21CFR subchapter J for distribution within the U.S.A., and in accordance with CENELEC HD 482 S1 for distribution within countries using the IEC 825 standard.

Laser Safety

Laser safety in the United States is regulated by the Center for Devices and Radiological Health (CDRH). The laser safety regulations are published in the "Laser Product Performance Standard," Code of Federal Regulation (CFR), Title 21, Subchapter J.

The International Electrotechnical Commission (IEC) Standard 825, "Radiation of Laser Products, Equipment Classification, Requirements and User's Guide," governs laser products outside the United States. Europe and member nations of the European Free Trade Association fall under the jurisdiction of the Comité Européen de Normalization Electrotechnique (CENELEC).

Safety Certification

This product has been evaluated and meets the following Safety Certification Standards:

Standard	Designed/tested for compliance with:
ANSI/UL60950, CAN/CSA C22.2 No. 60950-00 12/01/2000	Safety of Information Technology Equipment, including Electrical Business Equipment (Third edition).
IEC 950	Safety of Information Technology Equipment, including Electrical Business Equipment (Third edition, 1999).
EN60950	Safety of Information Technology Equipment, including Electrical Business Equipment (Third Edition 2000).

Safety Summaries

Finding Information

This user manual describes the K2 Media Client and provides instructions for using the product in a variety of applications. The manual contains information for all models and options. Refer to the sections that apply to your particular model and options.

How this manual is organized

This manual is organized around the tasks required to configure and operate the K2 Media Client. The following describes the chapters included in this manual:

Chapter 1, *Product Description* — Provides the product functional description and an overview of the key features.

Chapter 2, *Getting Started* — Provides an overview of getting AppCenter started and describes applications that allow you to configure and operate the K2 Media Client.

Chapter 3, *Using AppCenter* — Describes how to operate the K2 Media Client using the AppCenter user interface.

Chapter 4, *Recording clips* — Describes how to operate the AppCenter Recorder application.

Chapter 5, *Playing and editing clips* — Describes how to operate the AppCenter Player application.

Chapter 6, *Working with playlists* — Describes how to operate the AppCenter Playlist application.

Chapter 7, *Managing clip media* — Describes how to manipulate the AppCenter Clips pane.

Chapter 8, *Importing and Exporting Media* — Describes how to import and export media using the AppCenter Transfer Monitor application.

Chapter 9, *Using Channel Suites* — Describes how to manage the AppCenter channel suites.

Chapter 10, *Modifying Configurations* — Describes how to modify the K2 Media Client configuration settings using the configuration tool provided in the AppCenter application.

Chapter 11, *Using Remote Control* — Describes how to setup and operate the K2 Media Client using industry standard remote control protocols and GPI triggers.

Appendix A, *Keyboard Shortcuts* — Describes how to operate the K2 Media Client using an external keyboard.

Getting more information

The following illustration shows the recommended order in which to reference the documentation.

K2 Media Client Release Notes
Contains the latest information about the hardware and software shipped with the system. Packaged with K2 Media Client.

Quick Start Guide
Contains the essential steps for installing the K2 Media Client. SD-only and HD/SD models each have their own version, packaged with the K2 Media Client.

K2 Media Client System Guide*
Contains the product specifications and step-by-step instructions for modifying system settings.

Path for the installer of the K2 Storage System with connected K2 Media Clients

K2 Media Client and K2 Storage System** Release Notes
Contains the latest information about the hardware and software shipped with the system.

K2 Storage System Instruction Manual*
Contains instructions for installing and configuring K2 Storage (external) with your K2 Media Client and K2 Media Server.

K2 Media Client System Guide*
Contains the product specifications and step-by-step instructions for modifying system settings

Other Manuals*
These manuals include:
- *Quick Start Guide*
- *User Manual*
- *Service Manual*
- *RAID Storage manuals*

Path for the operator

K2 Media Client Release Notes
Contains the latest information about the hardware and software shipped with the system.

K2 Media Client User Manual*
Contains information for using the user interface to record, play and manage clips and to configure channels.

* Find the K2 Documentation CD packaged with K2 Media Clients and with K2 RAID Storage devices, primary chassis.

** Find the K2 Storage System Release Notes packaged with K2 RAID Storage devices, primary chassis.

Quick Start Guide

You receive this guide in the product packaging with your K2 Media Client. The Quick Start Guide provides step-by-step installation instructions for basic installation and operation, including recording and playing clips.

Release Notes

The release notes contain the latest information about the K2 Media Client software shipped on your system. The information in this document includes software upgrade instructions, software specifications and requirements, feature changes from the previous releases, and any known problems. Because release notes contain the latest information, they are printed out rather than included in the Documentation CD-ROM.

Documentation CD-ROM

Except for the release notes and Quick Start guide, the full set of support documentation, including this manual, is available on the Documentation CD-ROM that you received with your K2 Media Client.

The Documentation CD-ROM includes the following:

• **User Manual** — Describes the K2 Media Client and provides instructions for configuring and operating the product.

• **Storage System Instruction Manual** — Contains installation, configuration, and maintenance procedures for shared storage options.

• **System Manual** — Contains the product specifications and step-by-step instructions for modifying system settings.

• **Service Manual** — Contains information for solving common setup problems as well as information on servicing and maintenance.

• **RAID Instruction Manuals** — There is an Instruction Manual for each type of RAID storage device that can be a part of a K2 Media Client shared storage system. These manuals contain procedures for troubleshooting and servicing the device.

On-line Help Systems

K2 Media Client Help — You can access the on-line help through the AppCenter user interface as follows:

• In the menu bar select **Help,** then choose **AppCenter Help Topics** from the drop-down menu. K2 Media Client help is displayed.

NetCentral Help — If you are using NetCentral to monitor your K2 Media Client, from the NetCentral interface access on-line help as follows:

• For general help with NetCentral manager, select **Help | NetCentral Help Topics**.

• For help specific to monitoring K2 Media Client system devices, select **Help | Device Providers** and then select the monitored device.

Thomson Grass Valley Web Site

This public Web site contains all the latest manuals and documentation, and additional support information. Use the following URL.

http://www.thomsongrassvalley.com.

Grass Valley Product Support

To get technical assistance, check on the status of problems, or report new problems, contact Grass Valley Product Support via e-mail, the Web, or by phone or fax.

Web Technical Support

To access support information on the Web, visit the product support Web page on the Grass Valley Web site. You can download software or find solutions to problems by searching our Frequently Asked Questions (FAQ) database.

World Wide Web: http://www.thomsongrassvalley.com/support/
Technical Support E-mail Address: gvgtechsupport@thomson.net.

Phone Support

Use the following information to contact product support by phone during business hours. After-hours phone support is available for warranty and contract customers.

United States	(800) 547-8949 (Toll Free)	France	+33 (1) 34 20 77 77
Latin America	(800) 547-8949 (Toll Free)	Germany	+49 6155 870 606
Eastern Europe	+49 6155 870 606	Greece	+33 (1) 34 20 77 77
Southern Europe	+33 (1) 34 20 77 77	Hong Kong	+852 2531 3058
Middle East	+33 (1) 34 20 77 77	Italy	+39 06 8720351
Australia	+61 1300 721 495	Netherlands	+31 35 6238421
Belgium	+32 2 3349031	Poland	+49 6155 870 606
Brazil	+55 11 5509 3440	Russia	+49 6155 870 606
Canada	(800) 547-8949 (Toll Free)	Singapore	+656379 1390
China	+86 106615 9450	Spain	+ 34 91 512 03 50
Denmark	+45 45968800	Sweden	+46 87680705
Dubai	+ 971 4 299 64 40	Switzerland	+41 (1) 487 80 02
Finland	+35 9 68284600	UK	+44 870 903 2022

Authorized Support Representative

A local authorized support representative may be available in your country. To locate the support representative for your country, visit the product support Web page on the Grass Valley Web site.

Chapter **1**

Product Description

The K2 Media Client is a cost-effective media platform that incorporates IT and storage technologies to deliver a networked solution to facilities for ingest, playout, and media asset management. It is a comprehensive platform that provides a suite of user applications, system tools, and the largest range of third-party interactivity in the industry.

System overview

The K2 Media Client comes in different models that offer choices between Standard Definition (SD) or High Definition (HD) video format, bidirectional or fixed channels, internal only or external (shared) storage.

The table below describes the main attributes of the SD and HD/SD K2 Media Client models.

SD	HD/SD
Bidirectional channels (channel can be either an input channel or it can be an output channel)	Fixed channels (channel must be an input channel or an output channel)
Various SD definition formats	SD and HD definition: MPEG-2 only
Mixed-format playback (e.g. DV10, DV25, and MPEG-2 clips on the same timeline)	Up/down HD/SD conversion (e.g. SD and HD clips ingested, then played back as SD or HD clips.)
Internal (standalone) storage or external (shared) storage	Internal (standalone) storage or external (shared) storage

For a more detailed overview of available formats, see the *K2 Media Client System Guide*. For a more detailed overview of the different types of storage available, see the *K2 Storage System Instruction Manual*.

There are many different models of K2 Media Client. This chapter offers an example of an SD and an HD/SD K2 Media Client. For a full list of all the available K2 Media Client models, see the *K2 Media Client System Guide*.

Here is an example of the K2 Media Client as a Standard Definition platform with 4 bidirectional channels and internal storage. Each of the four channels can be configured as either a record channel or a play channel.
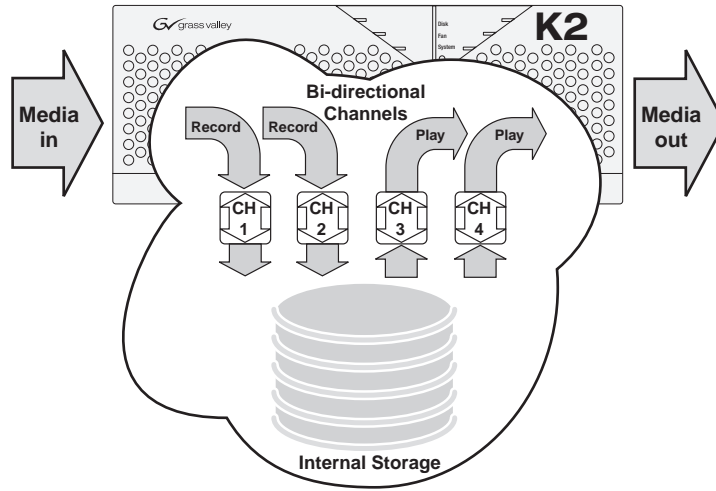
Another model is a High Definition platform with 1 input & 3 output channels for external storage configurations. Each output channel can be configured to handle media in either SD or HD format.
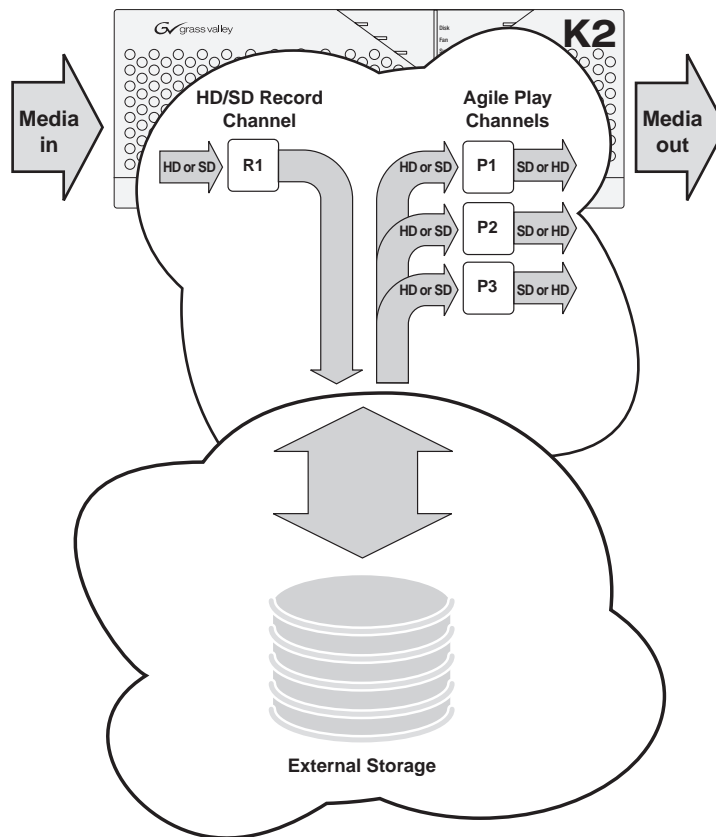
For more information about the various K2 Media Client models, see the *K2 Media Client System Guide*.

About remote operation and monitoring

The K2 Media Client is designed as a "headless" unit. This means that there is no need to connect a keyboard, monitor, and mouse directly to the K2 system, as ongoing operation, configuration, and monitoring can be accomplished from a PC on the network. You can lock the computer that the K2 Media Client is installed on, as you would normally lock a Windows computer, but still access the K2 system from a Control Point PC. From this Control Point PC, you can use channels from different K2 Media Clients in one channel suite.

The software application that supports this headless functionality is included with the K2 Media Client. For more information, refer to *"Using AppCenter" on page 33*

Automation protocols and other optional applications can also be used to control K2 Media Client units remotely. (The PC must have K2 Control Point software installed.) For more information, refer to Chapter 11, *Using Remote Control*.

NetCentral and the AppCenter status bar can be used to monitor the K2 Media Client as it ingests, outputs, or transfers media.

About K2 Media Client storage options

The K2 Media Client can have internal storage for standalone use. For multiple K2 Media Clients, however, Grass Valley recommends the K2 storage system.

The K2 storage system is Grass Valley's shared storage solution that gives multiple clients access to a common pool of media. Clients access the shared media storage via a Gigabit Ethernet network and a Fibre Channel connection. Data is communicated using the Small Computer System Interface (SCSI) data transfer interface and the Internet SCSI (iSCSI) protocol. For more information on the K2 storage system, see the *K2 Storage System Instruction Manual*.

Chapter **2**

Getting Started

Topics in this chapter include:

Getting Started with AppCenter

Prerequisites

Before you start AppCenter, make sure you have completed all the installation steps detailed below:

1. Make cable connections.

2. Power on.

3. If working from a network-connected PC, install the Grass Valley Control Point software from the system software disk.

4. Obtain a user name and password from your Windows administrator. For more information on login requirements, see "Types of K2 users".

5. If working with external storage, make sure you have it setup and configured. For information on external storage, see the *K2 Storage System Instruction Manual*.

For more information on installation procedures, see the *K2 Quick Start Guide* or the *K2 Media Client System Guide*.

Types of K2 users

Anyone with ordinary network access privileges can view the AppCenter channels. Before you can use AppCenter, you must log onto AppCenter using a user name and password supplied by a Windows administrator.

NOTE: A K2 administrator controls AppCenter, the K2 Media Client, and the K2 Media Server. A Windows administrator controls the Control Point PC or the computer on which the K2 systems run.

The table below explains the four types of K2 user.

Type of user	Access
Unknown user	Can view AppCenter (locally or on a network-connected Control Point PC) and see the channels being used, the properties of the clips in the current bin, and the Status pane; has access to online help. Can export logs.
K2 user	In addition to all the unknown user access privileges, the K2 user can create channel suites and run all of the channel applications (such as the Player or Recorder applications) on any K2 Media Client on which the user has an account. (If using a channel suite with channels on multiple K2 Media Clients, the user needs access privileges on each K2 Media Client.) Can view Configuration Manager.
K2 administrator	In addition to all the K2 user access privileges, the K2 administrator can make changes to Configuration Manager and use the Storage Utility and K2 Config applications.
Windows administrator	In addition to all the K2 administrator access privileges, the Windows administrator can create K2 users, enable or disable the USB drive connectors on the administrator's PC, and run AppCenter using the Microsoft Windows Remote Desktop application.

For the K2user, the default password is K2user. (The password is case sensitive.) For more information on K2 access privileges, see the *K2 Media Client System Guide*.

Starting AppCenter

Once you have installed AppCenter, you can start it by clicking on the AppCenter

shortcut on the Windows desktop.

If you are using AppCenter on a local K2 Media Client, you may begin using it immediately after you log on. The first time you run AppCenter remotely through a network-connected Control Point PC, you need to set up a channel suite before you can use AppCenter. For more information, refer to "Starting AppCenter for the first time with a Control Point PC" on page 23.

> *CAUTION: If the K2 Media Client was shut down using Windows XP Standby mode, AppCenter will not start up, even though the K2 Media Client machine itself boots up normally.*

Starting AppCenter for the first time with a Control Point PC

Before you can run AppCenter from a network-connected PC running Control Point software, you must perform two steps:

1. Log on to AppCenter (see the Windows administrator for domain, user name and password).

2. Configure a channel suite.

This section describes these steps in detail.

Logging on to AppCenter

The first time you start AppCenter, a Log on dialog box displays. Enter your user name and password.

NOTE: Your domain configuration might require that you use the syntax of machine name\user name. For example, if you have difficulty logging on to a K2 Media Client, try logging on as <K2 Media Client>\k2user.

Once you have logged in, the Suite Properties dialog box displays.
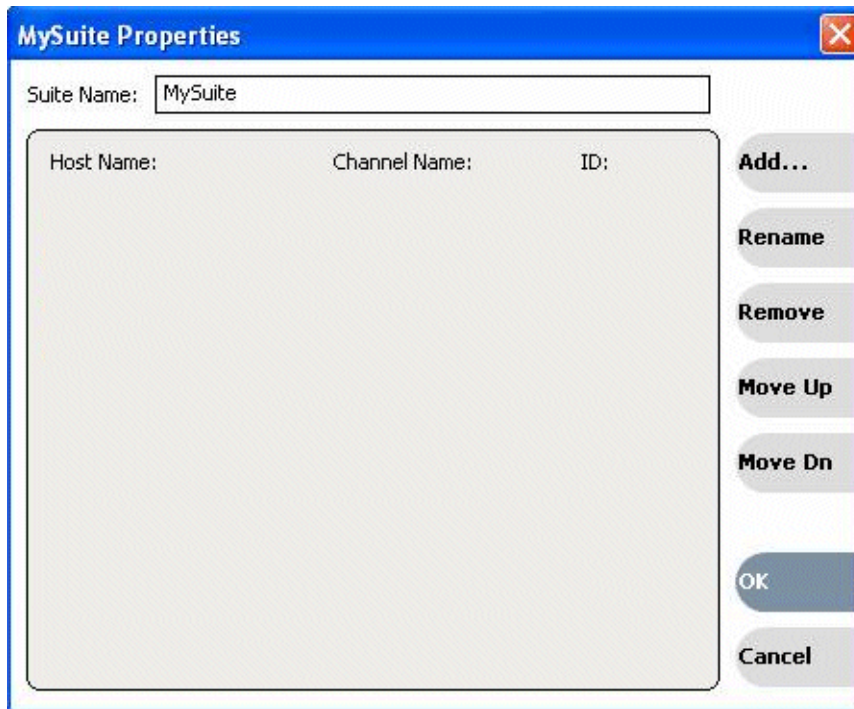
Configuring a channel suite

You need to configure the channel suite before you can use it. To configure a channel suite, specify a K2 Media Client that you want to use and add its channels to a channel suite. You can add channels from several K2 Media Clients to one channel suite, with a maximum of 16 channels in one channel suite.

To configure the channel suite, follow these steps:

1. At the blank Suite Properties dialog box, click the **Add** button. An Add Channel dialog box displays.
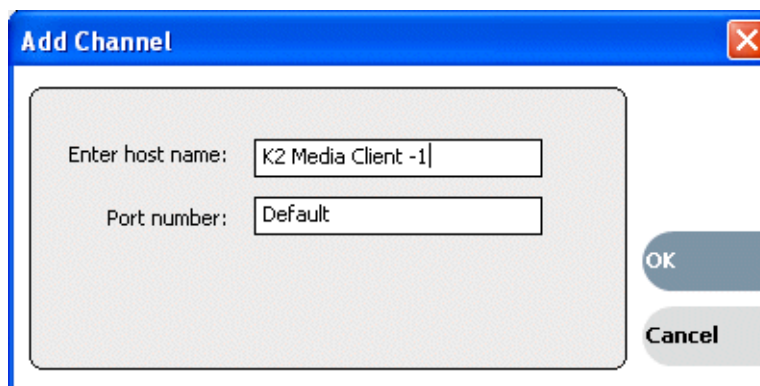
2. Enter the K2 Media Client host name or IP address.

3. Click **OK**. A second Add Channel dialog box displays, listing the channels on the

specified K2 Media Client.
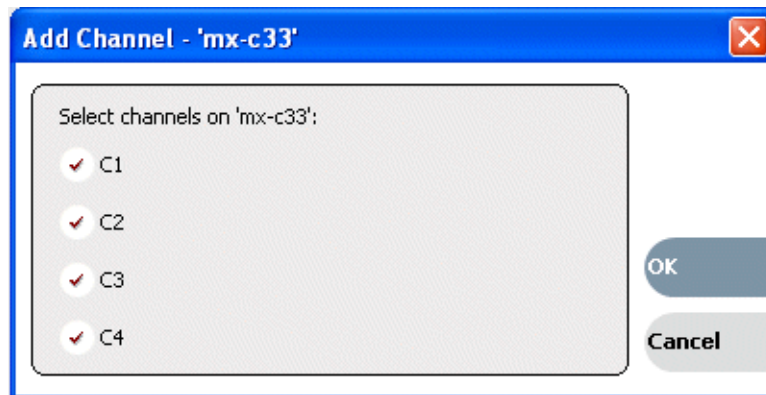
4. Select the channels you want in your channel suite and click OK.

5. Review the changes you have made to the Suite Properties dialog box and click OK.

Once you have saved the changes to the channel suite, you can modify the channel suite's name and location or rename or reorganize the channels. Descriptive channel names are especially helpful when using a channel suite with channels from multiple K2 Media Clients.
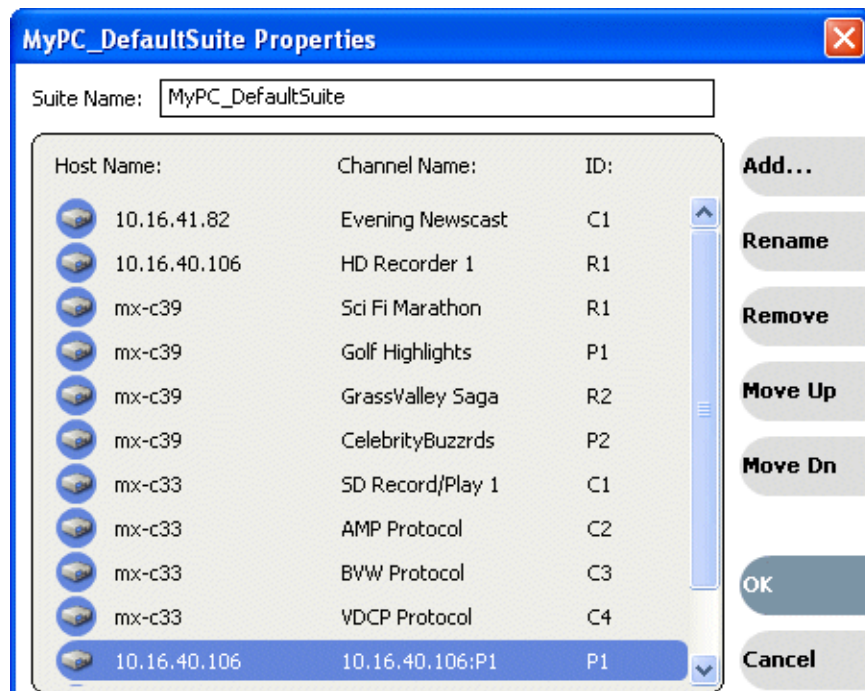
For more information on managing channels, see "Managing channel suites" on page 161.

Starting AppCenter after creating a channel suite

For subsequent AppCenter startups using a Control Point PC, AppCenter will attempt to start by opening the last-used channel suite. If you have deleted or moved the last-used channel suite, you need to create a new channel suite or cancel the Channel Suite Properties dialog box and open the channel suite you want to use.

If you log on to AppCenter and the K2 Media Client running, you will see a System Startup message.
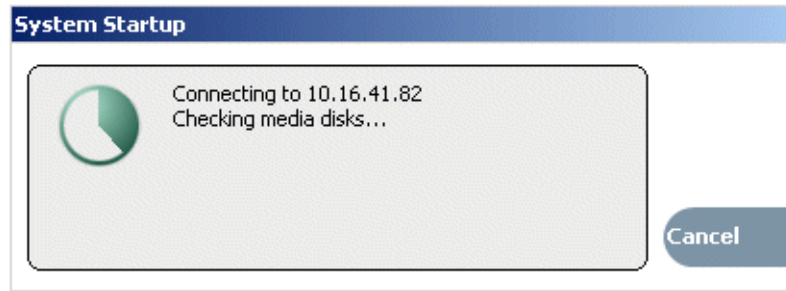
If you are running AppCenter with a Control Point PC, AppCenter opens with the last-used channel suite. To change the channel suite, select **System | Open Suite** or **System | New Suite**. To open one of the four last-used channel suites, select **System | Recent Suites**. Channel suites are saved by default in the C:\Profile\ChannelSuites directory in XML format. For more information on managing channel suites, see "Managing channel suites" on page 161.

If one of the channels is not available, the title bar for that channel will display its state, for example: "In Use", "Disconnected", and so on. For information on different channel states, see"Using channel suites" on page 161.

AppCenter startup errors

If you start AppCenter and the K2 Media Client is not running, or your login information is not correct, you will see a Startup Error message.

The following table describes the two most common startup error messages.

Startup Error	Description
Log on failed	Your user name or password is not valid for this K2 Media Client. Remember that the password is case sensitive. • Click **Ignore** to view the AppCenter channels. If working remotely, you will see the channels from the last-used channel suite. Or, • Click **Retry** to enter the login information again. Or, • Click **Abort.** If you are accessing AppCenter through a network-connected Control Point PC, **Abort** lets you try to create a new channel suite. If you are accessing AppCenter locally, it lets you exit to Windows. For assistance with your user name or password, consult your Windows administrator.
<K2 Media Client>: <error>	The K2 Media Client might be offline or have had difficulty with the start up checks. There are various reasons why AppCenter is having difficulty connecting to the K2 Media Client; for example, the error might say there is no file system or that the K2 system has been taken offline for maintenance. • Verify that the host name or IP address is correct and see if you can correct the problem. • If working locally, reboot the K2 Media Client. • If working from a network-connected Control Point PC, select **System	Reconnect** from the AppCenter System menu. For more information, see the *K2 System Service Manual*.

Shutting down AppCenter

To shut down AppCenter, do one of the following:

• Click the standard Windows **X** button in the title bar, or

• Select **System | Shutdown**. The Shutdown dialog box opens.

The available Shutdown options depend upon whether you are shutting down AppCenter locally or remotely.

Shutting down AppCenter locally

When you shut down AppCenter locally, you have three options.
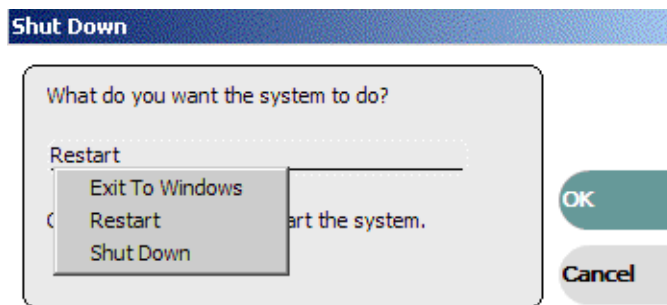
Shutdown options are as follows:

Shutdown Mode	Description
Exit to Windows	Exit AppCenter and display the Windows desktop. Use the desktop shortcut to restart AppCenter.
Restart	Exit AppCenter and restart the Windows operating system.
Shut Down	Shut down the Windows operating system and power-off the K2 Media Client.

NOTE: If you shut AppCenter down locally, you must re-start it locally.

Shutting down AppCenter from a Control Point PC

When you shut down AppCenter from a network-connected PC using Control Point software, you have can suspend the channel suite or exit. If you select the Exit to Windows option, your channel suite is shut down and AppCenter is closed. (If you want to shut down the current channel suite but keep AppCenter running, you can open or create a channel suite in the System menu.)
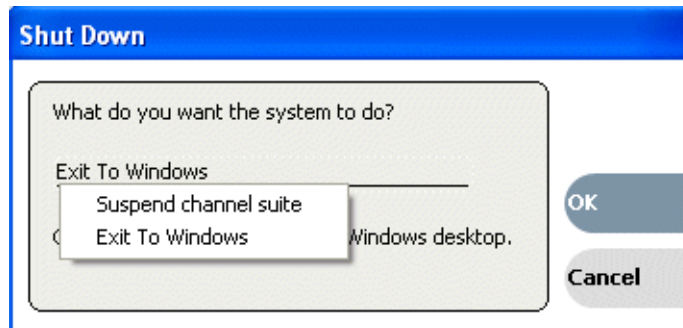
The following table explains the Shutdown options:

Shutdown Mode	Description
Suspend channel suite	Exit AppCenter and display the Windows desktop. Applications, such as Recorder or Player, and remote protocols in suspended channel suites keep running. Channels may be commandeered by another user. If all channels in a suspended channel suite are taken over in this manner, the channel suite will be shut down. For more information, see "Sharing channels with other users" on page 163. Use the desktop shortcut to restart AppCenter.
Exit to Windows	Exit AppCenter, close the channel suite and display the Windows desktop. If you select this option, a second dialog box displays asking you to confirm that you want to exit, since any applications that are running (including remote protocols) will be stopped. Use the desktop shortcut to restart AppCenter.

NOTE: If you shut down AppCenter from a network-connected Control Point PC, the K2 Media Client is still running and can be accessed locally or from another network-connected Control Point PC.

Configuration Manager

To configure the channels on a K2 Media Client, select **System | Configuration**. (If this option is grayed out in the System menu, or if you see a pop-up message about lacking authorization, you do not have the necessary access privileges. For more information, see "Types of K2 users" on page 22.) The Configuration Manager displays with the System tab selected. The table below gives an overview of each tab.

Configuration Tab	Description
System	Use this tab to set the video reference, audio reference, and the timecode input. Note that choices made on this tab might affect options offered on other tabs. For example, if you designate the video reference standard to be NTSC, you do not see any options for PAL on the Channel tab. For more information, see "Video reference standard setup" on page 169 or "Timecode setup" on page 176.
Channel	Use this tab to configure the record and play channels. Note that the available choices on this tab depend upon whether the channel selected is an SD channel (C1, C2, C3, or C4) or an HD channel (such as R1, P1, R2, P2). For more information, see "Record channel video setup" on page 169 or "Play channel video setup" on page 173.
GPI	Use this tab to set the channel, action, and priority for any GPI triggers that you might have. For more information, see "GPI triggers" on page 177.
Panel	Use this tab to set the play speed options. For more information, see "Adjusting play speed options" on page 176.

Configuration Tab	Description
Remote	Use this tab to add a K2 Media Client as a remote host for importing or exporting media. For more information, see "Adding a remote host" on page 180.

For more information, see "Modifying Configurations" on page 165. To make changes to a channel suite, select **System | Suite Properties.** For more information on channel suites, see "Managing channel suites" on page 161.

Monitoring applications

Status bar

The status bar displays information about the state of the delegated channel as well as low-level error messages. (High priority error messages are displayed in pop-up windows.) The status bar is located just above the Start button.

If you select a channel, a status message appears on the left-hand side of the status bar. If a potential error arises while an application is running in a channel, a status message flashes briefly on the left-hand side of the status bar, and an icon (such as the triangular Alert icon) displays on the right-hand side. Double click on the icon to open the status pane to view a more detailed message about the channel's status.

Status pane

The system status pane displays general information such as the video and audio settings on the channels. To check the system status, select **Help | System Status**. The system status pane displays. For help troubleshooting any potential error messages, refer to the *K2 Media Client Service Manual* or, for external storage models, the *K2 Storage System Instruction Manual*.
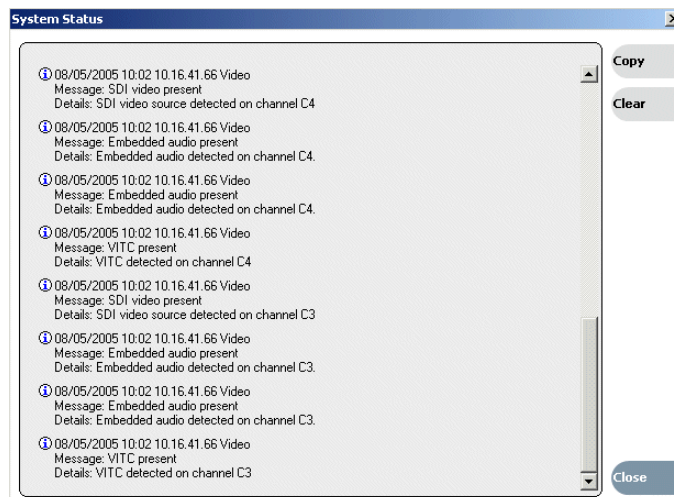
*NOTE: If the **Clear** button is grayed out, you do not have the necessary privileges to perform this action. For more information on access privileges, see "Types of K2 users" on page 22.*

Export Logs

The K2 Media Client log files includes all applications messages, Status pane logs, and messages related to managing the media file system. The exported log files can be sent to Thomson Grass Valley product support, where they can be examined to analyze the operation of your K2 System.

Exporting logs from AppCenter

To export a log while you are using AppCenter, select **System | Export Log** click the radio button next to **All logs**, and choose the destination where you want to export the log.

Exporting logs from the Start menu

To export a log when you are not using AppCenter, click the **Start** button. From the Programs list, select **Programs|Grass Valley| Export logs**. Click the radio button next to **All logs**, and choose the destination where you want to export the log.

For more information, see the *K2 System Service Manual*.

Storage Utility

Storage Utility is your primary access to the media file system and media disks of the K2 Media Client for configuration, maintenance, and repair. You should be aware that there are two versions of Storage Utility:

• Storage Utility for internal storage K2 media client models

• Storage Utility for the K2 storage system.

NOTE: If the **System | Storage Utility** *menu option is grayed out, or you are unable to log in by clicking on the desktop icon, review your level of user access. For more information, see* "Types of K2 users" on page 22.

Accessing Storage Utility

Grass Valley strongly recommends that you access Storage Utility by selecting **System | Storage Utility** in AppCenter. However, if you are unable to access AppCenter, then open Storage Utility by clicking on the Storage Utility desktop icon.

For Storage Utility procedures for internal storage, refer to *K2 Media Client System Guide*. Refer to the *K2 External Storage Instruction Manual* to learn about Storage Utility for the K2 storage system.

> *CAUTION: Use the Storage Utility only as directed by a documented procedure or by Grass Valley Support. If used improperly, the Storage Utility can render your K2 Media Client inoperable or result in the loss of all your media.*

K2 Config

The K2 System Configuration application is the primary tool for configuring the K2 storage system. Once the devices of the storage system have the required software installed, are cabled, and are communicating on the control network, a K2 administrator can do all the configuration required to create a working K2 storage system using the K2 System Configuration application.

The K2 System Configuration application runs on a control point PC and accesses the devices of the K2 storage system via the control network. For more information on administering the K2 System Configuration application, see *K2 Storage System Instruction Manual*.

Chapter **3**

Using AppCenter

Topics in this section include:

About AppCenter

AppCenter is the built-in video disk recorder and player application that provides a single interface for tasks such as channel control, configuration, clip management, media transfers, channel monitoring, and system monitoring.

You can access AppCenter using a network-connected PC with Control Point software, or you can access it by connecting a VGA monitor, mouse, and keyboard to the K2 Media Client. If connecting directly, the monitor must be capable of 1280 x 1024 @70Hz. Otherwise, AppCenter might limit the number of visible channels to three or less.

AppCenter user interface overview
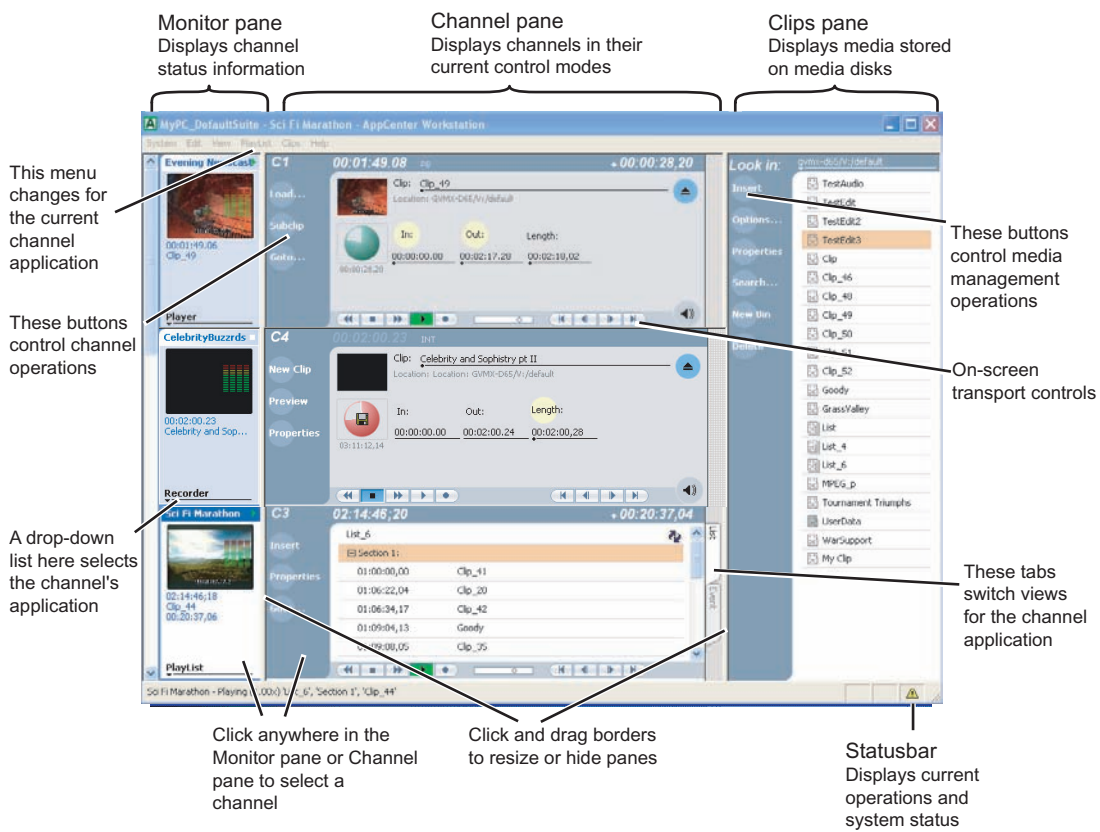
Main components in the AppCenter user interface

The following table describes the main components in the AppCenter window

AppCenter Component	Description
Monitor pane	Displays the current information for the channel. Displays a thumbnail of the clip currently loaded in the channel and indicates the current control application for the channel. Contains a drop down menu for changing the channel's application. For the currently selected channel, the monitor pane has a white background.
Channel pane	Displays each channel in its current application. Only one channel can be selected at a time. The currently selected channel is displayed with a white background.
Clips pane	Displays media stored on the K2 system and provides controls for media management.
Status Bar	Displays status and error messages, and includes tool buttons for opening Transfer Monitor, StatusPane, or the Protocol Monitor dialog box.

Playing the channel pane in full screen
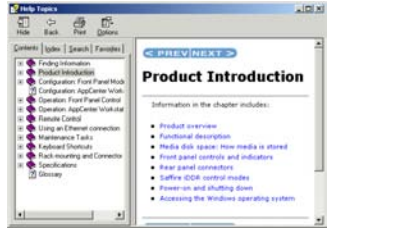
Select **View | Full screen** to fill the entire channel pane with only the selected channel. This is useful when you need more room to display information, such as a long series of clips in the Playlist application.
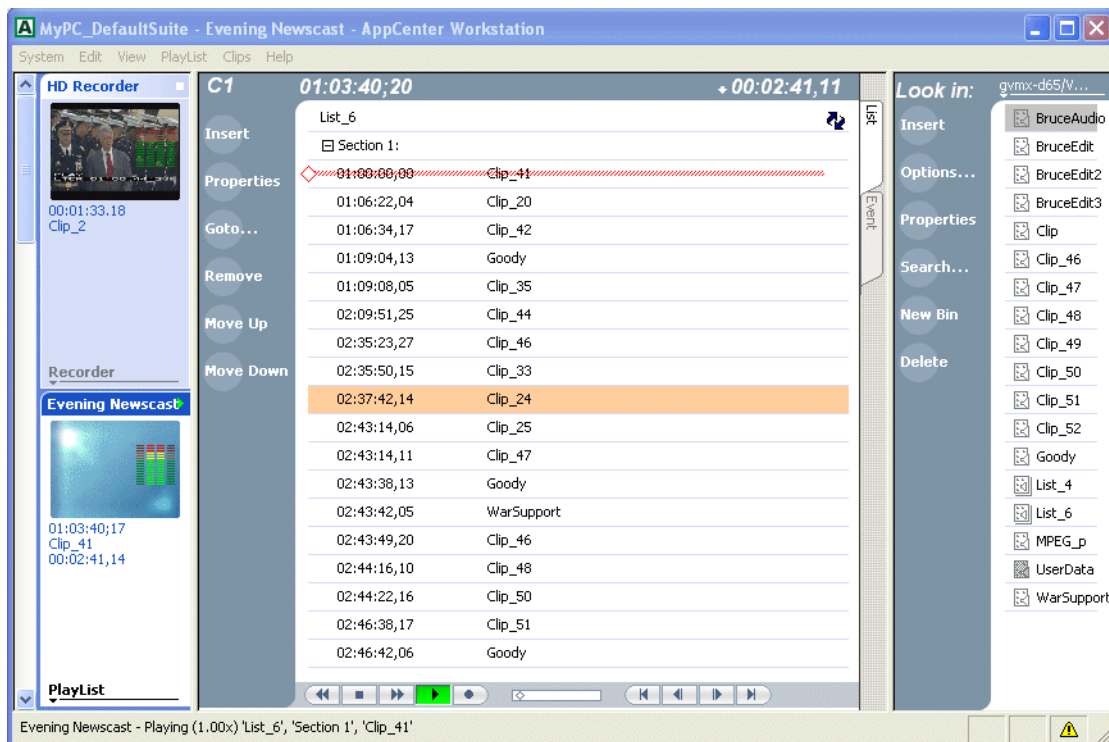
To return to split screen, select **View | Split screen**. If all channels cannot be displayed, a scrollbar appears on the left side of the pane. Scrolling in the channel monitor pane also applies to the control applications when viewed in Split Screen mode.

Tools in AppCenter
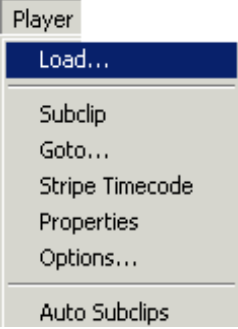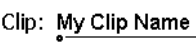
AppCenter includes the following tools for managing the K2 Media Client and its assets.

Tools	User Interface	Essentials Tasks
Configuration Manager		Configuring system settings
Transfer Monitor		Monitoring media transfers, including network transfers and file import/export
Online Help		Complete documentation of operational tasks.

Conventions used in the AppCenter interface

The following table describes the graphical conventions used for the user controls in the AppCenter interface. These graphical elements are used throughout the interface to indicate such items as drop-down lists and text entry controls.
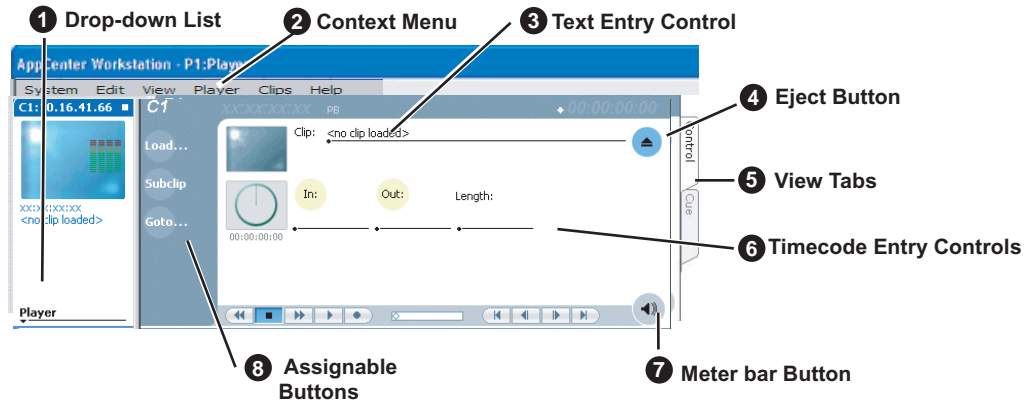
	Convention	Graphical Description and User Action
❶	**Drop-down list**	A horizontal line and arrowhead. Select and choose from a list of items in the drop-down list.
❷	**Context Menu**	This menu changes depending on the application of the selected channel. It becomes a menu for Recorder, Player, Playlist or remote protocol player or recorder.
❸	**Text Entry Control**	A horizontal line and small dot. Select to open the text entry dialog.
❹	**Eject Button**	Select to eject the current clip
❺	**View Tabs**	Select one tab or the other to toggle between different views in Player application or in Playlist application.

	Convention	Graphical Description and User Action
❻	**Timecode Entry Control** 00:01:11;09	A horizontal line and small dot. Select to open the timecode entry dialog box.
❻	**Meterbar Button** ◀))	Select to toggle between the Meterbar and the application interface. The Meterbar contains audio meters, and the audio level controls.
❼	**Assignable Button Groups** 	Some button groups are assignable. Holding down a button opens a pop-up menu that lists the alternative button choices. This allows you to customize the user interface to suit your workflow.

Terms and concepts used in AppCenter

Selected channel – there is always one channel that is selected. When a channel is selected, the channel is displayed with a white background in the channel pane. The keyboard is delegated to controlling the selected channel. To select the channel either select a channel in the monitor pane or press a keyboard shortcut. Changing the channel selection does not disrupt other channels, they continue to operate in the background.

Channel application – Channels in AppCenter are always in one application or another. Each application has its own set of buttons, lists, controls, and other characteristics, relative to the operations performed in that application. The name of the application for the channel is displayed in the channel's monitor pane, which is also where you can change the application for the channel. "Selecting a channel mode" on page 44.

Assignable buttons – Some buttons are assignable, meaning you can change the order that buttons appear in some button groups to better suit your workflow. Right-clicking a button causes a pop-menu to appear which lists the alternative button choices for that button.

Clip thumbnail – Used for visual identification of a clip. By default, the thumbnail is generated from the 16th frame of video. You can select a new thumbnail using Player. If no thumbnail is available, an icon is displayed showing there is no thumbnail.

Volume – The set of media drives that functions as a single physical disk in the K2 Media Client.

Bin – A bin is a container used to organize assets like clips and lists in the same way as directories or folders are used on a typical computer system. A bin is associated with a single disk volume.

Current Bin – The current bin functions as the target bin when recording clips or creating playlists. It is also the source bin used to load clips and lists.

Storage – The term "Storage" is used to refer to external, shared storage. Storage that is used internally with standalone K2 Media Clients will be specifically designated as "internal storage."

Channels overview

A channel is a set of resources that together have the capability to record or play media. AppCenter channels have applications for performing tasks such as recording or playing. When AppCenter starts, each channel comes up in an application. There is always one channel selected in AppCenter. The title bar displays the selected channel's name and the control application running on it.

When a channel is selected, the control application that is using that channel is the active control application. To select a channel, click on the channel monitor pane or click the control application in the control applications pane. The selected channel can receive input from the keyboard. Selecting a channel does not affect processing on any of the other channels, which operate in the background.

You can name a channel in a channel suite or change the order in which the channels appear in the AppCenter window. For more information on renaming or rearranging channels, see "Managing channel suites" on page 161.

Channel suites

A channel suite is a collection of channels. If you are using your K2 Media Client through a network-connected PC with Control Point software, the channels are accessed through a channel suite. Channel suites allow you to customize the channels to run particular applications or save the clips to specific locations. You can add channels from different K2 Media Client machines to one channel suite. Each channel suite can have up to 16 channels. For more information on channel suites, see "Using channel suites" on page 161.

NOTE: If you are running a K2 Media Client locally, you cannot use channel suites. You can only use the channels on that K2 system.

Channels on an SD K2 Media Client

On an SD K2 Media Client, the channels are labeled C1, C2, C3, C4. Each channel is *bi-directional*, that is, you can designate the channel to any application available on the system. Once you designate a channel to run a specific application, the channel remains the designated application until you change it. By default, two bi-directional channels (C1 and C3) will have the recorder application loaded and two bi-directional channels (C2 and C4) will have the player application loaded. You can change the channel's application in the Channel monitor.

Channels on a SD K2 Media Client
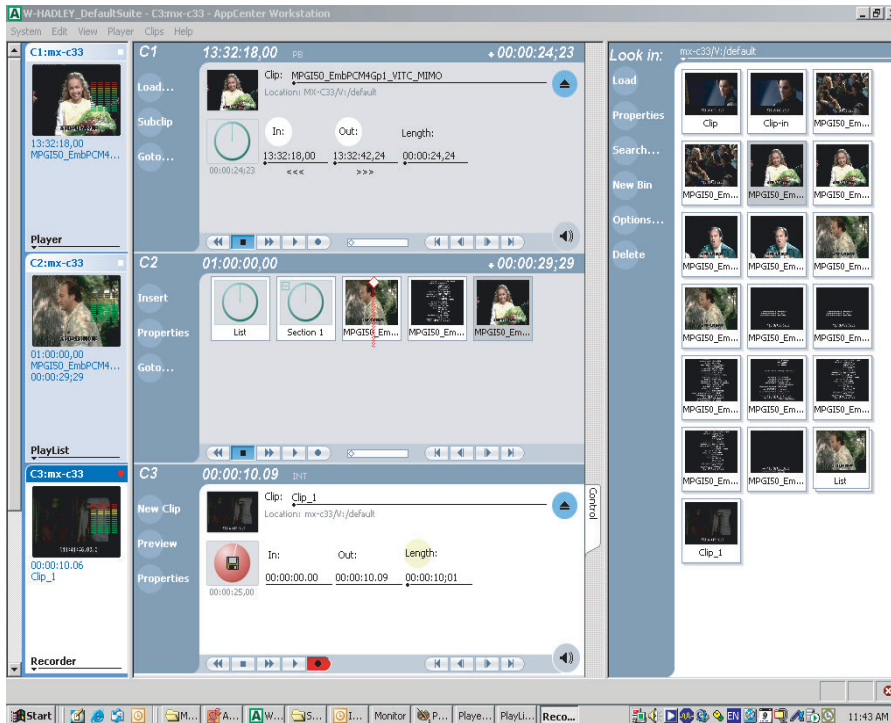
Channels on an HD/SD K2 Media Client

On an HD/SD K2 Media Client, the channels are labeled according to their predetermined application, for example, Recorder (R1), Player (P1), Player (P2). Player (P3). Each channel is fixed, that is, the application that will run on that channel was designated when the machine was built. The HD/SD K2 Media Client is configured so that it can accept standard video input formats as well as HD video input formats of 720p or 1080i. It can convert the video input into SD or HD video output format. The HD/SD K2 system can also handle shared storage servers. For more information, see the *K2 Storage System Instruction Manual*.

Channels on an HD/SD K2 Media Client
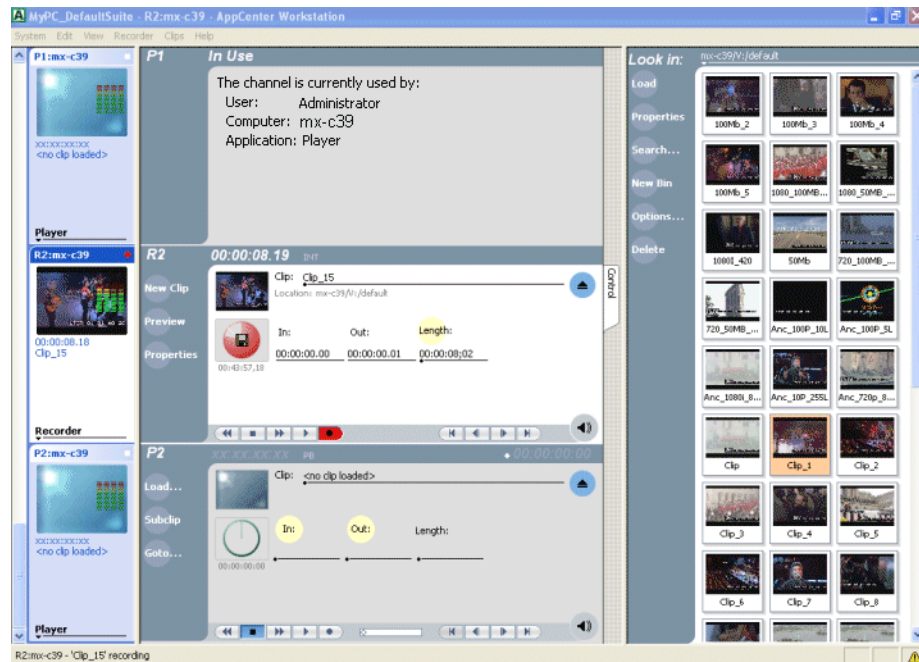
Channel applications overview

AppCenter channels have applications for performing essential tasks. When AppCenter starts, each channel comes up in its last used application. For the standalone K2 Media Client, you can change the channel application. (HD/SD K2 Media Client systems are set at the factory to run in pre-determined input or output channels.)

Selecting a channel application

To change channel applications, in the monitor pane, select the channel application drop-down list ⬇_____ for the channel, then choose an application.

The selected application replaces the current application and appears in the channel's space in the channel pane. The channel becomes the selected channel.

Available channel applications

The K2 Media Client provides the following applications to run on a channel: Player, Recorder, Playlist, and player and recorder applications for AMP, BVW, and VDCP protocol applications.

Related topics:

The table below provides an overview of these applications.

Channel Application Name	User Interface		Channel Type Required	Essentials Tasks
Recorder			Recorder	Recording clips
Player	Control View Cue View 		Player	Play clips, edit and trim clips, create sub-clips, and playout using cue points.
Protocol applications including Player and Recorder			Player	Operate remotely using industry standard serial control protocols over RS-422 or Ethernet. Protocol-specific recorder and player applications are provided for each supported protocols.

Channel Application Name	User Interface	Channel Type Required	Essentials Tasks
Playlist	List View	Player	Create and play event playlists; Lists include clips recorded in Recorder application or imported using the clips pane.
	Event View		

Using on-screen transport controls

When a channel is selected, the on-screen transport controls appear. All channel applications have on-screen transport controls.
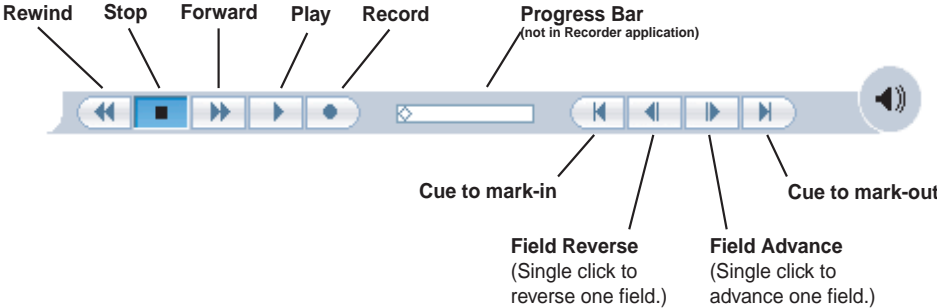
Chapter **4**

Recording clips

The Recorder application is used to record clips on the K2 Media Client. You can play the clip while it is still recording, or you can finish the recording, and then play the clip or add it to a playlist.

This chapter includes the following topics:

About recording clips

Select record channel signal inputs – Before you start recording, you may need to select video, audio, and timecode inputs.

Missing or intermittent VITC or LTC timecode - If VITC or LTC is the selected timecode source and the signal is missing, i.e. VITC or LTC not connected, the current timecode display shows *XX:XX:XX:XX*. Also, clips recorded without timecode will show no mark-in/mark-out timecode after recording. When VITC or LTC is detected, but the signal is intermittent, the last valid timecode is displayed anytime the signal disappears. Clips with missing or intermittent timecode will show this behavior during playback in a play channel. If VITC or LTC is intermittent or missing, try one of the following solutions:

- Use the internal timecode generator as the timecode source for recording.

- Stripe the timecode after the clip is recorded using the Player application.

Using the video input noise reduction filter – The video input noise reduction filter provides pre-filtering to enhance the picture quality.

Re-recording and appending clips is not supported through the AppCenter – You cannot record over a previously recorded clip. To replace the unwanted clip, delete it and record a new one. Also, appending previously recorded clips is not supported, that is, once the recording is stopped, you cannot start the recording again using the same clip. If a clip is currently loaded when record is selected, the clip is ejected, and a new clip is created before recording begins.

NOTE: Appending previously recorded clips is supported through AMP Serial Control Protocol. Contact Thomson Grass Valley for more information on control devices available.

No pre-roll time — Recording begins as soon as record is selected.

About continuous record mode

Continuous record allows you to specify a fixed-length recording that records continuously. When the fixed length you specify is reached, K2 Media Client begins to erase the oldest media in 3 minute segments to make room for new media. In this way, new media is continuously recorded while the recording is kept to a fixed length.

The continuous recording is stored as a program. The program thumbnail is displayed in the Clips pane immediately after the recording starts. While recording, you can load the continuous record program in Player application for playout or to create subclips. The media referenced by the subclips that you create is saved outside the continuous record program and does not subtract from the continuous record length. The subclips can be inserted in Playlist application as play events.

Note: a program, such as a playlist, *cannot be saved in AVI format.*

Continuous mode operational considerations

Consider the following when planning for Continuous Record operation:

- **Minimum continuous record length–** 6 minutes

- **Maximum continuous record length–** Maximum record length is limited by the

amount of storage space and the compression settings used. If the fixed length you enter exceeds the available disk space, the fixed length is automatically adjusted to equal the available space.
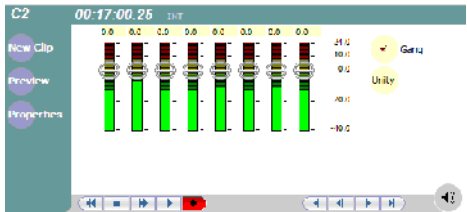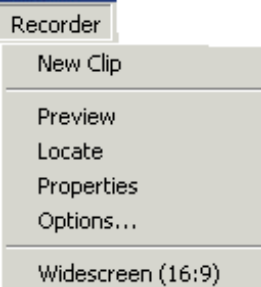
- **Minimum record to playback time**– 6 seconds. In other words, playback in continuous record can start no sooner than 6 seconds after the start of record.

- **Modifying the continuous record name or length**– You can modify the continuous record name or length during record. If you reduce record length, the oldest media outside the new record length is erased.

- **Stopping continuous record**– If the recording is stopped before the fixed length is reached, the resulting program duration is the time elapsed since the recording started. Like normal record mode, you cannot stop then start a continuous recording. Once record is stopped, you must eject the program and create a new continuous record.

- **Transferring the continuous record program**– The continuous record program cannot be transferred to a file or networked device until record is stopped.

- **Continuous record storage space is not reserved**– Continuous record is allowed to start as long as the record length you enter is less than the available storage; however, the storage space is not reserved. For example, you could have enough storage space to start the continuous record, but you are still allowed to transfer media or otherwise fill disk space. Warning messages are displayed in the AppCenter StatusBar when available storage reaches 10% total disk space. All recording is halted when media storage reaches its full threshold.

- **Pausing the continuous record program in Player application**– You cannot pause the continuous record program in Player application indefinitely. Eventually, the record length is reached and the video at the current position is erased. As this happens, the current position is advanced in 3 minute increments as the oldest unused media is erased.

- **Changing thumbnail image**– Thumbnail images displayed in the Clips pane are generated using the 16th frame of video. The thumbnail image for a continuous record program appears as normal until the fixed length is reached. Then, the thumbnail will update every 3 minutes as media is erased beginning with the oldest unused media. As the media used to generate thumbnails is erased, new thumbnails are generated.

- **Erasing oldest media is suspended when creating a subclip**– When creating subclips in Player application, erasing oldest media is suspended when the first mark is entered (mark-in or mark-out). This means that the continuous record program length could grow larger than the length specified. Erasing media is resumed and the oldest media outside the fixed length is purged when the second mark is entered and you select the Accept button. You could inadvertently fill storage space if you enter the subclip marks, but fail to click the Accept button. NOTE: Erasing oldest media is also resumed when you exit subclip mode by ejecting the subclip, or by clicking the Source Clip button.

- **Use genlocked inputs for time delay**– For error-free time delay operation, ensure that the video input is genlocked to the video reference signal. This will eliminate periodic picture shift.

Guide to using the Recorder application

The following describes the basic controls in the Recorder application.
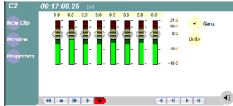
❶ **Assignable Buttons** (Default buttons are shown)
❷ **Current Timecode**
❸ **Timecode Source**
❹ **Clip Name & Current Bin** (Click clip name to rename clip.)

❺ **Time Dome**
❻ **Length** (Click to enter fixed length)
❼ **Meter Bar Button** (Click to adjust audio)

Control	Description and User Operation
❶ **Assignable Buttons**	Assignable buttons allow you to modify the button assignments to best suit your workflow. Hold down a button to open a pop-up menu that lists the alternative button choices. **Properties**– Same as selecting Properties on the Recorder menu. **New Clip**– Same as selecting New Clip on the Recorder menu. **Preview** – Same as selecting Preview on the Recorder menu. **Locate** – Same as selecting Locate on the Recorder menu.
❷ **Current Timecode**	Indicates the current timecode of the timecode source selected for the channel. Text color is white during record, and dimmed at other times. The timecode value of *XX:XX:XX:XX* is displayed when the timecode source is not present or is invalid. See "Changing the timecode source" on page 54.
❸ **Timecode Source**	The text displayed to the right of current timecode indicates the timecode source: VITC, LTC or INT (internal generator).See "Changing the timecode source" on page 54.
❹ **Clip Name Edit Control**	Displays the clip's name and location in the media storage system. To rename the clip, click and enter text. To change the current bin, i.e. the target location for recording clips, refer to "Changing the current bin" on page 55. You can use the Clips pane to manage and organize clips.

Control	Description and User Operation
❺ **Time Dome** **Progress Only** **Available Storage** 00:29:30,24 **Available Storage and Continuous Record Mode** 00:29:30,24	This multi-function indicator displays either record progress only, or available storage and record progress. The Time Dome also indicates when the record channel is in Continuous Record mode. Available storage is estimated using the amount of free disk space and the video compression settings for the channel. The record progress indicator makes one revolution every 10 seconds in normal record, or one revolution during a fixed length recording. To change the Time Dome function, right-click the Time Dome, then choose an application from the pop-up menu.
❻ **Length** Length:	Select the Length control to enter the clip length, then choose record. Recording continues until you choose stop or the specified length is reached.
❼ **Meter bar button**	Displays the Meter bar which contains the audio record level controls and signal meters. Changes to the audio level are saved for the channel.
❽ **Recorder Menu** Recorder New Clip Preview Locate Properties Options… Widescreen (16:9)	**New Clip –** Used to create and name clip prior to starting the recording. If a clip is already loaded, selecting New Clip ejects the current clip and creates a new one. **Preview** – Used to load the current clip in a play channel for playback while the clip is still recording. After record is started, select Preview to load the clip into the next available play channel, then select Play. **Locate** – Locates the currently loaded clip in the Clips pane. **Properties** – Opens the Properties dialog for the currently loaded clip. **Options** – Opens the Record channel options dialog box. **Widescreen** – Sets the channel for recording widescreen format.

Before you record: Recorder settings checklist

Before recording, check the following recorder channel settings.

	Record Channel Setting	Procedure
❶	**Verify video and audio input selection**	In the monitor pane, check the thumbnail and its audio level indicators to verify the correct record channel inputs are selected. If there is a problem, correct the settings.
❷	**Verify video compression data rate** You can manage storage capacity and video quality by adjusting the record channel compression data rate. Generally set as high as possible to obtain the storage capacity needed.	Under the **System** menu, click **Configuration**.
❸	**Verify digital audio compression setting**	Under the **System** menu, click **Configuration**.
❹	**Verify the timecode source** Make sure to select a valid timecode source. You can use the internal timecode generator, VITC, or LTC.	See "Changing the timecode source" on page 54.
❺	**Verify widescreen mode setting** If the video source is in widescreen format, you must select widescreen mode for the recorder. This attribute is saved with the clip and is used to control video scaling when the clip is played.	In AppCenter main menu, click **Recorder | Widescreen 16:9** to toggle widescreen mode. (On SD K2 Media Clients.) *NOTE: The clip aspect ratio cannot be changed once the clip is recorded. If you want to change the clip's aspect ratio attribute you must re-record the clip.*
❻	**Adjust audio level (if needed)** You can use the audio leveling feature to adjust the analog or digital audio input levels, excluding dolby encoded digital audio.	1. In the Recorder pane, select the **Meter bar** button. 2. Adjust audio level using the graphical faders. Select the Meter bar button again to return to Recorder view.
❼	**Verify video compression settings** Choosing a video compression setting is a trade-off between image quality and storage capacity. Higher video quality produces larger files which take up more storage space and take longer to transfer to external devices.	Select **System | Configuration** to modify the video compression settings.

To record a clip

This section covers:

-
-
-
-
-

Using New Clip record mode

To create and name a clip before recording starts:

1. Verify video, audio, widescreen, and other settings for your recording as explained in "Before you record: Recorder settings checklist" on page 50.

2. Select **New Clip** to create and load a clip.

3. To rename the clip, select the default clip name Clip: Clip_1 , then enter a new clip name.

4. Select the record button on the onscreen transport controls 🔴 .

   The recording progresses until you select **Stop**.

Using Crash record mode

Crash record occurs when you start a recording without specifying a clip name. The clip is given a default name, then the recording continues until you select stop.

To crash record:

1. Verify video, audio, and other settings for your recording as explained in "Before you record: Recorder settings checklist" on page 50.

2. Select the record button on the onscreen transport controls 🔴 .

   The recording progresses until you select **Stop**.

Using Fixed Length record mode

You can specify the clip length before recording, or during recording. Fixed length recording continues until the clip length is reached or until you select stop.

1. Verify video, audio, and other settings for your recording as explained in "Before you record: Recorder settings checklist" on page 50.

2. Select **Length** in the Recorder pane.

   The Length dialog box appears.
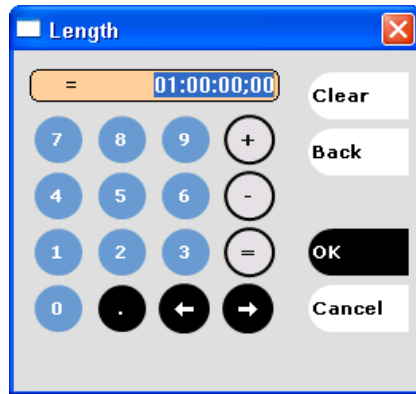
3. Enter the clip length by typing only numbers, colons are added automatically.

4. Choose **OK** in the dialog box, or press **Enter**.

5. Select the record button on the onscreen transport controls 🔴 .

   Recording continues until **Stop** is selected or the desired length is reached. While recording, the mark in and mark out update with the current status of the clip. The Time Dome gives a visual indication of the percent complete as well as a countdown from the specified length down to **00:00:00:00**.

Specify clip length after recording has begun

While a clip is recording you can enter the clip length as follows:

1. Select **Length** in the Recorder pane.

   The timecode dialog box appears.

2. Enter the desired length, then select **OK** or **Enter**.

   If the entered length is valid, longer than the amount of material already recorded, the clip continues to record until it reaches the specified length or until you select **Stop**.

Using continuous record

You can configure Recorder for Continuous Record mode. Continuous record is useful for applications that normally use Continuous Record, for example a manual time delay. Refer to "About recording clips" on page 46.

1. Click the Time Dome 🔴 .

   The Time Dome pop-up menu appears.

2. Choose **Continuous Record** in the pop-up menu.
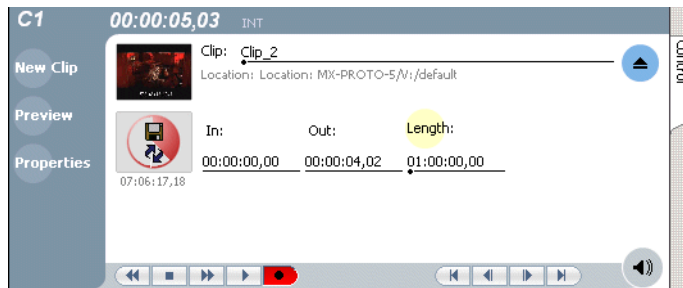
The Time Dome changes to display continuous record .

3. To change continuous record length, click **Length**.

The Length dialog box appears.
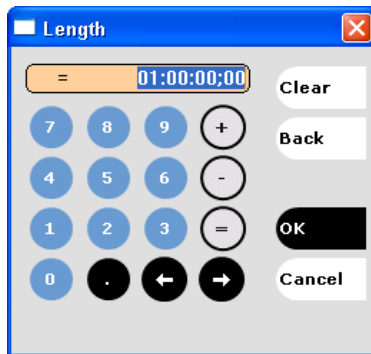
4. Enter the clip length by typing only numbers, colons are added automatically.

5. Click **OK** in the dialog box, or press **Enter**.

6. Select the record button on the onscreen transport controls .

Recording continues until **Stop** is selected. While recording, the mark in and mark out update with the current status of the clip. The Time Dome gives a visual indication record progress.

7. Load and play the clip in Player application:

• Drag and drop from the Recorder monitor pane to the Player monitor pane.

The play channel becomes the selected channel, and the clip is cued and ready for play.

Previewing a clip that is recording

Preview loads the currently recording clip into a play channel. The play channel becomes the selected channel, and the clip is cued and ready for play.

To preview a clip:

1. Start the record process.

2. Preview the clip:

   • In the Monitor pane, use the drop-down list to select the Player application.

   • Drag the clip thumbnail from the channel running the Recorder application to the channel running the Player application.

   The play channel becomes the selected channel, and the clip is cued and ready for play. If a play channel is not available, e.g. the play channels are already playing a clip, a warning message is displayed in the status bar.

3. To play the clip, select the onscreen transport controls ▶ .

Changing the timecode source

You can select the timecode source you want to record with the internal timecode generator.
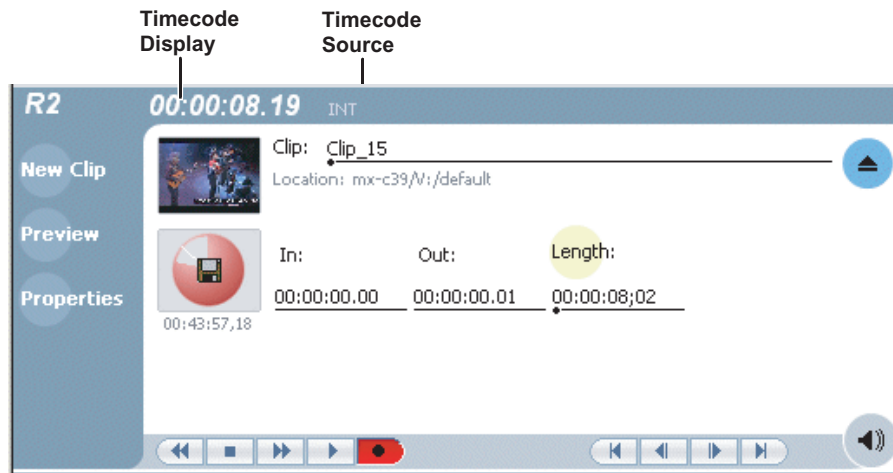
To change the timecode source:

1. Perform one of the following to open the options dialog box:

   • In the AppCenter main menu, click **Recorder | Options | Timecode**.

     - or -

   • In the Recorder pane, click the timecode display 16:27:13;29 LTC .

     The Options dialog box appears.
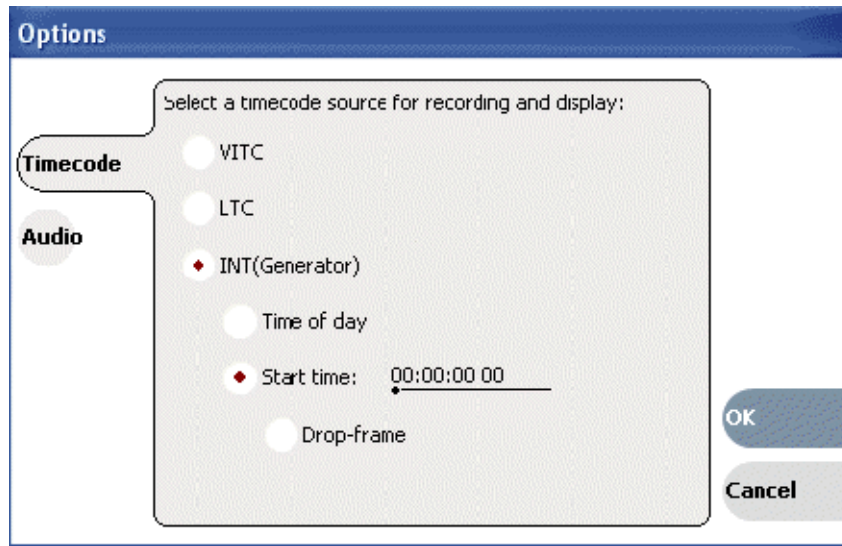
2. Click the **Timecode** button.

3. Choose a timecode source, then click **OK**.

Timecode Source	Description
VITC	Timecode is read from the VITC input for the channel.
LTC	Timecode is read from the LTC input for the channel.
System Clock	The record channel has an internal timecode generator that runs in one of the following modes: **Time of Day** The generator is locked to the Windows Operating system real time clock. **Start time** Specifies the timecode to use when the recording starts. The drop frame option is enabled when the system timing is set to the 525 line standard (NTSC). *Drop frame* timecode allows the generator to operate as an accurate clock.

Selecting widescreen mode

With an SD K2 Media Client, you must select the widescreen attribute when recording video with widescreen aspect ratio— 16:9. The attribute is saved as part of the MPEG video media file. The attribute is used by the play channel to handle aspect ratio conversion. For example, disable aspect ratio conversion if the clip is played on a channel set for widescreen display. This may occur when playing a list of clips with different aspect ratios. Channels on an HD/SD K2 Media Client always record 720p and 1080i video in the 16:9 ratio.

Changing the current bin

On the K2 system, a fixed amount of disk space is reserved for storing media files— the **V:/** partition. Within the V:/ disk partition, your clips and playlists are stored in *bins* which function like directories in a file system. You can organize your media by

creating and removing bins in AppCenter. If you have channels from multiple K2 Media Clients in one channel suite, the clips displayed are those on the K2 Media Client that has the currently selected channel.

When recording starts, the new clip is stored in the *current bin*. You can change the current bin to determine where you want the clip stored. The current bin name is displayed under the clip name in the Recorder display, for example, **V:/default**.

NOTE: Changing the current bin affects the recorder and the player applications.

To change the current bin:

1. Make sure the record channel is selected.

2. In the Clips pane, click the Current Bin label , then choose a bin from the list.

![Dropdown showing V:/default, Organize Bins, default, Recycle Bin, mybin](dropdown)
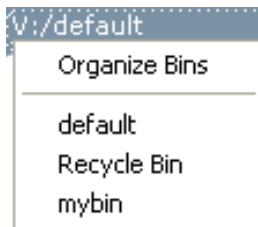
Renaming a clip

You can rename a clip during or after recording.

To rename a clip:

1. Select the clip name control Clip: Clip_1 Location:V:/default in the Recorder application.

2. Enter the new clip name using the on-screen keyboard.

3. Click **OK**, or press **Enter**.

   If a clip with the new name already exists in the current bin, an error message is displayed.

Viewing clip properties

To view the properties of a clip loaded in the Recorder application:

In Recorder, do one of the following:

• Click the **Properties** button.

   - or -

• Select **Recorder | Properties.**
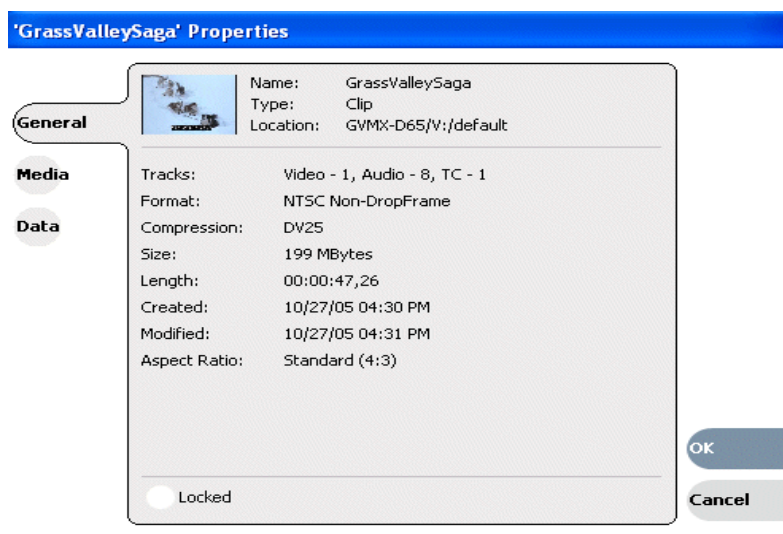
Locating a clip

You can locate the currently loaded clip by displaying the contents of the current bin in the Clips pane, as follows:

1. After or during recording, select **Recorder | Locate**.

2. The Clips pane displays the contents of the bin where the clip is located.

Displaying available storage space

In the Recorder pane, you can display available storage using the Time Dome. The available storage displayed is the storage on the K2 Media Client or the K2 storage system accessed by the currently selected channel.

To display available storage:

1. Select the Time Dome .

   The Time Dome pop-up menu appears.

2. Choose **Available Storage** in the pop-up menu.

   The Time Dome changes to display progress and available storage .

   Available storage displayed is based on the video data rate selected in the Configuration dialog box. (To access the Configuration dialog box, select **System|Configuration**.) A filled Time Dome represents no storage remaining. Available storage is also displayed numerically under the timedome.

   The white line functions as a "sweep second hand" to show record progress. It sweeps through a complete revolution every 10 seconds when crash recording or makes a single revolution on a fixed length record.

Chapter **5**

Playing and editing clips

The information in this chapter describes how to play and edit clips recorded on the K2 Media Client. You can play clips in a variety of ways including off-speed play and triggered by GPI. In addition to editing existing clips, you can create new clips using the subclip feature and add cue points to clips.

Information in this section includes:

About playing clips

The AppCenter Player application allows you to play media stored on the K2 Media Client, including clips and programs. The Player application requires a single play channel. The Player application has two views— Control view and Cue view. The Control view allows you to play clips, trim clips, and create new subclips. The Cue view is used to add cue points within a clip. After adding cue points, you can use the cue list to start playback from any cue point in the list.

Working with clips that are still recording

The following restrictions apply when working with a clip in the Player application that is currently recording:

• You cannot rename the clip.

• The clip mark-in/mark-out points cannot be modified.

• Subclips created from a clip currently being recorded can only have a Mark Out equal to the last frame that has been recorded when the subclip is created. You cannot create a clip longer than has been recorded under the assumption that the unrecorded frames will "fill it in."

• The length of the record-to-play delay depends on the location where the clip is being stored:

    • On a K2 Media Client with internal storage—6 seconds

    • On a K2 Media Client with shared storage—20 seconds

Otherwise, clips that are currently being recorded behave normally. As a reminder, "Read-Only" is displayed in the Player application when the clip loaded or playing is still being recorded.

Playing a playlist saved as a program

Playlists can be loaded and played in the Player or Playlist applications. You can also save a playlist as a program and then play it in the Player application. A *program* includes all the media and transitions in the playlist but does not include any event that breaks the flow of playout, such as a pause. When a program is loaded in the Player application, it is handled in the same way as a simple clip as far as the Player application is concerned, except that they cannot be edited, they are "read-only. For more information on creating programs refer to "Saving a list as a program" on page 195

Selecting the Player application in AppCenter

The Player application requires a single play channel. If the play channel is currently being used in another application, such as a Playlist application, you can use the following steps to select the Player application. Selecting the Player application causes the play channel operation to stop, then the Player application is started.

To start the Player application on a play channel:
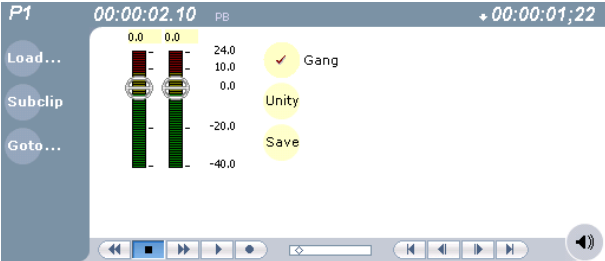
1. In the monitor pane, select the control mode drop-down list for the play channel, then choose **Player**.
   The channel switches to the Player application and becomes the selected channel.
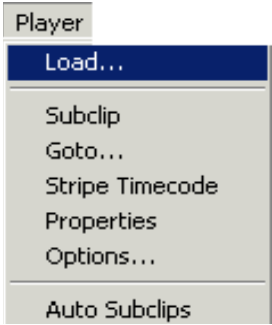
Guide to using Player: Control view

The Control view allows you to play a clip, modify its name, adjust mark in and mark out points, create sub-clips, and stripe timecode. Selecting the **Control** view tab shows the Control view. The following describes the essential controls in the Control view.

	Control	Description and User Operation
❶	**Assignable Buttons**	Assignable buttons allow you to modify the button assignments to best suit your workflow. Hold down a button to open a pop-up menu that lists the alternative button choices.
❷	**Clip Timecode** 09:20:30;13 PB	Indicates the recorded timecode of the current frame being played. The timecode value of *XX:XX:XX:XX* is displayed when there is no recorded timecode. Stop mode is indicated by 'PB' (Play Back).
❸	**Clip Name & Current Bin** Clip: Clip_1 Location:V:/default	Displays the clip's name and location in the video storage file system. To rename the clip, click the Clip Name, then enter a new name.
❹	**Countdown Timecode** ▾ 00:00:03,12	Displays the time remaining in the clip.

	Control	Description and User Operation
❺	**View tabs** Control Cue	These tabs toggle between Control and Cue views. Control is used for playing and editing of clips. During playback, you can use the Cue view to add cue points so that you can quickly cue a clip to a frame.
❻	**Thumbnail**	Used to visually identify the clip. By default, the thumbnail is generated using the 16th frame of video. To change the thumbnail, position the clip to the desired frame, then click the thumbnail.
❼	**Time Dome** Progress only 00:00:03;23 Progress with media marks 00:00:02;15 Progress & loop play enabled 00:00:08;21	This multi-function control displays play progress, or play progress with media marks which shows the relative position of mark-in/mark-out points in the clip. The timecode underneath indicates play time remaining. The Time Dome is also used to enable loop play. Select the Time Dome, then use the pop-up menu to choose the display mode or to control loop play mode.
❽	**Set Mark-in and Set Mark-out** In: Out:	These buttons are used to set new mark-in or mark-out points. Position the clip to the desired frame, then click the In or Out buttons. Unused media is not deleted. To clear a mark, click the button, then choose yes in the pop-up dialog box. Marks are reset to the beginning or end of available media.
❾	**Meter Bar Button**	Displays the Meter bar, which contains the audio play level controls and signal meters. Clicking the **Save** button saves changes made to the clip audio level. Clicking **Unity** returns the audio levels to the last saved level.

Control	Description and User Operation
Player Menu - Control view Player Load... Subclip Goto... Stripe Timecode Properties Options... Auto Subclips	**Load**– Select to open the Load Clip dialog, which displays the contents of the current bin. Select a clip, then choose OK to load. **Subclip**– Opens the Subclip mode, which allows you to create subclips from the currently loaded clip. A subclip is an entirely new clip that references media in another clip **Goto**– Used to jump to a specific timecode. Select Goto, to open the Goto dialog, then enter an absolute or relative timecode value, or use the scrub bar to go to the desired position. **Stripe Timecode**– Opens the Stripe Timecode dialog which allows you to replace the existing timecode track for the loaded clip. You can replace with time of day, or a specific start timecode. **Properties**– Opens the Properties dialog for the currently loaded clip. **Options**– Opens the Options dialog for the currently loaded clip. **Auto Subclips**– The auto subclip check box changes the way that the subclip mode behaves. When it is NOT checked, clips have to be accepted manually. When it is checked, a subclip will be created as soon as the user sets a mark out.

Guide to using Player: Cue view

The Player application Cue view is used to add cue points to the clip. The Cue view allows you to set, modify, and jump to cue points on the loaded clip. Clicking the **Cue** tab displays the Cue view. The following describes the basic controls in the Cue view.

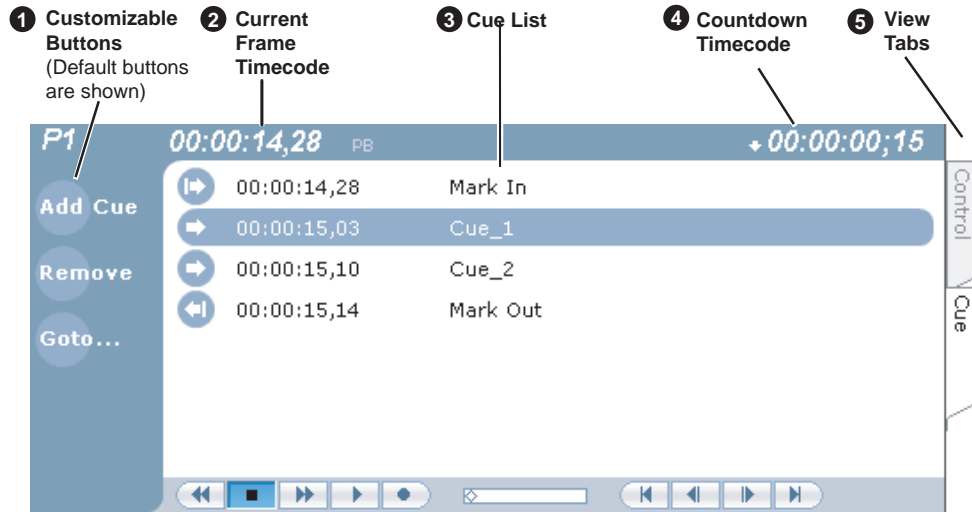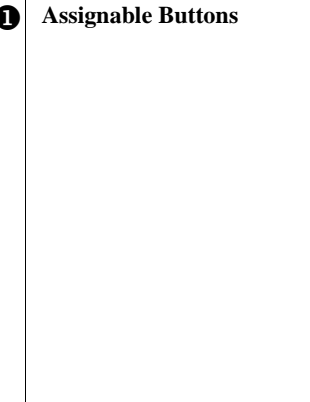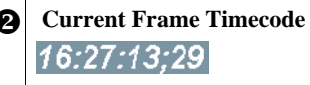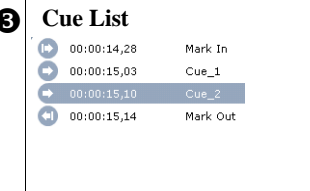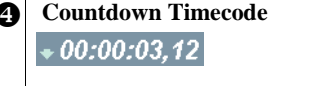|	Control	Description and User Operation
❶	**Assignable Buttons**	Assignable buttons allow you to modify the button assignments to best suit your workflow. Hold down a button to open a pop-up menu that lists the alternative button choices. **Add Cue** - same as selecting "Add Cue" from the Player menu. **Remove** - removes the selected cue. **Goto** – used to jump to the selected cue, the next cue, or to a specific timecode. **Rename** - opens text entry dialog box to rename the selected cue. **Create Clip** - same as selecting "Create Clip" from the Player menu. **Create All** - same as selecting "Create All Clips" from the Player menu. **Cue Selection** – cues the first selected cue point for playback showing a still frame of video for the cue point.
❷	**Current Frame Timecode**	Indicates the recorded timecode of the current frame being played. The timecode value of *XX:XX:XX:XX* is displayed when there is no recorded timecode.
❸	**Cue List**	Displays a list of cue points that are set for the loaded clip. Cue points are listed in chronological order beginning with the mark-in point and ending with the mark-out point.
❹	**Countdown Timecode**	Displays the time remaining in the clip. To select the countdown mode you want to monitor, open the Options dialog box by selecting Options in the context menu.

Control	Description and User Operation
❺ **View tabs**	These tabs toggle between Control view and Cue Points view.

Loading media for playout

You can load clips or programs in the play display for playout.

Loading clips from the clips pane

1. Select a play channel by clicking in the channel's monitor pane.

2. Locate the clip in the clips pane. If necessary, change bins by clicking the current bin control **Look in:** V:/default and selecting from the drop-down list.

3. Load the clip in one of the following ways:

   • Drag the clip from the clips pane into the play channel.

   • Select the clip, then choose the **Load** button in the clips pane.

   • Double-click on the clip.

   • Select the clip, then press **Enter** on the keyboard.

Loading a clip from the Player application

1. Select a play channel by clicking in the channel's monitor pane.

2. Open the Load Clip dialog using one of the following:

   • Click the **Load** button in Player.

   • Select **Player | Load**.
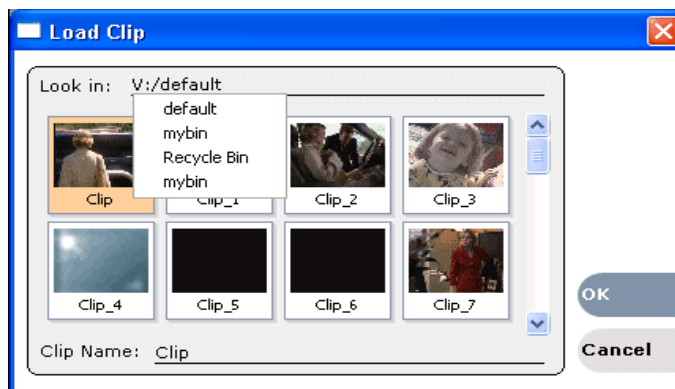
3. If needed, use the **Look in** drop-down list to browse to the desired bin.

4. Select a clip in the Load Clip dialog, then click **OK**.

   The clip is loaded in the player.

Related topics:

- "Playing a clip" on page 66
- "Using Cue points for playback" on page 67

Playing a clip

Once a clip is loaded in the Player application, you can play the clip or search for a specific frame of video using the transport controls. Use the links in the following table to find information on playing clips.

If you are using…	Refer to…
On-screen transport controls	"Using on-screen transport controls" on page 45
Keyboard shortcuts	*Appendix A, Keyboard Shortcuts*
GPI triggers	*"GPI triggers" on page 41*

Selecting loop play

Loop play allows the clip to play in a continuous loop until **Stop** is pressed. The Time Dome is used to enable/disable loop play.

- Click the **Time Dome**   , then choose **Loop Mode** in the pop-up menu.

Jumping to a specific timecode

The Goto dialog box allows the player application to jump to the specific clip timecode that you enter. You can enter an absolute timecode value based on recorded timecode, or a relative timecode value, that is, cue the video to a point +/- some value relative the current frame. If you don't know the timecode value of the frame you want, you can click and drag the scrub bar to shuttle to the desired frame.

To jump to a specific timecode:

1. With a clip loaded in the Player application, do one of the following:

   - Click the **Goto** button.

   - Select **Player | Goto**.

   The Goto Timecode dialog appears.

Clear
(Select to clear entry)

Back Space

Relative
(Select to enter a relative timecode)

Absolute
(Select to enter an absolute timecode)

Scrub bar
(Click and drag to cue the desired frame)
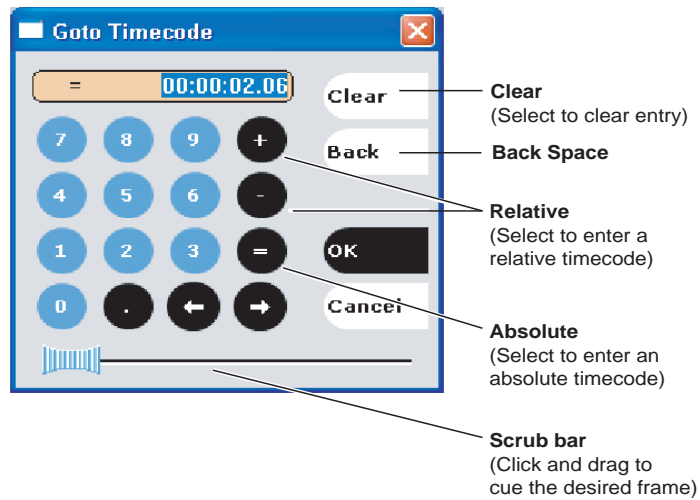
2. Perform one of the following:

- Enter a *relative* timecode value, select the '+' **or** '-' key, enter timecode, then click **OK**.

- Enter an *absolute* timecode value, select the '=' key, enter timecode, then click **OK**.

- Click and drag the scrub bar ▬||||||▬ to cue the desired frame.

Related topics:

Using Cue points for playback

Cue view allows you to add cue points to a clip. You can use cue points to manage clip play out or create subclips. The following sections describe how to work with cue points.

Topics included here:

About using cue points

When you select Cue view, a chronological list of cue points is displayed. The list begins with the mark-in point and ends with the mark-out point. You can add additional cue points to mark other frames within the clip. You can add cue points while the clip is playing or in stop mode. When you add a cue point, it is listed by a default name (such as "cue_1") and timecode value.

Cue points cannot be moved; however, you can remove a cue point and use the transport controls, or Goto Timecode dialog box to enter a new cue point at the current position.

Cue points can be used to:

• **Manage clip playout**– jump to the selected cue or next cue.

• **Create subclips**– You can create a subclip from the selected cue point. The selected cue point becomes the mark-in point, while the mark-out point is the same as the source clip. If more than one cue point is selected, a subclip is created using the first and last cue points. The "Create All" feature creates a subclip for every cue in the list. Each subclip duration is from each cue point to the source clip mark-out point. See "Creating subclips in Cue view" on page 60.

When working with cue points, keep these considerations in mind:

• **Cue points are retained when a clip is copied or transferred (GXF or Streams)**– With using GXF or streams, cue points are stored with the clip. All the cue points of the original clip are retained when the clip is copied or transferred to another server. Cue points are not retained for other file transfers.

• **Cue points and trimming**– After you trim a clip by moving the mark-in or mark-out points, the cue points outside the new mark-in and mark-out points are cleared and must be reinserted.

• **Cue points and subclips**– Subclips created from a clip with cue points retain all cue points that fall between the marks of the new subclip. The subclip has its own mark in and mark out points. See "Creating subclips in Cue view" on page 60.

• **Cue points and programs**– Cue points cannot be added to a program.

Viewing the cue list

1. Select a play channel by clicking in the channel's monitor pane.

2. Select the Cue tab.

   The Cue view appears showing the cue list for the clip loaded in the Player application. Initially, only the mark-in and mark-out cue points are listed.

Adding a cue point

While the clip is playing or in the stop mode, use the transport controls to find the desired frame in the clip, then do one of the following:

• Click the **Add Cue** button.

• Select **Player | Add Cue**.

A cue point is added to the cue list using a unique name, e.g. Cue_1.

NOTE: Using the preview feature, you can play and add cue points to a clip while it is still being recorded. (See "Previewing a clip that is recording" on page 137.)

Removing a cue point

1. In Cue view, select a cue point in the list.

2. Do one of the following:

   • Click the **Remove** button, or

   • Select **Player | Remove**.

Jump to the selected cue point

Use the following steps to jump to the selected cue point.

1. In Cue view, select a cue point in the list.

   • Click the **Goto** button, then select **Selection**.

2. Press the **Play** button on the onscreen transport controls

   Playout starts from the cued frame.

Jump to the next cue point

Use the following steps to jump to the next cue point. Depending on the current play position, the clip will cue to the next cue point in the clip.

1. In Cue view, click the **Goto** button, then select **Next Cue**.

2. Press the **Play** button on the onscreen transport controls.

   Playout starts from the cued frame.

Renaming a cue point

1. In Cue view, select a cue point in the list.

2. Select **Player | Rename.**

3. Use the text entry dialog to enter a new cue name, then click **OK** or press **Enter**.

Editing a clip

Topics in this section are as follows:

• "Moving clip mark-in/mark-out points" on page 70

• "Clearing mark-in/mark-out points" on page 71

• "Adjusting clip audio level" on page 72

• "Changing the clip thumbnail image" on page 72

• "Striping timecode (replacing the timecode track)" on page 73

• "Renaming a clip in the Player application" on page 73

Moving clip mark-in/mark-out points

Every clip has a mark-in point and a mark-out point that refer to the first and last frames displayed when the clip is played. When first recorded, clip marks are set to the beginning and end of available media. You can edit the clip marks in order to reference only the desired media. When clip marks are moved, the unused media *is not deleted.* Clearing the marks resets them to the first and last frames of the recorded clip. (See also "Clearing mark-in/mark-out points" on page 71.)

NOTE: If the source media has been erased, the subclip retains 1 second of media on each side of the mark-in and mark-out points. **See "Moving clip mark-in/ mark-out points" on page 54.**

The following restrictions apply when editing clip marks:

- Mark-in must precede the mark-out

- Marks cannot be set outside the recorded media

- Marks cannot be changed on a clip that is still being recorded.

NOTE: If more media exists after the current mark, a <<< or >>> symbol is displayed beneath the In/Out timecode. To permanently remove media outside the marks, refer to "Erasing a clip's unused media" under Managing Clip Media.

To move clip marks, load the clip in player, then use one of the following methods.

- "Moving clip marks: Using the In/Out buttons" on page 70

- "Moving clip marks: Using the timecode entry controls" on page 70

- "Moving clip marks: Using the clip length control" on page 71

Moving clip marks: Using the In/Out buttons

1. Use the transport controls to locate the desired frame.

2. In Control view, click **In** In: to set mark-in point, or click **Out** Out: to set mark-out point.

3. In the Confirm Mark Change window, click **Yes**.

Moving clip marks: Using the timecode entry controls

1. In Control view, select the mark-in or mark-out timecode control 00:01:11;09 to open the timecode entry dialog box.

2. Enter a timecode value, then click **OK** or press **Enter**.

   Alternatively: Use the current position scrub bar —|||||||— in the timecode entry dialog box to locate the desired frame, then select **OK**.

Moving clip marks: Using the clip length control

Entering a new clip length moves the mark-out point.

1. Click the **Length** timecode entry control.

2. Enter a new clip length and click **OK**.

   The clip length changes by moving the mark-out point.

Clearing mark-in/mark-out points

Clearing a mark point resets the mark to its default position— mark-in is set to the beginning of available media; mark-out is set to the last frame of available media.

To clear a mark point, do one of the following:

• In Play view, click and hold the **In** or **Out** button, then choose **Clear Mark** in the pop-up menu.

• In Play view, select the mark-in or the mark-out timecode control and click **Clear**, then **OK** to clear the mark.

Clear
(Click Clear, then
OK to clear the mark.)
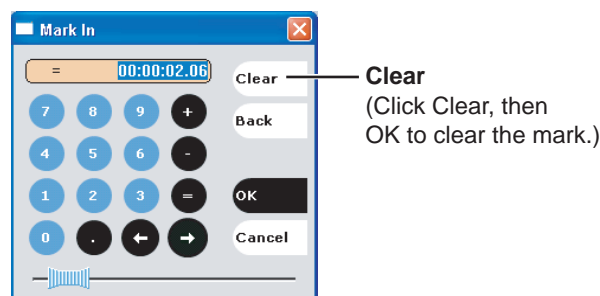
Adjusting clip audio level

The audio meter display provides audio level adjustment for clips loaded in the player display. Saved audio levels are used every time the clip is loaded and played. Unsaved changes are lost when the clip is ejected.

To adjust audio level:

1. In the Player application, click the Meter bar button .

2. Adjust the audio level in one of the following ways:

   • Adjust the graphical faders individually or "ganged," which ensures all channels use the same gain.

   • Click **Unity** to set audio back to the last saved level.
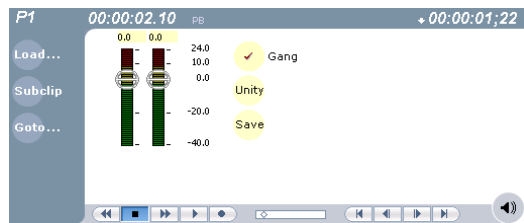
3. Click **Save** to save changes to the clip audio level.

4. Click the Meter bar button again to return to the Player application.

Changing the clip thumbnail image

The clip thumbnail is displayed in AppCenter for visual identification of the clip. By default, the 16th frame is used to generate the thumbnail image.

To change the clip thumbnail:

1. While monitoring the play channel output, use the onscreen transport controls to position the clip to the desired video frame.

2. In Player, click on the thumbnail, then select **Yes** in the Change Thumbnail dialog box.
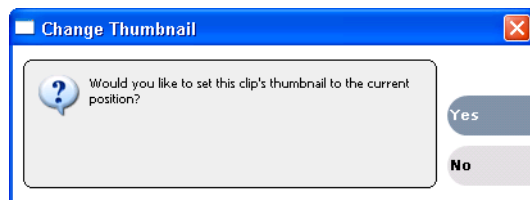
NOTE: If clip marks are edited so that the video frame used to generate the thumbnail is outside the new clip marks, the thumbnail is reset to a position near the mark-in of the modified clip.

To reset the thumbnail:

• Select the thumbnail image, then choose **Reset** in the pop-up menu.

This resets the clip thumbnail to the 16th frame in the clip.

Striping timecode (replacing the timecode track)

The stripe timecode dialog allows you to overwrite the existing timecode track for the loaded clip. You can replace the recorded timecode with time of day, or a specific start timecode value.

1. Load the clip in the play channel.

2. In Control view, select **Player | Stripe Timecode**. The Stripe Timecode dialog box opens.
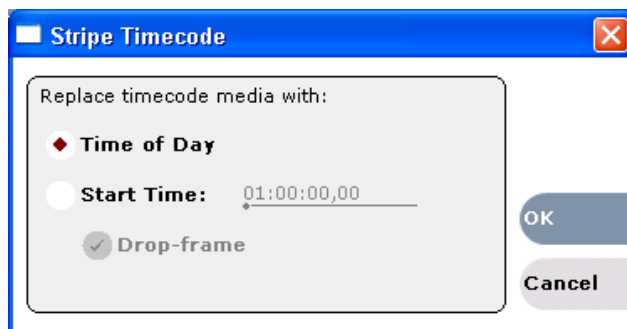
3. Specify the replacement timecode:

   Time of Day – The new timecode track will start with the current time of day and will contain continuous values ranging from the current time of day plus the length of the clip.

   Fixed Time – After choosing this option, select the timecode entry control, and enter a start timecode value. The new timecode track will contain continuous values ranging from the specified starting value to the starting value plus the length of the clip.

   Drop frame – The drop frame option is available when system timing is set to 525 line standard (drop frame is a timecode adjustment that applies to NTSC video only). Drop frame allows the timecode track to indicate the actual running time of the clip. Drop-frame time code yields precise running times, but frames are not all numbered sequentially. A frame number must be dropped periodically to keep the clock right.

Renaming a clip in the Player application

1. In the Control view, select the clip name control Clip: Clip_1___.

2. Enter the new clip name.

3. Click **OK**, or press **Enter**.

Creating Subclips

A subclip is a clip created by referencing a portion of media from another clip. For example, if you recorded a two hour clip, you could create several short subclips to use as previews or advertisements. Each subclip refers to a small portion of the original clip and is listed along with all other clips in the clips pane. When working with subclips, the original clip is sometimes called the *source clip*. After creating subclips, you can delete the source clip.

Subclips created from a clip that is still recording can only have a mark-out equal to the last frame that has been recorded when the subclip is created. You cannot create a subclip longer than what has been recorded with the assumption the media will "fill in". You can create subclips from a clip being recorded in loop record mode. In loop record mode, media referenced by the subclips is retained while unreferenced media is discarded.

You can load subclips in the Control view and edit the mark-in/mark-out points the same as a clip, provided the unreferenced source media has not been erased.

NOTE: If the source media has been erased, the subclip retains 1 second of media on each side of the mark-in and mark-out points. **See "Moving clip mark-in/ mark-out points" on page 54.**

The following sections describe how to create subclips:

- "To create subclips" on page 74
- "About Auto Subclip mode" on page 75
- "Creating subclips in Cue view" on page 75

To create subclips

1. Load a clip in the player.

2. In the Player Control view, click the **Subclip** button.
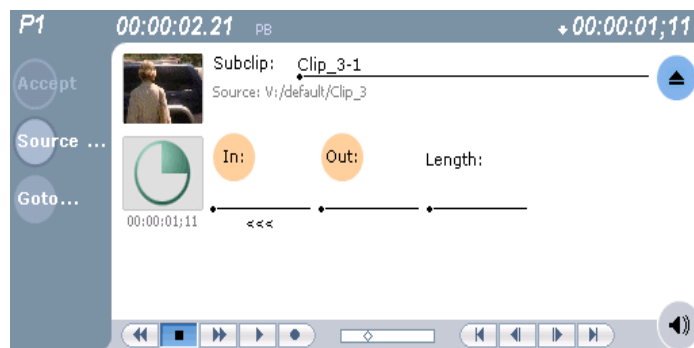
 The Subclip display appears with a new subclip loaded. The **In** and **Out** buttons are flashing indicating no mark-in or mark-out points are defined. The default subclip name follows the form *<source clip name>-<number>*, for example, if the source clip name is *PlayoffGame*, the subclip name is *PlayoffGame-1*.

3. To rename the subclip, click the subclip name control Subclip: **PlayoffGame** , and enter the new name in the Clip Name dialog, then click **OK**, or press **Enter**.

   Renaming the subclip creates a new seed name. For example, if you rename the subclip *PlayoffGame-1* to *Highlight*, subsequent subclips created are named *Highlight-1*, *Highlight-2*, and so on.

4. Enter the subclip marks as follows:

   a. Using the transport controls, position the clip to the desired frame for mark-in, then click the **In** button.

   b. Using the transport controls, position the clip to the desired frame for mark-out, then click the **Out** button.

      Alternatively: Select the mark-in or mark-out timecode entry controls and enter a specific timecode value.

      Alternatively: Select the **Length** timecode entry control and enter a clip length, then create either a mark-in or a mark-out point. If the source media has been erased, the subclip retains 1 second of media on each side of the mark-in and mark-out points. See "Moving clip mark-in/mark-out points" on page 54.

3. In Subclip view, click **Accept**.

   The subclip is saved and ejected, then Player returns to Subclip view with a new subclip name loaded.

   NOTE: If the **Accept** *button does not flash, but instead the clip is saved and a new subclip is loaded, the server is in Auto-subclip mode. See "About Auto Subclip mode" on page 60.*

   NOTE: Clicking the Source Clip button or the **Eject** *button prior to pressing the* **Accept** *button closes Subclip mode without creating a new clip. Both of these buttons are used to exit Subclip mode.*

About Auto Subclip mode

The Auto-Subclip feature changes the way that the subclip mode behaves. Auto Subclip mode eliminates the "Accept" step in the subclip procedure. In Auto-Subclip mode, you simply set mark-in, then set mark-out. On setting mark-out, the subclip is *automatically generated and ejected,* and a new subclip name is loaded in the Subclip display.

Auto Subclip mode is useful when you want to create subclips while a source clip is playing. You simply load a clip, press play, then create subclips by selecting In, Out, In, Out, etc.

To enable Auto Subclip mode:

• In the Player application Control view, click **Player | Auto Subclips**.

Creating subclips in Cue view

In Cue view, you can automatically create a subclip from the selected cue point. The selected cue point becomes the mark-in point, while the mark-out point is the same as the source clip. If more than one cue point is selected, a subclip is created using the

first and last cue points. This feature allows you to manage the media of interest as a separate clip rather than media between cue points in a clip. For example, once you've made a subclip, it can be added to a playlist.

By default, subclips generated from the cue list are given names of the format *<clip name>-<first cue name>*. For example, a subclip generated from a cue point named "cue_1" in a clip named "MyClip" is named "MyClip-cue_1". If a clip already exists with this name, you are prompted to enter a unique name.

To create a subclip from media between two selected cue points:

1. Select two cue points in the cue point list.

2. Click **Player | Create Clip**.

To create a subclip using a selected cue point as mark-in:

1. Select the cue point to use as the mark-in for the new clip.

2. Click **Player | Create Clip**.

The subclip is terminated by the source clip mark-out point.

To create a subclip for all cue points:

• Click **Player | Create All**.

In some cases, a progress dialog is displayed as the clips are generated.

Each subclip is terminated using the mark-out of the source clip.

Viewing clip properties

To view the properties of a clip loaded in Player:

• Click the **Properties** button.

  - or -

• Select **Player | Properties.**

Viewing clip options

Clip options allow you to choose which audio channels to monitor.

To view the options of a clip loaded in Player:

• **Select Player | Options.**

Chapter **6**

Working with playlists

Information in this chapter includes:

Introducing Playlist application

In addition to playing a single clip, the K2 Media Client plays channels can also play lists that contain clips and programs stored on the K2 system.

The following table summarizes and compares the basic features supported in playlist application.

Basic Feature	Description
Editing playlists	Events in a playlist can be rearranged or removed, and new events added between existing ones.
Editing events in the list	Events can be renamed and trimmed. Trimming an event moves the mark-in and mark-out points. This only affects the event, not the source clip.
Event transitions	Transitions between all events in a list is a cut, i.e. the last frame of an event is followed by the first frame of the next event.
Loop on a section	Sections are provided within the list to provide flexibility during playout. A section can be set up to loop indefinitely. The section can be taken out of the loop by manual intervention.
Loop on a list	Lists can be set up to loop indefinitely. The list can be taken out of the loop by manual intervention.
Pause at the end of events	Events can pause playout at their end. At event pauses, you can choose to show black, freeze on last frame, or freeze on next event.
Pause at the end of sections	Sections can pause playout at their end. At section pauses, you can choose to show black, freeze on last frame, or freeze on next event.
Saving a playlist as a program	Playlists can be saved as a program. This saves the media and transitions, but nothing that breaks the flow of playout, such as pauses. You can insert a program into a playlist, or play a program in the standard Player application.
GPI output triggers	The K2 Media Client provides 12 GPI output signals through a rear panel connector for controlling external equipment. You can configure events in a playlist to trigger GPI outputs. A GPI trigger does not disrupt playout of the play events. GPI triggers can be set to occur at the beginning or end of an event or section, or at these points with some offset.
GPI Input triggers	You can assign any of the 12 GPI inputs to control one or more play channels and the action you want the K2 Media Client channel(s) to take—play, VAR play, cue next event, or cue next section, etc. AppCenter includes more extensive GPI output trigger features.

Before using Playlist application

Read the following sections before using Playlist application.

- "Terms used in Playlist application" on page 79
- "Symbols used in Playlist application" on page 79
- "Working with programs" on page 80
- "Using mixed aspect ratios in a playlist" on page 80
- "Inserting a clip that is still recording" on page 81
- "Inserting a playlist in a playlist (workarounds)" on page 81

Terms used in Playlist application

The following terms are used in the Playlist application.

Term	Definition
Playlist	A list is a sequence of events.
Event	Events are the components that make up a list. Events are created by adding a clip or program to sections in a list.
Section	Playlists created in AppCenter contain at least one section. All events in a playlist are contained in sections. Sections have properties that include repeat and pause. A playlist can have up to 100 sections. Each section can contain up to 1000 events.
Source Clip	The clip inserted in a list to create a play event.
Program	Playlists can be saved as a program in the K2 Media Client. Programs created from a playlist include all the media and transitions in the playlist, but nothing that breaks the flow of playout, such as a pause at the end of an event. Programs are also created from the loop record mode.

Symbols used in Playlist application

The following table describes the symbols used in the Playlist List view to describe the properties of items in the list— play events, sections, and the list itself.

Symbol	Description
🔒	**Locked** The item is locked and cannot be edited.
🔴	**Pause** At the end of playout, this item will cause playout to pause.
🔁	**Loop** At the end of playout, the item will repeat.
⚡	**GPI Output Trigger** This event or section triggers one or more GPI outputs.

Working with programs
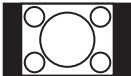
A *program* is a clip generated from a playlist using the **Save As Program** feature in the Playlist application. A program includes all the media in the playlist, but does not include any event that breaks the flow of playout such as a pauses between events. You can insert programs into other playlists as an event, or load and play them using the standard Player application. You can also send a program to a file or a video network stream. (For more information on which types of file types you can send a program to, see "Importing and exporting streaming media" on page 151.)
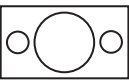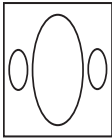
Using mixed aspect ratios in a playlist

The K2 Media Client can play clips with different aspect ratios in a single playlist. How the media is displayed is determined by the play channel widescreen setting and clip aspect ratio. The play channel determines the clip aspect ratio by examining the clip aspect ratio attribute set when the clip was recorded.

The SD K2 Media Client models support both 16:9 and 4:3 SD resolution formats on the same timeline. The HD/SD K2 Media Client models support playout of mixed format clips displays with default or selectable modes such as bars, crop, or stretch on both SD and HD outputs.

The following table describes how the K2 system displays mixed aspect ratios..

Event Aspect Ratio	Play Channel Widescreen Setting	
	Standard (4:3)	Widescreen (16:9)
Standard (4:3)	No conversion	Bar (Pillarbox)
		Half Bar (Half-Pillarbox)
		Crop (zoom)
		Stretch

Event Aspect Ratio	Play Channel Widescreen Setting	
Widescreen (16:9)	Bar (Letterbox)	No conversion
	Half Bar (Half-letterbox)	
	Crop	
	Stretch	

Using mixed video resolutions in a single playlist

Playlists can contain events with different video resolutions. When the list is played, the media is up-converted or down-converted as needed to match the play channel video output type selected.

NOTE: The transition between events with different resolutions takes approximately 1 second. During this time, play channel output is switched to black.

Inserting a clip that is still recording

Clips that are currently recording behave as other clips do in a list except for the following restriction:

• The event-out timecode is set to the last recorded frame at the time the clip is inserted in List view, or created in Event view. You can move the event-out timecode as needed while the clip is still recording or after record is stopped.

Inserting a playlist in a playlist (workarounds)

While K2 Media Client does not support a true "nested" playlist, you can retain some of the functionality of inserting a playlist in a playlist in the following ways.

• Save the list as a program, then insert it into another playlist as an event.

• Use multi-item select and copy/paste.

• Copy/paste events or sections within the same list or from other lists.

• Copy the list in the Clips pane, then load and edit the list.

Selecting Playlist application

Playlist application requires a single play channel. If a play channel is currently being used by another application, you can select the Playlist application. Selecting the Playlist application causes the current play channel application to exit when Playlist application is started.

To start Playlist application on a play channel, in the channel's monitor pane, select the application drop-down list and choose **Playlist**. The channel switches to Playlist application and becomes the selected channel.

Guide to using Playlist application: List view

The Playlist List view allows you to manage a list— insert, move, or modify events, and to control playout of the list. Clicking the **List** tab displays the List view. You can select the type of display for the asset list– text view, or thumbnail view. (See "Selecting Text or Thumbnail view" on page 88.) The following describes the basic controls in the List view.

List view in text display mode

1. Playlist Timecode
2. Section (A playlist has at least one section)
3. Countdown (Can display time to next event, section, or end of list)
4. View Tabs
5. Assignable Buttons (Default buttons are shown)
6. Time Cursor (Displays the current play position.)
7. Event List (Text View)
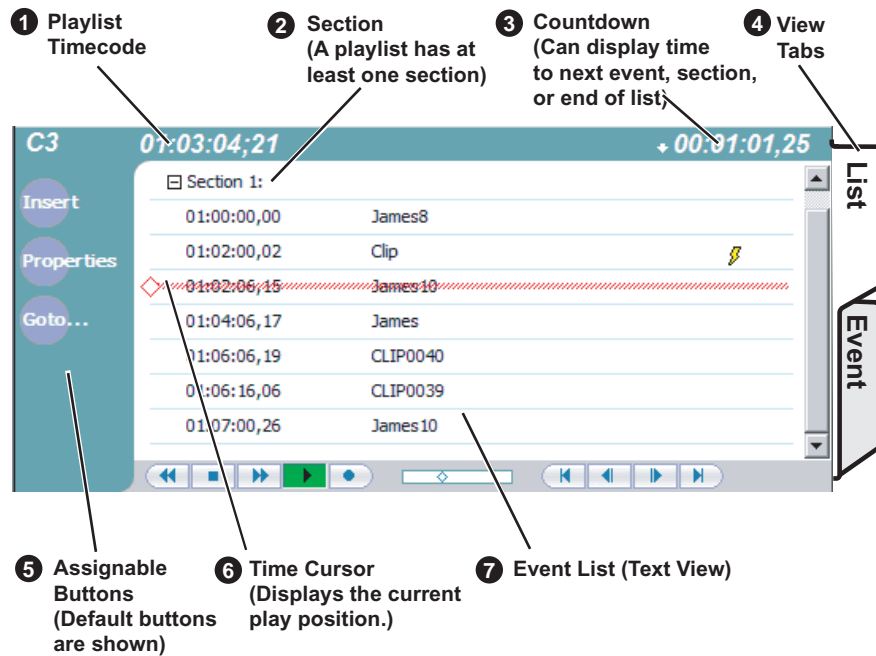
List view in image display mode
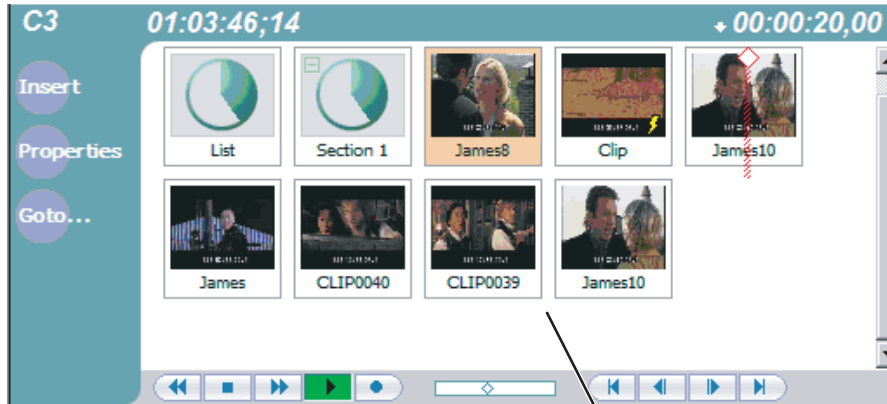
❼ **Event List (Image View)**
(Time Domes display list
and section play progress.)

	Control	Description and User Operation
❶	**List Timecode** `01:01:25,16`	Though each play event contains the timecode information from its source clip, the timecode for the list is generated internally. This timecode can be an offset from a specific timecode (the default is 01:00:00;00).See "Setting the playlist timecode" on page 106.
❷	**Section (Text View)** ▣ Section 1: **Section (Thumbnail View)**	A list has as least one section, but can have up to 100. All events belong to a section, and each section can have up to 1000 events. In Thumbnail View, the section is displayed as a Time Dome which shows the amount of the section that has played. An empty Time Dome indicates the section has not started to play. Sections can be expanded or collapsed to reveal or hide the events that belong to the section. Expanded sections are indicated by a '-' symbol.
❸	**Countdown Timecode** `00:00:03,12`	Displays the time to the next event, section or end of the list.
❹	**View tabs** List Event	These tabs toggle between List view and Events view.
❺	**Assignable Buttons**	Assignable buttons allow you to modify the buttons located in the Playlist toolbar to best suit your workflow. Holding down a button opens the button pop-up menu that lists the alternative button choices.

Control	Description and User Operation
❻ **Time Cursor**	The time cursor indicates the current play position. The time cursor is displayed over the event currently being played.
❼ **Event List**	The Event List contains play events. Play events are created from clips or programs that can be added to the list in two ways: drag and drop from the Clips pane or using the Insert button in List view, Event view, or in the Clips pane. By default, play events added to a list inherit the source clip's name, but you can rename events anytime. Play events and sections can be configured to trigger GPI outputs. GPI triggers can be set to occur when the event or section starts, ends, or at these points plus or minus some offset. A GPI trigger does not disrupt playout of the play events that follow it. See "Adding GPI output triggers to playlists" on page 103. You can view the Event List in either the text view or thumbnail view. Thumbnail view displays clip thumbnails along with Time Domes for the list play progress, and section play progress. To change the view, select Options in the Playlist menu.

Control	Description and User Operation
Playlist List view Menu	**Insert Event**– Opens the Insert Event dialog box, which allows you to insert all event types. See "Inserting media in a playlist" on page 90.
	Add Section– Adds a section to the end of the list. Once you add the section, you can move it. See "Managing sections in a list" on page 98.
	New List– Opens the New List dialog box where you can choose the current bin and specify the new list name before creating it. When a new list is created, the current list is ejected and the new list is created containing one section and no events. See "Creating a simple playlist" on page 90.
	Open List– Closes the current list and allows you to open an existing list. See "Playing a list" on page 92.
	Rename List– Rename the list currently loaded in Playlist application.
	Save As Program– Saves the current list as a program. The new program is listed in the Clips pane with other assets. Programs can be played using the Player application, or inserted in a list in Playlist application. See "Saving a list as a program" on page 108.
	Locate– Locates the list or source clip for an event, depending on the selection, in the Clips pane. See "Locating a playlist in the Clips pane" on page 107 or "Locating the event source clip" on page 97.
	Properties – Opens the properties dialog box for the selected item—list, section, or play event. Properties dialog box includes pages for setting up list timecode, adding metadata, and setting list attributes that will occur when playback reaches the end of the list. Options include repeat, or pause. See "Viewing playlist properties" on page 107. Section properties and event properties dialog boxes include options for setting the end behavior— repeat or pause, and GPI output properties. See "Viewing playlist properties" on page 107.
	Move Up– Moves the selected event up in the list. See "Editing and rearranging events in a playlist" on page 93.
	Move Down– Moves the selected event down in the list. See "Editing and rearranging events in a playlist" on page 93.
	Goto– Opens the Goto pop-up menu which allows you to jump to selection, next event, next section, or a timecode that you specify. See "Playing a list" on page 92.
	Options– Opens the Options dialog box which allows you to choose the list monitoring information displayed in the Playlist application and the monitor pane.
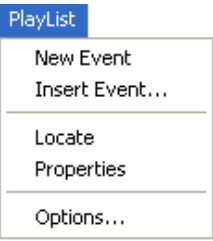
Guide to using Playlist application: Event view

The Playlist Event view allows you to create a new event before inserting it into the play list, or to edit an existing event's properties. Selecting the **Event** tab displays the Event view. Note that you cannot open Event view while the list is playing. The following describes the basic controls in the Event view.

① Create New Event
(Click to open the new event dialog, then select a clip to make an event.)

② Current Frame Timecode

③ Event Name & Section
(Click to rename)

④ Countdown Timecode

⑤ View Tabs

⑥ Insert or Accept*

⑦ Goto (Click to enter goto timecode)

⑧ Time Dome

⑨ Thumbnail (Click and hold to change event thumbnail or view event properties.)

⑩ Event-In/Event-Out (Sets the In or Out point to the current frame.)

*Note: Insert adds new event to the list. Accept propagates changes made to an existing event to the event in the list.

	Control	Description and User Operation
①	**New Event Button** New...	Clicking the **New Event** button opens the New Event window where you can select a clip to load into the Event window. You can also drag and drop clips onto the Event Name control in the Event view.
②	**Event Timecode** 01:01:25,16	Displays the event's timecode. This is the source clip's recorded timecode. It can be helpful when searching for a particular portion of the media to set event marks.
③	**Event Name Control** Event: Clip_7 Section: Section 1	Displays the event's name and section in the list. To rename the event, click the event name control, then enter a new name. If no event is selected when you switch to the Event view, the Event Name control displays *<No event loaded>*. You can then create a new event or return to the List view. The section name that the event belongs to is displayed directly below the event name. When viewing an event that is not in the list, "Section: <not in list>" is displayed beneath the event name.

	Control	Description and User Operation
❹	**Countdown Timecode** 01:04:59;29	Displays the time to end of event.
❺	**View tabs** List Event	These tabs toggle between List view and Events view.
❻	**Insert and Accept Buttons** Insert Accept	**Insert Button** – Displayed when editing a new event that is not yet in the list. Inserts the current event into the list after the currently selected event. **Accept Button** – Displayed when editing an event in a list. Propagates changes you made to the event properties to the event in the list, for example, event marks, thumbnail, or end properties.
❼	**Goto Button** Goto…	Opens the Goto dialog box which allows you to jump to a specific timecode in the event.
❽	**Time Dome** 00:00 03;23	Displays a graphical representation of the current position between the event's marks with an empty Time Dome representing the current position at event in, and a full dome representing the current position at event out. The time remaining from the current position is displayed beneath the Time Dome. When playing media that is currently being recorded, you'll see that the event mark-out is set to the timecode of the last frame of video when event was initially created even though the source clip is still recording.
❾	**Thumbnail**	By default, an event uses the same thumbnail as the source clip. In Text view, you can select the thumbnail image to change the event thumbnail image to the current frame. You can also select the thumbnail image to view the event properties.
❿	**Event In/Event Out** Event In: Event Out:	Used to change the in and out points of the event. These changes do not take effect until the event is inserted into the list using the Insert button, in the case of a new event, or the changes are accepted, using the Accept button in the case of an existing clip. Clicking Accept propagates event change to the event in the list. Changes to the event are lost if you eject without selecting insert or accept as required. Event In/Out changes do not affect the source clip's mark in and out values, but only the event's marks used by the Playlist.

Control	Description and User Operation
Playlist Events View Menu PlayList New Event Insert Event... Locate Properties Options...	**New Event**– Opens the New Event dialog box which allows you to navigate through the Clips pane to select the source material for the new event. **Insert Event**– Inserts the loaded event in the list. The event is inserted after the last selected event. This menu item only appears when the event is not in the play list, for instance after selecting New Event. **Locate**– Locates the event's source clip in the Clips pane. See "Locating the event source clip" on page 97. **Properties**– Opens the Event Properties dialog box which includes pages for setting up list timecode, adding metadata, and setting attributes that will occur during playback. **Options**– Opens the Options dialog box.

Selecting Text or Thumbnail view

The event list in the List view has two viewing modes: Thumbnail view and Text view. Thumbnail view displays events as thumbnails along with the section and the list time domes. The text view lists events descriptions in text format. You can select which event attributes are displayed in text view.

Use the following steps to select the view mode best for you:

1. In List view, select **Playlist | Options**.

   The Options dialog box appears with the View settings tab selected.
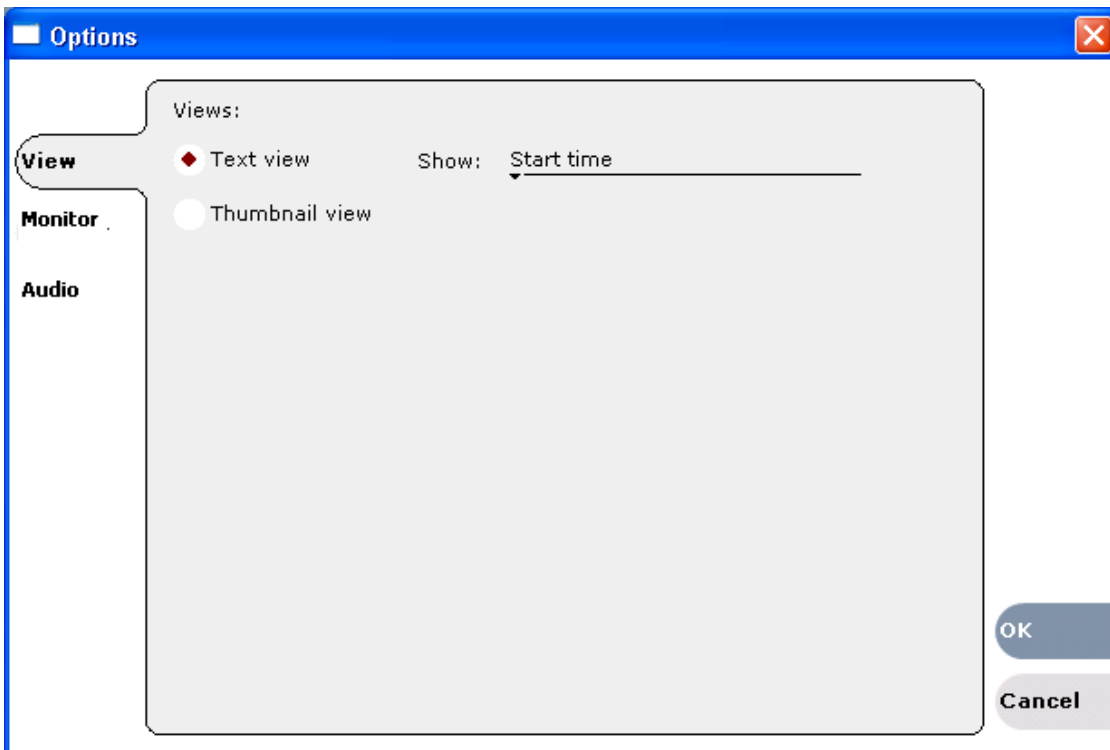
2. Select a view mode:

Text View - displays events in text form including an event icon, name and an additional attribute selectable using the **Show** drop-down list. Show attributes include the following: **Duration**, **Name only**, **Start time**, or **Start time and duration**.

Thumbnail View - displays events in thumbnail form along with the event name.

3. Click **OK** to save settings and close the Options dialog.

Selecting monitor information

You can select the monitoring information displayed for the list. The selections you make determine the list attributes that are displayed in the following locations:

• **List information displayed in the monitor pane** - List information is displayed under the thumbnail in the monitor pane. You can select the list attributes displayed in the monitor pane.

• **Countdown timecode displayed in the Playlist toolbar** - The countdown timer can count down to the next section, the next event, or the end of list.

To select the monitor mode:

1. In List view, select **Playlist | Options**.

The Options dialog box appears.

2. Click the **Monitor** tab.

The Monitor settings page appears.
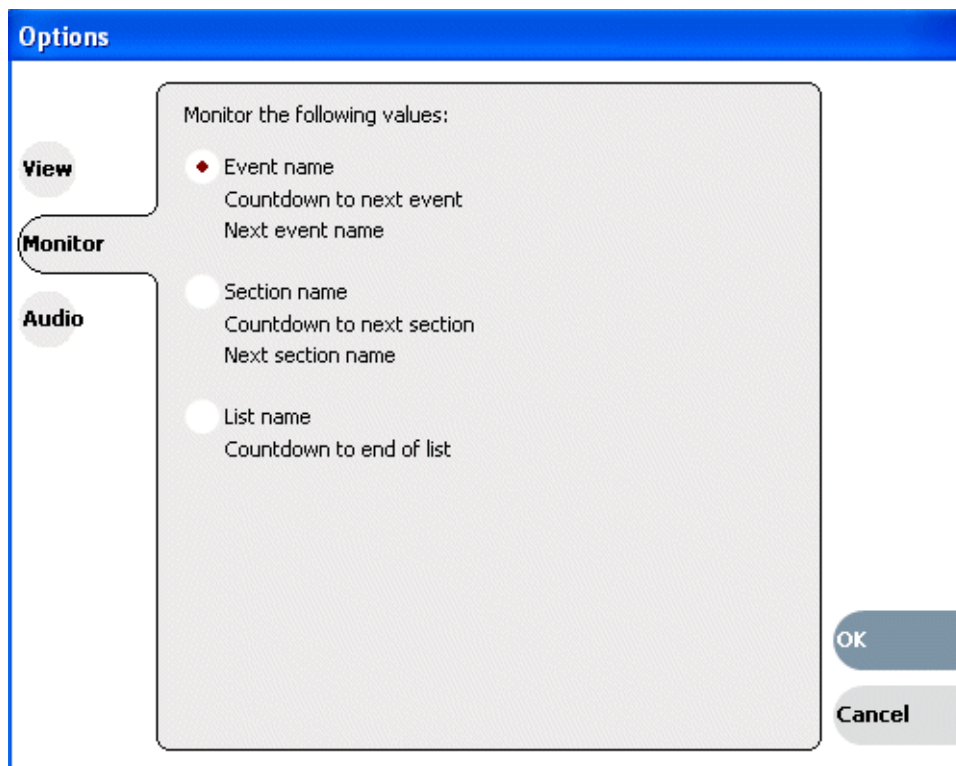
3. Select one of the monitor information options.

4. Click **OK** to save settings and close the Options dialog.

Creating a simple playlist

Lists are created using the List view. When Playlist application is started, an empty list is displayed. If the last list loaded has been deleted, then an empty list containing one section and no events is created. New lists are named "List_n", where n is the first number that results in a unique file name. There is no "eject" operation in Playlist application, as there is always a list loaded.

To create a new list:

1. Select **Playlist | New List**.

   The New List dialog box is displayed.

2. Select the bin where you want to store the list, edit the default name for the new list, then click **OK**.

The current list closes and the new list is created containing one section and no events.

Inserting media in a playlist

A new list contains one section and no events. When you start inserting play events, they will be played in the order you insert them. You can move events in the list up or down, or insert new events between existing ones by selecting the insertion point.

Selecting the insertion point in a playlist

- When using the **Insert** button or menu item, the insertion point is after the currently selected event.

- When using the drag and drop method, you will see a drop cursor as you drag the event over the list. The drop cursor indicates where the new event will be inserted.

NOTE: The time cursor only indicates the current play position, and cannot be selected and moved. Selecting and dragging may inadvertently select and move the event.

Inserting events in List view

To insert a play event in List view:

1. Select the **List** tab.

2. Do one of the following:

   - Drag and drop assets from the Clips pane using the drop cursor to locate the insertion point.

   - Drag and drop from the monitor pane. Select the thumbnail or video image, then drag to List view. Use the drop cursor to locate the insertion point.

   - Double-click an asset in the Clips pane. The asset is inserted in the list after the insertion point.

   - Select an event in the list as the insert point, then select one or more assets in the

Clips pane. Click **Insert** in the Clips pane to insert the event after the insert point.

- Select an event in the list as the insert point, then click **Insert** in List view, and select one or more assets in the Insert Event dialog box. Click **OK** to insert the events.

Inserting play events in Event view

To insert a play event in Event view:

1. Click the **Event** tab.

2. Do one of the following:

- Drag and drop an asset from the Clips pane, then click the Event view **Insert** button to add it to the list.

- Select an asset in the Clips pane and click the **New Event** button. After trimming the event as required, click the Event view **Insert** button to insert the event in the list.

- Click the **New** button to open the New Event dialog box. Select an asset in the New Event dialog box, then click **Load**. Trim the clip if necessary, then click **Insert**.

The event is displayed in the Event view and added to the list.

Using copy and paste to insert play events

Any asset that can be selected can be placed on the clipboard and pasted into another application that accepts that type of asset. For example, you can copy a play event from the Playlist application on one play channel and paste it into the Playlist application on another play channel. You can also copy a clip from the Clips pane and paste it into the Playlist application.

The Cut, Copy, and Paste operations are performed by using the AppCenter's Edit menu, by using the standard keyboard shortcuts (CTRL+C, CTRL+X, CTRL+V), or by using the right-click menus of cut, copy and paste.

To insert an asset from the Clips pane using the clipboard:

1. In the Clips pane, select one or more assets.

2. Copy the assets to the clip board.

3. Select an insertion point in the list.

4. Paste the asset from the clipboard into the list.

To use the clipboard to move or copy events already in a play list:

1. Select the event(s) you wish to move or duplicate.

2. Copy or Cut the selection to the clipboard.

3. Select the new insertion point in the list.

4. Paste the event(s) from the clipboard into the list.

Playing a list

Once the list is complete, you can open it and play it, as described in the following sections.

Opening a playlist

To open a list, do the following:

1. Select **Playlist | Open List**.

   The Open List dialog box appears.

2. Locate and select the list you want to open, then click **Open**.

   Before the list is opened, the currently loaded list is closed. In Playlist application there is no eject button, so you can open an existing list or create a new list without manually closing the currently loaded list.

Playing a playlist

You can perform the following operations to play a playlist using the front panel transport controls and AppCenter user interface. You can also use the keyboard shortcuts for all transport controls.

To...	Do this...
Begin playing at the top of the list	Open the list, then press the Play button on the onscreen transport controls.
Continue playout after a pause in the list	Press the **Play** button on the onscreen transport controls.
Play the next event	Select **Goto**, and then choose **Next Event** in the Goto pop-up menu.
Play the next section	Select **Goto**, and then choose **Next Section** in the Goto pop-up menu.
Play an event or section	First, select the event or section, then click **Goto**, and choose **Selection** in the Goto pop-up menu. Then press the **Play** button on the onscreen transport controls.
Avoid delays when jumping to a new event or section	First select the new event or section, then wait until the diamond or standby icon is filled in before jumping to the new event or section.

Editing and rearranging events in a playlist

The following topics explain how to work with events in a playlist:

- "About editing events while the list is playing" on page 94
- "Editing event marks" on page 94
- "Clearing event marks" on page 95
- "Moving events" on page 96
- "Removing events" on page 96
- "Copying events" on page 96
- "Renaming events" on page 96
- " Adjusting event audio levels" on page 96
- "Changing event thumbnail image" on page 97

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About editing events while the list is playing

You cannot edit events while the list is playing. You must stop play back, then open Event view to edit an event.

Editing event marks

Every event has a event-in point and an event-out point which refer to the first and last frames displayed when the event plays. When first created, event marks are set to the mark-in and mark-out of the source clip. You can edit the event marks in order to reference only the desired media. Event marks can be cleared to reset them to the marks specified in the source clip. (See "Clearing event marks" on page 95.)

The following restrictions apply when editing event marks:

- Event-in must precede the Event-out
- Event marks cannot be set outside the recorded media of the source clip.

NOTE: If more media exists outside the current mark, a <<< or >>> symbol is displayed beneath the current event mark timecode.

To move event marks, view the event in Event view, then use one of the following methods to move clip marks.

-
-
-

Using the Event In/Out buttons

To move clip marks:

1. Use the transport controls to locate the desired frame.

   NOTE: If the List view is playing a list, you cannot monitor video and audio of an event when you switch to the Event view. The channel resources— video and audio outputs, are being used by the List view. However, you can still edit an event in Event view by using the event in/out timecode controls to enter timecodes values.

2. In Event view, click **Event In** Event In: to set mark-in point, or **Event Out** Event Out: to set mark-out point.

3. Do one of the following:

   - For an existing event, click **Accept** to propagate the change to the event in the list.
   - For a new event, click **Insert** to add the event to the list.

Using the timecode entry controls

1. In Event view, select the Event-In or Event-Out timecode control 00:01:11;09 to

open the timecode entry dialog box.
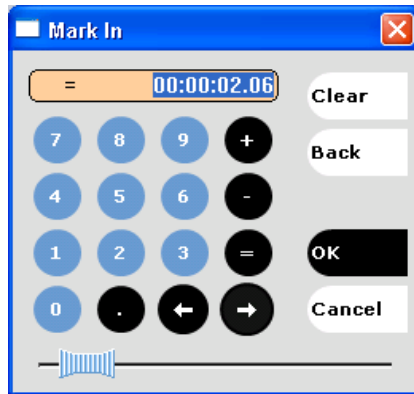
2. Enter a timecode value then click **OK** or press **Enter**.

   Alternatively: Use the current position scrub bar —▥▥▥— in the timecode entry dialog box to locate the desired frame, then click **OK**.

3. Do one of the following:

   • For an existing event, click **Accept** to propagate the change to the event in the list.

   • For a new event, click **Insert** to add the event to the list.

Using the event length control

Entering a new event length moves the Event-out point.

1. Select the **Length** timecode entry control.

2. Enter a new event length and click **OK** to close the Length dialog box.

   The event length changes by moving the event-out point.

3. Do one of the following:

   • For an existing event, click **Accept** to propagate the change to the event in the list.

   • For a new event, click **Insert** to add the event to the list.

Clearing event marks

Clearing an event mark resets the mark to the marks used in the source clip. Event-in is set to the mark-in point of the source clip, and event-out is set to the mark-out point of the source clip.

To clear an event mark, do one of the following:

• With the event loaded in Event view, click and hold the **Event In** or **Event Out** button, then choose **Clear Mark** in the pop-up menu.

• With the event loaded in Event view, select the Event-In or Event-Out timecode control and click **Clear**, then **OK** to clear the mark.

Moving events

To the change the order of events in a list, perform one of the following:

• In List view, drag and drop the event into another location in the list.

• Select an event in List view, then choose **Move Up** or **Move Down** buttons on the **Playlist** menu. The event moves up or down one position in the list.

• Use the **Edit** menu to **Copy**, **Cut**, or **Paste** the event. When you paste the event, it is inserted after the currently selected event. *NOTE: You can paste events that you copied from a list running on another play channel.*

Removing events

To remove an event, perform one of the following:

• Select the event in List view, then press the Delete key on your keyboard.

• Select the event in List view, right-click, then select **Remove**.

• Use the **Edit** menu to **Cut** the event.

• Right-click on the event and select **Cut Event**.

Copying events

To copy an event, perform one of the following:

• Use the **Edit** menu to **Copy** the event.

• Right-click on the event and select **Copy Event**.

Renaming events

To rename an event, perform one of the following:

• Select the event in List view, then select **Playlist | Properties**. Click on the name of the event in the Properties dialog box and use the on-screen keyboard to change the name; click **OK**.

• Select the event in List view, then switch to the Event view. Select the Event name control Event: Clip_7 , enter a new name, and click **OK**.

Adjusting event audio levels

The audio level for each event in the list is adjusted independently.

NOTE: Changing event audio levels does not affect the source clip. Saved audio levels are stored and used every time the list is loaded and played. Unsaved changes are lost when another list is loaded.

To adjust the event audio level:

1. With the event loaded in the Event view, click the Meter bar button ◀) .

2. Adjust the audio level using the graphical faders or click **Unity** to return audio to the last saved level.
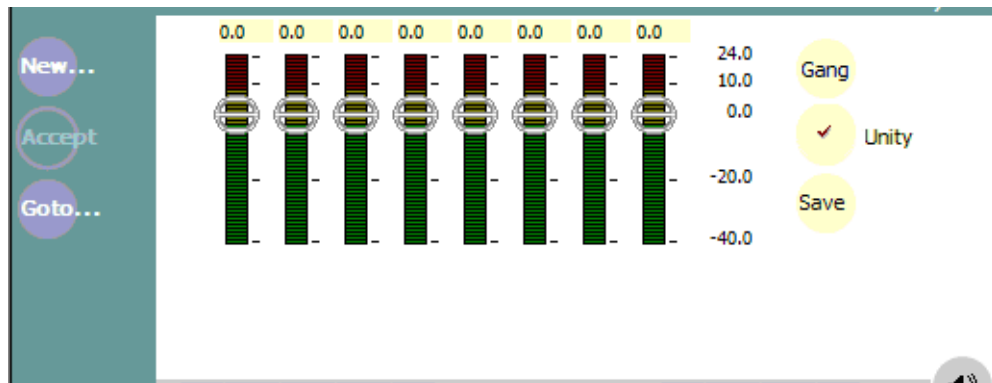
3. Click **Save** to save changes to the event audio level. Saved audio levels are stored and used every time the list is loaded and played. Unsaved changes are lost when another list is loaded.

4. Click the Meter bar button again to return to Event view.

Changing event thumbnail image

By default, an event's thumbnail is set to the thumbnail of its source clip.

To change an event's thumbnail:

1. Select the event in List view.

2. Select the **Event** tab to change to Event view.

3. Monitor video output and use the front panel or onscreen transport controls to position the clip to the desired video frame.

4. Click the thumbnail in the Event pane, then click **Yes** in the message asking if you want to change the thumbnail image.

   The event will now be represented by the new thumbnail. If the event is the first play event in the list, then the list thumbnail is updated to refer to the new event thumbnail.

   NOTE: If you modify the event marks so that the thumbnail is outside of the event's media, the thumbnail is automatically changed to correspond to the event's mark in position.

Locating the event source clip

The locate menu item is used to locate and select the source clip in the Clips pane that is used to generate an event.

To locate the source clip:

• Select the event in List view, then select **Playlist | Locate**.

  The source clip is selected in the Clips pane.

Viewing event properties

1. Select the event in the List view.

2. Open the properties dialog box by doing one of the following:

- Select **Playlist | Properties**.

- Click the **Properties** button.

- Right-click the event and select **Properties**.

Related topics

- "To pause at the end of an event" on page 101

Managing sections in a list

A list has as least one section, and all events belong to a section. Sections management tasks include the following:

- "Adding and removing sections"

- "Moving and copying sections"

- "Renaming sections"

Adding and removing sections

A playlist has as least one section, but can have up to 100 sections. All events belong to a section, and each section can have up to 1000 events.

To add a section:

1. In List view, select **Playlist | Add Section.** The new section is inserted at the end of the list.

2. Use the **Edit** menu to **Cut**, **Copy**, or **Paste** a section. When you paste the section, it is inserted after the currently selected section. *NOTE: You can paste a section that you copied from a list running on another play channel.*

3. Right-click on the section and select **Cut**, **Copy**, or **Paste**.

To remove a section, perform one of the following:

- Select the section in the list, right-click and select **Remove**, or

- Use the **Edit** menu to **Cut** a section, or

- Select the section in List view, then click the **Remove** button. This button only appears in full screen viewing mode (unless you have customized your user interface to include it as one of the assignable buttons).

Moving and copying sections

To the change the order of sections in a list, perform one of the following:

- Drag and drop the section into another location in the list Or,

- Select an section in List view, then select **Playlist | Move Up** or **Move Down**. (The section moves up or down one position in the list.) Or,

- Use the **Edit** menu in the AppCenter toolbar or standard keyboard shortcuts to **Cut**, **Copy**, or **Paste** the section. When you paste the section, it is inserted after the currently selected section. *NOTE: You can paste sections that you copied from a list running on another play channel.* Or,

• Right-click on the section and select **Cut**, **Copy,** or **Paste**.

Renaming sections

To rename a section:

1. Select the section in the List view.

2. Open the properties dialog box by doing one of the following:

   • Select **Playlist | Properties**. Or

   • Click the **Properties** button. Or

   • Right-click on the section and select **Properties**.
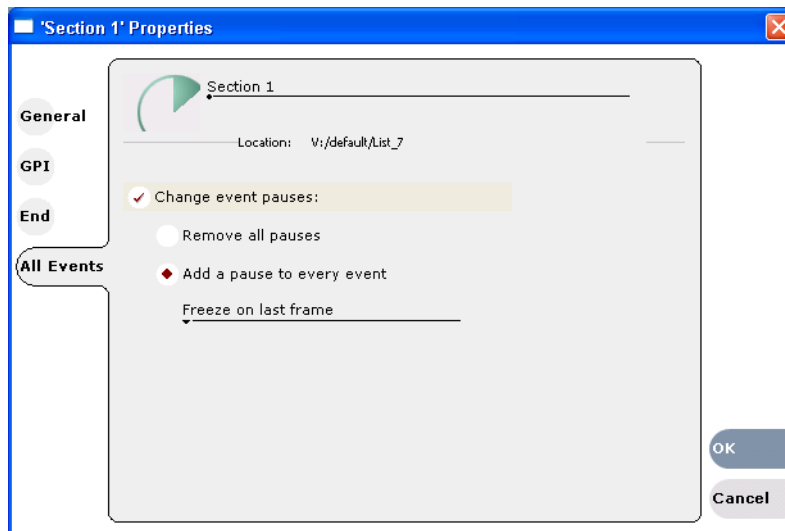
3. Select the section name, then enter a new name.

4. Click **OK**.

Adding play effects

These settings determine what will happen at the end of the list, section, or event when the list is played.

Topics in this section include:

To repeat at the end of a playlist

You can loop on a list until you manually stop playing.

1. Open the list properties dialog box by doing one of the following:

   • Select the list icon in the event list, then click the **Properties** button.

   • Right-click on a list and select **Properties**.

2. Click **End**, then choose the **Repeat** option.
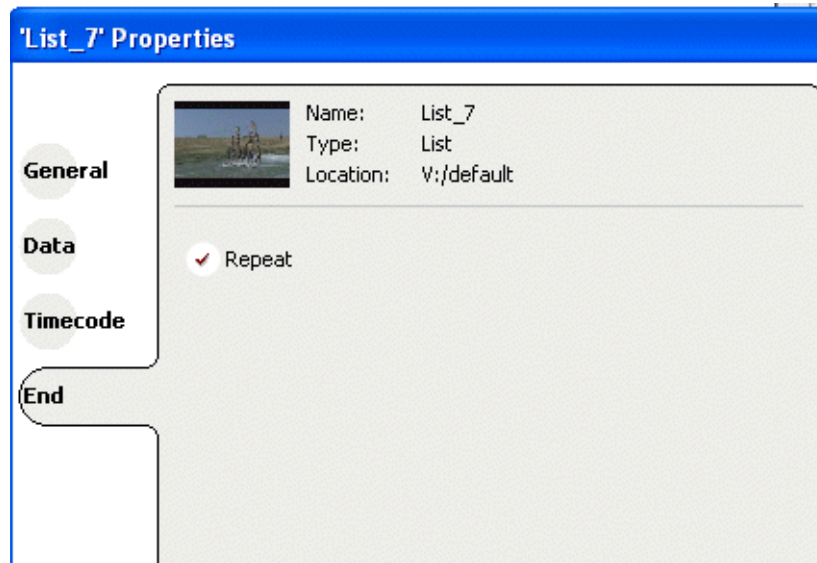
3. Click **OK** to close.

To repeat or pause at the end of a section

To repeat or pause at the end of a section:

1. Select the section in the List view.

2. Open the properties dialog box by doing one of the following:

   • Select the section icon in the event list, then click the **Properties** button.

   • Right-click on a section and select **Properties**.

3. Click **End**.

4. Select the **Repeat** or **Pause at end** check box. If you select **Pause at end**, use the drop-down list to choose whether to **Freeze on last frame, Freeze on next event,** or **Show black**.
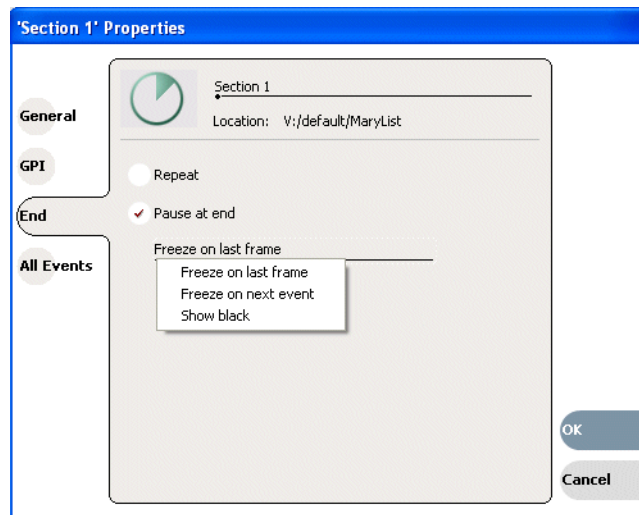
5. Click **OK**.

   Based on your selection, the section repeats when it comes to the end or each event's properties are modified to include the specified pause type. During playback, each event will remain paused at its end until you intervene. The pause symbol ⬤ appears in the corner of the event thumbnail in List view.

To pause at the end of an event

1. Select the event in List view.

2. Open the properties dialog box by doing one of the following:

   • Select the list icon in the event list, then click the **Properties** button.

   • Right-click on a list and select **Properties**.

3. Click **End**.
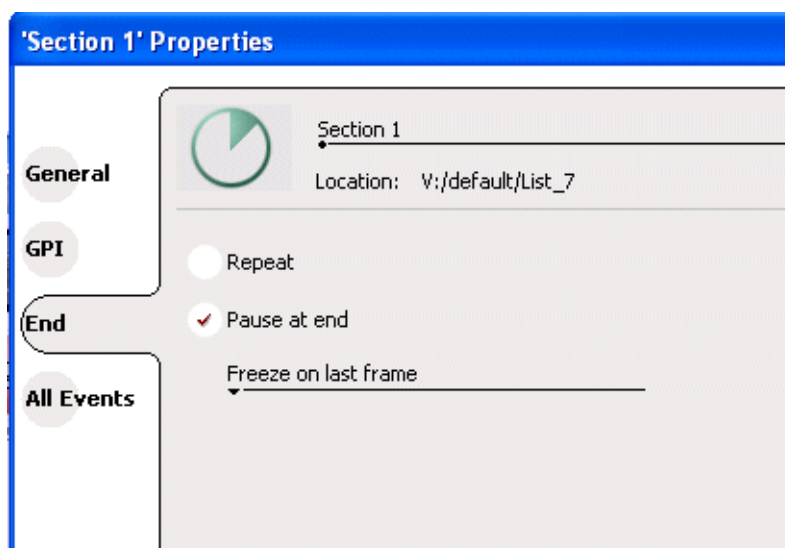
4. In the End page, select the **Pause at end** option.

5. Use the drop down list to choose whether to **Freeze on last frame, Freeze on next event,** or **Show black**.

6. Click **OK**.

   The pause symbol ⬤ appears in the corner of the event thumbnail in List view.

Related topics

- "To add pause to all events in a section" on page 102
- "To remove pause from all events in a section" on page 103

To add pause to all events in a section

To force a pause at the end of all section events:

1. Select the section in the List view.

2. Open the properties dialog box by doing one of the following:

   - Click the **Properties** button.
   - Right-click on a section and select **Properties**.

3. Click **All Events**.

4. Select the **Change event pauses** check box, then choose the **Add a pause to every event** option.
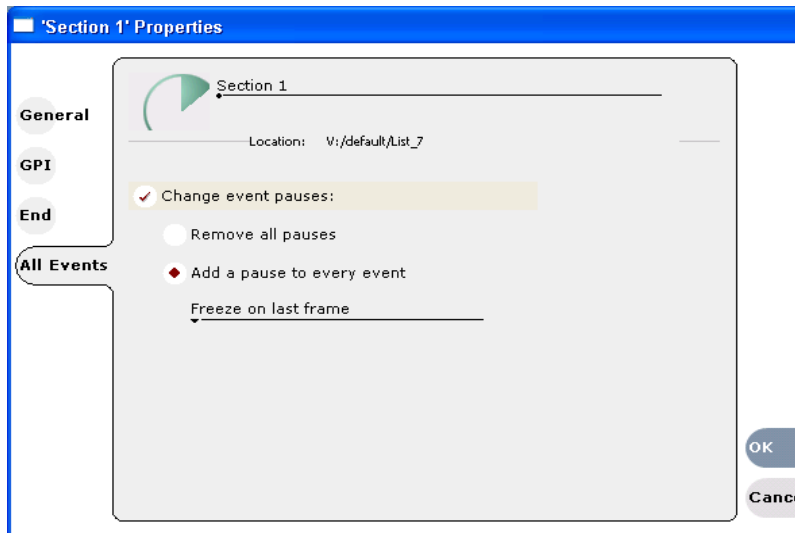
5. Use the drop-down list to choose whether to **Freeze on last frame, Freeze on next event,** or **Show black**.

6. Click **OK**.

   Each event's properties are modified to include the specified pause type. During playback, each event will remain paused at its end until you intervene. The pause symbol ⬤ appears in the corner of the event thumbnail in List view.

To remove pause from all events in a section

To remove pauses at the end of all section events:

1. Select the section in the List view.

2. Open the properties dialog box by doing one of the following:

   • Click the **Properties** button.

   • Right-click on a section and select **Properties**.

3. Click **All Events**.

4. Select the **Change event pauses** check box, then choose the **Remove all pauses** option.

5. Click **OK**.

   Pauses are removed from all events in the section. The section now plays without pausing between any events.

Adding GPI output triggers to playlists

You can assign GPI output triggers to events and sections in a playlist. The GPI outputs can be used to trigger external equipment when the list plays. Before you can use GPI output triggers in a list, you must use Configuration Manager to assign GPI outputs to a channel that is running the Player application. If you want to play a list that was created on another play channel, you must ensure that GPI triggers assigned to all applicable play channels use the same names, otherwise the GPI triggers will not occur. Using identical GPI naming also allows copying and pasting sections and events between lists to be played on different channels.

To trigger GPI outputs:

1. Use Configuration Manager to assign GPI outputs to the current Play channel.

   • Select **System | Configuration**. Make the changes to the GPI settings.

2. Select an event or section in the playlist, then open the properties dialog box by doing one of the following:

   • Click the **Properties** button.

   • Right-click on an event or section and select **Properties**.
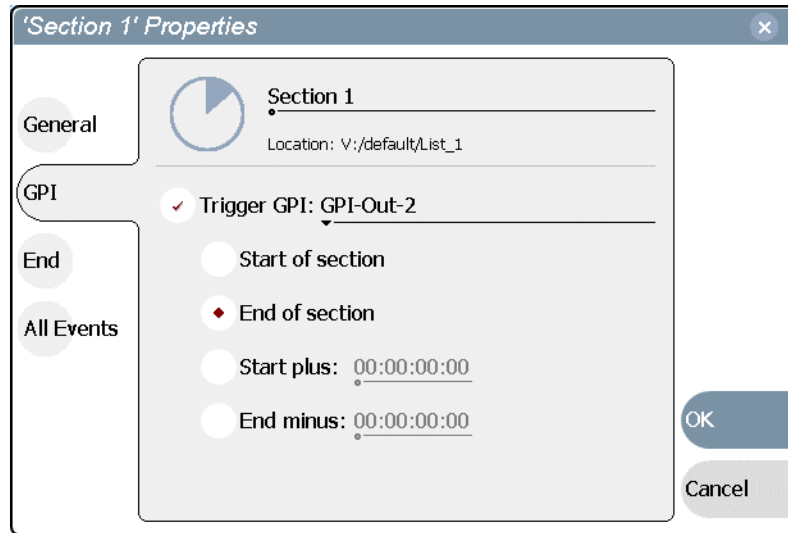
3. Select Trigger GPI, then use the drop-down list to select a GPI output. If no GPI outputs are listed, use Configuration Manager to assign GPI outputs to the current channel, then return to this step.

4. Select the trigger action for the GPI output:

Action	Trigger point
Start of event or section	First frame of event or section
End of event or section	Last frame of event or section
Start plus	Start of event or section plus the time you enter. Offset should not exceed the event or section total length.[a]
End minus	End of event or section minus the time you enter. Offset should not exceed the event or section total length.[a.]

[a.] If the offset time entered exceeds the event or section length, a warning message is displayed.

5. Click **OK** to save settings.

Managing playlists

Managing lists includes the following tasks:

- "Locating a playlist in the Clips pane" on page 107
- "Viewing playlist properties" on page 107

Saving a copy of a playlist

When you are creating a new playlist, you might find it easier to use an existing, similar playlist as your starting point, rather than creating a list from scratch. To do this you must first save a copy of the playlist with a new name. Then you can alter it without changing the original playlist.

To save a copy of a playlist:

1. In the Clips pane, select the playlist.

2. Copy the playlist onto the clipboard, using the **Edit** menu or standard keyboard shortcuts.

3. Paste the playlist into the Clips pane. If you paste the list into the same bin that you copied it from, a dialog box appears giving you the choice to Abort, Ignore, or Retry (saving as a different name).

4. Load the copied playlist into the Playlist application, and alter it to create your new playlist.

Renaming a playlist

You can rename a playlist using the Playlist menu.

1. Select the playlist in the Clips pane.

2. In the Playlist file menu, select **Playlist | Rename** List.

3. Use the on-screen keyboard to enter and new name and click **OK**.

The renamed list appears in the Clips pane.

Changing the playlist thumbnail image

The list thumbnail image graphically identifies the list when it appears in the Clips pane, or when the List view is set to the thumbnail view option. By default, the list thumbnail is always set to the first play event's thumbnail.

To change the list thumbnail:

1. In the List view, select the first play event in the list.

2. Click the **Event** tab to go to Event view.

3. Use the onscreen transport controls to locate the video frame to be used for the new thumbnail.

4. Click the Event view thumbnail image, then click **Yes** to set this event's thumbnail to the current position.

The first play event and the list now have the same thumbnail.

Locking a playlist

You can lock a list to prevent changes from being made.

1. Make sure that the list to be locked is selected in the list pane.

2. Open the list properties dialog box, doing one of the following:

   • Select the list icon in the event list, then click the **Properties** button.

   • Right-click on the list and select **Properties**.

3. Click **General**, then choose the **Locked** option.
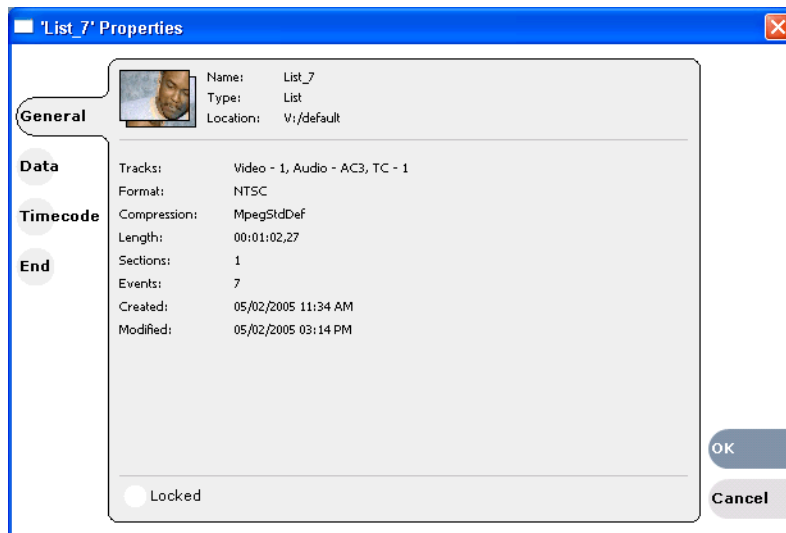
4. Click **OK** to close. The lock symbol 🔒 appears List view.

Setting the playlist timecode

The playlist timecode is displayed in the List view toolbar. This selection is also used to generate LTC timecode for the play channel. You cannot stripe the playlist timecode; however, you can stripe the timecode of the loaded clip. See "Striping timecode (replacing the timecode track)" on page 73.

To select the playlist timecode:

1. Open playlist properties dialog by performing one of the following:

   • In List view, click the **Properties** button.

   • Right-click on a list and select **Properties**.

   The List Properties dialog box is displayed.

2. Click **Timecode** in the properties dialog box.
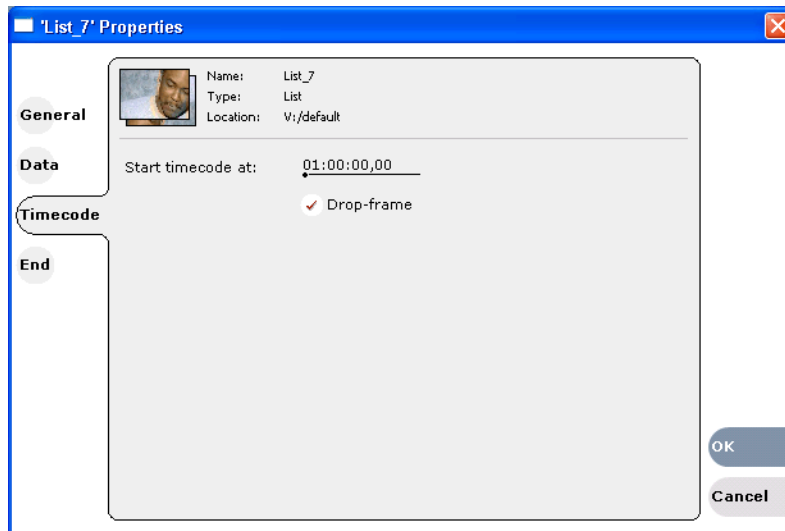
3. Select **Drop Frame**.

   The drop frame option is available when system timing is set to 525 line standard. Drop frame allows the playlist timecode to indicate the actual running time of the list.

4. Specify a start time, then click **OK**.

   The start timecode is displayed in the List view toolbar.

Locating a playlist in the Clips pane

• In List view, select **Playlist | Locate**.

   The bin containing the list is shown in the Clips pane.

Viewing playlist properties

In List view, select the playlist, then open the properties dialog box by doing one of the following:

• Select **Playlist | Properties**.

• Click the **Properties** button.

• Right-click on a playlist and select **Properties**.
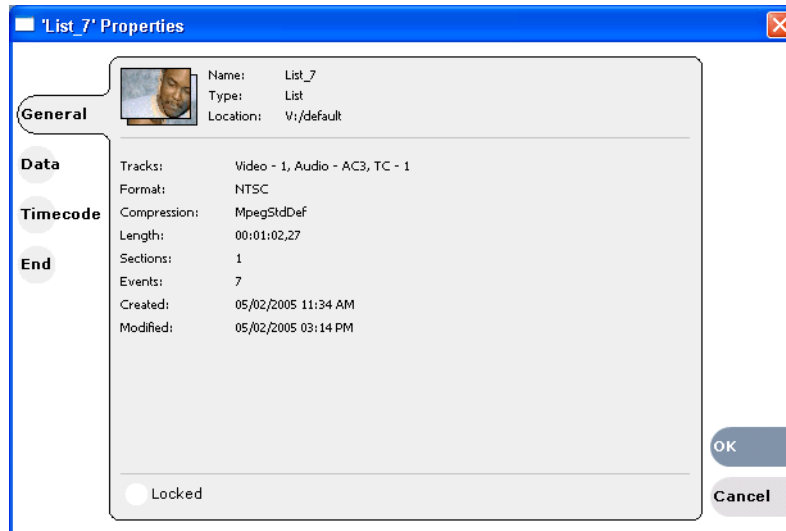
Refer to the following for more information on these properties pages:

• Timecode Page – see "Setting the playlist timecode" on page 106

• End – see "Locking a playlist" on page 105

Saving a list as a program

Playlists can be saved as a program so that they can be managed as a single clip. This saves the events in the list, but nothing that breaks the flow of playout such as pauses between events or sections. Saving a list does not consume media storage space since the program merely references the source clip media that is already stored in the media file system. If the source clips are deleted, the media referenced by the program is preserved.

You can insert programs into other playlists, or load and play them using the standard Player application. In Player application, you can edit the program mark-in and mark-out points providing the source clips referenced by the program have not been deleted. If that is the case, 1 second of media is preserved before and after the program mark-in and mark-out allowing some trimming.

1. Load the playlist in the Playlist application.

2. In List view, select **Playlist | Save As Program**.
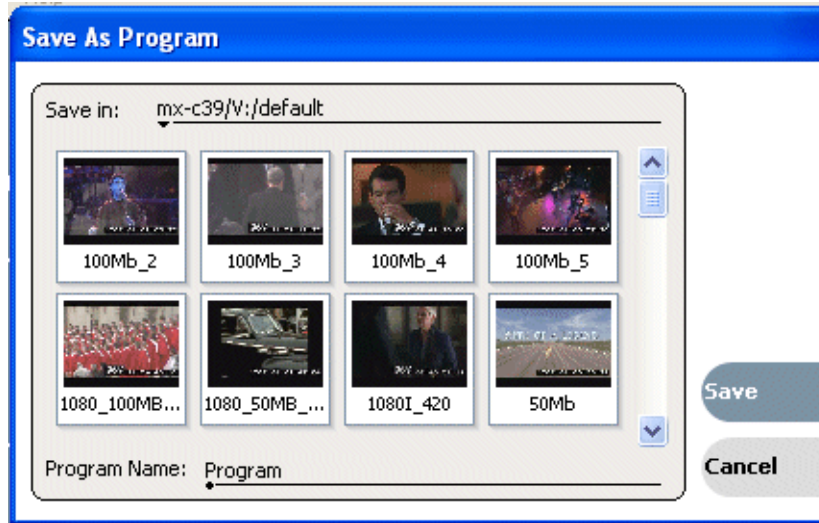
3. Use the **Save In** control to change the current bin if required.

4. Select the **Program Name** text entry control to change the program name, then click **OK**.

The list is saved as a program in the current bin.

Chapter **7**

Managing clip media

The AppCenter Clips pane is used to manage the assets stored on the K2 Media Client. Almost all the media management tasks you'll perform fall in the following topics.

- *"Guide to using the Clips pane"*
- *"Modifying the asset list view"*
- *"Working with bins"*
- *"Working with assets"*
- *"Working with the Recycle Bin"*
- *"Locating assets"*
- *"Working with asset metadata"*
- *"Viewing asset properties"*
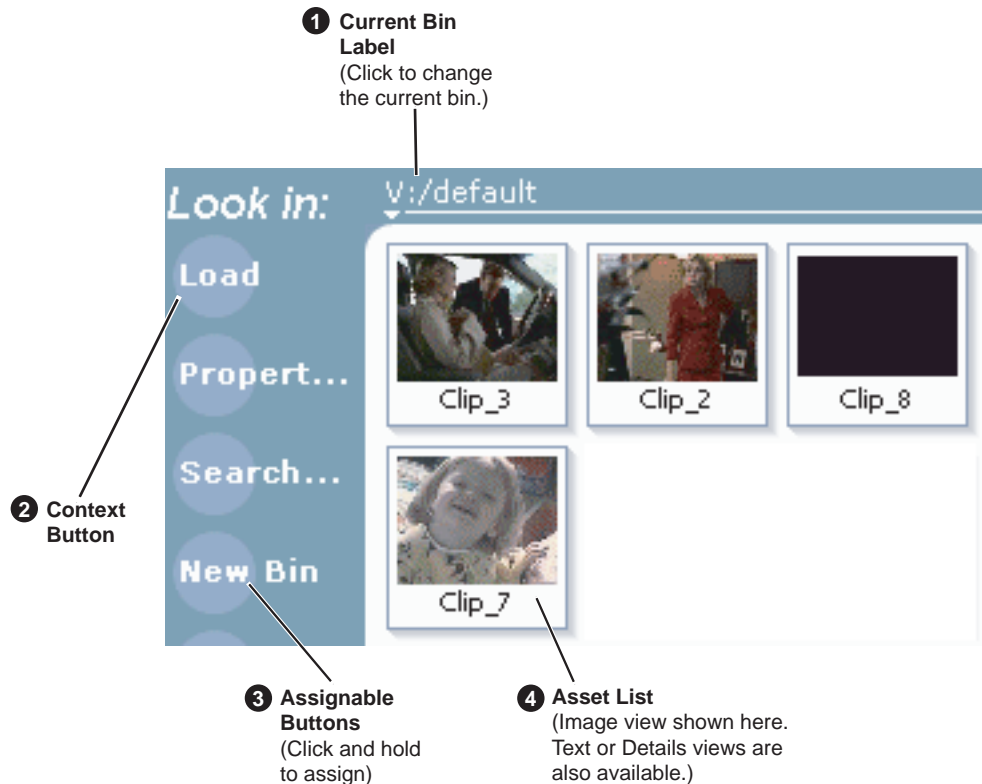
Guide to using the Clips pane

The Clips pane in the K2 Media Client user interface provides tools for managing assets stored on the media drives. Assets include clips, and playlists, and programs. In addition to the typical file management tasks such as browse, copy, move, delete, and managing the directory structure, you'll also use the Clips pane to transfer files to other devices, and to import or export assets using standard file formats.
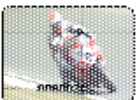
When using a K2 Media Client remotely from a Control Point PC, you can have channel suites with channels from K2 Media Clients that access internal storage or shared K2 storage systems. The storage displayed is the storage accessed by the active channel, that is, the channel currently selected.

Viewing the Clips pane

The Clips pane is always displayed in AppCenter. The size of the Clips pane changes when you resize the monitor pane or the channel pane. At its minimum size the Clips pane displays a single column of clip thumbnails.

❶ Current Bin Label (Click to change the current bin.)

❷ Context Button

❸ Assignable Buttons (Click and hold to assign)

❹ Asset List (Image view shown here. Text or Details views are also available.)

	Control	Description and User Operation
❶	**Current Bin Label**	Displays the name and location of the current bin, or the summary of the search or link operation. At first time start-up, the current bin is *V:/default*. The bin named 'default' is on the internal disk volume. Click the current bin label to change the current bin and organize bins. See "About the Current Bin drop-down list" on page 115.

	Control	Description and User Operation
❷	**Context Button**	The operation and label of the context button changes with the application of the selected channel. **Load** – Displayed when the selected channel is in Player application or Recorder mode. Loads the asset selected in the asset list. **New Event**– Displayed when the selected channel is in Playlist application Event View. Creates an unattached event in the playlist that can be previewed and then inserted. **Insert** – Displayed when the selected channel is in Playlist application List View. Inserts selected assets into the playlist. *Note: Double-clicking the asset in the asset list performs the same function as clicking the context button.*
❸	**Assignable Buttons**	Assignable buttons allow you to modify the button assignments to best suit your workflow. Hold down a button to open the button pop-up menu that lists the alternative button choices. **Properties**– Opens the Properties dialog for the selected asset. See "Viewing clip properties" on page 139. **Search**– Opens the search dialog box. See "Locating assets" on page 128. **New Bin**– Creates a new bin. To create a new bin in the current disk volume, click New Bin, then enter the new bin name using onscreen or external keyboard. See "Working with bins" on page 119. **Options**– Opens the options dialog box which allows you to modify how assets are displayed in the asset list. See "Modifying the asset list view" on page 117. **Delete**– Deletes the selected item(s). See "Deleting a bin" on page 121, or "Deleting an asset" on page 125. **Rename**– Opens the rename dialog box. See "Renaming an asset" on page 122. **Send to**– Opens the Send to dialog box used to send the asset to a file, or streaming transfer to another networked device.
❹	**Asset List** Select from three view options— Text, Image, or Details	Displays the list of assets located in the current bin. You can scroll through the list using the up/down arrow keys on an external keyboard. Right-click to open the Asset Context menu. See "About the asset context menu" on page 116. You can change how assets are shown by selecting the view option. View options include Image (thumbnail), Text, or Details (includes thumbnail and detailed text). See "Modifying the asset list view" on page 117. Assets recorded using a different video standard or compression type than the current system setting cannot be loaded and played on the K2 Media Client. For example, if you record a PAL clip, you cannot play it on a channel that is configured for NTSC. Also, if a SD channel is currently active, you cannot load an HD clip, as the SD model of the K2 system records and plays SD clips only. These assets will appear "grayed" in the Clips pane asset list. This example shows the appearance of a PAL clip when the K2 system is set to NTSC: Clip_1

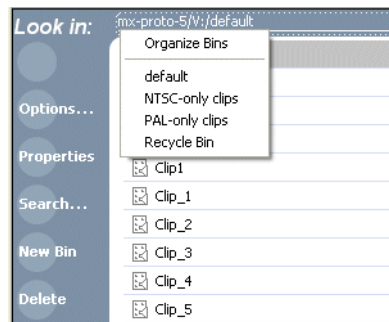| Control	Description and User Operation
Clips Menu	See "About the asset context menu" on page 116.

Terms used in the Clips pane

The following table describes the terms used in the Clips pane.

Asset	Description
Bin	A container used to organize assets, similar to a directory or folder on a computer. A bin is contained within a disk volume. The K2 system does not support nested bins, that is, a bin cannot contain another bin.
Current Bin	The current bin functions as the target bin when recording clips, or as the source bin when loading clips. The current bin contents are listed in the Clips pane. The *V:/default* bin is created automatically. The name *default* cannot be edited and the bin cannot be deleted.
Disk Volume	The K2 Media Client disk volume is formatted using the K2 system media file system. The disk volume uses the drive letter 'V:' The disk volume can be internal or it can be part of the K2 external storage system.
Playlist	A sequence of events that can be loaded and played using the Playlist mode. Playlists are created in the Playlist application by adding clips or programs to a list.
Media	Media is the video, audio, and timecode source material recorded on the disk drives. Each media type is stored in its own file, which is referenced by one or more clips for playback.
Clip	A clip references the media files stored on the media drives to allow playback of the video and associated audio and timecode recorded from a single source. Deleting a clip deletes the media referenced by the clip only if it is not referenced by another clip. You can use the Find Links feature to find related assets. See "Finding linked assets" on page 133.

Asset	Description
Program	Programs are generated from continuous record mode or from a playlist using the Playlist mode. Programs generated in Playlist application include all the media and transitions in the playlist, but nothing that breaks the flow of playout, such as a pause at the end of an event.

About the Current Bin drop-down list

To access the Current Bin drop-down list, click the Current Bin label ![Look in: V:/default].

Current bin menu items

Menu Item	Description and User Operation
Organize Bins	Opens the Organize Bins dialog box used to manage bins— create, delete, rename, change current bin. See "Working with bins" on page 119.
Bin List	List of all the bins in the current disk volume. A volume must always have at least one bin. The default bin is created automatically.
Recycle Bin	Displays the contents of the Recycle Bin. All assets deleted from the asset list are stored in the Recycle Bin until it is emptied. See "Working with the Recycle Bin" on page 127.

About the Clips menu

Click **Clips** in the AppCenter main menu to display the Clips pane context menu. The following table describes the context menu items.

Menu Item	Description
New Bin	Creates a new bin in the current disk volume. Use the onscreen or external keyboard to enter the bin name. See "Creating a new bin" on page 120.
Empty Recycle Bin	Permanently removes all items from the Recycle Bin. By default, deleted assets are moved to the Recycle Bin and remain there until it is emptied. See "Bypassing the Recycle Bin when deleting" on page 128 for information on deleting assets without using the Recycle Bin.
Rename	Opens the **Rename** dialog box for the selected asset. See "Renaming a bin" on page 121 or "Renaming an asset" on page 122.

Menu Item	Description
Delete	Deletes the selected asset. See "Deleting a bin" on page 121 or "Deleting an asset" on page 125.
Select All	Selects all items in the asset list. Operations available for Select All include: delete, send to, and copy. See "Selecting multiple assets" on page 122.
Search	Opens the **Search** dialog box which is used to perform basic or advanced searches. See "Locating assets" on page 128.
Links	Opens the **Links** dialog box allowing you to locate other assets that are linked to the selected asset. For example, a subclip is linked to the source clip. See "Locating assets" on page 128.
Send To	Opens the **Send To** dialog box which is used to send assets to a different location– another bin, disk volume, or another K2 Media Client. Send To is also used to export clips or programs to local windows drives or networked devices.
Import	Opens the **Import** dialog box which is used to import assets from the following sources: – Media streams from another K2 Media Client. – Other media file formats from a local drive or over the network. – Still image source files.
Properties	Opens the **Properties** dialog box for the selected asset. See "Viewing clip properties" on page 139.
Options	Opens the **Options** dialog box which allows you to change the way assets are displayed in the asset list. See "Modifying the asset list view" on page 117.

About the asset context menu

To open the asset context menu, right-click the asset.


Menu Item	Description
Options	Opens the **Options** dialog box which allows you to change the way assets are displayed in the asset list. See "Modifying the asset list view" on page 117.

| Menu Item	Description
Send To	Opens the **Send To** dialog box which is used to send assets to a different location– another bin, disk volume, or another K2 Media Client. Send To is also used to export clips or programs to local windows drives or networked devices.
Cut, Copy, Paste	Used to move assets, or make a additional copies. Copying a clip does not consume media disk space. Only a new reference to existing media is created. See "Moving an asset to another bin" on page 122.
Rename	Opens the **Rename** dialog box for the selected asset. See "Renaming a bin" on page 121 or "Renaming an asset" on page 122.
Delete	Deletes the selected asset. See "Deleting a bin" on page 121 or "Deleting an asset" on page 125.
Links	Opens the **Links** dialog box allowing you to locate other assets that are linked to the selected asset. See "Finding linked assets" on page 133.
Properties	Opens the **Properties** dialog box for the selected asset. See "Viewing clip properties" on page 139.

Modifying the asset list view

The asset list in the Clips pane displays the contents of the current bin and the results from searches or from requests for linked assets. You can choose one of three views to best suit your workflow.
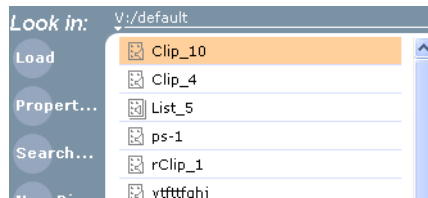
1. Select **Clips | Options**.
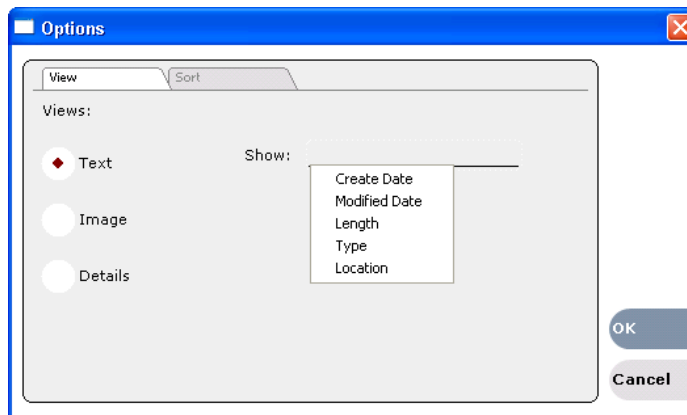
2. In the View tab, select one of the following view options:

   Image view
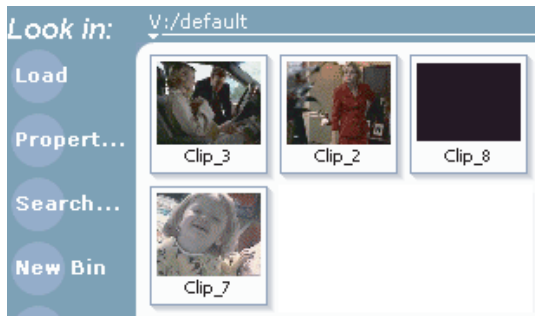
Displays the asset name and thumbnail image for each asset in the bin. Playlists are displayed as a stack of thumbnails. You can change the video frame used to generate the thumbnail.

Text view

The text view displays an icon and name for each asset and one attribute of your choice. To select an asset attribute, select the **Show** drop-down list in the View Options dialog box, then select one of the following attributes.
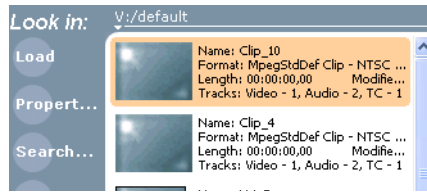
Attribute display options:

• Create Date

• Modified Date

• Length

• Type

• Location (full path)

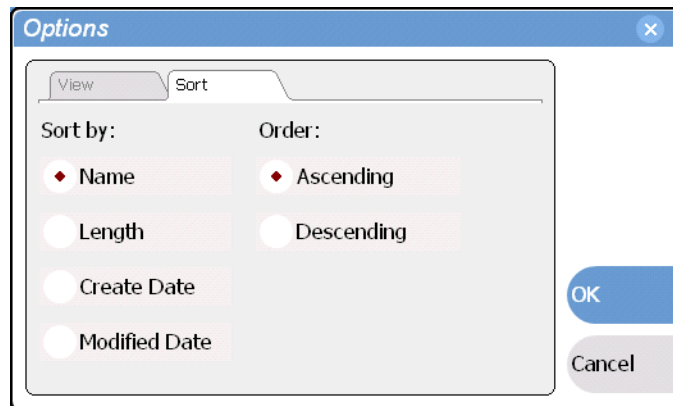The following table describes symbols shown in Text view.

Asset Symbols used in the Text View	Asset Type
	Clips with audio and video
	Video only clip
	Playlist

Details view

Details view displays assets with both a thumbnail and a detailed text description.

3. If you want to sort the assets, click the Sort tab, then choose how you want assets sorted:

4. Click **OK**.

The clips pane displays with the new view and sort order.

Working with bins

This section includes:

Changing current bin using 'Look in' drop-down list.

- In the Clips pane, click the Current Bin label , then choose a bin from the list.

Changing the current bin

Exploring a bin in the Organize Bins dialog box causes it to become the current bin.

1. In the Clips pane, select the Current Bin drop-down list [Look in: V:/default] , then select **Organize Bins**.

2. In the Organize Bins dialog box, select a bin, then click **Explore**.
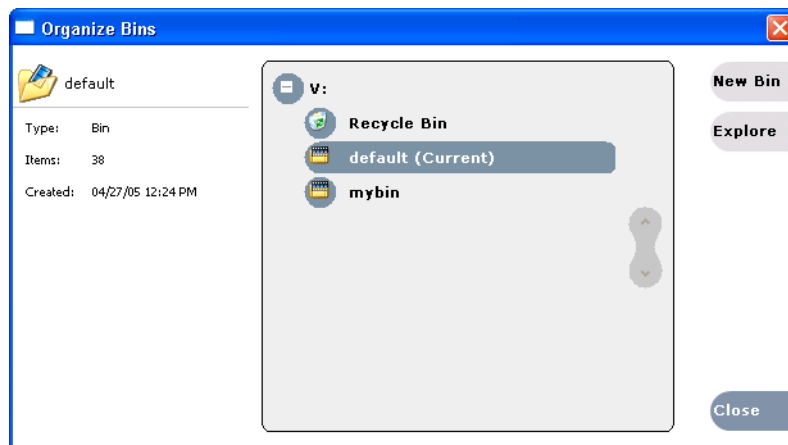
3. Close the Organize Bins dialog box.

4. The bin becomes the destination bin (for recording) and the source bin for loading clips (for playing) for all channel operations.

Creating a new bin

1. Open the Organize Bin dialog box using one of the following methods:

   • Select **Clips | New Bin**.

   • Click the **New Bin** button in the clips pane.

   • In the Clips pane:

     - Select the Current Bin drop-down list [Look in: V:/default] , then select **Organize Bins**.

     - In the Organize Bins dialog box, select a disk volume, then click **New Bin**.

2. Enter the new bin name, then click **OK**.

3. Close the Organize Bins dialog box.

Deleting a bin

> *NOTE: You cannot delete a bin containing assets that are locked or in use. However, the unlocked assets in the bin will be deleted.*
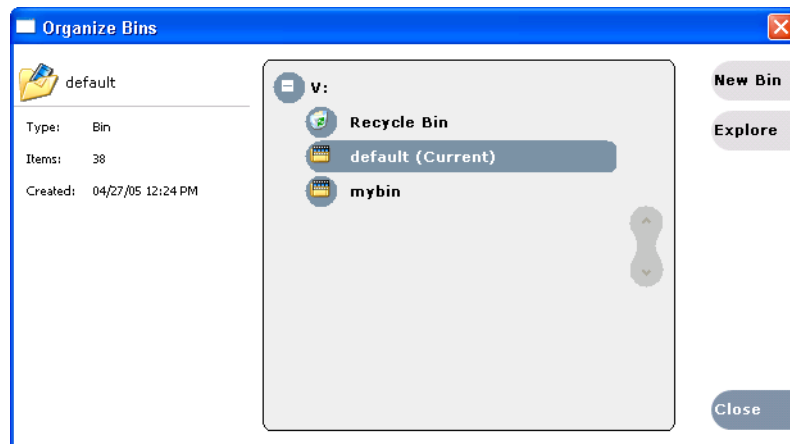
1. In the Clips pane, select the Current Bin label `Look In:  V:/default` , then select **Organize Bins**.

2. In the Organize Bins dialog box, choose the bin you want to delete

3. Click the **Delete** button.

   Deleted bins and assets are moved to the Recycle Bin unless the "*Remove items immediately when deleted.*" option is set for the Recycle Bin (see "Bypassing the Recycle Bin when deleting" on page 128). Holding down the SHIFT key during delete also bypasses the Recycle Bin.

4. Click **Yes** in the Confirm Delete dialog box.

5. Close the Organize Bins dialog box.

Renaming a bin

> *NOTE: If the renamed bin contains assets that are locked or in use, two bins will appear after renaming— one with the new name, and one with the old name containing the problem asset.*

1. In the Clips pane, select the Current Bin label `Look In:  V:/default`, then select **Organize Bins**.

2. In the Organize Bins dialog box, choose the bin you want to rename, then click **Rename**.

3. Edit the bin name, then click **OK**.

   Asset names can contain up to 32 characters, including spaces. Spaces count as two characters, and the following characters are not allowed: \ / : * ? < > | ' (single quote) " (double quote) [ ] and ~ at the beginning of the name.

4. Close the Organize Bins dialog box.

Working with assets

Assets displayed in the Asset List include clips, subclips, playlists, and programs. Refer to the following procedures to work with assets:

- "Renaming an asset" on page 122
- "Selecting multiple assets" on page 122
- "Moving an asset to another bin" on page 122
- "Copying an asset" on page 124
- "Deleting an asset" on page 125
- "Erasing a clip's unused media" on page 126
- "Locking an asset" on page 127

Renaming an asset

1. Select the asset in the Asset List.

2. Select **Rename** using one of the following:

   - Select **Clips | Rename**, or

   - Select **Rename** in the asset context menu, or

   - Click the **Rename** button in the Clips pane.
     If the Rename button is not displayed in the Clips pane, refer to assignable buttons in "Guide to using the Clips pane" on page 112.

   The rename dialog box appears.

3. Edit the asset name, then click **OK**.

   Asset names can contain up to 32 characters, including spaces. Spaces count as two characters, and the following characters are not allowed: \ / : * ? < > | ' (single quote) " (double quote) [ ] and ~ at the beginning of the name.

   The renamed asset is not automatically re-sorted.

   NOTE: Assets that are locked or in use cannot be renamed.

Selecting multiple assets

You can select multiple assets in the Clips pane as follows:

- Select **Clips | Select All**.

- Using mouse and keyboard, hold the SHIFT or CTRL key on the keyboard while selecting multiple assets with the mouse or arrow keys.

Moving an asset to another bin

There are two ways to move an asset to another bin: Using Cut/Paste or the Send To dialog box.

Using the cut and paste commands

1. Select the asset(s) in the asset list.

2. Cut the asset to the clipboard using one of the following:

   • Select **Cut** in the asset context menu, or

   • Select **Edit** in the AppCenter main menu, then choose **Cut**.

   • Use keyboard shortcut **Ctrl + X**.

3. Change the current bin to the target bin. (Refer to "Changing current bin using 'Look in' drop-down list." on page 119.)

4. Paste the asset(s) from the clipboard to the current bin.

   The Paste operation is accessed in the same way as Cut.

NOTE: If an asset is locked or currently being recorded, it remains in the existing bin while the remaining assets are moved to a new bin with the specified name.

Using Send To

1. Select the asset(s) in the Asset List.

2. To open the Send To dialog box using do one of following:

   • Select **Clips | Send To**, or

   • Select **Send To** in the asset context menu, or

   • Click the **Send To** button in the Clips pane.
     If the Send To button is not displayed in the Clips pane, refer to assignable buttons in "Guide to using the Clips pane" on page 112.

   The Send dialog box appears.

3. Click the Bin tab.

4. Select **Move to** in the right-hand drop-list.
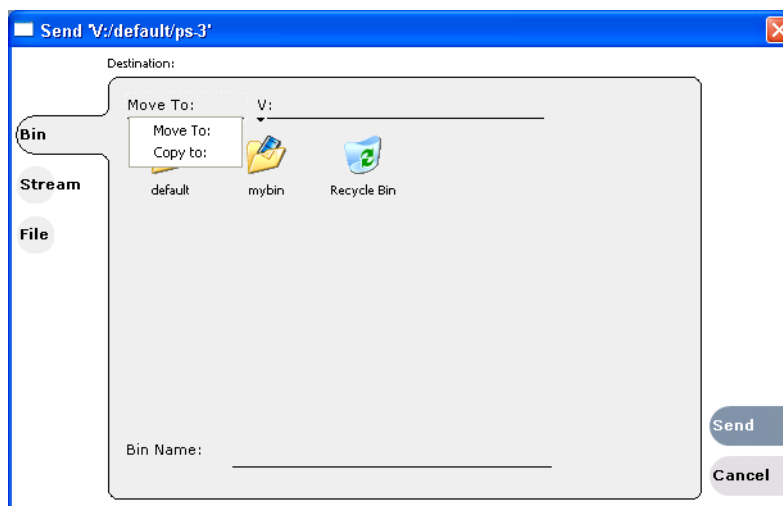
5. Select the target bin name.

6. Click the **Send** button to close the Send dialog box, and move the file.

Copying an asset

The copy command creates a new asset that references the same media files belonging to the original asset. Copying an asset does not duplicate the media files. Copying does not impact the media storage space available.

The naming convention for copied assets in the same bin adds an underscore ("_") and a number after the original name. For example, the copied clip for "Clip1" will be "Clip1_1", "Clip1_2" and so on.

You can copy or move assets in two ways, as follows:

Using the copy and paste commands

1. Select the asset(s) in the asset list.

2. Copy the asset to the clipboard using one of the following:

   • Select **Copy** in the asset context menu, or

   • Select **Edit** in the AppCenter toolbar, then choose **Copy**.

   • Use the keyboard shortcut **Ctrl + C**.

3. If needed, change the current bin to the target bin. (Refer to "Changing current bin using 'Look in' drop-down list." on page 119.)

4. Paste the asset(s) from the clipboard to the current bin.

   The Paste operation is accessed in the same way as Copy.

   NOTE: If an asset is locked or currently being recorded, it remains in the existing bin, while the remaining assets are moved to a new bin with the specified name.

Using Send To

1. Select the asset(s) in the Asset List.

2. To open the Send To dialog box using do one of following:

   • Select **Clips | Send To**, or

   • Select **Send To** in the asset context menu, or

   • Select the **Send To** button in the Clips pane.
   If the Send To button is not displayed in the Clips pane, refer to assignable buttons in "Guide to using the Clips pane" on page 112.

   The Send dialog box appears.

3. In the Send dialog box, click **Bin**, then **Copy to** in the left-hand drop-list.
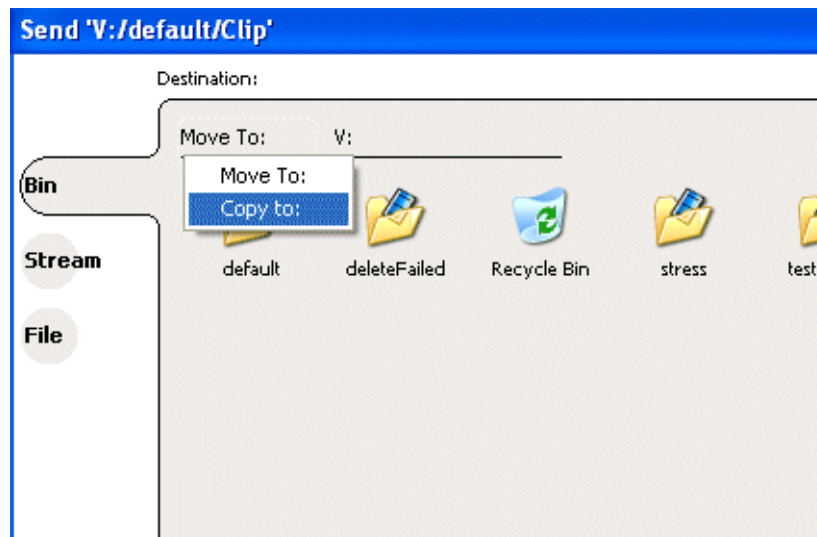
4. Select the target bin name.

5. Click the **Send** button to close the Send dialog box and copy the file.

Deleting an asset

You can delete assets to free storage space. You can safely delete a clip without harming the subclips, playlists, and programs created from it. The media referenced by subclips, playlists, and programs is preserved when the clip is deleted. Once the source clip is deleted, subclips and playlist events retain an extra 1 second of media before and after their mark points to allow some trimming.

Deleted assets are moved to the Recycle Bin unless the bypass Recycle Bin option is used. (See "Bypassing the Recycle Bin when deleting" on page 128.) You must empty the Recycle Bin to free storage space.

To delete an asset:

1. Select the asset or assets in the Asset List.

2. Select **Delete** using one of the following:

   • Select **Clips | Delete**, or

   • Select **Delete** in the asset context menu, or

   • Click the **Delete** button in the Clips pane.
     If the Delete button is not displayed in the Clips pane, refer to assignable buttons in See "Guide to using the Clips pane" on page 112.

A progress dialog appears when deleting multiple assets. If the selected asset is contained in the Recycle Bin, it is permanently removed; otherwise, it is moved from its original bin into the Recycle Bin. If an item of the same name is already in the Recycle Bin, the new item is automatically renamed. (See also See "Bypassing the Recycle Bin when deleting" on page 128.)

*NOTE: Assets that are locked or currently being recorded cannot be deleted.*

Erasing a clip's unused media

After editing a clip by moving the mark-in/mark-out points, the remaining portion of media outside the marks can be erased to free media storage space. If the media outside the clip marks is referenced by a subclip, program, or event from a playlist, that media is not erased. Subclips and playlist events retain an extra 1 second of media before and after their mark points to allow some trimming.

To erase unused media:

1. Select the clip in the asset list.

2. Open the Clip Properties dialog box using one of the following:

   • Select **Clips | Properties**, or

   • Select **Properties** in the asset context menu, or

   • Click the **Properties** button in the Clips pane.
     If the Properties button is not displayed in the Clips pane, refer to assignable buttons in See "Guide to using the Clips pane" on page 112.

The Clip Properties dialog appears.
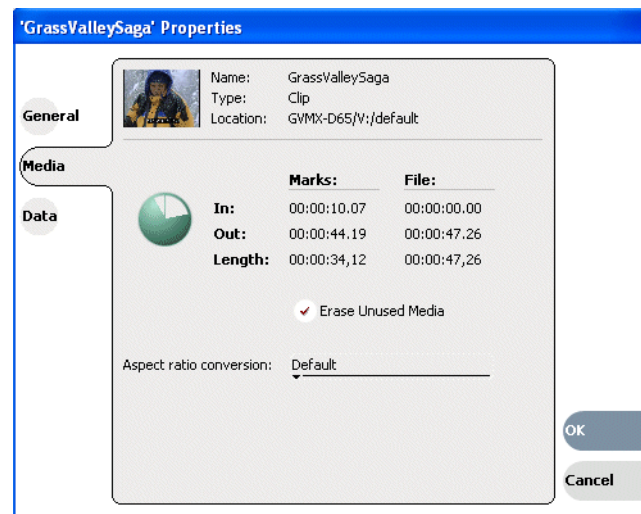
3. In the Clip Properties dialog box, click **Media**.

4. On the Media page, select the **Erase Unused Media** option.

5. Click **OK**.

   Unused media is erased when you click the **OK** button and the Properties dialog box is closed. After erasing unused media, the following is true:

   • Media outside the clip marks is erased except that portion referenced by a subclip, playlist event, or program.

   • All subclips and events generated from the source clip will retain 1 second of media before the mark-in and after the mark-out.

   • Event-in becomes the first video frame of the file

   • Event-out becomes the last video frame of the file

   • Clip length becomes the total file length.

Locking an asset

Locked assets cannot be renamed, deleted, or modified in any way.

To lock an asset:

1. Select the asset in the Asset List.

2. To view the Properties dialog box for the selected asset, do one of the following:

   • Select **Clips | Properties**, or

   • Select **Properties** in the asset context menu, or

   • Click the **Properties** button in the Clips pane.
     If the Properties button is not displayed in the Clips pane, refer to assignable
     buttons in "Guide to using the Clips pane" on page 112.

The Asset Properties dialog appears:
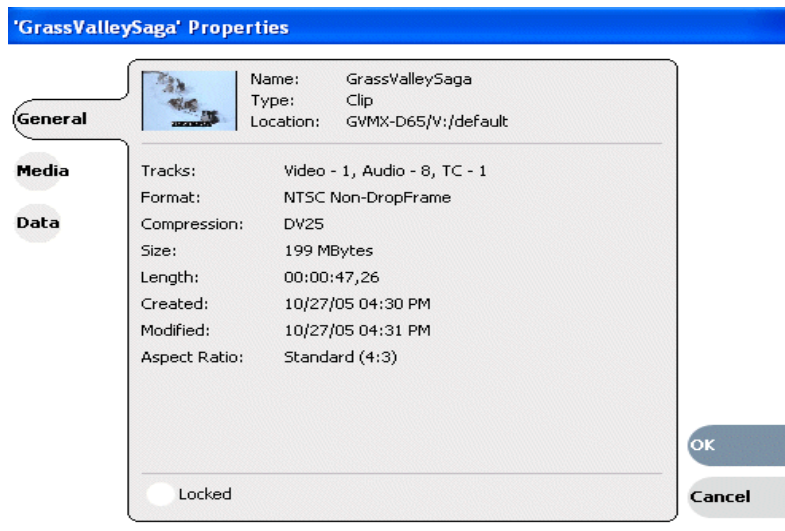
3. Click the General tab, then select the **Locked** check box to lock the asset.

4. Click **OK** to close the Properties dialog.

Working with the Recycle Bin

Topics in this section:

• "Viewing the Recycle Bin contents" on page 127

• "Emptying the Recycle Bin" on page 128

• "Bypassing the Recycle Bin when deleting" on page 128

Viewing the Recycle Bin contents

   • In the Clips pane, select the Current Bin label ⬛ Look In: V:/default , then select **Recycle Bin**.

The Recycle Bin assets are displayed in the asset list as the current bin. You can work with assets in the Recycle Bin just like any other bin.

Emptying the Recycle Bin

1. In the Clips pane, select the Current Bin label [Look In: V:/default], then select the **Organize Bins**.

2. In the Organize Bins dialog box, select **Recycle Bin** from the bin list.

3. Click **Empty**, then **Yes** to confirm.

4. Close the Organize Bins dialog.

Bypassing the Recycle Bin when deleting

NOTE: Holding down the SHIFT key during delete also bypasses the Recycle Bin.

1. In the Clips pane, select the Current Bin label [Look In: V:/default] , then select the **Organize Bins**.

2. In the Organize Bins dialog box, choose **Recycle Bin**.
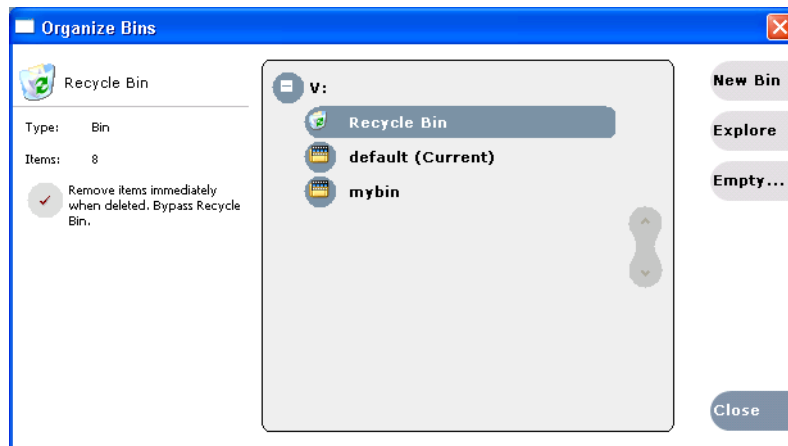
3. Select **Remove items immediately when deleted** or hold down the SHIFT key during delete.

4. Close the Organize Bins dialog box.

Locating assets

Three tools are provided for locating assets: Sorting, Search, and Links. You can set how assets are sorted by selecting the "sort by" attribute for the asset list. For example, you can sort by name, modified date, length, etc. The Search dialog box provides both basic search and advanced search modes for locating assets anywhere in the K2 system media storage. Advanced search mode allows you to define search criteria for assets based on user defined metadata. The Links dialog box helps you determine assets that are related. For example, you can locate the source clip used to generate a subclip, or you can determine if there are copies of a given clip.

Topics in this section include:

- "Sorting assets in the Asset List" on page 129
- "Using Basic search" on page 130
- "Using Advanced Search" on page 132
- "Advanced Search Criteria" on page 133
- "Finding linked assets" on page 133

Sorting assets in the Asset List

You can sort assets by file attributes such as date, name, length, and create date using the Options dialog box.

To change how assets are sorted:

1. Open the Options dialog box using one of the following methods:
   - Select **Clips | Options**, or
   - Right-click an asset, then select **Options** in the asset context menu, or
   - Click the **Options** button in the Clips pane.
     If the Options button is not displayed in the Clips pane, refer to assignable buttons in "Guide to using the Clips pane" on page 112.

2. Click the **Sort** tab in the Options dialog box.
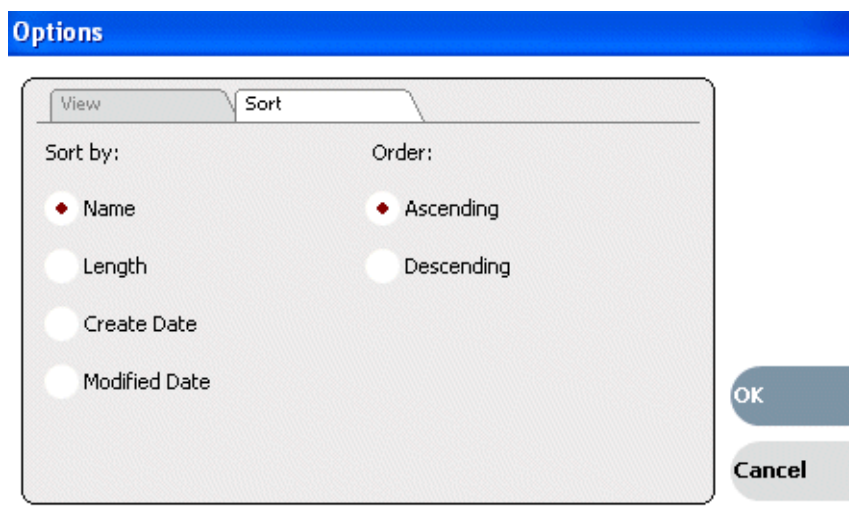
3. Choose the desired sorting attribute and order, then click **OK**.

   The Asset List sorts in the order specified.

NOTE: When assets are added or renamed, assets may not remain listed according to the selected sort order. To re-sort the assets, repeat this procedure, or press F5 to refresh the Asset List.

Using Basic search

The Search dialog box provides the basic search mode for locating assets anywhere in the K2 system media storage.

1. Open the Search dialog box by doing one of the following:

   • Select **Clips | Search**, or

   • Click the **Search** button in the Clips pane.
     If the **Search** button is not displayed in the Clips pane, refer to assignable buttons in "Guide to using the Clips pane" on page 112.

2. Choose **Basic** search, then specify search criteria on the **Text**, **Date** and **Type** tabs. The search is performed using the combination of search criteria on all three tabs.

   Search by text – If you know all or part of an asset name, use the **Text** tab. Select the text entry control, then type all or part of the asset name in the "Enter Search Text" dialog box. The default text search mode is "any word" or "word portion". For example, if you enter the word *fire*, search will find all asset names that contain fire, for example, *fires* and *house fire*. For an "exact phrase" search, use a single quote or double quote to specify the phrase. For example, if you enter *"forest fire"*, search will locate all asset names that contain the phrase *forest fire*.

   If the **Search names only…** option is selected, the search is applied to asset names. If not selected, the search includes all asset metadata. Refer to "Working with asset metadata" on page 135.
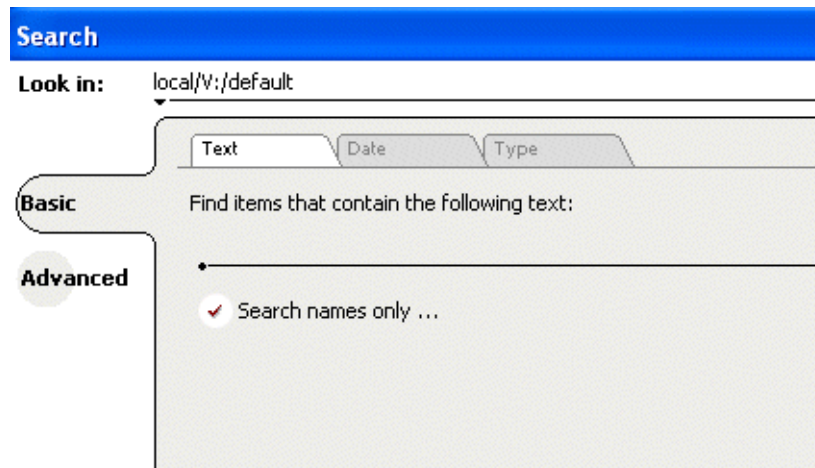

   Search by date – If you are searching for assets created or modified within a specific date or time range, use the **Date** tab. By default, the **All Dates** box is selected. To specify date criteria, select the **Find items** option to enable the controls under it. Use the drop-down list to choose **Created** or **Modified**, then do one of the following:

   • Select the **between** option, and then specify a date range. Click the edit control to display a calendar for easy input.

   • Select the **in the last** option, and then use the drop-down lists to specify a time within a recent number of minutes, hours, days, or months.
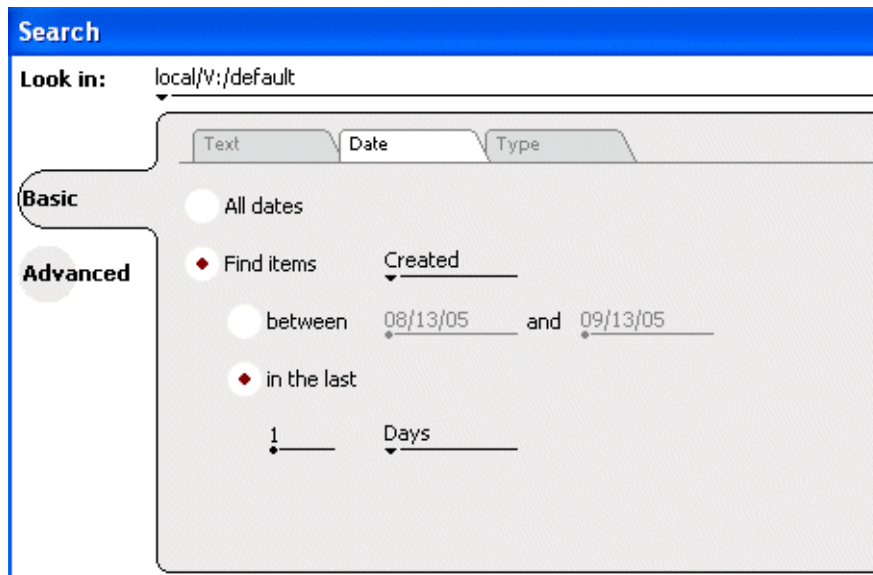
Search by Type – In the **Type** tab, select the type of assets— clips, programs or lists to be searched. Search results will only include the selected types.
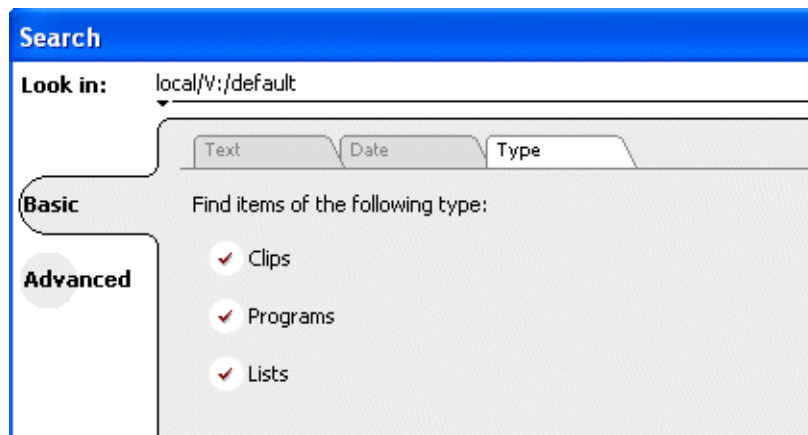
3. Once you have selected the search criteria, click **OK** to start the search.

The search results are displayed in the Clips pane. The text in the Current Bin control is replaced with a brief summary of the search. For example, *Search: movie - indicates all the clips, programs and lists with names like movie1, movie2, or Search: Created Last 5 Days* for assets created in the last 5 days.
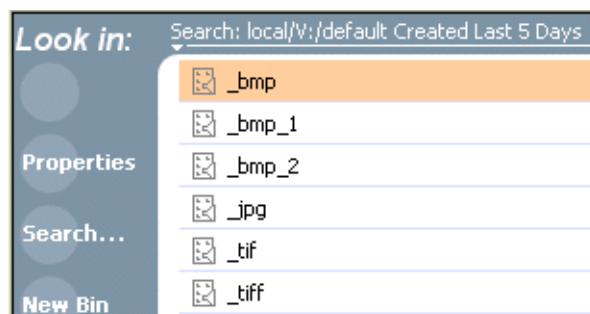
Using Advanced Search

The Search dialog box provides the advanced search mode that provides an extended set of attributes for locating assets anywhere in the K2 system media storage.

1. Open the Search dialog box by doing one of the following:

   • Select **Clips | Search**, or

   • Click the **Search** button in the Clips pane.
     If the **Search** button is not displayed in the Clips pane, refer to assignable buttons in"Guide to using the Clips pane" on page 112.

2. Choose **Advanced** search to create and view advanced search criteria.

   When Advanced search is used, Basic search criteria is ignored.

3. Click **Add** to add new search criteria, or click **Remove** to remove it, then click **OK** to start the search.
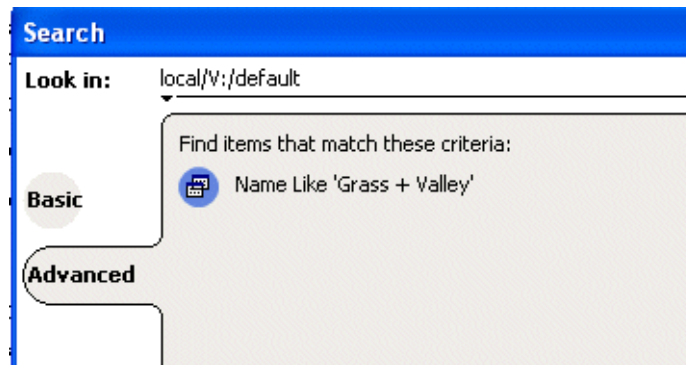
The following table lists the advanced search attributes along with their conditions and value choices. Advanced searches can include metadata attributes. Since these are user defined, only their types and conditions are listed here. See also "Working with asset metadata" on page 135.

Advanced Search Criteria

Attributes	Conditions	Value	Value
Name	Like/Not Like	Name	N/A
Type	Is/Is Not	Clip Program List	N/A
Compression Format	Is/Is Not	DV25 MPEG	N/A
Video Standard	Is/Is Not	NTSC PAL	N/A
Create Date	Between Before After	Date 1 Date Date	Date 2
Modified Date	Between Before After	Date 1 Date Date	Date 2
Length	Greater Than Less Than Between Equals	Length Length Length Length 1	Length 2
Locked	Is	True/False	N/A
Drop-frame timecode	Is	True/False	N/A

	Data Type	Conditions	Value	Value
Metadata	String	Like/Not Like	A string	N/A
	Integer Float	Greater Than Less Than Equals Between	A number	N/A
	Date	Between Before After	Date 1 Date Date	Date 2
	Boolean	Is	True/False	N/A

4. Once you have added all the search criteria, click **OK** to add the criteria.

5. Click **OK** to start the search.

   The search results are displayed in the Clips pane. The text in the Current Bin control is replaced with a brief summary of the search.

Finding linked assets

The Links dialog box helps you locate assets that are related based on the links criteria that you can specify.

1. In the asset list, select the asset for which you want to find linked assets.

2. Open the Links dialog box by performing one of the following steps:

- Select **Clips | Links**, or

- Right-click an asset, then select **Links**, or

- Click the **Links** button in the Clips pane.
  If the Links button is not displayed in the Clips pane, refer to assignable buttons in "Guide to using the Clips pane" on page 112.
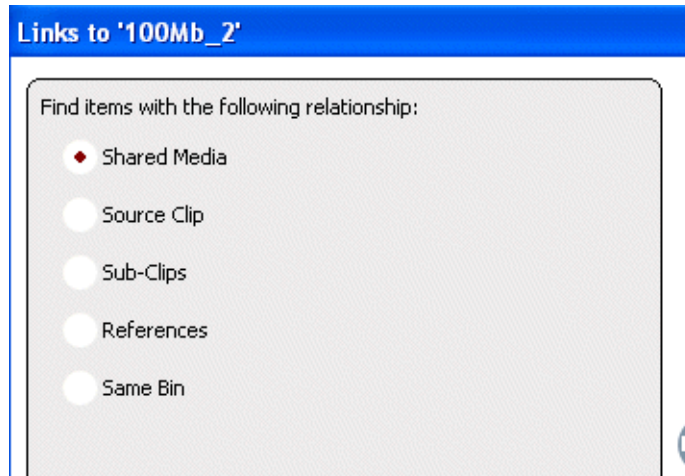

3. Choose one of the link relationships to use.

Link Relationship	Description
Shared media	Find all assets that reference the same media files, i.e., the same video, audio, timecode files in the media file system.
Source clip	Find the source clip from which a subclip was created.
Subclips	Find all subclips created from the selected clip.
References	When a playlist or program is selected, find all the assets that are referenced by the playlist or program. When a clip is selected, find all the playlists and events that reference that clip.
Same bin	Generate a list of assets that are located in the same bin

4. Click **Find Now**.

The results of the link operation are displayed in the Clips pane. The text in the Current Bin label is replaced by a brief summary of the links operation.

NOTE: Unlike the search results, link results are not cached. You must perform the Links operation each time to discover linked assets.
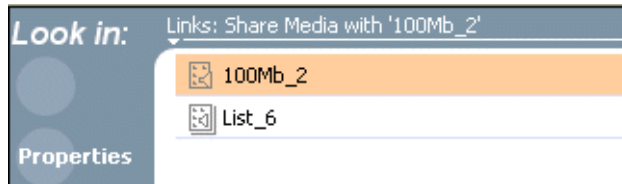
Working with asset metadata

The properties dialog box displays information about an asset as described in "Viewing asset properties" on page 139. The properties dialog box also includes a user defined metadata feature that allows you to define and add your own information about an asset. You can specify the metadata name, data type, and value.

The metadata you add for one asset automatically appears on properties pages for all existing and future assets, except with no value entered. The values you specify for an asset are retained with the asset for the following operations: copy, move, and send to. The metadata you define for an asset can be used as search criteria in advanced search.

Metadata types and their possible values are described in the following table.

Data Type	Value	Example: Name/Value
String	User-defined string	Producer: John Doe
Integer	An integer value	Episode: 4
Float	A number expressed in floating point	Version: 1.2
Date	Date	Air Date: 10/31/03
Boolean	True or False	QA: False

Topics in this section include:

- "Adding and modifying asset metadata" on page 135
- "Clearing metadata" on page 137
- "Deleting asset metadata" on page 138

Adding and modifying asset metadata

Use the following steps to add or modify metadata in the properties dialog box. The metadata names you add will appear in the properties dialog box for all assets. See also "Deleting asset metadata" on page 138.

1. Select an asset in the Clips pane asset list.

2. Open the Properties dialog box using one of the following methods:

   - Select **Clips | Properties**, or

   - Select **Properties** in the asset context menu, or

- Click the **Properties** button in the Clips pane.
  If the Properties button is not displayed in the Clips pane, refer to assignable buttons in "Guide to using the Clips pane" on page 112.

The properties dialog box appears:
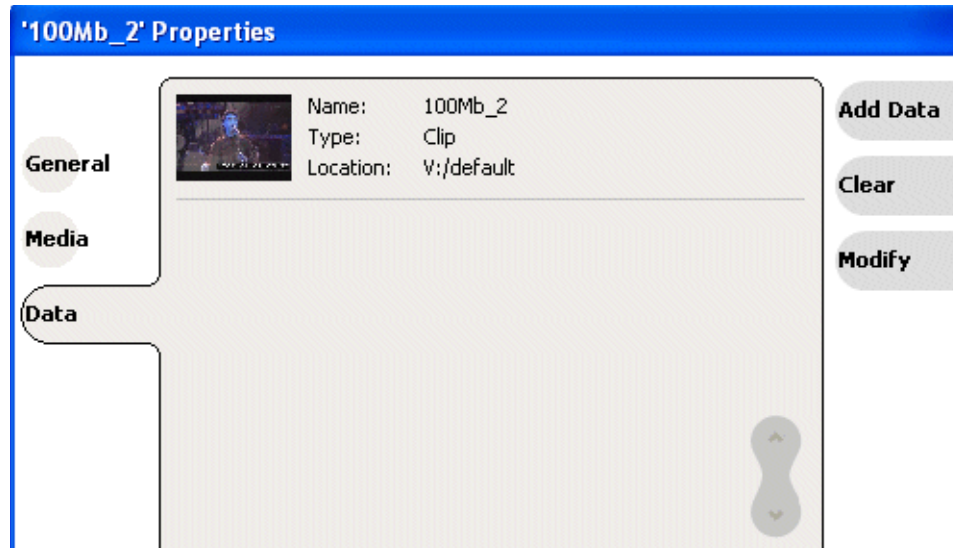
3. Click the **Data** tab, then click **Add Data** or **Modify** on the data page.
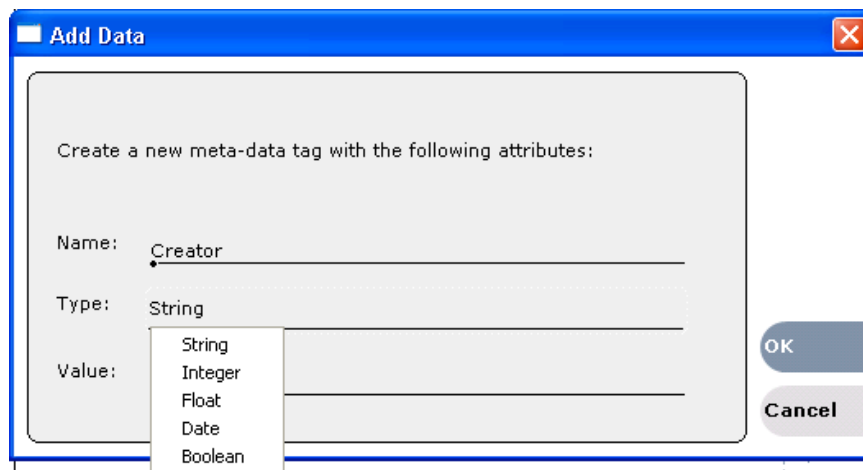
4. Define or modify metadata using the following steps:

   a. Select **Name**, then enter the metadata name in the Name dialog box.

      Names are not case sensitive. "Episode" and "episode" are treated the same. You cannot modify names of existing metadata. See also "Deleting asset metadata" on page 138.

   b. Select **Type**, then choose a data type from the drop-down list.

      Metadata types include: String, Integer, Float, Date, and Boolean. (Refer to "Working with asset metadata" on page 135.)

     c. Select **Value**, then enter a metadata value in the Value dialog box.

     d. Click **OK** to close the Add or Modify dialog box and save changes.
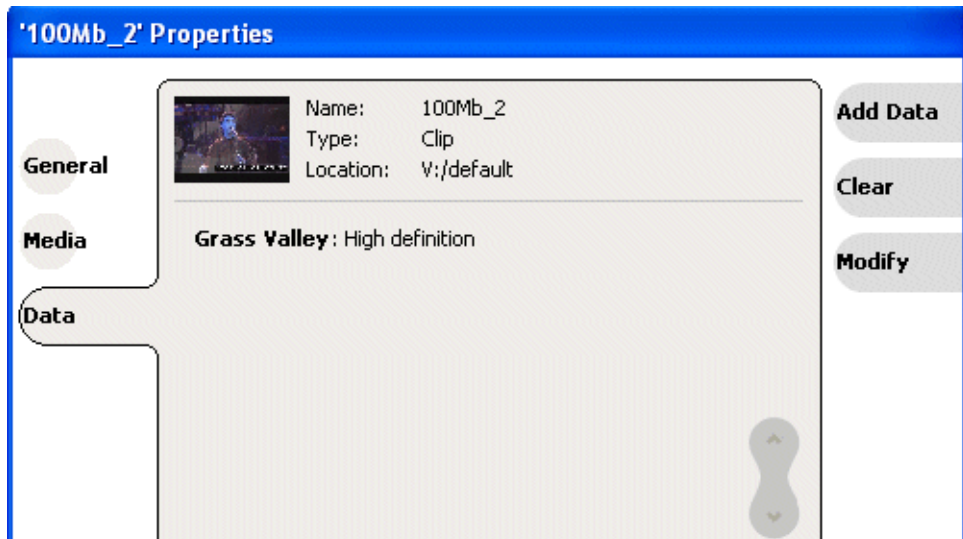
Clearing metadata

Clearing metadata removes the value entered for the selected metadata but does not delete the metadata name from the properties data page.

1. Select the asset in the Clips pane asset list.

2. Open the Properties dialog box using one of the following:

   • Select **Clips | Properties**, or

   • Select **Properties** in the asset context menu, or

   • Click the **Properties** button in the Clips pane.
     If the Properties button is not displayed in the Clips pane, refer to assignable buttons in "Guide to using the Clips pane" on page 112.

   The properties dialog box appears:
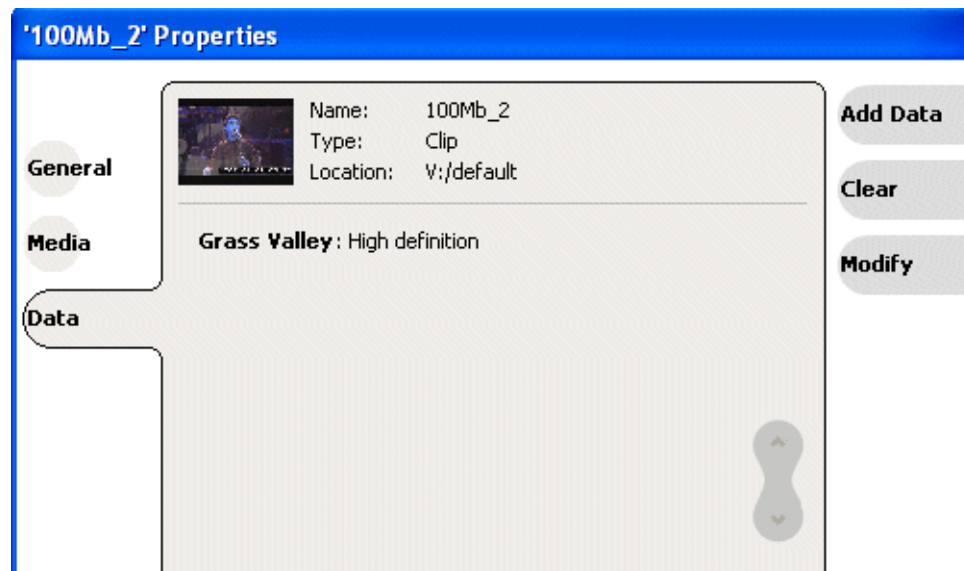
3. Click the **Data** tab, then scroll to locate and select the metadata entry you want to clear.

4. Click **Clear**.

   The metadata value is now blank.

5. Repeat step 3 and step 4 to clear other metadata values.

6. Click **OK**.

   If the metadata name is used by any other asset, that is, a value has been entered on another properties page, the metadata name will remain on all properties pages. See also, "Deleting asset metadata" on page 138.

Deleting asset metadata

You may need to delete a metadata name, that is, remove it from all properties pages when it becomes obsolete, or to repair a typographical error. There is no "delete metadata" feature; however, metadata names are checked every time you close a properties dialog box. If a metadata name is not being used, that is, no values are entered for the metadata name on any asset properties page, the metadata name is automatically deleted and removed from all metadata pages.

To delete a metadata name you just created:

1. In the asset Properties dialog box, click **Data**.

2. Select the metadata name you want to delete.

3. Click **Clear**.

4. Click **OK**.

   The metadata name is removed from all asset properties pages since no metadata value exists for any asset.

To delete a metadata name already in use

To completely purge a metadata name, you must clear the metadata value on all asset properties data pages. When the last asset is cleared, and the properties dialog is closed, the metadata name is purged and removed from all properties pages. Refer to "Clearing metadata" on page 137.

Viewing asset properties

The properties dialog box varies depending on the asset.

- "Viewing clip properties" on page 139
- "Viewing playlist properties" on page 140
- "Viewing program properties" on page 141
- "Viewing bin properties" on page 141
- "Viewing volume properties" on page 142

Viewing clip properties

1. Select the clip in the Clips pane asset list.

2. Open the Clip Properties dialog box using one of the following:

   - Select **Clips | Properties**, or

   - Select **Properties** in the asset context menu, or

   - Click the **Properties** button in the Clips pane.
     If the Properties button is not displayed in the Clips pane, refer to assignable buttons in "Guide to using the Clips pane" on page 112.

   The Clip Properties dialog box appears. There are three pages in the clip dialog box. **General**, **Media**, and **Data**. The General and Media pages are self explanatory. The Data page is used to add metadata to the clip. To learn more, refer to "Working with asset metadata" on page 135.

Viewing the General properties page

The General properties page displays basic information about the clip, including tracks, format, compression, size, etc. A radio button enables you to lock the clip.
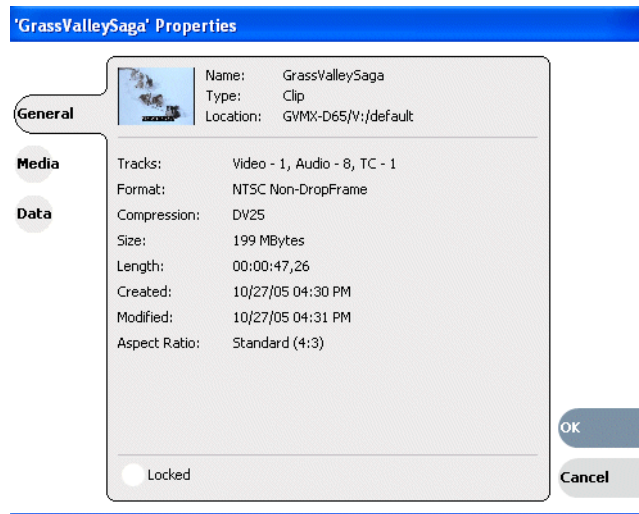
Viewing Media Properties page

The Media page displays all the relevant clip timecodes, including clip marks, and the first and last frame of the clip. A Time Dome gives a graphical display of the relative position of the marks within the recorded media. The Aspect Ratio Conversion drop-down list allows you to specify how you want K2 Media Client to handle an aspect ratio conversion.
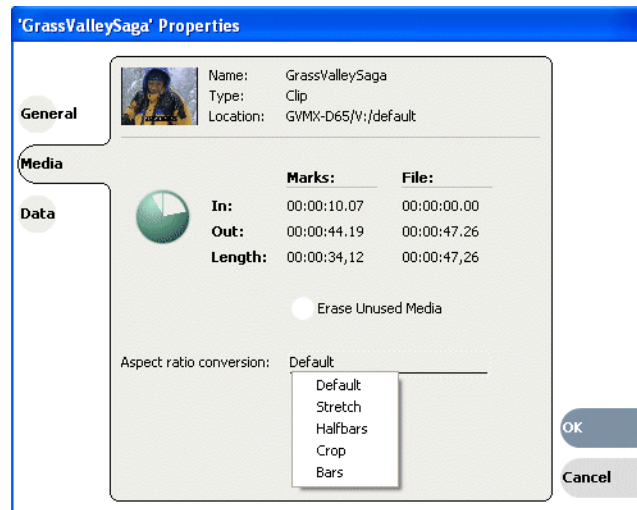

Viewing Data properties page

This page allows you to define your own metadata and specify values for that metadata. Refer to "Working with asset metadata" on page 135.

Viewing playlist properties

The playlist properties dialog box includes features that control list playback in the Playlist mode. "Viewing playlist properties" on page 107.

Viewing program properties

1. Select the program in the Clips pane asset list.

2. Open the Program Properties dialog box using one of the following methods:

   • Select **Clips | Properties**, or

   • Select **Properties** in the asset context menu, or

   • Click the **Properties** button in the Clips pane.
     If the Properties button is not displayed in the Clips pane, refer to assignable
     buttons in "Guide to using the Clips pane" on page 112.
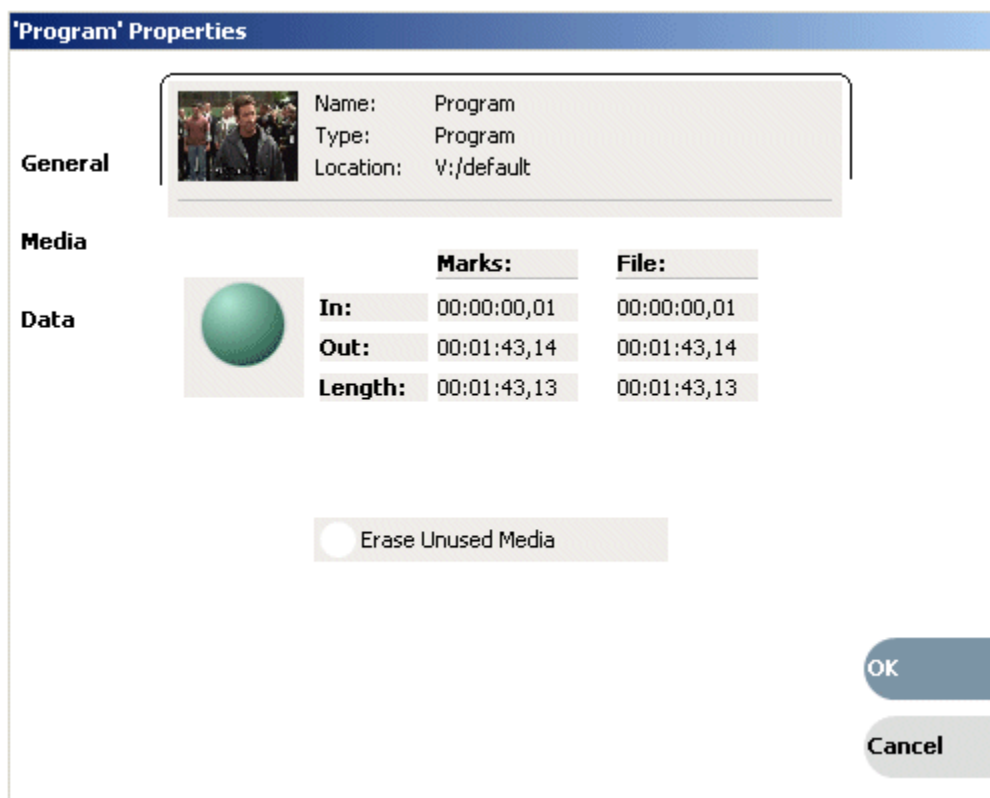
The Program Properties dialog box is displayed; it has three pages, **General**, **Media**
and **Data**. The General page is self explanatory. The Media page has information
about mark in- and mark-out times. The Data page is used to add metadata to the
program. To learn more, refer to "Working with asset metadata" on page 135.

Viewing bin properties

1. In the Clips pane, select the Current Bin label [Look in: V:/default] , then select **Organize
   Bins**.

2. In the Organize Bins dialog box, select a bin. The bin properties are displayed in the Organize Bins dialog box.
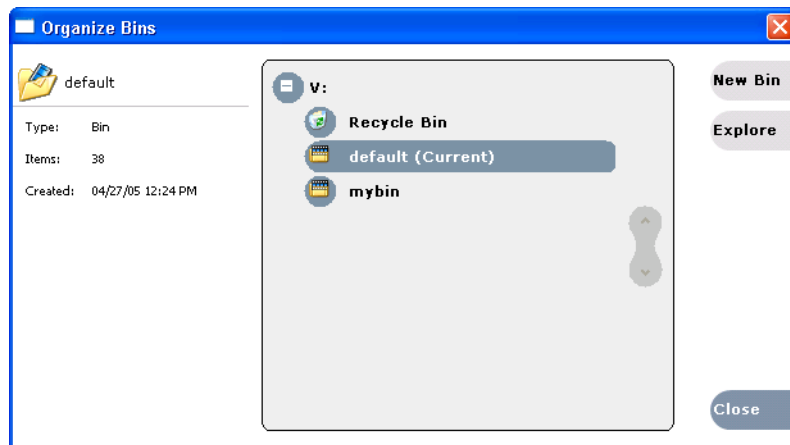
Viewing volume properties

1. In the Clips pane, select the Current Bin label , then select **Organize Bins**.

2. In the Organize Bins dialog box, select a disk volume. The volume properties are displayed in the Organize Bins dialog box.
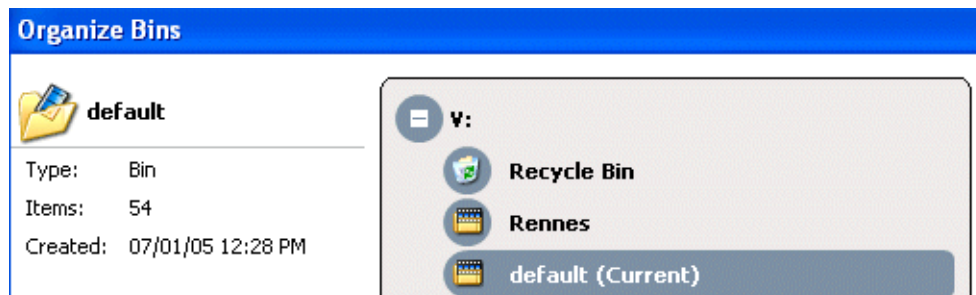
Chapter **8**

Importing and Exporting Media

This chapter describes importing and exporting files and streaming media using AppCenter. You can also transfer media using an FTP application. For information on using FTP with the K2 Media Client, see the *K2 Media Client System Guide*.

This chapter is divided into two sections:

- "Importing and exporting assets" on page 143
- "Monitoring media file transfers" on page 154

Importing and exporting assets

This section is divided into two parts:

- "Importing and exporting files" on page 143
- "Importing and exporting streaming media" on page 151

Importing and exporting files

This section includes the following topics:

- "About importing assets" on page 143
- "To import a video file" on page 144
- "To import a still image file" on page 146
- "About exporting assets" on page 149
- "To export to a file" on page 150

About importing assets

You can import assets using standard multimedia and still image file formats. Source files can be located on a local K2 Media Client disk drive (fixed or removable media) or a mapped networked drive. If importing assets by accessing a K2 Media Client through a network-connected Control Point PC, make sure that the source or destination is the K2 Media Client rather than the Control Point PC. For example, specify the whole path, the machine name, share name, and filename, rather than just referencing a drive.

NOTE: If you import to a file or stream media that has the same name as an asset already existing in the destination location, an Abort/Rename/Retry dialog box appears.

Supported multimedia file formats

Supported File formats	Video elementary format	Audio elementary format
AVI (.avi)	DV25 DV50 DVCAM	48 kHz, 16 bit PCM[a]
GXF (.gxf)	DV D10 DVCAM DV25 DV50 MPEG-2	48 kHz, 16 bit PCM or Dolby digital (AC-3)
MXF (.mxf)	DV D10 DVCAM DV25 DV50 MPEG-2	48 kHz, 16 bit PCM or Dolby digital (AC-3)
QuickTime (.mov)	DV25 DV50 DVCAM	148 kHz, 16bit PCM[a.]

[a.]   Only the first 2 channels are supported. For example, if there are 8 audio tracks, K2 Media Client ignores the last 6.

Movie formats for GXF imports/exports:

All video and audio segments in a GXF transferred file must be of the same media type.

Interchange Standards:

General Exchange format: SMPTE 360M GXF

Material Exchange format: SMPTE 377M MXF (SMPTE 378M or 1a)

Supported still image and image sequence file formats

You can import still images and image sequence files from local Windows drives or networked devices. Imports occur using the aspect ratio and resolution you specify. Still images are imported as a clip with a duration that you specify.

Supported file types include: .jpg, .jpeg, .bmp, .tiff, .tga.

NOTE: Before playing a clip that is being imported from a file or stream, use the Transfer Monitor to verify that the clip transfer rate is higher than the clip data rate. This is required to prevent playback problems due to insufficient bandwidth.

To import a video file

When you import media from a file, the media is converted and stored using the K2 system native file format.

NOTE: The appearance of the asset list and file open dialog boxes is determined by the Options setting. (See "Modifying the asset list view" on page 64.)

1. Verify the current bin. The current bin is the destination directory for the import operation. For help, see "Changing the current bin" on page 66.

2. In the AppCenter main menu, select **Clips | Import**.

   The Import dialog box opens.
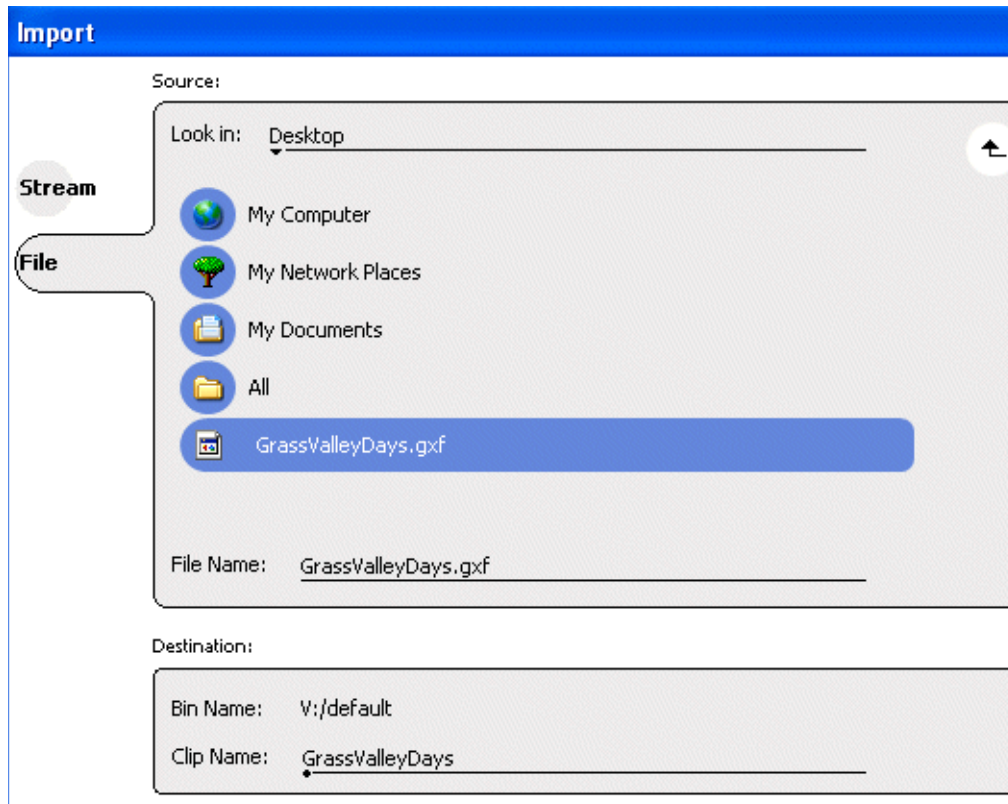
3. Click **File**.

4. In the Source section, browse to locate and select the source file.

   The **Look in** label shows the current location. The list under the **Look in** label displays the contents of the current location. The Import dialog automagically filters the list of files to show only the type of files that can be imported (such as .gxf, .mxf, and so on). You can select items in the list (such as a *machine*, drive, or folder) to explore its contents.

   Clicking the up-arrow button 🔼 moves up one directory level in the storage hierarchy.

   The Look in drop-down list allows you to choose from one of the most recent source locations visited (history).

5. Verify the destination directory indicated next to **Bin Name**. This is where the imported file is placed.

6. Modify the clip name, if needed, by selecting the **Clip Name** edit.

7. Click **Import** to start the import.

NOTE: Import is a background task and can be monitored using the Transfer Monitor.

To import a still image file

You can import still image or image sequence files. When imported, the image is recorded as a clip using the duration, aspect ratio, and resolution you specify.

NOTE: The appearance of the asset list and file open dialog boxes is determined by the View Option setting. Use the Clips pane context menu to choose Image or Text view.

1. Verify that the current bin is the one you want to use. The current bin is the destination for the import operation.

2. Select **Clips | Import**.

   The Import dialog box opens.

3. Click **File**.

   The Import dialog box appears.

4. In the Source section, browse to locate and select the source file.

The **Look in** label shows the current location. The list under the **Look in** label displays the contents of the current location. You can select items in the list (such as a *machine*, drive, or folder) to explore its contents.

Clicking the up-arrow button ⬆ moves up one directory level in the storage hierarchy.

The Look in drop-down list allows you to choose from one of the most recent source locations visited (history).

5. Verify the destination directory indicated next to **Bin Name**. This is where the imported file is placed.

6. Modify the clip name, if needed, by selecting the **Clip Name** edit control.

7. Click **Import**. The Importing dialog box is displayed.

8. Once you have specified how to import the file, click **OK**. For more information on which choices to make, see "Considerations on importing still images" on page 147.

NOTE: Import is a background task and can be monitored using the Transfer Monitor.
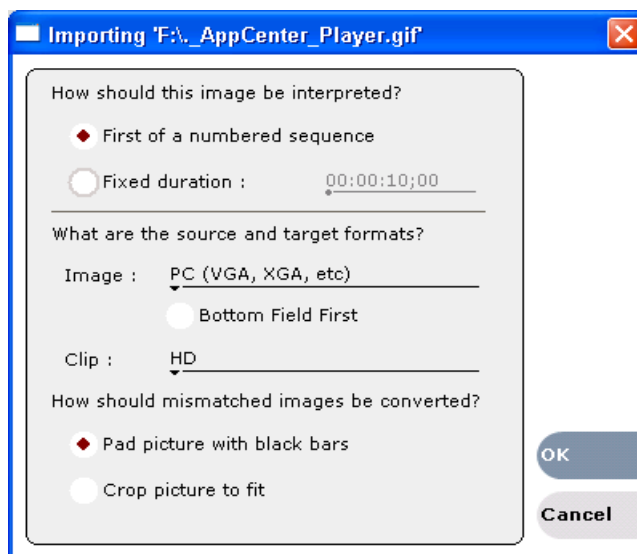
Considerations on importing still images

When importing a still image, whether a graphic such as a .jpeg file or a still frame from a video clip, remember that the transcoding might affect the image quality. Graphic programs create square pixel files. If you import an image created by a square-pixel graphics program into a video, the square pixels can be scaled to the non-square pixels for video encoding, which results in a distorted image. The

Importing dialog box supplies you with a variety of formats so that you can find one that best preserves the image quality. Refer to the following table to choose import options.

How should this image be interpreted?		
	First of a numbered sequence	Select if importing the first of a set of sequentially numbered files. To import a sequence of stills, the sequence must be numbered appropriately, for example: Img_0000.bmp Img_0001.bmp Img_0002.bmp You then select the first in the sequence (Img_0000.bmp), and set the "First of a numbered sequence" option. The resulting clip is an animation consisting of all contiguously numbered frames.
	Fixed duration	Select if importing a still image to be displayed for a fixed period of time.
What are the source and target formats?		
Image	**PC (VGA, XGA, etc.)**	For computer generated images files. During import the image is gamma-corrected, deflickered and resized to a title-safe area. Gamma correction modifies mid range color tones leaving the extreme tones untouched. Compensates for different PC monitors and their display characteristics. The image is assumed to have square pixels.
	HD 1920x1080 59.94Hz	Images are HD frames, and have square pixels. The intended playout rate is 59.94Hz interlaced. The intended playout picture size is 1920x1080.
	HD 1920x1080 50 Hz	The images are HD frames, and have square pixels. The intended playout rate is 50Hz interlaced. The intended playout picture size is 1920x1080.
	HD 1440x1080 59.94Hz	Images are HD frames, and have square pixels. The intended playout rate is 59.94Hz interlaced. The intended playout picture size is 1440x1080.
	HD1440x1080 50 Hz	The images are HD frames, and have square pixels. The intended playout rate is 50Hz interlaced. The intended playout picture size is 1440x1080.
	Generic	The image's pixel aspect ratio, intended playout rate and resolution are unknown. The images is directly resized to the target clip format without aspect ratio conversion. No further processing occurs.
Clip	**HD**	Imports the image file as an HD MPEG 2 clip at the current K2 system frame rate setting.
	SD 4:3	Imports the image file as a 4:3 SD MPEG 2 clip at the current K2 system frame rate setting.
	SD 16:9	Imports the image file as a 16:9 SD MPEG 2 clip at the current K2 system frame rate setting.

How should the image aspect ratio be converted?			
	Pad picture with bars	Standard to Widescreen	Widescreen to Standard
	Crop picture to fit	Standard to Widescreen	Widescreen to Standard
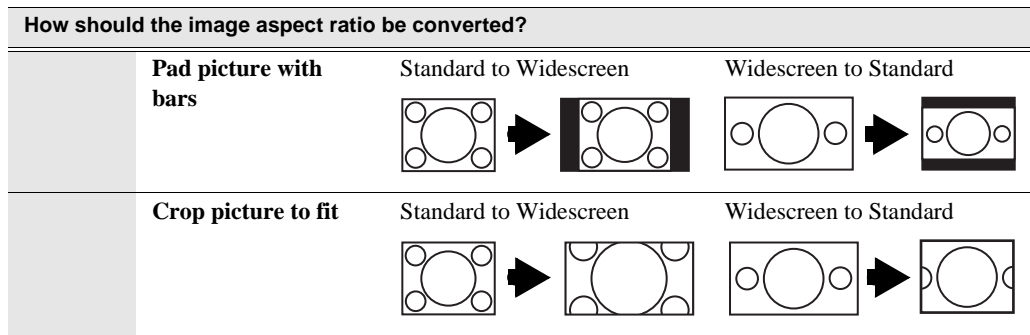
About exporting assets

You can export K2 system clips using standard media file formats. The following table describes the file formats supported.

Export: File Formats Supported
AVI (.avi)
General Exchange Format [SMPTE 360M] (.gxf)
Material Exchange Format [SMPTE 377M] (.mxf)
QuickTime (.mov)

Files can be exported over an Ethernet connection to network drives or to common forms of removable media. If exporting assets by accessing a K2 Media Client through a network-connected Control Point PC, verify that the source or destination is the K2 Media Client rather than the Control Point PC.

NOTE: If you export to a file or stream media that has the same name as an asset already existing in the destination location, an Abort/Rename/Retry dialog box appears.

About sending files to external drives

Transferring to and from a USB drive is supported on a local internal storage K2 Media Client only. USB drive transfers on external storage K2 Media Clients, K2 Media Servers, or control point PCs are not supported. Grass Valley recommends that the USB drives be disabled except when in use. To transfer to or from a USB drive on an internal storage K2 Media Client, the Windows administrator should thus first enable the USB port using Windows Device Manager. When the transfer is complete, the Windows administrator should then disable the USB port to prevent unauthorized use. Assets must be exported to a USB drive one at a time. Attempts to export more than one asset at the same time will result in the transfer aborting.

The following are operational considerations when sending files to external drives:

• **Estimating clip file sizes** - AppCenter does not prevent you from sending a file that is larger than the space available on the target disk. The transfer fails when the disk becomes full. To avoid this problem, check the clip size reported in the clip properties dialog box. You can use this to estimate the disk space required for the clip.

• **Best transfer performance** - File transfers are handled concurrently, up to four at a time. Additional transfer requests are queued.

- **USB drive security** - Grass Valley recommends that you keep the USB connectors in a disabled state when not in use. To enable a USB drive, you must log in as Windows administrator and enable the drive. For more information on user-level access, see "Types of K2 users" on page 22.

- **Adding/Removing USB devices** - The USB connectors on the rear panel and front panel can be used to connect a mouse, keyboard, USB drive, or other USB device. Do not plug or unplug these devices while the K2 system is being used for critical play to air activity.

- **Maximum file sizes when exporting assets to USB drives**- Exporting assets with long durations may result in file sizes that exceed 4GB. Some USB drives are formatted using FAT/FAT32, which has the 4GB maximum file size limitation. Attempting to send a file to these disk volumes will cause the transfer operation to fail. Disk volumes formatted using NTFS allow larger maximum file sizes. Before exporting an asset, be sure to check that the file size is less than 4GB, otherwise, ensure that the file system on the target drive supports larger files sizes.

To export to a file

1. Select the asset(s) in the Clips Pane that you want to send to a file.

2. Open the Send to dialog box using one of the following steps:

   - Select **Clips | Send to**, or

   - Right-click the clip in the Clips Pane and select **Send to**.

   The Send dialog box appears.
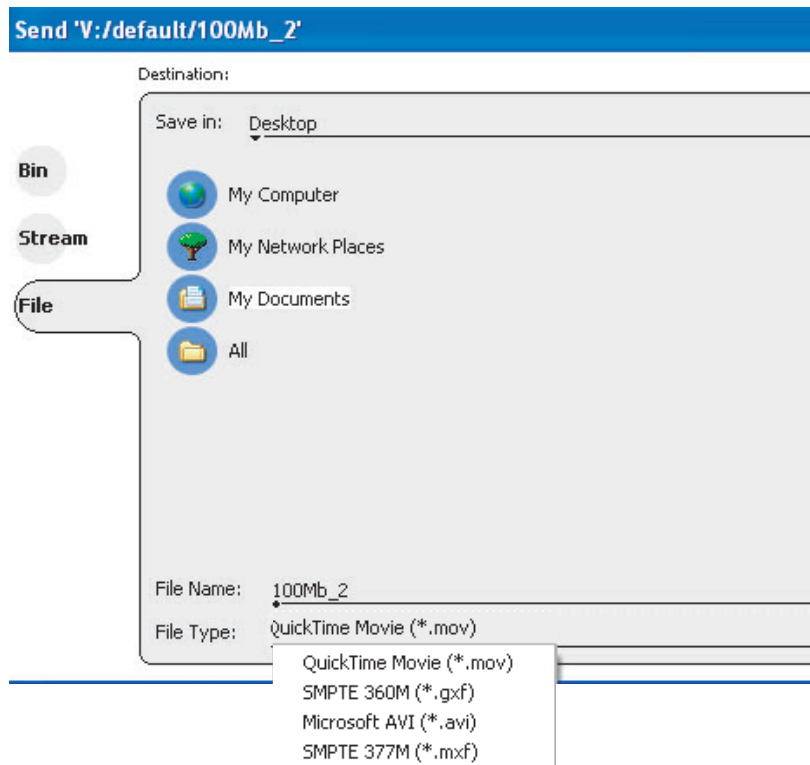
3. Click **File,** then locate and select the destination directory.

The **Save in** label shows the current destination. The list under the **Save in** label displays the contents of the current destination. You can select items in the list (such as a *machine*, drive, or folder) to explore its contents.

Clicking the up-arrow button 🔼 moves up one directory level in the storage hierarchy.

The Save in drop-down list allows you to choose from one of the most recent target locations used (history).

4. Use the **File Type** drop-down list to select the file format:

QuickTime Movie (.mov)
SMPTE 360M (.gxf)
Microsoft AVI (.avi)
SMPTE 377 (.mxf)

5. If desired, modify the destination file name using the **File Name** File Name: MyClip edit control.

6. Click **Send**.

NOTE: Export is a background task and can be monitored using the Transfer Monitor. See "Monitoring media file transfers" on page 123 to view the job status. If the operation fails for any reason, the asset is deleted from the target location.

Importing and exporting streaming media

This section includes the following:

About importing and exporting streaming media

You can transfer media between a K2 Media Client and other Grass Valley media devices using the **Import** and the **Send to** features. The K2 Media Client supports streaming media transfers over the 1Gb Ethernet port. Source or destination devices for a streaming transfer include K2 Media Client, Profile XP, or M-Series system (which requires M-Series software version 2.0.10 or higher).The format for such streaming is SMPTE 360M (*.gxf). You must configure your network for streaming transfers prior to using these features.

NOTE: If importing to or exporting from a Profile XP or an M-Series system, you must first add the remote host in Configuration Manager. For more information, see "Adding a remote host" on page 180. To import or export from a Profile XP, the Windows host file needs to be edited for Profiles. Media transfers with Profile XP require the use of a UIM. For more information on host files, see the K2 Media Client System Guide.

A transfer job is created for each "import" or "send to" operation. Once created, transfer jobs are added to the transfer job queue where they are dispatched in a first in, first out basis. Transfer jobs are handled in the order they appear in the queue. K2 Media Client can handle up to four concurrent transfer jobs. Any additional, up to 100 requests at a time, wait in the queue. You can use the Transfer Monitor to check the status of your transfer requests.

NOTE: The bit rate while streaming clips between machines is not symmetrical. For example, when streaming to a remote machine the data rate can be twice as fast as the rate streaming from a remote machine. This is due to the way transfer statistics are measured.

Movie formats for GXF imports/exports:

All video and audio segments in a GXF transferred file must be of the same media type.

Interchange Standards:

General Exchange format: SMPTE 360M GXF

Material Exchange format: SMPTE 377M MXF (SMPTE 378M or 1a)

Transfer timings

The transfer timing depends on the clip's storage location.

Type of transfer	Timing
Record-to-export Minimum delay from start of record to start of transfer	20 seconds on external storage models
Import-to-play Minimum delay between start of transfer into destination and start of play on destination	6 seconds on internal storage models. (If transferring at 1X the delay is the same as for external storage models.)
	20 seconds on external storage models

Importing streaming media

K2 Media Client allows playout of movies that are still transferring in. Make sure the bandwidth of the import task is greater than the media bitrate.

NOTE: The appearance of the asset list and file open dialog boxes is determined by the View Option setting. Use the Clips Pane context menu to choose Image or Text view.

1. In the Clips Pane, select the bin to which you want to stream media. The current bin will be the *destination* bin for the import operation.

2. Select **Clips | Import**.

   The Import dialog box opens.
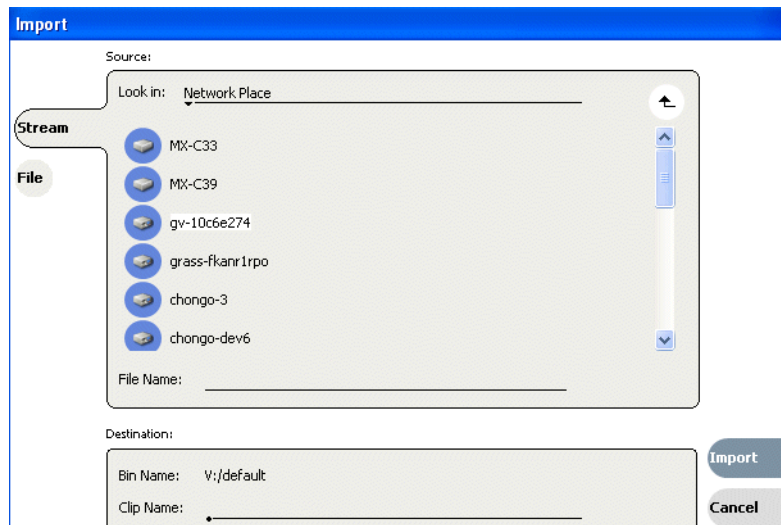
3. Click **Stream**.

4. In the Source section, browse to locate and select the source clip. (If streaming to a Profile XP system or an M-Series system, specify the volume, bin, and media asset name.)

   The **Look in** label shows the current location. The list under the **Look in** label displays the contents of the current location. You can select items in the list such as *machine*, *disk volume* or a *bin*, to explore its contents.

   Clicking the up-arrow button ⬆ moves up one directory level in the storage hierarchy.

   The **Look in** drop-down list allows you to choose from one of the most recent source locations visited (history).

5. In the Destination section, **Bin Name** displays the name of the current bin which specifies the destination bin.

6. Specify a clip name, if desired, by clicking the **Clip Name** edit control.

7. Click **Import** to start the transfer.

NOTE: Import is a background task and can be monitored using the Transfer Monitor.

Exporting streaming media

1. In the Clips Pane, select the asset(s) you want to transfer.

2. Open the Send to dialog box using one of the following steps:

   • Select **Clips | Send to**, or

   • Right-click the clip and select **Send to**.

   The Send to dialog box appears.
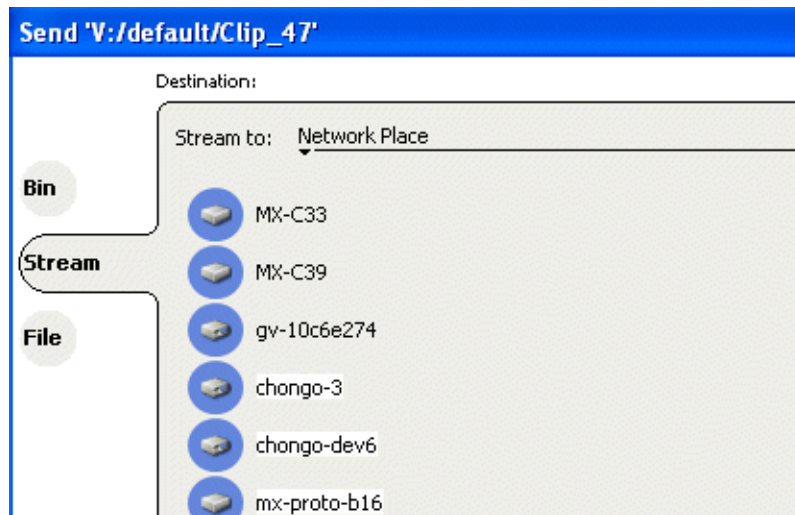
3. Click **Stream,** then locate and select the stream destination.

The **Stream to** label shows the current destination. The list under the **Stream to** label displays the contents of the current location. You can select items in the list (a *machine*, *disk volume,* or a *bin*) to explore its contents.

Clicking the up-arrow button ⬆ moves up one directory level in the storage hierarchy.

The **Stream to** drop-down list allows you to choose from one of the most recent target devices (history).

4. Click **Send** to transfer the asset(s).

NOTE: Send to is a background task and can be monitored using the K2 system Transfer Monitor tool.

Monitoring media file transfers

The Transfer Monitor is used to monitor all K2 Media Client transfer jobs and their status. A transfer job is created for each "send to" or "import/export" operation. Once created, transfer jobs are added to the transfer job queue where they are dispatched in a first in, first out basis. Up to four transfer jobs can execute simultaneously. Any additional jobs wait in the queue.

*NOTE: If the **System | Transfer Monitor** menu option is grayed out, review your level of user access. For more information, see "Types of K2 users" on page 22.*

Topics in this section include:

- "Starting the Transfer Monitor"

- "Transfer Monitor pages and buttons"

- "Viewing transfer jobs in Transfer Monitor"

- "Viewing detailed transfer job properties"

- "Removing transfer jobs from the completed list"

Starting the Transfer Monitor

To start Transfer Monitor, perform one of the following:

• Select **System | Transfer Monitor**

-or-

• In the AppCenter Statusbar, double-click the Transfer Monitor button [icon]. The Transfer Monitor button appears when a transfer job is present.

Transfer Monitor pages and buttons

In the Transfer Monitor, transfer jobs are categorized and displayed on one of three pages— Receiving, Sending, and Completed pages. On each page the transfer jobs are displayed using a thumbnail image along with a brief description of its source, destination and status. Jobs that have encountered errors are shown with a red circle next to a brief description of the error(s).

• **Source** – The source of the transfer job. If the source includes multiple files, the first file name is displayed plus a '…' sign beside it. You can find the full path of all the source files from the Properties page.

• **Destination** – The destination of the transfer job. You can find the full path of all the destination files from the Properties page.

• **Status** – For ongoing transfer jobs, the transfer rate is displayed in megabytes per second and percentage of job completed. All jobs waiting in the queue are shown as "Pending". Jobs that encountered an error or errors are displayed with a red circle next to a brief description of the error(s).

• **Properties Button** – Used to view more detailed information about a transfer job. See "Viewing detailed transfer job properties" on page 158.

• **Remove Button** – Used to abort and remove jobs from the transfer queue.

Receiving Page

The Receiving page displays all import transfer jobs.
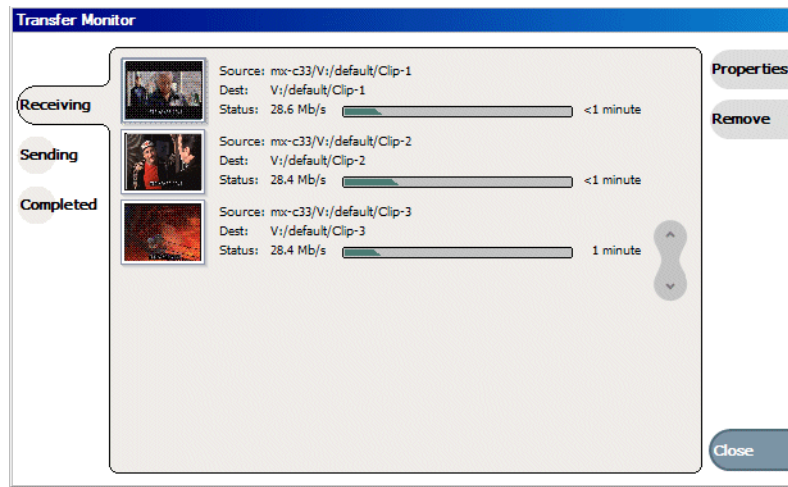
Sending Page

The Sending page displays all "Send to" transfer jobs and their status.
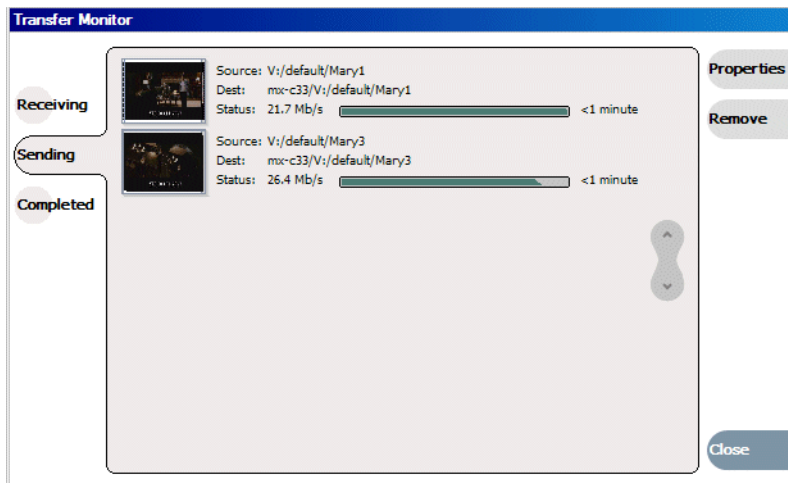
Completed Page

The Completed page displays all jobs that have completed successfully. Completed jobs are automatically cleared after approximately 36 hours. You can manually clear jobs from the completed list using **Remove** or **Remove All**.
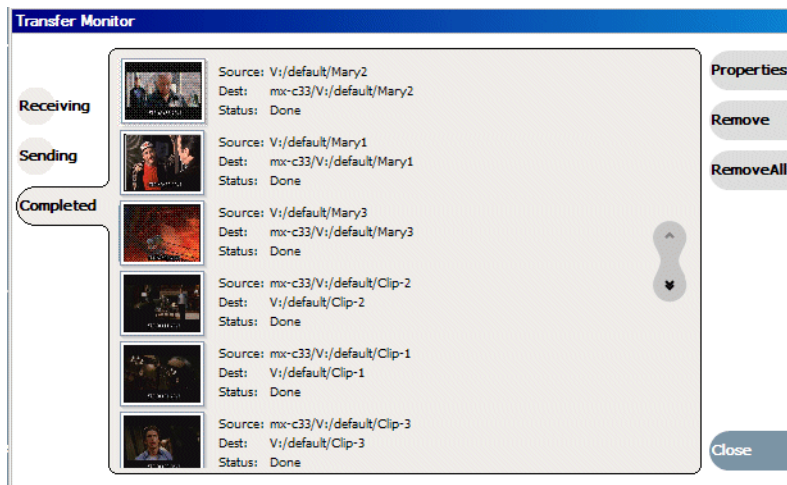
Viewing transfer jobs in Transfer Monitor

Each transfer job is displayed in the Transfer Monitor with a thumbnail image along with a brief description of its source, destination and status. Jobs that have encountered errors are shown with a red circle by them.

NOTE: When viewing transfers to or from a K2 Media Client that uses shared (external) storage, be aware that the transfer will display in Transfer Monitor referencing the name of the K2 Media Client. However, in the Import or Export dialog box, you will need to specify the name of the shared storage itself. For example, the source would listed as K2-StorageSystem/V:/TransferTest/ in the import menu but in transfer monitor it would be displayed as K2-MediaClient-B22/V:/TransferTest/.

You can find more detailed information about a transfer job from its Properties page. The Properties information can be accessed while the transfer is taking place or after it has finished, regardless of whether the media has been transferred successfully or not.

• Source: The source of the transfer job. If the source includes multiple files, the first file name is displayed plus a '…' sign beside it. You may find the full path of all the source files from the Properties page.

• Destination: The destination of the transfer job. You may find the full path of all the destination files from the Properties page.

• Status: For ongoing transfer jobs, the transfer rate is displayed in megabytes per second and percentage of job completed. All jobs waiting in the queue are shown as "Pending". Jobs that encountered errors are displayed along with an error code. You may find a more detailed error message in the Properties page.

Viewing detailed transfer job properties

1. In the Transfer Monitor, select a transfer job.
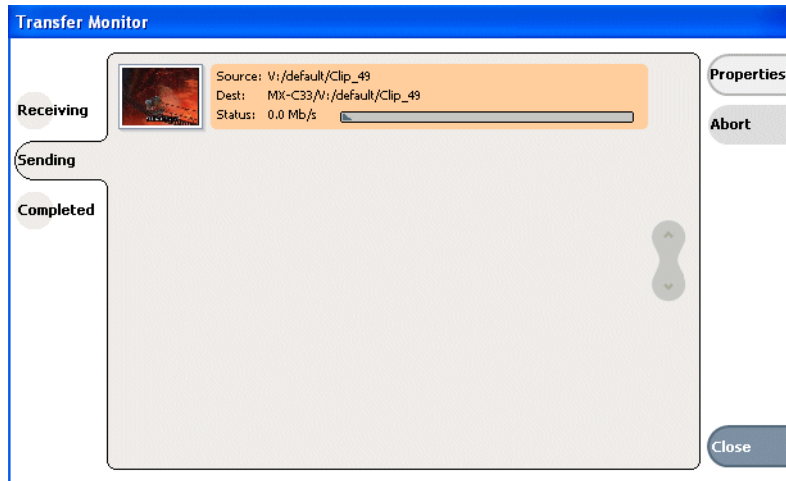
2. Click **Properties.**

3. When the Transfer Job Properties dialog box appears, select the **Transfer** tab to examine transfer properties.

Transfer properties
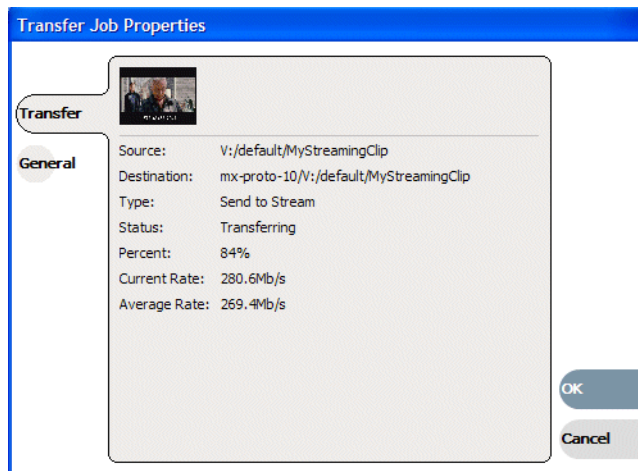
You can view the general clip properties by selecting the General tab.

General properties
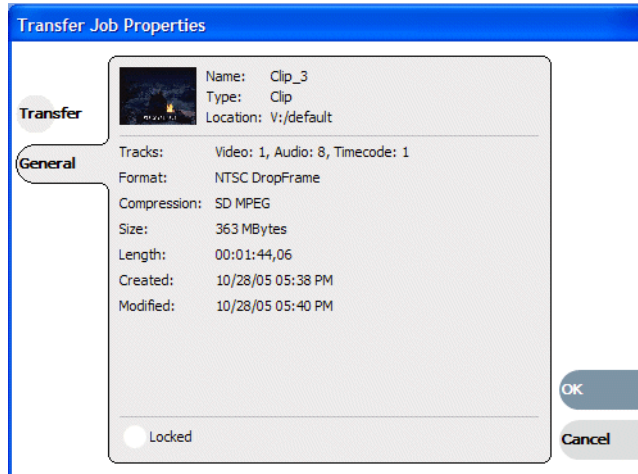
Removing transfer jobs from the completed list

You can remove transfer jobs from the Completed page.

1. In Transfer Monitor, click **Completed**.

2. Remove the transfer jobs using one of the following:

   • Select the job to remove, then click **Remove**. Or,

   • Select the jobs to remove, then click **Remove All**.

Chapter *9*

Using Channel Suites

Topics in this section include:

- "Using channel suites" on page 161
- "Using channel suites with multiple K2 systems or storage locations" on page 162

Using channel suites

You can manage your channel suites from the System menu. When you open AppCenter, the system automatically opens the last-used channel suite. If you have a channel suite already running when you open a channel suite or create a new one, a dialog box displays asking if AppCenter should shut down or suspend current channel suite and applications in it.

If you select **Close Channel Suite**, you exit AppCenter and close the channel suite. Any channels that are running are stopped.

If you select **Suspend**, you exit AppCenter but the K2 system keeps running any current application or protocol. (For example, if recording, the application keeps recording.) Channels not running an application may be commandeered by another user. If all channels are taken over in this manner, a suspended channel suite is shut down. For more information, see "Sharing channels with other users" on page 163.

If there is an unplanned shut down on the K2 Media Client, the channels in AppCenter display a "disconnected" status in the channel title bar. Select **System | Reconnect** to connect to the K2 Media Client again. If the AppCenter application crashes on your network-connected Control Point PC, connections with the K2 Media Client are put into a suspended state while waiting for the PC to reconnect. The K2 Media Client continues to run any current applications or protocol.

Managing channel suites

The following table describes the basic channel suites tasks and the actions necessary to complete them.

Task	Action
Add a Channel to a Channel Suite	In AppCenter, select **System	Suite Properties** and click **Add**.
Configure the Channel Settings	In AppCenter, select **System	Configuration.** For more information on channels, see "Introducing Channels" on page 42.

Task	Action
Create a New Channel Suite	In AppCenter, select **System	New Suite**, name the channel suite, and add channels. **Note:** you can create a new channel suite while currently running a different channel suite. When you finish creating the suite, you are offered the choice of closing down the current channel suite. If you choose to keep the current channel suite open, the new channel suite will be saved in the C:\Profile\ChannelSuites directory. You can overwrite an existing channel suite by selecting **System	New Suite**, highlighting the name of the channel suite you want to overwrite, and then proceeded as if it were an entirely new channel suite.
Delete a Channel from a Channel Suite	In AppCenter, select **System	Suite Properties** and click **Remove**. Deleting a channel removes it from the channel suite. It does not affect the channel itself. For more information on channels, see .
Delete a Channel Suite	In the Windows Explorer application, locate the channel suite. (The default location is the C:\Profile\ChannelSuites directory.) Highlight the file and hit the **Delete** key.
Open a Channel Suite	In AppCenter, select **System	Open Suite.** Channel suites are saved by default in the C:\Profile\ChannelSuites directory in XML format. **Note:** to open one of the last four recently used channels, select **System	Recent Suites**.
Organize Channels in a Channel Suite	In AppCenter, select **System	Suite Properties.** Highlight the channel you want to reorder and click either **Move Up** or **Move Down**.
Rename a Channel in a Channel Suite	In AppCenter, select **System	Suite Properties** and click **Rename**. Channel names must be 16 characters or less. **Note:** to rename an open channel suite, AppCenter must shut down all the channels and then re-open the suite.
Rename a Channel Suite	In AppCenter, select **System	Suite Properties.** In the Suite Properties dialog box, enter the new suite name and click **Save**. **Note**: renaming a channel suite while it is running will cause all the channels to stop and any clips to be ejected. AppCenter needs to reconnect to the K2 Media Client(s) that are affected by this change.

Using channel suites with multiple K2 systems or storage locations

Channel suites have the capability to operate channels from multiple K2 Media Client machines from one Control Point PC. You can move from a channel on one K2 Media Client to a channel on another without disrupting playout.

You can use a channel suite with channels that access media stored on different K2 Media Clients or K2 Storage Systems. The clip bin displayed is the bin where the channel currently active stores its clips.

You can have the same channel suite saved on different K2 Media Clients. This is useful in the event of a Control Point PC crash while running AppCenter. Within two minutes of an unplanned shut down, the K2 system suspends the channels in the

affected channel suite. If you have the same channel suite on another Control Point PC (i.e., a channel suite with the exact same name), you can open the channel suite on the other computer and continue your work.

Sharing channels with other users

Channels are used exclusively by one application and one user, but multiple users on different PCs can access different channels on the same server at the same time. You can share channels with users who are accessing the same K2 Media Client from networked-connected Control Point PCs. To release a channel, select **<None>** in the application drop-down list in the channel monitor pane. The title bar of the channel changes to "Available".

If a channel is in use by another user, you can still have the channel as part of your channel suite. In this status, the channel says "in use" in the title bar of the clip and includes information on the current user, computer, and application.
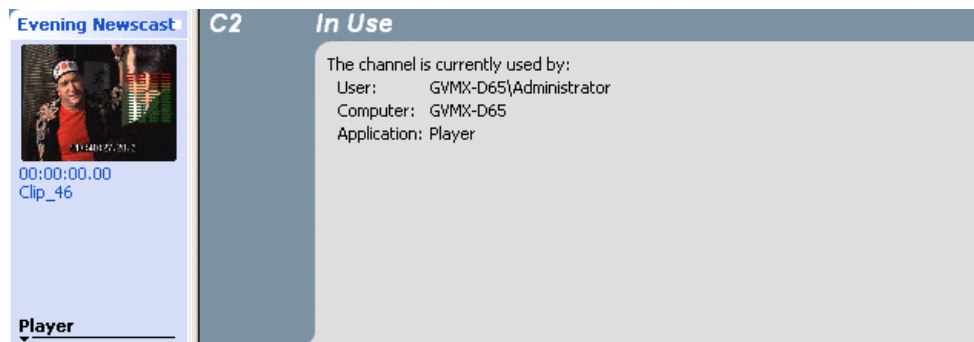
Taking over a channel

While you are using a channel, another user can commandeer it. No status message will appear on your network-connected Control Point PC when this happens, unless you shut down the channel suite and re-open it. Then the channel will display a message that an application is being run by another user.

If you click on an application drop-down list in a channel that another user has assigned an application to, you will get a pop-up message asked you to confirm that you want to take the channel over.

For example, if user1 has designated Channel 1 to run a Player application on Control Point PC1, user2 can go into Channel 1 in his channel suite on Control Point PC2 and select Recorder from the application drop-down list. User2 will see this message:

> 'Channel1:*K2 system*' is currently used by 'user1' running 'Player' on 'PC1'. Are you sure you want to take over and launch a 'Recorder' in this channel?

Clicking **Yes** will allow the second user to begin the new application on this channel.

Channel and channel suite changes considerations

Configuration changes made to channels are saved on the K2 Media Client, not the network-connected Control Point PC. If you are updating a channel suite that has channels from more than one K2 Media Client, make sure that you have selected a channel from the K2 Media Client that you want to update before you select **System | Configuration**.

Most changes made to a channel suite will be saved on the Control Point PC, with a couple of notable exceptions:

- changes that apply to all channels on a K2 Media Client, such as changing the compression format, will affect other channel suites that are accessing channels on the same machine.

- changes that require rebooting the K2 Media Client, such as switching the video reference from NTSC to PAL, will affect other channel suites accessing channels on the machine.

NOTE: Configuration changes require K2 admin access privileges.

Modifying Configurations

Information in this chapter includes:

Using Configuration Manager

Configuration Manager is the primary configuration tool for the K2 Media Client. It makes settings that apply to the overall K2 Media Client as well as settings that apply to individual channels.

You can save settings as configuration files. Configuration files are generated by the Configuration Manager application as stand-alone XML files. You can save settings out of Configuration Manager into a configuration file. Likewise, you can load settings into Configuration Manager from a configuration file.

You can use configuration files as a means to back up your settings. You can also use configuration files to save several different groups of customized settings, each with a unique name, so that you can quickly load settings for specialized applications.

NOTE: If you are accessing K2 Media Client from a Control Point PC with a channel suite that has channels from multiple K2 Media Clients, make sure that you select a channel from the K2 Media Client that you want to configure before selecting **System | Configuration.**

Opening and closing Configuration Manager

NOTE: If the **System | Configuration** *menu option is grayed out, review your level of user access. For more information, see "Types of K2 users" on page 22.*

1. On the AppCenter menu bar, click **System | Configuration**. Configuration Manager opens.
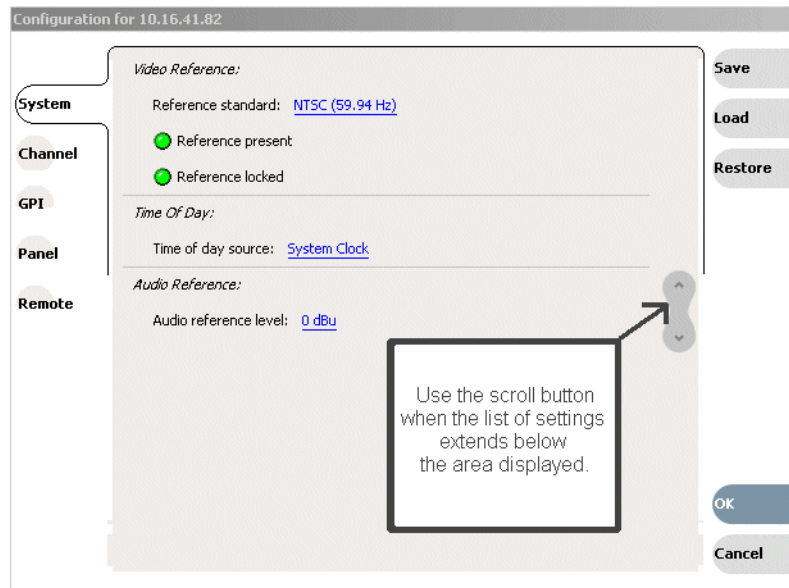
2. Select buttons, tabs, and links to find and make settings. Use the scroll button when the list of settings extends below the area displayed.

3. Close Configuration Manager as follows:

• To apply changes, complete all your modifications on all Configuration Manager screens, then select **OK**.

• To discard changes, select **Cancel**. When prompted to discard the changes and exit, select **Yes**.

On the System menu, select a configuration setting. For more information about the configuration settings, refer to procedures as follows:

To modify	Refer to
Video reference standard	"Video reference standard setup" on page 169
Recorder video setup	"Record channel video setup" on page 169
Recorder audio input	"Record channel video setup" on page 169
Player video setup	"About video scaling settings" on page 167 "Play channel video setup" on page 173
Player video output timing	"Adjusting video output timing" on page 176
Timecode setup	"Timecode setup" on page 176
GPI input triggers	"GPI triggers" on page 177
Player video speed settings	"Adjusting play speed options" on page 176
Remote host configuration	"Adding a remote host" on page 180
GPI output triggers	"GPI triggers" on page 177
Save the current configuration	"Saving and restoring your settings" on page 180

To modify	Refer to
Load a saved configuration	*"Saving and restoring your settings" on page 180*

About video scaling settings

The K2 Media Client video scaling feature allows you to play clips with different aspect ratios and picture resolutions on the same play channel. For example, a play channel configured to output standard definition (SD) video can play high definition (HD) clips. The HD clip picture resolution is down-converted to SD and, if needed, the aspect ratio is converted in the process. Similarly, SD clips are up-converted when played on a play channel configured to output HD video.

When considering video scaling settings, bear in mind the differences between the way SD K2 Media Clients and HD/SD K2 Media Clients handle video scaling settings:
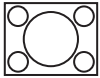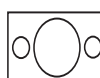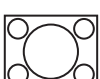
• SD K2 Media Client: Support for both 16:9 and 4:3 SD resolution formats on the same timeline. Recognition and pass through of flags indicating aspect ratio.

• HD/SD K2 Media Client: SD material is transferred or recorded into system, along with its audio and metadata, and is upconverted with selected aspect ratio when played on an HD channel. HD material is downconverted along with its audio, ancillary data, and metadata when played on SD channel. HD and SD clips can be played back-to-back.

• HD/SD K2 Media Client: Agile playout of mixed format clips displays with default or selectable modes such as bars, crop, or stretch on both SD and HD outputs.

• SD clip aspect ratio attribute: During record channel setup, you must specify whether the record channel is recording standard or widescreen video. This sets the clip aspect ratio attribute. This attribute is saved as part of the media file and used when the clip is played to determine video scaling. To set up the record channel, see *"Record channel video setup" on page 169*.

• HD video output format: During play channel setup, you must select the video output for each play channel– standard or high definition. This will determine if the clip picture resolution needs up-conversion or down-conversion. To set up the play channel video type, see *"Play channel video setup" on page 173*.

NOTE: Some video output connectors become inactive for some video type selections. For more information on video output connectors, see the K2 Media Client system guide.

• Play channel aspect ratio conversion mode: For each play channel, you must specify one of four aspect ratio conversion modes to use when the picture image needs resized. Selections include crop, bars, halfbars and stretch. For more information, see *"About aspect ratio conversion modes" on page 168*.

About aspect ratio conversion modes

The aspect ratio conversion mode setting for the play channel determines how the picture image is resized for playout. The following table shows the results of selecting different aspect ratio conversion modes for various video input types and play channel aspect ratio settings. Use the table to determine the settings required for your media type and display device.

Clip	Clip Example	Play Channel Aspect Ratio	conversion Mode Setting	Output Example	Comments
SD (4:3)		(4:3)	NA		Output same as clip. No rule necessary.
HD (16:9)		(4:3)	Bars		No information lost.
HD (16:9)		(4:3)	Half Bar		Some information lost.
HD (16:9)		(4:3)	Crop		More information lost.
HD (16:9)		(4:3)	Stretch		No information lost. Image distorted (stretched) vertically.
HD (16:9)		(16:9)	NA		Output same as clip. No rule necessary.
SD (4:3)		(16:9)	Bars		No information lost.
SD (4:3)		(16:9)	Half Bar		Some information lost.
SD (4:3)		(16:9)	Crop		More information lost.
SD (4:3)		(16:9)	Stretch		No information lost. Image distorted (stretched) horizontally.

Video scaling considerations

Take the following into consideration when working with the video scaling features of the K2 Media Client.

- For the highest video quality, select a video output format that eliminates the need for up or down conversion. This requires that you know how the source video was encoded. For example, if an imported clip was encoded at 1920x1080i, set the video output format to the same resolution.

- Some video output connectors become inactive depending on the video output format selected.

- You can only set a clip's aspect ratio attribute when it is recorded. Once a clip is recorded or imported, you cannot change the attribute. If you want to change the clip's aspect ratio attribute, you must re-record or import the clip.

- The K2 Media Client can play clips with different aspect ratio attributes in a single playlist.

Video reference standard setup

Under System| Configuration, select the System tab...	And make settings as needed…		
Reference Standard	**59.94Hz**		Choose for the NTSC standard
	50Hz		Choose for the PAL standard
	🟢	**Reference source is present**	Green LED indicates source is present. Black LED indicates source is not present.
	🟢	**The system is locked to reference**	Green LED indicates system is locked. Black LED indicates system is not locked.
Time of Day	**Time of day source**		Select whether you want the time to be based on the System clock, the LTC input, or the VITC input. **SD only:** If you select VITC or LTC input, you need to specify which channel to use as the "Time of day VITC or LTC source"

Record channel video setup

The record channel settings differ based on whether the channel is on an SD K2 Media Client or an HD/SD K2 Media Client. Because the channels on an SD K2 Media Client are bi-directional, the record and play channel settings are both located on the same channel. On an HD/SD K2 Media Client, the record and play channel settings are on separate record and play channels.

NOTE: If you are using a channel suite with channels from multiple K2 Media Clients, make sure that you have selected a channel from the K2 Media Client that you want to configure before accessing Configuration Manager.

⚠

CAUTION: When using a K2 Media Client with shared storage, bear in mind that any configuration changes that result in an increased bandwidth (such as increasing the bit rate, media formats, and ratio of record channels to play channels) will affect the load balancing. Therefore, if you change your intended use of a K2 Media Client and increase its bandwidth requirements, you risk losing media access. For a more detailed description of load balancing, see the *K2 Media Client system guide*.

The following tables describe the video record settings:

"Record channel video setup for the HD/SD K2 Media Client" on page 171

"Record channel video setup for the SD K2 Media Client" on page 172

Related topics:

"Play channel video setup: HD/SD K2 Media Client" on page 174

"Play channel video setup: SD K2 Media Client" on page 175

"Record channel audio setup" on page 173

"Play channel audio setup" on page 175

Record channel video setup for the HD/SD K2 Media Client

Under System| Configuration, select the Channel tab...	And make settings as needed…		
Video input format	NTSC (SD) or PAL (SD) (depending on video reference setting) 720p 1080i		
Compression format	MPEG		
Long GOP	Yes (IBBPBBPBBPBBPBB) No (I-frame only)		
Chroma format	4:2:2 4:2:0		
Recording data rate[a]	NTSC & PAL: SD 4:2:0 Between 2-15 Mb/s. The default value is 15. SD 4:2:2 Between 4-50 Mb/s. The default value is 25. 1080 4:2:0 Between 20-80 Mb/s. 1080 4:2:2 Between 20-100 Mb/s. 720 4:2:0 Between 12-80 Mb/s. 720 4:2:2 Between 20-100 Mb/s.		
Compress VBI	Yes (Active picture plus VBI) No (Active picture only) If No is selected, an additional option appears: **Uncompressed VBI lines (luma only)** Between 7 and 22. (Do not select line 6.) Select None or select up to 6 lines.[b] [c]		
Video input type	SDI		
VITC Input	VITC selections are only available if the video input is set to SD video.		
Automatic VITC detection	Yes (The VITC lines are specified as Starting VITC line and Ending VITC line) No (The VITC lines are specified as VITC line 1 and VITC line 2)		
Starting VITC line/ VITC line 1	NTSC: Between 10 and 20; the default value is 16. PAL: Between 6 and 22; the default value is 10.		
Ending VITC line/ VITC line 2	NTSC: Between 10 and 20; the default value is 18. PAL: Between 6 and 22; the default value is 20.		
VITC present	🟢	**Reference source is present**	Green LED indicates source is present. Black LED indicates source is not present.
Record ancillary data	Yes No		

a. Grass Valley does not recommend low bit rates for HD I-frame MPEG.

b.   If you plan to play a video clip on an HD/SD player, choose uncompressed VBI. For more information on technical specs, see the *K2 Media Client system guide*.

c.   To pass teletext (PAL only) through for playback, choose uncompressed VBI and select line 21 for the uncompressed VBI line. For more information on technical specs, see the *K2 Media Client system guide*.

Record channel video setup for the SD K2 Media Client

Under System| Configuration, select the Channel tab...	And make settings as needed…		
Compression format	D10 DV25 MPEG DVCAM DV50		
Long GOP	Yes (IBBPBBPBBPBBPBB) No (I-frame only)		
Chroma format	Select 4:2:2 or 4:2:0		
Recording data rate:	NTSC & PAL: SD 4:2:0 Between 2-15 Mb/s. The default value is 15. SD 4:2:2 Between 4-50 Mb/s. The default value is 25.		
Record VBI	Yes (Active picture plus VBI) No (Active picture only) If No is selected, an additional option appears: **Uncompressed VBI lines (luma only)** Between 7 and 22. (Do not select line 6.) Select None or select up to 6 lines.		
Video input type	SDI		
Starting VITC line	NTSC: Between 10 and 20; the default value is 16. PAL: Between 6 and 22; the default value is 10.		
Ending VITC line	NTSC: Between 10 and 20; the default value is 18. PAL: Between 6 and 22; the default value is 20.		
VITC present	●	**Reference source is present**	Green LED indicates source is present. Black LED indicates source is not present.

Record channel audio setup

Under System| Configuration, select the Channel tab...	And make settings as needed…	
Audio input	AES/EBU Embedded	
Number of audio inputs	2 4 (Maximum for AES) 6 8	
Embedded input group(s)	**2 or 4 inputs**: Group 1 Group 2 Group 3 Group 4	**6 or 8 inputs**: Group 1 & 2 Group 3 & 4
Audio input format	16-bit PCM 24-bit PCM AC-3 Dolby-E	
Timing offset	Between -200ms and 200ms	
Channel monitoring (displays audio meters)	Yes No	

Play channel video setup

The play channel settings differ based on whether the channel is on an SD K2 Media Client or an HD/SD K2 Media Client. Because the channels on an SD K2 Media Client are bi-directional, the record and play channel settings are both located on the same channel. On an HD/SD K2 Media Client, the record and play channel settings are on separate record and play channels.

NOTE: If you are using a channel suite with channels from multiple K2 Media Clients, make sure that you have selected a channel from the K2 Media Client that you want to configure before accessing Configuration Manager.

The following tables describe the play settings:

Related topics:

Play channel video setup: HD/SD K2 Media Client

Under System| Configuration, select the Channel tab...	And make settings as needed…	
Video Output Type For information on HD/SD up and down conversions, see the *K2 Media Client system guide*.	**NTSC**	This choice available when Video Reference is 59.94Hz (NTSC).
	PAL	This choice available when Video Reference is 50Hz (PAL)
	1080i (1920x1080i)	
	720p	
Aspect ratio conversion	**Bar** **Crop** **Half Bar** **Stretch**	Refer to "About video scaling settings" on page 167.
Still-play mode Still-Play mode settings determine how to generate the still-play signal for the play channel when it is setup to freeze on last frame of video in stop mode. You can select line interpolated, or interlaced.	**Field (LIne-interpolated)**	This is the default setting and uses the content of one field for both fields during still-play for a one field freeze. This mode eliminates the motion jitter that can be present in Interlaced mode. (This is the only setting available for the 720p format.)
	Frame (Interlaced)	This mode displays two fields in still play mode for a two field freeze. With this mode you might see some motion jitter in still-play.
Test Mode (Colorbars + Tone)	**On** **Off**	Temporarily displays 75% colorbar signal on the channel output. It also generates an audio tone on all audio outputs. This setting is for test purposes only, so it is not saved.

Play channel video setup: SD K2 Media Client

Under System| Configuration, select the Channel tab...	And make settings as needed…	
Still-play mode Still-Play mode settings determine how to generate the still-play signal for the play channel when it is setup to freeze on last frame of video in stop mode. You can select line interpolated, or interlaced.	**Field (LIne-interpolated)**	This is the default setting and uses the content of one field for both fields during still-play for a one field freeze. This mode eliminates the motion jitter that can be present in Interlaced mode.
	Frame (Interlaced)	This mode displays two fields in still play mode for a two field freeze. With this mode you might see some motion jitter in still-play.
Test Mode (Colorbars + Tone)	**On** **Off**	Temporarily displays 75% colorbar signal on the channel output. It also generates an audio tone on all audio outputs. This setting is for test purposes only, so it is not saved.
VITC output generator	**On** **Off (If Off is selected, you cannot adjust VITC lines 1 and 2)**	
VITC line 1	Between 6 and 22. If referencing PAL, the default value is 10; if NTSC, the default value is 16.	
VITC line 2	Between 6 and 22. If referencing PAL, the default value is 20; if NTSC, the default value is 18.	

Play channel audio setup

Under System| Configuration, select the Channel tab...	And make settings as needed…
Embedded output group(s)	None Group 1 & 2 Group 3 & 4
Timing offset	Between -200ms and 200ms
Channel monitoring (displays audio meters)	Yes No

Adjusting video output timing

Under System| Configuration, select the Channel tab…	And make settings as needed…	
Video Timing	**Frames**	Delays video output. Range: NTSC 0-1 frames, PAL 0-3 frames
	Lines (coarse)	Delays the video output. Range: NTSC (525 lines) 0-524 lines, PAL (625 lines) 0-624 lines.
	Samples (fine)	Delays the video output. Range: NTSC (525 lines) 0-1715 clock samples, PAL (625 lines) 0-1727 clock samples.

Adjusting play speed options

Under System| Configuration, select the Panel tab…	And make settings as needed…
Jog speed	Playback advances or retards one frame at a time according to the direction of the setting.
Shuttle speed	Sets the speed for shuttle play or playback.
VAR setting	Variable speed play. Specify the play speed; otherwise, the speed remains at the preset play speed or the last variable play speed used.
Always start at VAR preset	Initial play speed can be set to start at the preset speed.

Timecode setup

Under System| Configuration, select the System tab…	And make settings as needed…		
Time of Day	**Time of day source**	System clock	This settings uses the Windows operating system clock. If you select this source you should verify that the clock's time is correct.
		VITC input	Choose if using VITC timecode
		LTC input	Choose if using LTC timecode.
		Time of day source (SD only)	If using VITC or LTC as the time of day, select which channel you want to use as the Time of Day source.

GPI triggers

GPI pins have user-assignable names. The GPI functions can be assigned as explained in the following table.

Under System| Configuration, select the GPI tab…	And make settings as needed…		
GPI Input 1 **.** **.** **.** **GPI Input 12**	**Trigger channel(s)**	**R1, R2, P1, P2, P3 (HD)** **or** **C1, C2, C3, C4 (SD)**	Select the channel to trigger the GPI input.

Under System|Configuration, select the GPI tab…	And make settings as needed…		
GPI Input 1 . . . **GPI Input 12**	**Trigger action**	**Play**	Play current loaded clip or playlist in assigned Player channel.
		Record	Start recording a clip in Recorder channel.
		Stop	Stop playback or record of assigned channel.
		Rewind	Rewind playback of assigned channel. Channel will stay in rewind mode until the beginning of clip is reached or another transport action is taken.
		Fast Forward	Fast forward playback of assigned channel. Channel will stay in the fast forward mode until the end of clip is reached or another transport action is taken.
		Cue Start	Cue to start of clip loaded in Player or Playlist channel.
		Cue End	Cue to end of clip loaded in assigned channel.
		Eject	Ejects the current clip.
		Preview	The current clip in the record channel is loaded in a play channel. *NOTE: You can use* **Eject** *prior to* **Preview** *if a clip is already loaded in the Play channel.*
		Cue Next Event	Goes to next event in a Playlist and stops.
		Cue Prev Section	Goes to previous event in a Playlist and stops.
		Cue Next Event	Goes to next section in a Playlist and stops.
		Cue Prev Section	Goes to previous section in a Playlist and stops.
		VAR Playback	Plays loaded clip in VAR mode with pre-set speed as set in "Adjusting play speed options" on page 176.
GPI Input 1 . . . **GPI Input 12**	**Active**	**High** **Low**	Select the active signal (high or low) required. This is determined by the external equipment connected to the GPI input.

Under System| Configuration, select the GPI tab…	And make settings as needed…		
GPI Output 1 . . . GPI Output 12	Channel	R1, R2, P1, P2, P3 (HD) or C1, C2, C3, C4 (SD)	Select the channel to trigger the GPI output.
GPI Output 1 . . . GPI Output 12	Trigger Name	GPI-Out-X	Enter the name of the action triggered by the GPI output.
GPI Output 1 . . . GPI Output 12	Active	HIgh Low	Select the active signal (high or low) required. This is determined by the external equipment connected to the GPI output.

NOTE: If you want to play a list that was created on another play channel, you must ensure that GPI triggers assigned to the play channels use the same names; otherwise the GPI triggers will not occur. Using identical GPI naming also allows copying and pasting sections and events between lists.

Adding a remote host

Under System| Configuration, select the Remote tab…	And make settings as needed…
Host name	Enter the name or the IP address of the K2 Media Client where you want to import or export streaming media assets. (Grass Valley recommends that you use host names. For more information on host files, see the *K2 Media Client system guide*.)
Controller Id	Select a Controller id when adding a remote host that uses AMP remote control protocol.

Saving and restoring your settings

Under System| Configuration, select this item…	And make settings as needed…
Save	This dialog box allows you to save a configuration XML file on the K2 Media Client's Windows file system.
Load	This dialog box allows you to restore configuration settings from an XML file on the K2 Media Client's Windows file system.
Restore	Returns all configuration settings to their default values.

For more information on using Configuration Manager, refer to the *K2 Systems Guide*.

Chapter **11**

Using Remote Control

Information in this chapter includes:

Using remote control protocols

You can control the K2 Media Client using remote control devices and applications software developed for the K2 system that use industry-standard serial control protocols. You can enable remote control mode from AppCenter.

Topics included here:

About remote control and supported protocols

The following table shows the remote control protocols supported:

Supported Protocols	Comments
AMP	Advanced Media Protocol (AMP) - AMP is an extension of the Odetics protocol.
BVW	BVW Protocol - supports standard set of commands used for VTR machine control. BVW Insert Edit, used by most edit control panels, is not supported.
VDCP	Video Disk Control Protocol

Refer to the following topic to enable remote control:

About AMP protocol support

You can use Advanced Media Protocol (AMP) to control K2 Media Client record and play channels. This protocol is an extension of the Odetics protocol. External control devices can be connected via rear panel RS-422 serial connectors or an Ethernet network connection.

Two-Head Player Model

The AMP protocol supports the use of a *two-head player model* in that two clips are loaded simultaneously, as follows:

- *Current clip* — The AMP "preset id" is considered the current clip that controls channel resources.

- *Preview clip* — The AMP "preview preset id" is considered the preview clip. Generally the preview clip begins playing after the current clip completes, at which point the preview clip becomes the current clip.

NOTE: If you use AMP remote protocol to perform video network transfers, you must setup the video network and the Controller ID as described in the Systems Connections and Configurations chapter of the K2 Media Client system guide.

AMP Local/Remote mode

In AppCenter, you can select *Protocol control only* or *Local and Protocol control*. The *Local and Protocol control* mode allows you to control the K2 system remotely, but also allows some local control at the same time.

Protocol control only mode – You can only monitor operations on the K2 system. You cannot perform *any* control operations locally. All control comes from the external device. The buttons, menu items, and other interface controls are disabled. From the local K2 system, you can see the control operations as they take place, but you can't control channel resources using the user interface on the K2 system.

Local and Protocol control mode – Both local and remote control are allowed. Control comes from the external device, but at the same time, all user interface controls are enabled.

Local and Protocol control mode is available only when remote control is enabled from AppCenter.

About BVW protocol support

You can use BVW protocol to control K2 system record and play channels. External control devices can be connected via rear panel RS-422 serial connectors. (Ethernet is not available for BVW.) The K2 system supports a standard set of BVW commands used for VTR machine control. BVW Insert Edit, used by some edit control panels, is not supported.

About VDCP protocol support

You can use the Video Disk Control Protocol (VDCP) to control K2 system record and play channels. External control devices can be connected via rear panel RS-422 serial port connectors. (Ethernet is not available for VDCP.) VDCP Player supports the use of a two-head model in that two clips are loaded simultaneously, as follows:

• Current clip — The VDCP "preset id" is considered the current clip that controls channel resources.

• Preview clip — The VDCP "preview preset id" is considered the preview clip. Generally the preview clip begins playing after the current clip completes, at which point the preview clip becomes the current clip.

Making RS-422 or Ethernet connections

Serial protocol control is available through four 9-pin RS-422 serial port connectors mounted on the K2 Media Client rear panel or, if using AMP, through an Ethernet network connection. For more information on RS-422 protocol connections, see .

You can configure a channel for remote control from either locally or through a network-connected Control Point PC. Operating remote control from AppCenter provides extended features that allow local and remote control at the same time.

Topics in this section include:

-

Enabling remote control

You can configure a channel for remote control operation from AppCenter. If the channel is in use at the time, all channel activity is terminated and the current media is ejected prior to switching to remote control mode.

This procedure contains two sections:

-
-

Select a control protocol

1. In the monitor pane, click the control application drop-down ⌄ Player list for the channel, then choose a remote protocol.

   The channel changes to remote control application and becomes the selected channel.

2. Proceed to "Select the control port and control mode".

Select the control port and control mode

After enabling remote control application, you must select a control port and control mode: Protocol control only or Local and Protocol control.

1. Click the channel monitor in the Monitor Pane.

2. In AppCenter main menu, click the remote control player or recorder application as appropriate, then choose **Options**.

   The Local/Remote dialog box is displayed.
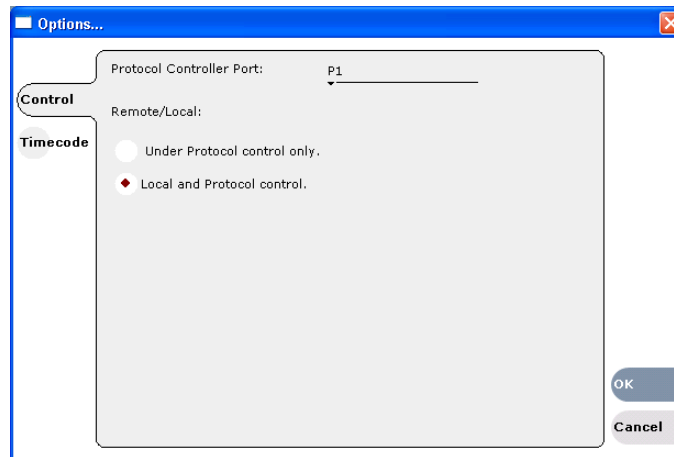
3. Select the remote control port as follows:

   a. Temporarily set the Remote/Local option to **Local and Protocol control**.

b. Use the Protocol Controller Port drop-down list to choose a remote control port.

You can select the Ethernet port (AMP only) or one of the RS-422 ports P1-P4. (The designations P1, P2, P3, P4 here refer to Port 1, Port 2, and so on. Do not confuse them with the Player channels P1, P2, etc.) When using AMP protocol with Ethernet, channels must always be identified as 'VTR1', 'VTR2', etc.
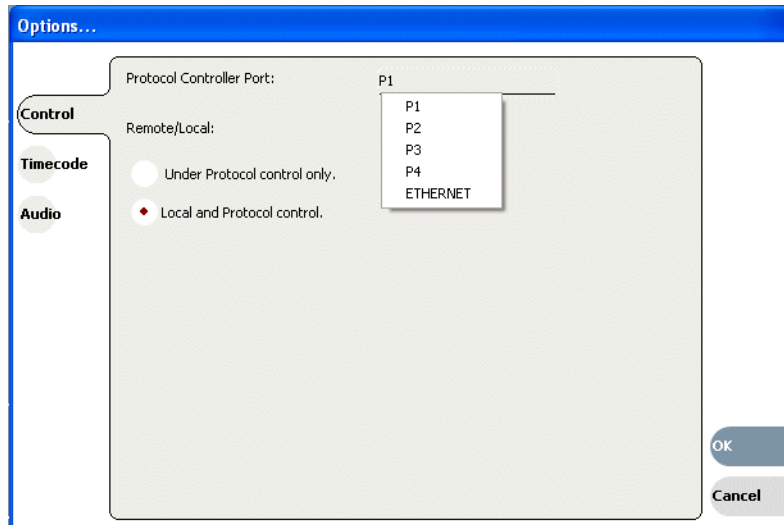
4. If choosing AMP protocol, select the Remote/Local control option as required by your control system:

- *Protocol control only* — Disables local control. The K2 system is controlled only from the remote device. The K2 system display is used to monitor the channel status and control operations as they take place remotely.

- *Local and Protocol control* — Local control is enabled. You can use the AppCenter Workstation interface and front panel transport controls to control the channel even though remote control is enabled. With this setting, you must take care to avoid conflicts between local and remote control.

5. If using AMP protocol to perform video network transfers, you must setup the video network and the *Controller ID*. Refer to the *K2 Media Client system guide*.

6. Test the system and recheck settings, if required.

Guide to Remote Control Protocol Recorder

1 **Assignable Buttons** (Default buttons are shown)

2 **Current Timecode**

3 **Timecode Source** (Switch to local control mode to modify)

4 **Clip Name & Current Bin**

5 **Thumbnail**

6 **Time Dome**

Protocol Mode	Description
Protocol only	Allows you to monitor only the record channel operations and view clip information. All control comes from the external device. The buttons, menu items, and other interface controls are disabled. You can select this mode by choosing the **Protocol control only** option in the Options dialog box. (See "Select the control port and control mode" on page 184.)
Local and Protocol	Allows you to control the record channel locally as well as remotely. You can select this mode by choosing **Local and Protocol control** in the Options dialog box. (See "Select the control port and control mode" on page 184.)

Guide to Remote Control Protocol Player

Protocol Mode	Description
Protocol only	Allows you to only monitor play channel operations and view clip information. All control comes from the external device. The buttons, menu items, and other interface controls are disabled. You can select this mode by choosing the **Protocol control only** option in the Options dialog box. (See "Select the control port and control mode" on page 184.) Channel status information displayed includes current clip timecode, current clip name, countdown to the preview clip, and preview clip name.
Local and Protocol	Allows you to control a play channel locally as well as remotely to play clips. You can select this control mode by choosing **Local and Protocol control** in the Options dialog box. (See "Select the control port and control mode" on page 184.)

Playout using current and preview clips

The AMP and VDCP Player applications use a two-head model in that two clips are loaded simultaneously, as follows:

• Current clip — The "preset id" is considered the current clip that controls channel resources, video, audio, and timecode outputs.

• Preview clip — The "preview preset id" is considered the preview clip. Generally the preview clip begins playing after the current clip completes, at which point the preview clip becomes the current clip.

If you don't need this functionality you can use the protocol player applications just like the standard player, loading and playing a single clip.

To playout using current and preview clips:

1. Select **View | Split Screen**, if you are not in Split Screen view already.

2. Select a play channel

3. Load a clip from the Clips pane using one of the following:

   • Click the clip and drag it to the Player pane.

   • Select the clip, then choose the Load button in the Clips pane.

   • Double-click on a clip.

   • Select a clip, then press Enter on your keyboard.

   The clip is loaded as the current clip and the thumbnail appears.

Using GPI input and output triggers

The K2 Media Client provides 12 GPI inputs and 12 GPI outputs on a single DB-25 pin rear panel connector. GPI input triggers can be used to control channels including but not limited to record, play, stop, and skip a playlist event. GPI output triggers can be defined for channels and inserted in playlists to control external equipment as the list is played.

For information about GPI connectors, see the *K2 Media Client system guide*.

Configuring GPI triggers

Use the configuration tool provided in the AppCenter file menu. Select **System | Configuration** to define the GPI inputs or outputs for a channel. For more information, see .

Related topic

Appendix **A**

Keyboard Shortcuts

Topics in the appendix include:

- "About keyboard operation"
- "Channel select"
- "Basic transport controls"
- "Off-speed play controls"
- "Stop-Mode transport controls"
- "List controls"
- "Playlist controls"

About keyboard operation

A keyboard can be used to control the K2 Media Client. The following describes the keyboard shortcuts available. Keyboard shortcuts are disabled when text entry dialog boxes are open.
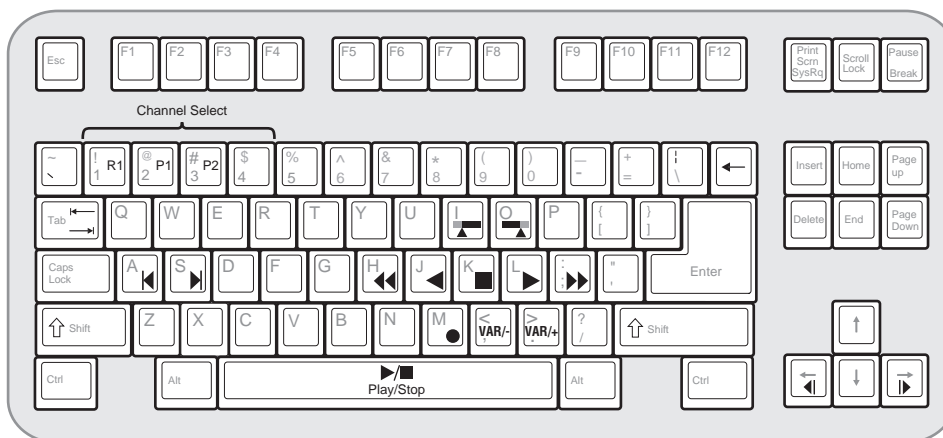
Channel select
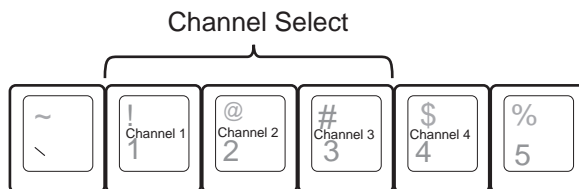
Basic transport controls
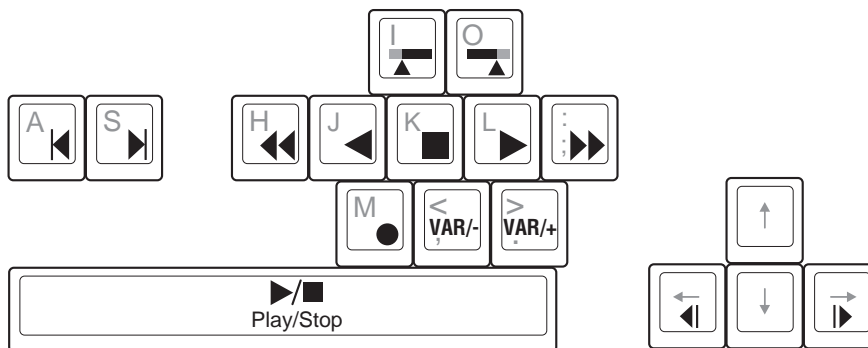
Off-speed play controls

For this action...	Press
Play faster	Shift + L (Repeat this key sequence to increment the play speed up to the maximum forward shuttle speed.)
Play slower	Shift + J (Repeat this key sequence to decrement the play speed up to the maximum reverse shuttle speed.)
VAR/speed increment	period (.) (Press for VAR play mode, then repeat to increment VAR speed.)
VAR/speed decrement	comma (,) (Press for VAR play mode, then repeat to decrement VAR speed.)

Stop-Mode transport controls

For this action...	Press
Cue to mark-in	A, Shift + I
Cue to mark-out	S, Shift + O
Next frame	Arrow-right
Previous frame	Arrow-left
Go forward 1 second	Shift + Arrow-right
Go back 1 second	Shift + Arrow-left

Mark-Point and Cue controls

For this action...	Press
Set mark-in	I
Set mark-out	O
Clear mark-in	Ctrl + I
Clear mark-out	Ctrl + O

Miscellaneous controls

Action	Press
Copy	Ctrl + C
Cut	Ctrl + X
Paste	Ctrl + V
Open online help	F1

List controls

The following shortcuts are used to control lists such as text view in Clips pane, or Playlist's List view.

Action	Press
Select previous item in list	Up arrow
Select next item in list	Down arrow
Scroll to previous page	Page Up
Scroll to next page	Page Down
Scroll to top of list	Home
Scrolls to bottom of list	End
Delete current selection	Delete, Backspace

Playlist controls

Action	Press
Next event	Shift +S, Ctrl + S, Ctrl + Arrow-right
Previous event	Shift +A, Ctrl + A, Ctrl + Arrow-left
Next section	Shift + Ctrl + S, Shift + Ctrl + Arrow-right
Previous section	Shift + Ctrl + A, Shift + Ctrl + Arrow-left
Goto an event	Hold down the Alt key while clicking the event

Glossary

Ancillary Data

Digital data carried in the non-active video regions of a serial digital interface (SDI) stream as defined by SMPTE 291M.

AppCenter

An application framework that runs on a K2 Media Client. AppCenter provides a single interface to control channels and channel suites to record, play, or manage media assets such as clips and playlists.

Assignable Buttons

Buttons that can be assigned to different functions than their current ones. You can change the order that buttons appear in some button groups to better suit your workflow. Clicking and holding on a button causes a pop-up menu to appear that lists the alternative button choices for the button.

Bin

A container used to organize assets like clips and lists in the same way as directories or folders are used on a typical computer system. A bin is associated with a single disk volume.

CIFS

CIFS (Common Internet File System) protocol permits client access to assets through a common file-sharing method that provides the ability to remotely browse shared folders and to read, write, edit, copy, delete and update files. CIFS access is appropriate for applications that don't require real-time response to file access or for applications that don't require the movement of large volumes of media.

Channel

A set of resources that together have the ability to record or play media.

Channel Application

An application in a setting in an AppCenter channel that designates the channel to perform a specific task such as recording or playing. When AppCenter starts, each channel comes up in an application.

Channel Pane

Displays each channel in its current mode. Only one channel can be selected at a time. The currently selected channel is displayed with transport controls, View tabs, and a white background.

Channel Suite

A collection of up to 16 channels. Channels can be accessed through channel suites. Channel suites allow you to customize the channels to run particular applications or save the clips to specific locations.

Clip Thumbnail

Used for visual identification of a clip. By default, the thumbnail is generated from the 16th frame of video. You can select a new thumbnail using Player. If no thumbnail is available, an icon is displayed showing there is no thumbnail.

Clips Pane

Displays media stored on the K2 system and provides controls for media management.

Configuration Manager

A tool in K2 Media Client that configures system settings.

Control Point PC

The software application used to run AppCenter on a K2 Media Client from a network-connected PC.

Crash Record Mode

A mode that occurs when you start recording without specifying a clip name. The clip is given a default name.

Cross Conversion

Conversion between two video formats of the same definition (SD or HD). Primarily used when converting from 1080i to 720p and vice versa.

Down Conversion

Conversion of an HD (high definition) video format to an SD (standard definition) video format.

Drop Frame

Drop frame is a timecode adjustment that applies to NTSC video only. Due to the framerate of NTSC, a system that normally outputs 30 frames per second must adjust timecode by subtracting two frames every minute except every tenth minute to achieve the effective framerate.

Drop Frame Timecode

Drop-frame time code yields precise running times, but frames are not all numbered sequentially. A frame number must be dropped periodically to keep the clock right. In non-drop time code, all frames are numbered sequentially, but the ending time code of a program does not accurately give the program's length.

Ethernet

A local area network used with some remote protocol applications; it operates over twisted wire and over coaxial cable.

Fibre Channel

A general set of integrated standards developed by ANSI for flexible information transfer over multiple physical interface types.

FTP

File Transfer Protocol is a common IT protocol for the bulk movement or transfer of large volumes of data. K2 Media Servers can handle multiple FTP transfers simultaneously at faster than real-time speeds.

GPI

General Purpose Interface. GPI triggers are physical connections between two pieces of equipment. Typically GPI triggers are based on a change of state on a monitored pin of the serial port. For instance you could create a GPI trigger that was operated by a port on a piece of broadcast equipment.

HD

High Definition video.

iSCSI

Internet SCSI (small computer storage interface) is a storage access protocol that can use a transport layer such as Gigabit Ethernet rather than be restricted to the short distances determined by computer hardware buses. K2 Media Servers use iSCSI for clients that need to deliver media assets with real-time performance. The tuning and optimizing done by Grass Valley permits the use of iSCSI to deliver unparalleled, high-throughput, and deterministic performance.

K2 Media Client

A Broadcast Enterprise Server that incorporates IT server platform and storage technologies.

Meter Bar

Contains the audio record level controls and signal meters for a channel in AppCenter.

Monitor Pane

Displays the current information for the channel. Displays a thumbnail of the clip currently loaded in the channel and indicates the current application for the channel. Contains a drop down menu for changing the channel's application. For the currently selected channel, the monitor pane is larger and has a white background.

Non Drop Frame Timecode

In non-drop time code, all frames are numbered sequentially, but the ending time code of a program does not accurately give the program's length. Drop-frame time code yields precise running times, but frames are not all numbered sequentially. A frame number must be dropped periodically to keep the clock right.

Pane

A viewing area in a primary window that contains one or more controls. The AppCenter interface is divided into three panes, which are used to display the channel monitors, control applications, and manage clips. To activate a pane, click on it. Only one pane is active at a time.

Program

A clip generated from a playlist. A program includes all the media in the playlist, but does not include any event that breaks the flow of playout such as a pauses between events.

Protocol

A convention for data transmission that defines timing, control, format, and data transmission.

RS-422

A standard interface, 9-pin serial port connector used with some remote protocol applications; it supports multipoint connections.

SD

Standard Definition video.

Status Bar

Displays status and error messages.

Subclip

A clip created by referencing a portion of media from another clip.

Timecode Striping

Striping a timecode allows you to overwrite the existing timecode track for a loaded clip.

Time Dome

A multi-function indicator that displays either record progress only, or available storage and record progress. It also indicates when the record channel is in Loop Record mode.

Transfer Monitor

A tool in AppCenter that monitors media transfers and file imports and exports.

Up Conversion

Conversion of an SD (standard definition) video format to an HD ((high definition) video format.

Volume

The set of media drives that functions as a single physical disk in the K2 Media Client. The K2 system uses 'V:' for the volume name.

Widescreen Mode

An aspect ratio of 16:9, as opposed to an aspect ratio of 4:3.

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