



BlackStorm Server User Guide

Version 1.0

BlackStorm Server • User Guide

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Important Regulatory and Safety Notices to Service Personnel

Before using this product and any associated equipment, read all the Important Safety Instructions listed below so as to avoid personal injury and to prevent product damage.

The BlackStorm system makes use of a number of individual component products to make up a complete turnkey system. The Important Safety Instructions section of this manual is intended to compliment individual OEM product manuals and the User must refer to, and heed, any safety instruction outline in these supplementary product manuals.

This system may also require specific equipment, and /or installation procedures be carried out to satisfy certain other regulatory compliance requirements. Notices have been included in this publication to call attention to these specific requirements.

Symbol Meanings



Protective Earth — This symbol identifies a Protective Earth (PE) terminal, which is provided for connection of the supply system's protective earth (green or green/yellow) conductor.



This symbol on the equipment refers you to important operating and maintenance (servicing) instructions within the Product Manual Documentation. Failure to heed this information may present a major risk of damage or injury to persons or equipment.



Warning — The symbol with the word "**Warning**" within the equipment manual indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Caution — The symbol with the word "**Caution**" within the equipment manual indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



Warning Hazardous Voltages — This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product enclosure that may be of sufficient magnitude to constitute a risk of shock to persons.



ESD Susceptibility — This symbol is used to alert the user that an electrical or electronic device or assembly is susceptible to damage from an ESD event.

Important Safety Instructions

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.



Warning

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with a dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with manufacturer's instructions.
- 8) Do not install near heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The third prong is provided for your safety. If the provided plug does not fit in to your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Unplug this apparatus during lightning storms or when unused for long periods of time.

- 13) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug damage, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- 14) Do not expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
- 15) To completely disconnect this apparatus from the AC Mains, disconnect all power supply cord plugs from the AC receptacles.
- 16) The mains plug of the power supply cords shall remain readily operable.
- 17) The BlackStorm Server chassis is to be rack mounted only. To ensure safe operation and maintain long-term system reliability, proper installation requires that the front and back area of the chassis are clear from obstructions so as not to restrict airflow.
- 18) Indoor Use: WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
- 19) The safe operation of this product requires that a protective earth connection be provided. A grounding conductor in the equipment's supply cord provides this protective earth. To reduce the risk of electrical shock to the operator and service personnel, this ground conductor must be connected to an earthed ground.
- 20) WARNING: This apparatus when equipped with multiple power supplies can generate high leakage currents. To reduce the risk of electric shock ensure that each individual supply cord is connected to its own separate branch circuit with an earth connection.
- 21) Service barriers within this product are intended to protect the operator and service personnel from hazardous voltages. For continued safety, replace all barriers after servicing.
- 22) CAUTION: This apparatus contains a Lithium battery, which if replaced incorrectly, or with an incorrect type, may cause an explosion. Replace only with the same type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instruction by qualified service personnel.
- 23) Certain parts of this equipment still present a safety hazard, with the power switch in the OFF position. To avoid electrical shock, disconnect all A/C power cords from the chassis' rear appliance connectors before servicing.
- 24) This product contains safety critical parts, which if incorrectly replaced may present a risk of fire or electrical shock. Components contained within the product's power supplies and power supply area, are not intended to be customer serviced and should be returned to the factory for repair.
- 25) To reduce the risk of fire, replacement fuses must be the same type and rating.
- 26) Use only power cords specified for this product and certified for the country of use. Refer to the Product Power Cord Requirement Section that follows.
- 27) The Safe operation of this equipment requires that the User heed and adhere to all installation and servicing instruction contained within the equipment's Engineering Manuals.

EMC Notices

US FCC Part 15

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.



Notice Changes or modifications to this equipment not expressly approved by Ross Video Ltd. could void the user's authority to operate this equipment.

CANADA

This Class "A" digital apparatus complies with Canadian **ICES-003**.

Cet appareil numérique de la classe "A" est conforme à la norme **NMB-003** du Canada.

EUROPE

This equipment is in compliance with the essential requirements and other relevant provisions of **CE Directive 93/68/EEC**.

INTERNATIONAL

This equipment has been tested to **CISPR 22:1997** along with amendments **A1:2000** and **A2:2002** and found to comply with the limits for a Class A Digital device.



Notice This is a Class A product. In domestic environments, this product may cause radio interference, in which case the user may have to take adequate measures.

Warranty and Repair Policy

Ross Video Limited (Ross) warrants its BlackStorm Server systems to be free from defects under normal use and service for the following time periods from the date of shipment:

- **BlackStorm Server** — 12 months
- **BlackStorm Server Software Upgrades** — 12 months free of charge
- **System and Media hard drives** — 36 months

If an item becomes defective within the warranty period Ross will repair or replace the defective item, as determined solely by Ross.

Warranty repairs will be conducted at Ross, with all shipping FOB Ross dock. If repairs are conducted at the customer site, reasonable out-of-pocket charges will apply. At the discretion of Ross, and on a temporary loan basis, plug in circuit boards or other replacement parts may be supplied free of charge while defective items undergo repair. Return packing, shipping, and special handling costs are the responsibility of the customer.

This warranty is void if products are subjected to misuse, neglect, accident, improper installation or application, or unauthorized modification.

In no event shall Ross Video Limited be liable for direct, indirect, special, incidental, or consequential damages (including loss of profit). Implied warranties, including that of merchantability and fitness for a particular purpose, are expressly limited to the duration of this warranty.

This warranty is TRANSFERABLE to subsequent owners, subject to Ross' notification of change of ownership.

Extended Warranty

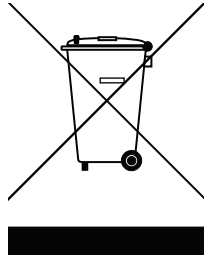
For customers that require a longer warranty period, Ross offers an extended warranty plan to extend the standard warranty period by one year increments. For more information about an extended warranty for your BlackStorm Server system, contact your regional sales manager.

Environmental Information

The equipment that you purchased required the extraction and use of natural resources for its production. It may contain hazardous substances that could impact health and the environment.

To avoid the potential release of those substances into the environment and to diminish the need for the extraction of natural resources, Ross Video encourages you to use the appropriate take-back systems. These systems will reuse or recycle most of the materials from your end-of-life equipment in an environmentally friendly and health conscious manner.

The crossed-out wheeled bin symbol invites you to use these systems.



If you need more information on the collection, reuse, and recycling systems, please contact your local or regional waste administration.

You can also contact Ross Video for more information on the environmental performances of our products.

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Contents

Introduction	1
About This Guide	1-1
Documentation Conventions	1-2
Interface Elements	1-2
User Entered Text	1-2
Referenced Guides	1-2
Menu Sequences	1-2
Important Instructions	1-2
Getting Help	1-2
Contacting Technical Support	1-3
Software Installation	2
BlackStorm Client Usage	2-1
Working from a Remote Computer	2-1
Working Directly from the BlackStorm Server	2-1
System Requirements	2-2
Hardware	2-2
Software	2-2
Client Software Installation and Update	2-2
DashBoard Configuration for BlackStorm Server Clients	2-3
Installing BlackStorm Server Clients	2-7
Updating BlackStorm Server Clients	2-9
BlackStorm Server Software Update	2-11
BlackStorm Server Services	2-14
Server Configuration	3
Logging on to the Server	3-1
Default User	3-1
Administrator	3-1
Network Connections	3-2
Server Performance	3-2
Firewall Configuration	3-2
Client Configuration	3-3
Channel Name Configuration	3-5
GenLock Configuration	3-6
Remote Control Configuration	3-7
Mapping VDCP Ports	3-8
BlackStorm Server Client Layout	4
Connecting to a BlackStorm Server	4-2
Connection Status	4-2
Accessing BlackStorm Server Clients in Dashboard	4-2
Creating a BlackStorm Client Layout	4-3
Saving a BlackStorm Client Layout	4-10

Adding Media Items to a BlackStorm Server	5
Loading Media Files through the Media Manager Client	5-1
Using the Drop Folder to Load Media Files	5-3
Importing Media Files from Selected Folders	5-4
Managing Media Items	5-5
Deleting Media Items	5-5
Exporting Media Files	5-7
Playing Media Items from a BlackStorm Server	6
Playing Media Items	6-1
Playing Media Items that Contain an Embedded Alpha Channel	6-4
Working with Media Item Buckets	6-4
Custom Media Item Payout	6-7
Working with Playlists	7
Creating Playlists	7-1
Editing Playlists	7-4
Playing Out Playlists	7-8
Coloring BlackStorm Clients	8
Client Background and Text Colors	8-1
Customizing Colors	8-2
Defining a Color Using HSB	8-2
Defining a Color Using RGB	8-3
Appendix A. Specifications	9
Media Formats and Codecs	9-1
Media File Formats	9-1
Codecs	9-1
VDCP Commands for the BlackStorm Server	9-2
Communication Serial Port	9-3

Introduction

Thank you for choosing a Ross Video BlackStorm Server.

Ross Video designed the BlackStorm product line with the needs of live production in mind. BlackStorm is an easy to use, yet powerful, production server. File-based work flows are supported, which enable easy, networked integration of media items that will feed BlackStorm from non-linear editing systems and graphics packages. There are a range of available control features, including networked Configuration, Media Manager, Play, and Playlist clients. VDCP protocol control is also supported and provides an interface to a wide variety of production switchers, controllers and automation systems.

We appreciate your business and sincerely hope that you have a great experience with your new BlackStorm Server. As always, if there is anything that we at Ross Video can do to assist you, please do not hesitate to contact us.

About This Guide

This guide covers the use of the BlackStorm Video Server. The following chapters are included:

- Chapter 1, “**Introduction**” summarizes the guide and provides important terms, conventions and feature descriptions.
- Chapter 2, “**Software Installation**” provides instructions for installing BlackStorm Server Client software on a separate computer to remotely access the BlackStorm Server.
- Chapter 3, “**Server Configuration**” provides instructions for using the Configuration Client to configure BlackStorm Server communication, inputs, and outputs.
- Chapter 4, “**BlackStorm Server Client Layout**” provides instructions for creating and saving custom BlackStorm Client application layouts to match your work flow.
- Chapter 5, “**Adding Media Items to a BlackStorm Server**” provides instructions for using the watch folders to add media items to a BlackStorm Server.
- Chapter 6, “**Playing Media Items from a BlackStorm Server**” provides instructions for using the Play Client to play media items from a BlackStorm Server.
- Chapter 7, “**Working with Playlists**” provides instructions for creating and playing out selections of custom-ordered media items.
- Chapter 8, “**Coloring BlackStorm Clients**” provides instructions for changing the background and text color for Media Manager, Play, and Playlist Clients.
- Appendix A, “**Appendix A. Specifications**” describes the basic properties of your BlackStorm Server, including specifications and capabilities.
- An **Index** is also provided for reference.

If you have questions pertaining to the operation of the BlackStorm Video Server, please contact us at the numbers listed in the section “**Contacting Technical Support**” on page 1–3. Our technical staff is always available for consultation, training, or service.

Documentation Conventions

Special text formats are used in this guide to identify parts of the user interface, text that a user must enter, or a sequence of menus and submenus that must be followed to reach a particular command.

Interface Elements

Bold text is used to identify a user interface element such as a dialog box, menu item, or button. For example:

In the **Media Manager Client**, click **Channel 1** the **Channels** section.

User Entered Text

Courier text is used to identify text that a user must enter. For example:

In the **File Name** box, enter `Channel01.property`.

Referenced Guides

Italic text is used to identify the titles of referenced guides, manuals, or documents. For example:

For more information, refer to the section “**GenLock Configuration**” on page 3–6 in the *BlackStorm User Guide*.

Menu Sequences

Menu arrows are used in procedures to identify a sequence of menu items that you must follow. For example, if a step reads “**Server > Save As**,” you would click the **Server** menu and then click **Save As**.

Important Instructions

Star icons are used to identify important instructions or features. For example:

★ When the Media Manager Client cannot connect to the BlackStorm Server, a **Message** dialog box opens to report the connection problem.

Getting Help

The BlackStorm Server Online Help system is accessed by selecting **Help Topics** from the **Help** menu in a BlackStorm Server client. Alternatively, press the **F1** key while working in a client or dialog box.

The Online Help system contains the following navigation tabs to locate information contained in the Online Help topics and *User Guide*:

- **Contents** — table of contents
- **Index** — keyword reference
- **Search** — full text search
- **Favorites** — preferred information storage and access

BlackStorm Server guides are also supplied as print-ready PDF files BlackStorm Server Software Installation DVD.

Contacting Technical Support

At Ross Video, we take pride in the quality of our products, but if problems occur, help is as close as the nearest telephone.

Our 24-hour Hot Line service ensures you have access to technical expertise around the clock. After-sales service and technical support is provided directly by Ross Video personnel. During business hours (Eastern Time), technical support personnel are available by telephone. After hours and on weekends, a direct emergency technical support phone line is available. If the technical support person who is on call does not answer this line immediately, a voice message can be left and the call will be returned shortly. This team of highly trained staff is available to react to any problem and to do whatever is necessary to ensure customer satisfaction.

- **Technical Support:** (+1) 613-652-4886
- **After Hours Emergency:** (+1) 613-349-0006
- **E-mail:** techsupport@rossvideo.com
- **Website:** <http://www.rossvideo.com>

Software Installation

This chapter includes procedures for installing BlackStorm Server Client software on a separate computer to remotely access the BlackStorm Server, uninstalling BlackStorm Server Client software, and installing BlackStorm Server software directly on the server.

The following topics are discussed in this chapter:

- BlackStorm Client Usage
- System Requirements
- Client Software Installation and Update
- BlackStorm Server Software Update
- BlackStorm Server Services

BlackStorm Client Usage

The BlackStorm Server can be controlled by BlackStorm Clients installed in the following locations:

- On remote computers connected to the BlackStorm Server by a Local Area network.
- Directly on the BlackStorm Server

Working from a Remote Computer

The BlackStorm Server can be accessed by installing Ross Video DashBoard and BlackStorm Client software on a remote computer that is connected to the same Local Area network as the BlackStorm Server. BlackStorm Client software includes the following applications:

- **Configuration Client**
- **Media Manager**
- **Play Client**
- **Playlist Client**

Before installing BlackStorm Client software on a computer, verify that the computer meets the following requirements:

- The remote computer must meet the system requirements recommended by Ross Video to run BlackStorm Client software. For more information, refer to the section “**System Requirements**” on page 2–2.
- Folders must be able to be shared over the network with the BlackStorm Server. Refer to the section “**Firewall Configuration**” on page 3–2 for further information on sharing folders over the network.

For More Information on...

- BlackStorm Server clients, refer to the following sections:
 - › “**Server Configuration**” on page 3–1
 - › “**Adding Media Items to a BlackStorm Server**” on page 5–1
 - › “**Playing Media Items from a BlackStorm Server**” on page 6–1
 - › “**Working with Playlists**” on page 7–1

Working Directly from the BlackStorm Server

A monitor, keyboard, and mouse can be connected to the peripheral ports on the back or front of the BlackStorm Server to use the installed BlackStorm Client software on the BlackStorm Server. Refer to the *Cabling Your BlackStorm Server Quick Start Guide* for further information on the rear peripheral connections of the BlackStorm Server.

System Requirements

To ensure that BlackStorm Client software will function correctly, verify that the selected computer to install BlackStorm Client software meets the requirements described in the following sections.

Hardware

Ross Video recommends the following minimum computer hardware configuration to run BlackStorm Client software:

- Intel® Pentium® 4
- 1 GHz processor
- 512 MB RAM
- 450 MB free disk space
- DVD-ROM drive

Software

Ross Video recommends the following minimum computer software configuration to run BlackStorm Client software:

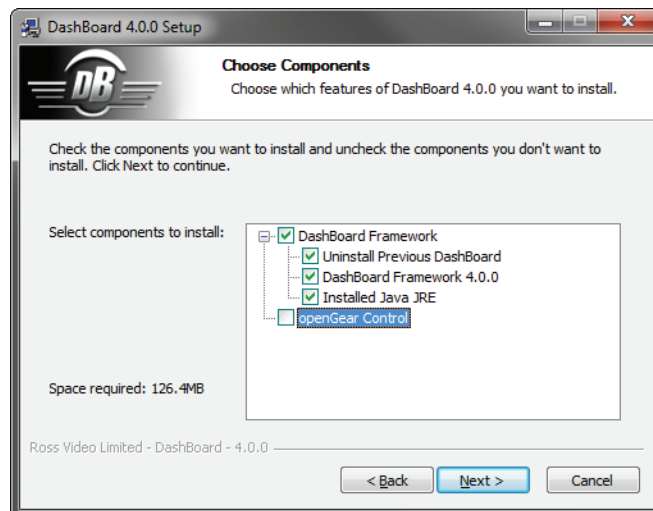
- Ross Video DashBoard 4.0.0
- Microsoft® Windows® XP Professional or Microsoft® Windows® 7
- ★ Ensure that the operating system is updated with all necessary security patches and service packs before installing BlackStorm Client software on a computer.

Client Software Installation and Update

Before a remote computer can be used to access a BlackStorm Server, the computer must be able to access a running BlackStorm server and the following software must be installed on the computer:

- **DashBoard™ Control System** — The DashBoard application installer is contained on the BlackStorm Server Software DVD shipped with the BlackStorm Server, or is downloadable from the Ross website.

When installing DashBoard, it is recommended to clear the **openGear Control** box on the **Choose Components** screen.



- **BlackStorm Server Clients** — Client software is installed in DashBoard from a BlackStorm Server.

For More Information on...

- installing or un-installing the DashBoard application, refer to the *DashBoard Control System User Manual* and the *DashBoard Online Help* system.
- updating DashBoard plug-ins, refer to the *DashBoard Control System User Manual* and the *DashBoard Online Help* system.
- downloading the Dashboard application installer, refer to the **Terminal Equipment | openGear | Control & Monitoring | DashBoard** section of the Ross Video website.

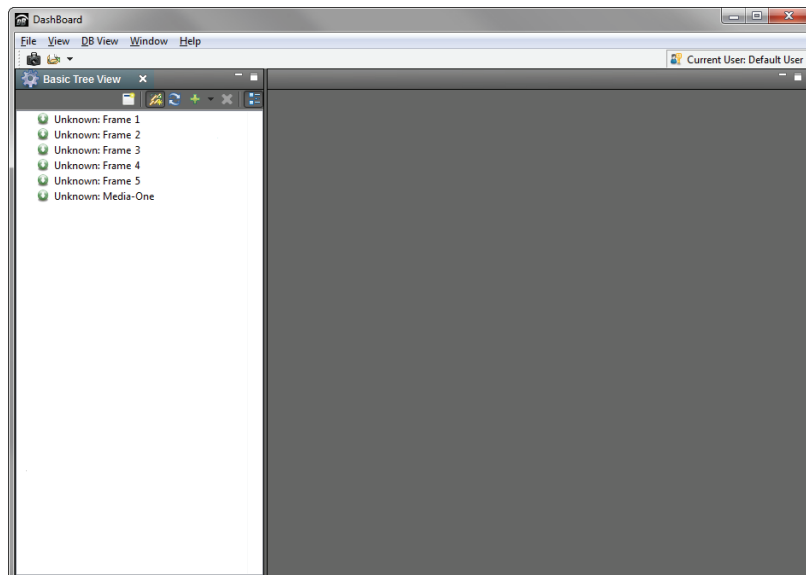
DashBoard Configuration for BlackStorm Server Clients

The DashBoard application on a client computer must be configured to work with the BlackStorm Server before the BlackStorm Server Clients can be installed in DashBoard.

To configure DashBoard for BlackStorm Server Clients:

1. On the client computer, verify that the following conditions are true:
 - The current version of **DashBoard** software is installed on the client computer.
When installing DashBoard, it is recommended to clear the **openGear Control** box on the **Choose Components** screen.
 - The client computer can access a running BlackStorm Server on the network.
2. Use one of the following methods to launch **DashBoard**:
 - Double-click the **DashBoard** icon on the desktop.
 - Use the **Start** menu to select **All Programs > DashBoard > DashBoard**.

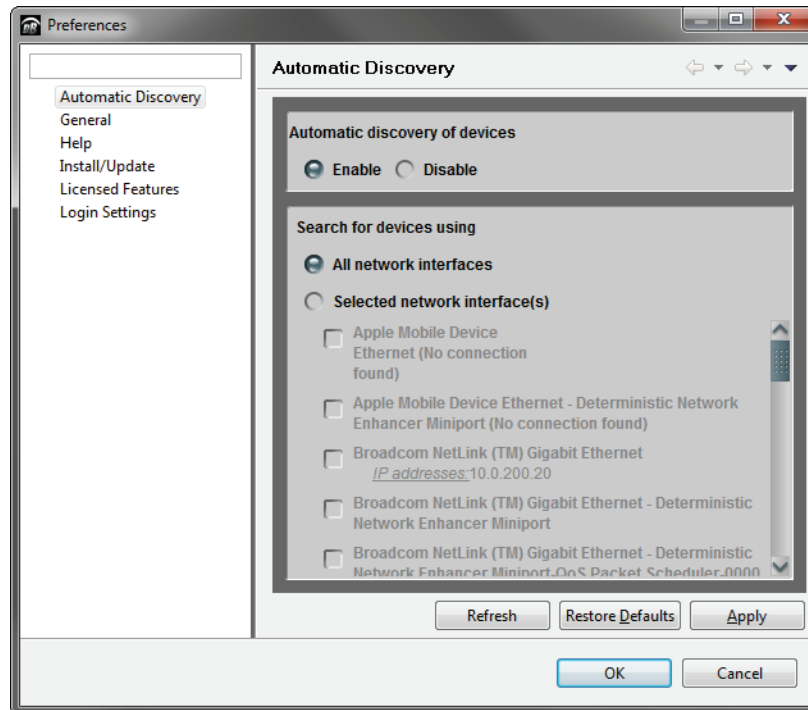
DashBoard opens.



3. Use the **Window** menu to select **Preferences**.
The **Preferences** dialog box opens.

- In the tree view, select **Automatic Discovery**.

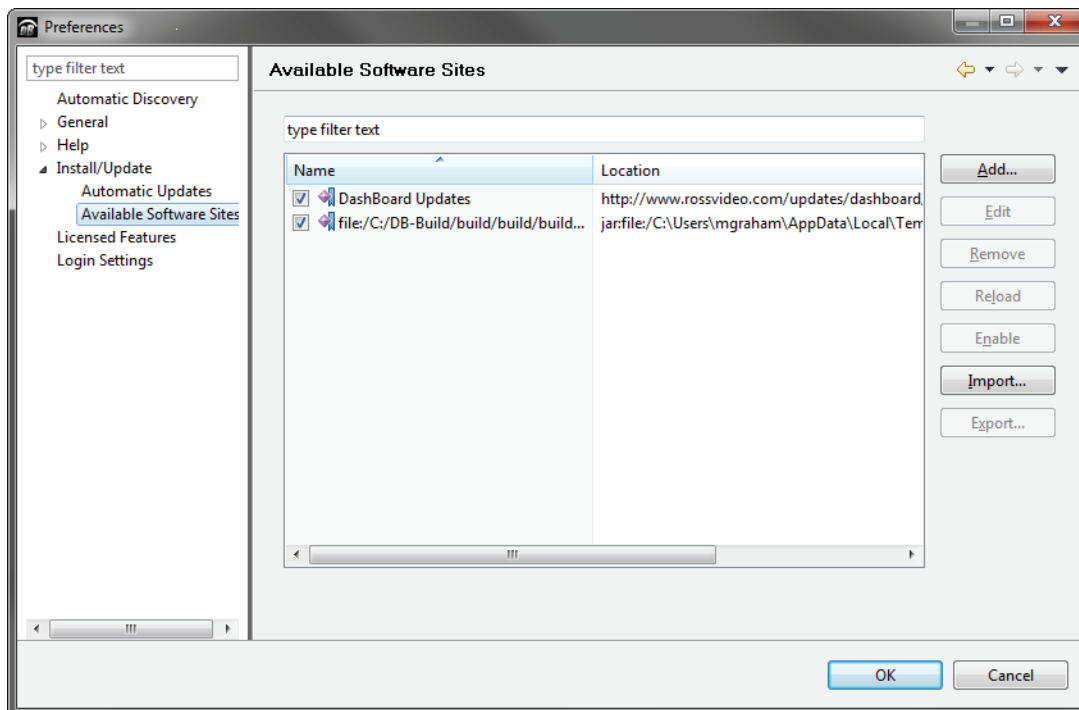
The **Automatic Discovery** panel opens.



- In the **Automatic Discovery of Devices** section, select the **Disable** option.

- In the tree view, expand the **Install/Update** node and select **Available Software Sites**.

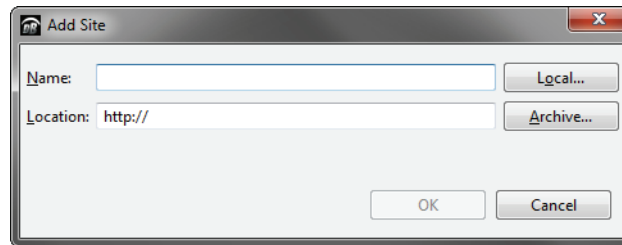
The **Available Software Sites** panel opens.



- Clear all of the check boxes in the **Name** column.

8. Click **Add**.

The **Add Site** dialog box opens



9. In the **Name** box enter a name to describe the software site.
10. In the **Location** box, enter the hostname or IP address of the BlackStorm Server with the following suffix:

:8080/Plugin/BlackStorm

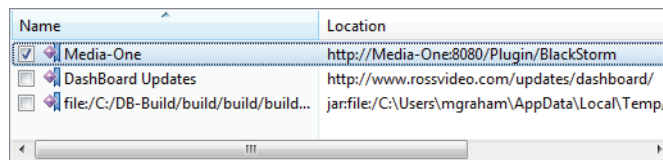
A Network Administrator can provide the IP address or hostname for the BlackStorm Server.

To use a BlackStorm Server with the hostname of `Media-One` and an IP address of `10.0.200.1` as a software download site for BlackStorm Server Client software, enter one of the following URLs in the **Location** box:

- `http://Media-One:8080/Plugin/BlackStorm`
- `http://10.0.200.1:8080/Plugin/BlackStorm`

11. Click **OK**.

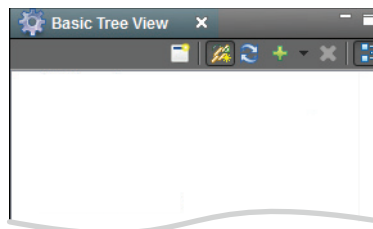
The **Add Site** dialog box closes and the new software site is added the list of available software sites.



12. Select the check box to the left of the new software site if it is not already selected.
13. Click **OK**.

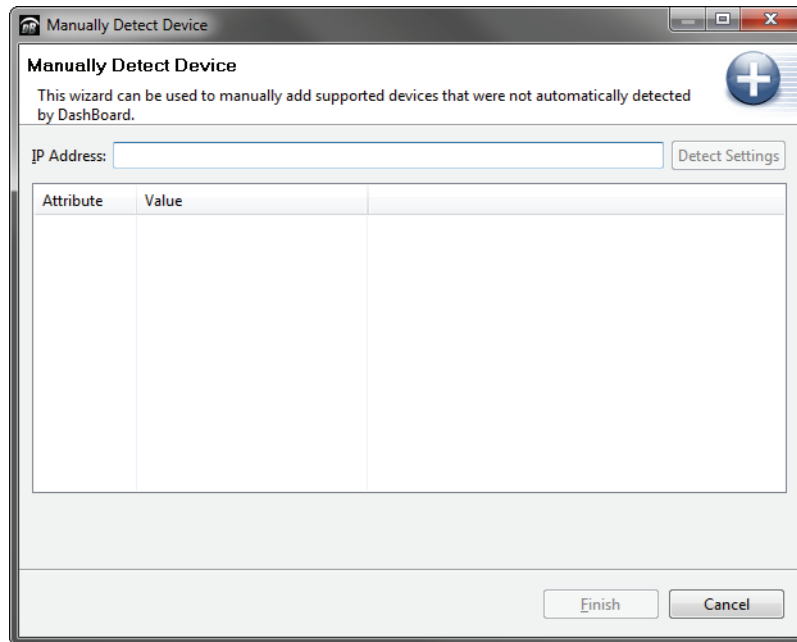
The set preferences are saved and the **Preferences** dialog box closes.

14. In **DashBoard**, remove all of the nodes from the **Tree View**.



15. Use the **File** menu to select **New > Manual Connection**.

The **Manually Detect Device** dialog box opens.



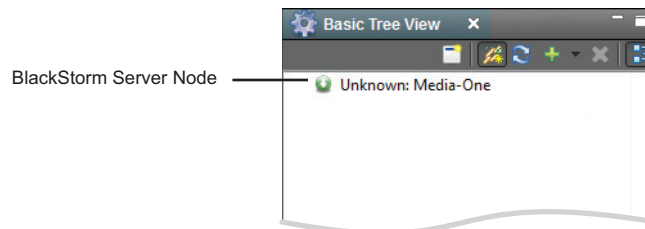
16. In the **IP Address** box, enter the hostname or IP address of the BlackStorm Server. This hostname or IP address is the same as the hostname or IP address entered in the **Add Site** dialog box (step 10 on page 2-5).

17. Click **Detect Settings**.

The **Attribute** and **Value** columns display information about the selected BlackStorm Server.

18. Click **Finish**.

A node for the BlackStorm Server is added to the DashBoard **Tree View**.




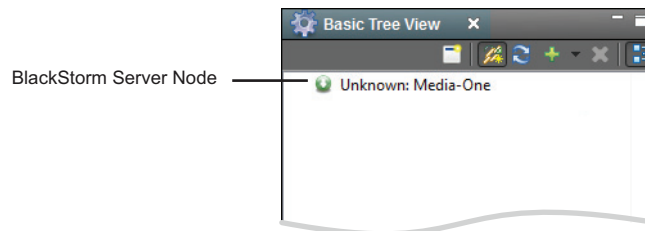
DashBoard is configured and ready for the installation of BlackStorm Server Client software from the BlackStorm Server displayed in the DashBoard **Tree View**.

Installing BlackStorm Server Clients

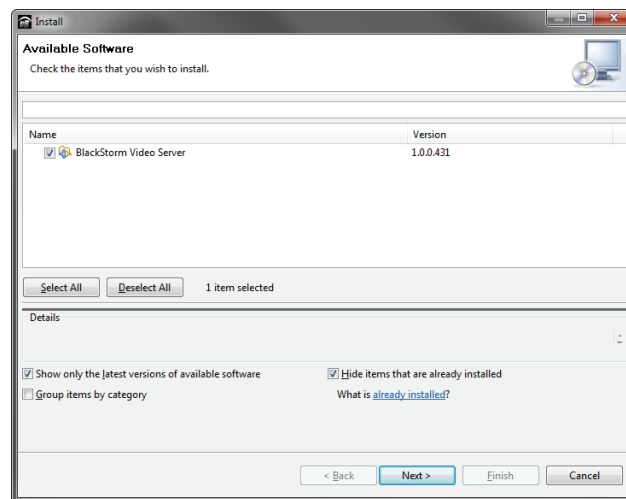
After configuring DashBoard on a client computer, BlackStorm Server Clients can be installed in DashBoard.

To install BlackStorm Client software in DashBoard on a client computer:

1. On the client computer, verify that the following conditions are true:
 - The current version of **DashBoard** software is installed on the client computer.
When installing DashBoard, it is recommended to clear the **openGear Control** box on the **Choose Components** screen.
 - The DashBoard software is configured to access a BlackStorm Server.
 - The client computer can access a running BlackStorm Server on the network.
2. In the DashBoard **Tree View**, double-click the **BlackStorm Server** node () from which to install BlackStorm Client software.



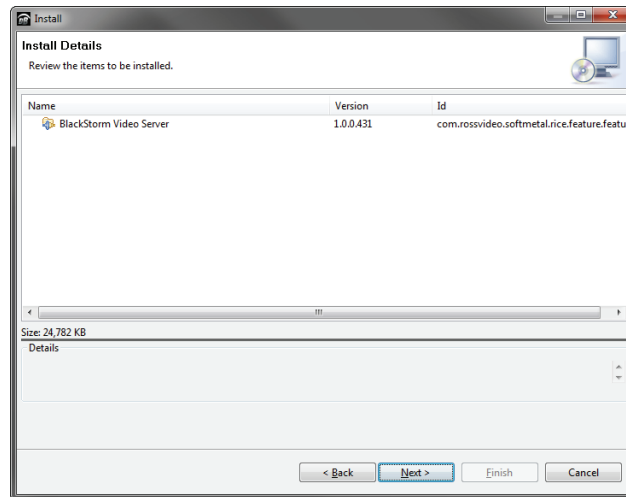
The **Install** wizard opens.



3. In the **Name** column of the **Available Software** screen, select the **BlackStorm Video Server** check box if it is not already selected.
4. Clear the **Group items by category** check box.

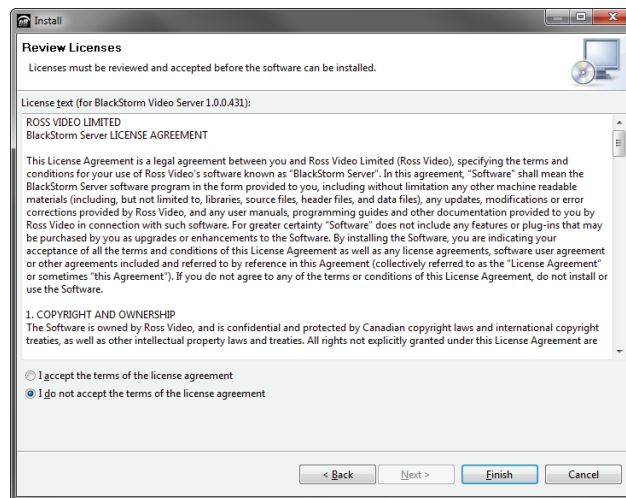
5. Click **Next**.

The **Install Details** screen opens.



6. Click **Next**.

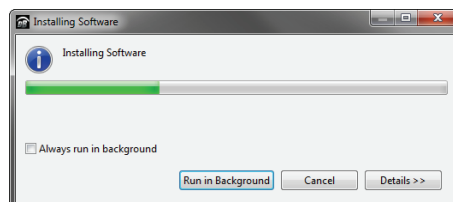
The **Review Licenses** screen opens.



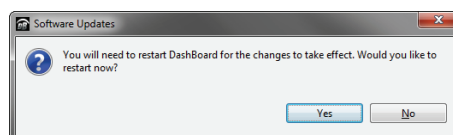
7. Select the **I accept the terms of the license agreement** option.

8. Click **Finish** to begin updating BlackStorm Client software.

A progress bar displays the installation status.



After the installer finishes installing the required files, the **Software Updates** dialog box opens.

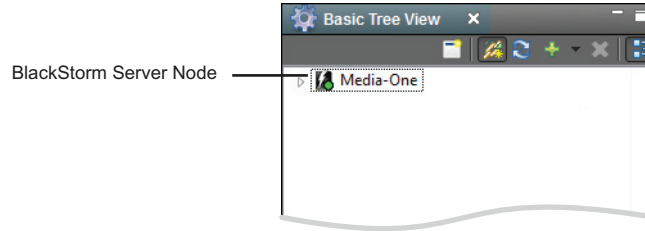


9. Click **Yes**.

The computer restarts to complete the installation of BlackStorm Client software.

10. Manually add the BlackStorm Server to Dashboard by following step 15 on page 2-6 to step 18 on page 2-6 in the **To configure Dashboard for BlackStorm Server Clients:** procedure.

A node for the BlackStorm Server is added to the Dashboard **Tree View**.



11. Hover the mouse over the **BlackStorm Server** node to view the following information about the BlackStorm Server:

- IP address
- Installed software version
- Client to Server connection status

12. Expand the **BlackStorm Server** node to access the BlackStorm Server Clients.

Updating BlackStorm Server Clients

After the software on a BlackStorm Server is updated, the BlackStorm Server Client software on client computers should be updated to make use of the new features of the updated BlackStorm Server.

To update BlackStorm Client software on a computer:

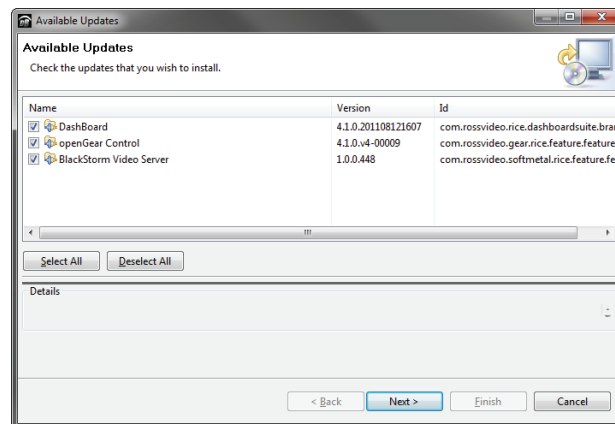
1. On the client computer, use one of the following methods to launch **Dashboard**:

- Double-click the **Dashboard** icon on the desktop.
- Use the **Start** menu to select **All Programs > Dashboard > Dashboard**.

Dashboard opens.

2. From the **Help** menu, select **Check for Updates**.

The **Available Updates** wizard opens.

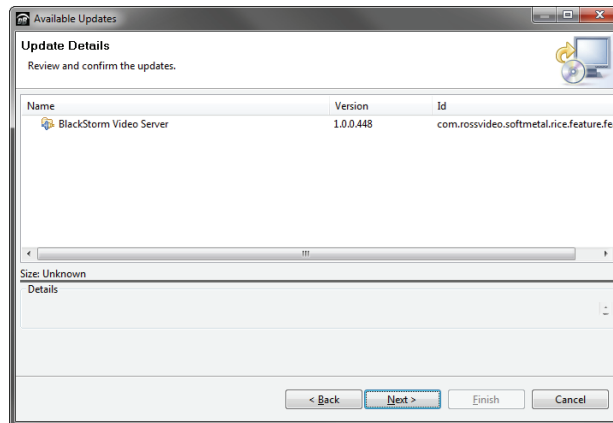


3. In the **Name** column of the **Available Updates** screen, select the **BlackStorm Video Server** check box if it is not already selected.

It is optional to select any additional updates listed with the **BlackStorm Video Server** update. To skip over the installation of an update, clear the associated check box in the **Name** column.

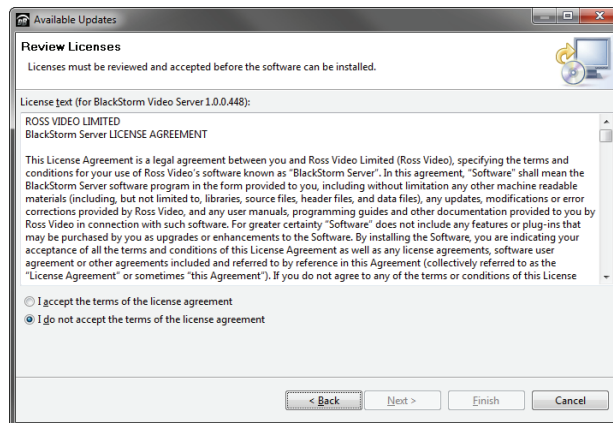
4. Click **Next**.

The **Update Details** screen opens.



5. Click **Next**.

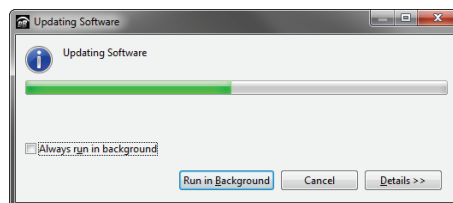
The **Review Licenses** screen opens.



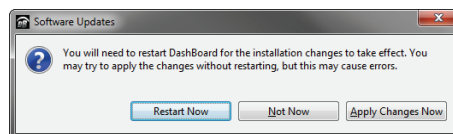
6. Select the **I accept the terms of the license agreement** option.

7. Click **Finish**.

A progress bar displays the installation status BlackStorm Client software update.



After the installer finishes installing the required files, the **Software Updates** dialog box opens.



8. Click **Yes**.

DashBoard restarts to complete the update of BlackStorm Client software.

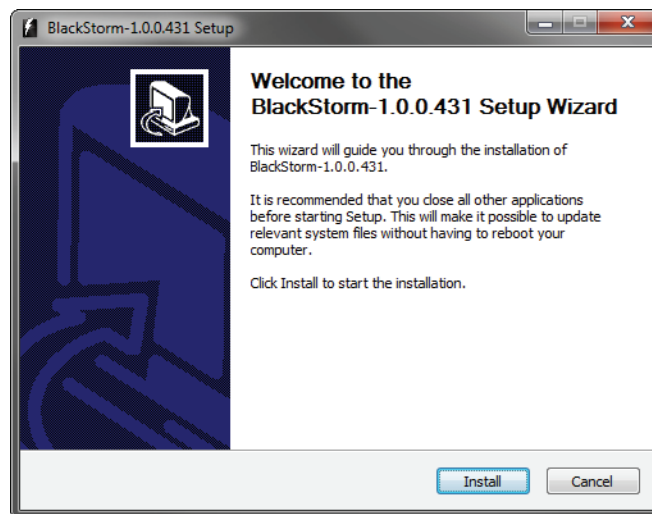
BlackStorm Server Software Update

After each new release of BlackStorm Server software, the software on existing BlackStorm Servers should be updated with the newly released BlackStorm Server software. BlackStorm Server software updates can be downloaded from Ross Video.

To update BlackStorm Server software from version 1.0 to 1.x:

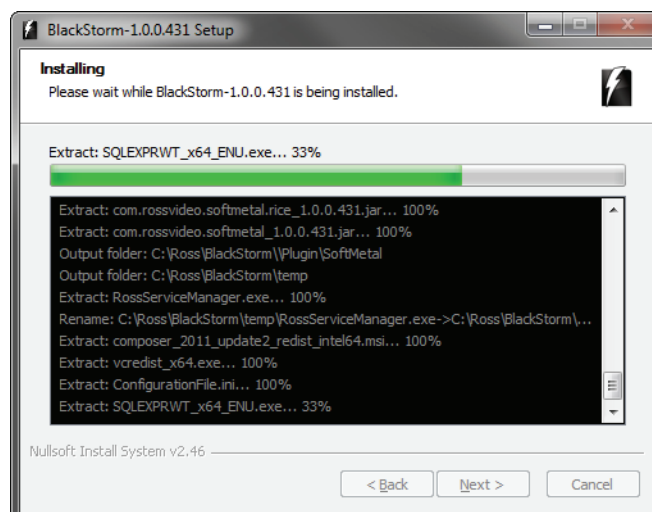
1. Log on to the BlackStorm Server computer using the following user name and password:
 - **User name** — blackstorm
 - **Password** — blackstorm
2. Shut down all Windows applications.
3. Download the **BlackStorm Version 1.X.zip** file from Ross Video.
4. Unzip the **BlackStorm Version 1.X.zip** file to the desktop.
5. On the desktop, open the **BlackStorm Version 1.X** folder.
6. Double-click **BlackStorm-Installer-1.0.0.####.exe**.

The **BlackStorm-1.0.0.#### Setup** wizard opens.

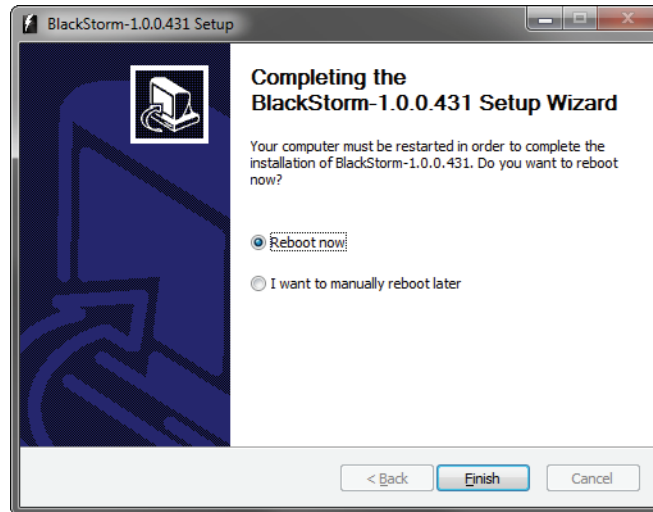


7. Click **Install** to begin updating BlackStorm Server software.

The **Installing** screen opens to display the progress of the software installation.



During the installation, various other installers are also run to install components of the BlackStorm Server. After the installer finishes installing the required files, the **Completing the BlackStorm-1.0.0.#### Setup Wizard** screen opens.



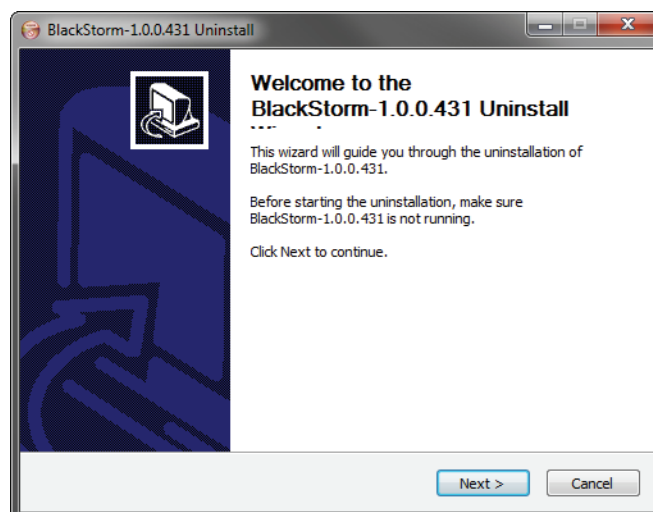
8. Select the **Reboot now** option
9. Click **Finish**.

The BlackStorm Server computer restarts to complete the installation of the BlackStorm Server software.

To uninstall BlackStorm software from the server:

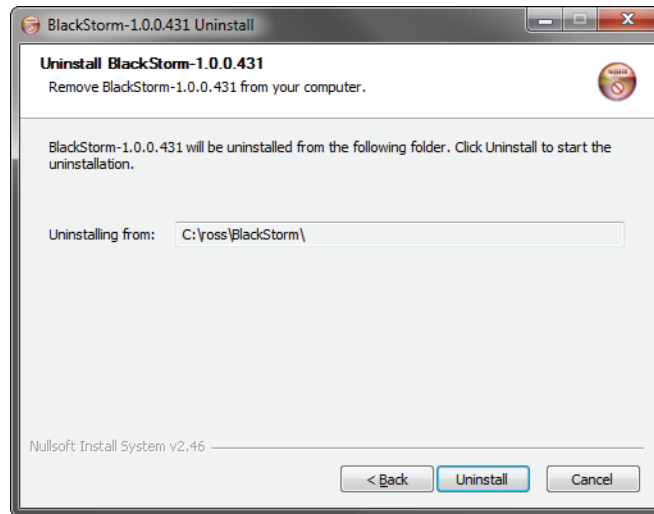
1. Log on to the BlackStorm Server computer using the following user name and password:
 - **User name** — blackstorm
 - **Password** — blackstorm
2. From the **Start Menu**, select **All Programs > BlackStorm > Uninstall**.

The **BlackStorm-1.0.0.#### Uninstall** wizard opens.



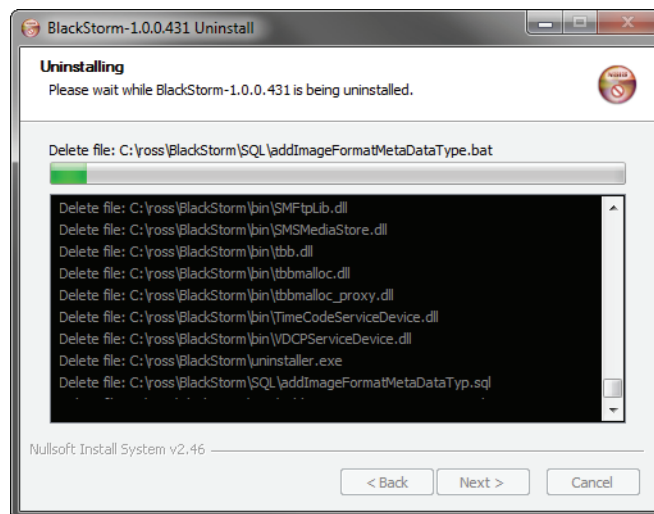
3. Click Next.

The **Uninstall BlackStorm-1.0.0.####** screen opens.

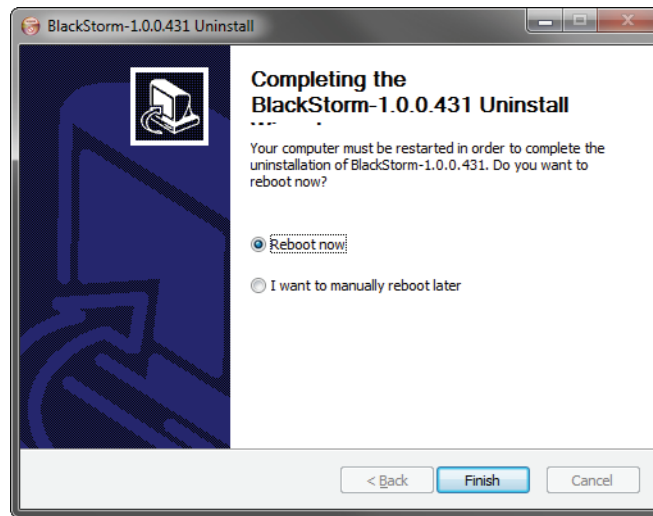


4. Click **Uninstall** to begin uninstalling BlackStorm Server software.

The **Uninstalling** screen opens to display the progress of the software removal.



After the **BlackStorm-1.0.0.#### Uninstall** wizard has removed the required files, the **Completing the BlackStorm-1.0.0.#### Uninstall** screens opens.



5. Select the **Reboot now** option
6. Click **Finish**.

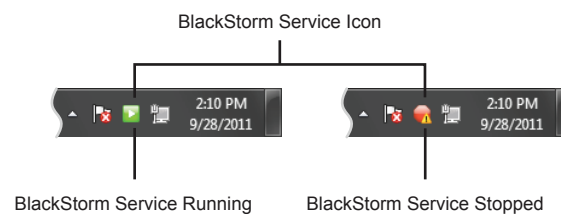
The BlackStorm Server computer restarts to complete the removal of BlackStorm software from the server computer.

BlackStorm Server Services

The following services run on the BlackStorm Server computer to enable the BlackStorm Server playback media items, catalog media items, and work with Dashboard:

- **BlackStorm Server** — plays out media items from the BlackStorm Server.
- **Database** — catalogs media items in the BlackStorm Server Media database.
- **Service Location Protocol (SLP)** — locates BlackStorm Servers on the local network.

The BlackStorm Server icon in the System Tray reports the status of BlackStorm Server services, and it is also used to control BlackStorm Server services.



When the BlackStorm Server or Database Status LED in a BlackStorm Server Client turns red, the associated service may have stopped. A stopped service can be started using the BlackStorm Server icon in the System tray of the BlackStorm Server computer.

To control BlackStorm Server services:

1. To stop a service, right-click the **BlackStorm Service Manager** icon in the **System Tray** and select one of the following commands:

Service	Command
BlackStorm Server	BlackStorm Server > Stop
Database	Database > Stop
Service Location Protocol	SLP > Stop
All	Stop All

- ★ Stopping the SLP service also stops the BlackStorm Server service.

The **BlackStorm Service Manager** icon turns red when the BlackStorm Service is stopped.

2. To start a service, right-click the **BlackStorm Service Manager** icon in the **System Tray** and select one of the following commands:

Service	Command
BlackStorm Server	BlackStorm Server > Start
Database	Database > Start
Service Location Protocol	SLP > Start
All	Start All

The **BlackStorm Service Manager** icon turns green when the BlackStorm Service is running. Starting the BlackStorm Server service also starts the SLP service.

Server Configuration

The Configuration Client provides all of the properties to set up the BlackStorm Server inputs and outputs. Properties must be set using the Config Client before the BlackStorm Server can be used for video playout.

This chapter describes how to use the Config Client to configure the BlackStorm Server communication, inputs, and outputs.

The following topics are discussed in this chapter:

- Logging on to the Server
- Network Connections
- Server Performance
- Firewall Configuration
- Client Configuration
- Channel Name Configuration
- GenLock Configuration
- Remote Control Configuration

Logging on to the Server

When working directly from the BlackStorm Server, a user must log on to Windows using a user name and password.

- ★ Ross Video recommends that the BlackStorm Server passwords be maintained as per company Network Administrator policy.

The following user names and passwords are configured for use on the BlackStorm Server:

Default User

BlackStorm is the default user that is typically used for routine operation of the BlackStorm Server and to configure the Server. Use the following user name and password to log on to the BlackStorm Server as the default user:

- **User name** — blackstorm
- **Password** — blackstorm

Administrator

When managing the operating system of a BlackStorm Server or running consistency checks on the system and media drives, log on to the BlackStorm server with the following user name and password:

- **User name** — administrator
- **Password** — pr0gram

When entering the password, use the number zero (0) to replace the letter “o”.

Network Connections

In order for the BlackStorm Server to function, it must be attached to a network. A network connection enables remote access to the BlackStorm Server, and remote BlackStorm Clients to access media stored on the BlackStorm Server.

- ★ Ross Video recommends that any required network configurations be performed by a qualified Network Administrator. Some network settings, if configured incorrectly, could prevent the BlackStorm Server from communicating on the network.

Keep the following in mind when configuring the BlackStorm Server network connections:

- If the network within the production environment does not use bridges to connect subnets, the BlackStorm Server must be located on the same subnet as the remote client machines.
- When assigning an IP address to the BlackStorm Server, Ross Video recommends assigning a static IP address, rather than using DHCP to dynamically assign an IP address. Since a static IP address does not change when the BlackStorm Server is restarted, BlackStorm Clients can always connect the BlackStorm Server without having to reconfigure the BlackStorm Server IP address.

Server Performance

Virus scanning software and Automatic Updates can impact the performance a BlackStorm Server. To ensure peak performance, BlackStorm Servers are shipped from the factory as follows:

- Virus scanning software not installed
- Automatic Updates turned off

Contact Ross Technical Support for information about running virus scanning software and/or Automatic Updates on a BlackStorm Server.

Firewall Configuration

In order to use BlackStorm Server software directly from the BlackStorm Server, the Windows Firewall must be disabled. If the Firewall is left enabled, BlackStorm Clients cannot launch or function properly.

- ★ The BlackStorm Server ships from the factory with the Firewall disabled.

To disable the Windows Firewall on the BlackStorm Server:

1. From the **Start Menu**, select **Control Panel**.
The **Control Panel** window opens.
2. Double-click the **Windows Firewall** control panel.
The **Windows Firewall** dialog box opens.
3. Select the **Off** option, represented by a red shield icon.
4. Click **OK** to close the **Windows Firewall** dialog box.
The Firewall on the BlackStorm Server is now disabled.

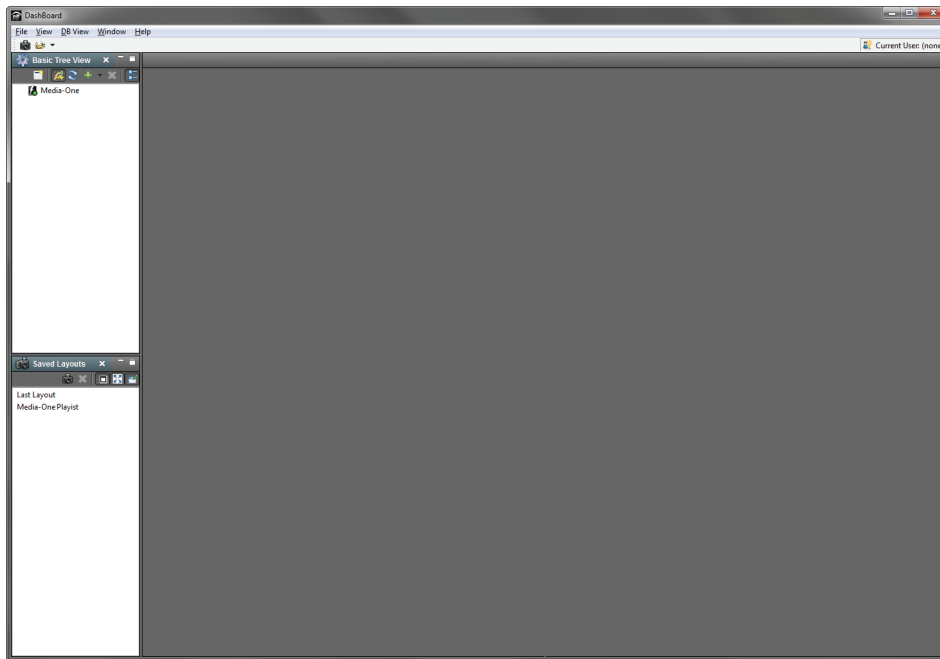
Client Configuration


The address of the FTP server and the ports used to communicate with the FTP server must be set to enable media items to be loaded onto and exported from the BlackStorm Server.

To configure FTP server settings and client information logging level:


1. Use one of the following methods to launch the DashBoard software:
 - Double-click the **DashBoard** icon on the desktop.
 - Use the **Start** menu to select **All Programs > DashBoard > DashBoard**.

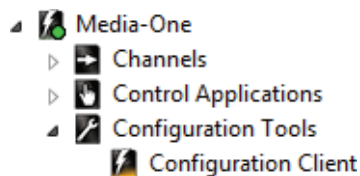
DashBoard opens.




2. In the DashBoard **Tree View**, expand your **BlackStorm Server** node ().
The available channels, applications, and tools are listed below the BlackStorm Server node.

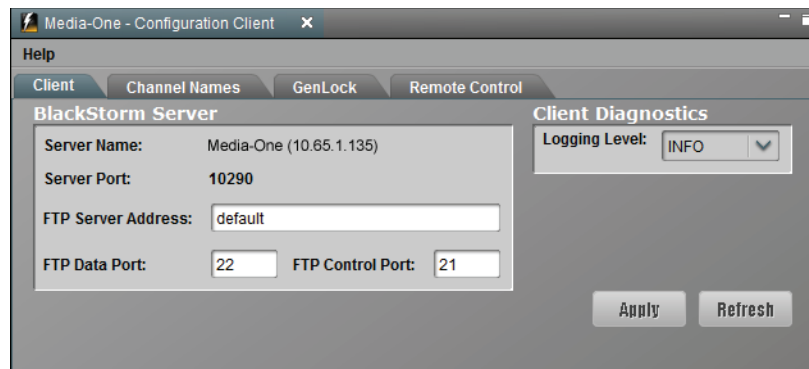


3. Expand the **Configuration Tools** node ().
The available configuration tool is listed below the **Configuration Tools** node



4. Double-click the **Configure Client** node ().

The **Configuration Client** opens in the **Device View**.



5. Click the **Client** tab.

The **Client** tab opens.

6. An FTP Server runs on the BlackStorm Server computer to enable file transfer between the BlackStorm Server and the Media Manager or Play Client. When a BlackStorm Server computer contains a second network interface card for the FTP Server, enter the IP address or hostname of the FTP Server in the **FTP Server Address** box. Check with your IT Department if you do not know the IP address or hostname of your BlackStorm or FTP Server.

For BlackStorm Servers that use a single network interface card, the word “default” is displayed in the **FTP Server Address** box to indicate that the FTP address is the same as the address displayed in the **Server Name** field.

7. In the **FTP Data Port** box, enter the port number used by the FTP Server on the BlackStorm Server computer to exchange data with BlackStorm Server Clients.
8. In the **FTP Control Port** box, enter the port number used to control the FTP Server on the BlackStorm Server computer.
9. To log information that can be used to troubleshoot client connection issues, use the settings in the **Diagnostics** section as follows:
 - a. Select the **Enable Logging** check box.
 - b. Use the **Logging Level** list to select the level of information to log. Messages more severe than the selected level are logged along with the selected logging level. Select from the following logging levels:
 - **SEVERE** — log messages indicating a serious failure. This level captures the least information.
 - **WARNING** — log messages indicating a potential problem. Also log SEVERE messages.
 - **INFO** — log informational messages. Also log SEVERE and WARNING messages.
 - **ALL** — log SEVERE, WARNING, and INFO messages. This level captures the most information and may impact server performance.

10. Click **Apply**.

Channel Name Configuration

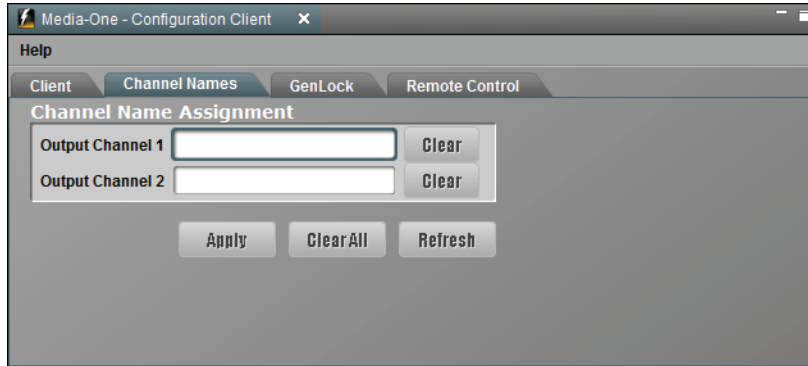
Channel names can be added to channel numbers to help clarify selecting an output channel from a BlackStorm Client. Names are assigned to BlackStorm Server channels on the Channel Name tab in the Config Client.

Channel names are stored on the client computer used to run the Config Client. BlackStorm Server Clients run on a client computer use the channel names set on the client computer. To use channel names on other client computers, channels names must be set on each client computer used to run BlackStorm Server Clients.

To assign names to the channels of a BlackStorm Server:

1. In the **Config Client**, click the **Channel Names** tab.

The **Channel Names** tab opens.



2. For each BlackStorm Server **Output Channel**, enter a name for the channel in the **Name** box to the right of the channel number. Twenty characters is the maximum length for a channel name.

To clear the current channel name from the **Name** box associated with a channel, click **Clear** to the right of the **Name** box. Click **Clear All** to clear channel names from all of the **Name** boxes.

When the **Name** box associated with a channel is left empty, the channel name is automatically generated by adding the word “Channel” to the channel number.

3. Click **Apply**.

The defined channel names are assigned to the BlackStorm Server output channels. All BlackStorm Server Clients and nodes in the DashBoard **Tree View** are immediately updated with the new channel names.

GenLock Configuration

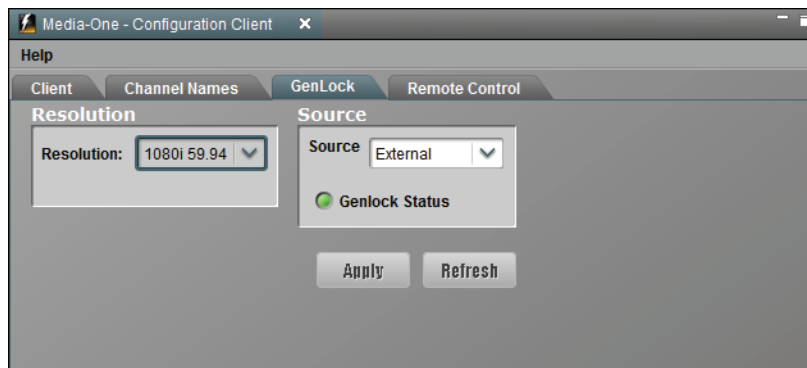
BlackStorm Server video output GenLock properties are set on the GenLock tab in the Config Client. This tab is also used to set the resolution for all BlackStorm Server output channels.

★ Output channel resolution can only be changed while channels are idle.

To configure BlackStorm Server GenLock and global output settings:




1. In the **Configuration Client**, click the **GenLock** tab.

The **GenLock** tab opens.



2. In the **Resolution** section, use the **Resolution** list to select the proper resolution and field or frame rate for all BlackStorm Server output channels. The available resolutions are as follows:
 - **1080i 50** — 1920 x 1080 interlaced resolution with a field rate of 50 Hz
 - **1080i 59.94** — 1920 x 1080 interlaced resolution with a field rate of 59.94 Hz
 - **720p 50** — 11280 x 720 progressive resolution with a frame rate of 50 Hz
 - **720p 59.94** — 11280 x 720 progressive resolution with a frame rate of 59.94 Hz
 - **480i** — 480 interlaced lines (NTSC) with a field rate of 59.94 Hz
 - **576i** — 576 interlaced lines (PAL) with a field rate of 50 Hz
3. In the **Source** section, use the **Source** list to select the source of the genlock signal. This signal is required to lock the BlackStorm Server to the video timing of your facility. Ross Video recommends using an external reference for the genlock signal source. The available genlock signal sources are as follows:
 - **Free Run** — do not synchronize the BlackStorm Server with a genlock signal from an external source.
 - **External** — synchronize with a genlock signal received from an external application through the REF IN BNC connector of the BlackStorm Server computer. The BlackStorm Server accepts Analog Color Black or HD Tri-level sync genlock signals. Tri-level sync is recommended for HD installations.

The **Genlock Status** LED icon uses the following states to indicate the status of the selected genlock signal source for the BlackStorm Server.

-  — locked to the genlock signal source
 -  — free running
 -  — not locked to the genlock signal source
4. Click **Apply** to save the GenLock and resolution settings.

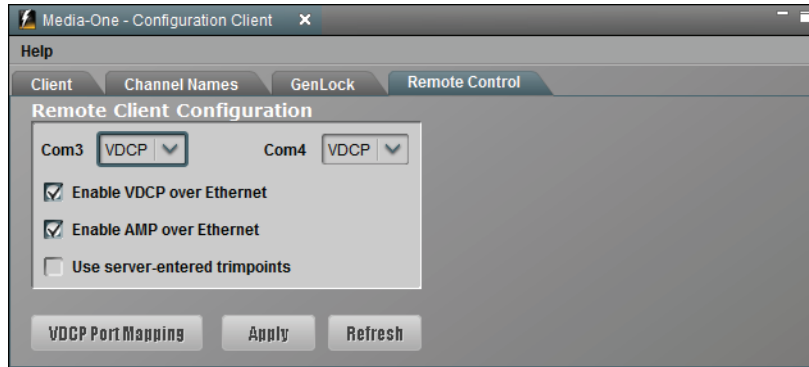
Remote Control Configuration

The control ports and communications protocols used to remotely control the BlackStorm Server must be configured before the BlackStorm Server can be controlled from remote devices.

To configure the remote control ports and communication protocols:

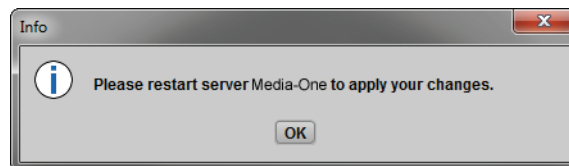
1. In the **Configuration Client**, click the **Remote Control** tab.

The **Remote Control** tab opens.



2. To control the BlackStorm Server with a remote device connected to a Serial Control port of the BlackStorm Server computer, use the **Com3** and **Com4** lists to set the communication protocol for the associated RS-422 Serial Control port of the Breakout cable or panel connected to the BlackStorm Server. The available communication protocols are as follows:
 - **VDCP** — receive VDCP commands through the associated Serial Control port. The VDCP protocol uses a tightly-coupled master/slave method of communication. The controlling device initiates communication between itself and the controlled device.
 - **None** — do not receive remote control commands through the associated Serial Control port.
 3. Select the **Enable VDCP over Ethernet** check box to receive Video Disk Communications Protocol (VDCP) commands through the GigE Ethernet port on the back of the BlackStorm Server.
 4. Select the **Enable AMP over Ethernet** check box to receive Advanced Media Protocol (AMP) commands through the GigE Ethernet port on the back of the BlackStorm Server.
- ★ The BlackStorm Server supports AMP control by the Ross Video Carbonite switcher. AMP control of the BlackStorm Server is not certified with other control devices.
5. Select the **Use Server-entered Trimpoints** check box to use media item trimpoints when the BlackStorm Server does not receive trimpoints from an upstream controller as part of a VDCP Cue command.
Regardless of this check box being selected, the BlackStorm Server always uses trimpoints received from an upstream controller.
 6. Click **Apply** to save the remote control settings.

An **Info** dialog box opens.



7. Click **OK**.

For More Information on...

- BlackStorm Server supported VDCP commands, refer to the section “**VDCP Commands for the BlackStorm Server**” on page 9–2.
- Serial Control port pinouts, refer to the section “**Communication Serial Port**” on page 9–3.

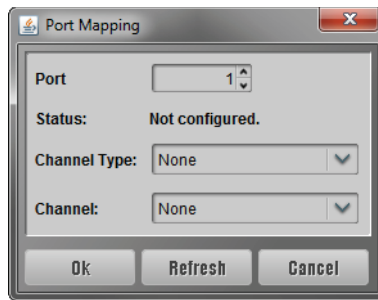
Mapping VDCP Ports

The BlackStorm Server uses a one to one mapping to set the association between BlackStorm Server channel to control and VDCP port. For example, VDCP port 1 controls Server output channel 1. Custom VDCP port mappings are defined using the Port Mapping dialog box.

To set the BlackStorm Server channel controlled by a VDCP port:

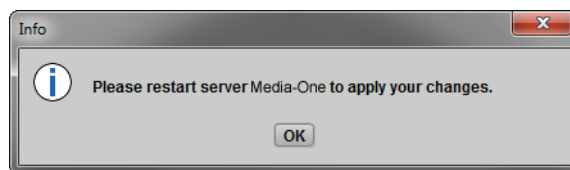
1. In the **Remote Control** tab of the **Configuration Client**, click **VDCP Port Mapping**.

The **Port Mapping** dialog box opens.



2. Use the **Port** box to enter or select the VDCP port to control a BlackStorm Server channel. The available VDCP ports are 1 to 256.
3. Use the **Channel Type** list to select the type of BlackStorm channel controlled by the selected VDCP Port. The available channel types are as follows:
 - **Output** — control an output channel, selected from the **Channel** list.
 - **None** — do not control a channel.
4. Use the **Channel** list to select the Output channel on the BlackStorm Server to control. The available channels depend on the selected **Channel Type** and BlackStorm Server configuration.
5. Click **OK** to save the set VDCP port mappings and close the **Port Mapping** dialog box.

An **Info** dialog box opens.



6. Click **OK**.

BlackStorm Server Client Layout

The BlackStorm Server Client applications used to control and configure a BlackStorm Server are part of the Ross Video DashBoard Control System™ application. Dashboard enables monitoring and control one or more BlackStorm Servers from a computer. Through Dashboard, you can create and save custom BlackStorm Client application layouts that match your work flow.

DashBoard comes pre-installed on your BlackStorm Server. For remote computer connected to the same Local Area network as the BlackStorm Server, Dashboard is free application that can be downloaded from the Ross Video website.

The following topics are discussed in this chapter:

- Connecting to a BlackStorm Server
- Accessing BlackStorm Server Clients in Dashboard
- Creating a BlackStorm Client Layout
- Saving a BlackStorm Client Layout

The procedures in this chapter build upon each other to create a well-suited layout for playing out media items from the BlackStorm Server. The completed layout enables easy access to the Media Manager, Channel, and Playlist clients.

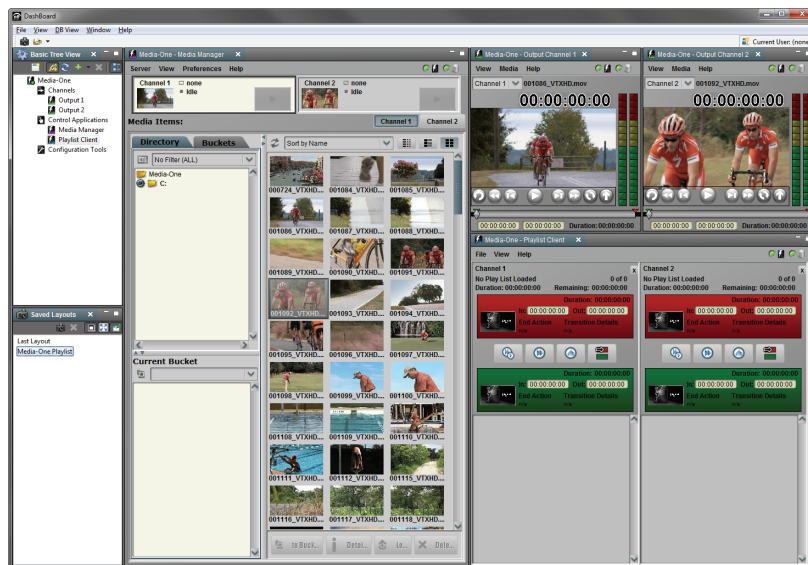


Figure 4.1 Completed Layout

For More Information on...

- Dashboard, refer to the *DashBoard User Guide*.
- downloading the Dashboard application installer, refer to the following section of the Ross Video website:
 - › [Products](#) | [Terminal Equipment](#) | [openGear](#) | [Control & Monitoring](#) | [DashBoard](#)

Connecting to a BlackStorm Server

The BlackStorm Server or Servers controlled by DashBoard are manually added to the DashBoard Tree View when the BlackStorm Client software is installed on a remote computer. Each BlackStorm Server is displayed in the DashBoard Tree View as a node (**Figure 4.2**). Each BlackStorm Server node contains the BlackStorm Server Clients used to control the associated BlackStorm Server. BlackStorm Server nodes are named with the BlackStorm Server IP address or hostname.

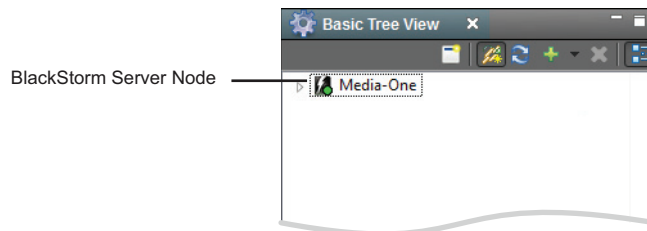






Figure 4.2 BlackStorm Server Node in the DashBoard Tree View

Connection Status

The LED in the lower right corner of a BlackStorm Server node indicates the current connection status between DashBoard and the BlackStorm Server. The LED reports the following connection states:

-  DashBoard is connected to the BlackStorm Service running on the BlackStorm Server computer.
-  DashBoard is trying to establish a connection with the BlackStorm Server, but there may be a connectivity problem. For example, there is no FTP connection with the BlackStorm Server.
-  DashBoard is not connected to the BlackStorm Service running on the BlackStorm Server computer. Check with your IT Department to verify that the BlackStorm Service and Server are running.
-  The connect state between DashBoard and the BlackStorm Server is unknown.


Accessing BlackStorm Server Clients in Dashboard

After adding a BlackStorm Server to DashBoard, BlackStorm Server Clients can be opened to configure and control the BlackStorm Server. The BlackStorm Server node contains all of the available BlackStorm Server Clients.

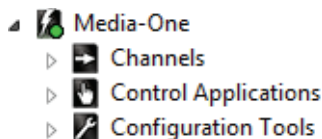
To Open BlackStorm Server Clients:

1. Use one of the following methods to launch the DashBoard software:
 - Double-click the **DashBoard** icon on the desktop.
 - Use the **Start** menu to select **All Programs > DashBoard > DashBoard**.

DashBoard opens.

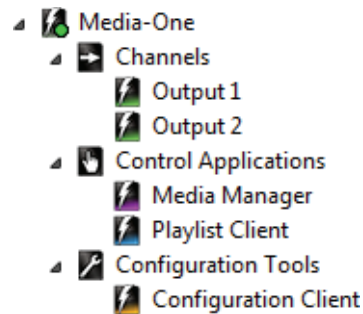
2. In the DashBoard **Tree View**, expand your **BlackStorm Server** node ().

The expanded BlackStorm Server node lists the available channels, applications, and tools.



3. Expand the **Channels**, **Control Applications**, and **Configuration Tools** nodes to access the available BlackStorm Clients.

The available BlackStorm Clients are as follows:



Creating a BlackStorm Client Layout

In DashBoard, each BlackStorm Server Client can be opened in the Device View area to the right of the Tree View. Newly opened BlackStorm Server Clients occupy the entire Device View. When multiple BlackStorm Server Clients are opened in the Device View, the clients can be moved and resized to tailor the Device View to match your work flow. Multiple Device View layouts can be created and saved.

To Open a BlackStorm Server Client:

1. In the DashBoard **Tree View**, expand the **BlackStorm Server** node and all of the nodes it contains.
2. In the **Channels** node, use one of the following methods to open **Output Channel 1** in the **Device View**:
 - Double-click the **Output Channel 1** node.
 - Right-click the **Output Channel 1** node and select **Open** from the **Shortcut** menu.

Output Channel 1 opens in the Device View tab.



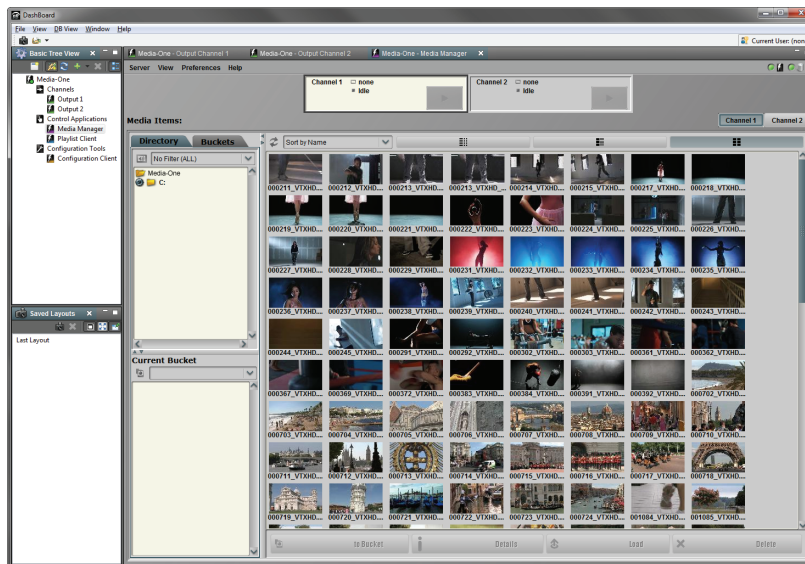
3. In the **Channels** node, double-click the **Output Channel 2** node.

Output Channel 2 opens in a second Device View tab, overlapping the Output Channel 1 tab.



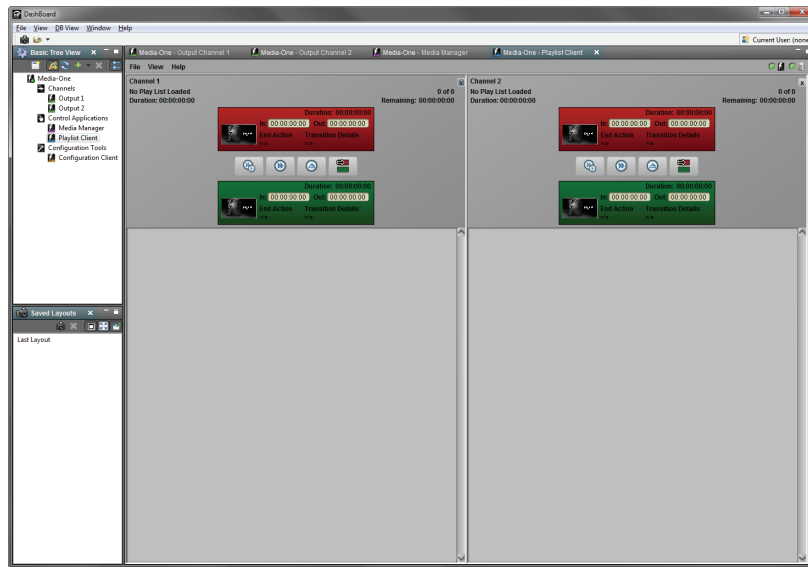
4. In the **Control Applications** node, double-click the **Media Manger** node.

The **Media Manager** opens in a third Device View tab, overlapping the other open tabs.



- In the **Control Applications** node, double-click the **Playlist Client** node.

The **Playlist Client** opens in a third **Device View** tab, overlapping the other open tabs.



- To access a **BlackStorm Server Client**, click the client tab at the top of the **Device View**.

BlackStorm Server Clients open in the **Device View** can be moved and resized to form a layout that enables all clients to be visible.

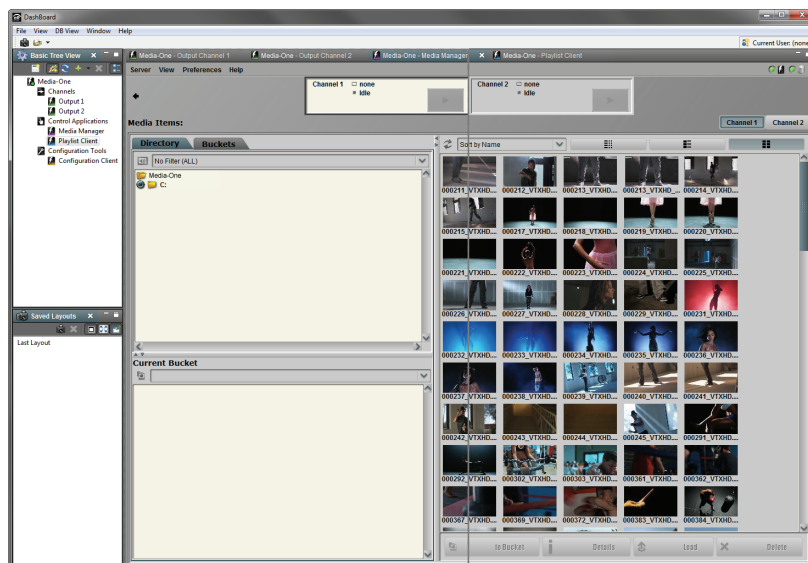
To Move a BlackStorm Server Client:

- In the **Device View**, place the mouse pointer on the title bar of the **BlackStorm Server Client** (Media Manager Client) to move, then click and hold the mouse button.

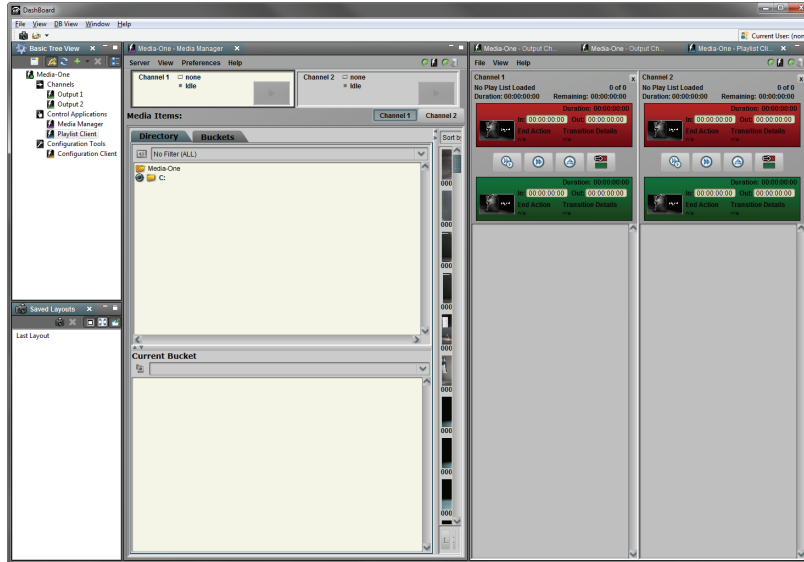


- Drag the selected **BlackStorm Server Client** to a new location in the **Device View** (left side).

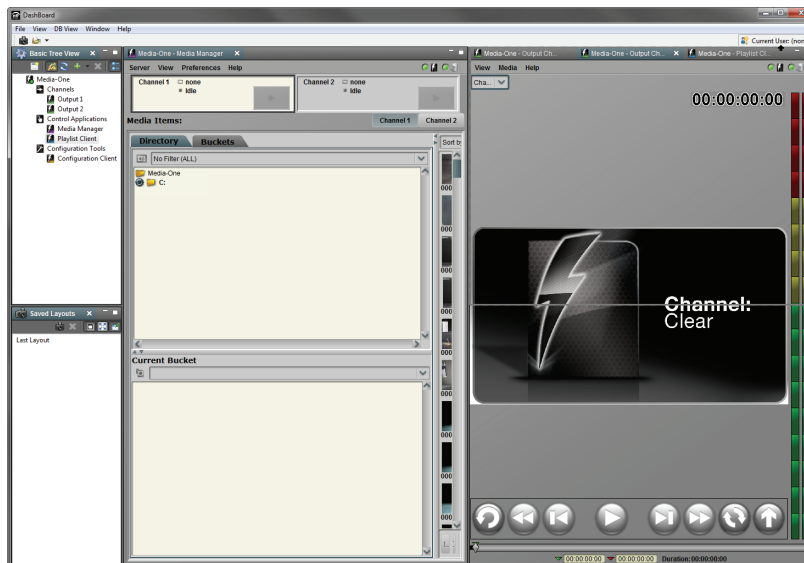
As the client is dragged, a gray outline and an arrow preview the new location for the view.



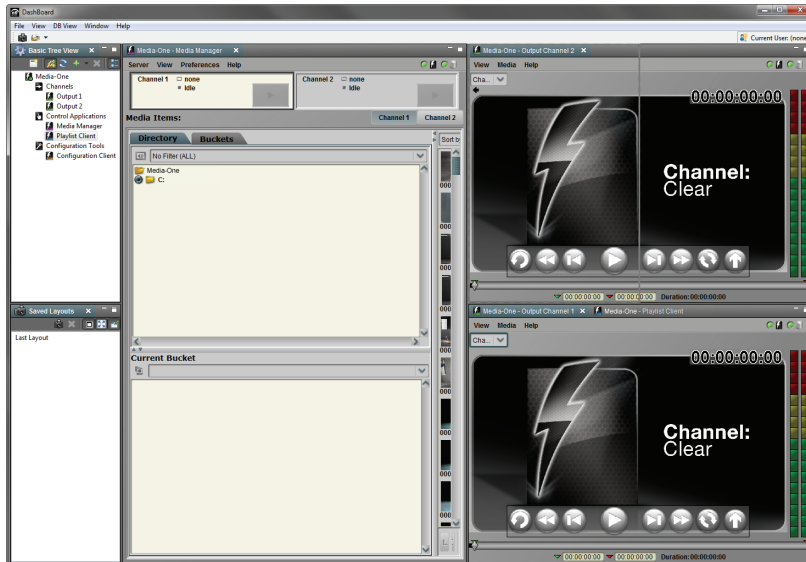
3. Release the mouse button to place the **BlackStorm Server Client** at the selected location.



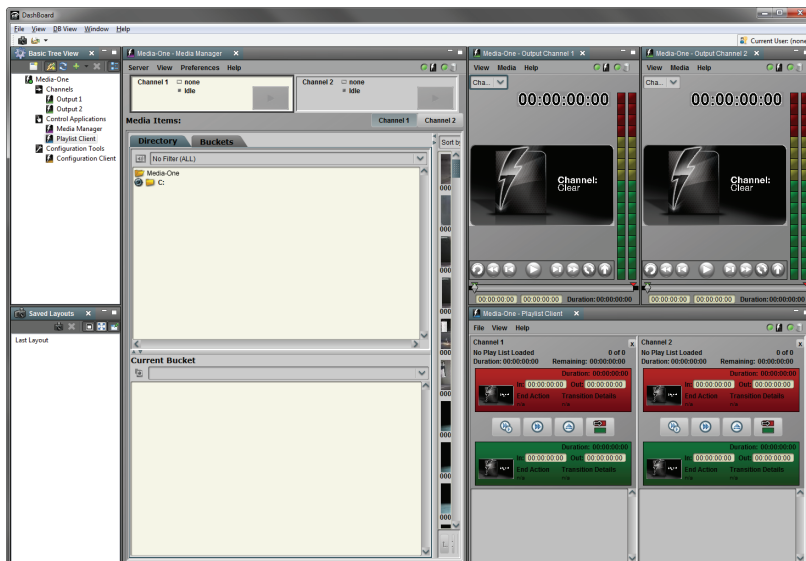
4. Move the **Output Channel 2** client to the top right corner of the **Device View**.



5. Move the **Output Channel 1** client to the left of the **Output Channel 2** client in the **Device View**.



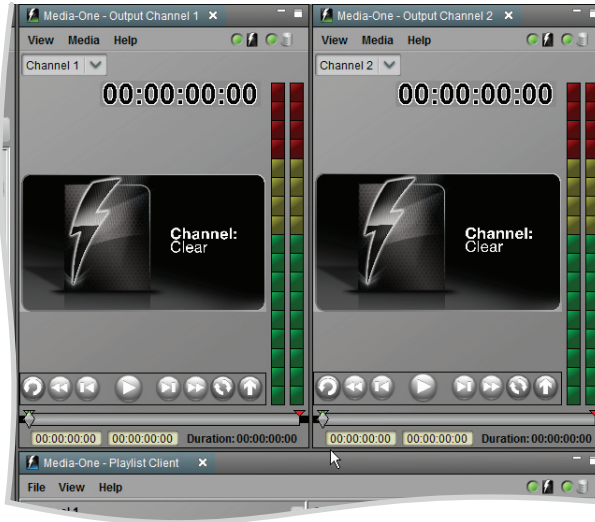
After moving the last BlackStorm Server Client, the layout of the Device View is as follows:



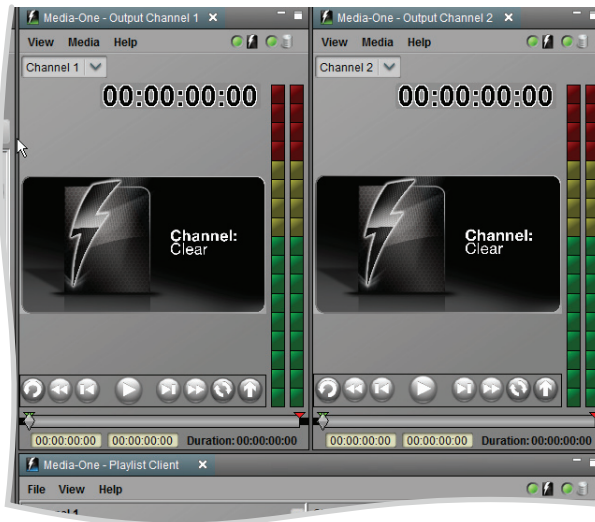
Any of the BlackStorm Server Clients can be resized to fine-tune the layout.

To Resize a BlackStorm Client:

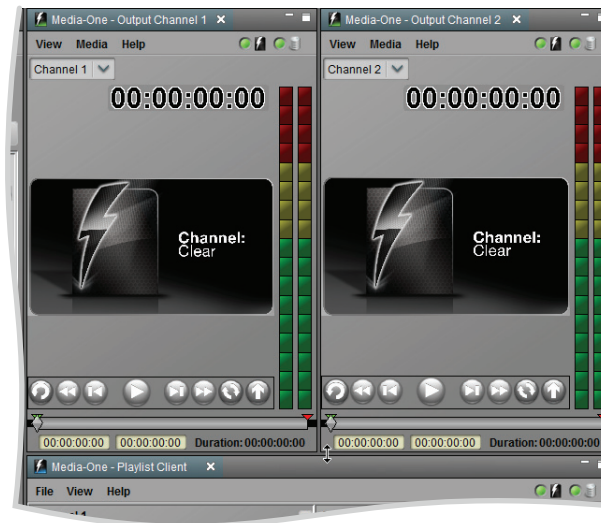
1. In the **Device View**, place the mouse pointer on a border of the **BlackStorm Server Client** (Playlist Client) to move, then click and hold the mouse button.
2. To change the height of a **BlackStorm Server Client** (Play Client) in the **Device View**, place the mouse pointer on the top or bottom border of the client.



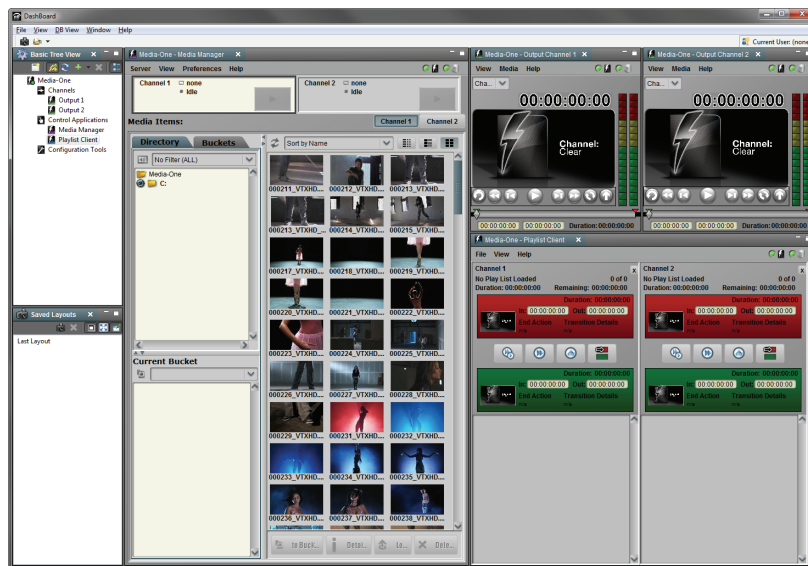
3. To change the width of a **BlackStorm Server Client** (Play Client) in the **Device View**, place the mouse pointer on the left or right border of the client.



- When the mouse pointer changes to a double-headed arrow, click and drag the border to shrink or enlarge the BlackStorm Server Client.

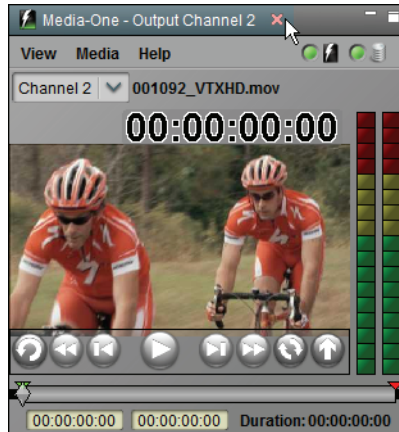


- Release the mouse button to set the size of the BlackStorm Server Client.



To Close a BlackStorm Server Client:

- In the tab of the **BlackStorm Server Client** to close, click **Close** ().



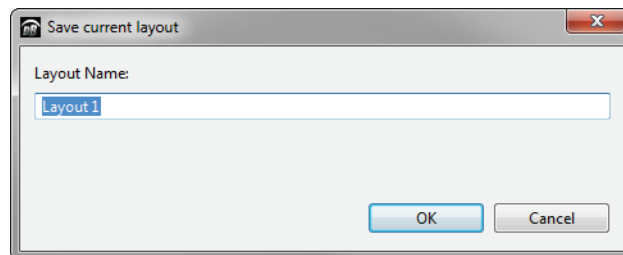
Saving a BlackStorm Client Layout

Once BlackStorm Server Client positions are set in the Device View, you can save the client layout. Each layout saves the DashBoard window state, size, and position. Layouts do not save client background and text color set using the Color Chooser dialog box.

To Save a BlackStorm Server Client Layout:

1. In **DashBoard**, use the **View** menu to select **Save Layout**.

The **Save Current Layout** dialog box opens.



2. In the **Layout Name** box, enter a name with which to save the current layout of the **Device View**.
3. Click **OK**.

For More Information on...

- restoring and managing layout, refer to the *DashBoard User Guide*.
- changing client background and text color, refer the chapter “**Coloring BlackStorm Clients**” on page 8–1

Adding Media Items to a BlackStorm Server

Media items can be added to a BlackStorm Server by importing selected media items, or loading media items from the drop folder. The following clients are used to add media items to a BlackStorm Server:

- **Media Manager Client** — import media files to a BlackStorm Server from any client computer connected to the server.
- **Media Import Wizard** — add media files to a BlackStorm server from a selected folder.

The following topics are discussed in this chapter:

- Loading Media Files through the Media Manager Client
 - Using the Drop Folder to Load Media Files
 - Importing Media Files from Selected Folders
 - Managing Media Items
- ★ Only use the **Media Manager Client** or the **Media Import Wizard** to add media items to a BlackStorm server. Other method of adding media items to a BlackStorm server are not supported and may cause problems when trying to select media items for playout.

Loading Media Files through the Media Manager Client

Media items can be added to a BlackStorm Server by loading the following types of media files created outside of the BlackStorm Server environment:

- **QuickTime files (.MOV)** — QuickTime Standard Definition (SD) and High Definition (HD) media items using the QuickTime Animation or DV codec can be played directly from a BlackStorm Server.
 - **Uncompressed Targa files (.TGA)** — can be played directly from a BlackStorm Server.
- ★ When importing Targa files, note the current BlackStorm video format and frame rate. Targa media items are only available for playout when the BlackStorm Server is running in the same format and frame rate as it was when the Targa files were imported onto the BlackStorm Server.

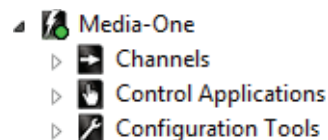
To import a media file onto the BlackStorm Server:

1. Use one of the following methods to launch the DashBoard software:
 - Double-click the **DashBoard** icon on the desktop.
 - Use the **Start** menu to select **All Programs > DashBoard > DashBoard**.

DashBoard opens.

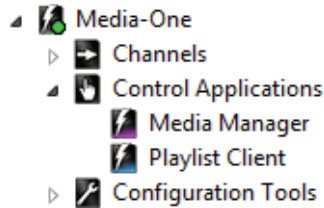
2. In the DashBoard **Tree View**, expand the **BlackStorm Server** node ().

The expanded BlackStorm Server node lists the available channels, applications, and tools.



- Expand the **Control Applications** node ().

The expanded **Control Applications** node lists the available applications.



- Double-click the **Media Manager** node ().

The **Media Manager Client** opens in the **Device View**.

Channel — click a channel panel to select the channel as the current channel to load media items from the Media Items or Current Bucket areas.

Filter — use this list to limit the folders listed in the tree view to the folders that contain media items of the selected file type.

Folders — select from this tree view the folder containing the media items to load into channels.

Bucket — use this list to select the bucket to add media items.

Contents — this list displays the media items contained in the current bucket.

Sort — use this list to select the sort method for the Media Items list.

Status LEDs — these LEDs indicate the current status of the MediaManager Client connection with the BlackStorm Server and the Media Database.

Channel # — click a channel button to select the channel to load media items from the Media Items or Current Bucket areas.

Picon — click this button to display media item picture icons in the Media Items list.

Info — click this button to display media information and picture icons in the Media Items list.

Name — click this button to display media item file names in the Media Items list.

Media Items — select from this list the media item to load into a channel, view information about, delete, or add to a bucket.

To Bucket — click this button to add the selected media items in the current bucket.

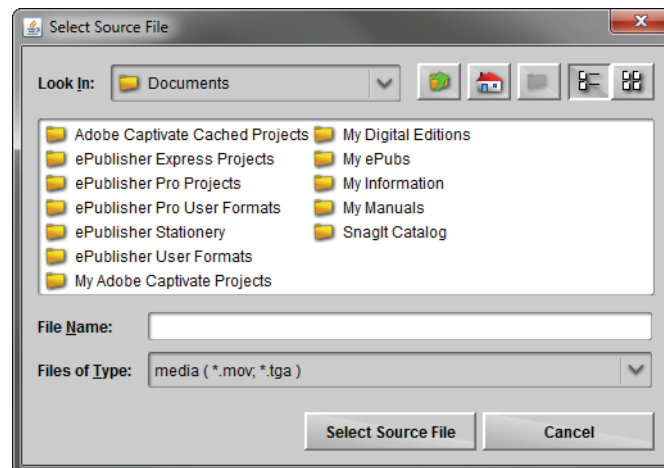
Details — click this button to view information about the selected media item in the Media Item Details dialog box.

Load — click this button to load the selected media item into the currently active channel.

Delete — click this button to delete the selected media item.

- Verify that the **Server** and **Database** LED icons are green, indicating that the Media Manager Client is connected to the BlackStorm Server and Media Database. If either LED icon is red, choose **Server > Connect** to reconnect with the BlackStorm Server and Media Database.
- In the **Media Items** section, click the **Directory** tab.

7. Use the **Filter** list to limit the folders listed in the **Directory** tree view and the media items listed in the **Media Items** section. The **Filter** list contains the following file types:
 - **Video Filter (MOV)** — list the folders in the **Folders** tree view that contain video files in QuickTime (.mov) format, and only list this type of file in the **Media Items** section.
 - **Video Filter (TGA)** — list the folders in the **Folders** tree view that contain video files in Targa (.tga) format, and only list this type of file in the **Media Items** section.
 - **Video Filter (ALL Video)** — list the folders in the **Folders** tree view that contain video files in QuickTime (.mov) or Targa (.tga) formats.
 - **Video Filter (HD)** — list the folders in the **Folders** tree view that contain video files in High Definition (HD) format, and only list this type of file in the **Media Items** section.
 - **Video Filter (SD)** — list the folders in the **Folders** tree view that contain video files in Standard Definition (SD) format, and only list this type of file in the **Media Items** section.
 - **No Filter (ALL)** — list all folders in the **Folders** tree view and all files in the **Media Items** section.
 - **PlayLists** — list the all of the playlist media items in the **Media Items** section.
8. Expand the folders in the **Directory** tree view to locate the folder in which to import a media file.
9. In the **Directory** tree view, right-click the import folder and select **Import Content** from the **Shortcut** menu.
The **Select Source File** dialog box opens.



10. Locate the **media** file to import onto the Media Manager Client, and then click **Select Source File**.

The selected media file is loaded onto the BlackStorm Server and added to the Media Database as a media item. The new media item is named the same as the media file, but without the filename extension.

Using the Drop Folder to Load Media Files

The Drop folder on the BlackStorm Server computer can be used to load supported media files onto a BlackStorm Server. All media files placed in the Drop folder are loaded onto the BlackStorm Server and added to the Media Database as individual media items. New media items are named the same as the loaded media file, but without the filename extension.

- ★ After loading a media file from the Drop folder onto the BlackStorm Server, replacing the media file in the Drop folder with a revised version of the same media file does not update the associated media item on the BlackStorm Server. The associated media item on the BlackStorm Server must be deleted before the revised media file can be loaded onto the BlackStorm Server.

To load media files onto a BlackStorm Server through the Drop folder:

1. Locally or remotely open the D:\Drop folder on the BlackStorm Server computer.
2. Copy the media files to load onto the BlackStorm Server into the D:\Drop folder.

★ The full path name of a media file placed in the Drop folder for loading onto the BlackStorm Server cannot be longer than 260 characters.

Media files added to the Drop folder are automatically loaded onto the BlackStorm Server and entered in the Media Database as a media item. All new media items are automatically added to the **New Items** bucket in the **Media Manager**.

For More Information on...

- deleting media items, refer to the section “**Deleting Media Items**” on page 5–5.
- accessing media items stored in buckets, refer to the section “**Working with Media Item Buckets**” on page 6–4.

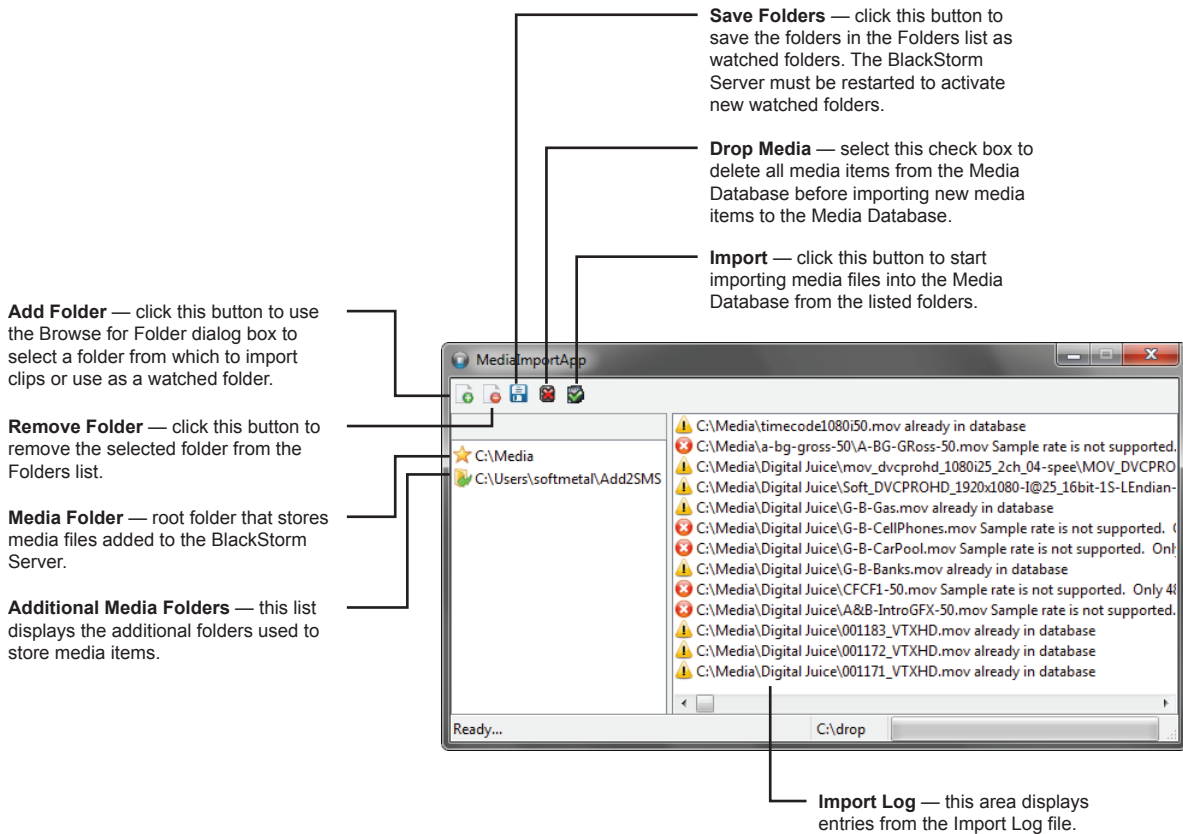
Importing Media Files from Selected Folders

The Media Import Wizard is used to load supported media files from one or more folders onto a BlackStorm Server. All of the media files in the selected folders are loaded onto the BlackStorm Server and added to the Media Database as individual media items. New media items are named the same as the loaded media file, but without the filename extension.

To import media files from a folder:

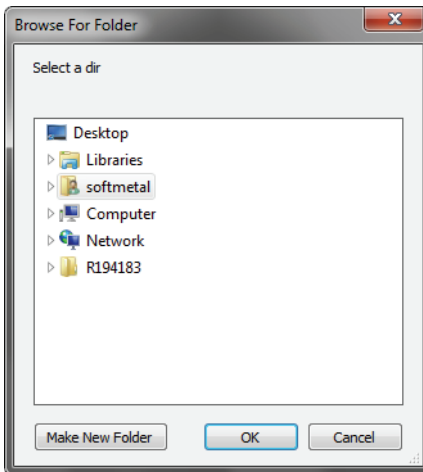
1. On the BlackStorm Server, use the **Start** menu to select **All Programs > BlackStorm > Media Import**.

The **Media Import Wizard** dialog box opens.



2. Click **Add Folder**.

The **Browse for Folder** dialog box opens.



3. In the **Folder** tree view, locate the folder that contains the media files to import into the BlackStorm Server.

4. Click **Open**.

The **Browse for Folder** dialog box closes and the selected folder is added to the **Folders** list in the **Media Import Wizard** dialog box.

5. To import media files from additional folders, follow step 2 on page 5-5 to step 4 on page 5-5.

★ When using more than one folder to import media files, the names of all the media files contained in all of the folders must be unique. When two folders contain a media file with the same name, only the media file from the uppermost of the two folders in the **Folder** tree view will be imported. The media file in the lower folder is not imported since the BlackStorm Server already contains a media item with the same name as the media file.

6. If the **Folders** list contains unnecessary folders, do the following:

- a. In the **Folders** list, select the unnecessary folders.
- b. Click **Remove**.
- c. For each selected folder, click **OK** to verify the removal of the folder from the **Folders** list.

7. Click **Import**.

All of the supported media files contained in the selected folders are import onto the BlackStorm Server. A media item is added to the Media Database for each imported media file. New media items are named the same as the imported media file, but without the filename extension.

8. Close the **MediaImportApp** dialog box.

Managing Media Items

Using the Media Manager Client, media items on a BlackStorm Server can be deleted from the BlackStorm Server or exported to a folder in the local file system.

Deleting Media Items

Deleting a media item from the BlackStorm Server removes the media item entry in the Media Database and deletes the associated media file from the BlackStorm Server. The Media Manager Client cannot delete the following types of media items:

- A media item that is contained in a playlist. Use the Playlist Client to delete media items from a playlist.
- A media item that is on air.
- A playlist that is on air.

For More Information on...

- working with playlists, refer to the chapter “**Working with Playlists**” on page 7–1.

To delete a media item from a BlackStorm Server:

1. Open the **Media Manager Client** in the **Device View**.
2. In the **Directory** tab, use the **Directory** tree view to select the folder containing the media item or items to delete.

The **Media Items** list, to the right of the **Directory** tree view, displays the media items contained in the selected folder.

3. In the **Media Item** list, select the media item or items to delete.
4. Click **Delete** at the bottom of the **Media Items** list.

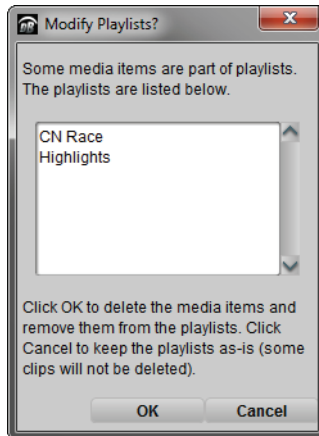
The **Item Deletion** dialog box opens.

5. Click **Yes**.

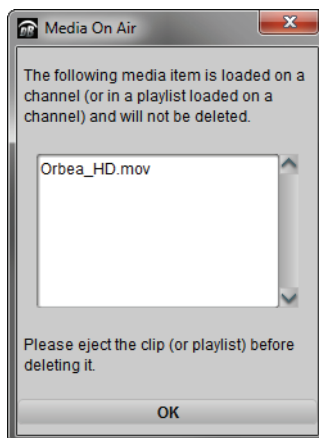
The selected media item or items are deleted from the BlackStorm Server, and no longer exists in the Media Database.

- ★ On air media items or media items contained in an on air playlist cannot be deleted.

When the media item selected for deletion is contained one or more playlists, the **Modify Playlists?** alert opens. Click **OK** to delete the selected media item and remove it from the associated playlists. Click **Cancel** to keep the selected media item and leave the associated playlists unchanged.



When the media item or items selected for deletion are on air or contained in a playlist that is on air, the **Media On Air** dialog alert. Click **OK** to close the dialog box and keep the selected media item or items.



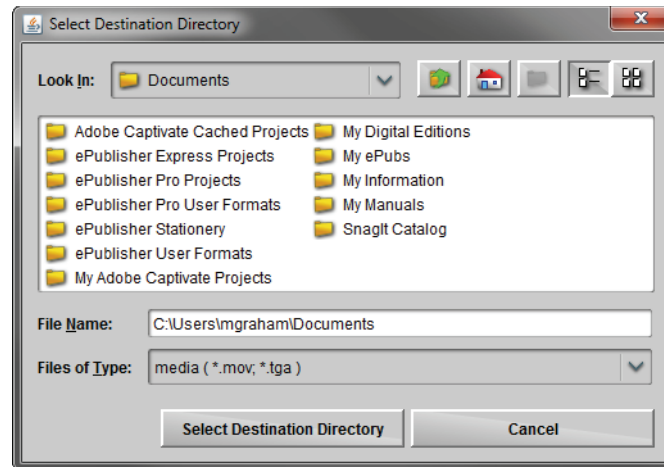
Exporting Media Files

A copy of the media file associated with a media item can be exported from the Media Manager Client to a folder in the local file system. Generally media files are exported from the Media Manager Client for editing or transfer to another system.

To export a copy of the media file associated with a media item to a folder in the local file system:

1. Open the **Media Manager Client** in the **Device View**.
2. In the **Media Item** list, locate the media item to export.
3. Right-click the media item to export and select **Export Content** from the **Shortcut** menu.

The **Select Destination Directory** dialog box opens.



4. Locate and select the folder in which to save a copy of the media file associated with the media item selected for export.
5. Click **Select Destination Directory**.

A copy of the media file associated with the selected media item is exported to the selected folder in the local file system.

Playing Media Items from a BlackStorm Server

The Media Manager and Play Clients provide the controls to play media items from a BlackStorm Server. The Media Manager Client can load and playout media items on up to two channels at the same time. Play Clients can be opened for each output channel on a BlackStorm Server.

Video output GenLock properties for the Media Manager and Play Clients are configured through the Configuration Client. In the Play Client, default playout properties can be overridden by loading play properties from a property file or changing play properties on the Configuration tab in the Play Client.

The following topics are discussed in this chapter:

- Playing Media Items
- Working with Media Item Buckets
- Custom Media Item Playout

Playing Media Items

The Media Manager Client contains an interface to load media items and control media item playout from a BlackStorm Server. Each output channel on a BlackStorm Server has an associated Channel panel in the Media Manager Client. The media items loaded into the Channel panels are controlled individually.

To play a media item in the Media Manager Client:

1. Use one of the following methods to launch the DashBoard software:
 - Double-click the **DashBoard** icon on the desktop.
 - Use the **Start** menu to select **All Programs > DashBoard > DashBoard**.

DashBoard opens.

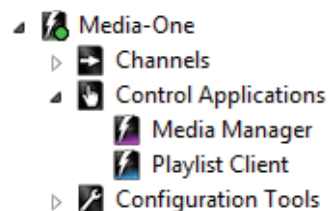
2. In the DashBoard **Tree View**, expand your **BlackStorm Server** node ().

The expanded BlackStorm Server node lists the available channels, applications, and tools.



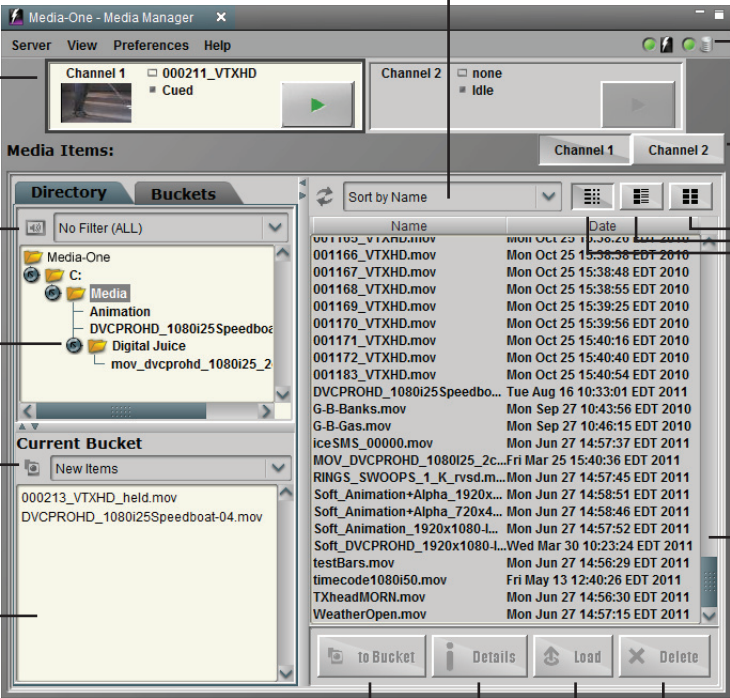
3. Expand the **Control Applications** node ().

The expanded **Control Applications** node lists the available applications.



4. Double-click the **Media Manager** node ().

The **Media Manager Client** opens in the **Device View**.



Channel — click a channel panel to select the channel as the current channel to load media items from the Media Items or Current Bucket areas.

Filter — use this list to limit the folders listed in the tree view to the folders that contain media items of the selected file type.

Folders — select from this tree view the folder containing the media items to load into channels.

Bucket — use this list to select the bucket to add media items.

Contents — this list displays the media items contained in the current bucket.

Sort — use this list to select the sort method for the Media Items list.

Status LEDs — these LEDs indicate the current status of the MediaManager Client connection with the BlackStorm Server and the Media Database.

Channel # — click a channel button to select the channel to load media items from the Media Items or Current Bucket areas.

Picon — click this button to display media item picture icons in the Media Items list.

Info — click this button to display media information and picture icons in the Media Items list.

Name — click this button to display media item file names in the Media Items list.

Media Items — select from this list the media item to load into a channel, view information about, delete, or add to a bucket.

To Bucket — click this button to add the selected media items in the current bucket.

Details — click this button to view information about the selected media item in the Media Item Details dialog box.

Load — click this button to load the selected media item into the currently active channel.

Delete — click this button to delete the selected media item.

5. Verify that the **Server** and **Database** LED icons are green, indicating that the Media Manager Client is connected to the BlackStorm Server and Media Database.

6. In the **Channels** section, click the **Channel** from which to play out a media item.

The selected channel is highlighted in the **Channels** section.

7. In the **Media Items** section, click the **Directory** tab.

The **Filter** list can be used to limit the folders listed in the **Directory** tree view and the media items listed in the **Media Items** section.




8. Expand the folders in the **Directory** tree view to locate and select the folder containing the media item to load into the selected **Channel** panel.

The media items contained in the selected folder are listed to the right of the **Directory** tree view.

9. Use the **Sort** list to select the method with which to sort the media items in **Media Item** list. The available sort methods are as follows:





- **Sort by Name** — alphabetical by media item name.
- **Sort by Date** — numerically by media item creation date.
- **Sort by Name (case sensitive)** — alphabetical by media item name, except list all media items that start with an uppercase letter before those that start with a lower case letter.


10. Use the following buttons to select the information to display for the media items in the **Media Item** list.

-  — display media item file names.
-  — display media item information and picture icons.
-  — display media item picture icons.




11. Use the **Media Item** list to select the media item to load into the selected channel.

The following types of media items can be expanded and collapsed:

- **Playlist Media Items** — the  icon indicates that a media item is a playlist.
Double-click the  icon to view the media items contained in the selected playlist. The selected playlist expands to display the media items contained in the playlist and the icon changes to . Double-click the  icon to collapse the playlist to a single item.

- **Targa Media Items** — the  icon indicates that a media item is a Targa set.

★ Targa sets cannot be played out from the Media Manager, the **Playlist Client** must be used to playout Targa sets.

Double-click the  icon to view the Targa images contained in the selected Targa set. The selected Targa set expands to display the Targa images contained in the playlist and the icon changes to . Double-click the  icon to collapse the Targa set to a single item.




★ Targa media items are only available for playout when the BlackStorm Server is running in the same format and frame rate as it was when the Targa files were imported onto the BlackStorm Server.

12. To view details about the selected media item, click **Details**.

13. Click **Load**.

The selected media item is loaded into the selected channel and cued for playout. The loaded channel displays the media item picon, video file name, audio file name, and current status. The Media Manager Client can load and playout media items on up to two channels at the same time.

14. Click the channel **Play** button to start playing the loaded media item. Each time this button is clicked, the state of the button changes as follows:

Media Item State	Play Button	Click to...
Newly Loaded		Start playing the media item.
Playing		Pause the playing media item.
Paused		Start playing the media item.

15. Use the **Play** button to control the playout of the media item.

To eject or unload a media item from a channel, drag the media item from the **Channel** and drop it on the **Media Items** list.

Double-click a media item in the **Media Items** list to quickly load the media item into the currently selected channel. Dragging a media item from the **Media Items** list and dropping it on a **Channel** panel in the **Channel Control Area** is another method that can be used to load a media item into a channel.

For More Information on...

- positioning BlackStorm Server clients in the DashBoard Device View, refer to the chapter “**BlackStorm Server Client Layout**” on page 4-1.

Playing Media Items that Contain an Embedded Alpha Channel

Media items that contain an embedded Alpha Channel require two channels for playout, channel 1 for the video and channel 2 for the alpha. Media items that contain an embedded Alpha Channel are only allowed to be loaded on Channel 1.

- ★ When using a BlackStorm Server with the Ross Video OverDrive production automation system, the OverDrive operator must be aware of which media items contain an embedded Alpha Channel. OverDrive does not warn the operator that channel 2 is not available after loading channel 1 with a media item that contains an embedded Alpha Channel.

To play a media item with an embedded Alpha Channel in the Media Manager Client:

1. Verify that the **Server** and **Database** LED icons are green, indicating that the Media Manager Client is connected to the BlackStorm Server and Media Database.
2. In the **Media Manager Client**, click **Channel 1** the **Channels** section.
Channel 1 is selected and highlighted in the **Channels** section.
3. Use the **Media Item** list to select a media item with an embedded Alpha Channel to load into channel 1.
4. Click **Load**.

The video of the selected media item is loaded into channel 1 and the embedded Alpha Channel is loaded into channel 2. The media item is cued for playout. **Channel 1** the **Channels** section displays the media item picon, video file name, audio file name, and current status.

One of the following alerts opens when an attempt is made to improperly load a media item with an embedded Alpha Channel.

- The **Disallowed** alert opens after attempting to load a media item with an embedded Alpha Channel on Channel 2.
 - The **Eject Channel 1** alert opens when an attempt is made to load a media item into channel 2 when a media item with an embedded Alpha Channel is loaded on channel 1.
5. Click the Channel 1 **Play** button to start playing the loaded media item with an embedded Alpha Channel.

Working with Media Item Buckets

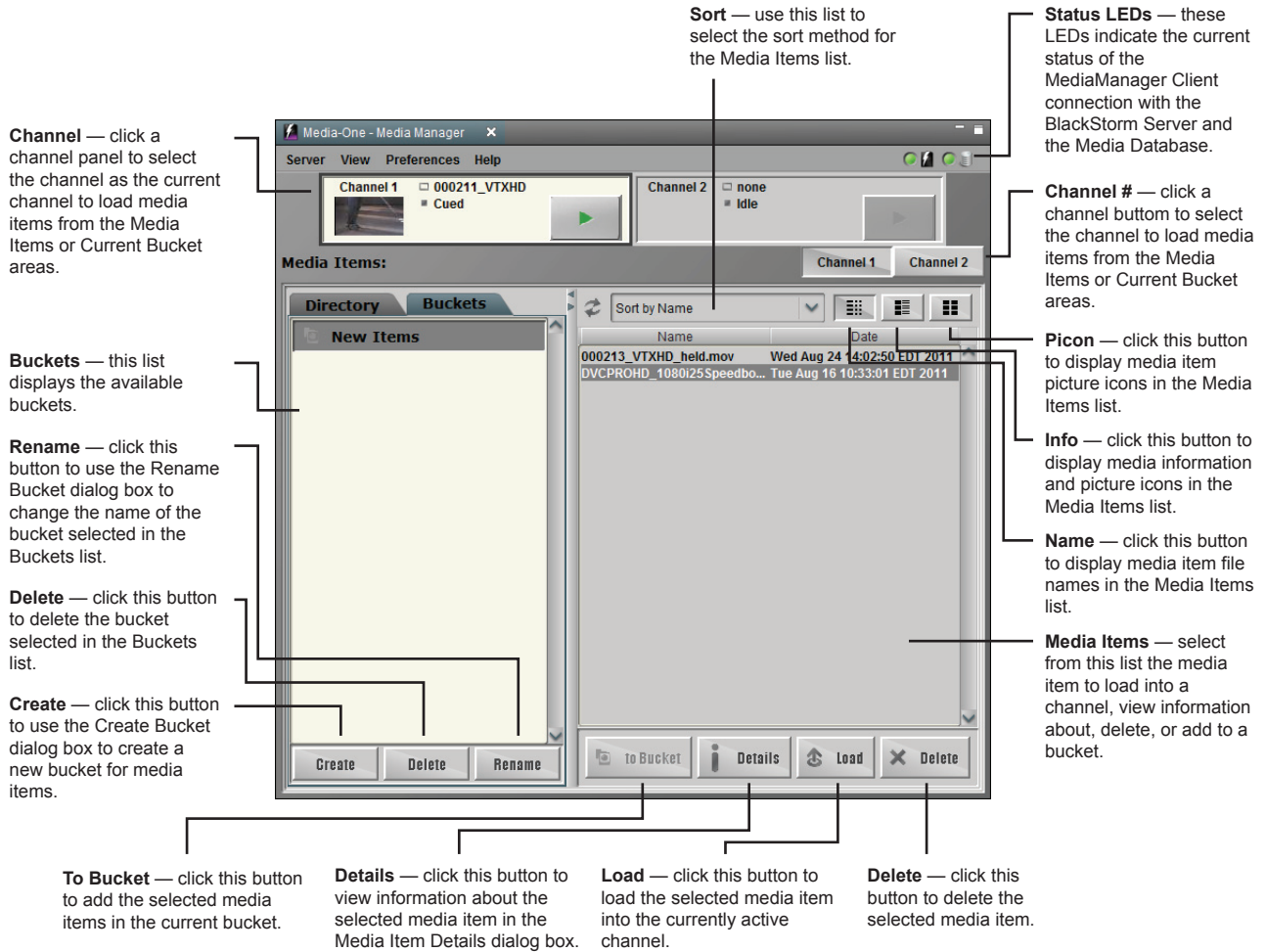
Media item buckets are used to quickly access groups of often used media items stored in one or more folders. Media items can be loaded directly from a bucket into a channel by clicking the Load button or by dragging and dropping a media item from the bucket. The media items added to a bucket are automatically saved on the BlackStorm Server so that they can be accessed from the same bucket next time Media Manager Client is launched.

- ★ Playlists cannot be added to a bucket.

To create a bucket to hold media items:

1. In the **Media Manager Client**, click the **Buckets** tab.

The **Buckets** tab opens.



2. Click **Create** at the bottom of the **Buckets** tab.

The **Create Bucket** dialog box opens.

3. In the **Enter Name** box, enter a name for the new bucket.
4. Click **OK**.

The new bucket is added to the **Buckets** list in the **Media Manager Client**

To load media items into a bucket:

1. In the **Media Manager Client**, click the **Directory** tab.

The **Directory** tab opens.

2. Use the list in the **Current Bucket** section to select the name of the bucket to load media items.
3. Use the **Directory** tree view to select the folder containing the media items to load into the current bucket.
The media items contained in the selected folder are listed to the right of the **Directory** tree view.
4. Use the **Media Item** list to select the media item or items to load into the current bucket.
5. Click **To Bucket**.

The selected media items are loaded into the current bucket.

To load a channel from a bucket:

1. In the **Channels** section of the **Media Manager**, click the **Channel** panel on which to load a media item.
When the **Channels** section is hidden, use the **Channel** buttons to select the channel to load media items.
2. In the **Media Items** section, click the **Directory** tab.
3. Use the list in the **Current Bucket** section to select the name of the bucket containing the media item to load.
The media items contained in the selected bucket are listed in the **Current Bucket** section.
4. In the **Current Bucket** section, double-click the media item to load into the selected channel panel.
The selected media item is loaded onto the selected channel panel and cued for playout. A picon from and information about the loaded media item is displayed in the loaded channel panel.

Dragging a media item from the **Current Bucket** list and dropping it on a **Channel** is another method that can be used to load a media item from a bucket into a channel.

To delete media items from a bucket:

1. In the **Media Manager Client**, click the **Buckets** tab.
The **Buckets** tab opens.
2. Use the **Bucket** list to select the bucket from which to delete media items.
The media items contained in the selected bucket are listed in the **Media Item** list to the right of the **Directory** tree view.
3. Use the **Media Item** list to select the media item or items to delete from the current bucket.
4. Click **Delete** at the bottom of the **Media Items** list.
The **Delete Selected** dialog box opens.
5. Click **Yes**.
The selected media item or items are deleted from the current bucket, but still remain in the Media Database.

To rename a bucket:

1. In the **Media Manager Client**, click the **Buckets** tab.
The **Buckets** tab opens.
2. Use the **Bucket** list to select the bucket to rename.
3. Click **Rename** at the bottom of the **Buckets** tab.
The **Rename Bucket** dialog box opens.
4. In the **Enter Name** box, enter a new name for the selected bucket.
5. Click **OK**.
The **Bucket** list is updated with the new name of the selected bucket.

To delete a bucket:

1. In the **Media Manager Client**, click the **Buckets** tab.

The **Buckets** tab opens.

2. Use the **Bucket** list to select the bucket to delete.

3. Click **Delete** at the bottom of the **Buckets** tab.

The **Delete Bucket** dialog box opens.

4. Click **Yes**.

The selected bucket is deleted from the **Bucket** list, but the media items in the bucket still remain in the Media Database.

- ★ Since buckets are saved on the BlackStorm Server, deleting a bucket also deletes it for all users working on the same BlackStorm Server.

Custom Media Item Playout

The Play Client can also be used to playout media items from a BlackStorm Server. Using the Play Client, media item playout can be customized as follows:

- Play from any point in a media item.
- Play only a portion of a media item.
- Loop the playout of a media item.
- Play a media item one frame at a time.

- ★ The Play Client must be used to playout Targa sets.

To control media item playout in the Play Client:

1. Open the **Media Manager Client** in the **Device View**.

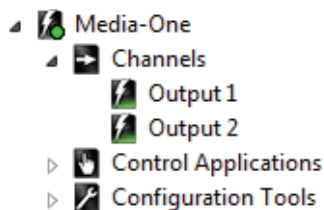
2. In the Dashboard **Tree View**, expand your **BlackStorm Server** node ().

The expanded BlackStorm Server node lists the available channels, applications, and tools.



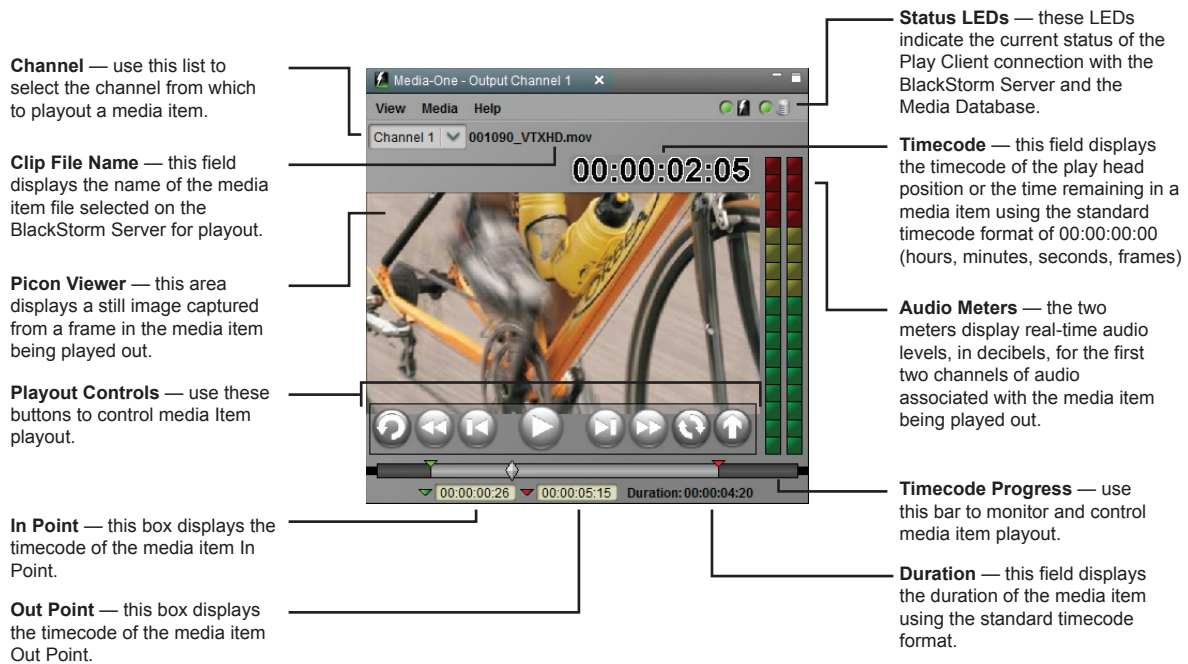
3. Expand the **Channels** node ().

The expanded **Channels** node lists the available output channels on the BlackStorm Server.



- Double-click the **Output** node for the output channel on which to playout a media item.

A **Play Client** opens in the **Device View** for the selected output channel.




- Drag the media item to playout from the **Media Manager Client** to the **Play Client**.

The selected media item is loaded onto the output channel controlled by the **Play Client**.


★ Media items that contain an embedded Alpha Channel require two channels for playout, channel 1 for the video and channel 2 for the alpha. Media items that contain an embedded Alpha Channel are only allowed to be loaded on Channel 1.

- Click **Play** in the playout controls along the bottom of the **Play Client**.



Button	Function
	Play — play the media item. During media item playout, this button changes into the Pause button.

The **Timecode** displays the hours, minutes, seconds, and frames of the current position of the play head or the time remaining in the media item. The play head on the **Timecode Progress Bar** graphically indicates the current position of the play head in the media item. Use the **View > Time Code Font Size** command to set the size of the timecode numbers.

- Click **Pause** in the playout controls.

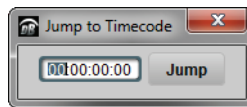
Button	Function
	Pause — pause the media item from the current state. Click the Play button to resume playing the media item.

8. Click **Rewind** to move the play head to the start of the media item, or click **Fast Forward** to move the play head to the end of the media item.

Button	Function
	Rewind — rewind the media item to the In Point.
	Fast Forward — fast forward the media item to the Out Point.

9. Click and drag the play head along the **Timecode Progress Bar** to advance or rewind to a specific point in a media item. To move the play head to a specific timecode:
 - a. Use the **Media** menu to select **Jump to Timecode**.

The **Jump to Time** code dialog box opens.




- b. In the **Timecode** box, use the standard timecode format of 00:00:00:00 (hours, minutes, seconds, and frames) to enter the timecode at which to place the play head.

Do not enter timecodes that are less than the In Point or greater than the Out Point timecodes set for the media item.

- c. Click **Jump**.

The play head moves to the enter timecode on the **Timecode Progress Bar**. The play head does not move when the entered timecode is less than the In Point or greater than the Out Point timecodes set for the media item.

10. After playing a media item, click **Eject** to unload the media item loaded in the current channel of the **Play Client**.

Button	Function
	Eject — unload the current media item from the Play Client.

Use the **Color Chooser** dialog box to change the background and text color for each channel open in a Play Client. When using multiple channels on a BlackStorm Server, identifying each channel with a different color can be very helpful in enabling an operator to quickly differentiate between channels. For more information, refer to the chapter “**Coloring BlackStorm Clients**” on page 8–1.

To generate a new picon for a media item:

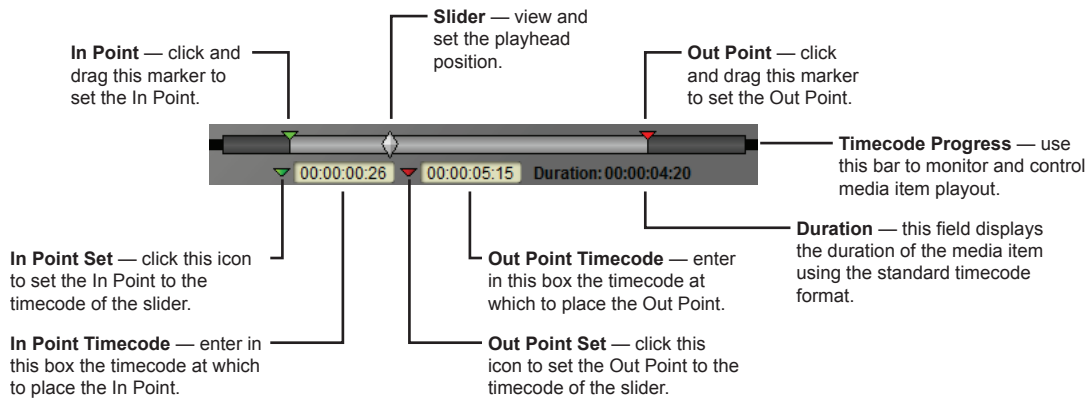
1. In the **Media Manager**, select the media item for which to generate a picon.
2. Load the selected media item into an open **Play Client** in the **Device View**.
3. Click **Play** to start playout of the loaded media item.
4. When the media item frame to use as the new picon displays on the monitor, click **Pause**.
5. Use the **Media** menu to select **Generate Picon**.

A new picon is generated for the media item from the paused frame, and displayed in the Picon Viewer. If the media item already had a picon, it is replaced with the newly generated picon.

To set the In Point and Out Point to play a portion of a media item:

1. In the **Media Manager**, select the media item to playout.
2. Load the selected media item into an open **Play Client** in the **Device View**.
3. Use one of the following methods to adjust the **In Point** for the media item:
 - Click and drag the **In Point** (green) marker along the **Timecode Progress Bar** to set the position of the media item In Point. The **In Point Timecode** box displays the timecode of the new In Point.
 - Click the **In Point Mark** icon to the right of the **In Point Timecode** box to set the play head position as the media item In Point. The **In Point** (green) marker moves to the play head position on the **Timecode Progress Bar** and the **In Point Timecode** box displays the timecode of the new In Point.
 - Use the **Media > Jump to Timecode** command to position the play head at an entered timecode. After positioning the play head, click the **In Point Mark** icon to the right of the **In Point Timecode** box to set the play head position as the media item In Point. The **In Point** (green) marker moves to the play head position on the **Timecode Progress Bar**.

The new In Point position is automatically saved with the media item.



4. Use one of the following methods to adjust the **Out Point** for the media item:
 - Click and drag the **Out Point** (red) marker along the **Timecode Progress Bar** to set the position of the media item Out Point. The **Out Point Timecode** box displays the timecode of the new Out Point.
 - Click the **Out Point Mark** icon to the right of the **Out Point Timecode** box to set the play head position as the media item Out Point. The **Out Point** (red) marker moves to the play head position on the **Timecode Progress Bar** and the **Out Point Timecode** box displays the timecode of the new Out Point.
 - Use the **Media > Jump to Timecode** command to position the play head at an entered timecode. After positioning the play head, click the **Out Point Mark** icon to the right of the **Out Point Timecode** box to set the play head position as the media item Out Point. The **Out Point** (red) marker moves to the play head position on the **Timecode Progress Bar**.


The new Out Point is automatically saved with the media item.

5. Click **Cue** to cue the media item to the set In Point and ready it for playout.
6. Click **Play** in the playout controls to start playing the media item from the **In Point** and continue playing until the **Out Point** is reached or **Pause** is clicked.


Use the playout controls to control media item playout.

To loop the playback of a media item:

1. In the **Media Manager**, select the media item to playback.
2. Load the selected media item into an open **Play Client** in the **Device View**.
3. Click **Loop** in the playback controls to start playing the media from the play head location and turn loop mode on.



Button	Function
	Loop — click to turn loop mode on. A playing media continues playback until the play head reaches the Out Point where it loops back to the In Point and restarts playback of the media item. Looping playback continues until loop mode is turned off.

4. When the loop mode is on, the arrows on the **Loop** button turn green. When the **Loop** button arrows are green, click **Loop** to turn off loop mode.

Button	Function
	Loop On — click to turn loop mode off. A playing media item continues playback until the play head reaches the Out Point and stops the playback.

To view a media item one frame at a time to locate an exact frame:

1. In the **Media Manager**, select the media item to playback.
2. Load the selected media item into an open **Play Client** in the **Device View**.
3. Click **Play** in the playback controls to begin playing the media item.
4. At the point to start viewing the media item one frame at a time, click **Pause** in the playback controls.
5. Click **Frame Forward** in the playback controls to view the next frame in the media item, or **Frame Back** to view the previous frame in the media item.

Button	Function
	Frame Forward — move one frame forward in the media item.
	Frame Back — move one frame backward in the media item.

For More Information on...

- playing out media items that contain an embedded Alpha Channel, refer to the section “**Playing Media Items that Contain an Embedded Alpha Channel**” on page 6–4.

Working with Playlists

The Playlist Client provides the controls to create and playout playlists. A playlist is a selection of custom-ordered media items that defines the following:

- The number of media items to playout
- The order of media item playout
- The portion of each media item to playout
- The method used to transition from the currently playing media item to the playout of the next media item.

Multiple playlist editors can be opened in the Playlist Client to create new playlists. For playout, the Playlist Client can open a playlist for each BlackStorm Server output channel. The Output Channel properties used by the Playlist Client are set on the **GenLock** tab in the Config Client.

The following topics are discussed in this chapter:

- Creating Playlists
- Editing Playlists
- Playing Out Playlists

Creating Playlists

The Playlist Client is used to create and edit playlists on air or off-line. Playlists are created from the media items stored in the Media Manager Client of a BlackStorm Server. Once created, a playlist is a media item.

★ Playlists can only contain media items that are stored on the same BlackStorm Server as the playlist.

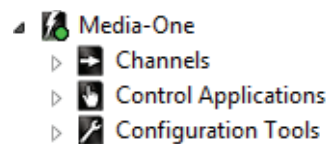
To open a Playlist Client:

1. Use one of the following methods to launch the DashBoard software:
 - Double-click the **DashBoard** icon on the desktop.
 - Use the **Start** menu to select **All Programs > DashBoard > DashBoard**.

DashBoard opens.

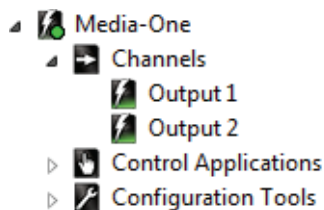
2. In the DashBoard **Tree View**, expand your **BlackStorm Server** node ().


The available channels, applications, and tools are listed below the BlackStorm Server node.




3. Expand the **Channels** node ().

The available output channels are listed below the **Channels** node



4. Double-click the **Output 1** node ().

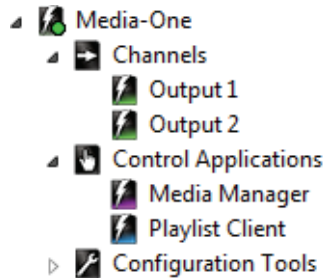
The Play Client for **Output Channel 1** opens in the **Device View**.

5. Double-click the **Output 2** node ().

The Play Client for **Output Channel 2** opens in the **Device View**.

6. Expand the **Control Applications** node ().

The available control applications are listed below the **Control Applications** node



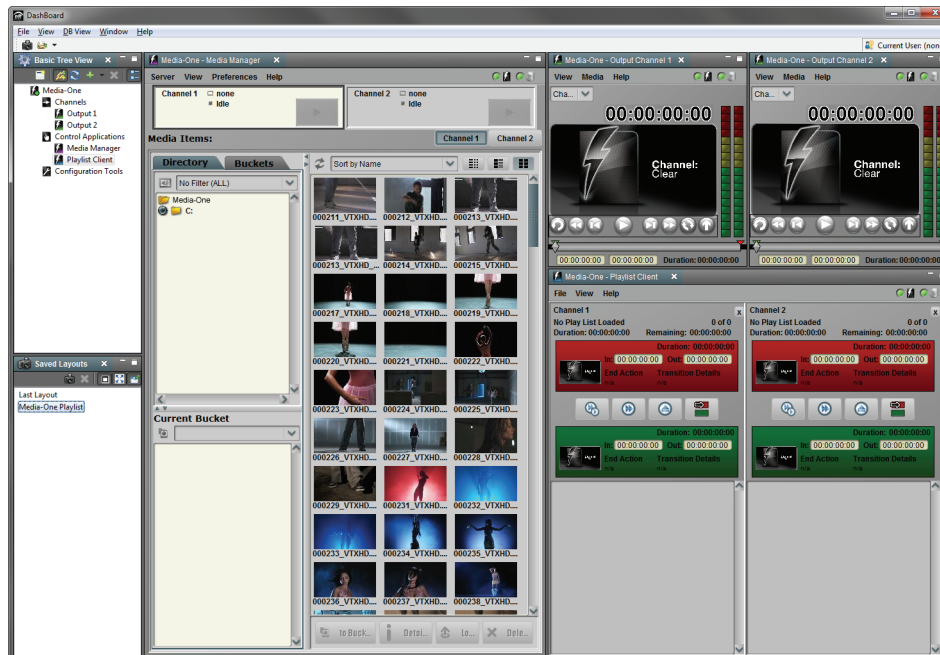
7. Double-click the **Media Manager** node ().

The **Media Manager** opens in the **Device View**.

8. Double-click the **Playlist Client** node ().

The **Playlist Client** opens in the **Device View**.

9. Position the **Media Manager**, **Output Channels**, and **Playlist Client** so that all clients are visible in the **Device View**.



With the Media Manager, Play, and Playlist Clients positioned in the Device View, the work area is ready to create and use playlists.

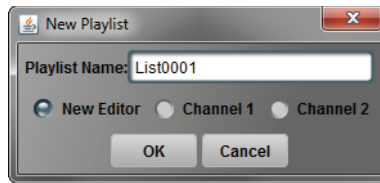
For More Information on...

- positioning BlackStorm Clients in the Device View, refer to the chapter “**BlackStorm Server Client Layout**” on page 4–1.

To create a playlist:

1. In the **Playlist Client**, use the **File** menu to select **New Playlist**.

The **New Playlist** dialog box opens.

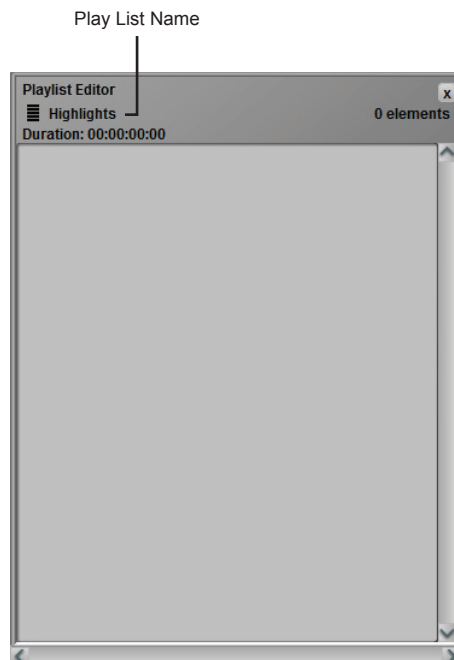


2. In the **Playlist Name** box, enter a name for the new playlist.

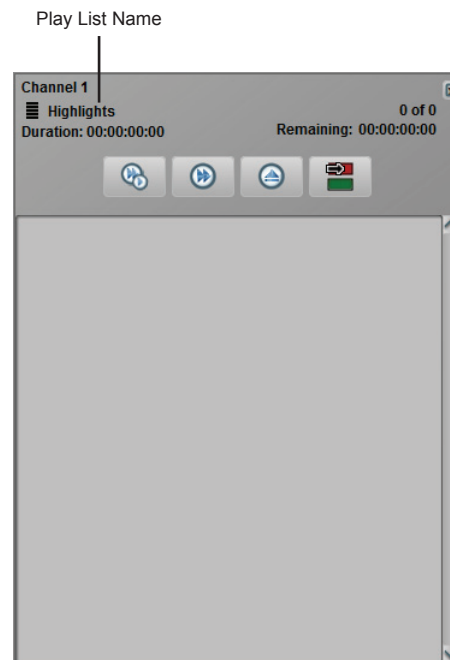
★ Playlist names cannot contain the % (percent) character.

3. Select one of the following options to specify the editor in which to create a new playlist:
 - **New Editor** — select this option to open a new **Playlist Editor** in which to create a new playlist. The Playlist Editor is used to create playlists off-line.
 - **Channel 1** — select this option to create a new playlist on air in the **Channel 1** panel of the **Playlist Client**. This option enables the immediate playout of the new playlist on Channel 1, but disables editing the on air (red background) and next (green background) media items.
 - **Channel 2** — select this option to create the new playlist on air in the **Channel 2** panel of the **Playlist Client**. This option enables the immediate playout of the new playlist on Channel 2, but disables editing the on air (red background) and next (green background) media items.
4. Click **OK**.

The new playlist is automatically saved in the **Media Manager** as media item. Depending on the selected playlist editor, either a new **Editor** panel opens or the name of the playlist is added to the selected **Channel** panel.



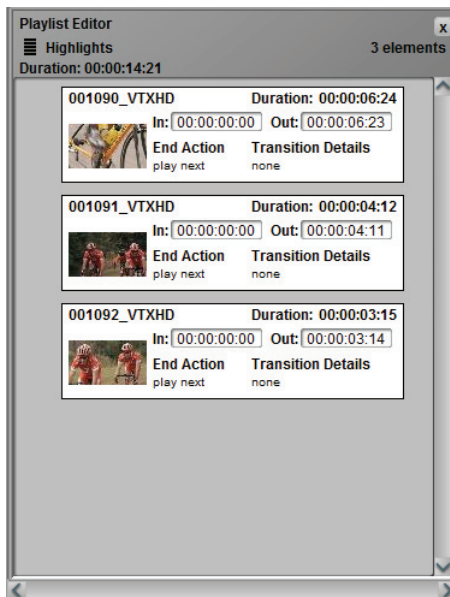
New Playlist in a Play List Editor



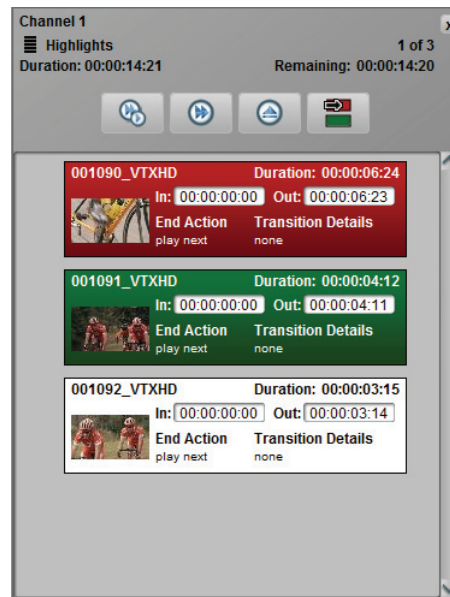
New Playlist in a Channel Panel

5. Use the **Media Manager Client** to list the available media items that can be added to a playlist.

6. In the **Media Manager Client**, click and drag media items or playlists from the **Media Item** list into an open playlist **Editor** panel or **Channel** panel. Playlists are automatically saved as media items are added.
- ★ A playlist can only contain media items that are encoded with the same video format and frame rate. Also, playlists cannot contain a mixture of media items with alpha channels and no alpha channels.



Media items in the Edit panel



Media items in the Channel panel

When a TGA sequence media item is added to a playlist, only the individual TGA media items in the TGA sequence are added to the playlist. Changes made to the original TGA sequence media item do not affect the TGA media items added to the playlist.

When a playlist is added to another playlist, only the media items in the selected playlist are added to the other playlist. Changes made to the original playlist do not affect the media items added to the other playlist.

Editing Playlists

After a playlist is added to a BlackStorm Server, the following changes can be made to the playlist:

- Add media items to a playlist.
- Move media items in a playlist.
- Delete media items from a playlist.
- Set the portion of a media item to payout.
- Set the action performed when a media item finishes payout.
- Set the method used to transition between media items.

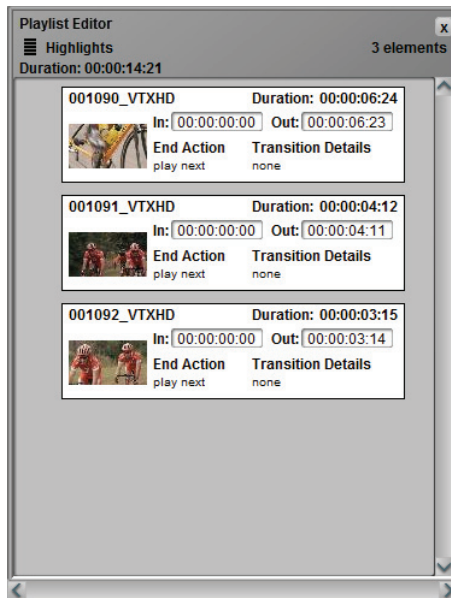
The Editor panel or a Channel panel in the Playlist Client can be used to edit a playlist. The Editor panel enables off-line editing of a playlist. A Channel panel enables playlist editing during payout, but disables editing the On Air (red) or Next (green) media items. Editing a media item is automatically disabled when the media item becomes the Next (green) or On Air (red) media item.

- ★ The Playlist Client does not restrict multiple users from editing a playlist. Playlist editing should be restricted to a single user and a single Edit or Channel panel in the Playlist Client.

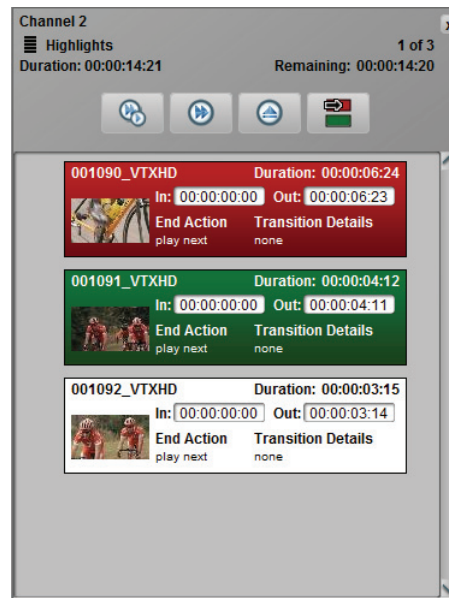
To add a media item to a playlist:

1. In the **Media Manager**, click and drag the playlist to edit from the **Media Item** list into an open **Editor** or **Channel** panel of the **Playlist Client**.

The media items contained in the selected playlist are displayed in the **Playlist Client**.



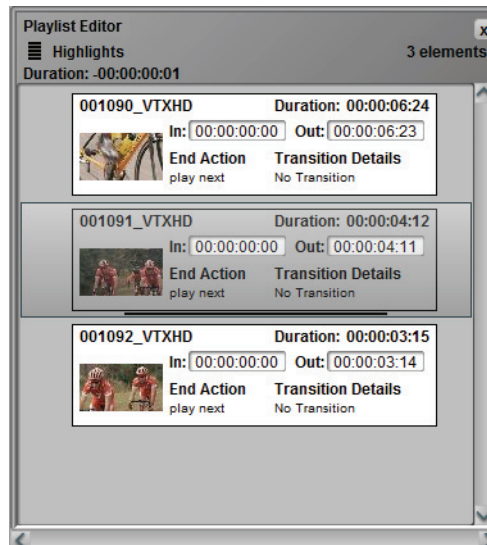
Playlist loaded in the Edit panel



Playlist loaded in a Channel panel

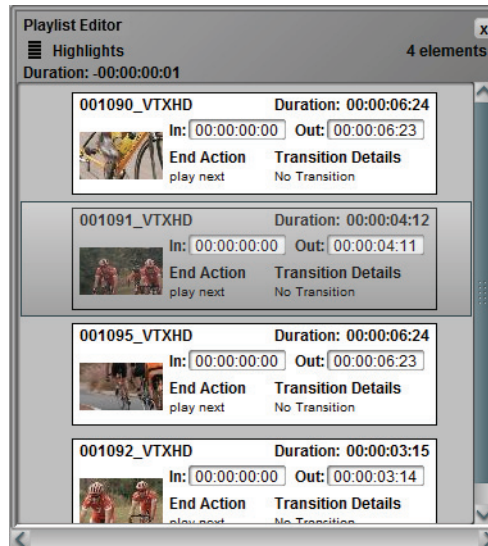
2. Click and drag a media item from the **Media Manager Client** into the playlist open in an **Editor** panel or **Channel** panel.
 - ★ A playlist can only contain media items that are encoded with the same video format and frame rate. Also, playlists cannot contain a mixture of media items with alpha channels and no alpha channels.
3. Move the pointer to the position in the playlist to add the selected media item.

A black bar indicates the selected playlist position for the new media item.



4. Release the mouse button to add the media item to the playlist at the selected position.

The added media item is displayed in the playlist at the selected position, and the updated playlist is automatically saved.



When an existing playlist is added to a new playlist, only the media items contained in the existing playlist are added to the new playlist. Changes made to the original playlist do not affect the media items added to the new playlist.

To move a media item in a playlist:

1. In the **Media Manager**, click and drag the playlist to edit from the **Media Item** list into an open **Editor** or **Channel** panel of the **Playlist Client**.

The media items contained in the selected playlist are displayed in the **Playlist Client**.

2. In the playlist, click and drag the media item to move.
3. Place the pointer in the playlist at the new position for the selected media item.

A black bar indicates the new playlist position for the media item.

4. Release the mouse button to place the media item at the selected location in the playlist.

The moved media item is displayed in the playlist at the new location, and the updated playlist is automatically saved.

To delete media items from a playlist:

1. In the **Media Manager**, click and drag the playlist to edit from the **Media Item** list into an open **Editor** or **Channel** panel of the **Playlist Client**.

The media items contained in the selected playlist are displayed in the **Playlist Client**.

2. In the playlist, right-click the media item to delete from the playlist and select **Delete** from the **Shortcut** menu.

The selected media item is deleted from the playlist, but not deleted from the BlackStorm Server.

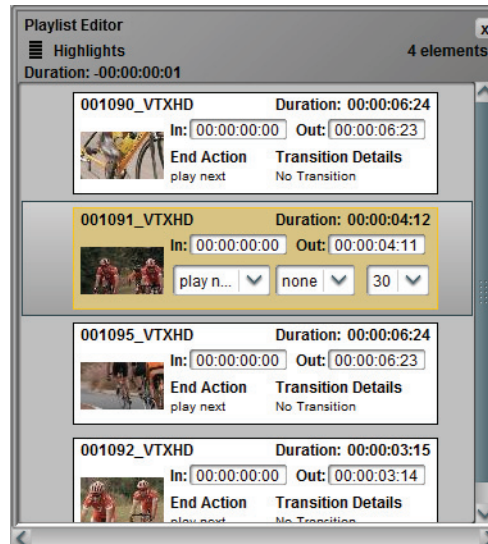
To set the In Point and Out Point to play a portion of a media item:

1. In the **Media Manager**, click and drag the playlist to edit from the **Media Item** list into an open **Editor** or **Channel** panel of the **Playlist Client**.

The media items contained in the selected playlist are displayed in the **Playlist Client**.

2. In the playlist, double-click the media item to edit.

The background color of the selected media item turns tan to indicate that the media item is in Edit mode.



When editing a playlist in a **Channel** panel, the **On Air** (red) and **Next** (green) media items in a playlist cannot be edited.

3. In the **In Point** box, enter the timecode at which to start playing the media item.

Timecodes are entered as hours, minutes, seconds, and frames. Entered timecodes are automatically saved with the playlist and do not affect media items when played outside of the playlist.

4. In the **Out Point** box, enter the timecode at which to stop playing the media item.

When the media item is played out as part of the playlist, only the portion of the media item from the set **In Point** timecode to the set **Out Point** timecode plays out.

5. Press **Enter** to save timecode changes, or press **ESC** to discard the changes.

The background color of the media item returns to the default color.

To set the action and transition performed when a media item finishes playback:

1. In the **Media Manager**, click and drag the playlist to edit from the **Media Item** list into an open **Editor** or **Channel** panel of the **Playlist Client**.

The media items contained in the selected playlist are displayed in the **Playlist Client**.

2. In the playlist, double-click the media item to edit.

The background color of the selected media item turns tan to indicate that it is in Edit mode.

3. Use the **End Action** list to select the action to perform when playlist payout reaches the **Out Point** of the selected media item. The available actions are as follows:
 - **X-Fade** — gradually transition from the playing media item to the next media item and continue payout.
 - **V-Fade** — gradually transition from the playing media item to black followed by a gradual transition from black to the next media item and continue payout.
 - **V-Fade with Pause** — gradually transition from the playing media item to black and pause payout. On resuming payout, gradual transition from black to the next media item and continue payout.
 - **Play Next** — instantly switch to playing the next media item in the playlist.
 - **Pause** — pause payout of the playlist.

The selected actions are automatically saved with the playlist and do not affect the media item when played outside of the playlist.

4. Press **Enter** to save action and transition changes, or press **ESC** to discard the changes.

The background color of the media item returns to the default color.

Playing Out Playlists

Playlists can be played out from the Media Manager, Play, or Playlist Client. Only the Playlist Client can be used to edit the on air playlist.


- ★ When using a BlackStorm Server with the Ross Video OverDrive production automation system, the OverDrive operator must be aware of which playlists contains media items with an embedded Alpha Channel. OverDrive does not warn the operator that channel 2 is not available after loading channel 1 with a playlist that contains one or more media items with an embedded Alpha Channel.


To payout a playlist:



1. In **DashBoard**, position the **Media Manager**, **Output Channels**, and **Playlist Client** so that all clients are visible in the **Device View**.

Refer to step 9 on page 7-2 for an example client layout.

2. In the **Directory** tab of the **Media Manager Client**, use the **Filter** list to select **PlayLists**.

All of the playlists on the selected BlackStorm Server are displayed in the **Media Items** list. The  icon indicates that a media item is a playlist.

3. Double-click the  icon to view the media items contained in the selected playlist.

The selected media item expands to display the media items contained in the playlist and the icon changes to . Double-click the  icon to collapse the playlist to a single item.

4. Use one of the following methods to load a playlist into a channel.

- Use the **Media Manager Client** to select a media item and load it into a channel.
- Drag a media item from the **Media Manager Client** to an open **Output Channel** panel in the
- Drag a media item from the **Media Manager Client** to a **Channel** panel in the **Playlist Client**.

- ★ Playlists that contain media items with an embedded Alpha Channel require two channels for payout, channel 1 for the video and channel 2 for the alpha. Only Channel 1 can be used to payout a playlist that contains one or more media items with an embedded Alpha Channel.

5. Use one of the following methods to start playout of the loaded playlist.
 - In the **Media Manager Client**, click **Play** in the channel that contains the loaded playlist.
 - In the **Output Channel** panel that contains the loaded playlist, click **Play**.
 - In the **Playlist Client**, right-click the first media item in the loaded playlist and select **Play Now** from the **Shortcut** menu.

The first media item in the playlist starts playing out on the loaded channel of the BlackStorm Server. In the Playlist Client the background of the on air media item is shaded red and the background of the next media item to go on air is shaded green.



6. To cue a playlist to a selected media item in the playlist, right-click a media item and select **Cue Now** from the **Shortcut** menu.

The playlist is cued to the selected media item. To start playout from the cued media item, click **Play** in the **Media Manager** or **Play Client** channel that contains the loaded playlist.

7. To start playout of a selected media item in the playlist, right-click a media item and select **Play Now** from the **Shortcut** menu.

Playout of the playlist continues from the selected media item.


8. To select a media item as the next media item to play, right-click a media item and select **Set to Play Next** from the **Shortcut** menu.

After playout of the currently playing media item finishes, playout of the playlist continues with the selected media item.

9. Select the **Show "On Air" and "Next" clip** command from the **View** menu to toggle the display of the on air and next media items around the **Playlist Controls**.





- During playout, the **Playlist** section automatically scrolls to display the on air media item at the top of the section.

The Playlist section scroll bar can be used to view media items that are not visible in the Playlist section. Automatic scrolling of the Playlist section stops when the on air and next media items are not visible the section.

- To view the on air media item in the **Playlist** section, click **Jump to Live** () in the **Playlist Controls** to scroll the on air media item to the top of the Playlist section and resume automatic scrolling of the section.

To control a playlist during playout:

- All of the controls in an **Output Channel** panel can be used to control playout of the loaded playlist.
- Each **Channel** panel in the **Playout Client** contains the following playlist controls:

Button	Function
	Step to Next and Play — click this button to put the next media item in the playlist on air and start media item playout.
	Step to Next — click this button to put the next media item in the playlist on air. This button does not start media item playout.
	Eject — click this button to eject the playlist from the current channel.
	Jump to Live — click this button to scroll the on air media item to the top of the Playlist section and resume automatic scrolling of the section.

- During playlist playout, playlist media items can be edited with the exception of the on air and next media items. The **Channel** panel of the **Playlist Client** can be used to perform the following procedures to edit a playlist during playout:
 - “**To add a media item to a playlist:**” on page 7–5
 - “**To move a media item in a playlist:**” on page 7–6
 - “**To delete media items from a playlist:**” on page 7–6
 - “**To set the In Point and Out Point to play a portion of a media item:**” on page 7–7
 - “**To set the action and transition performed when a media item finishes playout:**” on page 7–7

For More Information on...

- Output Channel controls, refer to the section “**Playing Media Items**” on page 6–1.
- editing playlists, refer to the section “**Editing Playlists**” on page 7–4.
- deleting playlist, refer to the procedure “**To delete media items from a playlist:**” on page 7–6

Coloring BlackStorm Clients

The Color Chooser dialog box is used to independently change the background and text color for each open Media Manager, Play, or Playlist Client. When using multiple channels on a BlackStorm Server, identifying each channel with a different color can be very helpful in enabling an operator to quickly differentiate between channels and clients. For example, you can select red for channel 1, green for channel 2, yellow for the Media Manager Client, and blue for the Playlist Client.

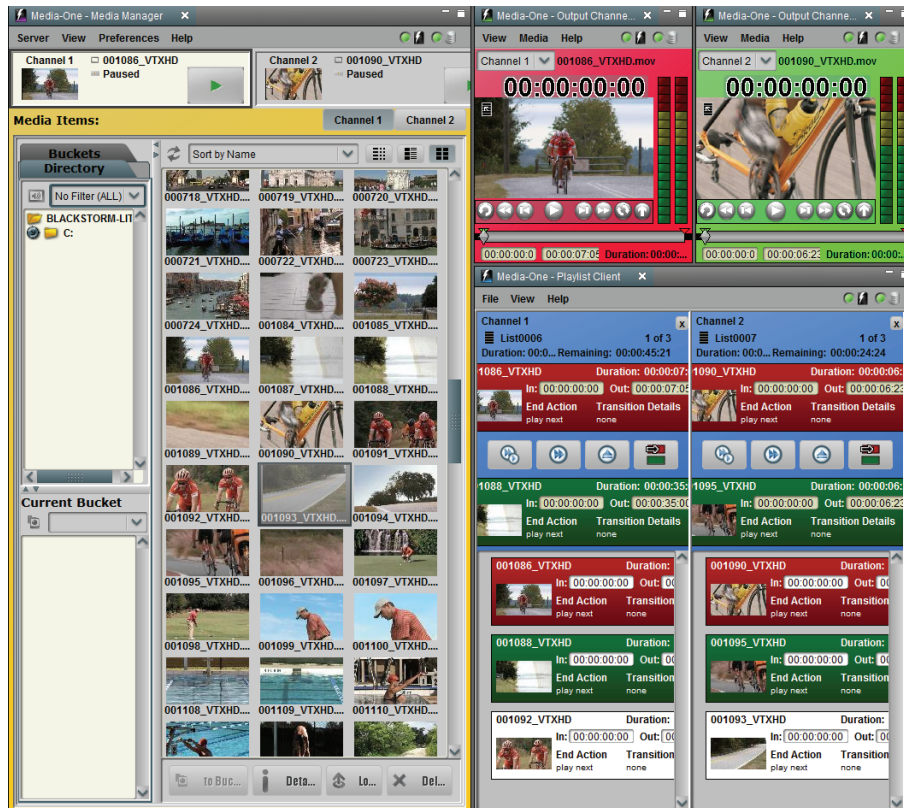


Figure 8.1 Colored Clients

The following topics are discussed in this chapter:

- Client Background and Text Colors
- Customizing Colors

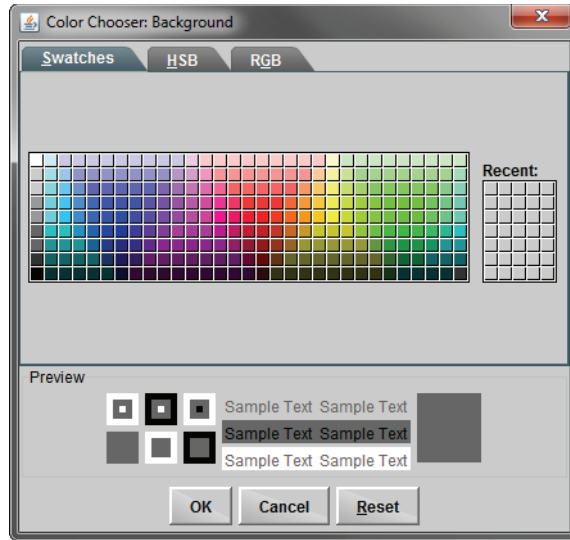
Client Background and Text Colors

The background and/or the color of text used to label sections and tabs can be uniquely set for any open Media Manager, Play, or Playlist Client.

To change the background or text color of an open Client:

1. In an open **Media Manager**, **Play Client**, or **Playlist Client** select one of the following commands from the **View** menu:
 - **Background Color** — Change the color of the background using the **Choose Background Color** dialog box.
 - **Foreground Color** — Change the color of the text using the **Choose Foreground Color** dialog box.

The **Color Chooser** dialog box associated with the selected command opens.



2. In the **Swatches** tab, click the square that contains the color to use for the background or text. Click the **Reset** button to return to the default color.
3. In the **Preview** section, verify how the selected color scheme will look.
4. Click **OK** to apply the selected color and close the **Choose Color** dialog box.

Customizing Colors

In addition to the predefined colors on the Swatch tab in the Choose Color dialog boxes, it is also possible to define custom colors using one of the following methods:

- **HSB** — Hue, Saturation, and Brightness
- **RGB** — Red, Green, Blue

Defining a Color Using HSB

When defining colors using HSB values, the values are set as follows:

- **Hue** — the location of a color in the spectrum. The spectrum is divided into six basic hues: red, yellow, blue, orange, green, and purple.
- **Saturation** — the intensity of a color within the spectrum. The less gray in a color, the more saturated it appears.
- **Brightness** — the intensity which light reflects from or transmits through a color.

To use HSB values to define custom background or text colors:

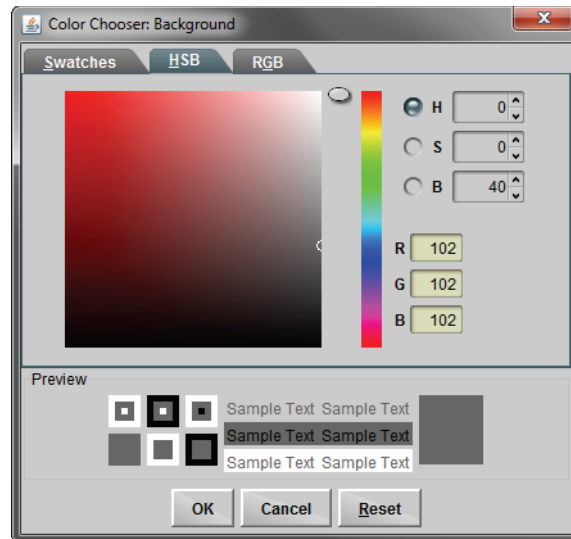
1. In an open **Media Manager**, **Play Client**, or **Playlist Client**, select one of the following commands from the **View** menu:

- **Background Color** — change the color of the background using the **Choose Background Color** dialog box.
- **Foreground Color** — change the color of the text using the **Choose Foreground Color** dialog box.

The **Color Chooser** dialog box associated with the selected command opens.

2. Click the **HSB** tab.

The **HSB** tab opens.



3. Select the **H** option, then set the hue for the new color using one of the following methods:
 - Drag the slider up or down the hue scale.
 - Enter or select a hue value in the box to the right of the **H** option.
4. Select the **S** option, then set the saturation for the new color using one of the following methods:
 - Drag the slider up or down the saturation scale.
 - Enter or select a saturation value in the box to the right of the **S** option.
5. Select the **B** option, then adjust the brightness of the new color using one of the following methods:
 - Drag the slider up or down the brightness scale.
 - Enter or select a brightness value in the box to the right of the **B** option.
6. In the **Preview** section, verify how the new color will look.
7. Click **OK** to apply the new color and close the **Choose Color** dialog box.

After setting a hue, saturation, or brightness value, select the new color from the **Color Square**. The selected point in the **Color Square** sets the remaining values for the new color.

Defining a Color Using RGB

When defining colors using RGB values, the values are set as follows:

- **Red** — the level of red in the defined color.
- **Green** — the level of green in the defined color.
- **Blue** — the level of blue in the defined color.

To use RGB values to define custom background or text colors:

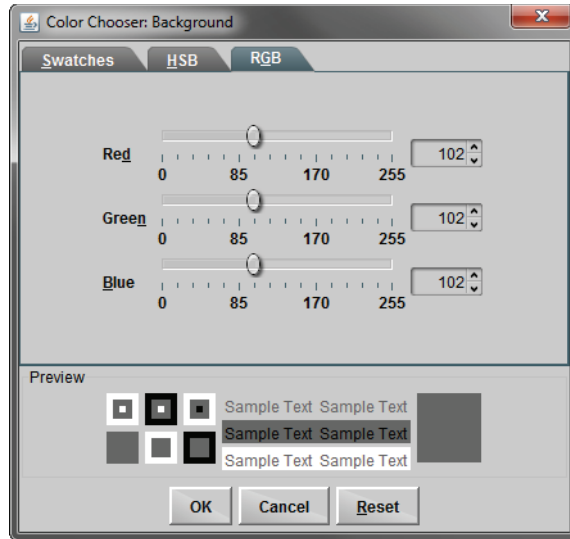
1. In an open **Media Manager**, **Play Client**, or **Playlist Client**, select one of the following commands from the **View** menu:

- **Background Color** — Change the color of the background using the **Choose Background Color** dialog box.
- **Foreground Color** — Change the color of the text using the **Choose Foreground Color** dialog box.

The **Color Chooser** dialog box associated with the selected command opens.

2. Click the **RGB** tab.

The **RGB** tab opens.



3. Set the level of red in the new color using one of the following methods:
 - Drag the slider along **Red** scale. The red level value is displayed in the box the right of the Red scale.
 - Enter or select a value for the red level in the box to the right of the Red scale.
4. Set the level of green in the new color using one of the following methods:
 - Drag the slider along **Green** scale. The green level value is displayed in the box the right of the Green scale.
 - Enter or select a value for the green level in the box to the right of the Green scale.
5. Set the level of blue in the new color using one of the following methods:
 - Drag the slider along **Blue** scale. The blue level value is displayed in the box the right of the Blue scale.
 - Enter or select a value for the blue level in the box to the right of the Blue scale.
6. In the **Preview** section, verify how the new color will look.
7. Click **OK** to apply the new color and close the **Choose Color** dialog box.

Appendix A. Specifications

This appendix describes basic properties of the BlackStorm Server, including specifications, capabilities, and specific conventions that should be followed when using the BlackStorm Server.

The following topics are discussed in this appendix:

- Media Formats and Codecs
- VDCP Commands for the BlackStorm Server
- Communication Serial Port

Media Formats and Codecs

The BlackStorm Server supports the following media formats and codecs for playback.

Media File Formats

The following video media formats are supported by the BlackStorm Server:

- **QuickTime files (.MOV)** — QuickTime Standard Definition (SD) and High Definition (HD) media items can be played directly.
- **Uncompressed Targa files (.TGA)** — direct playback.

The following audio media formats are supported by the BlackStorm Server:

- **Interleaved** — 48 KHz x 16, 24, or 32 bit audio interleaved in a video file.

Codecs

The following codecs in MOV format are supported by the BlackStorm Server:

Table 9.1 BlackStorm Server Native Codecs

Codec	Format	Bitrate	Hours / TB
DV, DVCAM, DVCPRO	SD	25	82
DVCPRO 50	SD	50	43
QUICKTIME ANIMATION	SD		
DVCPRO HD	HD	100	22
QUICKTIME ANIMATION	HD		

VDCP Commands for the BlackStorm Server

The Video Disk Communications Protocol (VDCP) is a tightly-coupled master/slave communication method based on the RS-422 signal standards. The controlling device initiates communication between itself and the controlled device. This protocol also conforms to the Open Systems Interconnect (OSI) reference model.

The BlackStorm Server responds to the following commands under VDCP control:

Table 9.2 Supported VDCP Commands

Command From Controller			Return from Controlled Disk		
CMD-1	CMD-2	Name	CMD-1	CMD-2	Name
1X	00	Stop		04	ACK
1X	01	Play		04	ACK
1X	04	Still		04	ACK
1X	05	Step		04	ACK
1X	06	Continue		04	ACK
1X	07	Jog		04	ACK
1X	08	Variable Play		04	ACK
2X / AX	ID	Rename ID		04	ACK
2X	21	Close Port		04	ACK
2X	22	Select Port		04	ACK
2X / AX	24	Play Cue		04	ACK
2X / AX	25	Cue with Data		04	ACK
2X / AX	26	Delete ID		04	ACK
3X	01	Open Port	3X	81	Grant/Denied
3X / BX	02	Next	3X	82	List of IDs
3X / BX	03	Last	3X	83	Last Response
3X	05	Port Status Request	3X	85	State Status
3X	06,	Position Request	3X	86	Position
3X / BX	07	Active ID Request	3X	87	Active ID
3X	08	Device Type Request	3X	88	Device Type
3X	10	System Status Request	3X	90	System Status
3X / BX	11	ID List	3X	91	List of IDs
3X / BX	14	ID Size Request	3X	94	ID Size
3X / BX	15	IDs Added to Arch.	3X	95	List IDs Trans.
3X / BX	16	ID Request	3X	96	ID Presence
3X / BX	18	IDs Added List	3X	98	List IDs Added
3X / BX	19	IDs Deleted List	3X	99	List IDs Deleted

Communication Serial Port

The pinouts for the serial communication ports (Com3 and Com4) in the breakout cable attached to the rear of a BlackStorm Server are as follows:

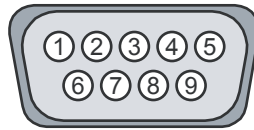


Figure 9.1 BlackStorm Server RS-422 Male DB9 Serial Communication Port (Com 3 and Com 4)

Table 9.3 BlackStorm Server Serial Communication Port Pinouts

Pin #	Signal
1	Ground
2	RxD-
3	TxD+
4	Ground
5	Not Connected
6	Ground
7	RxD+
8	TxD-
9	Ground

Use the following information to create an RS-422 serial interface cable (Male DB9 to Male DB9) to connect a Ross Video switcher to BlackStorm Server.

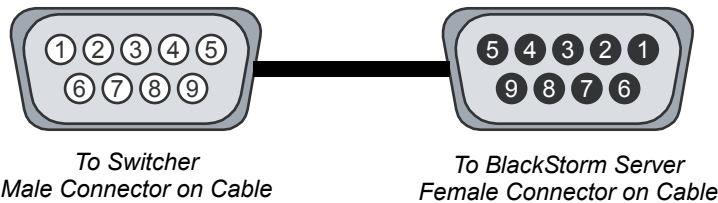


Figure 9.2 RS-422 DB9 Serial Communication Cable Connectors

Table 9.4 RS-422 DB9 Serial Communication Cable Pinouts

To Switcher			To BlackStorm Server	
Signal	Pin #		Pin #	Signal
Not Connected	1			
RxD-	2	➔	8	TxD-
TxD+	3	➔	7	RxD+
Not Connected	4			
Ground	5	➔	1, 4, 6, 9	Ground
Not Connected	6			
RxD+	7	➔	3	TxD+
TxD-	8	➔	2	RxD-
Not Connected	9			

Index

A

Alpha Channel	6-4
Audio Format	9-1

B

Background Color	
blue level	8-4
brightness	8-3
green level	8-4
hue	8-3
red level	8-4
saturation	8-3
Browse	
import folder	5-5
Buckets	6-4
adding media items	6-5
creating	6-5
deleting	6-7
deleting media items	6-6
loading channels	6-6
renaming	6-6

C

Channels	
loading	6-3
loading from buckets	6-6
naming	3-5
Client Software	
installation	2-2
update	2-2
usage	2-1
Clients	
Media Manager	5-2
moving	4-5
opening	4-2
Play	6-8
resizing	4-8
Codecs	9-1
Color Chooser	
background color	8-2
blue level	8-4
brightness	8-3
foreground color	8-2
green level	8-4

hue	8-3
opening	8-2
red level	8-4
saturation	8-3

Config Client

opening	3-3
tabs	
Channel Name	3-5
GenLock	3-6
Remote Control	3-7

Configuring

information logs	3-4
output resolution	3-6

Connections

network	3-2
status	4-2

Creating

buckets	6-5
playlist	7-1

Cueing

media items	6-10
-------------------	------

D

DashBoard	2-3
configure for clients	2-3
opening	3-3

Database

Service	2-14
---------------	------

Deleting

buckets	6-7
media item	5-5
media items from buckets	6-6

Documentation Conventions

Drop Folder	5-3
-------------------	-----

E

Export

media item	5-7
------------------	-----

F

Files

MOV	9-1
QuickTime	9-1
Targa	9-1
TGA	9-1

Firewall	
configuration	3-2
Folders	
drop.....	5-4
import	5-4
Formats	
audio	9-1
codecs	9-1
media	9-1
video	9-1

G

GenLock	3-6
Getting Help	1-2

I

Import	
drop folder	5-3
media items from folders.....	5-4
Media Manager	5-1
In Point	
media item	6-10
Installing	
client software	2-2, 2-7
server software	2-11

L

LED	
connection status	4-2
genlock status	3-6
Logs	3-4
Loop	6-11

M

Media Item	5-1
alpha channel.....	6-4
deleting	5-5
deleting from buckets	6-6
exporting	5-7
importing from folders	5-4
In Point	6-10
loading	5-1
Out Point	6-10
picon	6-8
selecting.....	6-3
Media Manager Client	
opening	5-1
payout controls	6-3, 6-4

tabs	
Buckets.....	6-5
Directory	6-2

N

Network Configuration	3-3
Network Connections	3-2

O

Opening	
clients	4-2
Color Chooser	8-2
Config Client.....	3-3
DashBoard.....	3-3
Media Manager Client	5-1
Out Point	
media item.....	6-10
Output Channel	
resolution.....	3-6
selecting	6-2

P

Picon	
generation.....	6-9
media item.....	6-8
Play Client	
media item picon.....	6-8
payout controls.....	6-8
Playlist	
add media item	7-5
alpha channel	7-8
client.....	7-3
create	7-1
creating.....	7-3
delete media item	7-6
editing	7-4
end action and transition	7-7
payout.....	7-8
re-order.....	7-6
trim points	7-7
Playout	
advanced	6-7
loop	6-11
one frame at a time.....	6-11
playlist.....	7-8
portion of a media item	6-10
Playout Controls	
Media Manager Client	6-3, 6-4
Play Client.....	6-8

Q	
QuickTime	9-1

R	
RGB Levels	
blue.....	8-4
green.....	8-4
red	8-4

S	
Selecting	
background color	8-2
foreground color.....	8-2
media items	6-3
output channel.....	6-2
Server	
software update	2-11
Services	2-14
Start	2-15
Stop	2-15
Settings	
firewall	3-2
network	3-3
Software	
client update	2-2
install clients	2-7
installing clients	2-2
server update	2-11
uninstall.....	2-12
System Requirements	
hardware.....	2-2
software.....	2-2

T	
Tabs	
Buckets.....	6-5
Channel Name.....	3-5
Directory	6-2
GenLock.....	3-6
Remote Control.....	3-7
Technical Support	1-3
Trimpoints	
video.....	6-10

U	
Uninstalling	
client software	2-12
server software	2-12

Updating	
client software.....	2-2

V	
VDCP	
commands.....	9-2
port mapping.....	3-8
protocol.....	3-7

W	
Wizard	
Media Import	5-4

