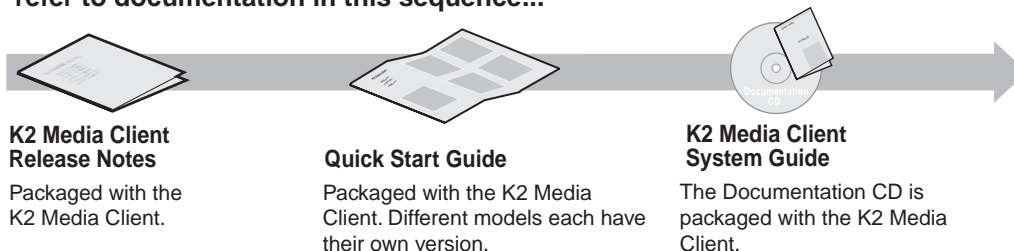# K2 Storage System Version 3.2.74 Release Notes & Upgrade Instructions
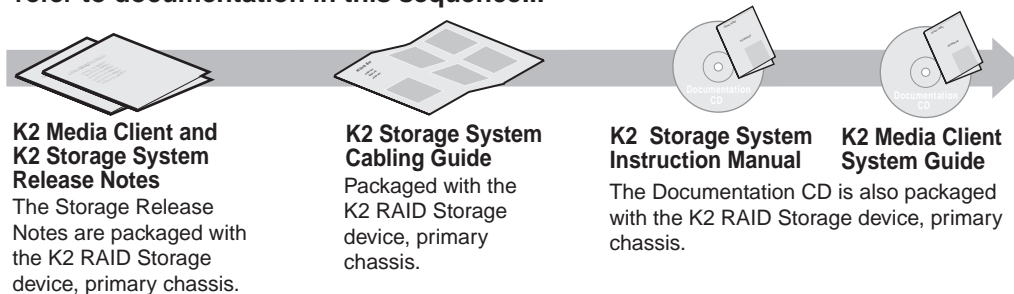
These release notes contain the most recent information and supersede previous publications, as of October 19, 2008. Check the Grass Valley website at *www.thomsongrassvalley.com/docs* for an updated version that contains additional important information.

For complete coverage of the latest information about shared storage K2 Media Clients, you must read these release notes and the *K2 Media Client Release Notes*. While these release notes contain information that relates to shared storage K2 Media Clients, the *K2 Media Client Release Notes* contain additional information that applies to both shared storage and stand-alone storage K2 Media Clients.

If you are installing new K2 Media Client models with stand-alone storage, refer to documentation in this sequence...

K2 Media Client Release Notes

Packaged with the K2 Media Client.

Quick Start Guide

Packaged with the K2 Media Client. Different models each have their own version.

K2 Media Client System Guide

The Documentation CD is packaged with the K2 Media Client.

If you are installing a K2 Storage System with connected K2 Media Clients, refer to documentation in this sequence...

K2 Media Client and K2 Storage System Release Notes

The Storage Release Notes are packaged with the K2 RAID Storage device, primary chassis.

K2 Storage System Cabling Guide

Packaged with the K2 RAID Storage device, primary chassis.

K2 Storage System Instruction Manual

The Documentation CD is also packaged with the K2 RAID Storage device, primary chassis.

K2 Media Client System Guide

Table of Contents

Grass Valley Product Support

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

Web Technical Support

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

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

Telephone Support

Use the following information to contact Product Support by phone.

International Support Centers

Our international support centers are available 24 hours a day, 7 days a week.

Support Center	Toll free	In country
France	+800 80 80 20 20	+33 1 48 25 20 20
United States	+1 800 547 8949	+1 530 478 4148

Authorized Local Support Representative

A local support representative may be available in your country. To locate a support center during normal local business hours, refer to the following list. This list is regularly updated on the website for Thomson Grass Valley Product Support (http://www.thomsongrassvalley.com/support/contact/phone/).

After–hours local phone support is also available for warranty and contract customers.

Region	Country	Telephone
Asia	China	+861 066 0159 450
	Hong Kong, Taiwan, Korea, Macau	+852 2531 3058
	Japan	+81 3 5484 6868
	Southeast Asia - Malaysia	+603 7805 3884
	Southeast Asia - Singapore	+65 6379 1313
	Indian Subcontinent	+91 11 515 282 502 +91 11 515 282 504
Pacific	Australia, New Zealand	+61 1300 721 495
Central America, South America	All	+55 11 5509 3440
North America	North America, Mexico, Caribbean	+1 800 547 8949 +1 530 478 4148

Grass Valley Product Support

Region	Country	Telephone
Europe	UK, Ireland, Israel	+44 118 923 0499
	Benelux – Netherlands	+31 (0) 35 62 38 421
	Benelux – Belgium	+32 (0) 2 334 90 30
	France	+800 80 80 20 20 +33 1 48 25 20 20
	Germany, Austria, Eastern Europe	+49 6150 104 444
	Belarus, Russia, Tadzhikistan, Ukraine, Uzbekistan	+7 095 258 09 20 +33 (0) 2 334 90 30
	Nordics (Norway, Sweden, Finland, Denmark, Iceland)	+45 40 47 22 37
	Southern Europe – Italy	+39 02 24 13 16 01 +39 06 87 20 35 42
	Southern Europe – Spain	+34 91 512 03 50
Middle East, Near East, Africa	Middle East	+971 4 299 64 40
	Near East and Africa	+800 80 80 20 20 +33 1 48 25 20 20

What's new in release 3.2.74

- This version of K2 system software includes several improvements, in addition to correcting some problems that were present in earlier releases.

- **K2 ASI Media Client** — The K2 ASI Media Client is a K2 appliance on a K2 Storage System. The K2 ASI Media Client is a MPEG-2 transport stream capture device. For more information, refer to K2 ASI Media Client documents on the K2 Documentation CD.

- **K2 Coder** — The K2 Coder is a K2 appliance on a K2 Storage System.The K2 Coder provides an option to import formats that are not otherwise supported by the K2 system. You can also export. Refer to the section later in these release notes.

- **Edius workgroup** — This K2 Storage System is now available as a pre-defined system in the K2 System Configuration application. Only qualified Grass Valley personnel should configure this type of system.

- **Aurora Mirrored System Manager** — An application for managing mirrored K2 Storage Systems and associated devices is available. It is installed by default with K2 Control Point PC software. To license, refer to licensing instructions in *K2 Media Client Release Notes*. Other related documentation is on the K2 Documentation CD.

- **Media File System** — Upgrade to version 3.1.2.RC25225.6138 SNFS (StorNext File System) software is required. This is the media file system software. Refer to the upgrade procedure later in these release notes.

- **Windows operating system qualification** — K2 control point software is now qualified on Windows Vista and Windows 2003 Server operating systems. Control point software remains qualified on the Windows XP operating system. Upgrade from Windows XP is not required.

- **ProductFrame support** — Microsoft .NET Framework 3.5 SP1 and SiteConfig Network Configuration Connect Kit is required on the K2 Media Server and on the Control Point PC. These software components provide support for Grass Valley system management tools.

- **Documentation for this 3.2.74 release** — Use the documents on the K2 Documentation CD, part number 063-8244-06. The following documents have been revised:

Document	Part number
K2 Media Client Field Kit Upgrade Instructions	071-8450-02
K2 Media Client Quick Start Guide for SD-00 models	071-8453-04
K2 Media Client Quick Start Guide for HD-00 models	071-8454-04
K2 Media Client User Manual	071-8459-03
K2 Media Client System Guide	071-8460-05
K2 Storage System Instruction Manual	071-8461-04
Monitoring the K2 Media Client with NetCentral	071-8464-02
Monitoring the K2 Media Server with NetCentral	071-8465-02

Document	Part number
Monitoring the K2 Level 2 and Level 3 RAID with NetCentral	071-8467-01
K2 Media Client Service Manual	071-8468-06
K2 Media Client Quick Start Guide for SDA-00 models	071-8576-02
K2 Storage System Level 10 Cabling Guide	071-8596-01
K2 Lx0 RAID Instruction Manual	071-8614-01
K2 InSync User Guide	071-8529-01

Feature limitations in this release

The following information applies to the K2 Storage System. Refer to the *K2 Media Client Release Notes* for similar information that applies to the K2 Media Client.

• There is no centralized logging of the K2 Storage System. Logs are stored on each individual device.

Changes in previous releases

The following sections describe the changes in past releases.

Version 3.2.58

• **Catch server support** — The K2 Capture Service provides features for automatically importing media from DG and Pathfire catch servers. Refer to the *K2 Media Client System Guide* for procedures.

• **Control point PC** — The Grass Valley control point PC is now on the Dell 830 platform. To make a recovery disk image, you must use recovery CD 063-8245-03.

• **Lx0 RAID can expand L2 RAID** — If you have a K2 Storage System with L2 RAID, you can expand it using Lx0 RAID.

• **Media File System** — Upgrade to version 3.0.3b.56 SNFS (StorNext File System) software is required. This is the media file system software.

• **Level 35** — An additional pre-defined level is available for the K2 Storage System. Refer to the relevant sections later in this document.

• **Documentation for this 3.2.74 release** — The following manuals have been revised for this release:

Document	Part number
K2 Media Client Service Manual	071-8468-04
K2 Media Client System Guide	071-8460-04

The revised manuals are on the December 2007 K2 Documentation CD, part number 063-8244-05, labeled "Software version 3.2".

Version 3.2.56

• **K2 Storage System levels 10, 20, 30** — A new storage infrastructure is available with

pre-defined levels 10, 20, 30, and Nearline 10. Each level is available with both redundant and non-redundant configurations. New or changed devices with these levels are as follows:

• L10, GS, and LS K2 Media Servers — Built on Dell platforms with configurations to support online K2 Storage Systems.

• NH1 K2 Media Servers — Built on a Dell platform and configured to support the role of FTP server on both online and nearline K2 Storage Systems.

• NH1-10GE K2 Media Servers — Built on a Dell platform. Provides 10 Gig bandwidth to support the role of FTP server on both online and nearline K2 Storage Systems.

• K2 RAID — These RAID storage devices provide 4 Gb/s bandwidth.

• GigE switch ISLs — On systems with two switches, it is now recommended to use three 1 Gig ISLs rather than the 10 Gig ISLs.

Refer to the *K2 Storage System Instruction Manual* for complete descriptions of the new storage infrastructure.

• **Media File System** — Upgrade to version 3.0.1b.39 SNFS (StorNext File System) software is required. This is the media file system software.

• **Storage Utility** — Enhancements for network settings allow two RAID controllers to be configured at once. Also, bound disks are now labeled as RANK, rather than LUN.

• **Documentation for this 3.2.56 release** — Use the September 2007 K2 Documentation CD (part number 063-8244-04) with release 3.2.56. This CD is labeled "Software version 3.2", and contains the following documents:

Document	Part number
Fibre Channel Switch Installation Manual - QLogic 5202 SANbox	071-8429-01
K2 Level 2 RAID Instruction Manual	071-8462-01
K2 Level 3 RAID Instruction Manual	071-8463-00
K2 Lx0 RAID Instruction Manual	071-8614-00
K2 Media Client Field Kit Upgrade Instructions	071-8450-01
K2 Media Client Quick Start Guide for HD-00 models	071-8454-03
K2 Media Client Quick Start Guide for SD-00 models	071-8453-03
K2 Media Client Quick Start Guide for SDA-00 models	071-8576-01
K2 Media Client Service Manual	071-8468-03
K2 Media Client System Guide	071-8460-03
K2 Media Client User Manual	071-8459-02
K2 Storage System Instruction Manual	071-8461-03
K2 Storage System Level 10 Cabling Guide	071-8596-00
K2 Storage System Level 2 Cabling Guide	071-8593-00
K2 Storage System Level 20 Cabling Guide	071-8597-00

Document	Part number
K2 Storage System Level 3 Cabling Guide	071-8594-00
K2 Storage System Level 30 Cabling Guide	071-8598-00
K2 Storage System Nearline 10 Cabling Guide	071-8599-00
K2 TimeDelay User Manual	071-8510-01
Monitoring the HP ProCurve Ethernet Switch with NetCentral	071-8466-01
Monitoring the K2 Level 2 and Level 3 RAID with NetCentral	071-8467-00
Monitoring the K2 Lx0 RAID with NetCentral	071-8615-00
Monitoring the K2 Media Client with NetCentral	071-8464-01
Monitoring the K2 Media Server with NetCentral	071-8465-01
Monitoring the Qlogic SANbox Fibre Channel Switch with NetCentral	071-8471-00

Do not use documents from the July 2007 K2 Documentation CD. The July 2007 CD is also labeled "Software version 3.2".

Version 3.2.21

- **Licensing for K2 system software** — There are licensing requirements for version 3.2.74 system software. Refer to "About K2 system software licensing" later in these release notes.

- **Expansion by bandwidth** — You can add disks to increase bandwidth and expand the media file system. You can do this while retaining existing media. If you have media from Aurora products in your K2 Storage System, refer to the section about bandwidth expansion for Aurora products in the *K2 Storage System Instruction Manual*.

- **EULA at first startup** — When you receive a K2 Media Server new from Grass Valley, at first startup an End User License Agreement (EULA) dialog box opens automatically on the screen. This is normal behavior and occurs only at the first startup.

Version 3.1.14

- **SQL 2005** — This release of K2 system software is qualified to work with Microsoft SQL Server 2005, which is on new K2 Media Servers shipping from Grass Valley.

  To retain compatibility, this release is also qualified to work with SQL 2000, which is on previously shipped K2 Media Servers. Therefore, upgrading to K2 System Software version 3.1.14 on existing systems does not require an upgrade to SQL Server 2005.

- **RSTP GigE switch configuration** — Recent testing has revealed that the HP ProCurve Ethernet switches must have their Spanning Tree Protocol (STP) configured to RSTP, rather than STP. Some switch configuration procedures do not have this specified. You should check this setting on your switch or switches as soon as possible, as instructed in the *K2 Storage System Instruction Manual*.

Version 3.1.13

- **Factory installation** — This release provides updated software for pre-installation

at the factory and for upgrade of existing systems at customer sites. The release contains quality and performance improvements.

- **Product compatibility** — This release is qualified with updated versions of Grass Valley News products. Refer to compatibility tables later in these release notes.

- **Media File System** — Upgrade to version 2.6.5b50 SNFS (StorNext File System) software is required. This is the media file system software.

- **2900 series switch** — A new Gigabit Ethernet switch, the "ProCurve Networking Switch 2900 Series" is qualified for use with K2 Storage Systems. Its use and configuration are the same as the existing 3400cl series switch, as documented in the *K2 Storage System Instruction Manual* part number 071-8461-01, with the following exceptions:

  - *Set Flow Control to Enable* for all ports and trunks on the 2900 series switch. This is an important difference from the configuration of the 3400cl series switch, in which Flow Control is set to Disable.

    NOTE: You must set Flow Control to Enable. Failure to do so results in unacceptably low performance for record operations.

  - The switch has been qualified with *firmware version T.11.12*. Check the firmware version on the switch and downgrade or upgrade as necessary.

  - The two 10 Gigabit ports are standard on the 2900 series switch.

2900 series switches and 3400cl series switches are fully compatible and can coexist on the network. Having the Flow Control setting different on ports and/or trunks between the two different models of switches (enable for 2900 series, disable for 3400cl series) does not cause problems. If your existing 3400cl series switches are properly configured, it is not necessary to reconfigure them in order to make them work with 2900 series switches.

Version 3.1.12

- **RAID controller firmware and disk drive microcode** — New versions are supported and ship pre-installed on new systems. Refer to compatibility tables later in these release notes. Upgrade to these new versions is not required. The changes in these versions do not effect functionality as a K2 RAID storage device. The new versions are compatible with all previous versions.

- **Dell 2950** — The Dell 2950 PowerEdge server is now qualified as a platform for the K2 Media Server.

Version 3.1.9 and lower

Refer to previous release notes for information about these older releases.

K2 system version compatibility

Versions qualified for compatibility with this 3.2.74 release of K2 software are summarized in the following tables.

Components on K2 Storage System devices

Versions of components that reside on K2 Storage System devices are compatible with this 3.2.74 release of K2 software as follows:

K2 device	Component	Version	Comment
K2 Media Client	Windows Operating System	Windows XP	With the latest updates
	AppCenter	3.2.74	—
	Media file system (SNFS)	3.1.2.RC25 225.6138	—
	QuickTime	7	—
	Microsoft .NET Framework	3.5 SP1	—
	SiteConfig Network Configuration Connect Kit	1.0	—
K2 Media Server	Windows Operating System	Windows 2003 Server	With the latest updates
	K2 Server software	3.2.74	—
	Media file system (SNFS)	3.1.2.RC25 225.6138	—
	QuickTime	7	—
	SQL Server	2000 or 2005 SP2	Systems with multiple K2 Media Servers must be at the same SQL version on all servers. Contact Grass Valley Support for more information.
	Microsoft .NET Framework	3.5 SP1	
	SiteConfig Network Configuration Connect Kit	1.0	
HP ProCurve 3400cl series GigE switch	Firmware	M.08.66	This older version is still compatible.
		M.08.86	Upgrade to this version is recommended.
HP ProCurve 2900 series GigE switch	Firmware	T.11.12	Qualified with this version only. Upgrade or downgrade as necessary.
Level 2 RAID	Controller firmware	RV62	Filename: 03FHRV62.BIN This older version is still compatible.
		RV70	Filename: 03FHRV70.BIN Upgrade to this version is recommended.
	LAN card firmware	GS05	Filename: 03SPGS05.bin Upgrade to this version is recommended.

K2 device	Component	Version	Comment
Level 3 RAID	Controller firmware for online systems	04VJ	Filename: 04FH04VJ.BIN This older version is still compatible.
		05VD	Filename: 04FH05VD.BIN Upgrade to this version is recommended.
		05VG	Filename: 04FH05VG.BIN Upgrade to this version is optional.
	Controller firmware for nearline primary chassis	05ND	Filename: 04FH05ND.BIN This older version is still compatible.
		05NG	Filename: 04FH05VN.BIN Upgrade to this version is optional.
	Controller firmware for nearline expansion chassis	06F	Filename: DEA_AP.06F
Level 10 RAID	Controller firmware for online and nearline primary chassis	07VG	Filename:D1_07VG.BIN
	Controller firmware for online and nearline expansion chassis	010G	Filename: ENCL_010G.BIN
Level 20/30 RAID	Controller firmware for online and nearline primary chassis	07VG	Filename:D3_07VG.BIN
	Controller firmware for online and nearline expansion chassis	010G	Filename: ENCL_010G.BIN
K2 ASI Media Client	K2 ASI Media Client software	5.4.4	—
	Microsoft .NET Framework	3.5 SP1	—
	SiteConfig Network Configuration Connect Kit	1.0	—

Level 2 RAID disk drive microcode

Versions of disk drive microcode are compatible with this 3.2.74 release of K2 software as summarized in the following table:

Disk Drive Capacity	Microcode Type	Microcode Version	Microcode File Name[a]	Comments
73G	Interface	0003	ST373207FC 0003.bin	These older versions are still compatible.
	Servo	B58		
	Interface	DB90	ST373207FC DB90.bin	Upgrade to these versions is optional.
	Servo	B5A		

Disk Drive Capacity	Microcode Type	Microcode Version	Microcode File Name[a]	Comments
146G	Interface	0003	ST3146707FC 0003.bin	These older versions are still compatible.
	Servo	B58		
	Interface	DB90	ST3146707FC DB90.bin	Upgrade to these versions is optional.
	Servo	B5A		
300G	Interface	0003	ST3300007FC 0003.bin	These older versions are still compatible.
	Servo	B58		
	Interface	DB90	ST3300007FC DB90.bin	Upgrade to these versions is optional.
	Servo	B5A		

a. For Level 2 RAID, interface and servo microcode are combined in one file

Be aware that Storage Utility can report inconsistent disk drive microcode versions. This can be a normal condition, since the Level 2 RAID system supports multiple drive capacities and microcode versions. Be sure to compare the version numbers with this table, and update only as required.

Level 3 RAID disk drive microcode

Versions of disk drive microcode are compatible with this 3.2.74 release of K2 software as summarized in the following table:

Disk Drive Capacity	Microcode Type	Microcode Version	Microcode File Name[a]	Comments
73G	Interface	0003	CH7_10K_Interface.0003	These older versions are still compatible.
	Servo	B58	CH7_10K_ST373207FC_Servo.B58	
	Interface	DB90	CH7_10K_Interface.DB90	Upgrade to these versions is optional.
	Servo	B5A	CH7_10K_ST373207FC_Servo.B5A	
146G	Interface	0003	CH7_10K_Interface.0003	These older versions are still compatible.
	Servo	B58	CH7_10K_ST3146707FC_Servo.B58	
	Interface	DB90	CH7_10K_Interface.DB90	Upgrade to these versions is optional.
	Servo	B5A	CH7_10K_ST3146707FC_Servo.B5A	
300G	Interface	0003	CH7_10K_Interface.0003	These older versions are still compatible.
	Servo	B58	CH7_10K_ST3300007FC_Servo.B58	
	Interface	DB90	CH7_10K_Interface.DB90	Upgrade to these versions is optional.
	Servo	B5A	CH7_10K_ST3300007FC_Servo.B5A	

a. For Level 3 RAID, interface microcode and servo microcode each have their own file

When loading Level 3 RAID disk drive microcode, select the controller to load microcode on all drives. Do not select an individual drive to load microcode. First load the servo file for the specific drive capacity, then load the interface file. After loading the interface file, wait several minutes while the drives automatically re-power themselves.

Be aware that Storage Utility can report inconsistent disk drive microcode versions. This can be a normal condition, since the Level 3 RAID system supports multiple drive capacities and microcode versions. Be sure to compare the version numbers with this table, and update only as required.

Level 10/20/30 RAID disk drive microcode

Versions of disk drive microcode are compatible with this 3.2.74 release of K2 software as summarized in the following table:

Disk Drive Capacity	Microcode Type	Microcode Version	Microcode File Name[a]	Comments
73G	Interface	0002	CT15K5SAS.01_	
	Servo	0002	CT15K5SAS_73.__1	
300G	Interface	0002	CT15K5SAS.01_	
	Servo	0002	CT15K5SAS_300.__1	

a. Interface microcode and servo microcode each have their own file

When loading RAID disk drive microcode for Level 10, 20, and 30 RAID devices, select the controller to load microcode on all drives. Do not select an individual drive to load microcode. First load the servo file for the specific drive capacity, then load the interface file. After loading the interface file, wait several minutes while the drives automatically re-power themselves.

Be aware that Storage Utility can report inconsistent disk drive microcode versions. This can be a normal condition, since the RAID system supports multiple drive capacities and microcode versions. Be sure to compare the version numbers with this table, and update only as required.

Grass Valley products

Grass Valley products are compatible with this 3.2.74 release of K2 software as follows:

Product	Version	Comments
Profile XP Media Platform	5.4.8 or higher	From a K2 system you can browse/transfer assets on a Profile XP system.
M-Series iVDR	2.0.13 or higher	Some transfer limitations
Aurora products	6.5	Check with Grass Valley Support regarding version availability.
NetCentral	4.1.18 or higher	Upgrade to the latest Service Pack is recommended. Information is provided when you license NetCentral.
UIM	2.1.1.223 or higher	—
Aurora Mirrored System Manager	3.2.7	Check with Grass Valley Support regarding version availability.
K2 InSync	4.0.1	Refer to licensing information in *K2 Media Client Release Notes* for special procedures.
K2 TimeDelay	2.1.3	—
K2 Avid plug-in	1.0.0.6	—
ContentShare	—	Not supported

Third party products

Products by manufacturers other than Grass Valley are compatible with this 3.2.74 release of K2 software as follows:

Product	Version	Comments
Pathfire Transfer Service	5.4.3.0	This version required for operation with the licensable K2 Pathfire capture service option.
DG	1.4.7.0 or higher	This version required for operation with the licensable K2 DG capture service option.

Recovery CD compatibility

To create a recovery disk image of a K2 Storage System device, use a compatible version of the recovery CD, as follows:

Device	Platform	CPU	Compatible Recovery CD(s), by part number
K2 Media Client	All	All	063-8245-00 063-8245-01

Device	Platform	CPU	Compatible Recovery CD(s), by part number
K2 Media Server	Dell 860, Dell 2850	All	063-8246-00 063-8246-01 063-8246-02
	Dell 1950, Dell 2950	Woodcrest, Clovertown	063-8246-00 063-8246-01 063-8246-02
		Harpertown	063-8246-03
Control point PC	Dell 820	All	063-8245-00 063-8245-01 063-8245-02 063-8245-03
	Dell 830	All	063-8245-03

About custom K2 Storage Systems

Custom systems are those that do not fit one of the pre-defined Level 2, 3, 10, 20, or 30 configurations. For example, a K2 Storage System with Fibre Channel attached K2 Media Clients is considered a custom system. Custom systems that are an extension of Level 2 or 3 are considered to be Level 4 systems. Custom systems that are an extension of Level 10, 20, or 30 are considered to be Level 40 systems. Only qualified Grass Valley personnel should attempt to design, install, and configure custom systems.

The K2 documentation set is intended for customers with pre-defined Level 2, 3, 10, 20, or 30 systems. While much of the information also applies to custom systems, consult your Grass Valley representative before using Level 2, 3, 10, 20, or 30 procedures on a custom system.

About K2 system software licensing

K2 system software version 3.2.74 must be licensed. Licensing is enforced at the K2 Media Client, so every K2 Media Client running version 3.2.74 must have a valid license in place. Also, you must upgrade a control point PC to version 3.2.74 in order to access a version 3.2.74 K2 Media Client. No license is required on the K2 Media Server.

K2 Media Clients shipping new from the factory have version 3.2.74 pre-installed with a permanent license in place, so no licensing steps are required. However, if you upgrade an existing K2 Media Client from a version lower than 3.2 to version 3.2.74, the software installs with a trial license in place. You must procure a permanent license from Grass Valley and install it on the K2 Media Client before the trial period expires. For licensing procedures, refer to the *K2 Media Client Release Notes*.

Upgrading software on the K2 Storage System

NOTE: These upgrade instructions assume that current K2 software is at version 3.0.1.4 or higher. If you have a lower version of software, contact Grass Valley Support before upgrading.

K2 system software version 3.2.74 is installed on new K2 systems as they come from the factory. If you have a new K2 system, you should not need to upgrade software. For general information about K2 software, refer to the *K2 Storage System Instruction Manual* and the *K2 Media Client System Guide*.

Do not attempt to upgrade software incrementally across the devices of a K2 Storage System while media access is underway. Online software upgrading is not supported.

The following installation steps provide information specifically for the upgrade to version 3.2.74 software. Read the information in these sections carefully before attempting any upgrade to software on any of the devices of a K2 Storage Systems, including K2 systems, Aurora Edit systems, or other clients.

NOTE: When upgrading from a version lower than 3.2, K2 system software installs with a trial license. You will need a permanent license to operate beyond the trial period. Before beginning this upgrade process, read licensing information elsewhere in these release notes.

Step 1: Make recovery disk images of K2 clients

Do not do this step if:

- You previously made a disk images of your K2 Media Clients and K2 appliances at their current software version. Skip ahead to "Step 2: Take K2 clients offline".

Do this step if:

- You do not have disk images of your K2 Media Clients and K2 appliances at their current software version.

The recommended procedure is to make a recovery disk image immediately after a software upgrade. If you neglected to do this when you last upgraded software you should make the recovery disk image now, before upgrading to the new version. Refer to the *K2 Media Client Service Manual* or the *K2 ASI Media Client Installation and Service Manual* for instructions.

Step 2: Take K2 clients offline

When upgrading software on a K2 Storage System, you upgrade software on K2 Media Servers before you upgrade software on the connected K2 Media Clients and K2 appliances. While you are upgrading software on K2 Media Servers you must keep all connected K2 clients shut down. Do not power up K2 clients until the upgrade on K2 Media Servers is complete and the media file system/database server is fully operational.

Do the following on each K2 Media Client and K2 appliance on the K2 Storage System:

1. Stop all media access.

2. Shut down the K2 client.

Step 3: Manage multiple K2 Media Servers

Do not do this step if:

- You are upgrading a K2 Storage System with only one K2 Media Server. Skip

ahead to "Step 4: Disable OpForce service" and begin the upgrade on the K2 Media Server.

Do this step if:

- You are upgrading a non-redundant K2 Storage System with multiple servers. This means you have just one K2 Media Server that takes the role of media file system/database server and one or more other K2 Media Servers dedicated to other roles, such as FTP server.

- You are upgrading a redundant K2 Storage System. This means you have two K2 Media Servers (primary and backup) that take the role of media file system/database server.

NOTE: If the K2 Storage System has multiple K2 Media Servers, you must upgrade all to the same version.

If you are upgrading a non-redundant K2 Storage System with multiple servers, do the following:

1. Upgrade the server that takes the role of media file system/database server first. The upgrade starts with the next step "Step 4: Disable OpForce service".

2. After the media file system/database server is upgraded and when instructed to do so in "Step 14: Upgrade remaining K2 Media Servers" later in this section, upgrade your other servers.

If you are upgrading a redundant K2 Storage System, do the following:

Apply the remainder of this step and subsequent steps to your two K2 Media Servers that take the role of media file system/database server. If you have additional servers, upgrade them later, when instructed to do so in "Step 14: Upgrade remaining K2 Media Servers".

To prevent triggering failover mechanisms, you must manage primary/backup roles and upgrade media file system/database servers in the proper sequence, as follows:

1. Determine the current primary/backup roles of the servers. You can use Server Control Panel (via the K2 System Configuration application or on the local K2 Media Server) or NetCentral to make this determination.

2. Shut down the backup server.

3. Upgrade the primary server, beginning with the next step "Step 4: Disable OpForce service".

Step 4: Disable OpForce service

If you have not already done so, it is recommended that you disable the OpForce service, to make system startup faster. Refer to the procedure in the *K2 Storage System Instruction Manual*.

Step 5: Make recovery disk image

Do not do this step if:

- You previously made a disk image of the K2 Media Server at its current software version. Skip ahead to "Step 6: Install "High Priority" Windows updates

(recommended)".

Do this step if:

- You do not have a disk image of the K2 Media Server at its current software version.

The recommended procedure is to make a recovery disk image immediately after a software upgrade. If you neglected to do this when you last upgraded software you should make the recovery disk image now, before upgrading to the new version. Refer to the *K2 Storage System Instruction Manual* for instructions.

If your K2 Media Server has multiple disk images on the E: partition, you might need to delete some to make room for a new disk image. If some of these images are the generic recovery disk image that shipped with the system, refer to "Using generic recovery disk images" on page 47 of these release notes to determine which images you can delete.

Step 6: Install "High Priority" Windows updates (recommended)

Windows "High Priority" updates are recommended, but not required, for version 3.2.74. While you have K2 Media Servers in an offline state to upgrade software, you should check to see if there are any new updates that you need to install. Use standard Windows procedures.

⚠ *CAUTION: Only "High Priority Updates" should be installed. Do not install other Windows or driver updates.*

Step 7: Upgrade QuickTime

Do not do this step if:

- QuickTime is currently at version 7. This is the case if the current K2 software is a 3.1.x.x version or higher, as QuickTime 7 is required starting with version 3.1. Skip ahead to "Step 9: Uninstall K2 software".

Do this step if:

- QuickTime is at a version lower than 7. This is the case if the current K2 software is a 3.0.1 version.

To upgrade QuickTime, do the following:

1. Insert the version 3.2.74 K2 System Software CD in the K2 Media Server's CD drive, if it is not already inserted, or otherwise access the version 3.2.74 installation files.

2. Locate and open the following QuickTime install file:

   QuickTimeInstaller.exe

3. Work through the install wizard. Choose **English** and respond with **Next**, **Yes**, **Next**, **Finish**, and **No Thanks**.

Step 8: Install ProductFrame support

Before doing this step:

Determine if ProductFrame support is already installed, as follows:

- Open **Add/Remove Programs** and look for the following:

  - SiteConfig Network Configuration Connect Kit

  - Microsoft .NET Framework 3.5 SP1

Do not do this step if:

- The Connect Kit and .Net 3.5 are already installed. This is the case if the K2 Media Server shipped new from the factory with version 3.2.74 or higher, or if the K2 Media Server was previously upgraded to version 3.2.74 or higher using these upgrade instructions. Skip ahead to "Step 6: Uninstall K2 appliance software".

Do this step if:

- The Connect Kit and .Net 3.5 are not both already installed.

Install ProductFrame support by installing the Connect Kit. When you install the Connect Kit, .Net 3.5 is also installed, as follows:

1. Insert the version 3.2.74 K2 System Software CD in the K2 Media Server's CD drive, if it is not already inserted, or otherwise access the version 3.2.74 installation files.

2. On the CD in the *ConnectivityKit* directory find *GVG_ConnKit.exe*. This is a self-extracting archive. Extract it to *C:\temp*.

3. In *C:\temp* open the *ConnectivityKit* directory and run *setup.exe*.

4. Wait while .Net 3.5 installs. This can take several minutes. During this time there is minimal indication of progress. Do not shutdown or otherwise interfere with the installation process.

   After the .Net installation process completes, a message appears that prompts you to restart.

5. Restart as prompted.

   After startup processes complete, the Connect Kit installation wizard opens

6. Work through the install wizard. Accept all defaults. Respond with **Next** and **Close**.

7. When prompted, you do not need to restart the machine.

   It is not necessary to restart at this point. The restart after you uninstall SNFS in a later step is sufficient.

Step 9: Uninstall K2 software

1. Make sure all connected K2 Media Clients and K2 appliances are shut down.

2. Use the Windows **Add/Remove Programs** control panel and uninstall K2 software.

   It is not necessary to restart the K2 Media Server at this point. The restart after you uninstall SNFS in the next step is sufficient.

3. Identify the currently installed version of SNFS software. If you are not sure, check

Start | Programs | StorNext File System | Version Information.

4. Depending on the version of SNFS currently installed, proceed to one of the following steps:

   • "Step 10: Uninstall SNFS versions lower than 3.0"

   • "Step 10: Uninstall SNFS version 3.0.1b.39 or 3.0.3b.56"

Step 10: Uninstall SNFS versions lower than 3.0

Do not do this step if:

   • SNFS version 3.0.1b.39 or 3.0.3b.56 is currently installed. Instead do the next "Step 10: Uninstall SNFS version 3.0.1b.39 or 3.0.3b.56".

Do this step if:

   • A SNFS version lower than 3.0.x is currently installed.

1. Make sure all connected K2 Media Clients are shut down.

2. Make sure you are logged in to the K2 Media Server with an administrator account.

3. Insert the version 3.2.74 K2 System Software CD in the K2 Media Server's CD drive or otherwise access the version 3.2.74 installation files.

4. Locate and open the following file:

   gvRemoveSnfs26.bat

5. When prompted, follow on-screen instructions to confirm removal of SNFS software. Click Yes, OK, and press any key to proceed.

NOTE: Do not uninstall a SNFS version lower than 3.0 using Windows Add/ Remove Programs.

6. Restart the K2 Media Server using the Windows operating system restart procedure.

7. Proceed to "Step 11: Install K2 software".

Step 10: Uninstall SNFS version 3.0.1b.39 or 3.0.3b.56

Do not do this step if:

   • A SNFS version lower than 3.0.x is currently installed. Instead do the previous "Step 12: Install SNFS".

Do this step if:

   • SNFS version 3.0.1b.39 or 3.0.3b.56 is currently installed.

1. Make sure all connected K2 Media Clients are shut down.

2. Make sure you are logged in to the K2 Media Server with an administrator account.

3. Use the Windows **Add/Remove Programs** control panel and uninstall SNFS.

4. Restart the K2 Media Server using the Windows operating system restart

procedure.

5. Proceed to "Step 11: Install K2 software".

Step 11: Install K2 software

Before upgrading K2 Media Server system software, make sure that QuickTime is at the required version, as instructed in the previous steps. If QuickTime 7 is not installed, the installation program pops up an informative message and you are prevented from completing the installation.

Before installing a new version of K2 system software, make sure that the K2 Media Server has been restarted at least once since the previous version of K2 system software was uninstalled.

1. Make sure all connected K2 Media Clients are shut down.

2. Log in to the K2 Media Server with a local administrator account. This is required to support K2 System Software licensing.

NOTE: When installing K2 system software, you must be logged in with a local administrator account. Do not install software using a domain account.

3. Insert the version 3.2.74 K2 System Software CD in the K2 Media Server's CD drive, if it is not already inserted, or otherwise access the version 3.2.74 installation files.

4. Locate and open the following file:

    \K2Server\setup.exe

5. Follow the onscreen instructions, and work through each page.

6. Depending on the state of the system when upgrading, you might see one or more of the following screens or messages as you work through the installation wizard. Proceed as instructed, and then continue with this procedure:

    If a "…insert disk…" message appears while installing from a CD, cancel the installation wizard and do one of the following:

    - Uninstall the current version of software, then repeat this procedure.
    - Copy the directory that contains the installation files from the CD to the local hard drive, then repeat this procedure, opening the local *setup.exe* file rather than the file on the CD.

    If a "…non-standard installation…" message is displayed in the installation wizard in blue text, as in the image below, follow the instructions in the message, as follows:
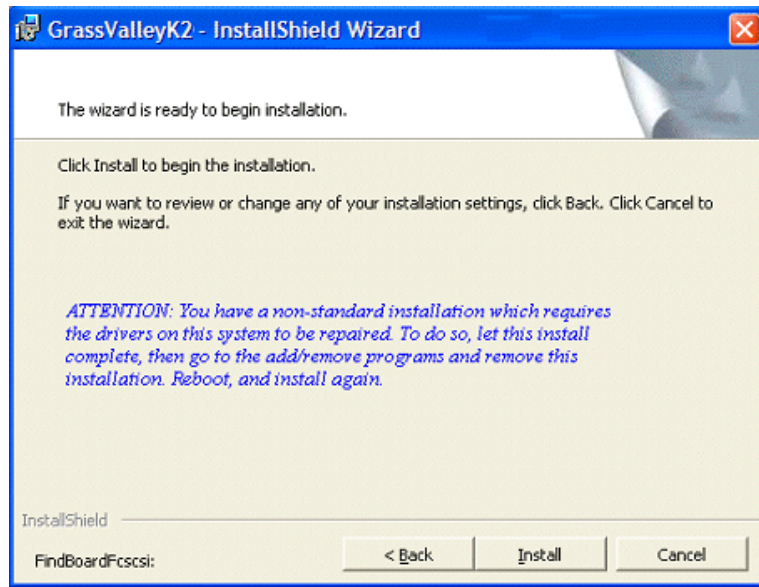
- Complete the installation wizard.
- Uninstall K2 Media Server software.
- Restart the K2 Media Server using the Windows operating system restart procedure.
- Repeat this procedure and install software again.

If one or more messages appear referring to software unsigned or untested, as in the following examples, you can safely continue.

- Click **Yes** or **Continue...** to allow the installation to progress.

If installation progress stops after about a minute and does not proceed, look in the Windows taskbar for a Hardware Update Wizard window that has opened.
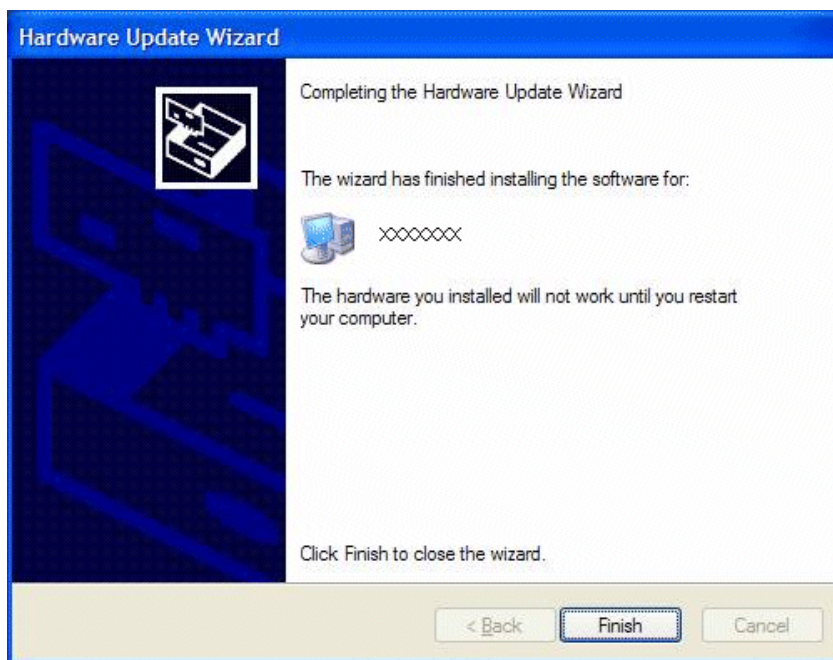
- Click **Finish** on the Hardware Update Wizard to continue installation.

7. Click **Next** and **Finish** to complete the K2 software installation.

8. When prompted, you do not need to restart the machine.

   It is not necessary to restart the K2 Media Server at this point. The restart after you install SNFS in the next step is sufficient.

9. If the K2 Media Server has the role of media file system and database server, open the Services Control Panel and make sure that Failover Monitor is set correctly. If necessary, change the Startup Type, as follows:

This service …	On this type of K2 Storage System…	Should have Startup Type set as follows:
Grass Valley FSM Failover Monitor	Non-redundant	Automatic
	Redundant	Manual

Step 12: Install SNFS

Before installing a new version of SNFS software, make sure that the K2 Media Server has been restarted at least once since the previous version of SNFS software was uninstalled.

1. Make sure all connected K2 Media Clients and K2 appliances are shut down.

2. Insert the version 3.2.74 K2 System Software CD in the K2 Media Server's CD drive or otherwise access the version 3.2.74 installation files.

3. Locate and open the following file:

   gvSnfs312SetupK2.bat

   The command window appears. After a pause, messages confirm setup complete.

4. Press any key to proceed.

5. When the automatic installation pauses at the License Agreement page, click **Yes**.

6. Restart the K2 Media Server using the Windows operating system restart procedure.

The upgrade to the K2 Media Server is now complete.

Step 13: Manage redundancy on K2 Media Servers

Do not do this step if:

• You are upgrading a non-redundant K2 Storage System. This means you have just one K2 Media Server that takes the role of media file system/database server. Skip ahead to "Step 14: Upgrade remaining K2 Media Servers".

Do this step if:

• You are upgrading a redundant K2 Storage System. To prevent triggering failover mechanisms, you must manage primary/backup roles as instructed in this step.

If you have completed the upgrade to the primary server but you have not yet upgraded the backup server, do the following:

1. Make sure the backup server is still shut down.

2. Put the primary server in service as follows:

   a. On the primary server, run Server Control Panel. You can do this at the local server or through the K2 System Configuration application.

The Failover Monitor service should currently be off, as this is the normal state of the service at system startup.

b. Use the **Start** button on Server Control Panel to start Failover Monitor. This makes the primary server qualified to take the role of media file system/database server.

c. Make sure that Server Control Panel reports that the media file system and the media database is active and fully functional and that the server on which you have upgraded software is indeed the current primary server.

3. Power up the backup server. Wait until startup processes complete before continuing.

4. Upgrade the backup server by returning to "Step 4: Disable OpForce service" earlier in this section and performing that step *and subsequent steps* on the backup server.

If you have completed the upgrade to both the primary and backup servers, do the following:

1. Make sure the primary server is powered up.

2. Run Server Control Panel. You can do this at the local server or through the K2 System Configuration application. Make sure that the media file system and the media database is active and fully functional and that the first server on which you upgraded software is still the current primary server.

3. Put the backup server in service as follows:

a. Run Server Control Panel. You can do this at the local server or through the K2 System Configuration application.

The Failover Monitor service should currently be off on the backup server, as this is the normal state of the service at system startup.

b. Use the **Start** button on Server Control Panel to start Failover Monitor. This makes the backup server qualified to take the role of media file system/database server.

c. Make sure that Server Control Panel reports that the media file system and the media database is active and fully functional and that servers are correctly taking primary/backup roles.

4. Continue with the next step "Step 14: Upgrade remaining K2 Media Servers".

Step 14: Upgrade remaining K2 Media Servers

Do not do this step if:

• All the K2 Media Servers on the K2 Storage System have been upgraded. Skip ahead to "Step 15: Upgrade connected K2 clients".

Do this step if:

• There are K2 Media Servers that do not take the role of media file system/database server on the K2 Storage System that have not yet been upgraded.

Upgrade each of the remaining K2 Media Servers as follows:

1. Return to "Step 4: Disable OpForce service" earlier in this section and perform that

step and subsequent steps on the K2 Media Server.

2. When all the K2 Media Servers on the K2 Storage System have been upgraded, continue with the next step "Step 15: Upgrade connected K2 clients"

Step 15: Upgrade connected K2 clients

After K2 Media Servers are upgraded, upgrade all connected K2 Media Clients and K2 appliances to the same version of software. For K2 Media Clients, refer to the *K2 Media Client Release Notes.* For K2 appliances, refer to the appropriate procedure later in these release notes. Do not resume media access on a K2 Media Client or a K2 appliance until it is upgraded.

NOTE: You must restart after installing K2 software.

After upgrading all connected K2 Media Clients and K2 appliances, continue with the upgrade steps in these *K2 Storage System Release Notes* and complete the upgrade to the K2 Storage System.

Step 16: Upgrade connected generic clients

Do not do this step if:

- The only clients on the K2 Storage System are K2 Media Clients and K2 appliances. Skip ahead to "Step 17: Upgrade software on Control Point PC".

Do this step if:

- You have clients on the K2 Storage System that are not K2 Media Clients or K2 appliances. This is the case if you have Aurora Edit workstations or other Aurora products that use the shared storage of the K2 Storage System.

Upgrade all remaining client devices on the K2 Storage System. Refer to the release notes or other upgrade instructions for the client product.

NOTE: You must restart after installing K2 software.

Step 17: Upgrade software on Control Point PC

To upgrade Control Point software, do the following:

1. Use the Windows **Add/Remove Programs** control panel and remove K2 control point software.

2. Insert the version 3.2.74 K2 System Software CD in the Control Point PC's CD drive or otherwise access the version 3.2.74 installation files.

3. Run the Control Point installation program (setup.exe). No special procedures are required.

4. From the K2 System Configuration application, use Server Control Panel to verify that the media file system and the media database is active and fully functional.

You must upgrade the control point PC if it is to access an upgraded K2 Media Client. K2 software versions lower than 3.2 do not support K2 security features, therefore a control point PC at a lower version is not authorized to access an upgraded K2 Media Client.

The K2 software upgrade on the K2 Storage System is now complete. Continue with the next step "Step 18: Make recovery disk images".

Step 18: Make recovery disk images

After you have upgraded software as instructed in these release notes and verified that your system is working properly, you should always make a recovery disk image of each of your K2 systems. Use a sequence of events similar to those you followed for upgrading software, so that as you take systems offline you manage redundancy, servers, and clients, as appropriate for your K2 Storage System.

The upgrade to the K2 Storage System is now complete.

Upgrading software on the K2 ASI Media Client

K2 system software version 3.2.74 is installed on new K2 ASI Media Client systems as they come from the factory. If you have a new K2 system, you should not need to upgrade software.

The following installation steps provide information specifically for the upgrade to version 3.2.74 software. Read the information in these sections carefully before attempting the upgrade.

Step 1: Make recovery disk image

Do not do this step if:

- You previously made a disk image of the K2 ASI Media Client at its current software version. Skip ahead to "Step 2: Take K2 ASI Media Client offline".

Do this step if:

- You do not have a disk image of the K2 ASI Media Client at its current software version.

The recommended procedure is to make a recovery disk image immediately after a software upgrade. If you neglected to do this when you last upgraded software you should make the recovery disk image now, before upgrading to the new version. Refer to the *K2 ASI Media Client Installation and Service Manual* for instructions.

Step 2: Take K2 ASI Media Client offline

If the K2 ASI Media Client is not already offline, do the following:

1. Stop all media access. This includes all record, play, and transfer operations

2. Shutdown all the K2 ASI Media Clients on the K2 Storage System.

Step 3: Upgrade K2 Media Servers

After shutting down all the K2 ASI Media Clients on the K2 Storage System, follow the K2 Storage System upgrade steps earlier in these release notes to upgrade all your K2 Media Servers to the same software version. Then, when directed to do so by the K2 Storage System upgrade steps earlier in these release notes, continue with the steps in this procedure to upgrade K2 ASI Media Clients.

Step 4: Install "High Priority" Windows updates (recommended)

Windows "High Priority" updates are recommended, but not required, for version 3.2.74. While you have the K2 ASI Media Client in an offline state to upgrade software, you should check to see if there are any new updates that you need to install. Use standard Windows procedures.

⚠ *CAUTION: Only "High Priority Updates" should be installed. Do not install other Windows or driver updates.*

Step 5: Install ProductFrame support

Before doing this step:

Determine if ProductFrame support is already installed, as follows:

- Open **Add/Remove Programs** and look for the following:
  - SiteConfig Network Configuration Connect Kit
  - Microsoft .NET Framework 3.5 SP1

Do not do this step if:

- The Connect Kit and .Net 3.5 are already installed. Skip ahead to "Step 6: Uninstall K2 appliance software".

Do this step if:

- The Connect Kit and .Net 3.5 are not both already installed.

To install ProductFrame support, do the following:

1. Insert the version 3.2.74 K2 System Software CD in the K2 ASI Media Client's CD drive, if it is not already inserted, or otherwise access the version 3.2.74 installation files.

2. On the CD in the *ConnectivityKit* directory find *GVG_ConnKit.exe*. This is a self-extracting archive. Extract it to *C:\temp*.

3. In *C:\temp* open the *ConnectivityKit* directory and run *setup.exe*.

4. Wait while .Net 3.5 installs. This can take several minutes. During this time there is minimal indication of progress. Do not shutdown or otherwise interfere with the installation process.

   After the .Net installation process completes, a message appears that prompts you to restart.

5. Restart as prompted.

   After startup processes complete, the Connect Kit installation wizard opens

6. Work through the install wizard. Accept all defaults. Respond with **Next** and **Close**.

7. When prompted, you do not need to restart the machine.

   It is not necessary to restart at this point. The restart after you uninstall SNFS in a later step is sufficient.

Step 6: Uninstall K2 appliance software

1. Stop all media access on the K2 ASI Media Client.

2. Use the Windows **Add/Remove Programs** control panel and uninstall K2 appliance software.

3. Restart the K2 ASI Media Client using the Windows operating system restart procedure.

4. Identify the currently installed version of SNFS software. If you are not sure, check **Start | Programs | StorNext File System | Version Information**.

5. If SNFS is at a version lower than 3.1.2.RC25225.6138, proceed to "Step 7: Uninstall SNFS".

Step 7: Uninstall SNFS

Do not do this step if:

- SNFS version 3.1.2.RC25225.6138 is already installed. Skip ahead to "Step 8: Install K2 appliance software".

Do this step if:

- SNFS is at a version lower than 3.1.2.RC25225.6138.

1. Make sure you are logged in to the K2 ASI Media Client with a local administrator account.

2. Use the Windows **Add/Remove Programs** control panel and uninstall SNFS.

3. Restart the K2 ASI Media Client using the Windows operating system restart procedure.

4. Proceed to "Step 8: Install K2 appliance software".

Step 8: Install K2 appliance software

Before installing a new version of K2 appliance software, make sure that the K2 ASI Media Client has been restarted at least once since the previous version of K2 appliance software was uninstalled.

1. Log in to the K2 ASI Media Client with a local administrator account. This is required to support K2 System Software licensing.

NOTE: When installing K2 system software, you must be logged in with a local administrator account. Do not install software using a domain account.

2. Insert the version 3.2.74 K2 System Software CD in the K2 ASI Media Client's CD drive, if it is not already inserted, or otherwise access the version 3.2.74 installation files.

3. Locate and open the following file:

   \K2appliance\setup.exe

4. Follow the onscreen instructions, and work through each page.

5. Click **Next** and **Finish** to complete the installation.

6. When prompted, restart the machine.

Step 9: Install SNFS

Do not do this step if:

- SNFS version 3.1.2.RC25225.6138 is already installed and you did not uninstall SNFS software earlier in this procedure.

Do this step if:

- You uninstalled SNFS software earlier in this procedure.

Before installing a new version of SNFS software, make sure that the K2 ASI Media Client has been restarted at least once since the previous version of SNFS software was uninstalled.

1. Insert the version 3.2.74 K2 System Software CD in the K2 ASI Media Client's CD drive or otherwise access the version 3.2.74 installation files.

2. Locate and open the following file:

    gvSnfs312SetupK2.bat

    The command window appears. After a pause, messages confirm setup complete.

3. Press any key to proceed.

4. Restart the K2 ASI Media Client using the Windows operating system restart procedure.

Step 10: Upgrade K2 ASI Media Client software

Do not do this step if:

- K2 ASI Media Client version 5.4.4 is already installed.

Do this step if:

- The currently installed K2 ASI Media Client software is at a version lower than 5.4.4.

1. Log in to the K2 ASI Media Client with a local administrator account.

    NOTE: When installing K2 ASI Media Client software, you must be logged in with a local administrator account. Do not install software using a domain account.

2. Insert the version 3.2.74 K2 System Software CD in the K2 ASI Media Client's CD drive, if it is not already inserted, or otherwise access the version 3.2.74 installation files.

3. Locate and open the following file:

    \K2ASIMediaClient\setup.exe

4. Follow the onscreen instructions, and work through each page.

5. Select **Repair** and click **Next**.

6. When prompted by a "…overwrite FileInfo…?" message, click **No**.

7. When prompted by a "…delete Graph…?" message, click **No**.

8. When prompted by a "…install the FTP Server software?" message, click **OK**.

9. Click **Next** and **Finish** to complete the installation.

10. When prompted by a "Start server…?" message, click **Yes**.

11. Restart the K2 ASI Media Client.

Step 11: Make recovery disk images

After you have upgraded software as instructed in these release notes and verified that your system is working properly, you should always make a recovery disk image of each of your K2 systems.

The upgrade to K2 ASI Media Client is now complete.

Working with the K2 Coder

This section contains the following topics:

- "About the K2 Coder"
- "Installing the K2 Coder"
- "Configuring the K2 Coder"
- "Using the K2 Coder"

About the K2 Coder

The K2 Coder is a K2 appliance. It transcodes media formats not otherwise supported on the K2 system. The K2 Coder works in both directions. It transcodes files into the K2 Storage System and it transcodes K2 clips out of the K2 Storage System, as illustrated below.
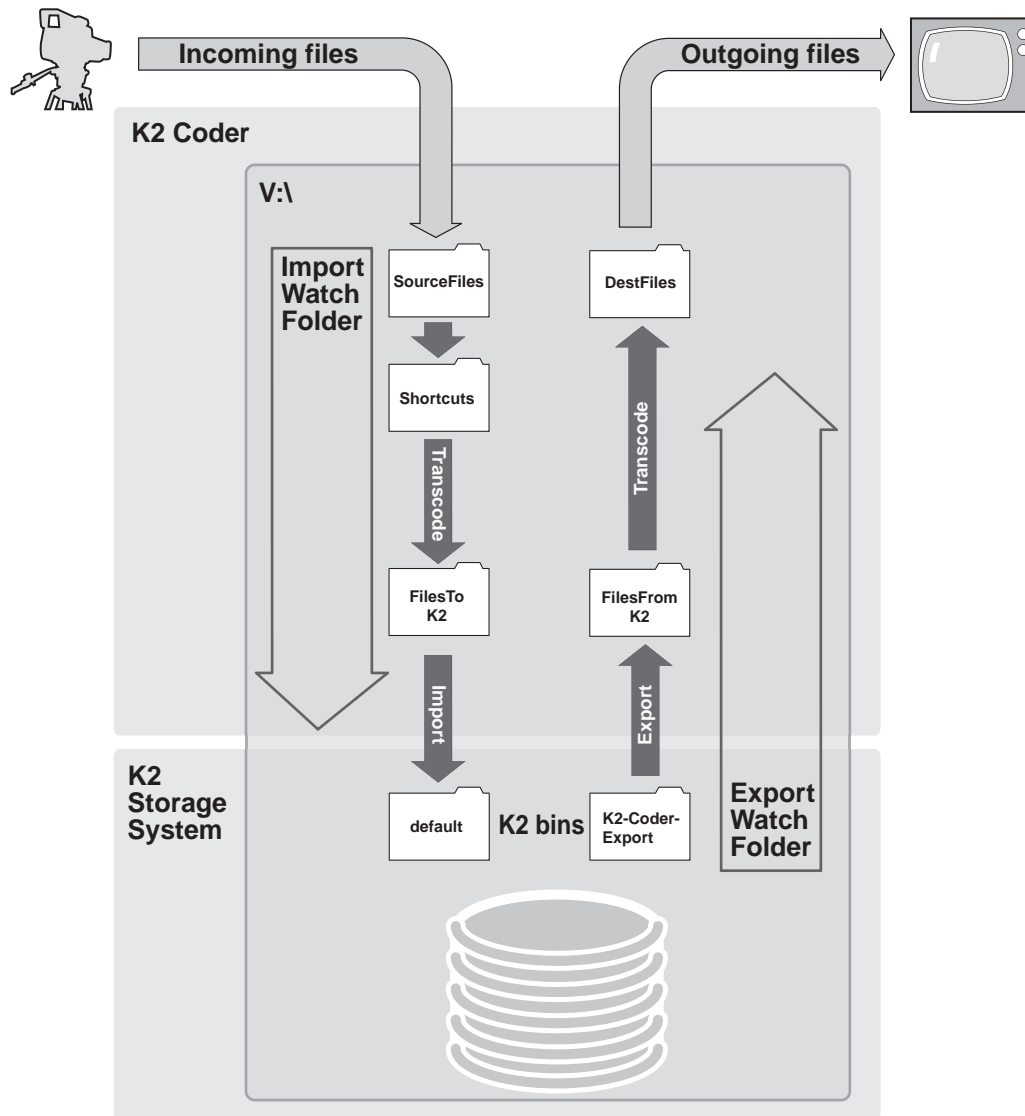
The K2 Coder comes from Grass Valley with Import Watch Folder, Export Watch Folder, and Preset templates pre-configured. The following explanation is based on these templates.

For the Import Watch Folder, there are three K2 Coder folders that temporarily hold files for transcode processing and one K2 bin. The first folder, which is named *SourceFiles*, is monitored for new files. The K2 Coder checks this folder for new files every 10 seconds. When a new file arrives in total (the transfer completes), the K2 Coder automatically transcodes it via the *Shortcuts* folder into the *FilesToK2* folder as a temporary GXF file, and then imports the GXF file into K2 storage as a K2 clip. The Import Watch Folder puts the K2 clip in K2 bin *V:\GXF\default*. If the transcode/ import is successful, files are deleted from *SourceFiles*, *Shortcuts* and *FilesToK2* folders. If the transcode/import fails, the files remain in these folders. There is no

periodic purge or cleanup of the files that remain after a failed transcode/import. If a file of the same name already exists, a newly named file is created, rather than overwriting the existing file. In all cases, the clip in the K2 bin remains.

For import, the K2 Coder supports SD to SD or HD to HD. The K2 Coder does not support SD to HD or HD to SD. If you transcode/import both SD and HD files, you must use two Import Watch Folders, one for SD and one for HD.

For the Export Watch Folder, there is one K2 bin and two K2 Coder folders. By default, the K2 bin is *K2-Coder-Export*. You must create a bin of this name for the Export Watch Folder to use or else configure the Export Watch Folder to use a different bin. The K2 Coder checks this bin for new clips every 60 seconds. When a new clip arrives in this bin, the K2 Coder automatically exports the clip to the *FilesFromK2* folder as a temporary GXF file and then transcodes the GXF file into the configured destination format, placing it in the *DestFiles* folder. If the transcode/export is successful, files are deleted from the *FilesFromK2* folder. If the transcode/export fails, the files remain. There is no periodic purge or cleanup of the files that remain after a failed transcode/export. If a file of the same name already exists, a newly named file is created, rather than overwriting the existing file. In all cases, the K2 clip remains in the bin and files remain in the *DestFiles* folder. External systems access the transcoded files in the *DestFiles* folder.

Installing the K2 Coder

Refer to the *K2 Storage System Instruction Manual* for general instructions for installing a K2 appliance. Use Gigabit port 1 for the control network and Gigabit port 2 for the media (iSCSI) network.

When you first power up the K2 Coder, an error is displayed. This error is because the K2 Coder comes preconfigured for the V:\ drive. Since the V:\ drive is not present until the K2 Coder is added to the K2 SAN, the error is generated. You can dismiss the error and proceed with installation.

Configure the registry as follows:

In the registry, browse to the following key:

```
[HKLM\Software\Grass Valley Group\MAN\ServerRoles\]
```

For Valuename "1", make the following setting:

```
"Data"=FTPServer
```

Configure network settings for the control network, including any considerations for name resolution via host files on the K2 Storage System. The K2 Coder host file must contain the following:

```
localhost    127.0.0.1
```

The K2 Coder comes from the factory with all necessary software installed.

Use the K2 System Configuration application to add the K2 Coder to the K2 Storage System. For iSCSI bandwidth, assign a value of **24 MB/sec**.

Configuring the K2 Coder

The K2 Coder is qualified as configured in the provided Import Watch Folder template, Export Watch Folder template, and K2 presets. Do not modify settings, folders, or bins except as specified in these instructions.

Configure SNFS

By default, the media file system (SNFS) is set with Fast Failover Detection enabled. You must disable this setting so that if one or more transcode operations consume all CPU processes for an extended length of time, a media file system failover is not triggered.

1. Click **Start | All Programs | StorNext File System | Client Configuration**.

   The StorNext File System Client Properties dialog box opens.

2. On the **Mount Options** tab, un-check **Fast Failover Detection**.

3. Click **OK** to save settings and close.

Testing default import

Before modifying default transcode configuration, you should do a short test of the default import functionality to verify that your installation so far is correct.

1. Open Carbon Admin click the Watch Folders tab.
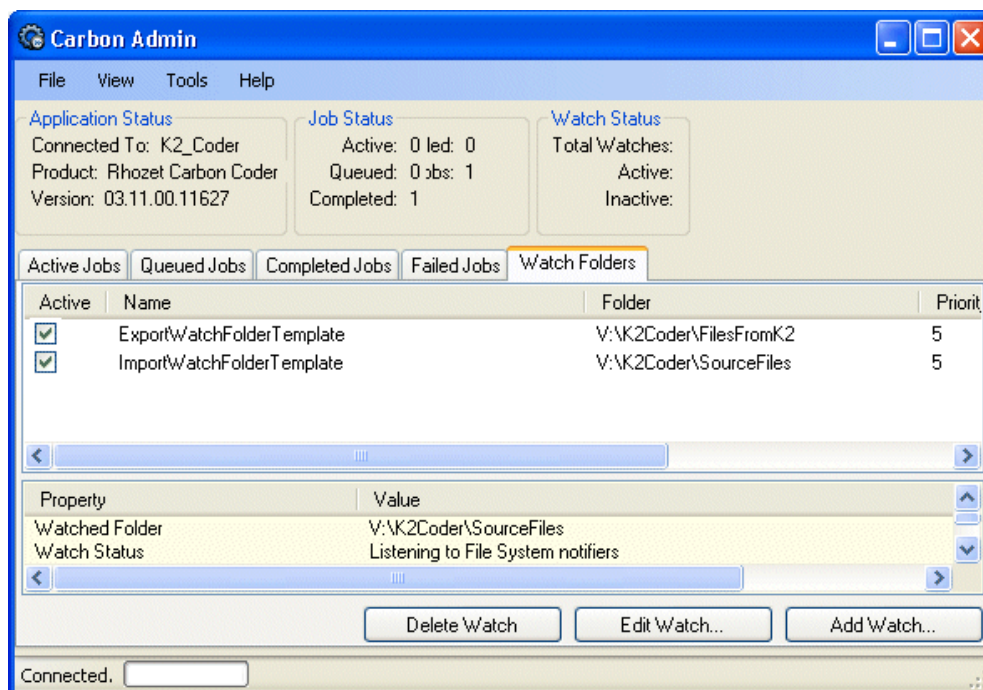
2. For *ImportWatchFolderTemplate* make sure that the check box in the Active column is checked.

3. Copy a SD file into V:\K2Coder\SourceFiles.

4. Open Carbon Admin and on the Active Jobs tab, monitor progress.

5. Verify that the file arrives in K2 bin *default*.

If you are not importing:

In Carbon Admin on the Watch Folders tab, for *ImportWatchFolderTemplate* un-check the check box in the Active column.

If you are importing:

1. Make a copy of the Import Watch Folder template, as follows:

    a. In Carbon Admin, on the Watch Folder tab, right-click **ImportWatchFolderTemplate** and select **Clone**.

    A copy of the template is created.

    b. Select the copy of the template and click **Edit Watch**.

    The Carbon Watch Folder Setup dialog box opens.

    c. In the Name field, remove "Copy of" and "Template" from the name as follows:

    `ImportWatchFolder`

    In steps later in this procedure, you configure and use this Watch Folder as the active Import Watch Folder.

    d. Click **OK** to save settings and close.

    e. On the Watch Folder tab for *ImportWatchFolderTemplate* un-check the check box in the Active column.

    f. On the Watch Folder tab for *ImportWatchFolder* make sure that the check box in the Active column is checked.

    Making a copy of the provided Import Watch Folder template in this way keeps the template with default settings intact for future reference.

2. In Carbon Admin, on the Watch Folder tab select *ImportWatchFolder* and click **Edit Watch**.

   The Carbon Watch Folder Setup dialog box opens.
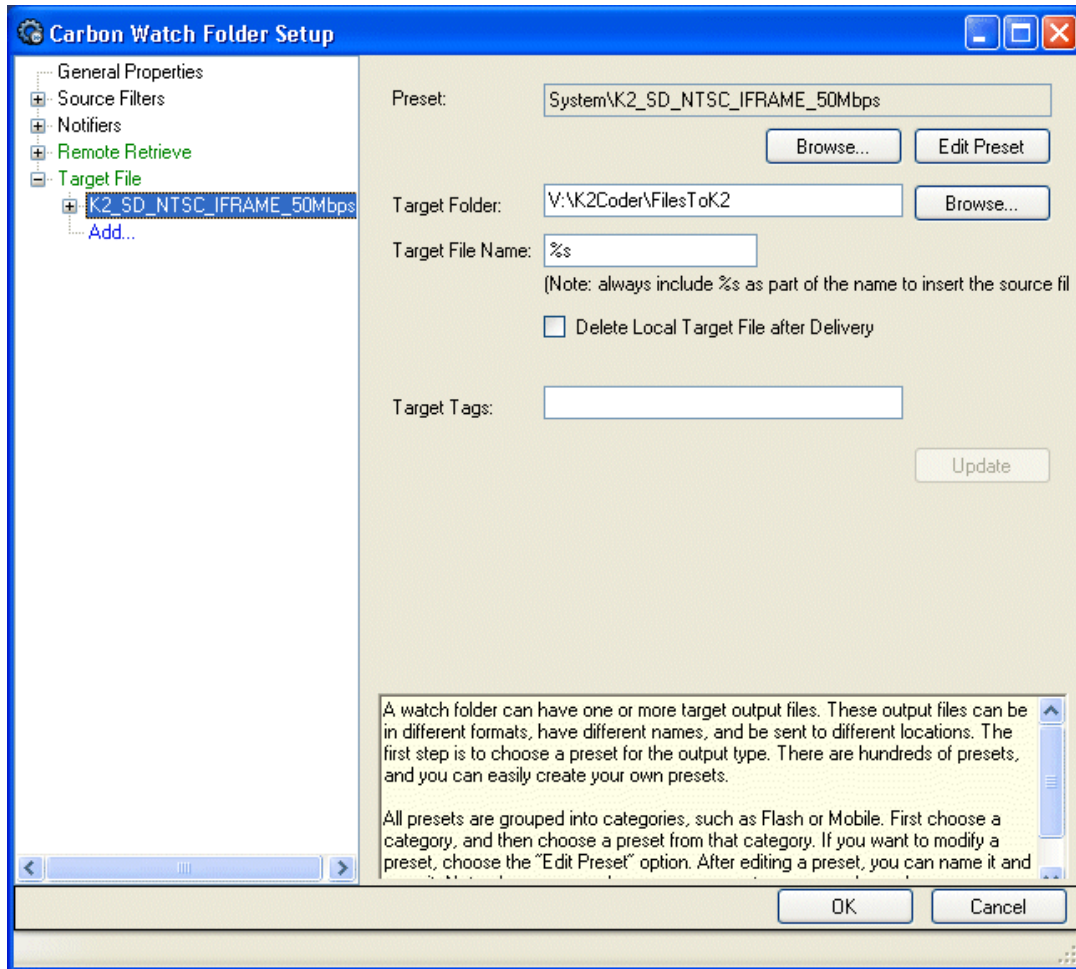
3. In the tree view under Target File, right-click the current preset and select **Delete**.

4. In the tree view under Target File click **Add**.

5. Under Preset, click **Browse**.

   The Preset Editor opens.
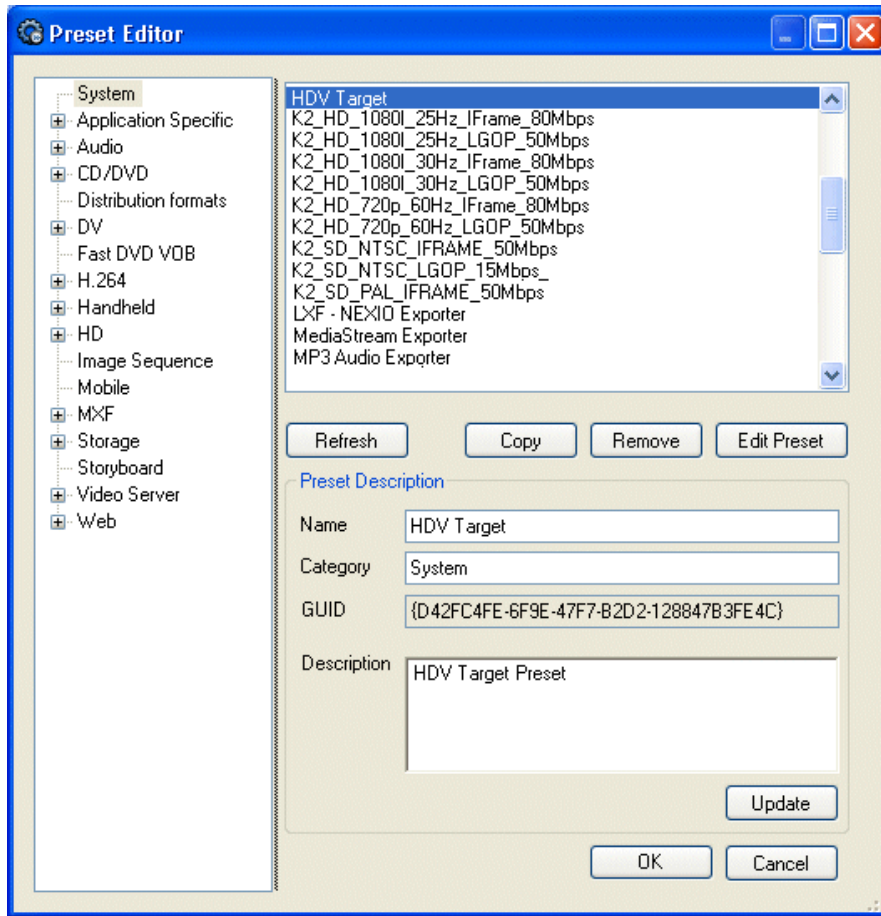
6. In the tree view, select **System**, then in the list select the K2 preset you want to use, as follows:

   • If you import SD only, select a SD preset.

   • If you import HD only, select a HD preset.

   • If you import both SD and HD, select a SD preset. You configure an Import Watch Folder for HD later in this procedure.

7. Click **Edit Preset**.

   The Setup dialog box opens.
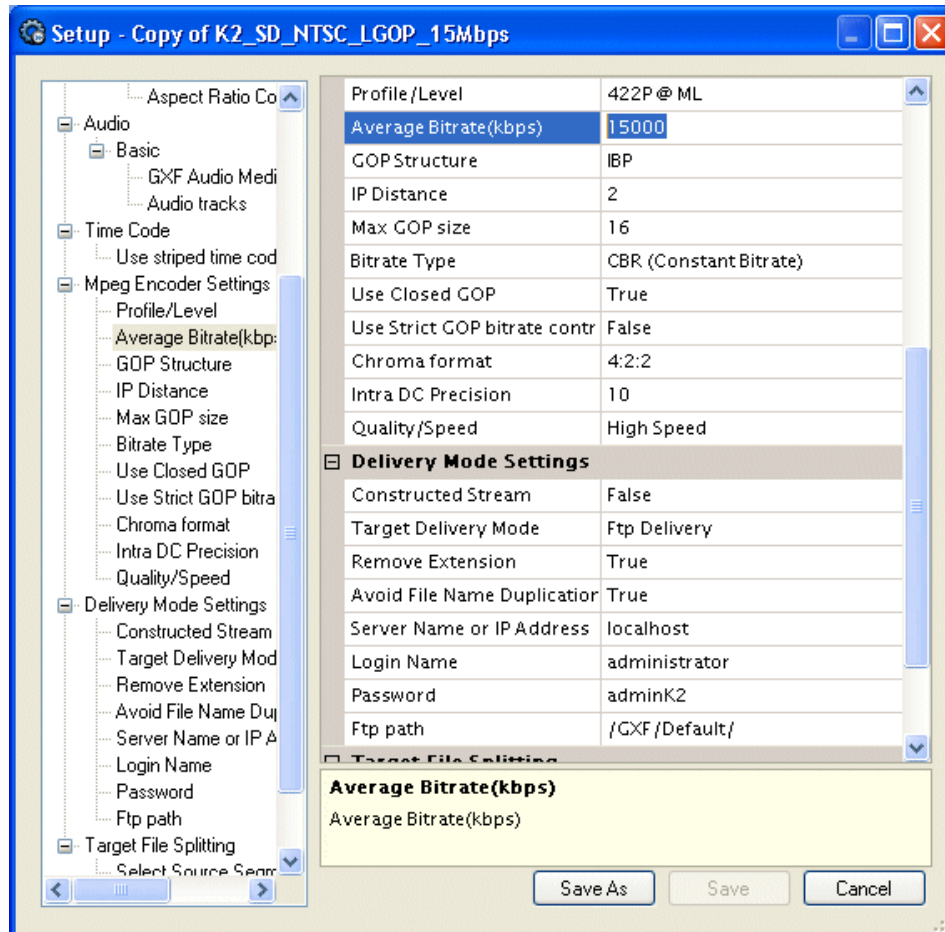
8. Locate the Average Bitrate setting. If desired, you can change the bitrate.

9. Locate the FTP path setting. This specifies the Import Watch Folder K2 bin, which is the bin that receives the incoming clips. By default this is set to bin *default*. If desired, you can set this to a different K2 bin.

10. Do one of the following:

- If you did not change any settings and you are able to use the preset with all default settings intact, click **Cancel**.

- If you changed a setting, click **Save As** and save the preset using a different name, but retain a similar naming convention. Making a copy of the provided K2 preset in this way keeps the original preset with default settings intact for future reference. Make sure the renamed preset is selected before proceeding.

11. Click **Update** and **OK**.

12. On the Setup dialog box, for Target Folder click **Browse** and then select **SourceFiles**.

13. Click **OK**, **Update**, and **OK** to save settings and close.

14. Do one of the following:

- If you import SD only or HD only, configuration is complete. Skip the remaining steps in this procedure.

- If you import both SD and HD, continue with this procedure.

In step 6 earlier in this procedure you configured the Import Watch Folder for SD. Now you must create a second Import Watch Folder and configure it for HD, as explained in the following steps.

15. Using Windows Explorer, create the following folder:

    V:\K2Coder\HDSourceFiles

16. Make a copy of the Import Watch Folder template, as follows:

    a. In Carbon Admin, on the Watch Folder tab, right-click **ImportWatchFolderTemplate** and select **Clone**.

       A copy of the template is created.

    b. Select the copy of the template and click **Edit Watch**.

       The Carbon Watch Folder Setup dialog box opens.

    c. In the Name field, remove "Copy of" and "Template" from the name and add "HD", as follows:

       HDImportWatchFolder

       In steps later in this procedure, you configure and use this Watch Folder as the active HD Import Watch Folder.

    d. Click **OK** to save settings and close.

    e. On the Watch Folder tab for *ImportWatchFolderTemplate* un-check the check box in the Active column.

    f. On the Watch Folder tab for *HDImportWatchFolder* make sure that the check box in the Active column is checked.

    Making a copy of the provided Import Watch Folder template in this way keeps the template with default settings intact for future reference.

17. In Carbon Admin, on the Watch Folder tab select *HDImportWatchFolder* and click **Edit Watch**.

    The Carbon Watch Folder Setup dialog box opens.

18. In the tree view under Target File, right-click the current preset and select **Delete**.

19. In the tree view under Target File click **Add**.

20. Under Preset, click **Browse**.

    The Preset Editor opens.

21. In the tree view, select **System**, then in the list select the HD K2 preset you want to use.

22. Click **Edit Preset**.

    The Setup dialog box opens.

23. Locate the Average Bitrate setting. If desired, you can change the bitrate.

24. Locate the FTP path setting. This specifies the Import Watch Folder K2 bin, which is the bin that receives the incoming clips. By default this is set to bin *default*. If desired, you can set this to a different K2 bin.

    It is allowed to use the same K2 bin for both SD import and HD import.

25. Do one of the following:

    • If you did not change any settings and you are able to use the preset with all default settings intact, click **Cancel**.

    • If you changed a setting, click **Save As** and save the preset using a different name, but retain a similar naming convention. Making a copy of the provided K2 preset in this way keeps the original preset with default settings intact for future reference. Make sure the renamed preset is selected before proceeding.

26. Click **Update** and **OK**.

27. On the Setup dialog box, for Target Folder click **Browse** and then select **HDSourceFiles**.

    NOTE: Do not configure the same folder for both SD and HD source files. Doing so results in transcoding SD to HD or HD to SD, which is not supported on the K2 Coder.

28. Click **OK**, **Update**, and **OK** to save settings and close.

If you are not exporting:

In Carbon Admin on the Watch Folders tab, for *ExportWatchFolderTemplate* un-check the check box in the Active column.

If you are exporting:

1. Make a copy of the Export Watch Folder template, as follows:

   a. In Carbon Admin, on the Watch Folder tab, right-click **ExportWatchFolderTemplate** and select **Clone**.

      A copy of the template is created.

   b. Select the copy of the template and click **Edit Watch**.

      The Carbon Watch Folder Setup dialog box opens.

   c. In the Name field, remove "Copy of" and "Template" from the name, as follows:

      ExportWatchFolder.

      In steps later in this procedure, you configure and use this Watch Folder as the active Export Watch Folder.

   d. Click **OK** to save settings and close.

   e. On the Watch Folder tab for *ExportWatchFolderTemplate* un-check the check box in the Active column.
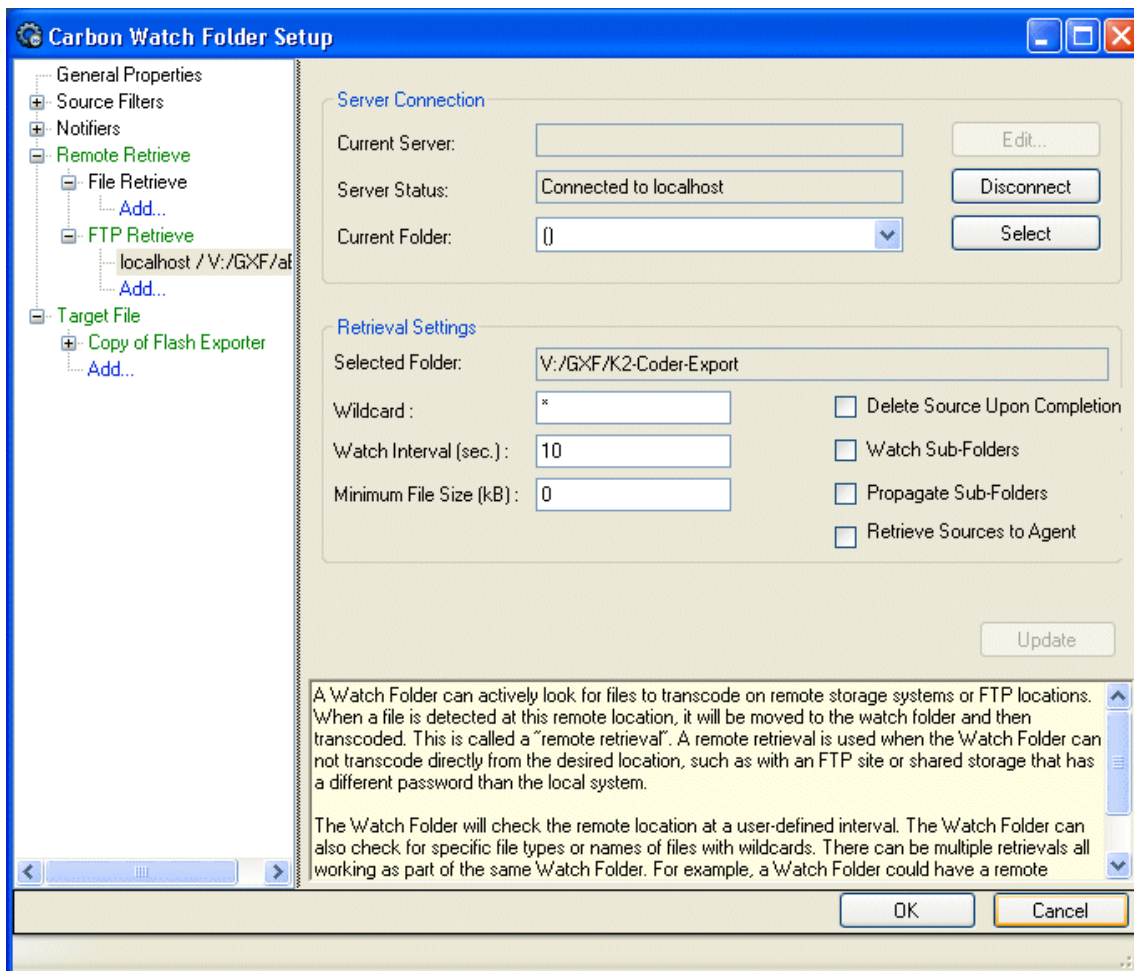
   f. On the Watch Folder tab for *ExportWatchFolder* make sure that the check box in the Active column is checked.

   Making a copy of the provided Export Watch Folder template in this way keeps the

template with default settings intact for future reference.

2. In Carbon Admin, on the Watch Folder tab select *ExportWatchFolder* and click **Edit Watch**.

The Carbon Watch Folder Setup dialog box opens.

3. In the tree view expand Remote Retrieve and under FTP Retrieve select **V:/localhost/GXF/K2-Coder-Export**.

4. In the Current Folder drop-down list, select the K2 bin that you want to use as your Export Watch Folder bin.

This is the bin from which K2 clips are exported/transcoded.

Alternatively, create a K2 bin name K2-Coder-Export and use it as your Export Watch Folder bin, in which case you leave this setting at K2-Coder-Export.

It is not recommended to configure bin *default* as your Export Watch Folder K2 bin. Doing so causes all current clips and new clips in the bin to be exported/transcoded. This can cause problems if you have a large number of current clips or a high rate of new clips that do not need to be exported/transcoded. In addition, do *not* configure bin *default* as your Export Watch Folder bin if you also use bin

default as your Import Watch Folder K2 bin. Doing so causes an import/export loop.

NOTE: Do not configure the same bin as both the Import Watch Folder bin and the Export Watch Folder bin.

5. In the tree view under Target File, right-click the current preset and select **Delete**.

6. In the tree view under Target File click **Add**.

   The Preset Editor opens.
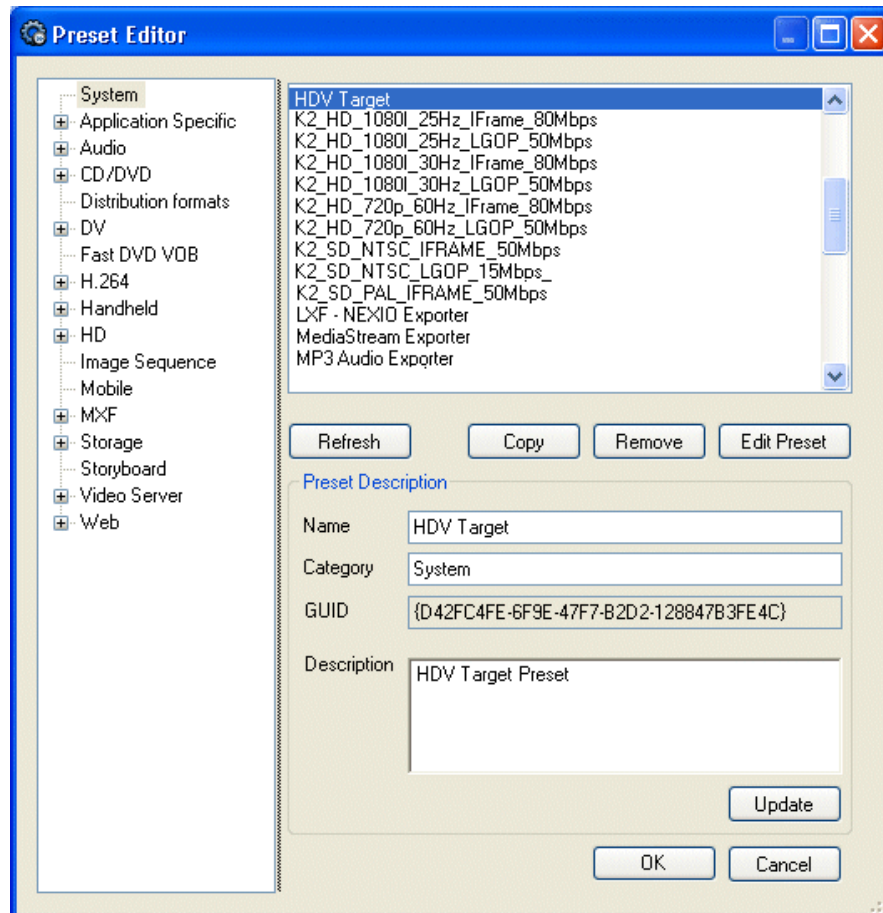
7. Select the preset you want to use.

   This preset specifies the format of the files as exported/transcoded out of the K2 system. Select one of default presets provided by the Coder software. Do not select one of the default K2 presets provided by Grass Valley.

8. Click **Update**, **OK** and **OK** to save settings and close.

Using the K2 Coder

These instructions assume that you have configured the K2 Coder as directed by the configuration procedures earlier in this section.

On the K2 Coder you can find the pre-configured folders at *V:\K2Coder*. In this directory you will find the *SourceFiles* folder and the *DestFiles* folder. If you configured an Import Watch Folder for HD, you will also find the *HDSourceFiles* folder. These are the only folders that you need to access as you use the K2 Coder. Do not alter the names or locations of any of the folders in *V:\K2Coder*.

To import/transcode files into the K2 system, do one of the following:

- If you import SD only, place the SD files in the *SourceFiles* folder.

- If you import HD only, place the HD files in the *SourceFiles* folder.

- If you import both SD and HD, place SD files in the *SourceFiles* folder and place HD files in the *HDSourceFiles* folder.

Open Carbon Admin and on the Active Jobs tab, monitor transcode/import progress. Then find the K2 clip in the bin configured as the Import Watch Folder K2 bin.

To export/transcode clips out of the K2 system, in AppCenter place the clips in the bin configured as the Export Watch Folder K2 bin. Open Carbon Admin and on the Active Jobs tab, monitor progress. Then access the exported files in the *DestFiles* folder.

Using generic recovery disk images

K2 Media Servers recently shipping from Grass Valley have multiple versions of the generic recovery disk image on the E: partition. The most recent (highest number) version is the image that is on the K2 Media Server when you receive it from Grass Valley, so in most cases that is the image you should use if you need to restore the system to its factory default state. Older versions are for use by Grass Valley Support only. Unless directed otherwise by Grass Valley Support, you should delete the older versions of the generic recovery disk image. This makes disk space available for the first birthday disk image and other images you make as part of normal backup processes.

If you need to use the generic recovery disk image, follow the procedure in the *K2 Storage System Instruction Manual*, with considerations for the type of K2 Media Server and the disk image version, as explained in the following sections.

Driver installation on generic disk image versions

At first startup after installing a generic disk image, you are prompted to install hardware drivers by "New Hardware Found" wizards and other messages. Respond to these prompts as follows:.

For this type of K2 Media Server…	Using this disk image version…	Respond to prompts as follows…
LS, GS, NH1, NH1-10GE	2.10.0 or higher	1. If the new HW is identified as a Ethernet Controller or Network Controller, click Cancel. NOTE: For systems with Qlogic Dual Port TOE cards, two wizards open for each port on the card; one for the Ethernet Adapter, and one for the Network Controller.
		2. If the new HW is identified as "LSI Adapter, 4Gb FC, models 7104, 7204, 7404 with 949E-StorPort", select the "Install the software automatically" radio button and click Next.
		3. If a Hardware Installation window is be displayed indicating that the SW has not passed the windows logo testing, click the Continue Anyway button.
		4. Ensure that the "Completing the Found New Hardware Wizard" window indicates that the wizard has finished installing the SW and then click Finish.
		5. If additional New HW Found Wizards are displayed for the LSI Adapter repeat the steps above.
		If NH1-10GE, configure network as instructed in the *K2 Storage System Instruction Manual*.
Level 2/3 K2 Media Server	2.6 or lower	Dismiss all wizards and messages. Do not install any drivers. Hardware support is provided when you install K2 system software.
	2.10.0 or higher	1. If the new HW is identified as a Ethernet Controller or Network Controller, click Cancel. NOTE: For systems with Qlogic Dual Port TOE cards, two wizards open for each port on the card; one for the Ethernet Adapter, and one for the Network Controller.
		2. If the new HW is identified as "GVG SCSI", select the "Install the software automatically" radio button and click Next.
		3. If a Hardware Installation window is be displayed indicating that the SW has not passed the windows logo testing, click the Continue Anyway button.
		4. Ensure that the "Completing the Found New Hardware Wizard" window indicates that the wizard has finished installing the SW and then click Finish.

Installing the Fibre Channel card driver

When you restore a K2 Media Server from the generic disk image, the 4Gb Fibre Channel card driver is not on the disk image. After restoring the disk image, you must install the Fibre Channel card driver as instructed in this procedure.

1. Make sure that you have access to the Fibre Channel card driver file. On the local K2 Media Server, look for *C:\profile\drivers\LSI_SCSIPORT_1.21.25.00*, then do one of the following:

   • If the file is present, continue with the next step in this procedure.

   • If the file is not present, procure the file from *ftp://ftp.thomsongrassvalley.com/pub/K2/Microcode_and _Drivers/LSI_SCSIPORT*. The filename is *LSI_SCSIPORT_1.21.25.00.zip.* Then continue with this procedure

2. After restoring the disk image and restarting the K2 Media Server, a Found New

Hardware wizard opens for the Fibre Channel controller. Install the driver on the first FC port as follows:

    a. Select **Install from a list or specific location**. Click **Next**.

    b. Select **Don't search. I will choose the driver to install**. Click **Next**.

    c. Select **SCSI and Raid Controllers** and **Have Disk**.

    d. Browse to *C:\profile\drivers\LSI_SCSIPORT_1.21.25.00*. Click **Open** and **OK**.

    e. Start the driver install by selecting **Next**.

    f. On the Hardware Installation page, click **Continue Anyway**.

    g. Click **Finish**.

3. If the K2 Media Server has a dual port Fibre Channel card, on the Found New Hardware wizard, install the driver on the second FC port as follows:

    a. Select **Install from a list or specific location**. Click **Next**.

    b. Select **Don't search. I will choose the driver to install**. Click **Next**.

    c. Select **Have Disk**.

    d. Browse to *C:\profile\drivers\LSI_SCSIPORT_1.21.25.00*. Click **Open** and **OK**.

    e. Start the driver install by selecting **Next**.

    f. On the Hardware Installation page, click **Continue Anyway**.

    g. Click **Finish**.

4. On the Found New Hardware wizard, install the first LSI Pseudo Device as follows:

    a. Select **Install from a list or specific location**. Click **Next**.

    b. Select **Don't search. I will choose the driver to install**. Click **Next**.

    c. Select **Have Disk**.

    d. Browse to *C:\profile\drivers\LSI_SCSIPORT_1.21.25.00*. Click **Open** and **OK**.

    e. Start the driver install by selecting **Next**.

    f. On the Hardware Installation page, click **Continue Anyway**.

    g. Click **Finish**.

5. If the K2 Media Server has a dual port Fibre Channel card, on the Found New Hardware wizard, install the driver on the second LSI Pseudo Device port as follows:

    a. Select **Install from a list or specific location**. Click **Next**.

    b. Select **Don't search. I will choose the driver to install**. Click **Next**.

    c. Select **Have Disk**.

    d. Browse to *C:\profile\drivers\LSI_SCSIPORT_1.21.25.00*. Click **Open** and **OK**.

    e. Start the driver install by selecting **Next**.

    f. On the Hardware Installation page, click **Continue Anyway**.

    g. Click **Finish**.

6. Make the following registry settings:

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Service
s\Lsi_fc\Parameters\Device]
"DriverParameter"="MPIOMode=2"
"MaximumSGList"=dword:000000ff
"NumberOfRequests"=dword:000000ff
```

K2 Media Server pre-installed software

The following software is pre-installed on the K2 Media Server when you receive it new from Grass Valley.

Software	Version		Software	Version
Adobe Reader	8.0		MS J# Redistributable Package	1.1
QuickTime	7		MS SQL 2005	SP2
ATI Display Driver	8.24.3.0		MS XML	6.0
Dell OpenManage	5.3.0		OSA BMC Management Utility	—
Dell OpenManage Array Manager	5.3.0		SQL XML	4 - 9.00.3042.00
Dell OpenManage IT Assistant	5.3.0		StorNext	3.1.2.RC252 25.6138
Intel Pro Network Adapters & Drivers	12.2		Windows Server 2003	SP2
IT Assistant	6.5 SP3		Windows PowerShell	1.0
J2SE Runtime Environment	6, Update 3		Microsoft .NET Framework	3.5 SP1
SiteConfig Network Configuration Connect Kit	1.0			

Operation considerations

• Do not neglect to make a "first birthday" disk image shortly after the K2 Media Server is installed and configured. Refer to the *K2 Storage System Instruction Manual* for procedures. If there are multiple generic disk images on the E: partition, you should delete un-needed images to make room for the first birthday image. Refer to "Using generic recovery disk images" on page 47.

• If you are using the Grass Valley control point PC, you should also make a first birthday image of the control point PC. Use a compatible version of the recovery CD, as specified in "Recovery CD compatibility" on page 15. Refer to the instruction in the *K2 Media Client Service Manual* for creating a recovery disk image.

- The K2 Media Client and the K2 Media Server can operate continuously for a long period of time, but eventually a restart is necessary, as follows:
  -Recommended: Restart at least once every three months
  -Required: Restart at least once every six months

Known problems

The following limitations are present in this 3.2.74 release of the K2 Storage System. If you wish to obtain more information about these limitations, please mention the reference numbers that follow the description of each limitation.

Generic iSCSI Clients

Description: When installing K2 Generic iSCSI Client software, a message informs that SNFS is not installed and the installation program does not proceed. (CR97009)

Workaround: Make sure that the correct version of SNFS is already installed, then do the following:
1. Click Start | Programs | SNFS File System | Stop File System Services.
2. Click Start | Programs | SNFS File System | Start File System Services.
3. Install K2 Generic iSCSI Client software.

K2 Appliances

Description: The K2 ASI Media Client is not configured to the correct K2 directory. (CR97559)

Workaround: In the K2 ASI Media Client Video Client application, click Options | Add FTP connection. The FTP Server Configuration dialog box opens. For Ftp subdirectory, enter v:/mpg/default.

Description: The K2 ASI Media Client does not have the movie user account. (CR97358)

Workaround: 1. Create user account "movie" if it doesn't already exist.
2. For the movie account, enter password "M0vieK2M0vie". That is M ZERO v i e.
3. Add user "movie" to both Administrator & K2 Administrator groups.
4. Change the logon of user "Nexus Server" service from Local System Account to account "movie" and password "M0vieK2M0vie".

Description: On K2 ASI Media Client startup, a Found New Hardware wizard opens, but the hardware is unknown and the wizard does not finish successfully. (CR97560)

Workaround: Cancel the wizard. Doing so does not effect the operation of the K2 ASI Media Client.

NetCentral

Description: NetCentral reports a Failover Monitor fault, even though Failover Monitor is actually running with no problem. Also, there is no report of database replication currently underway. (CR 62119)

Workaround: Verify that Failover Monitor is still running and database replication is underway by using the Server Control Panel in the K2 System Configuration application.

RAID

Description: On a Level 3 RAID Expansion Chassis, the expansion adapter fault LED can stay on, even though no fault is present. (CR73601)

Workaround: This problem does not occur on all expansion adapters. If it occurs on your expansion adapter, contact Grass Valley Support to fix the problem.

Description: Loading controller firmware simultaneously on two controllers in different chassis fails. (CR63092)

Workaround: Load firmware on one chassis at a time. Do not load in parallel. Do not use Storage Utility for other tasks while firmware is loading.

System

Description: A "...service or driver failed..." message appears when the K2 Media Server starts up. (CR68251)

Workaround: Check Windows Event Viewer to identify the problem service. If you uninstalled K2 software, the problem service is likely GVGSCSI, in which case the solution is to install K2 software and restart. If you used an early version of the K2 System Configuration application to configure the server, the problem service is likely MSSQLADHELPER, in which case the solution is to disable the service.

Description: A K2 Media Server with a dual-port iSCSI interface adapter (TOE card) can suffer a blue screen fault. (CR83861)

Workaround: Update the firmware on the iSCSI interface adapter (TOE card). Go to URL ftp://ftp.thomsongrassvalley.com/K2/Images/DualTOE_3.0.1.24 for procedures.

Description: When bringing a backup K2 Media Server online using Server Control Panel, a "DB exception description: Cannot perform this operation while SQLServerAgent is starting. Try again later." message is displayed and the server shuts down. (CR85385)

Workaround: Upgrade to software version 3.2.7 or else on both redundant K2 Media Servers set the startup type for the SQLSERVERAGENT service to Automatic.

Description: During failover testing a Failover Monitor error occurs, indicated by a "COM1 initialization failed" log message on redundant K2 Media Servers. (CR88881)

Workaround: Uninstall a serial port mouse driver. The driver is evidenced only when the error state occurs. On both K2 Media Servers, in Device Manager, look under Mouse Input devices. Identify the Serial Mouse, disable it, and then uninstall it. In addition check the boot.ini to make sure that the /fastdetect flag is enabled.