grass valley
A BELDEN BRAND

INTUITION XG

ADVANCED HD/SD GRAPHICS PROCESSOR

Configuration Guide

Vertigo Suite v5.2

M848-9002-520

2015-12-11

www.grassvalley.com

Copyright and Trademark Notice

Copyright © 2015, Grass Valley USA, LLC. All rights reserved.

Belden, Belden Sending All The Right Signals, and the Belden logo are trademarks or registered trademarks of Belden Inc. or its affiliated companies in the United States and other jurisdictions. Grass Valley USA, LLC, Miranda, Intuition XG, Vertigo Suite are trademarks or registered trademarks of Grass Valley USA, LLC. Belden Inc., Grass Valley USA, LLC, and other parties may also have trademark rights in other terms used herein.

Terms and Conditions

Please read the following terms and conditions carefully. By using Vertigo XG documentation, you agree to the following terms and conditions.

Grass Valley hereby grants permission and license to owners of Vertigo XGs to use their product manuals for their own internal business use. Manuals for Grass Valley products may not be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, for any purpose unless specifically authorized in writing by Grass Valley.

A Grass Valley manual may have been revised to reflect changes made to the product during its manufacturing life. Thus, different versions of a manual may exist for any given product. Care should be taken to ensure that one obtains the proper manual version for a specific product serial number.

Information in this document is subject to change without notice and does not represent a commitment on the part of Grass Valley.

Warranty information is available in the Support section of the Grass Valley web site (www.grassvalley.com).

Title	Intuition XG Configuration Guide
Software Version	Vertigo Suite v5.2
Part Number	M848-9002-520
Revision	2015-12-11, 14:36

Important Safeguards and Notices

This section provides important safety guidelines for operators and service personnel. Specific warnings and cautions appear throughout the manual where they apply. Please read and follow this important information, especially those instructions related to the risk of electric shock or injury to persons.

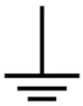
Symbols and Their Meanings

Indicates that dangerous high voltage is present within the equipment enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

Indicates that the user, operator or service technician should refer to the product manuals for important operating, maintenance, or service instructions.

This is a prompt to note the fuse rating when replacing fuses. The fuse referenced in the text must be replaced with one having the ratings indicated.

Identifies a protective grounding terminal which must be connected to earth ground prior to making any other equipment connections.



Identifies an external protective grounding terminal which may be connected to earth ground as a supplement to an internal grounding terminal.

Indicates that static sensitive components are present, which may be damaged by electrostatic discharge. Use anti-static procedures, equipment and surfaces during servicing.

Indicates that the equipment has more than one power supply cord, and that all power supply cords must be disconnected before servicing to avoid electric shock.

The presence of this symbol in or on Grass Valley equipment means that it has been tested and certified as complying with applicable Canadian Standard Association (CSA) regulations and recommendations for USA/Canada.

The presence of this symbol in or on Grass Valley equipment means that it has been tested and certified as complying with applicable Underwriters Laboratory (UL) regulations and recommendations for USA/Canada.

The presence of this symbol in or on Grass Valley equipment means that it has been tested and certified as complying with applicable Intertek Testing Services regulations and recommendations for USA/Canada.

The presence of this symbol in or on Grass Valley product means that it complies with all applicable European Union (CE) directives.

The presence of this symbol in or on Grass Valley product means that it complies with safety of laser product applicable standards.

Warnings

A warning indicates a possible hazard to personnel, which may cause injury or death. Observe the following general warnings when using or working on this equipment:

- Appropriately listed/certified mains supply power cords must be used for the connection of the equipment to the mains voltage at either 120 V AC or 240 V AC.
- This product relies on the building's installation for short-circuit (over-current) protection. Ensure that a fuse or circuit breaker for 120 V AC or 240 V AC is used on the phase conductors.
- Any instructions in this manual that require opening the equipment cover or enclosure are for use by qualified service personnel only.
- Do not operate the equipment in wet or damp conditions.
- This equipment is grounded through the grounding conductor of the power cords. To avoid electrical shock, plug the power cords into a properly wired receptacle before connecting the equipment inputs or outputs.
- Route power cords and other cables so they are not likely to be damaged. Properly support heavy cable bundles to avoid connector damage.
- Disconnect power before cleaning the equipment. Do not use liquid or aerosol cleaners; use only a damp cloth.
- Dangerous voltages may exist at several points in this equipment. To avoid injury, do not touch exposed connections and components while power is on.
- High leakage current may be present. Earth connection of product is essential before connecting power.
- Prior to servicing, remove jewelry such as rings, watches, and other metallic objects.
- To avoid fire hazard, use only the fuse type and rating specified in the service instructions for this product, or on the equipment.
- To avoid explosion, do not operate this equipment in an explosive atmosphere.
- Use proper lift points. Do not use door latches to lift or move equipment.
- Avoid mechanical hazards. Allow all rotating devices to come to a stop before servicing.
- Have qualified service personnel perform safety checks after any service.

Cautions

A caution indicates a possible hazard to equipment that could result in equipment damage. Observe the following cautions when operating or working on this equipment:

- This equipment is meant to be installed in a restricted access location.

- When installing this equipment, do not attach the power cord to building surfaces.
- Products that have no on/off switch, and use an external power supply must be installed in proximity to a main power outlet that is easily accessible.
- Use the correct voltage setting. If this product lacks auto-ranging power supplies, before applying power ensure that each power supply is set to match the power source.
- Provide proper ventilation. To prevent product overheating, provide equipment ventilation in accordance with the installation instructions.
- Do not operate with suspected equipment failure. If you suspect product damage or equipment failure, have the equipment inspected by qualified service personnel.
- To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel. Servicing should be done in a static-free environment.
- This unit may have more than one power supply cord. Disconnect all power supply cords before servicing to avoid electric shock.
- Follow static precautions at all times when handling this equipment.

Electrostatic Discharge (ESD) Protection

Electrostatic discharge occurs when electronic components are improperly handled and can result in intermittent failure or complete damage adversely affecting an electrical circuit. When you remove and replace any card from a frame always follow ESD-prevention procedures:

- Ensure that the frame is electrically connected to earth ground through the power cord or any other means if available.
- Wear an ESD wrist strap ensuring that it makes good skin contact. Connect the grounding clip to an *unpainted surface* of the chassis frame to safely ground unwanted ESD voltages. If no wrist strap is available, ground yourself by touching the *unpainted* metal part of the chassis.
- For safety, periodically check the resistance value of the antistatic strap, which should be between 1 and 10 megohms.
- When temporarily storing a card make sure it is placed in an ESD bag.
- Cards in an earth grounded metal frame or casing do not require any special ESD protection.

Battery Handling

This product includes a backup battery. There is a danger of explosion if the battery is replaced incorrectly. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions. Before disposing of your Grass Valley equipment, please review the *Disposal and Recycling Information* appendix.

Cautions for LCD and TFT Displays

Excessive usage may harm your vision. Rest for 10 minutes for every 30 minutes of usage.

If the LCD or TFT glass is broken, handle glass fragments with care when disposing of them. If any fluid leaks out of a damaged glass cell, be careful not to get the liquid crystal fluid in your mouth or skin. If the liquid crystal touches your skin or clothes, wash it off immediately using soap and water. Never swallow the fluid. The toxicity is extremely low but caution should be exercised at all times.

Mesures de sécurité et avis importants

La présente section fournit des consignes de sécurité importantes pour les opérateurs et le personnel de service. Des avertissements ou mises en garde spécifiques figurent dans le manuel, dans les sections où ils s'appliquent. Prenez le temps de bien lire les consignes et assurez-vous de les respecter, en particulier celles qui sont destinées à prévenir les décharges électriques ou les blessures.

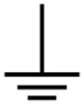
Signification des symboles utilisés

Signale la présence d'une tension élevée et dangereuse dans le boîtier de l'équipement ; cette tension peut être suffisante pour constituer un risque de décharge électrique.

Avertit l'utilisateur, l'opérateur ou le technicien de maintenance que des instructions importantes relatives à l'utilisation et à l'entretien se trouvent dans la documentation accompagnant l'équipement.

Invite l'utilisateur, l'opérateur ou le technicien de maintenance à prendre note du calibre du fusible lors du remplacement de ce dernier. Le fusible auquel il est fait référence dans le texte doit être remplacé par un fusible du même calibre.

Identifie une borne de mise à la terre de protection. Il faut relier cette borne à la terre avant d'effectuer toute autre connexion à l'équipement.



Identifie une borne de mise à la terre externe qui peut être connectée en tant que borne de mise à la terre supplémentaire.

Signale la présence de composants sensibles à l'électricité statique et qui sont susceptibles d'être endommagés par une décharge électrostatique. Utilisez des procédures, des équipements et des surfaces antistatiques durant les interventions d'entretien.

Le symbole ci-contre signifie que l'appareil comporte plus d'un cordon d'alimentation et qu'il faut débrancher tous les cordons d'alimentation avant toute opération d'entretien, afin de prévenir les chocs électriques.

La marque C-CSA-US certifie que l'appareil visé a été testé par l'Association canadienne de normalisation (CSA) et reconnu conforme aux exigences applicables en matière de sécurité électrique en vigueur au Canada et aux États-Unis.

La marque C-UL-US certifie que l'appareil visé a été testé par Underwriters Laboratory (UL) et reconnu conforme aux exigences applicables en matière de sécurité électrique en vigueur au Canada et aux États-Unis.

La marque ETL Listed d'Intertek pour le marché Nord-Américain certifie que l'appareil visé a été testé par Intertek et reconnu conforme aux exigences applicables en matière de sécurité électrique en vigueur au Canada et aux États-Unis.

Le marquage CE indique que l'appareil visé est conforme aux exigences essentielles des directives applicables de l'Union européenne en matière de sécurité électrique, de compatibilité électromagnétique et de conformité environnementale.

Le symbole ci-contre sur un appareil Grass Valley ou à l'intérieur de l'appareil indique qu'il est conforme aux normes applicables en matière de sécurité laser.

Avertissements

Les avertissements signalent des conditions ou des pratiques susceptibles d'occasionner des blessures graves, voire fatales. Veuillez vous familiariser avec les avertissements d'ordre général ci-dessous :

- Un cordon d'alimentation dûment homologué doit être utilisé pour connecter l'appareil à une tension de secteur de 120 V CA ou 240 V CA.
- La protection de ce produit contre les courts-circuits (surintensités) dépend de l'installation électrique du bâtiment. Assurez-vous qu'un fusible ou un disjoncteur pour 120 V CA ou 240 V CA est utilisé sur les conducteurs de phase.
- Dans le présent manuel, toutes les instructions qui nécessitent d'ouvrir le couvercle de l'équipement sont destinées exclusivement au personnel technique qualifié.
- N'utilisez pas cet appareil dans un environnement humide.
- Cet équipement est mis à la terre par le conducteur de mise à la terre des cordons d'alimentation. Pour éviter les chocs électriques, branchez les cordons d'alimentation sur une prise correctement câblée avant de brancher les entrées et sorties de l'équipement.
- Acheminez les cordons d'alimentation et autres câbles de façon à ce qu'ils ne risquent pas d'être endommagés. Supportez correctement les enroulements de câbles afin de ne pas endommager les connecteurs.
- Coupez l'alimentation avant de nettoyer l'équipement. Ne pas utiliser de nettoyants liquides ou en aérosol. Utilisez uniquement un chiffon humide.
- Des tensions dangereuses peuvent exister en plusieurs points dans cet équipement. Pour éviter toute blessure, ne touchez pas aux connexions ou aux composants exposés lorsque l'appareil est sous tension.

- Avant de procéder à toute opération d'entretien ou de dépannage, enlevez tous vos bijoux (notamment vos bagues, votre montre et autres objets métalliques).
- Pour éviter tout risque d'incendie, utilisez uniquement les fusibles du type et du calibre indiqués sur l'équipement ou dans la documentation qui l'accompagne.
- Ne pas utiliser cet appareil dans une atmosphère explosive.
- Présence possible de courants de fuite. Un raccordement à la masse est indispensable avant la mise sous tension.
- Après tout travail d'entretien ou de réparation, faites effectuer des contrôles de sécurité par le personnel technique qualifié.

Mises en garde

Les mises en garde signalent des conditions ou des pratiques susceptibles d'endommager l'équipement. Veuillez vous familiariser avec les mises en garde ci-dessous :

- L'appareil est conçu pour être installé dans un endroit à accès restreint.
- Au moment d'installer l'équipement, ne fixez pas les cordons d'alimentation aux surfaces intérieures de l'édifice.
- Les produits qui n'ont pas d'interrupteur marche-arrêt et qui disposent d'une source d'alimentation externe doivent être installés à proximité d'une prise de courant facile d'accès.
- Si l'équipement n'est pas pourvu d'un modules d'alimentation auto-adaptables, vérifiez la configuration de chacun des modules d'alimentation avant de les mettre sous tension.
- Assurez une ventilation adéquate. Pour éviter toute surchauffe du produit, assurez une ventilation de l'équipement conformément aux instructions d'installation.
- N'utilisez pas l'équipement si vous suspectez un dysfonctionnement du produit. Faites-le inspecter par un technicien qualifié.
- Pour réduire le risque de choc électrique, n'effectuez pas de réparations autres que celles qui sont décrites dans le présent manuel, sauf si vous êtes qualifié pour le faire. Confiez les réparations à un technicien qualifié. La maintenance doit se réaliser dans un milieu libre d'électricité statique.
- L'appareil peut comporter plus d'un cordon d'alimentation. Afin de prévenir les chocs électriques, débrancher tous les cordons d'alimentation avant toute opération d'entretien.
- Veillez à toujours prendre les mesures de protection antistatique appropriées quand vous manipulez l'équipement.

Protection contre les décharges électrostatiques (DES)

Une décharge électrostatique peut se produire lorsque des composants électroniques ne sont pas manipulés de manière adéquate, ce qui peut entraîner des défaillances intermittentes ou endommager irrémédiablement un circuit électrique. Au moment de remplacer une carte dans un châssis, prenez toujours les mesures de protection antistatique appropriées :

- Assurez-vous que le châssis est relié électriquement à la terre par le cordon d'alimentation ou tout autre moyen disponible.
- Portez un bracelet antistatique et assurez-vous qu'il est bien en contact avec la peau. Connectez la pince de masse à une *surface non peinte* du châssis pour détourner à la terre toute tension électrostatique indésirable. En l'absence de bracelet antistatique, déchargez l'électricité statique de votre corps en touchant une surface métallique *non peinte* du châssis.
- Pour plus de sécurité, vérifiez périodiquement la valeur de résistance du bracelet antistatique. Elle doit se situer entre 1 et 10 mégohms.
- Si vous devez mettre une carte de côté, assurez-vous de la ranger dans un sac protecteur antistatique.
- Les cartes qui sont reliées à un châssis ou boîtier métallique mis à la terre ne nécessitent pas de protection antistatique spéciale.

Remplacement et élimination des piles

L'appareil renferme une pile. Pour réduire le risque d'explosion, vérifiez la polarité et ne remplacez la pile que par une pile du même type, recommandée par le fabricant. Mettez les piles usagées au rebut conformément aux directives du fabricant. Avant de vous défaire de l'équipement, assurez-vous d'avoir lu l'appendice *Disposal and Recycling Information*.

Précautions pour les écrans LCD et TFT

Regarder l'écran pendant une trop longue période de temps peut nuire à votre vision. Prenez une pause de 10 minutes, après 30 minutes d'utilisation.

Si l'écran LCD ou TFT est brisé, manipulez les fragments de verre avec précaution au moment de vous en débarrasser. veillez à ce que le cristal liquide n'entre pas en contact avec la peau ou la bouche. En cas de contact avec la peau ou les vêtements, laver immédiatement à l'eau savonneuse. Ne jamais ingérer le liquide. La toxicité est extrêmement faible, mais la prudence demeure de mise en tout temps.

Recycling

Visit www.grassvalley.com for recycling information.

Certification and Compliance

Safety Compliance

This equipment complies with the requirements of CSA/UL/IEC/EN 60950-1, 2nd Ed. + AM1, Safety of information technology equipment.

The power cords supplied with this equipment meet the appropriate national standards for the country of destination.

Safety of Laser Modules

This equipment incorporates modules containing Class 1 lasers. These modules are certified by the manufacturer to comply with:

- IEC/EN 60825-1 Safety of laser products
- IEC 60950-1 Safety of information technology equipment

Electromagnetic Compatibility

This equipment has been tested for verification of compliance with FCC Part 15, Subpart B requirements for class A digital devices.

Note: 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.

This equipment has been tested and found to comply with the requirements of the EMC directive 2004/108/EC:

- EN 55022 Class A Radiated and conducted emissions
- EN 61000-3-2 Limits for harmonic current emissions
- EN 61000-3-3 Limitation of voltage fluctuations and flicker
- EN 61000-4-2 Electrostatic discharge immunity
- EN 61000-4-3 Radiated, radio-frequency, electromagnetic field immunity
- EN 61000-4-4 Electrical fast transient immunity
- EN 61000-4-5 Surge transient immunity
- EN 61000-4-6 Conducted disturbances immunity
- EN 61000-4-8 Power frequency magnetic field immunity
- EN 61000-4-11 Voltage dips, short interruptions and voltage variations immunity

1 Introduction

The Intuition XG graphics co-processor significantly extends the graphics and clip playout capabilities of master control switcher systems, like the Imagestore 750 or NV51000MC, by feeding the HD/SD fill/key inputs. It's ideal for playout of the most advanced data-driven, channel branding and promotional graphics, including: "Coming up next" and episodic promos. The Intuition XG provides multi-level character generation plus animation/still and clip playout with multi-channel audio.

The purpose of this Configuration Guide is to provide practical reference and procedural information on how to use the Intuition XG's desktop and remote configuration applications to configure the Intuition XG graphics processing system.

- Intuition XG's Desktop Applications, on page 3
- Remote Configuration of the Intuition XG, on page 13
- Local Configuration of the Intuition XG, on page 21

2 Intuition XG's Desktop Applications

Connecting a VGA monitor, keyboard and mouse to the Intuition XG device's rear panel connectors allows you to view and interact with the Intuition XG's desktop and software applications. Upon startup, the Intuition XG automatically opens its desktop applications, which are used for configuring and controlling the Intuition XG device locally. Once the device is properly configured, these applications are only needed for maintenance. As such, the monitor, keyboard, and mouse can be disconnected.

The following sections describe the Intuition XG's desktop appearance, as well as the various software applications or tools that the Intuition XG makes available through its desktop:

- Intuition XG's desktop - device identification, on page 4
- Intuition XG Control Panel and XG Dashboard, on page 5
- Xplay - Playout control application, on page 6
- Vertigo Command Shell, on page 9
- Windows Explorer, on page 10
- Embedded Xmedia Server Control Panel, on page 10
- XPublish Agent Control Panel, on page 12
- Data Server Control Panel, on page 12

> Note: Although it is not directly an Intuition XG desktop application, the Intuition XG Portal is another software tool that is used to configure and monitor the state of the Intuition XG device from a remote workstation. See Remote Configuration of the Intuition XG, on page 13 for more information.

Intuition XG's desktop - device identification

To easily identify the active device, the Intuition XG's desktop features the Intuition XG logo, as well as identification information related specifically to the Intuition XG device. Specifically, the information presented are:

- The Vertigo Suite software version that the Intuition XG device is currently running
- The host name given to the Intuition XG device
- The IP Address currently assigned to the Intuition XG device
- The date and time at which the Intuition XG device was last started
- Technical Support contact information

Intuition XG Control Panel and XG Dashboard

When the Intuition XG is started, the **Intuition XG Control Panel** is automatically opened on the desktop. The Control Panel is a simple user interface that allows you to quickly reference general information about the Intuition XG device, as well as perform basic tasks for operating the Intuition XG like, loading a scene and launching the XG Dashboard application.

The following tables provides descriptions of the commands and fields on the Intuition XG's Control Panel:

General Information	These read-only fields display information regarding the local host computer that is being used to run/control the Intuition XG device. • **Machine Name**: Name of the host computer. • **IP Address**: The IP address of the host computer. • **Port**: The port number that is dedicated to the Intuition XG. • **WatchDog**: The Watchdog field on the Intuition XG's Control Panel displays a colored LED along with a brief description indicating its status. The possible states for the Intuition XG's Watchdog are: • **Green** - not in bypass • **Yellow** – bypass is active – nothing to render • **Yellow** – bypass is active – user triggered • **Red** – bypass is active – other channel failed • **Red** – bypass is active – D3D error • **Red** – bypass is active – error • **Grey** – Disabled • **Grey** – Ignored
Disconnect button	Promptly closes the connection between the Intuition XG device and the application that it was actively connected to.
File menu	• **Open** - Launches the Open dialog box, allowing you to select and load a scene to the Intuition XG device. The directory that the Open dialog box opens is set in the Publish Path parameter on Dashboard's General page. The default directory location for Intuition XG scenes is `F:\Scene`. Please see XPublish Agent Control Panel, on page 12 for instructions about how to properly set the publish path directories. • **Exit** - Closes the Intuition XG's Control Panel window. See Windows Explorer, on page 10 for instructions on how to reopen a Control Panel if it was accidentally closed.
File menu	• **Open Log File** - Launches the device's current log file in a text editor (Notepad). Note that Logging must be enabled in Dashboard for this menu command to work.
Tools menu	• **Launch Dashboard** - Opens the XG Dashboard, which is an application that allows you to configure the settings and behavior of Vertigo devices, including the Intuition XG. • **Identify** - Displays the device's identity data on its output. When enabled, the machine name, IP address and command port are displayed on the Intuition XG's output. Note that the identity information appears on the output, even if on-air. Therefore, it should be used for diagnostics and troubleshooting tasks only, and then disabled.
Help menu	• **About** - Opens the About VertigoXG dialog box, which displays the software version number of the Vertigo Suite installed on the Intuition XG device.

Xplay - Playout control application

When the Intuition XG is started, the **Xplay** application automatically opens on the desktop. Xplay is the playout control application that the automation system uses to control the playout of video and graphics on the Intuition XG device. The automation system and Xplay communicate with each other using industry standard automation protocols.

The *Xplay User Manual* provides instructions and complete information regarding configuring Xplay. Once Xplay is initially configured, you should not have to interact any further with the Xplay application.

For general information, the following sections provide brief descriptions of the Xplay components and/or settings that are relevant to the interaction of the Xplay with an automation system:

- Device Manager, on page 6
- Automation Configuration, on page 7
- Xplay's Automation settings, on page 8

Device Manager

As the intermediary between the automation system and the Intuition XG device, Xplay must establish a connection directly with the Intuition XG device. This connection is defined by adding the Intuition XG device to Xplay's Device Manager. The Device Manager is accessed by selecting Xplay's **Tools**>**Device Manager** menu command.

Adding the device involves creating a device configuration profile, which contains the following properties:

General tab

- **Device Name**, **Device Alias** and **Description**
- **Device Type**: The device type for Intuition XG devices must always be **XPublishAgent**.
- **Control IP**: The network location (IP address, hostname, or `localhost`) of the selected output device. The host must be available on the network.
- **Control Port**: The networking port that serves as a channel for sending commands to and from the output device.
- **Publish IP**: The network location (IP address, hostname, or `localhost`) of the selected output device. The host must be available on the network.
- **Publish Port**: The networking port that serves as a channel for publishing assets. Typically, this value is set to **15000**.

Advanced tab

- **Clip Template**, **Cel Template**, **Image Template**: The name of the template that is used to play out clips, cel animations, and/or images.
- **External Keyer**: This is an optional setting which allows you to configure the Intuition XG to control a master control switcher (i.e. Imagestore 750) by specifying the master control switcher in the **External Keyer** property. Once the External Keyer settings is applied, an LED for both the Intuition XG and the external keyer device will appear in Xplay's device view keyers that are associated with the Intuition XG.
- **Publish Master**: Must be left empty.

The Device Manager also features a table, which displays the number of device keyers that can be controlled by Xplay. The number of keyers available is determined by the **number of devices setting** in Xplay's **General** settings.

Each device keyer in the table is associated to a device upon which the graphics will be played out. A keyer number is also associated to each device keyer which determines the layer level upon which the graphics will be displayed.

> Note: Instructions and further information about adding devices to Xplay's Device Manager are provided in the *Xplay User Manual*.

Automation Configuration

For the Intuition XG to be controlled by an automation system, the Intuition XG device must be mapped to an automation protocol in Xplay's Automation Configuration window.

> Note: The Intuition XG device must be added to Xplay's Device Manager prior to opening the Automation Configuration window. See page 6 for more information about the Device Manager.

To set or verify Xplay's Automation Configuration settings:

1. In Xplay, select **Tools**>**Automation Configuration**.

   The **Xplay Automation Configuration** window appears.
2. Verify that the Intuition XG device is displayed in the **Device to protocol mappings** list.
3. Verify that the Intuition XG device is mapped to an appropriate protocol by expanding the device's heading in the **Device to protocol mappings** list.

   If the device is properly mapped to a protocol, simply click **OK** or **Cancel** to close the **Xplay Automation Configuration** window.

   However, if the device is not mapped to an automation protocol:

   a. Select the **Add Protocol** button next to the device.

   b. Select a protocol from the drop-down list and press **Enter**.

   c. Verify and set the protocol's properties.

   d. Click **OK**.

Once the Automation Configuration is completed, an automation icon appears in Xplay's Device Views as a visual reminder that automation is configured to control the device associated with that device keyer.

Xplay's Automation settings

Xplay has a series of settings that define its behavior and functionality. Among these settings are a series of **Automation** settings, which are used when Xplay is used by an automation system to control the Intuition XG device.

Xplay's Settings window is accessed by selecting the **Tools**>**Settings** menu command. While each of the Xplay and Automation settings are described in the **Xplay User Manual**, it is worth noting that the **TV Format** should match the TV format of the templates that you build in Xstudio and the **Output Resolution** setting in the Intuition XG's Dashboard.

Vertigo Command Shell

When the Intuition XG device is started, the **Vertigo Command Shell** window automatically opens on the desktop. The Vertigo Command Shell window allows you to perform some basic command tasks like opening Windows Explorer and shutdown/reboot the Intuition XG device.

The following table identifies the commands that can be typed into the Vertigo Command Shell and the actions that are performed:

H	Provides a quick listing of the commands that can typed in the Vertigo Command Shell (the same as listed below).
Explorer	Opens Windows Explorer, which allows you to navigate through the Intuition XG device's drive directories. See Windows Explorer, on page 10 for more information of when to use Windows Explorer on the Intuition XG device.
taskmgr	Opens the Windows Task Manager, which allows you to monitor the status and performance of the Intuition XG device, as well as its applications and processes.
shutdown -f -s t 0.... -t	Closes the Intuition XG applications and powers off the Intuition XG device.
reboot	Restarts the Intuition XG device and its applications.
XMS	Opens the Xmedia Server Control Panel.
XPA	Opens the Xpublish Agent Control Panel.
XDS	Opens the Data Server Control Panel.
SQL	Opens SQL Management Studio Express.
RAID	Opens the Intel RAID management software.

Reopening the Vertigo Command Shell window

If ever the Vertigo Command Shell window is closed by accident, you can reopen the window by performing the following procedure:

1. Press CTRL + SHIFT + ESC
   The Windows Task Manager opens.
2. Select the **File>New Task (Run...)** command.
   The **Create New Task** dialog box appears.
3. Type `cmd` in the **Open** text box and click **OK**.
4. The **Vertigo Command Shell** window opens on the desktop.

Windows Explorer

Since Intuition XG's desktop does not contain any icons or shortcuts, therefore you may need to access Windows Explorer to navigate through your system.

When Windows Explorer is open, you can type the following system shortcuts in the address bar to access directories relevant to Intuition XG and its applications:

%vxm%	A shortcut to the directory that contains the **Logs** folder, which contains the Vertigo log files. See page 43 for more information about logging. `C:\Documents and Settings\All Users\Application Data\VertigoXmedia\Logs`
%vxapps%	A shortcut to the Vertigo Apps directory, which contains files related to the Vertigo Suite applications. `C:\Program Files\VertigoXmedia\Apps`
c:\Vertigo	Opens the directory that contains shortcuts to the executable file for the Intuition XG Control Panel and Xplay application. If you accidently close the Xplay window or the Intuition XG Control Panel on the desktop, you can use this directory to access the shortcuts and restart the applications.

You can also use Windows Explorer to navigate to the Windows **Control Panel** directory, which contains three (3) important Vertigo applications:

- **VertigoXmedia XmediaServer** - Embedded Xmedia Server Control Panel, on page 10
- **VertigoXmedia XPublishAgent** - XPublish Agent Control Panel, on page 12
- **VertigoXmedia Data Server** - Data Server Control Panel, on page 12

Embedded Xmedia Server Control Panel

The Intuition XG contains an Embedded Xmedia Server (EXMS), which acts as a local asset database, as well as offering various services to the Intuition XG.

The user interface for configuring and controlling the Embedded Xmedia Server is the **Embedded Xmedia Server (EXMS) Control Panel**. The EXMS Control Panel features eleven (11) tabbed pages that contain parameters and settings related to the configuration and functioning of the Embedded Xmedia Server.

To open the EXMS Control Panel window, open Windows Explorer (see page 10) and navigate to **Control Panel**>**VertigoXmedia Xmedia Server**.

> Note: Since all of the Vertigo applications are running locally on the Intuition XG (e.g. Xplay), they connect to the EXMS by specifying `localhost` as their **XMedia Server IP Address**.

Listed below are a sampling of the EXMS Control Panels tabbed pages, which are of particular interest when configuring Intuition XG devices:

General

The **General** page provides a quick view of the EXMS's product information like version and paths for the executable and working folder.

The **Directories Configuration** properties allow you to specify and view the Embedded Xmedia Server's communication port and the full directory paths where the EXMS stores or retrieves information from.

The Authorization Manager Configuration section allows you to configure, enable, or disable the Vertigo Suite's User Rights Management.

Service Control

In most cases, the EXMS service is set to automatically launch and run in the background when the Intuition XG is powered up.

At times, the service may need to be stopped and restarted, either manually or as the result of a failure in the system. Therefore, the EXMS Control Panel's Service Control page provides you with buttons and settings for stopping and restarting the EXMS service.

Publishing

The EXMS facilitates the publishing of assets from a central or stand-alone Xmedia Server to the device using server propagation operations (XMS > EXMS > XPublishAgent > device).

The Publishing page contains the following parameters:

- **Central XMS IP Override**: The IP address of the central or stand-alone Xmedia Server device that the EXMS will be receiving the assets from.
- **Insta-publish device enable**: This setting is enabled by default on Intuition XG devices to ensure the publishing of assets from the central XMS to the Intuition XG device.
- **Reload publish queue on startup**: This setting allows the Publish Request list to be populated with the current publish queue items when the EXMS service is started.

OxSox

The **OxSox Server Settings** are enabled by default on all Intuition XG devices, which makes the Oxsox protocol available for legacy Oxtel media browsers to browse/push assets (e.g. PresStation).

- **Enable OXSOX**: Enabled by default on Intuition XG devices.
- **Incoming connections port**: The port `(5001)` that the EXMS dedicates for communicating with the OxSox softwares.
- **Enable all categories**: Enabling all categories allows the EXMS to reflect all of the assets in its database regardless of category as a flat list, thereby emulating the Intuition and ImageStore. When disabled, the EXMS only reflects the assets stored in the asset type root categories.

XFTP

The XFTP service allows assets to be moved from the central of stand-alone Xmedia Server to the EXMS without a direct TCP connection. The technique involves first publishing the assets to an FTP device. Then the content can be ingested from the FTP device onto the EXMS. Throughout this procedure, the assetIDs, categorization and other metadata are completely preserved.

XPublish Agent Control Panel

Assets are moved from the central Xmedia Server to the Intuition XG device in a process referred to as publishing. The XPublish Agent (XPA) is a special service on the Intuition XG device, which is responsible for receiving and processing the publish requests and making the media available to the Intuition XG.

To open the XPublish Agent Control Panel window, open Windows Explorer (see page 10) and navigate to **Control Panel**>**VertigoXmedia XPublishAgent**.

The XPA service's **Base Path** setting controls where media is stored on the recipient Intuition XG device. The **Base Path** setting must match the **Publish Path** setting on the XG Dashboard, which determines where the Intuition XG rendering engine expects to find the assets on the central Xmedia Server. The default directory for Intuition XG devices is `F:\Scene`, on both the XPublish Agent and Dashboard. It is recommended that you verify that these settings match.

Data Server Control Panel

The Data Server is a service that runs in the background on the Embedded Xmedia Server and is responsible for managing data coming from various feeds by providing live updates of data values when requested, and distributing the data to the appropriate recipients.

The **Data Server Control Panel** (VertigoXmedia Data Server Option window) is the user interface that is used to configure and control the Data Server service. You can open the Data Server Control Panel by opening Windows Explorer (see page 10) and navigating to **Control Panel**>**VertigoXmedia Data Server**.

The Data Server Control Panel features three (3) tabbed pages that contain parameters for configuring the connection, metadata, and logging options, as well as stopping and starting the Data Server service.

3 Remote Configuration of the Intuition XG

The **Intuition XG Portal** is a web server interface that provides you with remote access to information about a specific Intuition XG device's settings and operation. You can also use the Intuition XG Portal to perform some basic configuration and control tasks, like change the network settings or shutdown/restart the device.

The following sections describe the Intuition XG Portal's features, as well as how to use the Portal's menu commands to interact with the Intuition XG device:

- Accessing and logging into the Intuition XG Portal, on page 14
- Overview of the Intuition XG Portal's menu commands, on page 15
- Remotely shutting down the Intuition XG device, on page 16
- Restarting the Intuition XG device remotely, on page 17
- Viewing the processes running on the Intuition XG device, on page 18
- Configuring Intuition XG's network settings, on page 19
- Specifying the Intuition XG device's hostname, on page 20
- Specifying the Intuition XG device's Date & Time settings, on page 20
- Logging off of the Intuition XG Portal, on page 20

Accessing and logging into the Intuition XG Portal

Once the Intuition XG device is running and is properly connected to the LAN, you can access the Intuition XG Portal from any client workstation that is connected to the network using a standard graphical web browser, like Internet Explorer.

> Note: As a prerequisite to using the Intuition XG Portal, you must know that Intuition XG devices IP address. Contact your network administrator for the device's IP address, or take note of it from the Intuition XG Control Panel (see page 5).

To access and log into the Intuition XG Portal:

1. Open a web browser (e.g. Internet Explorer) on a client workstation that is connected to the same local network as the Intuition XG device.
2. Type the IP address or hostname of the Intuition XG device into the address bar of the web browser (e.g. `http://10.0.4.245` or `http://xg-embedded3`) and press **Enter**.

   The Intuition XG Portal's **Login** page appears.

   > Note: If the Intuition XG Portal's **Login** page does not appear, verify the IP address in the web browser's address bar for typographical errors. Other reasons that it might not appear are that the Intuition XG device is not running, that it is not properly connected to the network, or the network is down.

3. Log into the application by typing `vertigo` in the **Password** text box and clicking the **Login** button.

   The **Intuition XG Portal** Home page appears.
4. Choose from among the menu bar to perform the various functions. See page 14 for descriptions of each of the menu commands.

   > Note: Please ensure that you log out when you are finished to prevent any unauthorized access to these configuration pages. See page 20 for instructions on how to log off.

Overview of the Intuition XG Portal's menu commands

With the exception of the **Login** page, the **Intuition XG Portal** always features a menu bar in the top banner that allows you to navigate through the application.

The five menus at the top of the Intuition XG Portal provide access to commands and/or actions that allow you to view information about the device, configure settings, and/or perform some basic control actions. The following list identifies the function of each of the menus and their associated commands:

Home	Returns the Intuition XG Portal immediately to its home page, which displays the following information: • **Software version**: The version of the Vertigo Suite that the device is currently running. • **Host name**: The host name that is currently assigned to the Intuition XG device. To change to host name, select Setup>Hostname Setup from the menu bar. • **IP Address**: The IP Address that is currently assigned to the Intuition XG device. To change to IP Address, select Setup>Network Setup from the menu bar (see page 19 for more information).
Maintenance	The **Maintenance** menu features the following commands that allow you to perform a soft shutdown or restart the Intuition XG device remotely. • **System restart**: Allows you to restart the Intuition XG remotely from a workstation. See page 17 for more information. • **System shutdown**: Allows you to shutdown the Intuition XG remotely from a workstation. See page 16 for more information.
Diagnostics	The **Diagnostics** menu features the following commands: • **Running processes**: Allows you to view a listing of the processes currently running on the Intuition XG device. See page 18 for more information. • **Diagnostic zip file**: Currently not supported. Gathers log files, configuration files and registry settings that are related to the device. This data is a zipped into a file, which can be saved or viewed immediately.
Setup	The **Setup** menu features the following commands that allow you to edit the Intuition XG device's current network, host name, and Date/Time settings using a remote workstation. • **Network setup**: Allows you to configure the network settings of the Intuition XG device, including the IP Address, Subnet Mask, and Default Gateway. See page 19 for more information. • **Hostname setup**: Allows you to assign a new host name for the Intuition XG device. See page 19 for more information. • **Time setup**: Allows you to configure the date and time (clock) belonging to the Intuition XG device. See page 20 for more information.
Logout	Immediately logs you off from the current session and returns the Intuition XG Portal to the Login page. See page 20 for more information.

Remotely shutting down the Intuition XG device

The Intuition XG Portal allows you to shutdown of the Intuition XG device from a remote workstation using the **Maintenance** menu's **Shutdown System** command.

To shutdown the Intuition XG device using the Intuition XG Portal:

1. Log into the Intuition XG's Portal.
2. Select the **Maintenance>System Shutdown** command.
   The Portal's **System Shutdown** page appear).
3. Click the **Shutdown** button to shut down the Intuition XG device.
   A window appears asking you to confirm that you want to shut down the device.
4. Click **OK** to shut down the device, or click **Cancel** to keep the device running.

> Note: The Intuition XG device must be running for the Intuition XG Portal to be available. Therefore, once the Intuition XG device is shutdown, you can no longer use the Intuition XG Portal to configure or restart the device.

Restarting the Intuition XG device remotely

The Intuition XG Portal allows you to restart an actively running Intuition XG device from a remote workstation using the **Restart System** command in the **Maintenance** menu.

> Note: The Intuition XG device must be operating for the Intuition XG Portal to be available. Therefore, once the Intuition XG device is shutdown, you can no longer use the Intuition XG Portal to configure or restart the device.

To restart the Intuition XG device using the Intuition XG Portal:

1. Log into the Intuition XG's Portal.
2. Select the **Maintenance**>**System Restart** command.

   The Portal's **System Restart** page appears.
3. Click the **Restart** button to restart down the Intuition XG device.

   A window appears asking you to confirm that you want to restart the device.
4. Click **OK** to restart the device.

   The Portal immediately returns to the Intuition XG Portal's **Login** page.

   Give the machine sufficient time to complete the reboot process and then log back into the system (see page 14).

Viewing the processes running on the Intuition XG device

The Intuition XG Portal allows you to view and monitor (in real time), a comprehensive list of the processes that are currently running on the Intuition XG device. Like the **Processes** tab in the Windows Task Manager, the Portal's Processes page reports and measures each process' status and performance.

> Note: The Portal's **Processes** list is read-only and is intended for consultation purposes only. You cannot interact in any way with the list of processes from this interface.

To view a list of the processes currently running on the Intuition XG device:

1. Log into the Intuition XG's Portal.
2. Select the **Diagnostics>Running Processes** command.

   The Portal's **Processes** page appears and lists all of the processes that are currently running on the Intuition XG device. Each process is list in a table that contains the following column categories, which report back information in real-time:

Image Name	The name of the process.
PID	Process Identifier: A unique number assigned to the process to help identify it while it runs.
Mem Usage	The amount of main memory, in kilobytes, used by the process.
User Name	The user account under which the process is running.
CPU Time	The total processor time, in seconds, used by the process since it was started.

Configuring Intuition XG's network settings

The Intuition XG Portal allows you to conveniently configure the Intuition XG device's network settings from a remote workstation. The Portal's **Network Setup** page allows you to change the following settings: **IP Address**, **Subnet Mask**, and **Default Gateway**.

We recommend that a static IP address be assigned to the Intuition XG device when it is originally installed and configured. In some cases, however, the Intuition XG device may have been originally configured using DHCP. If so, the Network Setup page will display the following warning:

```
This Intuition XG is currently configured to obtain IP addresses
automatically using DHCP. Using DHCP is not recommended.
```

Since using DHCP is not recommended, we ask that you enter a new IP address on the Network Setup page, which will immediately assign a static IP Address to the Intuition XG device.

> Note: Changing the IP address will require that you reconfigure the Device settings for this Intuition XG device on the central Xmedia Server.

To change the Intuition XG device's network settings:

1. Log into the Intuition XG's Portal.
2. Select the **Setup>Network Setup** command.

   The Portal's **Network Setup** page appears.
3. To change the **IP Address**, **Subnet Mask**, and/or **Default Gateway** values, type the new value in the corresponding text box.
4. Click the **Apply** button.

   A window appears asking you to confirm that you want to change the IP Address
5. Click **OK** to apply the new IP Address, or click **Cancel** to keep the previous hostname.

> Note: The Intuition XG device does not have to be restarted for these settings to be applied. However, the next time you access the Intuition XG Portal, you will use the new IP Address in the web browser's address bar.

Specifying the Intuition XG device's hostname

The Intuition XG Portal allows you to conveniently change the Intuition XG device's hostname from a remote workstation.
Note:Changing the hostname requires that the Intuition XG device be immediately restarted for the change to be applied.**To change the Intuition XG device's hostname:**

1. Log into the Intuition XG's Portal.
2. Select the **Setup**>**Hostname Setup** command.

   The Portal's **Hostname Setup** page appears with the current hostname value displayed in the Hostname text box.
3. Type the new hostname in the text box and click the **Apply** button.

   A window appears asking you to confirm that you want to change the hostname.
4. Click **OK** to apply the new hostname. The Intuition XG device will now automatically perform a restart. Or, click **Cancel** to keep the previous hostname.

Specifying the Intuition XG device's Date & Time settings

The Intuition XG Portal allows you to conveniently change the Intuition XG device's date and time settings.

> Note: Any change to the **Time** setting will not take effect if a timecode card is installed.

To change the Intuition XG device's Date and/or Time settings:

1. Log into the Intuition XG's Portal.
2. Select the **Setup**>**Time Setup** command.

   The Portal's **Time Setup** page appears and displays the following fields and information: **Date**, **Time**, and **Current Time**.
3. Use the drop-down lists in the **Date** and **Time** fields to select the new date and time values.
4. Click the **Apply** button.

Logging off of the Intuition XG Portal

To prevent any unauthorized access to the Intuition XG Portal's configuration pages, we highly recommend that you log out when you are finished your session.

To log out of the Intuition XG Portal:

- Click the **Logout** menu command.

The Intuition XG Portal immediately returns to its **Login** page and your session has securely been terminated.

4 Local Configuration of the Intuition XG

Dashboard is an application that allows you to configure the settings and behavior of the Vertigo hardware devices (Vertigo XG or Intuition XG) and software CG that are currently running on your network. The Dashboard application simplifies the configuration process by offering a series of pages containing the parameters that control how video and audio processed, rendered and output by the device.

> Note: Most Intuition XG devices are installed and configured by qualified network administrators or Grass Valley's Integration Specialists using the Dashboard software interface. Changing these settings may result in undesirable behaviors or hinder the performance of the Intuition XG device. Therefore, we recommend that you use caution should you change any of the Intuition XG settings.

The following topics aim to further explain the function of Dashboard, as well as familiarize you with the various parts of Dashboard's interface:

- About the Dashboard, on page 22
- Starting Dashboard, on page 22
- An overview of the Dashboard's interface components, on page 23
- Dashboard's menus and buttons, on page 24
- Device List, on page 25
- Device Profile page, on page 30
- Device Settings tabs and configuration pages, on page 32
- Device Discovery Tool, on page 28
- Audio Mixing Profiles dialog box, on page 53

> Note: Dashboard is a common interface that is used to configure Intuition XG, Vertigo XG, and software CG devices.

About the Dashboard

Dashboard is an application that allows you to modify the settings and behavior of Vertigo devices.

One of the first things that Dashboard does is perform a device discovery, which searches your local machine and/or your network for all active Vertigo devices (i.e. Intuition XG or Vertigo XG) and then lists them on Dashboard's Device List. Using the Device Discovery Tool, Dashboard allows you to configure the device discovery's search parameters resulting in a more focused search for a particular device, or a broader search to reveal more devices. See Device Discovery Tool, on page 28 for more details.

Once the devices are listed and active in the device table, you can select a device from the list to display to view and configure the device's settings. Dashboard can display a device's settings in two (2) modes: **Simple** or **Advanced**.

When the **Setting Mode** is set to **Simple**, a selection of the device's properties and important settings are displayed on the Device Profile page below the Device List. This information can be useful to identify the device's configuration, as well as for troubleshooting problems.

Changing the **Setting Mode** from **Simple** to **Advanced** replaces the device's profile information with a series of settings tabs that provide access to the device's configuration pages. Each of the eight (8) configuration tabs exposes the parameters and settings for the selected device.

A description of each page and their parameters/settings is provided in Device Settings tabs and configuration pages, on page 32. These descriptions generally state what the parameter is and informs you of what should be taken into consideration when changing the default settings.

Selecting the various pages allows you to edit the device's settings to build your desired configuration. You can apply the changes immediately to the device (see Device settings buttons, on page 32). Note that some settings required the device to be restarted in Dashboard's Device List for the changes to be applied (see Restarting a device in the device list, on page 26).

Starting Dashboard

The Dashboard application can be started by selecting the **Tools>Launch Dashboard** command on the Intuition XG device's Control Panel.

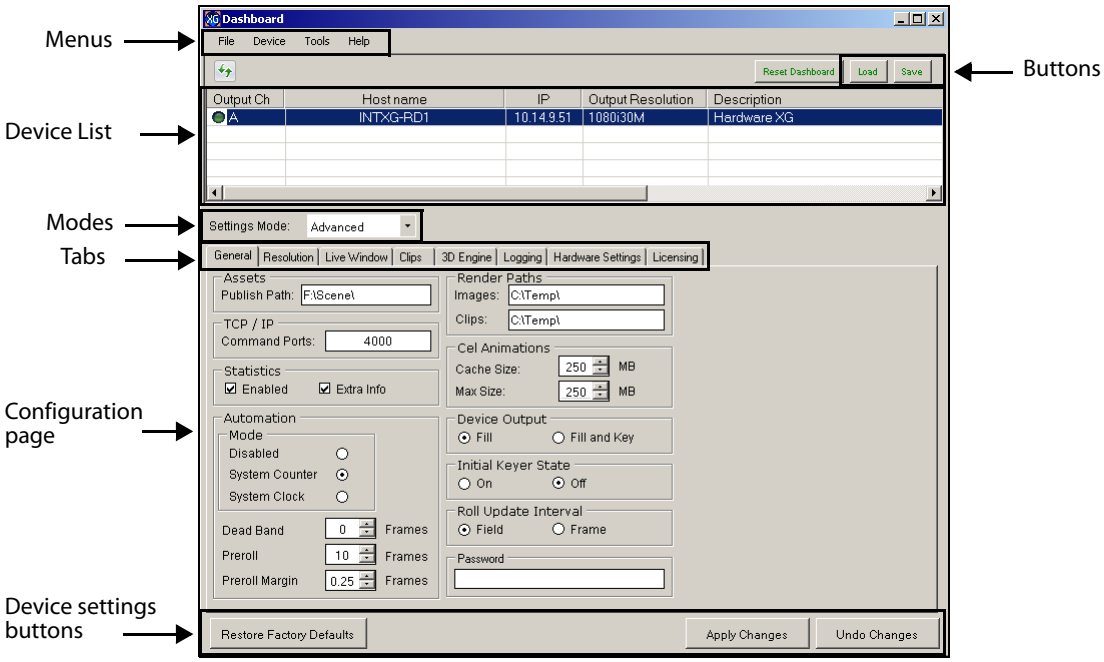
Alternatively, the Dashboard application can also be started independently by navigating through Windows Explorer to the **Dashboard.exe** file that is stored in the following directory on the host computer: `C:\Program Files\VertigoXmedia\Apps\`. See page 10 for a shortcut to the Apps folder.

An overview of the Dashboard's interface components

Dashboard is a graphical interface that consists of a series of tabbed pages containing the parameters and settings for the Vertigo devices on the network.

The following sections describe the various components that make up Dashboard's interface:

- Dashboard's menus and buttons, on page 24
- Device List, on page 25
- Device Discovery Tool, on page 28
- Device Profile page, on page 30
- Device Settings tabs and configuration pages, on page 32
- Audio Mixing Profiles dialog box, on page 53



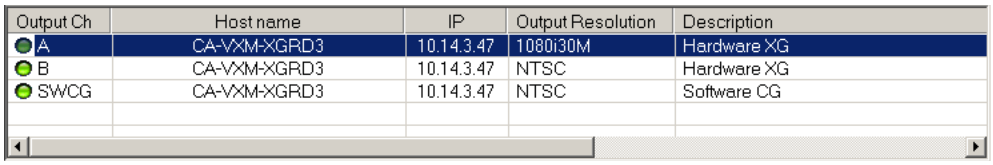
Dashboard's menus and buttons

The following tables describe the actions that are performed by Dashboard's menu commands and buttons:

File menu	• **Load Device List** : Clears the Device List and repopulates it using the saved list of devices stored on disk from a previous session. When Dashboard starts up, it automatically performs a load to populate the device list. If the saved device list is empty, Dashboard performs a scan to detect any new devices. Note that this is the same type of scan action as clicking the refresh button. • **Save Device List** : Saves all the devices already in the Device List to a file on the disk, so that Dashboard avoids having to detect devices every time it is run. See also the Exit command and Save Device List on Exit, on page 28. • **Exit:** Closes the Dashboard application. The first time you exit Dashboard, the Auto-Save on Exit dialog box appears before the application closes and asks you if you want to automatically save the device list. Click Yes to save the device list and close Dashboard, or No to simply close Dashboard. During subsequent exits the Auto-Save on Exit dialog box will not appear. If you would like to save the device list, however, you can use the File menu's "Save Device List" command, or select "Save List on Exit" on the Device Discovery Tool.
Device menu	• **Refresh Device List** : Updates the Device List by launching a search for available Vertigo devices using the Device Discovery settings specified in the Device Discovery Tool dialog box. • **Restart Device**: Restarts the Vertigo device that is selected in the Device List. The device may need to be restarted to have certain settings take effect when you are configuring the device. When these settings are changed, Dashboard automatically prompts you with a dialog box asking if you want to restart the device immediately when the settings are changed. If you would rather restart the device at a later time, refuse Dashboard's request and use the Restart Device command later when you are ready to restart the device. • **Monitor Device Status:** When selected, it will query all the devices in the Device List to see if the status has changed. For example, active devices have become inactive, or inactive devices have become active. Note that the interval between polling can be changed using the Refresh Rate parameter on Device Discovery Tool. • **Identify Device Output:** When enabled, the machine name, IP address and command port are displayed on the Intuition XG's output. Since the identity information appears on the output, even if on-air, it should only be used for diagnostics and troubleshooting tasks.
Tools menu	**Settings > Device Discovery:** Opens the Device Discovery Tool, which is used to set the method that will be used to detect available devices, whether they are local or remote (on the network).
Help menu	Opens the **About XG Dashboard** dialog box, which displays the Dashboard product information, including the version number.

Device List

The Device List identifies the Vertigo devices that were found on the host machine (local) and/or on the network when a device discovery search is performed.



Output Ch	Host name	IP	Output Resolution	Description
A	CA-VXM-XGRD3	10.14.3.47	1080i30M	Hardware XG
B	CA-VXM-XGRD3	10.14.3.47	NTSC	Hardware XG
SWCG	CA-VXM-XGRD3	10.14.3.47	NTSC	Software CG

Depending upon which **Settings Mode** is selected, Dashboard displays either the Device Profile page or the configuration pages for the selected device.

The following table provides a description for each of the columns in the Device List and the topics listed below describe the tasks that you can perform using the Device List.

- Loading and refreshing the device list, on page 26
- Saving the device list, on page 26
- Restarting a device in the device list, on page 26
- Monitoring the status of a device, on page 27
- Removing a device from the device list, on page 27

Output Channel	Displays the name of the output channel for the Vertigo device. Typically, this is A or B. Note: If the device is a Vertigo software CG, this field always displays "SWCG" as the output channel. A green or red light is displayed next to the output channel name, which indicates the state of the device. The green light indicates that the device is active, connected to Dashboard, and ready to accept commands. The red light indicates that the device is not active and no connection has been established by Dashboard. Therefore, you need to start the device and connect it to Dashboard through the host computer or the network.
Host Name	Displays the name of the host computer.
IP	Displays the IP address of the device.
Output Resolution	Displays the setting of the output rendering resolution as specified on the device's Device Profile page or the Resolution page.
Description	Displays whether the device is a Software CG (Software-based rendering and preview application) or a hardware XG (hardware-based renderer and production device). Also, displays connection error messages (e.g. `Failed to Open Socket`).

Loading and refreshing the device list

The mechanism used to find and list devices on Dashboard 's Device List is a tool called the Device Discovery Tool. As described on page 28, the Device Discovery tool allows you to select between two methods of searching for Vertigo devices: automatic or manual.

Upon starting, Dashboard automatically begins a device discovery to locate the available Vertigo devices and then lists them on the Dashboard's Device List.

You can set the method used during the device discovery anytime, by accessing the Device Discovery tool from Dashboard's **Tools>Settings** menu (see page 28 for instructions).

Use the Device menu's **Refresh Device List** command, or the **Refresh** button , to update the device list at anytime. This action starts a device discovery that scans the local machine and/or network and updates the status of the devices already listed and adds any newly found devices.

Devices that are actively connected and ready to be used with Dashboard are indicated in the Device List with a green light next to their name, while inactive devices have a red light. When a device discovery is performed and the list is refreshed, the status of the listed devices is also updated. An inactive device means that it is not in communication with Dashboard, perhaps because the device is turned off, it has crashed, or the network is down. If the device has crashed, you can restart it using Dashboard's **Restart Device** command (see Restarting a device in the device list, on page 26). When the device is active again, performing a refresh of the device list will return its status to a green light.

Saving the device list

Upon starting, Dashboard automatically begins a device discovery to locate the available Vertigo devices and then lists them on the Dashboard's Device List. This initial device list can be saved, so that the next time Dashboard performs a device discovery (refresh), it only has to update the status of the listed devices rather than searching for them again.

Use the File menu's **Save Device List** command, or the **Save** button, to save the device list. If you do not save the device list before exiting Dashboard, the application asks you if you would like to save the device list before exiting. This prompt only happens the first time you exit Dashboard after installation.

As an alternative to manually saving the device list, you can use the Device Discovery tool's **Auto-Save Device List on Exit** parameter to automatically save the device list when you exit the Dashboard application.

Restarting a device in the device list

During configuration, there are some device parameters that require that the Vertigo device to be restarted before the new settings can take effect. When these settings are changed, Dashboard automatically prompts you with a dialog box asking if you want to restart the device immediately. If you would rather restart the device at a later time, decline Dashboard's request and use the Device menu's **Restart Device** command when you are ready to restart the device.

Another use for the Restart Device command is to re-activate a device from the Device List that has become inactive (red light) because the device crashed. The **Restart Device**

command performs a remote restart of the device, which may resolve the issue and return the device to an active state (green light) after performing a refresh of the device list.

Monitoring the status of a device

The status of a Vertigo device is reported in the Device List by a green (active) or red (inactive) light next to its name. You can monitor the status of a device by activating the Device menu's **Monitor Device Status** command, which uses the **Refresh Rate** setting on the Device Discovery tool to determine at what frequency to update the device's status on the device list.

To monitor the status of a Vertigo device listed in the Dashboard Device List:

1. Select the device in the Device List.
2. Launch the Device Discover tool by selecting **Tools** > **Settings** > **Device Discovery**.
3. Set the Device Monitoring's Refresh Rate parameter to the desired frequency interval. For example, a setting of 10, checks the status every 10 seconds.
4. Click **OK**.
5. Select the **Monitor Device Status** command in the **Device** menu.

Removing a device from the device list

If the device list has previously been saved, it will list all of the Vertigo devices found and updated from the previous device discovery, including Vertigo devices that are active, inactive, local, and/or networked.

There may be times when you want to limit the devices displayed in the device list to a particular few. If this is the case, you can tailor the device list by removing any unwanted devices from the device list.

To remove a device from the device list:

1. Right-click on the device in the device list that you want to remove.
2. Select the **Remove Device** command.

Device Discovery Tool

The Dashboard Device Discovery tool allows you to set the method to be used to detect the Vertigo devices that are local to your machine or on your network. Once the devices are located, Dashboard lists them on the Device List, which allows you to view and edit the device's settings.

The Device Discovery tool is accessed by selecting Dashboard's **Tools** > **Settings** > **Device Discovery** menu command.

One of the first things that Dashboard does on start up is use the Device Discovery tool to perform a device discovery. A device discovery performs a search of your local machine and/or your network for all of the active Vertigo devices that are able to connect to Dashboard and then lists them on Dashboard's Device List. Selecting a device from the Device List displays the Device Profile page or the Device configuration pages depending upon the Settings Mode.

The following table provides a description for each of the fields on the Device Discovery dialog box and the topics listed below describe the tasks that two methods that you can use to perform the device discovery.

- Performing a Manual Device Discovery, on page 29
- Performing an Automatic Device Discovery, on page 29

Manual	**Port Information** • **Starting Port**: Specifies the port number to use as the starting point for searching for devices. • **Ports to scan**: Specifies the number of ports to scan starting at the port number specified in the Starting Port. **IP Information** Displays a list of IP addresses to scan to detect Vertigo devices. The IP address is that of the machine that the device is running on. You can get this IP address either by typing `IPConfig` on the command prompt, or by using the IP address listed on the Vertigo device's software's dialog box. • **Add**: Enter a specific IP address that you suspect the device to be using. • **Sort**: Arranges the IP addresses added to the IP information list in descending numerical order. • **Remove**: Removes the selected IP address from the IP Information list.
Automatic	The device discovery's automatic mode performs a thorough search for all of the Vertigo devices on your local machine or on your network. • **Only Scan Local Machine**: Rather than searching for all of the Vertigo devices on your network, this setting limits the search to finding all the Vertigo devices connected/on your local machine. • **Time out**: Sets a time limit at which to stop the search for devices. The default value is 5 seconds.
Device Monitoring	**Refresh Rate**: Sets the frequency (in seconds) at which to poll the devices to see if they are active or inactive. The default value is 10 seconds. See Monitoring the status of a device, on page 27 for more information.
Save Device List on Exit	The Save Device List on Exit automatically saves the device list when you exit Dashboard. By default this parameter is not enabled. See Saving the device list, on page 26 for more information.

Performing a Manual Device Discovery

The Device Discovery's manual mode allows you to focus your device search by limiting the search to particular port and IP limits. The search begins scanning for devices from the port number specified and then each sequential port up as specified by the Ports to Scan value.

It is recommended that you use the manual method if you are wanting to configure a particular Vertigo device and you know roughly, or even exactly, where the device is located on the network using its port and IP address information.

To perform a manual device discovery:

1. Open the Device Discovery tool by selecting **Tools** > **Settings** > **Device Discovery**.
2. Set the **Device Discovery method** in the device discovery tool.
   a. Select the **Manual** Discovery Method.
   b. Set the **Starting Port** parameter by typing in the port number that you suspect the device to be using for the Vertigo device.
   c. Set the **Ports To Scan** parameter.
   d. Verify that the appropriate IP address appears in the IP Information list (see IP Information in the table above).
   If the desired IP address does not exist, type the IP address digits in the **Add** text box and click the **Add** button. Be sure to pay close attention to the dot separators when typing the IP Address.
   e. Click **OK**.
3. Start the device discovery process by clicking the **Refresh** button .
   Dashboard will start scanning the specified IP addresses and ports for any available Vertigo devices. Dashboard then automatically updates the Device List.

Performing an Automatic Device Discovery

The automatic method of performing a device discovery provides you with the options of scanning only your local machine for an active Vertigo device, or to scan the network within a specified time out period.

To perform an automatic device discovery:

1. Open the Device Discovery tool.
   Tools > **Settings** > **Device Discovery**
2. Set the Device Discovery method in the device discovery tool.
   a. Select the **Automatic** Discovery Method.
   b. Disable the **Only Scan Local Machine** parameter.
   c. Click **OK**.
3. Refresh the Device List by clicking the **Refresh** button .
   Dashboard will start scanning the network and the local machine for any available Vertigo devices. Dashboard then automatically updates the Device List. Select the desired device from the Device List. If the desired device has a green light in the Output Channel column, continue to the next phase in the configuration procedure.

If, however, the desired device is still not listed on the Device List, or if the device is listed, but has a red light in the Output Channel column, you will have to verify the status of the device (on/off), as well as the status of the network.

Device Profile page

The Device Profile page appears below Dashboard's Device List when the **Settings Mode** is set to **Simple** and a device is selected from the Device List. The Device Profile page provides a brief summary of some of the device and system's settings that may be relevant when operating or troubleshooting the system.

The following table describes each of the fields that are displayed on the Device Profile page for Vertigo devices:

General	• **Device Name**: The name given by the last connecting application. Such as Xplay or Xstudio. • **Device Type:** Displays the Vertigo device type, either Hardware XG or Software CG.
Version	• **Application Version**: Displays the software version of Vertigo device. • **DSX.utils version**: Displays the version of the driver used inside the Vertigo device.
Graphics	• **Card Type**: Identifies the type of graphics card used by the Vertigo device. This information is useful when troubleshooting the Vertigo device as some functionality might depend upon the type of graphics card used. • **Memory Use**: Displays the total amount of memory being used by the graphics card, including host and onboard.
Ports	• **Application Port:** Displays the communication port used between the Dashboard application and the selected Vertigo device. • **Command Port:** The communications port used by the Vertigo device for command and control by applications, such as Xstudio or Xplay. To edit this setting, select the Display Settings Tab and edit the Command Port field.
Output	• **Resolution**: Allows you to set the resolution format that is used for processing within the Vertigo device. You can set the output Resolution either in this field or in the Outputs Resolution field on the Advanced>Resolution page (page 36). • **Channel**: Specifies the output channel used by the Vertigo device. The available output channels are determined by the installed hardware. You can set the Output Channel either in this field or in the Outputs Channels field on the Hardware Settings>Video page (page 46).

Mode	The Mode setting specifies the processing mode of the Vertigo device.
	• **UpStream**: When UpStream mode is enabled, the device is configured as follows:
	  • There is no video input.
	  • The device outputs both a fill and key signal.
	  • The Watch Dog is enabled.
	  • The Watch Dog key signal is transparent.
	• **DownStream**: When in Downstream mode is enabled, the device is configured as follows:
	  • The device processes video input and the input channel matches the output channel.
	  • The device outputs only a fill signal.
	  • The Watch Dog is enabled.
	  • The Watch Dog key signal is transparent.
	• **Advanced**: When this read-only field is enabled, it indicates that the device has been configured through the Advanced setting mode so that its settings do not match the Upstream of Downstream settings.

Genlock	This setting controls the sync of the Vertigo device. It is a simplified view of the **Advance>Hardware settings>Genlock page**. • **Source**: Specifies the source of the Genlock signal. Choose from the following settings: Internal, Blackburst, VideoIn A, or VideoIn B (assuming the hardware contains inputs). • **Resolution**: Specifies the resolution of the Genlock signal. The Resolution can also be set on the Hardware Settings>GenLock page (page 28). • **Status**: Reports the status of the Genlock signal (i.e. the Intuition XG has locked onto the signal). The Status can also be set on the Hardware Settings>GenLock page (page 28).

Device Settings tabs and configuration pages

Selecting **Advanced** from the **Settings Mode** drop-down list produces a series of eight (8) tabs that display thematic pages of parameters and settings that allow you to configure the selected device.

> Note: The seventh page is dynamic, meaning that when the selected device is a hardware XG, the seventh tab is labelled **Hardware Settings**; however when the selected device is a software CG the seventh tab is labelled **Audio & Video**.

The following topics describes each of the parameters and settings on the device's configuration pages:

- Device settings buttons, on page 32
- General page, on page 33
- Resolution page, on page 36
- Live Window page, on page 38
- Clips page, on page 39
- 3D Engine page, on page 41
- Logging page, on page 43
- Hardware Settings > Genlock page, on page 44
- Hardware Settings > Video page, on page 46
- Hardware Settings > Audio page, on page 48
- Hardware Settings > Ancillary page, on page 49
- Hardware Settings > Watch Dog page, on page 51
- Licensing page, on page 52

Device settings buttons

When Dashboard is in **Advanced** Settings Mode, selecting the tabs exposes the device's configuration pages, which allows you to edit the device's current settings. Once you have made the desired changes to the settings, you must apply the changes to the device by selecting the **Apply Changes** button. Note that for some changes to take effect, Dashboard will request that the device be restarted (see **Restart Device** on page 24).

You can retract the changes that you make to the device settings by performing an **Undo**, as long as you haven't already applied the changes. If you have made unwanted changes, you can revert to the device's default settings by pressing the **Restore Factory Defaults** button.

The following table summarizes the function of the three (3) buttons in the lower portion of Dashboard's device configuration pages.

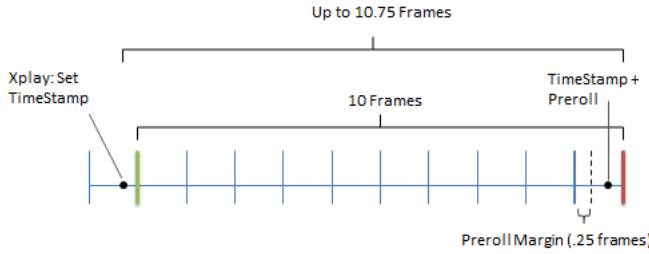
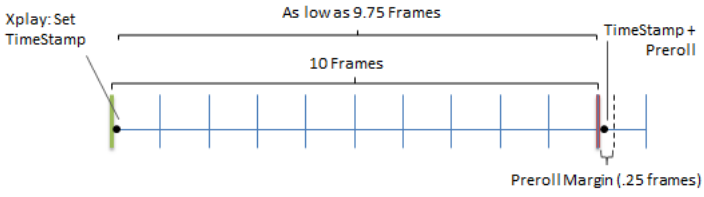
Restore Factory Defaults	Resets all of the parameter settings to Dashboard default settings.

Apply Changes	Applies all of the new settings from the page to the selected device.
Undo Changes	Reinstates the page's device settings back to what they were at the last **Apply Changes** action.

General page

Selecting the **General** tab in Advanced Settings mode, opens the General settings page. This configuration page provides you access to a series of miscellaneous device parameters, including storage settings and communication settings between the Vertigo devices, Xplay, and/or the broadcast monitor.

Assets	**Publish Path**: Identifies the directory location where assets are stored on the Vertigo device, or on the host computer (software CG). The default directory paths for the Vertigo hardware devices is `F\:Scene\`, while the default directory path for the Vertigo Software CG is `C\:Scene\`. Assets are automatically placed within appropriate subfolders by the publish agent. For example, images are stored in the Image subfolder.
TCP/IP	**Command Ports**: Sets the communications port used by the Vertigo devices and Vertigo software CG for command and control between applications (i.e. Intuition XG and Xplay). This port must be open and 2-way unblocked on the Vertigo device's subnet.
Statistics	**Enabled**: Displays the frame rate, video card, and memory use on the output display for debugging purposes. **Extra Info**: Displays timing information (Dx9, DSX, Readback) on the Intuition XG's output display for debugging purposes. Timing values are displayed in milliseconds for each thread

Automation	**Mode**: Determines the timestamping mechanism used for commands between the Vertigo devices and Xplay. • **Disabled**: When selected the timestamp of the command will be ignored and the command is executed immediately. • **System Counter**: High performance counter issued to reference the time of the command. • **System Clock**: Sets the format of the timestamps, which is timecode-based (Hour: Minute: Seconds: Frames). **Dead Band**: An interval (in frames) during which successive commands are considered to be at the same time. That is, if the difference in timestamps between successive commands is less than the Deadband, the earlier timestamp is used for all of the commands. For example, if the Deadband is set to 4 frames and two successive commands are received with timestamps that differ by 2 frames, both commands will be played at the same time (the execution time of the first command). **Preroll**: An interval (in frames) that is added to a command's timestamp to determine the time that the command is executed. The default value for this setting is 10 frames. **Preroll Margin**: An interval (in frames, but between 0.0 and 1.0) that is subtracted from the (timestamp + Preroll) to determine the time that the command is executed. This parameter influences frame boundary alignment. If the (timestamp + Preroll) exceeds a frame boundary by an interval that is less than or equal to the Preroll Margin, then it is aligned with the frame boundary that was "just missed". Otherwise alignment is made with the next frame boundary. The default value for this setting is 0.25 frames. Case 1: The (timestamp + Preroll) exceeds the last frame boundary by more than the Preroll Margin. It is aligned with the next frame boundary.  Case 2: The (timestamp + Preroll) exceeds the last frame boundary by less than the Preroll Margin. It is aligned with the previous frame boundary. 

Render Paths	**Images**: Specifies the directory path of where the image file will be saved to when the Snapshot command is used in Xbuilder. **Clips**: Specifies the directory path of where the image file will be saved to when the Render to Disk command is used in Xbuilder.
Cel Animations	**Cache Size:** Sets the number of cel animations that are cached in system memory after they are no longer referenced by a loaded scene. The default is 250. Increasing the cache size setting will unnecessarily slow down performance and occupy memory space. **Max Size:** Specifies the maximum size of a cel animation that Intuition XG will accept. Cel animations that are larger are rejected. The default is 250 MB.
Device Output	**Fill**: Only the fill signal will be transmitted to the output monitor. **Fill and Key**: The fill and key signals will be transmitted to the output monitor/device. This setting is the default for Intuition XG devices.
Initial Keyer State	Sets the initial state of the Vertigo device's internal virtual keyer list. **On**: Sets the Vertigo device's keyer to an active state. This is the default setting. **Off**: Sets the Vertigo device's keyer to an inactive state.
Roll Update Interval	Determines if the vertical movement interval of a crawl is based on a **Field** or **Frame**.
Password	A simple security feature that allows you to set a password so that other users cannot change the device settings.

Resolution page

The Resolution page provides access to the device parameters that set the input, rendering, and output resolution of the video data.

Input Resolution	This parameter is only available to Vertigo hardware devices (not the software CG). The Input Resolution parameter allows you to select the input resolution of the video data prior to processing by Vertigo device. Select a resolution format from the drop-down list of preset formats that are compatible with the rendering resolution. • **NTSC**: Sets the rendering resolution to NTSC format (720 x 486) Rate: 29.97 • **NTSC_Wide**: Sets the rendering resolution to NTSC-Wide format (800 x 486) Rate: 29.97 • **PAL**: Sets the rendering resolution to PAL format (720 x 576) Rate: 25 • **PAL_Wide**: Sets the rendering resolution to PAL-Wide format (800 x 576) Rate: 25 • **720p60**: Sets the rendering resolution to 720p60 format (1280 x 720) Rate: 60 • **720p60M**: Sets the rendering resolution to 720p60M format (1280 x 720) Rate: 59.97 • **1080i25**: Sets the rendering resolution to 1080i25 format (1920 x 1080) Rate: 25 • **1080i30M**: Sets the rendering resolution to 1080i30M format (1920 x 1080) Rate: 29.97 • **1080i30**:Sets the rendering resolution to 1080i30 format (1920 x 1080) Rate: 30 • **1080i24M**: Sets the rendering resolution to 1080i24m format (1920 x 1080) Rate: 23.98 • **1080p24**:Sets the rendering resolution to1080p24 format (1920 x 1080) Rate: 24 • **1080p25**:Sets the rendering resolution to 1080p25 format (1920 x 1080) Rate: 25 • **1080p30M**: Sets the rendering resolution to 1080p30m format (1920 x 1080) Rate: 29.97 • **1080p30**:Sets the rendering resolution to 1080p30 format (1920 x 1080) Rate: 30 • **CUSTOM**: Sets the rendering resolution to the resolution values set in the rendering resolution width, height, and rate fields. This setting is only available to Software CG devices.
Output Resolution	The Output Resolution parameter allows you to specify the output resolution of the Vertigo devices. **Width**, **Height, & Rate**: Displays the width (horizontal lines), height (vertical lines), and frame rate of the output resolution selected. These fields are read-only, except when CUSTOM is selected as the Output Resolution. Note, however, that the Custom setting is only available to Software CG devices. The width, height, and rate rendering values for Intuition XG devices are determined by the resolution format selected.

Scene Scaling	This allows the Vertigo devices to account for the fact that sometime the resolution of the scene being rendered does not match the resolution that the device is rendering at. **AutoScale**: Specifies if the scale is automatically calculated by comparing the scene resolution with the output resolution or if the user can manually enter scaling values. **Width & Height**: Displays the scaling factor that will be applied to width and height of the scene during rendering. **Scene Resolution**: Specifies the resolution of the scenes to be loaded. **Width & Height**: Show the width and height of the scene resolution selected. If the resolution is set to **Custom**, then the width and height can be entered manually.

Live Window page

In addition to the output display, the Live Window page provides you with parameters for enabling an additional display of a window on the computer monitor (Live Window) that shows the output of the Vertigo device.

Enabled	Enables the display of the Live Window. In the case of the Vertigo CG, the Live Window is the only method of seeing the output.
Mode	Selecting **Enabled**, activates the following parameters allowing you to set the size and positioning of the Live Window. **Full Screen**: Sets the Live Window to occupy the entire display area, and therefore, replaces the output display. **Windowed**: Sets the Live Window to display in a separate window. Selecting this setting activates the Window Behavior parameters that allow you to set the positioning and size of the Live Window.
Mode - continued	**Window Behavior**: The following parameters are activated when Windowed is selected, and they allow you to set the positioning and size of the Live Window. • **Always On Top**: Specifies whether the Live Windows is always the top window. • **Framed**: Enables a frame around the Live Window. • **Caption**: Allows the override of the default Live Window caption (title). • **Scale**: Specifies a scaling factor for the width and height of the live window. Choose from 1.0, 0.5, or 0.25 values. • **X**: Specifies the vertical screen coordinate of the top left corner of the Live Window. A value of zero (0) locates the window in the upper-most corner of the screen. • **Y**: Specifies the horizontal screen coordinate of the top left corner of the Live Window. A value of zero (0) locates the window in the left-most corner of the screen. • **Width & Height**: Displays the size of the Live Window by setting the vertical and horizontal dimensions in pixels. These are read-only fields and match the values specified by the Output Resolution field on the Resolution page.
Adapter Ordinal	Specifies which VGA display adapter to use for rendering. Note that displaying the Live Window on the incorrect VGA display will unnecessarily increase CPU usage.

Clips page

The parameters on the Clips page allow you to set clip rendering characteristics.

Renderer	The following fields specifies which renderer will be used to produce and insert the graphics and video clips for output. **VMR9**: Specifies that the VMR9 (Video Mixing Renderer 9) will be used for clip playback. This is the default renderer. **Pool Size**: Only available when VMR9 is selected as the renderer. Pool Size specifies the number of VMR9s that are preallocated at the start up of the application. The default value of -1 disables the preallocation. **Custom**: Specifies that the Vertigo hardware device's own video renderer will be used for clip playback. **Pixel Shader**: Only available when CUSTOM is selected as the renderer. Selecting Pixel Shader allows pixel color conversion to be done on the Vertigo device's GPU. When Pixel Shader is not selected, pixel color conversion is performed on the host computer.
DeInterlacing	The renderers processing format is interlaced, but all of the other functions are performed in progressive. **Enabled**: The Vertigo device will deinterlace clips using the best method available. This is the default setting. **Forced Software**: The Vertigo device will use the Vertigo's own deinterlacing algorithm.
File Extensions	Specifies the extensions of video file formats that are supported. Although the more commonly used formats are already listed in this field, you can also add additional format extensions to the list.
Image Extensions	Specifies the extensions of image file formats that are supported. Although the more commonly used formats are already listed in this field, you can also add additional format extensions to the list.
Mpeg2	**Hardware Acceleration**: When selected, Mpeg-2 decoding is performed using the Vertigo device's GPU. When this parameter is not selected, Mpeg-2 decoding is performed by the CPU. This parameter is unchecked in its default state.
Playback	The following parameters are only displayed on the Clips page when a Vertigo device is selected in the device list. **Clip Frame Synch**: Forces clips to remain synchronized with the start of frames. **Keep Strict Audio Rate**: Only allows 48 kHz audio to be used in clip playback.
Animation Codec	**Preload maximum**: Specifies the maximum size (MB) of a file that will be preloaded into system memory. All files smaller will be loaded into system memory for playback and all files larger will be streamed off disk. The valid range is 50 to 500. **Multi-threaded Decompression**: Determines if the decompression of the Vertigo animation clips is multi-threaded or single-threaded. **Allow Mip Mapping:** When enabled, the Vertigo XG device performs mip mapping when rendering animation (VAF) files.

Audio Extensions	Specifies the extensions of audio formats that are supported. Although the more commonly used formats are already listed in this field, you can also add additional audio format extensions to the list.
Buffering	**Use extra Buffers**: When selected, extra buffers are used between the clip engine and the rendering engine (output engine). This parameter is selected in its default state.

3D Engine page

The 3D Engine page provides access to parameters that allow you to set some parameters that affect the way in which 3D graphics are rendered and output by the Vertigo hardware devices. The following table describes each of the parameters on the 3D Engine page.

Eye Distance	The Eye Distance parameters set the three dimensional positioning by defining the spatial perspective/location of how far the object is from the camera (close, far). **View Plane Height Factor**: Sets the field of view of the camera. **Near View-Plane Factor**: Sets the distance from the camera in world space units. Anything closer to the camera will be clipped. **Far View-Plane Factor**: Sets the distance from the camera in world space units. Anything farther from the camera will be clipped.
Mip Mapping	Mip mapping allows for a higher level of layering detail by internally creating collections of bitmap images to accompany a main texture. This is intended to increase rendering speed of 3D graphics, and improves the digital video effects (DVE) quality. **Enabled**: When selected, the Vertigo hardware device performs mip mapping when rendering 3D graphics. **Load Bias**: When Enabled is selected for Mip Mapping, the Load Bias parameter allows you to set the level of detail bias for mipmapping by adjusting the slider between -3 and +3. Values below 0 result in less blurred mip-level choice. The default value is -0.50.
Mode	• **Land Scape**: The default orientation of the Vertigo device's output. • **Portrait**: Rotates the Vertigo device's entire output by 90 degrees clockwise. • **Inverted Portrait**: Rotates the Vertigo device's entire output by 90 degrees counter-clockwise.

General	**Force Power of 2 Textures**: Textures are typically square and must have side lengths equal to a power of 2. Some graphics cards do not adequately support non-power of two textures, so you can select this parameter to force the textures to conform to the power of 2 requirement. **Enable Culling**: Prevents elements of 3D graphics that are non-visible from the rendering process, thereby making the rendering process more efficient. **Enable AntiAliasing**: Enables antialiasing rendering in 3D. Reduces 3D edge artifacts. **Swap Copy**: This parameter is only available to the Vertigo software CG and only when the Live Window is full screen. Swap Copy makes overlay graphics slower by allowing buffer swaps to be performed as a copy from back to front, rather than having the back and front exchanged. These conditions allow some video cards to perform better. This parameter is not selected by default. **Back Buffer Count**: This parameter is only available to the Vertigo software CG and it is used with the Swap Copy parameter. This parameter specifies the number of back buffers to use in the Swap Copy. The default is set to 2. **Enable Interlaced Rendering**: Determines if the window is the height of a field or the height of a frame (unchecked). This setting has no effect if the output resolution is progressive, since there are only frame, no fields, in progressive.

Logging page

The logging page allows you to set parameters to create log files that record the status of events while the Vertigo devices are running. The log files can then be use to investigate device behavior and debug.

Filename	The name of the log file. The name cannot be changed, however, if multiple log files are created, then an underscore, date, and time are appended to the file name. The default name is "VertigoXG".
File Size	Sets the maximum memory size for each log file created per run. The default value is 6 MB.
File Count	Sets the maximum number of log files to be created per run. The default value is 20.
Log Level	Sets the severity categories that will be reported to the log file. • **Error**: An error of some type has occurred and this log category will likely indicate the source of a problem. • **Warn**: Be aware that something unexpected has happened, like unsuccessful operations that may indicate a problem. • **Info**: Logs important events that occur during normal conditions, which allows you to trace what and when the applications are doing.
Debug Category List	Sets the categories that will be reported to the log file. • **General**: General information. • **Direct X**: Information pertaining Direct and 3D rendering. • **Direct Show**: Information about Direct Show, which is used to play clips and audio files. • **Dsx**: Information about the video I/O device. • **Tcp**: Information about network communication. • **Callback**: Information about callback replies sent to applications, like Xplay or Xstudio. • **File**: Information about attempts to access files on the disk. • **FontRenderer**: Information about text rendering. • **Animations**: Information about animations. • **Licensing**: Information about licensing. • **RenderToDisk**: Information about the Render to Disk functionality. **Clear All** button: Allows you to quickly de-select all of the selected debug categories.

Hardware Settings > Genlock page

The Genlock page is a sub-page of the Hardware Settings tab, which is only visible when a Vertigo hardware device is selected in the Dashboard's device list. The Genlock page exposes parameters that allow you to set the Vertigo device's genlock reference signal that synchronizes the phase timing eliminating video jitter.

The source of the Vertigo device's genlock reference signal can be set to come from one of four sources: internal, blackburst, SDI Video In A, or SDI Video In B.

Source	The source of the Vertigo device's genlock reference signal can come from one of four sources: • **Internal**: Genlock to the video card, which generates its own synchronization clock • **Blackburst**: The blackburst signal contains the vertical, horizontal, frame, color synchronization, and field 1 reference, without any video data. • **SDI Video A**: The SDI video A input signal inherently carries a reference signal and therefore it can be used as a genlock signal. • **SDI Video B**: The SDI video B input signal inherently carries a reference signal and therefore it can be used as a genlock signal.
Resolution	Specifies the resolution of the genlock signal. In cases where two instances of the Vertigo devices are running simultaneously with different resolutions, both instances should specify the lower resolution for genlock. Select one of the following resolution formats from the drop-down list: • **NTSC**: Sets the rendering resolution to NTSC format (720 x 486) • **NTSC_Wide**: Sets the rendering resolution to NTSC-Wide format (800 x 486) • **PAL**: Sets the rendering resolution to PAL format (720 x 576) • **PAL_Wide**: Sets the rendering resolution to PAL-Wide format (800 x 576) • **720p60**: Sets the rendering resolution to 720p60 format (1280 x 720) • **720p60M**: Sets the rendering resolution to 720p60M format (1280 x 720) • **1080i25**: Sets the rendering resolution to 1080i25 format (1920 x 1080) • **1080i30M**: Sets the rendering resolution to 1080i30M format (1920 x 1080) • **1080i30**: Sets the rendering resolution to 1080i30 format (1920 x 1080) • **1080i24M**: Sets the rendering resolution to 1080i24m format (1920 x 1080) • **1080p24**: Sets the rendering resolution to 1080p24 format (1920 x 1080) • **1080p25**: Sets the rendering resolution to 1080p25 format (1920 x 1080) • **1080p30M**: Sets the rendering resolution to 1080p30m format (1920 x 1080) • **1080p30**: Sets the rendering resolution to 1080p30 format (1920 x 1080)
Bit Count	Specifies the bit depth of the genlock signal. Choose either 8 (default) or 10 from the drop-down list.

Status & **Refresh** button	Identifies the current state of the Genlock signal source that is selected in the **Source** parameter. • **Locked**: The connection is established and the on-board Genlock is sending a clocking signal to the Genlock source specified in the Source parameter. • **Free Running**: No signal is coming in on the selected Genlock source, or the specified signal formats are not the same. For example, if the resolution setting on the Genlock page does not match the resolution formats specified on the Resolution page. • **Relocking**: In the process of locking. Note that if continuously in this state, the Genlock signal might not be stable and it needs to be checked.
Status & **Refresh** button - Continued	• **Unknown (Update the XG software)**: This message appears when the version of the Vertigo software that is being used is an earlier version and does not support this feature. If this is the case, you need to update the Vertigo software. Click the **Refresh** button to request an update of the Genlock status of the source. Each time you select a new Genlock Source setting and apply the change, the status message will be gray until you click the Refresh button to update the status.
Horizontal Delay	Adjusts the horizontal timing of the signal in nanoseconds.
Vertical Delay	Adjusts the vertical timing of the signal in lines.

Hardware Settings > Video page

The Video page is a sub-page of the Hardware Settings tab, which is only visible when a Vertigo hardware device is selected in the Dashboard's device list. The Video page exposes parameters that allow you to set the Vertigo device's video input/output channels and video processing options.

Input Channels	Specifies the input channel of the hardware to use. Depending on the hardware configuration of the machine, the possible values are blank, A, or B. When running a single instance of the Vertigo device, both sources can be used. But when running two instances of the device simultaneously, they must each use a different input channel. In the case where there are more instances running than input channels, some will have to leave the setting blank.
Output Channels	Specifies the output channel of the hardware to use. Depending on the hardware configuration of the machine, the possible values are A, B, C, or D. When running multiple instances of the Vertigo device simultaneously, each instance must specify a different output channel. This parameter can also be set using the Output Channel field on the Device Profile page (page 30).
Bit Count	Specifies the bit depth of the signal. Choose either 8 or 10 (default) from the drop-down list.
Video Mode	Specifies how the Vertigo hardware device passes through video. • **Background Video On**: The Vertigo device will always display the video input as the back most layer, even without any scene loaded. • **Video On Clear**: When the Vertigo device has nothing to render (no scenes have been loaded), it will display the video input. • **Black On Clear**: When the Vertigo device has nothing to render (no scenes have been loaded), it will render nothing, displaying black.
On Board Compositor	Allows the off loading of certain color conversion routines from the CPU to the video card. This feature is dependant on the correct firmware options being installed on the hardware.
Compress Key Signal	When this setting is enabled, the key signal color space is compressed so it does not fall into super black or super white. The full 10-bit color space is from 0 – 1023. The key signal is compressed into the range 64 – 940. Above 940 is super white and below 64 is super black.
Clip Super Black & Super White	Determines whether or not the VertigoXG allows the output to be in the super black & super white range. The luminance range of a 10-bit SDI signal is from 0 to 1023. A value below 64 is considered super black and a value above 940 is considered super white. When this setting is enabled, the VertigoXG will clip any pixels below 64 up to 64 and any pixels above 940 down to 940.
I/O Buffering	Together these I/O buffering values determine the video delay of the passthrough. • **Input**: The number of buffered (frames) used for video input. • **Output**: The number of buffers (fields) used for video output.

YUV Processing	Specifies if color conversion of video input is off-loaded from the CPU to the GPU. • **CPU**: Use the CPU to do the conversion. • **GPU**: Use the GPU to do the conversion. The GPU is not recommended, however, for HD video. • **GPU-PS**: Uses the pixel shader to do YUV to RGB conversion.
Fill Delay	• **Horizontal**: The slider adjusts the horizontal (nanoseconds) timing of the fill signal. • **Vertical**: The slider adjusts the vertical (lines) timing of the fill signal. • **Horizontal (fine)**: The slider offers you a finer (smaller increments) control of the horizontal timing delay of the Fill signal.

Hardware Settings > Audio page

The Audio page is a sub-page of the Hardware Settings tab, which is only visible when a Vertigo hardware device is selected in the Dashboard's device list. The Audio page exposes parameters that allow you to set the Vertigo device's audio processing.

Input	The Intuition XG can be configured to capture only embedded audio, only discrete audio, or a combination of both. Use the slider to select the following settings: • **Embedded only**: Specifies that the audio input signal is embedded in the video signal (SDI), rather than a discrete (AES) audio signal (separate from the video signal). • **1 pair AES + 7 pairs embedded** • **2 pairs AES + 6 pairs embedded** • **3 pairs AES + 5 pairs embedded** • **4 pairs AES + 4 pairs embedded** • **AES Only**: Specifies that the audio input signal is discrete (AES), rather than being embedded (SDI) in the video signal. • **Offset (fields)**: Adds additional delay to the time it takes audio to be captured at the input and then output again.
Output	• **AES**: Specifies that the audio output signal is discrete (AES), rather than being embedded (SDI) in the video signal. • **Embedded**: Specifies that the audio output signal is embedded in the video signal (SDI), rather than a discrete (AES) audio signal (separate from the video signal). • **Stereo Pairs**: Specifies the number of stereo pairs to be captured from the current audio source. • **AV Sync**: Specifies the number of frames to shift the audio and video output out of sync. A positive number delays the audio and a negative number delays the video. • **Bits per Sample**: Specifies the bit depth of the audio signal. The available values are 0, 16, 20, and 24. The default value is 0. Using a value of 0 means that the device will automatically choose the bit-depth based on the output format. For SD, it is 20 and for HD it is 24.
Mixing Profiles	The following are the default mix profiles used for each type of object, like clips, .wav file...etc. Type the Profile ID number to assign a mixing profile from the Audio Mixing Profiles dialog box as the default mixing profile (see Audio Mixing Profiles dialog box, on page 53). • **Clip Default** • **VoiceOver Default** • **Multi-Track Clip Default** • **Audio Input A Default** • **Audio Input B Default** • **Edit Profiles** button: Opens the Audio Mixing Profiles dialog box (see Audio Mixing Profiles dialog box, on page 53).
Data Format	Declare the input audio format (PCM or RAW) at the startup of the Intuition XG device. If set to PCM (default), the incoming audio stream is guaranteed to be purely PCM, allowing the Intuition XG to apply audio effects. If it is set to RAW, the Intuition XG is prevented from altering the audio stream in any way, thus protecting the Dolby signal.

Hardware Settings > Ancillary page

The Ancillary page contains parameters that allows for control over the Vertical Ancillary Data Space (VANC). This includes options such as simply passthrough through the **VANC Input** section and more complex management (extraction/generation/insertion) of Ancillary Data Packets (such as CDP, AFD and SDP types) through the **VANC output** section.

Vanc Input	• **VBI Passthrough**: When enabled, it indicates that the Vertical Blanking Interval (VBI) information is passed through from Video Input or selected Clips (in NTSC and PAL mode only for clips) into the VANC output. This setting is ignored if the generated VANC setting is enabled. • **ATC Passthrough**: When enabled, it indicates that the ATC (LTC or VITC time codes) should be passed through from Video Input to the Intuition XG output. • **Extensive Vanc Search**: When checked, it indicates that Intuition XG should scan for ancillary data packets that may not be contiguous from the start of a VANC line. This setting forces Intuition XG to scan all of the Video Input VANC lines instead of assuming that the first unused VANC space signals the end of ancillary data packets on that line. • **VBI Passthrough Lines**: In generated VANC mode, this specifies which Video In or Clip (in NTSC and PAL mode only for clips) VBI field lines should be passed through without any processing. Lines which are passed through are not scanned for any ancillary data packets and are passed through with no modifications. If an ancillary service is specified for a line which is part of the passthrough lines, then the ancillary service is disabled. The VBI line numbers specified in this setting are in field relative ordinals. Note that a particular aspect of field relative numbering is that a Field2 line with the same ordinal as a Firld1 line is always the line following it on the display (independent of which field is actually the top field). Lines that are only applicable to Video passthrough will be ignored for Clip VBI passthrough (such as Line 6 for PAL). Also note that one line is field specific in NTSC mode (line 6) and can only be passed through as part of Field2 (and only for Video Input passthrough).

Vanc Output	• **Generated VANC**: When selected, it indicates that Intuition XG is operating in generated VANC output (This setting supersedes the VBI Passthrough mode). Intuition XG generates the VANC using selective passthrough of some VBI lines from Video In or from Clips (in NTSC and PAL mode only for clips), selected ancillary data packets are also generated for CDPs and AFD codes and inserted into some VANC lines, and some ancillary data packets are passed through from Video IN to the corresponding VANC output line. • **Ancillary CDP Line**: In generated VANC mode, this property specifies which VANC line should carry caption distribution packets (CDP). If the line specified is outside the valid range (same range as for Passthrough lines except in NTSC mode where line 6 is not permissible since it is only available on Field2), then CDPs will not be managed by Intuition XG. Use -1 to disable CDP processing (any line out of range will disable the processing, but using a negative value avoids logging it as an error). Note that CDP is frame based and will only be inserted in the first field of each frame. Also note that even if the source for the captions is a "line21" CEA-606 stream, Intuition XG will create CDP packets with only the CEA-608 compatibility bytes and if no caption stream is available, Intuition XG will create empty CDP packets. • **Ancillary Dolby Line:** This feature is not yet supported by Intuition XG and apart from range checks, any number specified will be ignored. • **Ancillary AFD Line**: This feature is not yet supported by Intuition XG. • **Ancillary SDP Line**: Specifies the line of the VANC on which SDP are inserted. • **Line 21 Captions**: When selected and Intuition XG's output resolution is NTSC, tis specifies that Intuition XG should extract the CEA-608 caption stream and encode it on line 21(field1 and field2). If no caption stream exists, then the lines will not be generated. Note that if there is a field 2 CEA-608 caption but no field 1 captions, the Intuition XG generates an "empty" field 1 CEA-608 caption with only "line21" clock run-in (SMPTE requirement).

Vanc Processing	AFD processing is enabled when the Vanc Output section's Generated VANC option is enabled and the Ancillary AFD Line setting is valid line number. Intuition XG must insert an AFD ancillary data packet into the VANC.
	• **Video In A:** Upconvert CEA-608 to CEA-708: When enabled, this parameter converts the CEA-608 (Line 21) closed caption data on Video A input into native CEA-708, which is required for digital television broadcast.
	• **Video In B:** Upconvert CEA-608 to CEA-708: When enabled, this parameter converts the CEA-608 (Line 21) closed caption data on Video B input into native CEA-708, which is required for digital television broadcast.
	• **Default AFD Value**: Intuition XG inserts the Default AFD Value into an AFD ancillary data packet under 2 conditions. The first is if Intuition XG cannot find any AFD values within the specified source (video in or clip). It will substitute the Default AFD Value instead. The second case is if you selected the Initial AFD Source to be Value and selected Default from the drop-down box.
	• **Initial AFD Source**: The Initial AFD Source parameter tells the Intuition XG device where it should look to find a value to insert in the AFD ancillary data packet. Choose from the following three options:
	  • **VideoIn**: VideoIn is selected, then you must also select which input to use (**A** or **B**). Intuition XG scans that VANC SDI input for any AFD codes and then inserts that value into an AFD ancillary data packet.
	  • **Clip**: If Clip is selected, then you must enter the name of a clip scene element. Intuition XG tries to extract an AFD code from any clip playing within the specified scene element.
	  • **Value**. If Value is selected, you must select a numerical value and Intuition XG inserts that value into an AFD ancillary data packet.

Hardware Settings > Watch Dog page

The Watch Dog is a feature that allows the system to continue video passthrough on a Vertigo hardware device during an application crash or a system failure. The Watch Dog page is a sub-page of the Hardware Settings tab, which is only visible when a Vertigo hardware device is selected in the Dashboard's device list. Use the settings below to configure the Vertigo device's Watch Dog.
Note:The Watch Dog field on the Vertigo device console uses a colored LED along with a brief statement to indicate the Watch Dog's current state during operation (see page 5).

Mode	• **Bypass with opaque key**: The Watch Dog is enabled and when it activates the key signal will become opaque. • **Bypass with transparent key**: The Watch Dog is enabled and when it activates the key signal will become transparent. • **Disabled**: The Watchdog is not active. If the device fails, the output will most likely be frozen on the last frame produced. • **Ignore**: When the setting is **Ignore**, the device sends no signal to the hardware and the device does not use the Watch Dog. The hardware will therefore be in the last state it was set to. If however, the last state of the hardware had the Watch Dog enable, the device will NOT send a regular signal and you might never see the frames being rendered by the device. Therefore, we recommend that you intentional set the Fill to Enabled when you want activate the Watch Dog.
Time Out	Specifies the number of milliseconds that must elapse during which no rendering occurs before the hardware Watch Dog kicks in. The default value is 500.
Monitor GPI	When enabled, the watch dog listens to the GPI server for a trigger to activate the video bypass functionality.

Licensing page

The Device Settings' Licensing page allows you to set the XMS IP and port information that is used to retrieve and identify valid application licenses for the Vertigo devices, as well as clip and audio licenses (hardware devices only).

XMS IP Address	Sets the IP address of the primary XMS that the application will attempt to checkout licenses from.
XMS Port	Sets the port of the primary XMS that the application will attempt to connect on.
Backup XMS IP Address	Sets the IP address of the backup XMS used for licensing.
Backup XMS Port	Sets the port of the backup XMS used for licensing.
Embedded XMS Port	Sets the port the application will attempt to connect on. This is a read-only parameter.
Valid Licenses	Displays which licenses that application was able to obtain from either the primary, backup, or embedded XMS. The **Refresh** button allows the device to retry the checkout of any feature licenses that it does not yet have.

Audio Mixing Profiles dialog box

The Audio Mixing Profiles dialog box allows you to create up to ten (10) audio mixing profiles that can be assigned as defaults for the various audio formats on the Dashboard's Hardware Settings' Audio page. See Hardware Settings > Audio page, on page 48 for more details regarding assigning defaults.

The Audio Mixing Profile dialog box facilitates the creation of mixing profiles by letting you work from within one of three predefined matrixes formats: 2x2, 6x6, or 8x8 channels. You can also add or remove channels from the matrix to suit your needs. Each matrix structure allows you to assign the percentage of the input audio signal that will be mixed into the output channel.

The following tables the components of the Audio Mixing Profiles dialog box:

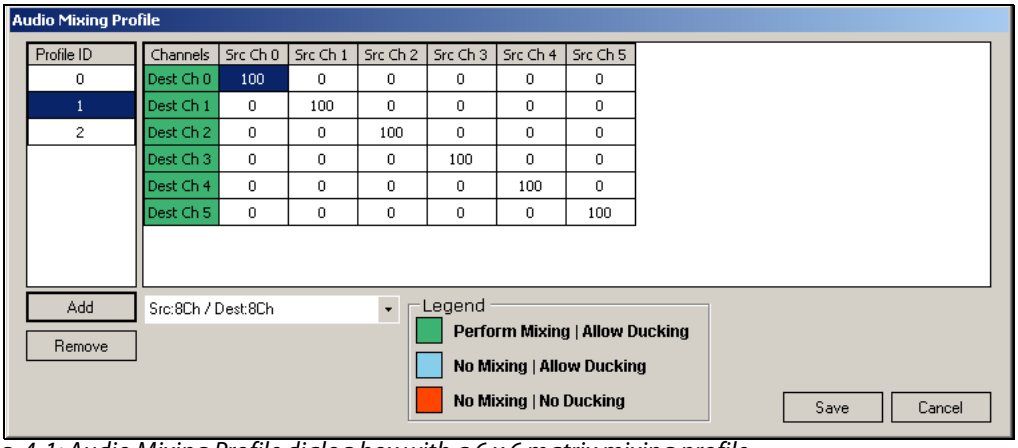


Fig. 4-1: Audio Mixing Profile dialog box with a 6 x 6 matrix mixing profile

Profile ID	Identifies the profile ID number associated to a specific mixing profile matrix. You can store up to ten (10) audio mix profiles in the list (numbered 0 to 9). It is this number that will be used to set the default mixing profiles for the various audio files listed on the Hardware Settings' Audio page (see Hardware Settings > Audio page, on page 48).
Add / **Remove** buttons	The **Add** button adds the mixing profile matrix that is currently being created to the Profile ID list and assigns it a Profile ID number in the list. The **Remove** button deletes the selected mixing profile from the Profile ID list. The Remove command is also accessible by right-clicking on the Profile ID list.

Matrix Format Drop-down List	This drop-down list contains three (3) predefined matrix formats that you can use as the basis for building your mixing profile. Although the matrixes are a predefined size, you can add channels to the matrix format by using the **Add Source** and **Add Destination** commands. The three predefined mixing matrix formats are: • **Src: Stereo / Dest:Stereo**: A 2x2 matrix featuring 2 source channels and 2 destination channels used for creating stereo sound profiles (left and right). • **Src: 6Ch / Dest:6Ch**: A 6x6 matrix featuring 6 source channels and 6 destination channels used for mixing to 5.1 conventional surround sound (for example: front left, front right, front center, low frequencies/subwoofer, back left, and back right). • **Src: 8Ch / Dest:8Ch**: An 8x8 matrix featuring 8 source channels and 8 destination channels used for mixing to 8-channel commercial surround sound (for example: front left, front right, front center, low frequencies/subwoofer, back left, back right, Side left, and side right).
Source /Destination Channels	Source channels represent the channels upon which the audio data is entering the system and the destination channel is the channel upon which the audio data will leave the system. The intersecting points in the matrix (the box where the source and destination channels intersect) specifies the percentage of the source signal that will be passed through to the destination channel. For example, a value of zero (0) means that none of the signal with will pass through to the destination channel, while a value of 100 means the full signal will be passed through. The destination channel headings feature different color backgrounds depending on the status/setting of the channel. The colors are defined in the interface's legend: • **Green**: Perform Mixing / Allow Ducking • **Blue**: No mixing / Allow Ducking • **Red**: No mixing / No Ducking The destination channel will display as green if mixing is enabled by setting the intersecting mixing value as greater than zero (>0). If the value is set to zero, this indicates that no mixing will occur and therefore the destination channel will be displayed in red. When a channel is set to have no mixing (i.e. 0 value), you can use a technique called ducking by using the **Duck** command. The Duck command determines the behavior of the output channel with respect to the original level (see Duck command below). When the **Duck** command is applied to a destination channel turns from red to blue. Note that ducking is automatic when mixing.
Save / **Cancel** buttons	The **Save** button saves the mixing profile matrix, and any changes that where made to the matrix values or structure, by associating it with a number in the Profile ID list. The **Cancel** button allows you to exit the Audio Mixing Profile dialog box without saving any of the changes made to the mixing matrices/profiles.

Add Source command	Use the **Add Source** command to add an additional source channel to a predefined mix matrix. The **Add Source** command is accessed by right-clicking anywhere within the matrix and selecting **Add Source** from the command list.
Add Destination command	Use the **Add Destination** command to add an additional destination channel to a predefined mix matrix. The **Add Destination** command is accessed by right-clicking anywhere within the matrix and selecting **Add Destination** from the command list.
Duck command	The **Duck** command enables a technique for attenuating the audio coming in on the "ducked" channel, to make room for another signal to dominate. For example, the music coming in on a channel will lower when a voice over is introduced. Ducking is automatically enable when mixing is enabled (value > 0). You can also manually set the ducking command when the mixing value is set to zero (0 indicating no audio mixing to that channel). The **Duck** command is accessed by right-clicking the destination channel heading and selecting from the command list. When ducking is enabled, the destination channel's heading turns blue.

Creating an audio profile using the Audio Mixing Profile dialog box

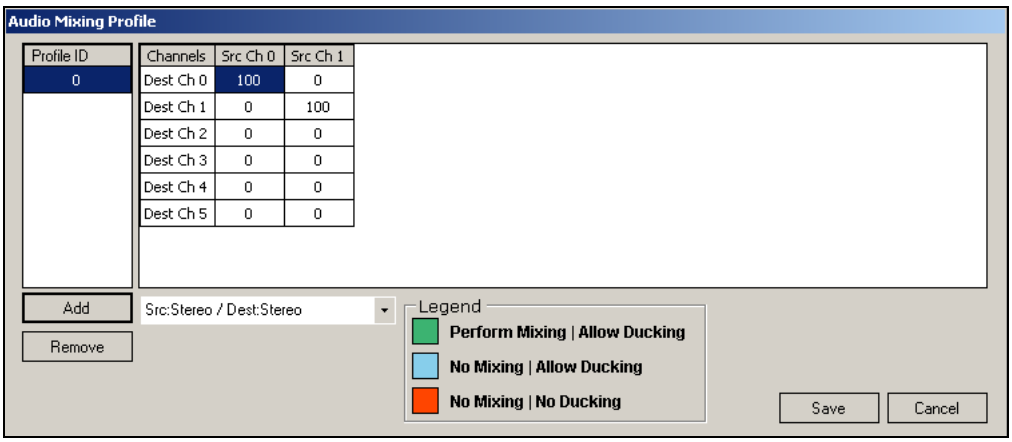
1 Open the Audio Mixing Profile dialog box by pressing the **Edit Profiles** button on the Hardware Settings' Audio page.

2 Select a predefined matrix format from the drop-down list.

The choices are:

- **Src:Stereo / Dest:Stereo**
- **Src:6Ch / Dest:6Ch**
- **Src:8Ch / Dest:8Ch**

Note that these are basic matrix formats and you may need to add source or destination channels to the matrix to meet your needs. For example, if you want to create an audio mixing profile that takes a 2-channel stereo source to a 6-channel 5.1 surround destination, you would select **Src:Stereo / Dest:Stereo** and then add four (4) destination channels to the matrix (see Add Destination **command** above).



3 Press the **Add** button to add the profile to the Profile ID column. The matrix is assigned a Profile ID number (0 to 9).

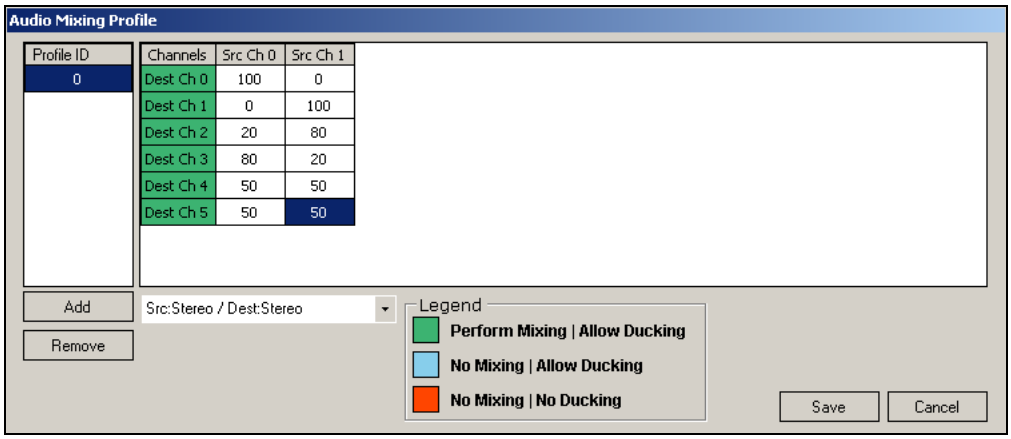
The audio mixing matrix appears in the main frame with a default channel matching profile (i.e. 100% of source channel 0 to destination channel 0).

4 Assign the mixing values by typing the mixing values for each of the channels in the matrix. The number represents the percentage of the source signal to be mixed into the destination channel (for example, 100 is 100%).

The matrix below demonstrates the audio mixing profile for a 2-channel stereo source to be mixed into a 6-channel 5.1 surround configuration, where:

- 100% of the source channel 0 and 0% of the source channel 1 will be mixed into destination channel 0.
- 0% of the source channel 0 and 100% of the source channel 1 will be mixed into destination channel 1.
- 20% of source channel 0 and 80% of source channel 1 will be mixed into destination channel 2.
- 80% of source channel 0 and 20% of source channel 1 will be mixed into destination channel 3.
- 50% of source channel 0 and 50% of source channel 1 will be mixed into destination channel 4.

- 50% of source channel 0 and 50% of source channel 1 will be mixed into destination channel 5.



5 Save the mixing profile to the Profile ID list by pressing the **Save** button.

6 Return to Dashboard's Audio page and type the Profile ID number for the desired profile in the appropriate Mixing Profile parameter.

Grass Valley Technical Support

For technical assistance, contact our international support center, at 1-800-547-8949 (US and Canada) or +1 530 478 4148.

To obtain a local phone number for the support center nearest you, please consult the Contact Us section of Grass Valley's website (www.grassvalley.com).

An online form for e-mail contact is also available from the website.

Corporate Head Office

Grass Valley
3499 Douglas-B.-Floreani
St-Laurent, Quebec H4S 2C6
Canada
Telephone: +1 514 333 1772
Fax: +1 514 333 9828
www.grassvalley.com