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A **BELDEN** BRAND

VERTIGO XG

ADVANCED HD/SD GRAPHICS PROCESSOR

VX-Vertigo-XG21-e
VX-Vertigo-XG22-e

Installation and Quick Start Guide

M848-2705-200

2016-11-03

www.grassvalley.com

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Title	Vertigo XG Installation and Quick Start Guide
Part Number	M848-2705-200
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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-UL-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 nettoyeurs 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



c

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

us 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

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1 Introduction

This guide provides basic Vertigo XG product information, as well as an orientation of its hardware components. This guide also provides instructions for performing a first-time installation of the Vertigo XG device, as well as initial setup tasks to get the device up and running.

New Vertigo XG devices are factory configured for standard rendering and playout workflows. Configuring the Vertigo XG settings for advanced workflows is normally performed by qualified network administrators or Grass Valley's Integration Specialists.

Information and instructions for implementing advanced configurations is beyond the scope of this document, but are covered in the *Vertigo XG Configuration Guide*. Please visit the Documentation Library on the Grass Valley Web site (www.grassvalley.com) for the latest documentation updates.

Overview of the Vertigo XG



The Vertigo XG is a full-featured HD/SD graphics processor that provides high performance single or dual channel graphics rendering and video playback performance. The Vertigo XG is ideal for a wide range of advanced real-time broadcast applications, like HD/SD dual-casting with independent graphics for HD and SD, and single channel applications demanding sophisticated, multi-channel branding and promotional graphics.

The Vertigo XG is available in two (2) standard models:

VX-Vertigo-XG21-e	Vertigo XG single channel graphics engine (2 inputs, 1 output) used for downstream branding.
VX-Vertigo-XG22-e	Vertigo XG dual channel graphics engine (2 inputs, 2 outputs) used for downstream simulcast branding.

Both models of the Vertigo XG have the following features and capabilities:

- 3 RU rack mount chassis
- 2 video input channels
- 1 video output channel (XG21-e) or 2 video output channels (XG22-e)
- SD and HD video support
- 1 TB of video and audio storage, which is expandable to 2 TB
- 16 embedded audio channels per SDI stream
- Discrete AES audio channels - up to 8 in and 16 out (XG21-e) or 2 x 16 out (XG22-e)
- Independent DVEs on each video input
- Tri-mode hardware Video bypasses
- VAnc + VBI extraction processing and insertion or VAnc/VBI pass through
- Unlimited virtual layers that can be controlled independently
- Real-time control of live data sources with automatic on-air updates
- True Type/Unicode character support
- One seat of Xplay is included with each channel of the Vertigo XG purchased which integrates the following features and functionality:
 - Automation interface via RS-232, RS-422 (option) and TCP/IP
 - Xplay's graphical interface used for manual control of playlists
 - "As run" logging

The following hardware options are available to both models of the Vertigo XG:

VX-RS422-2-e	2 port RS-422 card The RS-422 card provides an interface upon which the Vertigo XG can communicate with automation systems.
VX-GPI-8-e	GPI card The GPI card allows for control of the Vertigo XG via GPI triggers. The card allows for up to 8 GPI in and 8 GPI out.
VX-TC-e	Time Code card The Time Code card allows you to lock the Vertigo XG's system clock to an external timecode.
VX-2TB-UPG	1 TB RAID10 Expansion option (2 x 1TB) Increases the usable storage from 1TB to 2TB.

Vertigo XG Chassis

The Vertigo XG unit is a 3RU rackmount rendering platform that incorporates redundant fans, two power supplies, and 1 TB RAID1-enabled storage (optional 2 TB RAID10 expansion).

The only visible difference between the two models of the Vertigo XG is that the single channel model (XG21-e) has only one (1) discrete AES audio connector, while the dual channel model (XG22-e) has two (2) discrete AES audio connectors.

In some cases, the positioning of the connectors on the Vertigo XG's rear panel differs depending upon the hardware options installed. See [page 4](#) for a list of the Vertigo XG's hardware options.

The following table summarizes the Vertigo XG's physical dimensions and power consumption:

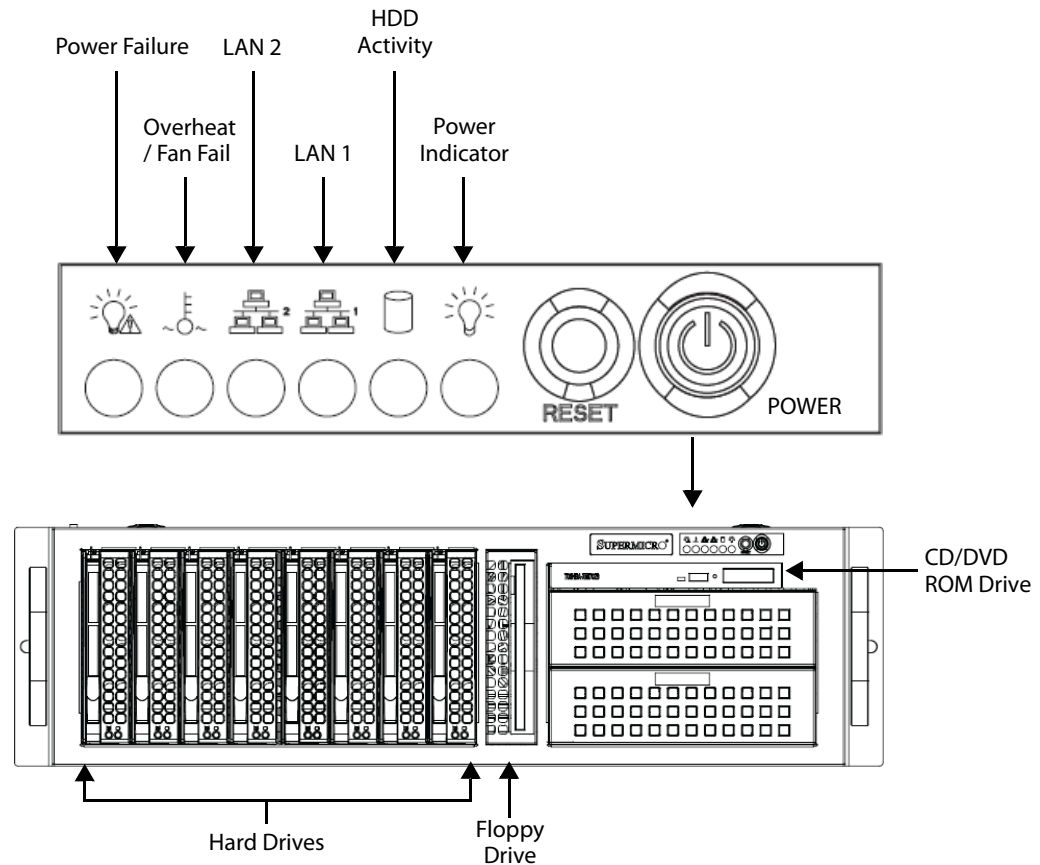
Chassis	Form: 3U rackmount chassis Height: 5.2" (132 mm) Width: 17.7" (450 mm) Depth: 25.5" (648 mm)
Power consumption	AC input: 100 - 240V, 50 - 60Hz Consumption: 4.05 - 1.73 A Power: 410 max.
Temperature	Ambient temperature: 35° C Note: This shall be the maximum internal temperature within the rack in which the Vertigo XG unit is installed.




Consult the following sections to familiarize yourself with the Vertigo XG's front and rear panel components:

- [Front Panel Components](#), on page 5
- [Rear Panel Components](#), on page 7




Front Panel Components

The Vertigo XG's front panel provides convenient access to the hard drives, a CD/DVD ROM drive, and a control panel containing six LEDs and two buttons for system monitoring and operation.



<p>Power Failure</p> 	<p>Indicates a power supply module has failed, which is accompanied by an audible alarm. A backup power supply module will take the load and keep the system running, but the failed module will need to be replaced. This red LED should be off when the system is operating normally.</p>
<p>Overheat / Fan Fail</p> 	<p>When this red LED flashes, it indicates a fan failure. When it is constantly illuminated (solid on), it indicates an overheat condition, which may be caused by cables obstructing the airflow in the system or the ambient room temperature being too warm. Check the routing of cables and make sure that all fans are present and operating normally. You should also check to make sure that the chassis covers are installed properly. Finally, verify that the heatsinks are installed properly. This LED will remain flashing or on as long as the above mentioned conditions exist.</p>
<p>LAN2</p> 	<p>A flashing green LAN2 LED indicates network activity on LAN2.</p>

Overview of the Vertigo XG
Front Panel Components

LAN1 	A flashing green LAN1 LED indicates network activity on LAN2.
HDD Activity 	This flashing amber LED indicates IDE channel activity.
Power Indicator (LED) 	Indicates that power is being supplied to the system's power supply units. This green LED should normally be illuminated when the system is in operation.
Reset	The Reset button reboots the system.
Power Button	This is the main power button, which is used to apply or turn off the main system power. Turning off this button removes the main power, but keeps standby power supplied to the system.

Rear Panel Components

The Vertigo XG's rear panel provides convenient access to the video card's I/O connector, which provides 4 SD/HD SDI video outputs, a reference signal input, and AES audio input/output. The rear panel also provides access to the graphics card connector, as well as various I/O ports (RS-422, USB, Ethernet...etc.).

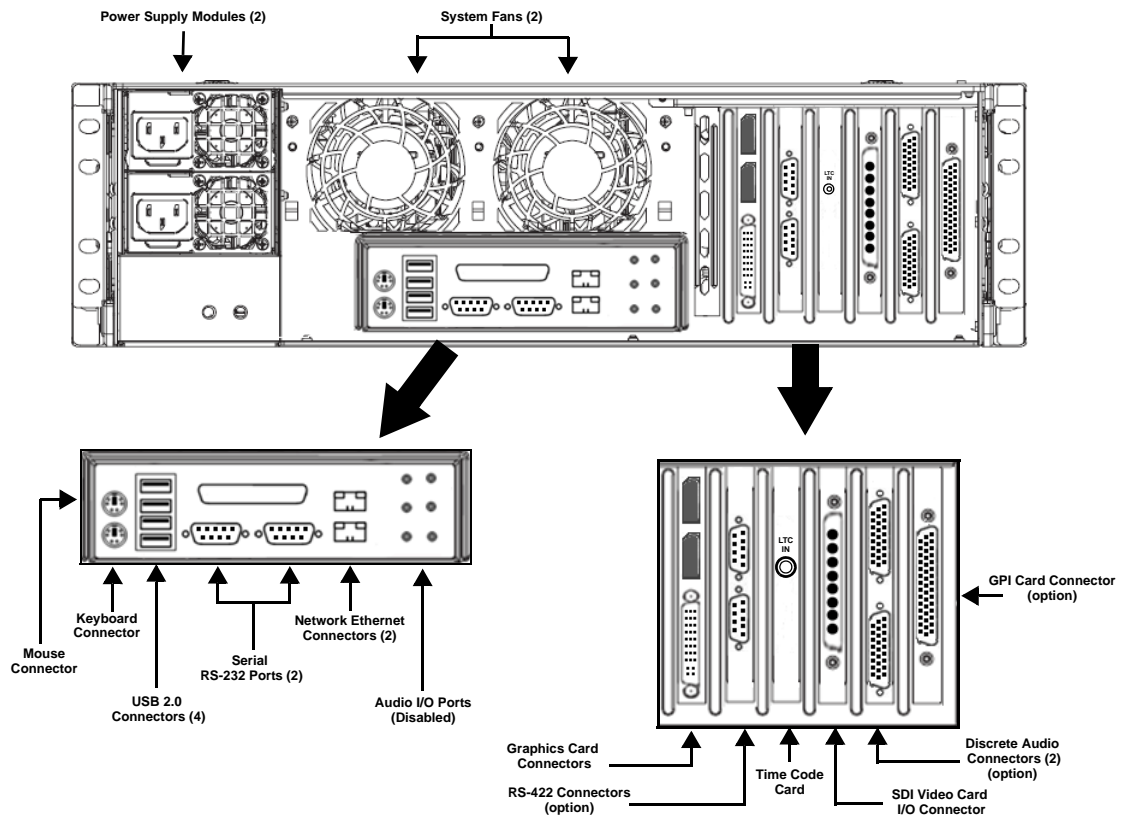
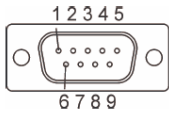
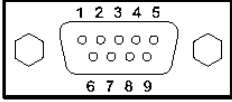


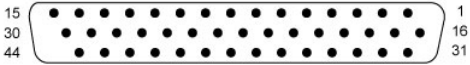
Fig. 2-1: The Vertigo XG's rear panel components (XG22-e model)

Note: In some cases, the positioning of the connectors on the Vertigo XG's rear panel differs depending upon the hardware options installed. See [page 4](#) for a list of the Vertigo XG's hardware options.

<p>Mouse & Keyboard connectors</p>	<p>The two (2) PS/2 connectors on the rear panel allow you to connect a mouse and keyboard to the Vertigo XG device. These peripherals are required during the device's initial configuration, which involves using the Vertigo XG's desktop applications, including Dashboard. Note that if the mouse or keyboard has a UBS connector, you can connect them to the USB 2.0 connectors on the front or rear panels of the Vertigo XG device.</p>
<p>USB 2.0 Connectors</p>	<p>The four (4) USB 2.0 connectors on the rear panel allow you to connect peripheral devices (e.g. keyboard, mouse, flash drive...etc) to the Vertigo XG.</p>

<p>Serial RS-232 Port</p>	<p>The two (2) RS-232 connectors provide two control ports upon which the automation system's serial cables are connected. It is through this connection that the automation system communicates and controls the Vertigo XG using automation protocol commands.</p> <table border="1" data-bbox="690 409 922 667"> <thead> <tr> <th>Pin No.</th> <th>Signal Name RS232</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CD</td> </tr> <tr> <td>2</td> <td>RD</td> </tr> <tr> <td>3</td> <td>TD</td> </tr> <tr> <td>4</td> <td>DTR</td> </tr> <tr> <td>5</td> <td>Ground</td> </tr> <tr> <td>6</td> <td>DSR</td> </tr> <tr> <td>7</td> <td>RTS</td> </tr> <tr> <td>8</td> <td>CTS</td> </tr> <tr> <td>9</td> <td>RI</td> </tr> </tbody> </table>  <p>Connector type: 9 pin male D type.</p>	Pin No.	Signal Name RS232	1	CD	2	RD	3	TD	4	DTR	5	Ground	6	DSR	7	RTS	8	CTS	9	RI
Pin No.	Signal Name RS232																				
1	CD																				
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4	DTR																				
5	Ground																				
6	DSR																				
7	RTS																				
8	CTS																				
9	RI																				
<p>Network Ethernet Connectors</p>	<p>The two (2) Network Ethernet connectors are teamed and allow you to connect the Vertigo XG device to the Local Area Network (LAN). NIC Teaming is a networking concept where multiple network adapters within a computer are combined in parallel to provide redundancy for the network interface. On an Vertigo XG device, the two Local Area Connection network adapters are teamed together (connect 2 cables to the 2 NIC cards at the same time) to form a third virtual adapter. In the event of an adapter, cable or switch failure, the network interface fails over to the healthy adapter. When the individual Local Area Network adapters are teamed together the individual Local Area Network adapters are not accessible or configurable. Only the teamed virtual adapter, called <i>Vertigo</i>, can be configured. If you only have 1 cable connected, then the teaming will still be in effect but all traffic will be over that one cable. If that NIC fail, you will have to manually move the cable to the other NIC.</p>																				
<p>Audio I/O ports</p>	<p>These six (6) audio I/O ports are not supported by the Vertigo XG since external audio input and output is provided by the Discrete EAS option (see Audio Input/Output Channels, on page 13).</p>																				
<p>Graphics Card's DVI Connectors</p>	<p>The graphics card's DVI and DisplayPort connectors allow you to connect the Vertigo XG device to DVI monitor. A monitor is only required during the device's initial configuration, so as to display Vertigo XG's desktop applications, including XG Dashboard. Note that although there are three connectors, the Vertigo XG can display to only one monitor. Therefore, it does matter which of the connectors the monitor's cable is connected to. Use the adapter (below) if you would rather connect a VGA monitor.</p>																				

<p>RS-422 Connectors</p>	<p>Vertigo XG hardware option: Vx-RS422-e</p> <p>The RS-422 connectors provide two control ports upon which the automation system’s serial cables are connected. It is through this connection that the automation system communicates and controls the Vertigo XG using automation protocol commands.</p> <p>The following represents the pinout assignments of the RS-422 connector:</p> <table border="1" data-bbox="669 514 951 814"> <thead> <tr> <th>PIN #</th> <th>Signal Name</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Chassis GND</td> </tr> <tr> <td>2</td> <td>TX-</td> </tr> <tr> <td>3</td> <td>RX+</td> </tr> <tr> <td>4</td> <td>NC</td> </tr> <tr> <td>5</td> <td>NC</td> </tr> <tr> <td>6</td> <td>GND</td> </tr> <tr> <td>7</td> <td>TX+</td> </tr> <tr> <td>8</td> <td>RX-</td> </tr> <tr> <td>9</td> <td>NC</td> </tr> </tbody> </table> 	PIN #	Signal Name	1	Chassis GND	2	TX-	3	RX+	4	NC	5	NC	6	GND	7	TX+	8	RX-	9	NC
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3	RX+																				
4	NC																				
5	NC																				
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7	TX+																				
8	RX-																				
9	NC																				
<p>Time Code Card</p>	<p>Time Code Card option: VX-TC-e</p> <p>The Time Code card allows you to lock the Vertigo XG’s system clock to an external timecode. The Time Code card reads Longitudinal Time Code (LTC) from the signal present at the BNC connector.</p> <p>The Time Code option ensures an accurate time stamp for system logs. Accurate time is also required for time-based on-air graphics (i.e. countdown clocks).</p>																				
<p>SDI Video Card I/O Connector</p>	<p>A breakout cable is used to connect the Video Card I/O connectors to the SDI video input/output cables and the reference I/O. See Video Input/Output Channels, on page 12 for more information about the Vertigo XG’s video input/output channel connections.</p>																				

<p>Discrete Audio connectors</p>	<p>Vertigo XG hardware option: Vx-Audio-e A breakout cable is used to connect the optional discrete audio card I/O connectors to the BNC audio input/output cables. See Audio Input/Output Channels, on page 13 for more information about the Vertigo XG's discrete audio input/output channel connections.</p>																																										
<p>GPI Card Connector</p>	<p>Vertigo XG hardware option: Vx-GPI-8-e The GPI card allows for control of the Vertigo XG via GPI triggers. The card provides for up to 8 optically isolated GPI inputs and 8 reed relay GPI outputs. Port A is an 8 bit input port connected to optically isolated inputs sensors. Each sensor can be used to interface a voltage and then sense whether the voltage is on or off. The reed relays are well suited for low current applications. The relays are normally open, and will close when energized. The following tables identify the pinout assignment for the GPI card's input and output ports:</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="711 821 984 848"> <p>Input Ports Pin Assignment</p> <table border="1" data-bbox="727 856 967 1117"> <thead> <tr> <th>Port A Bit</th> <th>Port A Pins</th> </tr> </thead> <tbody> <tr><td>0</td><td>2, 40</td></tr> <tr><td>1</td><td>3, 41</td></tr> <tr><td>2</td><td>4, 36</td></tr> <tr><td>3</td><td>5, 37</td></tr> <tr><td>4</td><td>6, 38</td></tr> <tr><td>5</td><td>7, 42</td></tr> <tr><td>6</td><td>8, 43</td></tr> <tr><td>7</td><td>9, 44</td></tr> </tbody> </table> </div> <div data-bbox="1070 821 1365 848"> <p>Output Ports Pin Assignment</p> <table border="1" data-bbox="1092 856 1339 1125"> <thead> <tr> <th>Port C Bit</th> <th>Port A Pins</th> </tr> </thead> <tbody> <tr><td>0</td><td>10, 28</td></tr> <tr><td>1</td><td>11, 29</td></tr> <tr><td>2</td><td>12, 30</td></tr> <tr><td>3</td><td>13, 31</td></tr> <tr><td>4</td><td>14, 32</td></tr> <tr><td>5</td><td>15, 33</td></tr> <tr><td>6</td><td>16, 34</td></tr> <tr><td>7</td><td>17, 35</td></tr> </tbody> </table> </div> </div> <div style="text-align: center; margin: 10px 0;">  <p>DB-44S (Female Socket Front View)</p> </div> <div style="text-align: center; margin: 10px 0;"> <p>Power and Ground Pin Assignments</p> <table border="1" data-bbox="927 1297 1170 1388"> <tbody> <tr> <td>Ground</td> <td>22, 23, 24</td> </tr> <tr> <td>+ 5 Volts</td> <td>39</td> </tr> <tr> <td>+12 Volts</td> <td>1</td> </tr> </tbody> </table> </div>	Port A Bit	Port A Pins	0	2, 40	1	3, 41	2	4, 36	3	5, 37	4	6, 38	5	7, 42	6	8, 43	7	9, 44	Port C Bit	Port A Pins	0	10, 28	1	11, 29	2	12, 30	3	13, 31	4	14, 32	5	15, 33	6	16, 34	7	17, 35	Ground	22, 23, 24	+ 5 Volts	39	+12 Volts	1
Port A Bit	Port A Pins																																										
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Vertigo XG Signal Path and Rendering Processes

The Vertigo XG HD/SD graphics processor block diagram demonstrates that the audio and video signals are brought into the Vertigo XG hardware, exposed to various processing options, and then rendered for output.

To help you make more informed configuration decisions, the following sections describe the signal path and processing options that performed by the Vertigo XG hardware and software drivers.

- [Video Input/Output Channels](#), on page 12
- [Audio Input/Output Channels](#), on page 13
- [Ancillary Data Processing](#), on page 13
- [Graphics Processing](#), on page 14
- [Clip Player and Media Storage](#), on page 14

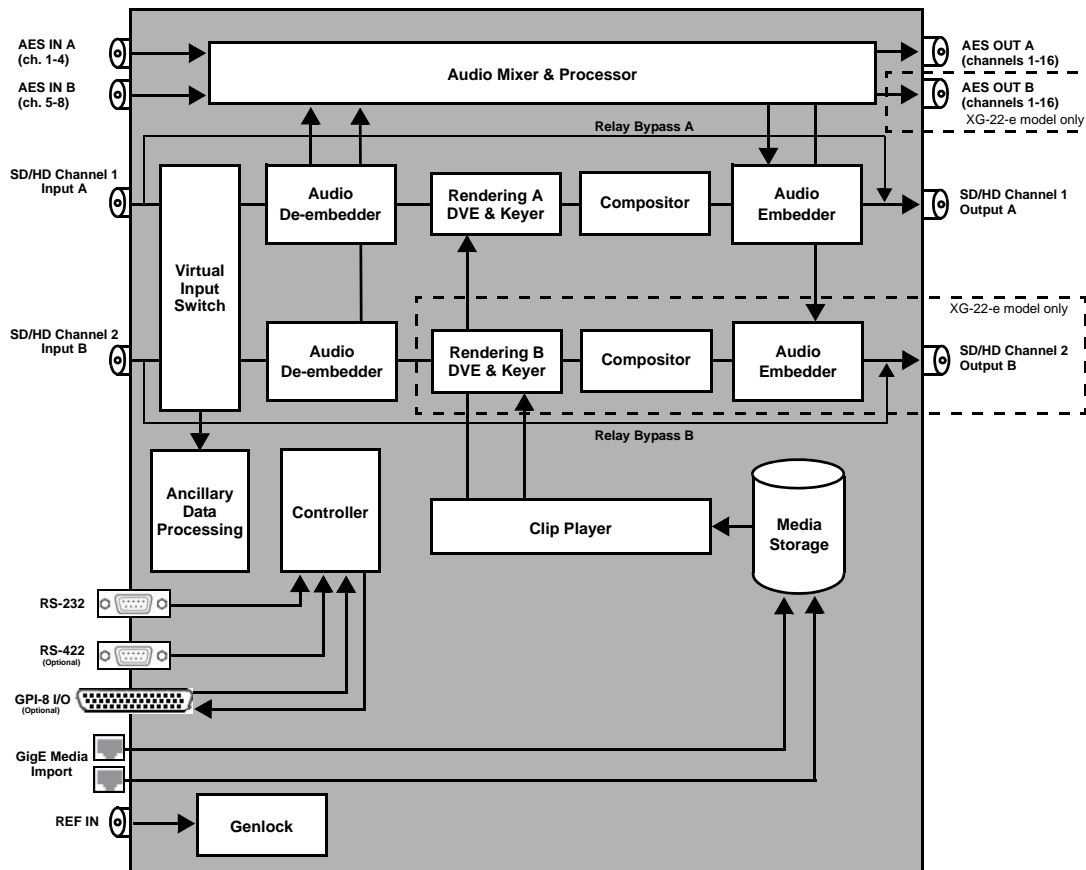
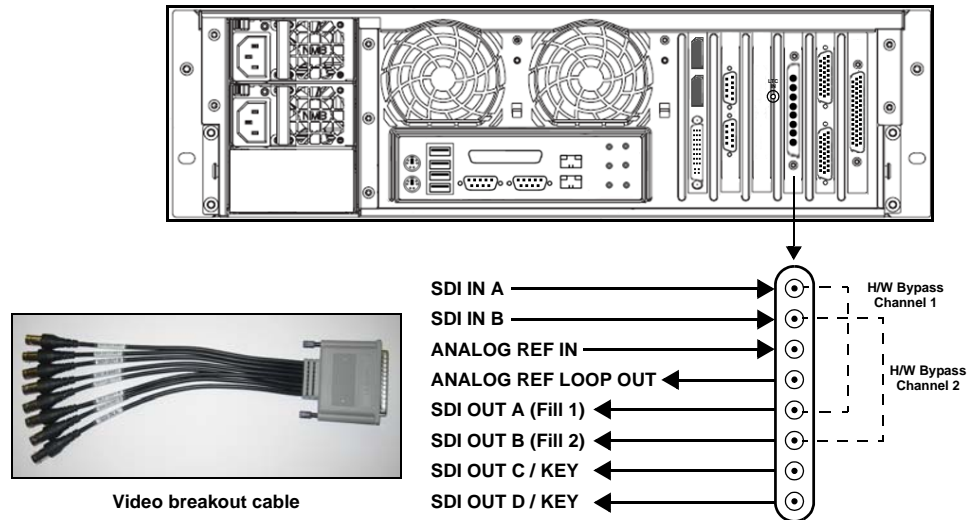


Fig. 2-2: Block diagram of the dual channel Vertigo XG (VX-Vertigo-XG22-e)

Video Input/Output Channels

Depending on the model, Vertigo XG devices offer two (2) video SD/HD input channels with one (1) or two (2) video SD/HD output channels. The following table identifies the Vertigo XG video card's input and output connections, including the hardware bypass.

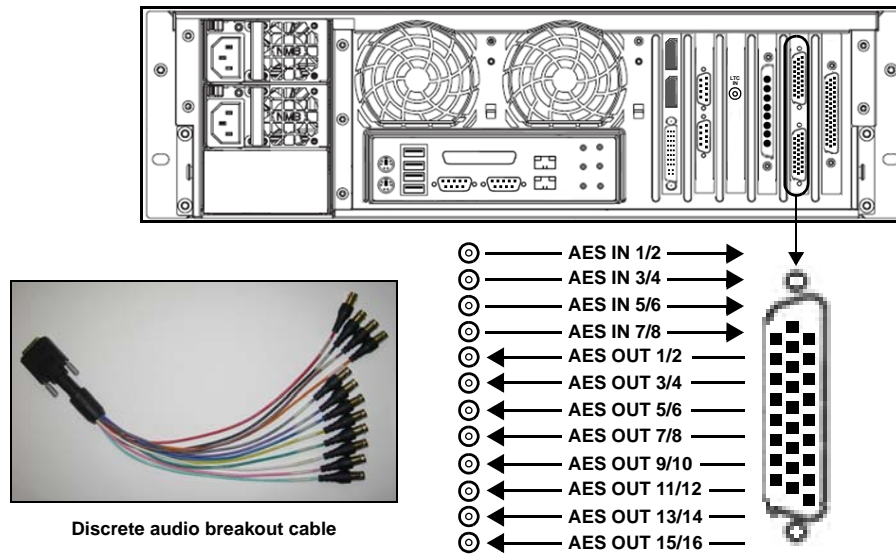


Pin/Channel Name	Description
SDI IN A	SDI IN A is the primary input channel connection.
SDI IN B	SDI IN B can act as a separate input channel.
ANALOG REF IN	Analog Ref In is the input reference signal used by the Genlock hardware to synchronize the phase timing video and graphics processing.
ANALOG REF LOOP OUT	Analog Ref Out loops the signal that comes in through the Analog Ref In channel.
SDI OUT A	SDI OUT A (Fill 1) is the primary output channel connection.
SDI OUT B	SDI OUT B (Fill 2) is the second output channel in a dual-channel configuration. No signal is present at this connection for single-channel configurations.
SDI OUT C / KEY	SDI OUT C is the matching Key channel for SDI OUT A.
SDI OUT D / KEY	SDI OUT D is the matching Key channel for SDI OUT B. No signal is present at this connection for single-channel configurations.

Audio Input/Output Channels

The Vertigo XG supports both embedded and discrete audio channels. Each video input/output can contain up to 8 stereo pairs (16 channels) of embedded audio.

The number of discrete audio input/output channels depends on the number of physical inputs available. For each physical input available there will be a discrete audio breakout cable. Each discrete audio breakout cable contains 4 BNC inputs and 8 BNC outputs. Each BNC connector represents 1 stereo pair (2 channels) of digital AES/EBU audio. Therefore, each discrete audio breakout cable contains 4 stereo pairs (8 channels) of input and 8 stereo pairs (16 channels) of output.



When capturing audio, the Vertigo XG can capture embedded and discrete simultaneously, however there are restrictions. The stereo pair cannot be captured from both sources at the same time. For example, if only capturing pairs 1 & 2 from embedded, then pairs 1 & 2 are not available from AES, but 3-8 are available.

The Vertigo XG performs one-to-one passthrough of audio. All captured audio will be broadcast on the corresponding outputs. For example, if the first 2 stereo pairs of embedded audio on SDI IN A are captured, then the signal will be output as the first 2 stereo pairs of embedded audio on SDI OUT A and simultaneously on AES discrete outputs 1 & 2.

Ancillary Data Processing

The Vertigo XG reserves some hardware functionality for the extraction, processing, and insertion of ancillary data into the output video signal, for example, Vertical Ancillary (Vanc) data and Vertical Blanking Interval (VBI) data.

The ancillary data space can be used as a transport mechanism for data to be extracted by the Vertigo XG for triggering keyers, squeezes (DVEs) or other graphics events. Metadata embedded upstream of the Vertigo XG is extracted and processed by the control application to control these actions.

Graphics Processing

The Vertigo XG is a multi-layered graphics engine that supports loading of multiple graphics scenes on independently-controlled, dynamic layers. The number of layers to be controlled is defined in the control application (Xplay, Xplay Pro, or Xpanel).

The engine supports a large number of graphics objects, including input video, images, clips, cel animations, text, crawls, rolls, all within a single graphics layer. Graphics output is created by positioning objects within a graphics scene using the authoring tool set, and loading the scene onto the Vertigo XG.

Digital video effects (DVEs) are created, loaded, and controlled as standard graphics. The video object supports a wide variety of integrated transitions, as well as a full animation timeline to create custom moves.

The Vertigo XG supports hardware and software bypasses for video inputs in the case of power loss and hardware or software failure.

Clip Player and Media Storage

The Vertigo XG offers a video/audio clip player option (VX-ClipPlayer) that can output clips simultaneously. It is ideal for the playout of full screen or partial screen clips.

The Vertigo XG also offers expandable RAID 10 storage option, which increases the devices storage capacity from 1 TB to 2 TB (VX-2TB-UPG). The following table demonstrates that when the clip player is used with the expandable storage option, the Vertigo XG allows for the storage of up to 400 hours of clips in multiple formats.

Mbps	Clip storage with different storage options (hours)	
	1 TB	2 TB
10	200	400
50	40	80
100	20	40

3

Installation and Quick Start Instructions

This chapter provides you with instructions for performing a first-time installation of the Vertigo XG device, as well as the initial setup tasks to get the device up and running. The procedure concludes by verifying the installation by previewing the layout of an asset in Vertigo XG's Live Window and a broadcast monitor.

WARNING

Vertigo XG devices should only be installed by trained personnel in a restricted access locations only. All health and safety regulations and precautions must be observed.

The following table summarizes the tasks that you must perform to install and set up a brand new, factory-configured Vertigo XG device.

Step #	Task description
1	Unpack the parts included in the shipping package (page 17) <ul style="list-style-type: none">• Verify the completeness and condition of all of the items included in the shipping package• Familiarize yourself with each of the items related to the Vertigo XG
2	Install the Vertigo XG chassis in a rack (page 18) <ul style="list-style-type: none">• Remove the faceplate from the Vertigo XG unit• Install the rails on the side of the Vertigo XG unit and in the rack slot• Mount the Vertigo XG unit in the rack and re-attach the faceplate
3	Cabling the Vertigo XG unit (page 19) <ul style="list-style-type: none">• Connect the power supply cables• Connect the keyboard and mouse• Connect the DVI monitor• Connect the ethernet network cable(s)• Connect the SDI video I/O cable• Connect the discrete AES audio cable(s)• Connect the automation system cable to the RS-232 / RS-422 ports• Connect cable to time code card• Connect cable to GPI card
4	Start up the Vertigo XG device (page 21) <ul style="list-style-type: none">• Plug the DVI monitor's power cable into a power socket and power it on• Plug the Vertigo XG's power supply cables into a power socket• Power on the Vertigo XG unit
5	Assign a new IP Address for the Vertigo XG device (page 21)

Step #	Task description
6	Verify the installation by previewing the payout of an asset (page 22) <ul style="list-style-type: none">• Verify the Vertigo XG's Output Resolution setting• Enable the Vertigo XG's Live Window• In Xplay, add an asset to a playlist and verify that it plays out properly• On a dual channel Vertigo XG, repeat the above steps for channel B
7	Complete the quick start procedure (page 23) <ul style="list-style-type: none">• Disable the Vertigo XG's Live Windows• Disconnect the keyboard, mouse and DVI monitor

Unpacking and Verifying the Vertigo XG Shipped Items

The Vertigo XG device is packaged and shipped with the items listed in the table below. As you unpack the contents of the shipment, please verify the completeness and condition of the contents of your received shipment. We also recommend that before attempting to install the unit you use the table below to familiarize yourself with each of the items related to the Vertigo XG.

Note: If any damage occurred during transportation or if any items are missing from the package, please contact Grass Valley.

1 x 3RU Vertigo XG chassis	<p>The Vertigo XG is available in two (2) standard models:</p> <ul style="list-style-type: none"> • VX-Vertigo-XG21-e The Vertigo XG single channel graphics engine (2 inputs, 1 output). • VX-Vertigo-XG22-e Vertigo XG dual channel graphics engine (2 inputs, 2 outputs).
Rack mounting kit	<ul style="list-style-type: none"> • 2 x rail assemblies • Rail screws • Rail adapters (2) for mounting the chassis in a role-hole equipment rack.
AC power cables	Two (2) power cables are provided, which connect to the Vertigo XG's power supplies.
Video breakout cable	<p>Depending on the model, Vertigo XG devices offer two (2) video SD/HD input channels with one or two video SD/HD output channels.</p> <p>The breakout cable is used to connect the Video Card I/O connector to 2 SDI inputs, 1 reference input, 1 reference output, and 4 SDI outputs.</p>
Discrete (AES) audio breakout cable	<p>Single channel Vertigo XG units (XG21-e) have one discrete (AES) audio connector, while dual channel Vertigo XG units (XG22-e) have two discrete (AES) audio connectors.</p> <p>For each physical SDI video output, there will be a discrete audio breakout cable. Each discrete audio breakout cable contains 4 BNC inputs and 8 BNC outputs. Each BNC connector represents 1 stereo pair (2 channels) of digital AES/EBU audio. Therefore, each discrete audio breakout cable contains 4 stereo pairs (8 channels) of input and 8 stereo pairs (16 channels) of output.</p>
VGA/DVI monitor adapter	<p>A computer monitor is required during the Vertigo XG's initial setup, which involves using the Vertigo XG's desktop applications, including Dashboard.</p> <p>The Vertigo XG's graphics card connectors allow you to connect to a DVI monitor. If you prefer, you can use the VGA/DVI adapter to connect the Vertigo XG device to VGA monitor.</p> <p>Note that although there are DVI and DisplayPort connectors, the Vertigo XG can display to only one monitor. Therefore, it does not matter which of the three connectors the monitor's cable is connected to.</p>

Hard Disk Drive (HDD) screws	The HDD screws are not required during the initial installation of a factory configured Vertigo XG. The HDD screws are required to perform an on-site installation of the 1 TB RAID10 Expansion option (VX-2TB-UPG), which increases the Vertigo XG's usable storage from 1TB to 2TB. Therefore, we recommend storing the HDD screws for future use.
Technical Support Contacts and Warranty card	This card contains warranty information related to the Vertigo XG hardware and software. It also identifies Grass Valley's contact information, which is also provided on page 25 .
License Agreement card	This card describes the terms of the license agreement for the Vertigo XG and Vertigo Suite software.
SuperMicro User's Manual and Bootable CD	Since the Vertigo XG uses the SuperMicro SC835TQ-R800B chassis, we recommend that you consult the <i>SuperMicro SC835 Chassis Series User's Manual</i> regarding important installation and operation information, including the chassis' technical specifications. The <i>SuperMicro SC835 Chassis Series User's Manual</i> is also available for download from the SuperMicro Web Site. The Vertigo XG uses SuperMicro's motherboard. As such, the documentation and bootable CD (drivers & utilities) have been included in the Vertigo XG shipping package.

Mounting the Vertigo XG Chassis in a Rack

Included in the shipping package is a rack mounting kit, which contains the two rail units and screws required to mount the Vertigo XG chassis into an equipment rack. Note that the rails are designed to fit in racks with a depth of 28" to 33".

Complete and detailed instructions for installing the Vertigo XG chassis in a rack are provided in the "Rack Installation" section of the *SuperMicro SC835 Chassis Series User's Manual*.

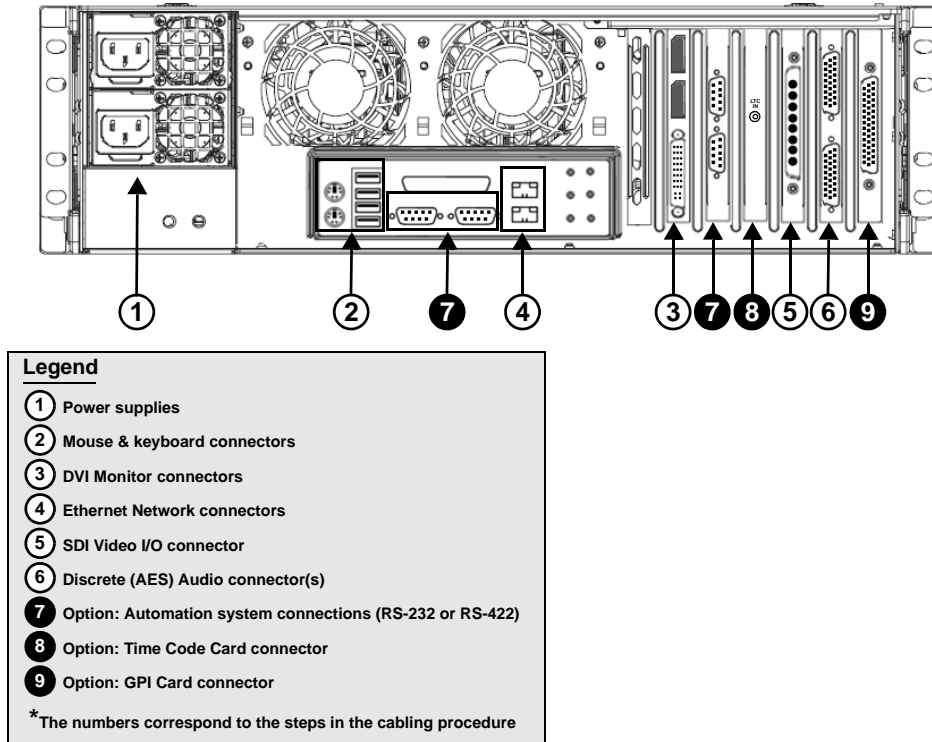


IMPORTANT - Server Chassis Installation

- Vertigo XG units are intended to be installed in restricted locations by qualified personnel.
 - Due to the heavy weight of the unit, the rack in which the Vertigo XG will be installed should be anchored to the building's structure.
 - All health and safety regulations and precautions must be observed as identified in [Important Safeguards and Notices](#), on page iii and in the *SuperMicro SC835 Chassis Series User's Manual*.
-

Cabling the Vertigo XG Unit

Once the Vertigo XG chassis is securely mounted in an equipment rack, you can connect the required cables to the rear connectors of the Vertigo XG unit.



To cable the Vertigo XG

- 1 Connect the two (2) AC power cables to the power supply sockets on the rear panel of the Vertigo XG chassis.

WARNING

DO NOT plug the power cables into AC power sockets yet.

- 2 Connect the keyboard and mouse to the USB connectors on the rear panel of the Vertigo XG. Two PS/2 connections are also available on the rear panel, should you prefer to use another type of keyboard and mouse.
- 3 Connect to a computer monitor to the DVI or DisplayPort connector on the rear panel of the Vertigo XG. If you prefer, you can use the VGA/DVI monitor adapter to connect the Vertigo XG device to VGA monitor.
- 4 Connect the Vertigo XG device to the Local Area Network (LAN) by connecting ethernet cables to the two (2) Network Ethernet connectors.

The Vertigo XG's two network ethernet adapters are teamed together (connect 2 cables to the 2 NIC cards at the same time) to form a third virtual adapter. In the event of an adapter, cable or switch failure, the network interface fails over to the healthy adapter.

If you only have one cable connected, then the teaming is still in effect, but all traffic will be over that one cable. If that NIC fail, you will have to manually move the cable to the other NIC.

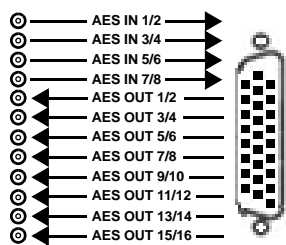
5 Connect the video breakout cable to the SDI Video card I/O connector.

SDI IN A	Primary SDI program input connection for both single and dual channel Vertigo XG units.
SDI IN B	On single channel Vertigo XG units (XG21-e), the SDI IN B is a second SDI program input connection for the single channel. On dual channel Vertigo XG units (XG22-e), the SDI IN B is the primary SDI program input connection for the second channel.
SDI OUT A	Primary output channel connection for both single and dual channel Vertigo XG units. For the purposes of this setup procedure, connect this cable to a broadcast monitor.
SDI OUT B	Second output channel connection for dual channel Vertigo XG units (XG22-e). Not used on single channel Vertigo XG units (XG21-e). For the purposes of this setup procedure, connect this cable to a broadcast monitor.
SDI OUT C /Key SDI OUT D /Key	Both of these connectors are not used by the Vertigo XG.
ANALOG REF IN	Connect to a house reference (Analog Blackburst or HD Tri-Level).
ANALOG REF LOOP OUT	Optional connection. Use to feed a reference signal to another piece of equipment.

6 Connect the Discrete (AES) audio breakout cable to the Discrete audio connector(s).

Single channel Vertigo XG units (XG21-e) have one discrete (AES) audio connector and one breakout cable, while dual channel Vertigo XG units (XG22-e) have two discrete (AES) audio connectors and two breakout cables.

Each discrete audio breakout cable contains 4 BNC inputs and 8 BNC outputs. Each BNC connector represents 1 stereo pair (2 channels) of digital AES/EBU audio. Therefore, each discrete audio breakout cable contains 4 stereo pairs (8 channels) of input and 8 stereo pairs (16 channels) of output.



7 Optional: Connect the automation system cables to the RS-232 or RS-422 connectors.

The two (2) RS-232 connectors are standard equipment on both models of the Vertigo XG, but the RS-422 card is a hardware option.

The RS-232 and RS-422 connectors provide two control ports upon which the automation system's serial cables are connected. It is through this connection that the automation system communicates and controls the Vertigo XG using automation protocol commands.

- 8 Optional: Connect a Time Code Generator to the Time Code card's BNC connector on the rear panel of the Vertigo XG.
The Time Code Card is a hardware option on the Vertigo XG, which allows you to lock the Vertigo XG's system clock to an external timecode. The Time Code card reads Longitudinal Time Code (LTC) from the signal present at the BNC connector.
- 9 Optional: Connect the GPI card's connector to an external control unit that uses GPI to control the Vertigo XG.
The GPI Card is a hardware option on the Vertigo XG, which allows for control of the Vertigo XG via GPI triggers. The card provides for up to 8 optically isolated GPI inputs and 8 reed relay GPI outputs.

Starting the Vertigo XG

Once the Vertigo XG is properly racked and cabled, you can make the power connections and you can perform the first-time start up of the Vertigo XG unit.

- 1 Plug the monitor's power cable into a power socket and power it on.
- 2 Plug the Vertigo XG's power supply cables into a power socket.
- 3 Power on the Vertigo XG unit by pressing the **Power** button on the unit's front panel.

The following table briefly introduces each of the Vertigo XG's desktop applications. The Vertigo XG Configuration Guide provides further details regarding these applications.

Vertigo XG desktop wallpaper	The Vertigo XG desktop wallpaper features the Vertigo XG logo, as well as identification information related to the specific Vertigo XG device.
Vertigo XG Control Panel(s)	Dual channel Vertigo XG units (XG22-e) will display two (2) Control Panels (Channel A & Channel B), while on single channel Vertigo XG units (XG21-e) will display only one. The Control Panel is a simple user interface that allows you to quickly reference general information about the Vertigo XG device, as well as perform basic tasks for operating the Vertigo XG like, loading a scene and launching the XG Dashboard application.
Xplay	Xplay is the playout control application that the master control system or device uses to control the playout of video and graphics on the Vertigo XG device. Whether the Vertigo XG is a single or dual channel model, only one instance of Xplay is used to control the Vertigo XG device's output.

Assigning a New IP Address to the Vertigo XG Device

Factory configured Vertigo XG units are shipped with a dynamic IP address. Using DHCP is not recommend, so you must assign a new static IP Address to the Vertigo XG device.

Before assigning a static IP address, it is worth noting that the Vertigo XG's two network ethernet adapters are teamed together (connect 2 cables to the 2 NIC cards at the same time) to form a third virtual adapter. As such, you must configure the static IP address for the network connection named "Vertigo". Please consult the standard Windows 7 procedure related to network settings.

Verifying the Installation and Setup by Previewing the Playout

To verify that the Vertigo XG is properly connected and operating, we recommend that you use the local copy of Xplay to load and playout an asset in the Live window and broadcast monitor associated with the Vertigo XG's Channel A. For dual channel Vertigo XG devices, we recommend performing the same verification tasks on Channel B.

The following sections provide instructions for verifying the installation and setup of the Vertigo XG:

- 1 [Verify the Vertigo XG's Output Resolution](#), on page 22
- 2 [Enable the Vertigo XG's Live Window](#), on page 22
- 3 [Use Xplay to Playout a Graphic](#), on page 23

Verify the Vertigo XG's Output Resolution

Each of the Vertigo XG's output channels (Channel A and Channel B) have an Output Resolution setting on their respective Dashboard, which determines the format of the Vertigo XG's output signal.

To verify (and change if necessary) a Vertigo XG's output channel resolution

- 1 In the Vertigo XG's Control Panel for Channel A, select the **Tools>Launch Dashboard** menu command.
- 2 Select the device's channel from the Device List.
If the device is not listed in Dashboard's Device List, perform a device discovery (see the Vertigo XG Configuration Guide for instructions).
- 3 Verify the **Output Resolution** setting. If the setting represents your desired output resolution, continue to the next task.
If the Output Resolution setting is not what you desire, then select a different resolution from the drop-down list and click the **Apply Changes** button. When prompted, click **Yes** to apply the changes. Click **Yes** again to restart the device, which applies the new setting.

Enable the Vertigo XG's Live Window

For installation and troubleshooting purposes, the Vertigo XG is equipped with a preview window called the Live Window. The Live Window allows you to display a representation of the output channel's playout directly on the Vertigo XG's desktop.

To enable the device channel's Live Window

- 1 If Channel A's Dashboard is not already open, select the **Tools>Launch Dashboard** menu command in the Vertigo XG's Control Panel for Channel A. Then, select the device's channel from the Device List.
- 2 Select **Advanced** from the Settings Mode drop-down list.
- 3 When prompted, click **Yes** to switch to advance mode.
- 4 Select the **Live Window** tab and check the **Enabled** box.
- 5 Click the **Apply Changes** button. When prompted, click **Yes** to apply the changes.
- 6 When prompted, click **Yes** to perform a restart of the Vertigo XG device.

Once the device has restarted, the Live Window appears on the Vertigo XG's desktop.

Note: For interlaced modes it is normal that the Live window appears as half the expected height, since individual fields are being displayed on a progressive PC output.

Use Xplay to Playout a Graphic

To verify that the Vertigo XG is properly connected and playing out, the following procedures has you add a template asset to the playlist, then cue and take the asset so that it plays out in the Live window, as well as the broadcast monitor.

Note: These instructions describe playing out on the Vertigo XG's primary output (channel A). To verify a dual channel Vertigo XG's second output (channel B), you must perform the same setup and playout instructions ([page 22](#)), but using the Dashboard, Live Window, broadcast monitor and Xplay device viewers associated with Channel B.

To verify the Vertigo XG's playout

- 1 In Xplay, verify that the **Device 1** viewer's LED is green, indicating that it is actively connected to the Vertigo XG's channel A.
If the LED is red, double-click on the LED to connect to the device. If it still does not change to green, verify that the device is properly configured in Xplay's Device Manager. Consult the Vertigo XG Configuration Guide for more information.
- 2 Verify that the **Device 1** Keyer is turned on (pink).
If the **Device 1** Keyer is turned off (grey), right-click on the **Device 1** Keyer and select the **Turn Keyer On** command.
- 3 Enable Xplay's **Verify Playlist** setting by selecting the **Tools>Settings** menu command. Select **Playout** and then verify that the **Verify Playlist** setting is enabled. Click **OK**.
- 4 In the Asset Browser, double-click a published template/page.
The template is added to the playlist.
- 5 Select the template in the playlist and click the **Cue** button in the Device Viewer.
The template is displayed in the Device Viewer.
- 6 Click the **Take** button.
The graphic is played out on both the Vertigo XG's Live Window and the broadcast monitor.

Completing the Quick Start Procedure

With the Vertigo XG now capable of playing out graphics, we recommend that you disable the Live Windows as they put an unnecessary burden on the system's resources during on-air playout.

Since the mouse, keyboard and DVI monitor are only used during the setup and configuration procedures, you can also disconnect these peripherals from the Vertigo XG unit.

To disable the Live Window

- 1 If Channel A's Dashboard is not already open, select the **Tools>Launch Dashboard** menu command in the Vertigo XG's Control Panel for Channel A. Then, select the device's channel from the Device List.
- 2 Select **Advanced** from the Settings Mode drop-down list.
- 3 When prompted, click **Yes** to switch to advance mode.
- 4 Select the **Live Window** tab and clear (disable) the **Enabled** box.
- 5 Click the **Apply Changes** button. When prompted, click **Yes** to apply the changes.
- 6 When prompted, click **Yes** to perform a restart of the Vertigo XG device.
- 7 On dual channel Vertigo XG devices, repeat these steps for Output Channel B.



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 Web site (www.grassvalley.com).

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

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