

Intuition XG

Advanced HD/SD Graphics Processor

Installation & Quick Start Guide

M848-9005-491



grass valley
A **BELDEN** BRAND

www.miranda.com

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Revision History

After the original release date, this document may be updated with edits and then re-released. The following table tracks the versions of this document.

Revision date	Description
March 31, 2014	Original release
May 12, 2014	<ul style="list-style-type: none"><li data-bbox="438 406 1056 461">• Rebranded this document from Miranda Technologies Partnership to Grass Valley, A Belden Brand.<li data-bbox="438 470 1067 526">• Added multilingual and extensive safety and regulatory information.<li data-bbox="438 534 1077 677">• Updated all images and descriptions of the Intuition XG's 3RU to reflect the changes in the new chassis model. For for information related to the previous chassis model, please consult the v.4.9 GA (or earlier) version of this document.

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.

[fr] **Conformité aux normes de sécurité**

Cet équipement est conforme aux exigences de CSA/UL/IEC/EN 60950-1, 2^e éd. + AM1, Sécurité du matériel informatique.

Les cordons d'alimentation fournis avec l'appareil répondent aux normes nationales appropriées du pays destinataire.

[es] **Conformidad en seguridad eléctrica**

Este equipo cumple con las exigencias de la CSA/UL/IEC/EN 60950-1, 2^a ed. + AM1, Seguridad de los equipos de tecnología de la información.

Los cables de alimentación incluidos con el equipo cumplen con las normas nacionales apropiadas para el país de destino.

[pt] **Conformidade de segurança elétrica**

Este equipamento está em conformidade com os requisitos da CSA/UL/IEC/EN 60950-1, 2^a ed. + AM1, Segurança de equipamento de tecnologia da informação.

Os cabos de alimentação fornecidos com este equipamento encontram as normas nacionais adequadas para o país de destino.

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

[fr] **Sécurité laser**

L'appareil comprend des modules laser de classe 1. Ces modules sont certifiés conformes aux normes suivantes par le fabricant :

- IEC/EN 60825-1 Sécurité des appareils à laser
- IEC 60950-1 Sécurité du matériel informatique

[es] **Seguridad por los módulos laser**

Este equipo incorpora módulos láser de la Clase 1

Estos módulos están certificados por el fabricante para cumplir con:

- IEC/EN 60825-1 Seguridad de los productos láser
- IEC 60950-1 Seguridad de los equipos de tecnología de la información

[pt] **Segurança por módulo de laser**

Este equipamento incorpora módulos que contêm laser da classe 1. Estes módulos são certificados pelo fabricante em conformidade com:

- IEC/EN 60825-1 Segurança de equipamentos laser
 - IEC 60950-1 Segurança de equipamento de tecnologia da informação
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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.

[fr] 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.

[es] Medidas de seguridad y avisos importantes

Esta sección proporciona pautas de seguridad importantes para los operadores y el personal de servicio. Advertencias y precauciones específicas aparecen en el manual para su aplicación. Por favor, lea y siga esta importante información, especialmente aquellas instrucciones relacionadas con el riesgo de descarga eléctrica o lesiones a las personas.

[pt] Salvaguardas e avisos importantes

Esta seção fornece diretrizes de segurança importantes para os operadores e pessoal de serviço. Avisos e cuidados específicos estão listados no manual para sua aplicação. Por favor, leia e siga esta informação importante, especialmente aquelas instruções relacionadas ao risco de choque elétrico ou ferimentos.

Symbols and Their Meanings



The lightning flash with arrowhead symbol within an equilateral triangle alerts the user to the presence of dangerous voltages within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle alerts the user to the presence of important operating and maintenance/service instructions.



The earth ground symbol represents a protective grounding terminal. Such a terminal must be connected to earth ground prior to making any other connections to the equipment.



The fuse symbol indicates that the fuse referenced in the text must be replaced with one having the ratings indicated.



The presence of this symbol in or on Grass Valley, A Belden Brand equipment means that it has been designed, 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, A Belden Brand equipment means that it has been designed, 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, A Belden Brand equipment means that it has been designed, tested and certified as essentially complying with all applicable European Union (CE) directives.



The presence of this symbol in or on Grass Valley, A Belden Brand 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.
- Heed all warnings on the unit and in the operating instructions.
- Do not use this equipment in or near water.
- 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.
- 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.
- Do not wear rings or wristwatches when troubleshooting high current circuits such as the power supplies.
- To avoid fire hazard, use only the specified fuses with the correct type number, voltage and current ratings as referenced in the appropriate locations in the service instructions or on the equipment. Always refer fuse replacements to qualified service personnel.
- To avoid explosion, do not operate this equipment in an explosive atmosphere.
- 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.
- Have qualified service personnel perform safety checks after any service.

[fr] Avertissements

- 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.
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- Dans le présent manuel, toutes les instructions qui nécessitent d'ouvrir le couvercle de l'équipement sont destinées exclusivement au personnel technique qualifié.
 - Respectez tous les avertissements figurant sur l'appareil et dans les instructions d'utilisation.
 - Ne pas utiliser cet appareil dans l'eau ou à proximité d'un point d'eau.
 - 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.
 - 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 visant des circuits à courant élevé (e.g., les blocs d'alimentation), enlevez tous vos bijoux (notamment vos bagues et votre montre).
 - Pour éviter tout risque d'incendie, utilisez uniquement les fusibles du type et du calibre indiqués dans la documentation ou sur l'équipement. Confiez le remplacement de fusibles au personnel technique qualifié.
 - Ne pas utiliser cet appareil dans une atmosphère explosive.
 - 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.
 - Après tout travail d'entretien ou de réparation, faites effectuer des contrôles de sécurité par le personnel technique qualifié.

[es] **Advertencias**

- Un cable de alimentación aprobado deberá ser utilizado para la conexión del equipo a la tensión de red de 120 V CA o 240 V CA.
 - Este producto depende de la instalación del edificio para la protección de cortocircuitos (sobre-corriente). Asegúrese que un fusible o un interruptor térmico de 120 V CA o 240 V CA se utiliza en los conductores de fase.
 - Todas las instrucciones de este manual que requieren abrir la tapa del equipo se llevará a cabo por personal técnico calificado.
 - Respete todas las advertencias en el equipo y las instrucciones de funcionamiento.
 - No utilice este producto en el agua o cerca de este.
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- Este equipo está conectado a tierra a través del conductor de puesta a tierra de los cables de alimentación. Para evitar una descarga eléctrica, enchufe el cable de alimentación a un tomacorriente debidamente instalado antes de conectar las entradas y salidas del equipo.
 - Instale los cables de alimentación y otros cables de forma de evitar ser dañados.
 - Desconecte la alimentación antes de limpiar el equipo. No use limpiadores líquidos o aerosoles, utilizar un paño húmedo.
 - Pueden existir tensiones peligrosas en varios puntos de este equipo. Para evitar lesiones, no toque las conexiones y componentes expuestos cuando la unidad está con alimentación.
 - No use anillos o relojes al solucionar problemas de circuitos de alta corriente como fuentes de alimentación.
 - Para evitar el riesgo de incendios, utilice sólo el fusible indicado con el número de tipo correcto, el voltaje y la corriente que se hace referencia en los lugares apropiados en las instrucciones de los servicios o el equipo. Siempre consulte el reemplazo del fusible a personal calificado.
 - Para evitar explosiones, no utilice este equipo en una atmósfera explosiva.
 - Este producto incluye una batería de reserva. Existe el peligro de explosión si la batería se instala de forma incorrecta. Reemplace la batería únicamente con el mismo tipo o equivalente recomendada por el fabricante. Deshágase de las baterías usadas según las instrucciones del fabricante.
 - Deje al personal calificado realizar las verificaciones de seguridad después de un servicio.

[pt] **Advertências**

- Um cabo de alimentação aprovado deve ser utilizado para ligar o equipamento à tensão da rede de 120 V CA ou 240 V CA.
 - Este produto baseia-se na instalação do edifício para proteção por curto-circuito (sobrecarga de corrente). Certifique-se de que um fusível ou disjuntor para 120 V CA ou 240 V CA é utilizado nos condutores de fase.
 - Todas as instruções contidas neste manual, que exigem a abertura da tampa do equipamento será realizada por pessoal qualificado.
 - Preste atenção a todos os avisos no equipamento e instruções de operação.
 - Não use este produto em ou perto da água.
 - Este equipamento é aterrado através do condutor de aterramento do cabo de alimentação. Para evitar choque elétrico, conecte o cabo de alimentação a uma tomada devidamente instalada antes de ligar as entradas e saídas do dispositivo.
 - Instale os cabos de alimentação e os outros cabos de modo a evitar danos.
 - Desligue a alimentação antes de limpar o equipamento. Não use detergentes líquidos ou aerossóis, usar um pano úmido.
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- Tensões perigosas podem existir em vários pontos deste equipamento. Para evitar ferimentos, não toque as conexões e componentes expostos quando o aparelho está ligado.
 - Não usar anéis ou relógios ao solucionar problemas de circuitos de alta tensão, tais como fontes de alimentação.
 - Para evitar o risco de incêndio, utilize apenas o número especificado de fusível de tipo correto de tensão e corrente a que se refere o manual de serviço adequado. Referem-se sempre trocar o fusível por pessoal qualificado.
 - Para evitar a explosão, não utilize este equipamento em uma atmosfera explosiva.
 - Este produto inclui uma bateria de backup. Existe o perigo de explosão se a bateria está instalada incorretamente. Substitua a bateria somente com o mesmo tipo ou equivalente recomendado pelo fabricante. Elimine as baterias usadas de acordo com as instruções do fabricante.
 - Deixe o pessoal qualificado executar verificações de segurança depois de um serviço.
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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.
- 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 has more than one power supply cord. Disconnect both power supply cords before servicing to avoid electric shock.
- To prevent damage to equipment when replacing fuses, locate and correct the problem that caused the fuse to blow before re-applying power.
- Use only the specified replacement parts.
- Follow static precautions at all times when handling this equipment.
- 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.

[fr] Mises en garde

- 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.
 - 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 comporte plus d'un cordon d'alimentation. Afin de prévenir les chocs électriques, débrancher les deux cordons d'alimentation avant toute opération d'entretien.
 - Pour éviter d'endommager l'équipement lors du remplacement de fusibles, localisez la source de la panne et corrigez la situation avant de rétablir le courant.
 - Employez uniquement les pièces de rechange recommandées par le fabricant.
 - Veillez à toujours prendre les mesures de protection antistatique appropriées quand vous manipulez l'équipement.
 - 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.
-

[es] Precauciones

- Este equipo está destinado a ser instalado en un lugar de acceso restringido.
- Al instalar este equipo, no sujete el cable de alimentación a la superficie del edificio.
- No realice reparaciones que no se encuentren en las instrucciones de funcionamiento a menos que esté calificado para hacerlo. Confíe las reparaciones a personal técnico calificado. El mantenimiento debe realizarse en un ambiente libre de estática.
- Esta unidad incluye dos cables de alimentación. Desconecte ambas fuentes de alimentación antes de dar servicio, para reducir el riesgo de descarga eléctrica.
- Para evitar daños en el equipo al sustituir los fusibles, primero localizar y corregir el problema que causó que el fusible se funda antes de aplicar la alimentación de nuevo.
- Utilice únicamente repuestos específicos.
- Siga las precauciones DES en todo momento al manipular este equipo.
- Los productos que no tienen interruptor de encendido/apagado, y utilizan una fuente de alimentación externa deben instalarse cerca de una toma de corriente de fácil acceso.

[pt] Precauções

- Este material destina-se a ser instalado em um acesso restrito.
 - Quando instalar o equipamento, não fixar o cabo de alimentação em superfícies do edifício.
 - Não faça reparações que não estão no manual de instruções, a menos que você estiver qualificado. Solicite a assistência de pessoal qualificado. A manutenção deve ser realizada em um ambiente livre de estática.
 - Esta unidade inclui dois cabos de alimentação. Desligue ambas as fontes de alimentação antes de manutenção para reduzir o risco de choque elétrico.
 - Para evitar danos ao equipamento ao substituir fusíveis, primeiro localizar e corrigir o problema que causou o fusível fundir antes de aplicar energia novamente.
 - Use unicamente partes específicas.
 - Siga as precauções DES em todos os momentos ao manusear este equipamento.
 - Os produtos que não têm um interruptor de ligar/desligar, e usam uma fonte de alimentação externa devem ser instalados perto de uma tomada elétrica de fácil acesso.
-

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.

[fr] 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.
-

[es] **Protección contra descargas electrostáticas (DES)**

La descarga electrostática se produce cuando los componentes electrónicos se manipulan de forma incorrecta pudiendo causar una falla intermitente o total afectando un circuito eléctrico. Al quitar y reemplazar una tarjeta de un chasis siempre siga los procedimientos para prevenir la DES:

- Asegúrese de que el chasis está conectado eléctricamente a tierra a través del cable de alimentación o cualquier otro medio si está disponible.
- Use una pulsera de DES asegurando que tiene buen contacto con la piel. Conecte la pinza de puesta a tierra a una *superficie sin pintar* del chasis para desviar a tierra cualquier voltaje de DES indeseable. Si ninguna pulsera está disponible, conéctese a tierra tocando la parte metálica *sin pintar* del chasis.
- Para su seguridad, verifique periódicamente el valor de la resistencia de la pulsera antiestática, que debe estar entre 1 y 10 megaohmios.
- Al guardar temporalmente una tarjeta electrónica asegúrese que está colocado en una bolsa de DES.
- Las tarjetas que están conectadas a un chasis de o caja de metal a tierra, no requieren una protección especial para la DES.

[pt] **Proteção contra descargas eletrostáticas (DES)**

DES ocorre quando os componentes eletrônicos são manipulados de forma inadequada e pode causar falha intermitente ou completa afetando um circuito elétrico. Remover e substituir um cartão eletrônico do chassi siga sempre os procedimentos para evitar DES:

- Certifique-se de que o chassi é eletricamente aterrado através do cabo de alimentação ou qualquer outro meio, se disponível.
 - Utilize uma pulseira DES assegurando que você tenha um bom contato com a pele. Conecte o clipe à terra a uma *superfície não pintada* do chassi para desviar qualquer tensão indesejável de DES. Se nenhuma pulseira está disponível, faça o aterramento tocando a parte metálica *não pintada* do chassi.
 - Por segurança, verificar periodicamente o valor da resistência da pulseira antiestática, que deve ser entre 1 e 10 megohms.
 - Por temporariamente salvar um cartão eletrônico, certifique-se de que ele é colocado em um saco de DES.
 - As cartas que estão ligados a um chassis ou caixa de metal ligada à terra, não necessitam de proteção especial para o DES.
-

Cautions for LCD and TFT Displays



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.

[fr] **Précautions pour les écrans LCD et TFT**

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.

[es] **Precauciones para las pantallas LCD y TFT**

Si la pantalla LCD o TFT se rompe, retire con cuidado los fragmentos de vidrio cuando se deshaga de ellos. Si hay una fuga de líquido de una celda de vidrio dañado, tenga cuidado que el cristal líquido no entre en contacto con su boca o la piel. Si el cristal líquido toca su piel o su ropa, lávelos inmediatamente con agua y jabón. No ingiera nunca el líquido. La toxicidad es muy baja, pero se debe tener precaución en todo momento.

[pt] **Precauções para os LCD e TFT**

Se o ecrã LCD ou TFT está quebrado, retire cuidadosamente os fragmentos de vidro ao descartar deles. Se o líquido está vazando de uma célula de vidro danificado tenha cuidado para não tirar o fluido de cristal líquido em sua boca ou pele. Se o cristal líquido toca sua pele ou roupa, lave imediatamente com água e sabão. Nunca engula o líquido. A toxicidade é muito baixa, mas o cuidado deve ser exercido em todos os momentos.

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 emissions
 - EN 55022 Class A Conducted emissions
 - EN 61000 -3-2 Harmonic current emission limits
 - EN 61000 -3-3 Voltage fluctuation and flicker limitations
 - EN 61000 -4-2 Electrostatic discharge immunity
 - EN 61000 -4-3 Radiated EMF immunity-RF
 - EN 61000 -4-4 Electrical fast transient immunity
 - EN 61000 -4-5 Surge immunity
 - EN 61000 -4-8 Power frequency magnetic field
 - EN 61000 -4-11 Voltage dips, short interruption and voltage variation immunity
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1 INTRODUCTION

This guide provides basic Intuition XG product information and an orientation of the hardware components for all three (3) models of the Intuition XG (XG-e, XG-3U-e and XG-Dual-e). This guide also provides instructions for performing a first-time installation of the Intuition XG devices, as well as initial setup tasks to get the devices up and running.

New Intuition XG devices are factory configured for standard rendering and playout workflows. Configuring the Intuition XG settings for advanced workflows is normally performed by qualified network administrators or Grass Valley's Integration Specialists using the Intuition XG Portal and Dashboard software interfaces. Information and instructions for implementing advanced configurations is beyond the scope of this document, but are covered in the **Intuition XG Configuration Guide**. Please visit the Support Portal (<http://www.miranda.com/support/index>) for the latest documentation updates.

Intuition XG product description

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 Intuition XG is available in three (3) standard models:

<p>Intuition-XG-e</p>	<p>A single channel graphics co-processor, generally used upstream of a master control switcher like the Imagestore 750 or NV51000MC.</p> <div data-bbox="458 574 1046 656" data-label="Diagram"> <pre> graph LR In[Video In A] --> Device[Intuition XG] Device --> Fill[Fill] Device --> Key[Key] Fill --> OutA[Out A] Key --> OutA </pre> </div> <ul style="list-style-type: none"> • 1RU chassis with a single power supply unit. • 1 HD/SD video input, 1 HD/SD (Fill & Key) output • A powerful, HD/SD character generator which allows the playout of virtually unlimited layers of animated text and dynamically updated text. • 1 TB RAID1 storage for up to 200 hours of video/audio clips and simultaneous playout of multiple clips • Playout of up to eight (8) layers of animated and still graphics templates for the most advanced branding and promotional effects. • SD output as NTSC or PAL • HD output as 1080i, 720p or 480p • VANC + VBI extraction processing and insertion or VAnc/VBI pass through. • Full automation control by serial, Ethernet and/or GPI commands. <p>Options</p> <ul style="list-style-type: none"> • VX-ClipPlayer • VX-Audio-e
------------------------------	---

Intuition-XG-3U-e

A single channel graphics co-processor, generally used upstream of a master control switcher like the Imagestore 750 or NV5100MC.



- 3RU chassis with redundant power supply unit.
- 1 HD/SD video input, 1 HD/SD (Fill & Key) output
- A powerful, HD/SD character generator which allows the playout of virtually unlimited layers of animated text and dynamically updated text.
- 1 TB RAID1 storage for up to 400 hours of video/audio clips and simultaneous playout of multiple clips
- Playout of up to eight (8) layers of animated and still graphics templates for the most advanced branding and promotional effects.
- SD output as NTSC or PAL
- HD output as 1080i, 720p or 480p
- VANC + VBI extraction processing and insertion or VAnc/VBI pass through.
- 16 embedded audio channels
- Discrete AES audio channels - up to 8 in and 16 out
- Full automation control by serial, Ethernet and/or GPI commands.

Options

- [VX-ClipPlayer](#)
- [VX-Audio-e](#)
- [VX-EAS](#)
- [VX-GPI-8-eVX-RS422-2-e](#)
- [VX-TC-e](#)
- [VX-2TB-UPG](#)

Intuition-XG-Dual-e

A dual channel graphics co-processor, generally used upstream of a master control switcher like the Imagestore 750 or NV5100MC.



- 3RU chassis with redundant power supply unit.
- 2 HD/SD video input, 2 HD/SD (Fill & Key) output
- A powerful, HD/SD character generator which allows the playout of virtually unlimited layers of animated text and dynamically updated text.
- 1 TB RAID1 storage for up to 400 hours of video/audio clips and simultaneous playout of multiple clips
- Playout of up to eight (8) layers of animated and still graphics templates for the most advanced branding and promotional effects.
- SD output as NTSC or PAL
- HD output as 1080i, 720p or 480p
- VANC + VBI extraction processing and insertion or VAnc/VBI pass through.
- 16 embedded audio channels per SDI stream
- Discrete AES audio channels - up to 8 in and 2 x 16 out
- Full automation control by serial, Ethernet and/or GPI commands.

Options

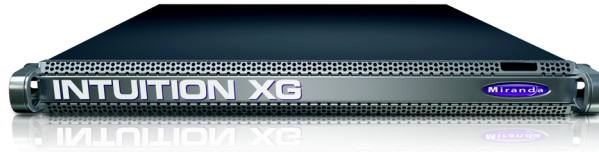
- [VX-ClipPlayer](#)
- [VX-Audio-e](#)
- [VX-EAS](#)
- [VX-GPI-8-eVX-RS422-2-e](#)
- [VX-TC-e](#)
- [VX-2TB-UPG](#)

The following options are available on Intuition XG devices:

VX-ClipPlayer	<p>Clip Player</p> <p>The Clip Player is an internal codec package for playing out multi-format video clips.</p>
VX-Audio-e	<p>Audio Processing</p> <p>The discrete audio I/O card allows the Intuition XG to capture, process and output discrete audio. The number of discrete audio I/O channels depends on the model of Intuition XG:</p> <ul style="list-style-type: none"> • Intuition-XG-e => None • Intuition-XG-3Ue and Intuition-XG-Dual-e => 8 in / 16 out
VX-GPI-8-e	<p>GPI card</p> <p>The GPI card allows for control of the Intuition XG via GPI triggers. The card allows for up to 8 GPI in and 8 GPI out.</p>
VX-EAS	<p>EAS Text Integration (EAS Plugin and EAS Software Panel)</p> <p>High quality EAS text and audio can be played out with the Intuition XG processor, using templates which integrate channel branding graphics for a consistent on-air presentation.</p> <p>Only available for the Intuition-XG-3U-e and Intuition-Dual-e models.</p>
VX-RS422-2-e	<p>2 port RS-422 card</p> <p>The RS-422 card provides an interface upon which the Intuition XG can communicate with automation systems.</p> <p>Only available for the Intuition-XG-3U-e and Intuition-Dual-e models.</p>
VX-TC-e	<p>Time Code card</p> <p>The Time Code card allows you to lock the Intuition XG's system clock to an external timecode.</p> <p>Only available for the Intuition-XG-3U-e and Intuition-Dual-e models.</p>
VX-2TB-UPG	<p>1 TB RAID-10 Expansion option (2 x 1TB)</p> <p>Increases the usable storage from 1TB to 2TB.</p> <p>Only available for the Intuition-XG-3U-e and Intuition-Dual-e models.</p>

Overview of the Intuition XG-e chassis

The Intuition XG-e is a single HD/SD channel playout server (1 HD/SD video input, 1 HD-SDI Fill + Key output) that incorporates the Intuition XG graphics engine to rendering advanced graphics. Physically, the Intuition XG is a 1RU rackmount playout server with a single power supply unit and 1 TB of storage.



The following table summarizes the Intuition XG-e's physical dimensions and power consumption:

Chassis	FORM: 1U rackmount chassis HEIGHT: 1.7" (43 mm) WIDTH: 17.2" (437 mm) DEPTH: 28.2" (716 mm)
Power consumption	1 x 1400W power supply AC input: 180 - 240V, 50 - 60 Hz, 7.2 - 9.5 Amp

The following sections provide more information about Intuition XG-e hardware components:

- ["Front panel components \(Intuition XG-e\)" on page 1-7](#)
- ["Rear panel components \(Intuition XG-e\)" on page 1-7](#)

Front panel components (Intuition XG-e)

The Intuition XG's front panel provides convenient access to the SATA hard drives, two USB ports, a CD/DVD ROM drive, two fans, and a control panel containing five LEDs and two buttons for system monitoring and operation. Figure 1-1 identifies the LEDs, buttons and connectors on the front panel of the Intuition XG-e.

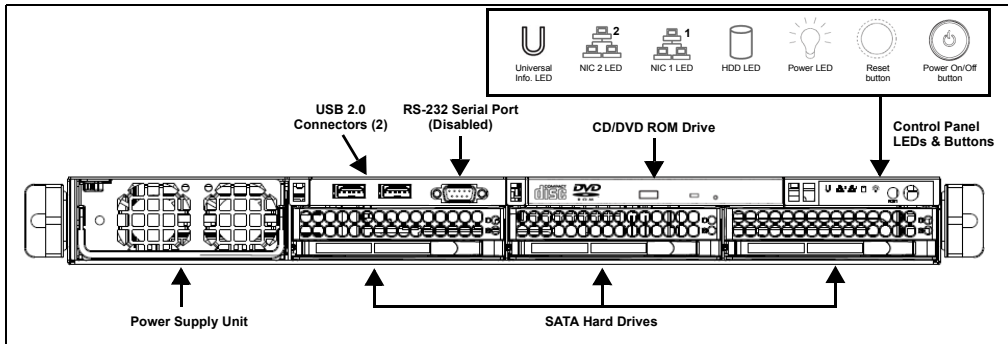


Figure 1-1. Front panel components of the Intuition XG-e

✓ NOTE

See the **Intuition XG Configuration Guide** for descriptions of each of the LEDs and buttons on the front panel of the Intuition XG-e.

Rear panel components (Intuition XG-e)

The Intuition XG's rear panel provides convenient access to the video card's I/O connector, which provides 1 SD/HD SDI video input, 1 SD/HD SDI video output (Fill & Key), and a reference signal input. The rear panel also provides access to the graphics card connector, as well as various I/O ports (RS-232, USB, Ethernet...etc.). Figure 1-4 identifies each connector on the rear panel of the Intuition XG chassis.

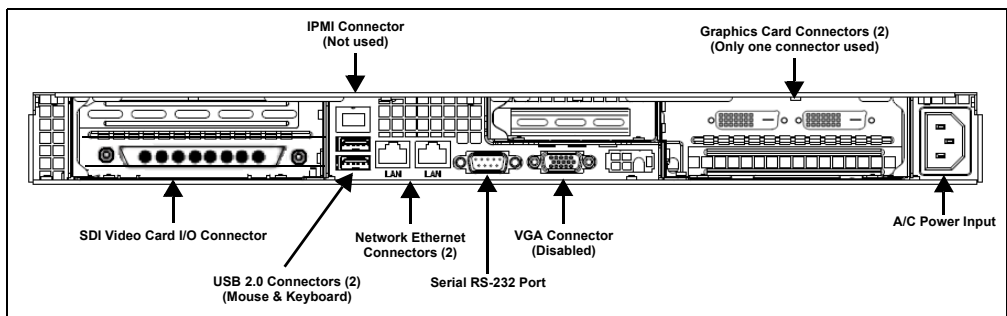


Figure 1-2. The rear panel components of the Intuition XG-e

Overview of the Intuition XG-3U/Dual chassis

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



The only visible difference between the 3RU models of the Intuition XG is that the single channel model (**XG-3U-e**) has only one (1) discrete AES audio connector, while the dual channel model (**XG-Dual-e**) has two (2) discrete AES audio connectors.

In some cases, the positioning of the connectors on the Intuition XG's rear panel differs depending upon the hardware options installed. See [page 1-6](#) for a list of the Intuition XG's hardware options.

The following table summarizes the Intuition 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 - 60 Hz Consumption: 4.05 - 1.73A 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 Intuition XG's front and rear panel components:

- ["Front panel components \(Intuition XG-3U/Dual\)" on page 1-9](#)
- ["Rear panel components \(Intuition XG-3U/Dual\)" on page 1-10](#)

Front panel components (Intuition XG-3U/Dual)

The Intuition 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. Figure 1-3 identifies each component on the Intuition XG's front panel.

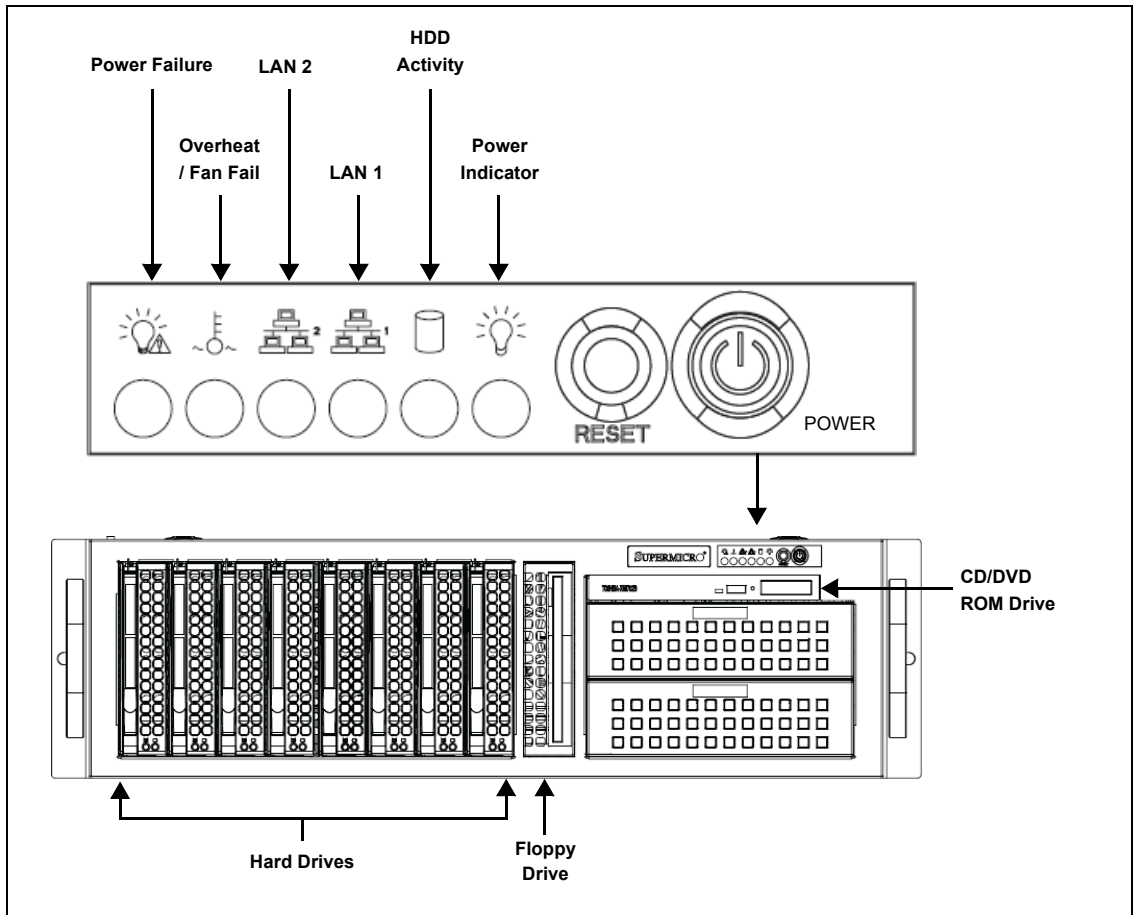


Figure 1-3. The Intuition XG's front panel components

✓ NOTE

See the **Intuition XG Configuration Guide** for descriptions of each of the LEDs and buttons on the Intuition XG's front panel.

Rear panel components (Intuition XG-3U/Dual)

The Intuition 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.).

Figure 1-4 identifies the components and connectors on the rear panel of the Intuition XG chassis.

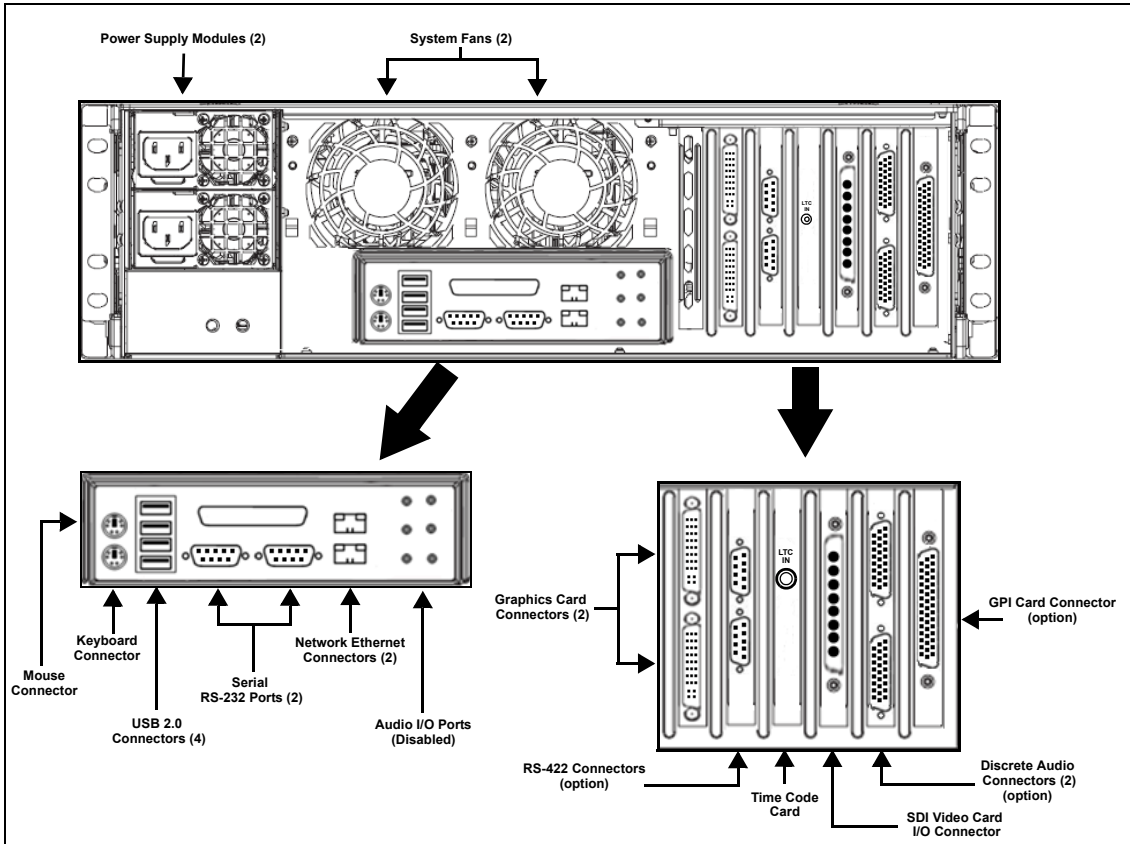


Figure 1-4. The Intuition XG's rear panel components (XG-3U-e & XG-Dual-e models)

NOTE

In some cases, the positioning of the connectors on the Intuition XG's rear panel differs depending upon the hardware options installed. See [page 1-6](#) for a list of the Intuition XG's hardware options.

2 INSTALLATION INSTRUCTIONS FOR THE INTUITION XG-E

This chapter identifies and describes the tasks for performing a first-time installation of a factory-configured Intuition XG-e device.

 **CAUTION**

Intuition 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.

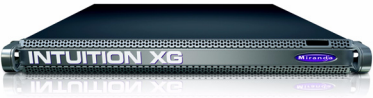


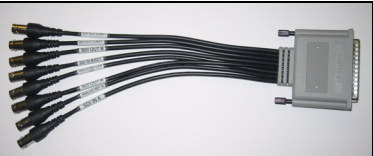

Step #	Task description
1	Unpack the parts included in the shipping package (page 2-2) <ul style="list-style-type: none">• Verify the completeness and condition of all of the items included in the shipping package• Familiarize yourself with each of the items related to the Intuition XG-e
2	Install the Intuition XG-e chassis in a rack (page 2-5) <ul style="list-style-type: none">• Remove the faceplate from the Intuition XG-e unit• Install the rails on the side of the Intuition XG-e unit and in the rack slot• Mount the Intuition XG-e unit in the rack and re-attach the faceplate
3	Cabling the Intuition XG-e unit (page 2-8) <ul style="list-style-type: none">• Connect the SDI video I/O cable• Connect the keyboard and mouse• Connect the ethernet network cables• Connect the DVI monitor• Connect the automation system cable to the RS-232• Connect the power supply cable

Unpacking and verifying the Intuition XG-e shipped items

The Intuition XG-e 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 the 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 Intuition XG-e.

☑ NOTE

If any damage occurred during transportation or if any items are missing from the package, please contact our [Customer Service and Sales](#) department.

	<p>1 x 1RU Intuition XG-e chassis</p> <p>The Intuition XG-e single channel graphics engine provides 1 input and 1 output (fill & key).</p>
	<p>Rack mounting kit</p> <ul style="list-style-type: none">• 2 x chassis rail assemblies (inner & outer rails)• Rail screws & washer kit
	<p>AC power cable</p> <p>One power cable is provided, which connects to the single 1400W power supply on the rear of the Intuition XG-e chassis.</p>
	<p>Video breakout cable</p> <p>The breakout cable is used to connect the Video Card I/O connector to the SDI input, reference input, reference output, and SDI outputs. See page 2-8 for cabling instructions.</p>
	<p>Keyboard and Mouse</p> <p>A keyboard and mouse are required during the Intuition XG's initial setup, which involves using the Intuition XG's desktop applications, including Dashboard.</p> <p>Both the keyboard and mouse provided can be connected to the USB 2.0 connectors on the front or rear panels of the Intuition XG-e device.</p>



VGA/DVI monitor adapter

A computer monitor is required during the Intuition XG's initial setup, which involves using the Intuition XG's desktop applications, including Dashboard.

The Intuition 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 Intuition XG device to VGA monitor.

Note that although there are two (2) DVI connectors, the Intuition XG can display to only one monitor. Therefore, it does not matter which of the two connectors the monitor's cable is connected to.

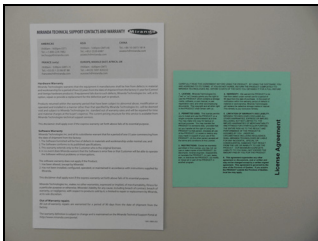


System Recovery DVD package

2 x System Recovery DVDs

These DVDs can be used to restore the Intuition XG unit to its original factory default configuration. Note that one of the DVDs has a sticker with the Intuition XG's serial number, which identifies that particular Intuition XG unit.

Store these the System Recovery DVDs in a safe location. Do not misplace.



- **Technical Support Contacts and Warranty card**

This card contains warranty information related to the Intuition XG hardware and software. It also identifies our contact information, which is also provided on [page 5-1](#).

- **License Agreement card**

This card describes the terms of Grass Valley, A Belden Brand's license agreement for the Intuition XG and Vertigo Suite software.

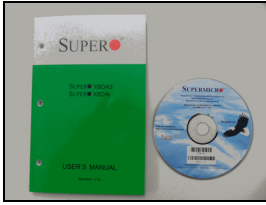


ATI FirePro kit

The ATI FirePro kit items are **not required** during the installation of a factory configured Intuition XG.

The Intuition XG uses the ATI FirePro graphics card. As such, the following ATI FirePro's installation items are also included in the Intuition XG shipping package:

- Quick Installation Guide
- Installation Driver CD
- Multi-display Configurations with Eyefinity sheet
- ATI CrossFire Pro flex connector



SuperMicro User's Manual and Bootable CD

These SuperMicro items are **not required** during the installation of a factory configured Intuition XG.

The Intuition XG uses SuperMicro's motherboard. As such, the documentation and bootable CD (drivers & utilities) have been included in the Intuition XG shipping package.



Windows Embedded Runtime Product Key

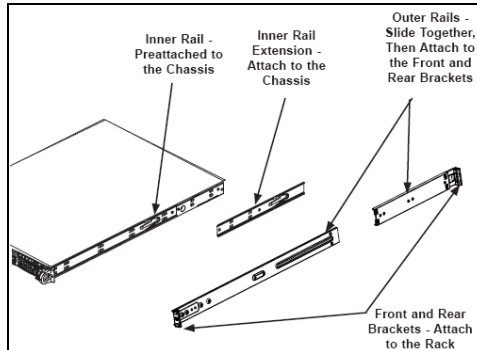
This flyer provides information regarding the Microsoft Runtime Key that applies to the Windows Embedded Standard software that is installed on the Intuition XG unit.

Store this flyer in a safe location as to not misplace it.

Mounting the Intuition XG-e chassis in a rack

Included in the shipping package is a [Rack mounting kit](#), which contains the rails, screws and washers required to mount the Intuition XG-e (1RU) chassis into an equipment rack. Note that the rails are designed to fit in racks with a depth of 28" to 33".

The two quick-release rail assemblies each consists of two primary sections: an inner fixed chassis rail and inner rail extension that secure directly to the chassis, and an outer rail assembly that secures directly to the rack itself.



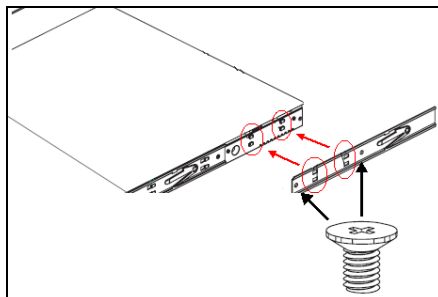
! CAUTION

Intuition XG devices are intended to be installed in a restricted access location by qualified personnel. All health and safety regulations and precautions must be observed.

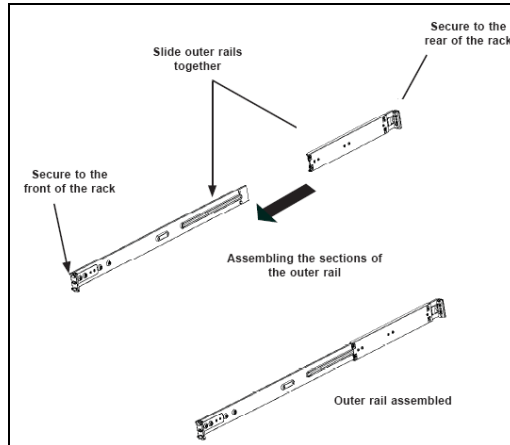
The following procedure provide step-by-step instructions for installing the rails and mounting the Intuition XG-e chassis into an equipment rack.

To install the Intuition XG-e chassis:

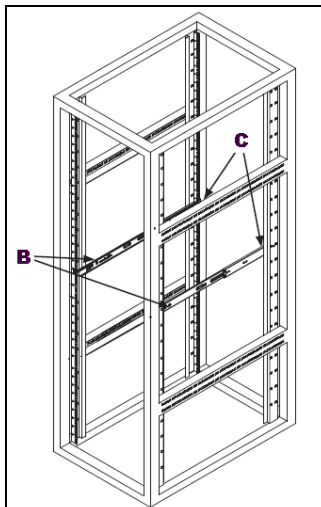
1. Remove the Intuition XG faceplate by pulling the faceplate's handles away from the chassis.
2. Place the inner rail extensions over the pre-attached inner rails which are attached to the side of the chassis. Align the hooks of the inner rail with the rail extension holes. Make sure the extension faces "outward" just like the inner rail.
3. Slide the extension toward the front of the chassis.
4. Secure the chassis with screws.



5. Repeat steps 2 to 4 for the other inner rail extension.
6. Each outer rail is in two sections that must be assembled before mounting onto the rack.
 - a. Identify the left and right outer rails by examining the ends which bend outward.
 - b. Slide the front section of the outer rail into the rear section of the outer rail.



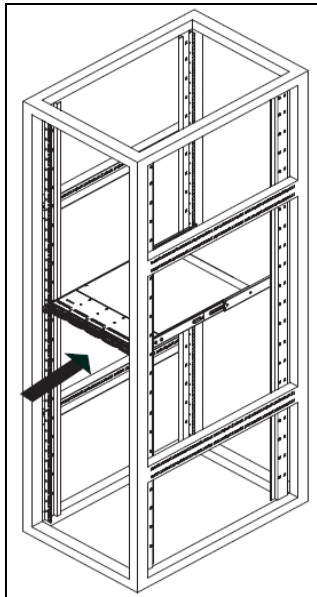
7. Install the outer rails onto the rack.
 - a. Adjust the outer rails to the proper length so that the outer rail fits snugly within the rack.
 - b. Align the holes on the front of the outer rail, with the holes on the front of the rack and secure with the screws provided.
 - c. Align the holes on the rear of the outer rail to the holes on the rack and secure with the screws provided.
 - d. Repeat the procedure with the second outer rail assembly.



! CAUTION

Due to the heavy weight of the Intuition XG device, ensure that the rack is securely anchored onto a unmovable surface or structure before installing the chassis into the rack.

8. Install the chassis into a rack.
 - a. Confirm that chassis includes the inner rails and rail extensions. Also, confirm that the outer rails are installed on the rack.
 - b. Line chassis rails with the front of the rack rails.
 - c. Slide the chassis rails into the rack rails, keeping the pressure even on both sides (you may have to depress the locking tabs when inserting). When the server has been pushed completely into the rack, you should hear the locking tabs "click".
 - d. (Optional) Insert and tightening the thumbscrews that hold the front of the server to the rack.



Cabling the Intuition XG-e unit

Once the Intuition XG-e chassis is securely mounted in an equipment rack, you can connect the required cables to the rear connectors. Figure 2-1 and the cabling procedure provide step-by-step instructions for properly cabling the Intuition XG-e unit.

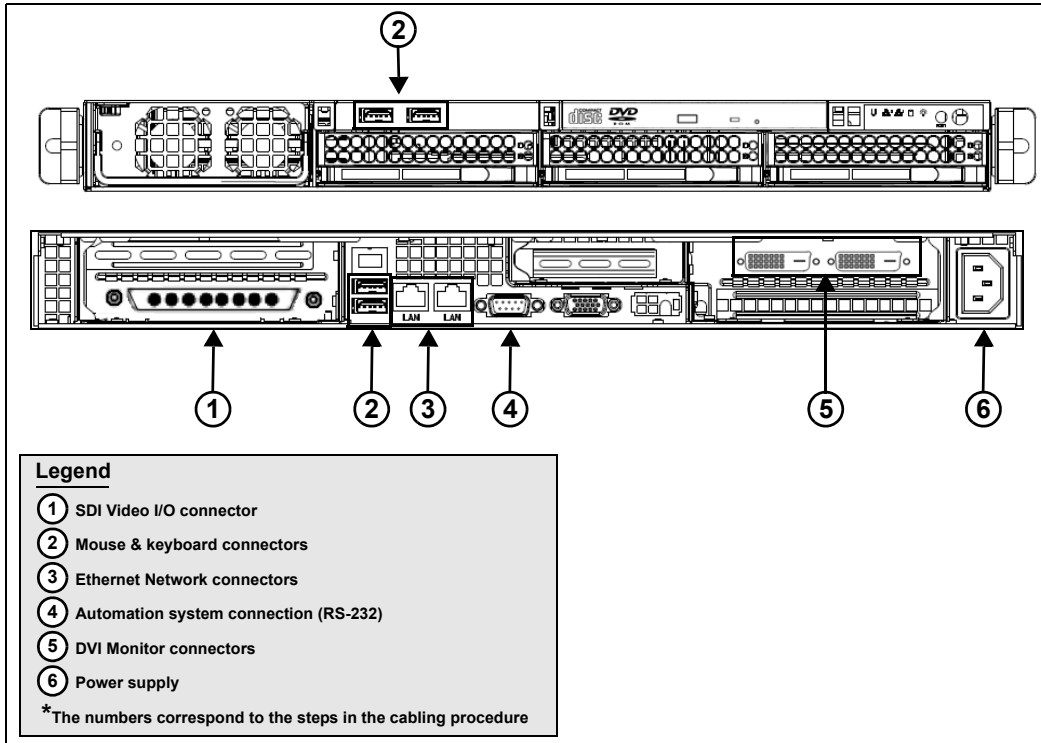


Figure 2-1. Cabling the Intuition XG-e

To cable the Intuition XG-e:

1. Connect the **Video breakout cable** to the Intuition XG's SDI Video card I/O connector.

SDI IN A	Primary SDI program input connection for the Intuition XG-e unit.
SDI IN B	Not used on an Intuition XG-e unit.
SDI OUT A (FILL 1)	Primary output channel connection for the Intuition XG-e unit. For the purposes of this setup procedure, connect this cable to a broadcast monitor.
SDI OUT B	Not used on an Intuition XG-e unit.
SDI OUT C / KEY	The matching key signal for SDI OUT A.

SDI OUT D /KEY	Not used on an Intuition XG-e unit.
ANALOG REF IN	Connect to a house reference (Analog Blackburst or HD Tri-Level) to synchronize the phase timing video and graphics processing.
ANALOG REF LOOP OUT	Optional connection. Use to feed the reference signal from ANALOG REF IN to another piece of equipment.

2. Connect the [Keyboard and Mouse](#) to the **USB connectors on the front or rear panel of the Intuition XG-e**.
3. **Connect the Intuition XG device to the Local Area Network (LAN) by connecting ethernet cables to the two (2) Network Ethernet connectors.**

The Intuition 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. See the **Intuition XG Configuration Guide** for more details.

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.

4. **Connect the automation system cables to the Intuition XG's RS-232 connector.**
The RS-232 connector provides a control port upon which the automation system's serial cable can be connected. It is through this connection that the automation system communicates and controls the Intuition XG using automation protocol commands.
5. **Connect a computer monitor to one of the two (2) DVI connectors on the rear panel of the Intuition XG.** If you prefer, you can use the [VGA/DVI monitor adapter](#) to connect the Intuition XG device to VGA monitor.

NOTE

Although there are two (2) DVI connectors, the Intuition XG can display to only one monitor. Therefore, it does matter which of the two connectors the monitor's cable is connected to.

6. **Connect the [AC power cable](#) to the power supply socket on the rear panel of the Intuition XG-e chassis.**

WARNING

DO NOT plug the power cable into AC power socket yet.

3 INSTALLATION INSTRUCTIONS FOR THE INTUITION XG-3U/DUAL

This chapter provides you with instructions for performing a first-time installation of a factory-configured Intuition XG-3U-e or Intuition XG-Dual-e devices.

CAUTION

Intuition 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.


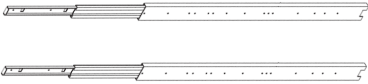


Step #	Task description
1	Unpack the parts included in the shipping package (page 3-2) <ul style="list-style-type: none">• Verify the completeness and condition of all of the items included in the shipping package• Familiarize yourself with each of the items related to the Intuition XG
2	Install the Intuition XG chassis in a rack (page 3-5) <ul style="list-style-type: none">• Remove the faceplate from the Intuition XG unit• Install the rails on the side of the Intuition XG unit and in the rack slot• Mount the Intuition XG unit in the rack and re-attach the faceplate
3	Cabling the Intuition XG unit (page 3-9) <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

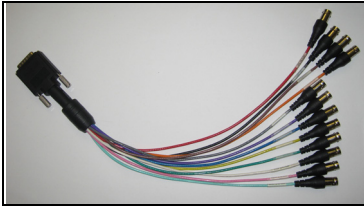
Unpacking and verifying the Intuition XG-3U/Dual's shipped items

The Intuition 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 Intuition XG.

NOTE

If any damage occurred during transportation or if any items are missing from the package, please contact our [Customer Service and Sales](#) department.

	<p>1 x 3RU Intuition XG chassis</p> <ul style="list-style-type: none">• VX-Intuition-XG-3U-e A single channel graphics engine, which provides 1 input and 1 output (fill & key).• VX-Intuition-XG-Dual-e A dual channel graphics engine, which provides 2 input and 2 output (fill & key).
	<p>Rack mounting kit</p> <ul style="list-style-type: none">• 2 x chassis rail assemblies• Rail screws• Rail adapters (2) for mounting the chassis in a role-hole equipment rack.
	<p>AC power cables</p> <p>Two (2) power cables are provided, which connect to the Intuition XG's power supplies.</p>
	<p>Video breakout cable</p> <p>The breakout cable is used to connect the Video Card I/O connector to the SDI inputs, reference input, reference output, and SDI outputs. See page 3-10 for cabling instructions.</p>



Discrete (AES) audio breakout cable

Single channel Intuition XG units (**XG-3U-e**) have one discrete (AES) audio connector, while dual channel Intuition XG units (**XG-Dual-e**) have two discrete (AES) audio connectors.

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.



VGA/DVI monitor adapter

A computer monitor is required during the Intuition XG's initial setup, which involves using the Intuition XG's desktop applications, including Dashboard.

The Intuition 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 Intuition XG device to VGA monitor.

Note that although there are two (2) DVI connectors, the Intuition XG can display to only one monitor. Therefore, it does not matter which of the two connectors the monitor's cable is connected to.



Keyboard and Mouse

A keyboard and mouse are required during the Intuition XG's initial setup, which involves using the Intuition XG's desktop applications, including Dashboard.

Both the keyboard and mouse provided can be connected to the USB 2.0 connectors on the front or rear panels of the Intuition XG device.

If you prefer to use a mouse and/or keyboard that has a PS/2 connection, there are two (2) PS/2 connectors available on the rear panel of the Intuition XG device.



Hard Disk Drive (HDD) screws

The HDD screws are **not required** during the initial installation of a factory configured Intuition 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 Intuition XG's usable storage from 1TB to 2TB. Therefore, we recommend storing the HDD screws for future use.

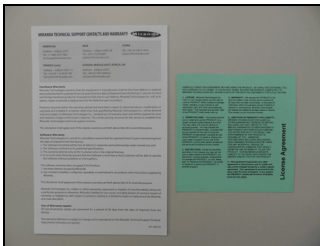


System Recovery DVD package

2 x System Recovery DVDs

These DVDs can be used to restore the Intuition XG unit to its original factory default configuration. Note that one of the DVDs has a sticker with the Intuition XG's serial number, which identifies that particular Intuition XG unit.

Store these the System Recovery DVDs in a safe location. Do not misplace.



- **Technical Support Contacts and Warranty card**

This card contains warranty information related to the Intuition XG hardware and software. It also identifies our contact information, which is also provided on [page 5-1](#).

- **License Agreement card**

This card describes the terms of Grass Valley, A Belden Brand's license agreement for the Intuition XG and Vertigo Suite software.

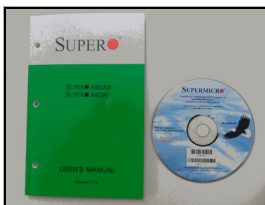


ATI FirePro kit

The ATI FirePro kit items are **not required** during the installation of a factory configured Intuition XG.

The Intuition XG uses the ATI FirePro graphics card. As such, the following ATI FirePro's installation items are also included in the Intuition XG shipping package:

- Quick Installation Guide
- Installation Driver CD
- Multi-display Configurations with Eyefinity sheet
- ATI CrossFire Pro flex connector



SuperMicro User's Manual and Bootable CD

These SuperMicro items are **not required** during the installation of a factory configured Intuition XG.

The Intuition XG uses SuperMicro's motherboard. As such, the documentation and bootable CD (drivers & utilities) have been included in the Intuition XG shipping package.



Windows Embedded Runtime Product Key

This flyer provides information regarding the Microsoft Runtime Key that applies to the Windows Embedded Standard software that is installed on the Intuition XG unit.

Store this flyer in a safe location as to not misplace it.

Mounting the Intuition XG-3U/Dual 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 Intuition XG chassis into an equipment rack. Note that the rails are designed to fit in racks with a depth of 28" to 33".

✓ NOTE

Due to the heavy weight of the unit, the equipment rack in which the Intuition XG unit will be installed should be anchored to the building's structure.

The following sections provide step-by-step instructions for installing the rails and mounting the Intuition XG chassis into an equipment rack.

1. [Separating the sections of the rail assemblies](#)
2. [Attaching the chassis rail to the Intuition XG chassis](#)
3. [Installing the rack rail assemblies](#)
4. [Inserting the Intuition XG chassis into the rack](#)

⚠ CAUTION

Intuition XG units are intended to be installed in a restricted access location by qualified personnel. All health and safety regulations and precautions must be observed.

Separating the sections of the rail assemblies

The Intuition XG's shipping package includes two rail assembly units. Before the rail assemblies can be installed, they must be separated into two sections: the rack rail assembly and the chassis rail.

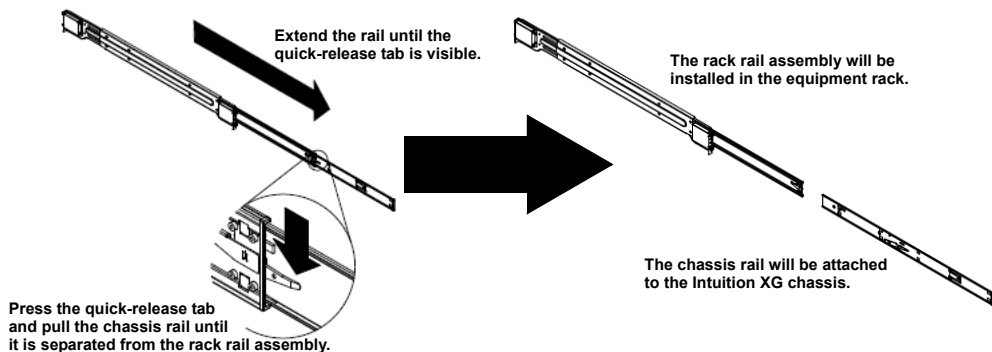


Figure 3-1. Separating the sections of the rail assemblies

To separate the sections of the rail assemblies:

1. Locate the rail assemblies in the items shipped with the Intuition XG.
2. Extend one of the rail assemblies by pulling it outward until the quick-release tab is visible.
3. Press the quick-release tab to release the chassis rail from its locked position.
4. Separate the two rails by pulling the chassis rail from the rack rail assembly.
5. Repeat steps 2 to 4 for the other rail assembly.

Attaching the chassis rail to the Intuition XG chassis

The chassis rails are attached and fixed to each side of the Intuition XG chassis. Later when mounting the chassis into the equipment rack, these rails will be inserted into the extension rails of the rack rail assembly and securely lock the chassis to the equipment rack.

To install the chassis rails to the Intuition XG chassis:

1. Place the Intuition XG unit on a solid, flat work surface.
2. Remove the Intuition XG faceplate by pulling the faceplate's handles away from the chassis.
3. Place one of the chassis rails on the side of the chassis, ensuring that it is facing "outwards" and that the hooks of the chassis with the rail's holes.
4. Slide the rail toward the front of the chassis.
5. Secure the rail to the chassis with screws as illustrated below.
6. Repeat steps 3 and 5 for the other chassis rail.

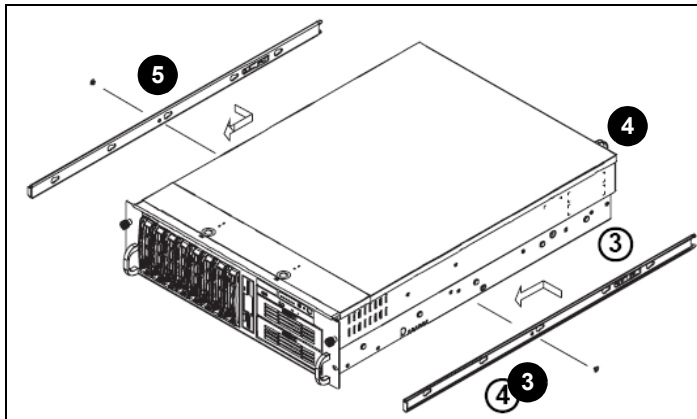


Figure 3-2. Attaching the chassis rails to the Intuition XG unit

Installing the rack rail assemblies

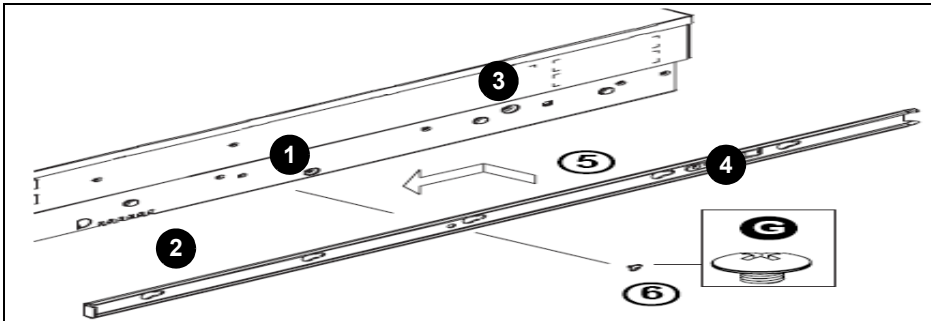
Racks rail assembly attaches to the equipment rack structure and holds the chassis in place. Each rack rail assembly consists of two interconnected sections, a bracket that will be fixed to the rack's structure and an extension rail that interlocks with the chassis rails. The extension rails allow the Intuition XG chassis to extend between 30 inches and 33 inches beyond the rack structure's facade.

☑ NOTE

The Intuition XG's rack rail assemblies are designed for quick and easy installation into equipment rack structures with square holes. To install the rack rail assemblies into a round-hole / tapped hole style rack, use the rail adapters included in the Intuition XG shipment.

To install the rack rail assemblies:

1. Secure the back end of the rack rail assembly to the equipment rack, using the screws provided.
2. Press the button where the two rack rails are joined to retract the extension rail.
3. Hang the hooks of the rails onto the rack holes and if desired, use screws to secure the front of the fixed rack rail onto the rack.
4. Push the extension rail back into position within the fixed rack rail.
5. Repeat steps 1-3 for the remaining rack rail assembly.



Inserting the Intuition XG chassis into the rack

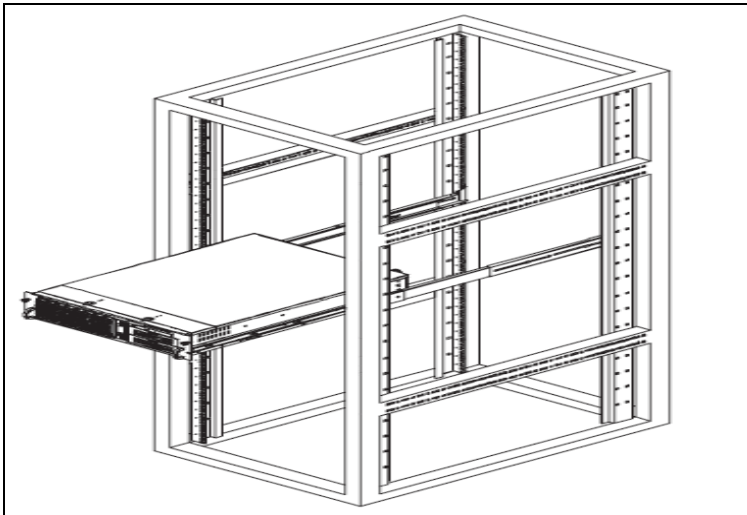
Once the rail assembly sections have been properly installed on the Intuition XG chassis and in the equipment rack, you can use the following procedure to properly insert and fix the chassis into the equipment rack.

CAUTION

Due to the heavy weight of the Intuition XG device, ensure that the rack is securely anchored onto a unmovable surface or structure before installing the chassis into the rack.

To insert the Intuition XG chassis into a rack:

1. Extend the rack extension rails as illustrated below.
2. Align the chassis rails with each of the rack extension rails.
3. Slide the chassis rails into the rack extension rails, keeping the pressure even on both sides. When the chassis has been pushed completely into the rack, it should click into the locked position.
4. Optional: Screws may be used to secure the to hold the front of the chassis to the rack.
5. Re-attach the Intuition XG faceplate by aligning and pushing the faceplate towards the chassis.



CAUTION

Slide/rail mounted equipment is not to be used as a shelf or a workspace.

NOTE

To completely remove the chassis from the rack, you must release the safety tabs on both sides of the chassis.

Cabling the Intuition XG-3U/Dual unit

Once the Intuition XG chassis is securely mounted in an equipment rack, you can connect the required cables to the rear connectors of the Intuition XG unit. Figure 3-3 and the cabling procedure provide step-by-step instructions for properly cabling the Intuition XG unit.

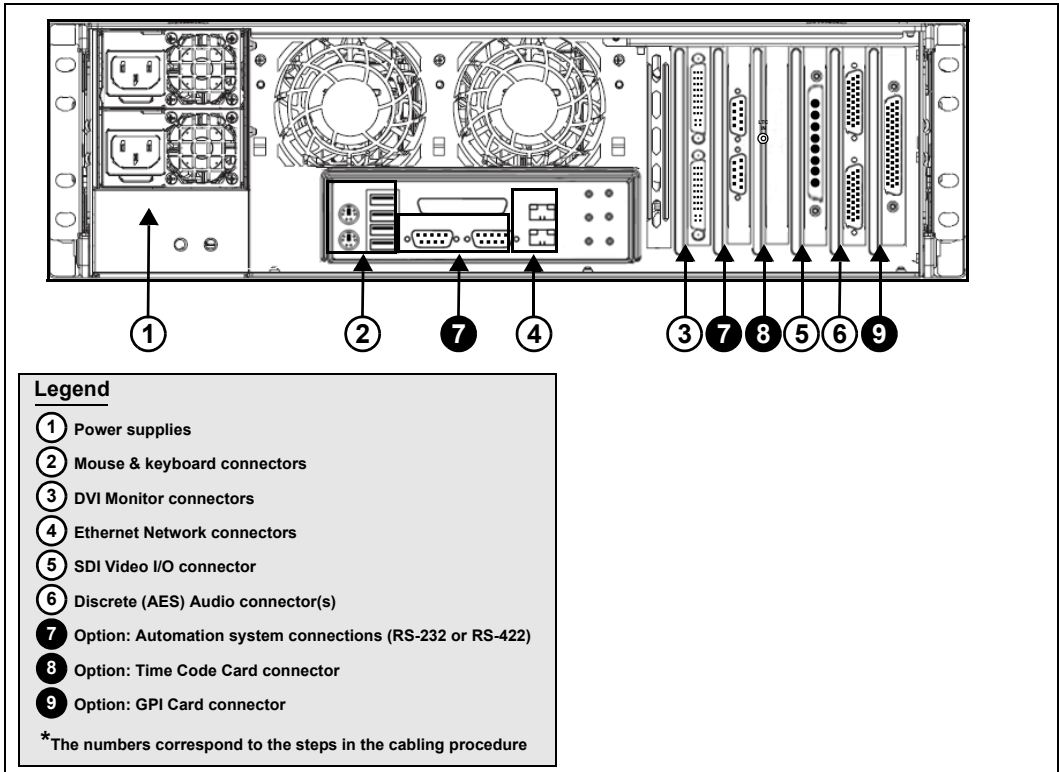


Figure 3-3. Cabling the Intuition XG

To cable the Intuition XG-3U-e or the Intuition XG-Dual-e:

1. Connect the two (2) [AC power cables](#) to the power supply sockets on the rear panel of the Intuition 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 Intuition 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 monitor to one of the two (2) DVI connectors on the rear panel of the Intuition XG. If you prefer, you can use the [VGA/DVI monitor adapter](#) to connect the Intuition XG device to VGA monitor.

NOTE

Although there are two (2) DVI connectors, the Intuition XG can display to only one monitor. Therefore, it does not matter which of the two connectors the monitor's cable is connected to.

4. Connect the Intuition XG device to the Local Area Network (LAN) by connecting ethernet cables to the two (2) Network Ethernet connectors.

The Intuition 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. See the [Intuition XG Configuration Guide](#) for more details.

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 Intuition XG's SDI Video card I/O connector.

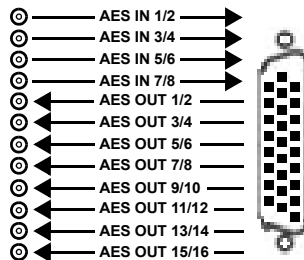
SDI IN A	Primary SDI program input connection for both single and dual channel Intuition XG units.
SDI IN B	On dual channel Intuition XG units (XG-Dual-e), the SDI IN B is the primary SDI program input connection for the second channel. On single channel Intuition XG units (XG-3U-e), the SDI IN B is not used.
SDI OUT A	Primary output channel connection for both single and dual channel Intuition 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 Intuition XG units (XG-Dual-e). For the purposes of this setup procedure, connect this cable to a broadcast monitor. Not used on single channel Intuition XG units (X-3U-e).
SDI OUT C /KEY	The matching key signal for SDI OUT A.
SDI OUT D /KEY	SDI Out B (Fill 2) is the second output channel on the Intuition XG-Dual-e model. No signal is present at this connection for single-channel models (XG-3U-e).
ANALOG REF IN	Connect to a house reference (Analog Blackburst or HD Tri-Level) to synchronize the phase timing video and graphics processing.
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 Intuition XG’s Discrete audio connector(s).

Single channel Intuition XG units (**XG-3U-e**) have one discrete (AES) audio connector and one breakout cable, while dual channel Intuition XG units (**XG-Dual-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 Intuition XG’s RS-232 or RS-422 connectors.

The two (2) RS-232 connectors are standard equipment on both models of the Intuition XG, but the RS-422 card is a hardware option (see [page 1-5](#)). 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 Intuition 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 Intuition XG.**

The Time Code Card is a hardware option on the Intuition XG (see [page 1-5](#)), which allows you to lock the Intuition 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 Intuition XG's GPI card's connector to an external control unit that uses GPI to control the Intuition XG.**

The GPI Card is a hardware option on the Intuition XG, which allows for control of the Intuition XG via GPI triggers. The card provides for up to 8 optically isolated GPI inputs and 8 reed relay GPI outputs (see [page 1-5](#)).

4 QUICK START INSTRUCTIONS

This chapter provides you with instructions for performing the initial setup tasks to get the a newly installed Intuition XG device up and running. The procedure concludes by verifying the installation by previewing the layout of an asset in Intuition XG's Live Window and a broadcast monitor.

The following table summarizes the tasks that you must perform to quickly start up a factory-configured Intuition XG device.

Step #	Task description
1	Start up the Intuition XG device (page 4-2) <ul style="list-style-type: none">• Plug the DVI monitor's power cable into a power socket and power it on• Plug the Intuition XG's power supply cable(s) into a power socket• Power on the Intuition XG unit
2	Assign a new IP Address for the Intuition XG device (page 4-4)
3	Verify the installation by previewing the layout of an asset (page 4-5) <ul style="list-style-type: none">• Verify the Intuition XG's Output Resolution setting• Enable the Intuition XG's Live Window• In Xplay, add an asset to a playlist and verify that it plays out properly• On a dual channel Intuition XG, repeat the above steps for channel B
4	Complete the quick start procedure (page 4-8) <ul style="list-style-type: none">• Disable the Intuition XG's Live Windows• Disconnect the keyboard, mouse and DVI monitor

Starting the Intuition XG

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

1. Plug the monitor's power cable into a power socket and power it on.
2. Plug the Intuition XG's power supply cable(s) into a power socket.
3. Power on the Intuition XG unit by pressing the **POWER** button on the unit's front panel.

Figure 4-1 demonstrates that upon startup, the Intuition XG automatically displays the desktop applications on the monitor.

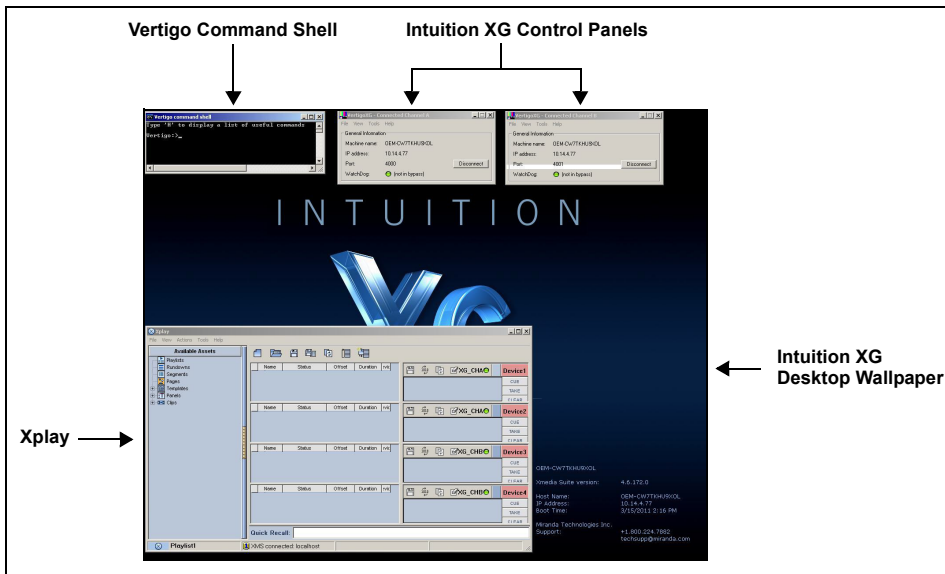


Figure 4-1. The Intuition XG's desktop applications

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

<p>Intuition XG desktop wallpaper</p>	<p>The Intuition XG desktop wallpaper features the Intuition XG logo, as well as identification information related to the specific Intuition XG device.</p>
<p>Intuition XG Control Panel(s)</p>	<p>Dual channel Intuition XG units (XG-Dual-e) will display two (2) Control Panels (Channel A & Channel B), while on single channel Intuition XG units (XG-e and XG-3U-e) will display only one.</p> <p>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.</p>

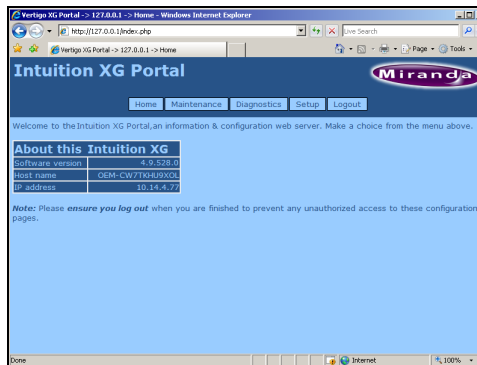
Xplay	<p>Xplay is the playout control application that the master control system or device uses to control the playout of video and graphics on the Intuition XG device.</p> <p>Whether the Intuition XG is a single or dual channel model, only one instance of Xplay is used to control the Intuition XG device's output.</p>
Vertigo Command Shell	<p>The Vertigo Command Shell window allows you to perform some basic command tasks like opening Windows Explorer and shutdown/reboot the Intuition XG device.</p>

Assigning a new IP address to the Intuition XG device

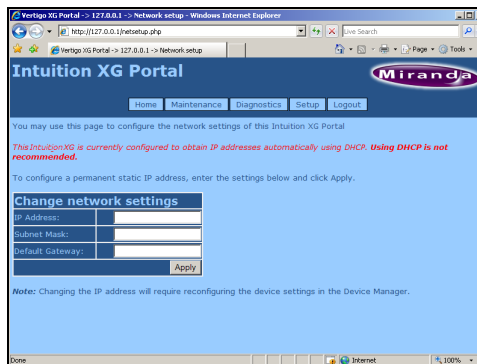
Factory configured Intuition XG units are shipped with a dynamic IP address. Using DHCP is not recommend, so you must assign a new static IP Address to the Intuition XG device.

To change the Intuition XG's current dynamic IP address to a static IP address:

1. In the Vertigo Command Shell, type `ipconfig` and take note of the current IP configuration.
2. Again in the Vertigo Command Shell, type `control` to open the **MICROSOFT CONTROL PANEL**.
3. In the Microsoft Control Panel's address bar, type `127.0.0.1` and press **RETURN**.
The **INTUITION XG PORTAL**'s log in page appears.
4. Type `vertigo` into the Password field and click the **LOG IN** button.
The **INTUITION XG PORTAL** web interface appears.



5. Select the **SETUP>NETWORK SETUP** command to display the **NETWORK SETUP** page.



6. Change the **IP ADDRESS**, **SUBNET MASK**, and **DEFAULT GATEWAY** values by typing the new values in the corresponding text box.
7. Click the **APPLY** button.
A window appears asking you to confirm that you want to change the IP Address.
8. Click **OK** to restart the Intuition XG unit and apply the new IP Address.

Verifying the installation and setup by previewing the ployout

To verify that the Intuition XG is properly connected and operating, we recommend that you use the local copy of Xplay to load and ployout an asset in the Live window and broadcast monitor associated with the Intuition XG's Channel A. For dual channel Intuition 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 Intuition XG:

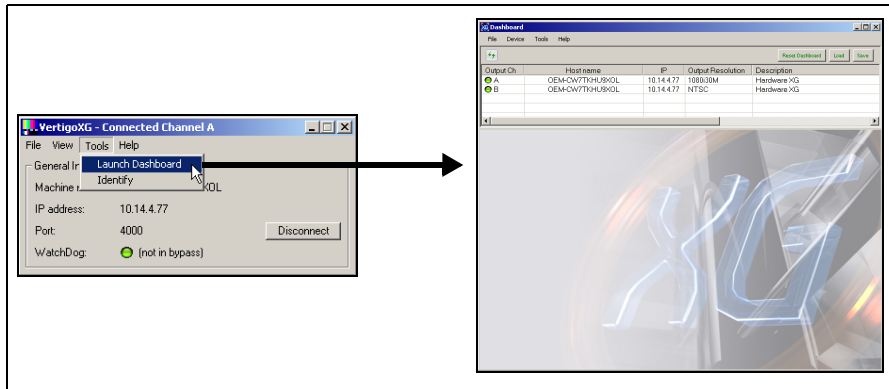
1. [“Verify the Intuition XG’s Output Resolution” on page 4-5](#)
2. [“Enable the Intuition XG’s Live window” on page 4-6](#)
3. [“Use Xplay to ployout a graphic” on page 4-7](#)

Verify the Intuition XG’s Output Resolution

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

To verify (and change) a Intuition XG’s output channel resolution:

1. In the Intuition 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 **Intuition XG Configuration Guide** for instructions).

3. Verify the **OUTPUT RESOLUTION** setting. If the setting represents your desired output resolution, continue to the next task.

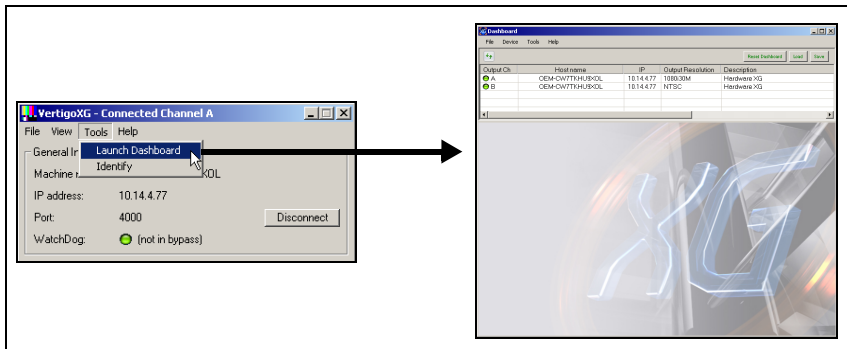
If the Output Resolution setting is not what you desire, then select a different resolution from the drop-down list and click the **APPLY CHANGES** button. When prompted, click **YES** to apply the changes. Click **YES** again to restart the device, which applies the new setting.

Enable the Intuition XG's Live window

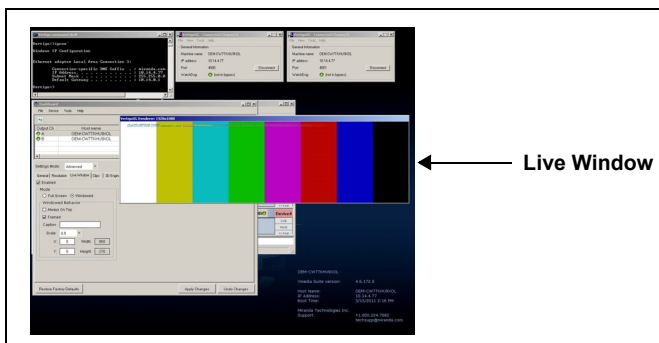
For installation and troubleshooting purposes, the Intuition XG is equipped with a preview window called the Live Window. The Live Window allows you to display a representation of the output channel's playout directly on the Intuition XG's desktop.

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 Intuition 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 Intuition XG device. Once the device has restarted, the Live Window will appear on the Intuition XG's desktop.



☑ NOTE

It is normal that the Live window is appears as double the expected width, since individual fields are being displayed on a progressive PC output.

Use Xplay to play out a graphic

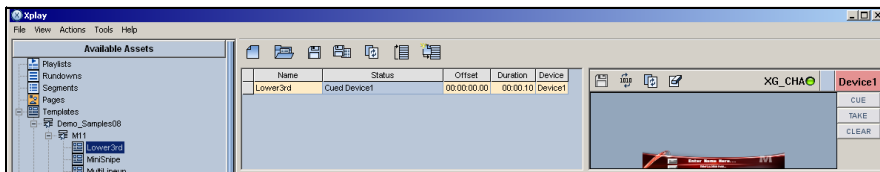
To verify that the Intuition XG is properly connected and playing out, the following procedures has you add a template asset to the playlist, then cue and take the asset so that it plays out in the Live window, as well as the broadcast monitor.

✓ NOTE

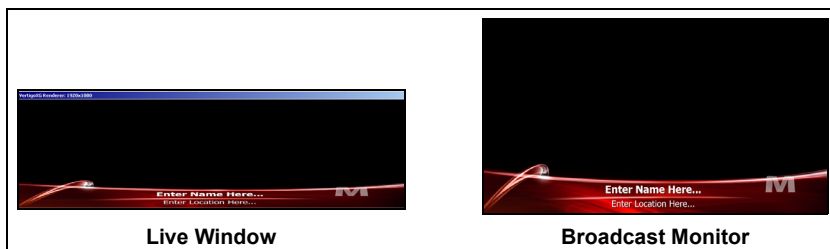
These instructions describe playing out on the Intuition XG's primary output (channel A). To verify a dual channel Intuition XG's second output (channel B), you must perform the same setup and playout instructions ([page 4-5](#)), but using the Dashboard, Live Window, broadcast monitor and Xplay device viewers associated with Channel B.

To verify the Intuition XG's playout:

1. In Xplay, verify that the **DEVICE 1** viewer's LED is green, indicating that it is actively connected to the Intuition 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. See the **Intuition 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 KEYS 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, select the **TEMPLATES>DEMO_SAMPLES08>M11**.
5. Double-click on any of the templates listed in the M11 category.
The template is added to the playlist.
6. Select the template in the playlist and click the **CUE** button in the Device Viewer.
The template is displayed in the Device Viewer.



7. Click the **TAKE** button.
The graphic is played out on both the Intuition XG's Live Window and the broadcast monitor.



Completing the quick start procedure

With the Intuition 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 playback.

Since the mouse, keyboard and DVI monitor are only used during the setup and configuration procedures, you can also disconnect these peripherals from the Intuition 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 Intuition 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 Intuition XG device.
7. On dual channel Intuition XG devices, repeat these steps for Output Channel B.

5 NEED FURTHER ASSISTANCE?

Technical Support

For technical assistance, please contact the Technical support centre nearest you:

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Related Documentation

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