



grass valley

A **BELDEN** BRAND

ITX APPLIANCE 2 PROCESSOR

GVSP-B24C-22G-WIN

Installation and Service Manual

M958-8402-101

Revision 1

2018-08-22

www.grassvalley.com

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Title	iTX Appliance 2 Processor Installation and Service Manual
Part Number	M958-8402-101
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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.



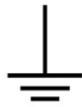
Indicates that the user, operator or service technician should refer to the product manuals for important operating, maintenance, or service instructions.



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 anti-static 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-USA-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

Restriction of Hazardous Substances (RoHS)

GVSP-B24-22G-WIN 部件名称 Part name	有毒有害物质或元素 (Toxic or hazardous Substances and Elements)					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr6)	多溴联苯 (PBB)	多溴二苯 (PBDE)
电缆及电缆组件 Cables and Cable Assemblies	O	O	O	O	O	O
电路模块 Circuit Modules	X	O	O	O	O	O
组装风扇 Fan Assemblies	X	O	O	O	O	O
金属零件 Metal Parts	X	O	O	O	O	O
塑料和聚合物零件 Plastic and Polymeric Parts	O	O	O	O	O	O

O: 表示该有毒有害物质在该部件所有均质材料中的含量均在 GB/T 26572-2011 规定的限量要求以下。
O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in GB/T 26572-2011.

X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572-2011 规定的限量要求。
X: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials for this part is above the limit requirement in GB/T 26572-2011.

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Technical explanations:
This statement is based on the information provided by our suppliers of components and collected through our Grass Valley's environmental management system. Grass Valley believes this environmental information to be correct but cannot guarantee its completeness or accuracy as it is based on data received from sources outside our company. All specifications are subject to change without notice.

toc

Table of Contents

1 Overview of the iTX Appliance 2 Processor	1
About the iTX Appliance 2 Processor	2
System Specifications	2
Front Panel Components	3
Control Panel Buttons and Status Monitoring Lights	3
SSD Drives	4
Rear Panel Components	5
Power Supply Modules	5
2 Installation and Start-up Procedures	7
Installing the iTX Appliance 2 Processor Chassis in a Rack	7
Cabling the iTX Appliance 2 Processor	8
Starting the iTX Appliance 2 Processor	8
3 Setting up the iTX Appliance 2 Processor	11
Configuring Windows and System Settings	11
Installing iTX Software Modules	13
4 Servicing the iTX Appliance 2 Processor	15
Removing Power from the System	15
Removing and Replacing the Bezel	16
Removing the Chassis Cover	17
Replacing a SSD Drive	18
Replacing a Power Supply Module	18
Replacing a System Fan	18
Replacing the Network Adapter Card	19
Replacing the Graphics Card	21
Contact Us	23



Overview of the iTX Appliance 2 Processor

This document provides an overview of the product and guides you through the procedures for installing and setting up a new, factory-delivered iTX Appliance 2 Processor unit.

This chapter provides information about the iTX Appliance 2 Processor and the physical characteristics of the product, including system specifications and chassis components.

Summary

<i>About the iTX Appliance 2 Processor</i>	2
<i>System Specifications</i>	2
<i>Front Panel Components</i>	3
<i>Rear Panel Components</i>	5

Note: Additional iTX system documentation can be downloaded from the Documentation Library on the Grass Valley web site (www.grassvalley.com).

About the iTX Appliance 2 Processor

The iTX Appliance 2 Processor unit is a 1 RU rack mountable server designed to run iTX for use with iTX On-Demand Mastering & Transcode and iTX Proxy & Keyframe Generation. Note that this appliance contains no SDI I/O or media drives and is NOT suitable for iTX Payout.

System Specifications

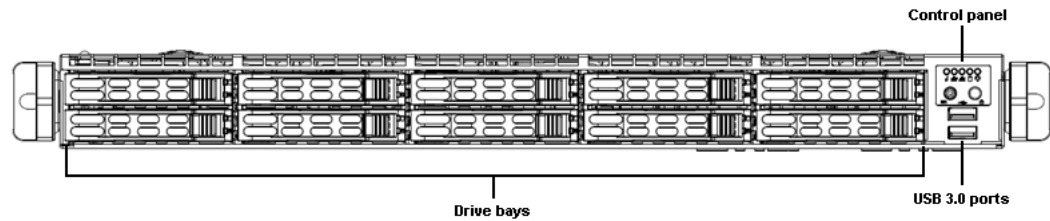
The following table provides a summary of the product and technical specifications for the iTX Appliance 2 Processor unit.

Chassis dimensions	Form: 1 U rackmount chassis Height: 1.7" (27.8 mm) Width: 17.2" (437 mm) Depth: 27.8" (706 mm) Weight: Not available at time of publication
Processors	Dual twelve-core Intel® Xeon® E5-2650v4 processors
Memory	64 GB main memory (RAM)
System disk storage	120 GB SSD RAID1
Network Adapter Card	Intel® X520-SR2 (10 Gigabit Ethernet adapter)
Graphics Card	NVIDIA Quadro P2000
Power consumption	Number of power supplies: 2 AC input voltage: 100-240V, 50/60Hz Input current: 3.74 A-1.55 A Input power: 400 W max.
Temperature	Ambient temperature: 35°C (95°F) Note: This shall be the maximum internal temperature within the rack in which the iTX Payout Appliance unit is installed.
Operating system	Microsoft® Windows® Server 2012 R2
Onboard controllers/ports	<ul style="list-style-type: none">• USB 3.0 ports (2 front, 2 rear)• Dedicated IPMI LAN port (1)• Network I/O: Chassis: 10 Gigabit Ethernet ports (2), RJ45• Network I/O: Network adapter card: 10 Gigabit Ethernet ports (2), SFP+ short-range• COM port (1)• VGA monitor port (1) - Not used• Graphics card: DisplayPort 1.4 (4)

Front Panel Components

A removable bezel covers the front panel of the chassis and identifies the unit as an iTX Appliance 2.

Behind the bezel are the unit's front panel components, which includes two SSD drives, two USB 3.0 ports and a control panel with power buttons and status monitoring lights.



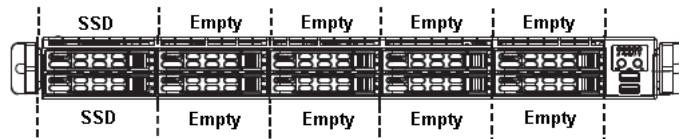
Control Panel Buttons and Status Monitoring Lights

The upper right-hand corner of the iTX Appliance 2 Processor chassis features a control panel, which provides system monitoring lights, a unit identifier button and a main power control button.

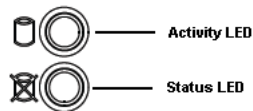
	UID (Unit Identifier) button illuminates a blue light on the front and rear of the chassis for easy system location in large stack configurations.
	The Power button is the main power switch used to power on / off the iTX Appliance 2 Processor unit. Note that turning off system power with this button removes the main power, but keeps standby power supplied to the system.
	The Information light alerts operators to specific system states: <ul style="list-style-type: none"> • Continuous red: Overheat condition • Blinking red (1 Hz): Fan failure • Blinking red (0.25 Hz): Power failure • Solid blue: Local UID has been activated • Blinking blue: Remote UID is on
	Blinking green light indicates network activity on LAN2 connection.
	Blinking green light indicates network activity on LAN1 connection.
	Blinking green light indicates activity on the hard drive.
	The Power light indicates whether the unit is powered on or off. <ul style="list-style-type: none"> • green: The unit is powered on • off: The unit is off, but standby power is still supplied to the unit.

SSD Drives

The front panel provides access to ten drive carrier bays, which are populated by two SSD drives; leaving eight of the drive bays empty.



Each drive carrier has an Activity LED and a Status LED.



The LED's color and illumination behavior indicates a specific status.

For example, the most commonly observed activities are:

- Activity LED > Blue > Blinking = I/O activity
- Status LED > RED > Solid On = Failed drive

Please consult the *SuperServer 1028U Series User Manual* for a complete listing of the drive carrier LED's behavior.

The drives are hot-swappable, meaning that a single drive can be replaced without having to stop the system or remove power from the unit.

Managing the RAID Arrays on the iTX Appliance 2 Processor

The **Intel Rapid Storage Technology (RST)** software is used to manage RAID arrays on the iTX Appliance 2 Processor. This software is pre-installed and running on the unit.

When operating properly, the Intel RST icon in the Windows system tray appears as a hard drive with a green check mark over it. If there is any problem with a RAID array, the same icon appears with a yellow explanation mark over the hard drive icon along with a pop-up dialog that explains the problem.

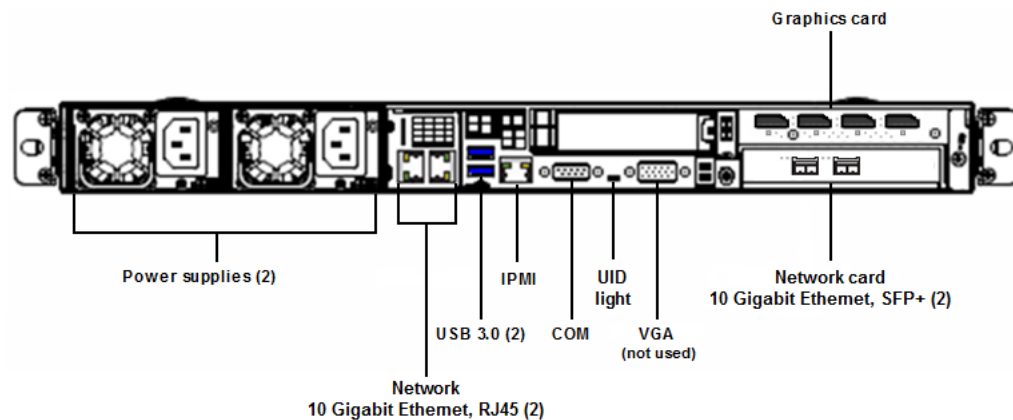
To more closely monitor and manage the RAID arrays, you can open the Intel RST software window by double clicking its icon in the Windows system tray.

For more information about using the Intel RST software, please click the **Help** icon on the Intel RST window.

Rear Panel Components

The rear panel of the iTX Appliance 2 Processor chassis provides access to two power supply units, as well as the appliance's input and output connectors.

The following diagram identifies the rear panel components of the iTX Appliance 2 Processor.



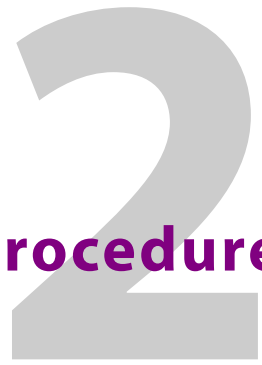
Power Supply Modules

The rear panel provides access to two redundant 750 watt power supply modules. If either of the power supply module fail, the other module supports the full load and allows the system to operate without interruption.

Each power supply module has an LED, that is visible from the rear panel, that reports the status of the module.

- **Solid green:** Indicates that the power supply is on.
- **Solid amber:** Indicates the power supply is plugged in and turned off.
- **Blinking amber:** Indicates that the system power supply temperature has reached 36°C. The system will automatically power-down when the power supply temperature reaches 70°C and restarts when the power supply temperature goes below 60°C.

Installation and Start-up Procedures



This chapter provides information about the installation and setup of the iTX Appliance 2 Processor unit.

IMPORTANT - Please read this chapter in its entirety before beginning the installation procedure.

Summary

<i>Installing the iTX Appliance 2 Processor Chassis in a Rack</i>	7
<i>Cabling the iTX Appliance 2 Processor</i>	8
<i>Starting the iTX Appliance 2 Processor</i>	8

Installing the iTX Appliance 2 Processor Chassis in a Rack

Included in the shipping package is a rack mounting kit, which contains the rail assemblies and screws required to mount the iTX Appliance 2 Processor chassis in an equipment rack. The rails provided are designed to fit in racks with a depth of 26" to 33.5".

Complete and detailed instructions for installing the iTX Appliance 2 Processor chassis in a rack are provided in the "Server Installation" section of the *SuperServer 1028U Series User's Manual*.



IMPORTANT - Server Chassis Installation

- iTX Appliance 2 Processor 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 iTX Appliance 2 Processor 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 *SuperServer 1028U Series User's Manual*.
-

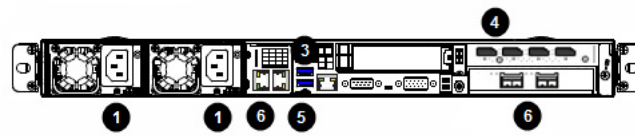
Cabling the iTX Appliance 2 Processor

Once the iTX Appliance 2 Processor chassis is securely mounted in an equipment rack, you can make the required connections to the rear panel connectors.



WARNING - Power cables

Use the provided or designated power cables. Using any other cables and adapters could cause a malfunction or a fire. Electrical Appliance and Material Safety Law prohibits the use of UL or CSA -certified cables (that have UL/CSA shown on the code) for any other electrical devices, other than products designated by Grass Valley.



Note:

The numbers in this diagram correspond to the steps in the cabling instructions below.

To make the required cable connections to the iTX Appliance 2 Processor:

- 1 Insert the two AC power cords into the unit's power supply sockets.
- 2 Connect the unit's power cords to a power output.
- 3 Insert a KVM switch cable for the mouse and keyboard into one of the rear USB 3.0 ports.
- 4 Insert a graphics monitor cable (or KVM switch cable) in the graphics card's DisplayPort connector. If required, a DVI and VGA adapters are provided in the appliance's shipping package.
- 5 Insert the iTX license dongle into the other rear USB 3.0 port.
- 6 Insert the Ethernet cable that is connected to the LAN into the LAN 1 port.

Then use one of the following network cabling options to connect the network adapter to the LAN:

- **10 Gigabit SFP+:** Connect a multi-mode fiber cable (up to 300m) or direct attach cable (up to 10m) to the SFP+ ports.
- **10 Gigabit RJ45:** Connect a Cat6 cable (up to 30m) or Cat6a cable (up to 100m) to the RJ45 ports.
- **1 Gigabit RJ45:** Connect a Cat6 cable (up to 30m) or Cat6a cable (up to 100m) to the RJ45 ports.

Starting the iTX Appliance 2 Processor

Once the iTX Appliance 2 Processor unit is properly racked and cabled, you can power up the unit by pressing the **Power** button on the front control panel.

The Power light on the front control panel illuminates as green to indicate that the unit is powered on.

It is normal for the connected graphics monitor to remain blank for up to one minute after the pressing the Power button, so please wait patiently.

Upon startup, the iTX Appliance 2 Processor automatically logs on as *iTX-user*.

3

Setting up the iTX Appliance 2 Processor

This chapter provides instructions for how to perform the initial setup of a factory-delivered iTX Appliance 2 Processor unit. Upon completing the initial setup procedures, we recommend that you consult the *iTX System Administrator Guide* and *iTX On-Demand User Manual* for information on fully integrating the unit into your iTX system.

Summary

<i>Configuring Windows and System Settings</i>	11
<i>Installing iTX Software Modules</i>	13

Configuring Windows and System Settings

When the iTX Appliance 2 Processor is powered up for the first time, the local user (**itx-user**) is configured to automatically logon to Windows.

Since factory-delivered units are initially configured with generic Windows and system settings, you must configure some settings to ensure that they are appropriate for your geographic location and local network configuration.

To configure the Windows and system settings:

- 1 Open the **Windows Clock, Language and Region** window and verify that the Date and Time settings are appropriate for the Coordinated Universal Time (UTC) time zone used by your iTX system.

We also recommend that you configure the following settings as appropriate for your situation:

- If the Appliance is part of a workgroup, disable the **Synchronize Time with...** setting on the **Date and Time** window's **Internet** tab.
- If you want to change from the default language of English, configure the **Language** settings.
- Ensure that the **Location** and **Formats** settings are configured appropriately in the **Region** window.

- 2 Change the default DHCP assigned IP address to a static IP address using the **Internet Protocol Version 4 (TCP/IPv4) Properties** window.
- 3 Change the order of the network protocol bindings.
 - a Open the **Network Connections** window.
 - b Open the **Advanced Settings** window by selecting **Advanced > Advanced Settings** menu option.
 - c Select the **Adapters and Bindings** tab.
 - d Move the adapter that you want to be the active connection to the top of the **Connections** list.

- e Ensure that the **Internet Protocol Version 6 (TCP/IPv6)** options are disabled in the **Bindings** list.
 - f Click **OK**.
- 4 Set the Appliance's Hostname and Domain membership using the **System Properties** window.
- For Domain membership, you may need to consult with your IT department to obtain the user name and password for a user that has permission to join the Appliance to the domain.

Note: You may be prompted to restart the computer. Do not restart at this time. Continue this procedure and only reboot as instructed in step 8 of these instructions.

- 5 Add the Domain User as Local Administrator using the **Select Computers, Service Accounts, or Groups** window.
- 6 Configure Windows to logon to the domain user account automatically.
- a Click Start and type `Regedit.exe` in the search field.
 - b Select the **Regedit.exe** program, which opens the **Registry Editor** window.
 - c Navigate to:
`HKEY_Local_Machine>SOFTWARE>Microsoft>Windows NT>CurrentVersion>Winlogon`
 - d Edit the following string values: (Value Name, Value Data)
 - `AutoAdminLogon, 1`
 - `DefaultUserName, <username>`
 - `DefaultPassword, <password>`
 - `DefaultDomainName, <DomainName>`

The `DefaultDomainName` should be the hostname for workgroups and the Windows domain for a domain.

Note: If these values do not exist, create them as follows:

- Right-click in the right-hand pane and select **New>String Value**.
 - Enter the name.
 - Double-click this new value and enter the value data as listed above.
 - Click **OK**.
-

- 7 Disable the Windows Firewall by enabling the **Turn Off Windows Firewall** setting for all network locations listed in the **Windows System and Security** panel.
- 8 Restart the Appliance to apply all of the changes.
- 9 Once the system has restarted, verify that the clock, language and region settings are correct. If they are still incorrect, make the appropriate changes before proceeding to the next step.
- 10 Enable file sharing for domain users by configuring the following settings in the **Advanced Sharing settings** window (Network and Sharing Center):
- Enable **Turn on network discovery**.
 - Enable **Turn on file and printer sharing**.
 - Enable **Turn on network discovery**.

- Disable **Password protected sharing**. (Workgroup only)
- 11 Disable Action notifications.
- a Use the Windows **Start** menu to open the Windows **Control Panel**.
 - b Select **System and Security > Action Center > Change Action Center Settings**.
 - c In the **Security Messages** section, uncheck the following options:
 - **User Account Control**
 - **SmartScreen (Windows® Server 2012 R2 only)**
 - d In the **Maintenance Messages** section, uncheck the following options:

Windows® Server 2012 R2	Windows® Server 2008 R2
Automatic Maintenance	Check for updates
Drive Status	
Device Software	
HomeGroup	
Storage Spaces	

- e Click **OK**.
- 12 Disable automatic updates.
- a Use the Windows **Start** menu to open the Windows **Control Panel**.
 - b Select **System and Security > Windows Update**.
 - c Click **Change Settings**.
 - d In the **Important Updates** section, select **Never check for updates** from the drop-down list.
 - e Click **OK**.

Installing iTX Software Modules

New, factory-delivered iTX Appliance 2 Processor units are shipped with the iTX software, however you must install and configure the iTX software modules and licenses based on the intended purpose of the unit. For example, if the unit is to be configured for iTX On-Demand Mastering or uniquely for transcoding, then you are required to run the iTX Setup from the desktop, select the appropriate modules and run the installer.

Please refer to the *iTX System Administrator Guide* and/or the *iTX On-Demand User Manual* to identify the exact software modules and licenses required.

Servicing the iTX Appliance 2 Processor

4

This chapter provides information about service procedures that can be performed on-site in cases where a faulty component must be replaced.



WARNING All health and safety regulations and precautions must be observed as identified in [Important Safeguards and Notices](#), on page iii.

IMPORTANT: To ensure performance and preserve support and warranty agreements, only Grass Valley approved replacement parts must be used when servicing the iTX Appliance 2 Processor. Contact Grass Valley's Technical Support for precise part specifications and additional servicing guidance.

Summary

<i>Removing Power from the System</i>	15
<i>Removing the Chassis Cover</i>	17
<i>Removing and Replacing the Bezel</i>	16
<i>Replacing a SSD Drive</i>	18
<i>Replacing a Power Supply Module</i>	18
<i>Replacing a System Fan</i>	18
<i>Replacing the Network Adapter Card</i>	19
<i>Replacing the Graphics Card</i>	21

Removing Power from the System

Before performing a service or maintenance task, we recommend using the following procedure to ensure that power has been removed from the system.

To completely remove power from the system:

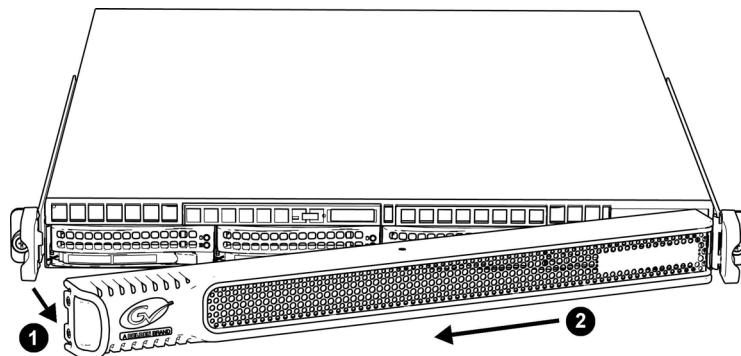
- 1 Use the operating system's **Shutdown** command to power down the system.
- 2 Disconnect the unit's two AC power cords from their power source (i.e. wall socket or power bar).
- 3 Remove the AC power cords from the two power supply modules on the rear of the unit.

Removing and Replacing the Bezel

The iTX Appliance 2 Processor has a front bezel which protects the drives and other front panel components from accidental removal or damage. The bezel can be completely removed from the unit to expose the unit's front panel components.

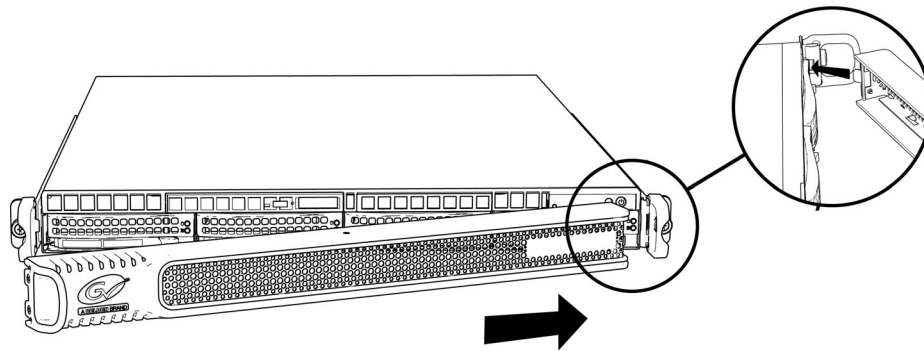
To remove the front bezel:

- 1 Pull the left handle of the bezel slightly forward, away from the unit so that the bezel is angled.
- 2 Pull the right handle of the bezel to the left to dislodge the bezel tab and completely detach the bezel from the chassis.

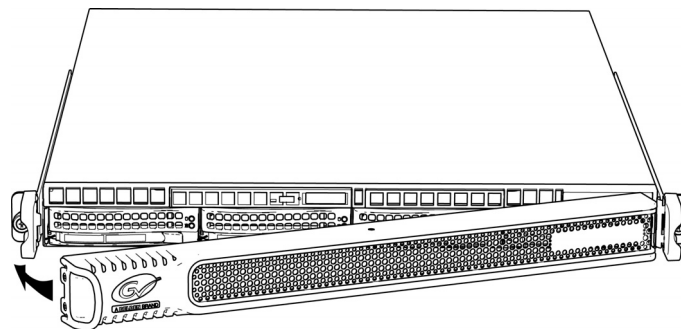


To install a new bezel:

- 1 Insert the bezel's right-side tab into the bracket on the front of the chassis.



- 2 Push the bezel's left handle back toward the unit until the bezel clips onto the chassis.



Removing the Chassis Cover

You can access the internal components of the iTX Appliance 2 Processor by removing the cover on the top side of the chassis.

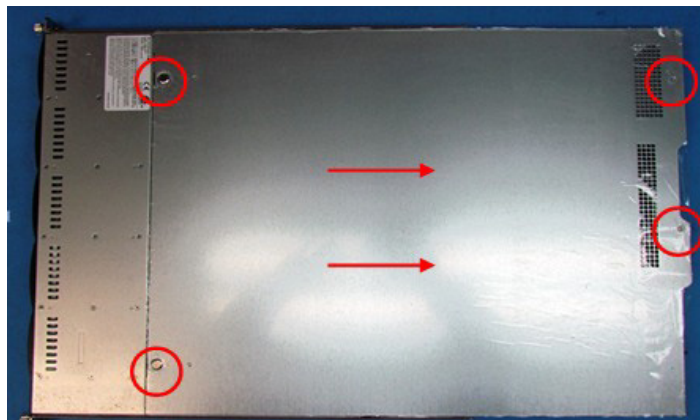


WARNING - Power Disconnection

The system must be disconnected from all sources of power and the power cord removed from the power supply module(s) before accessing the chassis interior to install or remove system components. This unit has more than one power supply connection. All connections must be removed to de-energize the unit.

To remove the top cover from the chassis:

- 1 Remove the 2 Phillip screws from the rear of the cover.
- 2 Press the two release buttons along the front of the cover.
- 3 Slide the cover towards the rear.
- 4 Lift the cover upwards to completely remove it from the chassis.



Replacing a SSD Drive

The front panel provides access to ten drive carrier bays, which are populated by two SSD drives; leaving eight of the drive bays empty.

The SSD drives are hot swappable, meaning that you do not have to halt and shutdown the unit when replacing a single drive.

Complete instructions for removing and replacing a drive is provided in the "Installing Drives" section of the *SuperServer 1028U Series User's Manual*.

Replacing a Power Supply Module

The rear panel provides access to two redundant 750 watt power supply modules. They automatically sense the input voltage between 100V to 240V, and operate at that voltage. An amber light on the power supply is illuminated when the power is switched off. A green light indicates that the power supply is operating.

If either of the power supply modules fail, the other module supports the full load and allows the system to operate without interruption. The unit's **Power** light, located in the front control panel, illuminates when a power supply failure is identified.

Complete instructions for removing and replacing a power supply are provided in the "Power Supply" section of the *SuperServer 1028U Series User's Manual*.

Replacing a System Fan

A series of eight fans provide the cooling for the system by circulating the air through the inside of the chassis.

If a fan fails, the system continues to operate and the remaining fans ramp up to compensate for the faulty fan. If the system detects that a fan is inoperable, the **Information** light on the unit's front control panel begins to blink red. In such a case, we recommend replacing the fan at your earliest convenience.



WARNING - Hot swap fan

The fans might still be turning when you remove the fan assembly from the chassis. Keep fingers, screwdrivers, and other objects away from the openings in the fan assembly's housing.

Complete instructions for removing and replacing a fan are provided in the "System Fan Replacement" section of the *SuperServer 1028U Series User's Manual*.

Replacing the Network Adapter Card



WARNING - Power Disconnection

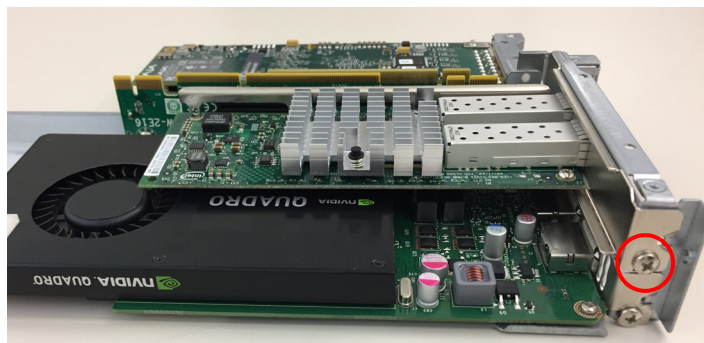
The system must be disconnected from all sources of power and the power cord removed from the power supply module(s) before accessing the chassis interior to install or remove system components. This unit has more than one power supply connection. All connections must be removed to de-energize the unit.

To remove and replace the network adapter card:

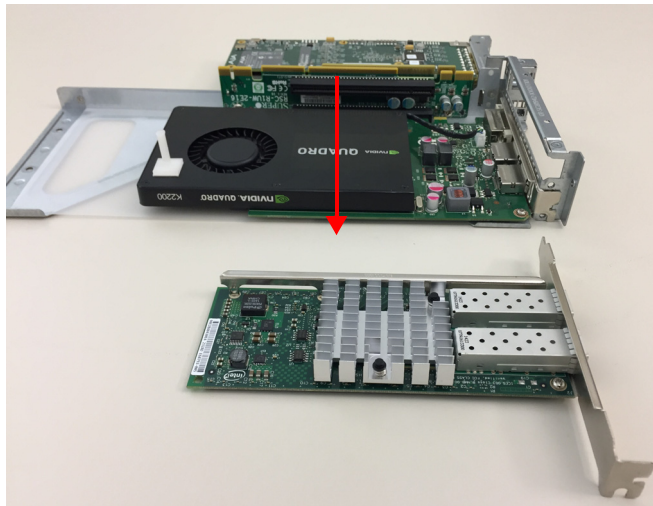
- 1 Power down the system and remove power from the unit.
- 2 Disconnect all of the cables from the unit's rear panel.
- 3 Remove the unit from the rack and place on a solid, flat surface.
- 4 Remove the top cover from the chassis.
- 5 Remove the four screws (2 on rear, 2 on top) that secure the network adapter card and graphics card bracket to the frame.
- 6 Carefully lift the bracket upwards to remove the entire bracket from the chassis. The network adapter card and graphics card remain attached to the bracket.



- 7 Remove the screw that secures the network adapter card to the bracket.



- 8 Remove the network adapter card from the bracket by carefully pulling it away from the middle of the bracket.



- 9 Replace the network adapter card by sliding the new card into the bracket, ensuring that its connector is aligned and securely interfacing with the bracket's middle connector.
- 10 Fasten the screw that secures the network adapter card to the bracket.
- 11 Align the bracket with above its location within the chassis, ensuring that both cards' connectors are align with the motherboard's connectors. Press down on the bracket to ensure proper connection.
- 12 Fasten the four screws to secure the bracket to the chassis.
- 13 Replace the cover of the chassis and reinstall the unit.

Replacing the Graphics Card

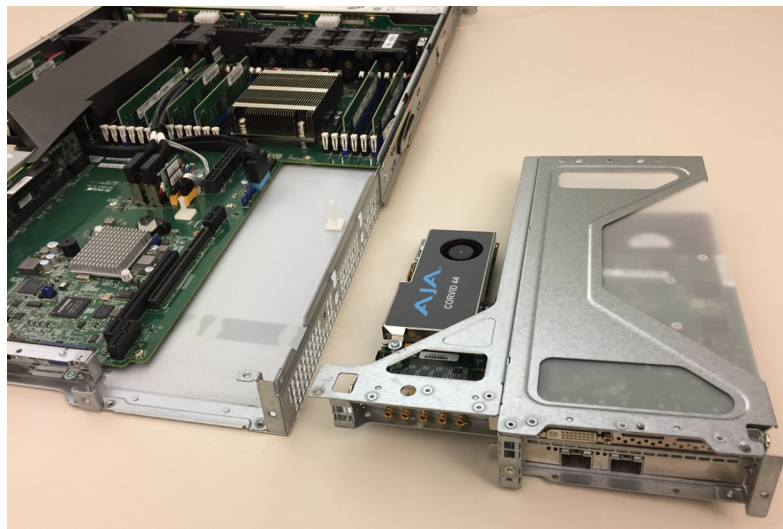


WARNING - Power Disconnection

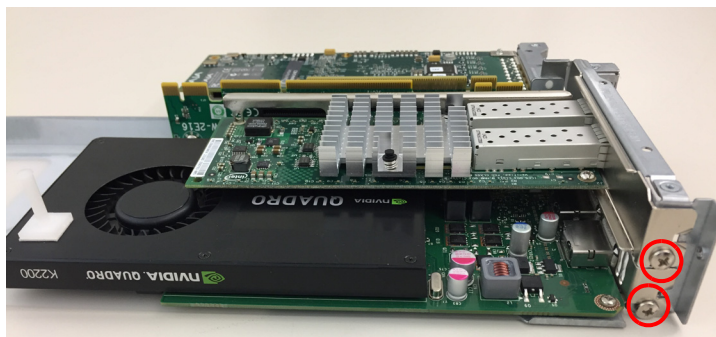
The system must be disconnected from all sources of power and the power cord removed from the power supply module(s) before accessing the chassis interior to install or remove system components. This unit has more than one power supply connection. All connections must be removed to de-energize the unit.

To remove and replace the graphics card:

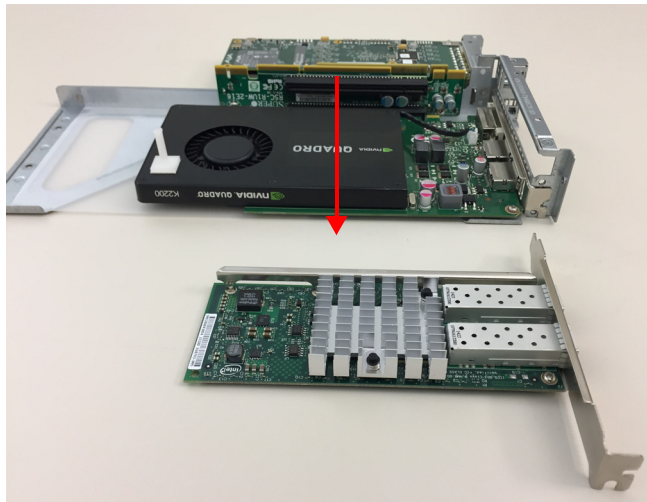
- 1 Power down the system and remove power from the unit.
- 2 Disconnect all of the cables from the unit's rear panel.
- 3 Remove the unit from the rack and place on a solid, flat surface.
- 4 Remove the top cover from the chassis.
- 5 Remove the four screws (2 on rear, 2 on top) that secure the graphics card and network adapter card bracket to the frame.
- 6 Carefully lift the bracket upwards to remove the entire bracket from the chassis. The graphics card and network adapter card remain attached to the bracket.



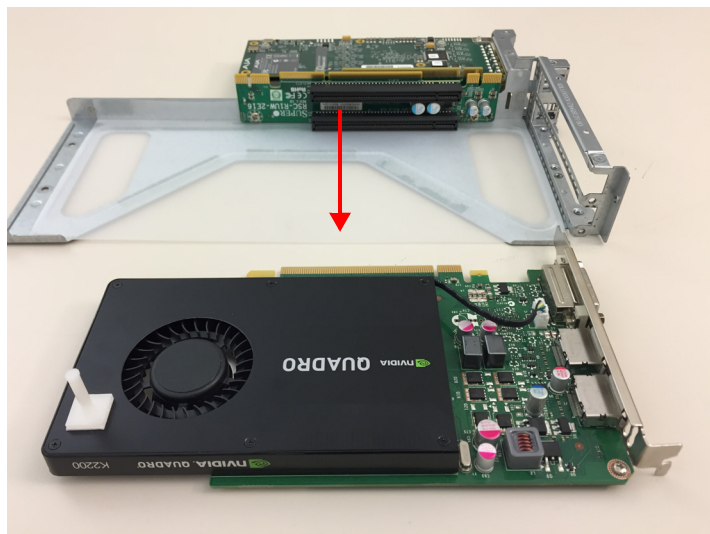
- 7 Remove the two screws that secure the graphics card and network adapter card to the bracket.



- 8 We recommend remove the network adapter card from the bracket by carefully pulling it away from the middle of the bracket.



- 9 Remove the graphics card from the bracket by carefully pulling it away from the middle of the bracket.



- 10 Replace the graphics card by sliding the new card into the bracket, ensuring that its connector is aligned and securely interfacing with the bracket's middle connector.
- 11 Replace the network adapter card by sliding the card into the bracket, ensuring that its connector is aligned and securely interfacing with the bracket's middle connector.
- 12 Fasten the screws that secure the graphics card and network adapter card to the bracket.
- 13 Align the bracket with above its location within the chassis, ensuring that both cards' connectors are align with the motherboard's connectors. Press down on the bracket to ensure proper connection.
- 14 Fasten the four screws to secure the bracket to the chassis.
- 15 Replace the cover of the chassis and reinstall the unit.



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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