Kaleido-MX (3RU)

High quality, pre-configured multiviewer

Quick Start Guide

M933-7105-102

16 July 2014

grass valley
A **BELDEN** BRAND

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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, 2e 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, 2ª 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, 2ª 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.

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 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 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 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 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.
- 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.
- 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 nettoyants liquides ou en aérosol. Utilisez uniquement un chiffon humide.

- Des tensions dangereuses peuvent exister en plusieurs points dans cet équipement. Pour éviter toute blessure, ne touchez pas aux connexions ou aux composants exposés lorsque l'appareil est sous tension.
- Avant de procéder à toute opération d'entretien ou de dépannage 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.
- 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.
- 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.
- 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.
- 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.
- Deixe o pessoal qualificado executar verificações de segurança depois de um serviço.

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 Electromagnetic Compatibility 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 61000-4-11 Voltage dips, short interruptions and voltage variations immunity

Kaleido-MX

Setting Up Your Kaleido-MX Multiviewer

Welcome to the Kaleido family of multiviewers! This Quick Start Guide is designed to help you get your Kaleido-MX (3RU) multiviewer up and running for the first time. The following sections will guide you through the installation of a Kaleido-MX (3RU) system in its default configuration. For more information about the Kaleido-MX (3RU) hardware, refer to the *Kaleido-MX (3RU) Hardware Description & Installation Manual* (on the DVD that shipped with your system).

Summary

Introduction

Grass Valley's Kaleido family of multiviewers ranges from quad-splits to large-scale, multi-room monitoring systems, with outstanding image quality and signal flexibility. The Kaleido multiviewers are available in different models: the Kaleido-MX, the Kaleido-IP, the Kaleido-X (7RU), the Kaleido-X (4RU), the Kaleido-X16, and the Kaleido-XQUAD frames, as well as the Kaleido-Modular-X cards, and the Kaleido-Modular KMV-3901/3911 cards.

The **Kaleido-MX** standalone multiviewer system is ideal for production control rooms, trucks and outside broadcast operations. Available in two form factors (1 RU, and 3 RU), the Kaleido-MX supports up to 64 video inputs, and up to four multiviewer outputs.

At the heart of every multiviewer system is the **Kaleido-X software**, which includes two client applications:

- **XAdmin** is a Web client that your system administrator will use to manage the multiviewer system.
- **XEdit** is a client application used to create layouts for the monitor wall, and to configure the multiviewer, from your PC or laptop.

A Kaleido-MX multiviewer system in its default configuration includes a number of layout presets. Each preset shows the video signals from a specific input module (card). Refer to the *Kaleido-X User's Manual* (on the DVD that shipped with your multiviewer) for instructions on how to create rooms and layouts according to your specific requirements.

The diagrams below show a Kaleido-MX system with its inputs and outputs. Examples of the various external devices that connect to the Kaleido-MX are also shown. A control panel

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would be located on the production desk, while the client PC could be anywhere with Internet access to the network.
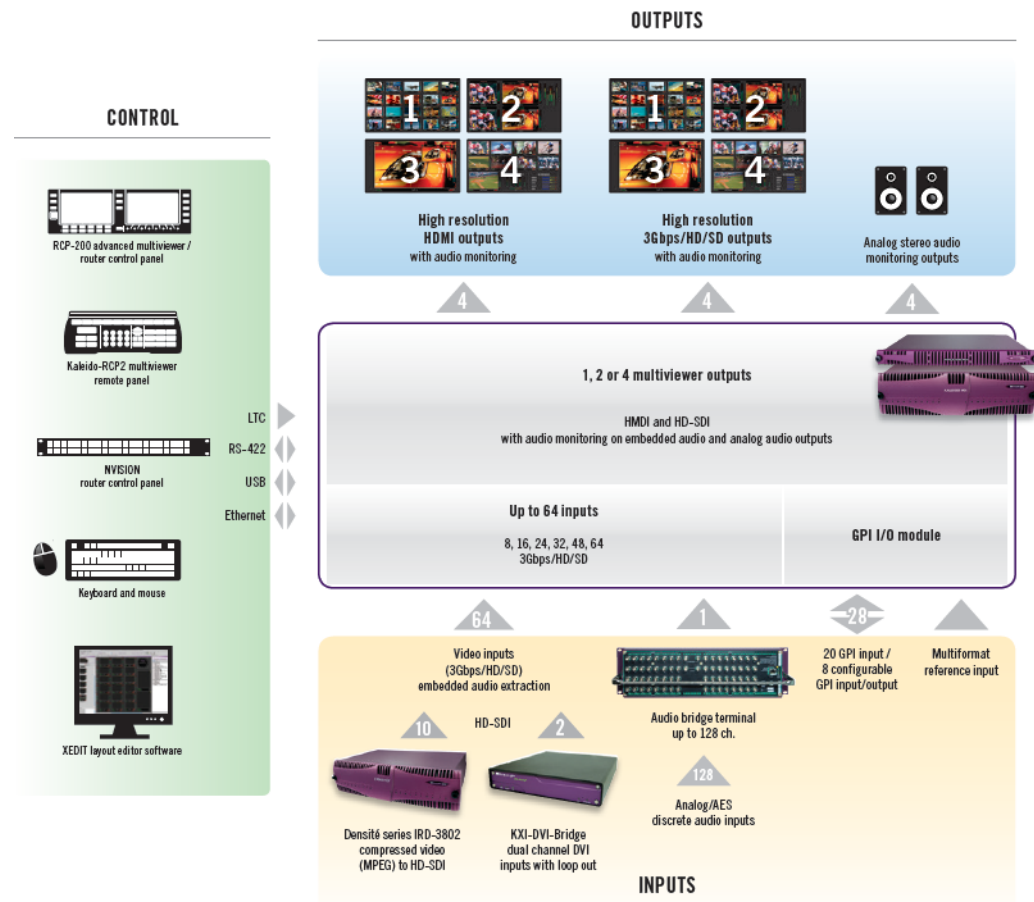
Kaleido-MX system overview
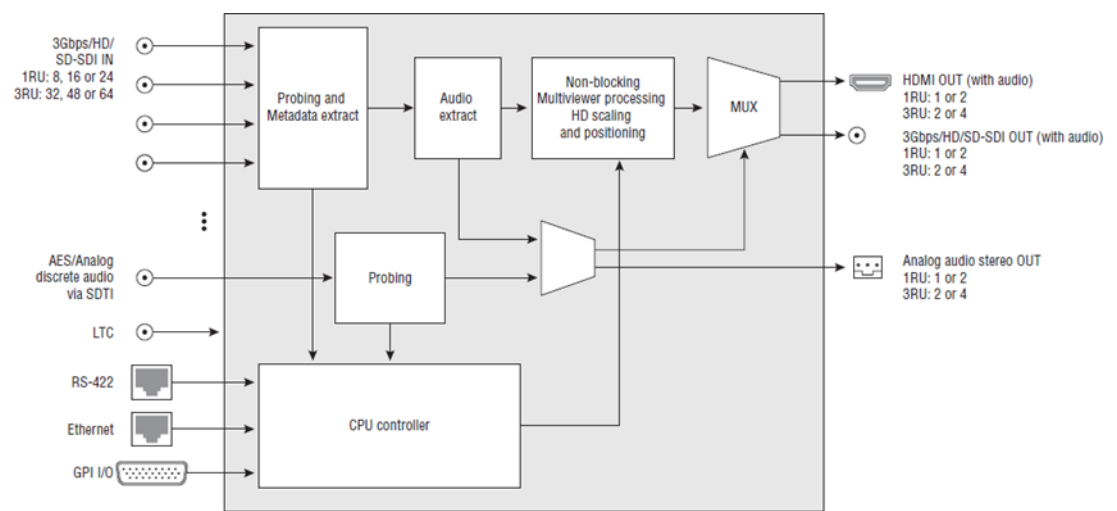
Kaleido-MX functional block diagram

Getting Organized

This section provides information about system requirements, and items shipped with your Kaleido-MX (3RU).

Required Materials

Your Kaleido-MX system package includes the following:

*   A Kaleido-MX (3RU) unit with pre-installed cards (2–4 input cards, 1 or 2 output cards, a Densité CPU-ETH2 controller card, a VDA-1002 analogue video distribution amplifier module, 1 or 2 GPI-1501 GPI I/O modules), and 1 or 2 power supplies

    A REF-1801 HD/SD frame reference module, the second power supply, and a second GPI-1501 module are optional. The table below indicates how the cards included in your Kaleido-MX (3RU) are distributed in the housing frame:

Slot	Card	Card model	Applies to...
1	GPI I/O 1	GPI-1501	All 3RU configurations
2	GPI I/O 2	GPI-1501	All 3RU configurations (optional)
4	Input D	KMX-3901-IN-16-Q	64×4
		KMX-3901-IN-16-D	64×2
7	Input C	KMX-3901-IN-16-Q	48×4, 64×4
		KMX-3901-IN-16-D	48×2, 64×2
9	Reference	VDA-1002	All 3RU configurations
10	URS	REF-1801	All 3RU configurations (optional)
12	Input B	KMX-3901-IN-16-Q	32×4, 48×4, 64×4
		KMX-3901-IN-16-D	32×2, 48×2, 64×2
15	Input A	KMX-3901-IN-16-Q	32×4, 48×4, 64×4
		KMX-3901-IN-16-D	32×2, 48×2, 64×2
17	Output B	KMX-3901-OUT-D	32×4, 48×4, 64×4
19	Output A	KMX-3901-OUT-D	All 3RU configurations

> Note: Removing more than one input card at a time from a Kaleido-MX system in operation is not supported.

*   Two AC power cords
*   Two cable retainers
*   Two WECO mating connectors for each output card (as per order), for the analog audio monitoring outputs, plus one for the CPU-ETH2 controller card's GPI output:

3RU model	WECO connectors
32×2	3
32×4	5

3RU model	WECO connectors
48 × 2	3
48 × 4	5
64 × 2	3
64 × 4	5

- Two serial port adapters (one with straight cabling and one with crossover cabling — see RS-422 Connection Diagram, on page 36):

Part number	Adapter cabling	RS-422 pinout at the DE-9P connector
1737-3000-102	Straight	Controller (SMPTE master) mode
1792-3700-100	Crossover	Tributary (SMPTE slave) mode

The Kaleido-MX (3RU) 32 × 4, 48 × 4, and 64 × 4 models include a second pair of serial port adapters.

- The Kaleido-MX (3RU) Quick Start Guide (this document)
- DVD including the Release Notes for the current version of the Kaleido-X software, the Kaleido-X User's Manual, database samples, Quick Start guides and hardware reference manuals for all multiviewer models

> Note: In line with our commitment to environmental preservation, only the Quick Start Guide for your multiviewer model, and some ancillary documents (e.g. welcome letters, warranty cards) are distributed in printed form. All manuals and the Release Notes are available on the DVD that shipped with your multiviewer. See the *Documentation* section of the Release Notes for a complete list. You can obtain the latest version of the manuals, the Release Notes, as well as software and useful data, from the *Software and documentation* section of Grass Valley's support portal.

In addition to the above, you will need the following (not supplied):

- Up to 4 displays
- A dedicated 100Base-T Ethernet switch with enough ports for the Kaleido-MX, client PCs, Kaleido-RCP2, and Audio Bridge Terminals
- Client PC (see below for system requirements)

• Cables (to connect your multiviewer to video sources, to displays, and to the network):

Cable type	Purpose
CAT-5	For Ethernet connectivity
Display cables	Either extension modules—for example Grass Valley's DXF-200 (part number DXF-200-B)—or standard HDMI cables
Video cables	Standard coaxial cables with DIN 1.0/2.3 connectors

Note: On all Kaleido multiviewers, the network adapters are set to auto-negotiate. By default, the connection speed and duplex mode will be set automatically based on the corresponding port settings on the switch.

System Requirements for a Client PC

A client PC running Windows XP (or Windows 7) is required to access the XAdmin Web client, as well as to run the XEdit application.

Minimum configuration	1 GB of RAM Pentium 4 at 1 GHz
Recommended	At least 2 GB of RAM Core 2 Duo at 2 GHz, or better
Hard disk	At least 125 MB free

Step 1: Physical Setup

To set up the Kaleido-MX hardware

1 With the Kaleido-MX (3RU) frame (enclosure) installed in its designated rack position, and before powering up the unit, verify that each card is securely seated in its slot, and leave the frame door open so that you can monitor all the card's LEDs.

Note: For more information on the card's LEDs, refer to the *Kaleido-MX (3RU) Hardware Description & Installation Manual,* available on the DVD that shipped with your system.

2 Power up the frame.

Once the networking parameters are correctly configured on your Kaleido-MX output cards, it will not be necessary to switch off the housing frame's power when installing or removing cards.

The Kaleido-MX starts up. The startup sequence takes approximately four minutes, during which time every card's status LED is blinking orange.

Front edge of a Kaleido-MX input card   Front edge of a Kaleido-MX output card
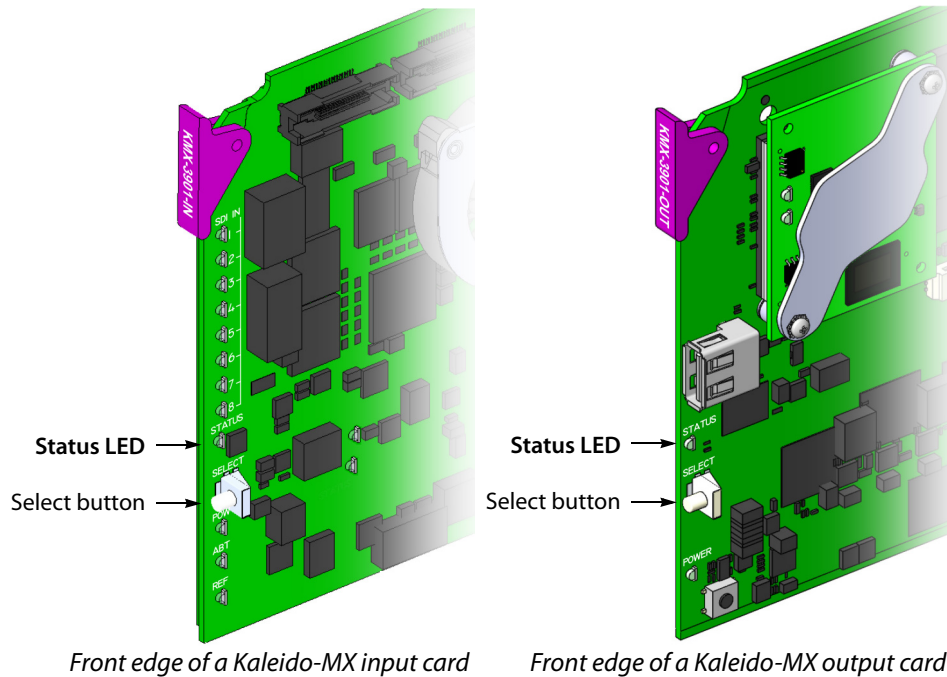
Once the startup has completed, the status LEDs on the *output cards* should be red (steady) because the cards are not connected to the network yet.

Green	Normal
Blinking orange	Booting (or the card is selected for local control)
Red	Firmware initialization in progress / no Ethernet / SD card error
Blinking red	Fan failure / no rear / duplicate IP address

3 Connect the Kaleido-RCP2 and the Audio Bridge Terminal (if available) to a dedicated 100Base-T Ethernet switch (see Cabling Diagram, on page 10). You can also connect a mouse and a keyboard to your Kaleido-RCP2.

Notes

• The Kaleido-RCP2, and Audio Bridge Terminal (ABT) are optional devices, and may not have been shipped with your Kaleido-MX system. For information on these and other Kaleido-MX options, please contact your Grass Valley sales representative.

• You may need to upgrade your Audio Bridge Terminal and Kaleido-RCP2 devices (if available) to the latest firmware. The update files can be found on the DVD that shipped with your multiviewer, and on Grass Valley's support portal. Please refer to the *Kaleido-RCP2 Guide to Installation and Operation*, and to the *Audio Bridge Terminal Guide to Installation and Operation* (available on the DVD, and from the portal) for instructions on how to determine the firmware level, and how to perform the upgrade for these devices.

Notes *(continued)*

- The Kaleido-MX supports one ABT device. With a 3RU model, you can achieve redundancy by connecting the ABT to more than one input card, in which case the Kaleido-MX uses the signal from the input card that is the farthest from the output cards (i.e., Input D, if you have a 64-input model, Input C if you have a 48-input model, or Input B if you have a model with 32-inputs).

The Kaleido-MX automatically detects the resolution of any connected display. If the required information is not available, then a fall-back resolution of 1920 × 1080 @ 60 Hz (HDTV) is used.

4 Connect outputs of the Kaleido-MX to one or more displays that support this resolution.

If you wish to use a different resolution, see Changing the Output Resolution, on page 8, for detailed instructions.

> **IMPORTANT**
> Within a Kaleido-MX system, all output heads must be configured with the same refresh rate. If your system is referenced, then the heads' refresh rate must also match the reference signal's refresh rate.

5 Connect one or more video sources to the Kaleido-MX inputs (see Cabling Diagram, on page 10).

6 Connect a reference source (if available) to one or more reference inputs:

- Connect the house reference source to **REF IN 1**.

  The VDA-1002 (in slot 9) will distribute the reference to all input cards in the frame.

- If you ordered a REF-1801 card, you can connect the house reference source to **REF IN 2** to make provision for redundancy.

  should the VDA-1002 become unavailable, the system will fall back to the reference signal distributed by the REF-1801 through the URS.

  > Note: A reference is optional but, if minimal processing delay is required for your monitoring purposes, then you must reference your system. However, if you must monitor 50 Hz input signals on 60 Hz displays (or vice-versa), then do not reference your system.

7 If you intend to use the GPI interface, refer to the *Kaleido-MX (3RU) Guide to Installation and Operation,* to make the necessary connections to GPI I/O 1 (and to GPI I/O 2, if your order includes a second GPI-1501 card).

8 Connect the controller card's ETHERNET 1 port to your Ethernet switch (see Cabling Diagram, on page 10).

  > Note: The Kaleido-MX does not support the controller card's second Ethernet port (ETHERNET 2).

9 Connect the output cards' ETH ports to your Ethernet switch.

You can now proceed with the networking setup (see).

> **IMPORTANT**
> Make sure to connect your Densité controller and output cards to the same subnet, and that your Ethernet switch remains isolated from the rest of your network (consult your network administrator if necessary) until all required networking setup is complete.

Changing the Output Resolution

> **IMPORTANT**
> Within a Kaleido-MX system, all output heads must be configured with the same refresh rate. If your system is referenced, then the heads' refresh rate must also match the reference signal's refresh rate. If you must monitor 50 Hz input signals on 60 Hz displays (or vice-versa), then do not reference your system.

To change the display resolution from the Densité controller's local control panel

1 Press the Select button on the front edge of the *output card* whose heads you wish to configure.
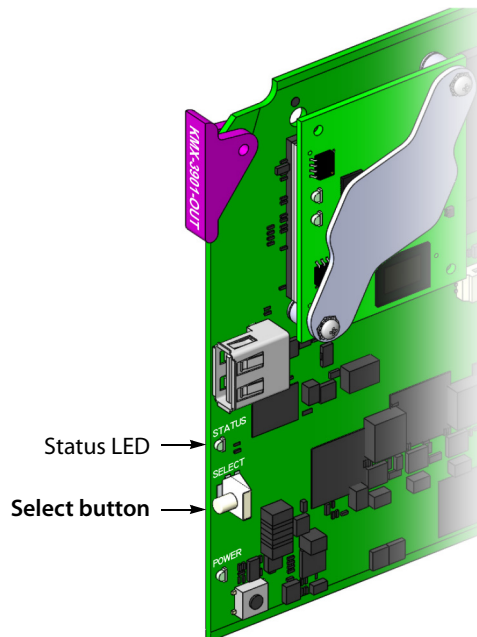
Status LED →

Select button →

The Status LED on the selected card flashes orange, and the associated control menu appears on the LCD display of the Densité frame's local control panel.

2 On the local control panel, press the [–] button twice, until RESOLUTION appears on the LCD display.
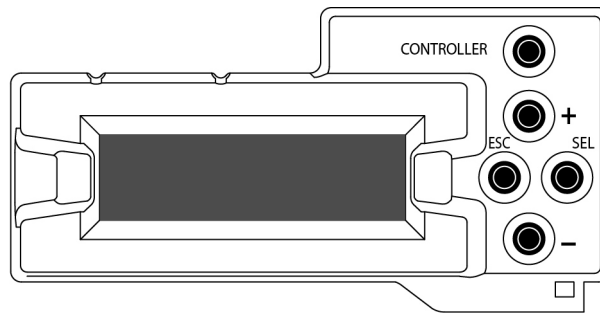
3 Press the SEL button.

HEAD 1 appears on the LCD display.

4 Press the SEL button again.

5 The current resolution for the monitor wall display that is connected to the multiviewer's output head 1 (i.e. through the MV OUT 1 connector) appears on the LCD display.

6 Press the [+] and [−] buttons, to navigate to a suitable output resolution for your monitor wall display.

7 Press SEL to apply the value shown on the LCD display.

The selected resolution is applied to the multiviewer's output head 1.

8 Press ESC to return to the previous level in the local control menu.

HEAD 1 appears again on the display.

9 If you wish to change the resolution on the second output head (if available), then press the [−] button.

HEAD 2 appears on the LCD display and you can repeat step 4 to step 8 above to verify or configure the resolution of the display that is connected to the multiviewer's output head 2 (i.e. through the MV OUT 2 connector).

10 When you are satisfied with the selected output resolution settings, press the Select button *on the front edge of the output card* to exit the control menu.

Notes

- If you do not press any button on the local control panel, the Densité CPU-ETH2 controller will revert to its normal standby mode, and the selected card's status LED will revert to its normal operating mode, after 30 seconds.

- If you changed a parameter from the card's control menu, but have not applied your change (you did not press the SEL button on the local control panel), once the 30-second timeout has occurred, the parameters will be confirmed as if you had pressed the SEL button.

Cabling Diagram

HDMI outputs
to displays

Video input
connections

Kaleido-RCP2

PSU-PoE

Kaleido-MX (3RU) rear

Audio Bridge
Terminal

Ethernet switch

PSU-PoE

Data General

Client PC or laptop
(for XEdit & XAdmin)
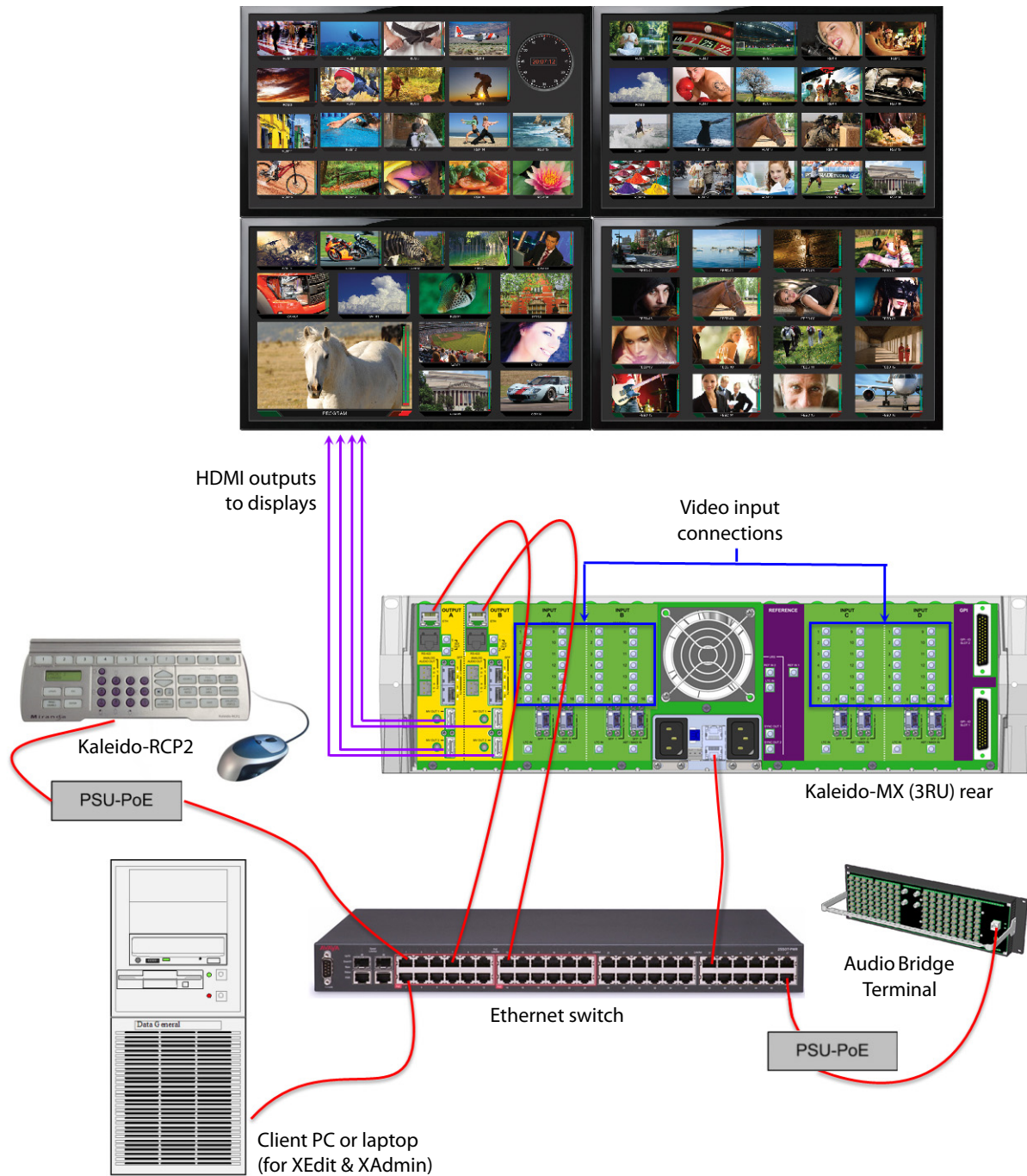
Cabling diagram, showing Kaleido-MX (3RU) rear panel)

Step 2: Networking Setup

For the Kaleido-MX multiviewer to join a TCP/IP network, it must be configured with a system name, appropriate IP addresses, network mask, and gateway settings. You must also

configure the Densité CPU-ETH2 controller's networking parameters, and any Kaleido-RCP2 and Audio Bridge Terminal units you may have ordered, and a client PC to communicate with the multiviewer and its peripheral devices.

A quad-head Kaleido-MX requires three IP addresses (one for each output card, one for the system), while a dual- or single-head requires only one (the output card's IP address doubles as the system IP address). The Kaleido-MX is shipped with the following default settings:

Kaleido-MX default IP settings

		Dual	Quad
System	IP address	192.168.3.31	192.168.3.30
	Network mask	255.255.255.0	255.255.255.0
	Gateway	0.0.0.0	0.0.0.0
Output A	IP address	192.168.3.31	192.168.3.31
Output B	IP address	0.0.0.0	192.168.3.32

Kaleido-MX housing frames are shipped with their CPU-ETH2 controller configured with the following default settings:

Densité CPU-ETH2 controller default IP settings

IP address 1	192.168.3.1
Network mask	255.255.255.0
Gateway	0.0.0.0
IP address 2	0.0.0.0
Network mask	0.0.0.0
Gateway	0.0.0.0

To set the system name and IP addresses for your Kaleido-MX multiviewer

1 Configure the Densité CPU-ETH2 controller with an appropriate IP address (see Setting a Densité CPU-ETH2 Controller's IP Address, on page 12).

2 Verify that the Densité CPU-ETH2 controller's automatic restore feature is enabled (see Enabling the CPU-ETH2 Automatic Restore Feature, on page 13).

> Note: For the card hot swap feature to function properly, the CPU-ETH2 automatic restore feature must be activated.

3 Configure your output cards' networking parameters:

- If you have a **quad-head** Kaleido-MX, replace the system IP address, network mask, default gateway, and both output cards' IP addresses as appropriate. See Configuring the Network Settings for a Quad-Head Kaleido-MX on page 16.

  The *system* IP address will be your system's virtual IP address. This is the address you will use to access your system from XEdit and XAdmin, for example.

- If you have a **single-head** or a **dual-head** Kaleido-MX, then replace the IP address for Output A with an appropriate IP address, and change the network mask and

default gateway as appropriate. See Configuring the Network Settings for a Single-or Dual-Head Kaleido-MX on page 13.

The output card's IP address will automatically become your system's virtual IP address.

4 Configure the Kaleido-RCP2, and Audio Bridge Terminal units you have connected to your system, if any. See Using the Kaleido-RCP2 with Default Settings on page 21, and Configuring an Audio Bridge Terminal, on page 22.

5 Complete your Kaleido-MX system configuration by changing the system name, if desired. See Setting the System Name on page 18.

> Note: If there are more than one multiviewer in the same network environment, it is important to assign each a unique system name, so that you can tell them apart (for example, when using a remote control panel such as the Kaleido-RCP2 or RCP-200).

You are now ready to open XAdmin and XEdit, from a client PC or laptop within the same subnet, and verify your system communication status (see Step 3: XEdit Installation, on page 26, and Step 4: System Verification, on page 30).

Setting a Densité CPU-ETH2 Controller's IP Address

To set the Densité controller's IP address

1 On the Kaleido-MX frame's local control panel, press the CONTROLLER button.
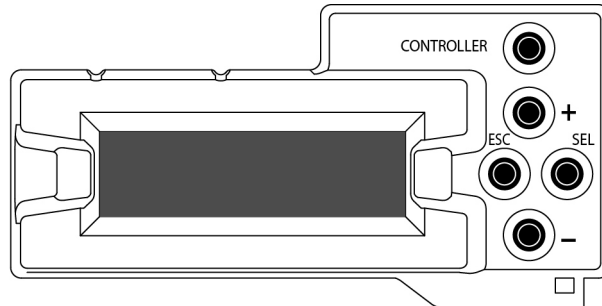
2 Press the [–] button repeatedly until ETH1 OPTIONS appears on the display, and then press the SEL button.

3 Press the [–] button repeatedly until IP ADDRESS appears on the display.

4 Press the SEL button.

The current value appears on the display.

- Press the [+] and [–] buttons, to change the digit at the current input position.
- Press SEL to move one position to the right.
- Press ESC to move one position to the left.

5   When the display shows the desired value, press SEL repeatedly until you reach the last position (if needed), and then press SEL once more to save your changes and return to the previous menu level.

> Note: Pressing ESC when the input focus is in the first position returns to the previous menu level. Pressing SEL when the input focus is in the last position saves the changes and returns to the previous menu level.

IP ADDRESS appears on the control panel's display.

6   Press the [–] button.

NETWORK MASK appears on the control panel's display.

7   Repeat step 4 and step 5 to configure the netmask.

8   Once you have set the network mask, press the [–] button again.

GATEWAY appears on the control panel's display.

9   Repeat step 4 and step 5 to configure the gateway.

10 Once you have set the gateway, press the CONTROLLER button to exit the controller's menu.

The Densité controller restarts.

> IMPORTANT
> **Make sure the controller's internal clock is set to the correct date and time.**
> The clock settings will persist for 10 days after a power loss. Should you later need to change the time on a CPU-ETH2 controller, then you will have to restart any multiviewer system housed in the same frame. Refer to the Densité CPU-ETH2 Enhanced Ethernet Controller Card Guide to Installation and Operation, for more information.

Enabling the CPU-ETH2 Automatic Restore Feature

To enable the CPU-ETH2 automatic restore feature

1   On the Densité frame's local control panel, press the CONTROLLER button.

2   Press the [–] button repeatedly until RESTORE POINTS appears on the display, and then press the SEL button.

3   Press the [–] button repeatedly until DEFAULT ACTION appears on the display, and then press the SEL button.

- If the control panel's display shows UPDATE SETTINGS, then the automatic restore feature is already enabled.
- If the control panel's display shows KEEP SETTINGS, navigate to UPDATE SETTINGS by pressing the [–] button, and then press the SEL button to apply your change.

4   Press the CONTROLLER button to exit the controller's menu.

## Configuring the Network Settings for a Single- or Dual-Head Kaleido-MX

To configure the network settings for a Kaleido-MX with one output card

1   Press the Select button on the front edge of the *output* card.
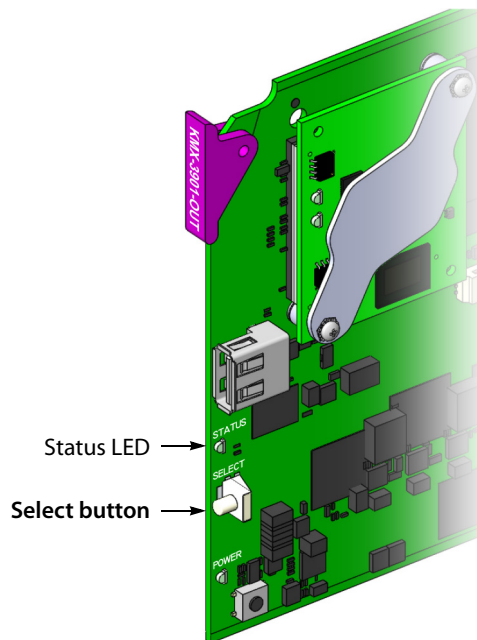
Status LED

Select button

The Status LED on the selected card flashes orange, and the associated control menu appears on the display of the Densité frame's local control panel.

2 On the local control panel, press the [–] button repeatedly until NETWORK SETTINGS appears on the display, and then press the SEL button.
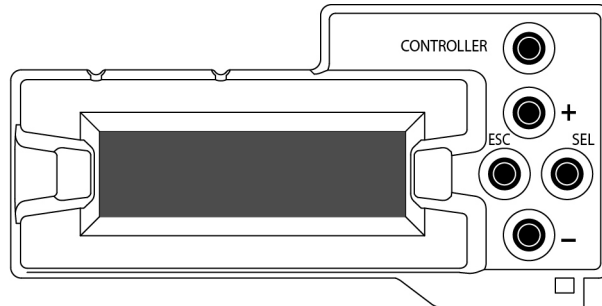
FRAME IP ADDRESS EDIT appears on the display.

3 Press the [–] button to skip this option (the system will automatically receive the IP address you configure for Output A, once the card will have restarted).

NETMASK EDIT appears on the display.

4 Press the SEL button.

The current value appears on the display.

- Press the [+] and [–] buttons, to change the digit at the current input position.
- Press SEL to move one position to the right.
- Press ESC to move one position to the left.

5 When the display shows the desired value, press SEL repeatedly until you reach the last position (if needed), and then press SEL once more to save your changes and return to the previous menu level.

> Note: Pressing ESC when the input focus is in the first position returns to the previous menu level. Pressing SEL when the input focus is in the last position saves the changes and returns to the previous menu level.

NETMASK EDIT appears on the display.

6 Once you have set the network mask, press the [–] button.

DEFAULT GW EDIT appears on the display.

7 Repeat step 4 and step 5 to configure the gateway.

8 Once you have configured the gateway and navigated back to the previous menu level, press the [–] button again.

LINK MODE EDIT appears on the display.

9 Press the SEL button.

10 The current link mode appears on the display.

> Note: On all Kaleido multiviewers, the network adapters are set to auto-negotiate. By default, the connection speed and duplex mode will be set automatically based on the corresponding port settings on the switch.

11 If your network's mode of operation requires you to change the link mode, press the [+] and [–] buttons to navigate to the suitable option (100 Mbps half-duplex, or 100Mbps full-duplex), and then press SEL to apply the value shown on the display.

The selected link mode is applied.

12 Press ESC to return to the previous level in the local control menu.

LINK MODE EDIT appears again on the display.

13 Press the [–] button.

OUTPUT A IP EDIT appears on the display.

14 Repeat step 4 and step 5 to configure the IP address for Output A.

15 Once you have set the IP address for Output A, press the Select button *on the front edge of the output card* to exit the control menu.

> Notes
>
> • If you do not press any button on the Densité frame local control panel, the Densité controller will revert to its normal standby mode, and the selected card's Status LED will revert to its normal operating mode, after 30 seconds.
>
> • If you changed a parameter from the card's control menu, but have not applied your change (you did not press the SEL button on the local control panel), once the 30-second timeout has occurred, the parameters will be confirmed as if you had pressed the SEL button.

After a moment, the card restarts. The startup sequence takes approximately four minutes, during which time the Status LED is first red and then blinking orange.

16 Once the startup has completed, check the card's Status LED again, and make sure that it does not indicate an error condition.

|	
Green	Normal
Blinking orange	Booting (or the card is selected for local control)
Red	Firmware initialization in progress / no Ethernet / SD card error
Blinking red	Fan failure / no rear / duplicate IP address

Should the Status LED indicate an error condition, refer to your Kaleido-MX (3RU) Hardware Description & Installation Manual to find out what the other LEDs might be indicating.

17 Verify that the new IP address is effective, by referring to Verifying an Output Card's IP Address and Application Version, on page 35.

Configuring the Network Settings for a Quad-Head Kaleido-MX

To configure the network settings for a Kaleido-MX with two output cards

1 Press the Select button on the front edge of one of your system's *output* cards.
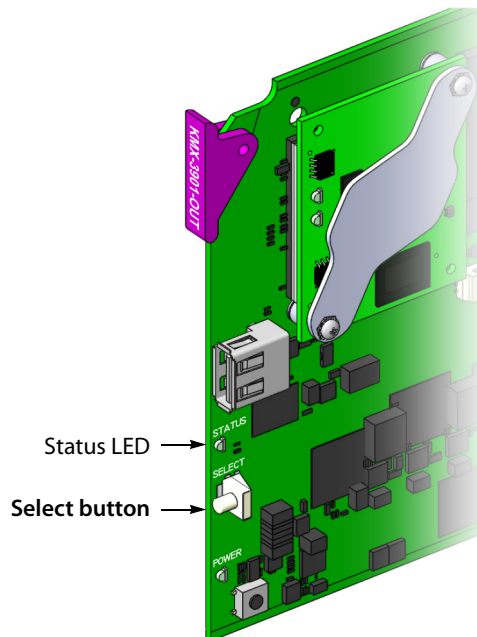
Status LED

Select button

The Status LED on the selected card flashes orange, and the associated control menu appears on the display of the Densité frame's local control panel.

2 On the local control panel, press the [–] button repeatedly until NETWORK SETTINGS appears on the display, and then press the SEL button.
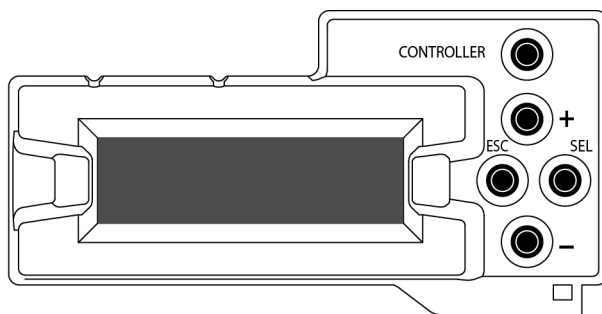
FRAME IP ADDRESS EDIT appears on the display.

3 Press the SEL button again.

The current value appears on the display.

- Press the [+] and [–] buttons, to change the digit at the current input position.
- Press SEL to move one position to the right.
- Press ESC to move one position to the left.

4 When the display shows the desired value, press SEL repeatedly until you reach the last position (if needed), and then press SEL once more to save your changes and return to the previous menu level.

> Note: Pressing ESC when the input focus is in the first position returns to the previous menu level. Pressing SEL when the input focus is in the last position saves the changes and returns to the previous menu level.

FRAME IP ADDRESS EDIT appears on the control panel's display.

5 Press the [–] button.

NETMASK EDIT appears on the control panel's display.

6 Repeat step 3 and step 4 to configure the netmask.

7 Once you have set the network mask and navigated back to the previous menu level, press the [–] button again.

DEFAULT GW EDIT appears on the control panel's display.

8 Repeat step 3 and step 4 to configure the gateway.

9 Once you have configured the gateway and navigated back to the previous menu level, press the [–] button again.

LINK MODE EDIT appears on the control panel's display.

10 Press the SEL button.

11 The current link mode ("Auto-negotiate") appears on the LCD display.

> Note: On all Kaleido multiviewers, the network adapters are set to auto-negotiate. By default, the connection speed and duplex mode will be set automatically based on the corresponding port settings on the switch.

12 If your network's mode of operation requires you to change the link mode, press the [+] and [–] buttons to navigate to the suitable option (100 Mbps half-duplex, or 100Mbps full-duplex), and then press SEL to apply the value shown on the display.

The selected link mode is applied.

13 Press ESC to return to the previous level in the local control menu.

LINK MODE EDIT appears again on the LCD display.

14 Press the [–] button.

OUTPUT A IP EDIT appears on the control panel's display.

15 Repeat step 3 and step 4 to configure the IP address for Output A.

16 Once you have set the IP address for Output A, and navigated back to the previous menu level, press the [–] button again.

OUTPUT B IP EDIT appears on the control panel's display.

17 Repeat step 3 and step 4 to configure the IP address for Output B.

18 Once you have set the IP address for Output B, press the Select button *on the front edge of the output card* to exit the control menu.

> **Notes**
> - If you do not press any button on the Densité frame local control panel, the Densité controller will revert to its normal standby mode, and the selected card's Status LED will revert to its normal operating mode, after 30 seconds.
> - If you changed a parameter from the card's control menu, but have not applied your change (you did not press the SEL button on the local control panel), once the 30-second timeout has occurred, the parameters will be confirmed as if you had pressed the SEL button.

After a moment, both output cards restart. The startup sequence takes approximately four minutes, during which time the cards' Status LEDs are first red and then blinking orange.

19 Once the startup has completed, check both cards' Status LEDs again, and make sure that they do not indicate an error condition.

Green	Normal
Blinking orange	Booting (or the card is selected for local control)
Red	Firmware initialization in progress / no Ethernet / SD card error
Blinking red	Fan failure / no rear / duplicate IP address

Should a Status LED indicate an error condition, refer to your Kaleido-MX (3RU) Hardware Description & Installation Manual to find out what the other LEDs might be indicating.

20 Verify that both cards' and the system's new IP addresses are effective, by referring to Verifying the Multiviewer's IP Addresses and Application Version, on page 34.

Setting the System Name

Once you have configured the output cards from the local control panel, use XAdmin to complete your system's network setup.

To set your Kaleido-MX system name

1   Configure your client PC or laptop with an IP address in the same range as the multiviewer's current IP addresses if needed (see Configuring a Client PC, on page 24).

2   Open a Web browser window and enter the multiviewer's *system* IP address in the address bar (see Finding the System IP Address, on page 34, if needed).

3   The Kaleido-X home page appears.

4   Click the XAdmin button.

5   If you see a security warning, or a certificate error message, then refer to *Registering your Multiviewer's Security Credentials with your Browser,* in the Kaleido-X User's Manual.

6   If the "Log in to XAdmin" page appears, type the password, and then click **Log in**.
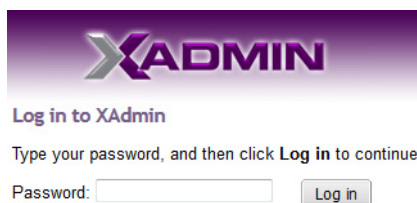
7   **Internet Explorer users:** If a blank page appears, then refer to *Enabling the Compatibility View in Internet Explorer 10,* in the Kaleido-X User's Manual.

The XAdmin Status and Options page appears.
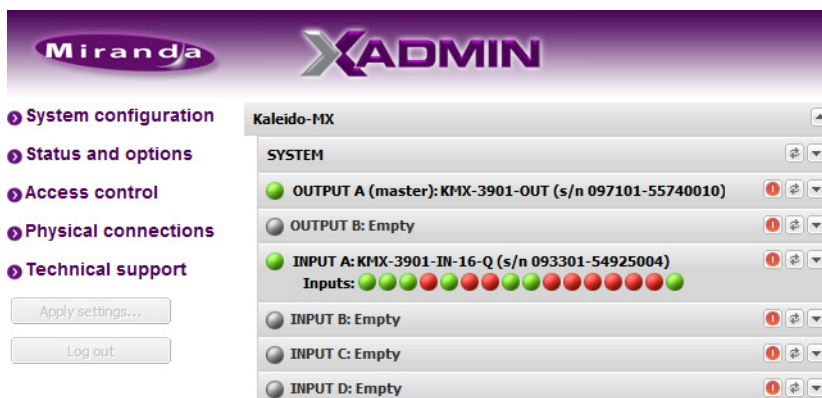
8   Click **System configuration**, in the navigation area on the left of the page.

The System Configuration page appears, showing the current system name, IP addresses, network mask, default gateway, connection-speed and duplex-mode

settings, information about your housing frame, the input cards and the output card you are currently connected to, as well as date and time settings.


9 Under **General**, type the name you wish to use for your system.

If there are more than one multiviewer in the same network environment, it is important to assign each a unique system name, so that you can tell them apart (for example, when using a remote control panel such as the Kaleido-RCP2 or RCP-200). Only lower-ASCII characters are allowed in the system name. Braces and tilde are not allowed.

> Note: Under **Ethernet**, you may review the IP addresses, network mask, gateway settings, and the detected connection speeds and duplex modes. Should you wish to make any further changes to the network settings, you may find it more convenient to use XAdmin's System configuration page, from now on.

10 Click **Save**.

The new settings are saved locally, and XAdmin reminds you to click **Apply Setting** before closing your session.
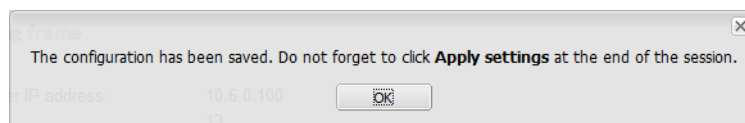
11 Click **OK**.

The **Apply settings** button becomes available.

> ● System configuration
>
> ● Status and options
>
> ● Access control
>
> ● Physical connections
>
> ● Technical support
>
> [Apply settings…]
>
> [Log out]
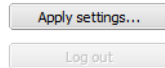
12 Click **Apply settings**.

The multiviewer must restart for changes to the network configuration to take effect. A message appears prompting you to restart the system immediately.

13 Click **OK**.

> Note: Settings cannot be applied to a multiviewer system while an upgrade is in progress. If the multiviewer does not restart after 10 seconds or so, try clicking **Apply settings** again after a minute or two.

Using the Kaleido-RCP2 with Default Settings

> Note: The Kaleido-RCP2 unit is optional and is not included in the standard Kaleido-MX package.

To start using the Kaleido-RCP2 with its default settings

1 Physically connect the Kaleido-RCP2 unit to the network using an Ethernet cable (see Cabling Diagram, on page 10).

By default, the Kaleido-RCP2 is configured with DHCP enabled, so it will automatically be assigned an IP address by a DHCP server. If no DHCP server can be found, the Kaleido-RCP2 will fall back to its default static IP address, subnet mask, and gateway settings:

Default IP address	10.0.3.191
Default subnet mask	255.255.0.0
Default gateway	0.0.0.0

> Notes
>
> • If you need to operate with a fixed IP address, you must use the Configuration menu to disable DHCP and set up the correct IP address, Network Mask, and Gateway (see *Enabling or Disabling DHCP,* and *Setting an IP Address, Subnet Mask and Gateway,* in the Kaleido-RCP2 Guide to Installation and Operation, available on the DVD that shipped with your system.)

Notes *(continued)*

- To access rooms located in other subnets, the Kaleido-RCP2 must be configured with the appropriate unicast IP addresses (see *Configuring Unicast IP Addresses,* in the Kaleido-RCP2 Guide to Installation and Operation, available on the DVD that shipped with your system.)

---

2 On the Kaleido-RCP2 unit, press the ENTER button and hold it until the ESC button lights up.

The following message appears on the LCD display:
Configuration
ROOM SELECTION

3 Press ENTER again to obtain the room list from the multiviewers that are currently available on the network.

The message **ROOM Select** followed by the name of the first room available appears on the LCD display.

4 Press the **2** key (to move up in the list) or the **8** key (to move down the list) until **Room1** is displayed.

5 Press ENTER, and then press ESC to exit the configuration menu.

6 Press the LOGIN button.

The following message appears on the LCD display:

LOGIN Position
Admin

7 Press ENTER to log on to your system as "Admin".

A message prompting you for a password appears on the LCD display.

8 Press ENTER again (by default, there is no password).

The message "Access granted" will appear on the LCD display if the login is successful. If a mouse is connected to the Kaleido-RCP2, then you should be able to see and move the mouse pointer on the monitor wall.

9 Press any of the LAYOUT PRESETS buttons to load a predefined layout on the monitor wall.

If your system was configured prior to shipment, then a layout will appear on all displays. Otherwise, a gray screen will appear with the following message in the middle:
"No layout has been assigned to this room. Please load a layout."


Note: To access other layouts, press the LOAD button. To assign a layout to a preset button, press and hold the button for more than six seconds while the desired layout is showing on the monitor wall.

Configuring an Audio Bridge Terminal

The optional Audio Bridge Terminal (ABT) is an external audio multiplexer/serializer for the Kaleido-MX. The Kaleido-MX supports audio channel inputs from the ABT-64 or ABT-128

series of Audio Bridge Terminal panels through SDTI inputs. The ABT-64 supports 64 channels and the ABT-128 supports 128 channels.

There is not enough space on the Kaleido-MX rear panels to also include discrete audio connectors. An ABT provides connector space for multiple audio signal inputs, and multiplexes all the audio signals into combined serial feeds on coaxial cables that connect to Kaleido-MX input cards.
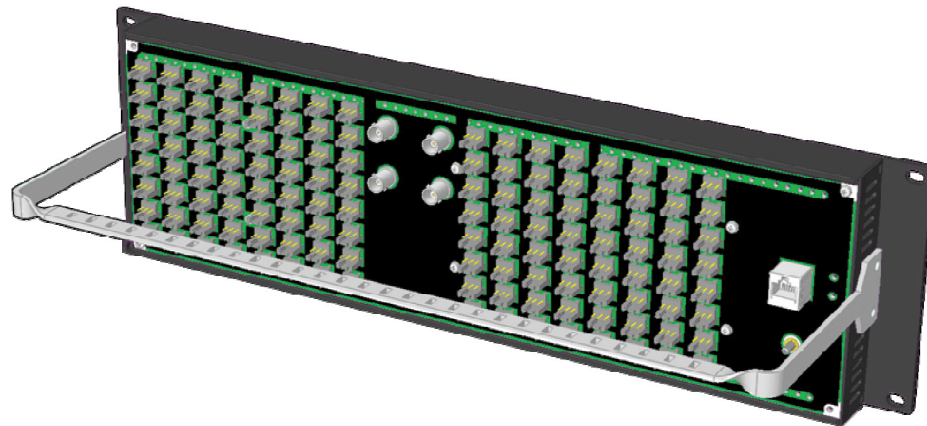
Note: The ABT is powered through the RJ-45 Ethernet connector. There is no power ON/OFF button, so the device is ON whenever a powered Ethernet cable (PoE) is connected.

To configure the IP address and other network settings of the ABT

1 Connect a PC to a switch.

2 Referring to Configuring a Client PC, on page 24, configure the PC with the following network settings:

DHCP	OFF
Static IP address	10.0.0.1
Subnet mask	255.255.0.0
Default gateway	10.0.0.1

3 Apply power to the Audio Bridge Terminal and make sure it is connected to the same switch as the PC.

- If the switch is Power over Ethernet (PoE) enabled, simply connect it to the unit using an Ethernet cable.
- If not, PoE mid-span (*inserter*) equipment must be placed between the switch and the Audio Bridge Terminal.

4 Press the RESET button (located on the right-hand side of the ABT rear panel beside the ETHERNET/POWER RJ-45 connector) for at least 1 second.

The Audio Bridge Terminal will reboot with the following static network configuration:

DHCP	OFF
Static IP address	10.0.3.190

Subnet mask	255.255.0.0
Default gateway	10.0.0.1

5   Using a Web browser on the PC, connect to the ABT using the following address:
10.0.3.190.

The home page of the ABT's built-in Web server is displayed.

6   Click **Network Configuration** (in the navigation pane).

The **Network Configuration** page is displayed.

7   Change the ABT's network settings, as necessary, and then click **Apply & Reboot**.

Notes

- The Kaleido-MX supports one ABT device. With a 3RU model, you can
achieve redundancy by connecting the ABT to more than one input card,
in which case the Kaleido-MX uses the signal from the input card that is the
farthest from the output cards (i.e., Input D, if you have a 64-input model,
Input C if you have a 48-input model, or Input B if you have a model with
32-inputs).

- Keep in mind that all ABTs ship with the same default static IP address. If
you are adding more than one ABT to your network and do not use DHCP,
make sure to assign each ABT a different static IP address before
connecting them to the network.

For more information about the ABT, refer to the *Audio Bridge Terminal Guide to Installation
and Operation,* available on the DVD that shipped with your system.

Configuring a Client PC

The client PC that you will use to communicate with the Kaleido-MX multiviewer (via
XAdmin and XEdit), and the multiviewer itself, must have IP addresses within the same
subnet. The following procedure applies to a typical Windows 7 system. For Windows XP,
see Changing an IP Address on Windows XP, on page 26.

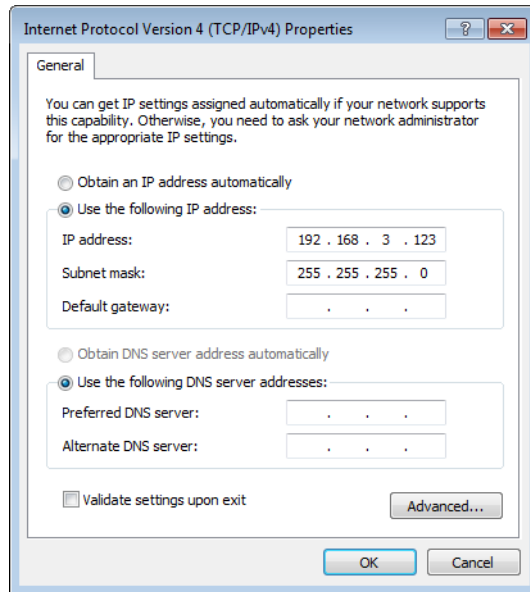**Changing an IP Address on Windows 7**

To change the IP address of a client PC that has Windows 7

1 Click the **Start** button, and then click **Control Panel**. In the search box, type "adapter", and then, under **Network and Sharing Center**, click **View network connections**.

2 In **Network Connections**, right-click **Local Area Connection**, and then click **Properties**. If the system prompts you for an administrator password or confirmation, type the password or provide confirmation.

The **Local Area Connection Properties** window opens.
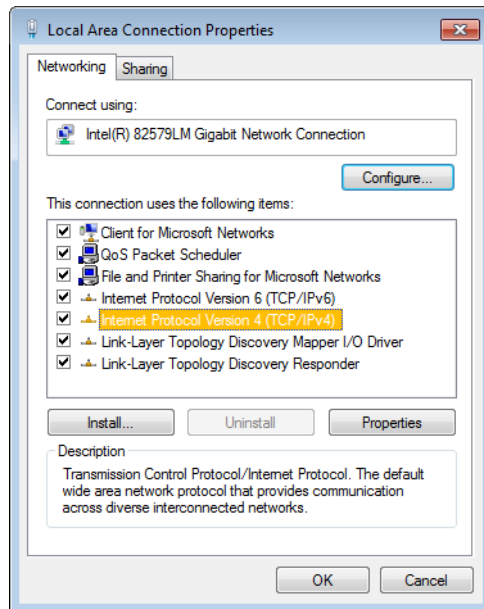
3 On the **Networking** tab, under **This connection uses the following items**, click **Internet Protocol Version 4 (TCP/IPv4)**, and then click **Properties**.

The **Internet Protocol Version 4 (TCP/IPv4) Properties** window opens.

4 On the **General** tab, click **Use the following IP address**.

5 Type an IP address in the same range as the default IP address of the Kaleido-MX multiviewer. For example, if the IP address of the multiviewer is 192.168.3.31, then the IP address of your client PC could be 192.168.3.123. If you are unsure, contact your network administrator.

6 Type a subnet mask in the same range as that of the multiviewer.

7 Click **OK**.

8 In **Local Area Connection Properties**, click **Close**.

Changing an IP Address on Windows XP

To change the IP address of a client PC that has Windows XP

1 On the **Start** menu, point to **Control Panel**, right-click **Network Connections**, and then click **Open** on the shortcut menu.

2 In **Network Connections**, right-click **Local Area Connection**, and then click **Properties** on the shortcut menu.

3 In **Local Area connection Properties**, select **Internet Protocol (TCP/IP)** from the list on the **General** tab, and then click **Properties**.

   The **Internet Protocol (TCP/IP) Properties** window opens.

4 On the **General** tab, click **Use the following IP address**.

5 Type an IP address in the same range as the default IP address of the Kaleido-MX multiviewer. For example, if the IP address of the Kaleido-MX is 192.168.3.31, then the IP address of your client PC could be 192.168.3.123. If you are unsure, contact your network administrator.

6 Type a subnet mask in the same range as that of the multiviewer.

7 Click **OK**.

8 In **Local Area Connection Properties**, click **Close**.

Step 3: XEdit Installation

XEdit is a client application used to create layouts for the monitor wall, and to configure your multiviewer system, from your PC or laptop. When the computer with XEdit is connected to the multiviewer through a TCP/IP network, you can use XEdit to modify layouts and settings directly on the multiviewer, or you can work locally on the computer and then export your changes to the multiviewer.

To install XEdit from your multiviewer's home page

1 From a workstation on the same subnet as the multiviewer, open a Web browser window and type the multiviewer's IP address in the address bar.

The Kaleido-X home page appears.
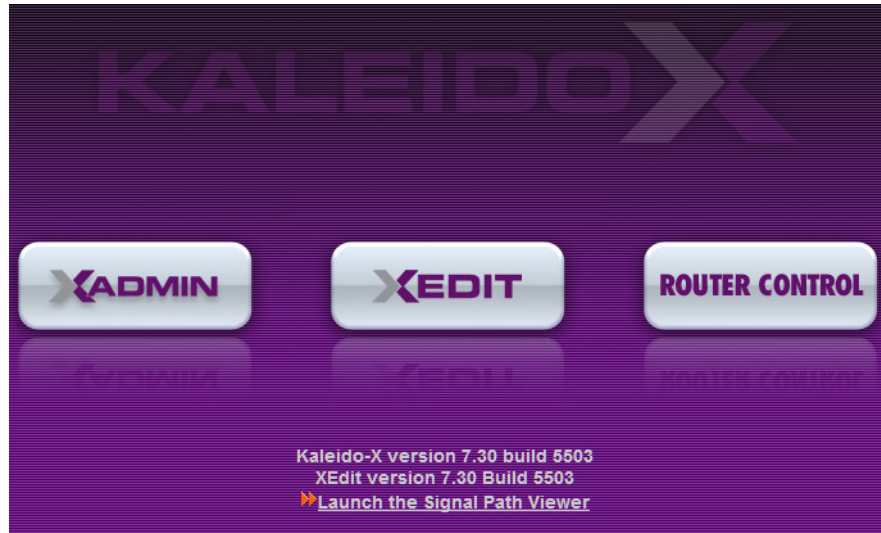
2 Click the **XEdit** button.

The browser prompts you to save an executable file to your hard drive (`Kaleido-windows32-online.exe`[1]). This file is an online installer, which will download XEdit and other companion elements from your multiviewer, and install them. Some browsers may allow you to run the file directly. Depending on your browser's security features, warnings may appear, which you may safely dismiss.

3 Unless your browser let you run the file (and you chose to do so), navigate to the location were you saved the installer file and open it.
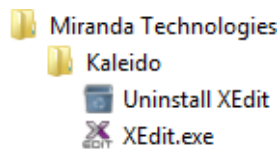
A security warning appears.
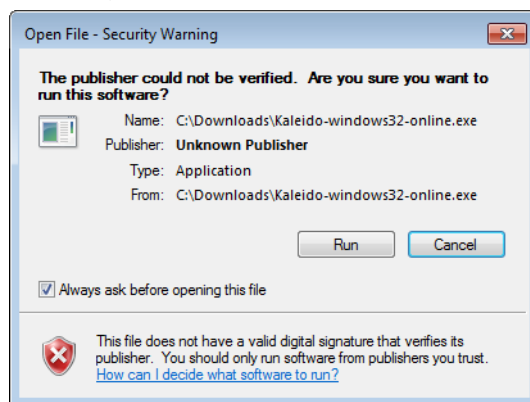
4 Click **Run**.

A window appears, showing the download and installation progress.

---

1. Installers for Linux or Mac OS X are not yet available.

At the end of the installation process, launcher icons ( ) are added to your desktop and to the Start menu (under **All Programs**).


Once the installation has completed, the XEdit startup screen appears.

Depending on your Windows Firewall settings, a security alert may appear.

• Click **Allow access** to unblock the application.

If XEdit cannot find all of the fonts it needs already on your PC or laptop, it downloads them from the multiviewer automatically, in which case a message will appear to confirm the font update, and instruct you to restart the application.
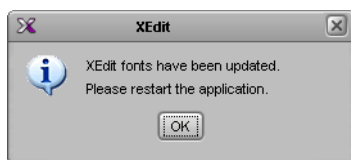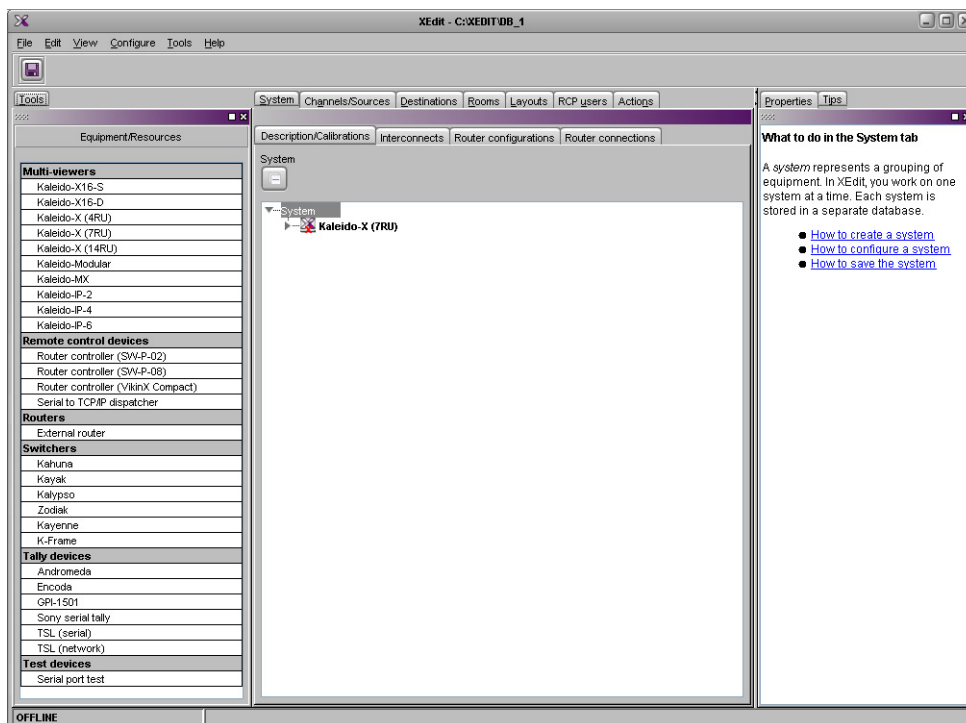
- Click **OK** to continue, and then open XEdit again, by using the launcher icon on your desktop (or on the Start menu).

5 When prompted to specify a database, choose one from the **Path** list, or click **Browse** to navigate to the database you wish to use as your local workspace, and then click **OK**.
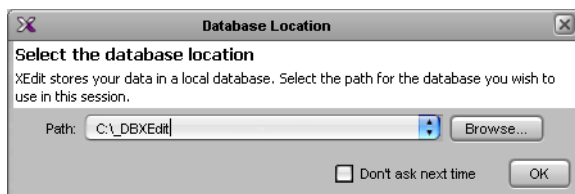
6 Once the database has completed loading, XEdit's main application window appears.

Note: Once it has been installed from the multiviewer, XEdit remains on your PC or laptop, and can be launched from the icon that was added to your desktop (see page 28). Whenever you install a new version of the Kaleido-X software on the multiviewer, the next time you open XEdit, your installed copy of the application will be automatically updated from the multiviewer.

For more information about calibrating your system, configuring rooms, creating layouts, and operating the monitor wall, refer to the *Kaleido-X User's Manual*, available on the DVD that shipped with your system, and from Grass Valley's support portal.

Step 4: System Verification

Verifying the Kaleido-MX Multiviewer Status

You can check internal system statuses via the Web-based XAdmin application.

To verify the status of your Kaleido-MX multiviewer

1   Open a Web browser window and enter your multiviewer's *system* IP address (the IP address you configured for Output A, in the case of a single- or dual-head system (see step 14 on page 15), or the virtual IP address you configured at step 4 on page 17, in the case of a quad-head system) in the address bar.

The Kaleido-X home page appears.

2   Click the XAdmin button.

3   If you see a security warning, or a certificate error message, then refer to *Registering your Multiviewer's Security Credentials with your Browser,* in the Kaleido-X User's Manual.

4   If the "Log in to XAdmin" page appears, type the password, and then click **Log in**.
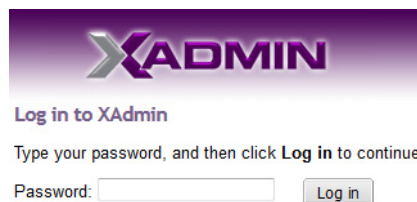
5   **Internet Explorer users:** If a blank page appears, then refer to *Enabling the Compatibility View in Internet Explorer 10,* in the Kaleido-X User's Manual.

The XAdmin Status and Options page appears, displaying a list of all modules and their statuses.
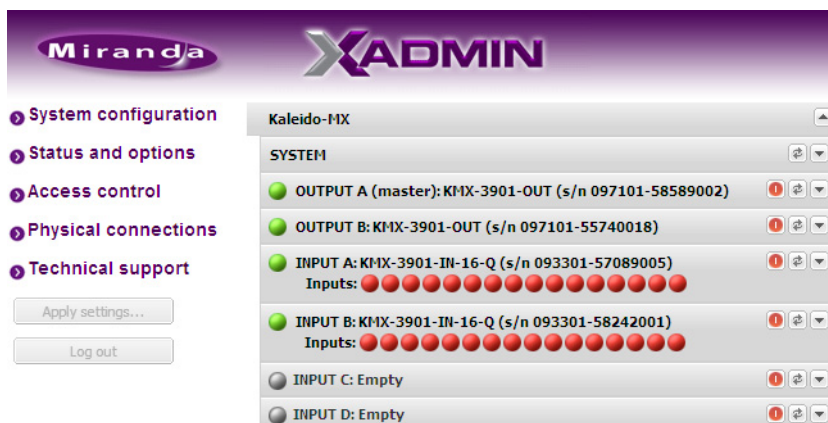
6 Click **Physical connections**, in the navigation area on the left of the page.

The Physical Connections page appears, showing the current connection status for your system, with a visual representation of the physical connections between the detected input cards and the output cards associated with the frame IP address.

XADMIN

Physical Connection Status

✅ Your system is properly connected.

✅ The detected physical connections match the saved configuration.

Detected physical connections

Input card B	Input card B	Input card B	Input card B
Last saved order: B	Last saved order: B	Last saved order: B	Last saved order: B
Controller IP address:	Controller IP address:	Controller IP address:	Controller IP address:
10.6.0.100	10.6.0.100	10.6.0.100	10.6.0.100
Slot: 18	Slot: 18	Slot: 18	Slot: 18

A1	A2	B1	B2
⬇	⬇	⬇	⬇
A1	A2	B1	B2

Input card A	Input card A	Input card A	Input card A
Last saved order: A	Last saved order: A	Last saved order: A	Last saved order: A
Controller IP address:	Controller IP address:	Controller IP address:	Controller IP address:
10.6.0.100	10.6.0.100	10.6.0.100	10.6.0.100
Slot: 13	Slot: 13	Slot: 13	Slot: 13

A1	A2	B1	B2
⬇	⬇	⬇	⬇
A1	A2	B1	B2

Output card A	Output card A	Output card B	Output card B
Controller IP address:	Controller IP address:	Controller IP address:	Controller IP address:
10.6.0.100	10.6.0.100	10.6.0.100	10.6.0.100
Slot: 9	Slot: 9	Slot: 7	Slot: 7

7   Review the information on this page, to make sure your input and output cards are all properly interconnected. Information in red indicates the location where a problem was detected.

8   Click **Status and options**, in the navigation area on the left of the page, to go back to the Status and Options page.

The module headings show the card type and serial number for the input and output cards, and a summary view of the input signals for each input card.

9   Move the pointer to an input signal status icon to view the associated signal format.

Card type   Serial number

Input signal status

Input signal format
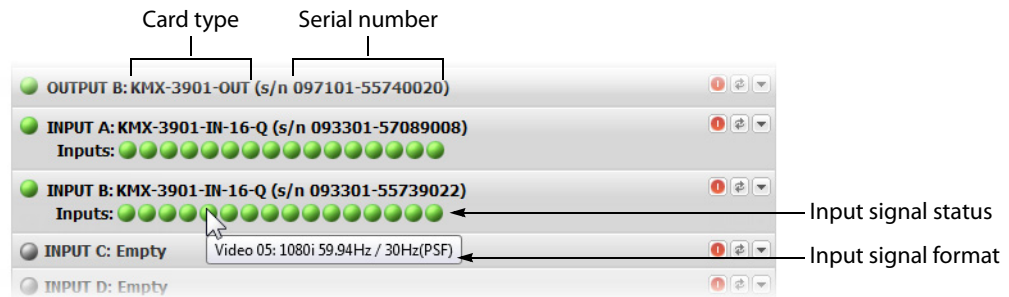
10 Click the arrow button (▼) at the end of a module's heading row to view detailed information.

Reset card
Expand details
Refresh
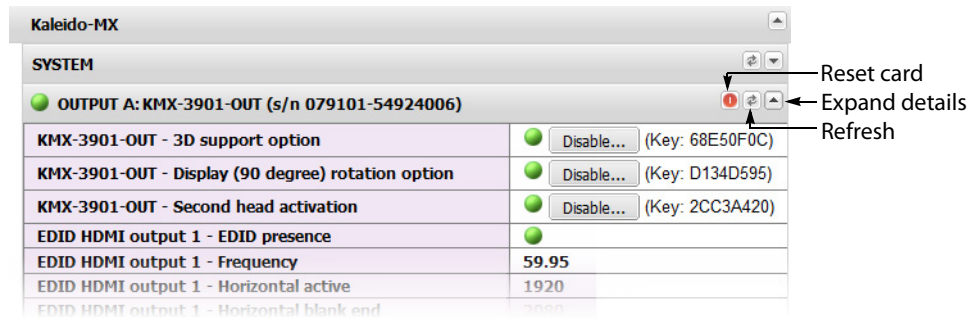
11 Review the enabled input and output options, and the main system statuses of the Kaleido-MX frame, to make sure that there are no status errors, and no alerts related to system temperature, fan operation, FlexBridge connectivity, or card fault conditions.

Notes

- At any time you can click the **Refresh** button to make sure the data displayed for the selected card is up to date. Click the **Reset card** button at the end of a card's heading row to reset the card remotely, directly from your Web browser.

- See *Managing Hardware and Software Options,* in the Kaleido-X User's Manual, for more information on the available options.

Verifying the Kaleido-RCP2

To verify that the Kaleido-RCP2 is functioning normally

- Log on to the Kaleido-RCP2 (see Using the Kaleido-RCP2 with Default Settings, on page 21), and then test various operations using the Kaleido-RCP2 keyboard and the mouse (e.g. load a predefined layout).

## Loading a Layout

To load a layout on the monitor wall

1 Connect a mouse to the Kaleido-RCP2 (if available) and log on to the appropriate room, if you have not already done so (see Using the Kaleido-RCP2 with Default Settings, on page 21).

Alternatively, connect the mouse directly to the USB port at the front of one of your system's output card.

2 Right-click anywhere on the monitor wall, point to **Monitor wall** (if you clicked a monitor), and then click **Load layout** on the menu.

Refresh
Load layout...
Unlatch / Acknowledge all
Hide dashboard
Hide all dashboards
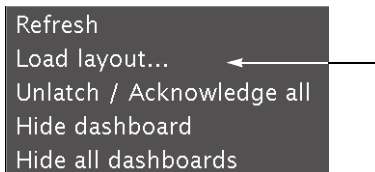
Monitor wall shortcut menu

A layout browser appears on the displays associated with the current room.

3 Select the layout you wish to load from the list of available layouts for this room, and then click **OK**.

The selected layout appears on the room displays.

Verifying the Audio Bridge Terminal

To verify that the ABT is functioning normally

- Inspect the ACTIVITY and front panel LEDs on the unit to make sure there are no error conditions:

The ACTIVITY indicator is located on the right-hand side of the rear panel. This LED reports the status of the Ethernet connection as indicated in the table below.

Two LEDs are visible on the front panel, one for each power supply. When lit, they both indicate the same status.

When the ABT is powered up, all three LEDs will be orange until the boot sequence is terminated. This is a visual indicator that the LEDs are functioning properly.

ACTIVITY Indicator on Rear Panel		Power-Supply LEDs on Front Panel	
Color	Status	Color	Status
Off	No link detected	Green	Normal
Green	Normal (good link)	Flashing green	Normal, rebooting
Orange	Activity	Orange	Warning
Red	Hardware fault	Flashing orange	Warning, rebooting
Flashing red	Upgrading firmware	Red	Hardware fault
		Flashing red	Upgrading firmware

Verifying the Multiviewer's IP Addresses and Application Version
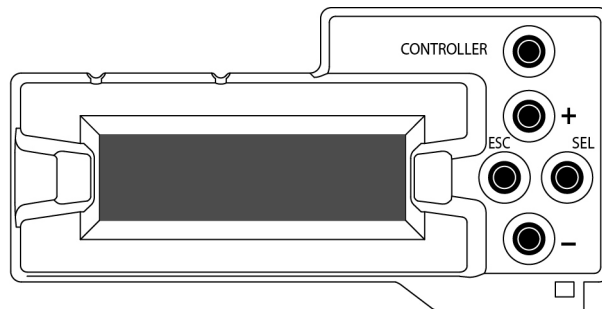
Finding the System IP Address

To find your multiviewer's system IP address

1 Press the Select button on the front edge of a Kaleido-MX *output* card.

The Status LED on the selected card flashes orange, and the associated control menu appears on the display of the Densité frame's local control panel.

2 On the local control panel, press the [–] button repeatedly until NETWORK SETTINGS appears on the display, and then press the SEL button.

FRAME IP ADDRESS EDIT appears on the control panel's display.

3 Press the SEL button again.

The current system IP address appears on the display. This is your system's virtual IP address (i.e., the address you will use to access your system from XEdit and XAdmin).

4 Press the Select button *on the front edge of the output card* to exit the control menu.

Verifying an Output Card's IP Address and Application Version

To verify the IP address and application version on an output card

1 Press the Select button on the front edge of the Kaleido-MX *output* card.

The Status LED on the selected card flashes orange, and the associated control menu appears on the display of the Densité frame's local control panel.

2 Note the position indication *A* or *B* in the card information shown on the first line of the LCD display: either KMX-OUTA, or KMX-OUTB, followed with the slot number (e.g., KMX-OUTA Slot 4).

3 On the local control panel, press the [–] button.

The version of the Kaleido-X Software that is running on the card (e.g. "7.33-build.5516") appears on the display.

4 On the local control panel, press the [–] button repeatedly until NETWORK SETTINGS appears on the display, and then press the SEL button.

FRAME IP ADDRESS EDIT appears on the control panel's display.

5 If the card is identified as KMX-OUTA on the display, then press the [–] button repeatedly until OUTPUT A IP EDIT appears. If the card is identified as KMX-OUTB, then press the [–] button until OUTPUT B IP EDIT appears.

6 Press the SEL button.

The current IP address for this card appears on the display.

> Note: If you have a single- or dual-head Kaleido-MX multiviewer, then this IP address doubles as the system IP address.

7 Press the Select button *on the front edge of the output card* to exit the control menu.

Verifying an Input Card's Application Version

To verify the application version on an input card

1 Press the Select button on the front edge of the Kaleido-MX *input* card.
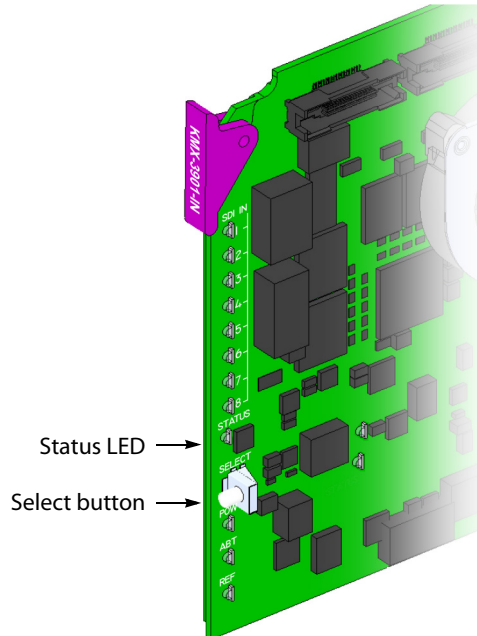
The Status LED on the selected card flashes orange, and the associated control menu appears on the display of the Densité frame's local control panel.
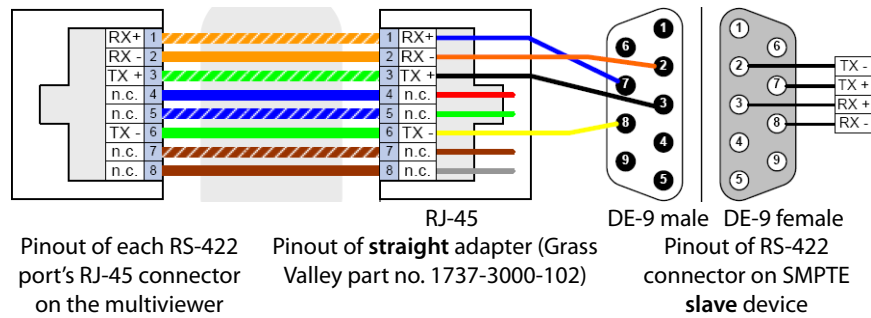
2 On the local control panel, press the [–] button.

The version of the Kaleido-X Software that is running on the card (e.g. "7.33-build.5516") appears on the display.

3 Press the Select button *on the front edge of the input card* to exit the control menu.

RS-422 Connection Diagram

Each output card supports one RS-422 serial port over an RJ-45 connector. This port allows the Kaleido-MX to connect to external serial devices such as a router, production switcher, or router controller.

> Note: The RS-422 ports each have an RJ-45 connector in order to preserve space on a busy panel. The RS-422 interface specifies a DE-9 connector, so if you are using this interface, you will require a DE-9-to-RJ-45 adapter. Grass Valley supplies two adapter models, correctly wired for this application: a straight adapter (part no. 1737-3000-102), and a crossover adapter (part no. 1792-3700-100).

The pinout for the RS-422 signals on the RJ-45 connectors, and the wiring diagrams for the appropriate adapters, are shown here:

Pinout of each RS-422 port's RJ-45 connector on the multiviewer	RJ-45 Pinout of **straight** adapter (Grass Valley part no. 1737-3000-102)	DE-9 male	DE-9 female Pinout of RS-422 connector on SMPTE **slave** device

Standard wiring between multiviewer and devices wired to SMPTE "slave" specification (e.g. most routers, Ross Synergy switchers, Nevion ETH-CON)

Pinout of each RS-422 port's RJ-45 connector on the multiviewer	RJ-45 Pinout of **crossover** adapter (Grass Valley part no. 1792-3700-100)	DE-9 male	DE-9 female Pinout of RS-422 connector on SMPTE **master** device
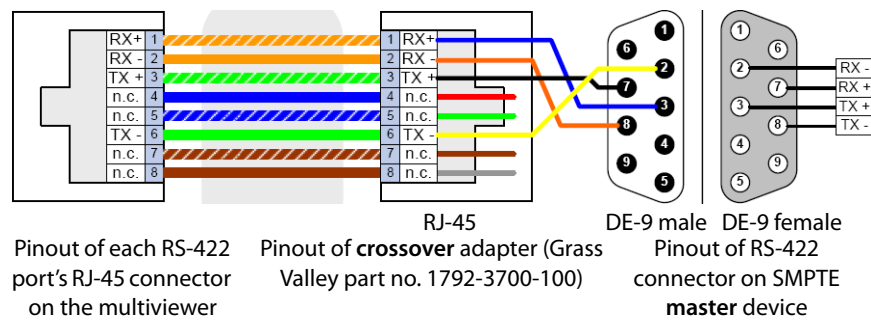
Standard wiring between multiviewer and devices wired to SMPTE "master" specification (e.g. Philips Jupiter router control system, Miranda Presmaster PCS)

> Note: The two RS-422 ports on the multiviewer side have no ground pin. Using the appropriate DE-9S-to-RJ-45 adapter, an external device should be able to communicate with a multiviewer despite the lack of a ground.

For more information about the RS-422 specifications, see the "Communication" section in the *Specifications* chapter of the Kaleido-MX (3RU) Hardware Description & Installation Manual. For more information about the RS-422 serial connections, see the "Serial Connections" section in the *Routers* chapter of the Kaleido-X User's Manual.

Contact Us

Grass Valley Technical Support

For technical assistance, please contact the Grass Valley Technical Support center nearest you:

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