



Grass Valley
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IQH4B/IQRCG00

User Manual

Issue 2 Revision 3
2022-06-30

www.grassvalley.com

Patent Information

This product may be protected by one or more patents.

For further information, please visit: www.grassvalley.com/patents/

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Title	IQH4B/IQRCG00 User Manual
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Important Safety Information

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.



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.



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



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



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



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



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

Warnings



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

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

Cautions



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

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

Electrostatic Discharge (ESD) Protection



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

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

Battery Handling



This product may include 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* at:

http://www.grassvalley.com/assets/media/5692/Take-Back_Instructions.pdf

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



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



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



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



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

Avertissements



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

- Un cordon d'alimentation dûment homologué doit être utilisé pour connecter l'appareil à une tension de secteur de 120 V CA ou 240 V CA.
- La protection de ce produit contre les courts-circuits (surintensités) dépend de l'installation électrique du bâtiment. Assurez-vous qu'un fusible ou un disjoncteur pour 120 V CA ou 240 V CA est utilisé sur les conducteurs de phase.
- Dans le présent manuel, toutes les instructions qui nécessitent d'ouvrir le couvercle de l'équipement sont destinées exclusivement au personnel technique qualifié.
- N'utilisez pas cet appareil dans un environnement humide.
- Cet équipement est mis à la terre par le conducteur de mise à la terre des cordons d'alimentation. Pour éviter les chocs électriques, branchez les cordons d'alimentation sur une prise correctement câblée avant de brancher les entrées et sorties de l'équipement.
- Acheminez les cordons d'alimentation et autres câbles de façon à ce qu'ils ne risquent pas d'être endommagés. Supportez correctement les enroulements de câbles afin de ne pas endommager les connecteurs.
- Coupez l'alimentation avant de nettoyer l'équipement. Ne pas utiliser de 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.
- Pour réduire le risque de choc électrique, branchez chaque cordon d'alimentation dans des circuits de dérivation distincts utilisant des zones de service distinctes.

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.

Manipulation de la pile



Ce produit peut inclure une pile de sauvegarde. Il y a un risque d'explosion si la pile est remplacée de manière incorrecte. Remplacez la pile uniquement par un modèle identique ou équivalent recommandé par le fabricant. Disposez des piles usagées conformément aux instructions du fabricant. Avant de vous séparer de votre équipement Grass Valley, veuillez consulter les *informations de mise au rebut et de recyclage* à:

http://www.grassvalley.com/assets/media/5692/Take-Back_Instructions.pdf

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.

Environmental Information

European (CE) WEEE directive.



This symbol on the product(s) means that at the end of life disposal it should not be mixed with general waste.

Visit www.grassvalley.com for recycling information.

Grass Valley believes this environmental information to be correct but cannot guarantee its completeness or accuracy since it is based on data received from sources outside our company. All specifications are subject to change without notice.

If you have questions about Grass Valley environmental and social involvement (WEEE, RoHS, REACH, etc.), please contact us at environment@grassvalley.com.

Lithium Batteries

Battery Warning

CAUTION

This equipment contains a lithium battery.
There is a danger of explosion if this is replaced incorrectly.
Replace only with the same or equivalent type.
Dispose of used batteries according to the manufacturer's instructions.
Batteries **shall only** be replaced by trained service technicians.

Your Grass Valley equipment usually comes with at least one button battery located on the main printed circuit board. The batteries are used for backup and should not need to be replaced during the lifetime of the equipment.

Battery Disposal

Before disposing of your Grass Valley equipment, please remove the battery as follows:

- 1 Make sure the AC adapter/power Cord is unplugged from the power outlet.
- 2 Remove the protective cover from your equipment.
- 3 Gently remove the battery from its holder using a blunt instrument for leverage such as a screwdriver if necessary. In some cases the battery will need to be desoldered from the PCB.
- 4 Dispose of the battery and equipment according to your local environmental laws and guidelines.

WARNING

- Be careful not to short-circuit the battery by adhering to the appropriate safe handling practices.
- Do not dispose of batteries in a fire as they may explode.
- Batteries may explode if damaged or overheated.
- Do not dismantle, open or shred batteries.
- In the event of a battery leak, do not allow battery liquid to come in contact with skin or eyes.
- Seek medical help immediately in case of ingestion, inhalation, skin or eye contact, or suspected exposure to the contents of an opened battery.

Laser Safety - Fiber Output SFP and QSFP Modules Warning

LASER SAFETY



The average optical output power does not exceed 0 dBm (1mW) under normal operating conditions. Unused optical outputs should be covered to prevent direct exposure to the laser beam.

Even though the power of these lasers is low, the beam should be treated with caution and common sense because it is intense and concentrated. Laser radiation can cause irreversible and permanent damage of eyesight. Please read the following guidelines carefully:

- Make sure that a fiber is connected to the board's fiber outputs before power is applied. If a fiber cable (e.g. patchcord) is already connected to an output, make sure that the cable's other end is connected, too, before powering up the board.
- **Do not** look in the end of a fiber to see if light is coming out. The laser wavelengths being used are totally invisible to the human eye and can cause permanent damage. Always use optical instrumentation, such as an optical power meter, to verify light output.

Safety and EMC Standards

This equipment complies with the following standards:

Safety Standards



Information Technology Equipment - Safety Part 1

EN60950-1: 2006

Safety of Information Technology Equipment Including Electrical Business Equipment.

UL1419 (4th Edition)

Standard for Safety – Professional Video and Audio equipment (UL file number E193966)

EMC Standards

This unit conforms to the following standards:

EN55032:2015 (Class A)

Electromagnetic Compatibility of multimedia equipment - Emission requirements

EN61000-3-2:2014 (Class A)

Electromagnetic Compatibility - Limits for harmonic current emissions

EN61000-3-3:2013

Electromagnetic Compatibility - Limits of voltage changes, voltage fluctuations and flicker

EN55103-2:2009 (Environment E2)

Electromagnetic Compatibility, Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 2. Immunity

WARNING

This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

FCC/CFR 47:Part 15 (Class A)

Federal Communications Commission Rules Part 15, Subpart B

Caution to the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

EMC Performance of Cables and Connectors

Grass Valley products are designed to meet or exceed the requirements of the appropriate European EMC standards. In order to achieve this performance in real installations it is essential to use cables and connectors with good EMC characteristics.

All signal connections (including remote control connections) shall be made with screened cables terminated in connectors having a metal shell. The cable screen shall have a large-area contact with the metal shell.

SIGNAL/DATA PORTS

For unconnected signal/data ports on the unit, fit shielding covers. For example, fit EMI blanking covers to SFP+ type ports; and fit 75 Ω RF terminators to BNC type ports

COAXIAL CABLES

Coaxial cables connections (particularly serial digital video connections) shall be made with high-quality double-screened coaxial cables such as Belden 8281 or BBC type PSF1/2M and Belden 1694A (for 3Gbps).

D-TYPE CONNECTORS

D-type connectors shall have metal shells making good RF contact with the cable screen. Connectors having indents which improve the contact between the plug and socket shells are recommended.

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1 Introduction

Unit Description

IQH4B enclosures offer industry leading, high-density delivery of modular solutions. With up to 700W of module power available, this 4U rack unit enclosure accepts up to 20 modules, has dual redundant PSUs and in-service replaceable cooling fans. Analog reference signals can be distributed through the enclosures via 2 connections that can be independently selected by the installed modules. RollCall control and monitoring is included as standard using a Gateway control card that has it's own module style rear connector, thus providing a future proof upgrade path as communication standards evolve. Full SNMP control and monitoring functionality is also available over Ethernet.

Order Codes

The following product order codes are covered by this manual:

Enclosures

IQH4B-S-P Enclosure with Dual Redundant PSU and Ethernet/SNMP Compatible RollCall Gateway Card. 20 module slots.

Accessories

IQH4B-PSU Single PSU for use as a cold spare or replacement.

IQH4B-FAN Dual Fan unit for use as a cold spare or replacement

IQH3B-E-GATEW Ethernet/SNMP compatible RollCall Gateway card for IQH4B and IQH3B enclosures.

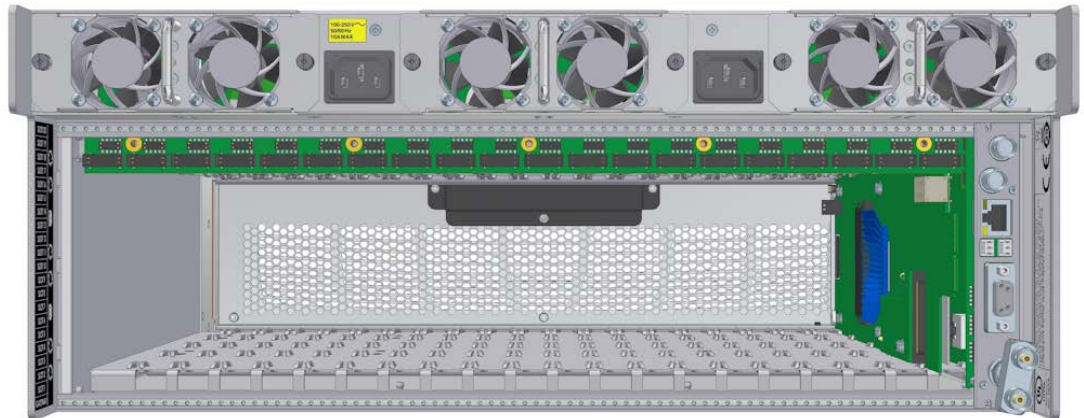
Front Panel View

The IQH4B enclosure front panel is shown below.



Rear Panel View

The IQH4B enclosure rear panel, without modules, is shown below.



Features

The IQH4B modular enclosure provides the following features:

- 20 single or 10 double width modules (or any combination).
- Integrated web browser based RollCall configuration and control.
- SNMP Control and Monitoring of all RollCall-enabled IQ modules as standard.
- [Dual redundant network architecture over Ethernet and RollNet](#) enables mission critical control applications to function even if a complete network failure occurs.
- Plug-in Gateway communications card to enable RollCall over TCP/IP control, with support for upgradeable connectivity to handle future communication standards.
- 2 x analog reference signal distribution for dual standard (Bi-Level or Tri-Level), dual video standard (SD or HD), and reference redundancy applications.
- Hot-swappable redundant power supplies with PSU status [reporting through GPIs on the Gateway control card rear panel](#).
- Optimum use of rack space – frames do not require any additional ventilation spacing.
- In-service replaceable fan units.
- Variable fan speed, dependent upon load and ambient temperature.
- Full chassis monitoring, including Inlet and Outlet temperature, fan condition and module status.
- Full CE and UL compliance.

Technical Specification



Inputs, Outputs and Controls	
Inputs/Outputs	
RollCall Remote Control	BNC connector
RollCall/SNMP over TCP/IP	10/100 baseT Ethernet
Video Reference	BNC connector x 2
PSU Status	Molex connector x2 (Molex Header part number: 22-27-2031)
Preset Controls	
Additional Controls via RollCall Remote Control System	
Full Control via web browser-based Java RollCall control panel (available from chassis), any hardware RollCall control surface or standard RollCall Control Panel PC Application.	
Specifications	
Modules	
Module Complement	20 slots wide. Cards can be 1, 2, 3 or more wide
Module Card Dimensions	100 mm wide, 340 mm long
Module Rear Panel Dimensions	129 mm high (-A versions and -B versions), 40.4 mm (double width), 20 mm (single width) wide
Power	
Input Voltage Range	100-240 V 50/60 Hz
Input Connector	IEC320 C14
Power Consumption	1000 VA maximum
Modules Power Dissipation	IQH4B - 700 LU maximum Power is quoted in Load Units (LU) and is taken from the positive rail only
Output	+12 V and -7.5 V \pm 5%
<i>Note that all modules have built-in power supply fuses</i>	
CE Performance Information	
Environment	Commercial and light industrial E2 immunity, controlled EMC E4 emissions
Peak Mains Inrush Current following a 5 second mains interruption	35A @ 230VAC
Reference	
Analog Reference	2 x Analog Reference inputs Black (HD tri-level and SD bi-level) and Black Burst (SD bi-level) SD bi-level – RS170A HD tri-level – SMPTE 240M, 274M and 296M
Connector/Format	BNC/75 Ohm panel jack on standard IQ connector panel
Analog Reference Return Loss	SD bi-level > 40 dB to 5.5 MHz HD tri-level > 30 dB to 30 MHz

Mechanical

Temperature Range	0 to 40°C operating, -20 to +85°C storage. A temperature and load sensitive cooling fan is fitted
Humidity Range	10 to 85% (non condensing)
Case Type	4U rack mounting aluminum case
Dimensions	W: 483 mm (445 mm behind rack location bracket) D: 485 mm H: 180 mm
Weight	Approximately 13kg without modules. Approximately 22kg fully populated.

3 Installation

Unpacking the Unit

The unit is supplied in a dedicated packing carton provided by the manufacturer and should not be accepted if delivered in inferior or unauthorized materials.

The contents of the carton are:

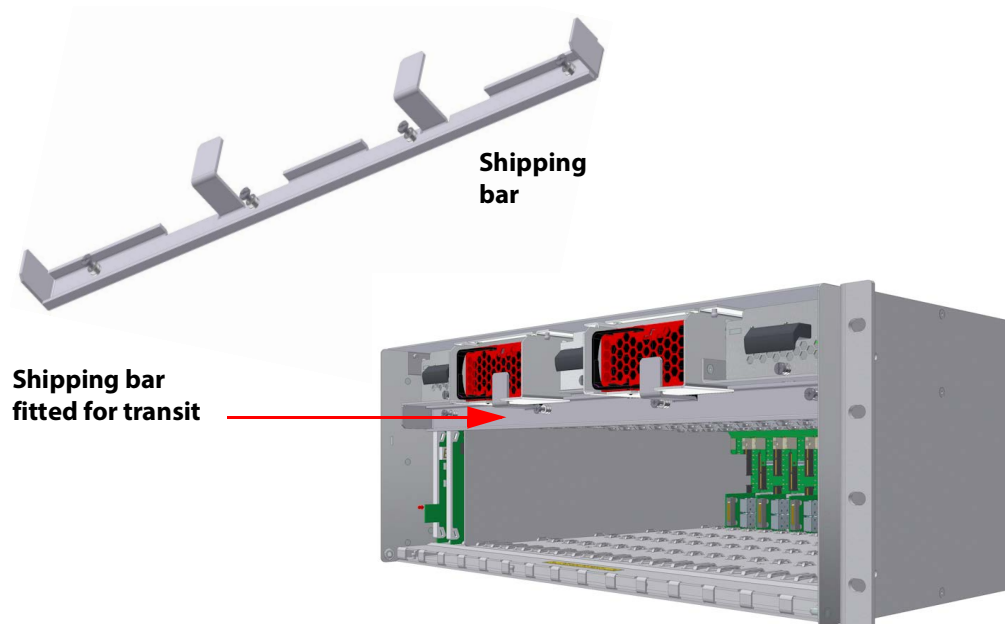
- 1 x IQH4B enclosure
- 1 x BNC Y-piece connector

Unpack the carton carefully and check for any shortages or damage. Report any shortages or damage to Grass Valley immediately.

Note: When the unit is supplied fitted with two power supplies, ensure that both power supplies are installed correctly and power up successfully.

Shipping Bar

In order to prevent power supplies and modules from being dislodged in transit, the IQH4B is shipped with a retaining bar in place:



Ensure that this shipping bar is removed before the enclosure is powered up. Store the bar in a safe place for use if the enclosure needs to be transported in the future.

Note: Leaving the shipping bar in place when the enclosure is running may cause overheating.

Damage of this nature is not covered by any warranty.

Transporting the Enclosure

If the enclosure is to be transported, ensure that the shipping bar is refitted in order to prevent internal components from shifting and causing damage.

Environment

Although constructed to meet the normal environmental requirements, it is important that there is a free flow of air at the front and rear to dissipate the heat produced during operation. Installations should be designed to allow for this.

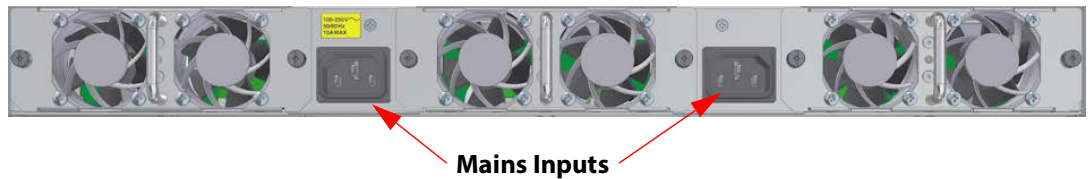
When rack mounting the equipment, support in addition to the rack mount ears must be provided.

Note: The ventilation holes of the fan housing must not be obstructed or damage to the fan and the equipment may result.

Power Connections

The enclosure provides two power supply inputs, one for each of the dual PSUs fitted.

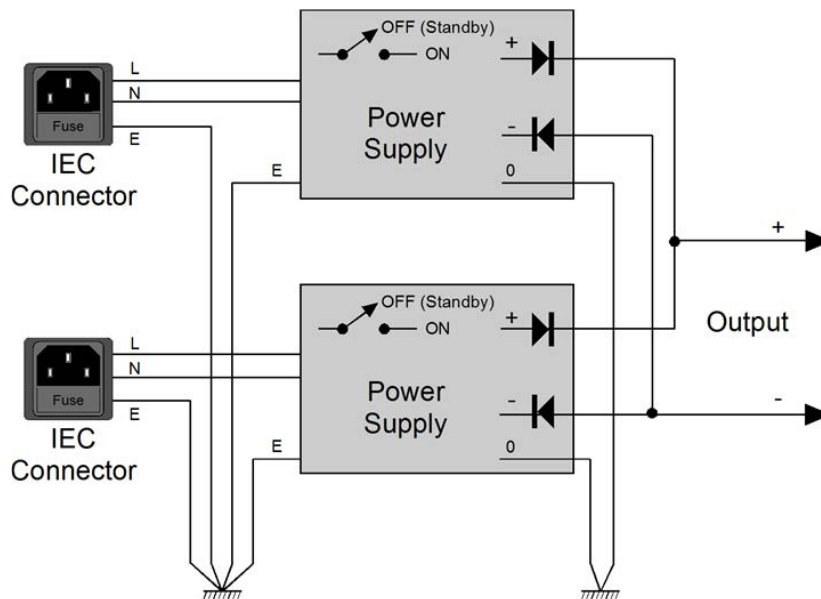
Note: Before connecting power to the unit, please refer to the safety warnings at the front of this manual.



These are IEC320 mains power connectors suitable for standard IEC type power cables.

Supply Voltage

The unit automatically senses the nominal supply voltage and sets itself up accordingly. No voltage adjustment procedure is required.

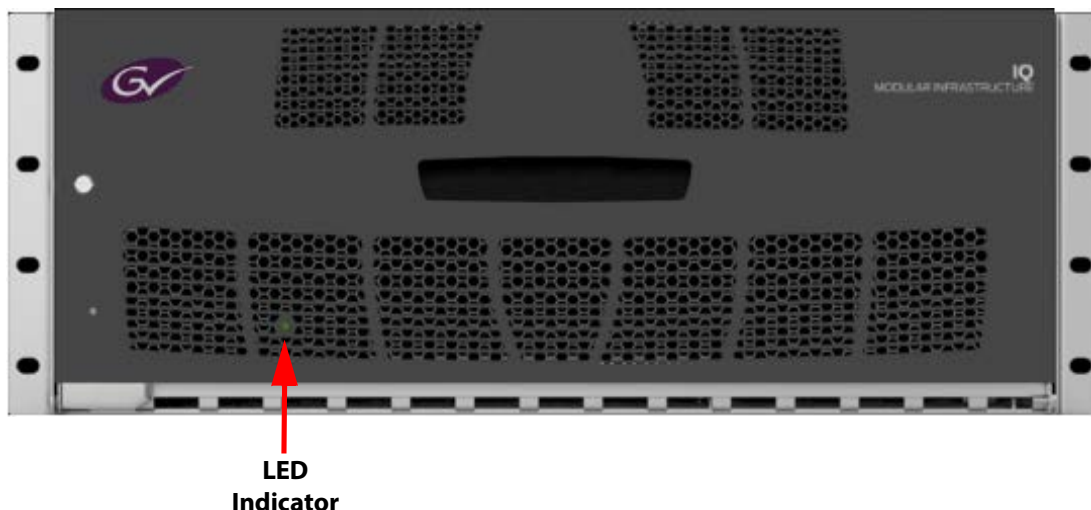


Each IEC connector supplies an independent feed of power to each of the two power supply modules as shown in the diagram above.

As a redundancy option, the IQH4B enclosure can support two power supplies; however, only one is required.

Front Panel Indicator

On the front panel, there is a bi-color (red/green) LED that indicates the unit's status.



LED State	Meaning
Green	Power ON OK, no faults detected
Steady flashing Red/Green/Red/ Green/...	<i>Where Am I?</i> function activated
Red Flashing	Faults detected: PSU - Voltage exceeding limits/out of range, PSU Missing/Power cable missing. FAN - Stopped, Short circuit, Running at maximum. TEMP - Sensor fault, Temperature beyond normal limits. MOD COMMS - Excessive Backplane errors.
Steady flashing Red/Off/Red/Off/...	Steady error condition such as PSU or fan failed
Intermittent flashing Red from Green	Momentary error such as network error caused by faulty cabling

More information about error conditions can be determined by checking via RollCall or SNMP.

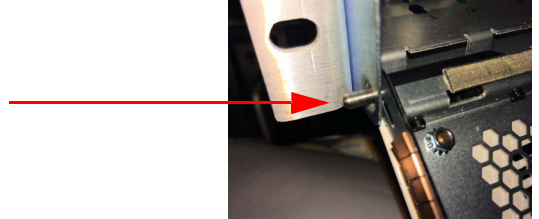
Removing the Door

The IQH4B can be used without the door if required.

To remove the door:

- 1 On the left side of the unit, looking from the front, locate the spring-loaded door release pin:

**Release
Pin**



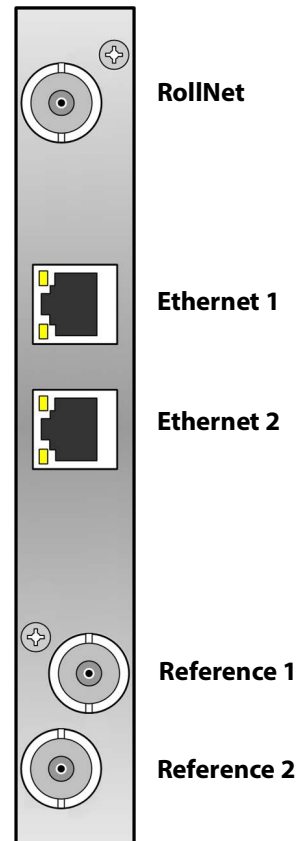
- 2 Push the pin in and disengage the door:



- 3 Move the door to the left to disengage the right-hand hinge, and remove the door. Store carefully to avoid damage.

Rear Panel (Gateway Card) Connections

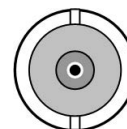
Rear Panel connectors are provided by the Gateway card, fitted into a dedicated slot in the IQH4B enclosure.



RollNet

The BNC connector enables the unit to be connected to the RollCall network communications system.

The RollCall system should be connected using a 75 Ohm "T" or "Y" piece, in a similar manner to an "Ethernet" system. Both extremities of the system must be terminated in 75 Ohms.

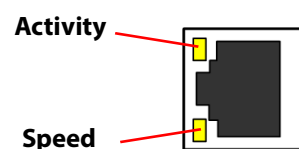


Note: The coaxial link is bi-directional and therefore must not be passed through signal switching networks. Also, in order to allow hum and noise cancellation, the screen of the coaxial connection must not be earthed.

Ethernet

This RJ45 connector socket allows the unit to be connected to a LAN.

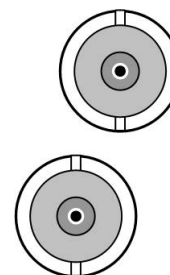
Two integral yellow LEDs flash to indicate transmit/receive activity and speed (10 Mb = Off, 100 Mb = On).



Note: This connector is not intended for direct connection to a network.

Reference 1 and Reference 2

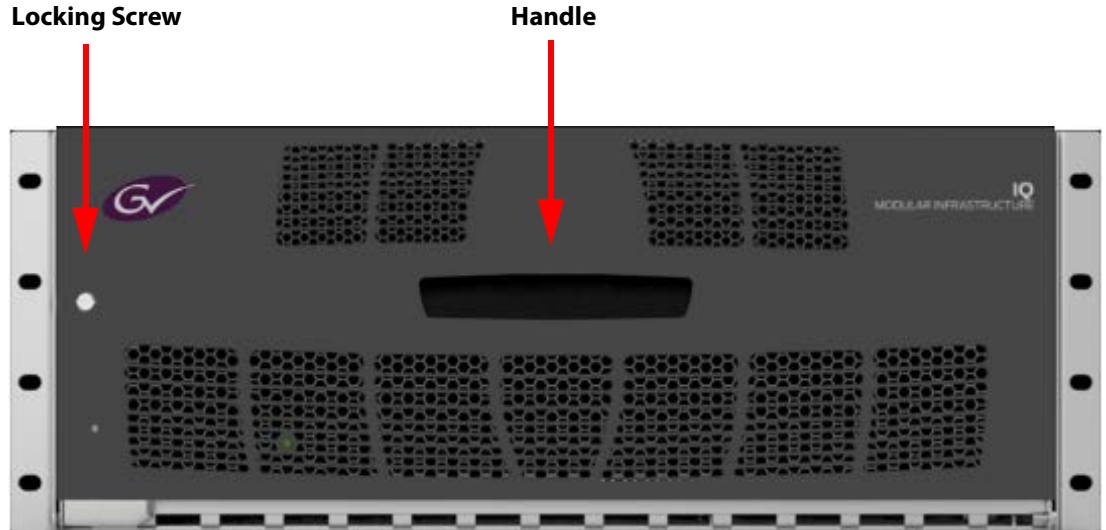
These BNC connectors allow the unit to be connected to two video reference sources. The inputs are terminated in 75 Ohms.



Opening and Closing the Front Panel

To open the front panel:

- 1 Turn the locking screw approximately half a turn to release the panel.
- 2 Pull the panel forward and downward using the handle in the center of the door.

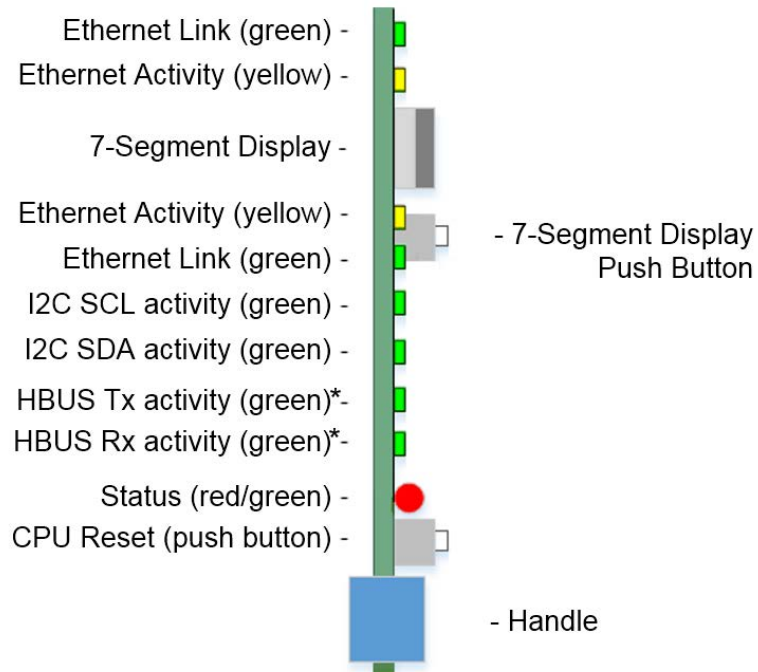


To close the front panel:

- 3 Pull the panel upward using the handle in the center.
- 4 Turn the locking screw approximately half a turn to secure the panel.

Front (Gateway Card) Controls and LEDs

Front Panel connectors, controls and LEDs are provided by the Gateway Card, fitted into a dedicated slot in the IQH4B enclosure.



Front Panel Connector

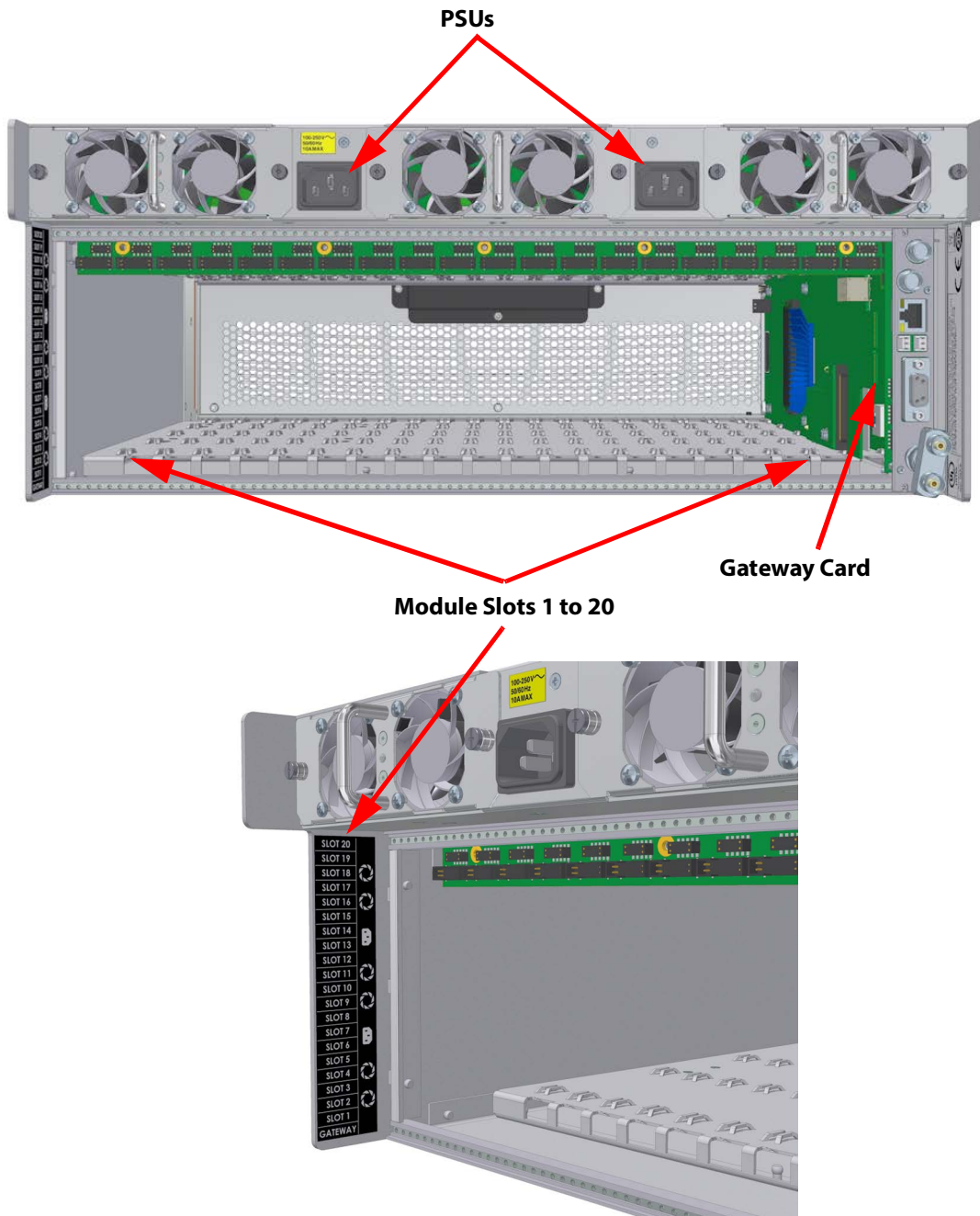
This connector connects to the front panel and provides power to the LED on the front panel.

The two-digit RollCall address display has a secondary mode of operation. Momentarily press either of the two **No Function** buttons, and the IP address followed by the net mask address will be displayed one number at a time on the 7-segment LED display.

LEDs

LEDs are provided along the front edge of the Gateway Card, shown in the diagram above.

Power Supply and Module Slot Locations



IQH4B enclosures are designed to accept one or two power supplies with independent IEC320 mains inlets.

Individually, each PSU module is capable of powering the frame containing any combination of IQ-1B modules subject to the rules described in [Configuration Rules](#) on page 31. When two units are installed, the operation of the whole frame becomes protected against single-instance power failures. The manufacturer specifies a maximum of 50 mating cycles.

Monitoring circuitry built in to each PSU reports power or PSU fan failures via GPO contacts on the STATUS connectors on the Gateway rear panel, and the single bi-color LED on the front of each power supply.

The bi-color LED on the PSU front panel is green if the PSU is supplying power to the rack and the PSU fans are running. It turns red to indicate PSU fan failure, mains input under or over voltage range, internal DC regulator failure, or over temperature.

Within the power supplies, the positive and negative rails are independently regulated and have no minimum load current requirements.

The power supplies adjust the regulation so that the power supplies will attempt to share the load current requirements. The balance of current sharing between supplies is subject to variation of the basic regulation of the PSUs. With two PSUs the unit with the higher output voltage will contribute more current to the load.

Installing and Removing Power Supply Units

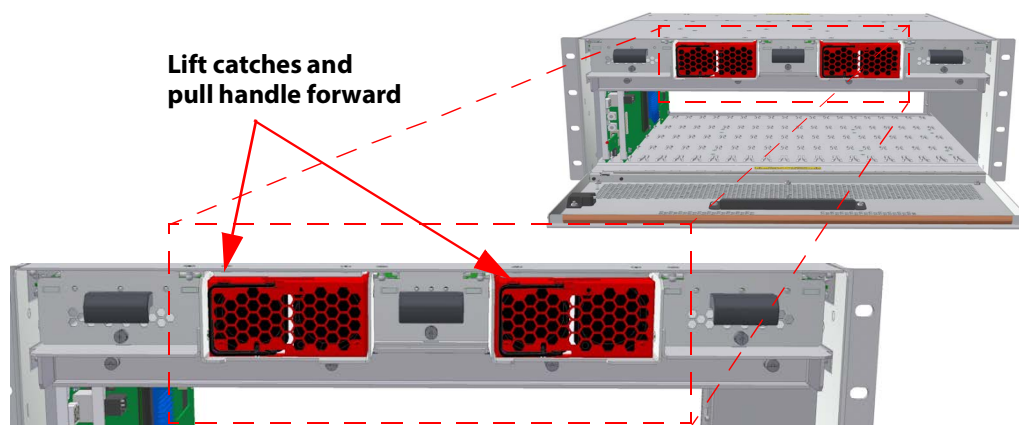
Note: Ensure that the mains power connection at the rear of the unit is removed before these operations are attempted.

The IQH4B enclosure is provided with two PSUs as standard to allow dual redundant operation.

Removing a Power Supply Unit

To remove a power supply unit:

- 1 Open the front door panel.
- 2 Lift the catches at the front of the PSU (shown below) and pull handle forward.



- 3 Pull handle firmly and carefully slide out the power supply.
- 4 Close the front panel.

Installing a Power Supply Unit

To install a power supply unit:

- 1 Open the front door panel.
- 2 Ensure the power supply's orientation is correct.
- 3 Slide power supply into the frame, push home firmly and place the handle back in the closed position.
- 4 Close the front panel.

Installing and Removing Modules

Note: Before installing a new module into the enclosure, ensure that the configuration rules given below are followed.

The rear of the enclosure must have a full compliment of rear panels. Any vacant slots must have a blank rear panel fitted.

Configuration Rules

These rules limit the total power dissipation of modules that can be installed in the box and use the module power ratings to calculate the total power dissipated in the enclosure.

Module Power Rating

The power rating for each module will be given in the associated operation manual for that module or in the product technical specification available on the Grass Valley Web site.

Available Power

The IQH4B Enclosure has 700 Power Rating units available. The Power Ratings of each module should be added together and the total should not exceed 700PR units for the IQH4B. Modules that do not specify a Power Rating should use the total power figure as a power rating value.

Note: The sum of the module power ratings (calculated using the method above) in the enclosure must not exceed 700 units.

Power Rating Table

The following table can be used to calculate and check the available and used power units within the enclosure.

Slot Position	Module Name	Power Rating
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
	Total Power (units) IQH4B - 700 Maximum	

Installing a New Module

Note: Ensure that the mains power connection at the rear of the unit is removed before these operations are performed.

Before installing a new module, consult the Power Rating Table on the previous page to ensure there is adequate power available.

To install a new module:

- 1 Open the front panel.
- 2 Remove the module retaining bar.
- 3 Choose an empty slot position for the module.
- 4 At the rear of the enclosure remove the screws securing the blanking plate associated with the chosen slot position. Store the blanking plate in a safe place for future use.
- 5 Ensuring correct orientation, fit the rear connecting panel (supplied with the new module) to the rear of the enclosure in the vacant aperture and secure with the fixing screws provided.
- 6 At the front of the enclosure, (ensuring correct orientation) carefully slide in the new module until it fully mates with the rear connector panel.
- 7 Refit the module retaining bar.
- 8 Close the front panel.
- 9 Update the Power Rating table on the previous page.

Removing a Module

Note: Ensure that the mains power connection at the rear of the unit is removed before these operations are attempted

To remove a module:

- 1 Open the front panel.
- 2 Remove the module retaining bar.
- 3 Carefully slide out the desired module.

If a different type of module is to be installed in this position, proceed as in Installing a New Module.

If the slot is to be left vacant, proceed as follows:

- 4 Refit the module securing bar.
- 5 Close and secure the front panel.
- 6 At the rear of the enclosure, fit the blanking plate in the appropriate position using two screws.
- 7 Update the Power Rating table.

Replacing a Module in a Live Environment

Grass Valley recommends that the mains connections are removed before performing the operations described above. However, in a live environment this may not be possible, so the modules are designed to be removed and installed without switching the power off.

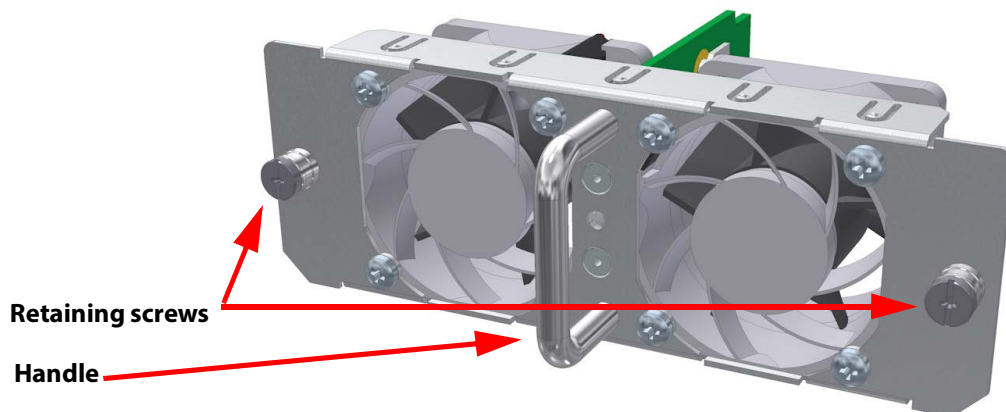
Note: It cannot be guaranteed that there will be no disturbance to the operation of other modules in the enclosure if a module is replaced without first powering down the enclosure.

Replacement of the Cooling Fan Assembly

The cooling fan assembly is located on the rear panel of the IQH4B enclosure, and can easily be replaced without removing the rack from its mounting position or removing any cable connections.

To replace the fan assembly:

- 1 Cut power to the unit by removing the IEC power cables.
- 2 Loosen the two retaining screws (they are captive so will not come all the way out).



- 3 Holding the handle in the center of the fan assembly, carefully withdraw the fan assembly from the unit.
- 4 Slide the new fan assembly into the unit, ensuring that the power connector is mated securely.
- 5 Refit the retaining screws. It is recommended that the screws are not fully tightened initially. Instead, they should be alternately tightened in small increments so that the assembly goes in straight.
- 6 You can now refit the power cables to power up the enclosure.

Replacing a Fan Unit in a Live Environment

Note: **This fan unit should only be serviced by trained personnel.**
The fan unit can be replaced in a live environment by carefully following the steps below. **Caution is advised** - do not put hands or fingers inside the enclosure whilst replacing the fan unit.

- 1 Loosen the two retaining screws.
- 2 Carefully withdraw the fan unit assembly from the box.
- 3 Slide the new fan unit assembly into the box, ensuring that the power connector is mated securely.
- 4 Refit the retaining screws. It is recommended that the screws are not fully tightened initially. Instead, they should be alternately tightened in small increments so that the assembly goes in straight.

Control Panels

An enclosure and the modules that it contains may be controlled by the following methods:

- Control panels connected via the RollCall communications network.
- Computers connected via the RollCall communications network.
- SNMP managers connected via IP.
- Any combination of the above.

RollCall Communications System

RollCall remote control gives a uniquely powerful and flexible system that can be as simple as a single rack unit with control panel, or a powerful multi-master, multi-slave configuration with PC control and monitoring for full station automation.

The RollCall command protocol obtains control information from the IQ module being addressed. This unique feature ensures that module updates or additions will not require control system software upgrades - simply plug in and switch on.

When the unit (or module) is powered-up the module will normally assume the same set-up conditions that existed at the last power-down. This information is provided by non-volatile memory on the module. Some modules incorporate methods that allow other set-up conditions to exist on power-up; please consult the information specific to each module for details.

RollCall Network System Details

The IQ Modular system has a flexible and powerful remote control system. The units in the system are joined via a high-speed network. Each box enclosure is a node on the network. A single local area network can have a maximum of 255 nodes with any combination of control panels and modular rack boxes. With the 3U box holding up to 16 cards, the system can accommodate 4080 (255 x 16) cards. Each box is physically addressed via switches on the Remote Control Interface.

Network bridges can be used to connect each network to up to 15 others, nested up to 4 levels, allowing tens of thousands of networks and millions of units to be joined together.

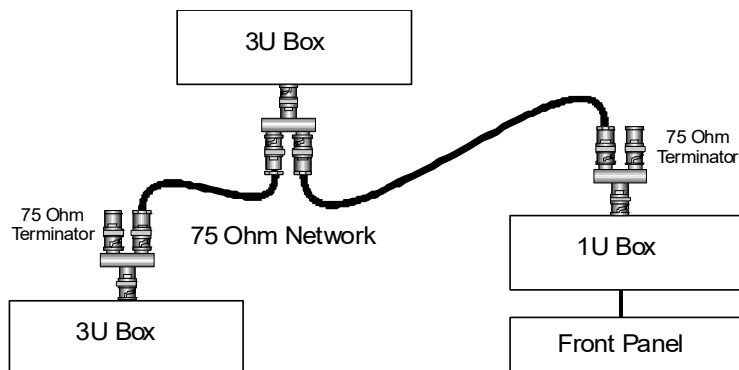
IQH4B enclosures have two interface connections to the RollCall network:

- RollNet 75 Ohm coaxial BNC running at 2.5 Mbps. [The IQH4B enclosure represents a 2-unit load.](#)
- RJ45 Ethernet running at 10/100 Mbps.

RollNet 75 Ohm Coaxial Interface

This interface allows connections of units to a single section of 75 Ohm video cable. Each unit is physically joined via a T or Y-piece connector. Each end of the section is terminated by a 75 Ohm resistor at each end of the cable. The data rate on this interface is 2.5 Mbps. Each section of cable can be up to 400 m.

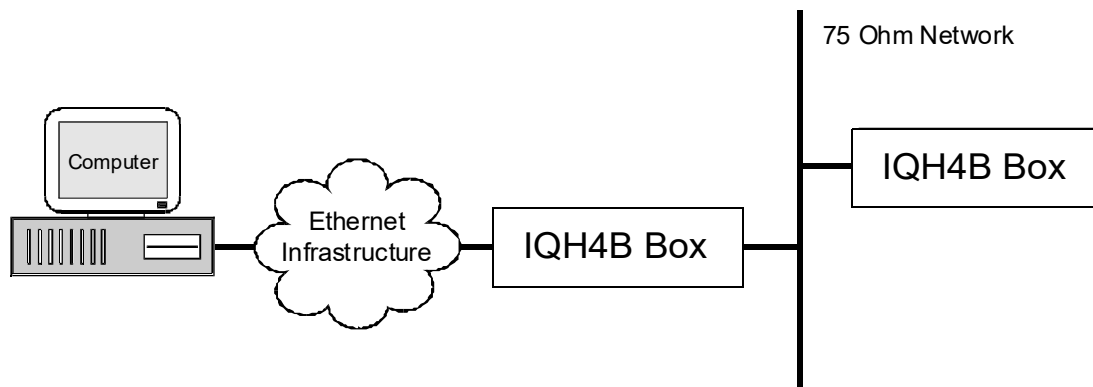
Example configuration:



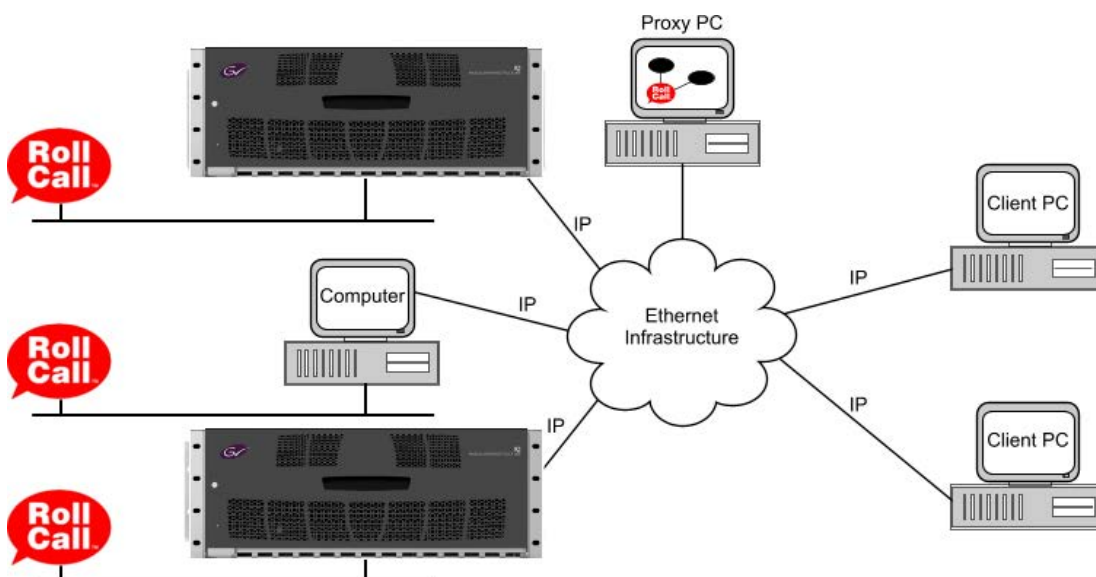
Ethernet Connections

The two Ethernet ports allow the enclosure to be connected to 10/100base T Ethernet networks. Other IP devices can then connect to the enclosure via TCP/IP.

An Ethernet device connected to a single IQ rack has access to all devices on the RollCall network. This interface can be used to connect a PC running RollCall.



A PC can control multiple RollCall networks by connecting via RollProxy.



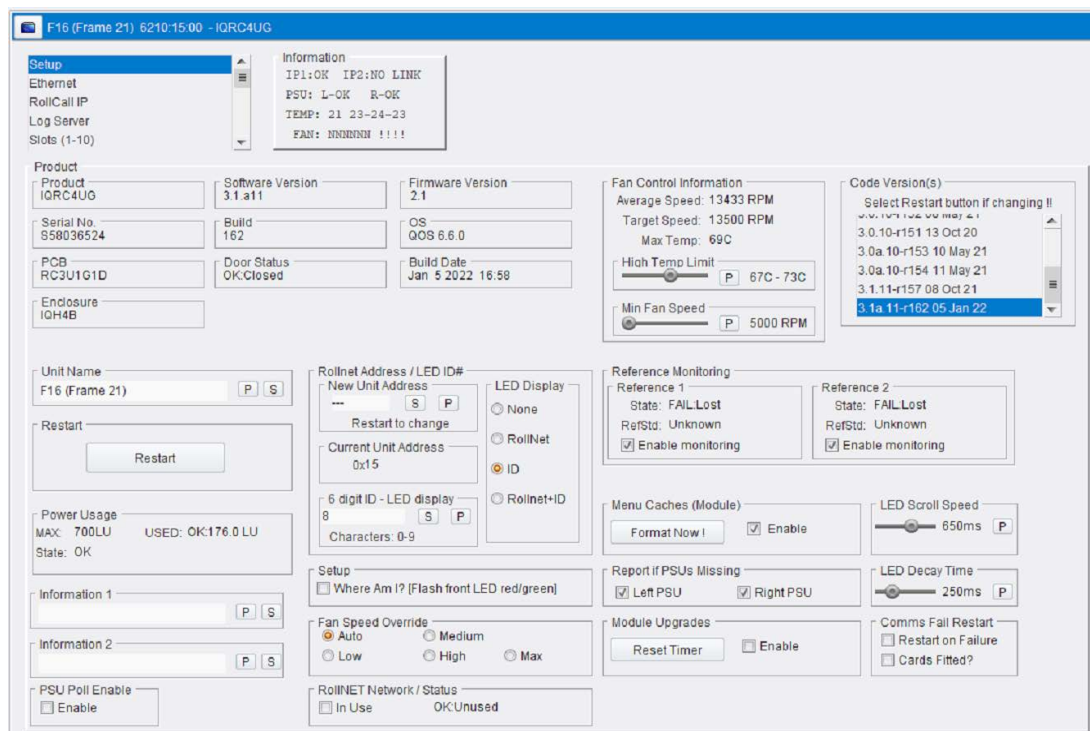
Setting IP Network Details

The Gateway is equipped with two Ethernet LAN ports. Port 1 has been assigned a factory-set static IP address, which allows an Ethernet connection to be established in order to configure IP details if DHCP is not available on the customer network.

Port 2 is set to DHCP by default, and so can be used only if DHCP is available. In this case, an IP address will be assigned automatically, and can be read via the card front panel controls. See [Front \(Gateway Card\) Controls and LEDs](#) on page 28.

Follow the steps below to set IP details via Port 1. See the *RollCall Control Panel Operation Manual* for further information, if required.

- 1 Using a standard Ethernet cable, connect a PC running RollCall Control Panel to Ethernet Port 1.
- 2 Open RollCall Control Panel on the PC, and type **192.168.151.1** into the **IP Address** field in the **Build Network** dialog; the **Setup** page is displayed:



- 3 Open the **Ethernet** page and set IP network details as required; appropriate details should be available from local IT departments. See [Ethernet](#) on page 46 for more information.
Restart the module to apply the changes.

Recovering Mis-Configured Systems

Although unlikely, it is possible to mis-configure the network IP settings and prevent connection to the Gateway, for instance by setting both Primary and Secondary LANs to use static IP addresses and then saving invalid values. This can be rectified by editing the Gateway on-board configuration, held on a microSD card on the Gateway.

To Edit the On-board Configuration

- 1 Remove the microSD card from the Gateway, place into a reader and display the files on a suitable PC.
- 2 Open the `/configuration` folder. This contains four files per Ethernet interface, so eight in total. These are:
 - `eth0-ip`
 - `eth0-gate`
 - `eth0-net`
 - `eth0-dhcp`
 - `eth1-ip`
 - `eth1-gate`
 - `eth1-net`
 - `eth1-dhcp`

The `eth0` files control Ethernet 1, and the `eth1` files control Ethernet 2.

- 3 To enable DHCP:
 - Open the appropriate `eth?-dhcp` file for the Ethernet interface to be configured, and change the **0** value to **1**. Save and close the file.

4 To set a static IP address:

- Open the appropriate `eth?-dhcp` file for the Ethernet interface to be configured, and ensure the value is set to **0**. Save and close the file.
- Open the appropriate `eth?-ip` file for the Ethernet interface to be configured, and enter the static IP address required. Save and close the file.
- Open the appropriate `eth?-net` file for the Ethernet interface to be configured, and enter the netmask to be used. Save and close the file.
- Open the appropriate `eth?-gate` file for the Ethernet interface to be configured, and enter the IP address of the default gateway to be used. Save and close the file.

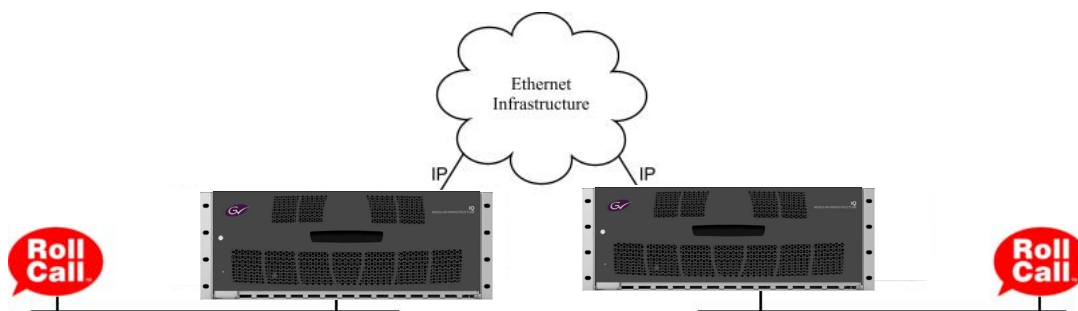
Replace the microSD card in its slot and restart the Gateway. The IP configuration will be applied at restart.

IP Bridging

The Gateway supports RollCall bridging over IP. This allows two IQ Gateways to be connected via IP so they can pass RollCall messages between networks.

To establish a RollCall bridge:

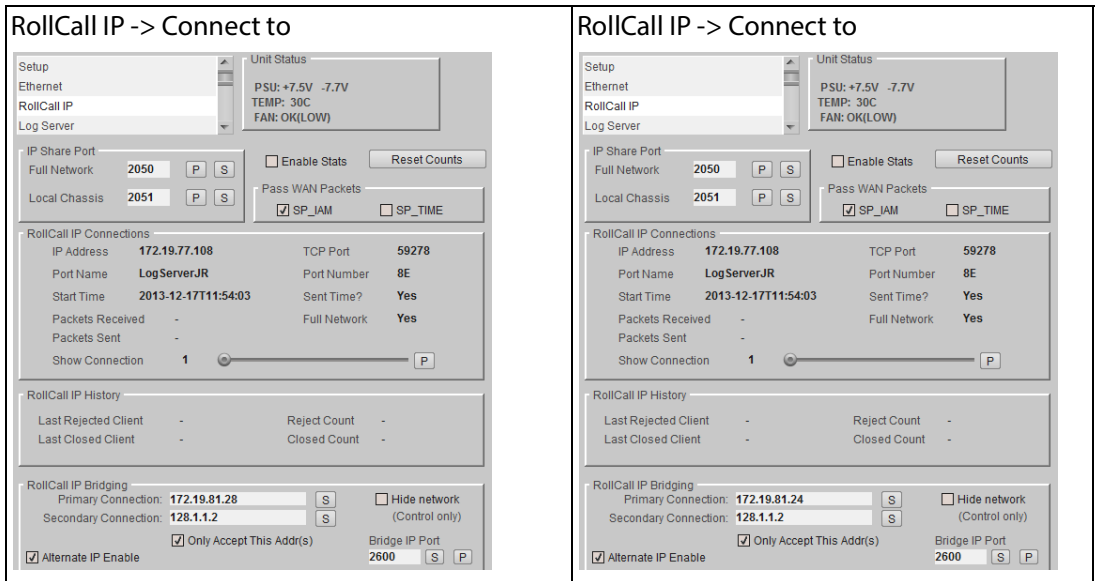
- The Gateways must be visible to each other via IP.
- Both Gateways must be set to RollNet addresses in the range **0x01-0x0F**.
- At least one Gateway must be configured via the **Bridge IP Addr** control to connect to the other's IP address.
- The bridge must be initiated by one Gateway via the **Connect** or **Auto Connect** controls.



Configuring IP Bridging

An IP bridge requires two Gateways, both connected to the IP infrastructure and set to RollCall addresses in the range **0x01-0x0F**. An example configuration might be:

Gateway 1	Gateway 2
<p>Ethernet -> Unit IP Address</p> <div style="border: 1px solid #ccc; padding: 5px;"> <p>Setup</p> <p>Ethernet</p> <p>RollCall IP</p> <p>Log Server</p> <hr/> <p>Ethernet</p> <p>IP Address settings</p> <p>Unit IP address</p> <p style="font-family: monospace;">172.19.81.24</p> <p style="text-align: right;">P S</p> </div>	<p>Ethernet -> Unit IP Address</p> <div style="border: 1px solid #ccc; padding: 5px;"> <p>Setup</p> <p>Ethernet</p> <p>RollCall IP</p> <p>Log Server</p> <hr/> <p>Ethernet</p> <p>IP Address settings</p> <p>Unit IP address</p> <p style="font-family: monospace;">172.19.81.28</p> <p style="text-align: right;">P S</p> </div>



It is recommended that **Only Accept This Address** is checked at both ends to prevent other Gateways from establishing bridge connections, and that **Connect Automatically** is also checked at both ends, so the bridge is re-connected if it should become disconnected for any reason.

4 Operation

This section of the manual assumes that the IQH4B Enclosure has been installed in accordance with the instructions given in [Chapter 3](#). It describes operation of the unit by means of the RollCall Control Panel software.

To fully conform with EMC and Safety standards, modules must be correctly installed in the enclosure. Prior to connection of power, the user should check the following items:

- The rear of the enclosure must have a full complement of rear panels. Any vacant slots must have a blank rear panel fitted.
- All enclosure covers and rear panels must be fitted and screwed down using all available fixing holes.
- The enclosure front panel must be in the closed position, with the turnbuckles and screws fastened.

Unit Status

This area of the template displays basic information about the current status of the unit.

```
Information
IP1:OK IP2:NO LINK
PSU: L-N/A R-OK
TEMP: 23C 28C 23C 28C
FAN: STOP 1 & 2!
```

Line 1

Shows status of the two Ethernet links.

Line 2

This will normally show the output voltage of the power supplies. For example:

- PSU: +7.6V -7.8V

If a PSU error is detected or a voltage measurement is out of range, then the text will toggle to one of the items in the list below:

Message	Description
OK	
N/A	
PSU: +7.5V_RAIL	Positive voltage rail out of expected range (<6.8 V or >8.0 V).
PSU: -7.5V_RAIL	Negative voltage rail out of expected range (<6.8 V or >8.0 V).
PSU: LEFT_MISSING	Left PSU expected but not present.
PSU: LEFT_FAILED	Left PSU failed or no power present.
PSU:RIGHT_MISSING	Right PSU expected but not present.
PSU:RIGHT_FAILED	Right PSU failed or no power present.

Line 3

This show the inlet and exhaust temperatures of the enclosure in Celsius.

Normally this would show, for example:

- TEMP: 28C 27C 26C 25C

where the first value of a pair is the inlet temperature, and the second is the exhaust temperature.

This display does not toggle. If any errors occur, these will be specific to the exhaust sensor only.

Message	Description
TEMP: 28C FAILED	Outlet sensor failure.
TEMP: 28C DISABL	Outlet sensor configured as disabled.

Line 4

This line shows the status of the enclosure cooling fan which is located at the rear of the unit.

It displays the status and the programmed speed (devised according to the current ambient temperature) and would normally show:

Message	Description
FAN: OK(LOW)	Fan is running OK. Low speed mode.
FAN: OK(MEDIUM)	Fan is running OK. Medium speed mode
FAN: OK(HIGH)	Fan is running OK. High speed mode.

Error conditions would be shown as below:

Message	Description
FAN: WARN(MAX)	Fan is running at maximum speed.
FAN: FAIL STOP 1	Fan 1 has ceased running.
FAN: FAIL STOP 2	Fan 2 has ceased running.
FAN: FAIL STOP 1 & 2!	Fans 1 and 2 have ceased running.
FAN: FAIL(SHORT)	Fan short circuit detected.

Setup

The **Setup** page enables various system functions to be configured.

The screenshot shows the 'Setup' page for an IQH4B Gateway card. The page is titled 'F16 (Frame 21) 6210-15:00 - IQRC4UG'. It features a navigation menu on the left with options like Ethernet, RollCall IP, Log Server, and Slots (1-10). The main content area is divided into several sections:

- Information:** Displays system status such as IP1:OK, IP2:NO LINK, PSU: L-OK R-OK, TEMP: 21 23-24-23, and FAN: MNNNNN !!!!.
- Product:** Fields for Product (IQRC4UG), Software Version (3.1.a11), Firmware Version (2.1), Serial No. (S58036524), Build (162), OS (QOS 6.6.0), PCB (RC3U1G1D), Door Status (OK:Closed), Build Date (Jan 5 2022 16:58), and Enclosure (IQH4B).
- Fan Control Information:** Shows Average Speed (13433 RPM), Target Speed (13500 RPM), Max Temp (69C), High Temp Limit (67C - 73C), and Min Fan Speed (5000 RPM).
- Code Version(s):** A list of code versions with dates, including 3.0.10-r151 13 Oct 20, 3.0a.10-r153 10 May 21, 3.0a.10-r154 11 May 21, 3.1.11-r157 08 Oct 21, and 3.1a.11-r162.05 Jan 22.
- Unit Name:** A text field containing 'F16 (Frame 21)' with 'P' and 'S' buttons.
- Restart:** A 'Restart' button.
- Power Usage:** Shows MAX: 700LU and USED: OK:176.0 LU, with a 'State: OK' indicator.
- Information 1 and 2:** Text input fields with 'P' and 'S' buttons.
- PSU Poll Enable:** A checkbox labeled 'Enable'.
- Rollnet Address / LED ID#:** Fields for New Unit Address, Current Unit Address (0x15), and a 6-digit ID - LED display (8). Includes 'LED Display' options: None, RollNet, ID, and Rollnet+ID.
- Setup:** A checkbox for 'Where Am I? (Flash front LED red/green)'. Includes 'Fan Speed Override' options: Auto, Low, Medium, High, and Max.
- RollNET Network / Status:** A checkbox for 'In Use' and a status indicator 'OK:Unused'.
- Reference Monitoring:** Two sections for Reference 1 and Reference 2, each with 'State: FAIL:Lost', 'RefStd: Unknown', and 'Enable monitoring' checkboxes.
- Menu Caches (Module):** A 'Format Now!' button and an 'Enable' checkbox.
- Report if PSUs Missing:** Checkboxes for 'Left PSU' and 'Right PSU'.
- Module Upgrades:** A 'Reset Timer' button and an 'Enable' checkbox.
- LED Scroll Speed:** A slider set to 650ms.
- LED Decay Time:** A slider set to 250ms.
- Comms Fail Restart:** Checkboxes for 'Restart on Failure' and 'Cards Fitted?'.

Product

This section displays various details of the Gateway card. You may be asked for these if you contact Grass Valley technical support.

Code Versions

Previous code versions can be loaded if required. Select the version to be loaded, and click **Restart** to power-cycle the Gateway.

Unit Name

Allows a name for the Gateway to be specified. To enter or modify a name, type into the text field and click **S**. To return to the default name, click **P**.

Restart

Click to power-cycle the Gateway.

Power Usage

This displays the maximum (**MAX**) allowable power available for modules.

- **IQH4B:** 700 Load Units

For example, MAX: 700LU

This field also displays the current power usage (**USED**); this is the current total of all fitted modules' power ratings. Values are preceded by **OK** if within the maximum, or **WARN** if the maximum is currently exceeded.

For example: **USED: OK:71LU** or **USED: WARN:705LU**

Usage values per slot are available for viewing on the **Slots** pages, beginning on [page 51](#).

- **State**: Displays **OK** if total power usage is below maximum, or **WARN** if the maximum has been exceeded.

Information 1/2

These information fields may be edited to display any text required. For example, they could be used to provide further information on the Gateway card, such as rack position/building/group etc. Two fields are available, allowing a maximum of 2 x19 characters to be displayed. If these fields contain text, then log fields INFORMATION1= and INFORMATION2= will be made available.

RollNet Address/LED ID#

This set of controls allows the user to set the RollNet address. This replaces the functionality provided by the HEX switch on the previous model Gateway card. Set **New Unit Address** values as required and click **S** to save. Click **Restart** to power-cycle the Gateway and apply the changes.

Note in a RollCall local network, all units must have unique unit address codes.

LED Display

This controls the information to be displayed on the on-board 7-segment LED display (See [Front \(Gateway Card\) Controls and LEDs](#) on page 28), in addition to the IP address and netmask. Select as required.

6-Digit ID

Optionally, a decimal ID number of up to 6 digits can be assigned to the Gateway; this would typically be used as a physical identifier. Enter an ID into the **6 Digit ID - LED Display** field as required. See also [LED Display](#), above.

Setup

- **Where Am I?**: When this function is selected, the LED indicator on the front panel of the enclosure will flash red and green, allowing the enclosure's physical location to be identified.

Fan Speed Override

A temperature sensor controlling the fan speed is located by the rear fan. This control has been added to allow the fan speed to be overridden, which is useful for older chassis that had the rear temperature sensor connected through the module i2c bus. The default setting is **Medium**, but other settings may be selected as required.

RollNet Network/Status

Enable the check box if the RollNet interface is to be used.

Reference Monitoring

Provides facilities for the reporting and monitoring of chassis references. Check boxes to enable monitoring as required.

Menu Caches (Module)

The Gateway caches module menu sets locally to improve menu upload speeds. In rare circumstances this may cause problems. If issues with module menu uploads are encountered, the menu caches can be cleared or caching disabled.

- **Format Now!:** This deletes the existing module menu caches. The caches will be recreated when the next menu client connects.
- **Enable:** Select this box to enable/disable the menu cache function.

Report if PSUs Missing

When these boxes are enabled, a missing PSU report will be displayed on the **Information** pane (see [page 39](#)) and logged.

If two power supply units are fitted, in the dual redundancy supply configuration, the **Left PSU** and **Right PSU** items should be selected.

If for some reason one of the power supplies is removed, a warning will be displayed, indicating which power supply is missing.

If only one power supply is fitted, only the corresponding check box should be selected and the other cleared.

Note: If a PSU is fitted but fails or is turned off, then a warning message will always be generated.

Module Upgrades

These controls are used by RollCall and Orbit upgrade systems during upgrade processing. They are activated automatically, and should not be modified by the user.

PSU Poll Enable

This control enables the polling of PSU to provide information about the operational state of the PSU. It is provided for system diagnostics, and should only be enabled on a temporary basis

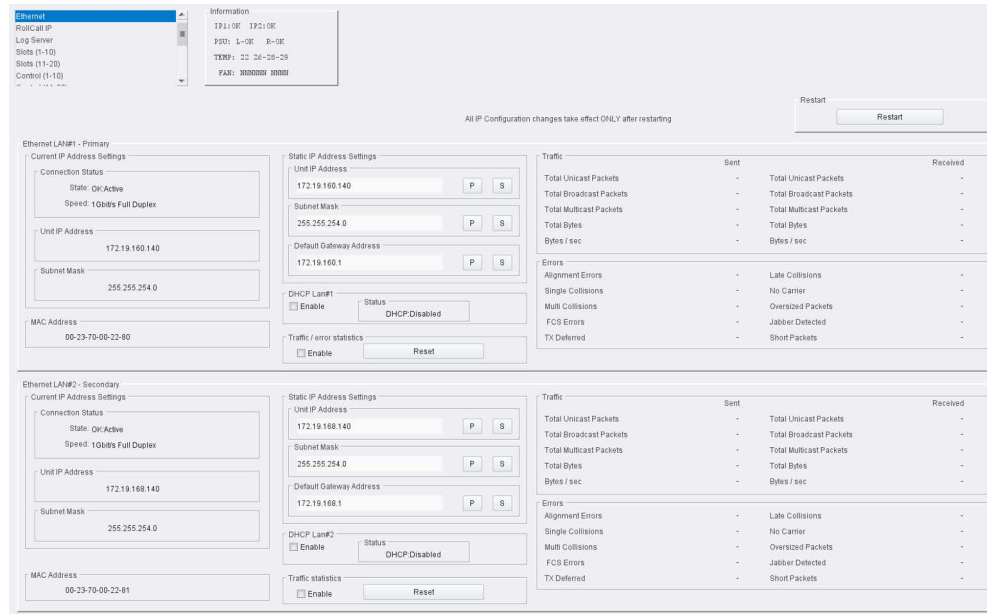
Comms Fail Restart

These controls affect how the Gateway behaves in the event of communications failure.

The controls are disabled by default. Enable only if instructed to do so by Grass Valley support.

Ethernet

The **Ethernet** page enables networking functions to be configured.



IMPORTANT - Unit IP Address/Subnet Mask/Gateway Address Defaults

The IQ Gateway ships with the following default settings:

- **IP address:** 192.168.151.1
- **Subnet mask:** 255.255.0.0
- **Default IP Gateway:** 0.0.0.0.

Ethernet LAN 1 Primary/2 Secondary

These sections allow static IP details to be set or DHCP to be activated for each LAN interface. They also report current IP settings and display Traffic/Error statistics.

Setting Static IP Details

Static IP details can be set for primary and secondary LANs, if required. To do this, enter the appropriate **Unit IP Address**, **Subnet Mask** and **Default Gateway Address** details (available from local IT support services), and click **S** to save or **P** to return to default values.

Click **Restart** to power-cycle the card and apply the new configuration. DHCP will be deactivated when the new details are saved.

Activating DHCP

To stop using static IP addresses and use DHCP instead, activate the **Enable** check box for the appropriate **DHCP LAN**, and click **Restart**.

The new settings will not be applied until the Gateway is restarted.

Traffic/Error Statistics

A range of data detailing traffic through the Gateway and errors detected is displayed to the right of the **Static IP Address Settings** pane. Reporting of this data can be switched on or off via the **Enable** checkbox.

The various stats counters can be reset to zero by clicking **Reset**.

RollCall IP

The **RollCall IP** page reports various statistics about IP share connections and allows configuration of the IP Bridge function.

IP Share Port

- **Full Network:** The Gateway will accept IP Share connections on this IP port number. The default is 2050. To enter/modify the full network port number, enter the new number in the field and click **S** to save. To restore the default value, click **P**.
- **Local Chassis:** This port offers a restricted MAP service, only showing itself. It is used primarily in complex RollProxy configurations. To enter/modify the local chassis port number, enter the new number in the field and click **S** to save. To restore the default value, click **P**.

Enable Stats

If **Enable Stats** is checked, the various packet counters on the page will constantly be updated. If it is not enabled, these will display a dash (-) instead.

Reset Counts

Click **Reset Counts** to reset all packet counters to zero.

Show IP Connections in Port Listing

This control is not normally used. Enable it only if instructed to by Grass Valley support.

Pass WAN Packets

- **SP_IAM:** If this check box is enabled, then the Gateway will pass wide area I AM messages received on IP share links to the RollNet network, and over the IP Bridge (if connected).

Note: Pass I_AM (Bridge) overrides both Pass I_AM (Serial) and Pass I_AM (IP). So if Pass I_AM (Bridge) is set, I AM messages will be passed over the bridge, irrespective of how the other controls are set.

-
- **SP_TIME:** If this is enabled, the Gateway will pass wide area TIME messages received on IP share links to the RollNet network, and over the IP Bridge (if connected).

Note: The Gateway will always use the received time stamp, whether or not it passes it on.

RollCall IP Connections

This shows information about IP connections to the Gateway from IP Share or IP Proxy. The information displayed refers to a single connection. Which connection is displayed is controlled by the **Show Connection** control.

- **IP Address:** IP address of the remote unit on this IP connection.
- **TCP Port:** Incoming TCP port number of the RollCall IP share connection.
- **Port Name:** The name under which this IP connection appears.
- **Port Number:** Shows which RollCall port on the Gateway this IP connection corresponds to.
- **Start Time:** Shows the time at which this IP connection was started.
- **Sent Time?:** Shows if the remote unit on this IP connection has ever sent us a TIME packet.
- **Packets Received:** Shows how many packets have been received on this IP connection.
- **Full Network:** Shows which IP port a connection has come in from. Yes indicates that the connection is on the Full Network port, no indicates that the connection is on the Local chassis port.
- **Packets Sent:** Shows how many packets have been transmitted on this IP connection.
- **Show Connection:** Controls which IP connection the Gateway shows statistics for. Use the slider to select as required.

Client IP Ranges

Ranges of valid client IP addresses can be specified if required; these can be enabled or disabled via the **Check Client IP** check box. When enabled, the Gateway will check the IP address of any clients wanting to connect, and reject any that are outside of the ranges specified. Enter ranges as appropriate, and click **S** to save.

If you do not want to use this feature, disable the **Check Client IP** check box.

RollCall IP Bridging

This menu controls the IP half bridge function of the Gateway.

- **Primary Connection:** This controls the primary IP address of the remote half of the IP bridge. This is the address that the Gateway will connect to when it establishes a bridge. The Gateway will accept bridge connections from other IP addresses unless the **Only This Addr(s)** checkbox is set.
- **Secondary Connection:** This controls the secondary IP address of the remote half of the IP bridge. This is the address that the Gateway will connect to when it establishes a bridge. The Gateway will accept bridge connections from other IP addresses unless the **Only This Addr(s)** checkbox is set.
- **Hide network (Control only):** This allows the remote network to be hidden from the network browser displayed at the bottom left of the RollCall Control Panel main window. All other network traffic is allowed through the bridge.

This feature is useful where two separate networks are linked with an IP Bridge (for control purposes, e.g. Rollpod), but the networks are connected to client PCs using IP Proxy.

- **Only Accept This Addr(s):** This controls whether addresses other than the primary and secondary can be used. When selected the Gateway will only accept bridge connections

from the primary and secondary connection addresses. Automatically selected if **Alternate IP Enable** is selected.

- **Alternate IP Enable:** Select to allow both the primary and secondary IP addresses to be used. When selected **Only Accept This Addr(s)** is also automatically selected.
- **Bridge IP Port:** This controls the IP port used for bridge connections. It controls both the port that the Gateway will accept connections on, and the port the Gateway will attempt to connect to if it tries to establish a bridge.
- **Received LogServer Information Packets (ID [should be IAM] and TIME):**
 - **Filter Packets:** Enable to filter IAM and TIME packets. It is recommended that this control is enabled.

A gateway that is bridged to another gateway or IP bridge device can broadcast these packets across the link. It is good practice to filter these packet types, as they provide the basic packets to allow logging, and logging should not cross bridge links other than in exceptional circumstances, such as for diagnostic purposes.
- **Remote IP Address:** This shows the IP address of the remote end of the IP bridge (when connected).
- **Started By:** This shows who initiated the bridge connection. If this unit established the connection it will show 'local' if the remote unit established the connection it will show 'remote'.
- **Start Time:** This shows the time at which the bridge connection was established.
- **Packets Received:** This shows the number of packets received over the IP bridge.
- **Packets Sent:** This shows the number of packets transmitted over the IP bridge.
- **Connect:** This will cause the Gateway to attempt to connect the IP bridge. The Gateway will connect to the IP address and port specified by Bridge IP Addr and Bridge IP Port.
- **Disconnect:** This will cause the Gateway to disconnect the IP bridge. If either end of the IP bridge is set to auto-connect the bridge, then the bridge will be immediately re-established.
- **Connect Automatically:** If this is enabled, the Gateway will automatically try to establish a bridge connection at system start-up, if the connection fails, or if it is manually disconnected.
- **Active Bridge Logging:** When enabled, values reported by **IP_BRIDGE_STATUS** will be prefixed with either **OK** or **FAIL**. If not enabled, values will be prefixed by **INFO**.

Examples:

IP_BRIDGE_STATUS	Active Logging	Inactive Logging
Connected	OK:Active	INFO:Active
Disconnected	FAIL:Inactive	INFO:Inactive

- **IP Bridging State:** Displays current state of the IP bridge. Possible values are:
 - **INFO:Inactive**
 - **FAIL:Inactive**
 - **OK:Active**
 - **INFO:Primary**
 - **INFO:Secondary**
 - **INFO:Active-Other**
 - **OK:Primary**
 - **WARN:Secondary**
 - **OK:Active-Other**

Hyperion/Thumbnail TCP Port

The Gateway will accept Hyperion Thumbnail connections on this port number. The default is 2601.

Thumbnailing is a Hyperion monitoring feature, allowing the viewing of thumbnail image streams, sourced from modules within the enclosure, on a remote PC.

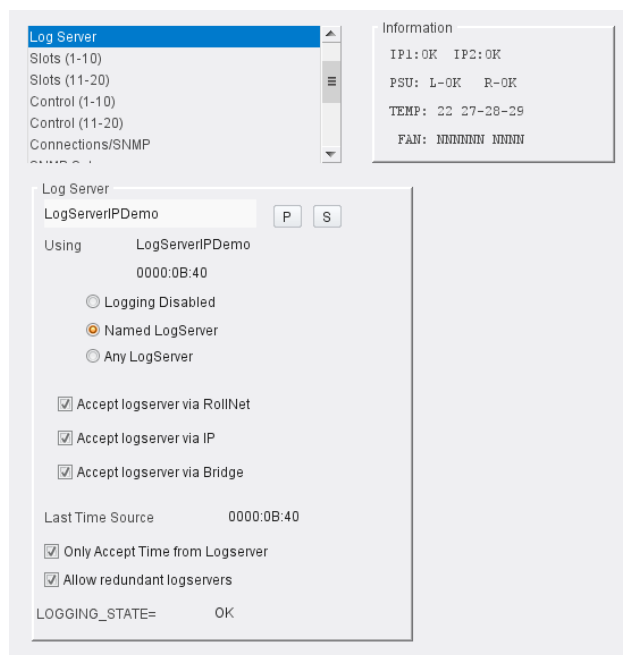
RollCall IP History

The Gateway may reject IP connections if they do not match the client address set, or if the limit on IP connections has been reached.

- **Last Rejected Client:** This shows the IP address of the last client that the Gateway rejected.
- **Reject Count:** This shows the number of attempted IP connections that this Gateway has rejected.
- **Last Closed Client:** IP address of the last client (bridge or other) to close their connection to the Gateway.
- **Closed Count:** This shows how many IP connections have been closed. The count includes connections that have been closed by the Gateway and by the remote client.

Log Server

The **Log Server** page allows the logging server to be configured.



Log Server

The log server to be used can be named by editing the text string in the text window. To enter/modify the name of the log server, enter the new name in the text field and click **S**. To restore the default value, click **P**.

Using

Displays the name and RollCall address of the current log server. If the Gateway does not have a log server, this will show **No Active Logger**.

Logging Disabled

If this item is selected, the logging function will be disabled.

Named Log Server

If this item is selected, logging information will only be sent to the server named in the **Log Server** field.

Any Log Server

If this item is selected, logging information will be sent to any logger attached to the system. If there is only one log server on the system, this option should be chosen.

Accept Log Server via RollNet

If this is selected, the Gateway will accept server packets via the RollNet port.

Accept Log Server via IP

If this is selected, the Gateway will accept server packets via the IP port.

Accept Log Server via Bridge

If this is selected, the Gateway will accept server packets via the bridge.

Last Time Source

Displays the address from which the last time packet was received. This can be useful when configuring complex networks.

Only Accept Time from Log Server

If this is selected, the Gateway will use time packets from the current log server only. This can be useful when configuring complex networks.

Allow Redundant Log Servers

If this is enabled, the Gateway will send logging information to multiple log servers on the network, in order to provide redundancy.

Logging State

Shows value currently being reported by LOGGING_STATE=. See [RollCall+](#) on page 61 for more information.

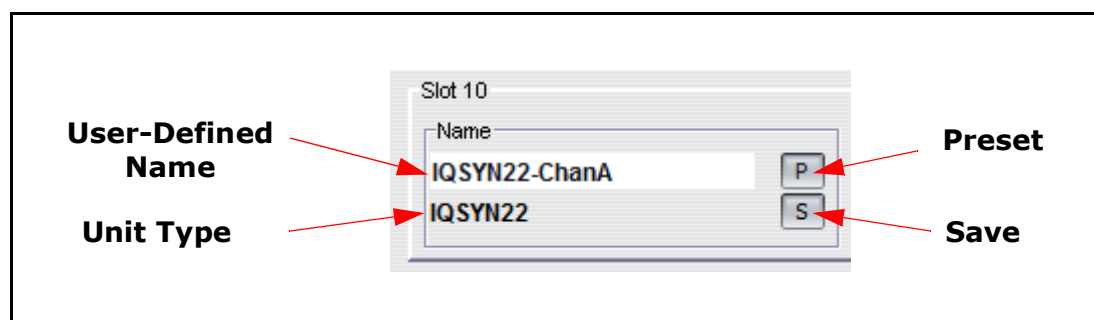
Slots 1-10, 11-20

The **Slots** pages allow each slot to be named and interrogated.

The screenshot shows a web interface for configuring slots. At the top, there's a navigation menu with 'Slots (1-8)' selected. Below it, a summary box shows system information: IP1: OK, IP2: OK, PSU: L-OK, R-OK, TEMP: 28C, 38C, FAN: OK(HIGH). The main area displays five slot configurations. Slot 1 has a name 'IQUCP25-01' and type 'IQUCP25_SDI'. Slot 2 shows 'No Unit Fitted'. Slot 3 also shows 'No Unit Fitted'. Slot 4 has a name 'MIX40-02' and type 'IQMIX4000'. Slot 5 is empty. Each slot configuration includes fields for Name, Type, Non RollCall (with an 'Enable' checkbox), Information Field(s), Power Usage, RollCall+ ID, and Status.

Name

The **Name** section displays the name and type of module fitted in the enclosure slot. See [Examples of Slot Use](#) on page 54 for more information.



The following controls are provided:

- **User-Defined Name:** This enables a slot to be given a descriptive name, e.g. **IQSYN22-ChanA**. Providing a module with the correct **Bound Unit ID** and **Unit ID** (see [Unit Type](#), below) is found in that slot, the user-defined name will be used.

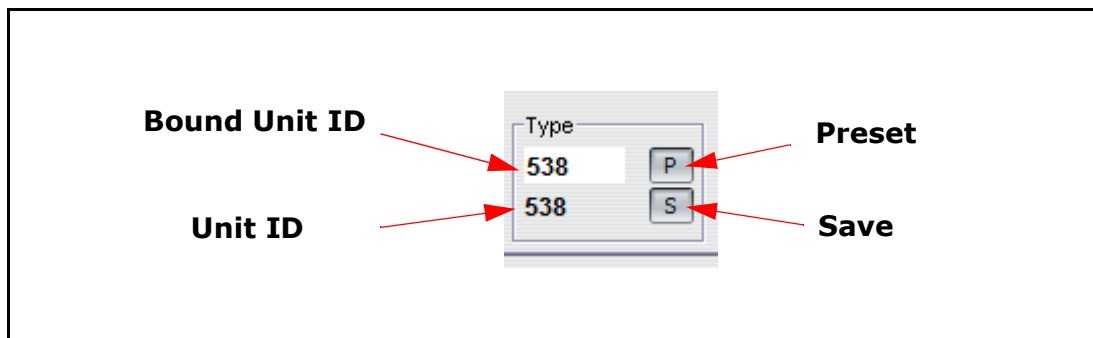
If a module which does not have the correct ID details is fitted to the slot, the generic name associated with the card's Type ID, e.g. IQCSPI, will be displayed in the **Unit Type** field. The **User-Defined Name** will remain the same, however. If this is subsequently edited, the current **Unit ID** will be copied to the **Bound Type ID** (see below).

To enter/modify the unit name, type a new name in the **User-Defined Name** field and click **S** to save. To return to the default name, click **P**.

- **Unit Type:** This shows the type of module fitted in the slot, e.g. **IQSYN22**. If no module is in the slot, **No Unit Fitted** is displayed. If an incompatible module is fitted into a slot, **NOT RollCall 3!** is displayed.

Type

This displays the unique identifier of the module fitted in the slot. See [Examples of Slot Use](#) on page 54 for more information.

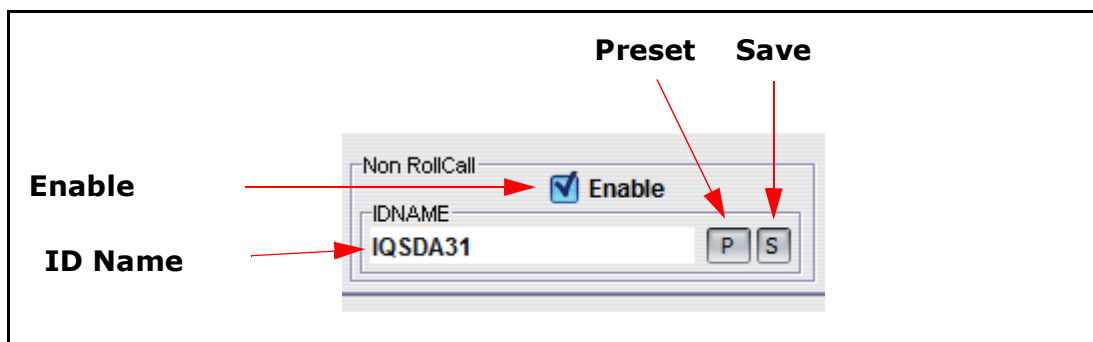


The following controls are provided:

- **Bound Unit ID:** If a module matching the specified **Bound Unit ID** is fitted, the Gateway will display the user-specified name in the **Name** field (see [Unit Type](#), above). If a module not matching the card type is installed in the slot, the actual card type will be displayed in the **Unit Type** field. Names and types can be set up before installation of the modules if required. The **Bound Type ID** should be edited after the **Editable Name** is updated. To enter/modify the **Bound Type ID**, type a new number in the field and click **S** to save. To return to the default, click **P**.
- **Unit ID:** This displays the identifier of the module fitted in the slot.

Non-RollCall

This allows a non-RollCall card occupying a slot to be identified. See [Examples of Slot Use](#) on page 54 for more information.



Passive units can be given a name, indicating to RollMap that a card exists.

- **Enable:** Select this option to indicate that a non-RollCall card is in the slot. When this option is selected, the installed unit type of the card appears as **NOT RollCall 3!**, and the **Unit ID** appears as **65535**.

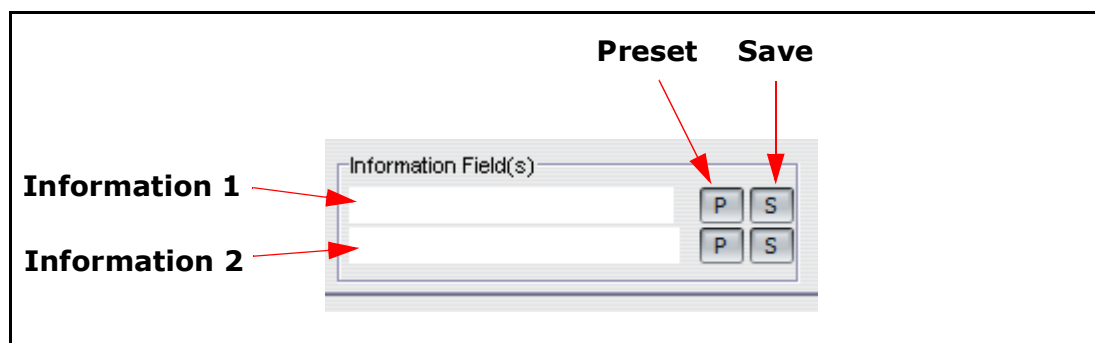
Note: If there is a RollCall-responsive card in the slot, selecting this option has no effect.

- **IDNAME:** This field allows an IDNAME log field to be associated with logs from a non-RollCall card. To enter/modify the Non RollCall ID name, type a new name in the editable field and click **S**. To return to the default name, click **P**.

Note: Non-RollCall cards send a `MSG=NON ROLLCALLMODULE` log to indicate their presence.

Information Field(s)

Information fields that may be edited by user to specify any information desired. See [Examples of Slot Use](#) on page 54 for more information.



For example, these could be used to name signal paths associated per card. Two fields are available, each allowing up to 19 characters to be displayed.

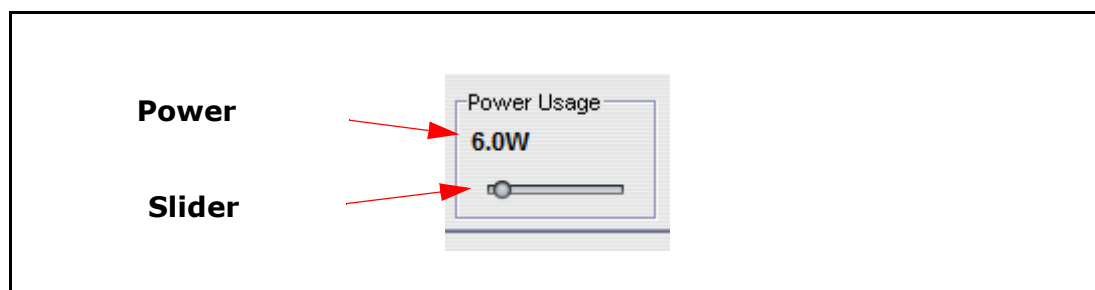
If these fields have edited values, then a corresponding log field is raised per slot. Log fields are **INFORMATION1=** and **INFORMATION2=**.

Note: A global control for these logging fields is available. See [RollCall+](#) on page 61 for more information.

These fields are always logged whether a unit is present or not.

Power Usage

This displays the power usage of the module fitted in the slot. See [Examples of Slot Use](#) on page 54 for more information.



When a card powers up in a slot, its rated power is automatically updated in the **Power Usage** field.

If a module's ID is not recognized, the power usage will indicate **??**. If this occurs, contact Grass Valley customer service to obtain the correct power usage value.

Some IQ Modular cards do not appear in the port listing (e.g. SDA31/33). In this case, the **Non Rollcall Enable** check box should be enabled, and the type added in the **IDNAME** field.

"B" type chassis (required for new Gateway) report power usage in Load Units (LU).

The power usage reported may be updated if the unit logs a **POWER_USAGE** log field.

RollCall+ ID

Reports the RollCall+ ID of the module.

Status

Reports current status of the module. Possible values are:

- **OK:** Module in slot is expected type.
- **Absent:** Slot configured but no module present.

-
- **BadType:** Module in slot is not expected type.
 - **Extra:** Module in slot but no module expected in this position.
 - **--:** No module fitted and no module expected in this slot.

Examples of Slot Use

Intentionally Empty Slot

If a slot is intentionally left empty:

- The **Unit Type** field will show **No Unit Fitted**, and the **Unit ID** field will show **No Unit**.
- The **User-Defined Name** field will be empty and the **Bound Unit ID** window will display **None**.

In the absence of other modules, the Gateway will not log **Module Status** for this slot position.

Correct Module Fitted

If a module is fitted that matches the **Bound Unit ID**, the **User-Defined Name** will be used in the network browser.

In the absence of other modules, the Gateway will log **Module Status** as **OK**, and display **Module Status = OK** on the **Logging** page (see [page 62](#)). The Gateway also logs **MSG=UNIT PRESENT** for the slot position.

Module Absent - Unit Bound

If a slot is intended to have a particular module fitted (as set by the **Bound Unit ID** function), but no module is fitted, the **Unit Type** field will display **No Unit Fitted** and the **Unit ID** field will display **No Unit**. However, the **User-Defined Name** field will show the intended name and the **Bound Unit ID** field will display the intended ID.

In the absence of other modules, the Gateway will log **Module Status** as **1 Module Missing**, and show **Module Status = 1 Module Missing** on the **Logging** page (see [page 62](#)). The Gateway also logs **MSG=UNIT LOST** for the slot position.

Module Fitted - No Unit Bound

If a module is fitted in a slot but no **Bound Unit ID** is assigned to the slot, the generic type name for the module type will be displayed, and the slot will appear in the network browser by its slot number and generic type.

In the absence of other modules, the Gateway will log **Module Status** as **1 Extra Module**, and show **Module Status = 1 Extra Module** on the **Logging** page (see [page 62](#)). The Gateway also logs **MSG=UNIT PRESENT** for the slot position.

Incorrect Module Fitted

If a module is fitted that does not match the **Bound Unit ID**, the **User-Defined Name** will not be used and the generic type and slot number will appear in the network browser.

In the absence of other modules, the Gateway will log **Module Status** as **1 Extra Module**, and show **Module Status = 1 Extra Module** on the **Logging** page (see [page 62](#)). The Gateway also logs **MSG=UNIT PRESENT** for the slot position.

Non-RollCall Module Fitted

If a card that is passive to RollCall is fitted in a slot, select the **Non-RollCall Enable** check box. The Gateway will simulate a RollCall compatible card in the relevant slot, and raise awareness to RollLog and RollMap. In the **IDNAME** field, enter a name for the unit so that it can be recognized.

For the module, the Gateway will log **MSG=NON ROLLCALLMODULE**, and **IDNAME=<user defined>**.

Control 1-10, 11-20

The **Control** pages display information about the controllers for each slot.

The screenshot displays the Control page interface. At the top left is a navigation menu with items like 'Control (1-10)', 'Control (11-20)', 'Connections/SNMP', 'SNMP Setup', 'RollCall+', 'Logging', and 'TEMP'. An 'Information' box in the top right corner shows system health: IP1:OK, IP2:OK, PSU: L-OK R-OK, TEMP: 22 27-28-29, and FAN: M M M M M M M M M M. Below the menu is a 'Show Session' slider set to 1 and a 'Clear Packet Counts' button. The main area contains eight slot panels (Slot 1 to Slot 8). Each panel has a 'Disconnect' button and a table with columns for Name, Address, and Packet Count. Slot 1 and 2 show 'Connection 1' with address '*****'. Slot 3 shows 'ATF Frame 24' with address '0000:0B:00'. Slot 4 shows 'Connection 1' with address '*****'. Slot 5 shows 'ATF Frame 24' with address '0000:0B:00'. Slot 6 shows 'Connection 1' with address '*****'. Slot 7 shows 'ATF Frame 24' with address '0000:0B:00'. Slot 8 shows 'Connection 1' with address '*****'. Each panel also has checkboxes for 'Allow Blind Control' (checked) and 'Single Session Only' (unchecked).

Update Packet Stats

When the modules receive commands from control clients, the number of commands are counted. If the **Update Packet Stats** box is checked, the number of control packets from the currently-selected connected controller and from all connected controllers is shown to the right of the controller address. The number of blind control packets is shown to the right of the blind controller address.

If the **Update Packet Stats** box is unchecked, the packet counts will be replaced with dashes.

Note: The packets are still counted while **Update Packet Stats** is disabled. When enabled, the Gateway will display current totals; they will not restart from zero.

Show Session

This controls which client is displayed by the other Control menu items. Click and drag the slider to increase or decrease the number of clients displayed.

Clear Packet Counts

When **Clear Packet Counts** is clicked, all packet counters will be reset to zero.

Slots 1 to 20

These sections display information about control clients.

Active Front Panels and RollCall PC programs use a RollCall connection to control a module.

RollTrack does not use a connection, it uses Blind Control. Blind Control is the ability to control a unit without a connection.

Note: When SNMP is enabled, generally the first session displayed is the current SNMP session to that module.

- **Disconnect:** The **Disconnect** button will disconnect the currently displayed connected controller.
- **Name:** This shows the RollCall controller client name/per session. If SNMP is enabled, one of the session names corresponds to the name of the Gateway unit.
- **Connection:** This displays the address of the connected controllers. The **Show Session** control can be used to scroll through the connected controllers. If SNMP is enabled, then the Gateway itself will be shown as one of the controllers, usually the first controller. Packet counts from this controller, and from all connected controllers, are displayed to the right.
- **Blind:** This will display the address of last controller to send the module a blind control packet. Packet counts from blind controllers is shown to the right.
- **Allow Blind Control:** If the module is to be controlled by Blind Control (RollTrack and some third party remote control systems), the **Allow Blind Control** box must be checked. If Blind Control is not used, **Allow Blind Control** may be disabled, giving protection against incorrectly set-up RollTrack sources.
- **Single Session Only:** When this box is checked, only one connected controller is allowed to control the module at any one time.

Connections/SNMP

The **Connections/SNMP** page provides information about SNMP connections.

Slot Name	Connection Status	Configuration
		Active Session SNMP Control SNMP Trap v2
Gateway: ATF Frame 24	Active	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Slot 1: No Unit Fitted	-----	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Slot 2: No Unit Fitted	-----	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Slot 3: IQUCP25_MV	Active	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Slot 4: No Unit Fitted	-----	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Slot 5: IQUCP25_SDI	Active	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Slot 6: No Unit Fitted	-----	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Slot 7: IQUCP25_SDI	Active	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Slot 8: No Unit Fitted	-----	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Slot 9: IQUCP25_SDI	Active	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Slot 10: No Unit Fitted	-----	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Slot 11: IQUCP50_SDI	Active	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Slot 12: No Unit Fitted	-----	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Slot 13: IQUCP50_SDI	Active	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Slot 14: No Unit Fitted	-----	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Slot 15: IQUCP50_SDI	Active	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Slot 16: No Unit Fitted	-----	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Slot 17: IQUCP25_SDI	Active	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Slot 18: No Unit Fitted	-----	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Slot 19: IQUCP50_SDI	Active	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Slot 20: No Unit Fitted	-----	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Slot Name

This shows the RollCall controller client name/per session. Note if SNMP is enabled, one of the session names will correspond with the name of the Gateway module.

Connection Status

Displays current status of the connection to the corresponding slot. Possible values are:

- **Disabled:** Session is disabled.
- **Pending:** Session is enabled but is waiting to initialize.
- **Connecting:** Session is initializing.
- **Control Load:** Session is loading all control values.
- **Active:** Session is fully initialized, that is incoming client control connections will use the cached session on the Gateway.

Configuration

Provides controls allowing SNMP behavior to be defined. Also provides fully-cached menu and control sessions to any or all modules in the enclosure, giving very fast access for modules with many controls.

Options are:

-
- **Active Session:** Enables the on-board session, required if SNP control is required.
 - **SNMP Control:** These check boxes allow filtering of SNMP control to the desired slots/ Gateway only.
 - **SNMP Trap v2:** When enabled, causes logging for a slot to be converted to SNMP v2 notifications.
 - **Enable All:** Enables all active-session check boxes.
 - **Resend All Traps:** Resends all current traps/notifications for all occupied and enabled slots, + Gateway card.
 - **Disable All:** Disables all active-session check boxes.

SNMP Setup

The **SNMP Setup** page enables configuration of the SNMP agent that resides within the Gateway card.

SNMP Setup

Information

IP1: OK IP2: OK
PSU: L-OK R-OK
TEMP: 28C 39C
FAN: OK (HIGH)

Configuration requiring a restart to update

Read / Write Port
161 [P] [S]

MIB2 sysContact
20_02_2020T11_41_59 [P] [S]

MIB2 sysName
20_02_2020T11_41_59 [P] [S]

MIB2 sysLocation
20_02_2020T11_41_59 [P] [S]

Write community
private [P] [S]

Read community
public [P] [S]

Trap community
public [P] [S]

[Resend All Traps]

Trap Receivers

	Enable	IP Address		Port
Trap 1	<input checked="" type="checkbox"/>	172.19.81.179	[P] [S]	162 [P] [S]
Trap 2	<input checked="" type="checkbox"/>	172.19.160.24	[P] [S]	162 [P] [S]
Trap 3	<input checked="" type="checkbox"/>	172.19.168.11	[P] [S]	162 [P] [S]
Trap 4	<input type="checkbox"/>	0.0.0.0	[P] [S]	162 [P] [S]
Trap 5	<input type="checkbox"/>	0.0.0.0	[P] [S]	162 [P] [S]
Trap 6	<input type="checkbox"/>	0.0.0.0	[P] [S]	162 [P] [S]
Trap 7	<input type="checkbox"/>	0.0.0.0	[P] [S]	162 [P] [S]
Trap 8	<input type="checkbox"/>	0.0.0.0	[P] [S]	162 [P] [S]

Note: In order for SNMP to operate, there must be a physical Ethernet connection available.

Read Write Port

TCP/IP port number (range:1-65535) used in all **SET** and **GET** SNMP operations. Default is 161. The SNMP manager should match this value to operate correctly.

Set as required, then click **S** to save the new value or **P** to return to the default.

Note: Changing this value will restart the SNMP agent.

MIB2 sysContact

Customer-specified name of person responsible for equipment.

MIB2 sysName

Name of system if applicable.

MIB2 sysLocation

Customer-specified physical or logical location of system.

Write Community

Configures the SNMP write community value. Default value = **Private**.

Read Community

Configures the SNMP read community value. Default value = **Public**.

Trap Community

Configures the SNMP trap community value. Default value = **Public**.

Resend All Traps

Resends all current traps/notifications for all occupied slots and Gateway card.

Trap Receivers

The Gateway supports up to eight trap destinations. Each entry must be unique, unless the IP trap address is set to **0.0.0.0**. For each trap the user can configure:

- **Enable:** Enable this Trap destination.
- **IP Address:** The IP address to which notifications (traps) are sent. This is the IP address of the PC monitoring notifications.
- **Port:** The connection port address used to send notifications. The PC monitoring notifications should be configured to listen for notifications on this port. The SNMP default is 162, but other port numbers may be used.

RollCall+

The **RollCall+** page displays RollCall+ information.

Configuration

The following controls are provided:

- **TAKE RollCall+ Changes:** Applies changes made on this page (other than **New Unit Address**, which requires a restart of the Gateway).
- **Auto update:**
- **Logging Domain ID:** Displays the Logging Domain ID for the Gateway.
- **RollCall Network Address:** Displays the current RollCall Network Address for the Gateway. To change, enter the new address and click **S** to save. Click **P** to return to the default address.
- **Current Unit Address:** Displays the current unit address for the Gateway.
- **New Unit Address:** To change the Unit Address, enter the new address and click **S** to save. Click **P** to return to the default address.
- **Current Network ID:** Displays the current Network ID for the Gateway.

Gateway Configuration

DDS publishing of the fields in this section occurs immediately, unlike changes of logging domain ID or network address.

- **Location:** Enter the physical location of the enclosure.
- **Unit Name:** Enter a name for the unit.
- **Information 1/2:** Free text fields. Enter information as required.

Logging

The **Logging** page shows the information made available via RollCall logging, and allows the user to specify which fields will be logged.

Each log field is shown on a separate line. Each has an enable check box, a descriptive name, the log field header and the current value.

The only exceptions are **Serial Number** and **Software Version**, which are always logged and therefore have no enable check box.

When the check box is checked, that field will be logged to the log server.

The screenshot shows the RollCall+ interface. On the left, a navigation menu has 'Logging' selected. A 'System Setup' window is open, showing system information:

```

Information
IP1:OK IP2:OK
PSU: L-OK R-OK
TEMP: 22 26-28-28
FAN: NNNNNN NNNN
  
```

The main area displays a list of log fields with checkboxes and current values:

Log Header	Current Value
SN=	S58036530
VERSION=	2.7.9
<input checked="" type="checkbox"/> BUILD_NUMBER=	128
<input checked="" type="checkbox"/> OS_VERSION=	QOS 6.6.0
<input checked="" type="checkbox"/> HARDWARE_VERSION=	RC3U1G1D
<input checked="" type="checkbox"/> MODULE_STATUS=	WARN:1 MODULE MISSING
<input checked="" type="checkbox"/> SESSIONS=	2
<input checked="" type="checkbox"/> LAST_MODIFIED=	2020-03-30T16:13:14Z
<input checked="" type="checkbox"/> COMMS_BUS_FAULT=	OK:None
<input checked="" type="checkbox"/> PSU_1_NAME=	Left PSU
<input checked="" type="checkbox"/> PSU_1_STATE=	OK
<input checked="" type="checkbox"/> PSU_2_NAME=	Right PSU
<input checked="" type="checkbox"/> PSU_2_STATE=	OK
<input checked="" type="checkbox"/> RECON_STATE=	OK
<input checked="" type="checkbox"/> LAN_PORT_1_NAME=	10/100/1000
<input checked="" type="checkbox"/> LAN_PORT_1_STATE=	OK:Active
<input checked="" type="checkbox"/> LAN_PORT_1_SPEED=	1Gbit/s Full Duplex
<input checked="" type="checkbox"/> LAN_PORT_1_IPADDRESS=	172.19.160.140
<input checked="" type="checkbox"/> LAN_PORT_1_NETMASK=	255.255.254.0
<input checked="" type="checkbox"/> LAN_PORT_1_TRAFFIC_IN=	7.74 Kbyte/s
<input checked="" type="checkbox"/> LAN_PORT_1_TRAFFIC_OUT=	12.64 Kbyte/s
<input checked="" type="checkbox"/> LAN_PORT_2_NAME=	10/100/1000
<input checked="" type="checkbox"/> LAN_PORT_2_STATE=	OK:Active
<input checked="" type="checkbox"/> LAN_PORT_2_SPEED=	1Gbit/s Full Duplex
<input checked="" type="checkbox"/> LAN_PORT_2_IPADDRESS=	172.19.168.140
<input checked="" type="checkbox"/> LAN_PORT_2_NETMASK=	255.255.254.0
<input checked="" type="checkbox"/> LAN_PORT_2_TRAFFIC_IN=	0.51 Kbyte/s
<input checked="" type="checkbox"/> LAN_PORT_2_TRAFFIC_OUT=	3.62 Kbyte/s
<input checked="" type="checkbox"/> IPADDRESS=	172.19.160.140
<input checked="" type="checkbox"/> ENCLOSURE_FAULT=	OK:None

On the right side of the main area, there is a second column of log fields, each with a checked checkbox:

- ENCLOSURE=
- MODULE_COMMS=
- INFORMATION1=
- INFORMATION2=
- THUMB_IP_PORT=
- SNMP_NAME=
- LOCATION=
- SYSTEM_CONTACT=
- SYSTEM_DESCRIPTION=
- LOGGING_STATE=
- POWER_MAX=
- POWER_USAGE=
- POWER_CHECK=
- IP_BRIDGE_STATUS=
- MONITOR_CARD=
- POWER_REG_1_CARD=
- POWER_REG_2_CARD=
- VOLTAGE_1_NAME=
- VOLTAGE_1_STATE=
- MONITOR_COMMS=
- IP_EVENT=
- UPTIME=
- RESTARTED_AT=
- DOOR_STATUS=
- REFERENCE_1_STATE=
- REFERENCE_1_STANDARD=
- REFERENCE_2_STATE=
- REFERENCE_2_STANDARD=
- IP_COMMS=
- BACKPLANE_COMMS=
- BACKPLANE_COMMS_UPDATE=
- BACKPLANE_COMMS_LOGGING=
- BACKPLANE_COMMS_STATUS=
- PROC_USAGE=
- ROLLNET_STATUS=

Field Name	Field Name Description	Valid Field Values	Usage Description
SN=	Serial Number	Serial Number	Format is standard S&W serial number consisting of character "S" followed by eight digits, e.g. S12345678
VERSION=	Software Version	Software Version Number	Eg. 5.18.18
BUILD_NUMBER=	Build Number	Text	For K_OS-based units, this is typically a ten-digit string, e.g. 0123456789 . Future units may use a different format.
OS_VERSION=	OS Version	OS Name & Version	Format: "<OS String> <Version String>"; e.g. KOS V115 .
HARDWARE_VERSION=	Hardware Version	Version Number	Format: "<PCB name>/<mod strike>"; eg RCIF3U2Y/2 .
MODULE_STATUS=	Module Status	OK 1 EXTRA MODULE n EXTRA MODULES 1 MODULE MISSING n MODULES MISSING 1 WRONG TYPE n WRONG TYPES	Where 2 <= n <= 16 Status of module type/per slot configuration matching or Modules mismatched/missing.
SESSIONS=	Control Sessions	Number	0...n – No. of connected CONTROL sessions.
LAST_MODIFIED=	Last Modified	UTC Timestamp	The time a control was last modified on a unit. Format: as per ISO 8601 for Coordinated Universal Time (UTC), i.e. YYYY-MM-DDTHH:MM:SSZ, where the trailing "Z" indicates UTC rather than local time.
COMMS_BUS_FAULT=	Status of backplane comms bus	OK:None FAIL:MODULE_COMMS	Reports presence of a backplane comms bus fault.

Field Name	Field Name Description	Valid Field Values	Usage Description
PSU_1_NAME= PSU_2_NAME=	Name of PSU	Text	Function name, such as: Left PSU, Right PSU Top PSU, Bottom PSU PSU 1, PSU 2 etc. These are set by the product and are not user-configurable.
PSU_1_STATE= PSU_2_STATE=	PSU State	OK FAIL FAIL: Not Fitted Not Used	PSU is present and operating correctly PSU presence is detected but not operating PSU is not fitted and the RollCall control for the product has specified that the PSU is fitted PSU is not fitted and the RollCall control for the product has specified that the PSU is NOT fitted
RECON_STATE=		OK Warn Fail	0 RollNet reconnections in last 10 seconds 1 RollNet reconnection in last 10 seconds >1 RollNet reconnection in last 10 seconds
LAN_PORT_n_NAME=	Ethernet port name as defined by the OS	Typical example format is: FastEthernet0/24	Port type values: FastEthernet GigabitEthernet 0 is the interface binding and 24 is the physical port number On devices with only one physical 10/100 Ethernet connection, the reported string would be: FastEthernet0/1
LAN_PORT_n_STATE=	Ethernet connection state	Active WARN: Inactive	Ethernet port connected?

Field Name	Field Name Description	Valid Field Values	Usage Description
LAN_PORT_n_ SPEED=	Ethernet connection speed	10 Mbit/s Full Duplex 10 Mbit/s Half Duplex 100 Mbit/s Full Duplex 100 Mbit/s Half Duplex 1 Gbit/s Full Duplex No Link	LAN speed in megabits per second, and duplex mode. Use No Link when Ethernet cable unconnected or not initialized.
LAN_PORT_n_ IPADDRESS=	IP Address	WARN: None WARN: InvalidAddress Numeric IP Address	No IP Address Specified Invalid address, subnet or gateway value specified. IP Address of unit in Ipv4 dotted decimal notation: xxx.xxx.xxx.xxx
LAN_PORT_n_ NETMASK=	Netmask of the Ethernet stack	Text	Typically 255.255.224.0
LAN_PORT_n_ TRAFFIC_IN=	Traffic In/min	NNN.n Kbytes/sec	MIB-II ifInOctets. e.g. "LAN_PORT_5_TRAFFIC_IN=12.3 KBytes/sec" Format ("%0.1f")
LAN_PORT_n_ TRAFFIC_OUT=	Traffic Out/min	NNN.n Kbytes/sec	MIB-II ifOutOctets. e.g. "LAN_PORT_5_TRAFFIC_OUT=12.3 KBytes/sec" Format ("%0.1f")
ENCLOSURE_FAULT=	Overall health of enclosure - Fan, PSU, Temperature	OK:None FAIL:Fan Fault FAIL:PSU Fault FAIL:Monitor Card Fault FAIL:Temperature Fault FAIL:Fault	Front door LED will show red if FAIL conditions are encountered.
ENCLOSURE=	Enclosure type	IQH3B IQH4B	
MODULE_COMMS=	State of module comms bus	Number of bus errors per 20 seconds	Running average of bus errors, 0 would indicate good comms. For IQ Modules, this bus is I2c.
INFORMATION1=	1st Information field	Text	User definable text.
INFORMATION2=	2nd Information field	Text	User definable text.

Field Name	Field Name Description	Valid Field Values	Usage Description
THUMB_IP_PORT=	Thumb IP Port value	NUMBER	Reports the IP Port number used for Hyperion Thumbnail monitoring. Ensure this is enabled if Hyperion monitoring is using the auto discovery feature.
SNMP_NAME=	SNMP Name	Text	Reports the SNMP system name as specified in the MIB2 sysName field on the SNMP page.
LOCATION=	Location	Text	Reports the SNMP physical or logical system location as specified in the MIB2 sysLocation field on the SNMP page.
SYSTEM_CONTACT=	System Contact	Text	Reports the SNMP system contact as specified in the MIB2 sysContact field on the SNMP page.
SYSTEM_DESCRIPTION=	System Description	Text	Reports a description of the gateway type, for example IQH3UM4-S.
LOGGING_STATE=	Logging State	OK WARN:No Logserver WARN: Address Change FAIL:Name Change	This log field indicates whether logging is functioning properly. Note: When Gateways are set to log, there should only be one LogServer. It is not recommended to log to more than one LogServer, even though it is possible to see more than one unit over multiple network addresses.
POWER_MAX=	Max Power Available	141W - Power for IQH3A 63W - IQH1A 165LU - IQH3B	Maximum power according to enclosure type, in Watts (W) or Load Units (LU).

Field Name	Field Name Description	Valid Field Values	Usage Description
POWER_USAGE=	Power Usage	OK:nnnW or OK:mmmLU e.g. OK:74W or OK:72LU WARN:nnnW or WARN:mmmLU e.g. WARN:144W or WARN:167LU	Current power usage of all cards fitted, in Watts (W) or Load Units (LU). This will indicate WARN if value exceeds POWER_MAX .
POWER_CHECK=	Power Detail Check	OK - all modules are either reporting power usage successfully, or have an entry in the database. WARN:REFER MANUAL - one or more cards are not reporting power usage successfully, or do not have an entry in the database, and the power usage slider on the Slots pages (beginning page 51) is set to 0.0.	Reports if cards have a known power rating or not.
IP_BRIDGE_STATUS=	IP Bridge Status	OK:Primary (Connected) OK:Secondary (Connected) FAIL:Inactive (Disconnected) INFO:Primary (Connected) INFO:Secondary (Connected) INFO:Inactive (Disconnected)	When enabled, changes logging state of log field IP_BRIDGE_STATUS to OK or FAIL instead of INFO . OK:Secondary and INFO:Secondary are only displayed if the secondary IP address is enabled and connected.
MONITOR_CARD=	Monitor card presence	OK:Present FAIL:Not Fitted	Logs presence/absence of chassis monitor card providing comms for PSUs and fans.
POWER_REG_n_CARD =	Power regulation card presence	OK:Present FAIL:Not Fitted	Logs presence/absence of chassis power regulation card.
VOLTAGE_1_NAME=	Voltage rail name	Text	For IQ equipment, these are +7.5V & -7.5V rails.

Field Name	Field Name Description	Valid Field Values	Usage Description
VOLTAGE_1_STATE=	Is the voltage rail within spec?	OK - Voltage rail is within spec. FAIL: High - Absolute value of voltage rail is above normal operating threshold. FAIL: Low - Absolute value of voltage rail is below normal operating threshold.	If the -7V rail is at -9V, it would be shown as FAIL:High .
MONITOR_COMMS=	Comms status of chassis monitor card	OK WARN:Unknown FAIL:Lockup	WARN:Unknown signifies monitor card is not present.
IP_EVENT=	Text	Examples: 000.111.222.333 CONNECT FROM 000.111.222.333 DISCONNECT FROM 000.111.222.333 BRIDGE CONNECT TO 000.111.222.333 BRIDGE CONNECT FROM	Free text for miscellaneous IP event messages. Note IP address is NOT zero buffered. This column is informational and not to be used for defined error states.
UPTIME=	Uptime in seconds	Number in <i>DDD:HH:MM:SS</i> format	Uptime, updated every minute. NOTE: field value is zero buffered, e.g. 001:08:10:00 would be 1 day, 8 hours, 10 minutes, 0 seconds.
RESTARTED_AT=	Last Restarted (UTC)	UTC Timestamp	UTC Time of last reboot.
DOOR_STATUS=	Door open/closed	OK:Closed WARN:Open	
REFERENCE_n_STATE =	Status of reference	OK OK:N/A FAIL:Lost	
REFERENCE_n_STANDARD=	Standard in use on Reference <i>n</i>	<Lines>(<Active>)/ <Rate> <i/p/sf> Where: Lines = Total lines Active = Active lines Rate = Frame rate I = interlaced P = Progressive SF = Segmented Frame E.g. 1125(1080)/25i	

Field Name	Field Name Description	Valid Field Values	Usage Description
IP_COMMS=	Ethernet stack usage	WARN:High OK:High OK:Medium OK:Low	
BACKPLANE_COMMS =	Backplane usage - all	OK:Low OK:Medium WARN:High	
BACKPLANE_COMMS _UPDATE=	Backplane usage - modules	OK:Low OK:Medium WARN:High	
BACKPLANE_COMMS _LOGGING=	Backplane usage - logging	OK:Low OK:Medium WARN:High	
BACKPLANE_COMMS _STATUS=	Slot/Box monitoring traffic (IQH4B only)	OK WARN:BOXMON INACTIVE FAIL: BOXMON INACTIVE WARN:SLOTS INACTIVE FAIL:SLOTS INACTIVE	
PROC_USAGE=	Processor usage	WARN:High OK:Medium OK:Low	
ROLLNET_STATUS=	Health of RollNet comms	OK:Stable WARN:Unstable OK:Unused	

Logging TEMP-FAN

The **Logging TEMP-FAN** page shows temperature and fan information available via RollCall logging, and allows the user to specify which fields will be logged.

Each log field is shown on a separate line. Each shows an enable check box, a descriptive name, the log field header and the current value.

When the check box is enabled, that field will be logged to the log server.

Log Header	Current Value
<input checked="" type="checkbox"/> TEMP_1_NAME=	Temperature Inlet
<input checked="" type="checkbox"/> TEMP_1_STATE=	OK
<input checked="" type="checkbox"/> TEMP_1_CELSIUS=	22C
<input checked="" type="checkbox"/> TEMP_2_NAME=	Temp Out Fan1
<input checked="" type="checkbox"/> TEMP_2_STATE=	OK
<input checked="" type="checkbox"/> TEMP_2_CELSIUS=	26C
<input checked="" type="checkbox"/> TEMP_3_NAME=	Temp Out Fan2
<input checked="" type="checkbox"/> TEMP_3_STATE=	OK
<input checked="" type="checkbox"/> TEMP_3_CELSIUS=	28C
<input checked="" type="checkbox"/> TEMP_4_NAME=	Temp Out Fan3
<input checked="" type="checkbox"/> TEMP_4_STATE=	OK
<input checked="" type="checkbox"/> TEMP_4_CELSIUS=	29C
<input checked="" type="checkbox"/> FAN_1_NAME=	Rear Fan1-L
<input checked="" type="checkbox"/> FAN_1_STATE=	OK:Normal
<input checked="" type="checkbox"/> FAN_2_NAME=	Rear Fan1-R
<input checked="" type="checkbox"/> FAN_2_STATE=	OK:Normal
<input checked="" type="checkbox"/> FAN_3_NAME=	Rear Fan2-L
<input checked="" type="checkbox"/> FAN_3_STATE=	OK:Normal
<input checked="" type="checkbox"/> FAN_4_NAME=	Rear Fan2-R
<input checked="" type="checkbox"/> FAN_4_STATE=	OK:Normal
<input checked="" type="checkbox"/> FAN_5_NAME=	Rear Fan3-L
<input checked="" type="checkbox"/> FAN_5_STATE=	OK:Normal
<input checked="" type="checkbox"/> FAN_6_NAME=	Rear Fan3-R
<input checked="" type="checkbox"/> FAN_6_STATE=	OK:Normal
<input checked="" type="checkbox"/> FAN_7_NAME=	PSU 1 Fan1
<input checked="" type="checkbox"/> FAN_7_STATE=	OK:RUNNING
<input checked="" type="checkbox"/> FAN_8_NAME=	PSU 1 Fan2
<input checked="" type="checkbox"/> FAN_8_STATE=	OK:RUNNING
<input checked="" type="checkbox"/> FAN_9_NAME=	PSU 2 Fan1
<input checked="" type="checkbox"/> FAN_9_STATE=	OK:RUNNING
<input checked="" type="checkbox"/> FAN_10_NAME=	PSU 2 Fan2
<input checked="" type="checkbox"/> FAN_10_STATE=	OK:RUNNING

Field Name	Field Name Description	Valid Field Values	Usage Description
TEMP_n_NAME=	Name of temp sensor	TEXT	<p>Function name such as Temperature In, Temperature Out, Internal Temperature, PSU 1 Temperature, etc.</p> <p>These are set by the product and are not user-definable.</p>
TEMP_n_STATE=	Temperature status	<p>OK - Temp is within operating range.</p> <p>WARN: Low - Temp below normal operating range, but not critical.</p> <p>WARN: High - Temp above normal operating range, but not critical.</p> <p>FAIL: Low - Temp below normal operating range, Critical.</p> <p>FAIL: High - Temp above normal operating range, Critical.</p> <p>FAIL:Not Available - Sensor not detected.</p> <p>FAIL:Sensor Fault - Sensor malfunction.</p> <p>Disabled - Temperature detection has been manually disabled.</p>	<p>Each product must specify its own operating ranges and safety thresholds, however suggestion is that WARN thresholds exist 5 degrees C away from defined product FAIL thresholds, e.g: product specification is 0-40 Degrees C, so WARN will be <= 5 and >=35.</p>
TEMP_n_CELSIUS=	Temperature in °C	Number	<p>Temperature in Celsius.</p> <p>Value will be blank if temperature sensor is not enabled.</p>

Field Name	Field Name Description	Valid Field Values	Usage Description
FAN_n_STATE=	Fan State	OK:Low - Low speed mode. Fan is running correctly. OK:Medium - Medium speed mode. Fan is running correctly. OK:High - High speed mode. Fan is running correctly. WARN:Max - Fan is running at maximum speed. FAIL:Stopped - Fan has ceased running. Critical. FAIL:ShortCircuit - Fan has gone short circuit. Critical.	

Slot Temp Max

The **Slot Temp Max** page displays the maximum recorded FPGA temperature for each slot.

The screenshot shows a web interface for monitoring FPGA temperatures. On the left is a navigation menu with the following items: Home, RollCall+, Logging, Logging TEMP-FAN, Slot Temp MAX (highlighted), Statistics, and ResourceUsage. On the right is an 'Information' box containing the following data: IP1:OK IP2:OK, PSU: L-OK R-OK, TEMP: 22 26-28-28, and FAN: NNNNNN NNNN. The main content area is divided into five panels, each representing a group of slots. Each panel contains four boxes, one for each slot in the group, showing the maximum recorded temperature or a dash (---) if no data is available.

Slot Group	Slot 1	Slot 2	Slot 3	Slot 4
Max Report Temperature Slots 1 - 4	---	---	66C	---
Max Report Temperature Slots 5 - 8	63C	---	57C	---
Max Report Temperature Slots 9 - 12	53C	---	68C	---
Max Report Temperature Slots 13 - 16	69C	---	68C	---
Max Report Temperature Slots 17 - 20	46C	---	69C	---

Statistics

The **Statistics** page displays any errors that may occur within a system.

In the event of a problem, these error messages may be quoted to Grass Valley customer support to assist debugging.

The screenshot shows a web interface with a navigation menu on the left containing items like RollCall+, Logging, Slot Temp MAX, **Statistics**, and ResourceUsage. The main content area is titled 'Statistics' and contains a table of error counts and percentages. To the right, an 'Information' box displays system status for IP, PSU, temperature, and fans. A 'Reset Stats' button and an 'Enable Net Stats' checkbox are also visible.

Category	Value
Data Length Errors:	0
Destination errors :	0
Source errors :	0
Packet type Errors :	0
Routing Errors :	0
Dropped Packets :	7
Recons :	0
Mod Comms Errors :	1748
BackPlane Rx:	21%
BackPlane Tx:	5%
Hyperion Rx:	0%
Processor Usage:	1.7%
IP Rx	17 pkts
IP Tx	15 pkts
Watdog FAN	0
Watdog NEG	0
Watdog PSU	0

Information:
IP1:OK IP2:OK
PSU: L-OK R-OK
TEMP: 22 26-28-28
FAN: NNNNNN NNNN

Enable Net Stats

Reset Stats

Statistics

The following items are displayed:

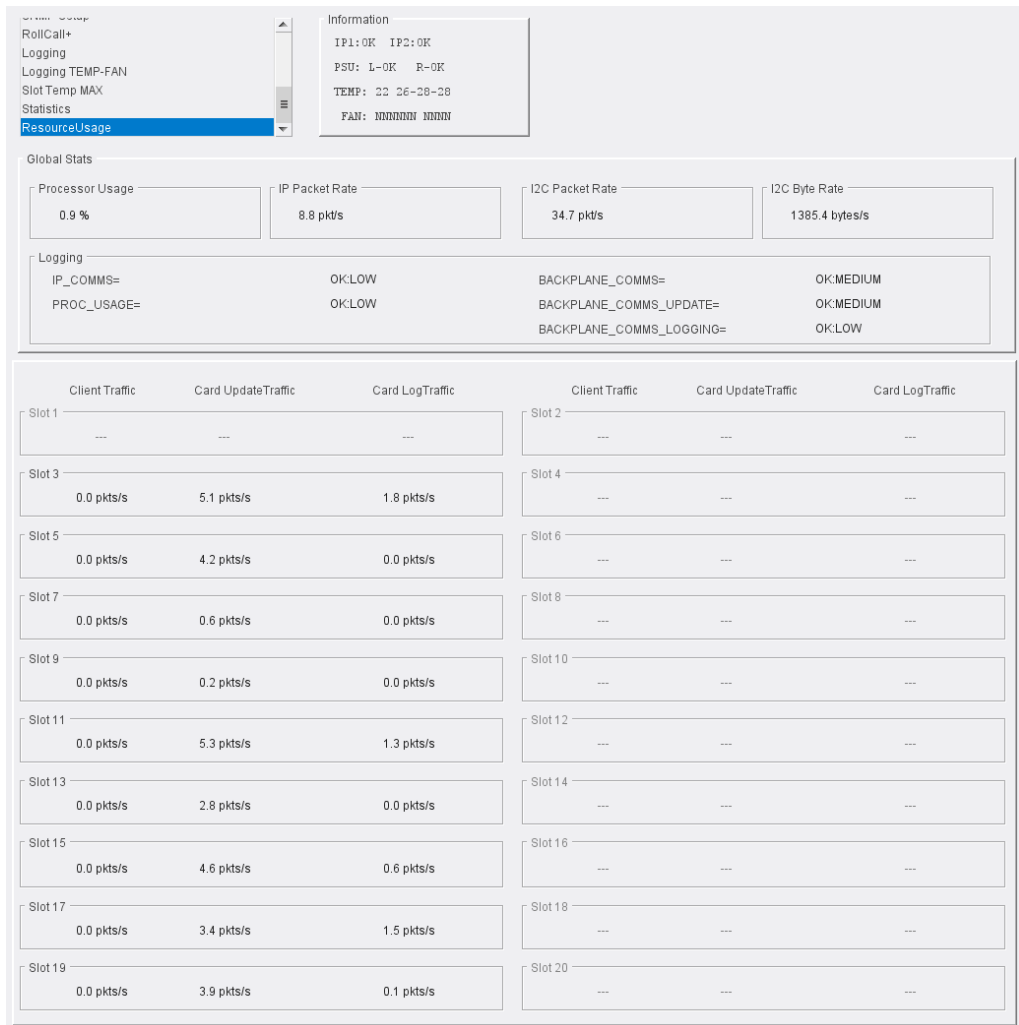
- **Data Length Errors:** This counts packets that are an incorrect length.
- **Destination Errors:** This counts packets that have an incorrect destination identifier.
- **Source Errors:** This counts packets that have an incorrect source identifier.
- **Packet Type Errors:** This counts packets that have an incorrect packet type.
- **Routing Errors:** This counts packets that cannot be routed to the indicated destination.
- **Dropped Packets:** This counts packets that cannot be delivered.
- **Recons:** This counts network reconfigurations. Network reconfigurations are normal events when units join or leave the network. They may also occur occasionally due to electrical interference. Constant reconfigurations indicate a physical fault. Possible faults include:
 - Faulty T-piece or cable
 - Missing termination(s)
 - Incorrect value of termination(s)
 - Clash of a RollCall Address
 - Network cable length exceeded*
 - Number of unit loads per segment exceeded*

*See the *RollCall System Integrators Manual* for more information.
- **Module Comms Errors:** This counts errors on the I2C bus.
- **BackPlane Rx:** This counts the bytes/second of RollCall traffic received down the Backplane. This count cannot be reset.

- **BackPlane Tx:** This counts the bytes/second of RollCall traffic transmitted down the Backplane. This count cannot be reset.
- **Hyperion Rx:** This counts the bytes/second of received Hyperion traffic (thumbnails). This count cannot be reset.
- **Processor Use(%):** This reports the processor use. The percentage is updated every second. This count cannot be reset.
- **IP Rx Packet/s:** This reports the number of IP packets received over the Ethernet port.
- **IP Tx Packet/s:** This reports the number of IP packets transmitted over the Ethernet port.
- **Watchdog FAN:** This refers to the health of the fan monitoring, as performed by the chassis monitor card. Increasing numbers indicate a potential hardware issue.
- **Watchdog NEG:** This refers to the health of the power regulation monitoring, as performed by the chassis monitor card. Increasing numbers indicate a potential hardware issue.
- **Watchdog PSU:** This refers to the health of the PSU monitoring, as performed by the chassis monitor card. Increasing numbers indicate a potential hardware issue.
- **Enable Net Stats:** This box must be checked to enable the error counts to be updated. If this check box is not enabled all statistics will be displayed as '-!'
- **Reset Stats:** Click this button to reset all statistics to zero.

Resource Usage

The **Resource Usage** page provides visibility of comms for each slot.



Processor usage, IP Packet rate and backplane comms overall usage data is displayed in the Global Stats section. The I2C Packet Rate upper limit is around 90 pkt/s, and the Byte rate upper limit is around 6000 bytes/s.

It is normal for the traffic rate to peak while the on-board connection system is initializing a slot connection (see [Connections/SNMP](#) on page 57). When all slots become active, the underlying traffic rate should reduce to less than 30 pkt/s.

Relevant Logging fields are also displayed. These are:

Field Name	Field Name Description	Valid Field Values	Usage Description
IP_COMMS=	Ethernet stack usage	WARN:High OK:High OK:Medium OK:Low	
PROC_USAGE=	Processor usage	WARN:High OK:Medium OK:Low	

Field Name	Field Name Description	Valid Field Values	Usage Description
BACKPLANE_ COMMS=	Backplane usage - all	OK:Low OK:Medium WARN:High	
BACKPLANE_COMMS _UPDATE=	Backplane usage - modules	OK:Low OK:Medium WARN:High	
BACKPLANE_COMMS _LOGGING=	Backplane usage - logging	OK:Low OK:Medium WARN:High	

For each slot, fields show total **Client Traffic** rate, the **Card Update Traffic** rate and the **Card Log** traffic rate. This data allows any slots that are generating an excess of traffic to be easily identified.



Grass Valley Technical Support

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

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

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

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