



**Snell
Advanced
Media**

Installation and User Manual

IQH4B

High Power 4U Modular Enclosure

About this Manual

Products Covered

This manual provides information for the installation and operation of the SAM IQH4B modular enclosure fitted with the RCIF3U2F Gateway Card.

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Safety Notices

Explanation of Safety Symbols

GB

-  This symbol refers the user to important information contained in the accompanying literature. Refer to manual.
-  This symbol indicates that hazardous voltages are present inside. No user serviceable parts inside. This unit should only be serviced by trained personnel.

Safety Warnings



CAUTION: These servicing instructions are for use by qualified personnel only.

To reduce 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.

- To reduce the risk of electric shock, do not expose this appliance to rain or moisture.
- Always ensure that the unit is properly earthed and power connections correctly made.
- This equipment must be supplied from a power system providing a **PROTECTIVE EARTH** (⊕) connection and having a neutral connection which can be reliably identified.
- The power outlet supplying power to the unit should be close to the unit and easily accessible


Power connection in countries other than the USA

The equipment is normally shipped with a power cable with a standard IEC moulded free socket on one end and a standard IEC moulded plug on the other. If you are required to remove the moulded mains supply plug, dispose of the plug immediately in a safe manner.

The colour code for the lead is as follows:



GREEN/YELLOW lead connected to E (Protective Earth Conductor)
BLUE lead connected to N (Neutral Conductor)
BROWN lead connected to L (Live Conductor)



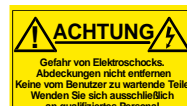
-  Caution If the unit has two mains supply inputs ensure that both power cords are plugged into mains outlets operating from the same phase.

Erklärung der Sicherheitssymbole


D

-  Dieses Symbol weist den Benutzer auf wichtige Informationen hin, die in der begleitenden Dokumentation enthalten sind.
-  Dieses Symbol zeigt an, dass gefährliche Spannung vorhanden ist. Es befinden sich keine vom Benutzer zu wartenden Teile im Geräteinneren. Dieses Gerät sollte nur von geschultem Personal gewartet werden.

Sicherheits-Warnhinweise



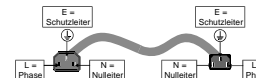
Die angeführten Service-/Reparatur-Anweisungen sind ausschließlich von qualifiziertem Service-Personal auszuführen. Um das Risiko eines elektrischen Schocks zu reduzieren, führen Sie ausschließlich die im Benutzerhandbuch beschriebenen Anweisungen aus, es sei denn, Sie haben die entsprechende Qualifikation. Wenden Sie sich in allen Service-Fragen an qualifiziertes Personal.


- Um das Risiko eines Elektroschocks zu reduzieren, setzen Sie das Gerät weder Regen noch Feuchtigkeit aus.
- Stellen Sie immer sicher, dass das Gerät ordnungsgemäß geerdet und verkabelt ist.
- Dieses Equipment muss an eine Netzsteckdose mit  Schutzleiter angeschlossen werden und einen zuverlässig identifizierbaren Nullleiter haben.
- Die Netzsteckdose sollte nahe beim Gerät und einfach zugänglich sein.

Netzanschluss in anderen Ländern als der USA

Das Equipment wird im Normalfall mit einem Netzkabel mit Standard IEC Anschlussbuchse und einem Standard IEC Anschlussstecker geliefert. Sollten Sie den angeschweißten Stecker auswechseln müssen, entsorgen Sie diesen bitte umgehend. Die farbliche Belegung des Netzkabels ist wie folgt:



GRÜN GELB E = Schutzleiter (⊕)
BLAU N = Nullleiter
BRAUN L = P = Phase



-  Achtung: Wenn das Gerät zwei Anschlussbuchsen hat, stellen Sie bitte sicher, dass beide Netzkabel mit der selben Phase in die Netzsteckdose gesteckt werden.

Légende :

F

-  Ce symbole indique qu'il faut prêter attention et se référer au manuel.
-  Ce symbole indique qu'il peut y avoir des tensions électriques à l'intérieur de l'appareil. Ne pas intervenir sans l'agrément du service qualifié.

Précaution d'emploi :



Attention: Les procédures de maintenance ne concernent que le service agréé. Afin de réduire le risque de choc électrique, il est recommandé de se limiter aux procédures d'utilisation, à moins d'en être qualifié. Pour toute maintenance, contacter le service compétent.


- Pour réduire le risque de choc électrique, ne pas exposer l'appareil dans un milieu humide.
- Toujours s'assurer que l'unité est correctement alimentée, en particuliers à la liaison à la terre.
- La source électrique de cet équipement doit posséder une connexion à la terre (⊕), ainsi qu'une liaison « neutre » identifiable.
- La prise électrique qui alimente l'appareil doit être proche de celle-ci et accessible.

Câble secteur de pays autres que les Etats-Unis

L'équipement est livré avec un câble secteur au standard IEC, moulé mâle/femelle. Si vous souhaitez changer la prise mâle de votre cordon, voici les codes couleurs des fils :



Le fil VERT/JAUNE est connecté à T (Terre)
Le fil BLEU est connecté à N (Neutre)
Le fil MARRON est connecté à P (Phase)



-  Attention si l'appareil a 2 alimentations, s'assurer que les cordons soient branchés sur la même phase.

Explicación de los Símbolos de Seguridad

ESP

-  Este símbolo refiere al usuario información importante contenida en la literatura incluida. Referirse al manual.
-  Este símbolo indica que voltajes peligrosos están presentes en el interior. No hay elementos accesibles al usuario dentro. Esta unidad sólo debería ser tratada por personal cualificado.

Advertencias de Seguridad



Las instrucciones de servicio cuando sean dadas, son sólo para uso de personal cualificado. Para reducir el riesgo de choque eléctrico no llevar a cabo ninguna operación de servicio aparte de las contenidas en las instrucciones de operación, a menos que se esté cualificado para realizarlas. Referir todo el trabajo de servicio a personal cualificado.


- Para reducir el riesgo de choque eléctrico, no exponer este equipo a la lluvia o humedad.
- Siempre asegurarse de que la unidad está propiamente conectada a tierra y que las conexiones de alimentación están hechas correctamente.
- Este equipo debe ser alimentado desde un sistema de alimentación con conexión a TIERRA (⊕) y teniendo una conexión neutra fácilmente identificable.
- La toma de alimentación para la unidad debe ser cercana y fácilmente accesible.

Conexión de alimentación en otros países que no sean USA

El equipo es normalmente entregado con un cable de alimentación con un enchufe hembra estándar IEC en un extremo y con una clavija estándar IEC en el otro. Si se requiere eliminar la clavija para sustituirla por otra, disponer dicha clavija de una forma segura. El código de color a emplear es como sigue:

VERDE/ AMARILLO conectado a E (Conductor de protección a Tierra -Earth en el original-)
AZUL conectado a N (Conductor Neutro -Neutral en el original-)
MARRÓN conectado a L (Conductor Fase -Live en el original-)



-  Advertencia Si la unidad tuviera dos tomas de alimentación, asegurarse de que ambos cables de alimentación están conectados a la misma fase.

Simboli di sicurezza:



- Questo simbolo indica l'informazione importante contenuta nei manuali appartenenti all'apparecchiatura. Consultare il manuale.
- Questo simbolo indica che all'interno dell'apparato sono presenti tensioni pericolose. Non cercare di smontare l'unità. Per qualsiasi tipo di intervento rivolgersi al personale qualificato.

Attenzione:



Le istruzioni relative alla manutenzione sono ad uso esclusivo del personale qualificato. E' proibito all'utente eseguire qualsiasi operazione non esplicitamente consentita nelle istruzioni. Per qualsiasi informazione rivolgersi al personale qualificato.

- Per prevenire il pericolo di scosse elettriche è necessario non esporre mai l'apparecchiatura alla pioggia o a qualsiasi tipo di umidità.
- Assicurarsi sempre, che l'unità sia propriamente messa a terra e che le connessioni elettriche siano eseguite correttamente.
- Questo dispositivo deve essere collegato ad un impianto elettrico dotato di un sistema di messa a terra efficace.
- La presa di corrente deve essere vicina all'apparecchio e facilmente accessibile.

Connessione elettrica nei paesi diversi dagli Stati Uniti

L'apparecchiatura normalmente è spedita con cavo pressofuso con la presa e spina standard IEC. Nel caso della rimozione della spina elettrica, gettarla via immediatamente osservando tutte le precauzioni del caso. La leggenda dei cavi è la seguente:

VERDE/GIALLO cavo connesso ad "E" (terra)
BLU cavo connesso ad "N" (neutro)
MARRONE cavo connesso ad "L" (fase)



- Attenzione! Nel caso in cui l'apparecchio abbia due prese di corrente, assicurarsi che i cavi non siano collegati a fasi diverse della rete elettrica.

Forklaring på sikkerhedssymboler



- Dette symbol gør brugeren opmærksom på vigtig information i den medfølgende manual.
- Dette symbol indikerer farlig spænding inden i apparatet. Ingen bruger servicebare dele i apparatet på brugerniveau. Dette apparat må kun serviceres af faglærte personer..

Sikkerhedsadvarsler



Serviceinstruktioner er kun til brug for faglærte servicefolk. For at reducere risikoen for elektrisk stød må bruger kun udføre anvisninger i betjeningsmanualen. Al service skal udføres af faglærte personer.

- For at reducere risikoen for elektrisk stød må apparatet ikke udsættes for regn eller fugt.
- Sørg altid for at apparatet er korrekt tilsluttet og jordat.
- Dette apparat skal forbindes til en nettilslutning, der yder BESKYTTENDE JORD ⚡ og 0 forbindelse skal være tydeligt markeret.
- Stikkontakten, som forsyner apparatet, skal være tæt på apparatet og let tilgængelig.

Nettilslutning i andre lande end USA

Udstyret leveres normalt med et strømkabel med et standard IEC støbt løst hunstik i den ene ende og et standard IEC støbt hanstik i den anden ende. Hvis et af de støbte stik på strømkablet er defekt, skal det straks kasseres på forsvarlig vis. Farvekode for lederen er som følger:

GRØN/GUL leder forbundet til J (Jord)
BLÅ leder forbundet til 0
BRUN leder forbundet til F (Fase)



- Forsigtig! Hvis enheden har to lysnetindgange, skal der sørges for at begge ledninger tilsluttes lysnetudgange fra den samme fase.

Förklaring av Säkerhetssymboler



- Denna symbol hänvisar användaren till viktig information som återfinns i litteraturen som medföljer. Se manualen.
- Denna symbol indikerar att livsfarlig spänning finns på insidan. Det finns inga servicevänliga delar inne i apparaten. Denna apparat får endast repareras av utbildad personal.

Säkerhetsvarningar



Serviceinstruktioner som anges avser endast kvalificerad och utbildad servicepersonal. För att minska risken för elektrisk stöt, utför ingen annan service än den som återfinns i medföljande driftinstruktionerna, om du ej är behörig. Överlåt all service till kvalificerad personal.

- För att reducera risken för elektrisk stöt, utsätt inte apparaten för regn eller fukt.
- Se alltid till att apparaten är ordentligt jordad samt att strömtillförseln är korrekt utförd.
- Denna apparat måste bli försörjd från ett strömsystem som är försedd med jordanslutning ⚡ samt ha en neutral anslutning som lätt identifierbar.
- Vägguttaget som strömförsörjer apparaten bör finnas i närheten samt vara lättillgänglig.

Strömkontakter i länder utanför USA

Apparaten utrustas normalt med en strömkabel med standard IEC gjuten honkontakt på ena änden samt en standard IEC gjuten hankontakt på den andra änden. Om man måste avlägsna den gjutna hankontakten, avyttra denna kontakt omedelbart på ett säkert sätt. Färgkoden för ledningen är följande:

GRÖN/GUL ledning ansluten till E (Skyddsjordad ledare)

BLÅ ledning ansluten till N (Neutral ledare)
BRUN ledning ansluten till L (Fas ledare)



- Varning! Om enheten har två huvudsakliga elförsörjningar, säkerställ att båda strömkablarna som är inkopplade i enheten arbetar från samma fas.

Turvamerkkien selitys



- Tämä merkki tarkoittaa, että laitteen mukana toimitettu kirjallinen materiaali sisältää tärkeitä tietoja. Lue käyttöohje.
- Tämä merkki ilmoittaa, että laitteen sisällä on vaarallisen voimakas jännite. Sisäpuolella ei ole mitään osia, joita käyttäjä voisi itse huoltaa. Huollon saa suorittaa vain alan ammattilainen.

Turvaohjeita



Huolto-ohjeet on tarkoitettu ainoastaan alan ammattilaisille. Älä suorita laitteelle muita toimenpiteitä, kuin mitä käyttöohjeissa on neuvottu, ellei ole asiantuntija. Voit saada sähköiskun. Jätä kaikki huoltotoimet ammattilaiselle.

- Sähköiskujen välttämiseksi suojaa laite sateelta ja kosteudelta.
- Varmistu, että laite on asianmukaisesti maadoitettu ja että sähkökytkennät on tehty oikein.
- Laitteelle tehoa syöttävässä järjestelmässä tulee olla SUOJAMAALIITÄNTÄ ⚡ ja nollaliitännän on oltava luotettavasti tunnistettavissa.
- Sähköpistorasian tulee olla laitteen lähellä ja helposti tavoitettavissa.

Sähkökytkentä

Laitteen vakiovarusteena on sähköjohto, jonka toisessa päässä on muottiin valettu, IEC-standardin mukainen liitäntärasia ja toisessa päässä muottiin valettu, IEC-standardin mukainen pistoliitin. Jos pistoliitin tarvitsee poistaa, se tulee hävittää heti turvallisella tavalla. Johtimet kytketään seuraavasti:

KELTA-VIHREÄ suojamaajohdin E-napaan
SININEN nollajohdin N-napaan
RUSKEA vaihejohdin L-napaan



- Huom! Jos laitteessa on kaksi verkkojännitteen tuloliitäntää, niiden johdot on liitettävä verkkopistorasioihin, joissa on sama vaiheistus.

Símbolos de Segurança



- O símbolo triangular adverte para a necessidade de consultar o manual antes de utilizar o equipamento ou efectuar qualquer ajuste.
- Este símbolo indica a presença de voltagens perigosas no interior do equipamento. As peças ou partes existentes no interior do equipamento não necessitam de intervenção, manutenção ou manuseamento por parte do utilizador. Reparações ou outras intervenções devem ser efectuadas apenas por técnicos devidamente habilitados.

Avisos de Segurança



As instruções de manutenção fornecidas são para utilização de técnicos qualificados. Para reduzir o risco de choque eléctrico, não devem ser realizadas intervenções no equipamento não especificadas no manual de instalações a menos que seja efectuadas por técnicos habilitados.

- Para reduzir o risco de choque eléctrico, não expor este equipamento à chuva ou humidade.
- Assegurar que a unidade está sempre devidamente ligada à terra e que as ligações à alimentação estão correctas.
- O sistema de alimentação do equipamento deve, por razões de segurança, possuir ligação a terra de protecção (⊕) e ligação ao NEUTRO devidamente identificada.
- A tomada de energia à qual a unidade está ligada deve situar-se na sua proximidade e facilmente acessível.

Ligação da alimentação noutros países que não os EUA

O equipamento é, normalmente, enviado com cabo de alimentação com ficha IEC fêmea standard num extremo e uma ficha IEC macho standard no extremo oposto. Se for necessário substituir ou alterar alguma destas fichas, deverá remove-la e elimina-la imediatamente de maneira segura. O código de cor para os condutores é o seguinte:

Condutor VERDE/AMARELO ligado a E (Terra)
Condutor AZUL ligado a N (Neutro)
Condutor CASTANHO ligado a L (Vivo).



- Atenção: Se a unidade tem duas fontes de alimentação assegurar que os dois cabos de alimentação estão ligados a tomadas pertencentes à mesma fase.

Επεξήγηση των Συμβόλων Ασφαλείας



Αυτό το σύμβολο παραπέμπει το χρήστη σε σημαντικές πληροφορίες που συμπεριλαμβάνονται στο συνοδευτικό εγχειρίδιο.



Αυτό το σύμβολο υποδεικνύει ότι στο εσωτερικό υφίστανται επικίνδυνες ηλεκτρικές τάσεις. Στο εσωτερικό δεν υπάρχουν επισκευάσιμα μέρη. Αυτή η μονάδα πρέπει να επισκευάζεται μόνο από ειδικά εκπαιδευμένο προσωπικό.

Προειδοποίηση Ασφαλείας



Οδηγίες επισκευής, όπου παρέχονται, αναφέρονται αποκλειστικά και μόνο σε εξειδικευμένο προσωπικό. Για να μειωθεί ο κίνδυνος ηλεκτροπληξίας, μην εκτελείτε επισκευές παρά μόνο τις συμπεριλαμβανόμενες στο εγχειρίδιο των οδηγιών, εκτός και αν έχετε τα απαραίτητα προσόντα για να το κάνετε. Όλες οι επισκευές να εκτελούνται από ειδικά εκπαιδευμένο προσωπικό.

- ! Για να μειώσετε τον κίνδυνο ηλεκτροπληξίας, μην εκθέτετε τη συσκευή σε βροχή ή υγρασία.
- ! Πάντα να εξασφαλίζετε τη σωστή γείωση της συσκευής και τη σωστή σύνδεση των συνδέσμων τροφοδοσίας.
- ! Ο εξοπλισμός πρέπει να τροφοδοτείται από ένα σύστημα τροφοδοσίας που να εξασφαλίζει ΠΡΟΣΤΑΤΕΥΤΙΚΗ ΓΕΙΩΣΗ (⊕) και να έχει καθορισμένες θέσεις ουδέτερου και φάσης.
- ! Ο εξοπλισμός που τροφοδοτεί τη συσκευή θα πρέπει να βρίσκεται κοντά στη συσκευή και να είναι εύκολα προσβάσιμος.

Σύνδεση τροφοδοσίας σε χώρες εκτός των ΗΠΑ

Ο εξοπλισμός συνοδεύεται συνήθως από ένα καλώδιο τροφοδοσίας με ένα σταθερό βύσμα τροφοδοσίας ρεύματος τύπου πυραμίδας στη μια άκρη του και μια σταθερή υποδοχή τροφοδοσίας ρεύματος τύπου πυραμίδας στην άλλη άκρη του. Εάν χρειαστεί να αφαιρέσετε το σταθερό βύσμα τροφοδοσίας μην το επαναχρησιμοποιείτε, θεωρείται άχρηστο. Ο χρωματικός οδηγός για το καλώδιο τροφοδοσίας είναι ο παρακάτω:

ΠΡΑΣΙΝΟ/ΚΙΤΡΙΝΟ καλώδιο συνδέεται στο E (Προστατευτικός Αγωγός Γείωσης)

ΜΠΛΕ καλώδιο συνδέεται στο N (Ουδέτερο Αγωγό)

ΚΑΦΕ καλώδιο συνδέεται στο L (Αγωγός Φάσης)



ΠΡΟΣΟΧΗ! Αν η μονάδα έχει δύο τροφοδοτικά βεβαιωθείτε ότι και τα δύο καλώδια τροφοδοσίας είναι συνδεδεμένα σε εξόδους τροφοδοσίας που βρίσκονται στην ίδια φάση.

Products Employing Lithium Batteries



This equipment may contain 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 instructions of the manufacturer. Batteries should only be replaced by trained service technicians.

Power Cable Supplied for the USA

The equipment is shipped with a power cord with a standard IEC molded free socket on one end and a standard 3-pin plug on the other. If you are required to remove the molded mains supply plug, dispose of the plug immediately in a safe manner.

The color code for the cord is as follows:

- GREEN lead connected to E (Protective Earth Conductor)
- BLACK lead connected to L (Live Conductor)
- WHITE lead connected to N (Neutral Conductor)



For Products With More Than One Power Supply Inlet



- **CAUTION!** This equipment has more than one power supply cord. To reduce the risk of electric shock, disconnect two power supply cords before servicing.



- To reduce the risk of electric shock, plug each power supply into separate branch circuits employing separate service grounds.
- Do not operate this unit without an earth connection.

Rack Mounting the Enclosure



This product must not be rack mounted using only the front rack ears.

When rack-mounting the product, one of the following methods of installation must be used:

- Place the unit on a suitably specified and installed rack shelf and secure the product to the rack via the front rack ears or,
- Fit the unit using the rear rack mount kit FGACK RACK-MNT-KIT, available from SAM.

Replacing the Gateway Card

If the Gateway Card IQRCIF is replaced, ensure that part number RCIF3U2F is used in order to maintain full functionality.

Compliance Standards

This equipment conforms to the following standards:

EN60950-1: 2006

Safety of Information Technology Equipment Including Electrical Business Equipment.



UL1419 (4th Edition) - UL File E193966

Standard for Safety – Professional Video and Audio equipment.

EMC Standards

This equipment conforms to the following standards:

EN 55032:2012 (Class A)

Electromagnetic Compatibility of Multimedia Equipment - Emission Requirements.

EN 61000-3-2:2014 (Class A)

Limits for Harmonic Current Emissions.

EN 61000-3-3:2013

Limitation of Voltage Changes, Voltage Fluctuations and Flicker in Public Low-Voltage Supply Systems.

FCC/CFR 47:Part 15, Class A

Federal Communications Commission Rules Part 15, Subpart B, Class A.

EMC Environment

The product(s) described in this manual conform to the EMC requirements for, and are intended for use in, the controlled EMC environment (for example, purpose-built broadcasting or recording studios), and the rural outdoor environment (far away from railways, transmitters, overhead power lines, etc.) E4.



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

EMC Performance of Cables and Connectors

Snell 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.

Coaxial Cables

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

D-type Connectors

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

Product Support

Providing Information to SAM

If you experience any technical or operational difficulties with a SAM product please do not hesitate to contact us to request assistance.

There is a lot of information you can give us that will enable us to diagnose your problem swiftly. Please read the following guidelines, as these suggestions will help us to help you.

Basic Information

- **For Units:** Please provide the exact product Model, unit Serial Number and Software Version information.
- **For Cards or Modules:** Please provide the Sub-Assembly Number, Card Serial Number and the Software Version information.

Basic Application

- **Inputs:** Please provide full details of the Input Signals being used including any references, etc., and where they are being generated.
- **Outputs:** Please provide full details of the Output Signals required and how they are being monitored.
- **System:** Please provide a brief description of the system in which your SAM equipment is currently being used.

Basic Tests

- **Preset Unit:** Please use the Preset Unit function to return the settings back to the factory default settings.
- **RollCall:** Is your unit currently connected to a RollCall capable PC? This software is obtainable for free and provides a very user friendly GUI for virtually all SAM equipment - perfect for complex products, large systems or those with passive front panels.
- **Card Edge Info:** What is the status of the card edge LEDs or display? These can often provide information such as power status and input detection conditions.
- **Internal TPG:** Many SAM products have an internal test pattern/tone generator. Please activate this to assist you with your problem analysis.

Your Contact Details

In addition to the above, please do not forget to provide us with your contact details to enable us to get in touch with you swiftly:

- Name(s)
- Telephone and fax numbers
- E-mail addresses
- Business address

Contact Details

Customer Support

For details of our Regional Customer Support Offices, please visit the SAM website and navigate to Support/Contacts Support.

www.s-a-m.com/support/contact-support/

Customers with a support contract should call their personalized number, which can be found in their contract, and be ready to provide their contract number and details.

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1 Introduction

1.1 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.

1.2 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.
----------------------	--

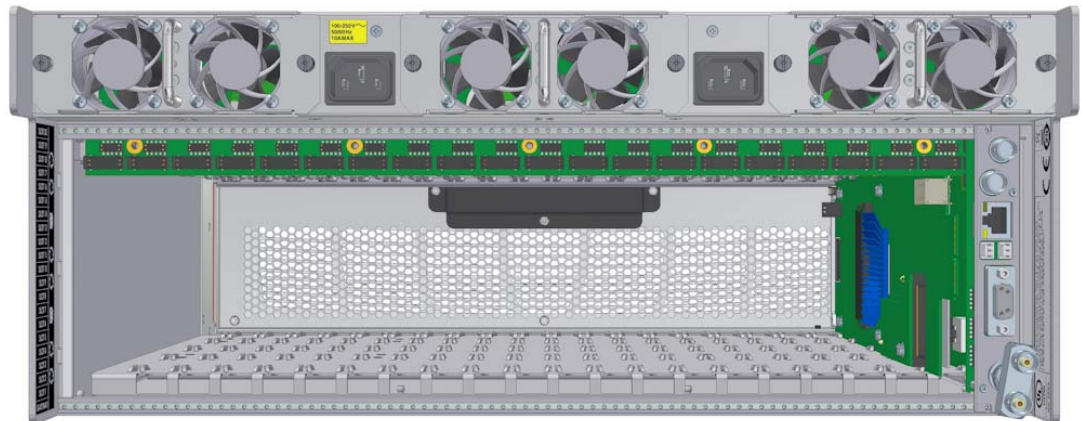
1.3 Front Panel View

The IQH4B enclosure front panel is shown below.



1.4 Rear Panel View

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



1.5 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 via RollNet, RS232/485/422 and RollCall over TCP/IP control, with support for upgradable 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.

2 Technical Specification

Inputs, Outputs and Controls	
Inputs/Outputs	
RollCall Remote Control	BNC connector
RS-422/485/232 Remote Control	9-pin, D-type 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	
Unit address code set switches	2 Hex switches 0 to F
Communications mode switch	Select RS-232, RS-485 or RS-422 interface
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

3.1 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:

- IQH4B enclosure
- 1 BNC Y-piece connector

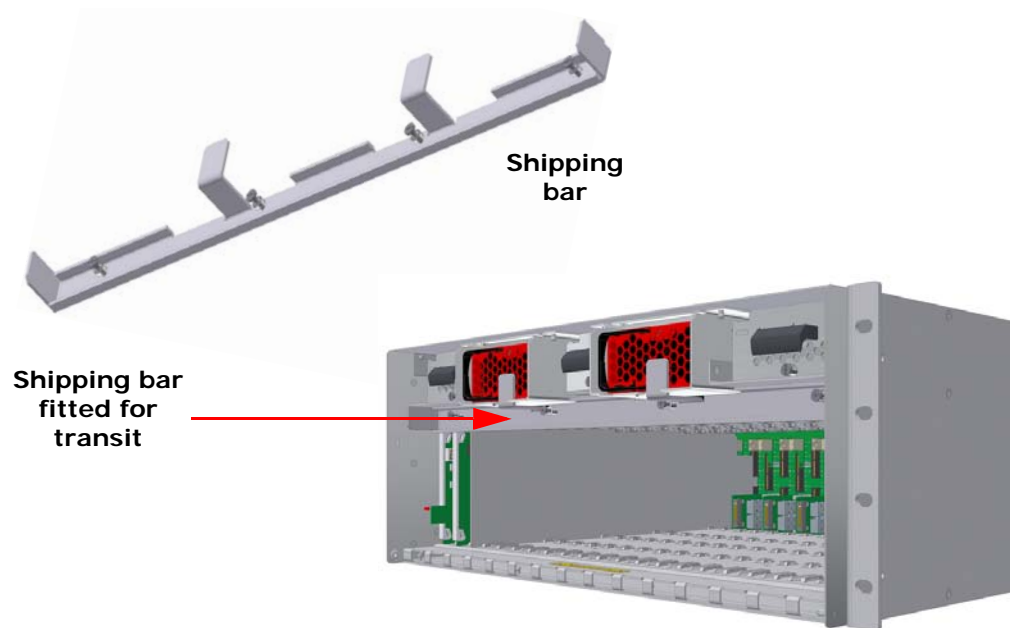
Unpack the carton carefully and check for any shortages or damage. Report any shortages or damage to SAM immediately.



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

3.1.1 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.



Leaving the shipping bar in place when the enclosure is running may cause overheating. **Damage of this nature is not covered by any warranty.**

3.1.1.1 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.

3.2 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.



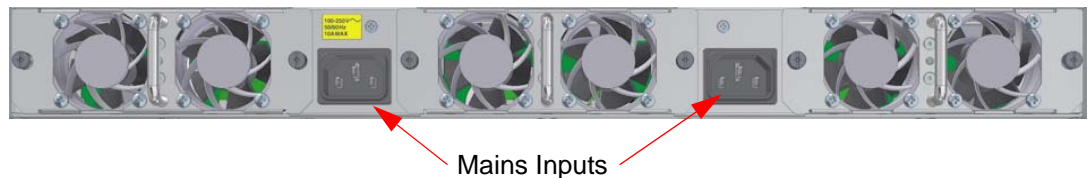
The ventilation holes of the fan housing must not be obstructed or damage to the fan and the equipment may result.

3.3 Power Connections

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



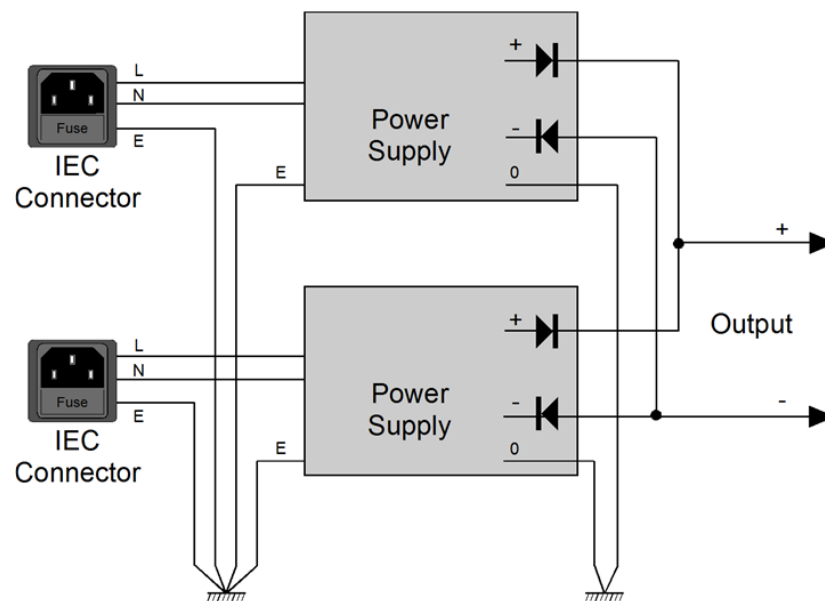
Before connecting power to the unit, please refer to the safety warnings at the front of this manual.



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

3.4 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 each support two power supplies; however, only one PSU is required.

3.5 Front Panel Indicator

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



LED Indicator

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 condition details can be determined by checking via RollCall or SNMP.

3.6 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



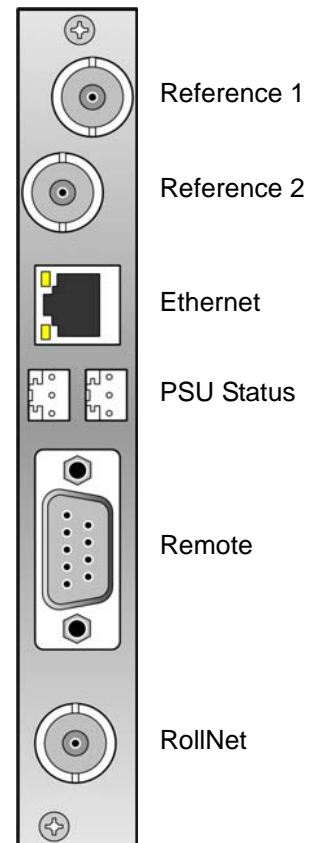
2. Push the pin in and disengage the door:



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

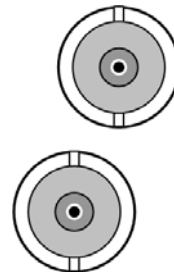
3.7 Rear Panel (Gateway Card) Connections

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



3.7.1 Reference 1 and Reference 2

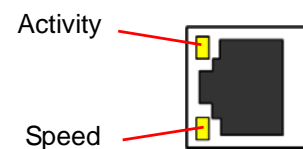
These BNC connectors allow the unit to be connected to two video reference sources. The inputs are terminated in 75 Ohms.



3.7.2 Ethernet

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

Two integral yellow LEDs indicate transmit / receive activity (flashing) and the speed (10 Mb = OFF, 100 Mb = ON)

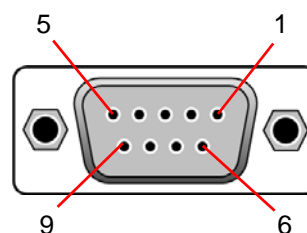


This connector is not intended for direct connection to a telecommunications network.

3.7.3 Remote

The 9-way, D-type connector on the rear panel allows the unit to be connected to the RollCall 485 network communications system.

This connector may also be used as a RS-422 or as a RS-232 RollCall communication port.



Note: RS-485 interconnections should be pin-to-pin and only be used for SAM RollNet applications.

3.7.3.1 9-Way D-Type Connections

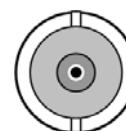
Pin No.	Function RS-485	Function RS-422	Function RS-232
1	GND	GND	NC
2	Data A (+)	TX+	TX
3	NC*	RX+	RX
4	GND	GND	NC
5	GND	GND	GND
6	GND	GND	NC
7	Data B (-)	TX-	Short to pin 8
8	NC*	RX-	Short to pin 7
9	NC	NC	NC

* Pins are physically connected in hardware but are not functional in this mode.

3.7.4 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.

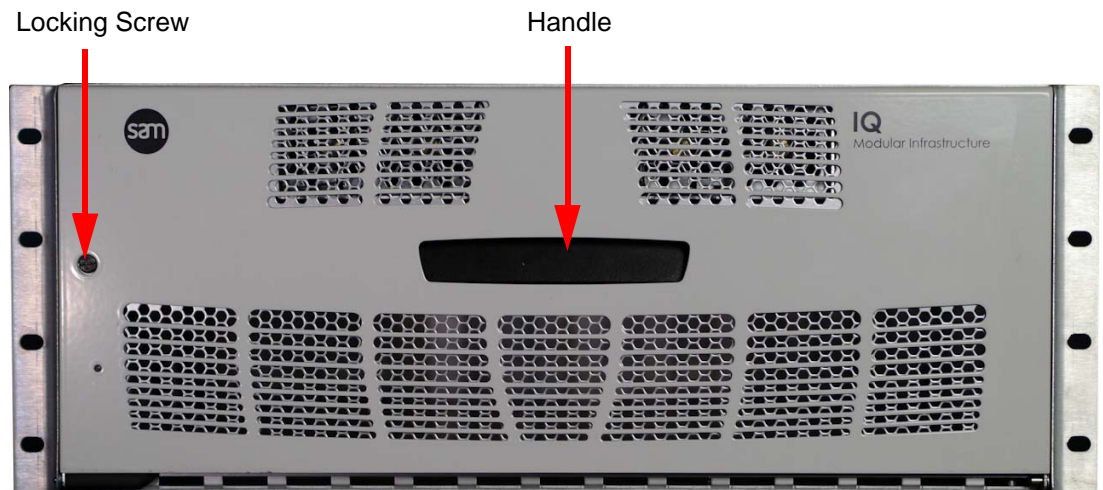


Note: The coaxial link is bi-directional and therefore must not be passed through signal switching networks. Also, to allow hum and noise cancellation, the screen of the coaxial connection must not be earthed.

3.8 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.

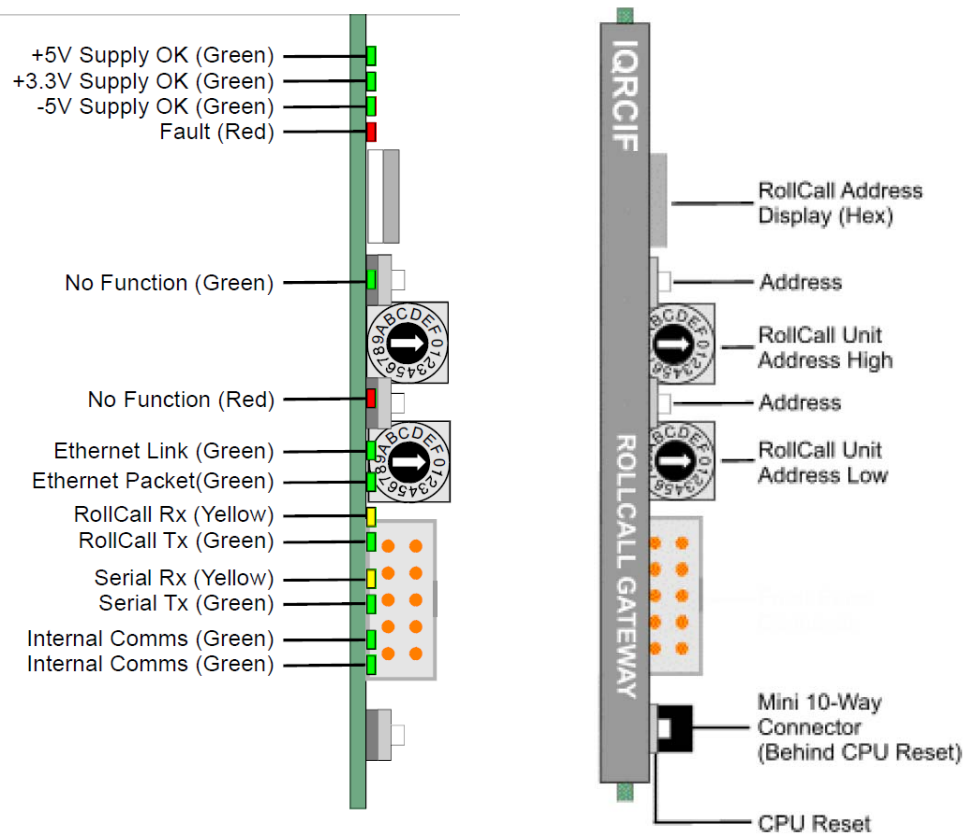


To close the front panel:

1. Pull the panel upward using the handle in the center.
2. Turn the locking screw approximately half a turn to secure the panel.

3.9 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.



3.9.1 Front Panel Connector

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

3.9.2 Mini 10-way Connector

This connector offers RollCall serial RS-232/422 connectivity, allowing easier configuration for IQH4B boxes where rear access is limited. Use part No. SAAN RCSCGW1X to connect to this.

3.9.3 HEX Switches

Both of these switches are used to define the Unit Address code for the equipment.

Position 0 on the upper switch will disable the RollCall function on the unit; all other positions on these switches may be used to set the Unit Address code in Hex. (Upper switch 1 to f, lower switch 0 to f). This code will be appear on the 2-digit, 7-segment display.

If a code is already in use the RollCall receive and transmit LEDs will flash alternately at a 1-second rate.

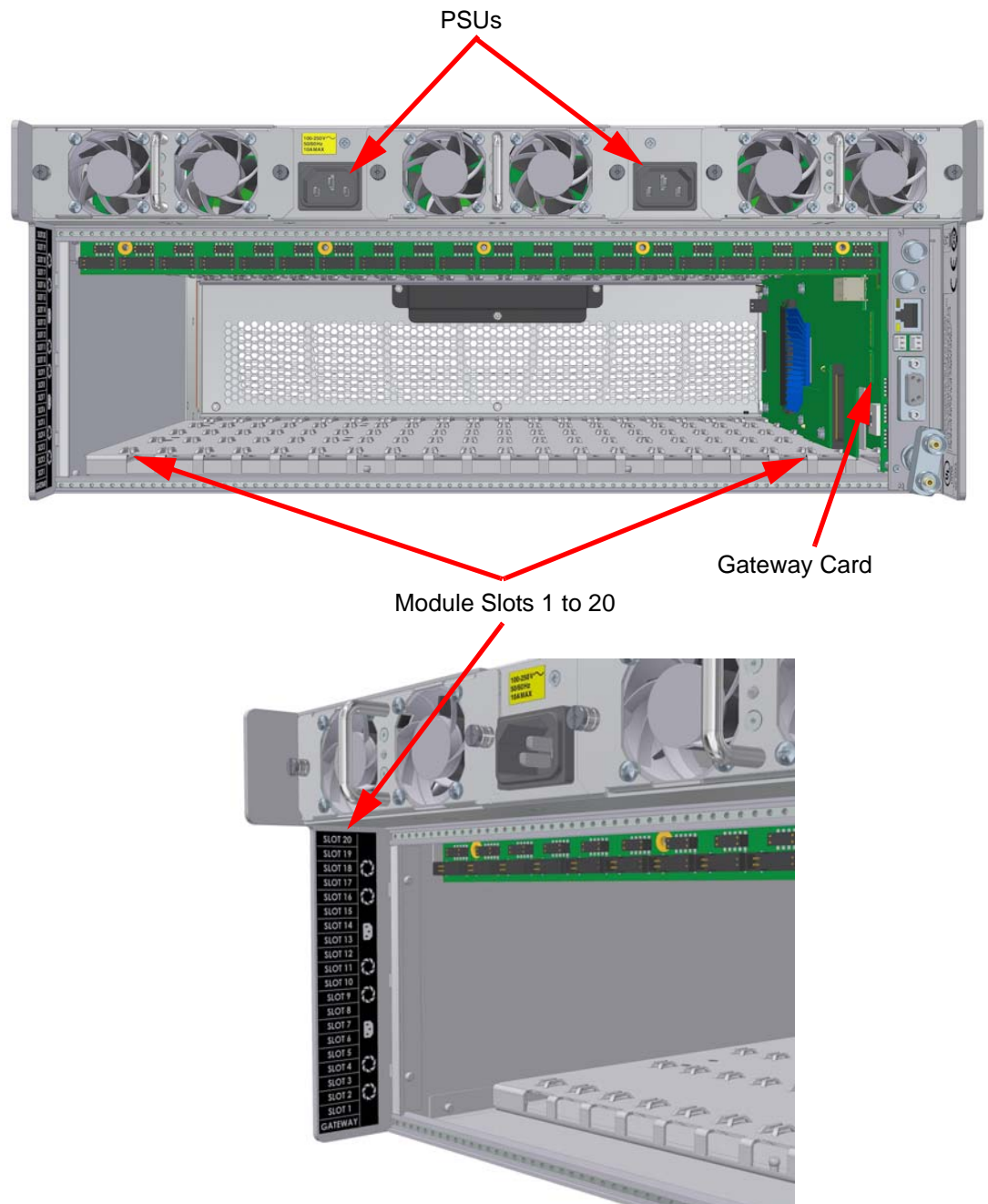
Note: In a RollCall local network, all units must have different unit address codes.

The two-digit RollCall address display has a secondary mode of operation. Momentarily press either of the two **Address** buttons, and the IP address followed by the netmask address will be displayed one number at a time on the 7-segment LED display.

3.9.4 LEDs

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

3.10 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-1A/1B modules subject to the configuration rules described in section on page 27. 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.

3.11 Installing and Removing Power Supply Units



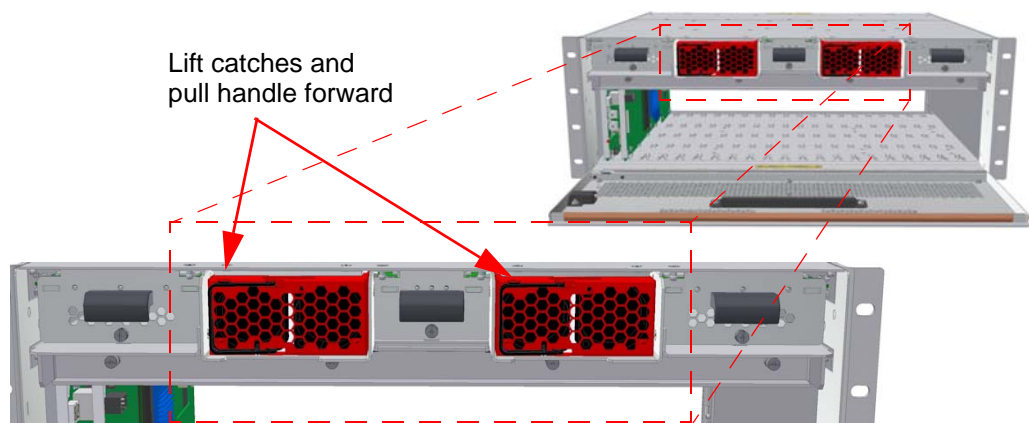
Ensure that the mains power connection at the rear of the unit is removed before these operations are attempted.

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

3.11.1 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.

3.11.2 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.

3.12 Installing and Removing Modules



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.

3.12.1 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.

3.12.1.1 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 SAM Web site.

3.12.1.2 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.



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

3.12.1.3 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		

3.12.2 Installing a New Module



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

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.

3.12.3 Removing a Module



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:

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

3.12.4 Replacing a Module in a Live Environment

SAM 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.

Important:

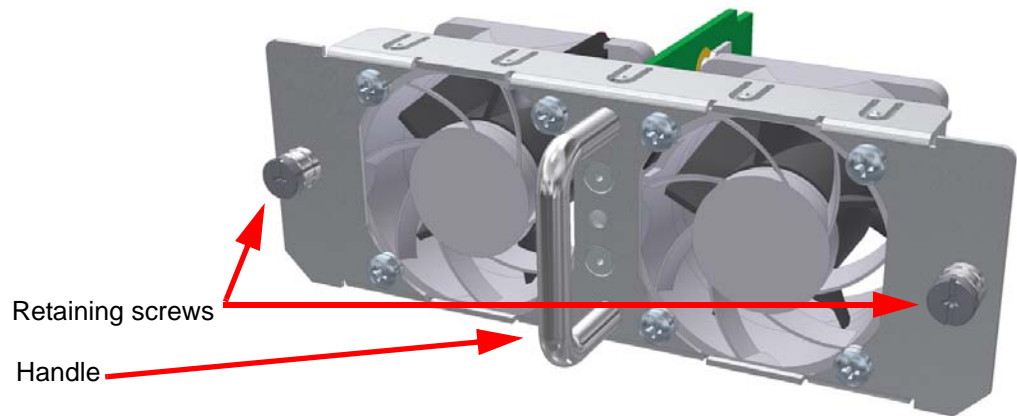
It cannot be guaranteed that there will be no disturbance to the operation of other modules in the enclosure when you replace a module without first powering down the enclosure.

3.13 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.

3.14 Replacing a Fan Unit in a Live Environment

Important:

This fan unit should only be serviced by trained personnel.

The fan unit can be replaced in a live environment carefully following the steps below.

Caution is advised - do not put your 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.

3.15 Control Panels

A mainframe 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.

3.15.1 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.

3.15.1.1 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.

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.

The IQH4B enclosure has various interface connections to the RollCall network:

- RollNet 75 Ohm coaxial BNC running at 2.5 Mbps. The IQH4B enclosure represents a 2 unit load.
- RollNet RS-485 9-way, D-type connector running at 2.5 Mbps.
- RS-422 or RS-232 port running at up to 115.2 kbps asynchronous.
- RJ45 Ethernet running at 10/100 Mbps.

The RS-422, RS-232 and RS-485 interfaces share the same D connector. Selection of the interface mode is made by two banks of DIP switches (SW1 and SW7) located at the rear of the Gateway card. SW1 is a bank of eight switches (SW1 1-8) and SW7 is a bank of four switches (SW7 1-4). The Gateway must be removed from the frame to alter the switch settings.

To select RS-232 mode, SW1 1-7 should be open (toggle up) and SW7 1-4 should be closed (toggle down). SW1 8 is irrelevant.

To select RS-422 mode, SW1 1-8 should be closed and SW7 1-4 should be open.

To select RS-485 mode, SW1 1-7 should be closed, and SW1 8 and SW7 1-4 should be open.

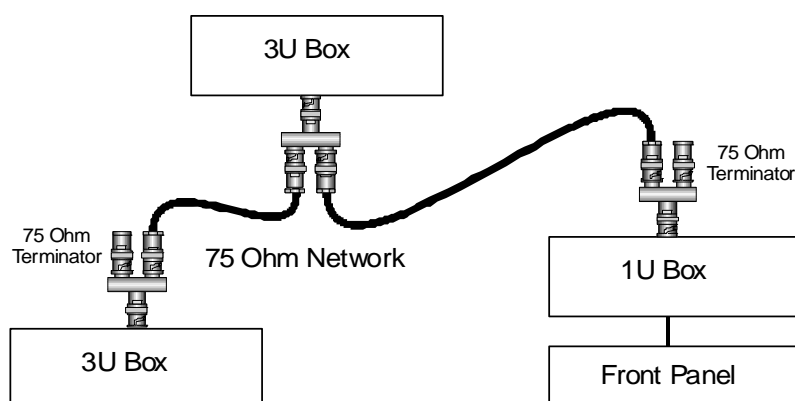
Mode	SW1 1-7	SW1 8	SW7 1-4
RS-232	OPEN	-----	CLOSED
RS-422	CLOSED	CLOSED	OPEN
RS-485	CLOSED	OPEN	OPEN

Gateways ship with a default setting of RS-232.

3.15.1.2 RollNet 75 Ohm Coaxial Interface

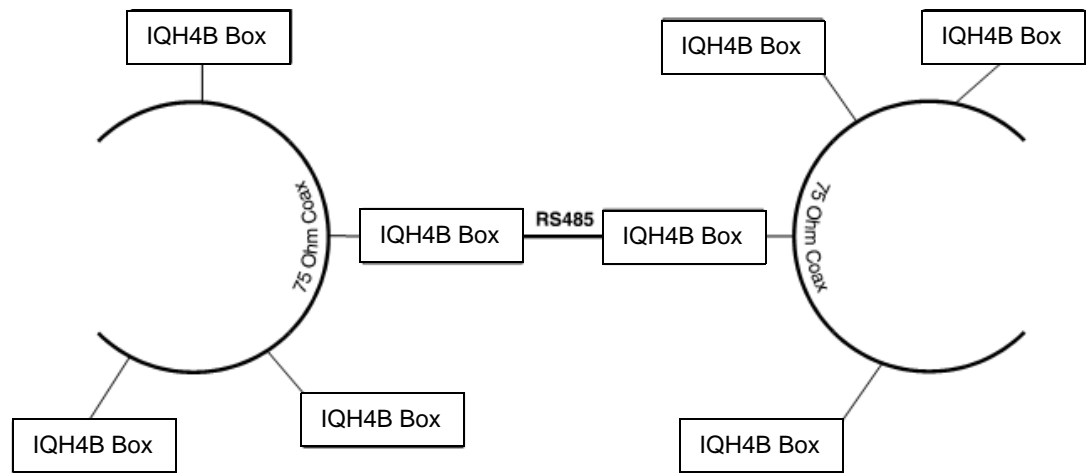
This interface allows connections of units to a single section of 75 Ohm video cable. Each unit is physically joined via a T or Y-piece connector. Each end of the section is terminated by a 75 Ohm resistor at each end of the cable. The data rate on this interface is 2.5 Mbps. Each section of cable can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

Example configuration:



3.15.1.3 RollNet RS-485 Differential Interface

Sections of the coaxial network can be joined using the RS-485 bus. The RS-485 connections are limited to shorter distances but are multi-drop allowing a rich combination of network configurations. The combined total number of units across the coaxial network and the RS-485 bus is still 255 nodes and the total network length can be up to 1500m.



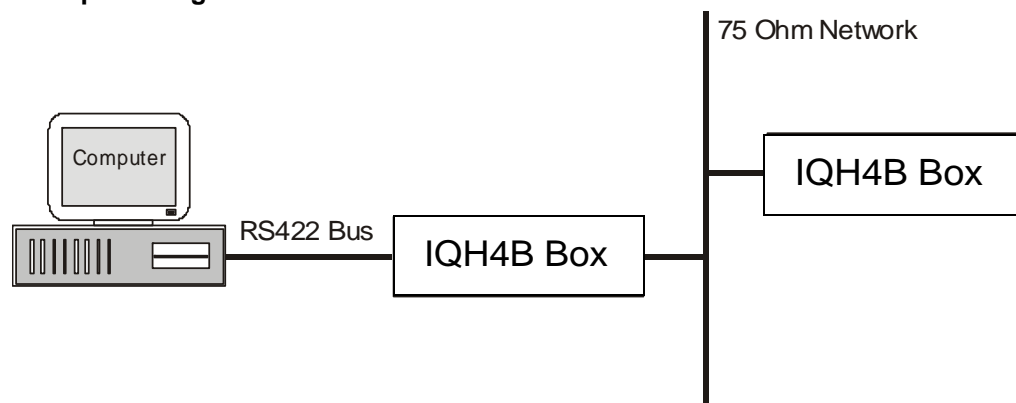
The maximum number of hub transitions between any number of nodes on a single local area network is 4.

3.15.1.4 RS-422 or RS-232 Asynchronous Interface

This interface allows a PC running RollCall control software to be connected to the RollCall network without a RollNet interface card. The PC is connected via an RS-232 or RS-422 serial port (often known as a COM port).

RS-422 allows longer cable runs and offers better immunity to electrical noise, but usually requires an RS-422 to RS-232 converter to connect to a PC (Some specialist control PCs support RS-422 directly). RS-232 allows direct connection to a standard PC serial (COM port), but only supports shorter cable runs of up to 4 meters.

Example configuration:



A serial device attached to a single IQ rack has access to all devices on the RollCall network.

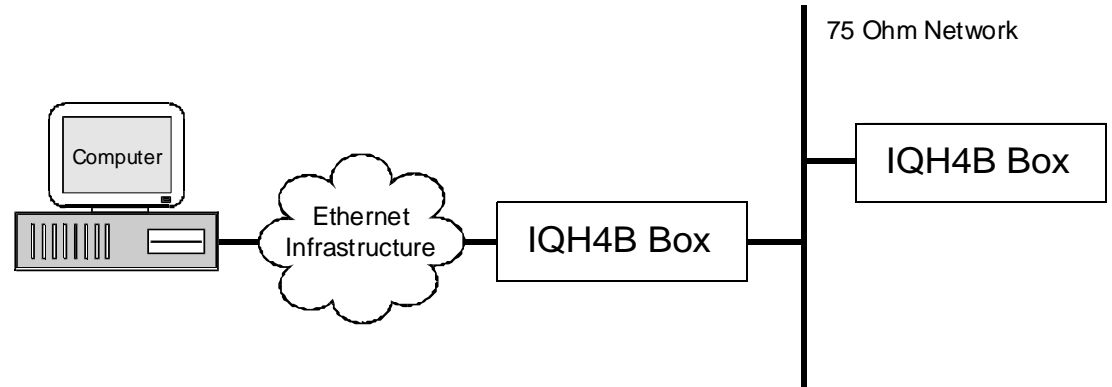
The serial port can also be used for third party connections into the system. This allows PCs or any other serial device access to any of the units within the system. Please consult SAM for details of the port binary protocol.

The serial port supports speeds up to 115.2 kbps. The RollCall PC software is limited to 57.6 kbps.

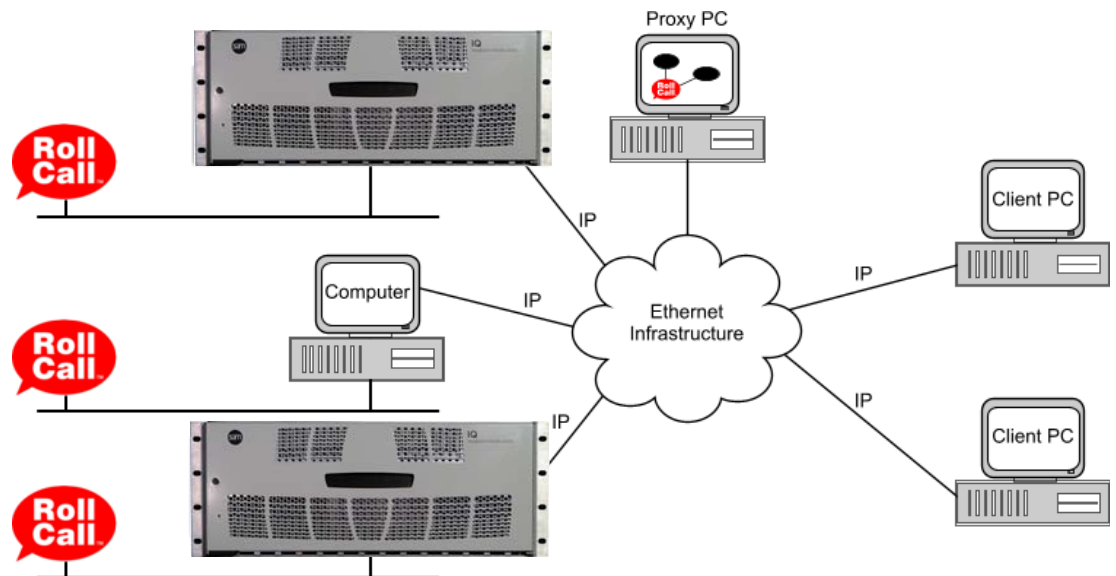
3.15.2 Ethernet Connection

This interface allows the IQH4B enclosure to be connected to a 10/100base T Ethernet network. PCs 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 the RollCall software.



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



3.15.2.1 Configuring IP Parameters

You must configure the Gateways IP parameters before you can connect to the Gateway using IP over Ethernet. To do this you must establish a connection to the Gateway using a different communications interface.

In each case you need a PC with the RollCall control software installed. You can connect the PC to the Gateway in one of three ways:

- RollNet
- Serial
- IP Crossover Cable

RollNet

If the PC is connected to an existing RollNet network, you can set the Gateway to an unused unit address, add it to the RollNet network and connect to it via RollNet.

Serial

You can connect any PC with an RS-232 serial (COM) port to the Gateway. By default the Gateway ships configured for RS-232 at 38400 baud. Connect the PC COM to the 9-way D-type labeled "Remote" on the rear of the IQH4B enclosure. In the RollCall control window on the PC, go to the Ethernet setup page.

Select Serial Port, select the correct COM port and set the Baud rate to 38400. You should now be able to connect to the Gateway.

The following PC parameters must be configured:

- IP address
- Subnet mask
- Default IP Gateway

Consult your IT department for advice on how these should be set.

When these parameters have been set, go to the Ethernet setup page in the RollCall control window on the PC. Select IP Server and set the IP address to that specified by your IT department. You should now be able to connect to the Gateway.

Detailed Configuration Steps

1. On PC change the TCP/IP LAN Properties to 192.168.151.2 (.1 is the IP address of the gateway) Take note of default TCP/IP address to restore afterwards.
2. Set control panel connection **Build Network** to 192.168.151.1.
3. Open the RollCall control panel and template for gateway, go to Ethernet page.
4. Set all Ethernet parameters (address, subnet/gateway), then click **Take IP Address Changes**.
5. Reconfigure the PC's TCP/IP LAN configuration to its original properties.
6. Connection to the gateway's IP may be tested only if PC and gateway have valid routing to allow this. If so, set the **Build Network** control panel to point to the gateway's new IP address.

3.15.3 Simple Network Management Protocol (SNMP)

The Gateway can run an SNMP agent which allows direct control of both its own controls and those of modules within the chassis. Unlike a RollCall IP connection, an SNMP connection is for this IQH4B box only. If you wish to control other enclosures, each must be connected via Ethernet and controlled by SNMP individually.

SNMP also provides logging information. Log messages, similar to those sent to a RollCall log server, can be sent to up to 8 separate destinations (SNMP trap destinations).

By default, the SNMP agent is disabled. A set of MIB modules have been created that map controls for each card type and provide other mappings. These are required in the SNMP manager operation.

At a minimum, to control the gateway, you need the following MIBs:

SNELL-WILCOX-SMI.MIB

SNELL-WILCOX-TC.MIB

SNELL-WILCOX-PRODUCT-REG.MIB (Id for each card type)

SNELL-WILCOX-UNIT.MIB

SNELL-WILCOX-GATEWAY-LOGGING.MIB (card and Gateway logging tables)

SNELL-IQH3A-CMD-MIB.MIB (Gateway controls)

SNELL-WILCOX-MODULAR-GATEWAY.MIB (required if legacy SNMP support is enabled).

This is a hierarchical MIB structure and must be compiled in order if your SNMP manager does not support conditional compilation.

To control modules within a chassis you would also need the MIB for that card type:

SNELL-cardIdName-CMD-MIB.MIB

where cardIdName could be IQCBRG for a Bridge card or IQDMSDA, or other card names etc.

MIBs are available from the SAM website:

Legacy MIBs (required):

ftp://ftp.snellwilcox.com/RollCall/SNMP_MIBs/Legacy_IQ_Modular_MIBs/

Modular (as required):

ftp://ftp.snellwilcox.com/RollCall/SNMP_MIBs/IQ_Modular_MIBs/

The SNMP logging solution provides a current log of all log headers and fields for all cards within a chassis, and a separate table for the Gateway logs. Details of the log header and field values are available at the bottom of each MIB for each individual card type.

Note:

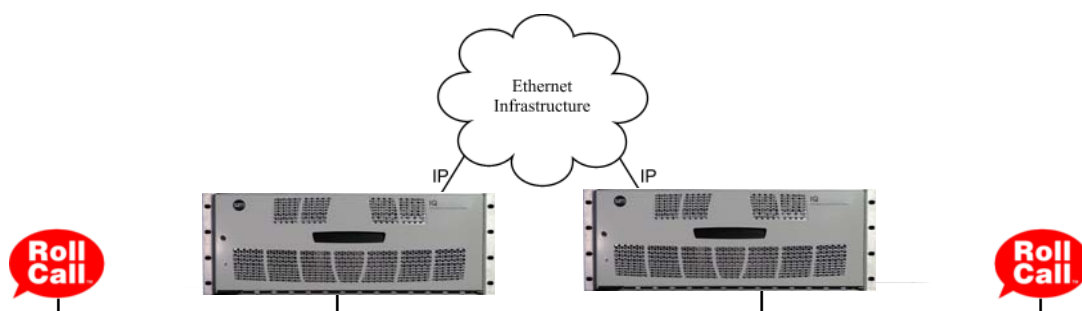
Enabling SNMP makes certain older modules inaccessible at non-Supervisor levels, and thus prevents certain module-specific PC tools from working correctly. The work-around is to temporarily disable the SNMP agent whilst using these tools. Alternately switch off control of the individual module. This is available on the **SNMP** page of the control template.

3.15.4 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.

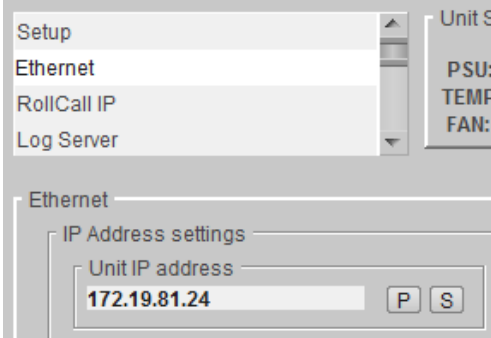
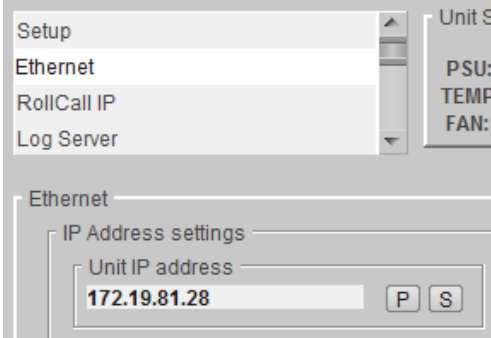
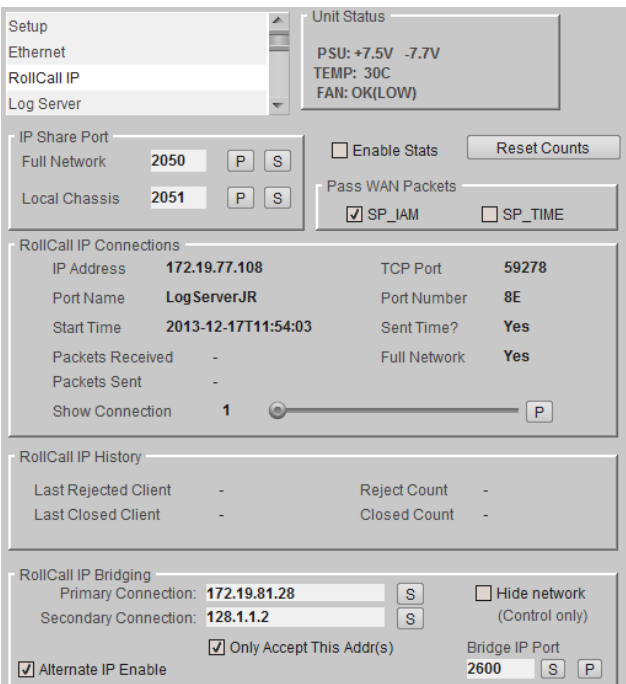
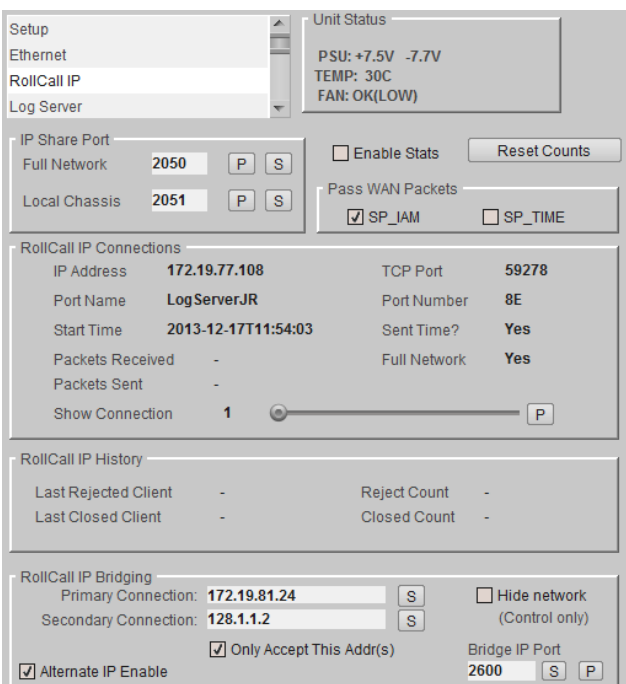
To establish a RollCall bridge:

- 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 other's IP address.
- The bridge must be initiated by one Gateway via the Connect or Auto Connect controls.



3.15.4.1 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> 	<p>Ethernet -> Unit IP Address</p> 
<p>RollCall IP -> Connect to</p> 	<p>RollCall IP -> Connect to</p> 

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 the *Installation* chapter, beginning on page 17. It describes the 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.

4.1 Unit Status

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

Unit Status	Unit Status Key Information
PSU: L-OK R-FAIL	TEMP: 1:Inlet Temperature
TEMP: 30 28-29-32	TEMP: 2-3-4 :Outlet Fan Temperature
FAN: NNNNNN NN--	FAN: 1-6 Outlet Fan Speed 7-10 PSU fan
	FAN: N:Normal W:Warn Max S:Stopped

4.1.1 Line 1

This shows the status of the power supplies. Valid values are:

- **OK** - PSU present and working.
- **Fail** - PSU faulty or not fitted.

4.1.2 Line 2

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

Normally this would show something like:

TEMP: 30 28-29-32

Where the first value is the inlet temperature and the second, third and fourth are the exhaust temperatures of each exhaust fan unit.

4.1.3 Line 3

This line shows the status of both the 6 cooling fans located at the rear of the unit and the 4 cooling fans in the PSUs.

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

Message	Description
FAN: OK(NORMAL)	Fan is operating OK and cooling correctly.

Error conditions would be shown as below:

Message	Description
FAN: WARN(MAX)	Fan is running at maximum speed.
FAN: STOPPED	Fan has stopped or unit not fitted.

4.2 Setup

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

The screenshot displays the 'Setup' page of the IQH4B Modular Enclosure. The page is organized into several sections:

- Unit Status:** Displays PSU status (L-OK, R-OK), Temperature (TEMP: 31, 27-28-32), and Fan status (FAN: NNNNNN NNNN).
- Unit Status Key Information:** Provides details on temperature (TEMP: 1: Inlet Temperature, TEMP: 2-3-4: Outlet Fan Temperature) and fan status (FAN: 1-6 Outlet Fan Speed, 7-10 PSU fan).
- Setup:** Includes checkboxes for 'Net Show', 'Allow Blind Control', and 'Where Am I?'. It also features a 'Serial Port Setup' section with speed options (19200 bps, 115200 bps, 9600 bps, 57600 bps, 4800 bps, 38400 bps, 2400 bps) and 'Pass WAN Packets' options (SP_IAM, SP_TIME).
- Serial Port Setup:** Includes a 'Port Mode' dropdown set to 'RollCall RS232'.
- Report if PSUs Missing:** Includes checkboxes for 'Left PSU' and 'Right PSU'.
- Fan Speed Override:** Includes radio buttons for 'Auto', 'Medium', 'Low', and 'High'.
- FAN: Working Temp Range:** Includes a slider and a 'P' button, showing a range of 57C - 63C and 'Max Temp Reported: 48C'.
- FAN: Minimum Fan Speed:** Includes a slider and a 'P' button, showing a speed of 5000 RPM.
- Long File Packets:** Includes a checkbox for 'Enable'.
- Board Information:** Displays 'ModLevel: 0', 'PCB Issue: A', and 'Build: KRAMON1'.
- Unit Name:** A text field containing 'IQH4UM4-S validate' with 'P' and 'S' buttons.
- Serial Number:** A text field containing '855104703'.
- Hardware Version:** A text field containing 'RCIF3B2F'.
- Enclosure:** A text field containing 'IQH4B'.
- Software Version:** A text field containing '5.34.22'.
- Build Number:** A text field containing '0228805540'.
- Loader Version:** A text field containing '2.24.9'.
- Java Applet Version:** A text field containing '4.16.15'.
- Menu Caches (Module):** Includes a 'Format Now!' button and an 'Enable' checkbox.
- Start Time:** A text field containing '2017-03-27T11:23:36'.
- Misc Information 1:** A text field with 'P' and 'S' buttons.
- Misc Information 2:** A text field with 'P' and 'S' buttons.
- Http Server:** Includes a checkbox for 'Enable Web Svr' and a 'Port (needs svr restart)' field set to '80'.
- Module Upgrades:** Includes a 'Reset Timer' button and an 'Enable' checkbox.
- Power Usage:** Displays 'MAX: 700LU' and 'USED: OK:165.9LU'.
- RESTART Unit!** A large button at the bottom right.

4.2.1 Unit Name

This field allows the unit to be given a meaningful name. To enter/modify the name of the unit, type directly into the editable text field and click **S**. To return to the default name, click **P**.

4.2.2 Serial Number

Displays the serial number of the unit.

4.2.3 Hardware Version

Displays the version number of the hardware used in the Gateway module.

4.2.4 Enclosure

Displays the enclosure type that the Gateway is fitted to.

4.2.5 Software Version

Displays the software version installed.

4.2.6 Build Number

Displays the software build number of the unit.

4.2.7 Loader Version

Displays the version of the Gateway software loader. The loader operates at start-up only, validating all Gateway files before the main application runs.

4.2.8 Java Applet Version

Displays the presence and version of the Java Control Applet.

4.2.9 Menu Caches (Module)

The Gateway caches module menu sets locally to improve menu upload speeds. In rare circumstances this may cause problems. If problems 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 the menu cache function.

4.2.10 Start Time

Displays the start time for the unit.

4.2.11 Misc Information 1/2

These information fields may be edited to specify any information desired. For example, these could be used to add further information on the Gateway Card (rack position/building/group). 2 fields are available, allowing a maximum of 2 * 19 characters displayed. If these fields have edited values then a corresponding log field is raised.

Log field: INFORMATION1= and INFORMATION2=.

4.2.12 HTTP Server

To enable increased security of control, either the http server may be disabled, to prevent access to the Java Applet control panel or Homepage, or the port number for http access may be changed.

A check mark in the **Enable Web Svr** box will enable the web server control function. By default, this option is enabled. Click to remove the check mark and disable this function. To enter/modify the port number, type a new number in the editable field and click **S**. To return to the default port number, click **P**.

After changing the port number, you must restart the web server by disabling then enabling the **Enable Web Svr** check box.

4.2.13 Module Upgrades

These controls temporarily suppress backplane logging and thumbnailing. They are only used by RollMechanic and the Control Panel, and do not need to be changed by the user.

- **Reset Timer:** Resets the timer. Used when upgrading a module.
- **Enable:** Check this box to enable the upgrade function.

4.2.14 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:**); 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 (see section 4.6).

4.2.15 Setup

This group enables control of setup functions.

- **Net Show:** This function allows a unit to be hidden from the network system. When netshow is active, the unit broadcasts its presence.

Note: If the unit address is changed, Netshow will automatically be turned on.

- **Allow Blind Control:** If the Gateway is to be controlled by Blind Control, **Allow Blind Control** must be enabled. If Blind Control is not used then **Allow Blind Control** may be disabled, giving protection against incorrectly set-up RollTrack sources.

Note: If upgrading the Gateway software, Blind Control must be enabled.

- **Where Am I?:** This allows the enclosure to be physically located in a large system. When this function is selected, the LED indicator on the front panel of the enclosure will flash red and green.

4.2.16 Serial Port Setup

4.2.16.1 Speed

This group allows the serial port to be configured.

The baud rate can be set between 2400 and 115200 baud. The default speed for all RollCall serial connections is 38400 bps.

Note: The RollCall PC software supports speeds up to 57600 baud only.

4.2.16.2 Pass WAN Packets

- **SP_IAM:** This controls whether the Gateway passes wide area I_AM packets from the serial port to the RollCall Network. Normally this is enabled to allow PCs attached to the serial port to be located by other units, but it may be disabled if you wish to control the flow of I_AM packets through a system.

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:** This controls whether the Gateway passes wide area TIME packets from the serial port to the RollCall Network. Normally this is enabled to allow PCs attached to the serial port to be time servers, but it may be disabled if you wish to control the flow of TIME packets through a system.

Note:

The Gateway will always use the received time stamp, whether it passes it on or not (but see also Time from Logger).

4.2.16.3 Port Mode

Shows the current operating mode of the serial port (RS-422, RS-232 or RS-485).

4.2.16.4 Report if PSUs Missing

When these boxes are checked it will allow a missing PSU report to be displayed in the **Unit Status** area (see section 4.1) and logged.

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

Note:

If a PSU is fitted but fails or is unplugged, a warning message will always be generated.

4.2.16.5 Fan Speed Override

In normal operation the cooling fan speed is controlled by reported temperature measurements from the installed modules. The module reporting the highest temperature reading will drive the fan speed to achieve the desired range of cooling selected by the fan working temperature range control. This can be overridden if required using the Low, Medium and High fixed fan speed controls. Options are:

- **Auto:** Uses the reported temperature from installed modules. If no temperature information is available, it will default to the min fan speed setting.
- **Low:** 5000 RPM
- **Medium:** 12000 RPM
- **High:** 22000 RPM

4.2.16.6 FAN: Working Temp Range

- **Min:** 47C - 53C
- **Max:** 82C - 88C
- **Preset:** 67C - 73C

4.2.16.7 FAN: Minimum Fan Speed

Use the slider to set the lowest permissible fan speed.

- **Min:** 2000 RPM
- **Max:** 16000 RPM
- **Preset:** 5000 RPM

4.2.16.8 Long File Packets

Check box to allow long file packet transfer on gateway. File packets changed between 227 bytes and 408. Leave disabled (short) unless advised otherwise by SAM tech support.

4.2.16.9 Board Information

Displays basic technical information for the enclosure. You may be asked for these details by SAM tech support.

4.2.17 Restart Unit

Click to power the enclosure down and back up again.

4.3 Ethernet

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

The screenshot displays the Ethernet configuration page. On the left, a sidebar menu includes 'Setup', 'Ethernet' (selected), 'RollCall IP', 'Log Server', 'Slots (1-4)', and 'State (R,R)'. The main content area is divided into several sections:

- Unit Status:** Displays PSU status (L-OK, R-FAIL), temperature (TEMP: 30, 27-27-30), and fan status (FAN: NNNNNN NN--).
- Unit Status Key Information:** Provides details on temperature (TEMP: 1: Inlet Temperature, TEMP: 2-3-4: Outlet Fan Temperature) and fan speed (FAN: 1-6 Outlet Fan Speed, 7-10 PSU fan).
- Ethernet Section:**
 - IP Address settings:** Includes fields for 'Unit IP address' (172.19.79.227) and 'Subnet mask' (255.255.0.0), each with 'P' and 'S' buttons. A 'Default gateway address' field (0.0.0.0) also has 'P' and 'S' buttons. A 'REBOOT-(Takes IP address changes)' button is present.
 - Link Status:** Shows '100Mbps Full Duplex'.
 - IP Routing Setup Status:** Shows 'OK'.
 - MAC Address:** Displays '000581-0143FC' and an 'Ignore Broadcast Packets' checkbox.
 - Link speed - Change with Caution:** Features radio buttons for 'Auto' (selected), '10 Mbps half-duplex', '10 Mbps full-duplex', '100 Mbps half-duplex', and '100 Mbps full-duplex'.
 - Hyperion TCP Port:** Set to '2601' with 'P' and 'S' buttons.
 - Client IP Ranges:** A table with 8 rows (Range 1 to Range 8). Each row has 'Min' and 'Max' IP address fields, each with 'P' and 'S' buttons. A 'Check client IP' checkbox is at the top of this section.

Note:

Altering any of these settings while connected to the Gateway via IP may result in the connection being lost. If the new values are incorrect it may not be possible to reestablish the connection via IP and a connection via RollNet or the serial port will have to be made to correct the settings.

The network administrator should be able to give the correct setting for these controls.

4.3.1 Unit IP Address/Subnet mask/Default gateway address

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.

4.3.2 REBOOT-(Takes IP address changes)

After making changes to any of the **IP Address settings**, click **REBOOT** to apply the new values.

4.3.3 Link Status

This shows the current status of the Ethernet link. It will report either **No Link** or the current link speed.

4.3.4 IP Routing Setup Status

This will display the status of the IP routing. It could show:

- **FAIL:** IP Address, Subnet Mask and Default Gateway IP Address are not compatible with each other.
- **OK:** IP Address, Subnet Mask and Default gateway are compatible.

4.3.5 Link Speed

The link type and speed may be selected from these items. **Auto** is the default setting.

The alternative manual settings may be used if the switch does not support auto selection.

4.3.6 MAC Address

Displays the MAC address, a globally unique number identifying an Ethernet-equipped device.

Important:

- Note 000581 is the SAM OUI number.
- **Ignore Broadcast Packets** should only be checked if it is possible to resolve IP address to MAC addresses without using the ARP protocol. Please refer to RollCall System Integrators Manual.

4.3.7 Hyperion 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, to a remote PC.

4.3.8 Check Client IP

When selected, only clients from any of the address ranges listed below will be allowed to control this unit.

4.3.9 Client IP Ranges

This item allows the permitted Client IP address to be entered.

The Gateway can be configured with one or more IP client ranges. Each range is specified by a minimum and maximum pair of IP addresses. If **Check Client IP** is enabled then only connections from clients with IP addresses in one of these ranges will be accepted. To specify a single IP address, set a minimum and maximum pair to the same address. Ranges where Min or Max are set to 0.0.0.0 are ignored.

Note:

If **Check Client IP** is checked and no IP ranges are set, no IP connections will be accepted.

Altering these items affects new connections only; existing IP connections will not be disconnected. This is to prevent errors breaking the connection being used to make the changes.

4.4 RollCall IP

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

4.4.1 Enable Stats

If the **Enable Stats** box is checked then the various packet counters will be constantly updated.

While Update Packet Stats is disabled these will display a dash (-).

4.4.2 Reset Counts

When the **Reset Counts** button is clicked, all of the packet counters are reset to zero.

4.4.3 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 editable field and click the Save (S) button. To restore the default value, click the Preset (P) button.
- **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 editable field and click the Save (S) button. To restore the default value, click the Preset (P) button.

4.4.4 Pass WAN Packets

- **SP_IAM:** If this check box is checked 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 check box is checked then 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 it passes it on or not (but see also Time from Logger).

4.4.5 RollCall IP Connections

This displays information about IP connections to the Gateway from IP Share or IP Proxy. The information displayed refers to a single connection. The connection to display is selected with the **Show Connection** slider.

- **IP Address:** This shows the IP address of the remote unit on this IP connection.
- **TCP Port:** This shows the incoming TCP port number of the RollCall IP share connection.
- **Port Name:** This shows the name under which this IP connection appears.
- **Port Number:** This shows which RollCall port on the Gateway this IP connection corresponds to.
- **Start Time:** This shows the time at which this IP connection was started.
- **Sent Time?:** This shows if the remote unit on this IP connection has ever sent us a TIME packet.
- **Packets Received:** This shows how many packets have been received on this IP connection.
- **Packets Sent:** This shows how many packets have been transmitted on this IP connection.
- **Full Network:** This 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.
- **Show Connection:** Selects the IP connection that the Gateway should show statistics for.

4.4.6 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.

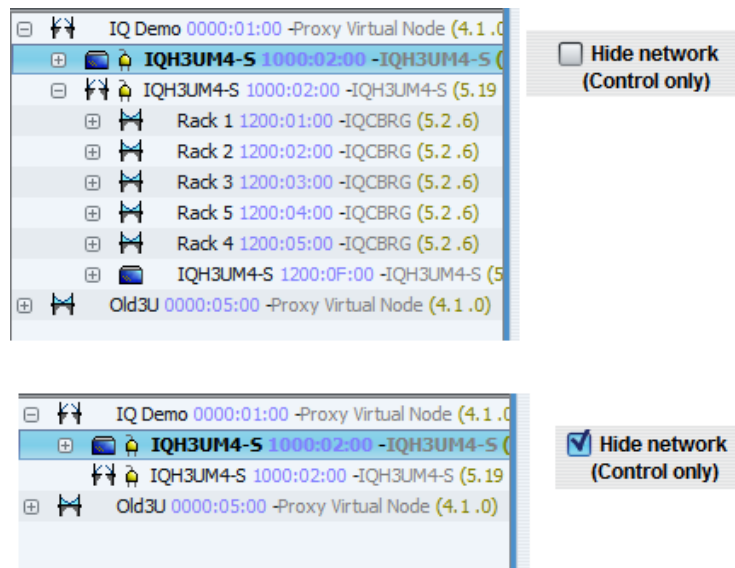
- **Last Rejected Client:** This shows the IP address of the last client that the Gateway rejected.
- **Reject Count:** This shows the number of attempted IP connections that this Gateway has rejected.
- **Last Closed Client:** IP address of the last client (bridge or other) to close their connection to 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.

4.4.7 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.
- **Priority Primary/None:** This control only available when **Alternate IP Enable** is selected. When **Priority Primary/None** is selected the primary connection address will have priority over the secondary address. This ensures that the primary address is used when it is available. If the primary connection is not available the secondary connection address will be used.
- **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.
- **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.

- **Hide network (Control only):** This control allows the remote network to be hidden from browsers. All other network traffic is allowed through the bridge.



This feature is useful where 2 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.

- **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.
- **Pass WAN packets: SP_IAM:** If this check box is enabled, then the Gateway will pass wide area I AM messages received over the IP Bridge to the RollNet network.

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 check box is checked then the Gateway will pass wide area TIME messages received over the IP bridge to the RollNet network.

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

- **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**, and 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 using the IP address and port details specified.
- **Disconnect:** This will cause the Gateway to disconnect the IP Bridge. If either end of the IP Bridge is set to auto-connect (see below), then the bridge will be re-established immediately.

- **Connect Automatically:** When enabled, if the connection fails or is manually disconnected, this will cause the Gateway to automatically attempt to establish a bridge connection at system start-up.
- **Active Bridge Logging:** When enabled, this function changes the logging state of log field **IP_BRIDGE_STATUS** to **OK** or **FAIL** instead of **INFO**.

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

4.5 Log Server

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

Setup
 Ethernet
 RollCall IP
Log Server
 Slots (1-4)
 Slots (5-8)

Unit Status
 PSU: L-OK R-FAIL
 TEMP: 30 28-28-31
 FAN: NNNNNN NN--

Unit Status Key Information
 TEMP: 1:Inlet Temperature
 TEMP: 2-3-4 :Outlet Fan Temperature
 FAN: 1-6 Outlet Fan Speed 7-10 PSU fan
 FAN: N:Normal W:Warn Max S:Stopped

Log Server
 Charlie's PC [P] [S]
 Using Charlie's PC 0000:09:90
☐ Logging Disabled
☒ Named LogServer
☐ Any LogServer
☒ Accept logserver via RollNet
☒ Accept logserver via Serial
☒ Accept logserver via IP
☒ Accept logserver via Bridge
 Last Time Source 0000:09:90
☒ Only Accept Time from Logserver

4.5.1 LogServer

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**.

4.5.2 Logging Disabled

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

4.5.3 Named LogServer

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

4.5.4 Any LogServer

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.

4.5.5 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**.

4.5.6 Accept Logserver via RollNet

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

4.5.7 Accept Logserver via Serial

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

4.5.8 Accept Logserver via IP

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

4.5.9 Accept Logserver via Bridge

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

4.5.10 Last Time Source

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

4.5.11 Only Accept Time from Logserver

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

4.6 Slots 1-4, 5-8, 9-12, 13-16, 17-20

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

The screenshot shows the 'Slots' configuration page. On the left, a sidebar lists slot ranges: Slots (1-4), Slots (5-8), Slots (9-12), Slots (13-16), Slots (17-20), and Control (1,2). Slot 1 is selected. The main area displays details for Slot 1 through Slot 4.

Slot	Name	Type	Non RollCall	Information Field(s)	Power Usage
Slot 1	IQAMD4010	823	Enable	1_1, 1_2	18.5LU
Slot 2	IQUAV10-Demo	545	Enable	2-1, 2-2	32.6LU
Slot 3	IQMIX00	780	Enable	3-1, 3-2	25.0LU
Slot 4	No Unit Fitted	No Unit	Enable	4-1, 4-2	

4.6.1 Name

The **Name** section displays the name and type of module fitted in the enclosure slot. See section 4.6.6 for more information.

The diagram illustrates the 'Name' section for Slot 10. It shows two main fields: 'Name' and 'Installed Unit Type'. The 'Name' field contains 'IQSYN22-ChanA' and has a 'Preset' button (labeled 'P') next to it. The 'Installed Unit Type' field contains 'IQSYN22' and has a 'Save' button (labeled 'S') next to it. Red arrows point from the labels 'Editable Name', 'Installed Unit Type', 'Preset', and 'Save' to their respective controls.

The following controls are provided:

- **Editable Name:** This enables a slot to be given a user name, e.g. **IQSYN22-ChanA**, and so long as the correct card stays in that slot this name will be used, as defined by matching **Installed Unit ID** and **Bound Type ID** (see section 4.6.2).

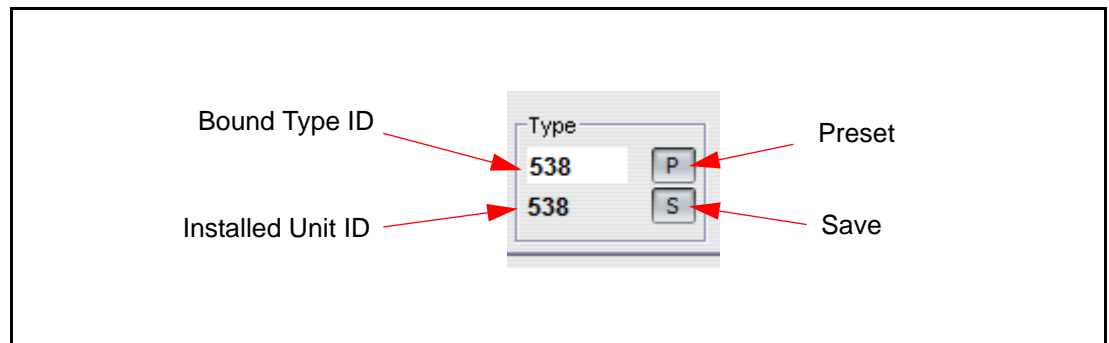
However, if the card is replaced with an incorrect type, e.g. a serial interface, the card will appear by its type name, e.g. IQCSPI, although the values in this edit box will remain the same. When this entry is edited, the current **Installed Unit ID** is copied to the **Bound Type ID**.

To enter/modify the unit name, type a new name in the editable field and click **S**. To return to the default name, click **P**.

- **Installed Unit Type:** This shows the type of the 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.

4.6.2 Type

This displays the unique identifier of the module fitted in the slot. See section 4.6.6 for more information.



The following controls are provided:

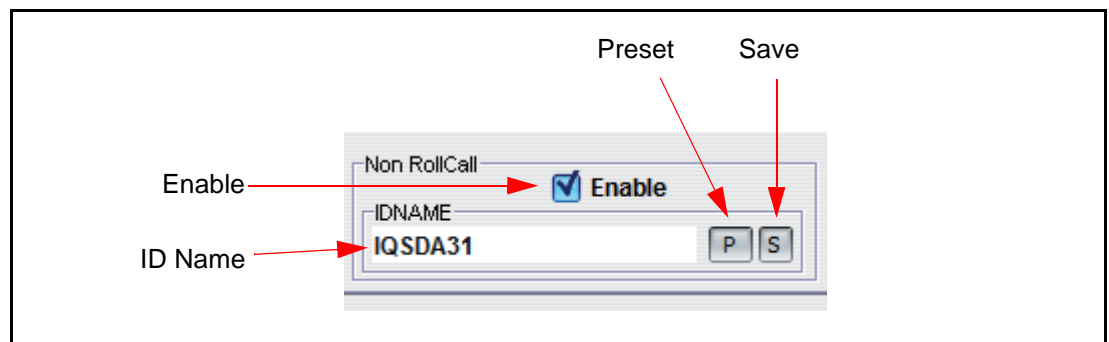
- **Bound Type ID:** This allows the slot to be associated with a particular type of module (e.g. an encoder type 284). If a module matching this type ID is fitted, the Gateway will use the user-defined name. If an incorrect card type is installed in the slot, the RollCall ID will not be correct and the actual card type will be displayed in the module browser. The names and types may be set up before the installation of the modules. Edit the **Bound Type ID** after editing the **Editable Name**.

To enter/modify the **Bound Type ID**, type a new number in the editable field and click **S**. To return to the default number, click **P**.

- **Installed Unit ID:** This displays the identifier of the module fitted in the slot position.

4.6.3 Non-RollCall

This allows a non-RollCall card occupying a slot to be identified. See section 4.6.6 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 passive card appears as **NOT RollCall 3!**, and the installed unit ID appears as **65535**.

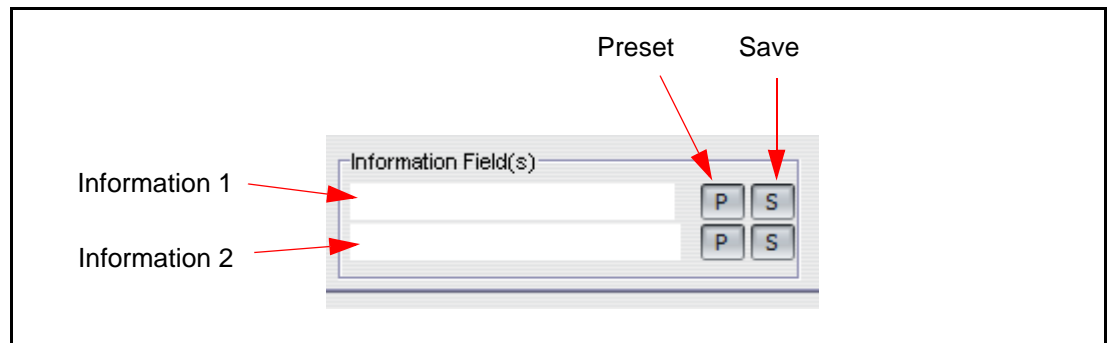
Note: If there is a RollCall-responsive card in the slot, selecting this option has no effect.

- **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 the Save (**S**) button. To return to the default name, click the Preset (**P**) button.

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

4.6.4 Information Field(s)

Information fields that may be edited by user to specify any information desired. See section 4.6.6 for more information.



For example, these could be used to name signal paths associated per card. 2 fields are available allowing a maximum of 2 * 19 characters to be displayed.

If these fields have edited values then a corresponding log field is raised per slot.

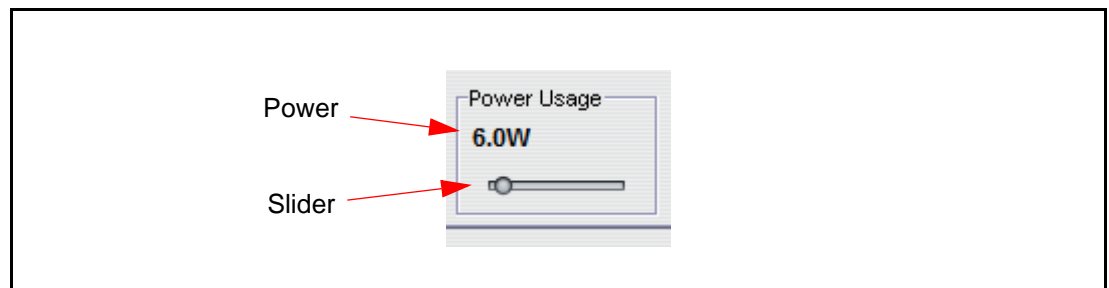
Log field: INFORMATION1= and INFORMATION2=.

Note: A global control for these logging fields applies in Logging(2).

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

4.6.5 Power Usage

This displays the power usage of the unit fitted in the slot. See section 4.6.6 for more information.



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

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

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

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

4.6.6 Examples of Slot Use

4.6.6.1 Intentionally Empty Slot

If a slot is intentionally left empty, the **Installed Unit Name** field will show **No Unit Fitted** and the **Installed Unit ID** field will show **No Unit**.

The **Editable Name** field will be empty and the **Bound Type ID** window will display **None**.

In the absence of other modules, the Gateway does not log module status for this slot position.

4.6.6.2 Correct Module Fitted

If a module is fitted that matches the **Bound Type**, the **Editable Name** is 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. The Gateway also logs **MSG=UNIT PRESENT** for the slot position.

4.6.6.3 Module Absent - Unit Bound

If a slot is intended to have a particular module fitted (as set by the **Bound Unit** function), but no module is installed, the **Installed Unit Name** field will display **No Unit Fitted** and the **Installed Unit ID** field will display **No Unit**. However, the **Editable Name** field will show the intended name and the **Bound Type 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. The gateway also logs **MSG=UNIT LOST** for the slot position.

4.6.6.4 Module Fitted - No Bound Unit

If a module is fitted in a slot but no **Bound Type** 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. The Gateway also logs **MSG=UNIT PRESENT** for the slot position.

4.6.6.5 Incorrect Module Fitted

If a module is fitted that does not match the **Bound Type**, the **Editable 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 Wrong Module**, and show **Module Status = 1 Wrong Module** on the **Logging** page. The Gateway also logs **MSG=UNIT PRESENT** for the slot position.

4.6.6.6 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>**.

4.7 Control 1-8, 9-16, 17-20

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

The screenshot displays the 'Control' interface for slots 1 through 8. At the top, a sidebar lists navigation options: Control (1-8), Control (9-16), Control (17-20), Gateway Control, SNMP, and Logging (1). The main area is divided into two columns. The left column shows 'Unit Status' for the selected slot (Slot 1), including PSU status (L-OK, R-FAIL), Temperature (TEMP: 30, 27-28-31), and Fan status (FAN: NNNNNN NN--). The right column shows 'Unit Status Key Information' with details for Inlet Temperature, Outlet Fan Temperature, Outlet Fan Speed, and PSU fan status. Below these, a 'Clear Packet Counts' button is visible. The main content area displays packet counts for each slot (Slot 1 to Slot 8). Each slot's panel includes a 'Disconnect' button, a 'Name' field, a table with 'Address' and 'Packet Count' columns, and checkboxes for 'Allow Blind Control' and 'Single Session Only'. The 'Update Packet Stats' checkbox is checked at the top. At the bottom, a 'Show Session' slider is set to 1, with a 'P' button next to it.

4.7.1 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.

4.7.2 Clear Packet Counts

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

4.7.3 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.

4.7.4 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.

4.8 Gateway Control

This **Gateway Control** page provides information about control clients connected to the gateway unit itself (not to modules inside the enclosure). Note if SNMP is enabled, one of the sessions is looped back to itself.

Gateway Control

SNMP
Logging (1)
Logging (2)
Logging TEMP-FAN
Statistics

Unit Status

PSU: L-OK R-FAIL
TEMP: 30 26-28-31
FAN: NNNNNN NN--

Unit Status Key Information

TEMP: 1:Inlet Temperature
TEMP: 2-3-4 :Outlet Fan Temperature
FAN: 1-6 Outlet Fan Speed 7-10 PSU fan
FAN: N:Normal W:Warn Max S:Stopped

Control

Name	Address	Packet Count	Connected Total
ControlPanelDM	0000:09:93	-	-

Show Session: 1 [P] Disconnect Session

Blind control

Address	Packet Count
****.**.**.*	-

☒ Allow Blind Control

Statistics control

☐ Update Packet Stats Clear Packet Counts

4.8.1 Control

- **Name:** This shows the RollCall controller client name / per session. Note if SNMP is enabled, one of the session names corresponds to the name of the gateway unit.
- **Address:** Remote address of Controller client.
- **Packet Count:** The number of control packets on session to remote client.
- **Connected Total:** The total number of control packets on all sessions. This includes previously closed client session counts. This value is cleared by clicking the **Clear Packet Count** button.
- **Show Session:** Drag the slider to browse different sessions. All sessions are indexed from 1, with no gaps in between. Click the Preset (**P**) button to return to the default value.
- **Disconnect Session:** When this button is clicked, the current displayed session is disconnected.

4.8.2 Blind Control

Displays information on the last blind controller to the gateway.

- **Allow Blind Control:** If this box is enabled, blind control packets are accepted at the gateway.
- **Address:** Last known blind controller address. This value is cleared by clicking the **Clear Packet Count** button.
- **Packet Count:** The number of blind control packets since last cleared / reset.

4.8.3 Statistics Control

- **Update Packet Stats:** If ticked, packet counts updated each second on displayed session and blind controllers.
- **Clear Packet Counts:** Clears and resets connected and blind packet counts, resets last blind controller address.

4.9 SNMP (Simple Network Management Protocol)

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

Gateway Control

SNMP

Logging (1)
Logging (2)
Logging TEMP-FAN
Statistics

Unit Status

PSU: L-OK R-FAIL
TEMP: 30 27-28-31
FAN: NNNNNN NN--

Unit Status Key Information

TEMP: 1:Inlet Temperature
TEMP: 2-3-4 :Outlet Fan Temperature
FAN: 1-6 Outlet Fan Speed 7-10 PSU fan
FAN: N:Normal W:Warn Max S:Stopped

SNMP

☐ Enable SNMP ☐ Enable Legacy SNMP

Read community: public [P] [S]
Write community: private [P] [S]

MIB2 sysContact: www.s-a-m.com [P] [S]
MIB2 sysName: System Name [P] [S]
MIB2 sysLocation: Location Name [P] [S]
Read / Write Port: 161 [P] [S]

Resend All Traps

Traps	Enable	IP Address	Port	Community
Trap 1	<input type="checkbox"/>	0.0.0.0	162 [P] [S]	public [P] [S]
Trap 2	<input type="checkbox"/>	0.0.0.0	162 [P] [S]	public [P] [S]
Trap 3	<input type="checkbox"/>	0.0.0.0	162 [P] [S]	public [P] [S]
Trap 4	<input type="checkbox"/>	0.0.0.0	162 [P] [S]	public [P] [S]
Trap 5	<input type="checkbox"/>	0.0.0.0	162 [P] [S]	public [P] [S]
Trap 6	<input type="checkbox"/>	0.0.0.0	162 [P] [S]	public [P] [S]
Trap 7	<input type="checkbox"/>	0.0.0.0	162 [P] [S]	public [P] [S]
Trap 8	<input type="checkbox"/>	0.0.0.0	162 [P] [S]	public [P] [S]

Slot Trap Enable

☒ Gateway

<input checked="" type="checkbox"/> Slot 1	<input checked="" type="checkbox"/> Slot 5	<input checked="" type="checkbox"/> Slot 9	<input checked="" type="checkbox"/> Slot 13	<input checked="" type="checkbox"/> Slot 17
<input checked="" type="checkbox"/> Slot 2	<input checked="" type="checkbox"/> Slot 6	<input checked="" type="checkbox"/> Slot 10	<input checked="" type="checkbox"/> Slot 14	<input checked="" type="checkbox"/> Slot 18
<input checked="" type="checkbox"/> Slot 3	<input checked="" type="checkbox"/> Slot 7	<input checked="" type="checkbox"/> Slot 11	<input checked="" type="checkbox"/> Slot 15	<input checked="" type="checkbox"/> Slot 19
<input checked="" type="checkbox"/> Slot 4	<input checked="" type="checkbox"/> Slot 8	<input checked="" type="checkbox"/> Slot 12	<input checked="" type="checkbox"/> Slot 16	<input checked="" type="checkbox"/> Slot 20

SNMP Control

☒ Gateway

<input checked="" type="checkbox"/> Slot 1	<input checked="" type="checkbox"/> Slot 5	<input checked="" type="checkbox"/> Slot 9	<input checked="" type="checkbox"/> Slot 13	<input checked="" type="checkbox"/> Slot 17
<input checked="" type="checkbox"/> Slot 2	<input checked="" type="checkbox"/> Slot 6	<input checked="" type="checkbox"/> Slot 10	<input checked="" type="checkbox"/> Slot 14	<input checked="" type="checkbox"/> Slot 18
<input checked="" type="checkbox"/> Slot 3	<input checked="" type="checkbox"/> Slot 7	<input checked="" type="checkbox"/> Slot 11	<input checked="" type="checkbox"/> Slot 15	<input checked="" type="checkbox"/> Slot 19
<input checked="" type="checkbox"/> Slot 4	<input checked="" type="checkbox"/> Slot 8	<input checked="" type="checkbox"/> Slot 12	<input checked="" type="checkbox"/> Slot 16	<input checked="" type="checkbox"/> Slot 20

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

4.9.1 Enable SNMP

This enables or disables the Gateway SNMP functions.

Note: Enabling SNMP makes certain older modules inaccessible at non-Supervisor levels, and thus prevents certain module-specific PC tools from working correctly. The workaround is to temporarily disable the SNMP agent whilst using these tools.

4.9.2 Enable Legacy SNMP

This enables the legacy SNMP function. This is provided for customers whose system relies on the SNMP implemented on earlier Gateway versions (V2.14.6). If you are an existing SNMP user, and want the Gateway to provide the same interface as previous versions, enable this check box.

Enabling this does not prevent operation of the full SNMP agent.

4.9.3 Read Community

Configures the SNMP read community value. Default value "public".

4.9.4 MIB2 sysContact

Customer given name of person responsible for equipment.

4.9.5 MIB2 sysLocation

Customer given physical or logical location of system.

4.9.6 Write Community

Configures the SNMP write community value. Default value "private".

4.9.7 MIB2 sysName

Name of system if applicable.

4.9.8 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.

Note: Changing this value restarts the SNMP agent.

4.9.9 Resend All Traps

Resends all current traps/notifications for all occupied slots and Gateway card. If legacy operation is enabled, the associated traps are also sent.

4.9.10 Traps

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

- **IP Address:** The IP address to which notifications (traps) are sent. This address should correspond to the IP address of the PC monitoring notifications.
- **Port:** The connection port address used to send notifications. The target machine (IP address) should be configured to listen for notifications on this port. The SNMP default is 162, but other port numbers may be used.
- **Community:** Trap Community string. This string is included within the SNMP trap message.
- **Enable:** Enable this Trap destination. Trap dest 1 is always enabled when SNMP is enabled, so it has no enable control.

4.9.11 Slot Trap Enable

With SNMP enabled, these controls allow filtering of trap messages from individual slot positions, or even the Gateway. Trap sending is only available when control is enabled for the slot. See SNMP Control below.

4.9.12 SNMP Control

These check boxes allow filtering of SNMP control to only the desired slots/gateway. If traps are required on a slot, control must also be enabled.

4.10 Logging 1

The **Logging 1** 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 logserver.

Description	Log Header	Current Value
Serial Number	SN=	S55104703
Software Version	VERSION=	5.34.22
<input type="checkbox"/> Build Number	BUILD_NUMBER=	0228805540
<input type="checkbox"/> OS Version	OS_VERSION=	V115 Release
<input type="checkbox"/> Hardware Version	HARDWARE_VERSION=	RCIF3B2F
<input type="checkbox"/> Loader Version	LOADER_VERSION=	2.24.9
<input type="checkbox"/> IP Address	IPADDRESS=	172.19.79.227
<input type="checkbox"/> Module Summary Status	MODULE_STATUS=	WARN:9 EXTRA MODULE
<input type="checkbox"/> No. Of Gateway Ctrl Sessions	SESSIONS=	1
<input type="checkbox"/> Gateway Last Modified	LAST_MODIFIED=	-
<input type="checkbox"/> Faults	FAULT=	OK:None
<input type="checkbox"/> PSU 1 Name	PSU_1_NAME=	Left PSU
<input checked="" type="checkbox"/> PSU 1 State	PSU_1_STATE=	OK
<input type="checkbox"/> PSU 2 Name	PSU_2_NAME=	Right PSU
<input checked="" type="checkbox"/> PSU 2 State	PSU_2_STATE=	FAIL
<input type="checkbox"/> Recon State	RECON_STATE=	OK
<input type="checkbox"/> Lan Port 1 Name	LAN_PORT_1_NAME=	FastEthernet0/1
<input checked="" type="checkbox"/> Lan Port 1 State	LAN_PORT_1_STATE=	Active
<input type="checkbox"/> Lan Port 1 Speed	LAN_PORT_1_SPEED=	100 Mbit/s Full Dup
<input type="checkbox"/> Lan Port 1 Last Change	LAN_PORT_1_LAST_CHANGE=	000:00:00:00
<input type="checkbox"/> Lan Port 1 Errors	LAN_PORT_1_ERRORS=	0 in total
<input type="checkbox"/> Lan Port 1 InTraffic	LAN_PORT_1_TRAFFIC_IN=	3.5 KBytes/sec
<input type="checkbox"/> Lan Port 1 OutTraffic	LAN_PORT_1_TRAFFIC_OUT=	0.3 KBytes/sec
<input type="checkbox"/> Ip Event	IP_EVENT=	172.19.77.117 CONNE
<input checked="" type="checkbox"/> Uptime	UPTIME=	000:03:55:00
<input type="checkbox"/> Restarted At	RESTARTED_AT=	2017-03-28T06:13:34

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"
LOADER_VERSION=	Loader Version	Version Number	For example, 2.17 7.

Field Name	Field Name Description	Valid Field Values	Usage Description
IPADDRESS=	IP Address	WARN: None WARN: Invalid Address 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
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 <= 20 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.
FAULT=	Internal fault status of unit	NONE FAIL: <fault description>	This field is used to report internal hardware or software faults detected by a unit (as distinct from external error conditions, e.g. loss of input).
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 settable.
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	Where FastEthernet is the port type, other reported types are 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

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 init.
LAN_PORT_n_LAST_CHANGE=	Time from start since last Port Change	Number DDD:HH:MM:SS	Time change when IP interface parameters altered (ie IP subnet) Uptime in specified format updated every minute, NOTE: field value is zero buffered 001:08:10:00 (is 1 day, 8 hours, 10 minutes, 0 seconds) Derived from MIB-II ifLastChange
LAN_PORT_n_ERRORS=	Total number errors	XXX in total	Summation of MIB-II values ifInDiscards+ifInErrors+ifInUnknownProtos+ifOutDiscards+ifOutErrors. Updated periodically (60 sec interval)
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")
IP_EVENT=	Text	xxx.xxx.xxx.xxx CONNECT FROM xxx.xxx.xxx.xxx DISCONNECT FROM xxx.xxx.xxx.xxx BRIDGE CONNECT TO xxx.xxx.xxx.xxx BRIDGE CONNECT FROM	Free text for miscellaneous IP event messages such as xxx.xxx.xxx.xxx CONNECT FROM. Note IP address is not zero buffered. This column is informational and not to be used for defined error states
LAN_PORT_n_STATE=	Ethernet connection state	Active WARN: Inactive	Does the Ethernet have electrical connectivity
UPTIME=	Uptime in seconds	Number DDD:HH:MM:SS	Uptime in specified format updated every minute, NOTE: field value is zero buffered 001:08:10:00 (is 1 day, 8 hours, 10 minutes, 0 seconds)
RESTARTED_AT=	Last Restarted (UTC)	UTC Timestamp	UTC Time of last reboot, formatted as per ISO8601 as above.

4.11 Logging 2

The **Logging 2** 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.

When the check box is enabled, the field will be logged to the logserver.

Description	Log Header	Current Value
<input type="checkbox"/> Enclosure Name	ENCLOSURE=	IQH4B
<input checked="" type="checkbox"/> Module Comms	MODULE_COMMS=	0
<input type="checkbox"/> Information 1 Text	INFORMATION1=	kkkkkkkkkkkkkkkkkkkk
<input type="checkbox"/> Information 2 Text	INFORMATION2=	mmmmmmmmmmmmmmmmmmmm
<input type="checkbox"/> IP Thumb Port	THUMB_IP_PORT=	2601
<input type="checkbox"/> Snmp Name	SNMP_NAME=	System Name
<input type="checkbox"/> Location	LOCATION=	Location Name
<input type="checkbox"/> System Contact	SYSTEM_CONTACT=	www.s-a-m.com
<input type="checkbox"/> System Description	SYSTEM_DESCRIPTION=	IQH4BM4-S
<input type="checkbox"/> Logging State	LOGGING_STATE=	OK
<input type="checkbox"/> Max Power Available	POWER_MAX=	960LU
<input checked="" type="checkbox"/> Power Usage	POWER_USAGE=	OK:165.9LU
<input type="checkbox"/> Power Detail Check	POWER_CHECK=	OK
<input type="checkbox"/> IP Bridge Status	IP_BRIDGE_STATUS=	INFO:Inactive
<input type="checkbox"/> Monitor Card	MONITOR_CARD=	OK:Present
<input type="checkbox"/> Power Regulator 1 Card	POWER_REG_1_CARD=	FAIL:Not Fitted
<input type="checkbox"/> Power Regulator 2 Card	POWER_REG_2_CARD=	OK:Present
<input type="checkbox"/> Voltage 1 Name	VOLTAGE_1_NAME=	+12.0V
<input checked="" type="checkbox"/> Voltage 1 State	VOLTAGE_1_STATE=	OK
<input checked="" type="checkbox"/> Voltage 1 Value	VOLTAGE_1_VALUE=	+12.2
<input type="checkbox"/> Voltage 2 Name	VOLTAGE_2_NAME=	-7.5V
<input checked="" type="checkbox"/> Voltage 2 State	VOLTAGE_2_STATE=	OK
<input checked="" type="checkbox"/> Voltage 2 Value	VOLTAGE_2_VALUE=	-7.7

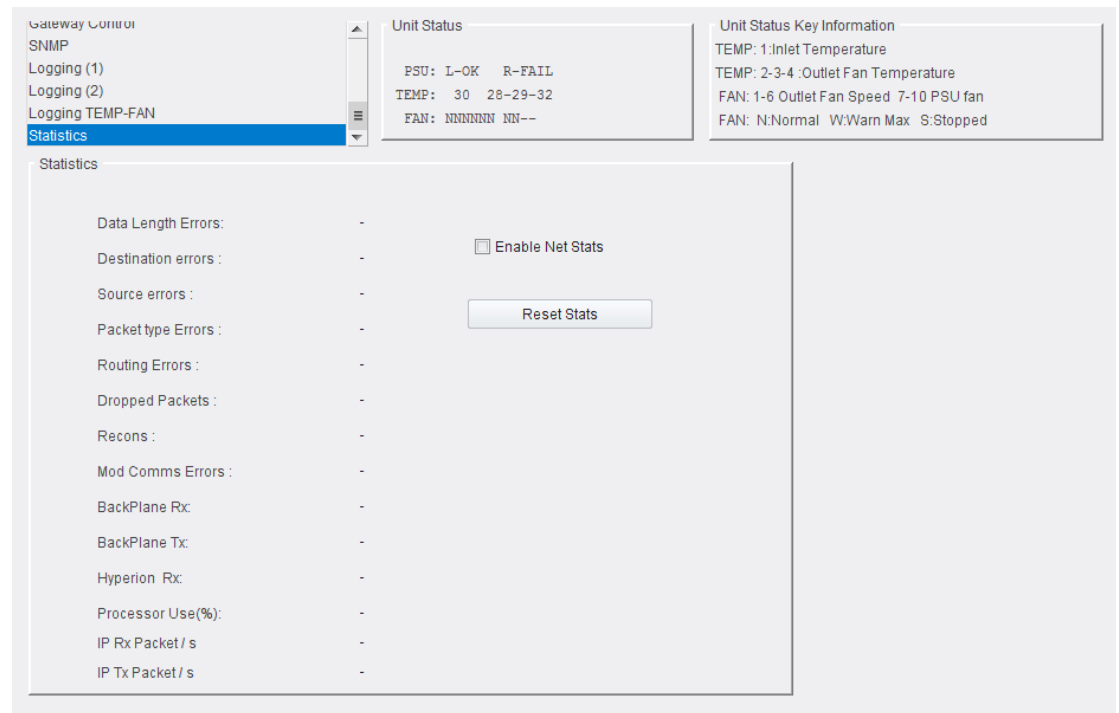
Field Name	Field Name Description	Valid Field Values	Usage Description
ENCLOSURE=	Enclosure Name	IQH1A, IQH3A, IQH3B, IQH3BQ, IQH4B	Displays the name of the IQ Modular Enclosure.
MODULE_COMMS=	State of module comms bus	Number of bus errors per 20 seconds	Running average of bus errors, 0 would indicate 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.
THUMB_IP_PORT=	Thumb IP Port value	NUMBER	Reports the IP Port number used for Hyperion Thumbnail monitoring. Ensure enabled if Hyperion monitoring uses 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. It is possible to see more than one LogServer over multiple network addresses, but again, this is not recommended.
POWER_MAX=	Max Power Available	141W - Power for IQH3A 63W - IQH1A 165 Load Units - IQH3B 700 Load Units - IQH4B	Maximum power according to enclosure type.
POWER_USAGE=	Power Usage	OK:nnnW or OK:mmmLU e.g. OK:74W / OK:72LU WARN:nnnW or WARN:mmmLU e.g. WARN:144W / WARN:705LU	Current power usage of all cards fitted. This will indicate WARN if value exceeds POWER_MAX
POWER_CHECK=	Power Detail Check	OK WARN:REFER MANUAL	Reports if cards have a known power rating, or not. If any card is not recognized it will port WARN:REFER MANUAL, else OK.
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=	Internal comms monitor	OK:Present FAIL:Not Present	Reports whether monitor card is fitted and working.
POWER_REGULATOR_1= POWER_REGULATOR_2=	Negative power regulator	OK:Present FAIL:Not Present	Reports whether negative rail regulator unit is fitted and working.
VOLTAGE_1_NAME= VOLTAGE_2_NAME=	Voltage rail name	Text	For IQ these are +7.5V & -7.5V rails.
VOLTAGE_1_STATE= VOLTAGE_2_STATE=	Is the voltage rail within spec?	OK FAIL: High FAIL: Low	Voltage rail is within spec Absolute value of voltage rail is above normal operating threshold Absolute value of voltage rail is below normal operating threshold This definition means that if the -7V rail is at -9V, it would be shown as FAIL:High Definition of out of spec is on a per product basis. The user manual for the product must reflect the out of spec ranges.
VOLTAGE_1_VALUE= VOLTAGE_2_VALUE=	The value of the voltage rail	Text	+nn.nnV -nn.nnV

4.12 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 SAM customer support to assist debugging.



4.12.1 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.
- **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.