



grass valley

A **BELDEN** BRAND

G2 SERIES 1U ROUTER CONTROL PANEL

SHALLOW 40 LED BUTTON AND 32 LCD BUTTON VERSIONS

User Manual

Issue 1 Revision 2

2020-05-18

www.grassvalley.com

FCC Compliance

In order to comply with FCC/CFR47: Part 15 regulations, it is necessary to use high-quality, triple-screened Media or Monitor cable assemblies with integrated ferrite suppression at both ends.

Patent Information

This product may be protected by one or more patents.

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

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A Grass Valley manual may have been revised to reflect changes made to the product during its manufacturing life. Thus, different versions of a manual may exist for any given product. Care should be taken to ensure that one obtains the proper manual version for a specific product serial number.

Information in this document is subject to change without notice and does not represent a commitment on the part of Grass Valley.



Warranty information is available from the Legal Terms and Conditions section of Grass Valley's website (www.grassvalley.com).

Title	G2 Series 1U Router Control Panel User Manual
Part Number	Issue 1 Revision 2
Revision	2020-05-18, 11:04

Safety Information

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 \oplus 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

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 \oplus , ainsi qu'une liaison « neutre » identifiable.
- La prise électrique qui alimente l'appareil doit être proche de celle-ci et accessible.

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 Elektroschocks 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.

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 \oplus y teniendo una conexión neutra fácilmente identificable.
- La toma de alimentación para la unidad debe ser cercana y fácilmente accesible.

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. È 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.

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 få 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 försörd från ett strömsystem som är försedd med jordadanslutning ⊕ samt ha en neutral anslutning som lätt identifierbar.
- Vägguttaget som strömförsörjer apparaten bör finnas i närheten samt vara lättillgänglig.

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 jordet.
- Dette apparat skal forbindes til en nettilslutning, der yder BESKYTTEDE JORD ⊕ og 0 forbindelse skal være tydeligt markeret.
- Stikkontakten, som forsyner apparatet, skal være tæt på apparatet og let tilgængelig.

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 SUOJAMAALITÄNTÄ ⊕ ja nolliälitännän on oltava luotettavasti tunnistettavissa.
- Sähköpistorasian tulee olla laitteen lähellä ja helposti tavoitettavissa.

Σύμβολα 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 efectuada 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.

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 εξασφαλίσετε 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.

Important Safety Information

This section provides important safety guidelines for operators and service personnel. Specific warnings and cautions appear throughout the manual where they apply. Please read and follow this important information, especially those instructions related to the risk of electric shock or injury to persons.

Symbols and Their Meanings



Indicates that dangerous high voltage is present within the equipment enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



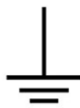
Indicates that the user, operator or service technician should refer to the product manuals for important operating, maintenance, or service instructions.



This is a prompt to note the fuse rating when replacing fuses. The fuse referenced in the text must be replaced with one having the ratings indicated.



Identifies a protective grounding terminal which must be connected to earth ground prior to making any other equipment connections.



Identifies an external protective grounding terminal which may be connected to earth ground as a supplement to an internal grounding terminal.



Indicates that static sensitive components are present, which may be damaged by electrostatic discharge. Use anti-static procedures, equipment and surfaces during servicing.



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



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



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



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



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



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

Warnings



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

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

Cautions



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

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

Follow static precautions at all times when handling this equipment.

Electrostatic Discharge (ESD) Protection



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

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

Safety Information (Continued)



IMPORTANT
The installation and maintenance of the G2 Series 1U Router Control Panel and any associated equipment must be carried out by persons qualified to work with equipment which may be connected to a mains electric supply.

DC Power Supply

The G2 Series 1U Router Control Panel is powered from up to two DC power supplies. The unit has two rear DC power connectors, for connecting up to two separate external, Grass Valley DC power supply modules.

Before connecting the equipment, observe the safety warnings in this section and ensure that the correct external power supply module is used.

Always ensure that the unit is properly earthed and power connections are correctly made.

WARNING

Only use specified Grass Valley DC power supply modules with this product.



Notes:

- Isolate the unit from other products/networks before servicing.
- The DC power inlets on the G2 Series 1U Router Control Panel are the DC power disconnection devices for the unit.
- The IEC power inlets on the external power supply modules are the AC mains power disconnection devices for the G2 Series 1U Router Control Panel and its external DC power supply unit modules.
- To reduce the risk of electric shock, plug each power supply cord into separate branch circuits employing separate service grounds.

Mains Power Supplies

The G2 Series 1U Router Control Panel unit is DC powered and has two DC power connectors. These are for connecting up to two separate external, Grass Valley DC power supply modules; these power supply modules each have an IEC AC inlet and an IEC mains cord.

An AC mains supply voltage will be auto-detected by the external power supply modules, provided it is in the range 100 to 240 V AC and is at 50 or 60 Hz.

Always ensure that an external power supply module is properly earthed and power connections are correctly made.

This G2 Series 1U Router Control Panel together with its separate external power supply module(s) must be supplied from a power supply system providing a PROTECTIVE EARTH connection and having a neutral connection which can be reliably identified.

The power circuit breakers or switches supplying power to the unit should be close to the unit and easily accessible.

LCD Push Buttons

The G2 Series 1U Router Control Panel is fitted with one or more LCD push buttons, depending on the product version. These push buttons contain small, programmable, high-resolution, graphic LCD units set into the button face.

CAUTION

Do not exceed 100N force on the button face of an LCD push button.

WARNING

If a push button's small LCD unit is broken:

- Avoid contact with any liquid from the push button.
 - Wash off any liquid spills to the skin or to clothing.
-

Safety and EMC Compliance

Safety Standards

This equipment complies with 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.

Hazardous Material RoHS EU Directive 2011/65/EU.

EMC Standards

This unit conforms to the following standards:

EN 55032:2015 (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.

EN 55103-2:2009 (Environment E2)

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

FCC

Federal Communications Commission Rules, 47 CFR: Part 15, Subpart B (Class A)

WARNING

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

CAUTION

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

Note:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

EMC Environment

The unit(s) described in this manual conform to the EMC requirements for, and are intended for use in, commercial and light industrial environments (including, for example, theaters, and television studios which are not purpose-built studios) E2.

EMC Performance of Cables and Connectors

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

Ethernet:

This equipment is intended to be connected to an Ethernet network which is not routed outside of the building in which it is installed, i.e. designated Network Environment 0 as defined in IEC TR 62102.

In accordance with EN 60950-1 the Ethernet port is classified as SELV (Low voltage).

Serviceable Items

There are no serviceable items within the G2 Series 1U Router Control Panel.

Recycling

Visit www.grassvalley.com for recycling information.

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1 Product Overview

Thank you for purchasing your new G2 Series 1U Router Control Panel from Grass Valley, a Belden brand.

This user manual describes the product, provides relevant safety information and instructs how to install, configure and operate the product. If you have any questions regarding the installation and setup of your product, please contact Grass Valley customer support.

The G2 Series 1U Router Control Panel is a versatile, shallow 1RU hardware control panel for router control. It is compatible with current Grass Valley routers and router controllers which support the RollCall protocol, including IP routing controllers.

These control panels are available in the following versions:

- 32 LCD push button.
- 40 LED push button.

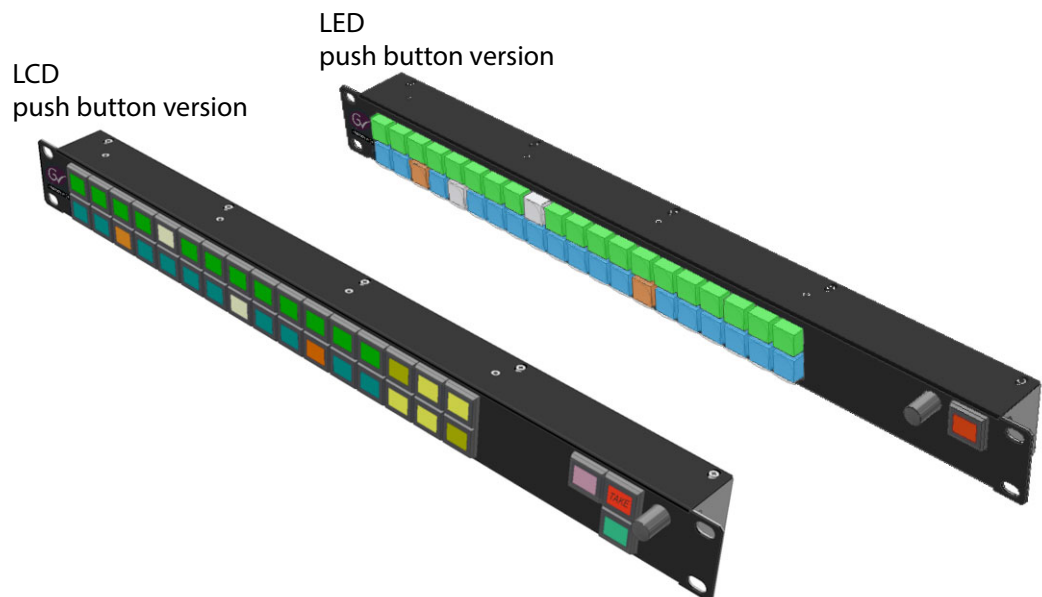


Fig. 1-1: G2 Series 1U Router Control Panels

Both product versions may be configured and operated as either:

- XY router control panels (select destination and source individually), or
- BPX router control panels (select destination and source together, single button press).

Button layout and function assignment is user-configurable on both panel types.

LED Button Panel:

- 40-off LED-illuminated push buttons.
- + 1-off LCD text/illuminated push button
- + 1-off rotary control/push button (for future use).
- + Rear Ethernet connection & dual-redundant power supply connection.
- Configurable operation, button layout and button function.



Fig. 1-2: LED Button Panel (Order code: **1RU40LED-BK-K**)

LCD Button Panel:

- 32-off +3-off LCD text/illuminated push buttons.
- + 1-off rotary control/push button.
- + Rear Ethernet connection & dual-redundant power supply connection.
- Configurable, operation, button layout and button function.



Fig. 1-3: LCD Button Panel (Order code: **1RU32LCD-BK-K**)

Order Codes

Tab. 1-1: G2 Series 1U Router Control Panel Order Codes

Order Code	Description
Control Panels:	
1RU40LED-BK-K	G2 Series 1U Router Control Panel - 40 LED buttons. + 1-off Power Supply Module.
1RU32LCD-BK-K	G2 Series 1U Router Control Panel - 32 LCD buttons. + 1-off Power Supply Module.
Second PSU Module:	
INSY-PSU-EXT	Power Supply Module for a G2 Series 1U Router Control Panel.
Spares:	
INSY-PSU-EXT	Power Supply Module (main or redundant) for a G2 Series 1U Router Control Panel.

Unit Functional Description

These control panels are used for router control, making routes between sources and destinations. Two types of panel are available:

- LCD button panel.
- LED button panel.

Either panel type may be configured and operated as an 'XY' panel or as a 'BPX' panel:

- **XY panel** - two button presses to make a route.
(Individually select a destination and a source.)
- **BPX panel** - single button press to make a route
(Destination and source are selected together.)

Additionally,

an LCD panel has a 'Group' operational mode; **Group** mode has the following sub-modes:

- Dial-Up
- ABC
- Custom Group

In all panel modes, the button layout is flexible and fully user-configurable. A panel can accommodate many sources and many destinations; or many sources and a few destinations; or vice versa.

Inputs and Outputs

The inputs and outputs of the G2 Series 1U Router Control Panel are shown in Figure 1-4.

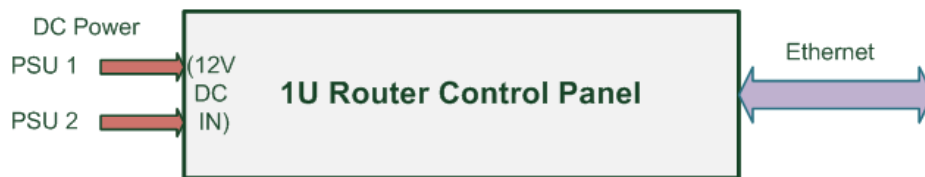


Fig. 1-4: Inputs and Outputs

Functional Blocks

Figure 1-5 shows a generic functional block diagram comprising:

- Front panel controls and indicators.
- Processing block.
- Power supply.

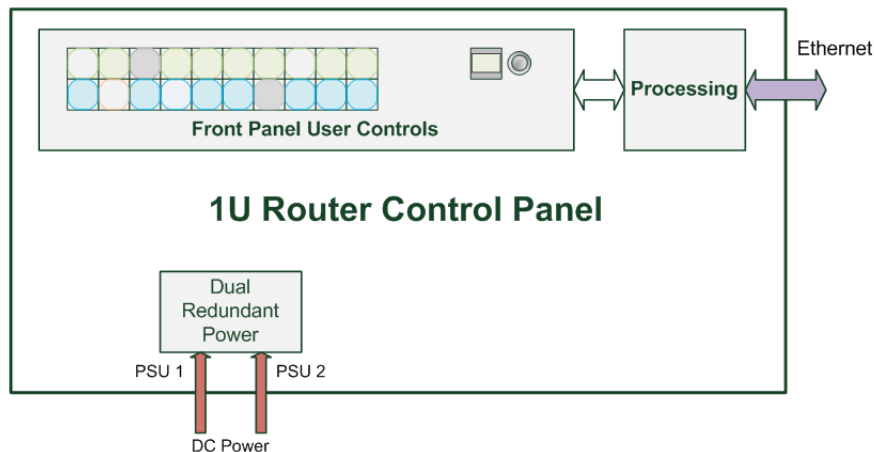


Fig. 1-5: Functional Block Diagram

The processing block illuminates buttons, interprets button presses, communicates with one or more Grass Valley router controllers, and annotates (LCD) buttons.

Overall unit functionality is governed by the version of software running on the unit. Router control panels use specific router control software which drives the push buttons and processes various button presses for router control applications.

Figure 1-6a shows an example button arrangement where source selection buttons are ranged along the top row of buttons and destination selection buttons along the bottom row. Other arrangement may be easily configured, Figure 1-6b shows some possibilities.

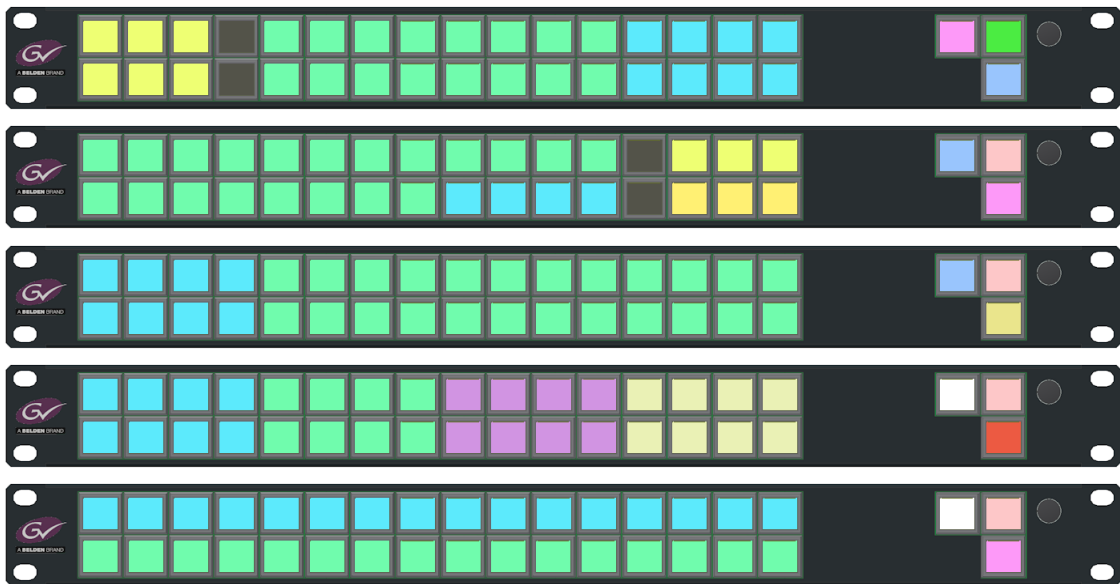
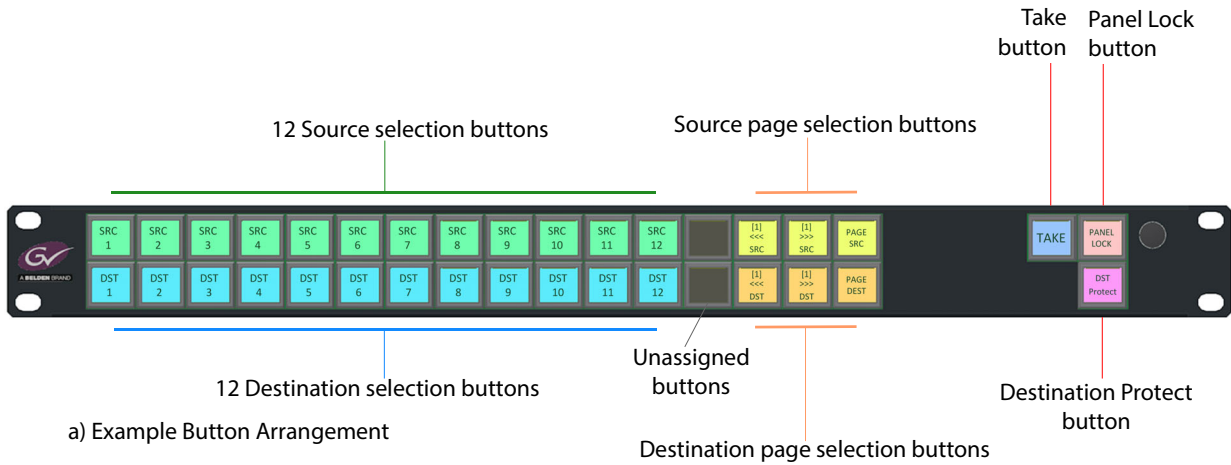


Fig. 1-6: Example LCD Router Control Panel Button Arrangements:
a) Example Button Arrangements.
b) Further Example Arrangements.

Figure 1-7 shows an example button page arrangement for a 32 x 32 router and uses three pages of sources and three pages of destinations.

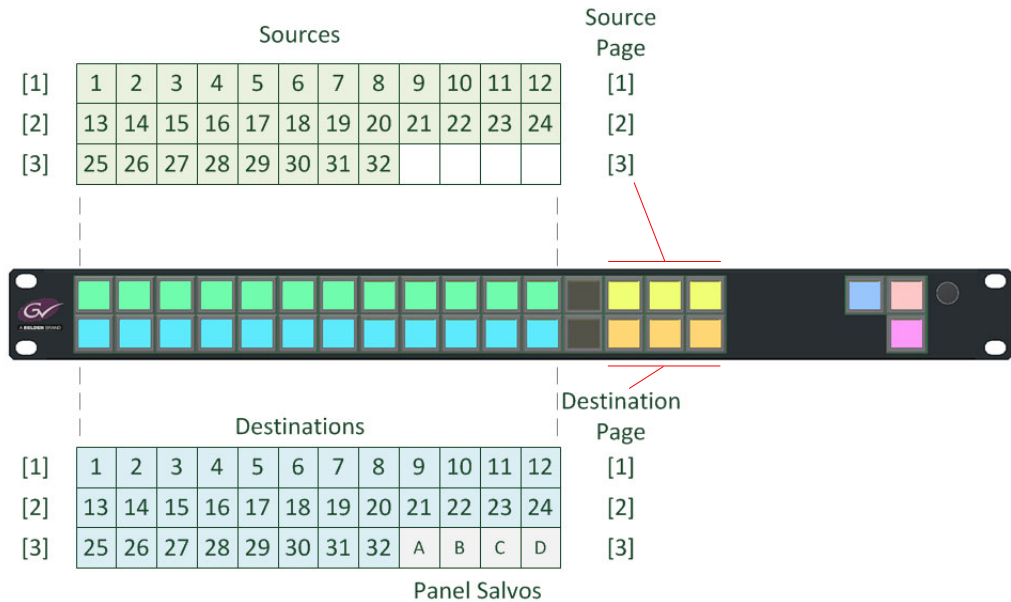


Fig. 1-7: Example LCD Router Control Panel Button Page Arrangement

LCD control panels can be customized by assigning free text to buttons, either fixed text, or text according to the operational button selections made.

LED panels can have fixed labels fitted to LED buttons, to identify buttons and button function accordingly in operation.

All the LCD and LED buttons are back-lit. They can be customized to any RGB color for a given button functional type.

Note: Grass Valley offer other functional versions of this 1U panel, for example, for production switcher control. These functional versions use different software are *not* described in this user manual.

Router Control

The router control panel uses the RollCall protocol over Ethernet to communicate with a router controller. The panel is used to make routes on the available router(s).

When configured as an XY panel, the required route is selected by selecting a destination and then selecting a source.

When configured as a BPX panel, the required route is selected with a single button press.

Once the required source and destination(s) are selected, the route may be made.

Basic Route Making

The basic function of the control panel is to select router destinations and sources and make routes on a router. The basic steps involved are:

- 1 Select destination.
- 2 Select source.
- 3 Make the route (optionally with a 'Take').
- 4 Undo, if required (optional facility).

In 'BPX' panel mode, steps 1 and 2 above are carried out together with one button press.

In 'XY' panel mode, steps 1 and 2 above are carried out separately using two button presses.

In 'Group' panel mode, source and destination selection is more flexible; however, more button presses are involved.

Routing Matrix and Crosspoint

Figure 1-8a shows a basic routing matrix of a router. Router input signals form the sources of the matrix and the matrix destinations form the router output signals. The switching matrix can route a signal from any source to any destination.

On either an XY or a BPX panel, source and destination selection is done. This is depicted in Figure 1-8b, and Figure 1-8c shows the resulting crosspoint that is selected within the matrix. The required route has been selected.

When the route is made ('Taken'), a source signal is routed to a selected destination, as shown in Figure 1-8d. This 'Take' step can be optionally carried out with a single button press (**Take** button) or it can be done automatically as soon as the destination and source are selected.

Lastly, there is an optional 'Undo' facility:

After a route has been made, it may be 'un-made' (undone) if required.

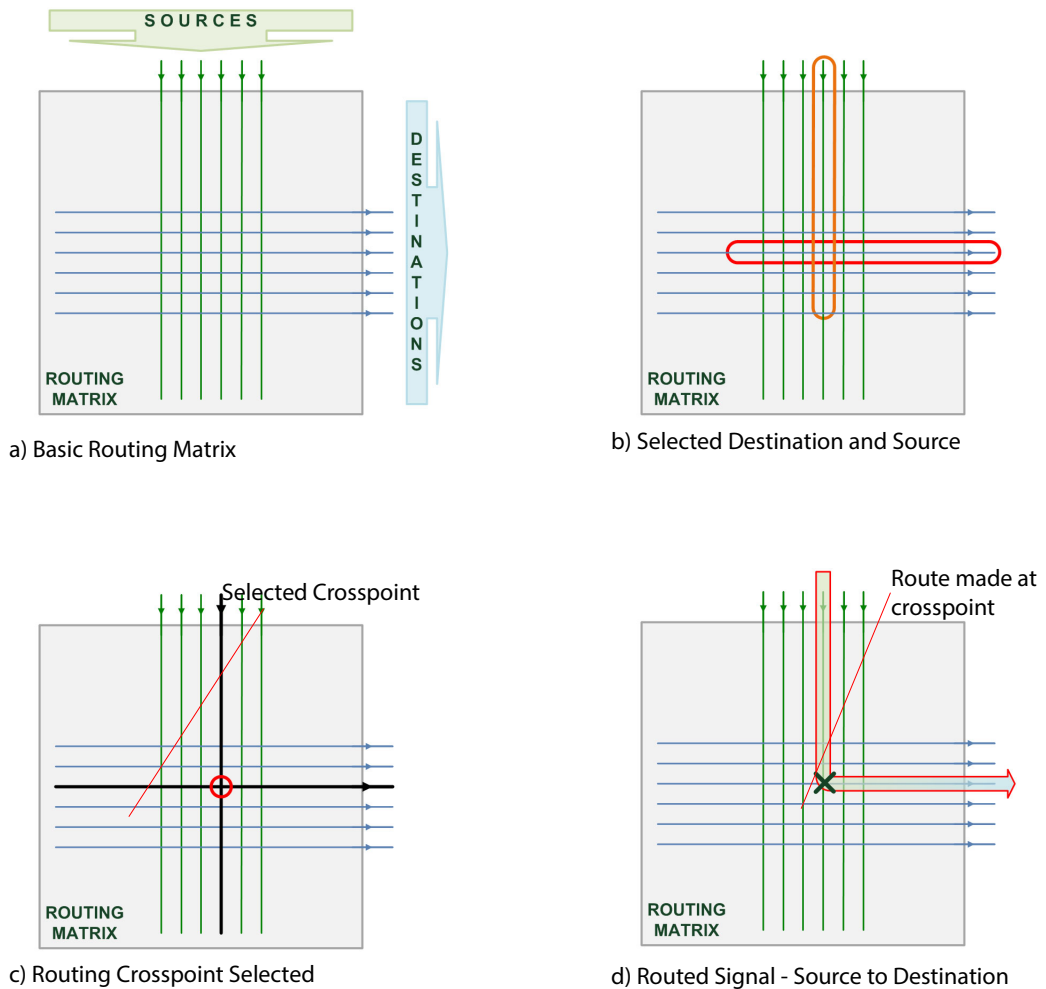


Fig. 1-8: Basic Routing Matrix and Crosspoint:

a) Basic Routing Matrix;

c) Routing Crosspoint Selected;

b) Selected Destination and Source;

d) Routed Signal - Source to Destination.

Specifying Destinations and Sources

Destination and source port selection requires specifying particular destination(s) and source(s). This can be difficult on a small panel with a larger-sized router and many sources and destinations. To help, the specifying of the ports may be done by:

- Router port number.
- Router port name.
- User-defined categories.

Panel configuration enables the user to set up a panel in the required operational mode.

Panel Operational Modes

BPX Panel Mode

Configuration:

- Crosspoints are assigned to buttons.
- Pages of crosspoints can be used to cover all the required destinations and source.

Operation:

- Destination and source selection is done with one button press.

XY Panel Mode

Configuration:

- Destinations and sources are assigned to buttons.
- Pages of destinations and of sources can be used.

Operation:

- Destination selection is done with one button press.
Source selection with one button press. Two button presses in total.

Group Panel Mode

When the panel is operating in 'Group' mode, 'Dial-Up', ABC, and 'Custom Group' sub-modes are available.

Dial-Up

This mode is useful when port numbers are known.

Operation:

- Select destination and source by dialing in router port numbers on numeric keys.

ABC

This mode is useful as a quick way of navigating through a large list of names with minimal configuration. A systematic port naming convention is advantageous.

Operation:

- Select destination and source by navigating to a port name by pressing alpha-numeric keys to specify the first letter, then second letter, etc. of the target port name.
Successive key presses narrow down the list of possible port names.

Custom Group

This mode is useful when navigating through a large list of names. The user-defined categories can facilitate navigating a large set of port names which do not follow a systematic naming convention.

Configuration:

- Sort all source and destination port names into user-defined categories and sub-categories.
- Define a hierarchical list of port names which has up to 4 levels and which reflects the user-defined categories.
- Generate an .xml file from the hierarchical list.
- Load .xml file onto the panel.

Note: The .xml file is similar to the .xml file used for a Grass Valley KKT panel. A Grass Valley Router Control Panel Configurator tool is used, which is based on Microsoft Excel[®] and a Grass Valley plug-in. Refer to the 6026KKT-RC Series 2U Control Panels User Manual for more information.

Operation:

- Select a destination and a source port by navigating to a port name down through the user-defined categories with alpha-numeric keys.
Navigation follows the user-defined categories down to the target port name.

Group mode (LCD panel only) enables user-definable source and destination categories; smart searching of the sources/destinations; and dialing up of port numbers. Group mode works with an .xml file which is loaded into the panel.

Button Functions

Functionality can be assigned to buttons, including:

- Destination or source selection.
- Page navigation.
- 'Protect'.
- 'Take'.
- 'Undo'.
- 'Lock/Unlock'.

Button function attributes include:

- Button color.
- Button face text.
- Flashing.
- Timeout.

The LCD button text and button colors may all be changed by the user. Usually, it is best practice to label a button with what it does. For example, 'Take' and 'Undo'.

Panel button types:

- Fixed - Buttons with a fixed function, for example, 'Take'.
- Dynamic - Buttons that change their function according to panel state. For example, source or destination selection buttons on an XY panel, or crosspoint selection (BPX) buttons on a BPX panel.

Several destination-source pairs can also be selected to do a ganged 'Take', which issues a sequence of routing commands from the control panel. Alternatively, a panel salvo can be separately set up and triggered from the panel to make several routes.

Hardware Description



This section describes the G2 Series 1U Router Control Panel from the outside and contains information on:

Summary

Hardware Description

<i>Unpacking</i>	<i>page 13</i>
<i>Chassis Overview</i>	<i>page 14</i>
<i>Front Panel</i>	<i>page 16</i>
<i>Rear Panel</i>	<i>page 20</i>
<i>Fuses</i>	<i>page 23</i>
<i>Panel Start Up Sequence</i>	<i>page 24</i>
<i>Factory Reset</i>	<i>page 25</i>

Unpacking

The G2 Series 1U Router Control Panel is supplied in dedicated packaging provided by the manufacturer and should not be accepted if delivered in inferior or unauthorized materials.

- 1 Carefully unpack the system components and check them against the listed items here:
 - Control panel main unit.
 - For LED button panels only, the 40-off button key caps are packed separately.
 - One Power Supply Module.
 - AC mains cord.

If there is anything incorrect notify your Grass Valley Partner, or Grass Valley, at once. ([Grass Valley Technical Support](#), on page 247)

- 2 Check that the equipment has not been damaged in transit. If any damage has occurred notify your Grass Valley Partner (or Grass Valley directly) and the carrier immediately.
- 3 Always retain the original packing materials if possible, they could prove useful should it ever be necessary to transport or ship the equipment.
- 4 Always read the installation and the user instructions carefully, it will provide you with helpful hints and tips about care and maintenance and help you get the most out of your G2 Series 1U Router Control Panel.
- 5 Place the unit on a suitable surface for preliminary inspection.

This user manual may be downloaded at <https://s-a-m.com/support/manuals-downloads/>.

Chassis Overview

The G2 Series 1U Router Control Panel is a shallow 1RU 19" rack-mount chassis (approximately 56 mm deep). Both the LCD and LED panel product versions have connectors at the rear and an array of push buttons plus a rotary control on the front.

On the rear, there are two DC power inlets and an Ethernet connector. The control panel has a dual-redundant power supply arrangement with two external power supply modules, which supply DC power from AC main supplies.

The control panel chassis is has no forced-air cooling.

For chassis dimensions, see Appendix A.5 "Unit Dimensions" on page 31.

The operational function of all push buttons and rotary controls is determined by the software loaded into the panel and by a user-defined control panel configuration.

LCD Panel

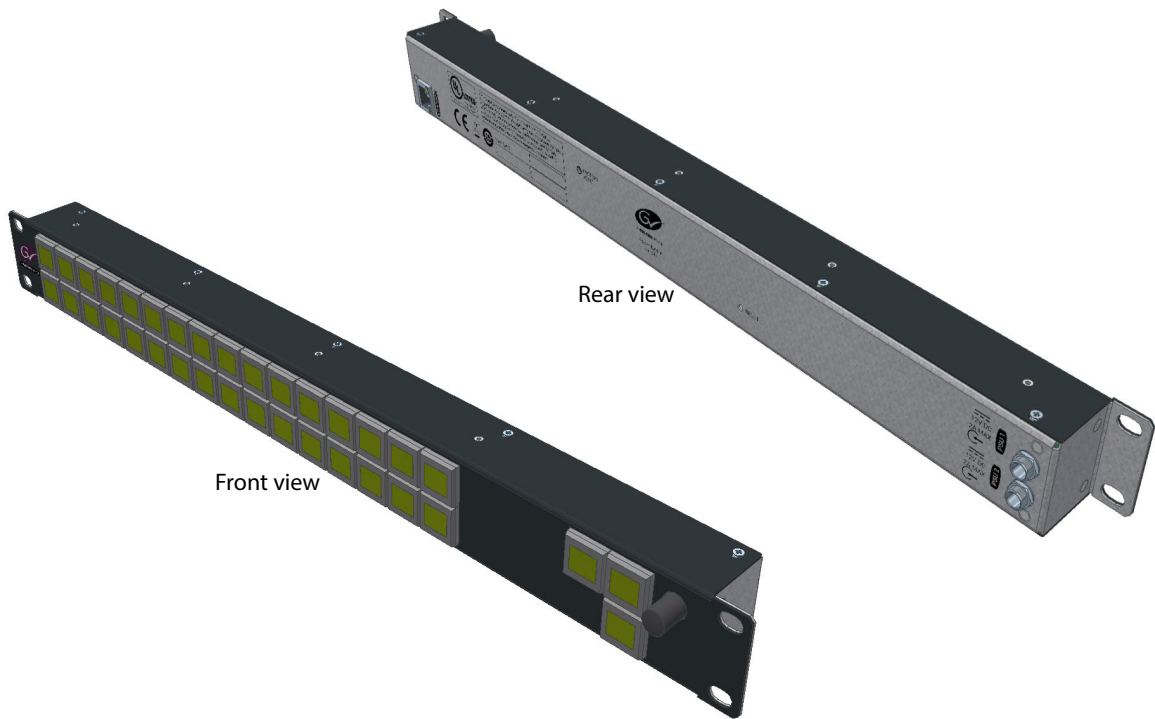


Fig. 2-1: G2 Series 1U Router Control Panel Front and Rear Views - LCD panel

LED Panel

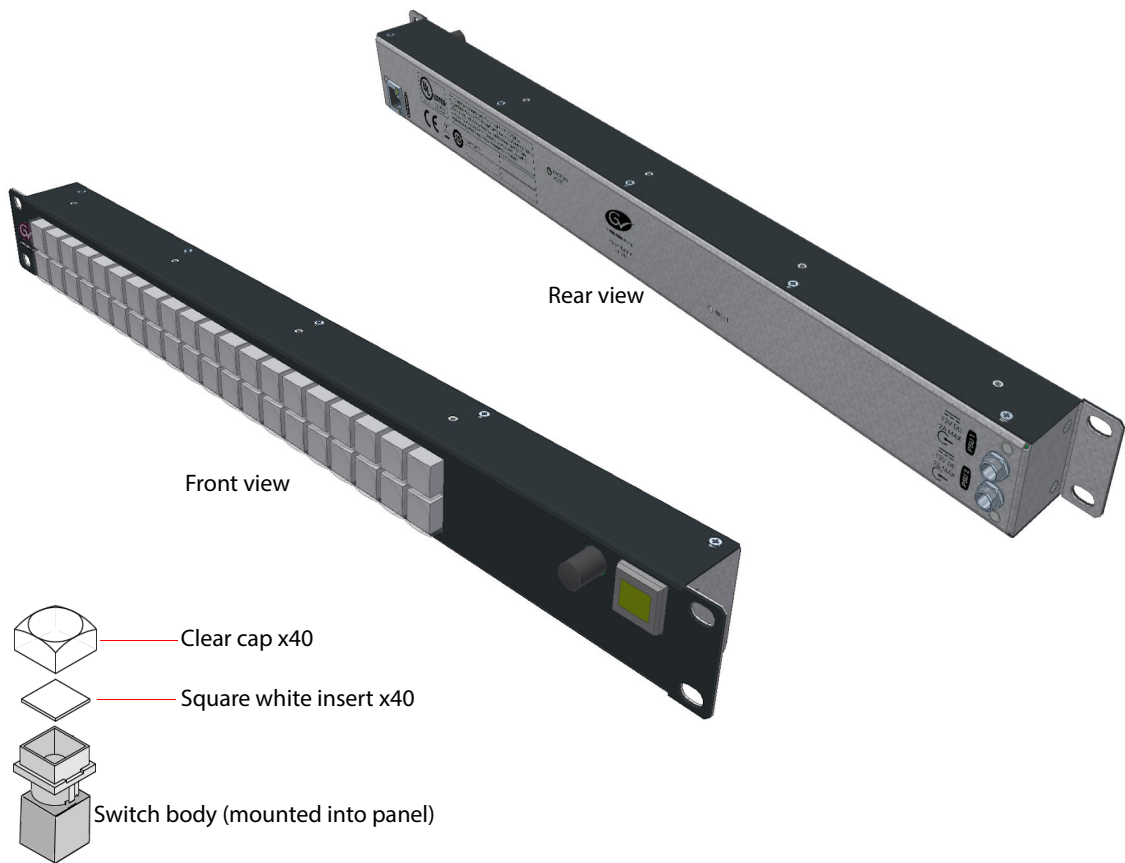


Fig. 2-2: G2 Series 1U Router Control Panel Front and Rear Views - LED panel

The LED panel is shipped with key caps for the LED buttons (40-off) separate. This enables the fitting of identifying button labels within the key cap. A key cap for an LED button comprises:

- A clear cover.
- A white, square insert.

There are 40-off clear covers and 40-off white square inserts.

For fitting instructions, see [Hardware Installation](#), section [LED Button Labeling](#), on page 29.

Front Panel

The front of the G2 Series 1U Router Control Panel has an array of user controls and indicators. See Figure 2-3a and b.

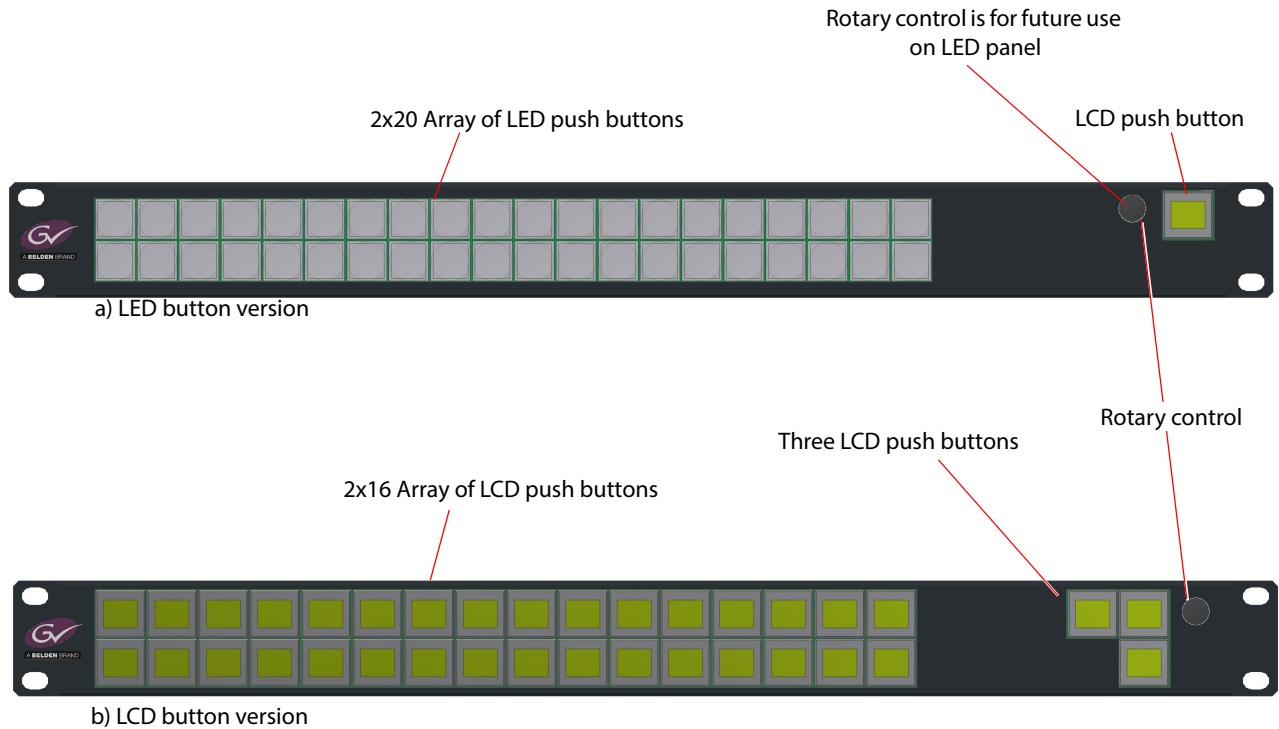


Fig. 2-3: G2 Series 1U Router Control Panel Front Views:

a) LED button version.

b) LCD button version.

A control panel's overall functionality is governed by the software running on the unit. For a router control panel, router control software is loaded into the unit and the various front panel user controls may be configured for router control.

LED Push Buttons

These buttons are typically user-configured to illuminate in various colors during panel operation.

LCD Push Buttons

These buttons are typically user-configured to illuminate in various colors during panel operation. Text or a small graphic icon can be displayed on the button face.

In certain circumstances, the display on the button is used to display information, for example IP address after start up.

Rotary Control

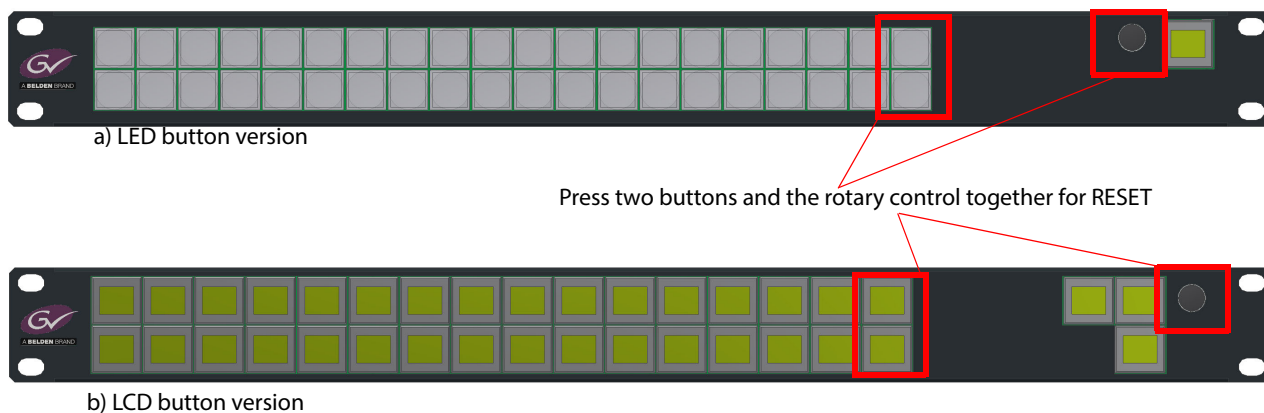
The rotary control is operationally available on the LCD panel only; it is reserved for future use on the LED panel.

The rotary control also has a push-button action. Typically, for the router control panel:

- Rotate the control to change source or destination pages.
- Press to toggle between source pages and destination pages.

Panel Reset

A panel reset re-starts the panel. It can be carried out from the front panel by pressing three controls at the same time for more than 3 seconds; see Figure 2-4. The panel start-up sequence is shown, see [Panel Start Up Sequence](#), on page 24.



*Fig. 2-4: Reset from the Front Panel:
a) LED button version.
b) LCD button version.*

Note: A panel reset may also be started from the rear panel (see Table 2-1 on [page 20](#)).

Information Display

On an LCD panel, the lower right LCD button indicates panel status when the panel is not in an operational mode.

On an LED panel, the single (upper right) LCD button indicates this panel status.

Example non-operational mode status shown on an LCD button:

'Soft reset', 'Full Factory Reset DONE', or 'RE-BOOT'.

At power on and restart, it temporarily displays panel 'IP Address' and 'Subnet mask', see Figure 2-5a and b.

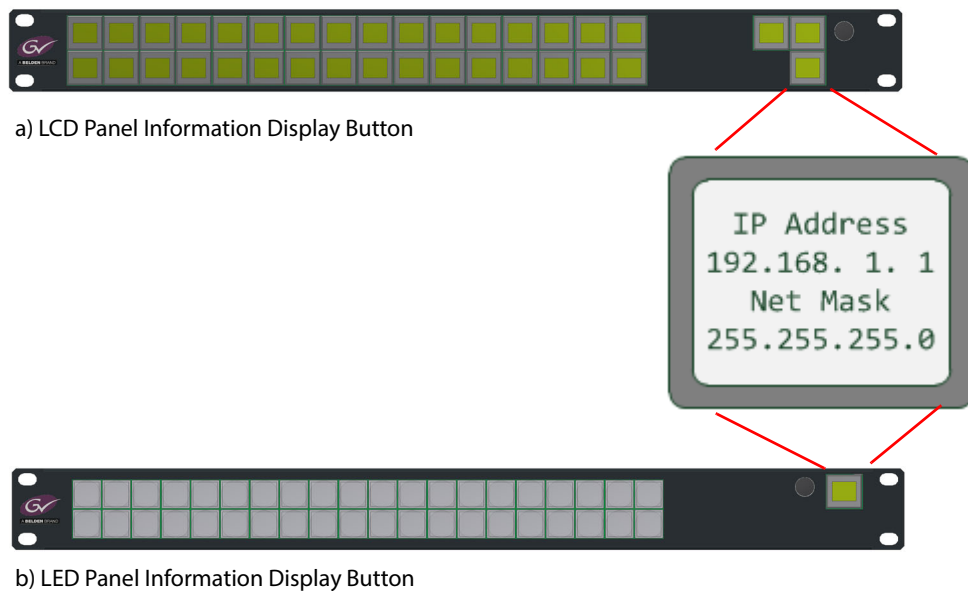


Fig. 2-5: IP Address Information on Buttons:

a) LCD Panel.

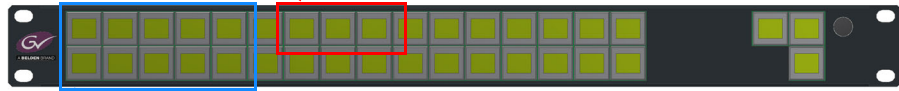
b) LED Panel.

While the panel is operational, IP address information etc. can also be displayed on the front panel by pressing three adjacent buttons in a row.

See Figure 2-6 for LCD panel information.

For the LED panel, there is only one LCD button, and the IP address and net mask is shown on the LCD button, as shown in Figure 2-5b. No further information is displayed.

Press any three adjacent buttons in a row to see IP address information on LCD buttons.



IP address shown across left-hand side button faces, for example:

- First router controller: 10.54.100.5
- Second router controller: 10.54.100.6
- Router control panel (this panel): 10.54.100.7
- Control panel's software version.
- Panel's ID number and Panel name

CTRL IP	10	54	100	5	Ver 1.0.1 R:21021		
	10	54	100	6			
Panel IP	10	100		ID:15			
	54	7		Ext 15			

Fig. 2-6: LCD Panel - IP Address Information across several LCD Buttons (LCD panel only)

The panel reverts to its operational state after approximately 5 seconds.



Rear Panel

The G2 Series 1U Router Control Panel rear panel is shown in Figure 2-7. Both LED and LCD panel product versions have similar rear panels housing various controls, connectors and indicators.



Fig. 2-7: G2 Series 1U Router Control Panel - Rear Panel

Tab. 2-1: Rear Panel Controls

Rear Marking	Description
<p>FACTORY RESET</p> 	<p>Recessed push button.</p> <p>Push the button to carry out a factory reset. There are two types of factory reset:</p> <ul style="list-style-type: none"> • First-level factory reset - Short push: Push the button in for 5 seconds and release to carry out a first-level factory reset on the control panel: • Full factory reset - Long push: Push the button in for more than 15 seconds to carry out a full factory reset on the control panel: <p>See Factory Reset, on page 25 for further factory reset information.</p> <p style="text-align: right;">See Note 1.</p>
<p>RESET</p> 	<p>Recessed push button.</p> <p>Push the button and release to carry out a panel reset (re-start). Within a few seconds, the panel start up sequence begins (see Panel Start Up Sequence, on page 24) and the panel restarts.</p> <p>(Such a reset may also be carried out from the front panel. See Panel Reset, on page 17.)</p> <p style="text-align: right;">See Note 1.</p>
<p>Note 1: To push a recessed <i>rear</i> panel push button:</p> <ul style="list-style-type: none"> • Use a thin plastic tool, for example a biro refill of maximum diameter 2.5 mm. • Insert the tool approximately 1 cm into the rear recess hole. Keep the tool perpendicular to the unit rear. 	

Tab. 2-2: Rear Panel Connectors

Connector Rear Marking	Description
ETHERNET	1Gbit Ethernet network connection. RJ45 connector. This is the control connection for the unit. See Section "Ethernet Connector" on page 22 for more information.
DC Power Inlets:	DC power supply connections. Each inlet has a threaded outer casing. Each inlet is rated: 12V DC, 2A max. See Section "DC Power Inlets" on page 23 for more information. See Note 1 .
PSU1	The unit can be powered by: <ul style="list-style-type: none"> • PSU1 alone, or • PSU2 alone, or • PSU1 and PSU2 together (see Note 2).
PSU2	
<p>Note 1: Use only PSU modules Grass Valley part INSY_PSU_EXT.</p> <p>Note 2: Using <i>both</i> PSU1 and PSU2 provides the unit with a dual-redundant power supply. Both power connections to the unit are hot-pluggable.</p>	

Ethernet Connector

There is an RJ-45 Ethernet connector on the unit rear, providing the unit with a 1 Gbps Ethernet port. The network port auto-negotiates connection speed and has automatic cross-over.

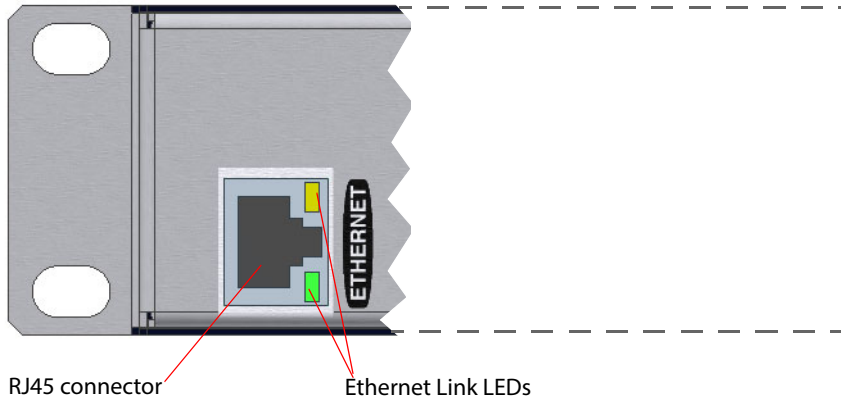


Fig. 2-8: Rear Ethernet Connector

Tab. 2-3: Ethernet LEDs

Ethernet Link LEDs		Description
Upper LED	Lower LED	
Off	Off	No network connection.
Off	Flashing Green	10M link activity.
Flashing Yellow	Flashing Green	100M link activity
Flashing Yellow	Off	1G link activity.

DC Power Inlets

The G2 Series 1U Router Control Panel unit may be DC powered from one or two external, Grass Valley power supply modules. There are two DC power inlets on the rear of the control panel main unit: "PSU1" and "PSU2". See Figure 2-9.

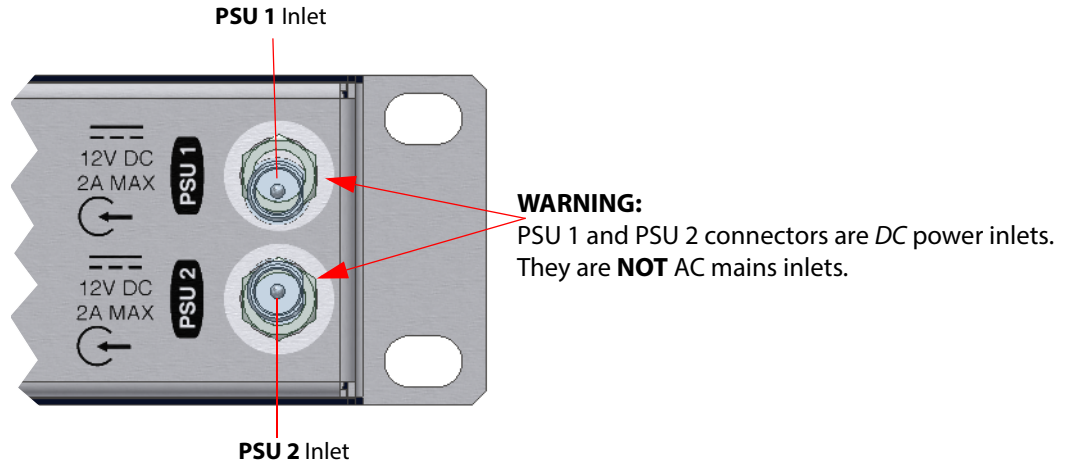


Fig. 2-9: Rear DC Power Inlets

Each DC power inlet connector has a threaded outer to enable the DC power cable from the DC power module to be securely fastened.

Either DC power inlet may be used as the primary power supply inlet.

Full power supply redundancy is achieved by powering the control panel from two power supply modules with each module connected to a separate AC mains supply. One DC power connection can be disconnected or connected from the unit while the unit is operating.

WARNING

The rear DC Power connectors are DC power inlets.
They are **NOT** AC mains power inlets.

WARNING

To reduce the risk of electric shock, plug each power supply cord into separate branch circuits employing separate service grounds.

Note: The G2 Series 1U Router Control Panel unit's external power supply module is Grass Valley Order Code:

- INSY_PSU_EXT

Two power supply modules are required for redundancy.

Fuses

The G2 Series 1U Router Control Panel does not contain user-serviceable fuses.

The external power supply modules do not contain user-serviceable fuses.

Panel Start Up Sequence

Panel start up sequence is similar for LCD and LED panels. The LCD panel sequence is described below:

- 1 Panel buttons lights extinguish:



- 2 A moving rainbow button light sequence begins:



- 3 Right-hand LCD button show panel IP address and subnet mask:



- 4 LCD: Left-hand LCD buttons show an information display: Panel IP address, router controller IP address, Panel software version, and Panel ID information:



- 5 After a short while, if no router controller connection is made, other buttons are illuminated red:



- 6 Once connection with router controller is established, all buttons show their configured, operational router control function:



The start up sequence is done.

Factory Reset

There are two levels of factory reset:

- **First-level Factory Reset:**
 - IP address reverts to the default IP address. (See [Defaults](#), on page 238.)
 - Note: Serial number is unaffected.
- **Full Factory Reset:**
 - All stored information on the unit is cleared:
 - IP address reverts to the default IP address. (See [Defaults](#), on page 238.)
 - Note: Serial number is unaffected.
 - Settings revert to factory-shipped values.
 - Control panel application is set to 'RollCall'.
 - Software version reverts to the original shipped version.
 - Sets the panel mode to 'RollCall' (as required for router control).

First-level Factory Reset

The sequence of operations is similar for an LCD or an LED panel. In the description below, an LCD panel is shown:

- 1 Using a suitable tool, press on the **Factory Reset** rear recessed push button and continue to press it.
 - The upper row of buttons in the block of 32 LCD, or 40 LED, front panel push buttons illuminate **red** one by one from left to right.
 - An LCD button (lower right on an LCD panel, upper right on an LED panel) displays a count down, N, from 15 down to 0.
"Reset IP addr in N"



- 2 Continue pressing the Factory Reset button.
(If the button is still pressed when the all the *upper* row of buttons are **red** and the countdown is at 0, then a first-level factory reset is carried out.)
- 3 Release the button *immediately after* the last button in the upper row illuminates **red**.
(Overall, the button is pressed for approximately 5 seconds.)



Release *after* all top row illuminates **RED**.

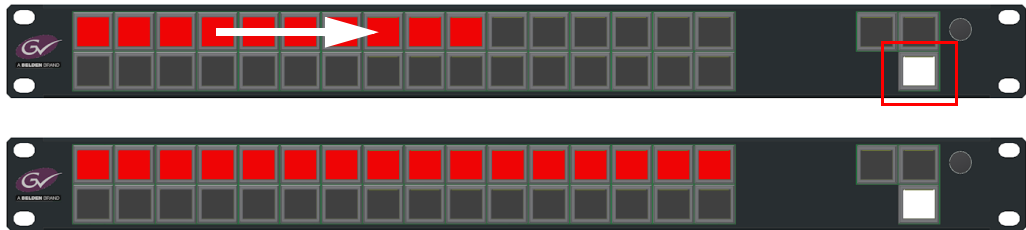


- 4 The panel now returns to its previous state but with a first level factory reset having been carried out.

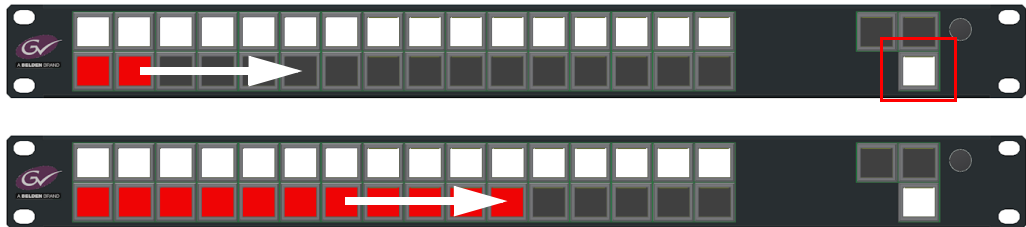
Full Factory Reset

The sequence of operations is similar for an LCD or an LED panel. In the description below, an LCD panel is shown:

- 1 Using a suitable tool, press on the **Factory Reset** rear recessed push button and continue to press it.
 - The upper row of buttons in the block of 32 LCD or 40 LED front panel push buttons illuminate **red** one by one from left to right.
 - An LCD button (lower right on an LCD panel, upper right on an LED panel) displays a count down, N, from 15 down to 0.
"Reset IP addr in N"



- 2 Continue to press the recessed button.
 - The upper row illuminates white and then lower row of buttons illuminates red from left to right (more slowly).
 - The lower right LCD button displays a count down, N, from 15 down to 0.
"Full Factory Reset in N"



- 3 Continue pressing the Factory Reset button.

- 4 Release the recessed button after the last button in the *lower* row illuminates red and the count down is at 0.
(Overall, the button is pressed for approximately 15 seconds.)



Release *after* all bottom row illuminates RED.



A full factory reset is carried out.

- 5 The panel re-boots and the lower right LCD button displays "RE-BOOT".



- 6 A panel start up sequence is then carried out automatically. See [Panel Start Up Sequence](#), on page 24 for the button illumination during the sequence.

3

Hardware Installation

This chapter describes the procedure for installing the G2 Series 1U Router Control Panel. The requirements and procedure are the same for both LCD and LED control panel versions:

Summary

Hardware Installation

<i>LED Button Labeling</i>	<i>page 29</i>
<i>Rack Mounting</i>	<i>page 32</i>
<i>Connections</i>	<i>page 33</i>
<i>Power On Sequence</i>	<i>page 34</i>
<i>Power Off</i>	<i>page 34</i>

LED Button Labeling

Note: This section is for the LED buttons on LED panels only.
This section does not apply to LCD buttons.

An LED panel has 40 LED buttons. The panels are shipped with the LED button key caps separate and not fitted. Clear film labels (not supplied) may be added into each key cap before fitting to each button. Thus the LED buttons can be labeled.

For the LED panel, LED button key caps need to be fitted.

Labeling of LED buttons is best done before installation of the panel into a rack.

Do not attempt to remove the key cap on the single LCD button present on an LED panel.

Button Arrangement

Determine the button arrangement required for your LED panel. Figure 3-1 shows an example button arrangement.

SRC 1	SRC 2	SRC 3	SRC 4	SRC 5	SRC 6	SRC 7	SRC 8	SRC 9	SRC 10	SRC 11	SRC 12	SRC 13	SRC 14	SRC 15	SRC 16	SRC 17	SRC 18	STATUS	TAKE
DST 1	DST 2	DST 3	DST 4	DST 5	DST 6	DST 7	DST 8	DST 9	DST 10	DST 11	DST 12	DST 13	DST 14	DST 15	DST 16	DST 17	DST 18	Dest Protect	UNDO

Fig. 3-1: Example LED Button Arrangement

Label Inserts

There are 40-off LED button key caps. A key cap comprises a clear button cover and a square white insert. See Figure 3-2a.

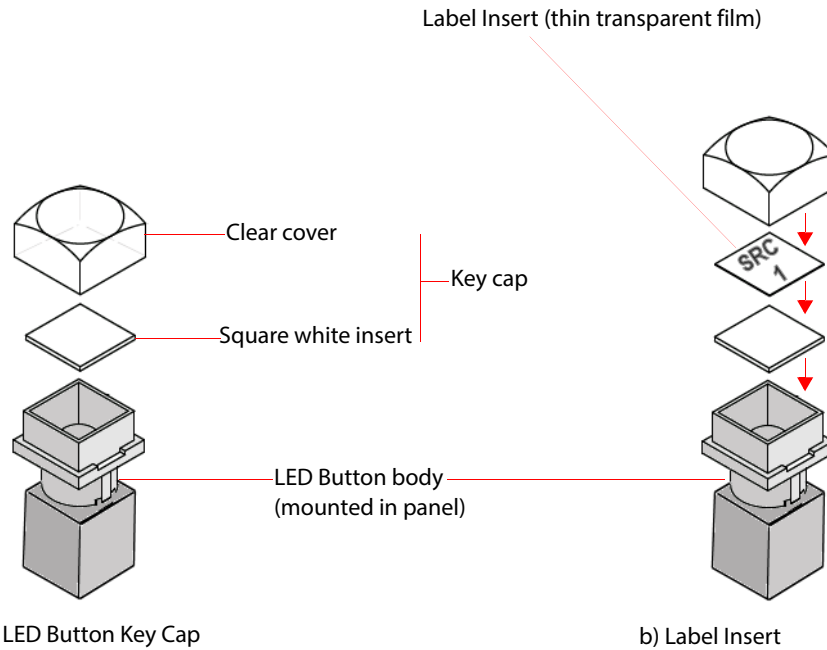


Fig. 3-2: LED Button: a) Key Cap; b) Label Insert

The label insert should be:

- Made from a thin, transparent film.
- Size: 0.5" x 0.5".

Label inserts are fitted between the clear cover and square white insert. See Figure 3-2b.

Prepare Label Inserts

- 1 Prepare square label inserts for each button on clear film.

See appendix "LED Button Label Templates"; on page 241 for some square label insert templates.

Fit Label Inserts

To fit label inserts, for each LED button:

- 2 Place a label insert between each clear button cover and square white insert.
- 3 Ensure the correct label for the intended button has been used.
- 4 Push the labeled key cap onto the corresponding LED button body on the control panel.

Note: LED button key caps can be removed again, but this is a delicate operation. Ensure correct labeling.

CAUTION

An LCD button key cap is NOT removable.
The single LCD button on LED panels is fully assembled and fitted to the panel. Do not attempt to remove the key cap.

Rack Mounting

The G2 Series 1U Router Control Panel requires 1RU of vertical space within a 19 inch rack system, or desk. When the panel is in position, use four M6 screws and washers to fasten it to the rack brackets, see Figure 3-3.



Fig. 3-3: Typical Rack Mounting (LED panel version shown)

Allow 80mm (approximately 3 inches) clearance at the rear of the unit for mating connectors and cables.

Connections

All connections are made to the rear panel. See Figure 3-4.



RJ45 Ethernet connector

Two DC Power Inlets

Fig. 3-4: Rear Panel Connections

Details of the rear connectors are given in [Hardware Description](#), on page 13.

Ethernet - An Ethernet network connection is required for unit operation, providing communication to other devices.

DC Power - The panel is powered by one or two external Grass Valley DC power supply modules.

- Connect and secure each DC power jack plug onto each rear DC power inlet by screwing and tightening the threaded ring on the DC power jack plug.

Dual redundancy is available by using both rear DC power connectors and two separate power sources.

CAUTION When connecting the DC power connectors to the unit rear, ensure that each connector is securely screwed tight.

CAUTION Support the body of the DC Power Supply Module(s). Do not let them hang from the control panel unit by their power cords.

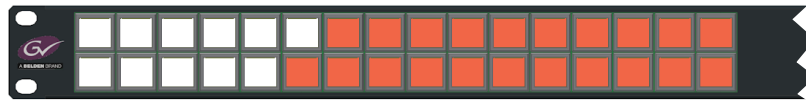


WARNING
To reduce the risk of electric shock, plug the AC power supply cord of each DC power supply module into separate AC mains circuits employing separate service grounds.

Power On Sequence

The panel runs through a start-up sequence after power is applied:

- 1 Rainbow colored panel lights sequence. (See [Panel Start Up Sequence](#), on page 24.)
- 2 Display of IP address information.
- 3 Control panel connects to a router controller to gather information.
- 4 Pushbuttons assigned their operational router control functions (and button face text).
- 5 If there is no communications link to a router controller, then for:
 - LCD panels - Buttons illuminate white and red, and IP address information is shown (see [Information Display](#), on page 18).



- LED panels - Buttons illuminate white and red.



Power Off

To turn the panel off, switch off or remove DC power from the unit.

4 Web Page

This chapter describes the control panel web page.

Web Page

A web browser displays a web page when it accesses the G2 Series 1U Router Control Panel's IP address. See Appendix A [Technical Specification](#), on page 233 for default IP address information.

Select 'RollCall' operational mode for router control applications

The screenshot shows a web browser window with the title 'GV Panel 1 -- 35LCD' and the URL '10.54.5.15'. The page content is as follows:

Operational Mode

RollCall Production Switcher Test mode

Apply and Restart

System configuration

IP address	Subnet mask	Gateway
10.54.5.15	255.255.0.0	10.54.254.1

Panel name

GV Panel 1

Save

System information

Web page version	Panel software version	Production Switcher software version	Mod Level	Module ID	PCB Rev
1.1.0	1.1.1.22322	1.1A101	254	30	4

MAC Address	Serial Number	Board Name	BSP Version	PSU A	PSU B
04:a3:16:e8:77:fd	123433p123456001	Panel-ALP	1.39	On	No power

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Fig. 4-1: Web Page (LCD Panel web page shown)

Tab. 4-1: Web Page Items

Item	Description
Operational Mode:	Radio buttons. Determines the start-up operational mode of the panel.
RollCall	Select for RollCall mode (also sometimes referred to as RC mode) Note: The 'router control' application of this panel uses RollCall mode.
Production Switcher	Select for production switcher control mode.
Test mode	Select for factory test mode.
Apply and Restart	Button. Click to apply new, locally-saved settings to the unit.
System configuration:	Text boxes for basic panel comms information.
IP Address	IP address of the control panel.
Subnet mask	Subnet mask of the control panel.
Gateway	Gateway IP address for the control panel.
Panel name	RollCall unit name.
Save	Button. Click to locally save new settings entered on the web page.
System information:	Text boxes for basic panel status information.
Web page version	Version of panel web page.
Panel software version	Software version used in router control mode.
Production Switcher software version	Software version used in production switcher mode. (Not used for router control.)
Mod Level	Circuit board PCB hardware modification state.
Module ID	Hardware module ID. This is '30' or '31' for these control panels.
PCB Rev	Circuit board PCB revision.
MAC Address	MAC address of panel.
Serial Number	Serial number of panel.
Board Name	Circuit board name.
BSP version	Version of hardware support software of used by the panel.
PSU A	Power supply status.
PSU B	Power supply status.

5 RollCall Templates

This chapter describes the G2 Series 1U Router Control Panel's RollCall templates. These are viewed via the RollCall Control Panel software application.

Summary

RollCall Templates

<i>Panel Modes (XY, BPX, Group) Templates</i>	page 38
<i>System Template</i>	page 42
<i>Setup Template</i>	page 45
<i>XML Setup Template</i>	page 53
<i>Config Template</i>	page 55
<i>XY Mapping Template</i>	page 72
<i>BPX Mapping Template</i>	page 100
<i>Group Mapping Template</i>	page 120
<i>XY Status/Control Template</i>	page 128
<i>BPX Status/Control Template</i>	page 131
<i>Level Control Template</i>	page 133
<i>Monitor Port Template</i>	page 135
<i>TAKE Configuration Template</i>	page 138
<i>Panel Salvos Template</i>	page 141
<i>Logging Template</i>	page 144
<i>LED Colors BPX Template</i>	page 145
<i>LED Colors XY Template</i>	page 147
<i>LED Colors Other Template</i>	page 150
<i>LED Colors Group Keys Template</i>	page 153
<i>IP Bridging Template</i>	page 156

Panel Modes (XY, BPX, Group)

The router control panels can operate in one of the following panel modes:

- XY
- BPX
- Group

'Panel mode' is set up via the panel's RollCall template. Templates vary slightly depending on the panel mode. This is highlighted in the template descriptions in this chapter. Any RollCall template differences between LCD panels and LED panels are also highlighted in this section.

Figure 5-1 presents lists of XY, BPX, and Group templates.

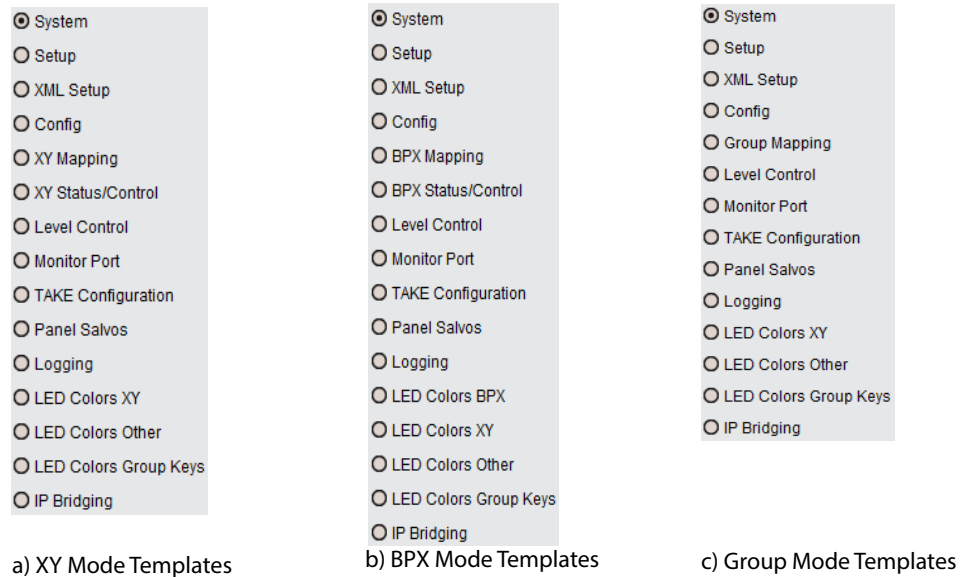


Fig. 5-1: List of RollCall Templates for Panel:
a) XY Mode.
b) BPX Mode.
c) Group Mode.

Templates

G2 Series 1U Router Control Panel RollCall templates described here are:

- [System Template](#), on page 42 - configure unit name and IP address.
- [Setup Template](#), on page 45 - configure panel type and router connections.
- [XML Setup Template](#), on page 53
- [Config Template](#), on page 55 - configure fixed button operation, define text and formatting for LCD buttons.
- Mapping templates: Position buttons and allocate sources/destinations etc.
 - [XY Mapping Template](#), on page 72 - define dynamic button types (source and destination), number of pages, page access, and allocate specific buttons on each page.
 - [BPX Mapping Template](#), on page 100 - define source and destination for each button, the color scheme required, and any additional text (LCD panels only).
 - [Group Mapping Template](#), on page 120.
- Status/Control templates: View a representation of the panel and/or operate it remotely.
 - [XY Status/Control Template](#), on page 128 - view the status of each configured button and operate the panel from the template.
 - [BPX Status/Control Template](#), on page 131 - view the status of each configured button, and control the panel using the on-screen buttons which work as if pressing the actual buttons (and rotary control, if applicable) on the panel.
- [Level Control Template](#), on page 133 - control which router level routes are made on.
- [Monitor Port Template](#), on page 135 - control router monitor port routing.
- [TAKE Configuration Template](#), on page 138 - configure distinct 'Take' buttons.
- [Panel Salvos Template](#), on page 141 - create panel salvos and define buttons.
- [Logging Template](#), on page 144 - configure logging items.
- LED colors templates:
 - [LED Colors BPX Template](#), on page 145 - define the back light colors for the different BPX color schemes, allowing grouping of buttons.
 - [LED Colors XY Template](#), on page 147 - define the back light color for dynamic XY buttons (source and destination).
 - [LED Colors Other Template](#), on page 150 - define the back light color for fixed buttons ('Take', 'Unlock', etc.).
 - [LED Colors Group Keys Template](#), on page 153.
- [IP Bridging Template](#), on page 156 - setup remote IP addresses and an IP bridge port, and display connection status information.

Navigating Templates

Navigating between templates may be done in two ways:

Template Selection Box

Select an item in the **Template Selection** box, located at the top of each G2 Series 1U Router Control Panel template.

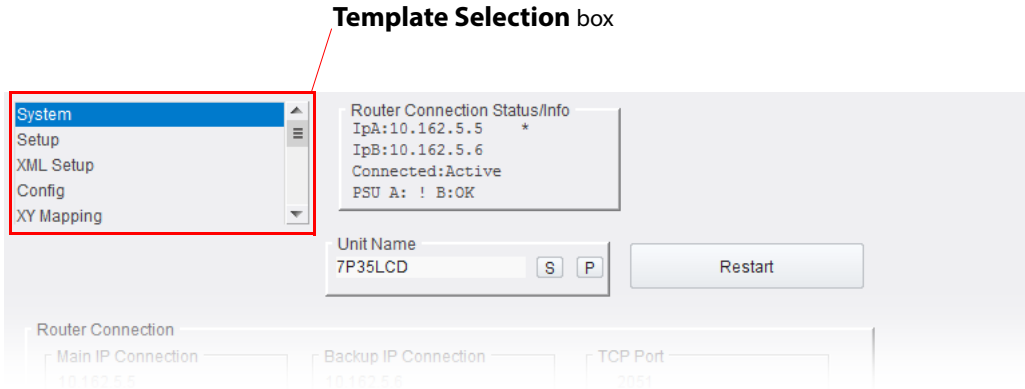


Fig. 5-2: Template Selection Box

Right-Click

Right-click in a template to see a pop-up list of all the control panel's templates. Select the required template in the list for quick access to view the template.

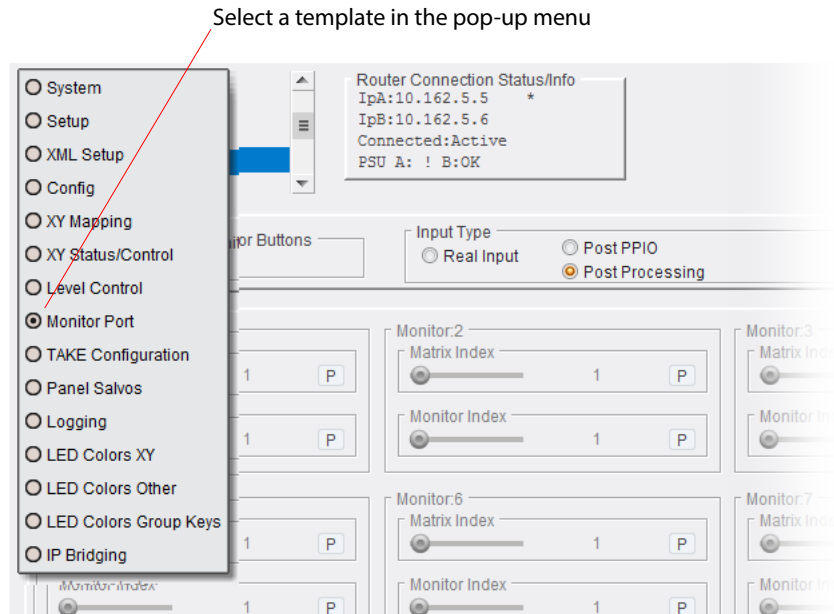


Fig. 5-3: RollCall Control Panel Connected

Setting Values in a Text Box Field

Many of the settings within the templates have values, either numerical, or textual.

When setting a value in a field:

- Click on the value to select it.
- Type the value into the field.
- Then press the **S** button or press the Enter key. (This enters new value into the template.)

Clicking on an associated **P** button returns the value back to the factory default setting.

Setting Values with a Slider

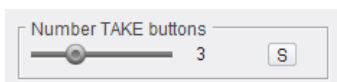


Fig. 5-4: Template Slider

Many of the settings within the templates are numerical and can be set with a slider bar on the template. To set such numerical values:

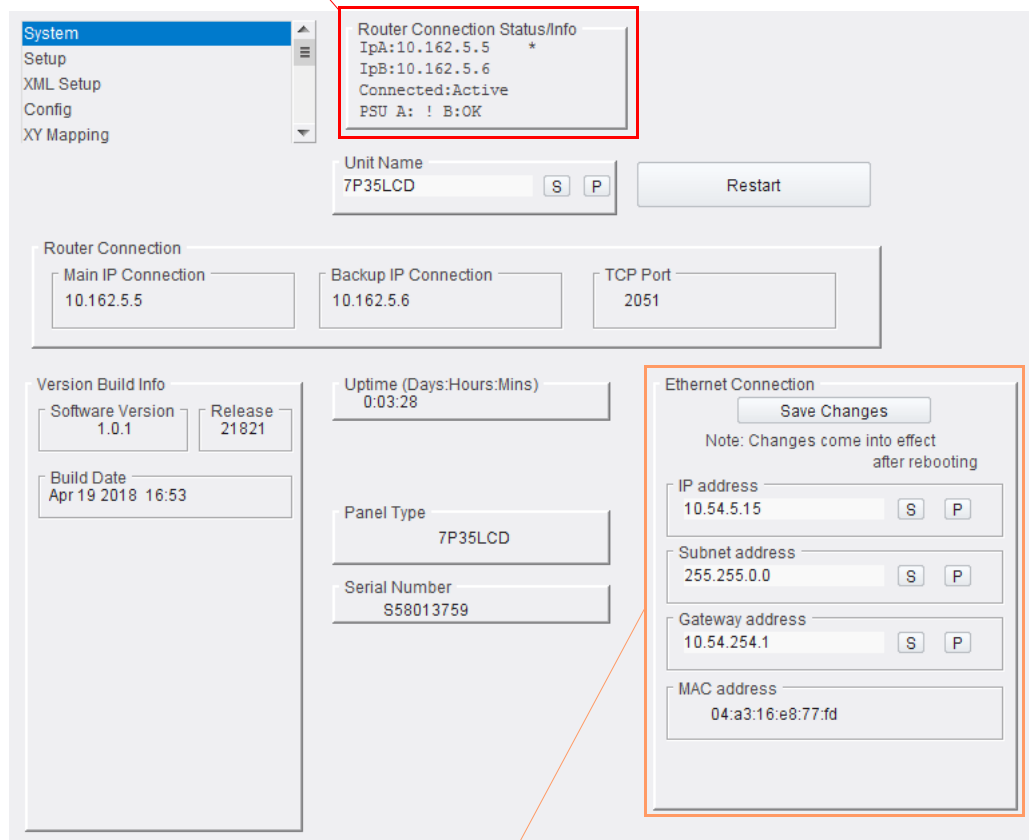
- Click on the slider to select it.
- Drag to slider to adjust the value.
- Alternatively, with the slider selected, use the left / right arrow keyboard keys to increment/decrement the value.
- Alternatively, click on the value to select it. Then enter a new value and press the adjacent **S** button, or press the Enter key.

Note: Sometimes, a text box field and a slider are combined. In this case, the value can be adjusted by either of the above methods.

System Template

This template is available in all panel modes. It displays some system status and allows setting of panel IP address settings from the template.

Connection status / information box appears on each template (see Table 5-1)



Ethernet Connection pane for panel IP address settings.
(See [Configuring Control Panel IP Address Settings](#), on page 44.)

Fig. 5-5: System Template

Tab. 5-1: Router Connection Status/Info Items

Connection/Status Item	Description
IpA	IP address of router controller A. See Note 1 .
IpB	IP address of router controller B. See Note 1 .
Connected	Status of panel connection to the router controller.
PSU:	Status of power supplies to the panel.
A	Power supply A.
B	Power supply B.
Note 1: An asterisk (*) indicates which controller the G2 Series 1U Router Control Panel is communicating with.	

Tab. 5-2: System Template Items

Item	Description
Unit Name	Text box. RollCall unit name. To change the panel's unit name: <ul style="list-style-type: none"> • Click in the Unit Name field. • Delete the current name in the field. • Enter the new unit name. • Press S, or press the Enter key, to locally save a new name.
Restart	Button. Click Restart to restart the panel and apply settings changes made in the template. This can be done at any time. The buttons will flash as the panel shuts down. then the normal start up sequence is shown.
Router Connection:	Router connection status is reported.
Main IP Connection	IP address of main router controller.
Backup IP Connection	IP address of backup router controller.
TCP Port	IP port number used.
Version Build info:	Router Control Panel software version.
Software Version	IP address of main router controller.
Release	Software release number.
Build Date	Software build date.
Uptime	Days : Hours : Minutes. Elapsed time since last restart.
Panel Type	Control panel type.
Serial Number	Unit's serial number.

Tab. 5-3: System Template - Ethernet Connection Items

Ethernet Connection Item	Description
Ethernet Connection:	Panel's Ethernet port settings. Enter a value and press the Enter key or click S . See Note 1 .
Save Changes	Button. Click to locally-save changes made. Note: Changes only take effect after a restart.
IP Address	IP address of control panel.
Subnet address	Subnet used by control panel.
Gateway address	Gateway IP address used by control panel.
MAC address	MAC address of control panel.

Note 1: G2 Series 1U Router Control Panel IP settings may be configured:

- from this **System** template, see [Configuring Control Panel IP Address Settings](#), on page 44; or
- from the panel's web page, see [Set Up Panel IP Address using the Web Page](#), on page 160.

Configuring Control Panel IP Address Settings

IP settings of the panel can be set from the **System** template, in the **Ethernet Connection** pane:

- 1 Enter IP settings. (Press the Enter key after entering a value in each text box.)
- 2 Click **Save Changes**.
- 3 Click **Restart**.

Note: An LCD panel's IP address can be read on the front panel by pressing any three adjacent buttons in a row. See [Information Display](#), on page 18.

Setup Template

This template is available in all panel modes. It displays information about the control panel and contains settings for IP address(es) etc. of the connected router controller(s), including the status of the panel’s connection to the controller(s).

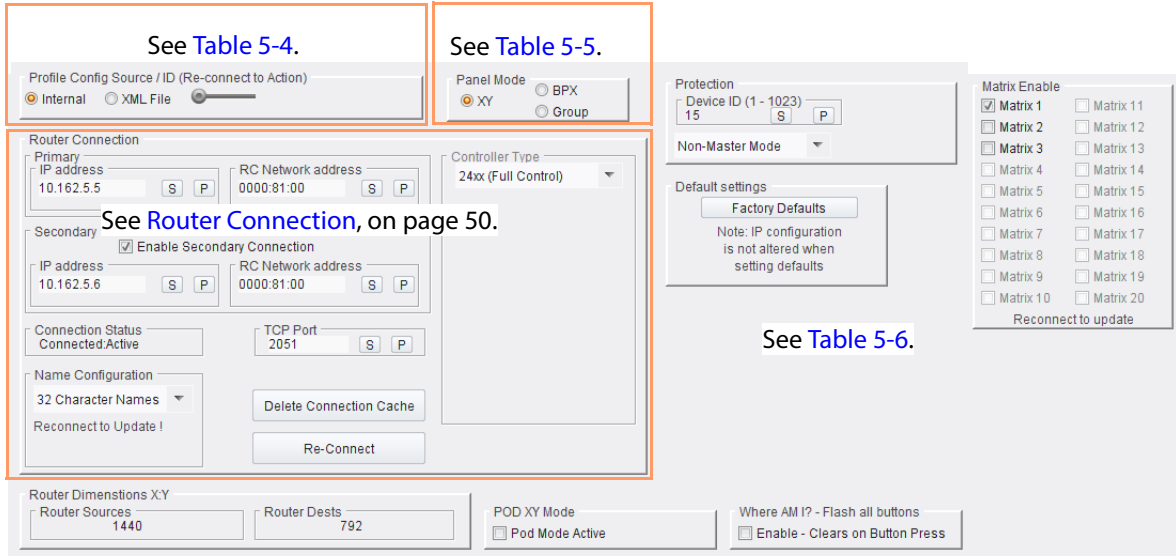
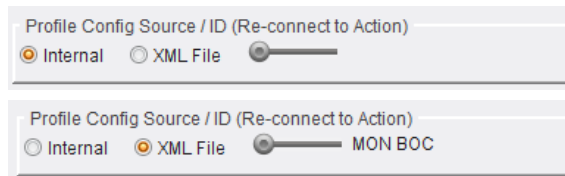


Fig. 5-6: Setup Template

Tab. 5-4: Setup Template - Profile Config Items

Profile Config Pane Item	Description
--------------------------	-------------

Profile Config Source / ID (Re-connect to Action)



Internal

Radio buttons to select source of panel configuration profile.

Select to get the panel configuration from settings on the RollCall templates.

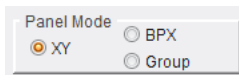
A panel profile includes:

- Router Controller IP address etc information.
- Use of short or long names.

Tab. 5-4: Setup Template - Profile Config Items (continued)

Profile Config Pane Item	Description
XML File	(Applies to LCD panels.) Select to get the panel configuration profile from an uploaded XML file, instead of from template settings. Note: If no XML file has been downloaded to the panel, then the radio button cannot be selected.
Slider	Slider is used when XML File is selected. The slider is used to select which panel configuration set to use from the XML file. Note: An XML file may contain more than one panel configuration profile.

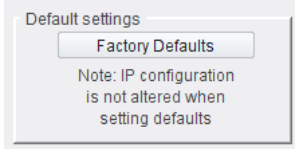
Tab. 5-5: Setup Template - Panel Mode Items

Panel Mode Item	Description
Panel Mode 	Check boxes. Select panel mode of operation for router control. Some RollCall templates depend upon which panel mode is selected. See Note 1 . LCD panel, select: <ul style="list-style-type: none"> • XY • BPX • Group LED panel, select: <ul style="list-style-type: none"> • XY • BPX
XY	Select XY for XY panel mode. Destination and source are selected individually on the panel to make a route. A minimum of two button presses to make a route.
BPX	Select BPX for BPX panel mode. Destination and source are selected together with one button push. A minimum of one button press to make a route.

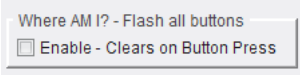
Tab. 5-5: Setup Template - Panel Mode Items

Panel Mode Item	Description
<p>Group</p>	<p>(LCD panel only) Group mode enables user-definable source and destination groups, enables smart searching of the sources/destinations and dialing up of port numbers. Group mode works from a loaded-up .xml file which is loaded into the panel.</p> <p>Note: The .xml file is defined and works in a similar way to a Grass Valley KKT panel. A Grass Valley Router Control Panel Configurator tool is used, which is based on Microsoft Excel[®] and a Grass Valley plug-in. Refer to the 6026KKT-RC Series 2U Control Panels User Manual for more information.</p>
<p>Note 1 The selection of Panel Mode determines the templates available.</p>	

Tab. 5-6: Other Setup Template Items

Item	Description
<p>Protection</p> <p>Device ID</p> <p>Drop-down list</p>	<p>Destination protection:</p> <p>Text box. Set the panel device ID. This is used, for example, on an LCD Protect button to indicate which device is protecting a selected destination.</p> <p>Drop down list. Select panel device mode:</p> <ul style="list-style-type: none"> • Non-master mode - panel cannot override another device's protect. • Master mode - panel can override another panel's protect. <p>For example, a destination may have been protected from a soft panel. A master mode panel can override this and remove the protect.</p>
<p>Default settings</p>  <p>Factory Defaults</p>	<p>Set panel configuration to the factory default configuration.</p> <p>Router controller IP configuration settings are not altered when resetting the panel to the factory default settings.</p> <p>The current panel operating mode is unaffected by pressing this button.</p> <p>Button. Click to revert panel configuration to the factory settings.</p>
<p>Matrix Enable</p>	<p>Check boxes.</p> <p>One check box per router matrix under control of the router controller that the panel is connected to.</p> <p>Select to enable routing in the matrix. Re-connect to router controllers to make any change take effect.</p>
<p>Router Dimensions</p> <p>Router Sources</p> <p>Router Destinations</p>	<p>Displays the number of router sources.</p> <p>Displays the number of router destinations.</p>
<p>POD XY Mode</p> <p>Pod Mode Active</p>	<p>Check box.</p> <p>Select for RollPod mode (not covered in this user manual).</p> <p>In RollPod mode, the user can define individual button functionality for devices that support the RollCall protocol.</p>

Tab. 5-6: Other Setup Template Items (continued)

Item	Description
<p>Where am I?</p>  <p>Enable</p>	<p>This is a useful feature which allows panels to be identified.</p> <p>All buttons on the control panel flash, thus indicating the panel's position.</p> <p>For example, when there are a number of control panels in a system, in-use or configured panels may be identified.</p> <p>Check box.</p> <p>Select to flash all panel buttons.</p> <p>Flashing stops when a button on the panel is pressed or when check box is deselected.</p>

Router Connection

To connect to a router’s router controller(s), the IP address of the router controller is required. If the router uses dual redundant controllers, the IP address of both controllers can be entered. Figure 5-7 shows the **Router Connection** pane of the template.

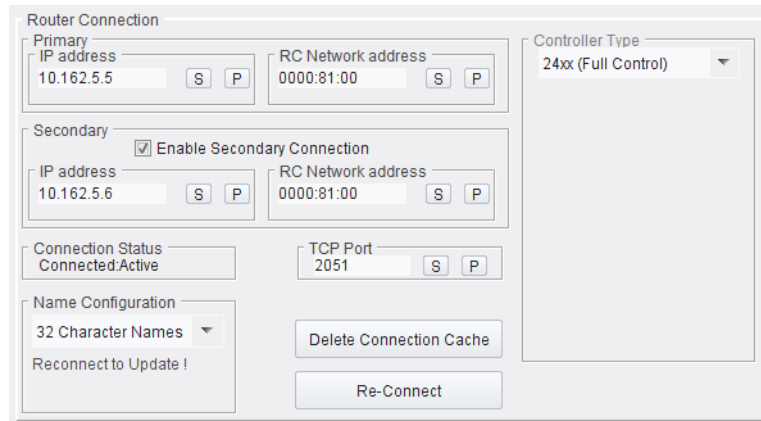


Fig. 5-7: Router Connection Pane

Tab. 5-7: Router Connection Items

Router Connection Item	Description
Primary:	Primary router controller information.
IP Address	<p>Note: If this information is being sourced from a panel configuration profile from a downloaded XML file, then these fields are grayed out.</p> <p>Enter new IP address of the router controller. Press S or the Enter key to locally-save the new value. Default, factory setting: 192.168.1.2</p> <p>Note: On LCD panels, the IP address can be checked directly from the panel at any time by pressing any three consecutive buttons on a row. See Information Display, on page 18.</p>
RC Network address	<p>RollCall network of router controller. Default, factory setting: 0000:81:00 (Supported network addresses: 0000:11:01 and 0000:81:00.)</p> <p>See Note 1, Note 2, and Note 3 below.</p>

Tab. 5-7: Router Connection Items (continued)

Router Connection Item	Description
<p>Secondary:</p> <p>Enable Secondary Connection</p> <p>IP Address</p> <p>RC Network address</p>	<p>Secondary router controller information.</p> <p>Check box.</p> <p>Note: Select this box to enable a second (secondary, backup) router controller connection.</p> <p>Enter new IP address of the router controller. Press S or the Enter key to locally-save the new value. Default, factory setting: 192.168.1.3</p> <p>Note: On LCD panels, the IP address can be checked directly from the panel at any time by pressing any three consecutive buttons on a row. See Information Display, on page 18.</p> <p>RollCall network address for the router controller. Default, factory setting: 0000:81:00 Setting is set to 0000:11:01 or 0000:81:00. Setting is the same for both controllers for a dual-controller system.</p> <p>See Note 1, Note 2, and Note 3 below.</p>
Connection Status	<p>Displays the status of the panel's connection to the router controller(s).</p> <p>Values:</p> <ul style="list-style-type: none"> • Connect:Active • Disconnected
TCP Port	<p>Sets TCP IP port number to use.</p> <ul style="list-style-type: none"> • For an IQ router this is 2050. • For a router with a 24xx controller 2051 is normally used. <p>The user can select which port number is being used.</p> <p>Caution: Changing TCP port number to any other number may set the control panel off line.</p>
Name Configuration	<p>Drop down list.</p> <p>Select 8-character or 32-character source and destination names to be used.</p> <p>For example, for:</p> <ul style="list-style-type: none"> • source/destination displayed text on LCD panel buttons; and • all Status/Control RollCall templates. <p>Note: For this change to take effect, this requires the panel to re-connect to the router controller.</p>

Tab. 5-7: Router Connection Items (continued)

Router Connection Item	Description
Delete Connection Cache	<p>Button.</p> <p>Click Delete Connection Cache to remove the connection information from panel memory (comprising all the working names of the router).</p> <p>Note: There will be a short delay while the control panel initializes and the current status of the control panel connection is shown in the Connection Status field. (If Connected:Active is not shown after initializing, investigate the possible cause.)</p>
Reconnect	<p>Button.</p> <p>Click to re-connect the panel to the router controller.</p>
Controller Type	<p>Drop down list.</p> <p>Select the router controller type:</p> <div data-bbox="778 848 976 1220" style="border: 1px solid #ccc; padding: 5px; margin: 10px 0;"> <p>24xx IQSP1xx IQDMX4 / IQSRT20 IQDMX8 / IQSRT21 IQBRT8 / IQDRT8 IQBRT6 / IQDRT6 IQSRT00 IQSRT10 IQUAV10_Group 24xx (Full Control) Kahuna IQMIX Unknown</p> </div>
<p>Note 1: When configuring a router using a 24xx controller, the default RC network address 0000:81:00 is automatically set.</p> <p>Note 2: On a router with a 24xx controller, the default RC Network address relates to level 1 on matrix 1 on the router.</p> <p>Note 3: To set the panel to control a different matrix or level, this address must be changed.</p> <ul style="list-style-type: none"> • The first four digits remain at 0000. • The second two digits, (default 11) represent the router matrix number, • The last two digits (default 01) represent the level. <p>Each of these sets of two digits can be set in increments of one from the default value to set different matrices or levels. For example 0000:11:02 equates to level 2 on matrix 1, and 0000:12:01 equates to level 1 on matrix 2.</p>	

XML Setup Template

This template is available in all panel modes. It is read-only and shows some panel configuration profile information from an uploaded XML file. The settings are used in 'Group' panel mode (LCD panel only).

The information shown in the template is from the selected panel profile set up in the **Setup** template.

Note: The LCD panel supports the importing of panel profile configuration files in XML format. The files are defined in the same way as Grass Valley KKT panels.
See '6026KKT-RC Series 2U Control Panels' User Manual, Router Controller Configurator section, for more information about generating an XML file.

Firewall INFO: Spreadsheet configuration uses FTP in 'Passive' mode Please allow firewall access for TCP Ports: 21 : 52050 : 52051	
Panel Config Name MON BOC	
Main IP Connection 10.162.5.11	Main RC Address 0000:81:00
Backup IP Connection 10.162.5.12	Router Connection Name GVG&S840
TCP Port 2051	Long Names Short Names (8 char)
Protect / Device ID 15	Protect Master Master Mode

Fig. 5-8: XML Setup Template

Tab. 5-8: Panel Profile Settings from a Loaded XML File

Panel Profile Item	Description
Firewall INFO	Spreadsheet configuration uses FTP in 'Passive' mode Please allow firewall access for TCP Ports: 21; 52050; 52051.
Panel Config Name	Name of the selected panel profile within the XML file. (Selected in the Setup template.)
Main IP Connection	IP address of the main router controller that the panel is connected to.

Tab. 5-8: Panel Profile Settings from a Loaded XML File (continued)

Panel Profile Item	Description
Main RC Address	RollCall address of the main router controller that the panel is connected to.
Backup IP Connection	Shows the IP address of the backup router controller that the panel is connected to.
Router Connection Name	Name of the router connection in the panel profile.
TCP Port	TCP port number used by router controller connections.
Long Names	8 or 32 character names setting.
Protect / Device ID	Panel profile device ID used. This is the device ID shown when a destination is protected.
Protect Master	Protect master mode or non-master mode configuration set setting value.

Config Template

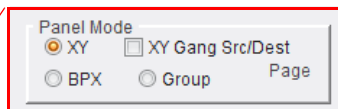
This template is available in all panel modes. However, it has different forms for XY and BPX panel modes and for LCD and LED panel versions. (See Figure 5-9, Figure 5-10, and Figure 5-11.)

The template is used for setting up:

- fixed-button options; and the
- text format that displays on LCD buttons on LCD panels.

Note: The contents of this template differs according to the XY/BPX/Group Panel Mode and according to panel version (LCD or LED panel).

Select **Panel Mode** to show/hide some template panes.



Template pane appears in **XY** mode only.

For LCD panel

Fig. 5-9: Config Template LCD Panel (XY Panel Mode / BPX Mode)

For LED panel (XY or BPX mode)

The screenshot shows a configuration window for an LED panel. It is divided into several sections:

- Panel Mode:** Radio buttons for XY (selected), BPX, and Group.
- Flash Enable Options:** Checkboxes for Connection Loss, New Source, and Page Change.
- Auto Lock Timeout:** A slider set to Disabled with a 'P' button.
- Protect Options:** Checkboxes for Enable (All Modes) and BPX Timeout Enable. A BPX Timeout slider is set to 10s.
- Power-Up Connect Delay:** A slider set to 0.0 sec with a 'P' button.
- Take / Undo / Redo:** XY Mode section with checked Take Enable and unchecked Undo Enable.
- BPX Mode:** Checkboxes for Take Enable, Undo Enable, and ReTake / Redo Enable.
- Routed Status Timer:** A slider set to 6s with a 'P' button.
- Undo Timer:** Undo Timeout slider set to OFF with a 'P' button.
- Gang Take Mode:** Radio buttons for Disabled and Active (selected).

Fig. 5-10: Config Template LED Panel (XY or BPX Mode)

For LCD panel (Group mode)

The screenshot shows a complex configuration window for an LCD panel in Group mode. It includes:

- Panel Mode:** Radio buttons for XY, BPX, and Group (selected).
- Fixed Button Text:** Fields for Take, Undo, Protect, Locked State, and Unlocked State, each with 'S' and 'P' buttons.
- Source Page Up/Down:** Fields for Page Index / Name and SRC/DEST with 'S' and 'P' buttons.
- Destination/BPX Page Up/Down:** Fields for Page Index / Name and SRC/DEST with 'S' and 'P' buttons.
- Search Options:** Checkboxes for Auto-Select, Single Filtered Port, Merge sub categories, and Show NO GROUP.
- LCD XY-Dest/BPX Text Format:** Radio buttons for Long Text, Split Text, Long Text / Port, Split Text / Port, and Medium Text. A Custom option is selected. Examples show character sequences like ABCDEFGH, D63, S78, and ABCDEF.
- Long Text LCD Display Preferences:** Sliders for Max Lines Per Name (set to 2 Line(s)) and Characters per Line (set to 4 Chars). Radio buttons for Copy from Start of Name (selected) and Copy from End of Name. A note indicates Line Delimiter Characters are SPACE.
- Port Names:** Dropdown menus for Sources (Level Names) and Destinations (Association Names).
- Other sections:** Take / Undo / Redo, BPX Mode, Routed Status Timer, Undo Timer, Gang Take Mode, Protect Options, Flash Enable Options, Auto Lock Timeout, and Power-Up Connect Delay.

Fig. 5-11: Config Template LCD Panel (Group Mode)

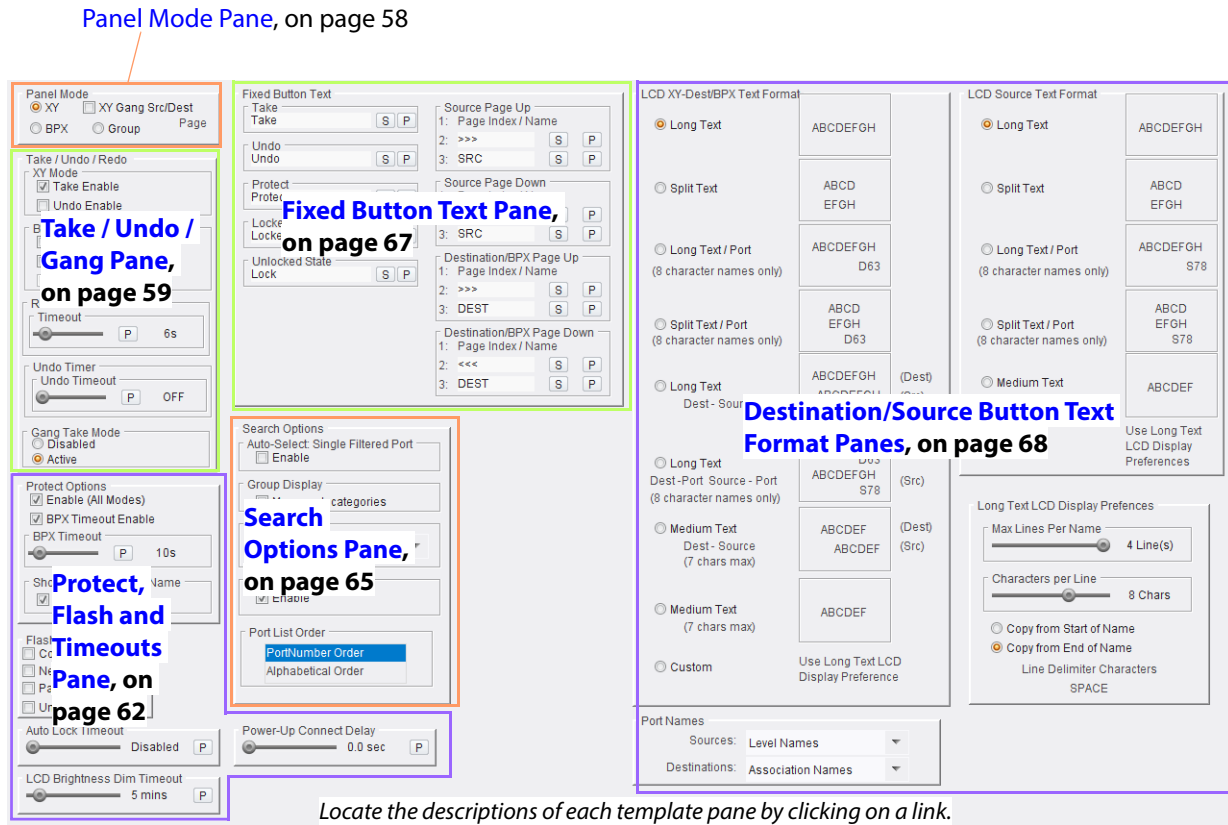


Fig. 5-12: Config Template - LCD Panel Pane Descriptions

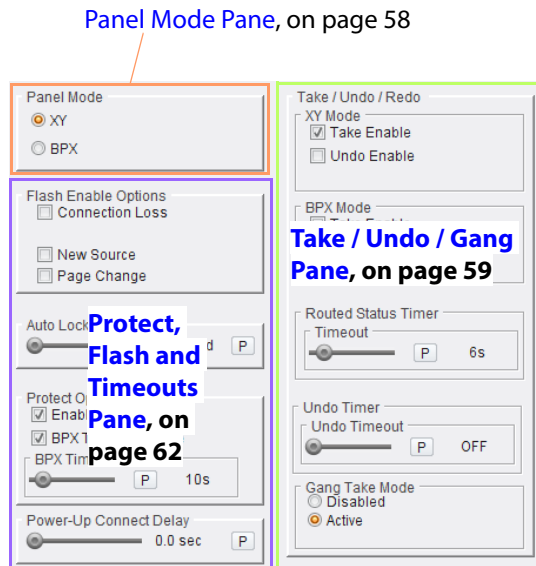
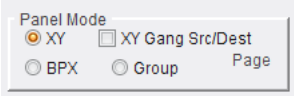


Fig. 5-13: Config Template - LED Panel Pane Descriptions

Panel Mode Pane

Tab. 5-9: Config Template - Panel Mode Pane Items

Panel Mode Item	Description
<p>Panel Mode:</p> 	<p>The panel may be operated in XY Mode or BPX mode. The Panel Mode may be changed on this Config or on the Setup template.</p> <p>Select a radio button for the Panel Mode required. See Node 1.</p>
XY	<p>Radio button.</p> <p>In XY panel mode a destination and source are selected individually, with an optional Take operation.</p>
BPX	<p>Radio button.</p> <p>In BPX mode, a single button press selects a destination and a source for routing with an optional Take.</p>
Group	<p>Radio button. (LCD panel only)</p> <p>Panel operating mode where destination-source pairs and groups may be defined and flexibly searched.</p>
XY Gang Src/Dest	<p>Check box. (LCD panel only)</p> <p>If required, page buttons for source and destination page selection may be ganged together. Both pages then increment/decrement together as source or destination pages are navigated:</p> <ul style="list-style-type: none"> • Select to gang source and destination pages together. • Deselect to decouple destination/source page selection.

Note 1: The content of the **Config** template differs according to the **Panel Mode**.

Take / Undo / Gang Pane

This pane includes button options for enabling/disabling **Take**, **Undo**, and **Gang Take** functions and setting any associated time-out options.

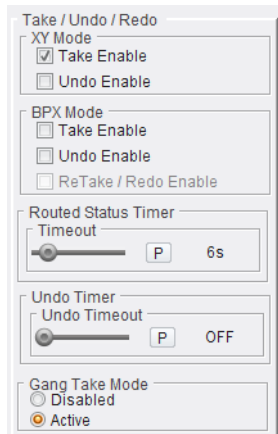


Fig. 5-14: Take / Undo Pane

Tab. 5-10: Take / Undo Items

Take / Undo Item	Description
<p>XY Mode:</p> <p>Take Enable</p>	<p>For the XY panel mode:</p> <p>Check box. Select to enable Take functionality on the panel.</p> <p>Note 1: A Take button must still be assigned on the panel with the corresponding 'Mapping' template.</p> <p>A Take button then becomes active when a new route is selected. Pressing Take then makes the new route.</p> <p>Note 2: If deselected, no Take functionality is employed and new routes are made immediately upon selecting a destination-and-source.</p>
<p>Undo Enable</p>	<p>Check box. Select to enable an Undo function and display an Undo button. Deselect to disable the Undo function.</p> <p>If Undo is disabled, to undo a taken route an 'undone' route must be manually set and taken as any other route.</p> <p>See Undo, on page 61 for information on the Undo function.</p>

Tab. 5-10: (continued) Take / Undo Items (continued)

Take / Undo Item	Description
BPX Mode:	For the BPX panel mode:
Take Enable	Check box. Select to enable a Take function: A Take button is displayed. It becomes active when a new route is selected. Pressing Take then makes the new route. Note: If deselected, no Take functionality is employed and new routes are made immediately upon selecting a crosspoint.
Undo Enable	Select to enable an Undo function and display an Undo button.
ReTake / Redo Enable	Not used.
Routed Status Timer:	After a route is made, the routed status may be displayed for a set time if Status button has been defined on a panel. The status is shown on a Status button.
Timeout	Slider. Set the Take timeout value (seconds). (Press P for the default of 6 seconds.) When the value is set to 'OFF', the status is shown until the next route is made.
Undo Timer:	Displays the duration after which an Undo function will timeout: <ul style="list-style-type: none"> • an Undo button returns to being inactive; • a Take button reverts to its 'Take' function.
Undo Timeout	Slider. Set the Undo timeout value. (Press P for the default of 'OFF')
Gang Take Mode	XY panel mode only. Gang Take mode allows a source to be selected first, followed by one or more destinations. In this way, one source may be routed to one or more destinations simultaneously. Note: A Take button must be enabled to use Gang Take mode.
Disabled	Radio buttons: Select to disable the Gang Take mode.
Active	Select to enable the Gang Take mode.

Undo

The **Undo** function allows a route to be “undone” after it is taken.

There is a **Take** button function type, an **Undo** Button type and a **Take/Undo** type, which combines both. An **Undo** function is available on a panel after a route has been taken, if **Undo** is enabled and if there is an “undo” button type on the panel.

For example, after a **Take**:

- 1 A **Take/Undo** button temporarily changes color and is renamed ‘Undo’ for the duration of the **Undo Timeout**.
- 2 Press the button to revert the route back to what it was before the **Take** operation.
- 3 Once the **Undo Timeout** duration has elapsed, the button returns to displaying **Take** and any taken route remains if it has not been undone.

Protect, Flash and Timeouts Pane

This pane includes button options for enabling/disabling **Protect**, **Flash**, and various panel timeout functions and settings.

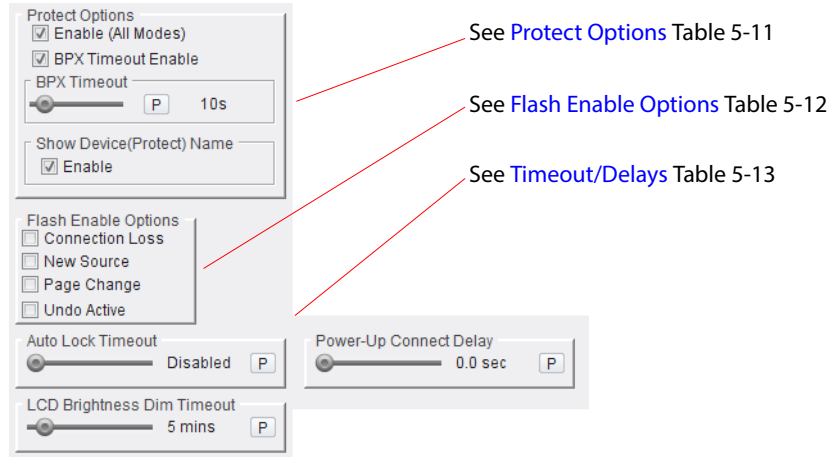


Fig. 5-15: Protect, Flash Etc. (LCD Panel pane shown)

Protect Options

Tab. 5-11: Protect Option Items

Item	Description
Enable (All Modes)	<p>Check box. Select to enable a 'destination protect' function facility and add a Protect button to the panel.</p> <p>Destination Protect function. LCD panel:</p> <ul style="list-style-type: none"> To protect a destination from being routed, select the (unprotected) destination and press Protect. To remove a 'Protect' on a destination, select the protected destination and press Protect. <p>LED panel:</p> <ul style="list-style-type: none"> To protect a destination from being routed, press Protect and select the (unprotected) destination. To remove a 'Protect' on a destination, and press Protect and select the protected destination. <p>Note: If the Enable (All Modes) check box is subsequently deselected, the Protect button disappears from the panel and any previously-protected destinations can only be re-routed again <i>after</i> the Enable (All Modes) check box is selected again and any destinations are unprotected.</p>

Tab. 5-11: Protect Option Items (continued)

Item	Description
BPX Timeout Enable Check box	BPX Timeout is the duration after which the Protect button will timeout on a BPX panel. After the timeout, the Protect button stops flashing and reverts to being inactive. Select to enable BPX Timeout .
BPX Timeout	Slider. Select BPX Timeout value. (Press P for a default value of 10 seconds.)
Show Device (Protect) Name	Check box. (LCD panel only) Select to show the control panel's device name on a Protect button.

Flash Enable Options

Tab. 5-12: Flash Enable Option Items

Item	Description (Certain buttons flash in a particular state)
Connection Loss	Check box. Select to flash all buttons on loss of the corresponding source or destination connection at the router.
New Source	Check box. Select to flash a source selection button when a new source is selected on the panel. Button stops flashing when a new route is made.
Page Change	Check box. Select to flash all source or destination selection buttons when a respective source page or destination page is changed. This indicates which page has changed.
Undo Active	Check box. (LCD panel only) Select to flash button on when the Undo function is active on the button after a Take operation. The button flashes while the Undo function is active.

Timeout/Delays

Tab. 5-13: Timeout/Delay Items

Timeout/Delay Item	Description
<p>Auto Lock Timeout</p> <p>Slider</p>	<p>The Auto Lock Timeout is the period of button inactivity after which panel lock (Lock) is applied automatically.</p> <p>Select the Auto Lock Timeout value. (Press P to set default 'Disabled' - i.e. buttons will not dim.)</p>
<p>LCD Brightness Dim Timeout</p> <p>Slider</p>	<p>(LCD panel only) The LCD Brightness Dim Timeout is the period of button inactivity after which a panel dims its LCD buttons.</p> <p>Select LCD Brightness Dim Timeout value. (Press P to set default of 5 minutes.)</p>
<p>Power Up Connect Delay</p> <p>Slider</p>	<p>Power Up Connect Delay is the delay after power up until a panel requests router source and destination information from its router controller(s). This can be useful in a system where many devices might ask for this information. To avoid too many devices asking for this information at system power, a delay can be set for each different panel.</p> <p>Select Power Up Connect Delay value. (Press P to set default of 0 seconds.)</p>

Search Options Pane

This template section appears for LCD panels only. It is used in panel Group mode and for the 'Custom Group' sub-mode (with user-defined categories. Settings in this pane apply to searching a hierarchical list of source ports or destination ports.

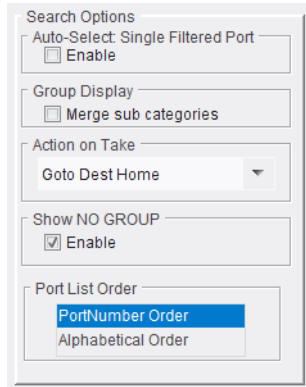


Fig. 5-16: Search Options Pane

Tab. 5-14: Search Option Items

Search Option Item	Description
Auto-Select: Single Filtered Port	
Enable	Check box. Select this option to automatically select a port item if it is the only item resulting from a search through the customs groups. (I.e. There is no need to press the source button itself if only one source item remains in the search.)
Group Display Merge Sub Categories	Check box. Select to show a flattened list of subcategories at the top level of the search in Group panel mode.
Action on Take	Drop-down box. Select what to show on the panel on source or destination buttons after a Take . <ul style="list-style-type: none"> • Goto Dest Home - Go to the top of the list of destinations and put the panel in 'destination selection' mode. • Goto Source Home - Go to the top of the list of sources and put the panel in 'source selection' mode. • Nothing - Panel stays in the same state.

Tab. 5-14: Search Option Items (continued)

Search Option Item	Description
Show NO GROUP Enable	Check box. Select to view source or destinations which are not assigned to a group.
Port List Order	Selection box. Determines port list order shown on destination or source buttons in panel group mode. This controls the list order of ports and hence what is shown when paging through all sources or a filtered list of sources.
PortNumber Order	Port number order.
Alphabetical Order	Alphabetical order.

Fixed Button Text Pane

This template section appears for LCD panels only. It is used to define the button-face text that appears on *fixed* buttons on the panel (i.e. not the source and destinations buttons).

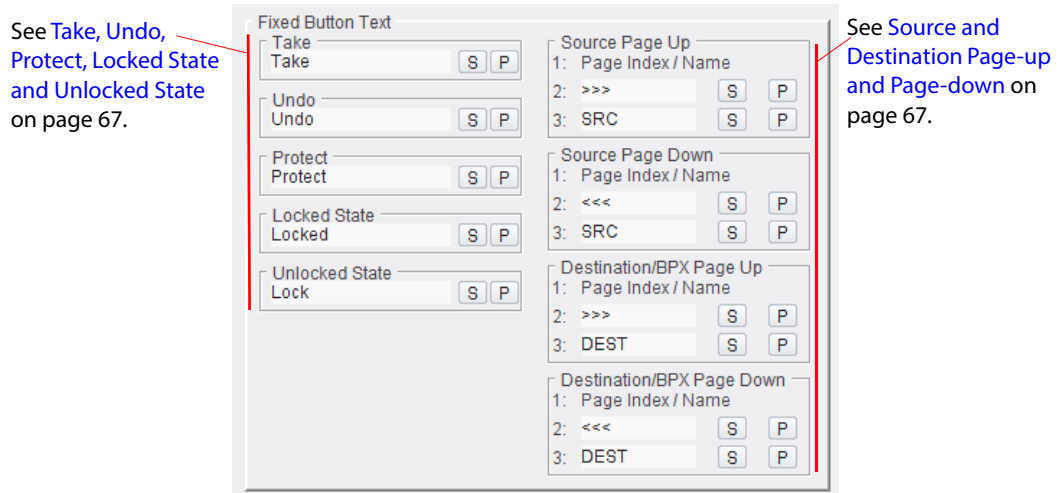


Fig. 5-17: Fixed Button Text Pane

To edit a text field:

- 1 Click in a text field.
- 2 Delete existing text and retype as required.
- 3 Press the Enter key, (or click on the **S** button for that particular field).

Repeat for each of the text fields as necessary.

To set a name back to the factory default, click on the **P** button for that component.

Take, Undo, Protect, Locked State and Unlocked State

These buttons may each contain up to three lines of text; each line contains up to six characters; each line must be delimited by a space character, " ". For example,

Take text "TAKE the Route" results in:

**TAKE
the
Route**

Source and Destination Page-up and Page-down

These buttons each have three lines of text: The top line is non-editable and indicates the current page number, [X]. The next two lines of text are editable by default. For example,

**[2]
My
Dest**

Indicates that page 2 of the destinations is currently displayed

If required, the top line of text may be used to name a specific page. (See [BPX Mapping Template](#) on page 100.)

Destination/Source Button Text Format Panes

These panes appear for LCD panels only.

LCD XY-Dest/BPX Text Format Pane

This pane defines the button-face text format (on LCD buttons) for:

- Destination buttons in XY panel mode.
- Source-Destination buttons in BPX panel mode.

Select the radio button for the required button-face text format.

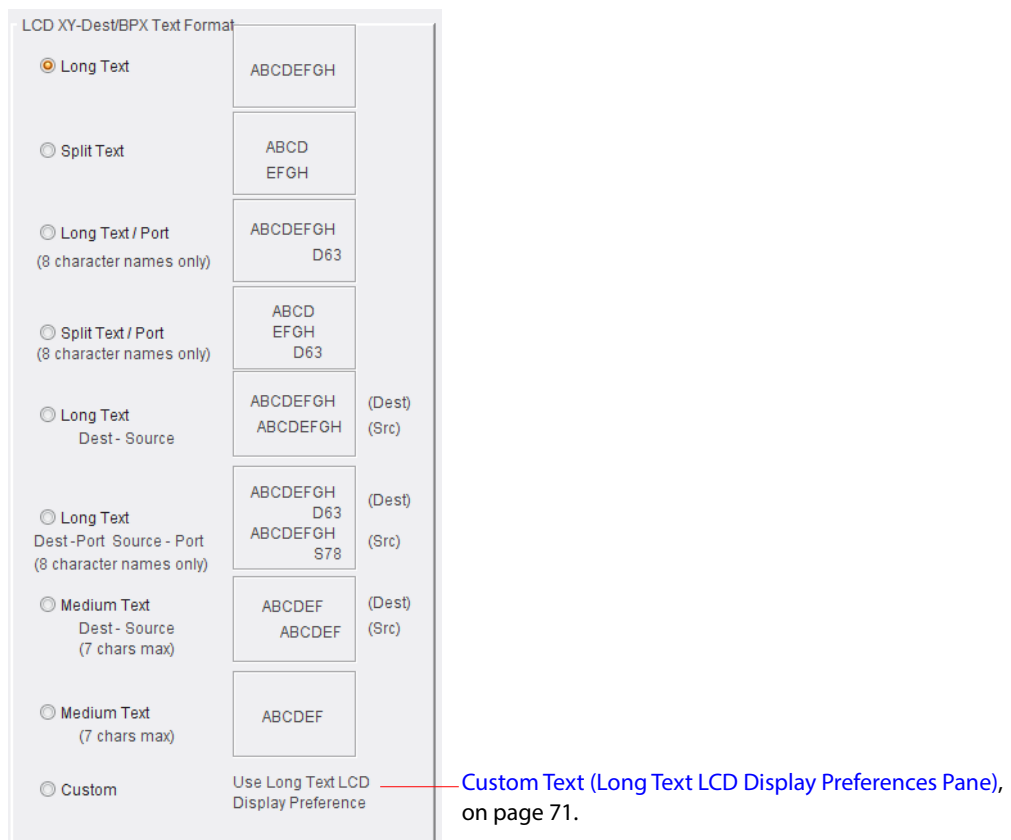










Fig. 5-18: LCD XY-Dest/BPX Text Format Pane

Tab. 5-15: LCD XY-Dest/BPX Text Format arch Options

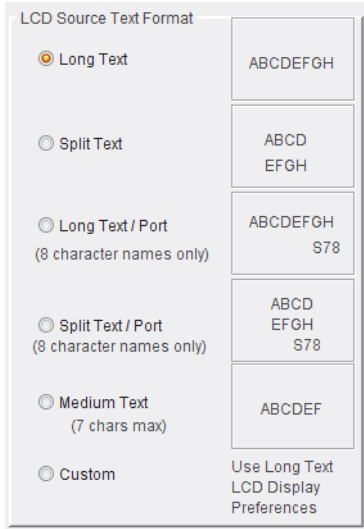
Text Format Option	XY Destination or BPX button face example
Long Text	
Split Text	
Long Text / Port (8 character names only)	
Spit Text / Port (8 character names only)	
Long Text Dest - Source	
Long Text Dest - Port Source - Port (8 character names only)	
Medium Text Dest - Port (7 chars max)	
Medium Text (7 chars max)	
Custom	See Custom Text (Long Text LCD Display Preferences Pane) , on page 71.

Note: When a destination is protected, a padlock symbol (🔒) automatically displays on the button face after the destination name. This can affect the display format of destination names when using the larger text formats.

LCD Source Text Format Pane

XY panel mode only.

This pane defines the button-face text format (on LCD buttons) for source buttons in XY panel mode. Select the radio button for the required button-face text format.



[Custom Text \(Long Text LCD Display Preferences Pane\)](#), on page 71.

Fig. 5-19: LCD Source Text Format Pane (XY Panel Mode Only)

Tab. 5-16: LCD Source Text Format Options

Text Format Option	XY Source button face example
Long Text	
Split Text	
Long Text / Port (8 character names only)	
Spit Text / Port (8 character names only)	
Medium Text (7 chars max)	
Custom	See Custom Text (Long Text LCD Display Preferences Pane) , on page 71.

Port Names Pane

This pane allows the user to select which name is used for displaying on source selection buttons and, separately, on destination selection buttons on the panel itself.

Options are:

- **Level Names** - the pure name router port name.
- **Association Names** - the port association name.

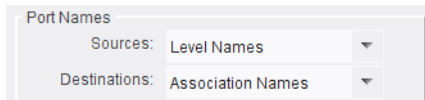


Fig. 5-20: Port Names Pane

Custom Text (Long Text LCD Display Preferences Pane)

This pane defines the custom button-face text format preferences (on LCD buttons).

Long (up to 32 character) source and destination names are supported by the panels. The controls in this pane are used to manipulate the names to suit the button display.

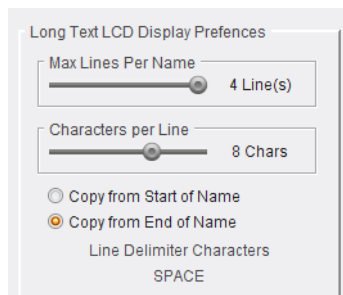


Fig. 5-21: Long Text LCD Display Preferences Pane

- Use the slider controls to set the:
 - **Max Lines Per Name** - maximum number of lines; and the
 - **Characters per Line** - number of characters per line.
- Select the radio button for the better display of the name on the button face; either starting from:
 - the beginning of the name; or
 - the end of the name.

Note: Each line of text may be delimited by:

- space character " "
 - a colon ":"
 - a dash "-" or
 - a dot "."
-

XY Mapping Template

This template is shown in XY panel mode.
(For BPX panel mode, see [BPX Mapping Template](#), on page 100.)

The purpose of the template is to define button function type across the panel's buttons and to assign sources or destinations to **XY** buttons (**Source Selection** and **Destination Selection** buttons), including defining pages of sources and of destinations.

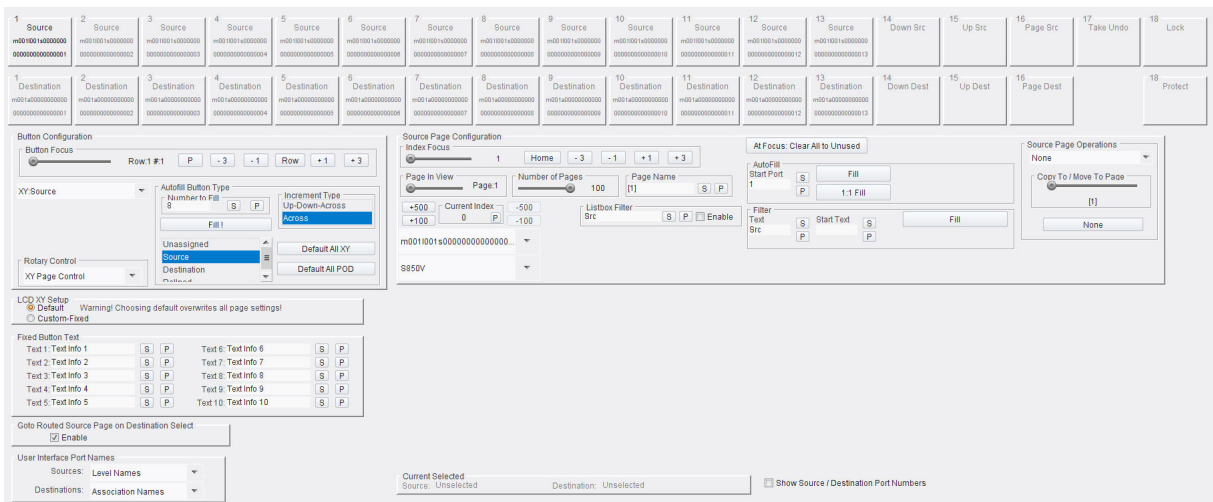
For LCD panels, button text appears on the buttons.
For LED panels, there is no configurable button text.

The template allows the user to map router control button functions onto the G2 Series 1U Router Control Panel buttons available in a flexible manner. The user can:

- Define button function types for each dynamic (source and destination) button,
- Define the number of and the means of accessing each page of source or destination selection buttons.
- Allocate specific sources and destinations to individual buttons on each page. It may be useful to group certain sources together on a page, and a different category of sources on another page, and so on.
- Assign any router control function to any button to generate custom button layouts.

Note: Ensure that the target router has been configured with all the desired port names before starting the mapping process.

Note: **XY** mode assigns **Sources** to buttons and **Destinations** to buttons.
BPX mode assigns **Crosspoints** to buttons.



For a zoomed-in template image, see Figure 5-23 and Figure 5-24

Fig. 5-22: XY Mapping Template

Before using a router control panel to perform routing operations, give careful consideration to setting up the panel in the most efficient way for the number of sources and destinations, and how the buttons on the panel are going to be used.

Determining the mapping of the buttons defines what displays on each button when the source and destinations are setup in their respective pages, and how the individual pages are to be accessed.

Note: Examples given in the following descriptions relate to an LCD panel. The configuration of other control panels is similar, only the number and layout of available buttons changes.

Figure 5-23 and Figure 5-24 show the XY Mapping template in detail for the LCD panel case.

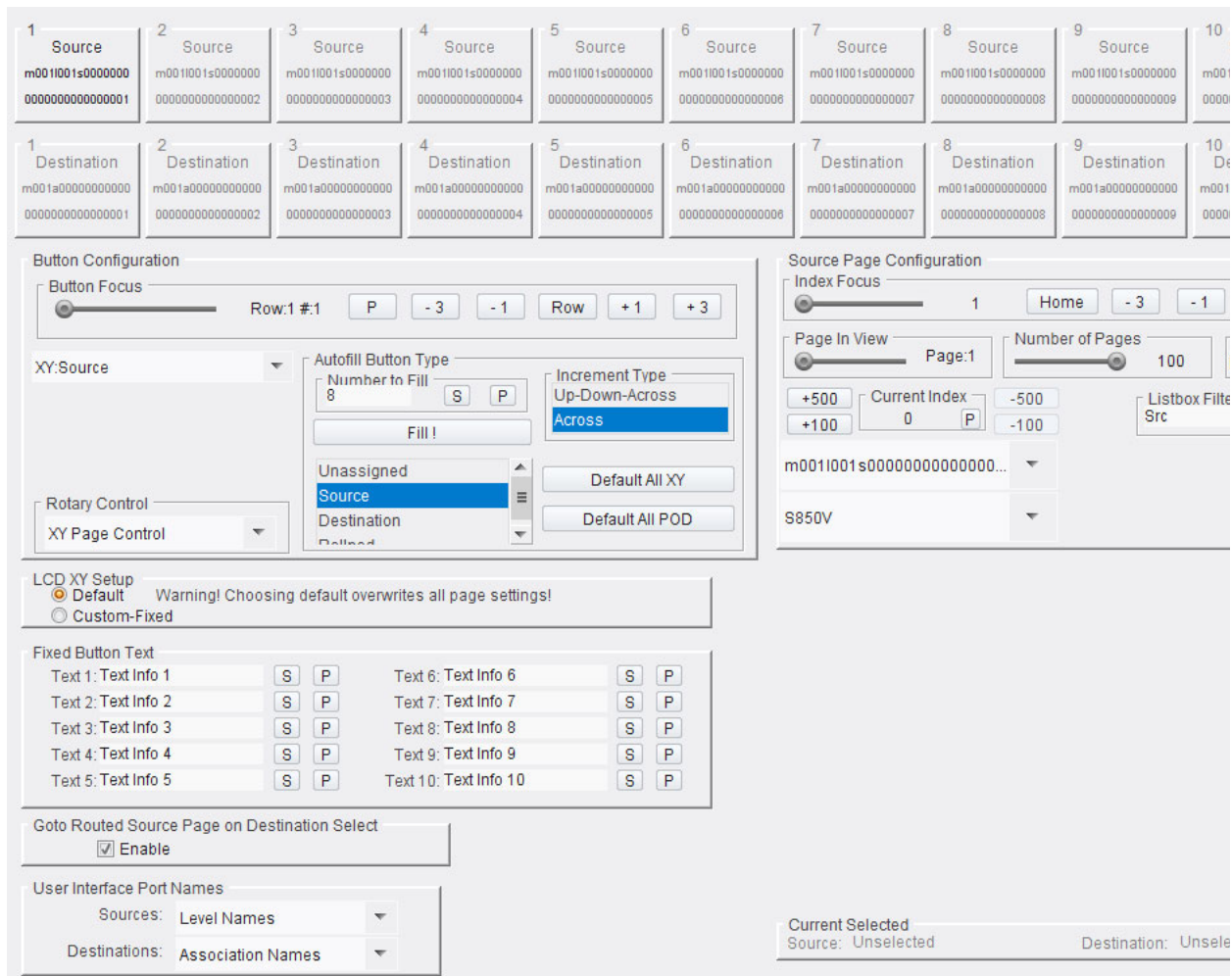


Fig. 5-23: XY Mapping Template (LCD Panel, Left-hand side)

RollCall Templates
 XY Mapping Template

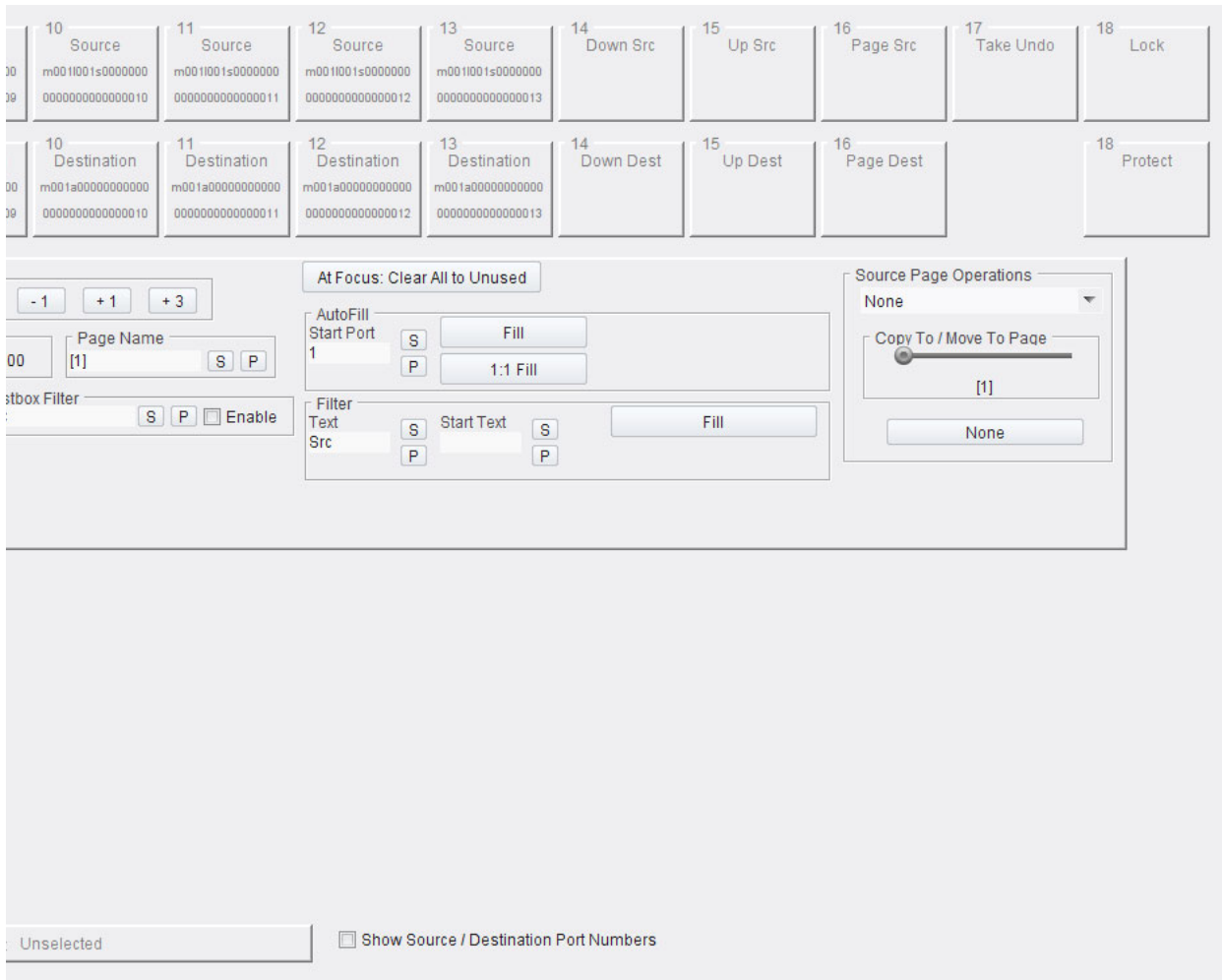
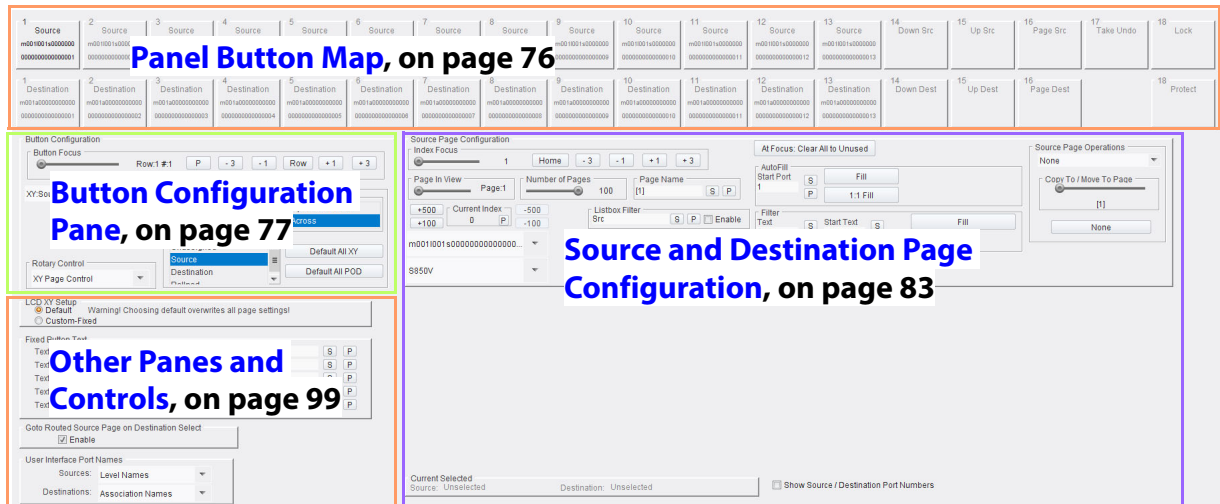


Fig. 5-24: XY Mapping Template (LCD Panel, Right-hand side)

Panes of the XY Mapping Template

The XY Mapping template is large and complex; this template description covers all of the template, and its various controls and indicators. Areas (panes) of the template are described in sub-sections and Figure 5-25 shows this. Locate a pane’s description by clicking on the link contained in the figure.



Locate the descriptions of each template pane by clicking on a link.

Fig. 5-25: XY Mapping Template Panes

Panel Button Map

The panel button map shows a representation of the unit's front panel buttons. There are two rows of rectangles on the template which represent the buttons. Once defined, each button is represented and annotated according to its function on the source/destination page currently selected.

(Page configuration is described in [Source and Destination Page Configuration](#), on page 83.)

Note: It is not possible to click on the panel button map to operate the buttons.
(See [XY Status/Control Template](#), on page 128, for an operable template showing front panel buttons and controls.)



Fig. 5-26: Panel Button Map (LCD panel shown)

Buttons are configured individually. They are selectable with navigation controls in the template's **Button Configuration** pane. (See [Button Configuration Pane](#), on page 77.)

(Possible XY button functions are described in [Table 5-18, XY Button Function Types](#) on page 81.)

Button Configuration Pane

Button Configuration defines the button function. I.e. which buttons are used to display the various aspects of each page.

Note: Ensure that the button focus (i.e. the selected button in the **Panel Button Map**) is in the correct position before defining the buttons.

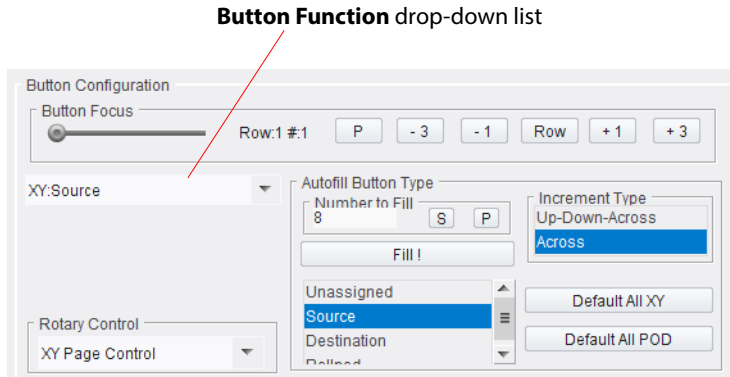
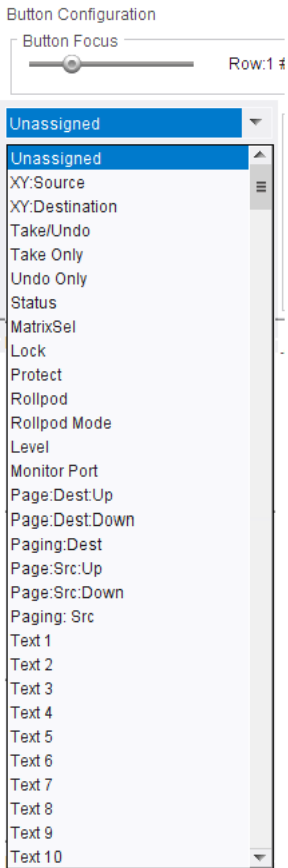


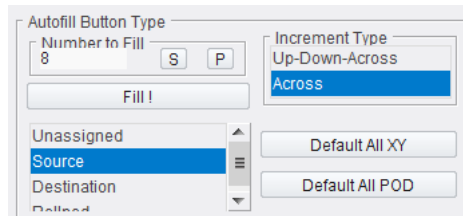
Fig. 5-27: Button Configuration Pane

Tab. 5-17: Button Configuration Items


Item	Description
Button Focus:	Button selection controls. Use the navigation controls to move the button focus and select any button on the Panel Button Map. This selects which panel button to define.
Slider	Use the slider to select and focus on a button in the button map. When selected, the button's text is shown in bold. See Figure 5-28 on page 80.
Row:N #.M	Displays row and column number of selected button. For example, "Row:1 #.1"
P	Click to focus on button at Row 1, #1 position.
-3	Click to move button focus leftwards by 3 buttons.
-1	Click to move button focus leftwards by 1 button.
Row	Click to toggle button row.
+1	Click to move button focus rightwards by 1 button.
+3	Click to move button focus rightwards by 3 buttons.

Tab. 5-17: Button Configuration Items (continued)

Item	Description
Button Function	<p>Drop-down List.</p> <p>Select button function type. See Button Function Type (XY), on page 81.</p> 
Autofill Button Type:	<p>Controls for configuring the button function type of several source or destination selection buttons.</p> <p>Note: This fill control sets the type of function that a button carries out. It does not assign sources nor destinations. (For such assignment, see Source and Destination Page Configuration, on page 83.)</p>



Tab. 5-17: Button Configuration Items (continued)

Item	Description
Number to Fill	Text box. Enter the number of buttons to autofill starting from the selected button (button-focus). Press S or press the Enter key.
Increment Type	Selection box. Autofill pattern. Buttons may be assigned across the control panel, or running up-down-across: <ul style="list-style-type: none"> • Select 'Up-Down-Across' to autofill in a  pattern. • Select 'Across' to autofill left to right. See Figure 5-29 on page 80.
Autofill Button Type	Selection box. (Un-named on template.) Select the type of button to autofill with: <ul style="list-style-type: none"> • Unassigned - sets previously-assigned button(s) to be blank and have no function. • Source - defines buttons starting from the button-focus as source buttons according to the number of buttons to autofill. • Destination - defines buttons starting from the button-focus as destination buttons according to the number of buttons to autofill. • RollPod. (Future).
Fill!	Button. Click to autofill Button Type to panel buttons from the button-focus position. Buttons will be assigned and labeled according to the autofill button type and the number of buttons. (Other button types may be defined singly by selecting a button type from the drop-down list to define the current button at the button-focus position.)
Default All XY	Button. Click to creates a panel setup of XY sources / destination to suit the full size of the router that the panel is controlling. Signal names are obtained from the router controller. Pages are added automatically to suit the number of source/ destination selection buttons and the size of the router.
Default All POD	Button. Sets the panel into a default configuration for RollPod operation - which is not covered by this G2 Series 1U Router Control Panel user manual.
Rotary Control	Drop down Box. (LCD panel only) Defines the rotary control action: <ul style="list-style-type: none"> • XY Page Control - scrolls through sources or destinations, or pages of sources or destinations. • RollPod Only - RollPod mode specific actions.

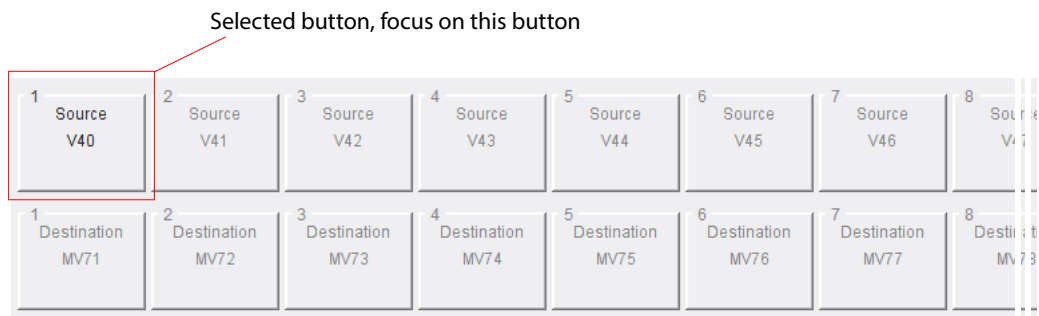


Fig. 5-28: Panel Button Map Focus

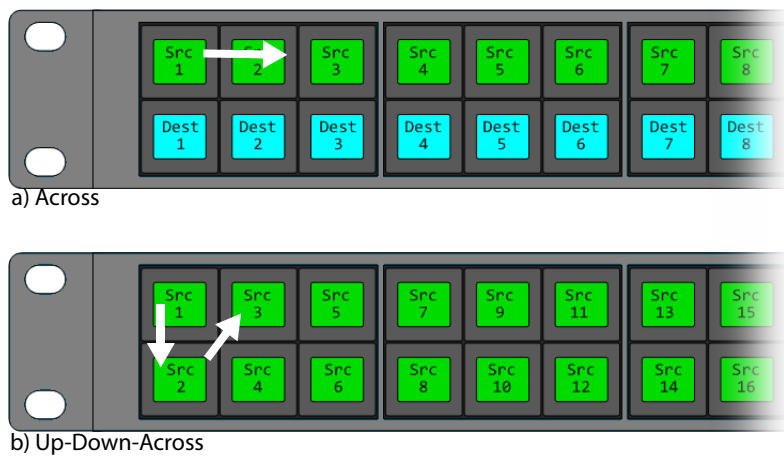


Fig. 5-29: Button Autofill Patterns:
a) Across.
b) Up-Down-Across.

Button Function Type (XY)

Tab. 5-18: XY Button Function Types

Button Function type	Description
Unassigned	Sets the current button to be blank and have no function.
XY:Source	Defines a single button as a source button. When selected, the Source Page Configuration pane is shown, see Source and Destination Page Configuration , on page 83.
XY:Destination	Defines a single button as a destination button. When selected, the Destination Page Configuration pane is shown, see Source and Destination Page Configuration , on page 83.
Take/Undo	Defines a button with combined route 'Take' and 'Undo' functionality.
Take Only	Defines a button with route 'Take' functionality.
Undo Only	Defines a button with route 'Undo' functionality.
Status	Define a (LCD text) button to display the status of routes that are made. Status reported includes: <ul style="list-style-type: none"> • a successful route; • a failed route (this may have failed for a number of reasons).
MatrixSel	Defines a matrix selection button. A G2 Series 1U Router Control Panel can control multiple routing matrices. If the router controller has several routing matrices defined, then pressing MatrixSel allows the user to select a matrix.
Lock	Defines a 'Panel Lock/Unlock' button.
Protect	Defines a button with destination Protect functionality.
Rollpod	Defines a button to send a generic RollCall command. Used on a control panel's Rollpod mode.
Rollpod Mode	Defines a button to select RollPod mode of operation.
Level	Defines a button to select routing level(s) to route.
Monitor Port	Defines a button to control routing to a router's monitor ports.

Tab. 5-18: (continued)XY Button Function Types

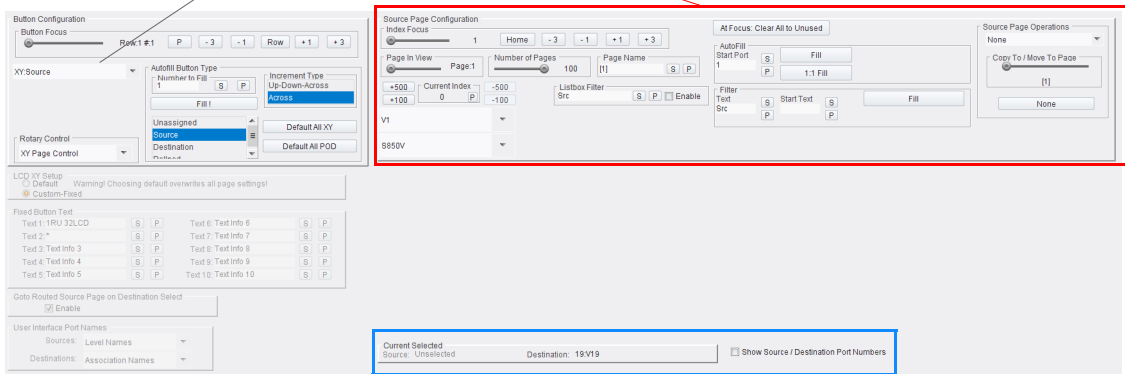
Button Function type	Description
Page:Dest:Up	Defines a single button to navigate forwards through pages of destinations. When on the last page, pressing this button navigates to the first page.
Page:Dest:Down	Defines a single button to navigate backwards through pages of destinations. When on the first page, pressing this button navigates to the last page.
Paging:Dest	Defines a button as a Page Button for accessing destination pages. When the pressed, it displays all destination pages allowing direct selection of an individual page of destinations.
Page:Src:Up	Defines a single button to navigate forwards through pages of sources. When on the last page, pressing this button navigates to the first page.
Page:Src:Down	Defines a single button to navigate backwards through pages of sources. When on the first page, pressing this button navigates to the last page.
Paging:Src	Defines a button as a Page Button for accessing source pages. When pressed, it displays all sources pages allowing direct selection of an individual page of sources.
Text 1 - 10	Defines a (LCD text) button as one of the 10 Fixed Button text fields. See Fixed Button Text Pane (LCD Panel Only) , on page 98. Used on LCD panels only.

Source and Destination Page Configuration

The **Source** and **Destination Page Configuration** panes are used to determine which buttons individual sources and destinations are to be allocated to. The buttons can either be set up singly, or grouped together by name.

- When configuring a source button function, the **Source Page Configuration** pane is shown. See Figure 5-30 and Figure 5-32.
- When configuring a destination button function, the **Destination Page Configuration** pane is shown. See Figure 5-31 and Figure 5-33.
- In both cases, some page view controls/indicators are shown at the bottom of the template, below any Source or Destination Page Configuration pane.

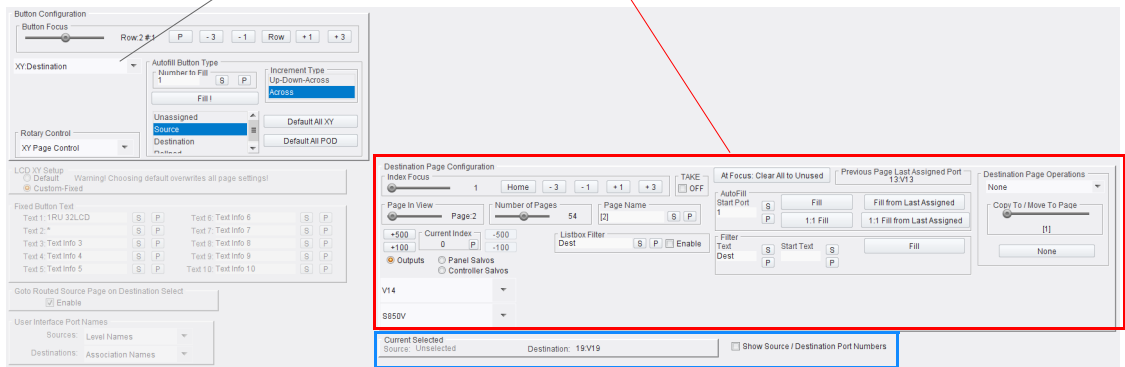
Button Function set as **XY:Source**, then **Source Page Configuration** pane is shown



Page view control/indicator

Fig. 5-30: XY Mapping Template and Source Page Configuration Pane

Button Function set as **XY:Destination**, then **Destination Page Configuration** pane is shown



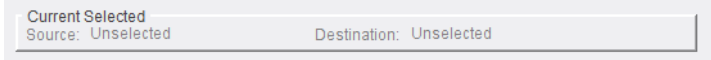
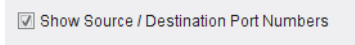
Page view control/indicator

Fig. 5-31: XY Mapping Template and Destination Page configuration Pane

Page View Control/Indicator

At the bottom of the template, below the Source Page Configuration or Destination Page Configuration panes are the following controls and indicators:

Tab. 5-19: Page View Items

Item	Description
Current Selected 	Text fields. (This appears in a slightly different position on the template for LCD panels and for LED panels.) Display the currently-selected source and destination in the Source Page or Destination Page Configuration panes.
Show Source / destination Port Numbers 	Check box. (This appears in a slightly different position on the template for LCD panels and for LED panels.) Select to show source and destination port numbers on the Panel Button Map , Source Page Configuration and Destination Page Configuration panes.

Source Page Configuration Pane

An example Source Page Configuration pane is shown in Figure 5-32.

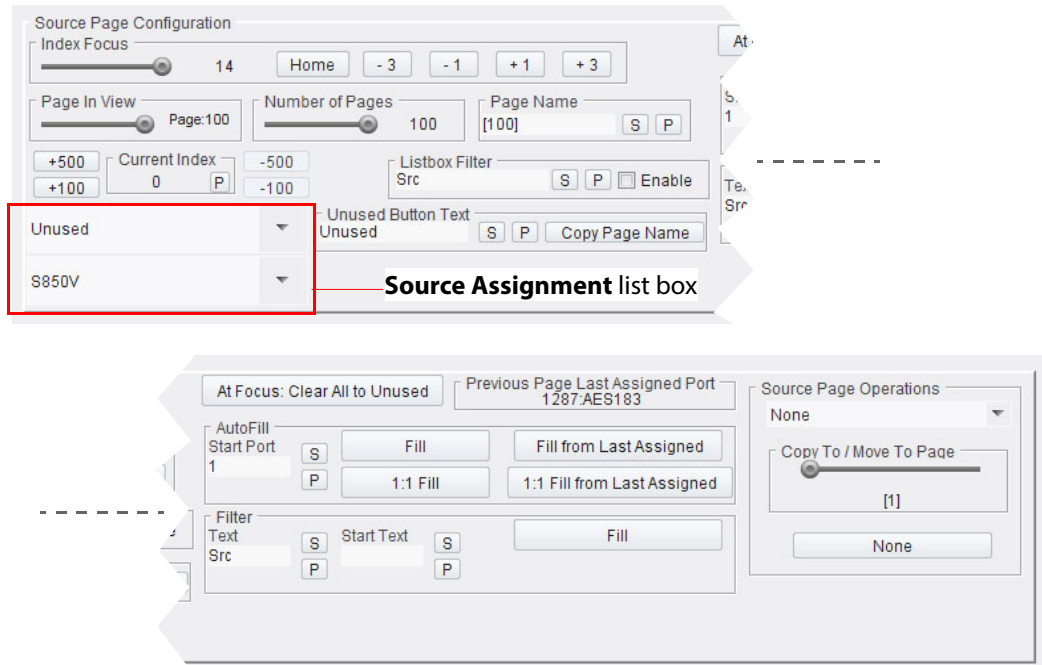


Fig. 5-32: Source Page Configuration Pane

Destination Page Configuration Pane

An example Destination Page Configuration pane is shown in Figure 5-33.

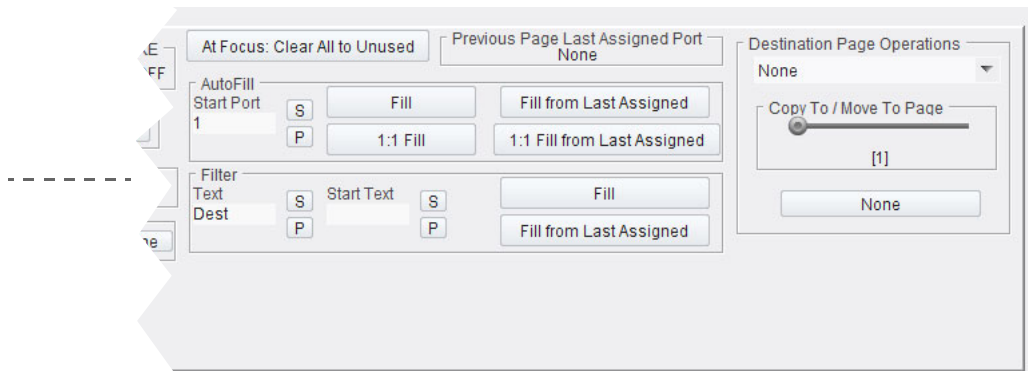
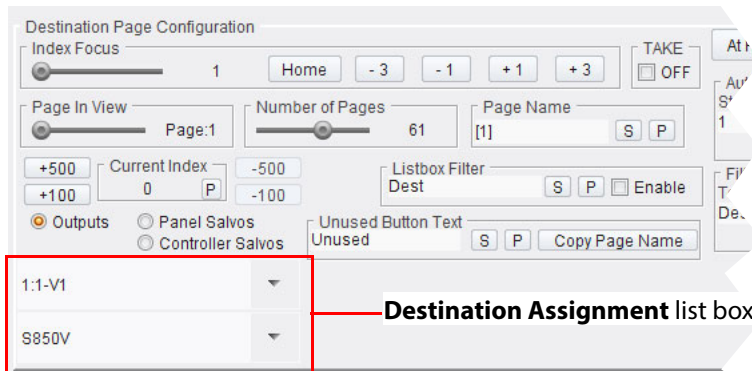


Fig. 5-33: Destination Page configuration Pane

Source/Destination Page Configuration

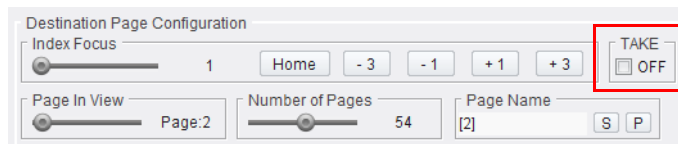
Source and destination pages are both set up in the same way. The description that follows mainly deals with source pages; however, destination pages are set up in exactly the same manner but set the button focus to a destination button (on the XY Mapping template's button map - see [Panel Button Map](#), on page 76).

Table 5-20 lists and describes the different controls and indicators found in the **Source Page** and **Destination Page Configuration** panes; the panes are similar and any differences are indicated in the table.

Note: Button function types must be defined before setting up the source and destination pages. (See [Button Configuration Pane](#), on page 77.)

Tab. 5-20: Source/Destination Page Configuration Items

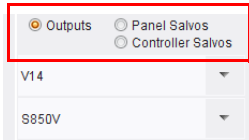
Item	Description
Index Focus	Navigate the Source Selection or Destination Selection buttons of the Panel Button Map using these controls. This is used to change button focus for source page and destination page configuration.
Slider	Click on the slider and drag the slider bar to change the Index Focus value. Or, click on the slider and use the arrow keys on the keyboard to increment/decrement Index Focus .
Home	Button. Click to set Index Focus to 1.
-3	
-1	
+1	Buttons. Click to increment/decrement Index Focus.
+3	
TAKE:	(Destination Page Configuration pane only)
OFF	Check box. Select to turn the Take function off for the current page of Destinations.



Tab. 5-20: Source/Destination Page Configuration Items (continued)

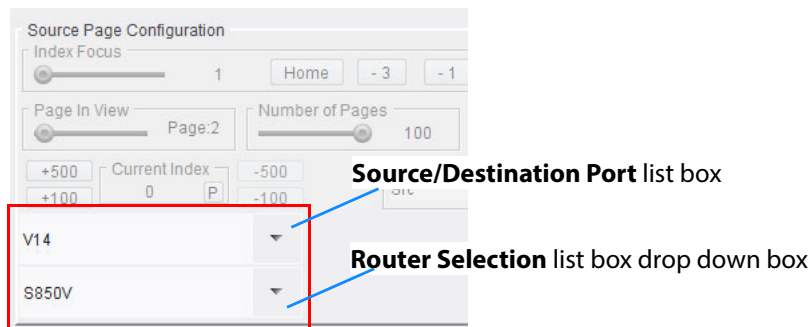
Item	Description
Page in View	<p>Slider and text box.</p> <p>The Page in View is the page viewed on the template (and on the control panel unit too).</p> <p>To change Page in View:</p> <ul style="list-style-type: none"> • use the slider to select the page to view on the template; or • enter the value in the text box and press the Enter key; or • select the slider and use left- and right-arrow keys to increment/decrement the value; or • operate the actual control panel unit and select a page. <p>Note: Changes to Page in View are reflected both on the template and on the control panel unit.</p> <p>Similarly, page changes made on the control panel unit are reflected in both the template and on the panel unit.</p> <p>Any changes to the Indexing will affect the current page only.</p> <p>To navigate to a different page:</p> <ul style="list-style-type: none"> • Change the Page in View value. • Change the page on the control panel unit. <p>Note: If page navigation buttons have been previously configured on the panel, these can be used to navigate through the pages.</p>
Number of Pages	<p>Slider and text box.</p> <p>Use the slider to set the maximum number of pages, or enter the value in the text box and press the Enter key.</p> <p>Pages can be added or deleted. This defines the number of pages available to allocate sources and destinations to.</p>
Page Name	<p>Text box.</p> <p>Enter a Page Name in the text box. (Delete any current text in the text box.) Press S or press the Enter key to enter the value into the text box.</p> <p>A Page Name can be added in place of the default page number. This name displays as the first line of a Page Change, or Page Up and Page Down button.</p> <p>Note: Changes to Page Name are reflected both on the template and on the control panel unit. And vice versa.</p>

Tab. 5-20: Source/Destination Page Configuration Items (continued)

Item	Description
Radio buttons:	(Destination Page Configuration pane only) Select items to see in the Destination Assignment list box.
	
Outputs	Select to list destinations in the list box.
Panel Salvos	Select to list panel salvos in the list box.
Controller Salvos	Select to list router controller salvos in the list box.

Source Assignment and Destination Assignment:

List box.
These controls define the source or destination to assign to the selected button on the current page.
Note: These controls are not annotated on the template.

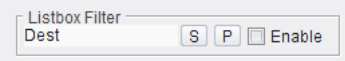


Source/ Destination Port

List box.
Select the source or destination port name to assign to the selected button on the current page.
The 'Unused' item in the list box indicates that no port assignment has been made to the source or destination button.

By default, the list box shows source or destination port *names*; to show port *numbers*, select the **Show Source/Destination Port Numbers** check box. (See [LCD XY Setup Pane](#), on page 97.)

Tab. 5-20: Source/Destination Page Configuration Items (continued)

Item	Description
<p>Router Selection</p>	<p>Note: The drop-down Source/Destination Port list box contains up to 100 port names.</p> <ul style="list-style-type: none"> For larger routers with more than 100 ports, the list of router ports can be indexed into with the Current Index controls. The list may be filtered with the Listbox Filter control. <p>Drop down box. Select the router device of the required source or destination. (If only one router is being controlled, there is only one item in the drop down list.)</p>
<p>Current Index</p> <p>+500</p> <p>+100</p> <p>-500</p> <p>-100</p>	<p>Text box. Index value used to offset into list of router ports to change the items displayed in the Source/Destination Port list box. Enter a value in the text box and press the Enter key. Press P to set to zero.</p> <p>Buttons. Click to Increment/decrement Index value.</p>
<p>Listbox Filter</p> <p>Enable</p>	 <p>Text box. Enter a text value to use to filter the Source/Destination Port list box contents. Press S or press the Enter key. Filtering is applied to the list box items.</p> <p>Filtering Note:</p> <ul style="list-style-type: none"> Filtering matches text from the start of the name. Filtering is case sensitive. <p>For example, "V1" will show V1, V10, V11, ..,V100,V101,.. etc in the list box.</p> <p>(This feature can assist with grouping together buttons containing similar names or reducing the number of items in the drop-down list box.)</p> <p>Check box. Select to enable filtering of the list box items using the Listbox Filter.</p>

Tab. 5-20: Source/Destination Page Configuration Items (continued)

Item	Description
Unused Button Text	<p>Text box.</p> <p>Enter the button-face text to use on a button if it is not assigned a source nor destination. Press S or press the Enter key.</p> <p>Click P to enter 'Unused'.</p> <p>Note: The text box only appears when 'Unused' is selected for the button's source/destination port assignment.</p> <p>Button Text Note: The button text can occupy up to a maximum of 18 characters in three rows, delimited by spaces. It is recommended that the word length is limited to 6 characters to ensure that the words fit on the button. Any words longer than 6 characters are truncated.</p> <p>For example, "012345 678901 234567" yields the following button face text:</p> <div data-bbox="922 863 1034 978" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>012345 678901 234567</p> </div>
Copy Page Name	<p>Button.</p> <p>Click to insert the page name into the text box.</p> <p>If the page has not been named, then the page number is inserted. For example, '[2]':</p> <p>Text may be added also.</p>
At Focus: Clear All to Unused	<p>Button.</p> <p>Click to set (source or destination) buttons to 'Unused', starting from the button-focus position onwards on the current page.</p>
Previous Page Last Assigned Port	<p>Shows the last assigned port on the previous page.</p>
AutoFill: Start Port	<p>Use Autofill to quickly assign sources/destinations to blocks of buttons. After setting up the first page, additional buttons are shown, allowing fast indexing of subsequent pages from the last assigned port.</p> <p>Text box.</p> <p>Specify the port number to start assignment with.</p>

Tab. 5-20: Source/Destination Page Configuration Items (continued)

Item	Description
Fill	Button. Click to assign used ports to buttons on the page. Ports are assigned in the order in the Source /Destination Port list box. The list of ports in the list box may have been filtered (Listbox Filter). Buttons are populated with no gaps: <ul style="list-style-type: none"> • Starting with the Start Port number, port numbers are assigned in numerical order to buttons. • If there are any unused port numbers, then these are 'jumped over' and the next used number is assigned. • No 'button-gaps' are left in the resulting button assignment.
1 : 1 Fill	Button. Click to assign ports to buttons on the page. Buttons are populated and some gaps are possible: <ul style="list-style-type: none"> • Starting with the Start Port number, port numbers are assigned in numerical order to buttons. • If there are any unused port numbers, then corresponding gaps will be left in the button assignment. (This allows unused ports to be assigned later.)
Fill from Last Assigned	Button. Similar to Fill , but continuing on from the last assigned port.
1 : 1 Fill from Last Assigned	Button. Similar to 1 : 1 Fill , but continuing on from the last assigned port.
Filter	Further filter items from the 'Source /Destination Port' list box when allocating ports a group of similar buttons. Values used must be consistent with the Listbox Filter text value. (This filter feature can assist in the grouping together of buttons with common names.) To reduce the number of buttons in the 'Source /Destination Port' list box, for example: <ul style="list-style-type: none"> • Listbox Filter set to "SRC", • then set Text to "SRC2", in order to catch all list box items beginning "SRC2". • Set Start Text to "SRC23" to begin filling at 'SRC23'.
Text	Enter further text to filter on to produce a filtered list from the list in the 'Source /Destination Port' list box.
Start Text	Enter starting text (in filtered list)
Fill	Fill from the filtered list.
Fill from Last Assigned	Fill from the filtered list, starting from the last assigned.

Tab. 5-20: Source/Destination Page Configuration Items (continued)

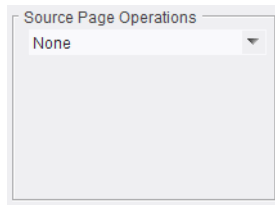
Item	Description
<p>Source Page Operations and Destination Page Operations</p> <p>Drop down box</p>	<p>Page Operations: Pages can be added, removed, copied, or the order of pages changed, at any time using the Page Operations features.</p> <p>Select the page operation required.</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="715 590 1002 804"> </div> <div data-bbox="1043 590 1331 804"> </div> </div> <p>See Page Operations, on page 94.</p>

Page Operations

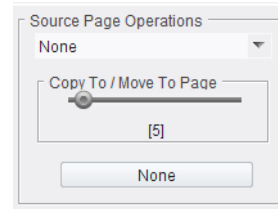
Source or destination pages can be added, removed, copied, or the order of pages changed, at any time using the **Page Operations** features.

Tab. 5-21: Page Operation Items

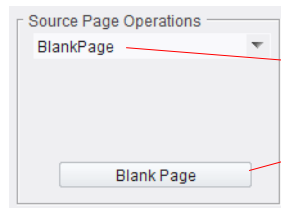
Item	Description
None	No page operation.



Or



BlankPage	Make the current page blank.
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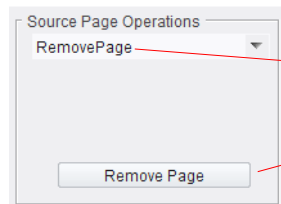
BlankPage selected shows **Blank Page** button.

To blank a page:

- Go to a page (by setting **Page in View**).
- Select **BlankPage**.
- Click the **Blank Page** button.

Source or destinations assigned to buttons on the current page are unassigned. The template shows the assigned source or destination as 'Unused'.

RemovePage	Removes the current page. Note: Performing this operation removes the current page and <i>adds</i> a blank page at the last page, thus maintaining the correct Number of Pages .
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RemovePage selected shows **Remove Page** button.

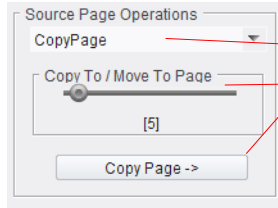
To remove a page:

- Go to a page on the XY Mapping template.
- Select **RemovePage**.
- Click the **Remove Page** button.

The page is removed, a new blank page is added at last page.

Tab. 5-21: Page Operation Items (continued)

Item	Description
CopyPage	<p>Copies the current page.</p> <p>Copies to the page defined on the Copy To / Move To Page slider (the target page number).</p> <p>Note: This will replace any buttons previously indexed on the target page.</p>



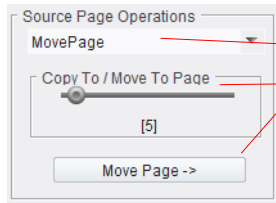
CopyPage selected shows **CopyTo/MoveTo Page** slider and **Copy Page** button.

To copy a page:

- Go to the page to be copied.
- Select **CopyPage**.
- On the **CopyTo/MoveTo Page**, select the page number of where to copy to (i.e. target page).
- Click the **Copy Page** button.

The target page is overwritten. The button assignments on the target page now reflect those of the copied page.

MovePage	<p>Move the current page.</p> <p>The current page is moved to the page number defined on the Copy To / Move To Page slider (target page).</p> <p>Note: This will replace the target page. The current page is then set to a blank page.</p>
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MovePage selected shows **CopyTo/MoveTo Page** slider and **Move Page** button.

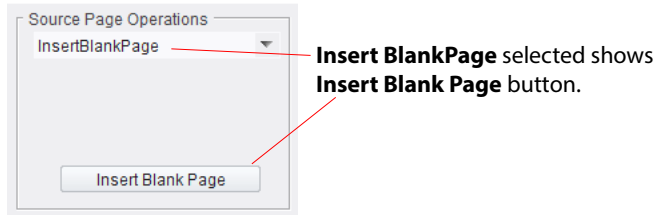
To move a page:

- Go to the page to be moved.
- Select **MovePage**.
- On the **CopyTo/MoveTo Page**, select the page number of where to move to (i.e. target page).
- Click the **Move Page** button.

The target page is overwritten. The button assignments on the target page now reflect those of the copied page. The original current page is blanked.

Tab. 5-21: Page Operation Items (continued)

Item	Description
InsertBlankPage	Insert a blank page before the current page. Note: It may be advisable to increase the Number of Pages before performing this operation, otherwise the last page will be lost and removed.



To insert a blank page before the current page:

- Go to a page on the XY Mapping template.
- If the last page is to be kept, increase the **Number of Pages**.
- Select **Insert BlankPage**.
- Click the **Insert Blank Page** button.

A new blank page is inserted. The last page is lost.

Other Panes and Controls

This section describes some other controls on the XY Mapping template.

LCD XY Setup Pane

The LCD XY Setup pane is found on the XY Mapping template.

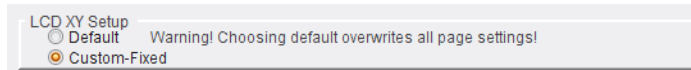


Fig. 5-34: LCD XY Setup Pane

Tab. 5-22: LCD XY Setup Items

Item	Description
LCD XY Setup	Radio buttons. (LCD panel only)
Default	Select to automatically fill the panel buttons with a default configuration on power up. Caution: This over-rides all page settings. Note: As soon as any changes are made to the configuration, the LCD XY Setup state changes to Custom-Fixed .
Custom-Fixed	Select to allow for configuration of the buttons according to the required user-configured operation.

IMPORTANT

LCD XY Setup:

Selecting **Default** after configuring a panel in **Custom-Fixed** mode will overwrite any page configuration. All page mapping is recalculated according to the number of active sources and destinations.

Fixed Button Text Pane (LCD Panel Only)

The **Fixed Button Text** pane available for LCD panels. It is found on the XY Mapping template.

Free text can be added to any buttons on an LCD panel that are not otherwise assigned to a particular function.



Fig. 5-35: Fixed Button Text Pane (LCD panel only)

Tab. 5-23: Fixed Button Text Items

Item	Description
Text 1 to 10	Text box. Enter text and press S or press the Enter key. Press P for default text, for example "Text Info 1".

Note: Text may also be added to buttons that are unassigned as source and destination buttons, but are left unused.

Add Text to an Unassigned Button

To add text to a button:

- 1 Enter text into a **Text 1 to 10** text box.
- 2 Move the button focus to the button to which the text is to be added.
- 3 In the **Button Type** drop-down list (Figure 5-36) in the [Button Configuration Pane](#), on page 77, select **Text N**, where N is the number corresponding to the text **Text 1 to 10** box used.

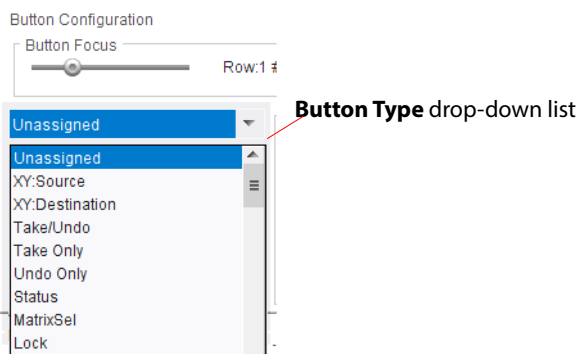
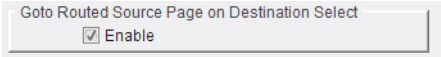



Fig. 5-36: Button Configuration - Button Type

Other Panes and Controls

This section describes some other controls on the XY Mapping template.

Tab. 5-24: Other Items

Item	Description
Goto Routed Source Page on Destination Select:	
	
Enable	<p>Check box.</p> <p>Controls the source page shown on the source selection buttons after a destination has been selected:</p> <ul style="list-style-type: none"> • Select check box - source page displayed changes to show the page containing the currently routed source (routed to the selected destination). • Deselect check box - source page displayed is unaffected.
User Interface Port Names	
<p>Selection boxes.</p> <p>Define the names shown in the template:</p>	
	
Sources	<p>Drop down box.</p> <p>Select to view:</p> <ul style="list-style-type: none"> • Level Names - the pure name router port name. • Association Names - the port association name.
Destinations	<p>Drop down box.</p> <p>Select to view:</p> <ul style="list-style-type: none"> • Level Names - the pure name router port name. • Association Names - the port association name.

BPX Mapping Template

This template is shown in BPX panel mode.
(For XY mode, see [XY Mapping Template](#), on page 72.)

The purpose of the template is to define button function type across the panel's buttons and to assign crosspoints to **BPX** buttons ('crosspoint selection' buttons), including defining pages of crosspoints.

The template allows the user to map router control button functions onto the G2 Series 1U Router Control Panel buttons available in a flexible manner. The user can:

- Define button function types for each dynamic (crosspoint selection) button,
- Define the number of and the means of accessing each page of crosspoint selection buttons.
- Allocate specific crosspoints to individual buttons on each page.

It may be useful to group certain crosspoints together on a page, and a different category of sources on another page, and so on.

Note: Ensure that the target router has been configured with all the desired port names before starting the button mapping process.

Note: In panel **XY** mode, **Sources** are assigned to buttons and **Destinations** to buttons.
In panel **BPX** mode, **Crosspoints** are assigned to buttons.

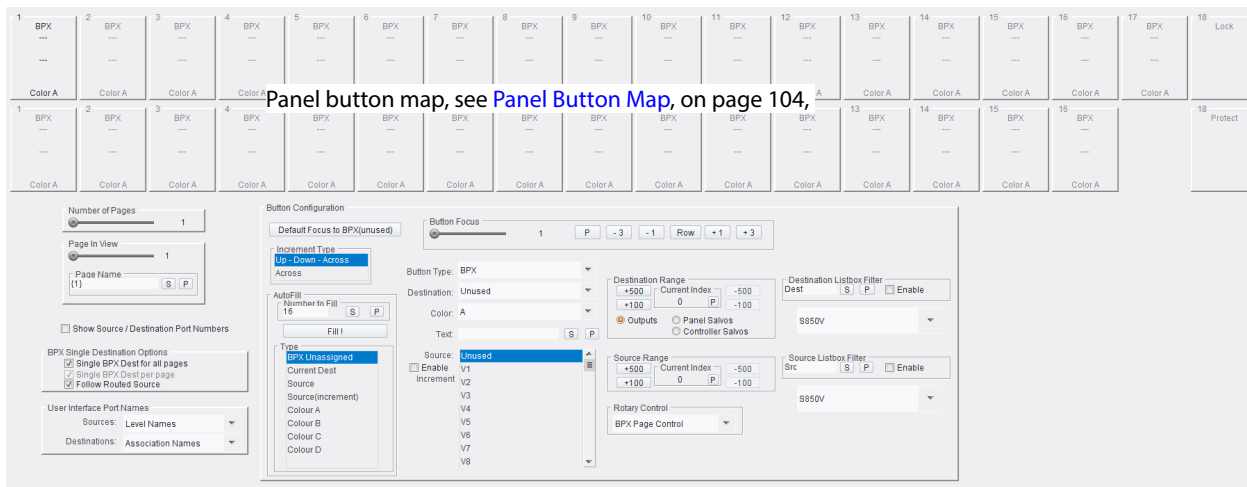


Fig. 5-37: BPX Mapping Template

The panel button map varies between LED panel and LCD panel, reflecting the different button arrangements of each panel type. Other parts of the template are the same for either type of panel.

Before using a router control panel to perform routing operations, give careful consideration to setting up the panel in the most efficient way for the number of crosspoints, and how the buttons on the panel are going to be used.

Determining the mapping of the buttons defines what displays on each button when the crosspoints are setup in their respective pages, and how the individual pages are to be accessed.

Note: Examples given in the following descriptions relate to an LCD panel. The configuration of other control panels is similar, only the number and layout of available buttons changes.

Figure 5-38 and Figure 5-31 show the BPX Mapping template in detail for the LCD panel case.

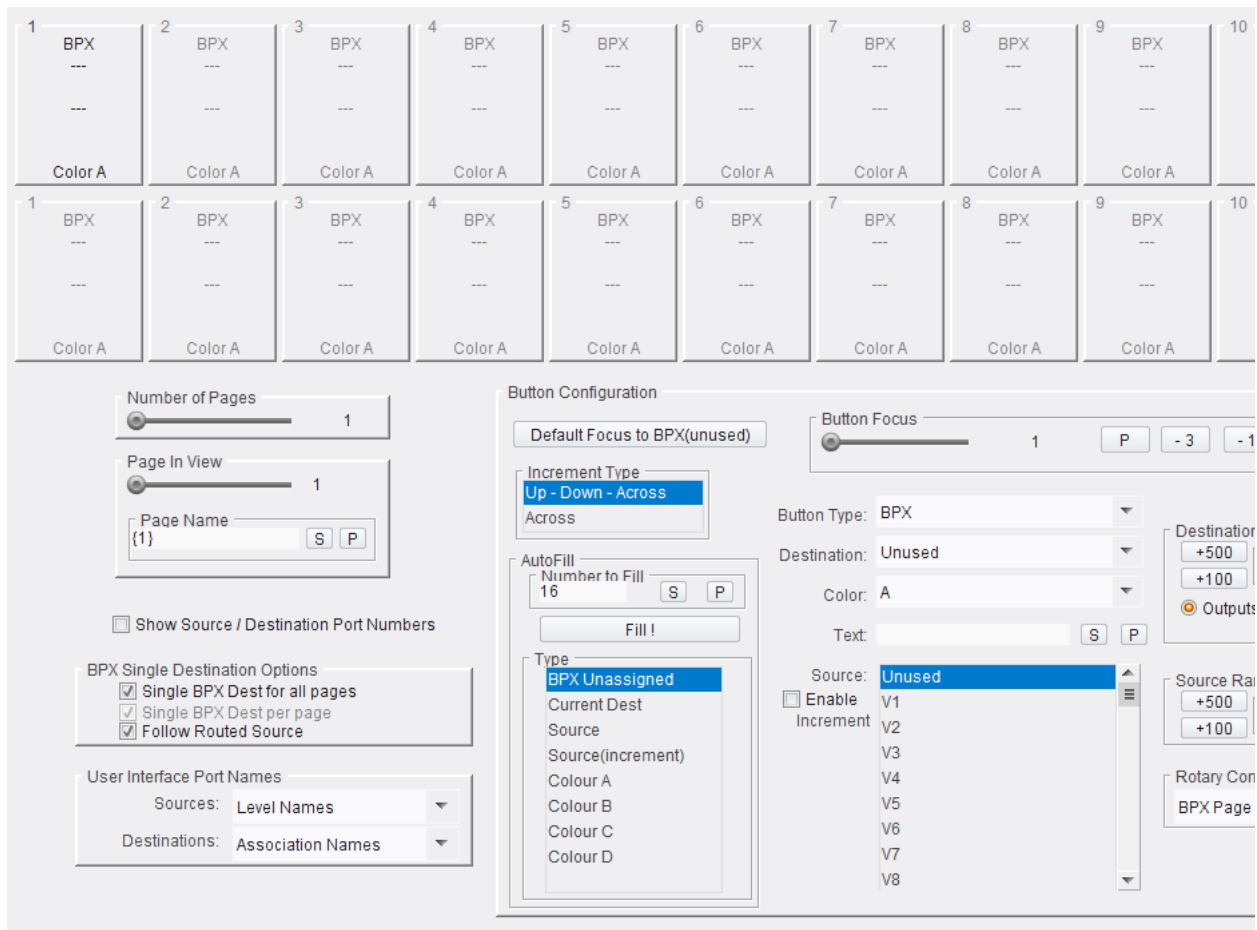


Fig. 5-38: BPX Mapping Template (LCD Panel, Left-hand side)

RollCall Templates
BPX Mapping Template

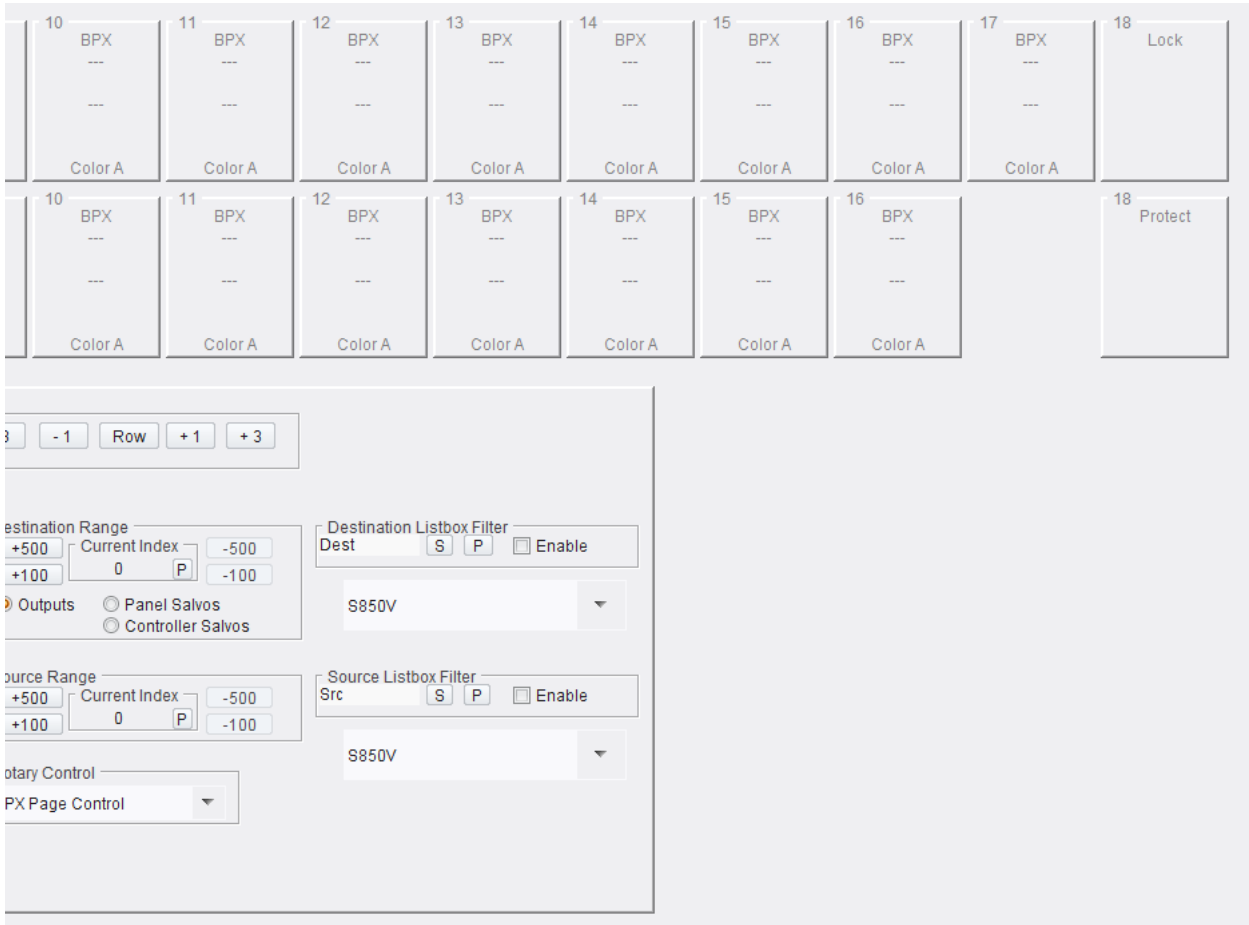
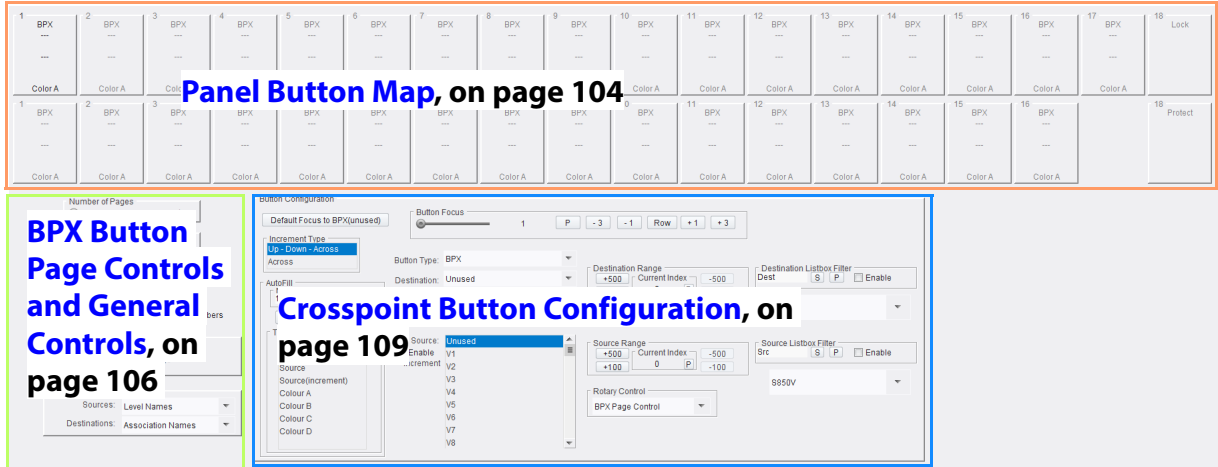


Fig. 5-39: BPX Mapping Template (LCD Panel, Right-hand side)

Areas of the BPX Template

The BPX Mapping template is large and complex; this template description covers all of the template, and its various controls and indicators. Areas (panes) of the template are described in sub-sections and Figure 5-40 shows this. Locate a pane's description by clicking on the link contained in the figure.



Locate the descriptions of each template pane by clicking on a link.

Fig. 5-40: BPX Mapping Template Areas

Panel Button Map

The panel button map shows a representation of the unit's front panel buttons. There are two rows of rectangles representing the buttons. Once defined, each button is represented and annotated according to its function on the crosspoint page currently selected. These are shown in Figure 5-41 and Figure 5-42 for an LCD panel and LED panel respectively.

Note: It is not possible to click on the panel button map to operate the buttons.
 (See [BPX Status/Control Template](#), on page 131, for an operable template showing front panel buttons and controls.)

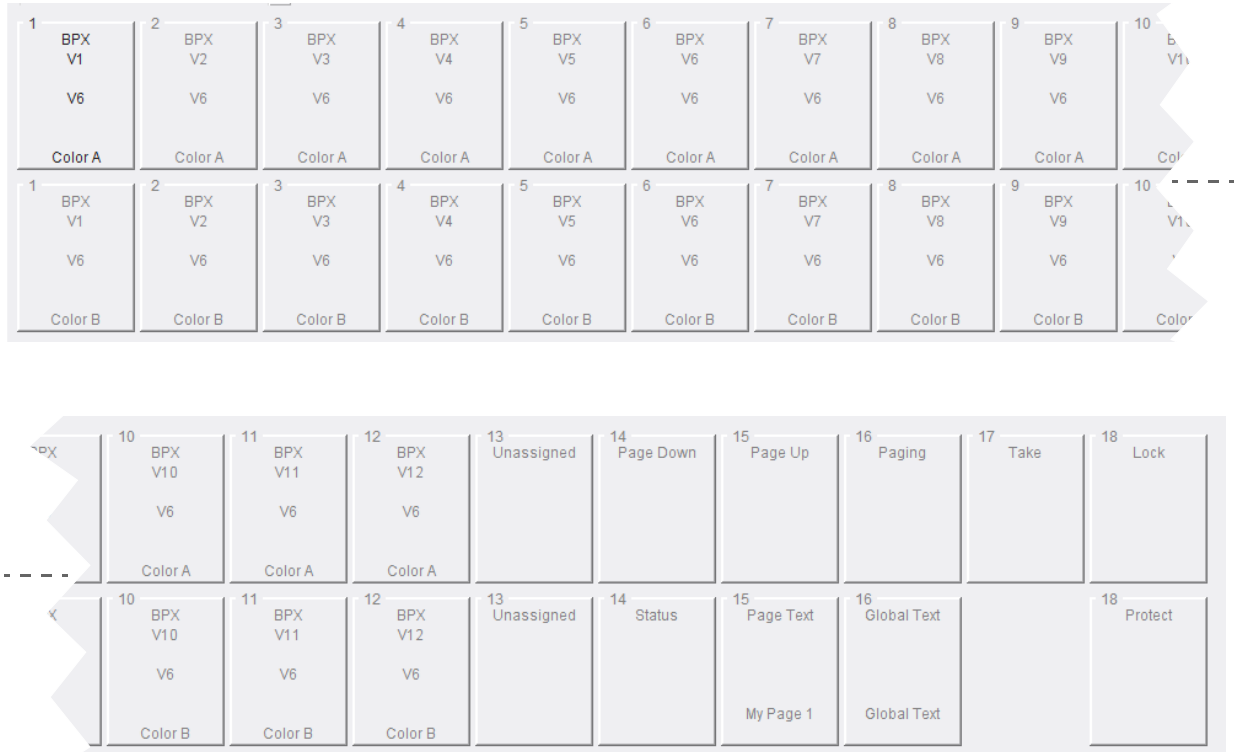


Fig. 5-41: BPX Panel Button Map (LCD panel example shown)

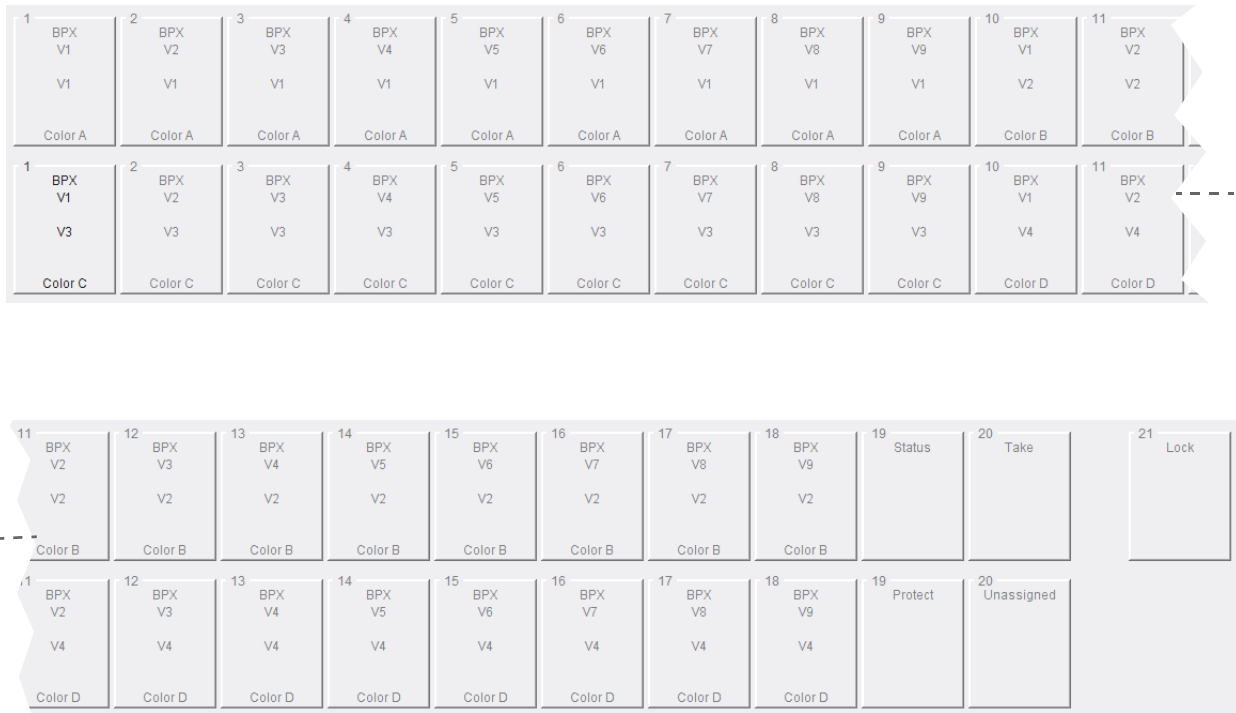


Fig. 5-42: BPX Panel Button Map (LED panel example shown)

Buttons are configured individually. They are selectable with navigation controls in the template's **Button Configuration** section. (See [BPX Button Page Controls and General Controls](#), on page 106.)

(Possible BPX button functions are described in [Table 5-29, BPX Button Function Types](#) on page 111.)

BPX Button Page Controls and General Controls

The page controls are shown in Figure 5-43 and described in Table 5-25, see [BPX Button Page Controls and General Controls](#), on page 106.

The page controls allow the user to change between crosspoint pages when defining **Crosspoint Selection** buttons (**BPX** buttons).

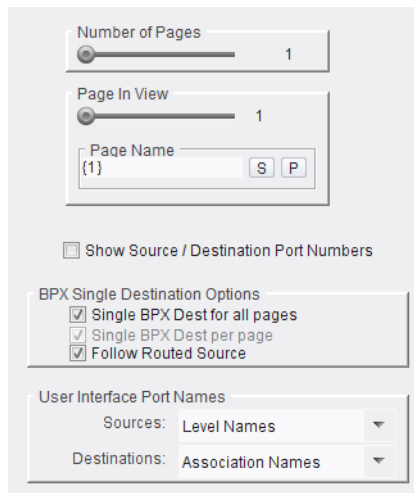


Fig. 5-43: BPX Mapping - Page Controls and General Controls

Page Controls

Tab. 5-25: BPX Mapping Page Controls

Item	Description
Number of Pages	Slider and text box. Use the slider to set the maximum number of pages, or enter value in the text box and press the Enter key.
Page In View	Slider and text box. The Page in View is the page viewed on the template (and on the control panel unit too). To change Page in View : <ul style="list-style-type: none"> • use the slider to select the page to view on the template; or • enter the value in the text box and press S or press the Enter key; or • select the slider and use left- and right-arrow keys to increment/decrement the value; or • operate the actual control panel unit and select a page. <p>Note: Changes to Page in View are reflected both on the template and on the control panel unit. Similarly, page changes made on the control panel unit are reflected in both the template and on the panel unit.</p> <p>To navigate to a different page:</p> <ul style="list-style-type: none"> • Change the Page in View value. • Change the page on the control panel unit.

Tab. 5-25: BPX Mapping Page Controls (continued)

Item	Description
Page Name	<p>Text box. Enter a Page Name in the text box. (Delete any current text in the text box.) Press S or press the Enter key to enter the value into the text box.</p> <p>A Page Name can be added in place of the default page number; for example, '{1}'. This name displays as the first line of a Page Change, or Page Up and Page Down button.</p> <p>Note: Changes to Page Name are reflected both on the template and on the control panel unit. And vice versa.</p>

General Controls

Tab. 5-26: General Controls

Item	Description
Show Source/Destination Port Numbers	<p>Check box. Select to additionally show port numbers in various controls on this template.</p>
BPX Single Destination Options:	
Single BPX Dest for all pages	<p>Check box. Select to apply one destination across all pages. This assists when assigning destinations to buttons.</p>
Single BPX Dest per page	<p>Check box. Select to apply one destination per page. This assists when assigning destinations to buttons.</p>
Follow Routed Source	<p>Check box. (Only available in Single BPX Dest for all Pages mode.) Select to always show the crosspoint page which contains the BPX crosspoint with the source that is routed to the crosspoint destination. This will always show the panel user which crosspoint is routed and is useful if two panels are controlling the same router.</p>
User Interface Port Names:	
Sources	<p>Drop down box. Select the name to use for showing sources in the template controls:</p> <ul style="list-style-type: none"> • Level names. • Association names.

Tab. 5-26: General Controls (continued)

Item	Description
Destinations	Drop down box. Select the name to use for showing destinations in the template controls: <ul style="list-style-type: none">• Level names.• Association names.

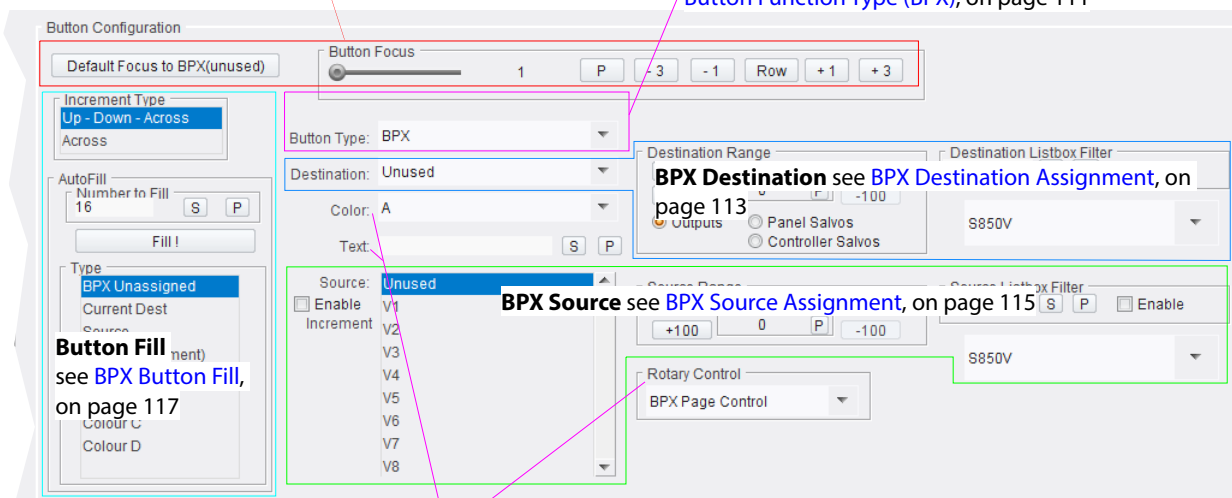
Crosspoint Button Configuration

Button configuration defines the button function. I.e. which buttons are used to display the various aspects of each page.

Note: Ensure that the button focus (i.e. the selected button in the **Panel Button Map**) is in the correct position before defining the buttons.

Button Focus: see [Button Focus](#), on page 109

Button Function Type drop-down list box, see [Button Function Type \(BPX\)](#), on page 111



BPX Destination see [BPX Destination Assignment](#), on page 113

BPX Source see [BPX Source Assignment](#), on page 115

Button Fill see [BPX Button Fill](#), on page 117

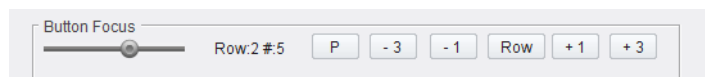
Other controls, see [BPX Other Controls](#), on page 116

Fig. 5-44: BPX Mapping - Button Configuration

Button Focus

Tab. 5-27: Button Focus Controls

Item	Description
Button Focus:	Button focus selection controls. Use the navigation controls to move the button focus and select any button on the Panel Button Map. This selects which panel button to define.



Slider

Use the slider to select and focus on a button in the button map.
When selected, the button's text is shown in bold.
See [Figure 5-45](#) on page 110.

Tab. 5-27: Button Focus Controls

Item	Description
Row:N #.M	Displays row and column number of selected button. For example, "Row:1 #.1"
P	Click to focus on button at Row 1, #1 position.
-3	Click to move button focus leftwards by 3 buttons.
-1	Click to move button focus leftwards by 1 button.
Row	Click to toggle button row.
+1	Click to move button focus rightwards by 1 button.
+3	Click to move button focus rightwards by 3 buttons.
Default Focus to BPX (Unused)	
	Button. Click to set the button-focus button function type to 'BPX(Unused)'; i.e. a BPX crosspoint selection button with no destination nor source assigned.

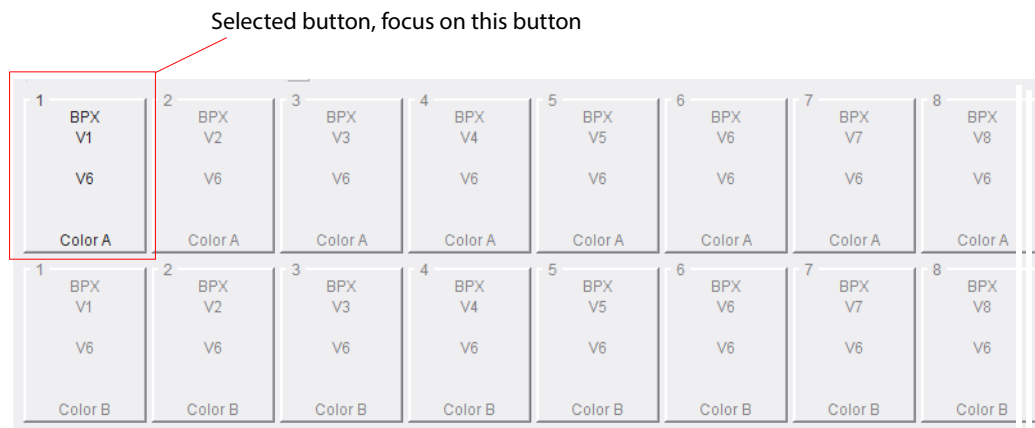
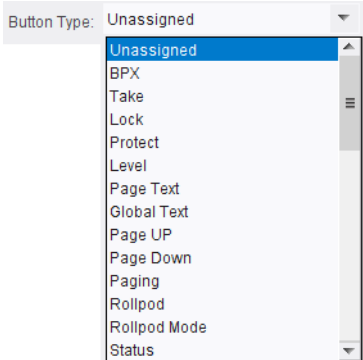


Fig. 5-45: Panel Button Map Focus

Button Function Type (BPX)

For each button, a **Button Type** must be defined. See Table 5-31.

Tab. 5-28: Button Type Control

Item	Description
Button Type	<p>Drop-down list box. Select button function type at the button-focus. See Table 5-29, BPX Button Function Types on page 111, for a description of each button function type.</p> 

Use the button type controls to individually configure buttons as 'Take' buttons, or 'Panel Lock' buttons, or crosspoint selection (BPX) buttons etc.

Tab. 5-29: BPX Button Function Types

Button Function type	Description
Unassigned	Sets the current button to be blank and have no function.
BPX	Defines a single button as a crosspoint selection (BPX) button.
Take	Defines a button with combined route 'Take' functionality. (Plus 'Undo' functionality if enabled in the Config template.)
Lock	Defines a 'Panel Lock/Unlock' button.
Protect	Defines a button with 'destination protect' functionality.
Level	Defines a button to select router levels to route.

Tab. 5-29: BPX Button Function Types (continued)

Button Function type	Description
Page Text	(LCD panel.) Defines a (LCD text) button as text button which displays different text depending on which page is being displayed.
Global Text	(LCD panel.) Defines a (LCD text) button as text button which displays text.
Page UP	(LCD panel.) Defines a single button to navigate forwards through pages of crosspoints. When on the last page, pressing this button navigates to the first page.
Page Down	(LCD panel.) Defines a single button to navigate backwards through pages of crosspoints. When on the first page, pressing this button navigates to the last page.
Paging	(LCD panel.) Defines a button as a Page Button for accessing crosspoint pages. When the pressed, it displays all pages allowing direct selection of an individual page.
Page #	(LED panel.) Defines a page selection button. The number of page selection buttons available is defined by how many such pages have been set up.
RollPod	Defines a button to have generic RollCall message functionality for RollPod panel mode.
RollPod Mode	Define a button to select RollPod mode.
Status	Define a (LCD text) button to display the status of routes that are made. Status reported includes: <ul style="list-style-type: none"> • a successful route; • a failed route (this may have failed for a number of reasons).

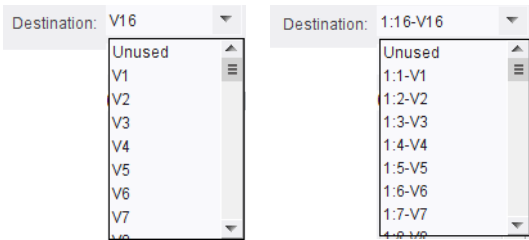
BPX Buttons

BPX buttons select crosspoints. For these buttons, further button parameter must be assigned:

- Destination.
See [Table 5-30, BPX Destination Assignment Items](#) on page 113.
- Color.
See [Table 5-32](#) on page 116.
- Text (optional).
See [Table 5-32](#) on page 116.
- Source.
See [Table 5-31, BPX Source Assignment Items](#) on page 115.

BPX Destination Assignment

Tab. 5-30: BPX Destination Assignment Items

Item	Description
<p>Destination (BPX Destination drop-down list)</p>	<p>Drop-down box. (Destination drop-down listbox.) Select destination for selected button. Select the destination from the drop-down list. The list contains up to 100 port names.</p> <p>(The destination name or name and number are listed, depending on the 'Show Source/Destination Port Numbers' check box setting. For example:</p>  <p>)</p>
<p>Destination Range:</p>	<p>These controls assist the selection of a destination in the BPX Destination drop-down list:</p>
<p>Current Index</p>	<p>Text box. Displays the current index into the full list of destinations shown in the Destination drop-down box. Set this current index value by entering a new value and pressing the Enter key. Press P to zero the index.</p>
<p>+500, +100, -100, -500</p>	<p>Buttons. Click a button to navigate the full list of destinations.</p>

Tab. 5-30: BPX Destination Assignment Items (continued)

Item	Description
Radio buttons: Outputs Panel Salvos Controller Salvos	These determine what is shown in the Destination drop-down box: Select to show a list of destinations. Select to show a list of panel salvos. Select to show a list of router controller salvos.
Destination Listbox Filter Enable	Text box. Enter text and press S or press the Enter key. Press P to set default ('Dest'). The text is used to filter the contents of the destination list box. Check box. Select to enable filtering of destination items for the destination list box.
Matrix selection:	Drop-down box. Select which router matrix to show destinations from.

BPX Source Assignment

Tab. 5-31: BPX Source Assignment Items

Item	Description								
Source (BPX Source drop-down list)	Drop-down list box. (Source drop-down listbox.) Current source is shown. Select source for the selected button. Select the source in the list box. (The source name or name and number are listed, depending on the 'Show Source/Destination Port Numbers' check box setting.)								
Enable Increment	Check box. Select to auto increment the button focus after each source selection in the Source drop-down list. For example, to auto-increment when assigning sources: <ul style="list-style-type: none"> • Select the direction of the button focus increment ('Up-down' or 'Across'). • Enable increment; use this to assist the <i>individual</i> assigning of different sources to buttons assigned the same destination: <div style="text-align: center; margin: 10px 0;"> <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr><td style="padding: 5px;">SRC 1</td></tr> <tr><td style="padding: 5px;">DST 1</td></tr> </table> <table border="1" style="display: inline-table; border-collapse: collapse; margin: 0 10px;"> <tr><td style="padding: 5px;">SRC 5</td></tr> <tr><td style="padding: 5px;">DST 1</td></tr> </table> <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr><td style="padding: 5px;">SRC 13</td></tr> <tr><td style="padding: 5px;">DST 1</td></tr> </table> <table border="1" style="display: inline-table; border-collapse: collapse; margin-left: 10px;"> <tr><td style="padding: 5px;">SRC 10</td></tr> <tr><td style="padding: 5px;">DST 1</td></tr> </table> </div> <p>Note 1: A Destination must be assigned to buttons for this 'auto-increment' to work.</p> <p>Note 2: If a button has been assigned to anything other than 'BPX', then the incrementing skips the button.</p>	SRC 1	DST 1	SRC 5	DST 1	SRC 13	DST 1	SRC 10	DST 1
SRC 1									
DST 1									
SRC 5									
DST 1									
SRC 13									
DST 1									
SRC 10									
DST 1									
Source Range Current Index +500, +100, -100, -500	Controls to assist the selection of a source: Text box. Displays the current index into the full list of sources that are shown in the Source drop-down box. Set this index value by entering a new value and pressing the Enter key. Press P to zero the index. Buttons. Click a button to navigate the full list of sources.								
Source Listbox Filter Enable	Text box. Enter text and press S or press the Enter key. Press P to set default ('Src'). The text is used to filter the contents of the destination list box. Check box. Select to enable filtering of source items for the source list box.								
Matrix selection:	Drop-down box. Select which router matrix to show sources from.								

BPX Other Controls

Tab. 5-32: BPX Button Color and Text Assignment Items

Item	Description
Color	<p>Drop-down box.</p> <p>Select color scheme for the selected button.</p> <p>Select 'A', 'B', 'C', or 'D'.</p> <p>Color schemes on buttons help denote clear grouping of certain BPX crosspoint buttons on the control panel.</p> <p>(Color schemes may be customized, see LED Colors BPX Template, on page 145 for LED color schemes.)</p>
Text	<p>Text box.</p> <p>Enter text to appear as label text on the button then press S or press the Enter key.</p> <p>Press P to clear the text.</p> <p>Use a space character between words.</p> <p>Note: This text replaces a button's default 'source-destination' label set up in the Config template.</p>

Tab. 5-33: BPX Rotary Control Items

Item	Description
Rotary Control	<p>Drop-down box.</p> <p>Select rotary control function:</p> <ul style="list-style-type: none">• BPX Page Control. (Use this for Router control)• Rollpod only.

BPX Button Fill

For crosspoint selection (BPX) buttons, the assignment of the button parameters can be done on an individual button basis or it may be carried out across several buttons with the 'fill' controls.

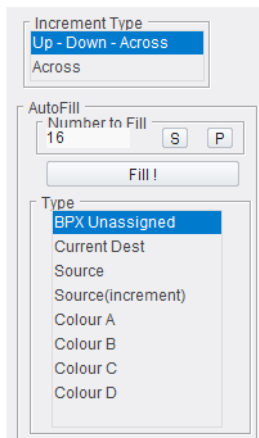


Fig. 5-46: Panel Button Map Focus

Tab. 5-34: BPX Button Fill Controls

Item	Description
Increment Type	<p>Selection box.</p> <p>Select the increment direction/pattern to 'fill' the BPX buttons:</p> <ul style="list-style-type: none"> • Up-Down-Across - • Across.
AutoFill	
Number to Fill	<p>Text box.</p> <p>Enter the number of BPX buttons to fill.</p> <p>Enter the value and press S or press the Enter key.</p> <p>Press P to set the value to default (16).</p>
Fill !	<p>Button.</p> <p>Click to fill the BPX buttons with the selected BPX button type / parameter value.</p> <p>Button filling begins at the button-focus.</p>

Tab. 5-34: BPX Button Fill Controls (continued)

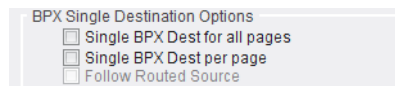
Item	Description
<p style="text-align: center;">Type</p>	<p>Selection box. Select the BPX button fill type. See BPX Button Fill Types, on page 118.</p> <div data-bbox="831 478 1067 730" style="border: 1px solid gray; padding: 5px; margin: 10px auto; width: fit-content;"> <p>Type</p> <ul style="list-style-type: none"> <li style="background-color: #0070C0; color: white; padding: 2px;">BPX Unassigned <li style="padding: 2px;">Current Dest <li style="padding: 2px;">Source <li style="padding: 2px;">Source(increment) <li style="padding: 2px;">Colour A <li style="padding: 2px;">Colour B <li style="padding: 2px;">Colour C <li style="padding: 2px;">Colour D </div>

BPX Button Fill Types

When filling BPX buttons, the following types of fill operations are available:

- **BPX Unassigned** - Set button destination and source to 'Unused'.
- **Current Dest** - Fill buttons with the current button-focus's destination.
- **Source** - Fill buttons with the current button-focus's source.
- **Source (increment)** - Fill buttons with an incrementing source port number, starting from the current button-focus's source.
- **Colour A, B, C or D** - Fill buttons with a color scheme.

In the examples of Figure 5-47, all BPX Single Dest Options are unselected,



1	2	3	4	5	6	7	8
BPX ---	BPX ---	BPX ---	BPX ---	BPX ---	BPX ---	BPX ---	BPX ---
---	---	---	---	---	---	---	---
Color A	Color A	Color A	Color A	Color A	Color A	Color A	Color A

a) **BPX Unassigned** - 8 buttons filled as 'Unassigned' BPX buttons

1	2	3	4	5	6	7	8
BPX ---	BPX ---	BPX ---	BPX ---	BPX ---	BPX ---	BPX ---	BPX ---
V15	V15	V15	V15	V15	V15	V15	V15
Color A	Color A	Color A	Color A	Color A	Color A	Color A	Color A

b) **Current Dest** - All destinations set to 'V15'

1	2	3	4	5	6	7	8
BPX V1	BPX V1	BPX V1	BPX V1	BPX V1	BPX V1	BPX V1	BPX V1
V15	V15	V15	V15	V15	V15	V15	V15
Color A	Color A	Color A	Color A	Color A	Color A	Color A	Color A

c) **Source** - All sources set to 'V1'

1	2	3	4	5	6	7	8
BPX V1	BPX V2	BPX V3	BPX V4	BPX V5	BPX V6	BPX V7	BPX V8
V15	V15	V15	V15	V15	V15	V15	V15
Color A	Color A	Color A	Color A	Color A	Color A	Color A	Color A

d) **Source (increment)** - Sources filled out to 'V1'; 'V2'; 'V3, ... etc.

1	2	3	4	5	6	7	8
BPX V1	BPX V2	BPX V3	BPX V4	BPX V5	BPX V6	BPX V7	BPX V8
V15	V15	V15	V15	V15	V15	V15	V15
Color B	Color B	Color B	Color B	Color B	Color B	Color B	Color B

e) **Colour B** - Button color set to 'Color B'

Fig. 5-47: BPX Button Filling Examples

Group Mapping Template

Template is shown in panel 'Group' mode and is used for LCD panels.

The purpose of the template is to define button function types across the panel's buttons.

Note: Ensure that the target router has been configured with all the desired port names before starting the button mapping process.

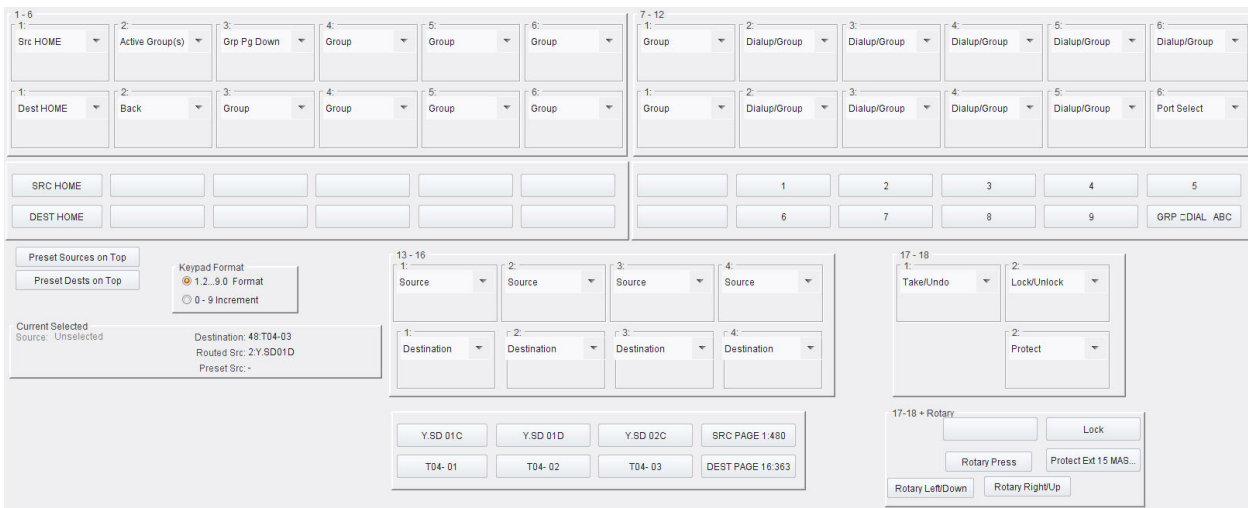


Fig. 5-48: Group Mapping Template

An LCD panel comprises two rows of buttons and these are represented on the template. See Figure 5-49.

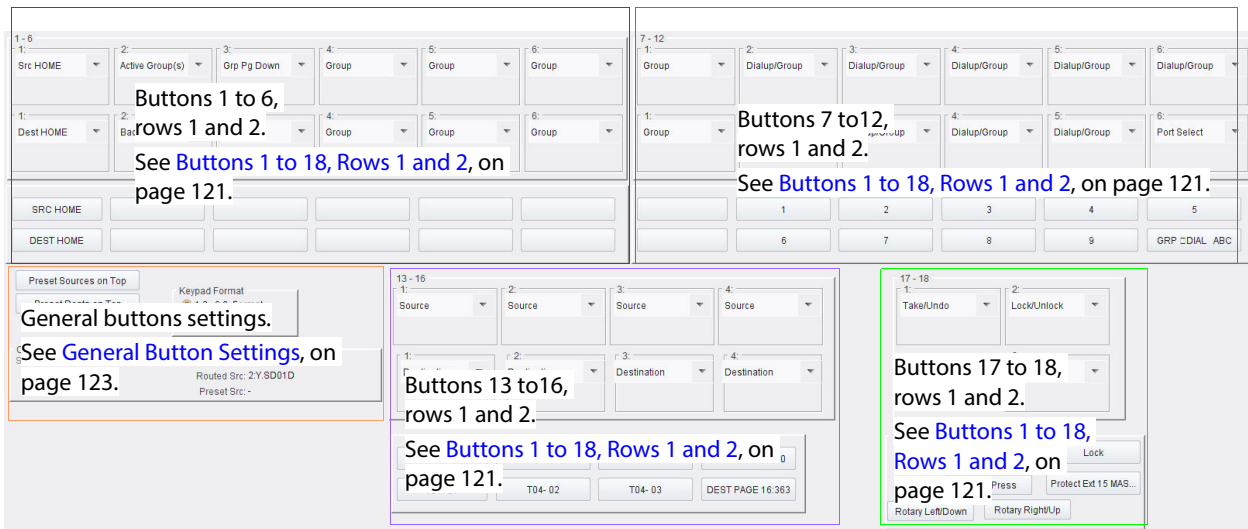


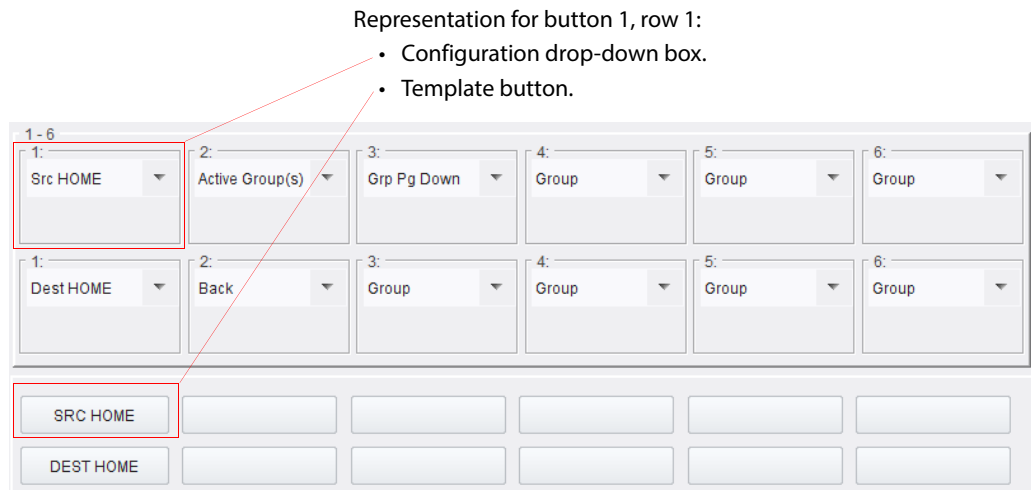
Fig. 5-49: Areas of the Group Mapping Template

Buttons 1 to 18, Rows 1 and 2

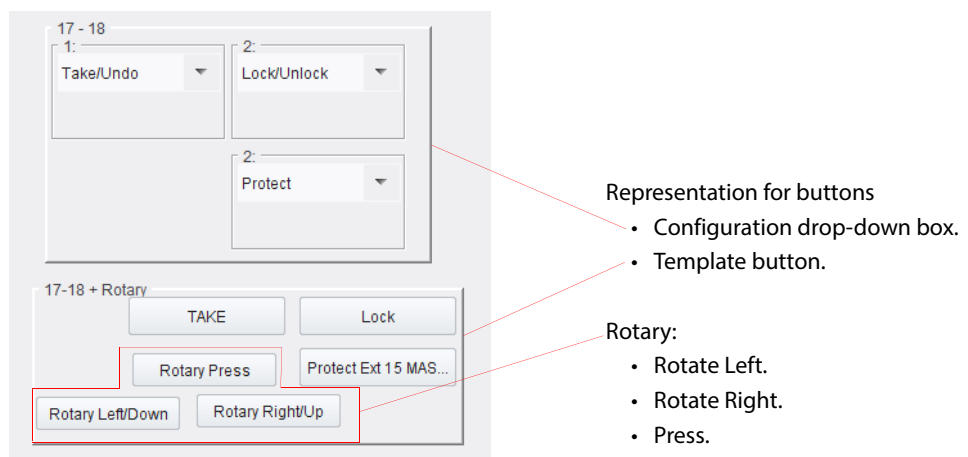
Each button on the panel is represented on the template (see Figure 5-50). Each button representation has a:

- Configuration drop-down box.
- Button on the template which allows the user to:
 - view the status of each configured button; and
 - operate the panel from the template using the template's on-screen buttons - which work as if pressing the actual panel buttons (and rotary control).

(This is similar to the 'XY Status/Control' and 'BPX Status/Control' RollCall templates for XY and BPX panel modes respectively.)



a) Buttons 1 to 6, rows 1 and 2.



b) Buttons 17 to 18, rows 1 and 2 plus rotary.

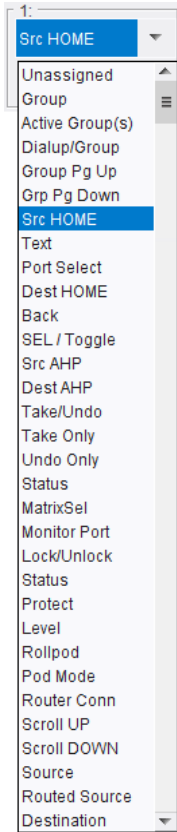
Fig. 5-50: Button Representations:

a) Buttons 1 to 6, Rows 1 and 2 shown.

b) Buttons 17 to 18, rows 1 and 2, plus rotary control.

(Possible Group button functions are described in [Table 5-37, Group Button Function Types](#) on page 124.)

Tab. 5-35: Button Items

Item	Description
<p>Button configuration:</p>	<p>Drop-down box. Select the button function type. See Button Function Type (Group), on page 124.</p> 
<p>Template button:</p>	<p>Button on the template which allows the user to:</p> <ul style="list-style-type: none"> • view the on-panel status of a configured button; and • operate the panel from the template using the template's on-screen buttons - which work as if pressing the actual panel buttons.

General Button Settings

Tab. 5-36: General Button Settings

Item	Description
Preset Sources on Tap	Button. Click to arrange source controls on the top button row of the panel. (And destination controls on bottom row.)
Preset Dest on Top	Button. Click to arrange destination controls on the top button row of the panel. (And source controls on bottom row.)
Keypad Format	Radio buttons. Set the number format of the numeric 'dial-in' buttons.
1,2,..9, 0	Select to have numeric buttons 1,2,3,4,5,6,7,8,9,0.
0 - 9	Select to have numeric buttons 0,1,2,3,4,5,6,7,8,9.
Current Selected	Shows the currently selected:
Destination	Destination.
Routed Source	Routed source
Preset Src	Pre-selected source.

Button Function Type (Group)

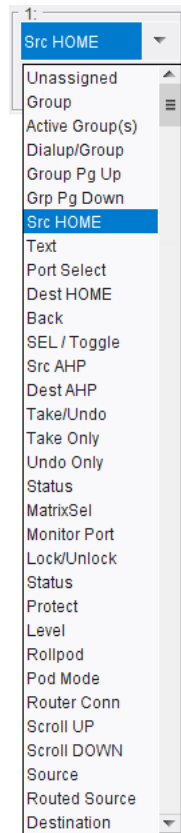


Fig. 5-51: Button Type Drop-Down Box

Tab. 5-37: Group Button Function Types

Button Type	Description
Unassigned	Sets the current button to be blank and have no function.
Group	Define a button to show available user-defined categories (custom groups). See Note 1 .
Active Group(s)	Define a button to show the current group-button presses which are filtering the user-defined categories (custom groups). See Note 1 .

Tab. 5-37: Group Button Function Types (continued)

Button Type	Description
Dial-up/Group	<p>Define a dual-function button:</p> <ul style="list-style-type: none"> • a) to show available user-defined categories (custom groups); or, alternately, • b) numeric keypad for dialing up a port number in group Dial-up sub-mode. <p>See Note 1. See Note 2.</p>
Group Pg Up	<p>Defines a single button to navigate 'up' through pages of user-defined categories (custom groups). When on the last page, pressing this button navigates to the first page.</p>
Grp Pg Down	<p>Defines a single button to navigate 'down' through pages of user-defined categories (custom groups). When on the first page, pressing this button navigates to the last page.</p>
Src HOME	<p>Define a button to select source selection mode for the panel buttons.</p>
Text	<p>Defines a (LCD text) button as text button which displays text.</p>
Port Select	<p>Define a button to cycle between the following panel 'Group' sub-modes:</p> <ul style="list-style-type: none"> • GRP - Custom Group mode, user-defined categories. • DIAL - Port number dial-up. • ABC - Name-based filtering of sources/destinations.
Dest HOME	<p>Define a button to select destination selection mode.</p>
Back	<p>Define a 'go back' button.</p>
SEL / Toggle	<p>Define a button which toggles between source selections and destination selection modes on the panel.</p> <p>Note: Pressing the rotary control does the same function.</p>
Src AHP	<p>Not used on the G2 Series 1U Router Control Panel.</p>
Dest AHP	<p>Not used on the G2 Series 1U Router Control Panel.</p>
Take/Undo	<p>Defines a button with combined route 'Take' and 'Undo' functionality.</p>
Take Only	<p>Defines a button with combined route 'Take' functionality.</p>

Tab. 5-37: Group Button Function Types (continued)

Button Type	Description
Undo Only	Defines a button with route 'Undo' functionality.
Status	Define a (LCD text) button to display the status of routes that are made. Status reported includes: <ul style="list-style-type: none"> • a successful route; • a failed route (this may have failed for a number of reasons).
MatrixSel	Defines a matrix selection button. The G2 Series 1U Router Control Panel can control multiple routing matrices. If the router controller has several routing matrices defined, then pressing MatrixSel allows the user to select a matrix.
Monitor Port	Defines a button to control routing to a router's monitor ports
Lock/Unlock	Defines a 'Panel Lock/Unlock' button.
Protect	Defines a button with 'destination protect' functionality.
Level	Defines a button to select router levels to route.
RollPod	Defines a button to have generic RollCall message functionality for RollPod panel mode.
Pod Mode	Define a button to select RollPod mode.
Router Conn	Define a button to connect to other router controllers.
Scroll UP	Not used.
Scroll DOWN	Not used.
Source	Define a source selection button. See Note 3 .
Routed Source	Define a button to show the name of the source routed to the current selected destination. See Note 3 .
Destination	Define a destination selection button. See Note 3 .

Tab. 5-37: Group Button Function Types (continued)

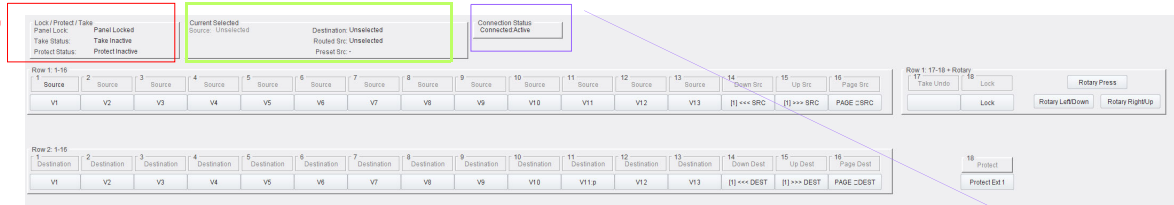
Button Type	Description
Note 1:	'Group' buttons show the names of the categories of source or destination (custom groups) available.
Note 2:	There needs to be ten Dial-up/Group buttons (for decimal digits '0' to '9').
Note 3:	<p>Paging sources or destinations.</p> <p>Typically, a row of 'Source' or 'Destination' type buttons are placed on a panel. These show the sources/destinations filtered by the group selection buttons.</p> <p>When there are more sources/destinations than buttons, one of the buttons in the row will convert to being a 'paging' button. Use this to move through pages of sources/destinations.</p> <p>The 'Paging' button will indicate which page it is showing. For example, a button may read "DEST PAGE 7 : 34" when showing page 7 of 34.</p>

XY Status/Control Template

This template is available for both LCD and LED panels in panel XY mode. It allows the user to:

- View the status of each configured button.
- Operate the panel from the template using the template's on-screen buttons - which work as if pressing the actual panel buttons (and rotary control).

See Figure 5-52a and b.



a) XY Status/Control Template - Zoomed-out Overview

Indicates status of:

- **Lock** and **Take** buttons; and
- **Protected** status of the selected destination.

Lock / Protect / Take
Panel Lock: Panel Locked
Take Status: Take Inactive
Protect Status: Protect Inactive

Indicates which:

- **Destination** is selected and its currently-routed source, plus any pre-selected (Preset) source.
- **Source** is selected (for Gang Take).

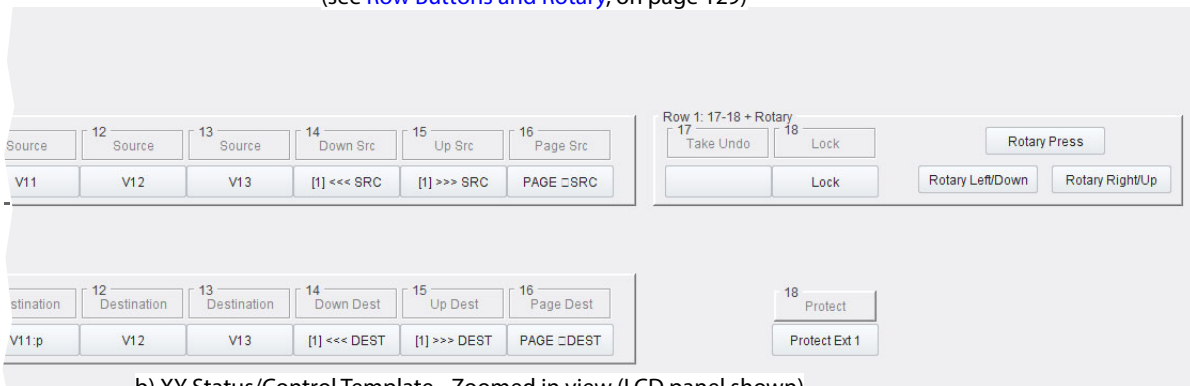
Current Selected
Source: Unselected
Destination: Unselected
Routed Src: Unselected
Preset Src: -

Status of connection to router controller.

Connection Status
Connected:Active



Row and Rotary status and controls
(see [Row Buttons and Rotary](#), on page 129)



b) XY Status/Control Template - Zoomed in view (LCD panel shown)

Fig. 5-52: XY Status/Control Template (LCD panel shown):

- a) Zoomed-out overview.
- b) Zoomed in.

Row Buttons and Rotary

Each button and the rotary control is represented on the template. The rotary control is only active on LCD panels. Each button's function is shown and there is a soft button: Click the soft button to mirror the action of pressing the same physical button on the control panel unit itself. See Figure 5-53.

For rotary controls, click a button to mirror pressing the rotary control, turning it clockwise and counter-clockwise. See Figure 5-54.

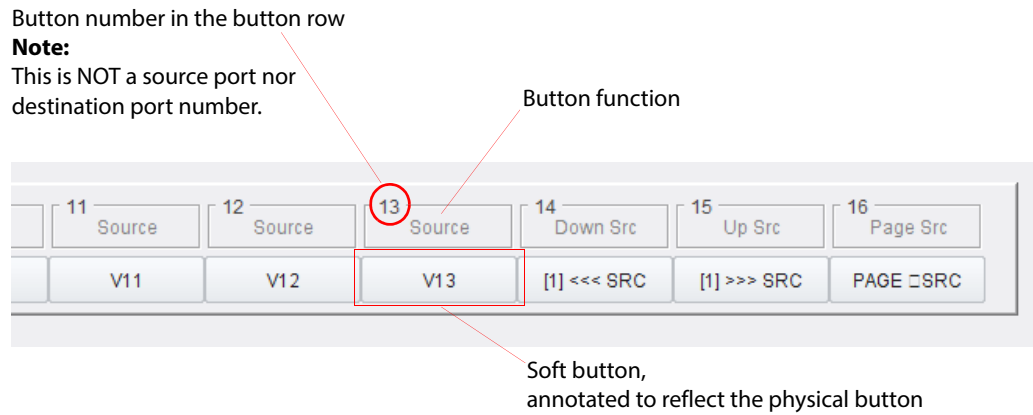


Fig. 5-53: Button Representation

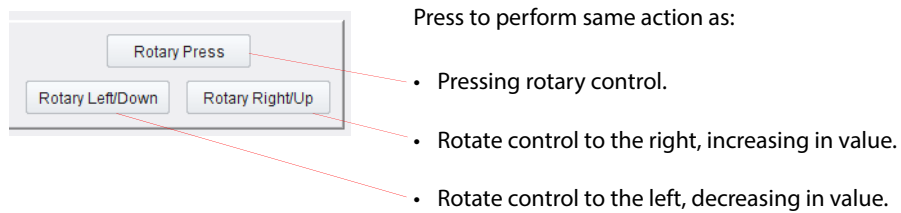


Fig. 5-54: Rotary Control Representation (LCD panel only)

For example:

- To Lock / Unlock the panel from the template:
 - Click the 'Lock' soft button.
 - Click again to unlock.
- To make a route from the template:
 - Select a destination.
 - Select a source via the soft buttons.
 - Then click the 'Take' soft button.

BPX Status/Control Template

This template is available in panel BPX mode. It allows the user to:

- View the status of each configured button.
- Operate the panel from the template using the on-screen buttons - which work as if pressing the actual panel buttons (and rotary control).

The template is similar for LCD and LED panels. Only the panel button map differs, reflecting the different button layouts on each panel type.

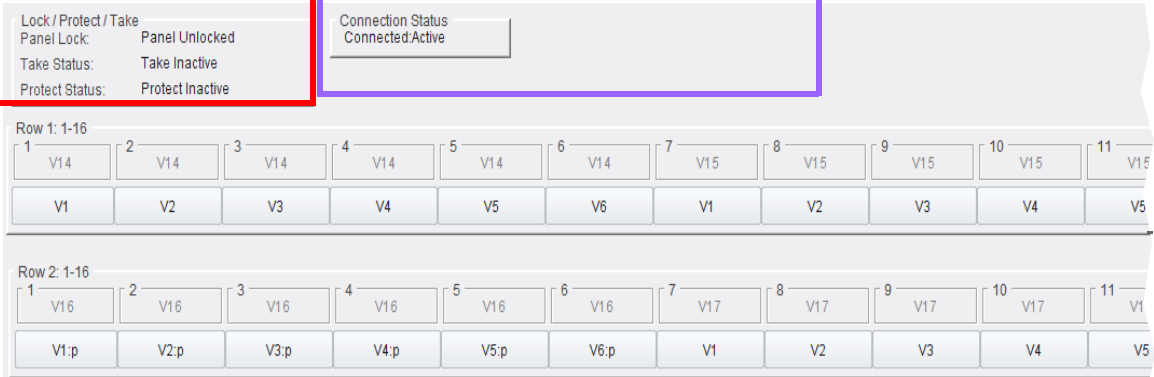


a) BPX Status/Control Template - Zoomed-out Overview (LCD panel shown)

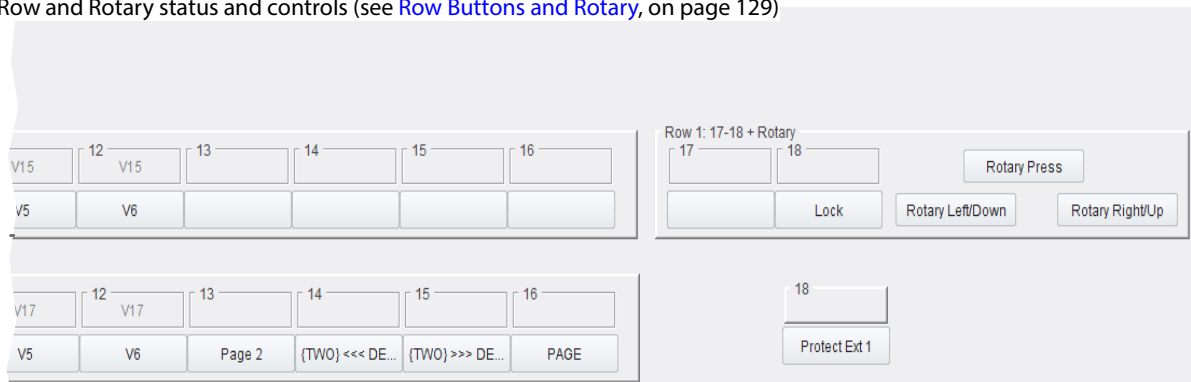
Indicates status of:

- **Lock** and **Take** buttons; and
- **Protected** status of the selected crosspoint destination.

Indicates Connection status to router controller



Row and Rotary status and controls (see [Row Buttons and Rotary](#), on page 129)



b) XY Status/Control Template - Zoomed in

Fig. 5-55: BPX Status/Control Template:
a) Zoomed-out overview.
b) Zoomed in.

Row Buttons and Rotary

Each button and the rotary control (LCD panel only) is represented on the template.

Each button's function is shown and there is a soft button: Click the soft button to mirror the action of pressing the same physical button on the control panel unit itself. See Figure 5-56.

For rotary controls, click a button to mirror pressing the rotary control, turning it clockwise and counter-clockwise. See Figure 5-57.

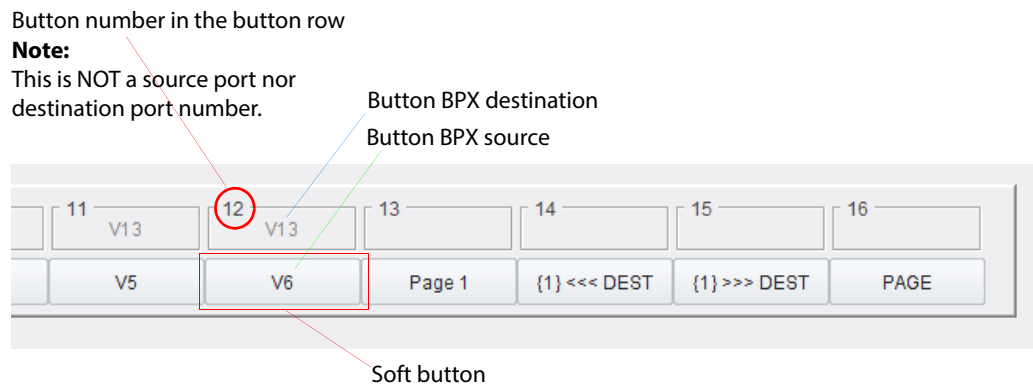


Fig. 5-56: Button Representation

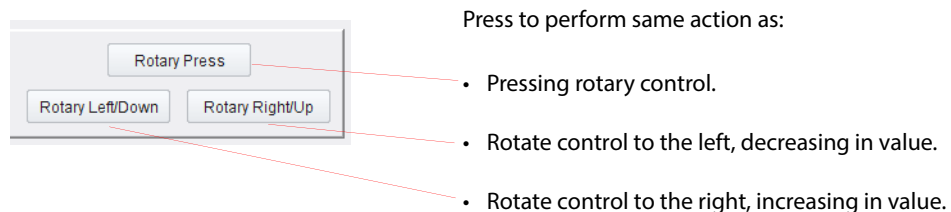


Fig. 5-57: Rotary Control Representation (LCD panel only)

For example:

- To Lock / Unlock the panel from the template:
 - Click the 'Lock' soft button.
 - Click again to unlock.
- To make a route from the template:
 - Select a destination.
 - Select a source via the soft buttons.
 - Then click the 'Take' soft button.

Level Control Template

This template is available in all panel modes.

The template is used to configure a **Level** button. A **Level** button enables a user to make routes on selected levels in a multi-level system.

Fig. 5-58: Level Control Template

Tab. 5-38: Level Control Template Items

Item	Description
Level Button in Focus:	
Button Index	Slider. Select a Level Button to configure on the template: <ul style="list-style-type: none"> Click on the slider to select it and then, to change the button-focus value: <ul style="list-style-type: none"> drag the slider; or use the left/right arrows keys. Or, Click on the button focus value and enter a value and then press the Enter key.
Button Text Name	Text box. Text name to display on the Level button. Enter text and click S or press the Enter key. Press P to set the name to default text, 'level'.
Number of Levels:	
Configured Number	Slider. Set the number of level configurations to configure on the Level template.
Detected Number	Shows the number of levels detected in the router system.
Reset Configuration	Button. Click to set all the Level configurations to a default state. (All levels on one Level Button.)

Tab. 5-38: Level Control Template Items

Item	Description
Current Highest Level	Shows the highest Level currently operating in the system.
Levels Active on Button:	For a Level configuration, configure which router levels shall be active:
LEVEL 1, LEVEL 2, ...	Each router level in the system is represented.
Video	Name of the router level (for example, 'Video' or 'Audio').
Include	Check box. Select to include the router level in the Level configuration for a Level button.

Operation

- 1 Press one or more **Level** buttons to select a combination of levels.
- 2 Select a destination or select a source as usual for the panel.
- 3 Press Take.

Routing is made on the selected levels.

Monitor Port Template

This template is available in all panel modes.

Most Grass Valley video routers which support the RollCall protocol have a number of dedicated monitor ports (often four); these ports are independent of the normal router destinations. Monitor ports can monitor signals derived directly or indirectly from router sources or destinations (router-dependent).

This template is used to determine which type of monitor signal will be selected with a **Monitor Port** button. The G2 Series 1U Router Control Panel is then used to select which destination / source is monitored.

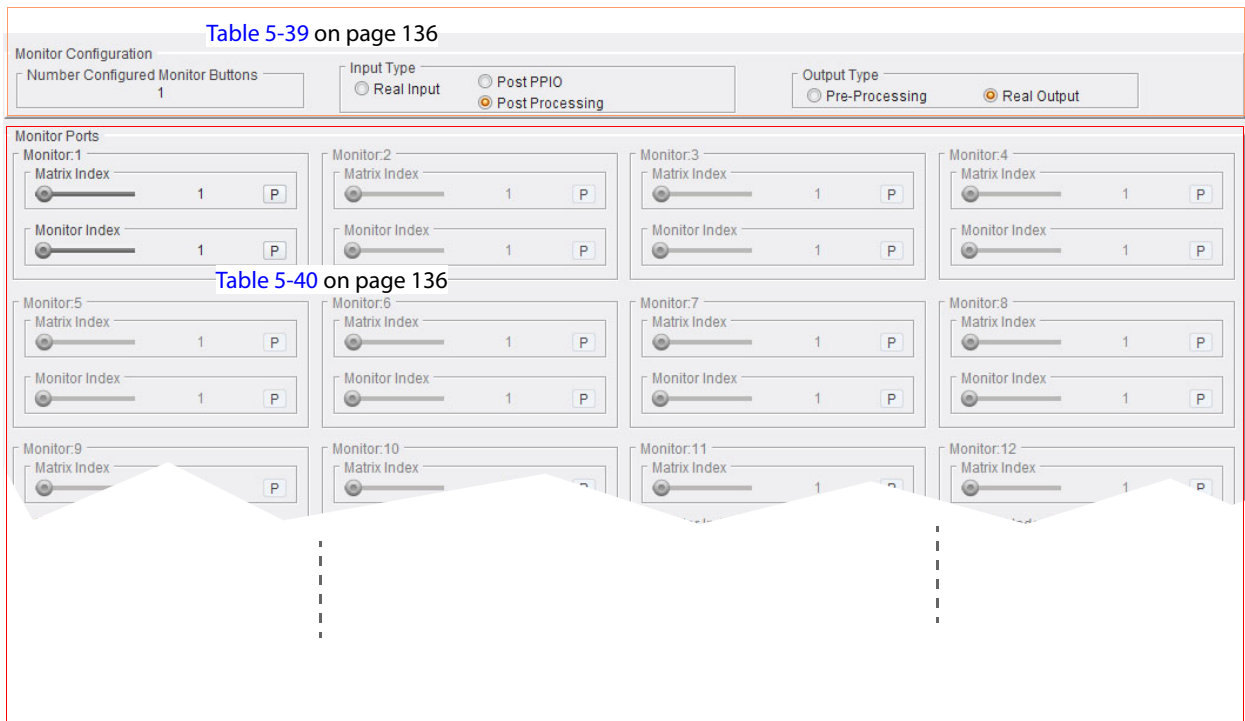


Fig. 5-59: Monitor Port Template

Tab. 5-39: Monitor Configuration Items

Item	Description
Number Configured Monitor Buttons	Shows the number of monitor port buttons set up on the panel.
Input Type:	Radio buttons to select which router input signal type to monitor:
Real Input	<ul style="list-style-type: none"> Select to monitor a router input signal. (I.e. the actual input received by the router.)
Post PPIO	<ul style="list-style-type: none"> Select to monitor a router's post-processing IO (PPIO) signal (router dependent).
Post Processing	<ul style="list-style-type: none"> Select to monitor an internal router input signal following any input audio processing (for video AHP router modules only).
Output Type:	Radio buttons to select which router output signal type to monitor:
Pre-Processing	<ul style="list-style-type: none"> Select to monitor a routed signal in a router, before any internal output audio processing.
Real Output	<ul style="list-style-type: none"> Select to monitor a router's final output signal.

Tab. 5-40: Monitor Ports Items

Item	Description
Monitor 1 to 20:	Up to 20 Monitor Port button assignments can be made. Note: Monitor buttons need to be added to a panel.
Matrix Index	Slider. Select the index number of the routing matrix by: <ul style="list-style-type: none"> moving the slider; or clicking on the value and entering a new value and pressing the Enter key. Press P to set the default value.
Monitor Index	Slider. Select the index number of the selected routing matrix's monitor port by: <ul style="list-style-type: none"> moving the slider; or clicking on the value and entering a new value and pressing the Enter key. Press P to set the default value.

Operation

Monitor Port operation is done in Panel XY Mode. One or more **Monitor Port** buttons need to be added to the panel button layout.

After a route has been made on a panel, then:

- 1 Press a **Monitor Port** button.

The panel is now in 'monitor port mode'.

- 2 Select a destination or select a source.

The corresponding monitor signal derived from the selected source/destination is presented at the monitor port.

- 3 The panel will route any subsequently-selected source or selected destination to the monitor port.

For example, select another destination or source. This signal will be presented at the **Monitor Port**.

- 4 Press **Monitor Port** again to leave 'monitor port mode'.

TAKE Configuration Template

This template is available in all panel modes.

More than one **Take** button may be defined on this template. They can be configured to route (i.e. to 'Take') on all or some router levels, or on all or some audio tracks (TrackRouting).

Note: The ability to configure levels and tracks depends on the router controller and the connected router(s).
 Router connection node 0000:81:00 is required.

The **Take** buttons defined here are mapped to all **Take** buttons that appear on the panel, from left-to-right, top-to-bottom.

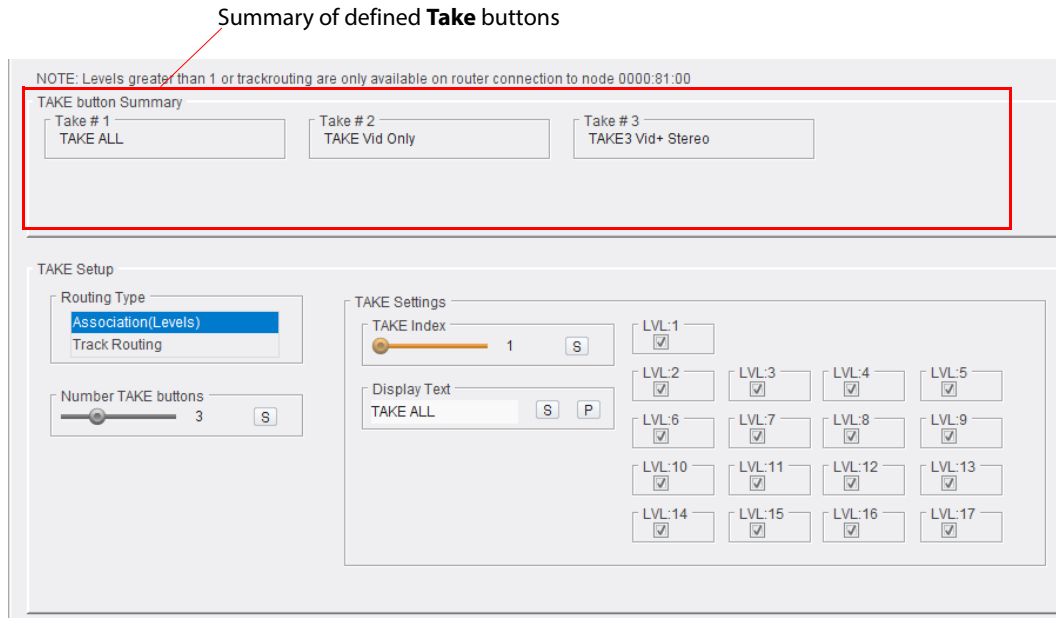


Fig. 5-60: TAKE Configuration Template

Tab. 5-41: TAKE Setup Items

Setup Item	Description
Routing Type	Selection box. Defines the type of routing to be configured. Select the type:
Association (Levels)	<ul style="list-style-type: none"> Routing selectable on a routing level-by-level basis.
Track Routing	<ul style="list-style-type: none"> Routing selectable on a video and audio track basis.

Tab. 5-41: TAKE Setup Items (continued)

Setup Item	Description
Number TAKE Buttons	Slider. Select the number of Take button types required. Either: <ul style="list-style-type: none"> • use the slider to adjust the value; or • click on the value, enter the value in the text box, and press S or press the Enter key.
TAKE Settings:	
TAKE Index	Slider. Select the TAKE button to configure in this pane.
Display Text	Text box. Enter text to display on the button face, and press S or press the Enter key. Press P to set the text value to default (TAKE).
Association(Levels):	
LVL 1 to 17	Routing type selection. See Figure 5-62a.
Track Routing:	
Video, TRK1 to 16	Routing type selection. See Figure 5-62b.

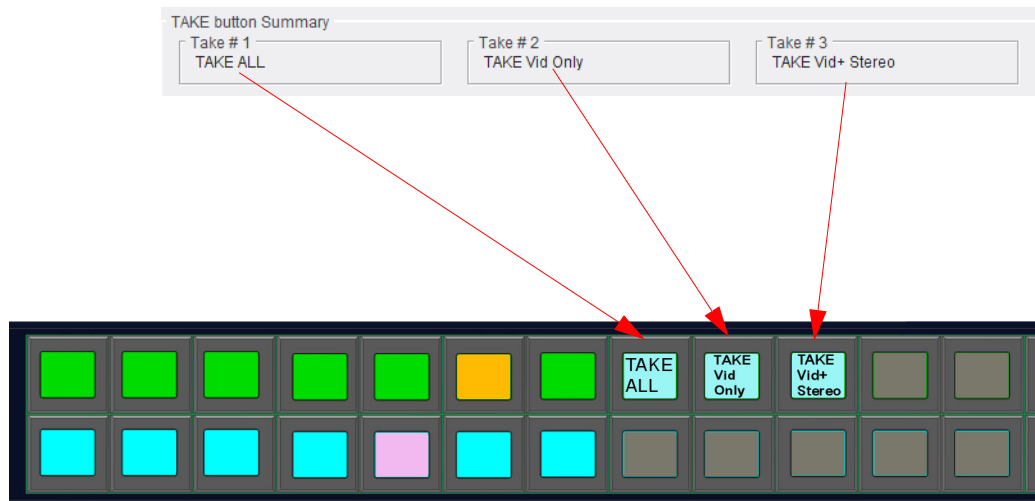
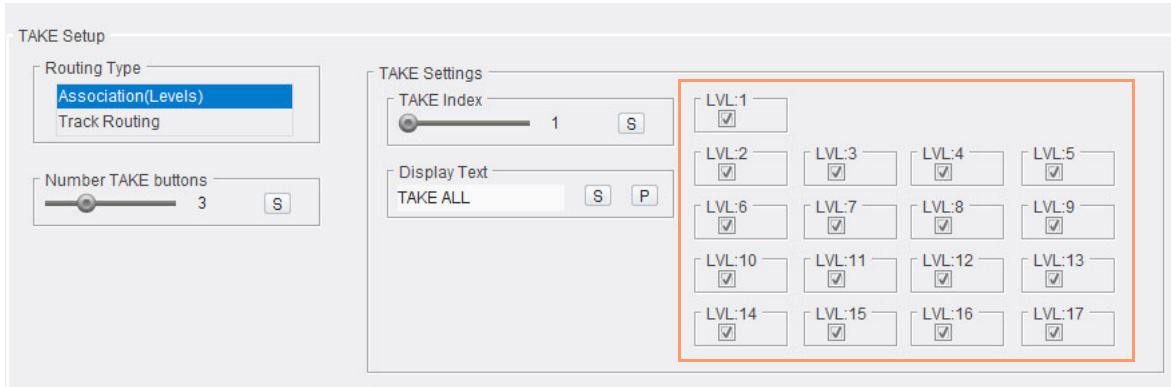
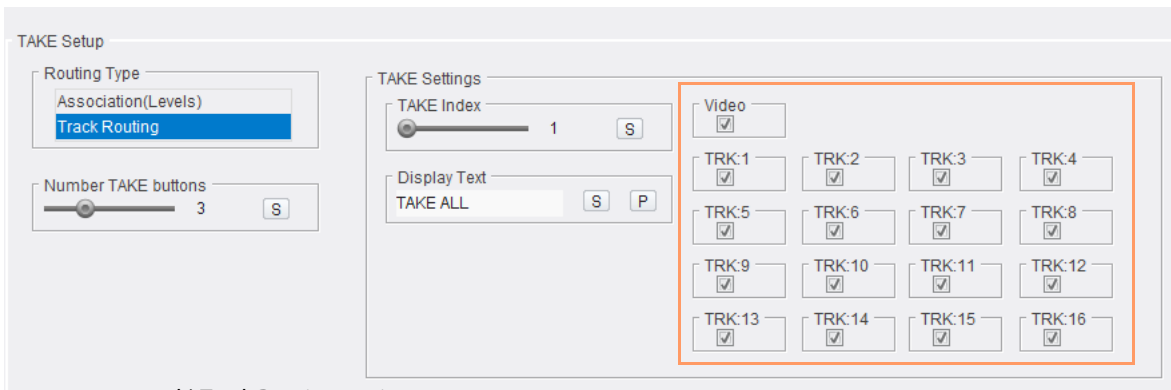


Fig. 5-61: Assigned TAKE Buttons (XY panel mode, LCD panel shown)



a) Association (Levels) settings



b) Track Routing settings

Fig. 5-62: Routing Type and TAKE Settings: a) Association(Levels); b) Track Routing.

Panel Salvos Template

This template is available in all panel modes. It enables the user to create and define **Panel Salvos**. These may then be assigned to panel buttons in the RollCall XY Mapping template, see [XY Mapping Template](#), on page 72. (The Panel Salvo can then be initiated from the control panel.)

Use **Panel Salvos** to return a router back to a known state, or to an alternative starting point with different settings. Up to 64 **Panel Salvos** can be defined (Salvo IDs 1 to 64).

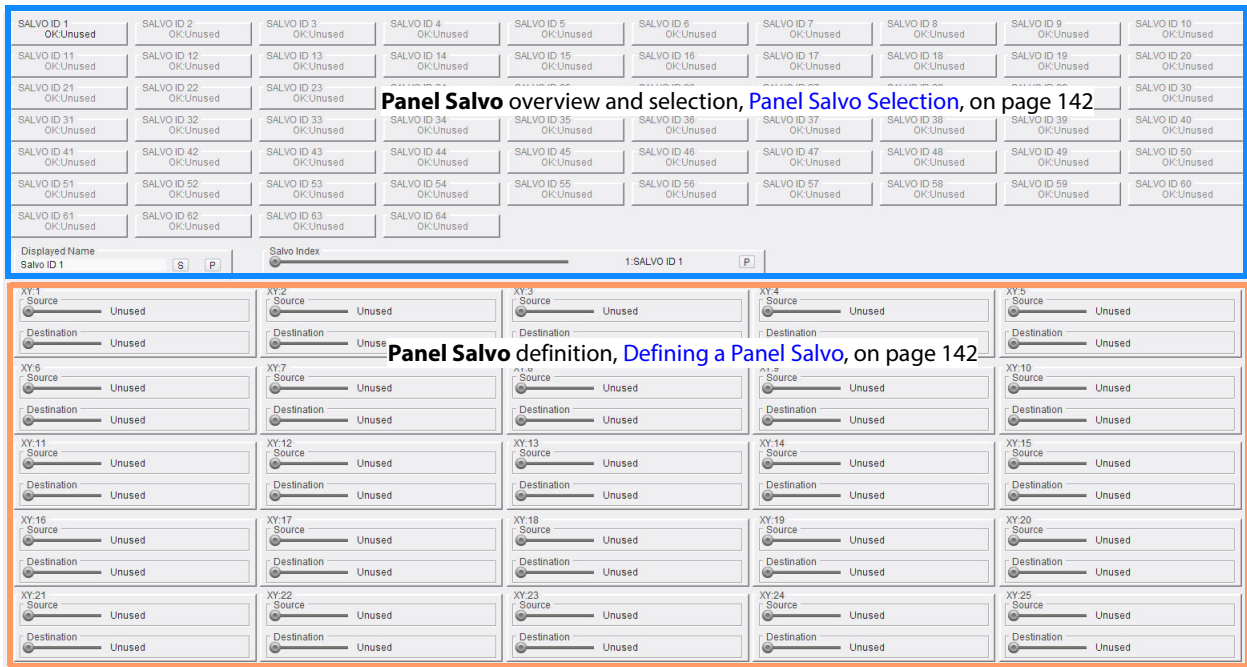


Fig. 5-63: Panel Salvos Template

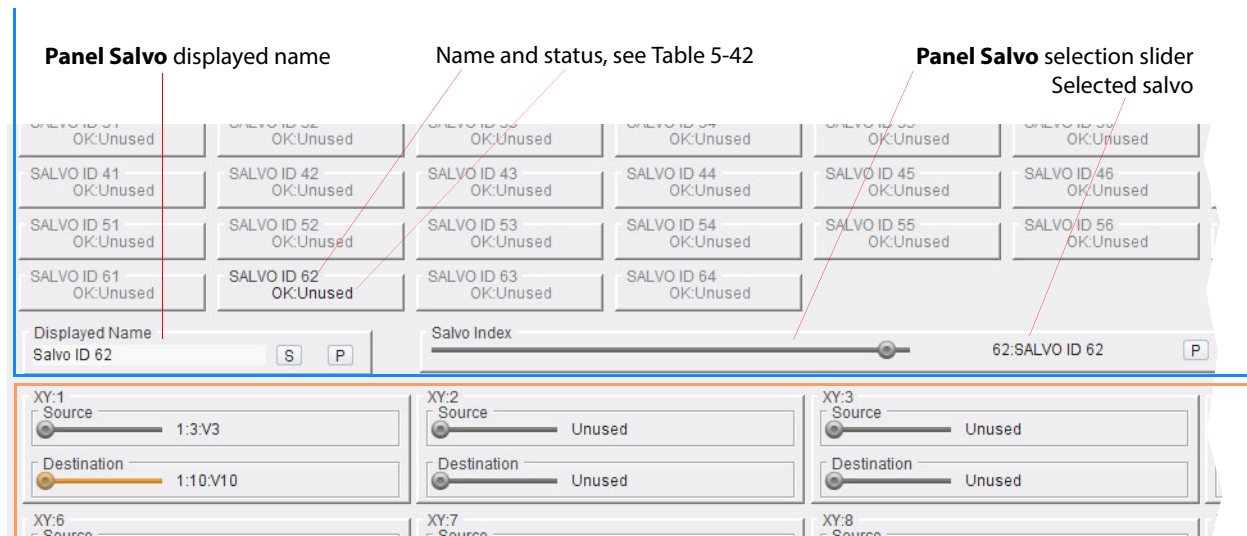


Fig. 5-64: Panel Salvos Template - Zoomed In View

Tab. 5-42: Panel Salvo Status Items

Item	Description
OK:Unused	Salvo has not been set up and is empty.
OK:Inactive	Salvo is set up correctly, but not currently active.
OK:Active	Salvo is active: All configured salvo routes are true (tallied).
WARN	Some parameters in the salvo are incorrect, or incomplete.
FAIL	Salvo is not accessible. This usually indicates a duplicate destination.

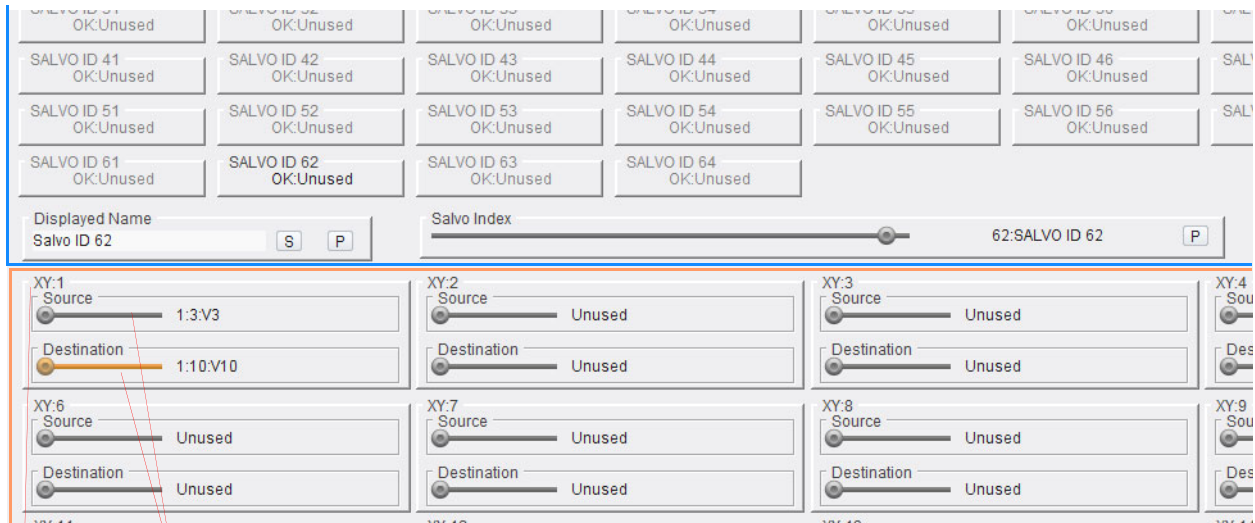
Panel Salvo Selection

Tab. 5-43: Panel Salvo Selection Items

Item	Description
Salvo Index	Slider. Use the slider to select a salvo. <i>Hint: Select the slider and use left- right- arrow keys to increment/decrement the index value.</i> Press P to set index to 1.
Displayed Name	Text box. Enter a name for the selected salvo. Press S or press the Enter key. Press P for the default salvo name. For example, 'SALVO ID 62'.

Defining a Panel Salvo

Once a panel salvo is selected, the all the routes that need to be made by the salvo can be defined. See Figure 5-65 and Table 5-44.



Source and Destination selection sliders

XY: 1 - Route definition

Fig. 5-65: Panel Salvos Template - Zoomed In View

Tab. 5-44: Panel Salvo Route Definition Items

Item	Description
XY: 1 to XY: 30	Up to 30 routes can be made by a panel salvo. Define each route ('XY:1' up to a maximum of 'XY: 30')
Source	Slider. Use the slider to select a source. Hint: Select the slider and use left- right- arrow keys to increment/decrement the index value.
Destination	Slider. Use the slider to select a destination. Hint: Select the slider and use left- right- arrow keys to increment/decrement the index value.

Once the routes are defined, the salvo definition is done.

Next:

- Assign the panel salvo to an unused destination button.
(See [XY Mapping Template](#) section, sub-section [Destination Page Configuration Pane](#), on page 85.)

Logging Template

This template is available in all panel modes.

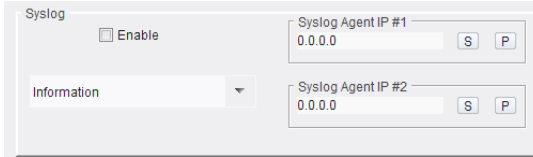


Fig. 5-66: Logging Template

Tab. 5-45: Logging Template Items

Item	Description
Syslog:	
Enable	Check box. Select to enable message logging.
Lowest Severity	List box. Select the lowest syslog message severity level to send. The panel then sends out this level of messages <i>and all higher</i> levels. This is set to 'Information' by default. (The control panel can log messages to a log server in syslog format which have severity level attributes.) Syslog severity level options in list box: <ul style="list-style-type: none"> • Error - • Warning - • Notice - these messages flag conditions that are not errors but may require special handling. • Information - • Debug - these messages contain information details normally reserved for engineering use.
Syslog Agent IP #1, Syslog Agent IP #2	Text box. Enter IP address of syslog server. Press S or press Enter key. Press P for default of '0.0.0.0'.

LED Colors BPX Template

Template is shown in BPX panel mode.

Buttons on the panel have colors that can be customized to suit their application or to suit user preferences. Color customizing is done in the same way for LED or LCD panels and LCD or LED buttons.

Use the template to define the button back-light colors for the different BPX color schemes, allowing grouping of buttons.

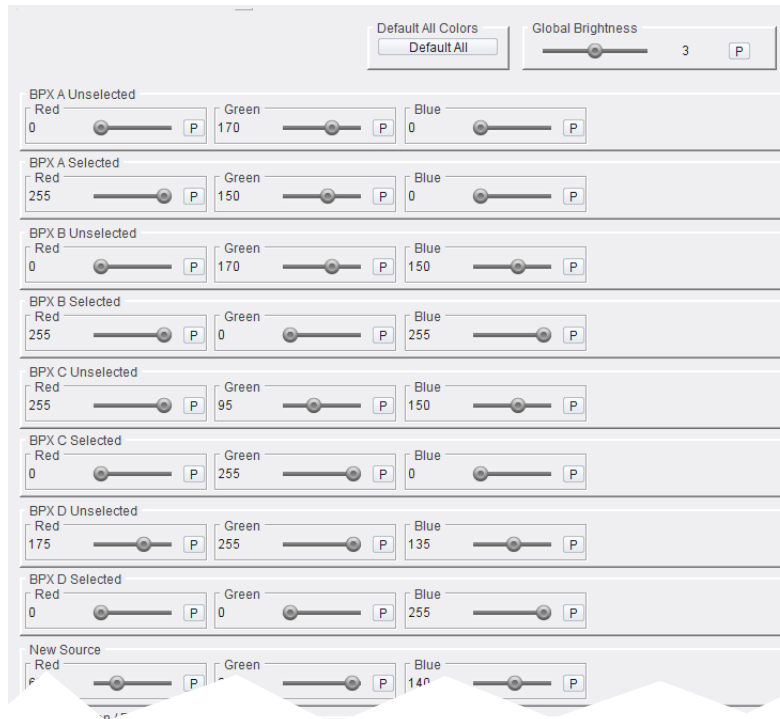
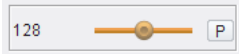


Fig. 5-67: LED Colors BPX Template

Tab. 5-46: LED Colors BPX Template Items

Control Item	Description
Default All Colors	Button. Click to set button LED colors to default. Applies to LED or to LCD buttons. (Figure 5-67 shows a 'default' template.)
Global Brightness	Slider. Adjusts the overall brightness of <i>all</i> panel buttons. Range: 1 to 5. Press P to set a mid-way default of 3. Alternatively, click on the value text box, enter a value and press the Enter key. Note: This control affects <i>all</i> panel button illumination.

Tab. 5-46: LED Colors BPX Template Items (continued)

Control Item	Description
Red, Green, Blue	
Slider	 <p>Slider per color component value. Defines the button color with separate sliders for 'red', 'green', and 'blue'. Range 0 to 255. To change a color component value with a slider:</p> <ul style="list-style-type: none"> • Click on a slider to select it; then either: <ul style="list-style-type: none"> • drag the slider to change the color component value; or • use left/right arrow keys to increment/decrement the value. • The value change is also reflected in the text box.
P	Press P for the default value for each color component.
Value	<p>Text box. Displays the component value. To change a color component value:</p> <ul style="list-style-type: none"> • Click on the text box; and • Enter the new value and press the Enter key. • The value change is also reflected with the slider position.

Tab. 5-47: Customizable LED Colors - BPX

Button State	Button Color Description
BPX A Unselected	Color scheme A for unselected BPX buttons.
BPX A Selected	Color scheme A for selected BPX buttons.
BPX B Unselected	Color scheme B for unselected BPX buttons.
BPX B Selected	Color scheme B for selected BPX buttons.
BPX C Unselected	Color scheme C for unselected BPX buttons.
BPX C Selected	Color scheme C for selected BPX buttons.
BPX D Unselected	Color scheme D for unselected BPX buttons.
BPX D Selected	Color scheme D for selected BPX buttons.
New Source	Indicates a change of source on a port.
Protect Button / Routed Source (Protect Active)	Indicates protect button is active or selected BPX crosspoint is protected.
Unmarried Destination	Selected crosspoint's destination is unmarried.
Salvo Active	Salvo is active or has recently completed.
Salvo Inactive	Salvo is inactive (off).
Port not Mapped at Level	The port is not present in the router level that is selected (applies to a multi-level system).

LED Colors XY Template

Template is displayed in XY panel mode. The template is shown in Figure 5-68 and its controls are described in Table 5-48.

Buttons on the panel have colors that can be customized to suit their application or to suit user preferences. LED color customizing is done in the same way for LED panels or LCD panels (i.e. it applies to both LED or LCD buttons). Colors are set for various button states.

The template allows the user to define the back light color for the dynamic buttons (i.e. source and destination selection buttons) in panel XY mode. The button-states that can be customized are listed in Table 5-49.

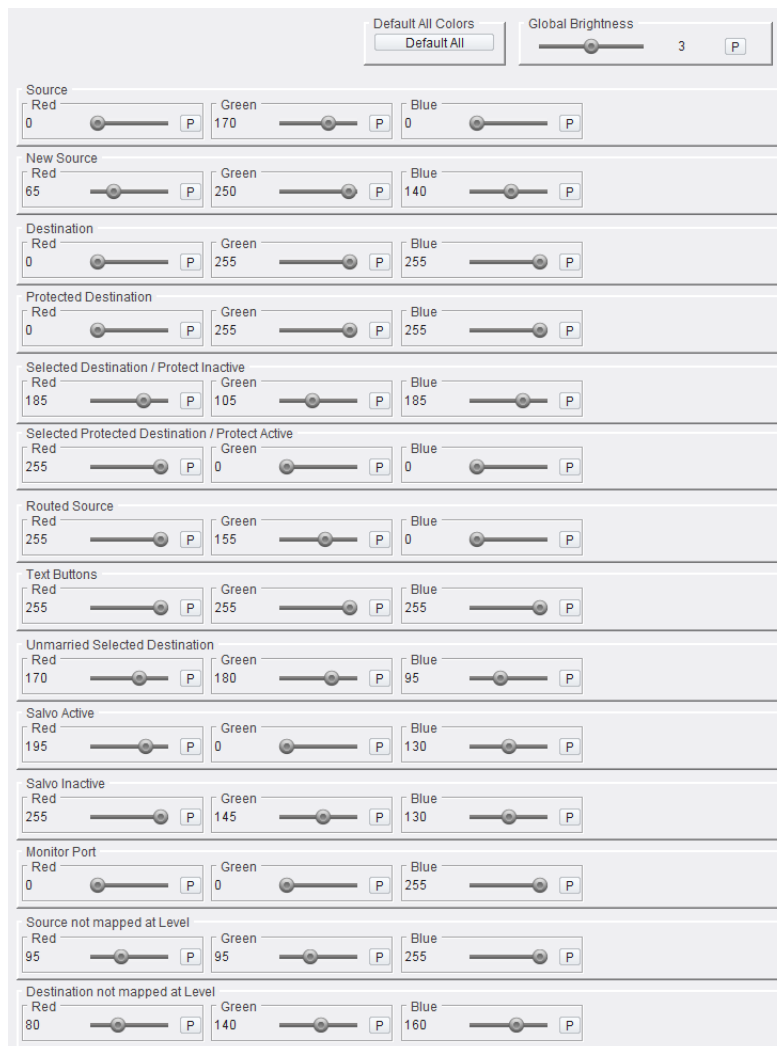


Fig. 5-68: LED Colors XY Template

Tab. 5-48: LED Colors XY Template Items

Control Item	Description
Default All Colors	<p>Button.</p> <p>Click to set LED colors to default.</p> <p>Figure 5-68 shows a 'default' template.</p>
Global Brightness	<p>Slider.</p> <p>Adjusts the overall brightness of <i>all</i> panel buttons.</p> <p>Range: 1 to 5.</p> <p>Press P to set a mid-way default of 3.</p> <p>Alternatively, click on the value text box and enter a value. Press the Enter key.</p> <p>Note: This control affects <i>all</i> panel button illumination.</p>
<p>Red, Green, Blue</p> <div data-bbox="486 804 726 856" data-label="Image"> </div> <p>Slider</p> <p>P</p> <p>Value</p>	<p>Slider per color component value.</p> <p>Defines the button color with separate sliders for 'red', 'green', and 'blue'.</p> <p>Range 0 to 255.</p> <p>To change the color component value with the slider:</p> <ul style="list-style-type: none"> Click on a slider to select it; then either: <ul style="list-style-type: none"> drag the slider to change the color component value; or use left/right arrow keys to increment/decrement the value. <p>The value change is also reflected in the text box.</p> <p>Press P for the default value for each color component.</p> <p>Text box.</p> <p>Displays the component value.</p> <p>To change the color component value:</p> <ul style="list-style-type: none"> click on the text box; and enter the new value and press the Enter key. <p>The value change is also reflected with the slider position.</p>

Tab. 5-49: Customizable LED Colors - XY

Button State	Button Color Description
Source	Source button.
New Source	Pre-selected new source.
Destination	Destination button.
Protected Destination	Destination is protected. I.e. the route to it is protected, either by this panel or another panel/device.
Selected Destination / Protect Inactive	The selected destination.
Selected Destination / Protect Active	The selected destination is protected.
Routed Source	Source currently routed to the selected destination.
Text Buttons	Color for buttons assigned to display free text.
Unmarried Selected Destination	Selected destination is unmarried. (I.e. It is part of a destination group, but has different routing, for some reason.)
Salvo Active	Salvo is active or has recently completed.
Salvo Inactive	Salvo is inactive.
Monitor Port	Monitor port button.
Source not Mapped at Level	Source is not present in the selected router level (applies to a multi-level system).
Destination not Mapped at Level	Destination is not present in the selected router level (applies to a multi-level system).

LED Colors Other Template

This template is displayed for all panel modes. The template is shown in Figure 5-69. Buttons on the panel have colors that can be customized to suit their application or to suit user preferences. Color customizing is done in the same way for LED or LCD panels. The template defines the back light color for fixed buttons (for example, 'Take', 'Unlock', 'Protect', and 'Page Navigation' buttons).

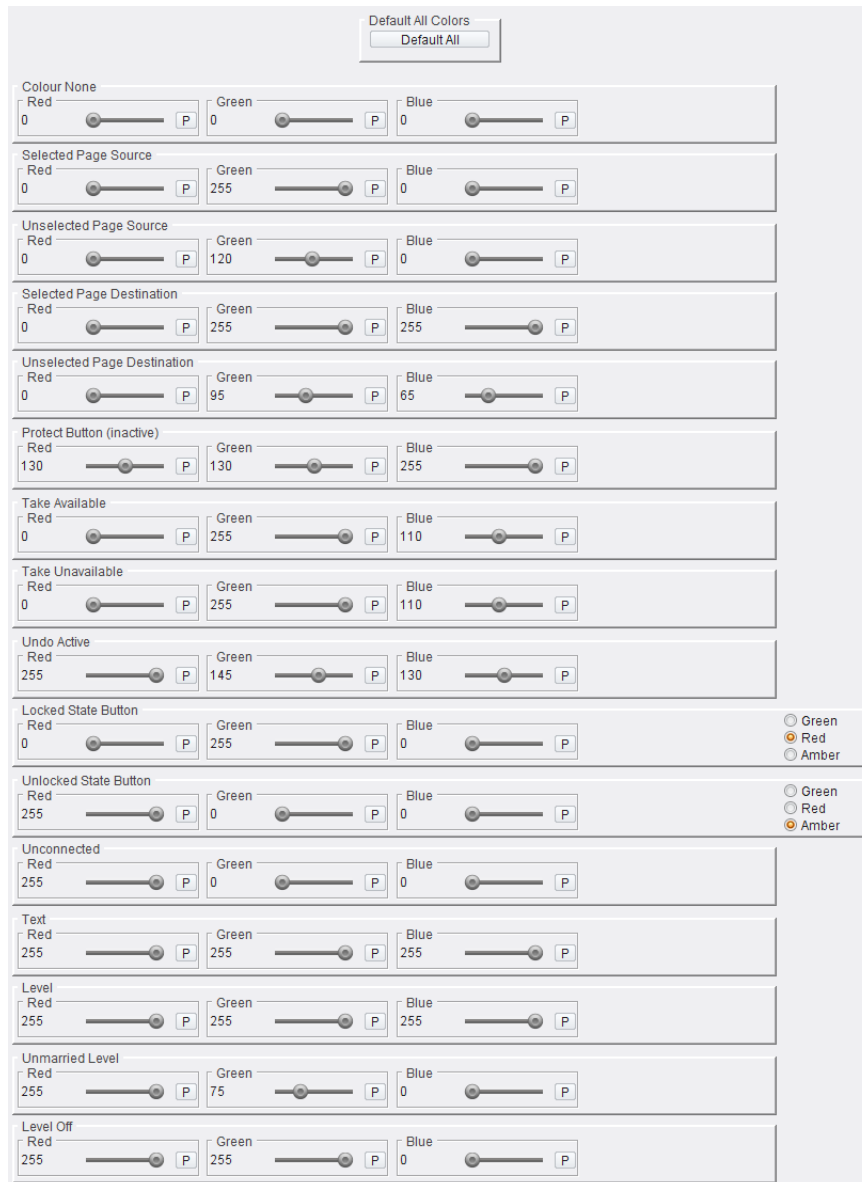
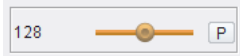


Fig. 5-69: LED Colors Other Template

Tab. 5-50: LED Colors Other Template Items

Control Item	Description
<p>Default All Colors</p>	<p>Button. Click to set LED colors to default. (Figure 5-69 shows a 'default' template.) Note: In the default factory state, the 'Panel Lock' button shows:</p> <ul style="list-style-type: none"> • 'Red' in an 'Locked' state. • 'Amber' in a 'Unlocked' state.
<p>Red, Green, Blue</p> <div data-bbox="293 583 533 638" style="border: 1px solid gray; padding: 2px; margin: 10px 0;">  </div> <p>Slider</p> <p>P</p> <p>Value</p>	<p>Slider per color component value. Defines the button color with separate sliders for 'red', 'green', and 'blue'. Range 0 to 255.</p> <p>To change the color component value with the slider:</p> <ul style="list-style-type: none"> • Click on a slider to select it; then either: <ul style="list-style-type: none"> • drag the slider to change the color component value; or • use left/right arrow keys to increment/decrement the value. <p>The value change is also reflected in the text box.</p> <p>Press P for the default value for each color component.</p> <p>Text box. Displays the component value. To change the color component value:</p> <ul style="list-style-type: none"> • click on the text box; and • enter the new value and press the Enter key. <p>The value change is also reflected with the slider position.</p>
<p>Red, Amber, Green</p>	<p>Radio buttons. Select to quickly set color component values to:</p> <ul style="list-style-type: none"> • red, • amber, or • green. <p>Note: Radio buttons only available for certain button colors.</p>

Tab. 5-51: Customizable LED Colors - Other

Button State	Button Color Description
Colour None	Button color for 'no color' - for an unused button.
Selected Page Source	Selected page button for source page selection. (LCD panel only.)
Unselected Page Source	Page button for source page selection. (LCD panel only.)
Selected Page Destination	Selected page button for destination page selection.
Unselected Page Destination	Page button for destination page selection.
Protect Button (inactive)	Protect button's normal color.
Take Available	Take button when a destination and new source have been selected.
Text Unavailable	Take button, when a 'Take' function is not available in the current panel state - e.g. before any source has been pre-selected.
Undo Active	Undo button when the 'Undo' function is available in the current panel state.
Locked State Button	Lock button when the panel is panel-locked.
Unlocked State Button	Lock button when panel is unlocked.
Unconnected	Button color when panel is not connected to the router controller.
Text	Text button color.
Level	Level selected (applies to a multi-level system).
Unmarried Level	Level is unmarried and selected (applies to a multi-level system).
Level Off	Level not selected (applies to a multi-level system).

LED Colors Group Keys Template

This template is available in all panel modes and is applicable to panel Group mode (LCD panel only).

Buttons on the panel have colors that can be customized to suit their application or to suit user preferences.

The template defines the back light color for buttons in panel Group mode.

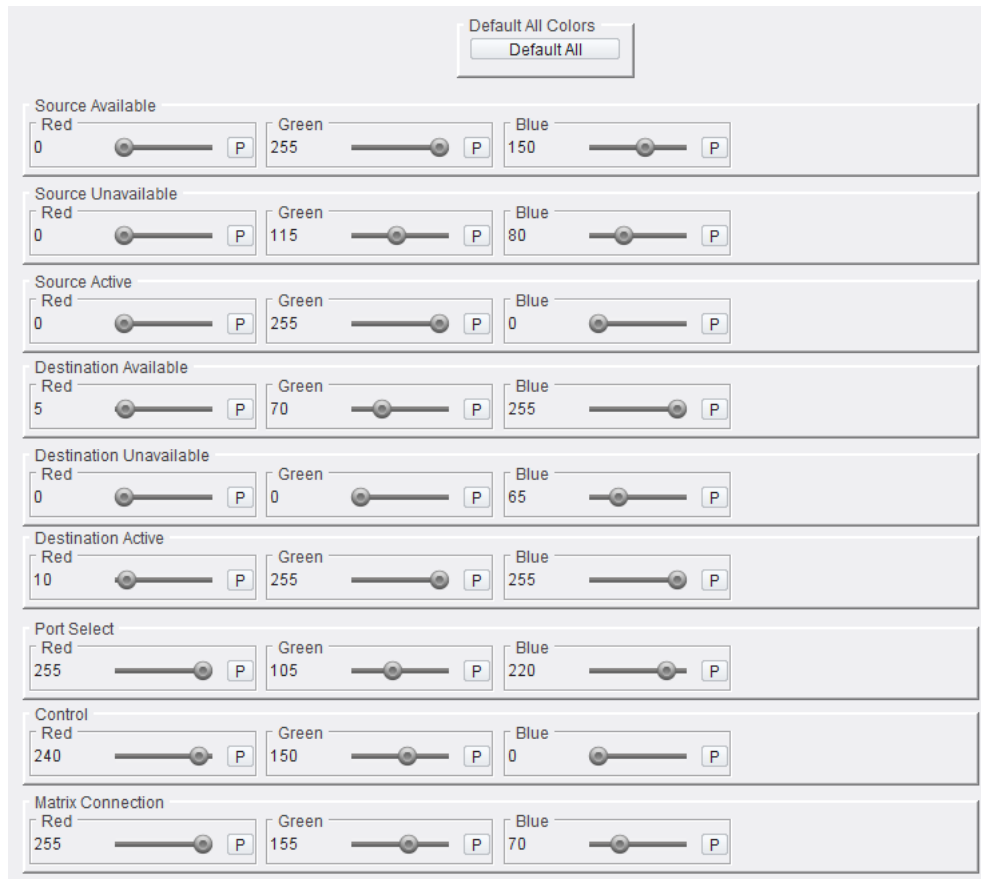


Fig. 5-70: LED Colors Group Keys Template

Tab. 5-52: LED Colors Group Keys Template Items

Control Item	Description
Default All Colors	Button. Click to set LED colors to default. (Figure 5-70 shows a 'default' template.)
Red, Green, Blue	



Tab. 5-52: LED Colors Group Keys Template Items (continued)

Control Item	Description
Slider	<p>Slider per color component value. Defines the button color with separate sliders for 'red', 'green', and 'blue'. Range 0 to 255.</p> <p>To change the color component value with the slider:</p> <ul style="list-style-type: none"> Click on a slider to select it; then either: <ul style="list-style-type: none"> drag the slider to change the color component value; or use left/right arrow keys to increment/decrement the value. <p>The value change is also reflected in the text box.</p>
P	Press P for the default value for each color component.
Value	<p>Text box. Displays the component value.</p> <p>To change the color component value:</p> <ul style="list-style-type: none"> click on the text box; and enter the new value and press the Enter key. <p>The value change is also reflected with the slider position.</p>

Tab. 5-53: LED Colors - Group Keys

Button State	Button Color Description
Source Available	Main source selection color. Used on group selection buttons. This shows that a source is available.
Source Unavailable	<p>Source selection color used on group selection buttons when there is no source on the button.</p> <p>For example, on numeric keys, if there are only 4 sources in the selected custom group, then:</p> <ul style="list-style-type: none"> buttons 1 to 4 would show 'Source Available; and buttons '5 to 9 and 0' would indicate 'Source Unavailable'.
Source Active	Color for a selected source selection button. Includes group keys.
Destination Available	Main destination selection color. Used on group selection buttons. This shows that a destination is available.
Destination Unavailable	<p>Destination selection color used on group selection buttons when there is no destination on the button.</p> <p>For example, on numeric keys, if there are only 4 destinations in the selected custom group, then:</p> <ul style="list-style-type: none"> buttons 1 to 4 would show 'Destination Available; and buttons '5 to 9 and 0' would indicate 'Destination Unavailable'.

Tab. 5-53: LED Colors - Group Keys (continued)

Button State	Button Color Description
Destination Active	Color for a selected destination selection button. Includes group keys.
Port Select	'Port Select' button color.
Control	Color of 'control' type panel buttons that navigate the panel buttons. For example, the 'Back' button or the 'SEL/Toggle' button.
Matrix Connection	'Router Conn' button color.

IP Bridging Template

This template is available in all panel modes.

Use the template to setup remote IP addresses and a RollCall IP bridge port, and to display connection status information.

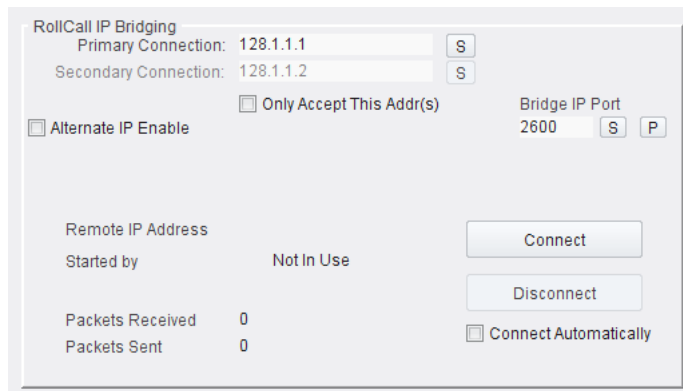


Fig. 5-71: IP Bridging Template

Tab. 5-54: RollCall IP Bridging Control Items

Control Item	Description
Primary Connection	Text box. The Primary IP Address of the remote RollNet IP Share unit. To change the IP Address: <ul style="list-style-type: none"> click in the text box; type in a new address; and press S or press the Enter key.
Secondary Connection	Text box. The Secondary IP Address of the remote RollNet IP Share unit.
Bridge IP Port	Text box. The IP port number for the IP Bridge. To change the IP port number: <ul style="list-style-type: none"> click in the text box; type in a new IP port number; and press S or press the Enter key. Press P to set the default, '2600'.
Only Accept This Addr(s)	Check box. When selected, connections may only be made via the primary/secondary remote IP addresses specified. Connections can be made manually with the Connect and Disconnect buttons, or automatically if the Connect Automatically check box is selected.

Tab. 5-54: RollCall IP Bridging Control Items

Control Item	Description
Connect	Button. Click to make a manual connection to the IP Bridge.
Disconnect	Button. Click to manually disconnect from the IP Bridge.
Connect Automatically	Check box. Select to automatically connect to the IP Bridge.

Tab. 5-55: RollCall IP Bridging Status Items

Status Item	Description
Remote IP Address	Displays the IP address of the remote end of the IP Bridge (when connected).
Started By	Shows the initiator of the IP Bridge connection.
Packets Received	How many IP packets have been received on this IP connection.
Packets Sent	How many IP packets have been sent on this IP connection.

6 Getting Started

This chapter describes the basic steps required to get started with the G2 Series 1U Router Control Panel, including some basic panel button configurations and some “how to’s”:

Summary

Getting Started

<i>Set Up Panel IP Address using the Web Page</i>	<i>page 160</i>
<i>Connect RollCall Control Panel</i>	<i>page 162</i>
<i>Initial Configuration (via RollCall Templates)</i>	<i>page 165</i>
<i>Default Source/Destination Assignments</i>	<i>page 167</i>
<i>Button Example 1 - XY Panel Mode, LCD Panel</i>	<i>page 168</i>
<i>Button Example 2 - XY Panel Mode, LED Panel</i>	<i>page 173</i>
<i>Button Example 3 - BPX Panel Mode, LCD Panel</i>	<i>page 176</i>
<i>Button Example 4 - BPX Panel Mode, LCD Panel</i>	<i>page 179</i>
<i>Buttons Example 5 - Group Panel Mode, LCD Panel</i>	<i>page 183</i>
<i>How To Save and Restore Panel Configurations</i>	<i>page 186</i>
<i>How To Re-Assign a Button</i>	<i>page 190</i>
<i>How To Add a Status Button</i>	<i>page 191</i>
<i>How To Add Text to an Unused Source or Destination Button</i>	<i>page 191</i>
<i>How To Set Up a Panel Salvo</i>	<i>page 192</i>

Set Up Panel IP Address using the Web Page

The G2 Series 1U Router Control Panel ships with default IP address settings (see [Default IP Settings](#), on page 238). The simplest way to initially change the panel IP settings is via the panel's web page, described below.

Note: Panel IP settings may also be changed via a RollCall template with the RollCall Control Panel application.

Setting up the required panel IP address settings requires:

- A PC that has an RJ45 Ethernet connection that is not connected to the house network.
- A Cat5e Ethernet cable. (Use a 'cross-over' cable if the PC is an older model which does not feature 'automatic cross-over' on its network port.)

To set up the control panel's IP address etc:

- 1 Set a PC Ethernet port to be on the same IP subnet as the panel. Give the port an IP address in the same range as the panel and assign it the same subnet mask as the panel.
For example, if the panel has an IP address of 192.168.1.1 and a subnet mask of 255.255.255.0, then assign static IP address 192.168.1.2 and subnet mask of 255.255.255.0 to the PC port.
- 2 Connect the PC Ethernet port *directly* to the control panel.
- 3 Open a browser and enter the IP address of the G2 Series 1U Router Control Panel into the address bar.
Press the Enter key.

The panel's web page (see [Web Page](#), on page 35) is shown. See Figure 6-1.

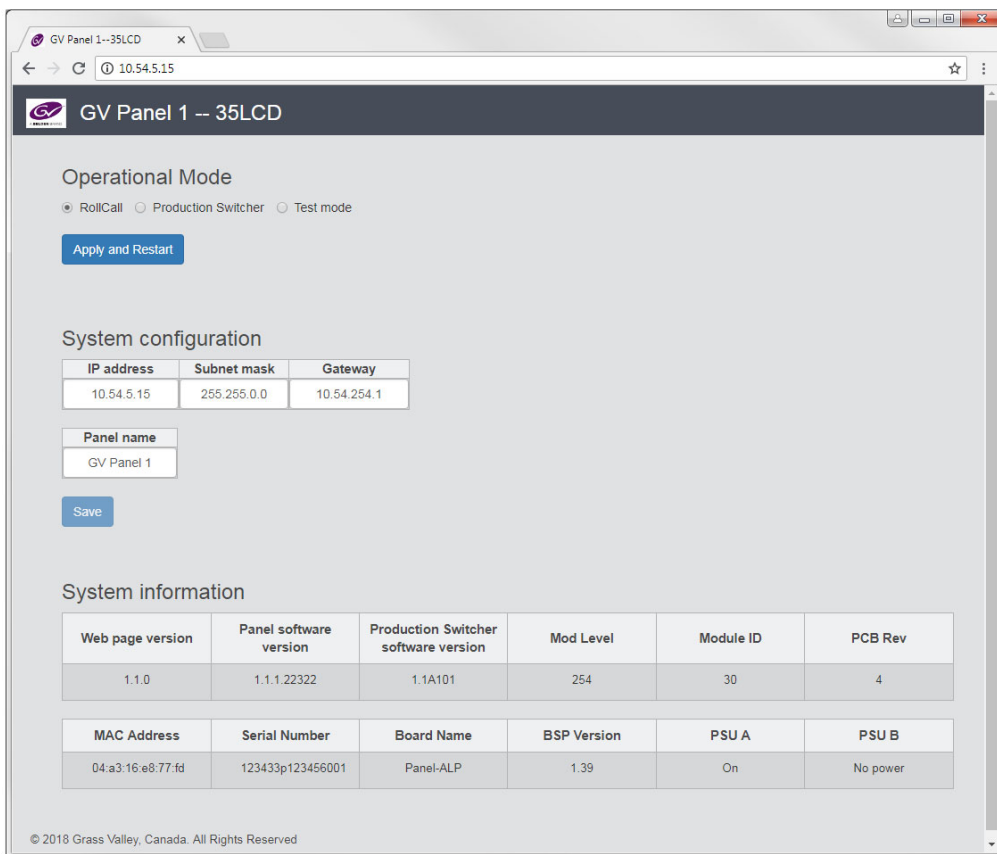


Fig. 6-1: Control Panel Web Page (LCD Panel Web Page shown)

- 4 Select the 'RollCall' **Operational Mode**.
 - 5 Enter the new, required settings into the **System configuration** cells for: 'IP address', 'Subnet mask', 'Gateway' IP address, and also 'Panel name'.
 - 6 Click the **Save** button on the web page.
 - 7 Click **Apply and Restart** on the web page.
The panel restarts and the new IP settings are applied.
 - 8 Verify that the new panel IP address settings are shown on the front panel during its power up sequence.
 - 9 Disconnect the PC from the panel.
Connect the panel to the house network.
- The control panel is now accessible on the house network.

Connect RollCall Control Panel

Items required:

- A Windows® laptop or desktop computer with network access and with Grass Valley RollCall Control Panel installed.
- Network access to the G2 Series 1U Router Control Panel.

To connect RollCall Control Panel to the G2 Series 1U Router Control Panel:

- 1 On the computer, open the RollCall Control Panel application.

(On Windows 7:

Start > All Programs> SAM > RollCall > Control Panel)

The RollCall Control Panel application starts and the initial RollCall Control Panel screen is displayed. See Figure 6-2.

Click to access the RollCall Control Panel user manual - for help on the general use of the RollCall application.

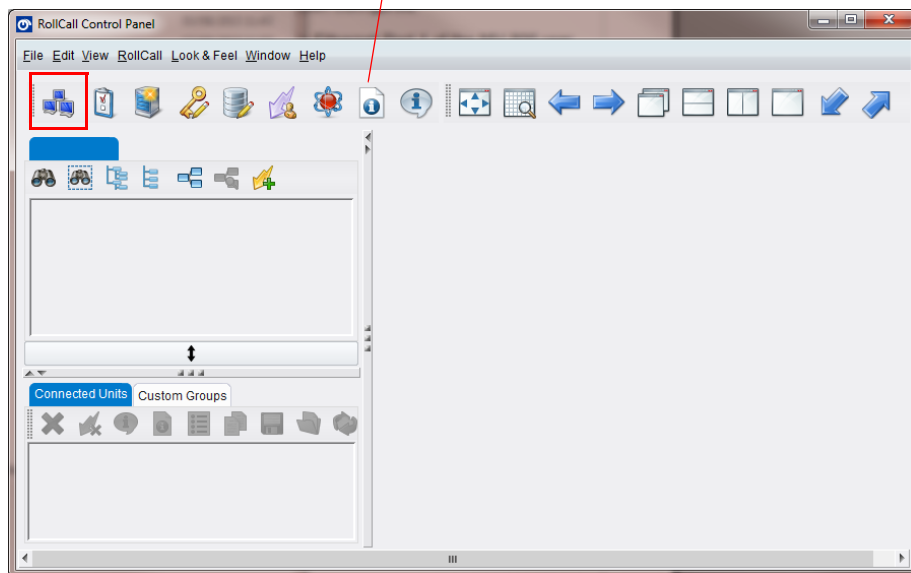



Fig. 6-2: Initial RollCall Screen

- 2 Click on the **Build Network**  icon in the RollCall tool bar to display the Build Network dialog.

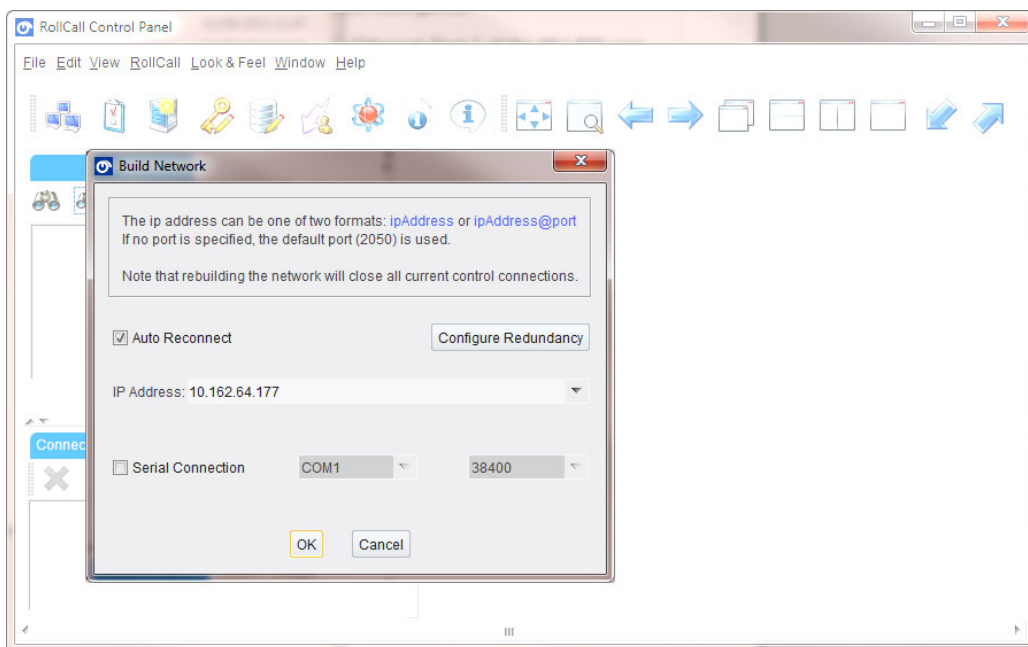


Fig. 6-3: Initial RollCall Screen

- 3 Enter your G2 Series 1U Router Control Panel's IP address into the 'IP Address' text box and click **OK**.
After a short period displaying "Connecting", the RollCall application connects to the G2 Series 1U Router Control Panel unit. The unit is shown on the left of the screen.
- 4 To connect to the unit and open templates:
 - Double-click on the G2 Series 1U Router Control Panel unit name; or
 - Right-click on the unit name and select 'connect' in the pop-up menu.
- 5 After a short period displaying "Rendering Template", the first template is shown, see Figure 6-4.

Getting Started
Connect RollCall Control Panel

G2 Series 1U Router Control Panel

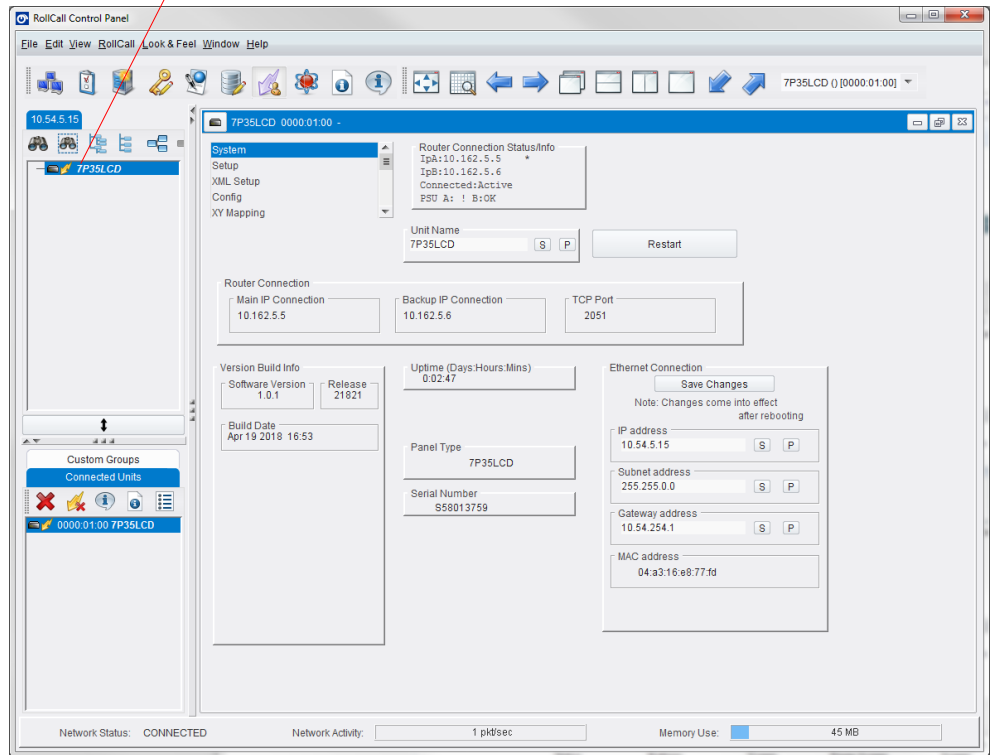


Fig. 6-4: RollCall Control Panel Connected

RollCall Control Panel software has now connected to the unit.

Initial Configuration (via RollCall Templates)

Firstly, connect RollCall Control Panel to the unit. (See [Connect RollCall Control Panel](#), on page 162.)

Router Connection

To connect to a router, the IP address of the router controller card is required. If the router uses dual redundant controllers, the IP address of both controller cards must be entered.

To set up router controller IP address information:

- 1 Go to the **Setup** template's **Router Connection** pane.

The screenshot shows the 'Router Connection' configuration pane. It is divided into several sections: 'Primary' with IP address (10.162.5.5) and RC Network address (0000:81:00); 'Secondary' with a checked 'Enable Secondary Connection' checkbox, IP address (10.162.5.6), and RC Network address (0000:81:00); 'Connection Status' showing 'Connected:Active'; 'TCP Port' set to 2051; 'Name Configuration' with a dropdown for '32 Character Names' and a 'Reconnect to Update!' button; and buttons for 'Delete Connection Cache' and 'Re-Connect'. A 'Controller Type' dropdown is set to '24xx (Full Control)'.

Fig. 6-5: Router Connection Pane

- 2 Enter the IP address of the router to connect to into the **Primary** pane's IP address field, and press the Enter key or click **S**.
 - 3 Enter the RollCall address, **RC Network address**, of the router controller. (Typically, this is '0000:81:00' or '0000:11:00'.)
 - 4 If the router has dual controller redundancy, in the **Secondary** pane:
 - select **Enable Secondary Connection**;
 - enter the secondary IP address, and press the Enter key or click **S**; and
 - enter the RollCall address, and press the Enter key or click **S**.
 - 5 Click **Re-Connect**.
- There will be a short delay while the control panel initializes.
- 6 The status of the connection to the router is shown in the template's:
 - **Connection Status** pane.
 - **Router Connection Status / Info** pane.

These should both display 'Connected:Active', see Figure 6-6.

Getting Started

Panel Reset

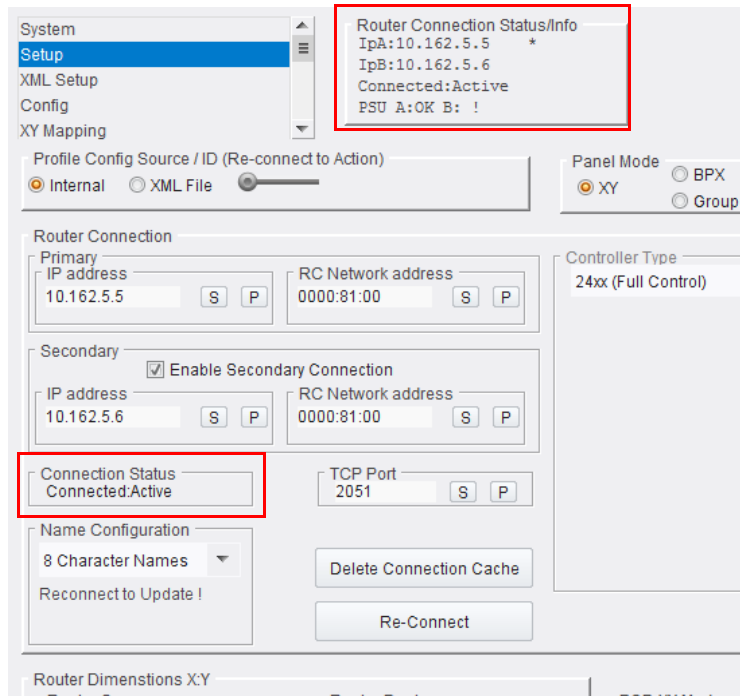


Fig. 6-6: Router Connection Status

Note: If the status does not display as **Connected:Active** after initializing, investigate the possible cause.

Panel Reset

See [Hardware Description](#), on page 13.

Restoring Factory Settings

See [Hardware Description](#), on page 13.

Default Source/Destination Assignments

Panel XY Mode

A new LCD panel has a factory default XY configuration which provides the following button mapping:

- A group of **Source Selection** buttons, assigned from source 1.
- A group of **Destination Selection** buttons, assigned from destination 1.
- Source and destination paging buttons.
- Panel **Lock/Unlock** button
- **Take** button.
- **Protect** button.

The router controller that the panel is connected to controls one or more routing matrices; this has some overall size which is often large.

To assign *all* the router matrix sources and destinations to the panel buttons, the **Default All XY** button facility on the RollCall **XY Mapping** template may be used.

- Click **Default All XY** to set up all sources and destinations on the panel.
 - The full size of the router is used. This is shown on the RollCall **Setup** template, **Router Dimensions X:Y (Router Sources and Router Dests)**.
 - Source and destination names are obtained from the router controller.
 - Assignment to source and destination selection buttons is linear.

As an alternative, button mapping and source/destination assignments may be done manually. This is outlined in [Button Example 1 - XY Panel Mode, LCD Panel](#), on page 168, and [Assign Source/Destination to BPX Buttons](#), on page 181 for an LCD panel.

Panel BPX Mode

A new LCD panel has a factory default BPX 'template' configuration which provides the following button mapping:

- Two rows of **Crosspoint** buttons (BPX buttons), unassigned.
- Panel **Lock/Unlock** button
- **Protect** button.

To assign router matrix crosspoints (sources and destinations) to the panel BPX buttons, use RollCall **BPX Mapping** template.

Panel Group Mode

An LCD panel does have a default button configuration.

Button Example 1 - XY Panel Mode, LCD Panel

This section describes setting up buttons on the G2 Series 1U Router Control Panel in XY panel mode. Button functions need to be mapped to the buttons on the panel and then destinations and sources assigned to XY buttons.

Mapping XY Buttons (LCD Panel)

For this LCD panel example, use the **Config** and **XY Mapping** templates.

Preliminaries

On the **Config** template:

- 1 Set **Panel Mode** to 'XY'.
- 2 In the **Take / Undo / Redo** pane:
 - a Select XY Mode **Take Enable**.
 - b Select XY Mode **Undo Enable**.
 - c Set **Routed Status Timeout** to 4seconds.
 - d Set **Undo Timeout** to 4 seconds.

Map Top Row - XY Buttons (Source Selection)

In the **XY Mapping** template:

- 3 Position the **Button Focus** at the top left panel button (row 1, button 1).
- 4 Set:
 - a **Button Configuration** to 'XY Source' in the drop-down list.
 - b **Number to Fill** to 12. Press **S**.
 - c **Increment Type** to 'Across'.
 - d **Autofill Button Type** to 'Source' in the selection box.
- 5 Click **Fill !**.

The first 12 LCD buttons display with **Source N** or **Source Unused** in the button map. These are now assigned to be buttons with a source selection function.

Button Focus will then be positioned at the next (13th) button on the row.

Source Paging Buttons

- 6 Set **Button Configuration** to 'Unassigned'.
The 13th button's function is set to unassigned.
- 7 Increment **Button Focus** (click **+1**) to move to the next button.
- 8 Set **Button Configuration** to 'Page:Src:Down'.
- 9 Increment **Button Focus** (click **+1**).
- 10 Set **Button Configuration** to 'Page:Src:Up'.
- 11 Increment **Button Focus** (click **+1**).
- 12 Set **Button Configuration** to 'Paging:Src'.

This has configured all source selection button functions.

Take and Panel Lock

Now proceed to do some other button functions:

- 13 Increment **Button Focus** (click **+1**) to move to the next button.
- 14 Set **Button Configuration** to 'Take Only'.
- 15 Increment **Button Focus** (click **+1**).
- 16 Set **Button Configuration** to 'Lock'.

This has configured the button functions on the top row.

Now continue to the next row:

Map Bottom Row - XY Buttons (Destination Selection)

Now continue to the remaining top row buttons:

- 17 Position the **Button Focus** on the bottom left button of the panel button map (row 2, button 1).
- 18 Set:
 - a **Button Configuration** to 'XY Destination' in the drop-down list.
 - b **Number to Fill** to 12.
 - c **Increment Type** to 'Across'.
 - d **Autofill Button Type** to 'Destination' in the selection box.

- 19 Click **Fill** !

The first 12 buttons of row 2 display with **Destination N** or **Destination Unused** in the button map. These are now assigned with a destination selection function.

Button Focus will then be positioned at the next (13th) button on the row.

Destination Paging Buttons

- 20 Set **Button Configuration** to 'Unassigned'.

The 13th button's function is set to unassigned.
- 21 Increment **Button Focus** (click **+1**) to move to the next button.
- 22 Set **Button Configuration** to 'Page:Dest:Down'.
- 23 Increment **Button Focus** (click **+1**).
- 24 Set **Button Configuration** to 'Page:Dest:Up'.
- 25 Increment **Button Focus** (click **+1**).
- 26 Set **Button Configuration** to 'Paging:Dest'.

This has configured all destination selection button functions.

Destination Protect Buttons

- 27 Increment **Button Focus** (click **+1**) to move to the next button.
- 28 Set **Button Configuration** to 'Protect'.

This has now configured all the button functions.

Resulting Mapped Buttons

The resulting button function mapping in this example is shown in Figure 6-7. The RollCall template's button map is shown and also the final appearance of the buttons on the control panel itself once configuration is complete (button colors may be configured separately).

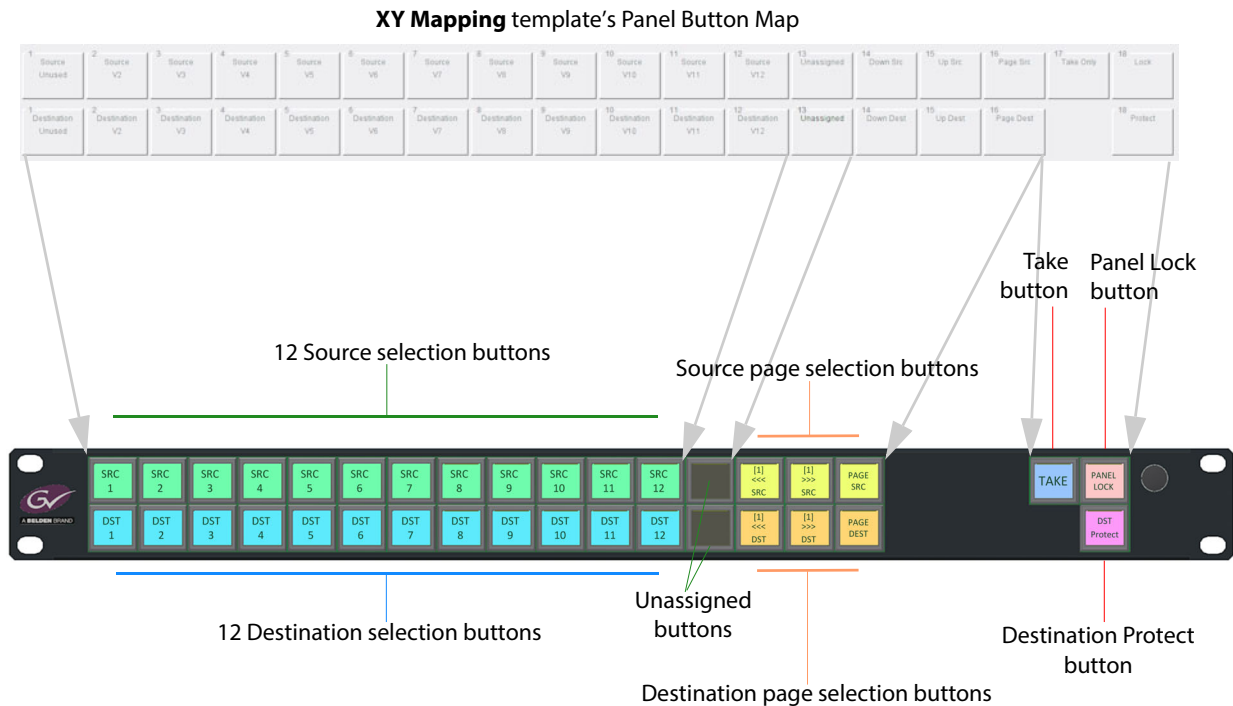


Fig. 6-7: Example 1 - XY LCD Panel Button Mapping

Continue to [Assign Ports to XY Source Pages](#), on page 170.

Assign Ports to XY Source Pages

This section continues on from [Mapping XY Buttons \(LCD Panel\)](#), on page 168. It assigns source ports to the mapped source selection buttons.

Source Page 1

In the **XY Mapping** template's **Source Page Configuration** section, configure source buttons for the first page of sources:

- 1 Set **Button Focus** at the first source selection button, row 1 button 1.
- 2 Set **Page In View** to '1'.

This shows source page 1.

- 3 Position **Index Focus** at row 1 button 1.

Source buttons are filled in from this point forwards, within the confines of the source current page.

- 4 In **AutoFill**, set **Start Port** to '1'.
- 5 In **AutoFill**, click **Fill**.

The button map displays the sources populated according to the numerical order of the port numbers for source page 1.

Note: Clicking **Fill 1:1** instead of **Fill** populates the buttons in the same manner, but if there are unused ports, gaps will be left. This is useful if unused ports may be added later.
Using the **Fill** button ignores any gaps and populates the buttons continuously.

Source Page 2 etc

- 6 Set **Page In View** to '2'.
- 7 Re-position **Index Focus** at row 1 button 1.
Button map buttons are filled in from this point forwards, within the confines of the current page.
- 8 Click **Fill from Last Assigned**.
Source buttons are filled out, continuing on from source page 1. The buttons are populated with sources according to the numerical order of the port numbers, continuing from last port number on the previous page.
- 9 Repeat the above sequence for subsequent required pages until all sources have been allocated to buttons.

Source selection buttons have been assigned for each source page.

Assign Ports to XY Destination Pages

This section continues on from [Assign Ports to XY Source Pages](#), on page 170. It assigns destination ports to the mapped destination selection buttons.

Destination Page 1

In the **Destination Page Configuration** section, configure destination buttons for the first page of destinations:

- 1 Position **Index Focus** at row 2 button 1.
- 2 Set **Page In View** to '1'. This shows destination page 1.
- 3 In **AutoFill**, set **Start Port** to '1'.
- 4 In **AutoFill**, click **Fill**.

The button map display the destinations populated according to the numerical order of the port numbers for destination page 1.

Destination Page 2 etc

- 5 Set **Page In View** to '2'.
- 6 Re-position **Index Focus** at row 2 button 1.
- 7 Click **Fill from Last Assigned**.

Destination buttons are filled out, continuing on from destination page 1. The buttons are populated with destinations according to the numerical order of the port numbers, continuing from last port number on the previous page.

- 8 Repeat the above sequence for subsequent required pages until all destinations have been allocated to buttons.

Destination selection buttons have been assigned for each destination page.

Button Example 2 - XY Panel Mode, LED Panel

This section describes setting up buttons on the G2 Series 1U Router Control Panel in XY panel mode with an LED panel. Button functions need to be mapped to the buttons on the panel and then destinations and sources assigned to XY buttons.

Mapping XY Buttons (LED Panel)

For this LED panel example, use the **Config** and **XY Mapping** templates. The procedure is similar to that for an LCD panel ([Mapping XY Buttons \(LCD Panel\)](#), on page 168) but the resulting mapping of buttons is different, better suiting an LED panel.

Preliminaries (Similar to LCD Panel)

On the **Config** template:

- 1 Set **Panel Mode** to 'XY'.
- 2 In the **Take / Undo / Redo** pane:
 - a Select XY Mode **Take Enable**.
 - b Select XY Mode **Undo Enable**.
 - c Set **Routed Status Timeout** to 4seconds.
 - d Set **Undo Timeout** to 4 seconds.

Map Top Row - XY Buttons (Source Selection)

In the **XY Mapping** template:

- 3 Position the **Button Focus** at the top left panel button (row 1, button 1).
- 4 Set **Button Configuration** to 'XY Source' in the drop-down list.
- 5 Set **Number to Fill** to 18. Press **S**.
- 6 Set **Increment Type** to 'Across'.
- 7 Set **Autofill Button Type** to 'Source' in the selection box.
- 8 Click **Fill !**.

The first 18 LCD buttons display with **Source N** or **Source Unused** in the button map. These are now assigned to be buttons with a source selection function.

Button Focus will then be positioned at the next (19th) button in the row.

Map Top Row - Other Buttons

- 9 Set **Button Configuration** to 'Status'.
- 10 Increment **Button Focus** (click **+1**) to move to the next button.
- 11 Set **Button Configuration** to 'Take Only'.
- 12 Increment **Button Focus** (click **+1**) to move to the next button.
- 13 Set **Button Configuration** to 'Lock'.

This has configured the button functions on the top row.

Now continue to the bottom row:

Map Bottom Row - XY Buttons (Destination Selection)

- 14 Position the **Button Focus** on the bottom left button (row 2, button 1).
- 15 Set **Button Configuration** to 'XY Destination' in the drop-down list.
- 16 Set **Number to Fill** to 18.
- 17 Set **Increment Type** to 'Across'.
- 18 Set **Autofill Button Type** to 'Destination' in the selection box.
- 19 Click **Fill** !

The first 18 buttons of row 2 display with **Destination N** or **Destination Unused** in the button map. These are now assigned to be buttons with a destination selection function.

Button Focus will then be positioned at the next (19th) button on the row.

Map Bottom Row - Other Buttons

- 20 Set **Button Configuration** to 'Protect'.
- 21 Increment **Button Focus** (click +1) to move to the next button.
- 22 Set **Button Configuration** to 'Undo Only'.

This has now configured all the button functions.

Resulting Mapped Buttons

The resulting button function mapping in this example is shown in Figure 6-8. The RollCall template's button map is shown and also the final appearance of the buttons on the control panel itself once configuration is complete (button colors may be configured separately).

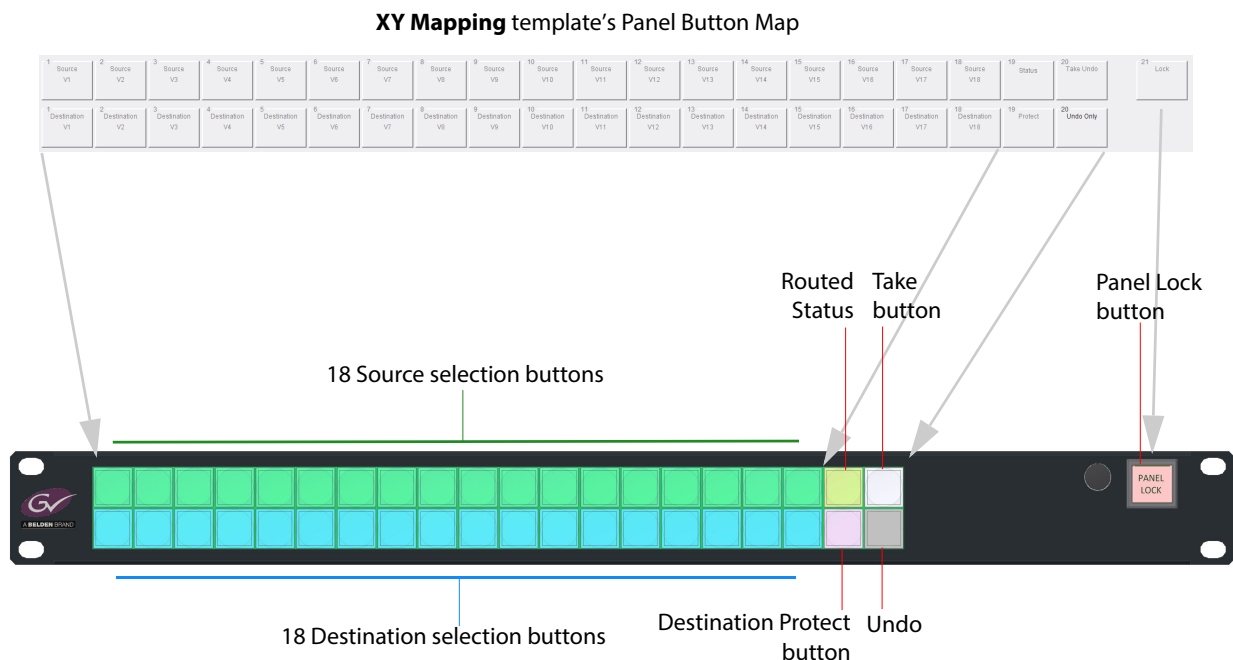


Fig. 6-8: Example 2 - XY LED Panel Button Mapping

Assign Ports to XY Buttons (LED Panel)

This section continues on from [Button Example 2 - XY Panel Mode, LED Panel](#), on page 173. It assigns source and destination ports to mapped source/destination selection LED buttons. Only one page of sources and one page of destinations will be set in this example (recommended for an LED panel).

Assign Sources

In the **XY Mapping** template's **Source Page Configuration** section, configure source buttons for the first page of sources:

- 1 Set **Button Focus** at the first source selection button, row 1 button 1.
- 2 Set **Number of Pages** to '1'.
- 3 Set **Page In View** to '1'. This shows source page 1.
- 4 Position **Index Focus** at row 1 button 1.
Source buttons are filled in from this point forwards (within the confines of the source current page).
- 5 In **AutoFill**, set **Start Port** to '1'.
- 6 In **AutoFill**, click **Fill**.

The button map displays the sources populated according to the numerical order of the port numbers.

Source selection buttons have been assigned source 1 to 18.

Assign Destinations

In the **Destination Page Configuration** section, configure destination buttons for the first page of destinations:

- 7 Position **Index Focus** at row 2 button 1.
- 8 Set **Page In View** to '1'. This shows destination page 1.
- 9 In **AutoFill**, set **Start Port** to '1'.
- 10 In **AutoFill**, click **Fill**.

The button map displays the destinations populated according to the numerical order of the port numbers.

Destination selection buttons have been assigned destinations 1 to 18.

Button Example 3 - BPX Panel Mode, LCD Panel

This section describes setting up buttons on the G2 Series 1U Router Control Panel in BPX panel mode. This example has no pages of crosspoints and uses a total of 32 BPX buttons.

Button functions need to be mapped to the buttons on the panel and then crosspoints assigned to BPX buttons.

In the **Config** template, in the 'BPX Mode' pane:

- 1 Select **Take Enable**. This enables 'Take' functionality for the panel.
- 2 Select **Undo Enable**. This enables 'Take undo' functionality for the panel.
- 3 Set **Routed Status Timer** to 4 seconds.
- 4 Set **Undo Timer** to 4 seconds.
- 5 In the **LCD XY-Dest/BPX Text Format** pane, select 'Medium Text'. This shows the source and the destination on the LCD button.

Mapping Button Functions

Use the **BPX Mapping** template.

Map Top Row BPX Buttons

- 1 Position the **Button Focus** at the top left panel button (button map row 1, button 1).
- 2 Set **Button Type** to 'BPX' in the drop-down list.
- 3 Set **Increment Type** to 'Up-Down-Across'.
- 4 Set **Number to Fill** to 32. Press **S**.
- 5 Set **Type** to 'BPX Unassigned'.
- 6 Click **Fill !**.

The first 32 LCD buttons display with 'BPX' in the button map on template and are now assigned to be generic BPX buttons.

The BPX (crosspoint selection) buttons have been mapped.

Map Fixed-function Buttons

- 7 Set the **Button Focus** at row 1, button 17.
- 8 Select **Button Type** to be 'Take'.
- 9 Set **Button Focus** at row 1, button 18.
- 10 Select **Button Type** to be 'Lock'.
- 11 Set **Button Focus** at row 2, button 18.
- 12 Select **Button Type** to be 'Protect'.

This has configured the fixed-function buttons. See Figure 6-11 for a diagram of the button panel map on the template.



Fig. 6-9: Example 3 - BPX LCD Panel Button Mapping

Assign Crosspoints to BPX Buttons

Set First 8 BPX Buttons

- 1 Position the **Button Focus** at the top left panel button (row 1, button 1).
- 2 Set **Button Type** to 'BPX' in the drop-down list.
- 3 Set **Destination** to 'V10'.
- 4 Set **Increment Type** to 'Up-Down-Across'.
- 5 Set **Number to Fill** to 8. Press **S**.
- 6 Set **Type** to 'Current Dest'.
- 7 Click **Fill !**.

The first 8 LCD buttons have their destination set to 'V10'.

- 8 Set **Source** to 'V1'.
- 9 Set **Type** to 'Source(increment)'.
- 10 Click **Fill !**.

The first 8 LCD buttons are assigned sources 'V1' to 'V8'.

- 11 Set **Type** to 'Colour A'.
- 12 Click **Fill !**.

The first 8 LCD buttons have their button color scheme set to 'A'.

This has made assignments to a block of 8 LCD buttons.

Set Next 8 BPX Buttons

- 13 Position the **Button Focus** at the top left panel button (row 1, button 5).
- 14 Set **Button Type** to 'BPX' in the drop-down list.
- 15 Set **Destination** to 'V11'.
- 16 Set **Increment Type** to 'Up-Down-Across'.
- 17 Set **Number to Fill** to 8. Press **S**.
- 18 Set **Type** to 'Current Dest'.
- 19 Click **Fill !**.
- 20 Set **Source** to 'V1'.
- 21 Set **Type** to 'Source(increment)'.
- 22 Click **Fill !**.

23 Set **Type** to 'Colour B'.

24 Click **Fill !**.

This has made assignments to the next block of 8 LCD buttons.

Set Next Two Blocks of 8 BPX Buttons

25 Repeat steps in [Set Next 8 BPX Buttons](#), on page 177, with the following changed settings:

- Position the **Button Focus** at the top left panel button (row 1, button 9).
- Set **Destination** to 'V12'.
- Set **Type** to 'Colour C'.

This has made assignments to the next block of 8 BPX buttons.

26 Repeat steps in [Set Next 8 BPX Buttons](#), on page 177, with the following changed settings:

- Position the **Button Focus** at the top left panel button (row 1, button 13).
- Set **Destination** to 'V13'.
- Set **Type** to 'Colour D'.

This has made assignments to the last block of 8 BPX buttons.

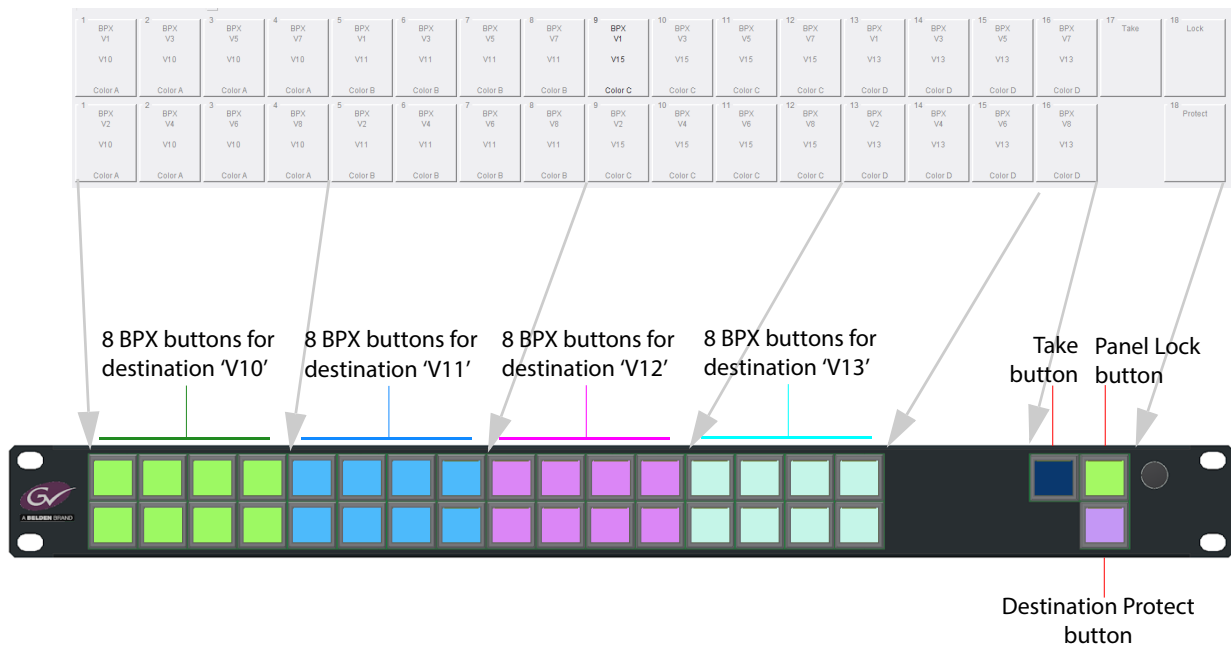


Fig. 6-10: Example 3 - BPX LCD Panel Button Mapping

Button Example 4 - BPX Panel Mode, LCD Panel

This section describes the first step in setting up buttons on the G2 Series 1U Router Control Panel.

This example implements pages of crosspoints with one destination assigned to each page.

Buttons functions need to be mapped to the buttons on the panel and crosspoints assigned.

In the **Config** template, in the 'BPX Mode' pane:

- 1 Select **Take Enable**.
- 2 Select **Undo Enable**.
- 3 Set **Routed Status Timer** to 4 seconds.
- 4 Set **Undo Timer** to 4 seconds.
- 5 In the **LCD XY-Dest/BPX Text Format** pane, select 'Medium Text'.

Mapping BPX Button Functions

Use the **BPX Mapping** template.

Map Top Row BPX Buttons

- 1 Position the **Button Focus** on the top left button of the panel button map (row 1, button 1).
- 2 Set **Button Type** to 'BPX' in the drop-down list.
- 3 Set **Number to Fill** to 12. Press **S**.
- 4 Set **Increment Type** to 'Across'.
- 5 Click **Fill !**

The first 12 buttons display with **BPX** in the button map. These are now assigned to be generic BPX buttons.

The top row BPX (crosspoint selection) buttons have been mapped.

Now proceed to the remaining top row buttons:

Map Fixed-function Buttons

- 6 Move the **Button Focus** to the 13th button in the row (row 1, button 13).
- 7 Select **Button Type** to be 'Global Text'.
- 8 Move the **Button Focus** on to the next button in the row .
- 9 Select **Button Type** to be 'Global Text'.
- 10 Move the **Button Focus** on to the next button in the row.
- 11 Select **Button Type** to be 'Global Text'.
- 12 Move the **Button Focus** on to the next button in the row.
- 13 Select **Button Type** to be 'Status'.
- 14 Move the **Button Focus** on to the next button in the row.

- 15 Select **Button Type** to be 'Take'.
- 16 Move the **Button Focus** on to the next button in the row.
- 17 Select **Button Type** to be 'Lock'.

This has configured the button functions on the top row.

Bottom Row BPX Buttons

Now continue to the bottom row of buttons:

- 18 Position the **Button Focus** on the bottom left button of the panel button map (row 2, button 1).
- 19 Set **Button Type** to 'BPX'.
- 20 Set **Number to Fill** to 12. Press **S**.
- 21 Set **Increment Type** to 'Across'.
- 22 Click **Fill !**

The first 12 buttons of row 2 display with **BPX** in the button map. These are now assigned to be buttons with a generic BPX selection function.

Now proceed to the remaining bottom row buttons.

Map Fixed-function BPX Buttons

- 23 Set **Button Focus** at the 13th button on the row (row 2, button1).
- 24 Select **Button Type** to be 'Global Text'.
- 25 Move the **Button Focus** on to the next button in the row.
- 26 Select **Button Type** to be 'Page Down'.
- 27 Move the **Button Focus** on to the next button in the row.
- 28 Select **Button Type** to be 'Page Up'.
- 29 Move the **Button Focus** on to the next button in the row.
- 30 Select **Button Type** to be 'Paging'.
- 31 Move the **Button Focus** on to the next button in the row.
- 32 Select **Button Type** to be 'Protect'.

This has configured the button functions on the bottom row.

See Figure 6-11 for a diagram of the button panel map on the template.



Fig. 6-11: Example 4 - BPX LCD Panel Button Function Mapping

Assign Source/Destination to BPX Buttons

This section continues on from [Button Example 4 - BPX Panel Mode, LCD Panel](#), on page 179, to assign source/destination ports to the **BPX** crosspoint selection buttons.

The example is set up for a 10x24 router, with 24 sources and 10 destinations.

Preliminaries

In the BPX Mapping template:

- 1 Set **Number of Pages** to '10'.
- 2 Select **Single BPX Dest per page** in the **BPX Single Destination Options** template pane.

This set up the assignment to use the same destination for each BPX button on a page. (I.e. a crosspoint page per destination.)

Assign BPX Crosspoint Pages

In the **BPX Mapping** template, to assign for page 1:

- 3 Set **Page In View** to '1'.
This shows crosspoint page 1.

In the **Button Configuration** section, to configure BPX buttons for the first page of crosspoints:

- 4 Set **Button Focus** at the first BPX button, row 1 button 1.
BPX buttons will be filled in from this point forwards, within the confines of the current page.
- 5 Set **Destination** to 'V1', the first item in the **Destination** drop-down list.
- 6 Set **Source** to 'V1', the first item in the **Source** drop-down list.

In the **AutoFill** section:

- 7 Set **Number to Fill** to '24'.
- 8 Set **Type** to 'Source(increment)'.
- 9 Click **Fill !**.

The BPX buttons in the panel button map are populated with:

- the same destination (V1); and
- an incrementing source (V1 to V24).

Crosspoint Page 2

- 10 Set **Page In View** to '2'.
- 11 Re-position **Button Focus** at row 1 button 1.
BPX buttons will be filled in from this point forwards for crosspoint page 2.
- 12 Set **Destination** to 'V2', the next item in the **Destination** drop-down list.
- 13 Set **Source** to 'V1', the first item in the **Source** drop-down list.
- 14 Click **Fill !**.

The BPX buttons for page 2 are populated with:

- the same destination (V2); and
- an incrementing source (V1 to V24).

Crosspoint Pages 3 to 10

Set the remaining pages in the following way, where N = 3, 4, 5, 6, 7, 8, 9 and 10:

15 Set **Page In View** to 'N'.

16 Re-position **Button Focus** at row 1 button 1.

BPX buttons will be filled in from this point forwards for crosspoint page 2.

17 Set **Destination** to 'VN', the next item in the **Destination** drop-down list.

18 Set **Source** to 'V1', the first item in the **Source** drop-down list.

19 Click **Fill !**.

The BPX buttons for page N are populated with:

- the same destination (VN); and
- an incrementing source (V1 to V24).

This has set up 240 crosspoint selection buttons. 10 pages of 24 buttons. Each page can select one crosspoint, i.e. it can select a source for one destination.

Buttons Example 5 - Group Panel Mode, LCD Panel

This section describes setting up buttons on the G2 Series 1U Router Control Panel in Group panel mode. Button functions need to be mapped to the buttons on the panel.

Group mode only applies to LCD panels.

Mapping Group Buttons (LCD Panel)

For this LCD panel example, use the **Config** and **XY Mapping** templates.

Preliminaries

On the **Config** template:

- 1 Set **Panel Mode** to 'Group'.
- 2 In the **Take / Undo / Redo** pane:
 - a Select XY Mode **Take Enable**.
 - b Select XY Mode **Undo Enable**.
 - c Set **Routed Status Timeout** to 4 seconds.
 - d Set **Undo Timeout** to 4 seconds.
- 3 In the Search Options pane:
 - a Select **Auto-Select Single Filtered Port**.
 - b Select **Merge sub categories**.
 - c Set **Action on Take** to 'Goto Dest Home'.
 - d Select **Show NO GROUP** enable.

Map Buttons

Map Buttons 1 to 6 in Rows 1 and 2

In the **Group Mapping** template:

- 1 Select each button function type with the corresponding drop-down selection box and set button types to those shown in Figure 6-12.

1 - 6					
1: Src HOME	2: Active Group(s)	3: Grp Pg Down	4: Group	5: Group	6: Group
1: Dest HOME	2: Back	3: Group	4: Group	5: Group	6: Group

Fig. 6-12: Map Buttons 1 to 6

Map Buttons 7 to 12 in Rows 1 and 2

- 2 Select each button function type with the corresponding drop-down selection box and set button types to those shown in Figure 6-13.

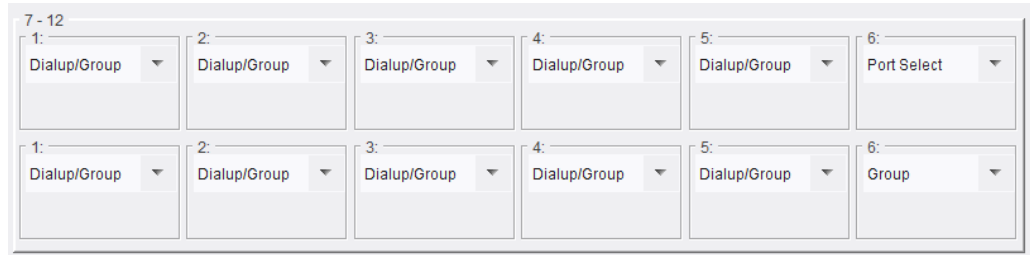


Fig. 6-13: Map Buttons 7 to 12

Map Buttons 13 to 16 in Rows 1 and 2

- 3 Select each button function type with the corresponding drop-down selection box and set button types to those shown in Figure 6-14.

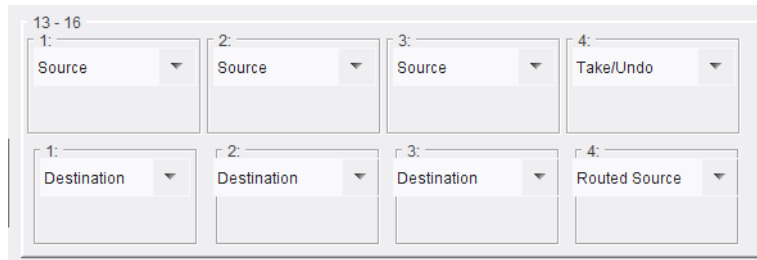


Fig. 6-14: Map Buttons 13 to 16

Map Buttons 17 to 18 in Rows 1 and 2

- 4 Select each button function type with the corresponding drop-down selection box and set button types to those shown in Figure 6-15.

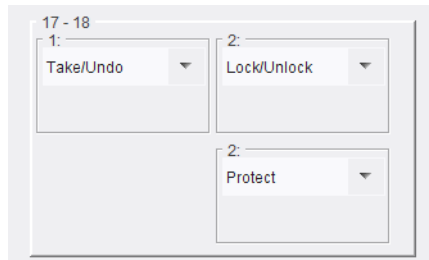


Fig. 6-15: Map Buttons 17 to 18

Resulting Mapped Buttons

The resulting button function mapping in this example is shown in Figure 6-7. The RollCall template's button map is shown and also the final appearance of the buttons on the control panel itself once configuration is complete (button colors may be configured separately).

Group Mapping template's Panel Button Map

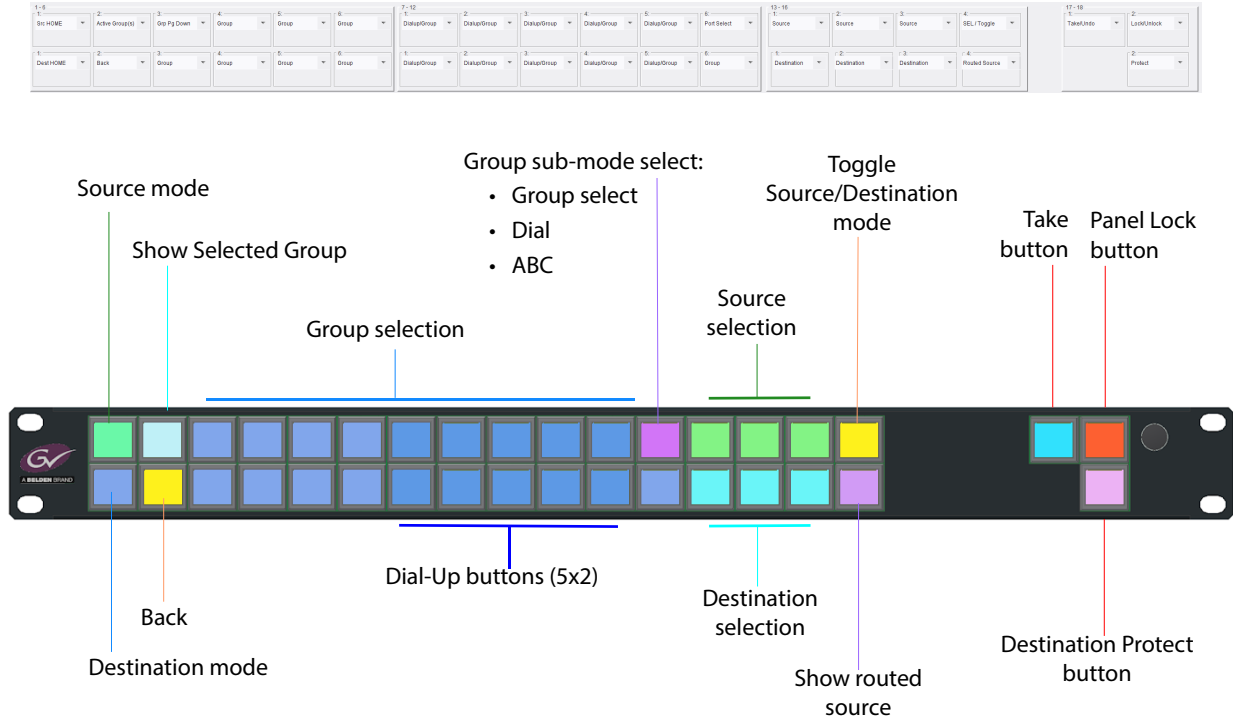


Fig. 6-16: Example 5 - Group Mode LCD Panel Button Mapping

Note: If more **Source Selection** or **Destination Selection** buttons are required, they can be added by reducing the number of **Group Selection** buttons.

Note: Some **Group Selection** buttons have a dual-function: They can be dial-up buttons in Group **Dial-up** sub-mode. There needs to be ten **Dial-up** buttons (for numeric digits '0' to '9').

How To Save and Restore Panel Configurations

At any time the current configuration of the control panel may be saved/restored. This is useful if a number of configurations are required for different tasks, or for copying a configuration to one or more other panels.

Save a Panel Configuration

At any time, the current configuration of the G2 Series 1U Router Control Panel may be saved with the RollCall Control Panel application. This is useful if a number of user configurations are required for different tasks, or for copying a configuration to one or more other G2 Series 1U Router Control Panels.

To save the current panel configuration:

- 1 Connect RollCall Control Panel to the G2 Series 1U Router Control Panel.
- 2 Right-click on the router control panel's unit name and click **Save** in the pop-up menu. See Figure 6-17.

A **Backup for** dialog is shown, see Figure 6-18.

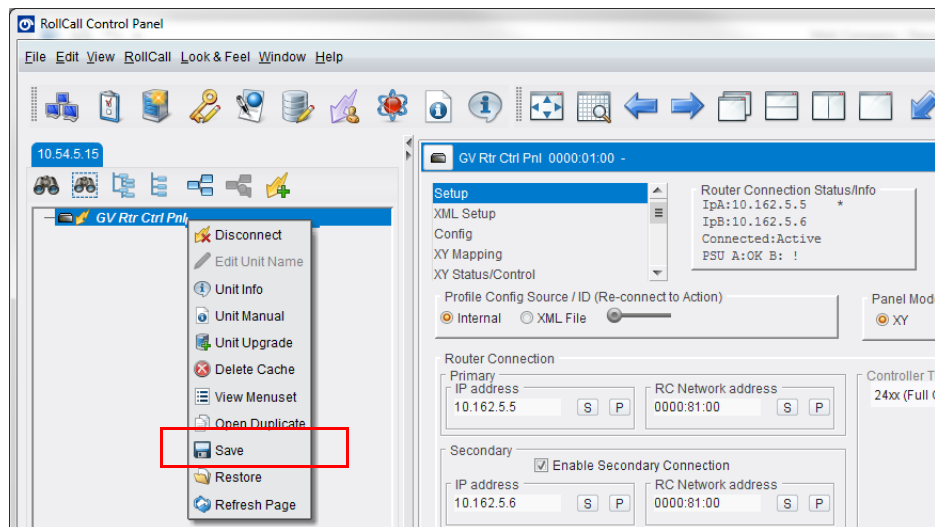


Fig. 6-17: Right-Click Pop-up Menu - Save

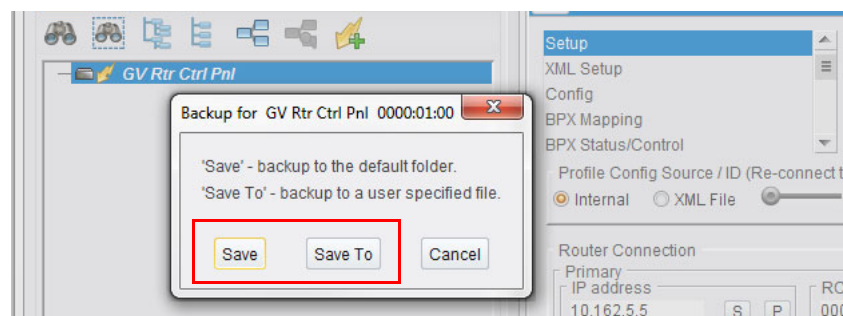


Fig. 6-18: 'Backup for' Dialog (Save)

- 3 Either:
 - click **Save** to store the configuration in the default folder; or
 - click **Save To** to save to another folder.
- 4 Browse to where to save the configuration.

If a saved configuration already exists with the same name in the selected folder, a dialog box is shown, asking if the file can be overwritten.

Click **Save**. Saving begins.

Note: When connected directly to a panel and when not using an IP proxy, use **Save To**. Because this allows unique filenames to be created, rather than overwriting the default filename each time.

Note: When multi-page configurations are saved, the panel cycles through the pages as each is saved in turn.

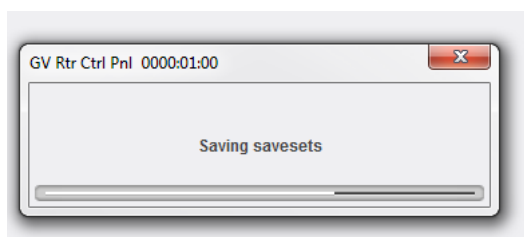


Fig. 6-19: Saving

- 5 Click **OK** when saving is complete.

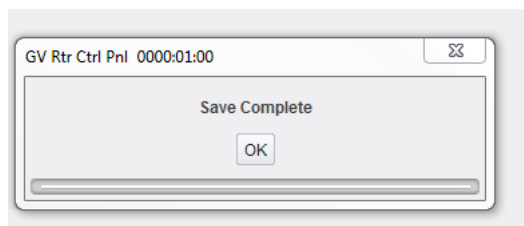


Fig. 6-20: Save Complete

Restore a Panel Configuration

A previously saved configuration can be restored to a control panel. For example, if different configurations are used for different tasks, or in the event of a failure, a new control panel can be set up to use the same configuration.

To restore a configuration to the G2 Series 1U Router Control Panel:

- 1 Connect RollCall Control Panel to the G2 Series 1U Router Control Panel.
- 2 Right-click on the router control panel's unit name and click **Restore** in the pop-up menu. See Figure 6-21.

A **Restore Setup for** dialog is shown, see Figure 6-22.

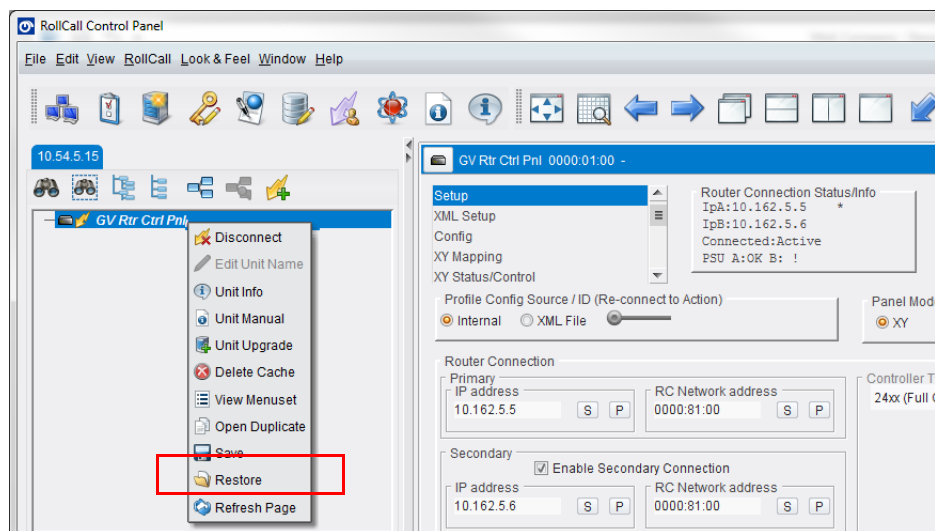


Fig. 6-21: Right-Click Pop-up Menu - Restore

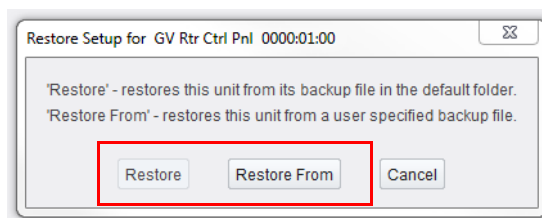


Fig. 6-22: 'Restore Setup for' Dialog

- 3 Either:
 - click **Restore** to update the control panel with the configuration stored in the default folder; or
 - Click **Restore From** to bring in a restore file from another folder.
- 4 Browse to and select the saved configuration file to be restored and click **Restore**.
- 5 A further dialog is shown, see Figure 6-23.

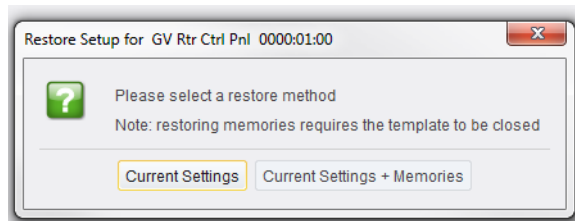


Fig. 6-23: Restore Method Dialog

- 6 Click **Current Settings**. The restore begins.

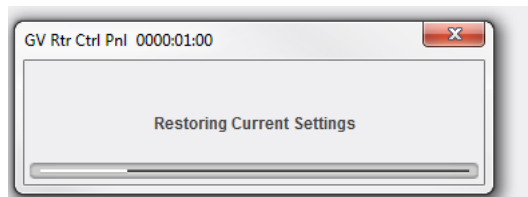


Fig. 6-24: Restoring

Note: The restore can take several minutes. The control panel cannot be used while the restore is in progress.

Note: When multi-page configurations are restored, the panel cycles through the pages as each is restored in turn.

- 7 Click **OK** when restoring is complete.

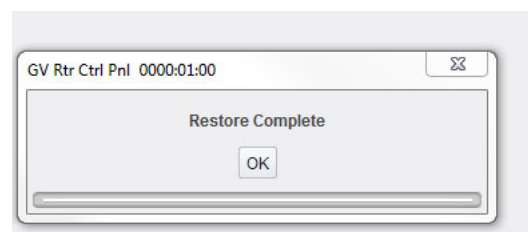


Fig. 6-25: Restore Complete

How To Re-Assign a Button

Buttons can have their function changed or be set to 'Unassigned' at any time. Use the **Mapping** template which corresponds to the panel mode used. This applies to LCD buttons on LCD panels, or to LED buttons on LED panels.

To re-assign a button:

- 1 Set the **Button Focus** at the button in question.
- 2 Select a new button function for the button:
See [Button Function Type \(XY\)](#) on page 81;
or see [Button Function Type \(BPX\)](#), on page 111;
or see [Button Function Type \(Group\)](#), on page 124.

This has re-assigned the button function on the G2 Series 1U Router Control Panel unit.

For destination, source or crosspoint selection buttons, the buttons need to be configured; this includes assigning respective destination, source, or crosspoint (destination and source):

- 3 To configure the selection buttons:
See [Source and Destination Page Configuration](#), on page 83 (XY panel mode); and
see [Crosspoint Button Configuration](#), on page 109, for BPX panel mode.

How To Add a Status Button

Assign Button

Determine the button position on the panel for a **Status** button.

Use the **Mapping** template which corresponds to the panel mode used.

To assign a button:

- 1 Set the **Button Focus** at the button in question.
- 2 Select 'State' for the button function. See [Button Function](#) on page 78.

This has re-assigned the button on the G2 Series 1U Router Control Panel unit to be a **Status** button, which will indicate the routing status when a route is made.

How To Add Text to an Unused Source or Destination Button

(LCD panel only.)

Source or Destination selection buttons on an LCD panel that remain unused can have text displayed on the otherwise-blank button.

Such unused buttons may result from:

- gaps left when using the **Fill 1:1** function; or
- the end of the allocated source or destination ports.

Note: To change the background button color, edit the 'Text Buttons' color on the **LED Colors XY** template. (See [LED Colors XY Template](#), on page 147.)

To add text to an 'Unused' button:

- 1 Open the **XY Mapping** template.
- 2 Set the **Button Focus** to a button displaying 'Unused' in the panel button map.
- 3 In the corresponding **Source** or **Destination Page Configuration** pane, type text into the **Unused Button Text** field and press **S** or the Enter key,
Alternatively, click **Copy Page Name** to add the current page name to the unused button. Text may be also then be added. Press **S**.

Note: If the page has not been named, the page number is added.

The unused source/destination button now displays the required text.

How To Set Up a Panel Salvo

A panel salvo is first created and defined on the RollCall **Panel Salvos** template. It is then assigned to a destination selection button in the **XY Mapping** template. Finally, the panel salvo can be 'taken' on the control panel in a similar way to making a route. The procedure is the same for an LCD panel and an LED panel.

Create and Define a Panel Salvo

This is an XY mode example.

On the **Panel Salvos** template:

- 1 Select an unused panel salvo with the **Salvo Index** control.
- 2 Enter a **Displayed Name** for the salvo (to be displayed on the panel LCD button).

With the panel salvo still selected by the **Salvo Index**, define the routes to be made:

- 3 For each route to be made by the panel salvo:
 - Select the Destination and the Source in template boxes 'XY:1' to 'XY:N', where N is the number of routes to be made by the salvo.

For example, a salvo may be required to route the following:

Source	to	Destination
1		5
2		6
3		7
4		8

An example defined Panel Salvo is shown in Figure 6-26.

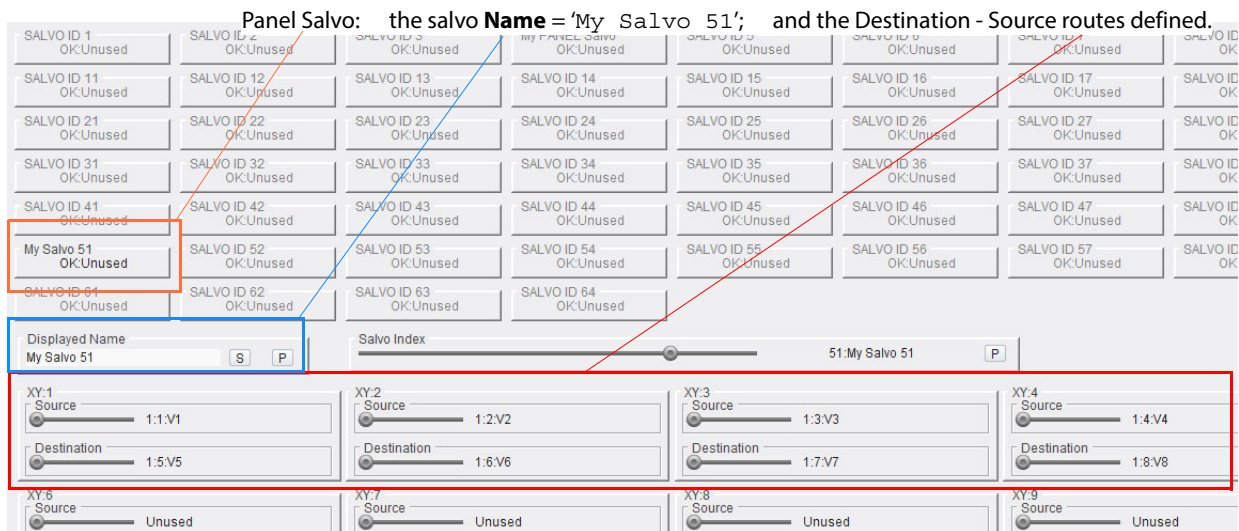


Fig. 6-26: Defined Panel Salvo (on the Panel Salvos Template)

A panel salvo has been defined on the **Panel Salvos** template.

Assign Salvo to a Button

Destination Selection buttons can alternatively have panel salvos assigned to them, instead of destinations. (An 'Unused' **Destination Selection** button is ideal and these may often be found on the last page of destinations.)

On the **XY Mapping** template:

- 1 Set the **Button Focus** at a **Destination Selection** button (ideally unused).
- 2 Select 'Panel Salvos' in the **Destination Page Configuration** pane.

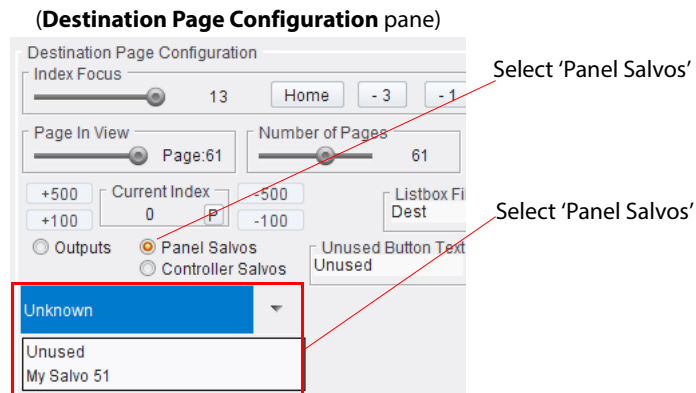


Fig. 6-27: Panel Salvo Selection (in Destination Page Configuration Pane)

- 3 In the drop-down list box (see [Destination Assignment](#): on page 89), select the panel salvo required.

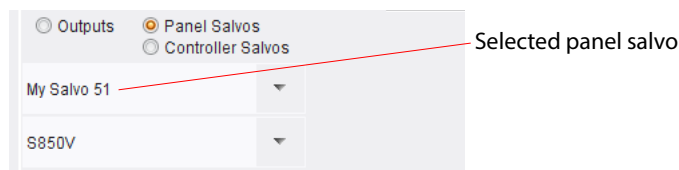


Fig. 6-28: Panel Salvo Selection (in Destination Page Configuration Pane)

The **Destination Selection** button is now assigned to the panel salvo and displays the name of the panel salvo.

Take Salvo

To make the routes defined in the panel salvo, on the G2 Series 1U Router Control Panel:

- 1 Use destination page selection controls to view the newly-assign panel salvo button.
- 2 Press the panel salvo button.

If **Take** is not enabled, then the routes will be made.

If **Take** has been enabled, then the **Take** button illuminates to indicate the route(s) will be made upon pressing **Take**.

- 3 Press **Take** to make the routes.

The panel salvo has been taken.

7 Operation

This chapter describes operational aspects of the G2 Series 1U Router Control Panel.

Note: The control panels may also be operated remotely using the corresponding XY or BPX Status/Control RollCall templates.

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Panel Layouts

The functionality of the main control panel buttons are similar for both LCD and LED panels. The push button controls can be configured in any arrangement. Typically, there are groups of buttons:

- **Source selection** - for example, a row of 12 buttons.
- **Destination selection** - for example, a row of 12 buttons.
- **Fixed functions** - including 'Take', 'Panel lock', and 'Destination protect'.

And typically on LCD panels:

- **Source page selection** - where page size is determined by the number of source selection buttons.
- **Destination page selection** - where page size is determined by the number of destination selection buttons.

Only on LCD panels:

- **Rotary control.**

Figure 7-1 shows an example button arrangement for an LCD panel and Figure 7-2 shows an example for an LED panel.

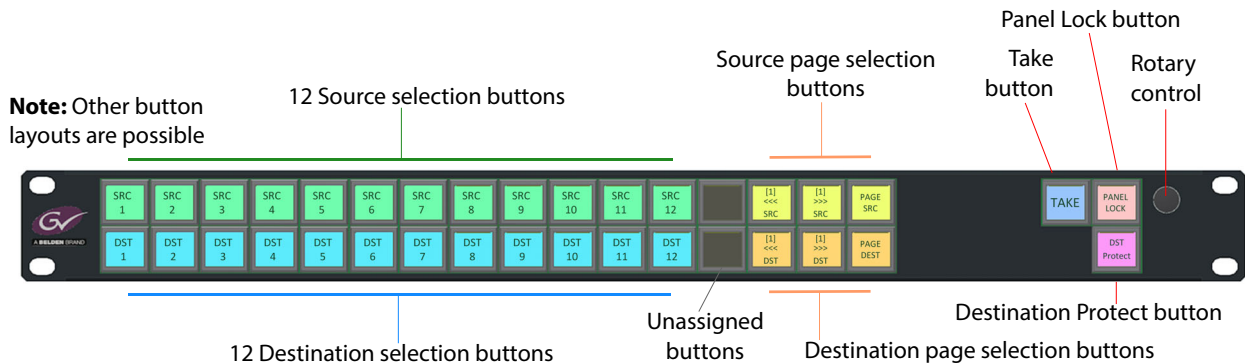


Fig. 7-1: Example LCD Router Control Panel Button Arrangement

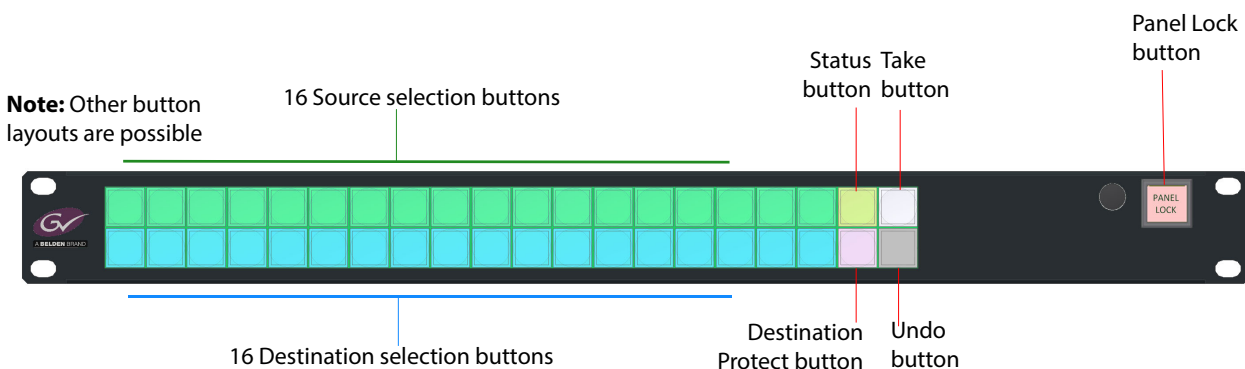


Fig. 7-2: Example LED Router Control Panel Button Arrangement

Note: If either, or both, of the 'Take' and 'Protect' buttons are not enabled in the RollCall **Config** template, then they will not appear.

Panel Controls

Rotary Control

(LCD panel Only.)

The rotary control switch can perform the following actions:









- Rotate the knob to navigate source or destination pages ('page up' and 'page down').
- Press the knob to toggle between source pages and destination pages.

Fixed Function Buttons






Take, Lock, Protect:

The following button function descriptions contain images of the buttons in their default button colors. If buttons have been customized, the colors and text may be different, but the functionality remains the same.

Tab. 7-1: Fixed Function Buttons

Panel (Default colors)		Description
LCD	LED	
		Take unavailable - Indicates that the Take button has been enabled, but that there are no pre-selected routes.
		Take available - The Take button changes color to indicate that a route has been pre-selected, and that a 'Take' operation must be performed to confirm the route.
		Lock - Press Lock to lock the panel and prevent any accidental button presses on the panel. (With the panel locked, it must first be unlocked before other buttons can be operated and changes to routes made.)
		Unlock - This button indicates that the panel is locked and pressing other buttons results in no action - although buttons may still light up. Press Locked to unlock the panel in order to set or change routes.







Tab. 7-1: Fixed Function Buttons (continued)

Panel (Default colors)		Description
LCD	LED	
		<p>Protect - Press Protect to protect a selected destination. This protects the route to a destination - the route cannot be changed without first 'un-protecting' the destination.</p> <p>Note: A protected destination displays a padlock symbol  on the destination selection button (LCD panel only).</p>
		<p>Protect Ext N Local or Protect Ext N Remote - This button indicates that the selected destination is protected. The control panel or device responsible for protecting the destination is indicated. For example:</p> <ul style="list-style-type: none"> • Ext 1 Local - protected from current panel. • Ext 15 Remote - protected from another (remote) panel. <p>Destinations may only be unprotected from the protecting panel/device (unless the local panel is a master panel).</p> <p>If the local panel is protecting the destination, press the button to 'unprotect' the destination. Otherwise seek the protecting panel and 'unprotect' from there.</p>











Source / Destination Selection Buttons

These buttons are those mapped with sources and/or destinations, depending on the panel mode, and the way the panel has been configured.

Tab. 7-2: Source/Destination Selection Buttons




Panel (Default colors)		Description
LCD	LED	
		Source - A source port (router input) in XY panel mode.
		Destination - A destination port (router output) in XY panel mode.
		Unselected Crosspoint - In BPX panel mode, a route in default color scheme A, not yet taken.

Tab. 7-2: Source/Destination Selection Buttons (continued)









Panel (Default colors)		Description
LCD	LED	
		Currently-Routed Source - The source currently routed to the selected destination.
		Pre-Selected Source - A source has been pre-selected for making a route to a destination. (Take, or Gang Take Mode enabled.)
		Selected Destination - A destination has been selected in preparation for setting a route.
		Protected Destination - A protected destination has been selected in preparation for setting a route.
		Selected Protected Destination - A protected destination has been selected in preparation for setting a route.

Other Buttons

Tab. 7-3: Other Buttons

Panel (Default colors)		Description
LCD	LED	
		Unlit - Button is not configured, or button function is not available in the current state of the panel.
	N/A	Text Button - An unused button that has free text added to it for information only.

Tab. 7-3: Other Buttons (continued)





Panel (Default colors)		Description
LCD	LED	
		Status - Button function not available at the current state of the panel. (The status display appears when a route is made and times out after a while, according to the 'Routed Status Timeout' value.)
		Route OK - The route just made was OK.
		Route failed - The route just attempted did not complete. (This might be for a variety of reasons, for example, if the route involved using a tie-line, one may not have been available.)
		Protected - The route selected uses a protected destination.

Page Navigation Buttons





LCD Panel

Page navigation buttons provide the means to quickly access sources or destinations sequentially, or, more directly, sources and destinations that have been grouped together onto defined pages. On an LCD panel, page navigation is augmented by the button-face text and button illumination color.

Tab. 7-4: Page Navigation Buttons (LCD Panel)

LCD Panel (Default colors)		Description
Unselected	Selected	
		Page Change or Page Up/Down - This is either: <ul style="list-style-type: none"> a single button - for displaying the next sequential block (page) of sources or destinations, or two buttons - setup to be 'Page Up' / 'Page Down' pair, giving forward and backward access to source or destination pages.
		Page Selection - Press to display individual Page Buttons, allowing for direct selection of a page of sources or destinations.

Tab. 7-4: Page Navigation Buttons (LCD Panel) (continued)

LCD Panel (Default colors)		Description
Unselected	Selected	
		Page Button - Pressing one of these buttons displays the sources or destinations setup on this page.
		Next Page or Previous Page - After Page Selection is pressed, if there are more pages than can fit on the panel, Next Page / Previous Page are used to navigate to next or previous 'pages of pages'.

Note: Navigation through pages, and sources /destinations can also be done using the rotary control.

LED panel

Page navigation buttons may be placed onto an LED panel, but identifying what page is being shown needs thought.

Page selection buttons provide the means to quickly access sources or destinations that have been grouped together onto defined pages.

XY Panel Operation

Note: Ensure the control panel is not locked before operating the panel. Press the **Panel Lock/Unlock** button to toggle between 'Locked' and 'Unlocked' panel states.

XY Panel Page Navigation (LCD panel)

Using the Rotary Control

The easiest way to use the panel when only a small number of pages are configured is with the rotary control switch. The rotary control can be rotated in either direction, and pressed to toggle its function, toggling between navigating a list of source ports or destination ports. An advantage of using the rotary control is that no 'page up' nor 'page down' buttons are needed; therefore more buttons are available for sources and destinations:

- Press a **Page Selection** button. Pressing the **Page Selection** button again will toggle between 'pages' and 'source/destinations' for the rotary control. (These button presses determine what the rotary control will navigate through: 'pages,' or 'sources/destinations'.)
- Rotate the rotary control clockwise to advance through pages of 'sources/destinations' or 'pages'.
- Rotate the rotary control counter-clockwise to move backwards through the items.
- Press the rotary control to toggle between navigating source and destination items.

Navigating to Sources/Destinations

To navigate sequentially through pages of sources and destinations:

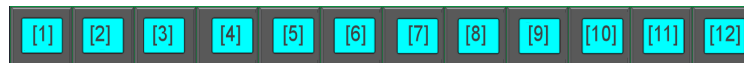
- Use the **Page Up** and **Page Down** buttons.

Navigating to Pages

Source page and destination page navigation is done in a similar way. To navigate directly to a destination page:

- 1 Press the **Destination Page Selection** button.

Each **Destination Selection** button displays a page number. For example, [1]...[12]:



Note: Pages can be named to assist in the grouping together of sources or destinations.

- 2 Use the **Page Up** and **Page Down** buttons to view the next sequential block of pages. For example, [13].....[24]. Navigate to the required page.
- 3 Press the relevant Page button (for example '[13]').

All the destinations on that page are then shown on the buttons.
(Then select a destination by pressing the Destination Selection button.)

Note: Page navigation buttons only display on the panel if they have been configured when setting up the panel.

XY Panel Page Navigation (LED panel)

Page navigation on an LED panel may be done in a similar way to page navigation on an LCD panel. However, there is no easy means of knowing which page (of sources/destinations/crosspoints) is being shown.

Note: In BPX mode, color may be used to distinguish some BPX buttons (there are four color schemes: A, B, C, and D.)

Note: Panel salvo buttons have a different color and are thus distinguishable.

Make a Route - XY

This example uses an LCD panel and routes a pre-selected source signal to a destination using a Take button (setting a route on an LED panel is the same):

- 1 Press a **Destination Selection** button to select that destination.

Note: When a destination is selected, the source currently routed to that destination will be highlighted on the Source Selection buttons either:

- if the source is on the currently-shown source page; or
- if the panel has been configured to always show the currently routed source.

(Enable **Goto Routed Source Page on Destination Select** on the RollCall XY Mapping template.)

- 2 If the required new source is not visible, use source **Page Up** or **Page Down** controls to view the source page.

- 3 Press the required new **Source Selection** button to pre-select a source to be routed.

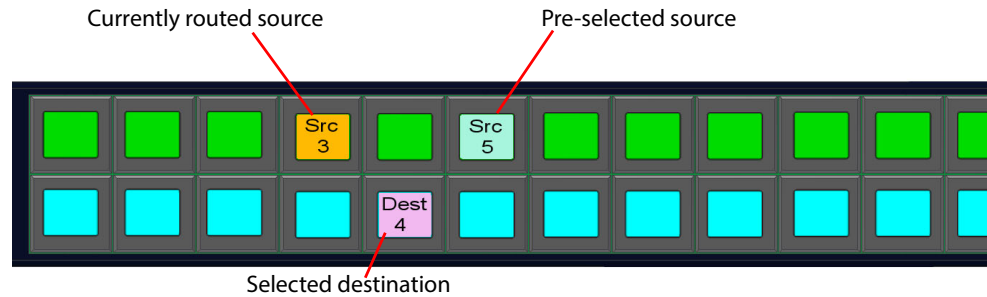


Fig. 7-3: Make a Route (LCD panel shown)

A destination has been selected and a new source pre-selected.

Note: Pressing the current Destination button a second time now deselects the destination and returns the panel the previous state without setting a route.

- 4 Press the **Take** button to make the route.

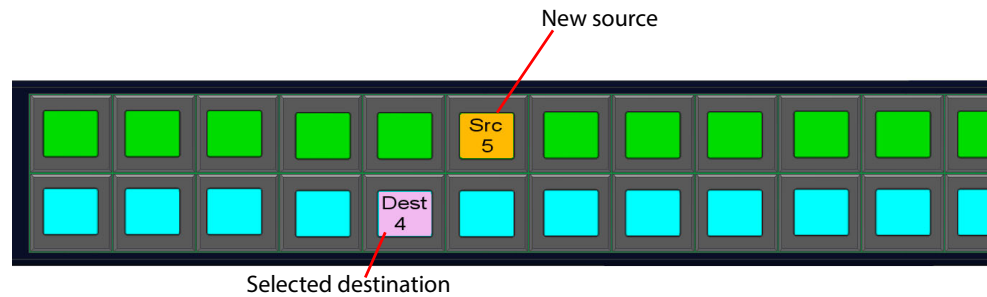


Fig. 7-4: Route Made (LCD panel shown)

Note: If the **Take** button has NOT been enabled on the panel, then the route is automatically made upon pre-selection of the source.

Note: If the **Take** button is enabled, the source will be indicated, and may flash if this option has been set in the **Config** template.

The route is made.

Change a Route - XY

- 1 Select a destination button.

The current route is indicated by highlighting the currently routed source. (If the source is not automatically shown, manually navigate to the source. Or, preferred, configure the panel with **Goto Routed Source Page on Destination Select** enabled on the RollCall XY Mapping template.)

- 2 If the destination has been protected, then unprotect the destination before pre-selecting a new source.
(See [Protect a Destination - XY](#), on page 206.)
 - 3 Press a source button to pre-select a new source.
 - 4 If the **Take** button is enabled on the panel, press the **Take** button to make the changed route.
- The routed has been changed.

Gang Take - XY

Note: Ensure that **Gang Take Mode** has been set to 'Active' in the RollCall Config template.

Gang Take is used to route a single source to a number of destinations. LCD panel and LED panel have similar **Gang Take** procedures.

The normal route-making button press sequence is:

- a) select Destination; and then
- b) select Source; and then
- c) Take.

The **Gang Take** sequence, however, is different; it is:

- a) select Source; then
- b) select Destinations; and then
- c) Take.

This example assumes that a panel has been configured with a Take button.

A panel is normally operated in the normal route-making mode. **Gang Take** mode may be entered from the 'neutral' panel state, where no sources nor destinations are selected. See Figure 7-5.



Fig. 7-5: Panel in 'Neutral' State (LCD panel shown)

To get into a 'neutral' panel state:

- To deselect a destination, press the selected destination to deselect it.
- To deselect source, press the selected source to deselect it.

From the 'neutral' panel state:

- 1 Select a source.

Note: Pressing the current Source button, or pressing **Source Page Up** or **Source Page Down** buttons exits **Gang Take** mode.

- 2 Select as many destinations as required. A selected destination flashes.
(If the required destinations are not on the current page use the **Destination Page Up** and **Page Down** to navigate to the right pages, and select the destinations.)



Fig. 7-6: Gang Take Selected Destinations (LCD panel shown)

Note: Any existing destinations fed by the selected source will be highlighted in the panel.

Note: If the **Take** button has not been enabled, then routes are automatically made upon selection of the destinations.

- 3 Press the **Take** button to make all the new routes.
All the new routes are made.

Protect a Destination - XY

Protect

To protect a destination:


- 1 Select the destination.

If the destination is already protected:

- the destination button color indicates that the destination is protected; and
- the **Protect** button color indicates that the destination is protected (and on an LCD panel will show the device ID of the panel/device that has protected that destination).

- 2 If the destination is not already protected, then to protect the destination press the **Protect** button.

The destination button changes color (and, on an LCD panel, it displays a padlock

symbol ).

Any text on the **Protect** button will show the device ID of the panel/device that has protected that destination. In this case, it would be the local panel.

Unprotect

Protected destinations can only be unprotected by:

- the panel that protected the destination; or
- a master panel.

To unprotect a destination:

- 1 Select the destination.
- 2 If the destination is protected by the local panel, or if the local panel is a master panel, then press the **Protect** button.

The destination button changes color (and on an LCD panel, any padlock symbol disappears).

BPX Mode Panel Operation

Note: Ensure the control panel is not locked before operating the panel. Press the **Panel Lock/Unlock** button to toggle between 'Locked' and 'Unlocked' panel states.

BPX Panel Page Navigation (LCD panel)

On a BPX panel, a crosspoint is selected with a button. This selects both a destination and a source. (Compare to an XY panel, where a destination and a source are selected with separate button presses.)

Using the Rotary Control

The easiest way to use the panel when only a small number of crosspoint pages are configured is with the rotary control switch. The rotary control can be rotated in either direction to navigate between pages of crosspoints. An advantage of using the rotary control is that fewer page selection buttons are needed; therefore more buttons are available for crosspoint selection.

Note: Defining a **Page Text** button on the panel can help to identify each page.

Navigating to Crosspoints

To navigate sequentially through pages of crosspoints (destinations and sources):

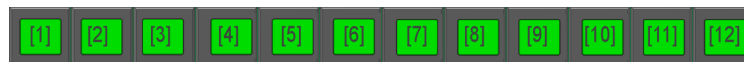
- Use the **Page Up** and **Page Down** buttons.

Navigating to Pages

Crosspoint page navigation is done in a similar way. To navigate directly to a page:

- 1 Press the **Page Selection** button.

Each **BPX** (Crosspoint Selection) button displays a page number. For example, [1]...[12]:



- 2 Use the **Page Up** and **Page Down** buttons to view the next sequential block of pages. For example, [13]....[24]. Navigate to the required page.
- 3 Press the relevant page selection button (for example '[13]'),. All the crosspoints on that selected page are then shown on the buttons. (Then select the crosspoint by pressing the BPX button.)

Note: Page navigation buttons only display on the panel if they have been configured when setting up the panel.

Make a Route - BPX

This example uses an LCD panel and routes a source signal to a destination using a Take button. (LED panel operation is similar.)

- 1 Press a **BPX** button to select a crosspoint (i.e. a destination and a source).
The pre-selected crosspoint button is highlighted.

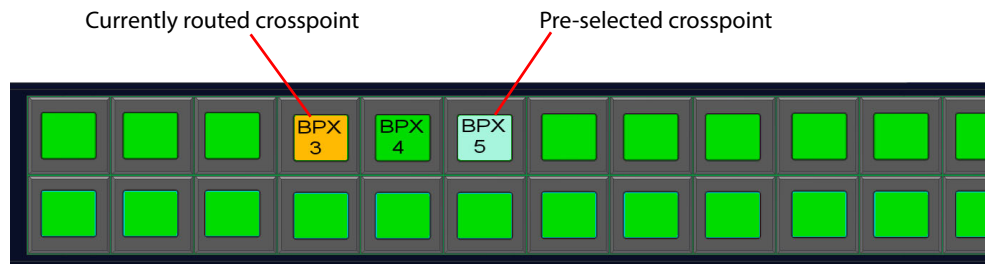


Fig. 7-7: Make a Route

Note: Pressing the currently routed crosspoint button, at this point, deselects the pre-selected crosspoint and returns the panel the previous state without setting a route.

- 2 Press the **Take** button to make the route.

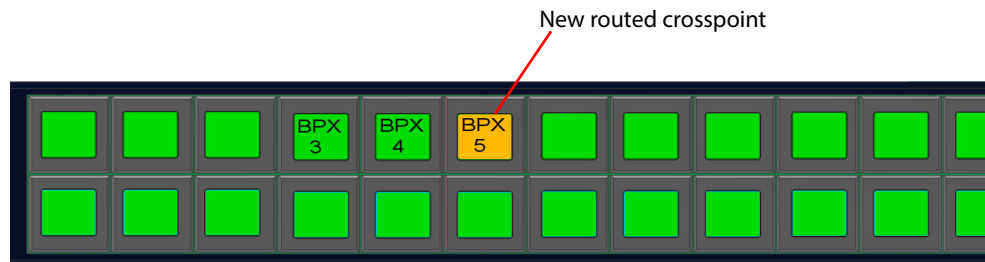


Fig. 7-8: Route Made

Note: If the **Take** button has NOT been enabled on the panel, then the route is automatically made upon pre-selection of the crosspoint.

Note: If the **Take** button is configured with an Undo function, then the route is made upon press **Take**, but the button's highlight color only changes after the **Undo** has timed out.

The route is made.

Change a Route - BPX

- 1 Select a BPX crosspoint button.
The button is highlighted, indicating that a crosspoint has been pre-selected.
(If a destination is protected, then all the corresponding crosspoint buttons indicate this - default color is red. Unprotect the destination before pre-selecting a new crosspoint. See [Protect a Destination - XY](#), on page 206.)
- 2 If routes to further destinations are required, then select further crosspoints.
(To make many routes at once, like a 'Gang Take' in XY panel mode.)
- 3 If the **Take** button is enabled on the panel,
press the **Take** button to make the changed route(s).
(Otherwise, routes are made as crosspoints are pre-selected.)


The routing has been made.

Gang Take - BPX

There is no 'Gang Take' mode as such for the BPX panel.
To make routes to more than one destination, simply make a route as described above but select as many crosspoints as required *before* pressing **Take**. Pressing **Take** will then make all selected crosspoint routes.

Note: If the **Take** button has not been enabled, then crosspoint routes are automatically made upon selection.

Protect a Destination - BPX

Note: If a destination is already protected, then all corresponding BPX buttons displays a padlock symbol .

To protect a destination:

- 1 Press the **Protect** button.

It shows red.

- 2 Select a crosspoint by pressing a **BPX** button.

The corresponding destination is then protected and all corresponding BPX buttons (for that destination) show a padlock symbol .

No route change takes place.

The destination has been protected.


Unprotect a Destination - BPX

Protected destinations can only be unprotected by:

- the control panel that protected the destination; or
- a master control panel.

To unprotect a destination:

- 1 Press the **Protect** button.

- 2 Select any **BPX** button for the destination to be unprotected (all those **BPX** buttons will be showing a padlock symbol, .

- 3 If the destination is protected by the local panel or if the local panel has master panel capability, then:

- the destination becomes unprotected; and
- any padlock symbol disappears from all corresponding **BPX** buttons.

No route change takes place.

The destination is unprotected.

- 4 However, if the destination is protected by *another* panel or device, then the **Protect** button:

- flashes red; and
- shows the device ID of the panel/device which is protecting the destination.

No route change takes place and the destination remains protected.

Group Mode Panel Operation

Group mode operation applies to an LCD panel only. The following sub-modes are possible within Group panel mode:

- Dial
- ABC
- Custom Group

Note: Ensure the control panel is not locked before operating the panel. Press the **Panel Lock/Unlock** button to toggle between 'Locked' and 'Unlocked' panel states.

Group Mode - Source/Destination Page Navigation

Using the Rotary Control

The rotary control can be rotated in either direction, and pressed.

- Pressing toggles its function between navigating a list of source ports or a list of destination ports.
- Rotating the control navigates pages of source or destination ports. (The ports present in a filtered-down category/sub-category of ports. (custom groups)

An advantage of using the rotary control is that no 'page up' nor 'page down' buttons are needed; therefore more buttons are available for other panel functions.

Group Mode Button Example

This example uses an LCD panel and the panel configuration described in [Buttons Example 5 - Group Panel Mode, LCD Panel](#), on page 183, and a specimen downloaded XML file which contains user-defined categories of sources and destinations (custom groups).

The button layout of this example is shown and described in [Buttons Example 5 - Group Panel Mode, LCD Panel](#), on page 183, and is reproduced below in Figure 7-9.

The custom groups of this example include the hierarchy of categories and sub-categories shown in Figure 7-10.

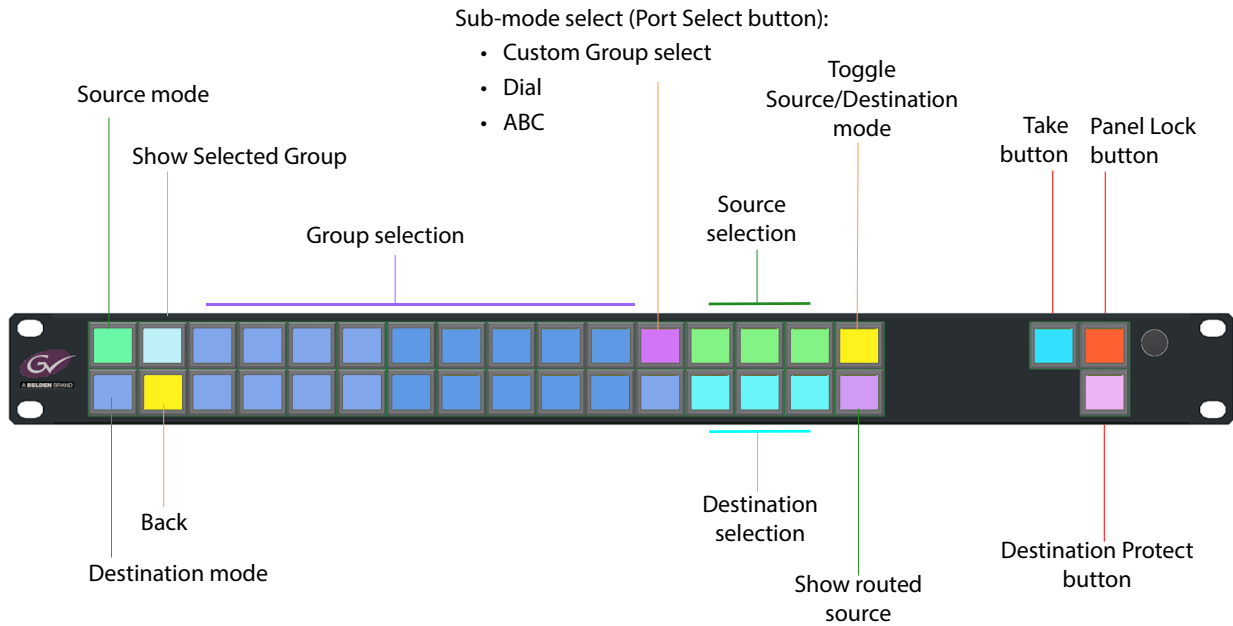
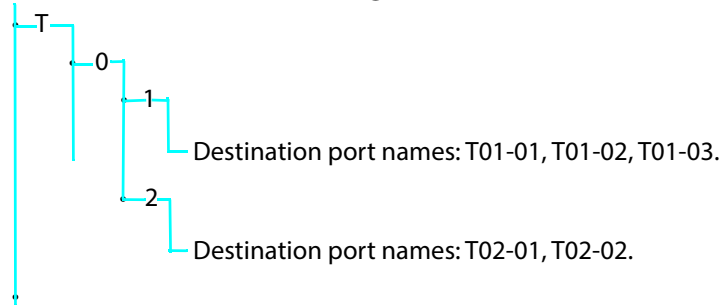


Fig. 7-9: Button Map Used

• a) User-defined **Destination** categories:



• b) User-defined **Source** categories

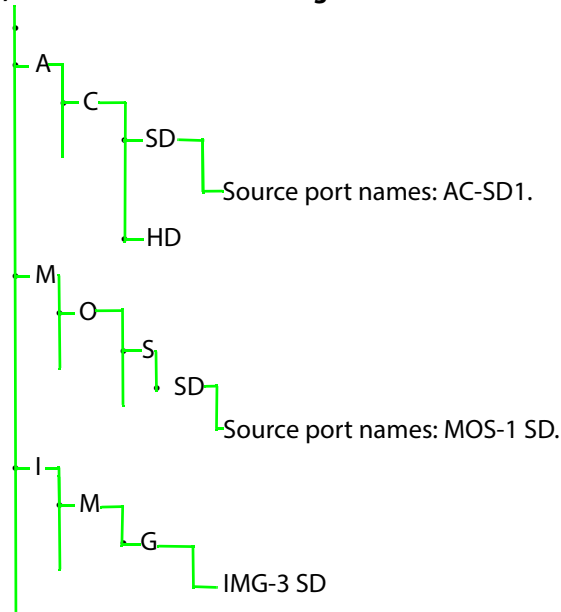


Fig. 7-10: Extract from Example User-defined Hierarchical Lists of:
a) Destinations.
b) Sources.

Each is described below. The following sources and destinations are used:

Tab. 7-5: Sources and Destinations Used

Sources		Destinations	
Name	Port Number	Name	Port Number
MOS-1 SD	189	T01-04	4
AC-SD1	192	T02-01	16
IMG-3 SD	193	T02-02	17

Group Mode - Make a Route

In this example, a pre-selected source signal is routed to a destination using a Take button.

There are three ways of selecting sources/destinations in panel 'Group' mode. These correspond to Group sub-modes:

- **Custom Group** - see [Making a Route - Custom Group Sub-mode](#), on page 215.
- **Dial-Up** - see [Making a Route - Group Dial Sub-mode](#), on page 219.
- **ABC** - see [Making a Route - ABC Sub-mode](#), on page 220.

Making a Route - Custom Group Sub-mode

Select a Destination

- 1 Press **Dest Home** to enter destination selection mode on the panel.
- 2 Press the **Port Select** button to select 'Group' sub-mode, "GRP".

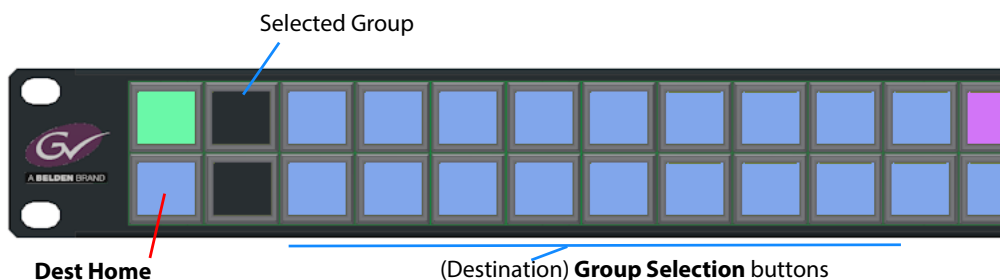


Fig. 7-11: Dest Home and Destination Group Selection Buttons

- 3 Use the Group Selection buttons to filter the list of destination ports down to the required destination.

For example, to filter down to sub-category 'T 1':

- Press group selection button 'T'.
The **Selected Group** button shows 'T'.
- Press group selection button 'T0'.
The **Selected Group** button shows 'T0'.
- Press group selection button 'T01'.
The **Selected Group** button shows 'T01'.

This has filtered the user-defined hierarchical list and reduced the list of destinations. The resulting possible destinations are shown on the **Destination Selection** buttons.

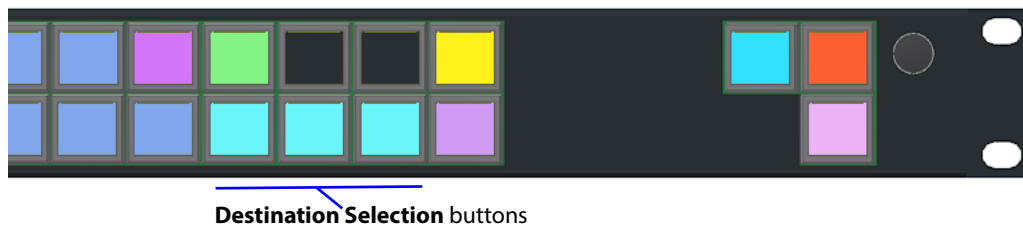


Fig. 7-12: Destination Selection Buttons

-
- Note: If there are more filtered list items than selection buttons, then the filtered list may be navigated:
One **Destination Selection** button automatically converts to being a 'Paging' button.
- Use the button to navigate to pages of destinations. (The button is labeled 'DEST PAGE N : M', where N is the page number and M is the total number of pages.)
 - The rotary control can be used to navigate through pages. Rotate the button clockwise or counter-clockwise.
-

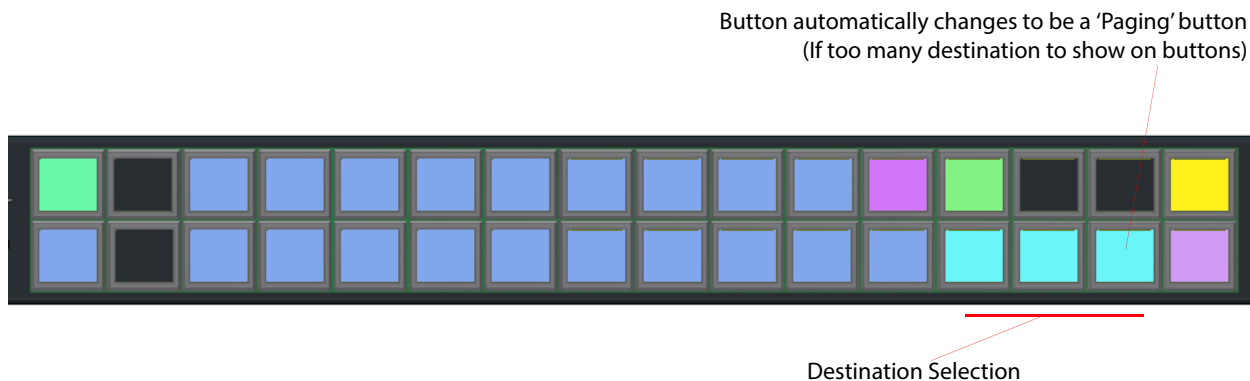


Fig. 7-13: Destination Selection and Paging

- 4 Navigate to the required destination. Press the **Destination Selection** button to select the destination.
For example, select destination 'T01-02'.

The destination has been selected.

To see which source is currently routed to the selected destination:

- 5 View the **Routed Source** button. It indicates the routed source.

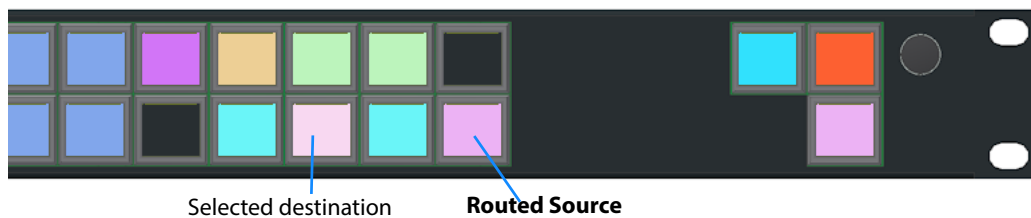


Fig. 7-14: Routed Source

Pre-Select a Source

- 6 Press **Src Home** to enter source selection mode on the panel.
- 7 Press the **Port Select** button to select 'Group' sub-mode, "GRP".
The group selection buttons now convert to be source group selection buttons.

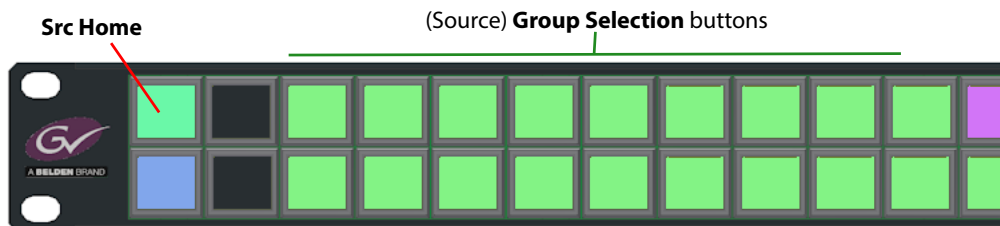


Fig. 7-15: Src Home and Source Group Selection Buttons

- 8 Use the source **Group Selection** buttons to filter the list of source ports down to the required source.
For example, to filter down to sub-category 'A C':
 - Press group selection button 'A'.
The Selected Group button shows 'A'.
 - Press group selection button 'AC'.
The Selected Group button shows 'AC'.
- 9 This has filtered the user-defined hierarchical list and reduced the list of sources.
The resulting possible sources are shown on the source selection buttons.



Fig. 7-16: Source Selection Buttons

If there are more filtered list items than selection buttons,
then the filtered list may be navigated:

- One source selection button automatically converts to being a 'Paging' button. Use the button to navigate to pages of sources.
(The button is labeled 'SRC PAGE N : M', where N is the page number and M is the total number of pages.)
 - The rotary control can be used to navigate through pages. Rotate the button clockwise or counter-clockwise.
- 10 Navigate to the required source.
Press the source selection button to pre-select the source.
For example, pre-select source 'AC-SD1'.

The source has been pre-selected.

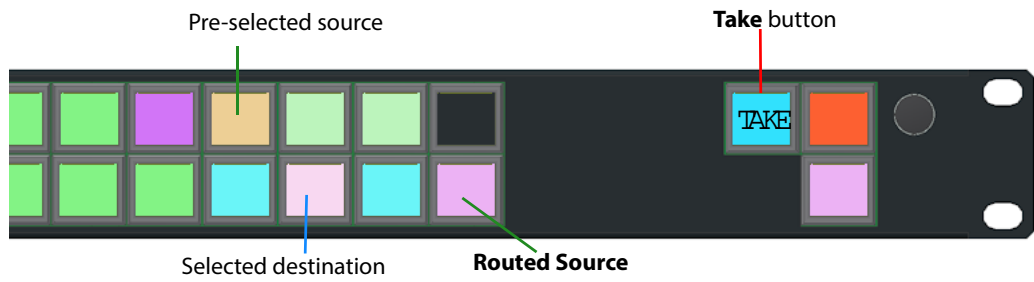
Take the Route

To take the route:

- 11 Press **Take**.

Operation

Making a Route - Custom Group Sub-mode



*Fig. 7-17: Destination and Source Selected, Press **Take***

The route is made.

To see which source has now been routed:

- 12 View the **Routed Source** button. This indicates the source routed to the selected destination after the route is made.

The route is made.

Making a Route - Group Dial Sub-mode

Select a Destination

- 1 Press **SEL/Toggle** to select 'DEST'.
- 2 Press the **Port Select** button to select the "Dial" sub-mode, "DIAL".
The panel is in destination selection mode and shows ten **Dial-up** buttons.

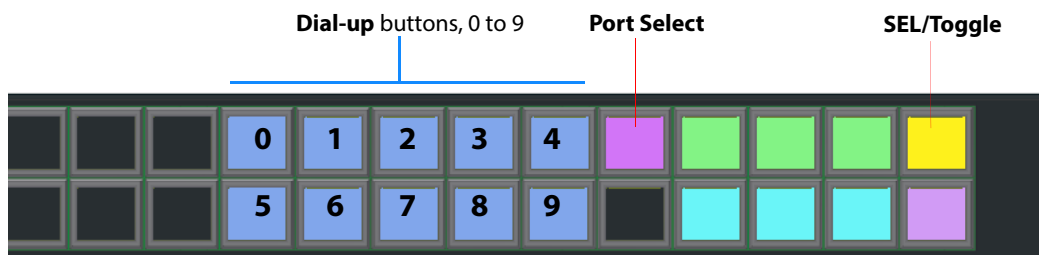


Fig. 7-18: Port Select, SEL/Toggle and Dial-Up Buttons

- 3 To select the destination at port number '4', dial-up '4' on the **Dial-Up** buttons.
The dialed-up number is shown on the **Selected Group** button.

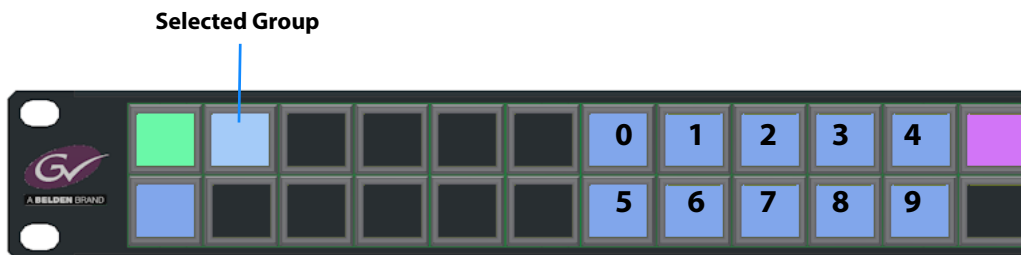


Fig. 7-19: Selected Group Button

The dialed destination port is selected.
to see which source is currently routed to the selected destination:

- 4 View the **Routed Source** button. It indicates the routed source.

Pre-Select a Source

- 5 Press **SEL/Toggle** to select 'SRC'.
- 6 Press the **Port Select** button to select the "Dial" sub-mode, "DIAL". (If not already selected.)
The panel is in source selection mode and shows ten **Dial-up** buttons.

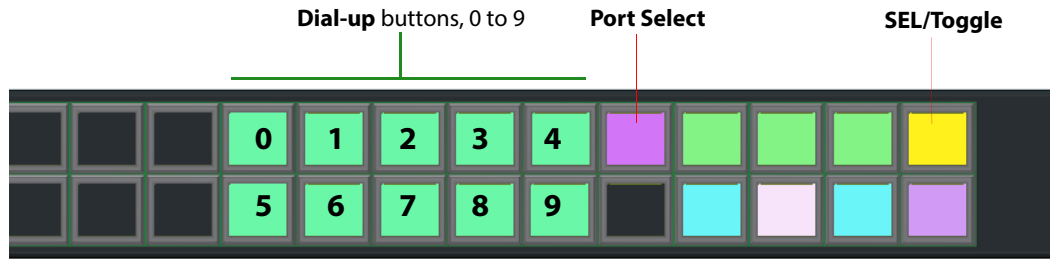


Fig. 7-20: Port Select, SEL/Toggle and Dial-Up Buttons

- 7 To select the source at port number '189', dial-up '189' on the **Dial-Up** buttons.

The dialed-up number is shown on the **Selected Group** button.

The source has been pre-selected.

Take the Route

To take the route:

- 8 Press **Take**.

The route is made.

To see which source has now been routed:

- 9 View the **Routed Source** button. This indicates the source routed to the selected destination after the route is made.

Making a Route - ABC Sub-mode

Select a Destination

- 1 Press **Dest Home** to enter destination selection mode on the panel.
- 2 Press the **Port Select** button to select 'ABC' sub-mode, "ABC".

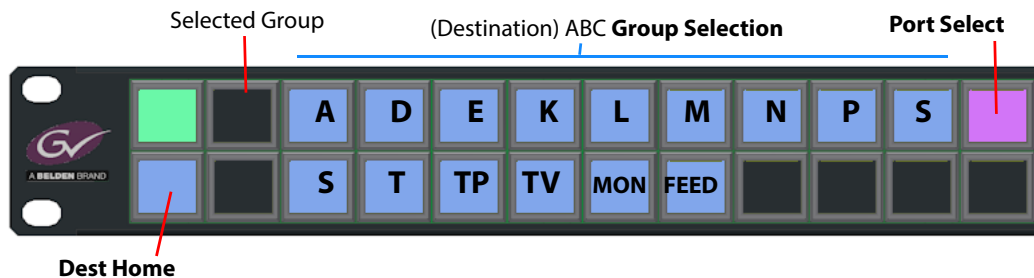


Fig. 7-21: Dest Home and Destination ABC Group Selection Buttons

- 3 Use the **Group Selection** buttons to filter the list of destination ports by entering the first few letters of the required destination name.

For example, to select destination 'T01-02':

- Press group selection button 'T'.
The **Selected Group** button shows 'T'.
The resulting list of possible destinations are shown on the **Destination Selection** buttons.
- Press group selection button 'T0'.
(Letters on the buttons adapt to show the next possibilities.)
The **Selected Group** button shows 'T0'.
A smaller list of possible destinations is shown.
- Press group selection button 'T01'.
The **Selected Group** button shows 'T01'.
- Press group selection button 'T010'.
The **Selected Group** button shows 'T010'.
- Press group selection button 'T0102'.
The **Selected Group** button shows 'T0102'.

This has filtered the list of destinations and reduced the list of destinations.
In our example, enough characters of the signal name have been entered to select a single destination ('T01-02').

If more than one possibility still remains, the resulting possible destination(s) are shown on the **Destination Selection** buttons.

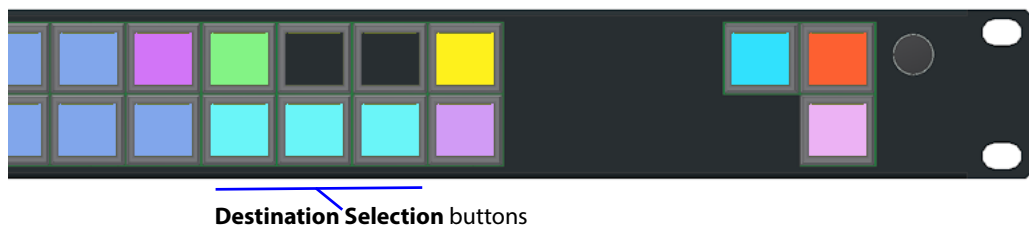


Fig. 7-22: Destination Selection Buttons

-
- Note: If there are more filtered list items than selection buttons, then the filtered list may be navigated:
One **Destination Selection** button automatically converts to being a 'Paging' button.
- Use the button to navigate to pages of destinations.
(The button is labeled 'DEST PAGE N : M', where N is the page number and M is the total number of pages.)
 - The rotary control can be used to navigate through pages.
Rotate the button clockwise or counter-clockwise.
-

- 4 Press the **Destination Selection** button to select the destination.
For example, press 'T01-02'.

The destination has been selected.

To see which source is currently routed to the selected destination:

- 5 View the **Routed Source** button. It indicates the routed source.

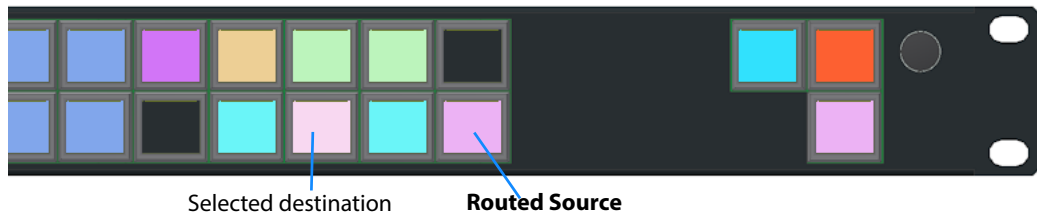


Fig. 7-23: Routed Source

Pre-Select a Source

- 6 Press **Src Home** to enter source selection mode on the panel.
- 7 Press the **Port Select** button to select 'ABC' sub-mode, "ABC". (If not already selected.)
The group selection buttons now convert to be source ABC group selection buttons.

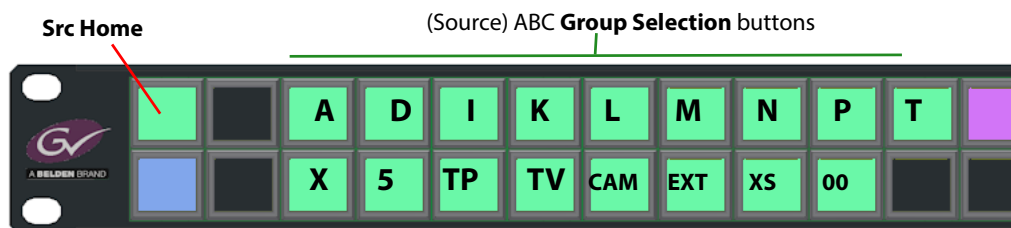


Fig. 7-24: Src Home and Source ABC Group Selection Buttons

- 8 Use the source **Group Selection** buttons to filter the list of source ports down to the required source.

For example, to select destination 'IMG-3 SD':

- Press group selection button 'I'.
The **Selected Group** button shows 'I'.
The resulting list of possible sources are shown on the **Source Selection** buttons.
- Press group selection button 'IM'.
(Letters on the buttons adapt to show the next possibilities.)
The **Selected Group** button shows 'IM'.
A smaller list of possible sources is shown.
- Press group selection button 'IMG'.
The **Selected Group** button shows 'IMG'.
- Press group selection button 'IMG3'.
The **Selected Group** button shows 'IMG3'.
- Press group selection button 'IMG3S'.
The **Selected Group** button shows 'IMG3S'.
- Press group selection button 'IMG3SD'.
The **Selected Group** button shows 'IMG3SD'.

This has filtered the list of sources and reduced the list of sources.

In our example, enough characters of the signal name have been entered to select a single source ('IMG-3 SD').

If more than one possibility still remains, the resulting possible source(s) are shown on the **Source Selection** buttons.

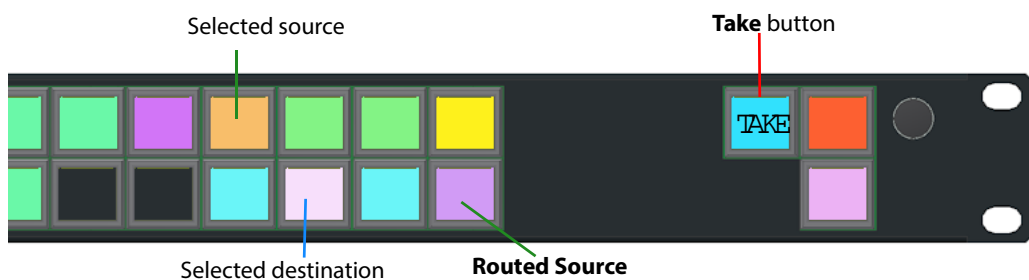
- 9 Navigate to the required source.
Press the source selection button to select the source.
For example, press 'IMG-3 SD'.

The source has been pre-selected.

Take the Route

To take the route:

- 10 Press **Take**.



*Fig. 7-25: Destination and Source Selected, Press **Take***

The route is made.

To see which source has now been routed:

- 11 View the **Routed Source** button. This indicates the source routed to the selected destination after the route is made.

Protect a Destination - Group Mode

Protect

To protect a destination:


- 1 Select the destination.

(This can be done in either Custom Group sub-mode, Dial sub0mode or ABC sub-mode.)

Note: If the destination is already protected:

- the color of the corresponding destination selection button indicates that the destination is protected; and
 - the **Protect** button color indicates that the destination is protected (and on an LCD panel will show the device ID of the panel/device that has protected that destination).
-

- 2 If the destination is not already protected, then to protect the destination, press the **Protect** button.

The destination button changes color (and, on an LCD panel, it displays a padlock symbol ).

Any text on the **Protect** button will show the device ID of the panel/device that has protected that destination. In this case, it would be the local panel.

Unprotect

Protected destinations can only be unprotected by:

- the panel that protected the destination; or
- a master panel.

To unprotect a destination:

- 1 Select the destination.
- 2 If the destination is protected by the local panel, or if the local panel is a master panel, then press the **Protect** button.

The destination button changes color (and on an LCD panel, any padlock symbol disappears).

8 Maintenance

This chapter describes relevant G2 Series 1U Router Control Panel maintenance procedures.

Summary

Maintenance

Upgrade Panel Software *page 225*

Upgrade Panel Software

The panel software is upgraded through the RollCall Control Panel software application running on a PC with a network connection to the G2 Series 1U Router Control Panel to be upgraded. RollCall Control Panel is used regardless of which panel mode the G2 Series 1U Router Control Panel is operating in.

Upgrade packages are supplied by Grass Valley in the form of a .zip file (~6Mbytes).

Upgrading with RollCall Control Panel is done in two stages:


STAGE 1: Import the upgrade package into RollCall Control Panel.

STAGE 2: Upgrade the router control panel from RollCall Control Panel.

STAGE 1: Import Upgrade Package

- 1 Save the supplied upgrade package(s) to a folder on the PC that will be used to upgrade the control panel.

Note: Upgrade packages are supplied in a compressed file format (.zip) and they should not be extracted.

- 2 Run RollCall Control Panel and then connect to the G2 Series 1U Router Control Panel to be upgraded.
- 3 Click **Import New Upgrades** () in the main tool bar, or click **RollCall > Upgrades** in the main menu bar.

The RollCall Upgrade Packages dialog window is shown.

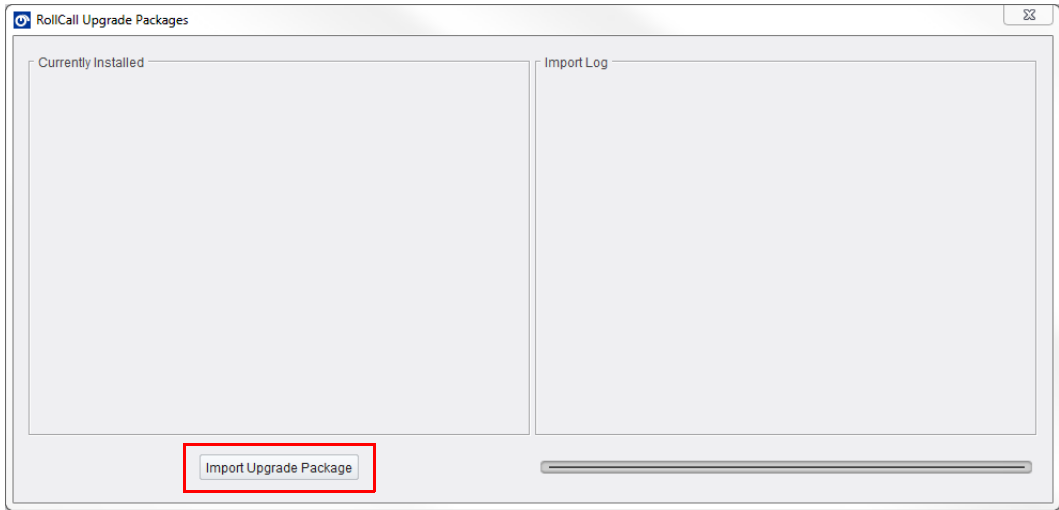


Fig. 8-1: RollCall Upgrade Packages Dialog

- 4 Click **Import Upgrade Package** and browse to the PC folder containing the upgrade package (a .zip file).

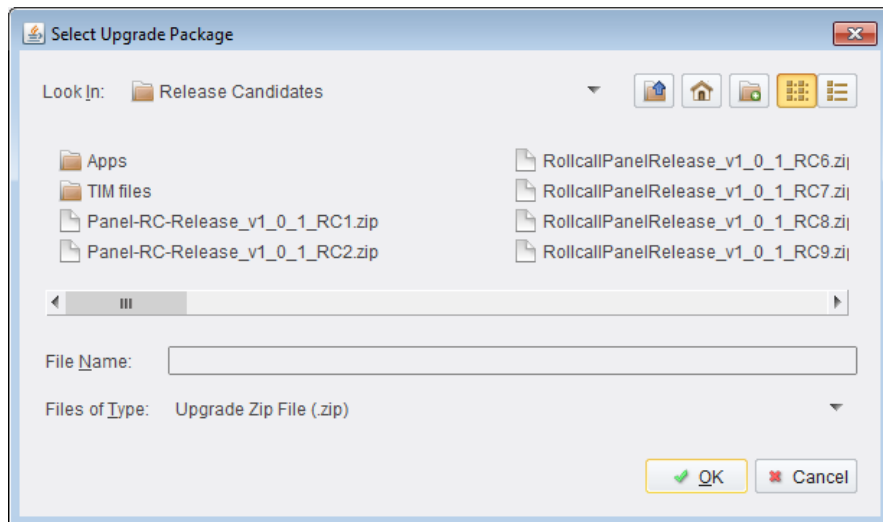


Fig. 8-2: Select Upgrade Package Dialog

- 5 Select the upgrade package .zip file and click **OK**.
The upgrade package is imported.
- 6 When importing is complete, a 'Package Imported' message appears in the Import Log pane of the RollCall Upgrade Packages dialog.

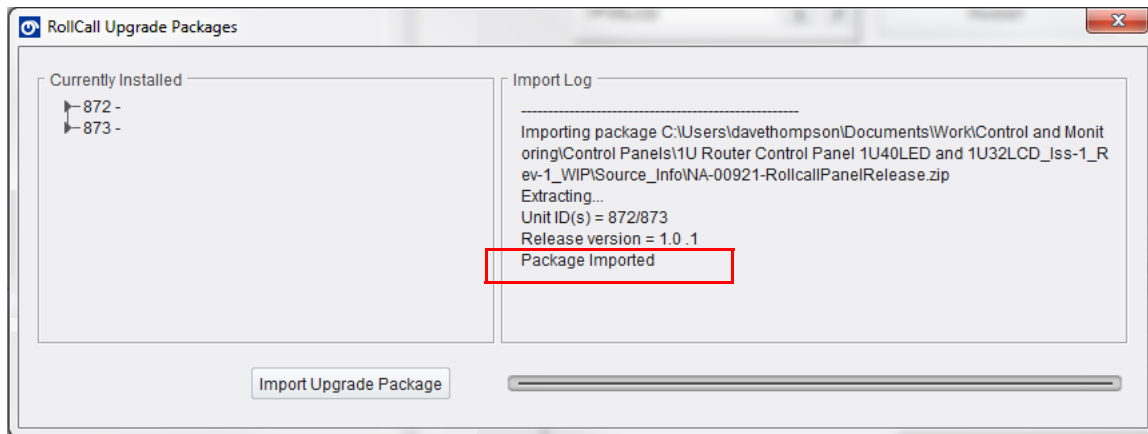


Fig. 8-3: Package Imported

7 Close the dialog.

STAGE 2: Upgrade Software

With the upgrade package imported into the RollCall Control Panel application, the G2 Series 1U Router Control Panel software can be upgraded:

Note: The G2 Series 1U Router Control Panel cannot be used while performing this panel software upgrade.

Note: It is advisable to save the panel configuration before upgrading the panel software. See [Save a Panel Configuration](#) on page 186.

With the G2 Series 1U Router Control Panel open in RollCall Control Panel:

- 1 Right-click on the router control panel's name in RollCall Control Panel (see Figure 8-4).

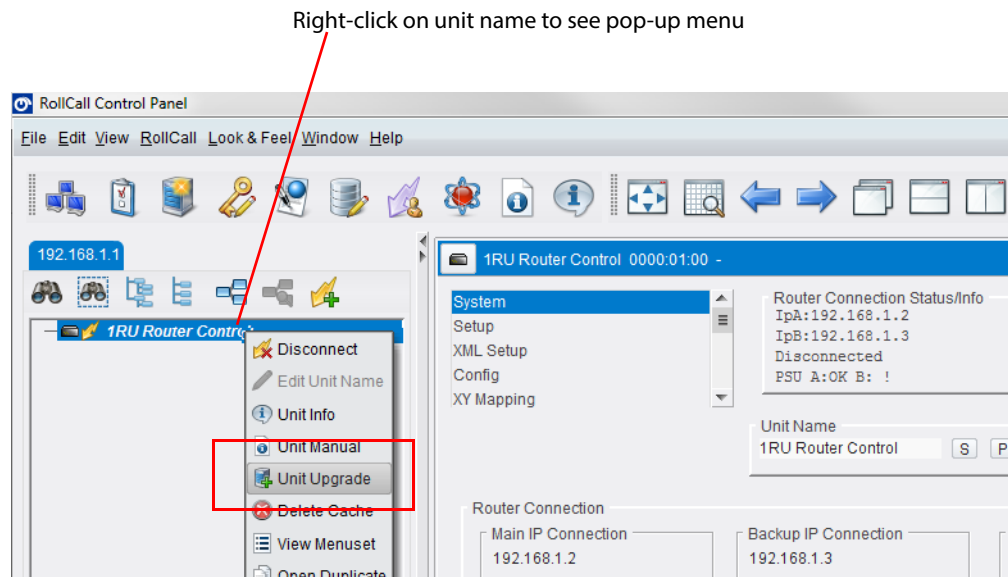


Fig. 8-4: Unit Upgrade Menu Item

- 2 Select **Unit Upgrade** from the pop-up menu.

The **Unit Upgrade** dialog is shown, showing 'pre-upgrade' information about panel software. See Figure 8-5.

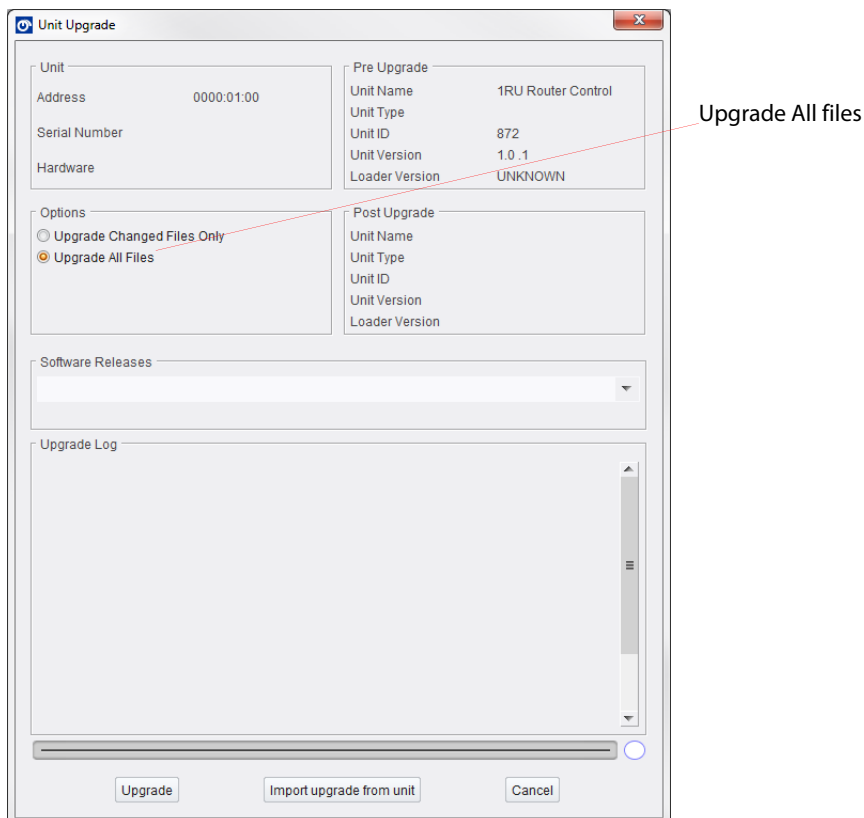
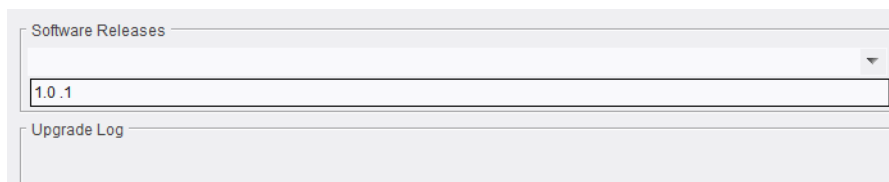
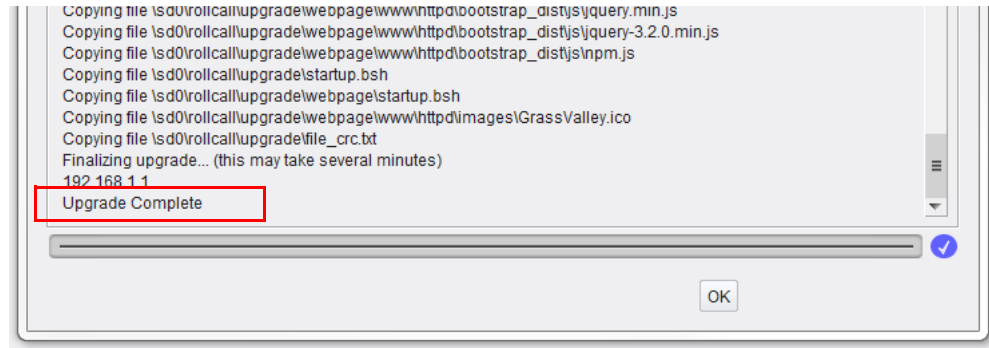


Fig. 8-5: Unit Upgrade Dialog

- 3 Set the options pane to 'Upgrade All Files'. See Figure 8-5.
- 4 Click **Software Releases** to show a drop-down list and select the required upgrade package in the list.



- 5 Click **Upgrade**.
The control panel software will now be upgraded.
- 6 Follow the on screen prompts.
Upgrade progress messages are shown in the **Upgrade Log** pane of the dialog. Upgrading can last several minutes.
See [Panel Buttons During Software Upgrade](#) on page 231 for a description of the panel button illumination during the upgrade.
- 7 When the software upgrade is complete:
 - 'Upgrade Complete' message is shown in the **Upgrade Log** pane.



- Control panel unit is automatically restarted. The panel re-starts.

8 Wait until the panel has re-started.

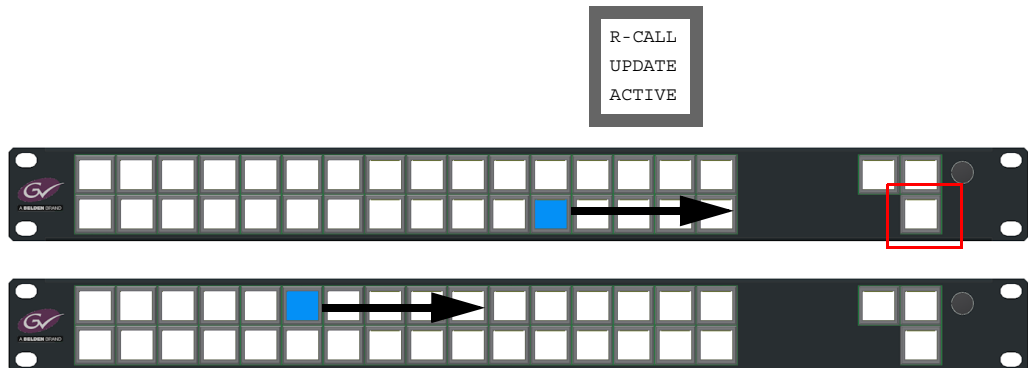
After the control panel unit has started up:

- 9 Confirm that the control panel is working correctly.
- 10 Verify the software version. (Press three adjacent panel buttons in a button row to show information about the unit. See [Information Display](#) on page 18.)

Panel Buttons During Software Upgrade

While a panel software upgrade is being carried out, the front panel buttons are illuminated in a sequence:

- 1 White with a single moving blue button, moving left to right.
The lower right LCD button displays "R-CALL UPDATE ACTIVE"



- 2 Moving pattern of white.
The lower right LCD button displays "UPDATE FILE CHECK".



- 3 Changing white buttons.
The lower right LCD button displays "Shut Down Reboot".



- 4 The panel re-boots several times in the final part of the upgrade.



Technical Specification

This appendix provides specification details of the G2 Series 1U Router Control Panel, including: details of the physical characteristics of the panel; the operational environment; and pinouts of the connectors on the rear panel.

Summary:

<i>Unit Specification</i>	<i>page 233</i>
<i>Unit Dimensions</i>	<i>page 234</i>
<i>Rear Panel Connector Pinouts</i>	<i>page 236</i>
<i>Push Buttons</i>	<i>page 237</i>
<i>Defaults</i>	<i>page 238</i>
<i>DC Power Supply Module</i>	<i>page 239</i>

Unit Specification

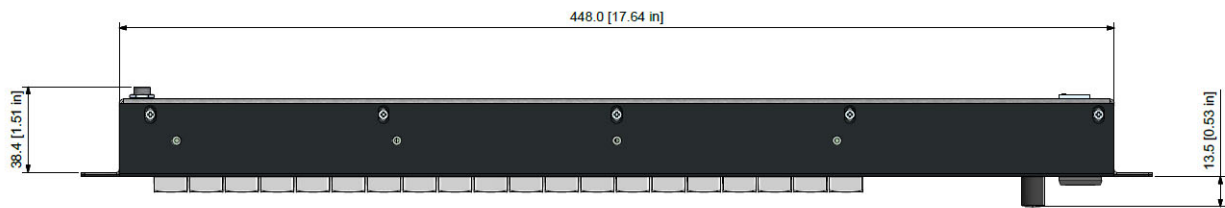
Physical	
Rack mounting height	1RU, 19 inch rack.
Dimensions (W x H x D)	
inches	19 x 1.72 x 2.19 inches
mm	483 x 43.6 x 56 mm
	See "Unit Dimensions" on page 234 for a dimensions diagram.
Weight	1.0 kg (2.2 lb)
Electrical	
Power Consumption	24 W max.
Connector	2-off DC Power Jacks, center pin is positive. ("PSU1" and "PSU2" on unit rear)
Voltage	
"PSU1":	+12 V DC, 2.0 A max.
"PSU2":	+12 V DC, 2.0 A max.
Environmental	
Operating temp	0 to +40°C

Physical	
Storage temp	-20 to +80°C
Relative Humidity	5% to 95% non-condensing

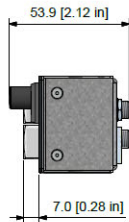
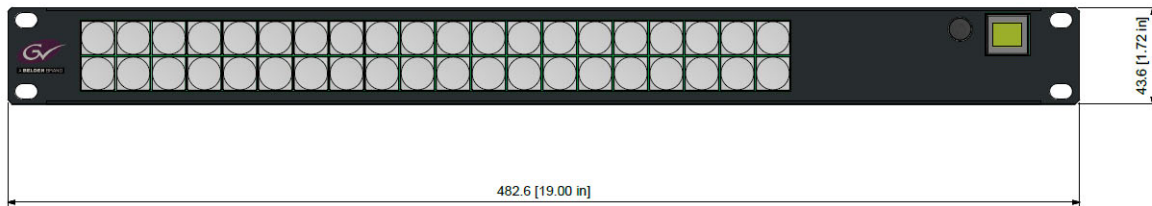
Unit Dimensions

The units have similar dimension, see sub-sections below.

LED Button Panel



Dimensions in mm

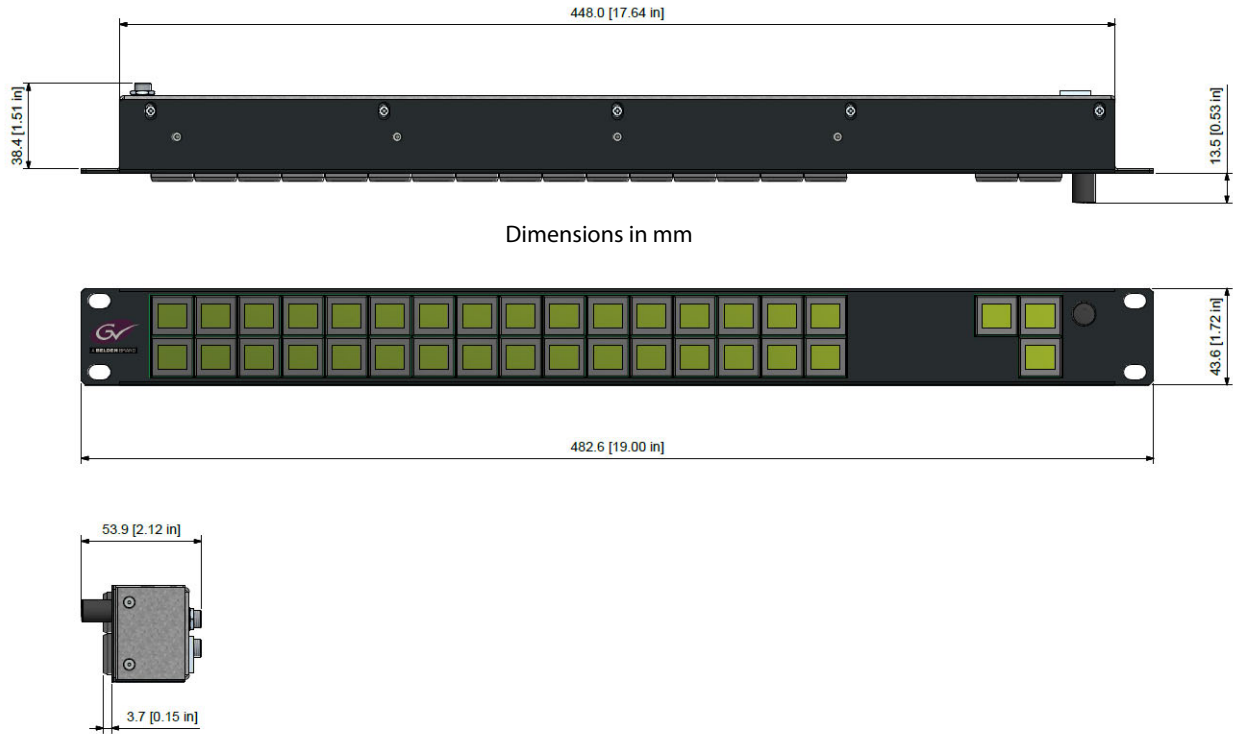


Dimensions	Width	Height	Depth	Units
W x H x D:	482.6 (19)	43.6 (1.72)	53.9 (2.12)	mm (inches)

Fig. A-1: LED Button Panel Unit Dimensions mm (inches)

Allow 80mm (approximately 3 inches) clearance at the rear of the unit for mating connectors and cables.

LCD Button Panel



Dimensions	Width	Height	Depth	Units
W x H x D:	482.6 (19)	43.6 (1.72)	53.9 (2.12)	mm (inches)

Fig. A-2: LCD Button Panel Unit Dimensions mm (inches)

Allow 80mm (approximately 3 inches) clearance at the rear of the unit for mating connectors and cables.

Rear Panel Connector Pinouts

DC Power Connector

Two 12 V DC power connectors on the control panel unit rear.

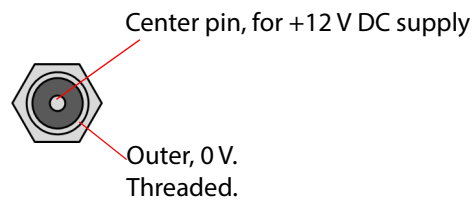


Fig. A-3: DC Power Connector Pins/Contacts

Ethernet Connector

One RJ45 Ethernet network connector on unit rear provides a 1G/100M/10M Ethernet interface.

- Auto-negotiates connection speed.
- Automatic cross-over.

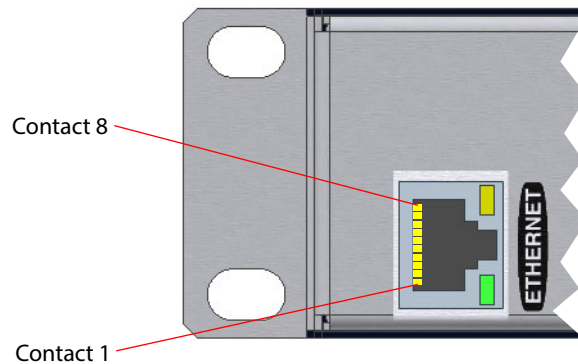


Fig. A-4: Ethernet Network Connector Pins/Contacts

CAUTION
Do not connect a telephone cable to the Ethernet connector.

Push Buttons

LED Push Buttons



Fig. A-5: LED Push Button Face

Tab. A-1: LED Push Button Specification

Parameter	Value/Description
Operating force	140 g (5 oz)
Maximum force to key top	100 N (10.2 kgf)
Key caps	0.6 inches x 0.6 inches, outer dimensions. A label film may be fitted beneath the clear key cap.
Key label film size	0.5 inches x 0.5 inches

LCD Push Buttons

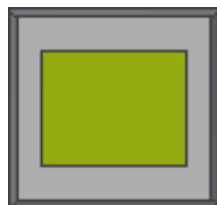


Fig. A-6: LCD Push Button Face

Tab. A-2: LCD Push Button Specification

Parameter	Value/Description
LCD resolution	64 x 32 pixels
LCD viewing area	14.5mm x 11.8mm (Width x Height)
LCD viewing angle	90° Up & Down; 90° Right & Left.
Operating force	1.7 +/-0.5N (approx. 170g, 6 oz)
Maximum force to key top	100N (10.2kgf)
Keys	Key cap not removable.

Defaults

Default IP Settings

The control panels are supplied with factory Ethernet interface IP default settings of:

Setting	Default
Control Panel:	
Panel IP Address:	192.168.1.1
Subnet Mask:	255.255.255.0
Gateway IP Address:	0.0.0.0
Router Controller Connection:	
Primary	192.168.1.2
Secondary	192.168.1.3

Default RollCall Settings

The control panels are supplied with factory Ethernet interface IP default settings of:

Order code	Default RollCall Unit Name
1U40LED-BK-K	7P40LED
1U32LCD-BK-K	7P35LCD

DC Power Supply Module

Grass Valley part number: **INSY-PSU-EXT**
12V DC, 65W max.

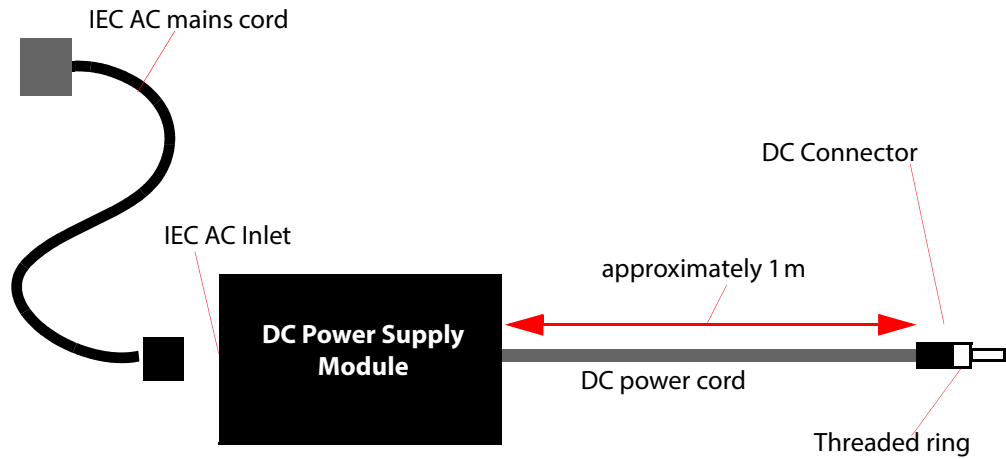
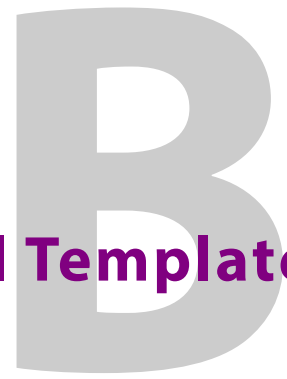
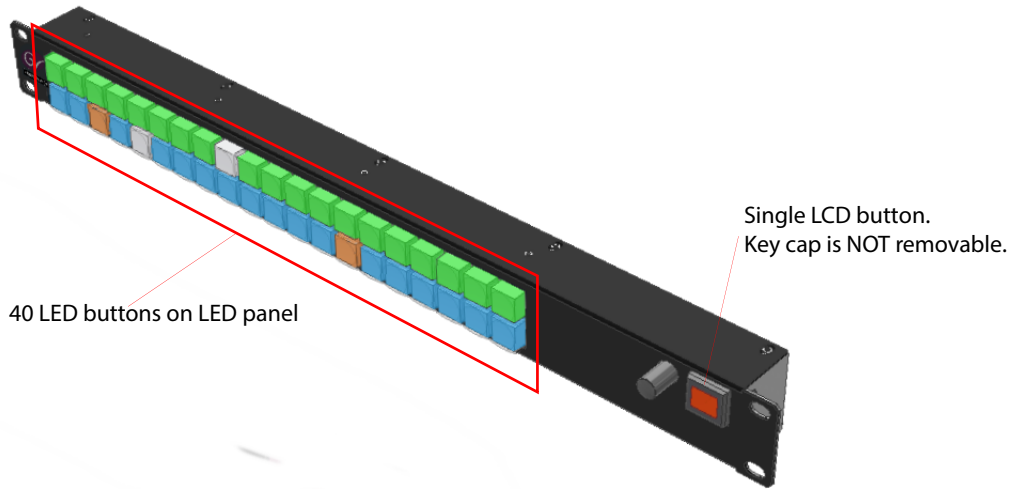


Fig. A-7: DC Power Supply Module



LED Button Label Templates

This appendix provides templates for key cap label inserts for LED push buttons used on the LED G2 Series 1U Router Control Panel, 1RU40LED-BK-K.



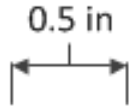
Label Templates

Label inserts should be 0.5" x 0.5".

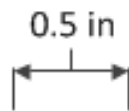
Some templates are provided in the following sub-sections.

Blank Template

Veetronix E Series
Clear Button Cap
Film Insert Size



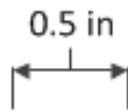
Source Destination Template



SRC 1	SRC 2	SRC 3	SRC 4	SRC 5	SRC 6	SRC 7	SRC 8	SRC 9	SRC 10
SRC 11	SRC 12	SRC 13	SRC 14	SRC 15	SRC 16	SRC 17	SRC 18	SRC 19	SRC 20
SRC 21	SRC 22	SRC 23	SRC 24	SRC 25	SRC 26	SRC 27	SRC 28	SRC 29	SRC 30
SRC 31	SRC 32	SRC 33	SRC 34	SRC 35	SRC 36	SRC 37	SRC 38	SRC 39	SRC 40
SRC	SRC	SRC	SRC	SRC	SRC	SRC	SRC	SRC	SRC
SRC	SRC	SRC	SRC	SRC	SRC	SRC	SRC	SRC	SRC

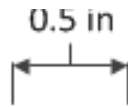
DST 1	DST 2	DST 3	DST 4	DST 5	DST 6	DST 7	DST 8	DST 9	DST 10
DST 11	DST 12	DST 13	DST 14	DST 15	DST 16	DST 17	DST 18	DST 19	DST 20
DST 21	DST 22	DST 23	DST 24	DST 25	DST 26	DST 27	DST 28	DST 29	DST 30
DST 31	DST 32	DST 33	DST 34	DST 35	DST 36	DST 37	DST 38	DST 39	DST 40
DST	DST	DST	DST	DST	DST	DST	DST	DST	DST
DST	DST	DST	DST	DST	DST	DST	DST	DST	DST

Crosspoint Template



BPX 1	BPX 2	BPX 3	BPX 4	BPX 5	BPX 6	BPX 7	BPX 8	BPX 9	BPX 10
BPX 11	BPX 12	BPX 13	BPX 14	BPX 15	BPX 16	BPX 17	BPX 18	BPX 19	BPX 20
BPX 21	BPX 22	BPX 23	BPX 24	BPX 25	BPX 26	BPX 27	BPX 28	BPX 29	BPX 30
BPX 31	BPX 32	BPX 33	BPX 34	BPX 35	BPX 36	BPX 37	BPX 38	BPX 39	BPX 40
BPX	BPX	BPX	BPX	BPX	BPX	BPX	BPX	BPX	BPX
BPX	BPX	BPX	BPX	BPX	BPX	BPX	BPX	BPX	BPX
BPX	BPX	BPX	BPX	BPX	BPX	BPX	BPX	BPX	BPX
BPX	BPX	BPX	BPX	BPX	BPX	BPX	BPX	BPX	BPX

General/Other Template



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40

A	B	C	D	E	F	G	H	I	J
K	L	M	N	O	P	Q	R	S	T
U	V	W	X	Y	Z				

PAGE SRC	PAGE <<<	PAGE >>>	PAGE DST	PAGE <<<	PAGE >>>	PAGE BPX	PAGE <<<	PAGE >>>	PAGE
[]	<	>	[]	<	>	[]	<	>	[]
TAKE	Take	UNDO	Undo	TAKE UNDO	Take Undo	LOCK	PANEL LOCK	PANEL	LOCKED
MON 1	MON 2	MON 3	MON 4	MATRIX	LEVEL	STATUS	PROTECT	Dest Protect	DEST
PANEL SALVO 1	PANEL SALVO 2	PANEL SALVO 3	PANEL SALVO 4	ROUTER SALVO 1	ROUTER SALVO 2	ROUTER SALVO 3	ROUTER SALVO 4	Pro- tect	PROTECT

Contact Us

Grass Valley Technical Support

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

<https://s-a-m.com/support/247-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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