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JUPITER

L-S and LCD Series Control Panels

Installation and Service Manual

Software Version 2.4.2

www.grassvalley.com

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SEPTEMBER 2013

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Grass Valley Web Site

The http://www.grassvalley.com/support web site offers the following:

Online User Documentation — Current versions of product catalogs, brochures, data sheets, ordering guides, planning guides, manuals, and release notes in .pdf format can be downloaded.

FAQ Database — Solutions to problems and troubleshooting efforts can be found by searching our Frequently Asked Questions (FAQ) database.

Software Downloads — Download software updates, drivers, and patches.

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END-OF-LIFE PRODUCT RECYCLING NOTICE

Grass Valley's innovation and excellence in product design also extends to the programs we've established to manage the recycling of our products. Grass Valley has developed a comprehensive end-of-life product take back program for recycle or disposal of end-of-life products. Our program meets the requirements of the European Union's WEEE Directive, the United States Environmental Protection Agency, and U.S. state and local agencies.

Grass Valley's end-of-life product take back program assures proper disposal by use of Best Available Technology. This program accepts any Grass Valley branded equipment. Upon request, a Certificate of Recycling or a Certificate of Destruction, depending on the ultimate disposition of the product, can be sent to the requester.

Grass Valley will be responsible for all costs associated with recycling and disposal, including freight. However, you are responsible for the removal of the equipment from your facility and packing the equipment to make it ready for pickup.

For further information on the Grass Valley product take back system please contact Grass Valley at + 800 80 80 20 20 or +33 1 48 25 20 20 from most other countries. In the U.S. and Canada please call 800-547-8949, and ask to be connected to the EH&S Department. Additional information concerning the program can be found at: www.grassvalley.com/about/environmental-policy

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Safety Summary

Read and follow the important safety information below, noting especially those instructions related to risk of fire, electric shock or injury to persons. Additional specific warnings not listed here may be found throughout the manual.

WARNING Any instructions in this manual that require opening the equipment cover or enclosure are for use by qualified service 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.

Safety Terms and Symbols

Terms in This Manual

Safety-related statements may appear in this manual in the following form:

WARNING Warning statements identify conditions or practices that may result in personal injury or loss of life.

CAUTION Caution statements identify conditions or practices that may result in damage to equipment or other property, or which may cause equipment crucial to your business environment to become temporarily non-operational.

Terms on the Product

The following terms may appear on the product:

DANGER — A personal injury hazard is immediately accessible as you read the marking.

WARNING — A personal injury hazard exists but is not immediately accessible as you read the marking.

CAUTION — A hazard to property, product, and other equipment is present.

Symbols on the Product

The following symbols may appear on the product:

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 user, operator or service technician should refer to product manual(s) for important operating, maintenance, or service instructions.

This is a prompt to note fuse rating when replacing fuse(s). 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.

Warnings

The following warning statements identify conditions or practices that can result in personal injury or loss of life:

Dangerous voltage or current may be present — Disconnect power and remove battery (if applicable) before removing protective panels, soldering, or replacing components.

Do not service alone — Do not internally service this product unless another person capable of rendering first aid and resuscitation is present.

Remove jewelry — Prior to servicing, remove jewelry such as rings, watches, and other metallic objects.

Avoid exposed circuitry — Do not touch exposed connections, components or circuitry when power is present.

Use proper power cord — Use only the power cord supplied or specified for this product.

Ground product — Connect the grounding conductor of the power cord to earth ground.

Operate only with covers and enclosure panels in place — Do not operate this product when covers or enclosure panels are removed.

Use correct fuse — Use only the fuse type and rating specified for this product.

Use only in dry environment — Do not operate in wet or damp conditions.

Use only in non-explosive environment — Do not operate this product in an explosive atmosphere.

High leakage current may be present — Earth connection of product is essential before connecting power.

Dual power supplies may be present — Be certain to plug each power supply cord into a separate branch circuit employing a separate service ground. Disconnect both power supply cords prior to servicing.

Double pole neutral fusing — Disconnect mains power prior to servicing.

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.

Cautions

The following caution statements identify conditions or practices that can result in damage to equipment or other property:

Use correct power source — Do not operate this product from a power source that applies more than the voltage specified for the product.

Use correct voltage setting — If this product lacks auto-ranging power supplies, before applying power ensure that the each power supply is set to match the power source.

Provide proper ventilation — To prevent product overheating, provide equipment ventilation in accordance with installation instructions.

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

Do not operate with suspected equipment failure — If you suspect product damage or equipment failure, have the equipment inspected by qualified service personnel.

Ensure mains disconnect — If mains switch is not provided, the power cord(s) of this equipment provide the means of disconnection. The socket outlet must be installed near the equipment and must be easily accessible. Verify that all mains power is disconnected before installing or removing power supplies and/or options.

Route cable properly — Route power cords and other cables so that they ar not likely to be damaged. Properly support heavy cable bundles to avoid connector damage.

Use correct power supply cords — Power cords for this equipment, if provided, meet all North American electrical codes. Operation of this equipment at voltages exceeding 130 VAC requires power supply cords which comply with NEMA configurations. International power cords, if provided, have the approval of the country of use.

Use correct replacement battery — This product may contain batteries. To reduce the risk of explosion, check polarity and replace only with the same or equivalent type recommended by manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Troubleshoot only to board level — Circuit boards in this product are densely populated with surface mount technology (SMT) components and application specific integrated circuits (ASICS). As a result, circuit board repair at the component level is very difficult in the field, if not impossible. For warranty compliance, do not troubleshoot systems beyond the board level.

Sicherheit – Überblick

Lesen und befolgen Sie die wichtigen Sicherheitsinformationen dieses Abschnitts. Beachten Sie insbesondere die Anweisungen bezüglich Brand-, Stromschlag- und Verletzungsgefahren. Weitere spezifische, hier nicht aufgeführte Warnungen finden Sie im gesamten Handbuch.

WARNUNG **Alle Anweisungen in diesem Handbuch, die das Abnehmen der Geräteabdeckung oder des Gerätegehäuses erfordern, dürfen nur von qualifiziertem Servicepersonal ausgeführt werden. Um die Stromschlaggefahr zu verringern, führen Sie keine Wartungsarbeiten außer den in den Bedienungsanleitungen genannten Arbeiten aus, es sei denn, Sie besitzen die entsprechende Qualifikationen für diese Arbeiten.**

Sicherheit – Begriffe und Symbole

In diesem Handbuch verwendete Begriffe

Sicherheitsrelevante Hinweise können in diesem Handbuch in der folgenden Form auftauchen:

WARNUNG **Warnungen weisen auf Situationen oder Vorgehensweisen hin, die Verletzungs- oder Lebensgefahr bergen.**

VORSICHT Vorsichtshinweise weisen auf Situationen oder Vorgehensweisen hin, die zu Schäden an Ausrüstungskomponenten oder anderen Gegenständen oder zum zeitweisen Ausfall wichtiger Komponenten in der Arbeitsumgebung führen können.

Hinweise am Produkt

Die folgenden Hinweise können sich am Produkt befinden:

GEFAHR — Wenn Sie diesen Begriff lesen, besteht ein unmittelbares Verletzungsrisiko.

WARNUNG — Wenn Sie diesen Begriff lesen, besteht ein mittelbares Verletzungsrisiko.

VORSICHT — Es besteht ein Risiko für Objekte in der Umgebung, den Mixer selbst oder andere Ausrüstungskomponenten.

Symbole am Produkt

Die folgenden Symbole können sich am Produkt befinden:

Weist auf eine gefährliche Hochspannung im Gerätegehäuse hin, die stark genug sein kann, um eine Stromschlaggefahr darzustellen.

Weist darauf hin, dass der Benutzer, Bediener oder Servicetechniker wichtige Bedienungs-, Wartungs- oder Serviceanweisungen in den Produkthandbüchern lesen sollte.

Dies ist eine Aufforderung, beim Wechsel von Sicherungen auf deren Nennwert zu achten. Die im Text angegebene Sicherung muss durch eine Sicherung ersetzt werden, die die angegebenen Nennwerte besitzt.

Weist auf eine Schutzerdungsklemme hin, die mit dem Erdungskontakt verbunden werden muss, bevor weitere Ausrüstungskomponenten angeschlossen werden.

Weist auf eine externe Schutzerdungsklemme hin, die als Ergänzung zu einem internen Erdungskontakt an die Erde angeschlossen werden kann.

Weist darauf hin, dass es statisch empfindliche Komponenten gibt, die durch eine elektrostatische Entladung beschädigt werden können. Verwenden Sie antistatische Prozeduren, Ausrüstung und Oberflächen während der Wartung.

Warnungen

Die folgenden Warnungen weisen auf Bedingungen oder Vorgehensweisen hin, die Verletzungs- oder Lebensgefahr bergen:

Gefährliche Spannungen oder Ströme — Schalten Sie den Strom ab, und entfernen Sie ggf. die Batterie, bevor sie Schutzabdeckungen abnehmen, löten oder Komponenten austauschen.

Servicearbeiten nicht alleine ausführen — Führen Sie interne Servicearbeiten nur aus, wenn eine weitere Person anwesend ist, die erste Hilfe leisten und Wiederbelebungsmaßnahmen einleiten kann.

Schmuck abnehmen — Legen Sie vor Servicearbeiten Schmuck wie Ringe, Uhren und andere metallische Objekte ab.

Keine offen liegenden Leiter berühren — Berühren Sie bei eingeschalteter Stromzufuhr keine offen liegenden Leitungen, Komponenten oder Schaltungen.

Richtiges Netzkabel verwenden — Verwenden Sie nur das mitgelieferte Netzkabel oder ein Netzkabel, das den Spezifikationen für dieses Produkt entspricht.

Gerät erden — Schließen Sie den Erdleiter des Netzkabels an den Erdungskontakt an.

Gerät nur mit angebrachten Abdeckungen und Gehäuseseiten betreiben — Schalten Sie dieses Gerät nicht ein, wenn die Abdeckungen oder Gehäuseseiten entfernt wurden.

Richtige Sicherung verwenden — Verwenden Sie nur Sicherungen, deren Typ und Nennwert den Spezifikationen für dieses Produkt entsprechen.

Gerät nur in trockener Umgebung verwenden — Betreiben Sie das Gerät nicht in nassen oder feuchten Umgebungen.

Gerät nur verwenden, wenn keine Explosionsgefahr besteht — Verwenden Sie dieses Produkt nur in Umgebungen, in denen keinerlei Explosionsgefahr besteht.

Hohe Kriechströme — Das Gerät muss vor dem Einschalten unbedingt geerdet werden.

Doppelte Spannungsversorgung kann vorhanden sein — Schließen Sie die beiden Anschlußkabel an getrennte Stromkreise an. Vor Servicearbeiten sind beide Anschlußkabel vom Netz zu trennen.

Zweipolige, neutrale Sicherung — Schalten Sie den Netzstrom ab, bevor Sie mit den Servicearbeiten beginnen.

Fassen Sie das Gerät beim Transport richtig an — Halten Sie das Gerät beim Transport nicht an Türen oder anderen beweglichen Teilen fest.

Gefahr durch mechanische Teile — Warten Sie, bis der Lüfter vollständig zum Halt gekommen ist, bevor Sie mit den Servicearbeiten beginnen.

Vorsicht

Die folgenden Vorsichtshinweise weisen auf Bedingungen oder Vorgehensweisen hin, die zu Schäden an Ausrüstungskomponenten oder anderen Gegenständen führen können:

Gerät nicht öffnen — Durch das unbefugte Öffnen wird die Garantie ungültig.

Richtige Spannungsquelle verwenden — Betreiben Sie das Gerät nicht an einer Spannungsquelle, die eine höhere Spannung liefert als in den Spezifikationen für dieses Produkt angegeben.

Gerät ausreichend belüften — Um eine Überhitzung des Geräts zu vermeiden, müssen die Ausrüstungskomponenten entsprechend den Installationsan-

weisungen belüftet werden. Legen Sie kein Papier unter das Gerät. Es könnte die Belüftung behindern. Platzieren Sie das Gerät auf einer ebenen Oberfläche.

Antistatische Vorkehrungen treffen — Es gibt statisch empfindliche Komponenten, die durch eine elektrostatische Entladung beschädigt werden können. Verwenden Sie antistatische Prozeduren, Ausrüstung und Oberflächen während der Wartung.

CF-Karte nicht mit einem PC verwenden — Die CF-Karte ist speziell formatiert. Die auf der CF-Karte gespeicherte Software könnte gelöscht werden.

Gerät nicht bei eventuellem Ausrüstungsfehler betreiben — Wenn Sie einen Produktschaden oder Ausrüstungsfehler vermuten, lassen Sie die Komponente von einem qualifizierten Servicetechniker untersuchen.

Kabel richtig verlegen — Verlegen Sie Netzkabel und andere Kabel so, dass Sie nicht beschädigt werden. Stützen Sie schwere Kabelbündel ordnungsgemäß ab, damit die Anschlüsse nicht beschädigt werden.

Richtige Netzkabel verwenden — Wenn Netzkabel mitgeliefert wurden, erfüllen diese alle nationalen elektrischen Normen. Der Betrieb dieses Geräts mit Spannungen über 130 V AC erfordert Netzkabel, die NEMA-Konfigurationen entsprechen. Wenn internationale Netzkabel mitgeliefert wurden, sind diese für das Verwendungsland zugelassen.

Richtige Ersatzbatterie verwenden — Dieses Gerät enthält eine Batterie. Um die Explosionsgefahr zu verringern, prüfen Sie die Polarität und tauschen die Batterie nur gegen eine Batterie desselben Typs oder eines gleichwertigen, vom Hersteller empfohlenen Typs aus. Entsorgen Sie gebrauchte Batterien entsprechend den Anweisungen des Batterieherstellers.

Das Gerät enthält keine Teile, die vom Benutzer gewartet werden können. Wenden Sie sich bei Problemen bitte an den nächsten Händler.

Consignes de sécurité

Il est recommandé de lire, de bien comprendre et surtout de respecter les informations relatives à la sécurité qui sont exposées ci-après, notamment les consignes destinées à prévenir les risques d'incendie, les décharges électriques et les blessures aux personnes. Les avertissements complémentaires, qui ne sont pas nécessairement repris ci-dessous, mais présents dans toutes les sections du manuel, sont également à prendre en considération.

AVERTISSEMENT **Toutes les instructions présentes dans ce manuel qui concernent l'ouverture des capots ou des logements de cet équipement sont destinées exclusivement à des membres qualifiés du personnel de maintenance. Afin de diminuer les risques de décharges électriques, ne procédez à aucune intervention d'entretien autre que celles contenues dans le manuel de l'utilisateur, à moins que vous ne soyez habilité pour le faire.**

Consignes et symboles de sécurité

Termes utilisés dans ce manuel

Les consignes de sécurité présentées dans ce manuel peuvent apparaître sous les formes suivantes:

AVERTISSEMENT **Les avertissements signalent des conditions ou des pratiques susceptibles d'occasionner des blessures graves, voire même fatales.**

ATTENTION Les mises en garde signalent des conditions ou des pratiques susceptibles d'occasionner un endommagement à l'équipement ou aux installations, ou de rendre l'équipement temporairement non opérationnel, ce qui peut porter préjudice à vos activités.

Signalétique apposée sur le produit

La signalétique suivante peut être apposée sur le produit:

DANGER — risque de danger imminent pour l'utilisateur.

AVERTISSEMENT — Risque de danger non imminent pour l'utilisateur.

MISE EN GARDE — Risque d'endommagement du produit, des installations ou des autres équipements.

Symboles apposés sur le produit

Les symboles suivants peut être apposés sur le produit:

Signale la présence d'une tension élevée et dangereuse dans le boîtier de l'équipement ; cette tension peut être suffisante pour constituer un risque de décharge électrique.

Signale que l'utilisateur, l'opérateur ou le technicien de maintenance doit faire référence au(x) manuel(s) pour prendre connaissance des instructions d'utilisation, de maintenance ou d'entretien.

Il s'agit d'une invite à prendre note du calibre du fusible lors du remplacement de ce dernier. Le fusible auquel il est fait référence dans le texte doit être remplacé par un fusible du même calibre.

Identifie une borne de protection de mise à la masse qui doit être raccordée correctement avant de procéder au raccordement des autres équipements.

Identifie une borne de protection de mise à la masse qui peut être connectée en tant que borne de mise à la masse supplémentaire.

Signale la présence de composants sensibles à l'électricité statique et qui sont susceptibles d'être endommagés par une décharge électrostatique. Utilisez des procédures, des équipements et des surfaces antistatiques durant les interventions d'entretien.

Avertissements

Les avertissements suivants signalent des conditions ou des pratiques susceptibles d'occasionner des blessures graves, voire même fatales:

Présence possible de tensions ou de courants dangereux — Mettez hors tension, débranchez et retirez la pile (le cas échéant) avant de déposer les couvercles de protection, de défaire une soudure ou de remplacer des composants.

Ne procédez pas seul à une intervention d'entretien — Ne réalisez pas une intervention d'entretien interne sur ce produit si une personne n'est pas présente pour fournir les premiers soins en cas d'accident.

Retirez tous vos bijoux — Avant de procéder à une intervention d'entretien, retirez tous vos bijoux, notamment les bagues, la montre ou tout autre objet métallique.

Évitez tout contact avec les circuits exposés — Évitez tout contact avec les connexions, les composants ou les circuits exposés s'ils sont sous tension.

Utilisez le cordon d'alimentation approprié — Utilisez exclusivement le cordon d'alimentation fourni avec ce produit ou spécifié pour ce produit.

Raccordez le produit à la masse — Raccordez le conducteur de masse du cordon d'alimentation à la borne de masse de la prise secteur.

Utilisez le produit lorsque les couvercles et les capots sont en place — N'utilisez pas ce produit si les couvercles et les capots sont déposés.

Utilisez le bon fusible — Utilisez exclusivement un fusible du type et du calibre spécifiés pour ce produit.

Utilisez ce produit exclusivement dans un environnement sec — N'utilisez pas ce produit dans un environnement humide.

Utilisez ce produit exclusivement dans un environnement non explosible — N'utilisez pas ce produit dans un environnement dont l'atmosphère est explosible.

Présence possible de courants de fuite — Un raccordement à la masse est indispensable avant la mise sous tension.

Deux alimentations peuvent être présentes dans l'équipement — Assurez vous que chaque cordon d'alimentation est raccordé à des circuits de terre séparés. Débranchez les deux cordons d'alimentation avant toute intervention.

Fusion neutre bipolaire — Débranchez l'alimentation principale avant de procéder à une intervention d'entretien.

Utilisez les points de levage appropriés — Ne pas utiliser les verrous de la porte pour lever ou déplacer l'équipement.

Évitez les dangers mécaniques — Laissez le ventilateur s'arrêter avant de procéder à une intervention d'entretien.

Mises en garde

Les mises en garde suivantes signalent les conditions et les pratiques susceptibles d'occasionner des endommagements à l'équipement et aux installations:

N'ouvrez pas l'appareil — Toute ouverture prohibée de l'appareil aura pour effet d'annuler la garantie.

Utilisez la source d'alimentation adéquate — Ne branchez pas ce produit à une source d'alimentation qui utilise une tension supérieure à la tension nominale spécifiée pour ce produit.

Assurez une ventilation adéquate — Pour éviter toute surchauffe du produit, assurez une ventilation de l'équipement conformément aux instructions d'installation. Ne déposez aucun document sous l'appareil — ils peuvent gêner la ventilation. Placez l'appareil sur une surface plane.

Utilisez des procédures antistatiques - Les composants sensibles à l'électricité statique présents dans l'équipement sont susceptibles d'être endommagés par une décharge électrostatique. Utilisez des procédures, des équipements et des surfaces antistatiques durant les interventions d'entretien.

N'utilisez pas la carte CF avec un PC — La carte CF a été spécialement formatée. Le logiciel enregistré sur la carte CF risque d'être effacé.

N'utilisez pas l'équipement si un dysfonctionnement est suspecté — Si vous suspectez un dysfonctionnement du produit, faites inspecter celui-ci par un membre qualifié du personnel d'entretien.

Acheminez les câbles correctement — Acheminez les câbles d'alimentation et les autres câbles de manière à ce qu'ils ne risquent pas d'être endommagés. Supportez correctement les enroulements de câbles afin de ne pas endommager les connecteurs.

Utilisez les cordons d'alimentation adéquats — Les cordons d'alimentation de cet équipement, s'ils sont fournis, satisfont aux exigences de toutes les réglementations régionales. L'utilisation de cet équipement à des tensions dépassant les 130 V en c.a. requiert des cordons d'alimentation qui satisfont aux exigences des configurations NEMA. Les cordons internationaux, s'ils sont fournis, ont reçu l'approbation du pays dans lequel l'équipement est utilisé.

Utilisez une pile de remplacement adéquate — Ce produit renferme une pile. Pour réduire le risque d'explosion, vérifiez la polarité et ne remplacez la pile que par une pile du même type, recommandée par le fabricant. Mettez les piles usagées au rebut conformément aux instructions du fabricant des piles.

Cette unité ne contient aucune partie qui peut faire l'objet d'un entretien par l'utilisateur. Si un problème survient, veuillez contacter votre distributeur local.

Preface

About This Manual

Safety and Regulatory information is presented in separate files.

Figures

Figure 1.

Regulatory Notices

Certifications and Compliances

FCC Emission Control

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. Changes or modifications not expressly approved by Grass Valley can affect emission compliance and could void the user's authority to operate this equipment.

Canadian EMC Notice of Compliance

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'emet pas de bruits radioélectriques dépassant les limites applicables aux appareils numeriques de la classe A préscrites dans le Règlement sur le brouillage radioélectrique édicte par le ministère des Communications du Canada.

EN55022 Class A Warning

In a domestic environment, products that comply with Class A may cause radio interference in which case the user may be required to take adequate measures.

Canadian Certified Power Cords

Canadian approval includes the products and power cords appropriate for use in the North America power network. All other power cords supplied are approved for the country of use.

Canadian Certified AC Adapter

Canadian approval includes the AC adapters appropriate for use in the North America power network. All other AC adapters supplied are approved for the country of use.

Laser Compliance

Laser Safety Requirements

The device used in this product is a Class 1 certified laser product. Operating this product outside specifications or altering from its original design may result in hazardous radiation exposure, and may be considered an act of modifying or new manufacturing of a laser product under U.S. regulations contained in 21CFR Chapter 1, subchapter J or CENELEC regulations in HD 482 S1. People performing such an act are required by law to recertify and reidentify this product in accordance with provisions of 21CFR subchapter J for distribution within the U.S.A., and in accordance with CENELEC HD 482 S1 for distribution within countries using the IEC 825 standard.

Laser Safety

Laser safety in the United States is regulated by the Center for Devices and Radiological Health (CDRH). The laser safety regulations are published in the “Laser Product Performance Standard,” Code of Federal Regulation (CFR), Title 21, Subchapter J.

The International Electrotechnical Commission (IEC) Standard 825, “Radiation of Laser Products, Equipment Classification, Requirements and User’s Guide,” governs laser products outside the United States. Europe and member nations of the European Free Trade Association fall under the jurisdiction of the Comite European de Normalization Electrotechnique (CENELEC).

For the CDRH: The radiant power is detected through a 7 mm aperture at a distance of 200 mm from the source focused through a lens with a focal length of 100 mm.

For IEC compliance: The radiant power is detected through a 7 mm aperture at a distance of 100 mm from the source focused through a lens with a focal length of 100 mm.

FCC Emission Limits

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesirable operation. This device has been tested and found to comply with FCC Part 15 Class B limits for a digital device when tested with a representative laser-based fiber optical system that complies with ANSI X3T11 Fiber Channel Standard.

Certifications:

Category	Standard	Designed/tested for compliance with:
Safety	ANSI / UL60950	"Standard for Safety of Information Technology Equipment - Safety - Part 1: General Requirements", (ANSI/UL 60950-1, First Edition, Dated April 1, 2003, with revision through and including November 26, 2003.)
	IEC 60950	"Standard for Safety for Information Technology Equipment - Safety - Part 1: General Requirements", (IEC 60950-1, First Edition, 2001, Corrigendum 1:10-2002)
	CAN/CSA C22.2, No. 60950	"Standard for Safety of Information Technology Equipment - Safety - Part 1: General Requirements", (CAN/CSA-C22.2 No. 60950-1-03. First Edition Dated April 1, 2003, with revisions through and including November 26, 2003)
	EN60950	Safety of Information Technology Equipment, including Electrical Business Equipment.
	2006/95/EC	Low Voltage Directive
EMI	EMC Directive 2004/108/EC via EN 55103-1 and 2	Audio, Video and Entertainment Lighting Control for the European Community.
	EN 55103-1 standards	Electromagnetic compatibility. Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 1 Emissions, Environment E1/E2 EN 55022: Class A Radiated and Conducted Emissions EN 61000-3-2: Power Line Harmonic Emissions, Radiated Magnetic Field Emissions, Peak Inrush Current
	EN55103-2 standards	Electromagnetic compatibility--Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 2 Immunity, Environment E1/E2 EN 50082-1: Immunity EN 61000-4-2: Electrostatic Discharge "ESD" Immunity EN 61000-4-3: Radiated RF Electromagnetic Field Immunity EN 61000-4-4: Electrical Fast Transient/Burst "EFT" Immunity EN 61000-4-5: Surge Immunity EN 61000-4-6: Conducted RF Immunity EN 61000-4-11: Voltage Dips, Short Interruptions and Voltage Variations Annex A - Radiated Magnetic Field Immunity Note: This only applies to assemblies sensitive to magnetic fields
	US FCC Class A Canada FCC Industry Canada	CISPR Pub. 22 (1985)
	Australia & New Zealand:	AS/NZS CISPR 22

IMPORTANT NOTE TO WRITERS - SEE THE FOLLOWING PARAGRAPHS AND DELETE THIS TEXT BEFORE PUBLICATION.

THE INFORMATION IN THE CERTIFICATION TABLES ABOVE MUST BE REVIEWED TO CONFIRM THE PROPER COMPLIANCE NOTICES ARE INCLUDED. STANDARDS MAY HAVE CHANGED SINCE THIS BOILERPLATE INFORMATION WAS DRAFTED. REGULATORY COMPLIANCE IS ESTABLISHED WHEN THE PRODUCT IS RELEASED THE FIRST TIME. THAT COMPLIANCE LEVEL IS RETAINED UNLESS THE PRODUCT OR MARKET CHANGES IN SOME WAY THAT REQUIRES NEW COMPLIANCE TESTING. DO NOT BLINDLY REPLACE INFORMATION IN OLDER MANUALS WITH THIS BOILERPLATE INFORMATION. CHECK WITH THE PRODUCT MANAGER TO CONFIRM WHAT NOTICES ARE REQUIRED.

SOME OLDER PRODUCTS (KAYAK DD FOR EXAMPLE) MAY REQUIRE OLDER “UL1419” SAFETY INFORMATION. THE INFORMATION BELOW REPLACES THE “ANSI/UL60950” SAFETY INFORMATION LISTED AS THE FIRST ITEM IN THE TABLE ABOVE FOR THESE OLD PRODUCTS.

Category	Standard	Designed/tested for compliance with:
Safety	UL1419	Professional Video and Audio Equipment

Section 1

L-S and LCD Panel Series Introduction

Overview

The Jupiter L-S series Control panels are designed to control television matrix routers through a Grass Valley Jupiter CM-4000 (or CM-4400) Control System running the AccuSwitch application. These panels are primarily intended to control Trinix, Concerto, Apex, and Venus routers; however, these panels can control any matrix router that can be controlled by AccuSwitch.

Note The CM-4000/4400 must be operating with Jupiter AccuSwitch version 7.6 or newer to support the L-S or LCD panels. The L-S or LCD panels are not intended for use with CM-4000/Jupiter XPress applications nor with Jupiter VM-3000 System Controllers.

The L-S series is comprised of the following:

- L32, L64, LD4, and LD16
- S25, S50, S100, and SXY

The LCD series is comprised of the following:

- LCD16 and the LCD48 panels.

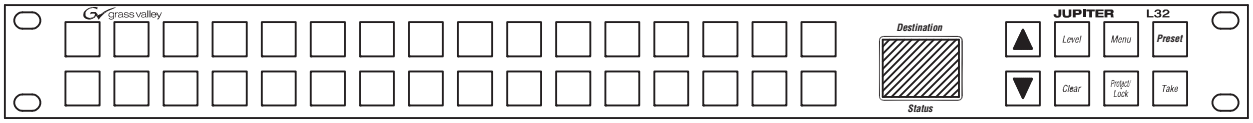
L prefix panels have large (1/2- inch) multi-color buttons. S prefix panels are equipped with smaller (3/8-inch) multi-color buttons. LCD prefix panels are equipped with (3/4-inch) LCD buttons.

All panels must be ordered with either an AC or a DC power supply. The AC power supply mounts on the rear of the panel. No power switch is present. The AC or DC line cord is disconnected to power down the panel.

L Series Control Panel Features

L32

Figure 2. L32 Control Panel

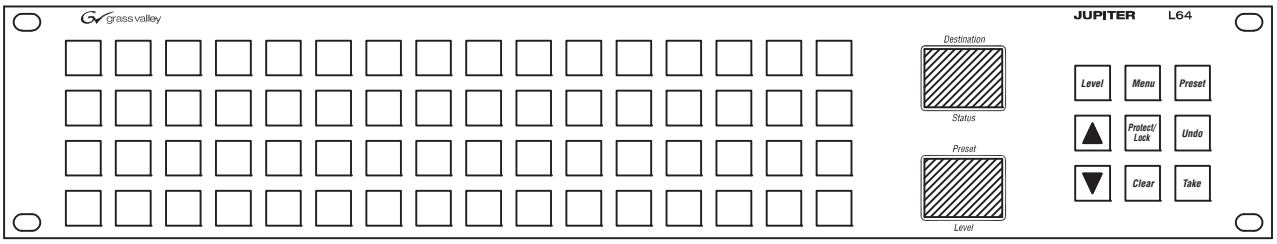


The L32 is a button-per-signal control panel equipped with a Destination/ Status color bitmap display. Features include:

- Assignable buttons on the front panel
- *Locking* and *protecting* Destinations
- Scroll up/down Source and Destination selection
- Preset mode
- Overrides
- Level *breakaway*
- *Sequence* (*Salvo*) switching

L64

Figure 3. L64 Control Panel

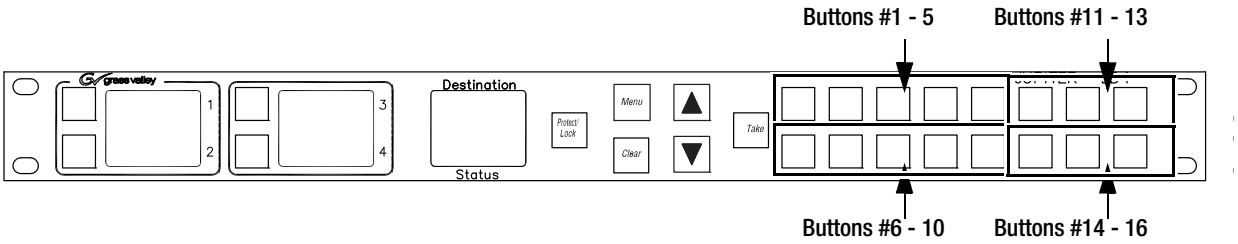


The L64 is a button-per-signal control panel has the same features as the L32, plus:

- Preset/Level display
- Undo
- *Source Paging*

LD4

Figure 4. LD4 Control Panel - New Label



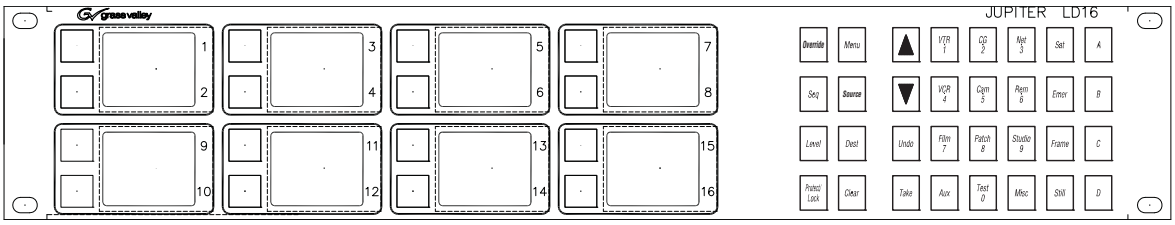
Note The buttons are numbered 1-5 on the top row and 6-0 on the bottom row.

The LD4 is a 16-*category*, *full-matrix* control panel. The panel provides multi-*level status* and control of a single Destination ("XY Mode"), or, top-level status and control of multiple Destinations ("MD Control"). Features include:

- Two color bitmap displays showing up to four Destinations/page
- Destination/Status color bitmap display
- 16 category buttons for direct category selection
- *Locking* and *protecting* Destinations
- Scroll up/down Source/Destination selection
- *Override*
- Level *breakaway*
- *Sticky*-level control
- *Source swap* (flip-flop Take)
- (*Salvo*) switching

LD16

Figure 5. LD16 Control Panel - New Label



The LD16 is a 20-*category*, *full-matrix*, multi-level *breakaway* control panel. The panel provides multi-*level status* and control of a single Destination, or,

top-level status and control of multiple Destinations ("MD Control"). Features include:

- Eight color bitmap displays showing up to 16 Destinations/page,
- 20 category buttons for direct category selection,
- *Locking* and *protecting* Destinations,
- Scroll up/down Source/Destination selection,
- Undo,
- *Override*,
- Level *breakaway*,
- *Sticky*-level control,
- *Source swap* (flip-flop Take), and
- *Sequence* (*Salvo*) switching.

S Series Control Panel Features

S25/S50

Figure 6. S25 Control Panel

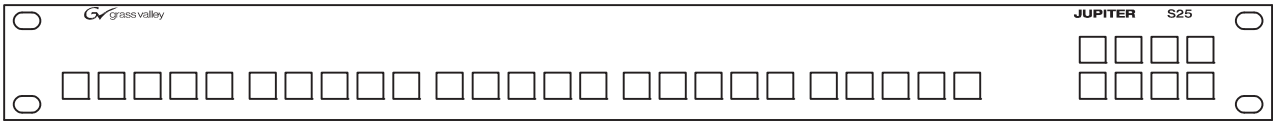
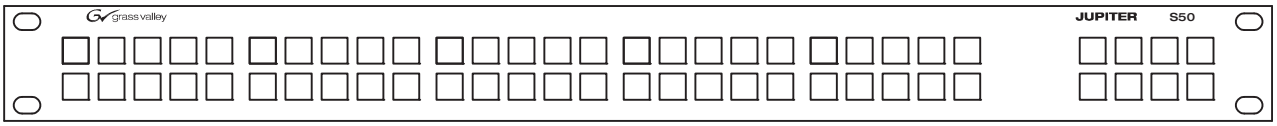


Figure 7. S50 Control Panel

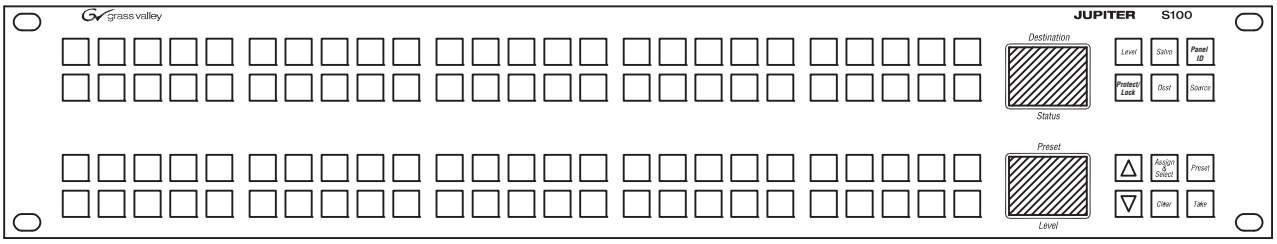


The S25 (Figure 6) and S50 (Figure 7) panels provide button-per-Source routing switcher control with 25 (or 50 respectively) Source buttons and an eight-button Destination / level selection cluster. Other panel features include:

- Level *breakaway*, and
- Configurable for various combinations of Destinations and levels:
  - Control of one Destination and breakaway switching for eight levels, or
  - Control of two, three, or four Destinations and breakaway switching for four levels, or
  - Control of five, six, seven, or eight Destinations without breakaway switching.

S100

Figure 8. S100 Control Panel



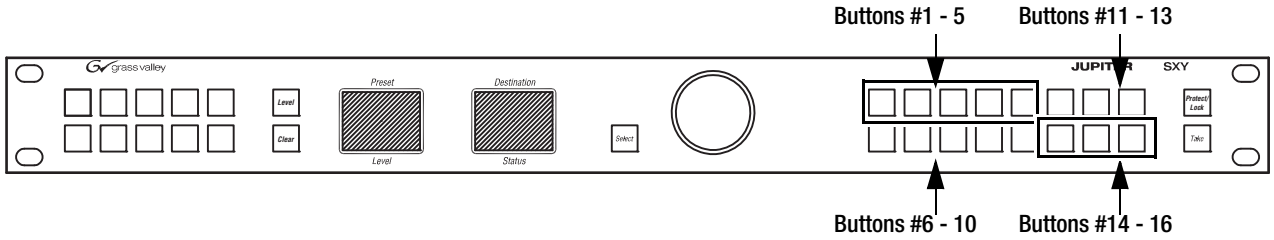
The S100 is a 100 button-per-Source control panel. The panel includes two color bitmap displays (Destination/Status and Preset/Level) and buttons

for scrolling through every available Source or Destination, plus a button for *level* selection. Features include:

- Assignable buttons on the front panel,
- *Locking* and *protecting* Destinations
- Scroll up/down Source/Destination selection
- Preset mode
- Level *breakaway*
- *Sticky*-level control
- *Sequence* (*Salvo*) switching
- *Source Paging*

SXY

Figure 9. SXY Control Panel



The SXY is a single Destination control panel that includes two color bitmap displays (Destination/Status and Preset/Level). *Category*/number keys and a rotating selector knob can be used to select a Source, a Destination, a level selection, a Sequence, or an Override. The following features are included:

- Quick selection knob,
- 16 category buttons for direct category selection,
- *Locking* and *protecting* Destinations,
- *Override*,
- Level *breakaway*,
- *Sticky*-level control,
- *Source swap* (flip-flop Take),
- *Sequence* (*Salvo*) switching, and
- Scroll Take.

LCD Series Control Panel Features

Each LCD16 and LCD48 Control panel has the following features:

- Can be connected to your LAN based network.
- Includes Multi-color LCD buttons. Each of these buttons can display three lines of text. Each line can display up to 10 characters.
- Includes a scroll wheel. This wheel is used to navigate through the different pages. Pressing the wheel in will open the “Menu mode.”
- Includes six operation modes:
  - X-Y mode
  - Single Destination mode.
  - Multiple Destination mode.
  - Category Entry mode.
  - Level Mode (Used for level-breakaway switches).
  - B.P.S. mode (Button per Source).
- Includes four menu options:
  - Sequence selection.
  - Override selection.
  - Sticky Destinations (Controlled by the Panel user.) for the following modes:
    - Multiple Destination mode.
    - B.P.S mode.
  - Sticky level mode. (Controlled by the Panel user.)
- Includes multiple-use button functionality, which includes quick-pick modes for Destination, Source, Sequences, and Overrides.
- Includes multiple outputs can be configured from the Jupiter configuration editor.
- All key panel parameters are saved in non-volatile memory.
- Is compatible with Grass Valley Net Config Application.
- Includes key control sets that can be changed from Jupiter without causing the CM to reboot or any Jupiter system interruptions.
- Supports CM-4000 (or CM-4400) / AccuSwitch redundancy.
- Supports Jupiter Mnemonic aliasing or labeling.
- Supports Jupiter Output level sets.
- Supports Jupiter Destination Security for the Advise, Lock, and Protect options.

Specifications

For mechanical, connection, power, and environmental specifications, refer to *Appendix A-L-S and LCD Panel Specifications*.

Section 2

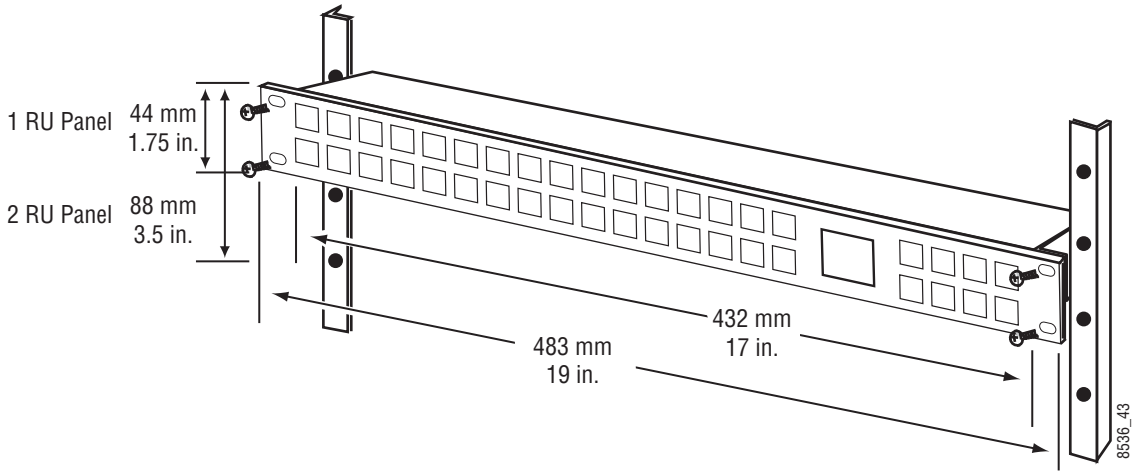
Hardware Installation

This section describes hardware installation procedures for the L-S series hardware panels.

Rack Mounting

Jupiter L-S and LCD panels mount into a standard 19 in. equipment rack. Panels are 1 or 2 RU high (Figure 10).

Figure 10. Panel Rack Mounting



See *L-S and LCD Panel Specifications* on page 165 for dimensions for each type of L-S panel.

Power Supplies

Two methods are available for powering the L or S series hardware panels:

- AC power supply (JUP-ACPS-1RU and JUP-ACPS-2RU)
- DC power supply (JUP-DCPS)

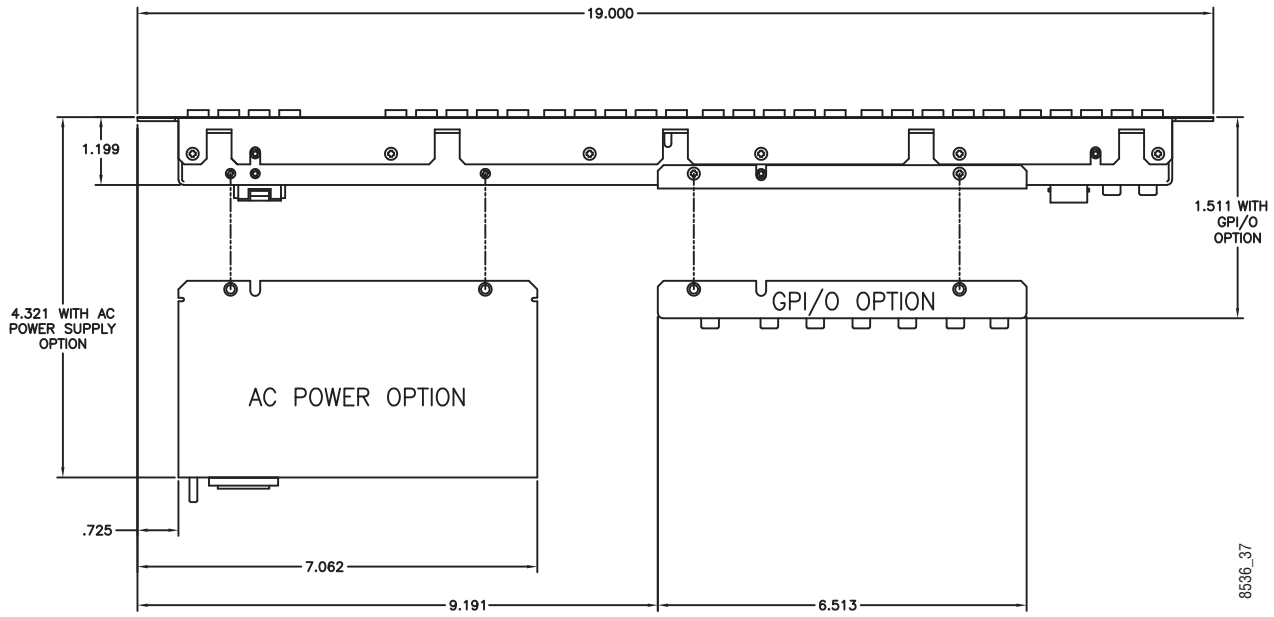
The Power supply module used must be specified at the time of order.

All power modules are auto-sensing (120-240 VAC, 50-60 Hz) and are supplied with a main power cable that is appropriate for the user's geographic location. No power switch is present. Disconnect the AC cord to power down the panel.

WARNING Do not connect any external power supply other than the approved "JUP-DCPS" unit supplied by Thomson Grass Valley.

The AC power supply is contained in a module that mounts on the rear of the panel (Figure 11).

Figure 11. Control Panel Dimensions with Options

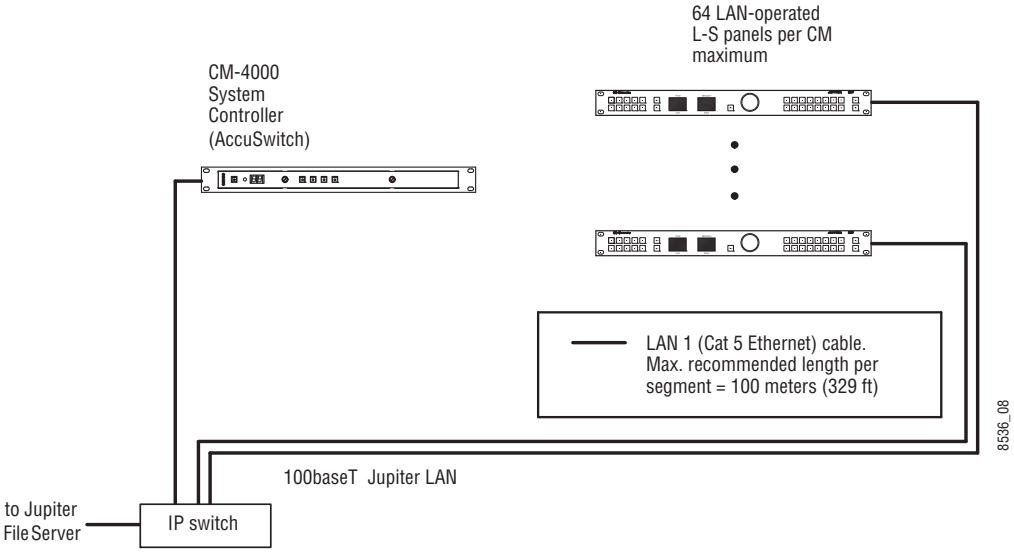


Network Wiring

The L-S series panels are connected to the CM-4400 (or CM-4000) System Controller via Ethernet or a Serial connection. Maximum length of a LAN (Cat5 cable) connection is 329 feet (100 meters). The LAN must be capable

of performing 100 Mb operations, and each Ethernet segment (hub to panel) has a 100-meter limit. See Figure 12.

Figure 12. LAN only system connections.



Button Labels

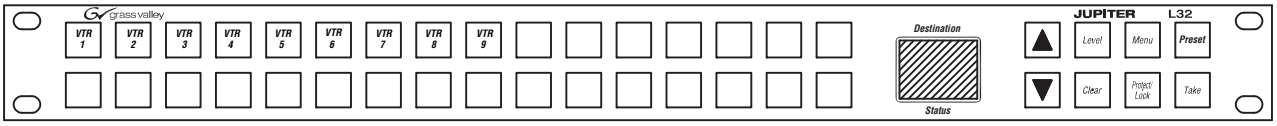
Most L-S series panels are supplied with "typical use" button labels already installed. Additional buttons can be labeled in the field. Two resources are available for labels:

- A pre-printed/pre-cut transparency keycap label sheet is supplied with each panel. See *Keycap Transparency Labels* on page 45.
- Microsoft Word files are available for creating custom labels. For more information, see *Contacting Grass Valley* on page 4.

L32/L64/S100 Panels

The L32 and L64 panels have 32 or 64 buttons respectively, on the left side of the panel that can be used for Button-per-Source operation. The S100 panel has 100 buttons for this purpose. Using the label resources described above, these buttons can be labeled 1 through 32, 64, or 100.

Figure 13. L32 with Custom Labels



If the button assignments are more or less permanent, you may want to label them more specifically. An example is shown in Figure 13. See *Source Button Configuration* on page 44 for more information.

LD4 Panels

The LD4 panels have a cluster of 16 buttons on the right side that can be used for category/number operation. See Figure 14.

Figure 14. LD4 Control Panel - Previous Label

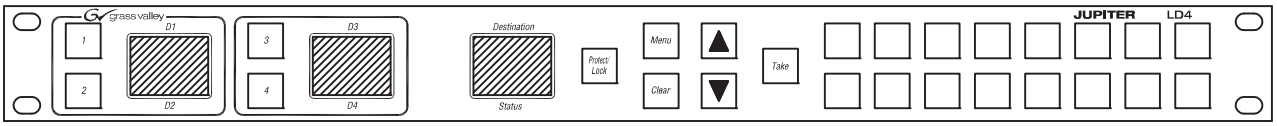
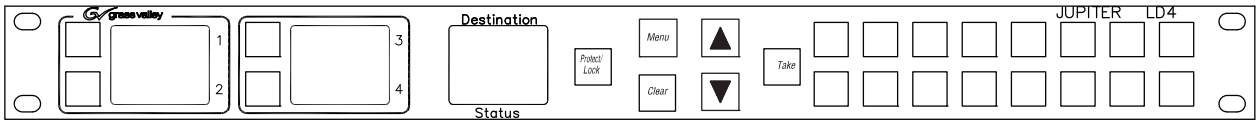
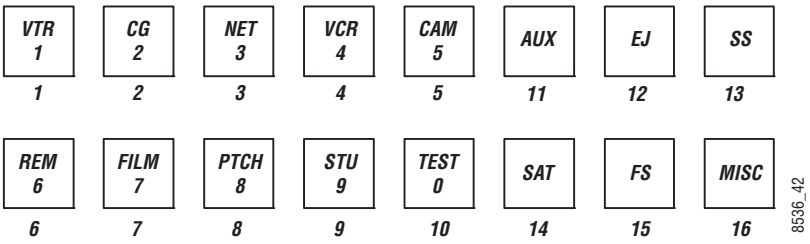


Figure 15. LD4 Control Panel - New Label



These buttons have default categories assigned, as shown in Figure 16.

Figure 16. Type CPESXTND Input Set Default Categories



It is possible to configure the panel with a custom category set. The button order of the set is grouped with the first 10 entries on the left and the following 6 entries on the right. See *Category Button Configuration* on page 44 for more information.

LD16 Panels

The LD16 includes a button cluster on the right side of the panel that can be used for category/number selection. The default is shown in Figure 17.

Figure 17. LD16 with Type ESL Category Set - Previous Label

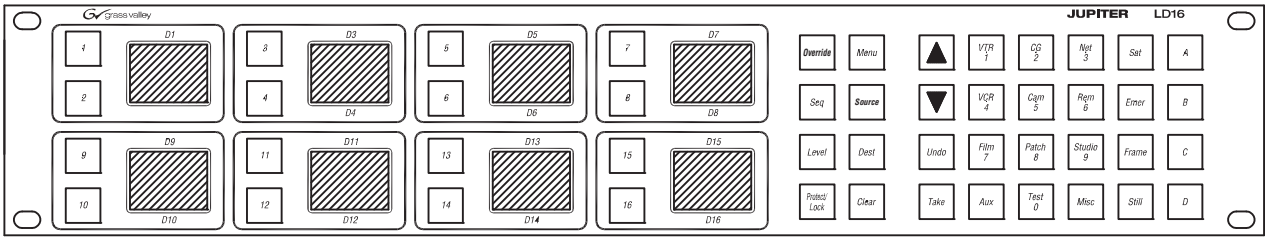
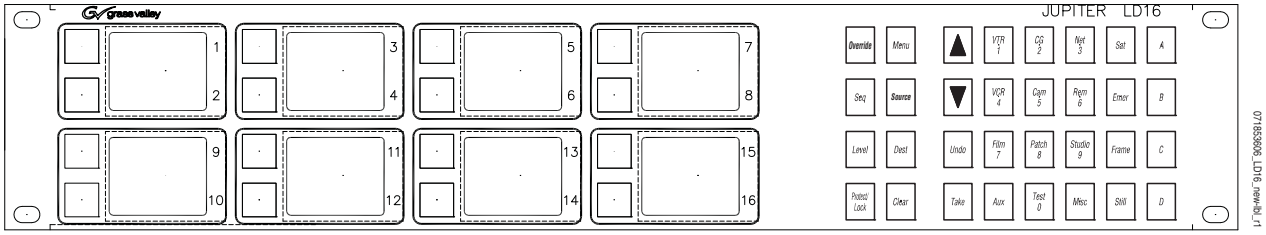


Figure 18. LD16 with Type ESL Category Set - New Label

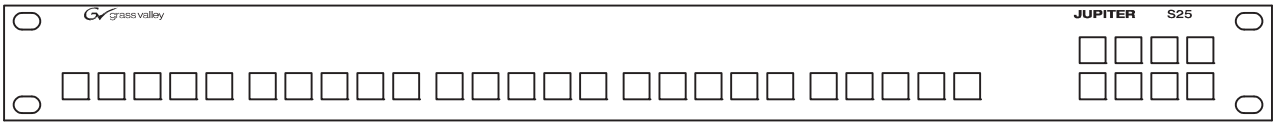


It is also possible to configure the panel with a custom category set. See *Category Button Configuration* on page 44 for more information.

S25/S50

The S25 and S50 panels have 25 or 50 buttons on the left side of the panel that can be used for “Button-per-Source” operation. Using the label sheet, these buttons can be labeled 1 through25 (or 50 respectively). If the button assignments are more or less permanent, it might be desirable to label them more specifically. See *Source Button Configuration* on page 44 for more information.

Figure 19. S25

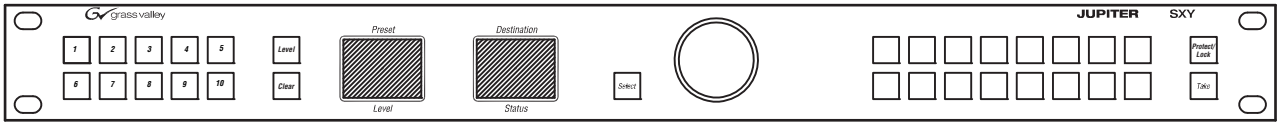


These panels also include a cluster of eight buttons on the right side that can be configured and labeled to select router levels. See *CP Level Set* on page 63 for more information.

SXY Panels

The SXY panels include a cluster of buttons on the left side that can be configured and labeled to select router levels. See *CP Level Set* on page 63 for more information.

Figure 20. SXY Control Panel Showing Level Buttons



The SXY panels also have a cluster of 16 buttons on the right side that can be used for category/number operation. See *Category Button Configuration* on page 44 for more information.

Button Configuration Overview

Source Button Configuration

Source button functions are assigned on a panel by creating a Jupiter CP Input set of type CPESXTND. The set table in this Input set consists of a list of button numbers and the name of the router input associated with each button. The CP Input set is assigned to the panel using the MPK Devices table.

For more information about button configuration, see *CP Input and CP Output Sets* on page 64.

Category Button Configuration

Category buttons exist on some panels, allowing the pre-selection of categories of Sources or Destinations. The categories can be customized, by creating a custom Jupiter CP Category set table. This CP Category set would then be assigned to the CP Input set, which would in turn be assigned to the panel using the MPK Devices table.

For more information about button configuration, see *CP Input and CP Output Sets* on page 64.

Level Button Configuration

Some panels include a cluster of eight buttons on the right side that can be configured and labeled to select router levels. This can be done by creating a suitable CP Level set that lists the router levels in the order they should be available using the eight buttons. The CP Level set is assigned to the panel using the MPK Devices table.

For more information about level button configuration, see *CP Level Set* on page 63.

Keycap Transparency Labels

A sheet of pre-cut transparency keycap labels, part no. 335835400, is available for use with Jupiter L-S and LCD Series Control panels. The large labels measure 0.38 x 0.38 inches (9.65 x 9.65 mm). The small labels measure 0.3 x 0.3 inches (7.62 x 7.62 mm). The font is Helvetica condensed oblique See Figure on page 45.

Pre-Cut Transparency Keycap Labels

Keycap Legends for JEP "S" series Small Buttons

Aux 0	Cam 0	CG 0	Film 0	Net 0	Patch 0	Rem 0	Server 0	Studio 0	Test 0	VCR 0	VTR 0	A	K	U	Tally/ Level ID	Audio	Level	Shift	Assign & Select
Aux 1	Cam 1	CG 1	Film 1	Net 1	Patch 1	Rem 1	Server 1	Studio 1	Test 1	VCR 1	VTR 1	B	L	V	Panel Enable	Aux	Lock	Source	Over Ride
Aux 2	Cam 2	CG 2	Film 2	Net 2	Patch 2	Rem 2	Server 2	Studio 2	Test 2	VCR 2	VTR 2	C	M	W	All Level Config	Chop	Menu	Still	Panel ID
Aux 3	Cam 3	CG 3	Film 3	Net 3	Patch 3	Rem 3	Server 3	Studio 3	Test 3	VCR 3	VTR 3	D	N	Y		Clear	Misc	Store	Protect/ Hold
Aux 4	Cam 4	CG 4	Film 4	Net 4	Patch 4	Rem 4	Server 4	Studio 4	Test 4	VCR 4	VTR 4	E	O	X		Dest	Preset	Take	Protect/ Lock
Aux 5	Cam 5	CG 5	Film 5	Net 5	Patch 5	Rem 5	Server 5	Studio 5	Test 5	VCR 5	VTR 5	F	P	Z		Edit	Protect	Undo	▲
Aux 6	Cam 6	CG 6	Film 6	Net 6	Patch 6	Rem 6	Server 6	Studio 6	Test 6	VCR 6	VTR 6	G	Q			Emer	Salvo		▼
Aux 7	Cam 7	CG 7	Film 7	Net 7	Patch 7	Rem 7	Server 7	Studio 7	Test 7	VCR 7	VTR 7	H	R			Enter	Sat		Blue
Aux 8	Cam 8	CG 8	Film 8	Net 8	Patch 8	Rem 8	Server 8	Studio 8	Test 8	VCR 8	VTR 8	I	S			Frame	Select		Gold
Aux 9	Cam 9	CG 9	Film 9	Net 9	Patch 9	Rem 9	Server 9	Studio 9	Test 9	VCR 9	VTR 9	J	T			Frame Store	Seq		Red
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
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

grass valley
Router and Control Systems
JEP Series Small and Large Button Keycap Legend Set
GV Part Number 335-8354-00A1

Keycap Legends for JEP "L" series Large Buttons

Aux 0	Cam 0	CG 0	Film 0	Net 0	Patch 0	Rem 0	Server 0	Studio 0	Test 0	VCR 0	VTR 0	A	K	U	Tally/ Level ID	Audio	Level	Shift	Assign & Select
Aux 1	Cam 1	CG 1	Film 1	Net 1	Patch 1	Rem 1	Server 1	Studio 1	Test 1	VCR 1	VTR 1	B	L	V	Panel Enable	Aux	Lock	Source	Over Ride
Aux 2	Cam 2	CG 2	Film 2	Net 2	Patch 2	Rem 2	Server 2	Studio 2	Test 2	VCR 2	VTR 2	C		W	All Level Config	Chop	Menu	Still	Panel ID
Aux 3	Cam 3	CG 3	Film 3	Net 3	Patch 3	Rem 3	Server 3	Studio 3	Test 3	VCR 3	VTR 3	D	N	Y		Clear	Misc	Store	Protect/ Hold
Aux 4	Cam 4	CG 4	Film 4	Net 4	Patch 4	Rem 4	Server 4	Studio 4	Test 4	VCR 4	VTR 4	E	O	Z		Dest	Preset	Take	Protect/ Lock
Aux 5	Cam 5	CG 5	Film 5	Net 5	Patch 5	Rem 5	Server 5	Studio 5	Test 5	VCR 5	VTR 5	F	P			Edit	Protect	Undo	▲
Aux 6	Cam 6	CG 6	Film 6	Net 6	Patch 6	Rem 6	Server 6	Studio 6	Test 6	VCR 6	VTR 6	G	Q			Emer	Salvo		▼
Aux 7	Cam 7	CG 7	Film 7	Net 7	Patch 7	Rem 7	Server 7	Studio 7	Test 7	VCR 7	VTR 7	H	R			Enter	Sat		Blue
Aux 8	Cam 8	CG 8	Film 8	Net 8	Patch 8	Rem 8	Server 8	Studio 8	Test 8	VCR 8	VTR 8	I	S			Frame	Select		Gold
Aux 9	Cam 9	CG 9	Film 9	Net 9	Patch 9	Rem 9	Server 9	Studio 9	Test 9	VCR 9	VTR 9	J	T			Frame Store	Seq		Red
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
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

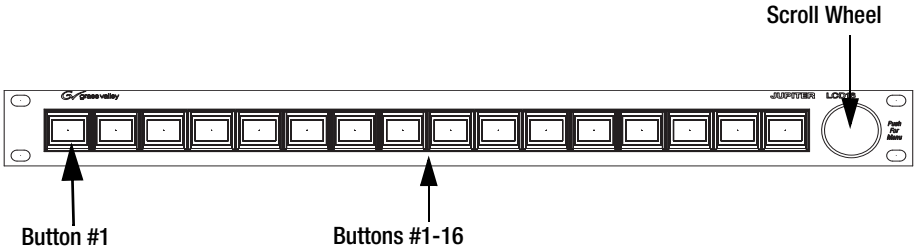
LCD Panel Components

The following figures display each component of the specified panel. The names that are shown in the figure will be used in the rest of the manual. Each panel is configured using the Jupiter Configuration editor. The buttons are numbered from left to right. That is, the number 1 button is the first button on the left. The menu is displayed by pressing the Scroll wheel (Figure 21).

LCD16

The following figure identifies each component of the LCD16 panel. The number range for each row is also identified.

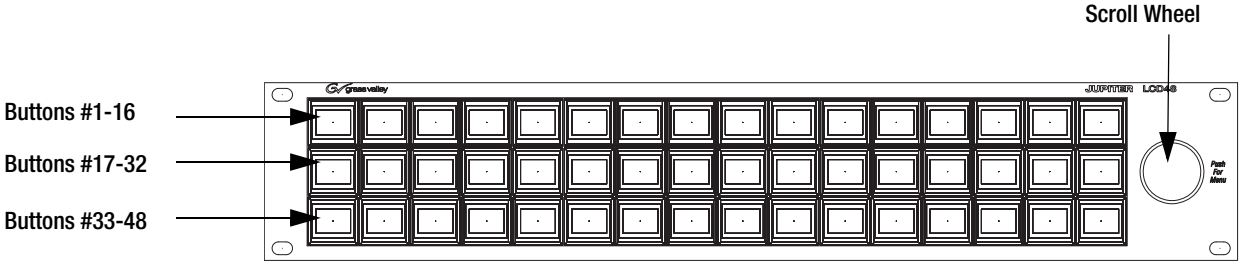
Figure 21. LCD16 Control Panel



LCD48

The following figure depicts each component of the LCD48 panel. The number range for each row is also identified.

Figure 22. LCD48 Control Panel



Section 3

Software Installation & IP Addresses

Introduction

The L-S and LCD series panels operate with the Jupiter AccuSwitch control system using Ethernet LAN or Serial connections. This functionality requires all Jupiter system devices on the network must use compatible software versions and IP addresses.

L-S and LCD series hardware panels are shipped with the current software installed. There is no need to install panel software on newly shipping systems. However, the IP address must be set on each panel so it can operate on the network. The NetConfig application is used to discover and set IP addresses of the L-S and LCD series panels. NetConfig is also used to update L-S and LCD series panel software, by transferring panel code from the computer running NetConfig directly to the panels. The L-S and LCD panels communicate with the CM-4000/CM-4400 controller boards via the ESLAN or Serial protocol. Once communications is established, the L-S and LCD panels will receive their operational configurations from the Jupiter CM-4000/CM-4400 controller.

The software update process for panels is different from that used by the Jupiter control system itself. Jupiter (VM, SI, and CM-4000) controller boards update their software via Bootstrap Protocol (bootp) and Trivial File Transport Protocol (TFTP) when activating a configuration. The controller boards send out a bootp request and the file server responds by indicating what files need to be downloaded from where. The controller boards then use TFTP to download the files from the Jupiter file server. The files consist of the.sys files (accuswch.sys, jupiter.sys) and a.cfg file. The .sys file is the operating system and the .cfg file is for configuration. The .sys file is installed during the Jupiter install process and the .cfg file is created after compiling the configuration and activating it.

Note The Jupiter Control Center and NetConfig use the same TFTP port. NetConfig cannot be used to send software to the Control panels if the Jupiter Control Center is running. Configuration changes from the Jupiter Control Center could also be interrupted if NetConfig is running at the same time, depending which application has the port bound.

L-S and LCD Panels Software Installation (on Jupiter File Server)

The Grass Valley NetConfig application is supplied on the L-S and LCD Panels Software CD that is shipped with the panel.

1. Insert the Jupiter L-S Panels Software CD into the Jupiter file server computer, the L-S and LCD Panels installation application will launch (Figure 23).

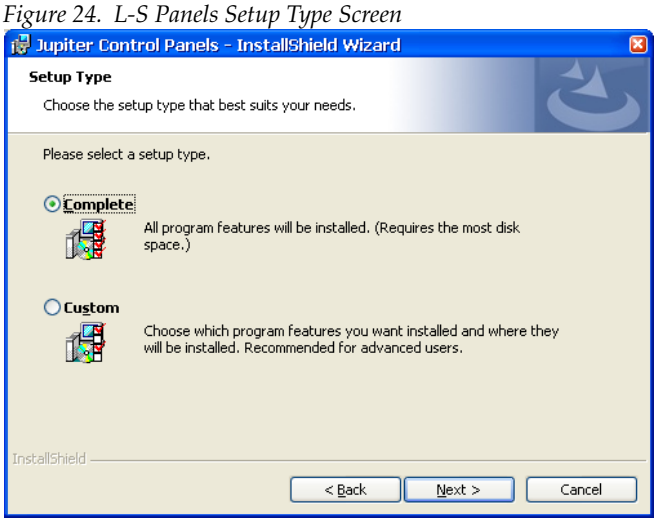
   This program loads files from the CD onto the computer running the installer program. You can later use NetConfig to install the software directly on the L-S and LCD series panels.

Figure 23. L-S Panels Installation Welcome Screen

The *Setup Type* Screen will then appear.

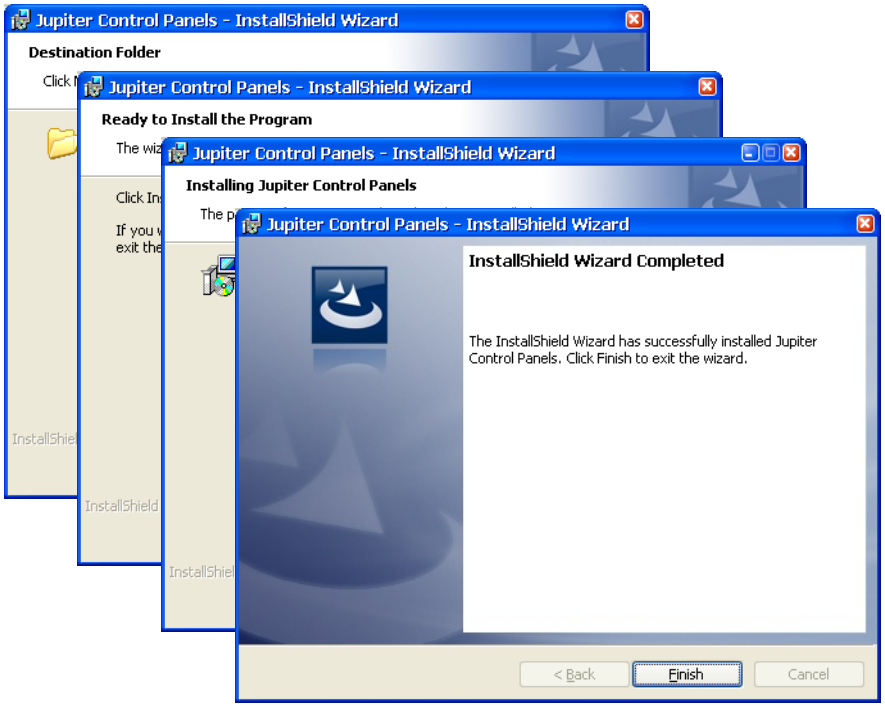
2. Select the **Complete** radio button (Figure 24).

Figure 24. L-S Panels Setup Type Screen



3. Click the **Next>** button and follow the instructions shown on the subsequent screens, accepting the defaults (Figure 25).

Figure 25. L-S Panels Installation Screens



4. Click **Finish** when the L-S Panels software installation completes.

Network IP Addresses

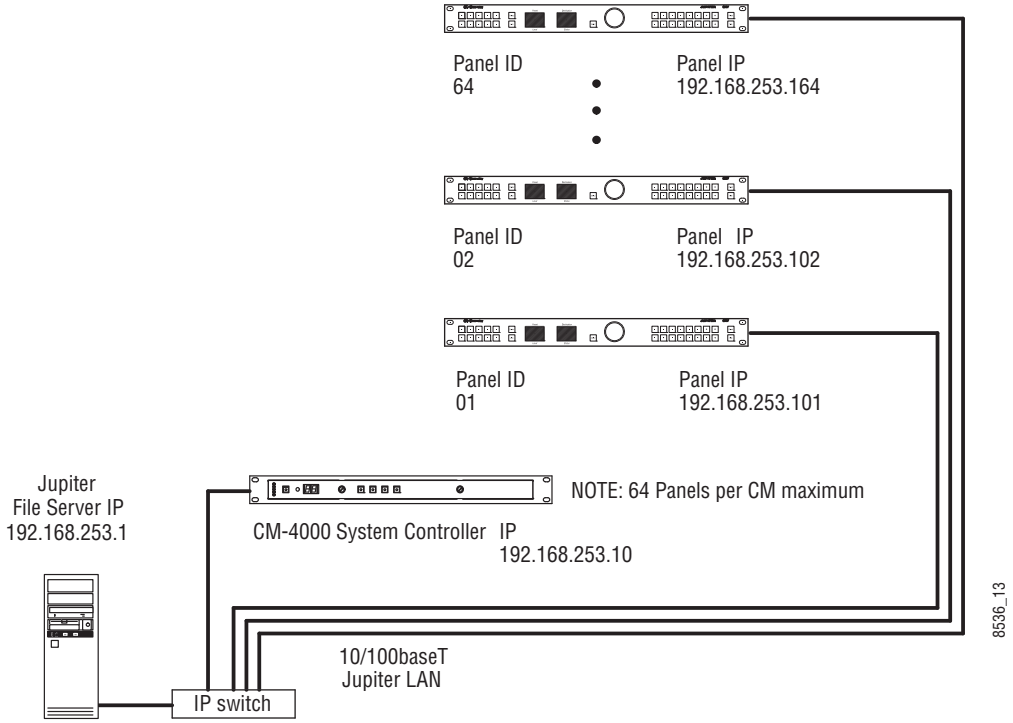
This section describes IP (LAN) addressing procedures for the L-S and LCD series hardware panels.

IP connection and configuration allows Ethernet operation and provides a downloading path for software upgrades. The L-S panel, Jupiter System controller (CM-4000 or CM-4400), and Jupiter file server PC must be on the same IP network, or be connected through a network router/gateway.

Single Network IP Configuration

Figure 26 shows an example with the Jupiter equipment (file server, Jupiter System controller (CM-4000 or CM-4400), and L-S panel) is in an isolated network environment.

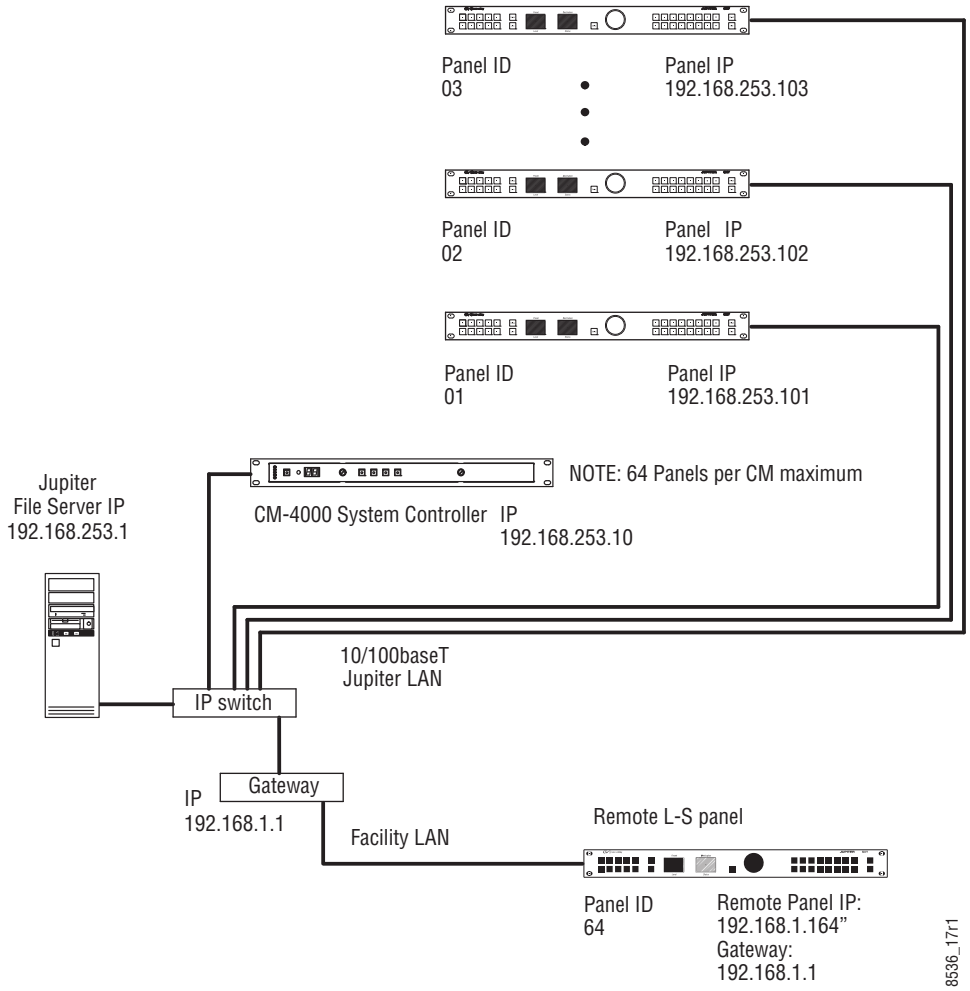
Figure 26. LAN System Addressing Example.



Multi-Network IP Configuration

A “remote” L-S panel can be placed on a network separate from the other Jupiter devices. For example, L-S panel can be placed on a facility LAN. In Figure 27, an IP router serves as a gateway between two networks.

Figure 27. LAN Addressing With Remote L-S Panel Example



Configuration is similar to that just described, except that the address of the gateway must be entered on the web page for the remote panel.

For more information on IP addressing, see either the *Jupiter CM-4000 Installation and Operating manual or* the *Jupiter CM-4400 Installation and Operating manual.*

Network Configuration Procedure (NetConfig)

The network configuration procedure requires the Grass Valley NetConfig application v2.0.9 or newer. NetConfig is supplied on the CD shipped with

the panel (see *L-S and LCD Panels Software Installation (on Jupiter File Server)* on page 48).

The network configuration procedure consists of two parts:

- Setting the panel IP address, subnet value, and gateway address, and
- Setting the panel "Device Number" and other Jupiter values.

Setting IP Addresses on the L-S and LCD Panels

When L-S and LCD panels are being installed for the first time, the user will need to load the NetConfig application on the Jupiter file server PC.

Note The following is a summary of the NetConfig portion of the configuration process. For a complete description of the NetConfig application, refer to the *NetConfig Instruction manual*.

1. Connect the panel to the IP switch on the Jupiter network. Apply power. If the panel has a display window, you should see the default IP address of the panel.

   If there are other devices on the Jupiter LAN with this same address, they should be disconnected at this time.

2. Launch the NetConfig application from the control-system file server.

3. Expand the "IP View."

   You should see the Jupiter file server name and IP address.

4. Expand the listing under the Jupiter file server.

   You should see the panel name and the factory default address of the panels. In most cases, you will see a red dot next to the panel name, meaning that the panel address needs to be changed as described below.

   If you do not see the expected name of the panel:

   - Select "Configure > NetConfig Options > Clear Views and Re-discover."
   - Check to see that the "IP View > Product Web Access Pages" are not being covered by other views, such as "Device view" or "Facility View."

   In some cases, you may need to cycle power to the panel.

5. Change the panel IP address to place the panel on the Jupiter network:

   a. Select the panel requiring an address change.

   b. Select the "Set IP" button along the top of the NetConfig window.

      You should see the "Change IP Addresses" menu.

c. In the "Select Device Type" field, select "All Devices."

d. Select the panel requiring an address change.

e. Select "Edit."

f. IP address: set to a unique value within the same network as the Jupiter file server.

For example, if the Jupiter file server address is 192.168.253.1, then the panel address should be changed to reside in the 192.168.253.x network (such as "192.168.253.101").

g. Subnet Mask: set to 255.255.255.0 (Class C network).

h. Gateway: not used in a simple network environment.

If the panel and the server are on separate networks, the gateway connecting them must be specified. See page 51.

i. Select "OK," "Apply Changes," and "Close."

In the IP View, a green dot should indicate that the panel is fully connected.

The panel itself should reboot.

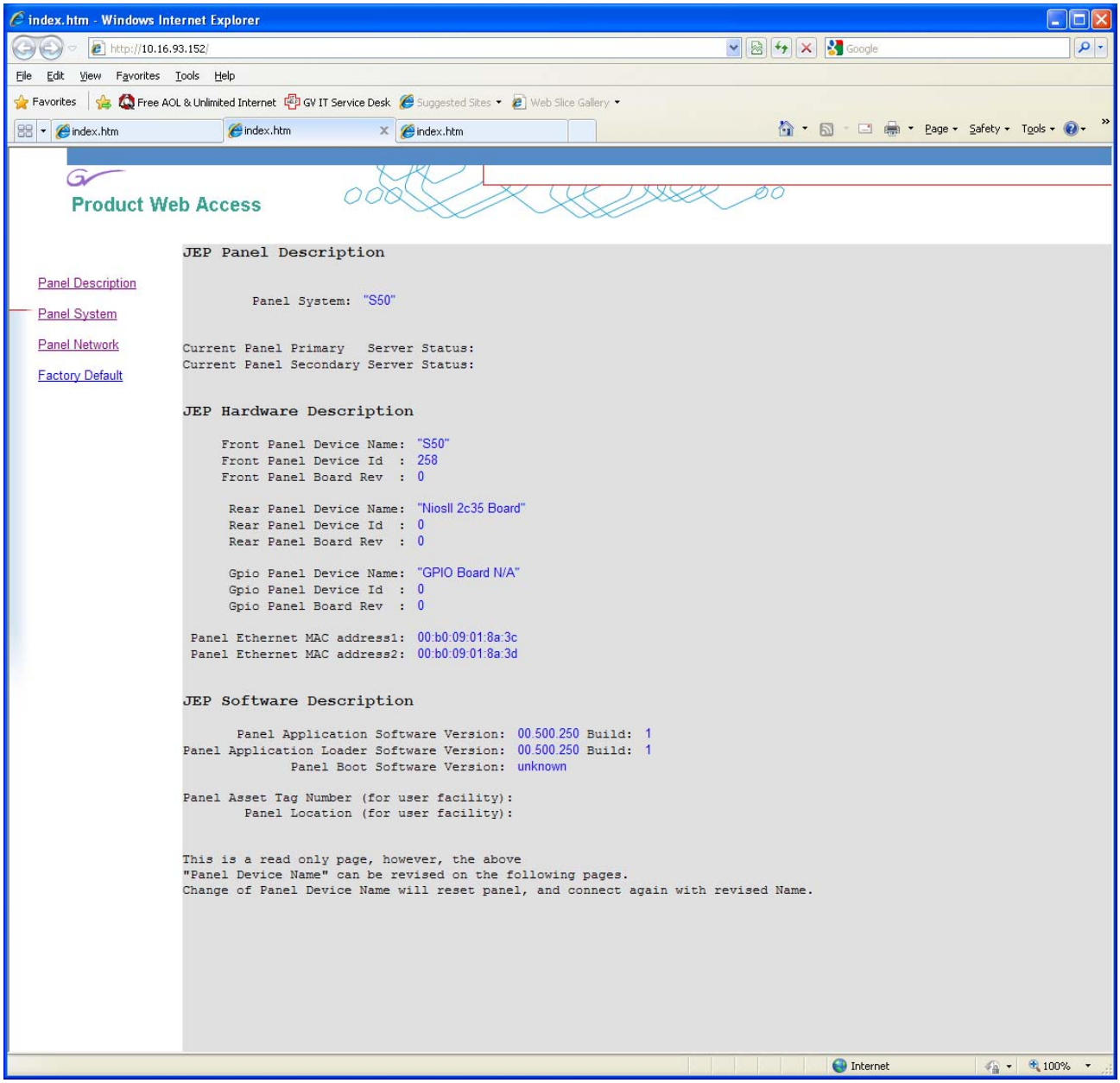
j. Proceed to *Setting Jupiter Values for L-S and LCD Panels* below.

Setting Jupiter Values for L-S and LCD Panels

During the following steps, you will need to know the IP address of the AccuSwitch system that will be associated with the panel. Use the Jupiter File Server JNS Control Center application to determine the CM-4000/CM-4400 IP address (the Control Center application is described in both the *Jupiter CM-4000 Installation and Operating manual* and the *Jupiter CM-4400 Installation and Operating manual*).

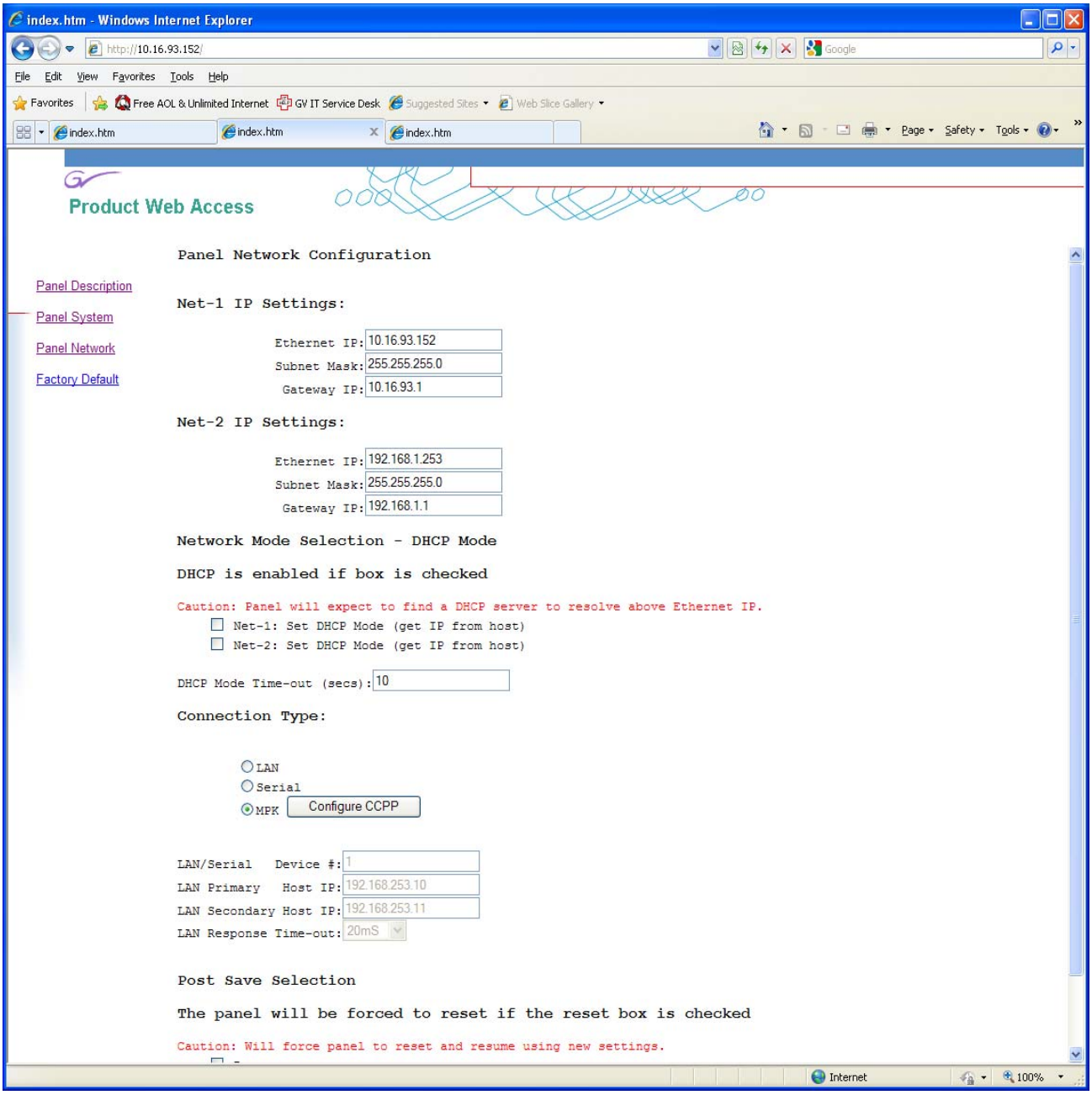
1. Using NetConfig, click the name of the panel (as described in Step 4 above). The **Product Web Access** page (Figure 28) appears.

Figure 28. Product Web Access Page



2. Click Panel Network. The Panel Network Configuration page (Figure 29) appears.

Figure 29. Panel Network Configuration Page .



a. The **Net-1 IP Settings** should already be correct (they were set using the **Change IP Addresses** menu described above).

b. Clear the **Net-1: Set DHCP Mode** and **Net-2: Set DHCP Mode** check boxes (unless IP addresses are being set automatically by a Dynamic Host Configuration Protocol server).

c. ES-LAN/Serial Device #:

Each panel connected to an AccuSwitch controller must be given a unique number.

- Enter a number from 1 to 64 for a LAN only system.
- Enter a number from 1 to 16 for a Serial only system.

The "Device #" is referred to as the "Device ID" on the panel itself and the "Address" on the Jupiter MPK Devices table. See *Section 4-Jupiter System Configuration*.

d. ES-LAN Primary Host IP: enter the IP address of the Control module associated with this panel.

e. ES-LAN Secondary Host IP: enter the IP address of the redundant Control module (if any).

3. Select "Save New Settings."

This will apply the settings and reboot the panel. You should see some type of status response from the router

4. Go to the next panel and repeat the steps above.

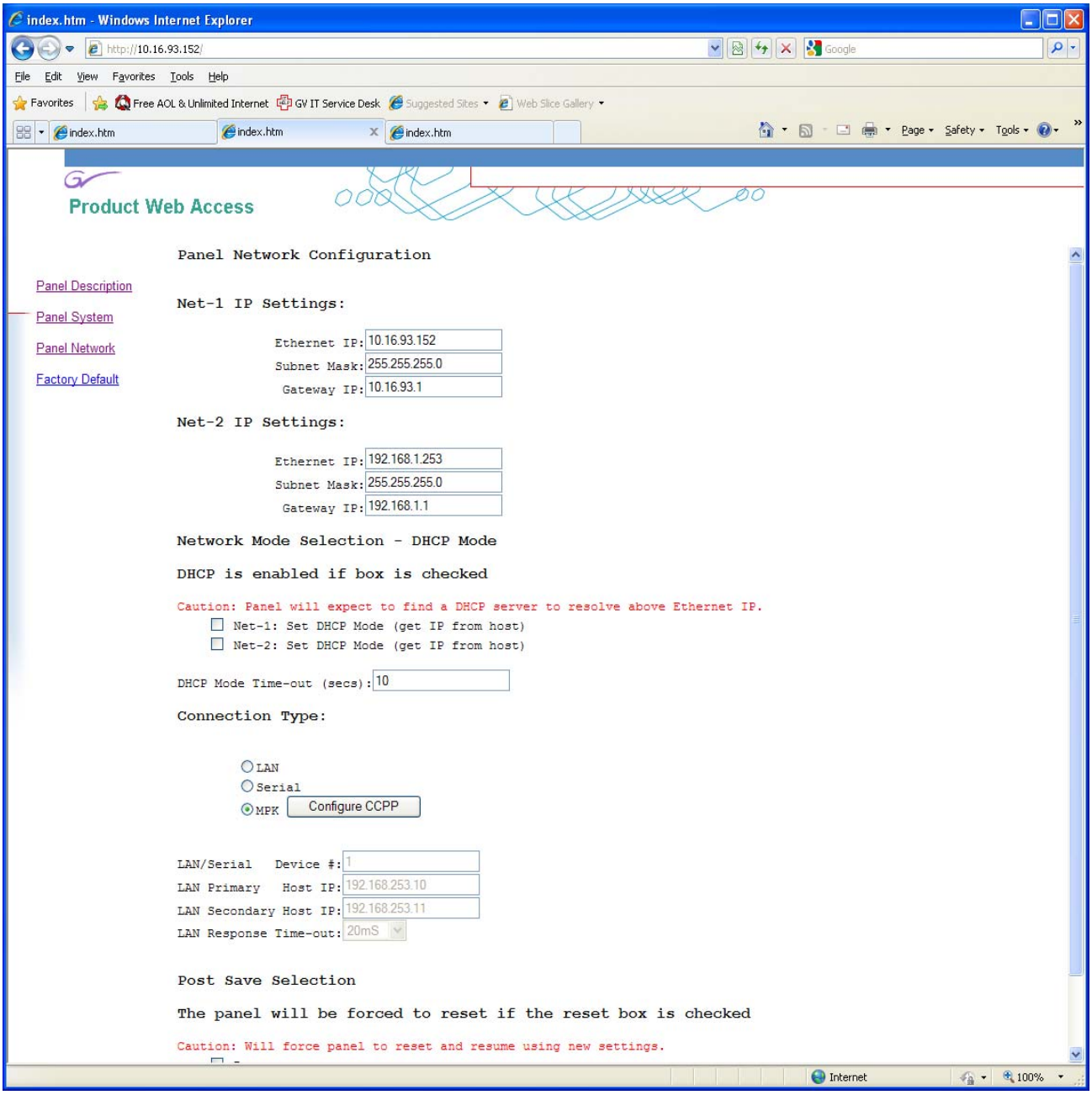
Note For initial installations, the Jupiter/AccuSwitch control system must be configured in order for the Control module to communicate with the panel. Proceed to *Section 4-Jupiter System Configuration*.

Setting Jupiter MPK Configuration with Kayak Switcher

Note Only one S-50 or S-25 panel can be configured per panel. Up to 7 CCPP 4848 panels can be configured.

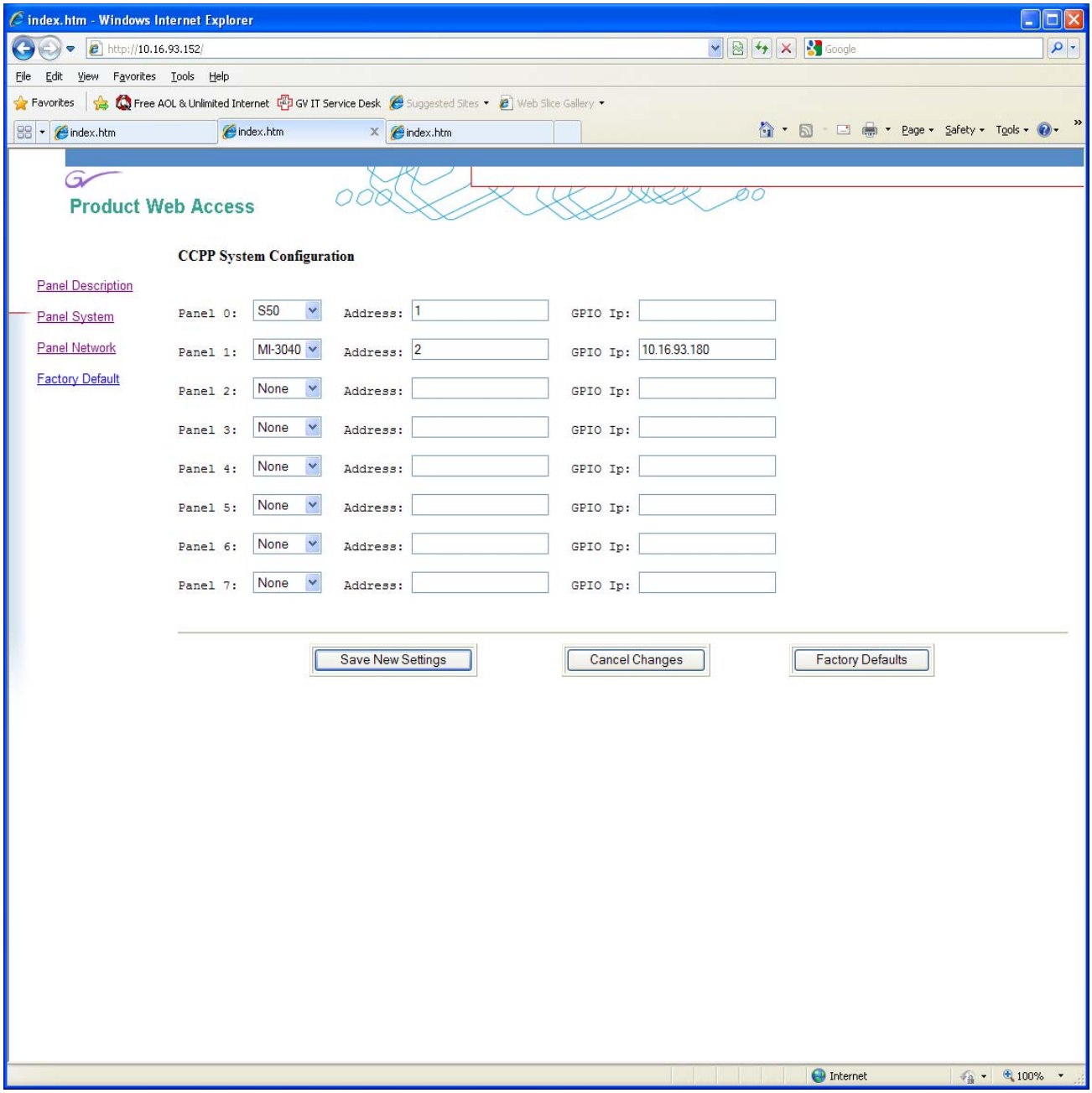
1. Under **Connection Type**, select **MPK**, and then click **Configure CCPP** refer to Figure 30.

Figure 30. Panel Network Configuration Page



2. Click **Configure CCPP**. The **CCPP System Configuration** page (Figure 31) appears.

Figure 31. CCPP System Configuration Page



Note Refer to Figure 31 for the next steps.

3. For **Panel 0**, select **S50**

Note In the next step, the address must match the Kayak MPK configuration.

4. For Panel 0 **Address**, type the MPK address that is entered in the Kayak switcher.

5. For **Panel 1:** select **M-3040**

Note In the next step, the address must match the Kayak MPK configuration.

6. For Panel 1 **Address**, type the MPK address that is entered the Kayak switcher
   a. Enter the GPIO-4848 IP
7. For Panel 1 **GPIO**, type the GPIO-4848 address
8. Click **Save New Settings**.

Finding the Physical Location of a Panel

NetConfig can be used to send an "identify device" signal to a particular panel, causing the panel to display a flashing red and yellow checkerboard pattern.

1. Use Device View and go to Router > Jupiter > Panels.
2. Expand the panel type name and right click on the name of the panel of interest.
3. Select "Identify Device" from the pop-up menu.

The panel will flash the checkerboard pattern for the number of seconds set in the Options menu.

L-S and LCD Panel Software Update

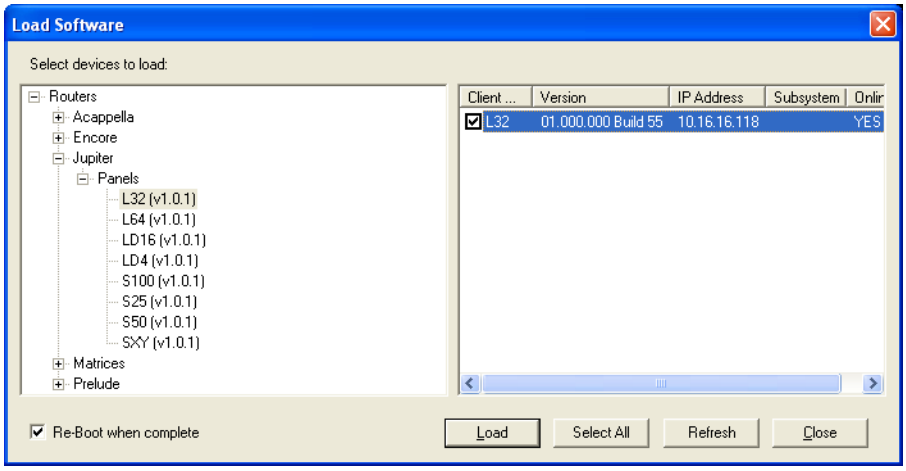
Note NetConfig and the Jupiter Control Center use the same TFTP port. Only one will own the port at a time. When updating control panel software the Jupiter Control Center should be shut down, and NetConfig must be closed to send any Jupiter configuration changes.

NetConfig is used to update the operating software that resides on each L-S series panel. NetConfig accomplishes this by sending the flash files installed onto the computer running NetConfig (Jupiter file server recommended) to the panels via the network. For this reason, panel IP addresses must be set correctly before L-S and LCD panel software can be updated. See *Setting IP Addresses on the L-S and LCD Panels* on page 52 for more information.

1. Launch NetConfig.

2. Click on the **Load Software** tab at the top of the NetConfig screen. The software load window will open (Figure 32).

Figure 32. Load Software Screen



3. Navigate to the Jupiter/Panels folder in the left pane and select the type of panel whose software you wish to update.
4. Select the specific panel(s) in the right pane you wish to update.
5. Ensure the **Re-Boot when complete** box on the lower left is checked.
6. Click **Load**. The software will be loaded to the selected panels and the panels will reboot.

Section 4

Jupiter System Configuration

The following overview of L-S and LCD series panel configuration assumes that the reader is familiar with the Jupiter Facility Control System. Please refer to the *Jupiter CM-4000 Installation and Operating manual* or the *Jupiter CM-4400 Installation and Operating manual* for specific information.

MPK Table Entries

The Jupiter MPK table is used for configuration purposes. The example shown in Figure 33 applies to the system shown in Figure 26 on page 50.

Figure 33. MPK Devices Table

MPK Devices

	MPK Devices	Device Type	Expansion	Pass word	Board	Port	Address	Input Sets	In Panel	Output Sets	Out Panel	Level Set	Overide Set	Sequence Set
1	JEP1	CPESXTND	☐		CM1		01	KXYZINP		KXYZOUT		KXYZLEV		K
2	JEP2	CPESXTND	☐	75	CM1		02	KXYZINP		KXYZOUT		KXYZLEV		
⋮														
64	JEP64	CPESXTND	☐	92	CM1		64	KXYZINP		KXYZOUT		KXYZLEV		

MPK Devices:This column is used to create a name, up to eight characters in length, for each L-S panel. This name must be unique system-wide.

Device Type: Select type “CPESXTND” from the pull-down menu.

Expansion: Leave unchecked.

Password: A password level will only need to be entered if you wish to disable the Configuration and Setup menus on the Control panel. See the *Disabling the Configuration and Setup Menus on the Control Panel* section below for more information.

Note Panels can be configured to force unlock and force un-protect any destination regardless of what panel locked or protected it, depending on what is entered in the Password column. See the *7.8.1 Jupiter Release notes (part # 071827511*) for more information.

Board: Name of CM-4000 or CM-4400 that is associated with this panel. The Source of this name is the Network Description table.

Port: This field is not used during a LAN-only installation.

Address: Panel address from 01 to 64 (01 to 16 for Serial). This address must be unique for panels that are associated with the same Control module. L-S panels are normally shipped with a panel address of "01." This number is referred to as the "Device Number" on the IP configuration page and "ID" within the L-S menu system.

Input Set: The name of the CP Input set that will be assigned to this panel. The usual practice is to have one CP Input Set, containing the names of all Sources, applied to all panels. However, special CP Input Sets could be created which list only selected Sources; such a set could be used to prevent certain panels from selecting specific Sources.

- For a Button-per-Source panel (L32, L64, S25, S50, and S100) the CP Input set can be used to assign Sources to specific Source buttons where the first Source in the table corresponds to the first button on the panel, etc.

In Panel: This column is not used for the L-S and LCD panels.

Output Set: Output Set name. Creation of CP Output Sets is described in both the *Jupiter CM-4000 Installation and Operating manual* and the *Jupiter CM-4400 Installation and Operating manual*.

- For an S25 or S50 panel, with entry of a single Destination name, the panel will operate as a one-Destination panel. The eight-button cluster on the right-hand side of the panel will be used to control the first eight levels of the router.
- For an S25 or S50 panel, with selection of an Output Set with two, three, or four Destinations defined, the panel will operate as a two-, three-, or four-Destination panel respectively. With respect to the eight-button cluster on the right-hand side of the panel, the top row of four buttons will be used to select the Destination; the bottom row of four buttons will be used to control the first four levels of the router.
- For an S25 or S50 panel, with selection of an Output Set with five, six, seven, or eight Destinations defined, the panel will operate as a five-, six-, seven-, or eight-Destination panel respectively. The eight-button cluster on the right-hand side of the panel will be used to select the Destination.
- For all other L-S series panels, if an actual CP Output Set is selected, then the control panel will be able to control all the Destinations listed in that Set; depending on the contents of the set, this would allow for full-matrix or multi-bus control. Alternatively, this field can be used to enter the name of a single switcher Destination to be controlled; the Source of the Destination name is the Switcher Output table.

Out Panel: This column is not used for L-S and LCD panels.

Level Set: Select the CP Level Set name.

Override Set- (Does not apply to S25 and S50. Optional for all other L-S panels.) Select a CP Override set name. A CP Override set can be used to define a set of Sources and level combinations that can be quickly applied to a panel controlled Destination. Up to 10 pages of overrides (80 overrides total) may be defined. The order in which the overrides are listed on the CP Override set table will be the order in which they appear on the panel.

Sequence Set- Select a CP Sequence set name. A Sequence set is used to execute a list of switches with a single command. (Does not apply to S25 and S50and is optional for all other L-S panels.)

Control Panel Sets

Switcher Sources and Destinations for the L-S and LCD panels are specified by creating a Jupiter CP Level Set, a CP Input Set, and a CP Output Set. These sets are assigned to each panel using the MPK Devices table (Figure 33).

CP Level Set

The CP Level Set used for L-S and LCD panels is specified as type CP3800.

With L-S panels, the CP Level Set establishes the order in which levels are displayed on the panel and the display mnemonics used for the various levels (“Video,” “Left,” etc.). The display mnemonics have a maximum length of eight characters.

CP Input and CP Output Sets

The CP Input and Output Set is specified as type CPESXTND for all L-S and LCD models. The number of category buttons varies from panel to panel, as indicated in Table 1.

Table 1. Panel Category Buttons

L-S and LCD Panel Model	Number of Category Buttons (default)
L32	None
L64	None
LD4	16
LD16	20
S25	None
S50	None
S100	None
SXY	16
LCD	98 (20 categories at a time)

For example, the LD4 panel provides a maximum of 16 categories; therefore categories 17 through 98 (as shown by the Jupiter editor) will not be supported. The CP Input and Output sets are also the Source of the eight-character mnemonics displayed on the panel.

The CP Input set determines which of the S25, S50, S100, L32, and L64 Button-per-Source buttons is assigned to which Source. The upper left-hand button of the panel will select the first Source listed on the CP Input Set created and selected for this particular panel, the next button to the right will select the next listed Source, etc.

Note The total number of units (Jupiter Entry Numbers) within a category is limited to 4096. For example, the total number of machines within category “VTR” is limited to 4096.

Sequence Set

A control panel’s **sequence (salvo)** button or menu setting can be used to execute pre-built Jupiter sequences, where a sequence is a list of switches, which switches one or more Sources to one or more Destinations.

Setting Up a Salvo with a Sequence Set

A Jupiter sequence is built using the Jupiter Sequence Set table, an example of which is shown in Figure 34.

Figure 34. Sequence Set Table

Sequence Set - SETUP							
	Sequence	Logical Input		Logical Output		Levels	
1	SETUP1	CAM1	▼	MON1	▼	YYYY	...
2	SETUP1	CAM2	▼	MON2	▼	YYYY	...
3	SETUP1	CAM3	▼	MON3	▼	YYYY	...
4	SETUP2	CAM1	▼	VTR1	▼	YYYY	...
5	SETUP2	CAM2	▼	VTR2	▼	YYYY	...
6	SETUP2	CAM3	▼	VTR3	▼	YYYY	...

8536_22

The sequence set is given an eight-character (max) name and is of type "CP3800."

In this example, sequence set "SETUP" contain two sequences: "SETUP1" and "SETUP2." "SETUP1" will switch Cameras 1 through 3 to Monitors 1 through 3 with a single Take command. If the Sources and Destination are valid for all the levels marked yes, then the actual number of switches will be 3 times the number of levels (3 events x 4 levels = 12 switches). "SETUP2" will switch the cameras to VTRs 1 through 3. Each sequence can use 100 event sequences as of Jupiter 7.8.1 (table rows).

The sequence set must be assigned to the panel on the Jupiter MPK Devices table.

For additional information regarding Jupiter sequences and assigning them to control panels, refer to either the *Jupiter CM-4400 Installation and Operating manual* or *Jupiter CM-4000 Installation and Operating manual*.

Note Sequences are executed in slightly different ways, depending on the buttons available on each panel type. Refer to the specific instructions for each panel.

Disabling the Configuration and Setup Menus on the Control Panel

You can disable the Configuration and Setup menus on the Control panel. Some of the locked-out settings will still be accessible from the Control Panels Web page; such as the ability to change the Device ID or the Connection Type settings. The Setup menu will be accessible if the panel is not connected to the Control module by either a LAN or a Serial connection, regardless of the Password Level setting. You will need to set the Password level in the MPK Devices table to disable the Configuration and Setup menus.

Follow these steps to disable the Configuration and Setup menus on the Control panel:

1. Open the MPK Devices table.

2. Enter the preferred setting in the Password Level column (see Figure 33):
   - Enter a number from 1 to 89 to disable both the Configuration and Setup menus.
   - Enter a number from 90 to 94 to disable only the Setup menu.
   - Enter a number 95 and higher to enable both menus.

Note If the Password Level column is left blank, both menus will be accessible.

3. Apply the changes by compiling the appropriate sets.

Disabling Specific Buttons on the Control Panel

You can disable the buttons for a Destination on the Control panel. You will need to set the mnemonic for a source or destination to be "BLANK" (see Figure 35).The panel will then disable the button for that source or destination.

Follow these steps to disable the buttons for a Source or Destination on the Control panel:

1. Open the CP Output table.
2. Enter the text, "BLANK" in the mnemonic column (see Figure 35).

Figure 35. Output Set Table

	Category	Entry	Auto Mnem	Mnemonic	Logical Output	Level Set	Button
599	AUX	402	☑	TCA-2	TCA-2		
600	AUX	403	☑	TCA-3	TCA-3		
601	AUX	404	☑	TCA-4	TCA-4		
602	AUX	405	☑	TCA-5	TCA-5		
603	AUX	406	☑	TCA-6	TCA-6		
604	AUX	421	☑	TCA-21	TCA-21		
605	TEST	9997	☑	BLANK	BLANK		

3. Enter the number of the desired button in the Button Assignment column. For example,:
   - Buttons 1-32 for the L32 panel.
   - Buttons 1-64 for the L64 panel.
   - Buttons 1-100 for the S100 panel.

Apply the changes by compiling the set again. The associated button will then be disabled.

Note An output called BLANK can be added to the Switcher Output table, without assigning a physical output. This addition allows the BLANK output to be selected in the control panel set.

Compiling

The edited Jupiter set must be compiled and the appropriate configuration set made active before the L-S and LCD panel(s) can be used. The AccuSwitch control system should start communicating with the panels after the configuration file has been compiled. That is, the panels will indicate some form of router status.

For more information, refer to the Control Center section in either the *Jupiter CM-4000 Installation and Operation manua*l or the *Jupiter CM-4400 Installation and Operation manua*l.

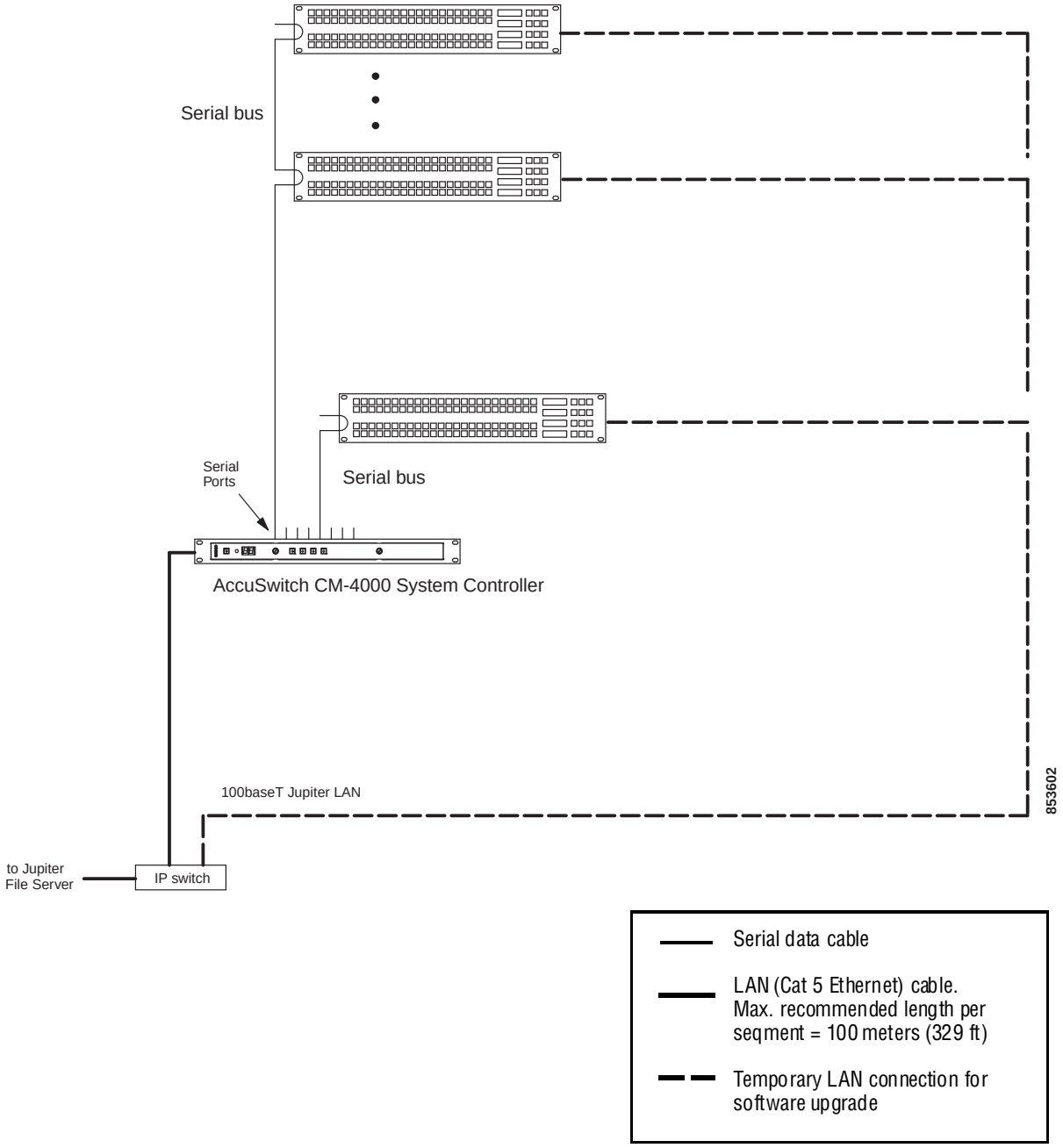
Section 5

Connecting the L-S and LCD Panel

The L-S and LCD Panels can be connected to the AccuSwitch System Controller via a 115k Baud serial bus (cannot be greater than 2000 feet); or via a Cat 5 Ethernet connection (cannot be greater than 329 feet per segment).

Note An Ethernet connection is required for software upgrade purposes even if you are using a serial connection.

Figure 36. L , S, and LCD Panel Serial Connection



Hardware Configuration

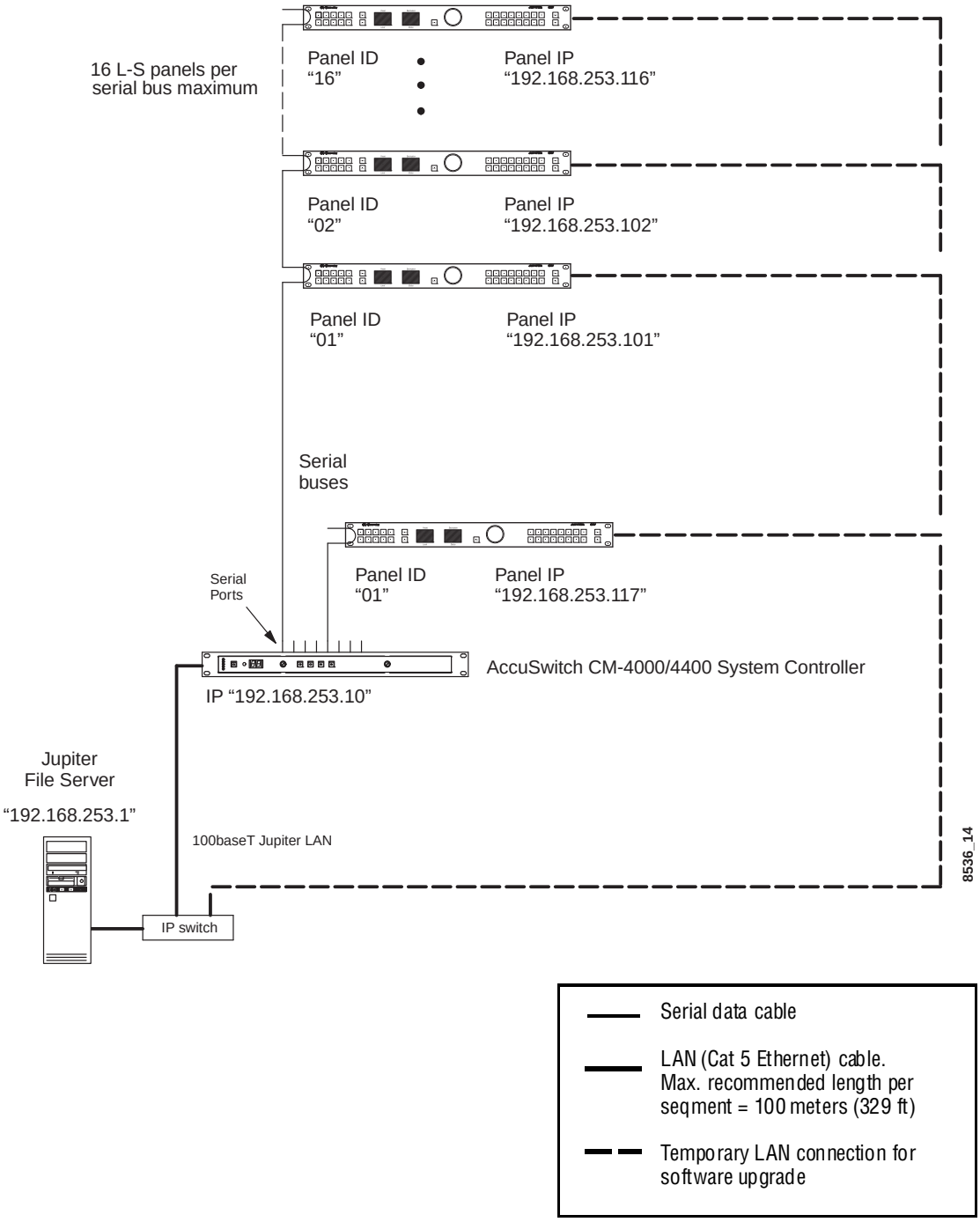
The L-S and LCD Panels can be connected to the AccuSwitch System Controller via a 115k Baud serial bus or via a Cat 5 Ethernet connection. It is also possible to combine these methods by connecting some panels through a Serial port and others through the LAN. Each of these options is described below.

Serial System

The Serial arrangement assumes that the L, S, or LCD Panels will be operated in Serial mode, with the LAN only connected to one panel at a time and only during software upgrades. In this arrangement, it isn't necessary to have a different IP address for each panel.

An example of a system where the L, S, or LCD Panels will be operated in Serial mode (the temporary LAN connections are for software upgrade) is shown below in Figure 37.

Figure 37. Serial System Addressing (Example).



LAN + Serial System

In this example, one or more L, S, or LCD Panels are operated in Serial mode, while the other L, S, or LCD Panels are operated in LAN mode. All L, S, or LCD Panels that are operated in Serial mode will still require a LAN connection for software upgrades. See Figure 40.

Serial Data Cables

The RS-422 cables that are used to connect the AccuSwitch System Controllers to the L-S and LCD Control panels consist of a 4-conductor (plus ground) cable. The maximum length per bus, at 115k Baud, is 610 meters (2000 feet).

The rear panel Serial Data Cable connectors on the CM-4400 or CM-4000 and Control panels are 9-pin D, female. The control panel connectors are arranged for loop-through wiring and no termination is required. These connectors are ESbus compatible, however, it should be noted that the Thomson serial data cables use only 5 of the 9 pins that are described in the ESbus specification.

The following cables are available, with 9-pin D male connectors installed, already made from Grass Valley (VDE cables include ferrite cores):

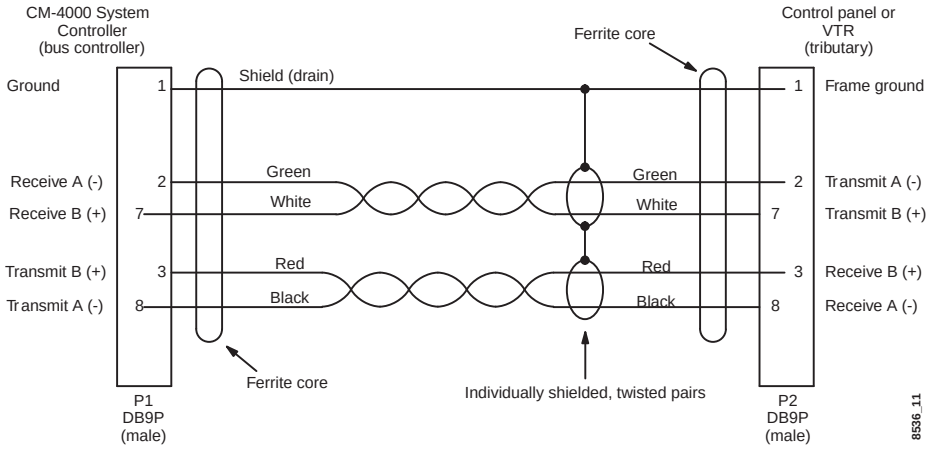
Table 2. Grass Valley Pre-Made Cables

1 meter (3.3 ft.)	8 meters (26.2 ft.)
2 meters (6.6 ft.)	16 meters (52.5 ft.)
4 meters (13.1 ft.)	32 meters (105 ft.)

For those who wish to prepare their own cables, the pin-outs are shown in Figure 38. The cable itself should be Belden 8723 or equivalent.

Details concerning ferrite cores are given in Figure 39.

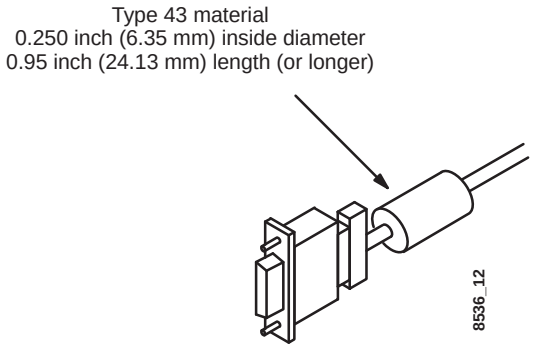
Figure 38. Serial data cable wiring. Reference: "Assembly, BCS-3000 Serial Data Cable," Grass Valley drawing no. 01-041600-TAB.



VDE EMI/RFI Modifications to Serial Data Cables

User-supplied serial data cables for VDE installations require a ferrite core placed over each end of the cable, and adjacent to the connector (see Figure 39 below).

Figure 39. Serial data cable VDE modifications.



Type 43 material sources

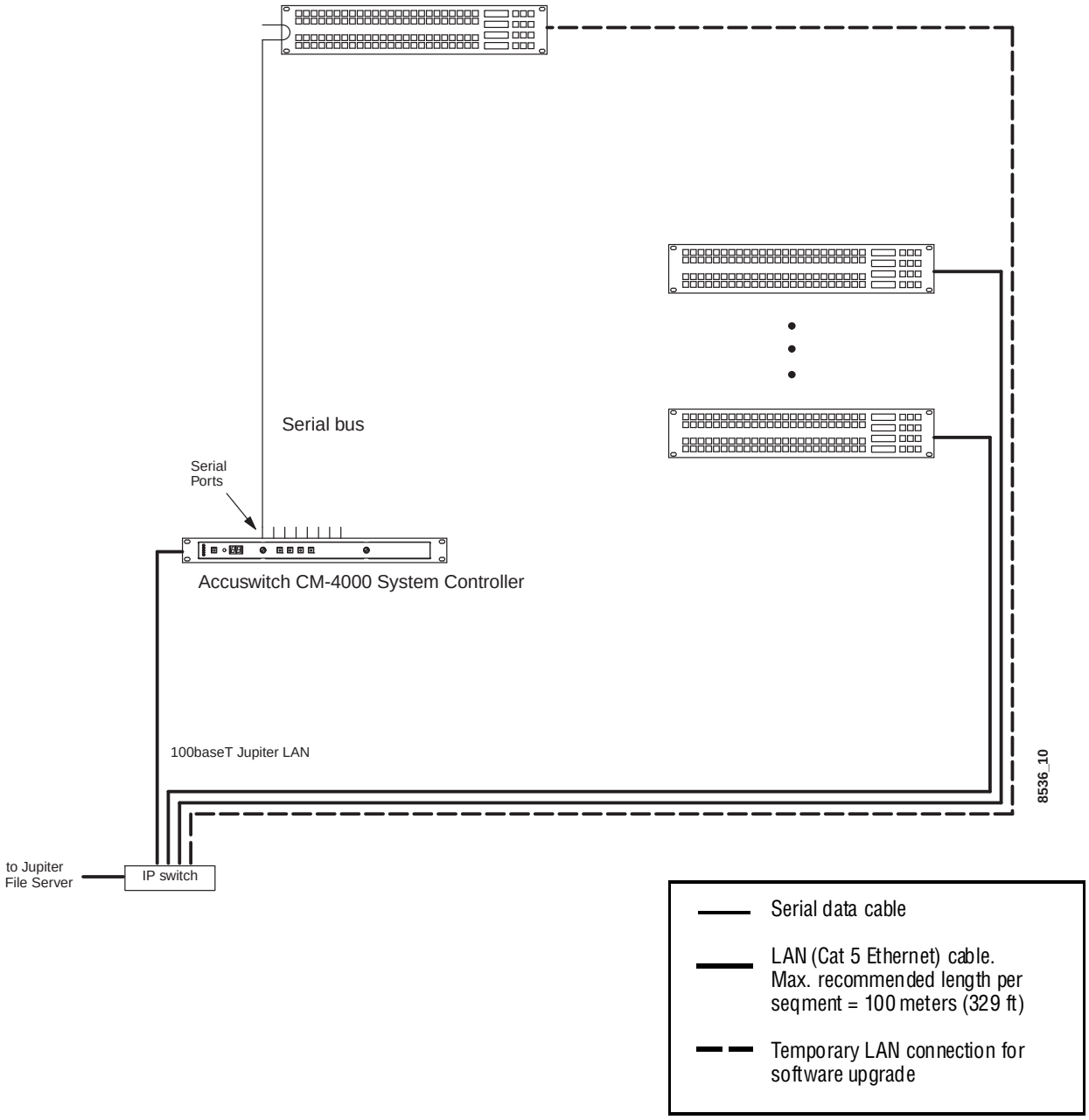
FairRite, part no. 2643480002

FairRite Products Corp., P .O. Box J, Commercial Row, Wallkill, NY 12589, USA; Tel. (914) 8952055.

Chomerics, part no. 8310A6361000

Chomerics Inc., 77 Dragon Ct., Woburn, MA 01888 USA; Tel. (617) 9354850.

Figure 40. L-S and LCD Panel Serial and LAN Connection



IP Configuration Procedure

A Control panel only needs an IP address if it is using the LAN for Net-Config (Software updates). Determine the present IP address of the first panel. This step will be different for each panel, see the previous chapters in this manual for your specific panel's information.

4. Disconnect any devices on the Jupiter LAN with the same IP address.

L, S, or LCD panels are shipped with a default IP address.

At the File Server PC

You must have Administrator privileges to change Internet settings on a Windows PC.

1. Use the PC's Network Settings dialog to set the TCP/IP address within the same local network as the L, S, or LCD Panels.

Note This connection will only be *temporary* if you are using a Serial connection.

For example, if the L, S, or LCD Panels address is presently 192.168.253.100, then the PC address should be changed to be compatible with the 192.168.253.x network (such as "192.168.253.1"). The PC's sub net mask should be set to 255.255.255.0 (class C network). In a simple network environment, all other TCP/IP network settings are irrelevant at this point.

2. Reboot the PC to apply the changes.

Note You can use the MS-DOS command, `ipconfig` to verify the settings after the PC has been restarted.

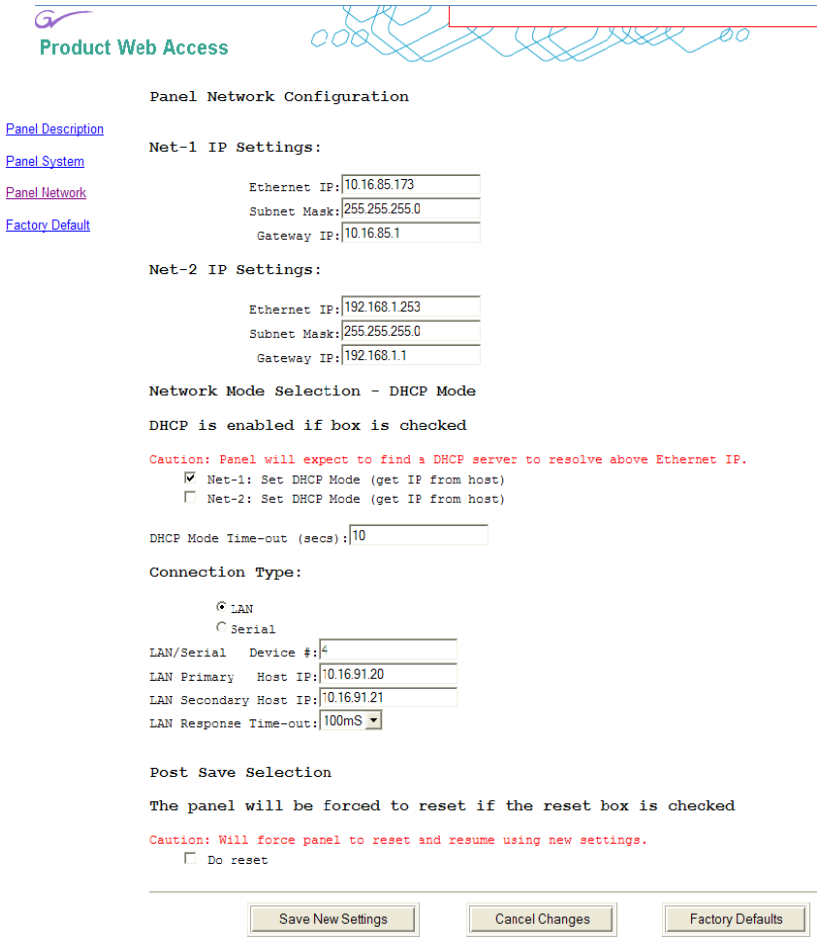
3. Start MS Internet Explorer.

The browser's Proxy setting must be turned off. To check the Proxy setting for Internet Explorer, go to Tools > Internet Options > Connections > LAN Settings.

4. Enter the L, S, or LCD Panels IP address in the URL window or Start NetConfig. This will display the L, S, or LCD Panel Description web page.

5. Click the Panel Network hyperlink. The Panel Network Configuration page will then appear.

Figure 41. The L, S, or LCD Panels Web Page



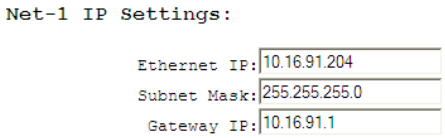
The Panel Information fields are system generated.

Panel Network Configuration

Follow these steps to configure the Panel Network.

Net-1 IP Settings

Figure 42. Net-1 IP Settings



1. Enter a unique value in the *Ethernet IP* field. This IP address must be within the same network as the AccuSwitch controller.

   For example, if a CM-4000 address is 192.168.253.10, then the L, S, or LCD Panels address should be changed to reside in the 192.168.253.x network (such as “192.168.253.101”).

2. Enter 255.255.255.0 in the Subnet Mask field.

3. Enter a unique value in the *Gateway* field. This number is similar to the Ethernet IP, except the last set of numbers should be “1.”

   If the L, S, or LCD Panels and the AccuSwitch controller are on separate networks, the gateway connecting them must be specified.

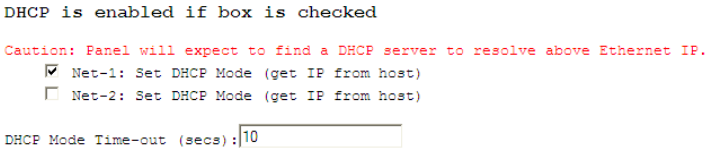
Net-2 IP Settings:

Not used to configure the panel.

Network Mode Selection - Enable DHCP if Box Checked

You must have a DHCP server to use this option.

Figure 43. Enable DHCP Settings



Follow these steps if you wish to use DHCP:

1. Select or place a check in, the **Net-1: Set DHCP Mode** check box to turn on DHCP mode.

2. Select or place a check in, the **Net-2: Set DHCP Mode** check box to turn on DHCP mode.

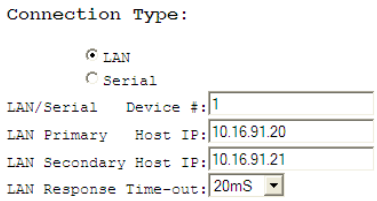
3. Enter the amount of time, in seconds, for the panel to try to connect to the DHCP server before the connection will time out in the *DHCP Mode time-out (sec)* field.

Connection Type

There are different types of connections. Follow these steps to set the connection settings for the different types:

LAN Systems

Figure 44. Example of the LAN Connection Type



1. Select the **LAN** radio button for a LAN only system.
2. Enter the Device Number in the *LAN/Serial Device* # field.
3. Enter the IP address of the Host in the *LAN Primary Host IP* field.
4. Enter the Redundant IP address of the Host in the *LAN Secondary Host IP* field.
5. Select the amount of time to wait for a response from the Control module before timing out from the LAN Response Time-out drop-down list.

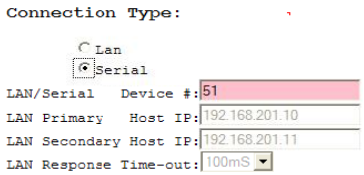
   This setting is helpful if you have Control panels located a long distance away from a Control module. The options are: 20mS, 40mS, 60mS, 80mS, 100mS, 250mS, 500mS, and 1S.

Serial system

1. Select the **Serial** radio button for a Serial system.
2. Enter the Device Number in the *LAN/Serial Device* # field. The number entered cannot be greater than sixteen.

Note If the number entered exceeds the limits, 1-16, the field will appear red (Figure 45) and you will need to enter a different number.

Figure 45. The LAN/Serial Device # Field- With an In-correct Number



The *Primary* and *Secondary LAN* fields will not be editable.

Forcing the Panel to Reset - if Box is Checked

1. Select the **Do Reset** check box. This will force the panel to reset and use the new settings.
2. Click the **Save New Settings** button. Clicking the **Cancel Changes** button will close the page without saving any changes. Clicking the **Factory Defaults** button will restore the settings that the panel was shipped with.

Serial Protocol Table Entries

When an L, S, or LCD Panels is connected to a Control module (CM-4000 or CM-4400) serial port (and operated in Serial mode), the Control module serial port must be configured for "ESCP" protocol using the Serial Protocol table. The Baud rate should be set at 115K. Use the CPES-SER type for panels to use up to 98 categories.

MPK Table Entries

Although the L, S, or LCD Panels are not actually an MPK-type panel (it has an on-board microprocessor and does not use the Message Per Key stroke protocol), the MPK table is used for configuration purposes. An example of this usage is shown below in Figure 46.

Note If the phrase, "Follows the same rules as L/S/LCD panels," is shown below, the settings are the same as the ones described in the *Jupiter System Configuration* section of this manual.

Figure 46. MPK Devices Table

MPK Devices

	MPK Devices	Device Type	Expansion	Pass word	Board	Port	Address	Input Sets	In Panel	Output Sets	Out Panel	Level Set	Overide Set	Sequence Set
1	CP1	CPES-SER	☐		CM1	1	01	CP_IN		CPOUT		CP_LEV		
2	CP2	CPES-SER	☐		CM1	1	02	CP_IN		CPOUT		CP_LEV		
⋮														
16	CP16	CPES-SER	☐		CM1	1	16	CP_IN		CPOUT		CP_LEV		
17	CP17	CPESXTND	☐		CM1		01	CP_IN		CPOUT		CP_LEV		

MPK Devices: This column is used to create a name, up to eight characters in length, for each L, S, or LCD Panels. This name must be unique system-wide.

Type: Select type CPES-SER for panels wanting to use up to 98 categories.

Note CPES-SER is the serial equivalent to the CP-ESXTND type.

Expansion: Not used for L, S, or LCD Panels (leave unchecked).

Password: A password level will only need to be entered if you wish to disable the Configuration and Setup menus on the Control panel. See the *Disabling the Configuration and Setup Menus on the Control Panel* section on page 65.

Board: The name of AccuSwitch Control module connected to this L, S, or LCD Panels. The source of this name is the Jupiter Network Description table.

Port: The port number that is configured for ESCP to which the panel is connected. ESCP is defined in the Serial Protocol Table.

Address: The panel address from 1 to 16. This address must be unique for panels sharing the same Control module's serial port.

Panels are normally shipped with a panel address of "01." This number is referred to as the "Device Number" on the IP configuration page and "ID" within the L, S, or LCD Panels MENU system.

Input Set: Input and output set types should be CPESXTND for Device type CPES-SER.

In Panel: This column is not used for L, S, or LCD panels.

Out Set: Input and output set types should be CPESXTND for Device type CPES-SER. If the entry is an actual CP Output Set, then the control panel will be able to control all the outputs listed in that Set. Depending on the contents of the set, this would allow for full-matrix or multi-bus control.

Out Panel: This column is not used for L, S, or LCD panels.

Level Set: Follows the same rules as L/S/LCD panels.

Override Set: Follows the same rules as L/S/LCD panels.

Sequence: Follows the same rules as L/S/LCD panels.

Special Entries Needed to Upgrade Serial Panels

Special IP settings are required to download new or upgrade software to panels that are normally operated in Serial mode. IP addresses are set using the Web page or through NetConfig. See *IP Configuration Procedure* for more information.

All Systems

Control Panel Sets

The Switcher inputs and outputs for the L-S and LCD panels are specified by creating a CP Level Set of type CP-3800 type level set for CPESXTND device types. These sets are assigned to each panel using the MPK Devices table.

With the L-S and LCD panels, the CP Level Set does establish the order in which levels are displayed on the panel

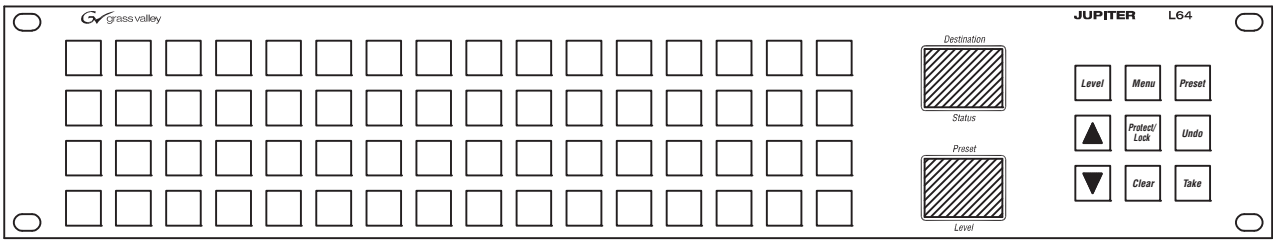
Changing the Connection Type Using the Panel's Menu

The panel's connection type can be changed using the panel's menu. The steps needed to change the connection for each type of panel is explained below.

Note You can use a password to lock out menus. See the *Disabling the Configuration and Setup Menus on the Control Panel* section on page 65.

L64

Figure 47. L64 Control Panel

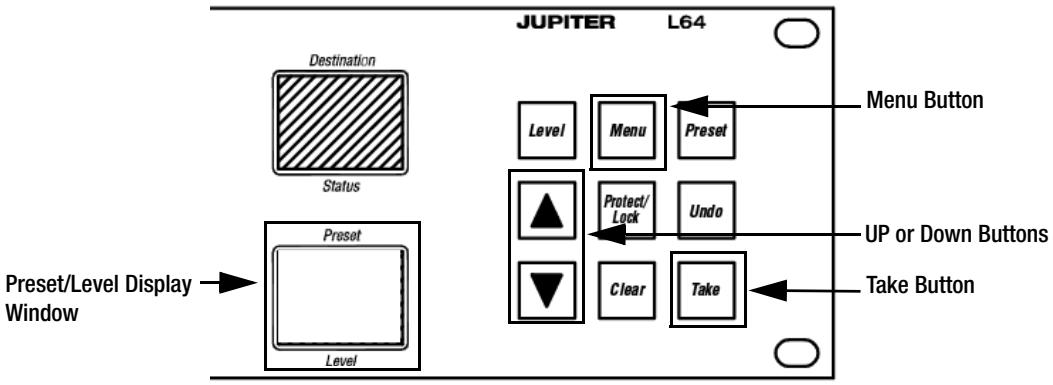


Follow these steps to change the setting for the Connection Type using the L64 panel's menu:

1. Press the **Menu** button. The items will change; look at the Preset/Level display window (the bottom display window).
2. Press the **UP** or the **Down** Arrows to scroll to the `Panel Setup?` option (Figure 48).

   The **Take** button in the lower right-hand corner will turn green (Figure 48).

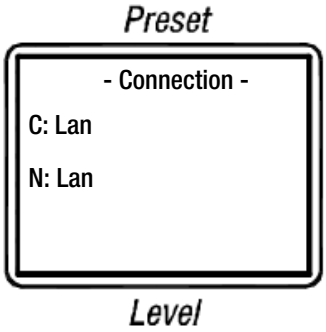
Figure 48. L64 Control Panel Menu



3. Press the **Take** button.
4. Press the **UP** or the **Down** Arrows to scroll to the `Connection Type?` option.
5. Press the **Take** button. The Connection menu will then appear (Figure 49).

Note The example in Figure 49 is for reference only, it is not meant to be an exact replica of the displayed contents.

Figure 49. L64 Connection Menu



6. Press the **UP** or the **Down** Arrows to change the Connection type in the N: field to Serial.

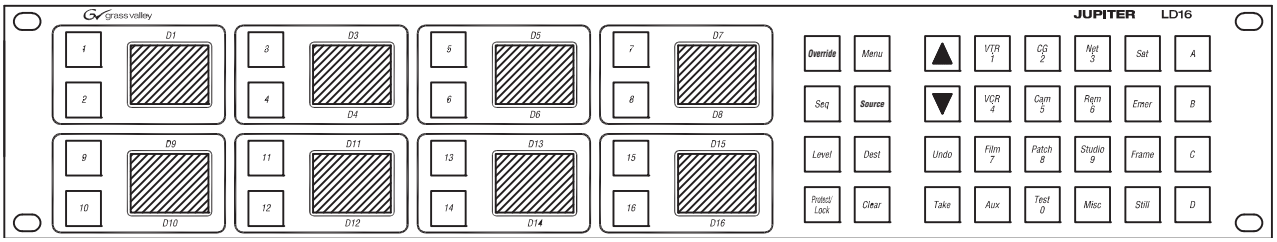
   The **Take** button will then turn green.
7. Press the **Take** button to apply the change. You will then be given an option to change the Device ID.
8. Press the **UP** or the **Down** Arrows to scroll to the preferred Device ID setting.
9. Press the **Take** button to apply the change.

   The Panel will then reboot and apply the changed settings.

Note Press the **Clear** button at any time to exit the menu without making changes to the current settings.

LD16

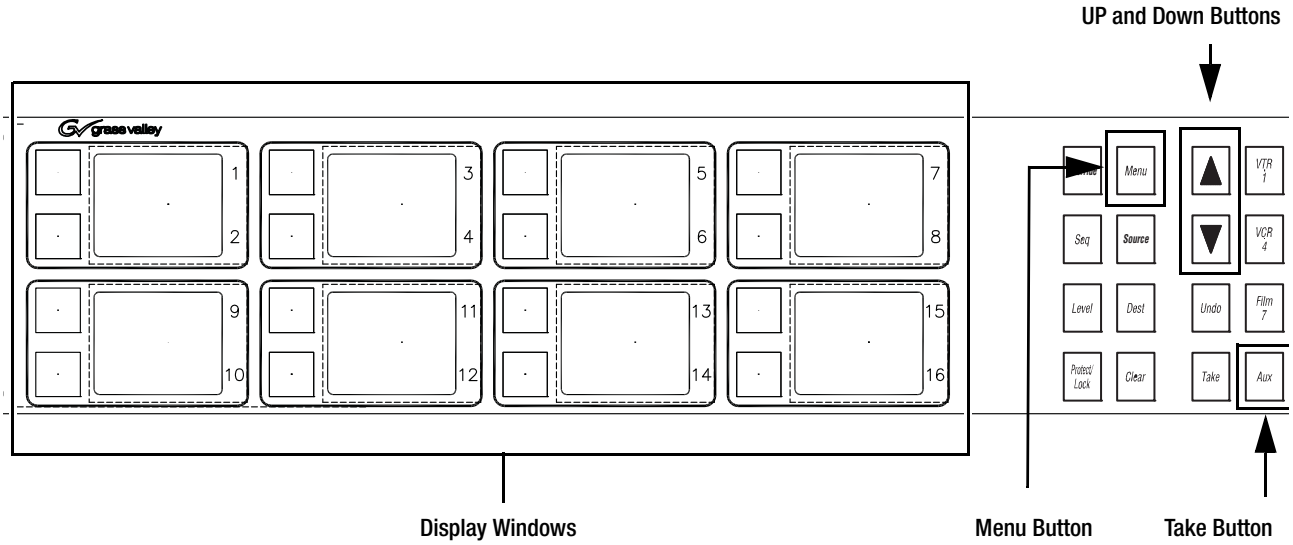
Figure 50. LD16 Control Panel



Follow these steps to change the setting for the Connection Type using the LD16 panel's menu:

1. Press the **Menu** button. The displayed items will change; look at the D9 Display window (the bottom left-hand display window).
2. Press the **#9** button to select the `Panel Setup?` option (Figure 51). The Menu options will then change, look at D5 Display window.

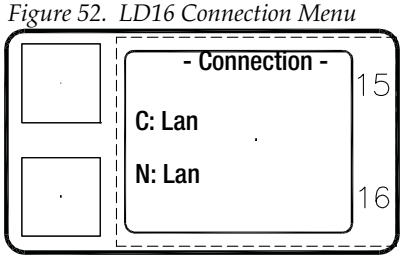
Figure 51. LD16 Control Panel Menu



3. Press the **#5** button to select the `Connection Type?` option. The display will then change. The Connection Menu will then appear in the D15 Display window (Figure 52).

Note The example in Figure 52 is for reference only, it is not meant to be an exact replica of the displayed contents.

Figure 52. LD16 Connection Menu



4. Press the **UP** or the **Down** Arrows to change the Connection type in the N: field to Serial.

   The **Take** button in the lower Right-hand corner will turn green (Figure 51).

5. Press the **Take** button to apply the change. You will then be given an option to change the Device ID.
6. Press the **UP** or the **Down** Arrows to scroll to the preferred Device ID setting.
7. Press the **Take** button to apply the change.

   The Panel will then reboot and apply the changed settings.

Note Press the **Clear** button at any time to exit the menu without making changes to the current settings. Press the **Menu** button at any time to exit from the current location without making changes to the current settings but remain in the menu.

S25 or S50

Figure 53. S25 Control Panel

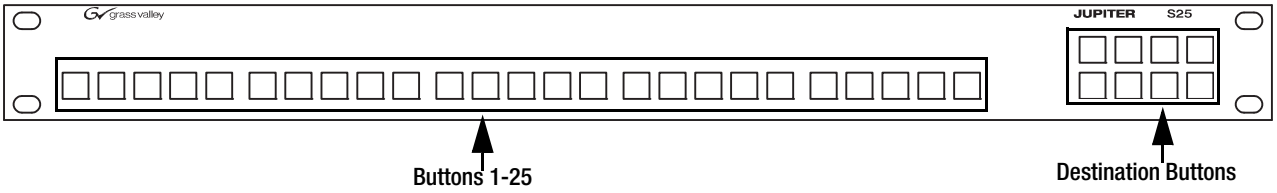
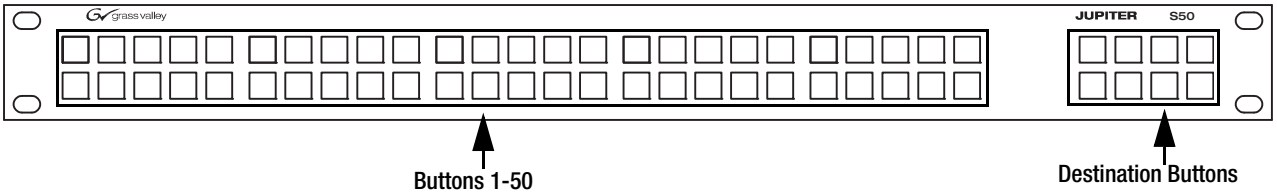


Figure 54. S50 Control Panel



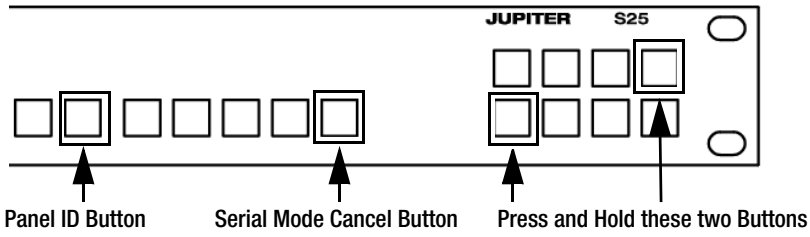
Follow these steps to change the Connection Type setting using the S25 or the S50 panel's menu:

1. Press the **Destination** button that is in the upper-right corner and the **Destination** button in the lower-left corner at the same time, for approximately three (3) seconds (Figure 55).

   The **Serial Mode Cancel** button, button number 25 (S25), or button number 50 (S50), should light up red.

   The current **Panel ID** button will be high tally amber if the ID is between 1 and16. The button will not light up amber if the range is greater than 16.

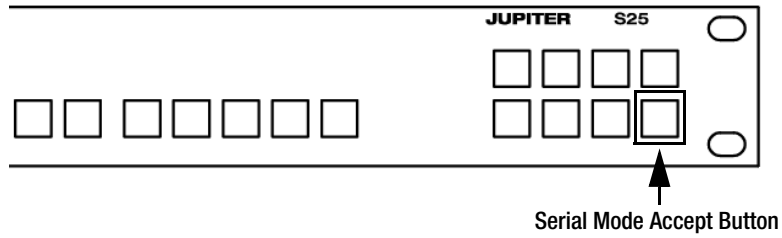
Figure 55. S25 Front Panel



2. Select one of the Panel ID buttons (1-16) to assign the Panel ID if you want to change the panel's ID. The selected button will then show high tally amber.

   The **Serial Mode Accept** button (the **Destination** button in the lower-right corner) will then blink green (Figure 56).

Figure 56. Serial Mode Accept Button

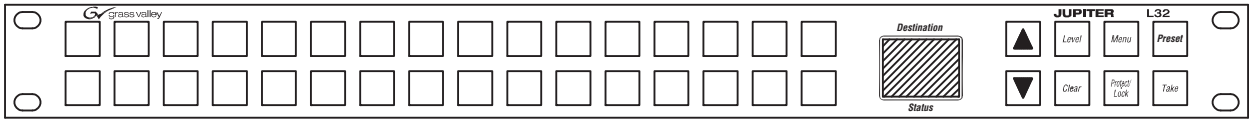


3. Press the **Serial Mode Accept** button.

   The Panel will then reboot and apply the changed settings.

L32

Figure 57. L32 Control Panel



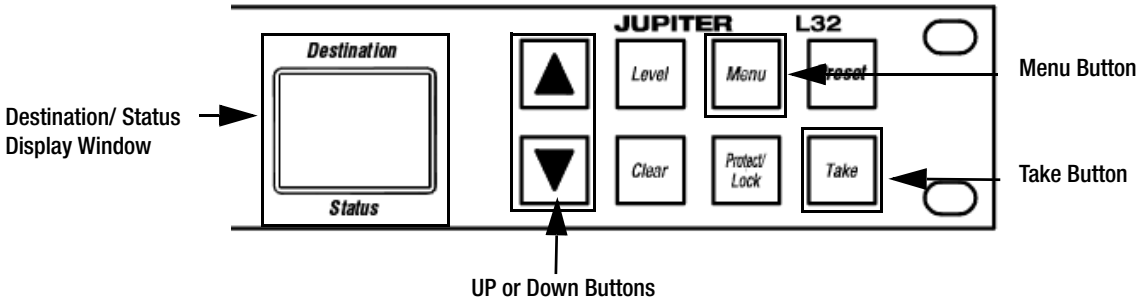
Follow these steps to change the Connection Type setting using the L32 panel's menu:

1. Press the **Menu** button. The items will then change, look at the Destination/ Status display window.

2. Press the **UP** or the **Down** Arrows to scroll to the `Panel Setup?` option (Figure 58).

   The **Take** button in the lower Right-hand corner will turn green (Figure 58).

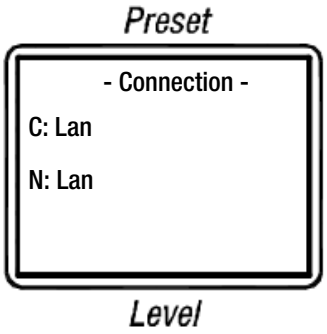
Figure 58. L32 Control Panel Menu



3. Press the **Take** button.
4. Press the **UP** or the **Down** Arrows to scroll to the `Connection Type?` option.
5. Press the **Take** button. The Connection menu will then appear (Figure 59 on page 88).

Note The example in Figure 59 is for reference only, it is not meant to be an exact replica of the displayed contents.

Figure 59. L32 Connection Menu



6. Press the **UP** or the **Down** Arrows to change the Connection type in the N: field to Serial.

   The **Take** button will then turn green.

7. Press the **Take** button to apply the change. You will then be given an option to change the Device ID.

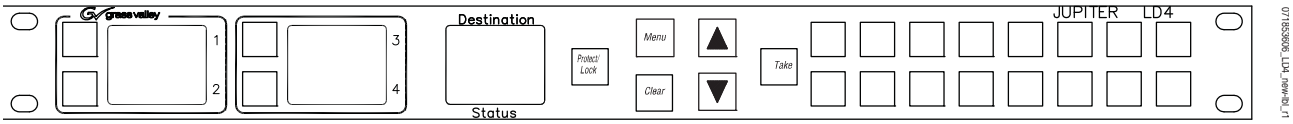
8. Press the **UP** or the **Down** Arrows to scroll to the preferred Device ID setting.
9. Press the **Take** button to apply the change.

   The Panel will then reboot and apply the changed settings.

Note Press the **Clear** button at any time to exit the menu without making changes to the current settings.

LD4

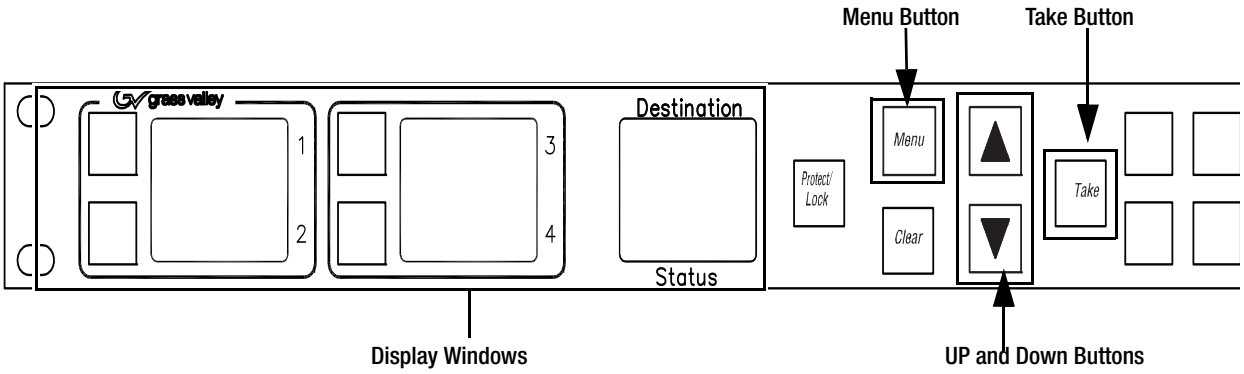
Figure 60. LD4 Control Panel



Follow these steps to change the Connection Type setting using the LD4 panel's menu:

1. Press the **Menu** button. The displayed items will change; look at the D1 Display window (the far-left display window).
2. Press the **UP** or the **Down** Arrows to scroll to the `Panel Setup?` option.
3. Press the **#1** button to select the `Panel Setup?` option (Figure 61 on page 89).

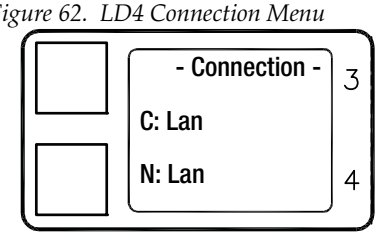
Figure 61. LD4 Control Panel Menu



4. Press the **UP** or the **Down** Arrows to scroll to the `Connection Type?` option.
5. Press the **#1** button to select the Connection Type? option. The display will then change (Figure 62).

Note The example in Figure 62 is for reference only, it is not meant to be an exact replica of the displayed contents.

Figure 62. LD4 Connection Menu



6. Press the **UP** or the **Down** Arrows to change the Connection type in the N: field to Serial.

   The **Take** button will then turn green (Figure 61).

7. Press the **Take** button to apply the change. You will then be given an option to change the Device ID.

8. Press the **UP** or the **Down** Arrows to scroll to the preferred Device ID setting.

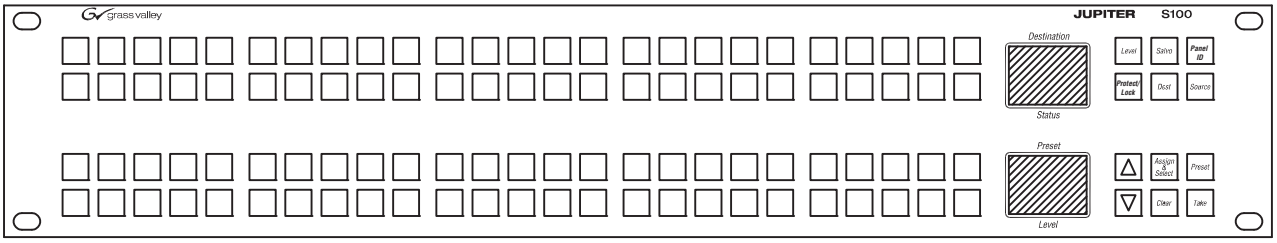
9. Press the **Take** button to apply the change.

   The Panel will then reboot and apply the changed settings.

Note Press the **Clear** button at any time to exit the menu without making changes to the current settings. Press the **Menu** button at any time to exit from the current location without making changes to the current settings but remain in the menu.

S100

Figure 63. S100 Control Panel



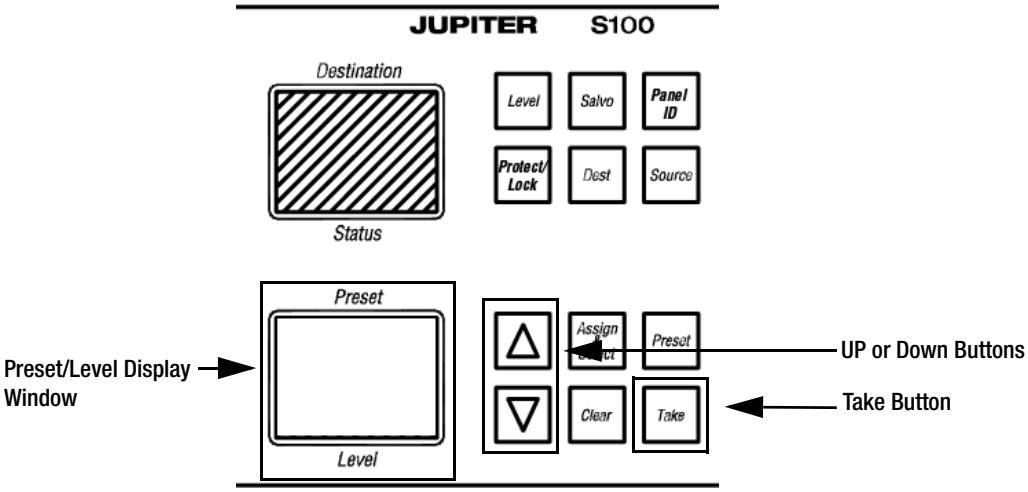
Follow these steps to change the Connection Type setting using the S100 panel's menu:

1. Press the **Menu** button. The items will change; look at the Preset/Level display window (the bottom display window).

2. Press the **UP** or the **Down** Arrows to scroll to the `Panel Setup?` option (Figure 64).

   The **Take** button in the lower right-hand corner will then turn green (Figure 64).

Figure 64. S100 Control Panel Menu



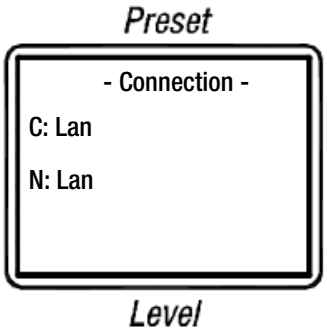
3. Press the **Take** button.

4. Press the **UP** or the **Down** Arrows to scroll to the `Connection Type?` option.

5. Press the **Take** button. The Connection menu will then appear (Figure 65).

Note The example in Figure 65 is for reference only, it is not meant to be an exact replica of the displayed contents.

Figure 65. Connection Menu



6. Press the **UP** or the **Down** Arrows to change the Connection type in the N: field to Serial.

   The **Take** button will then turn green.

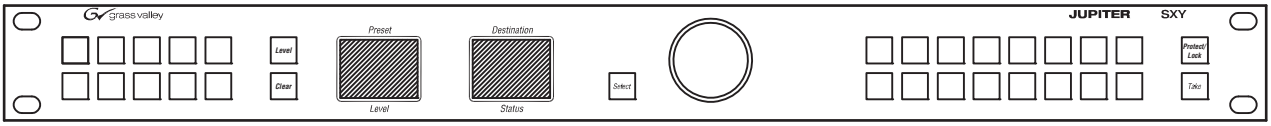
7. Press the **Take** button to apply the change. You will then be given an option to change the Device ID.
8. Press the **UP** or the **Down** Arrows to scroll to the preferred Device ID setting.
9. Press the **Take** button to apply the change.

   The Panel will then reboot and apply the changed settings.

Note Press the **Clear** button at any time to exit the menu without making changes to the current settings.

SXY

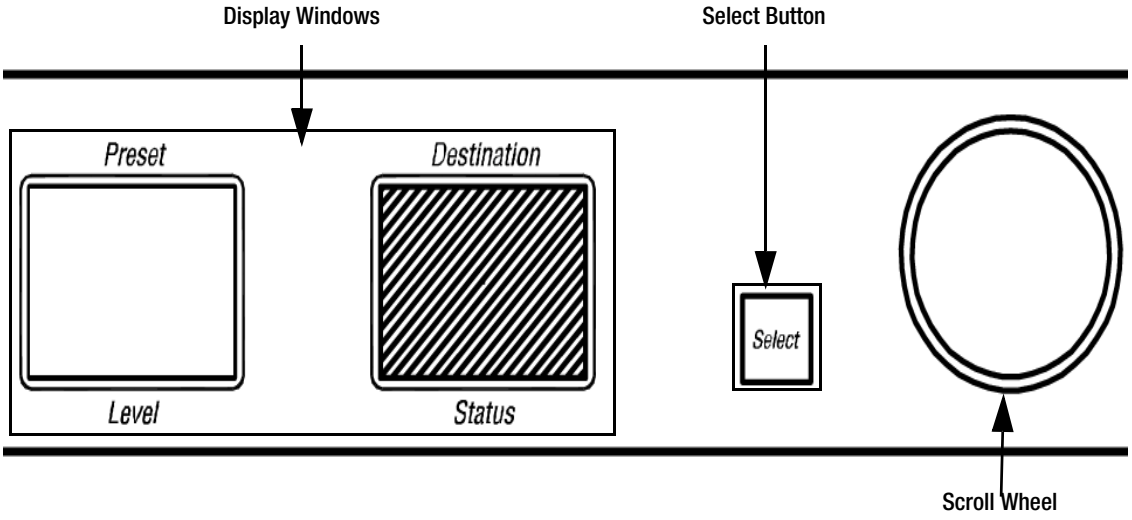
Figure 66. SXY Control Panel



Follow these steps to change the Connection Type setting using the SXY panel's menu:

1. Press the **Select** button. The displayed items will change; look at the Preset/Level Display window (the far-left display window).
2. Scroll through the available Sources using the Scroll wheel, scroll to the `Panel Setup?` option.
3. Press the **Select** button to select the `Panel Setup?` option (Figure 67).

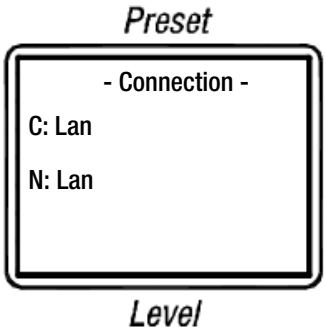
Figure 67. SXY Control Panel Menu



4. Scroll to the `Connection Type?` option using the Scroll wheel.
5. Press the **Select** button to select the `Connection Type?` option. The display will then change (Figure 68 on page 94).

Note The example in Figure 68 is for reference only, it is not meant to be an exact replica of the displayed contents.

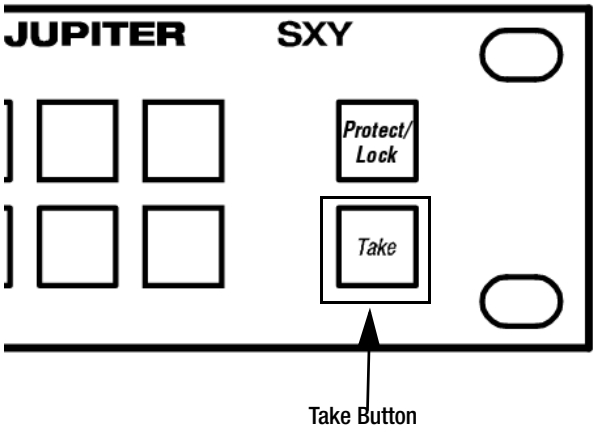
Figure 68. SXY Connection Menu



6. Use the Scroll wheel to change the Connection type in the N: field to Serial.

   The **Take** button will then turn green (Figure 69).

Figure 69. SXY Take Button



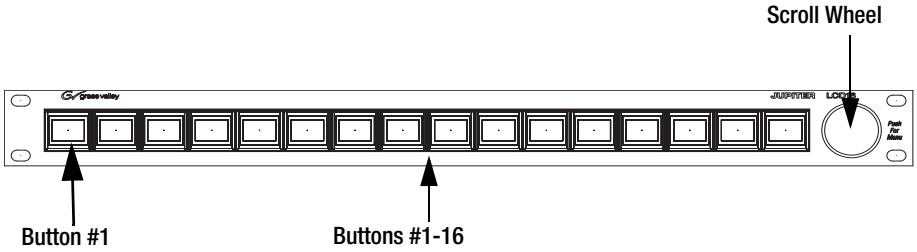
7. Press the **Take** button to apply the change. You will then be given an option to change the Device ID.
8. Use the Scroll wheel to scroll to the preferred Device ID setting.
9. Press the **Take** button to apply the change.

   The Panel will then reboot and apply the changed settings.

Note Press the **Clear** button at any time to exit the menu without making changes to the current settings.

LCD16

Figure 70. LCD16 Control Panel

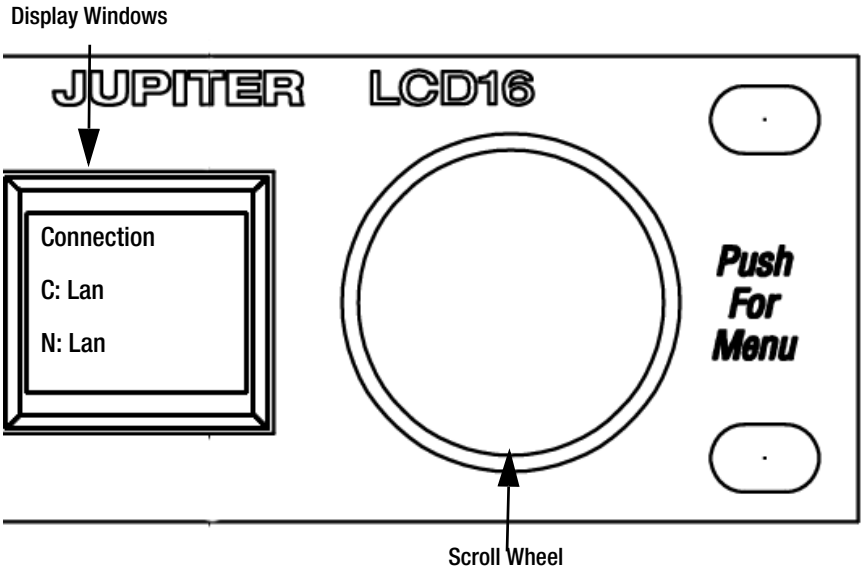


Follow these steps to change the `Connection Type` setting using the LCD16 panel's menu:

1. Press the Scroll wheel to access the Panels' Main menu.
2. Press the **Panel Setup?** button. This button is the fifth button to the left of the Scroll wheel. The Setup Menu will then appear.
3. Press the **Connection Type?** button. This button is the #5 button. See Figure 70 above for the button order. The Connection menu will then appear (Figure 71).

Note The example in Figure 71 is for reference only, it is not meant to be an exact replica of the displayed contents.

Figure 71. LCD16 Connection Menu



4. Use the Scroll wheel to change the Connection type in the N: field to Serial.

   The **Connection** button will then turn green.

5. Press the **Connection** button to apply the change. You will then be given an option to change the Device ID.

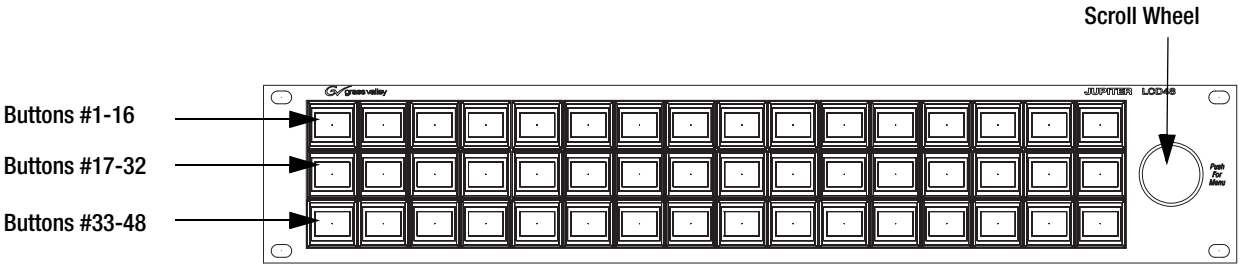
6. Use the Scroll wheel to scroll to the preferred Device ID setting.

7. Press the **Connection** button to apply the change.

   The **Connections** button will then turn red and the following text will then appear, "Settings Updated -Standby-."The Panel will then reboot and apply the changed settings.

LCD48

Figure 72. LCD48 Control Panel

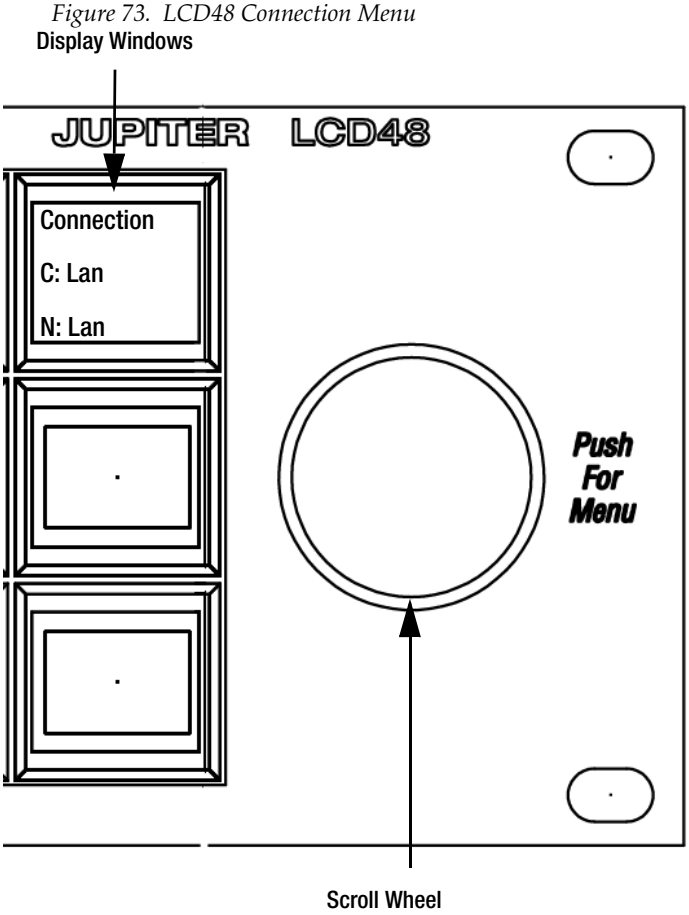


Follow these steps to change the Connection Type setting using the LCD48 panel's menu:

1. Press the Scroll wheel to access the Panels' Main menu.
2. Press the **Panel Setup?** button. This button is the fifth button to the left of the Scroll wheel. The Setup Menu will then appear.
3. Press the **Connection Type?** button. This button is the #5 button, see Figure 72 on page 97 for the button order. The Connection menu will then appear (Figure 73).

Note The example in Figure 73 is for reference only, it is not intended to be an exact replica of the displayed contents.

Figure 73. LCD48 Connection Menu



4. Use the Scroll wheel to change the `Connection type` in the N: field to Serial.

   The **Connection** button will then turn green (Figure 73).

5. Press the **Connection** button to apply the change. You will then be given an option to change the Device ID.

6. Use the Scroll wheel to scroll to the preferred Device ID setting.

7. Press the **Connection** button to apply the change.

   The **Connections** button will then turn red and the following text will then appear, "Settings Updated -Standby-."The Panel will then reboot and apply the changed settings.

Section 6

L and S Series Panel Operations

Introduction

This section assumes that the L-S panels have been properly installed and configured for operation at your facility. Buttons are configured to control Sources and Destinations using the Jupiter CP Input and Output sets, Levels are determined with CP Level sets, and these sets are assigned to the panel using the MPK Devices table (see *Section 4-Jupiter System Configuration*).

Color Bitmap Displays

Three different types of L and S panel color displays exist. Different panel types are equipped with different display types and numbers. The S25 and S50 panels do not have color bitmap displays.

Typical display information is indicated by the titles below. Each mode may displays different information. For example, pressing the **Menu** button brings up screens for menu navigation and setting selections.

Destination/Status

Reports the names of the currently controlled Destination and the Source currently routed to that Destination. The status display may also show the Source or Destination selected for the next action.

Preset/Level

Reports the name of the Source or Destination selected for the next action, and the currently selected level.

D1 - D16

Reports an individual Destination name, and its current Source, or reports the levels and Sources for a single Destination, depending on panel operating mode.

Basic Panel Operations

Use of Color

The L-S panel buttons have color capabilities (green, yellow, red, and amber in low tally dim or high tally bright intensities). Specifically, the buttons use color to indicate the following functionality:

Table 3. Colors and Functions for Buttons

Button Color	Function
Green	Sources
Yellow	Destinations
Red	Lock
Amber	Levels and other functions such as sequences, overrides etc.

The color bitmap display window have a 176 x 132 resolution with 65536 colors and can display up to 6 lines of 12 characters. . This display is available on all L-S panels (except S25 and S50). In addition to the button colors listed above, these RGB displays use the following colors to indicate:

Table 4. Color and Function for Menus

Menu Color	Function
Green	Current status
Magenta	Protect
Blue	Source or Destination Preset (category selections)
Pink	Sequences Overrides
Purple	Overrides
Amber	Miscellaneous selections.

Taking a Source to a Destination (Take)

The most basic operation of any router control panel consists of selecting a router Destination, followed by selecting a router Source. This connects the router Source input signal to the router Destination output.

Advise Router Option

When the Advise flag option has been set in the Jupiter Control system and an attempt is made to switch control to a new device, the switch will not occur. The system will instead display the following message on the control panel in two lines:

```
SRC in use
by: <Destination name>
```

The switch to a new device will not be executed until the Destination that is using the source is either:

- Switched to a different source.
- Switched to the "SAFE" input.

Note The Advise and Enforce options do not work when you are using Sequences or Multiple-destination switching when the same source is being routed to more than one Destination.

This option will avoid having the control device connected to two machines at the same time.

Destination Protection

Protecting a Destination prevents that Destination from being switched by other panels in the system. The protecting panel may still change the Destination. If any selected Destination's level is protected, the **Lock/Protect** button LED on that panel will illuminate amber. If any level is locked by that panel, this panel's **Lock/Protect** LED will blink red.

Destination Locking

Locking a Destination prevents that Destination from being switched by any panel in the system, including the initiating panel. If any of a Destination's level is locked, the **Lock/Protect** button LED on that panel will illuminate red. If any level is locked by that panel, this panel's **Lock/Protect** LED will blink amber.

Breakaway

Routing matrices are usually organized into levels, where multiple signal paths will normally switch simultaneously (for example, video and audio). A breakaway switches levels independently from their normal association, for example, switching video without also switching audio.

Sticky Levels Mode

When Sticky Levels mode is ON, after a breakaway only the levels that were selected for that breakaway will remain activated. Subsequent takes will switch only those levels. When OFF, the panel will return to all levels selected after each take.

Sequences (Salvos)

A *sequence*, or salvo, is the switching of one or more Sources to one or more Destinations with a single action. Sequences are pre-built and loaded to a panel.

Source Swap Mode

When Source swap mode is ON, the display windows will retain to the previously-selected Source, in blue, after each Take. This permits flip-flop switching.

Preset Mode - L32, L64, S100

Preset Mode is used to first preview a selection, and then press the **Take** button to select the currently previewed data. This is particularly useful if the user is not sure what Source or Sequence has been assigned to a specific button.

Assignable Buttons - L32, L64, S100

The Assignable-buttons feature allows the user to re-assign button functions directly on the front panel. This feature is accessed either via a menu item (L32, L64) or by direct button selection (S100). Button functions that can be re-assigned are:

- Sources,
- Destinations,
- Levels,
- Sequences (salvos) and
- Overrides.

Note Overrides define the Source and which levels to switch. An override could be used as a breakaway switch.

Disabling Specific Buttons on the L32, L64, and S100 Control Panels

You can disable the buttons for a Source or Destination on the L32, L64, and S100 Control panels. See the *Disabling Specific Buttons on the Control Panel* section on page 66.

Source Paging

The Source paging feature may be used with the S100 and L64 Jupiter LAN Panels. This feature adds a menu option to enable source paging to the panels mentioned above. This feature is OFF by default. Once paging is enabled, it is stored in Flash memory and will remain enabled until it is disabled even if the panel is powered down. The Source paging feature only apples to sources and will not work with Destinations.

The panel will display the next available page of sources when the **Up** arrow or **Down** arrow is pressed. The panel must be in the Home state, which is

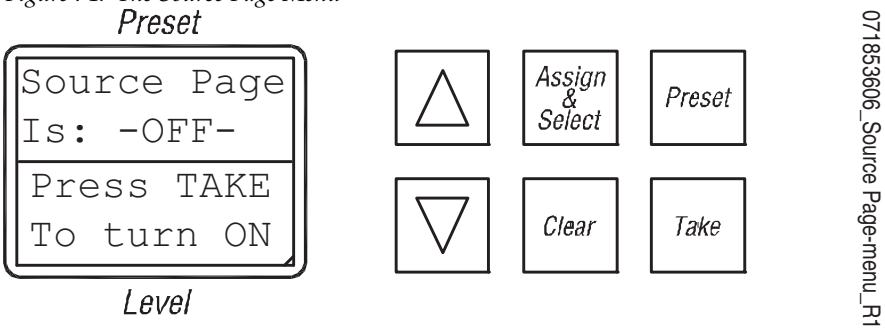
reached after a Take or pressing **clear**. Pressing both the **Up** and **Down** arrows at the same time displays the "home" page (page 1).

Initiating the Source Page Feature

Follow these steps to turn on the Source page feature:

1. Select the Panel Config option in the Panel's menu.
2. Scroll through the options, using the **Up** and **Down** arrows to the Source Page menu (Figure 74).

Figure 74. The Source Page Menu



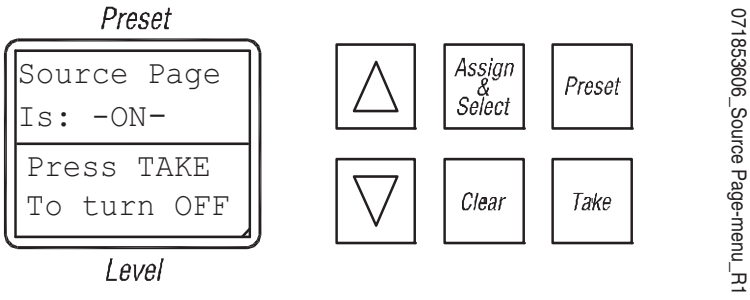
3. Press the **Take** button to turn On the feature .

Turning the Source Page Feature Off

Follow these steps to turn off the Source page feature:

1. Select the Panel Config option in the Panel's menu.
2. Scroll through the options, using the **Up** and **Down** arrows to the Source Page menu (Figure 74).

Figure 75. The Source Page Menu



3. Press the **Take** button to turn OFF the feature .

Note The panel will restart automatically when the source paging feature is turned off.

Using the Source Page Feature

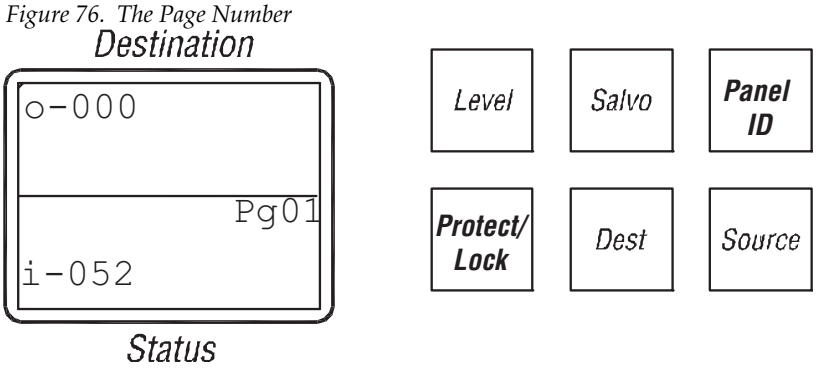
Follow these steps to use the Source paging feature:

Note The following steps assume that the Source paging feature has been enabled.

The example below will first increment the Sources page by one and then decrease the page number by two.

1. Press the **Clear** button to ensure the panel is in the Home state. In source page mode, home state displays page 1
2. Press the **Up** arrow one time. The page number (Pg02) will be displayed in the top right of the Status window (Figure 76 on page 105).

Figure 76. The Page Number



3. Press the **Down** arrow one time. The page number (Pg01) will be displayed.

Pressing both the **Up** and **Down** arrows at the same time displays Pg01.

L32/L64 Control Panels

For a summary of L32/L64 functions see page 32.

Figure 77. L32 Control Panel

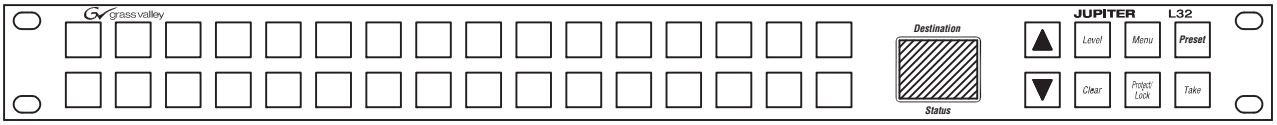
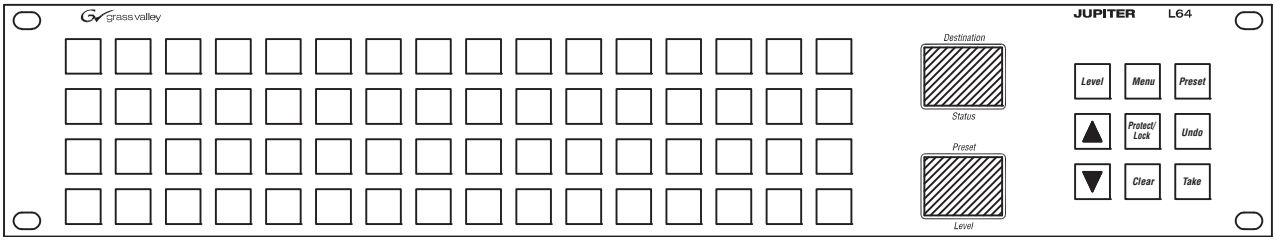


Figure 78. L64 Control Panel



L32 and L64 Panel Differences

The most significant differences between these two panels, besides the number of buttons that are on the left side of the panel (either 32 or 64), are:

- The second Preset/Level display window on the L64 reports the currently preset item (if any) and level information. The L32 panel reports this information in its single Destination/Status window.
- The L64 panel has an additional **Undo** button.
- The L64 panel has Source paging.

Show Button Assignment

The 32 or 64 buttons on the left side of the panel can be assigned to Sources, Destinations, levels, and sequences. To check button assignments:

1. Press the **Preset** button so it illuminates.
2. Press one of the 100 buttons on the left. The name of the Source, Destination, level, or Sequence (salvo) assigned to that button will be displayed in the Status (L32) or Preset (L64) window.

No actual switching takes place during this procedure.

Clearing Panel Modes

L32 and L64 panels can be placed into various modes for item and menu selection. Buttons on the panel behave differently, depending on what panel mode is currently active.

If a **Level** or **Preset** button is lit, pressing it will clear that panel operating mode.

Pressing the **Clear** button exits the panel from some menu display and selection states.

In the completely cleared home state, Sources can be switched to Destinations using the panel buttons.

Destination and Source Selection Methods

On L32 and L64 panels Destinations and Sources can be selected directly, by pressing buttons on the panel, or by scrolling through menus.

Direct Selection: This is the fastest method for selecting a Source or Destination, but is limited to the number of buttons configured on the panel.

Menu Selection: This method requires more steps, but allows selection of Sources or Destinations not currently assigned to buttons on the panel.

Note If a Source or Destination cannot be selected, the panel may be restricted by the CP Input or CP Output set used on the MPK Devices table. See *Section 4-Jupiter System Configuration*.

Selecting a Destination to be Controlled

The Destination window displays the name of the Destination currently being controlled in yellow.

Direct Selection Method

Buttons configured for Destinations that are not currently being controlled by the panel are illuminated in low yellow.

1. Clear the panel (**Level**, **Menu**, and **Preset** buttons OFF).
2. Press the preferred yellow Destination button. If the selection is valid, the button will illuminate in high yellow. The name of the Destination will appear in the Destination window, and the name of the Source currently switched to that Destination will appear in the Status window.

You will now be able to select a different Source for that Destination.

Menu Selection Method

1. Clear the panel (**Level**, **Menu**, and **Preset** buttons OFF).
2. Press the **Menu** button. The window will display configuration modes.
3. If necessary, use the **Up/Down** arrow buttons to scroll to the **Select Destination?** mode.
4. Press **Take**. Destination names will appear in the Status (L32) or Preset (L64) window.
5. Use the **Up/Down** arrow buttons to scroll to the desired Destination.
6. Press **Take**. The Destination window will display the name of the Destination now being controlled.

You will now be able to select a different Source for that Destination.

Selecting a Source

The following information explains how to select a source.

Working with a Locked or Protected Destination

If a Destination has been Protected or Locked by another panel, the **Protect/Lock** button will illuminate steady amber (Protect) or red (Lock) and the Destination will not be able to be switched. To continue:

- The Destination must be unprotected or unlocked by the panel that set the protection or locked the Destination (the name of that other panel will be displayed in the menu).
- The panel can force the Destination to be unprotected or unlocked if the panel has a password set. See the *7.8.1 Jupiter Release notes (part # 071827511)* for more information.

Direct Selection Method

Buttons configured for Sources illuminate in green.

1. Clear the panel (**Level**, **Menu**, and **Preset** buttons OFF)
2. Press the low green button for the desired Source. The Source will be switched to that Destination, the button will illuminate in bright green, and the name for the Source will be shown in green in the Status window.

Direct Selection with Preset

Preset allows you to confirm the identity of the Source before it is switched to the Destination.

1. Press **Preset** so it is illuminated.
2. Press the low green button for the desired Source. The Source will NOT be taken to that Destination. Instead, the **Take** button will illuminate along with the Source button that was just pressed, and the name of the Source will be displayed in blue in the Status (L32) or Preset (L64) window. Different Sources can be selected until the correct one is found.
3. Press **Take**. That Source will then be switched to the Destination.
4. To exit Preset mode, press the **Preset** button so it is turned off.

Menu Selection Method

1. Clear the panel (**Level**, **Menu**, and **Preset** buttons OFF)
2. Use the **Up/Down** arrow buttons to scroll through the available Sources. The name of the currently chosen Source appears in blue in the Status (L32) or Preset (L64) window, but will not yet be switched to the Destination.
3. Press **Take**. The Source will switch to the Destination and its name will appear in green in the window.

Protecting a Destination

To Protect a Destination:

1. Confirm the Destination to be protected appears in yellow in the Destination window (accomplished with Direct or Menu Destination selection described earlier).
2. Press **Protect/Lock** once. The button will illuminate in amber and the **Take** button will light green.
3. Press **Take** to protect the Destination. The **Protect/Lock** button will blink amber.

Note This protects only the levels this control panel can control (as defined on the CP Level set assigned to the panel).

- If another panel selects this Destination for control, that panel's **Protect/Lock** button will illuminate steady amber. If the other panel attempts to switch this Destination, a **P** indicator will be displayed, along with the name of the protecting panel.
- On S25 and S50 panels that lack a **Protect/Lock** button and display, when the controlled Destination is protected the Source button will illuminate amber, and when locked it will be red.

To Unprotect a Destination:

1. Confirm the Destination to be unprotected appears in yellow in the Destination window (accomplished with Direct or Menu Destination selection described earlier). The **Protect/Lock** button will blink amber.
2. Press **Protect/Lock**. The button will stop blinking and the **Take** button will illuminate.
3. Press **Take** to unprotect the Destination. The **Protect/Lock** button will return to low amber.

Locking a Destination

To Lock a Destination:

1. Confirm the Destination to be locked appears in yellow in the Destination window (accomplished with Direct or Menu Destination selection described earlier).
2. Press **Protect/Lock** twice. The button will illuminate in red and the **Take** button will light green.
3. Press **Take** to lock the Destination. The **Protect/Lock** button will blink red.

Note This locks only the levels this control panel can control (as defined on the CP Level set assigned to the panel).

- If another panel selects this Destination for control, that panel's **Protect/Lock** button will illuminate steady red. If the other panel attempts to switch this Destination, an **L** indicator will be displayed, along with the name of the locking panel.
- On S25 and S50 panels that lack a **Protect/Lock** button and display, when the controlled Destination is protected the Source button will illuminate amber, and when locked it will be red.

To Unlock a Destination:

1. Confirm the Destination to be unlocked appears in yellow in the Destination window (accomplished with Direct or Menu Destination selection described earlier). The **Protect/Lock** button will blink red.
2. Press **Protect/Lock**. The button will stop blinking and the **Take** button will illuminate.
3. Press **Take** to unlock the Destination. The **Protect/Lock** button will return to low amber.

Breakaway Switching

Breakaway takes of individual levels can be performed by directly selecting previously assigned Level buttons, or by using the menu.

Direct Selection Breakaway

Individual levels can be switched by first assigning Level buttons on the panel (see *Button Assignment* on page 114). You then select just the buttons for the levels you want to switch before pressing the new Source button.

1. Confirm the Destination for the breakaway appears in yellow in the Destination window (accomplished with Direct or Menu Destination selection described earlier). The buttons assigned as Levels will illuminate in amber.
2. Press the assigned Level buttons so only those you wish to switch are illuminated. The name of the lowest numbered selected level will be displayed in the menu.
3. Select the Source for those levels (by either Direct or Menu Source selection as described in *Selecting a Source* on page 108).

When an assigned Level button is individually selected (high amber), the current Source (in blue) and level name (in red) for the currently controlled Destination will be displayed in the menu.

Menu Breakaway Method

If individual Level buttons are not assigned, the menu display can be used to perform breakaways.

1. Press the **Preset** button to activate preset mode.

2. Press the **Level** button to activate level access operation.

   Each level displayed in the bottom of the display will now have an asterisk (*) that indicates it is active (selected for control).

   - The **Up/Down** arrow buttons scroll through that Destination's accessible levels, displaying each level's active status.
   - Pressing the **Take** button de-activates that level, removing the asterisk from the display.

3. Use the **Up/Down** arrow buttons and **Take** button to move to each level and de-activate or re-activate the desired levels.
4. Press the **Level** button again to turn off level access.
5. Select the desired Source with one of the 32 (or 64 respectively) Source buttons.
6. Press **Take** to switch that Source to only the activated levels.
7. Press the **Preset** button to turn off the preset mode.

Breakaway Source Status

To identify which Sources are currently switched to the levels of a Destination:

1. Confirm the Destination you want to examine appears in yellow in the Destination window.
2. Press just the **Level** button.
3. Use the **Up/Down** arrow buttons to view the status of each level. The name of the current Source will be displayed in green along with the name of the level. If that Source button is assigned on the panel it will illuminate.
4. Press the **Level** button again to turn off the mode.

Sticky Levels Mode

You can turn on Sticky Levels mode to keep active only the last selected levels after a breakaway take.

1. Press the **Menu** button, use the **Up/Down** arrow buttons to scroll to **Panel Config?** and then press **Take.**
2. The Sticky Level menu will be displayed with its current status (ON or OFF).
3. Press **Take** to toggle the state ON or OFF)
4. Press **Clear** to escape configuration mode.

Executing a Sequence (Salvo)

After a sequence is created and downloaded (see *Setting Up a Salvo with a Sequence Set* on page 64) it can be executed as follows:

Direct Execution

In order to directly execute a sequence, that must be assigned to a panel button (see *Button Assignment* on page 114).

1. Press the assigned Sequence button for the desired sequence.

All the Destinations in the sequence will immediately be switched to their designated Sources.

Direct Execution with Preset

Preset allows you to select a sequence assigned to buttons and identify it by name before executing it.

1. Press **Preset** so it is illuminated.
2. Press the low amber button for the desired sequence. The sequence will NOT execute. Instead, the **Take** button will illuminate and the name of the sequence will be displayed on the menu. Different sequences can be selected with their assigned buttons until the correct one is found.
3. Press **Take**. That sequence will execute and all the Sources will be switched to their Destinations.
4. To exit Preset mode, press the **Preset** button so it is turned off.

Menu Execution

1. Press the **Menu** button. The Status/Destination window will display configuration modes.
2. Use the **Up/Down** arrow buttons to scroll to **Select Sequence?** mode.
3. Press **Take**. Sequence names will appear in the Status window.
4. Use the **Up/Down** arrow buttons to scroll to the desired sequence.
5. Press **Take**. All the Destinations in the sequence will be switched to their designated Sources.

Source Swap Mode

Turning on Source Swap mode allows rapid permits flip-flop switching between two Sources. The last selected Source is retained (displayed in

Blue in the preset window), and pressing the Take button returns the Destination to that previous Source.

1. Press the **Menu** button, use the **Up/Down** arrow buttons to scroll to **Panel Config?** and then press **Take.**
2. Scroll to the Source Swap menu, which displays its current status (ON or OFF).
3. Press **Take** to toggle the state ON or OFF and exit Menu mode.

Button Assignment

Panel buttons can be assigned different functions, to permit quick selection of Destinations, Sources, levels, sequences, and overrides.

1. Press **Menu**.
2. Use the **Up/Down** arrow buttons to scroll to **PanelConfig?**
3. Press **Take**.
4. Scroll to **Assign Buttons?** and press **Take**.
5. The menu displays **Select Assignment Type**. Scroll to the button type you wish to assign (Source, Destination, Level, Sequence, or Override) and press **Take**.
6. Use the **Up/Down** arrow buttons to scroll through the list of available items. When the correct item is displayed, press **Take**.
7. Press the button on the front panel to be used for this item. That button will illuminate in red and its number will appear in the menu.
8. Press **Take**. The menu will then show **Save this Button Assignment?**; press **Take**.
9. The menu returns to **Select Assignment Type.** You can now repeat Step 6 through Step 8 above for more panel button assignments.
10. When done, press **Clear** to escape assignment mode.

Undo (L64 Only)

When Source Swap mode is OFF, the **Undo** button lights after each Take. Pressing **Undo** presets the previous Source. Pressing **Take** at this time will then route that previous Source to the Destination. By pressing **Undo** and **Take** repeatedly you can swap back and forth between two Sources.

When the **Preset** button is illuminated, the **Undo** button lights whenever a new Source is selected as a preset, and after each Take is performed. As above, pressing **Undo** when it is illuminated restores the last Source to

preset, and by pressing **Undo** and **Take** repeatedly you can swap back and forth between two Sources.

Front-Panel Service Modes

These modes are provided for panel maintenance and troubleshooting. They are not normally used by the operator.

- Panel Info Mode is described on page 169.
- Panel Setup Mode is described on page 171.

LD4 Control Panel

For a summary of LD4 functions see page 33.

Figure 79. LD4 Control Panel - Previous Label

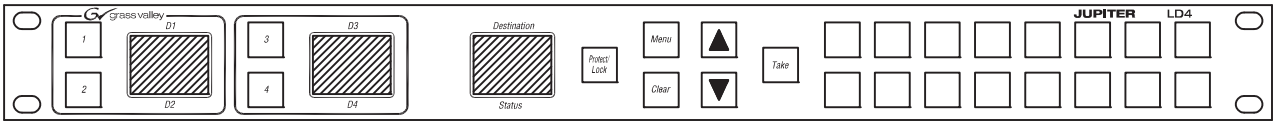
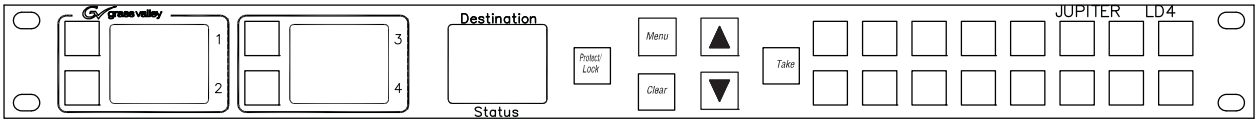


Figure 80. LD4 Control Panel - New Label



LD4 Operating Modes

The LD4 has two distinct operating modes, Single Destination and Multiple Destinations.

- When operated in the Single Destination mode, one Destination is selected for control and the display windows show the Source for each defined level of that Destination (video, left audio, right audio, etc.). Breakaway switching is supported.
- When operated in the Multiple Destination mode, the LD4 can be used to control multiple Destinations, with the names of 4 of those Destinations (and the primary Source for each) on display simultaneously. Multiple Destinations can be switched to the same Source with a single Take. Breakaway switching is not supported in this mode (except via Overrides).

LD4 Single Destination Mode

In single Destination mode, Destination 1-4 (windows D1-D4 in previous label) show the status for each level of one selected Destination. The name of the currently controlled Destination is shown in the Destination window.

Entering Single Destination Mode

1. Press **Menu**. The display windows will display various modes and the associated active soft buttons will illuminate.
2. Press the Destination 1 window (D1- in previous label) **Single Destination?** soft button. Single Destination mode will be selected and the panel will exit the menu mode.

The active Destination is shown in the Destination window. The level names appear, in amber, in the Destination 1-4 windows (D1-D4 in previous label). If more than 4 levels exist, pressing the **Up/Down** arrow buttons will page through the additional levels. The Status window will report **All Levels**, or the highest numbered level that is currently selected.

Selecting a Destination to be Controlled (Single Destination Mode)

Page Selection Method

1. Press **Menu** and push the **Select Destination?** soft button for the D3 window. The Destination 1 window (D1- in previous label) will display **Destination?** and the other windows will display a page of Destinations.
2. Use the **Up/Down** arrow buttons to scroll through the available pages of Destinations (For example, **Pg: 3/ 66** in the D3 window). Destinations appear in groups of 4, in yellow.
3. Select the desired Destination by pressing its adjacent soft button.
4. Press **Take**. The Destination window will display the name of the Destination now being controlled in yellow, and the panel returns to the Single Destination mode, ready for Source selection. By default, the soft buttons for all levels will illuminate.

Unless some buttons are toggled off, switching to a new Source will involve all levels. (For information about breakaway switching, see *Breakaways (LD4 Panel)* on page 119.)

- If the Destination cannot be changed, it may be because the panel has been limited to a certain Destination by the CP Output set used on the MPK Devices table. See *Section 4-Jupiter System Configuration*.

Category Subset Method

1. Press **Dest**. The Destination 1 window (D1- in previous label) will display **Destination?** and the other windows will display a page of Destinations.
2. Press a Category button (VTR, VCR, etc.). This will restrict the Destinations displayed in the windows to that selected category. You can scroll through multiple pages in a category, using the **Up/Down** arrow buttons.
3. Select the desired Destination by pressing its adjacent soft button.
4. Press **Take** to select it as the active Destination and return to Single Destination mode.

Selecting a Source (Single Destination Mode)

Note If a Destination has been Protected or Locked by another panel, the **Protect/Lock** button will illuminate steady amber (Protect) or red (Lock) and the Destination will not be able to be switched. To continue, the Destination must be unprotected or unlocked by the panel that protected or locked the Destination (the name of that other panel will be displayed in the menu).

Direct Category Button Method

This is the fastest method to take a Source to Destination on this panel.

1. Confirm the desired active Destination is shown in yellow in the Destination window.
2. Press a Category (For example, "VTR") and unit number (For example, "2") button combination. If the entry is valid, the defined category/number will be displayed in the D16 window, in Blue.

   The mnemonic for the Source will be shown in the Status window, top row, and also appears in the various level displays in the Destination 1-4 windows (D1-D4 in previous label) windows.
3. Press **Take**. All selected levels will switch to the new Source. The mnemonic of the new Source will be displayed in the Status window, in green. The level displays will show the Source name, in green, for each of the first 4 levels defined in the CP Level set assigned to the panel.

Page Selection Method

1. Confirm the desired active Destination is shown in yellow in the Destination window
2. Press **Menu** and push the **Select Source?** soft button for the D4 window. The Destination 1 window (D1- in previous label) will display **Source?** in white. Sources will appear in groups of four, in green, in the Destination 1-4 windows (D1-D4 in previous label).
3. Use the **Up/Down** arrow buttons to scroll through the available Sources.

Note The same as Destination selection, you can restrict the Sources displayed in the windows by pressing a Category button at this time (see *Category Subset Method* on page 117).

4. Select the desired Source by pressing its adjacent soft button.
5. To execute the switch, press **Take**. The Source will be switched to the active Destination, and the name of that Source will appear in the Destination window, in green.

Breakaways (LD4 Panel)

Breakaway takes of individual levels can be accomplished either by de-selecting the level(s) that you do NOT want to switch, or by choosing which levels that you DO want to switch. Whatever method is used depends on the panel's **Level Select** mode setting.

Level Select mode on the LD4 panel is set via the menu:

1. Press the **Menu** button. The windows will display various configuration modes. Press the **Up/Down** arrow buttons to display the **Level Select** window (D3). It will report its current setting, either **ALL ON** or **ALL OFF.**
2. Press the soft button for **Level Select**. The mode will toggle to the other state and the panel will exit Menu mode.

Breakaways can be disabled on the CP Level Set table by setting the Break Flag for each level to `N.'

Deselect Levels Method

1. Confirm the desired active Destination is shown in yellow in the Destination window and Level Select mode is **ALL_ON**.
2. Press the soft buttons for the levels you do NOT want to switch so the buttons are turned off. To move beyond the first 4 levels, use the **Up/Down** arrow buttons.
3. Select a Source, using one of the methods described under *Selecting a Source (Single Destination Mode)* on page 118. The selected (i.e., preset) Source will appear in Blue.
   - If the level indicator is blank, the Source may not exist on that level (For example, audio from a camera).
4. Press **Take**. The Source will switch only on the selected levels to the controlled Destination, while the non-selected levels remain at the previously selected Source. The level windows will indicate the status of the first 4 levels.

- If Sticky Levels is off, after the Take all levels will automatically be re-selected (their soft buttons will illuminate). If Sticky Levels is on, only the levels involved in the last Take will remain selected.

Select Levels Method

This method is the reverse of the above procedure.

1. Confirm the desired active Destination is shown in yellow in the Destination window and Level Select mode is **ALL_OFF**.
2. Toggle ON the soft button(s) corresponding to the level(s) to be switched. To move beyond the first 4 levels, use the **Up/Down** arrow buttons.

3. Select a Source using one of the methods described under *Selecting a Source (Single Destination Mode)* on page 118.
4. Press **Take**. The Source will switch only on the selected levels, while the non-selected levels will remain at the previously selected Source.
5. The level windows will indicate status of the first 4 levels of the switcher.
   - If Sticky Levels is off, after the Take all levels will automatically be deselected (their buttons will turn off). If Sticky Levels is on, only the levels involved in the last Take will remain selected.

Sticky Levels Mode (LD4 Panel)

If Sticky Levels mode is ON, the level(s) involved in a breakaway Take remain selected for subsequent Takes. To turn on Sticky Levels mode:

1. Press **Menu**. The display windows will display various modes.
2. Press the **Up/Down** arrow buttons to display **Panel Config?** in the D4 window and press its soft button.
3. The **Sticky Level** menu will be displayed in the Destination 1 window (D1- in previous label) with its current status (ON or OFF).
4. Press **Take** to toggle the state ON or OFF)

The panel will exit Menu mode and operate with the new state.

LD4 Multiple Destination Mode

Multiple Destination mode (sometimes referred to as “multi-bus” mode) is in effect when various Destinations, in yellow, appear in the Destination 1-4 windows (D1-D4 in previous label); and level names (“video” etc.) do not appear.

This mode displays the top level (For example, video) status for 4 Destinations. Additional pages of Destinations each can be accessed using the **Up/Down** arrow buttons. Multiple Destinations can be selected for single-Take switching.

Entering Multiple Destination Mode

1. Press **Menu**. The display windows will display various modes.

2. Press the **Multiple Destination?** soft button. The Destination 1 window (D1- in previous label) will then display the page number for the display (For example, **p00**). The Destination 1-4 windows (D1-D4 in previous label)' first line contains the status of 4 Destinations.

- If Destinations are undefined, the windows will show a series of dashes. To define Destinations, see *Adding or Changing a Destination Soft Button Assignment* on page 122. You must define at least one Destination, for one of the Destination 1-4 windows (D1-D4 in previous label), to use multiple Destination mode.

Selecting a Destination to Control (Multiple Destination Mode)

1. Press the soft button next to the Destination to be controlled so it is illuminated. Use the **Up/Down** arrow buttons to view additional pages of Destinations.
2. Multiple Destinations on multiple pages can be selected, if desired.

Selecting a Source (Multiple Destination Mode)

Once Destination(s) to be controlled are selected, the Source is switched in basically the same was as in Single Destination mode (see *Selecting a Source (Single Destination Mode)* on page 118 for detailed information).

Direct Category Button Method

1. Press a Category (For example, "VTR") and unit number (For example, "2") button combination.
2. Press **Take**.

Page Selection Method

1. Press **Menu**, then press the D4 window **Select Source?** soft button.
2. The Destination 1 window (D1- in previous label) will display **Source?** in white. Sources will appear in groups of four, in green, in the Destination 1-4 windows (D1-D4 in previous label).
3. Use the **Up/Down** arrow buttons to scroll through the available Sources.
4. Select the desired Source by pressing its adjacent soft button.
5. To execute the switch, press **Take**. The Source will be switched to the active Destination(s).

Adding or Changing a Destination Soft Button Assignment

A Destination may be added to any unused location in the D1-D4 displays. One additional page will be available when adding Destination assignments. Destinations can also be changed or deleted.

Note Destinations that have been defined in the panel's CP Output set using the Jupiter Configuration Editor cannot be changed using the panel itself. If such an attempt is made, the panel will display the following message: "????" For more information see *Section 4-Jupiter System Configuration*.

1. Press **Menu**, then press the D3 window **Select Destination?** soft button. A page of Destination names will be displayed in the windows.
2. Press the soft button next to the desired button location. Use the **Up/Down** arrow buttons if necessary to scroll through the pages of button locations.
3. Select the desired Destination by pressing a category (For example, "VTR") and unit number combination. The name of the Destination, and the category/number, will appear in the window.
4. Press **Take**. The Destination will appear in the selected location.
5. To assign more Destinations, repeat Step 2 through Step 4.
6. When finished, press **Menu** and then **Clear** to exit the mode.

The window(s) just programmed will indicate the Destination name in yellow and the current Source for that Destination in green.

Protecting or Locking a Destination

1. Confirm that the desired Destination(s) are selected. In Single Destination mode the Destination appears in the Destination window. In Multiple Destination mode soft buttons for the selected Destinations are illuminated on the Destination page displays.

Note Only multiple Destinations located on the same page can be protected or locked simultaneously. To protect or lock multiple Destinations on different pages, access each page individually to select the Destinations.

2. Choose whether to protect or lock the Destination(s):
   - To protect, press **Protect/Lock** once. The button will illuminate amber, indicating a protect operation in progress.
   - To lock, press **Protect/Lock** twice. The button will illuminate red, indicating a lock operation in progress.

   The **Take** button will illuminate green.

3. Press **Take** to protect or lock the Destination(s). The **Protect/Lock** button will then blink, which indicates that panel has been protected or locked.
   - If another panel selects this Destination for control, that panel's **Protect/Lock** button will illuminate steady amber or red. If the other panel attempts to switch this Destination, a **P** or **L** indicator will be displayed, along with the name of the protecting panel.
   - On S25 and S50 panels that lack a **Protect/Lock** button and display, when the controlled Destination is protected the Source button will illuminate amber, and when locked it will be red.

Un-protecting or Unlocking a Destination

The panel that originally protected or locked a Destination can clear those states for that Destination.

1. Confirm the desired locked or protected Destination(s) are selected.
2. Press the **Protect/Lock** button once (protected Destination) or twice (locked Destination). The **Take** button will illuminate.
3. Press **Take**, the protected or locked state will then be cleared.

Source Swap Mode (LD4 Panel)

If the Source Swap mode has been turned ON, the display windows will preset to the previously-selected Source, shown in Blue after each Take. This permits flip-flop switching on the LD4 panel using just the **Take** button.

1. Press **Menu**. The display windows will display various modes.
2. Use the **Up/Down** arrow buttons to display **Panel Config?** in the D4 window and press its soft button.
3. The **Source Swap** menu will be displayed in the D2 window with its current status (ON or OFF).
4. Press **Take** to toggle the state ON or OFF.

The panel will exit Menu mode and operate with the new state.

Overrides (LD4 Panel)

Overrides can be used for a quick or emergency switch to an often-used Source and level combination. For example, the black burst generator could be defined as the first “override” Source for a particular control panel, corresponding to the first override soft key position. Override names can be customized if desired. Each override can be configured to switch any desired combination of router levels. The order that the overrides are listed

on the CP Override set table will be the order in which they appear on the panel.

To Execute an Override

1. Select the desired Destination.
2. Press **Menu**, use the Up/Down arrow buttons to display **Select Override** in the D2 window and press its soft button.
3. The display windows will indicate available overrides. To scroll to additional override groups, use the **Up/Down** arrow buttons.
4. Press the soft button next to the desired override.
5. To execute the override switch, press **Take**. The Sources on the levels specified in the override will be switched to the Destination.

Sequence (Salvo) Switching (LD4 Panel)

Pre-built Jupiter sequences can be executed after they have been created and downloaded (see *Setting Up a Salvo with a Sequence Set* on page 64).

1. Press **Menu**, use the **Up/Down** arrow buttons to display **Sequence?** in the Destination 1 window (D1- in previous label) and press its soft button.
2. Sequences will appear in groups of four, in white, in the display windows. Use the **Up/Down** arrow buttons to scroll to the additional sequences.
3. Press the soft key for the desired sequence. The number of the preset sequence will appear in the Status window.
4. Press **Take** to execute the sequence.

Front-Panel Service Modes

These modes are provided for panel maintenance and troubleshooting. They are not normally used by the operator.

- Panel Info Mode is described on page 169.
- Panel Setup Mode is described on page 171.

LD16 Control Panel

For a summary of LD16 functions see page 33.

Figure 81. LD16 Control Panel - Previous Label

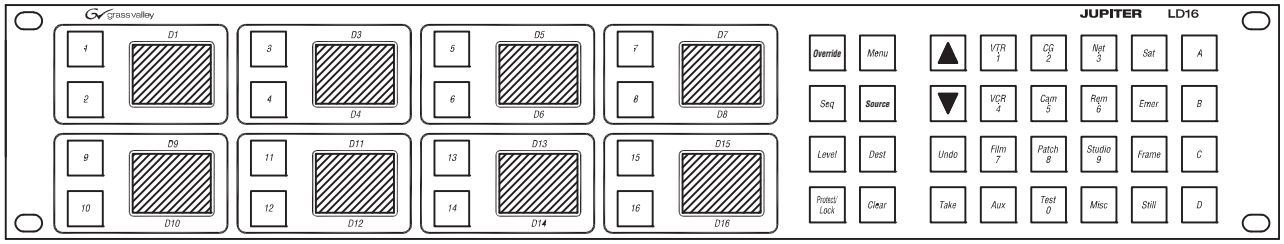
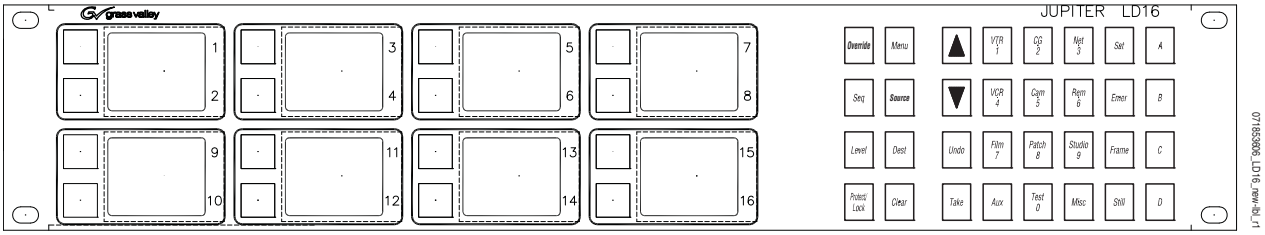


Figure 82. LD16 Control Panel - New Label



LD16 Operating Modes

The LD16 has two distinct operating modes, Single Destination and Multiple Destination.

- When operated in single Destination mode, one Destination is selected for control and the display windows show the Source for each defined level of that Destination (video, left audio, right audio, etc.). Breakaway switching is supported.
- When operated in Multiple Destination mode, the LD16 can be used to control multiple Destinations, with the names of 16 of those Destinations (and the primary Source for each) on display simultaneously. Multiple Destinations can be switched to the same Source with a single Take. Breakaway switching is not supported in this mode (except via Overrides).

LD16 Single Destination Mode

In single Destination mode, windows D1-D14 can show the status for each level of one selected Destination. The currently controlled Destination is shown under the **Active Dest** legend in the D15 window.

Entering Single Destination Mode

1. Press **Menu**. The display windows will display various modes and the associated active soft buttons will illuminate.
2. Press the Destination 1 window (D1- in previous label) **Single Destination?** soft button. Single Destination mode will be selected and the panel will exit the menu mode.

The active Destination is shown in yellow in the D15 window. The level names should appear, in amber, in the D1-D14. The D16 window will report **All Levels**, or the highest numbered level that is currently selected.

Selecting a Destination to be Controlled (Single Destination Mode)

Page Selection Method

1. Press **Dest**. The Destination 1 window (D1- in previous label) will display **Destination?** and the other windows will display a page of Destinations.
2. Use the **Up/Down** arrow buttons to scroll through the available pages of Destinations (For example, **Pg: 3/ 66** in the D3 window). Destinations appear in groups of 16, in yellow.
3. Select the desired Destination by pressing its adjacent soft button.
4. Press **Take**. The D15 window will display the name of the Destination now being controlled in yellow, and the panel returns to the Single Destination mode, ready for Source selection. By default, the soft buttons for all levels will illuminate.

Unless some buttons are toggled off, switching to a new Source will involve all levels. (For information about breakaway switching, see *Breakaway* on page 128.)

- If the Destination cannot be changed, it may be because the panel has been limited to a certain Destination by the CP Output set used on the MPK Devices table. See *Section 4-Jupiter System Configuration*.

Category Subset Method

1. Press **Dest**. The Destination 1 window (D1- in previous label) will display **Destination?** and the other windows will display a page of Destinations.
2. Press a Category button (VTR, VCR, etc.). This will restrict the Destinations displayed in the windows to that selected category. If multiple pages in that category exist, you can scroll through them with the **Up/Down** arrow buttons.
3. Select the desired Destination by pressing its adjacent soft button.

4. Press **Take** to select it as the active Destination and return to Single Destination mode.

Selecting a Source (Single Destination Mode)

Note If a Destination has been Protected or Locked by another panel, the **Protect/Lock** button will illuminate steady amber (Protect) or red (Lock) and the Destination will not be able to be switched. To continue, the Destination must be unprotected or unlocked by the panel that set the protect or lock (the name of that other panel will be displayed in the menu).

Direct Category Button Method

This is the fastest method to take a Source to Destination on this panel.

1. Confirm the desired active Destination is shown in yellow in the D15 window
2. Press a Category (For example, "VTR") and unit number (For example, "2") button combination. If the entry is valid, the defined category/number will be displayed in the D16 window, in blue.

   The mnemonic for the Source will be shown in the D16 window, top row, and also appears in the various level displays (the D1-D14 windows).
3. Press **Take**. All selected levels will switch to the new Source. The mnemonic of the new Source will be displayed in the D16 window, in green. The level displays will show the Source name, in green, for each of the first 14 levels defined in the CP Level set assigned to the panel.
   - If Source swap mode is ON, the Undo button will be high green tally. Pressing the Undo button will display the previously selected Source, in blue. This permits flip-flop switching. For more information about Source swap, see *Source Swap Mode* on page 132.

Page Selection Method

1. Confirm the desired active Destination is shown in yellow in the D15 window
2. Press **Source**. The Destination 1 window (D1- in previous label) will display **Source?** in white. Sources will appear in groups of 16, in green, in the D1-D16 windows.
3. Use the **Up/Down** arrow buttons to scroll through the available Sources.

Note The same as Destination selection, you can restrict the Sources displayed in the windows by pressing a Category button at this time (see *Category Subset Method* on page 126).

4. Select the desired Source by pressing its adjacent soft button.

5. To execute the switch, press **Take**. The Source will be switched to the active Destination, and the name of that Source will appear in the D15 window, in green.

Breakaway

Breakaway takes of individual levels can be accomplished either by de-selecting the level(s) that you do NOT want to switch, or by choosing which levels that you DO want to switch. The method that is used depends on the panel's **Level Select** mode setting.

Changing Level Select Mode

The LD16 panel has a **Level** button which can also be used to directly toggle between the Level Select mode ALL ON and ALL OFF settings. When the **Level** button is ON the All OFF setting is active. When the **Level** button is OFF, the ALL ON setting is active. During typical operations the button should be off.

Level Select mode can also be set via the menu:

1. Press the **Menu** button. The windows will display various configuration modes. The **Level Select** window will report its current setting, either **ALL ON** or **ALL OFF**.
2. Press the soft button for **Level Select**. The mode will toggle to the other state and the panel will exit Menu mode.

Breakaways can be disabled on the CP Level Set table by setting the Break Flag for each level to `N.'

Deselect Levels Method

1. Confirm the desired active Destination is shown in yellow in the D15 window.
2. Confirm the **Level** button is turned off.
3. Press the soft buttons for the levels you do NOT want to switch so the buttons are turned off. To move beyond the first 14 levels, use the **Up/Down** arrow buttons.
4. Select a Source, using one of the methods described under *Selecting a Source (Single Destination Mode)* on page 127. The selected (i.e., preset) Source will appear in blue.
   - If the level indicator is blank, the Source may not exist on that level (For example, audio from a camera).

5. Press **Take**. The Source will switch only on the selected levels to the controlled Destination, while the non-selected levels remain at the previously selected Source. The level windows will indicate the status of the first 14 levels.

- If Sticky Levels is off, after the Take all levels will automatically be reselected (their soft buttons will illuminate). If Sticky Levels is on, only the levels involved in the last Take will remain selected.

Select Levels Method

This method is the reverse of the above procedure.

1. Confirm the desired active Destination is shown in yellow in the D15 window.
2. Press the **LEVEL** button so it is illuminated. All levels will be deselected and their soft buttons will turn off.
3. Toggle ON the soft button corresponding to the level(s) to be switched. To move beyond the first 14 levels, use the **Up/Down** arrow buttons.
4. Select a Source using one of the methods described under *Selecting a Source (Single Destination Mode)* on page 127.
5. Press **Take**. The Source will switch only on the selected levels, while the non-selected levels will remain at the previously selected Source.
6. The level windows will indicate status of the first 14 levels of the switcher.
   - If Sticky Levels is off, after the Take all levels will automatically be deselected (their buttons will turn off). If Sticky Levels is on, only the levels involved in the last Take will remain selected.

Sticky Levels Mode

If Sticky Levels mode is ON, the level(s) involved in a breakaway Take remain selected for subsequent Takes. To turn on Sticky Levels mode:

1. Press **Menu**. The display windows will display various modes.
2. Press the **Panel Config?** soft button. The **Sticky Level** menu will be displayed with its current status (ON or OFF).
3. Press **Take** to toggle the state ON or OFF)

LD16 Multiple Destination Mode

Multiple Destination mode (sometimes referred to as “multi-bus” mode) is in effect when various Destinations, in yellow, appear in the D1-D16 windows; and level names (“video” etc.) do not appear.

This mode displays the top level (For example, video) status for 16 Destinations. Additional pages of Destinations each can be accessed using the **Up/Down** arrow buttons. Multiple Destinations can be selected for single-Take switching.

Entering Multiple Destination Mode

1. Press **Menu**. The display windows will display various modes.
2. Press the **Multiple Destination?** soft button. The Destination 1 window (D1- in previous label) will display the page number of the display (For example, **p00**). The D1-D16 windows' first line contains the status of 16 Destinations.

- If Destinations are undefined, the windows will show a series of dashes. To define Destinations, see *Adding or Changing a Destination Soft Button Assignment* on page 131. You need to define at least one Destination for one of the D1-D16 windows to use multiple Destination mode.

Selecting a Destination to Control (Multiple Destination Mode)

1. Press the soft button next to the Destination to be controlled so it is illuminated. Use the **Up/Down** arrow buttons to view additional pages of Destinations.
2. Multiple Destinations on the same page can be selected, if desired.

Selecting a Source (Multiple Destination Mode)

Once Destination(s) to be controlled are selected, the Source is switched in basically the same was as in Single Destination mode (see *Selecting a Source (Single Destination Mode)* on page 127 for detailed information).

Direct Category Button Method

1. Press a Category (For example, "VTR") and unit number (For example, "2") button combination.
2. Press **Take**.

Page Selection Method

1. Press **Source**. The Destination 1 window (D1- in previous label) will display **Source?** in white. Sources will appear in groups of 16, in green, in the D1-D16 windows.
2. Use the **Up/Down** arrow buttons to scroll through the available Sources.
3. Select the desired Source by pressing its adjacent soft button.

4. To execute the switch, press **Take**. The Source will be switched to the active Destination(s).

Adding or Changing a Destination Soft Button Assignment

A Destination may be added to any unused location in the D1-D16 displays. One additional page will be available when adding Destination assignments. Destinations can also be changed or deleted.

Note Destinations that have been defined in the panel's CP Output set using the Jupiter Configuration Editor cannot be changed using the panel itself. If such an attempt is made, the panel will display the following message: "????"

1. Press **Dest**. The D1- D16 windows will display pages of Destinations.
2. Press the soft button next to the desired button location. Use the **Up/Down** arrow buttons if necessary to scroll through the pages of button locations.
3. Select the desired Destination by pressing a category (For example, "VTR") and unit number combination. The name of the Destination, and the category/number, will appear in the window.
4. Press **Take**. The Destination will appear in the selected location.
5. To assign more Destinations, repeat Step 2 through Step 4.
6. When finished, press the **Clear** and **Dest** buttons to exit the mode.

The window(s) just programmed will indicate the Destination name in yellow and the current Source for that Destination in green.

Protecting or Locking a Destination

1. Confirm that the desired Destination(s) are selected. In Single Destination mode the Destination appears in the D15 window. In Multiple Destination mode soft buttons for the selected Destinations are illuminated on the Destination page displays.

Note Only multiple Destinations located on the same page can be protected or locked simultaneously. To protect or lock multiple Destinations on different pages, access each page individually to select the Destinations.

2. Choose whether to protect or lock the Destination(s):
   - To protect, press **Protect/Lock** once. The button will then illuminate amber, indicating a protect operation in progress.
   - To lock, press **Protect/Lock** twice. The button will then illuminate red, indicating a lock operation in progress.

   The **Take** button will illuminate green.

3. Press **Take** to protect or lock the Destination(s). The **Protect/Lock** button will blink, which indicates that panel has been protected or locked.
   - If another panel selects this Destination for control, that panel's **Protect/Lock** button will illuminate steady amber or red. If the other panel attempts to switch this Destination, a **P** or **L** indicator will be displayed, along with the name of the protecting panel.
   - On S25 and S50 panels that lack a **Protect/Lock** button and display, when the controlled Destination is protected the Source button will illuminate amber, and when locked it will be red.

Un-protecting or Unlocking a Destination

The panel that originally imposed a protect or lock on a Destination can clear those states for that Destination.

1. Confirm the desired locked or protected Destination(s) are selected.
2. Press the **Protect/Lock** button once (protected Destination) or twice (locked Destination). The **Take** button will illuminate.
3. Press **Take**. The protect or lock state will be cleared.

Source Swap Mode

If Source Swap mode is ON, the display windows will preset to the previously-selected Source, in blue, after each Take. This permits flip-flop switching on the LD16 panel using the **Undo** and **Take** buttons.

1. Press **Menu**. The display windows will display various modes.
2. Press the **Panel Config?** soft button. The **Source Swap** menu will be displayed with its current status (ON or OFF).
3. Press **Take** to toggle the state ON or OFF.

The panel will exit Menu mode and operate with the new state.

Override

Overrides can be used for a quick or emergency switch to an often-used Source and level combination. For example, the black burst generator could be defined as the first “override” Source for a particular control panel, corresponding to the first override soft key position. Override names can be customized if desired. Each override can be configured to switch any desired combination of router levels.

Up to 10 pages of overrides (80 total) may be defined using the Jupiter file server to build a CP Override set and assign the set to the panel. The order

in which the overrides are listed on the CP Override set table will be the order in which they appear on the panel.

To Execute an Override

1. Select the desired Destination.
2. Press **Override**. The D1window will display **Select Override**. The display windows will indicate available overrides. To scroll to additional override groups, use the **Up/Down** arrow buttons.
3. Press the soft button next to the desired override.
4. To execute the override switch, press **Take**. The Sources on the levels specified in the override will be switched to the Destination.

Sequence (Salvo) Switching on an LD16 Panel

Pre-built Jupiter sequences can be executed after they have been created and downloaded (see *Setting Up a Salvo with a Sequence Set* on page 64).

1. Press the **Seq** button. Sequences will appear in groups of 16, in white, in the display windows. Use the **Up/Down** arrow buttons to scroll to the additional sequences.
   - If the **Seq** button does not illuminate, there may not be any sequences defined to this panel.
2. Press the soft key for the desired sequence. The number of the preset sequence will appear in the D16 window.
3. Press **Take** to execute the sequence.

Front-Panel Service Modes

These modes are provided for panel maintenance and troubleshooting. They are not normally used by the operator.

- Panel Info Mode is described on page 169.
- Panel Setup Mode is described on page 171.

S25/S50 Control Panels

For a summary of S25/S50 functions see page 35.

Figure 83. S25 Control Panel

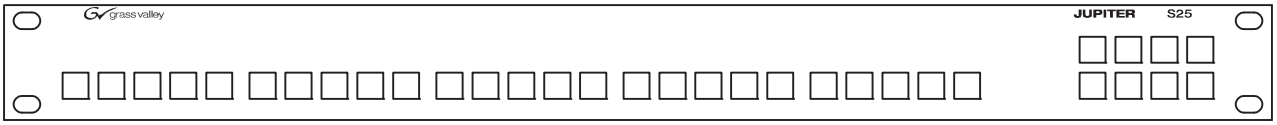
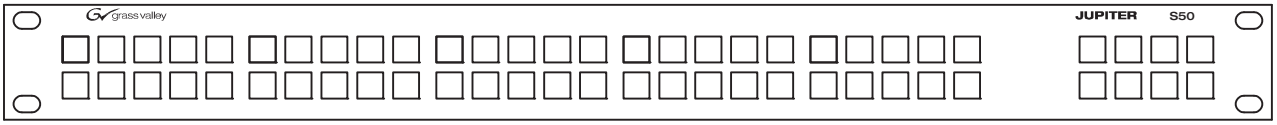


Figure 84. S50 Control Panel



The S25 and S50 are Button-per-Source Control panels configurable for various combinations of Destinations and levels. The buttons on the left select Sources. The eight buttons on the right select levels or Destinations.

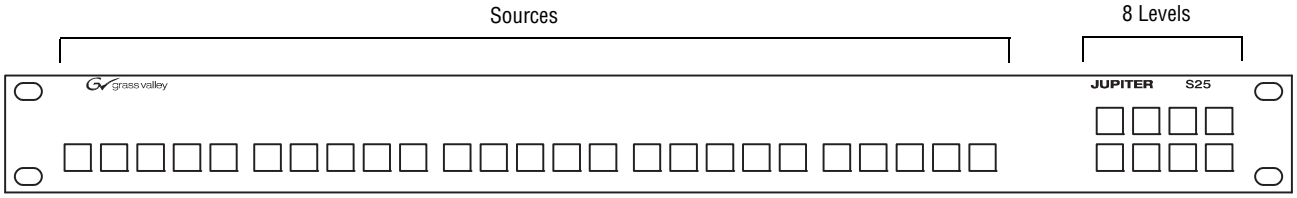
If desired, breakaways can be disabled on the CP Level Set table by setting the Break Flag for each level to `N.'

The S50 is configured and operated same as the S25, except that buttons are provided for 50 Sources.

1 Destination / 8 Levels

If the S25/S50 is configured to control a single Destination, the eight-button cluster on the right can be used for breakaway switching of the first eight levels of the router. An example is shown in Figure 85.

Figure 85. S25 Configured for 1 Destination / 8 Levels



This configuration is indicated when all eight buttons are illuminated in low or high amber.

Note Low amber color may be difficult to detect in normal room lighting.

Basic Operation

With all available levels toggled ON (high amber), press a Source button (light green). Selecting the Source completes the switch to the Destination.

Breakaway Switching

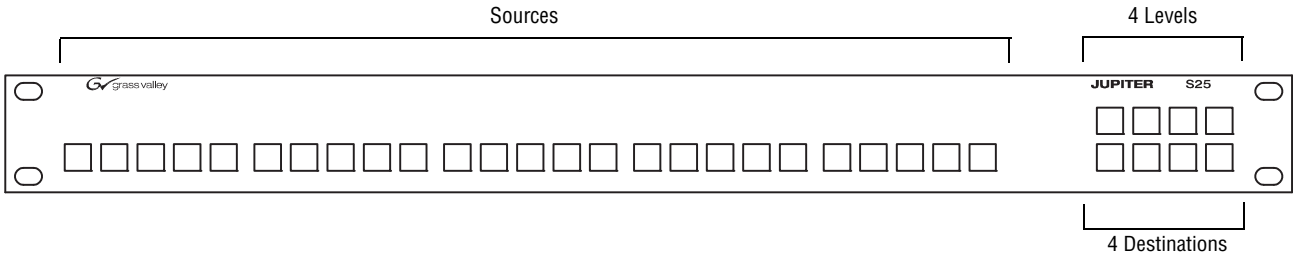
Select only the level button(s) on the right that you wish to switch before selecting a Source.

Note If a level button cannot be toggled ON, the level may not exist on that Destination (For example, audio on a video monitor).

2/3/4 Destinations / 4 Levels

With two, three, or four Destinations defined, the top row of the eight-button cluster is used for breakaway switching of the first four levels, and the bottom row of four buttons is used to select from up to four Destinations. An example is shown in Figure 86.

Figure 86. S25 Configured for 4 Levels / 4 Destinations



Operation

1. Select the Destination button on the lower right you wish to control.
2. For a breakaway, select the level button(s) on the upper right for the levels you wish to switch.

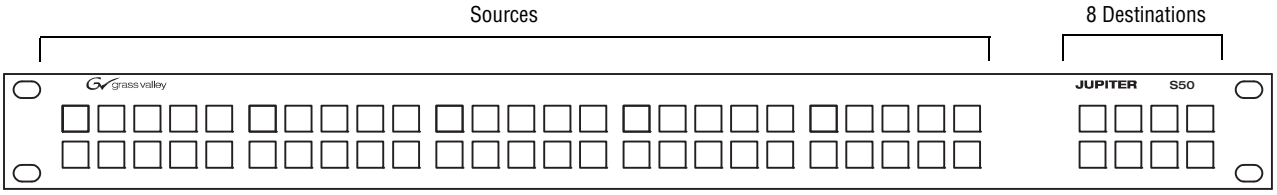
Note If the level button cannot be toggled ON, the level may not exist on that Destination (For example, audio on a video monitor).

3. Press a Source button (light green). Selecting the Source completes the switch to the Destination.

5/6/7/8 Destinations

With five, six, seven, or eight Destinations defined, the eight-button cluster on the right is used to select the Destination. Breakaway switching is not available with this configuration. An example is shown in Figure 87.

Figure 87. S50 Configured for 8 Destinations



Operation

1. Select the Destination button on the right you wish to control.
2. Press a Source button (light green). Selecting the Source completes the switch to the Destination.

S25/S50 Protect/Lock

S25 and S50 panels cannot initiate or remove protects or locks.

If a Destination has been *protected* by another panel, the selected Source button will illuminate steady amber and the Destination will not switch. If the Destination has been *locked* by another panel, the selected Source button will illuminate steady red and the Destination will not switch. To continue, the Destination must be unprotected or unlocked by the panel used to set the protect or lock.

Normal and Sticky Level Modes

The S25/S50 panel can operate in a Normal or Sticky Level mode. The Sticky level mode / level breakaways are not available when more than four Destinations are configured.

With Normal mode, after any take has been selected by pressing a Source button, the S25 panel will automatically re-select (or turn on) all the configured level buttons to the High Tally state that indicates that these levels have been selected and will be taken to the Destination when the next source take is requested. This is known as an, “All level take.” This action will occur regardless of what had been previously unselected prior to the last source take. Also, the **Source** button status will move to the Source that has the first selected level confirmed.

With Sticky mode, the S25/S50 panel will retain the last selected levels that were selected even after the source take occurs.

Normal or Sticky Level mode will be retained after a power cycle.

Changing Between the Normal and the Sticky Level Modes

Follow these steps to change the S25/S50 panel between the Normal and the Sticky level modes:

1. Press the first left two vertical button pairs that are part of the group of eight level buttons at the same time.
2. Hold both buttons down for approximately three seconds.

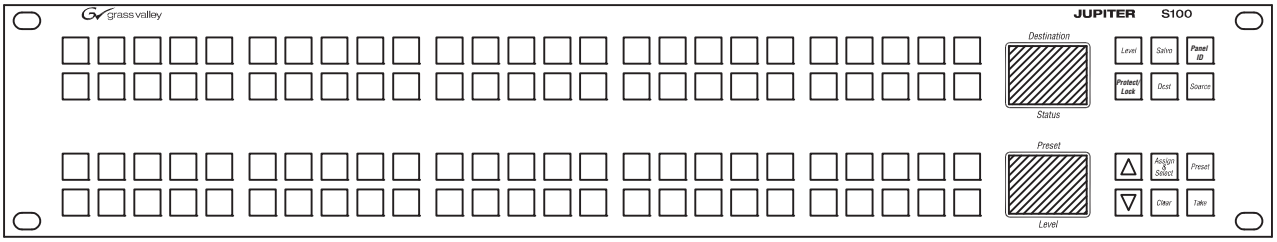
- Changing from Normal to Sticky level mode, All configured level button led's will change to Low Tally state. This indicates that the panel is now in Sticky level mode. All Source button led's will also change to Low Tally state to indicate there is no status available for the Destination because NO levels are selected.
- Changing from Sticky to Normal level mode, All configured level button led's will change to High Tally state. This indicates that the panel is now in Normal level mode. If a take has occurred to the Destination that included the first level in the configuration, then the corresponding Source button led will change from Low Tally to High Tally state.

Both buttons MUST be released, then pressed again to change between Sticky and Normal level mode again.

S100 Control Panel

For a summary of S100 functions see page 35.

Figure 88. S100 Control Panel



L64 Panel Similarities and Differences

The S100 panel layout and operating procedures are nearly identical to the L64 panel.

Significant differences include:

- One hundred assignable buttons instead of 64.
- **Sequence (Salvo)**, **Dest**, and **Source** buttons, which give direct access to the menus used to select these items.
- **Assign & Select** button, also used to directly access button assignment menus.
- The button used to protect and lock Destinations is labeled **Lock** instead **Lock/Protect**.
- The S100 panel does not have an **Undo** button.
- Alternate Mode operation (unique to the S100 L-S panel).
- Multi Destination mode operation (unique to the S100 L-S panel).

Basic S100 Operation

Refer to the following L64 procedures, which also apply to the S100 panel.

The only differences for S100 operations involves accessing menus. If you wish, you can use the S100 panel's **Sequence (Salvo)**, **Dest**, **Source**, and **Assign & Select** buttons instead of the L64 panel's **Menu** and **Up/Down** arrow buttons.

- *Show Button Assignment* on page 106
- *Clearing Panel Modes* on page 107
- *Destination and Source Selection Methods* on page 107
- *Protecting a Destination* on page 109

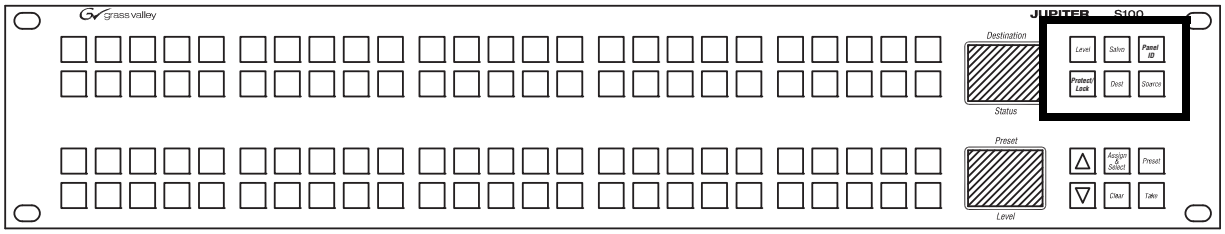
- *Locking a Destination* on page 110
- *Breakaway Switching* on page 111
- *Sticky Levels Mode* on page 102
- *Executing a Sequence (Salvo)* on page 113
- *Source Swap Mode* on page 113
- *Button Assignment* on page 114
- *L-S Front-Panel Service Modes* on page 169

- Source paging (see *Source Paging* on page 103 for more information.)

Alternate Mode Operation

Alternate mode can be useful when all 100 buttons to the left of the status displays have been assigned to Sources, Destinations, sequences, or levels and the operator wants to make additional assignments on a temporary basis. Alternate mode allows the top six buttons in the right-hand button cluster to be used for this purpose.

Figure 89. Alternate Mode Buttons



Button assignments must be made prior to entering Alternate mode. See *Button Assignment* on page 114.

Activating Alternate Mode

1. Press **Menu**.
2. Use the **Up/Down** arrow buttons to scroll to **PanelConfig?** and press **Take.**
3. Use the **Up/Down** arrow buttons to scroll to **Alternate mode**. The window will report its current status (OFF or ON).
4. Press **Take** to toggle the state and exit Menu mode.

Multiple Destination Mode

This function allows gang switching where the same Source is switched to multiple Destinations with a single Take. When active, this mode allows the selection of multiple assigned Destination buttons simultaneously.

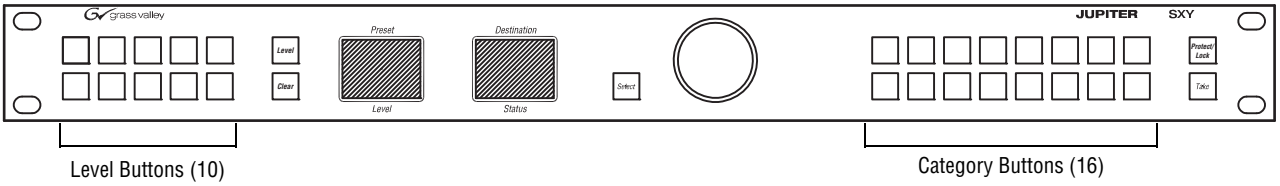
Activating Multiple Destination Mode

1. Press **Menu**.
2. Use the **Up/Down** arrow buttons to scroll to **PanelConfig?** and press **Take.**
3. Use the **Up/Down** arrow buttons to scroll to **Mult Outp**. The window will report its current status (OFF or ON).
4. Press **Take** to toggle the state and exit Menu mode.

SXY Control Panel

For a summary of SXY functions see page 36.

Figure 90. SXY Control Panel



Selecting a Destination to be Controlled

Selector Knob Method

1. Press **Clear** to take the panel to its home state.
2. Press **Select**. The Preset window will display **Select Destination?** as the default mode.
3. Press **Select**. The Preset window will display **Destination** along with the last Destination chosen (which may not be the currently controlled Destination).
4. Use the selector knob to scroll through the available Destinations.
5. When the desired Destination is displayed, press **Select**. The Destination window will report the name of the Destination now being controlled in yellow, and its current Source is shown in the Status window.

The panel is now ready for Source selection.

Note If the Destination cannot be selected, it may be because the panel has been limited to a certain Destination by the CP Output set used on the MPK Devices table. See *Section 4-Jupiter System Configuration*.

Category Button Method

If your Jupiter system and panel has been configured with categories, you will be able to use the 16 Category buttons on the right to select Destinations.

1. Follow Step 1 through Step 3 above.
2. Press the Category button to select the desired category (VTR, for example). The Category buttons then shift to number selection mode.

3. Use the Category buttons to enter the number of that Destination. Alternatively, you can use the Selector knob to scroll through the available Destinations. If the entry is valid, the name of the Source will appear in the Preset window in yellow, and the category/number for the Source will be shown in blue.
4. When the desired Destination is displayed, press **Select**.

Selecting a Source

Note If a Destination has been Protected or Locked by another panel, the **Protect/Lock** button will illuminate steady amber (Protect) or red (Lock) and the Destination will not be able to be switched. To continue, the Destination must be unprotected or unlocked by the panel that set the protect or lock (the name of that other panel will be displayed in the menu).

CAUTION If the **Select** button is blinking, Sources will switch as the knob is turned (see *Scroll Take Mode* on page 147). Make sure Scroll Take is OFF before selecting Sources with the following methods.

Selector Knob Method

1. If necessary, press **Clear** to take the panel to its home state.
2. Use the selector knob to scroll through the available Sources displayed in the Preset window.
3. When the desired Source is selected, press **Take**. That Source will be switched to the currently controlled Destination.

Category Button Method

If your Jupiter system and panel has been configured with categories you will be able to use the 16 Category buttons on the right to select Sources.

1. If necessary, press **Clear** to take the panel to its home state.
2. Press one of the 16 Category buttons on the right to select the desired category (VTR, for example). The Category buttons then shift to number selection mode.
3. Use the Category buttons to enter the number of that Destination. Alternatively, you can use the Selector knob to scroll through the available Destinations.
4. When the desired Source is selected, press **Take**. That Source will be switched to the currently controlled Destination.

Source Swap Mode

When Source Swap is ON, the panel will preset its previous Source after a Take. This permits flip-flop switching.

1. Press **Select**. The display windows will display various modes.
2. Rotate the selector knob to **Panel Config?** and press **Select**.
3. Scroll to **Source Swap**. Its current status will be reported (-ON- or -OFF-).
4. Press **Select** to turn Source Swap ON or OFF.

The panel exits Config Mode and operates in the new Source Swap mode.

Breakaway Switching

Breakaways takes of individual levels can be accomplished by selecting the level(s) to switch, and then selecting a Source.

Breakaways can be disabled on the CP Level Set table by setting the Break Flag for each level to `N.'

Single Source Breakaway

The following procedure is used to switch a single Source as a breakaway. For example, switching left and right audio but not video.

1. Check that the desired Destination appears in the Destination window. If not, see *Selecting a Destination to be Controlled* on page 141.
2. Toggle OFF the Level button(s) for the level(s) you do not want to switch. The bottom row of the Status window will indicate the highest numbered level that will witch, in amber.
3. Select a new Source for the levels selected and press **Take** (see *Selecting a Source* on page 142).

The Source will switch only on the selected levels, while the non-selected levels will remain at the previously selected Source.

- To verify the breakaway status, see *Checking Breakaway Status* on page 144 below.
- If sticky mode is OFF, the panel will return to “all levels selected” after each switch and show the status of Level 1 (typically the video level). If sticky mode is ON, the level(s) selected will remain the same for subsequent switches. For more information about sticky mode, see page 145.

Note If the level indicator is blank, the Source may not exist on that level (For example, audio from a camera).

Multi Source Breakaway

The following procedure is used to switch multiple Sources as a single-take breakaway. For example, switching to video from one Source and left and right audio from another Source with one Take.

1. Confirm the desired Destination appears in the Destination window. If not, see *Selecting a Destination to be Controlled* on page 141.
2. Set up the first Source:
   a. Toggle ON the Level button(s) for the level(s) to switch to the first Source. In this example, only the video level button would be ON.

      The bottom row of the Status window will show the name of the highest numbered level that will switch.

   b. Pre-select first Source using the procedure described in *Selecting a Source* on page 142, but do NOT press the **Take** button.

   The Preset window will show the name of the pre-selected Source for the selected level(s).
3. Set up the second Source:
   a. Toggle OFF the Level buttons that were selected above, and toggle ON only the level button(s) for the level(s) to switch to the second Source. In this example, only the Left and Right audio level buttons would be ON.
   b. Pre-select second Source using the procedure described in *Selecting a Source* on page 142, and at this time complete the procedure by pressing the **Take** button.

Different Sources will be switched to each of the levels of the Destination.

- To verify the breakaway status, see *Checking Breakaway Status* on page 144.
- If sticky mode is OFF, the panel will return to "all levels selected" after each switch and show the status of Level 1 (typically the video level). If sticky mode is ON, the level(s) selected will remain the same for subsequent switches. For more information about sticky mode, see page 145.

Checking Breakaway Status

To check the status of individual levels:

1. Toggle OFF the level button(s) that are lower-numbered than the level to be statused. For example, if you want to check the status for Level 2 (For example, Left Audio), toggle OFF Level 1 (For example, video). Or, if you want to check the status for Level 3 (e.g., Right Audio), toggle OFF Level 1 and Level 2.

2. The name of the level and its current Source is shown in the Status window.

Sticky Levels Mode

If breakaway switching is performed often, you may want to leave sticky mode ON.

To turn on Sticky Levels mode:

1. Press **Select**. The display windows will display various modes.
2. Rotate the selector knob to **Panel Config?** and press **Select**.
3. Scroll to **Sticky Level**. Its current status will be reported (-ON- or -OFF-).
4. Press **Select** to turn Sticky Level ON or OFF.

The panel exits Config Mode and operates in the new Sticky Level mode.

Protecting or Locking a Destination

1. Confirm that the desired Destination appears in the Destination window. If not, see *Selecting a Destination to be Controlled* on page 141.
2. Choose whether to protect or lock the Destination:
   - To protect, press **Protect/Lock** once. The button will illuminate amber, indicating a protect operation in progress.
   - To lock, press **Protect/Lock** twice. The button will illuminate red, indicating a lock operation in progress.

   The **Take** button will illuminate green.
3. Press **Take** to protect or lock the Destination. The **Protect/Lock** button will blink, indicating that panel has set the protect or lock.
   - If another panel selects this Destination for control, that panel's **Protect/Lock** button will illuminate steady amber or red. If the other panel attempts to switch this Destination, a **P** or **L** indicator will be displayed, along with the name of the protecting panel.
   - On S25 and S50 panels that lack a **Protect/Lock** button and display, when the controlled Destination is protected the Source button will illuminate amber, and when locked it will be red.

Un-protecting or Unlocking a Destination

The panel that originally imposed a protect or lock on a Destination can clear those states for that Destination.

1. Confirm the desired Destination appears in the Destination window. If not, see *Selecting a Destination to be Controlled* on page 141. The Lock/ Protect button will blink when the Destination has been protected or locked by that panel.
2. Press the **Protect/Lock** button once (protected Destination) or twice (locked Destination). That button will stop blinking and the **Take** button will illuminate.
3. Press **Take**. The Destination's protect or lock state will be cleared.

Sequence (Salvo) Switching

After a sequence is created and downloaded (see *Setting Up a Salvo with a Sequence Set* on page 64) it can be executed as follows:

1. Press **Select**. The display windows will display various modes.
2. Rotate the selector knob to choose **Sequence?** and press **Select**.
3. Use the knob to scroll through the sequences displayed in the Preset the window.
4. When the desired sequence is selected, press **Take**. All the Destinations in the sequence will be switched to their designated Sources.

   The panel remains in Sequence select mode, allowing you to scroll to and select other sequences to execute.
5. To exit Sequence select mode, press the **Clear** button.

Override Mode

Override function is used for a quick or emergency switch to an often-used Source. For example, a Black signal could be defined as the first "override" Source for a particular control panel, corresponding to the first override soft button position. Override names can be customized if desired. Each override can be configured to switch any desired combination of router levels.

If no overrides are defined for the panel, a **No Overrides Configured** message will be displayed when you try to access the mode.

1. Confirm the desired Destination appears in the Destination window (see *Selecting a Destination to be Controlled* on page 141.)
2. Press **Select**. The display windows will display various modes.

3. Rotate the selector knob to choose **Override?** and press **Select**. The Preset window will display the names of overrides for that panel.
4. Use the selector knob to scroll through and select the desired override.
5. Press **Take** to execute the override.
6. Press **Clear** to leave the menu selection and return to normal operation.

Scroll Take Mode

In Scroll Take mode, turning the selector knob switches the listed Sources to the Destination as they scroll. Scroll Take mode is indicated by the **Select** button blinking green.

1. Press **Select**. The display windows will display various modes.
2. Rotate the selector knob to **Panel Config?** and press **Select**.
3. Scroll to **Scroll Take**. Its current status will be reported (-ON- or -OFF-).
4. Press **Select** to turn Scroll Take ON or OFF.

The panel exits Config Mode and operates in the new Scroll Take mode.

Note When Scroll Take is active, it is still possible to pre-select a Source with the Category buttons, and then use the **Take** button to switch that Source to the Destination.

Front-Panel Service Modes

These modes are provided for panel maintenance and troubleshooting. They are not normally used by the operator.

- Panel Info Mode is described on page 169.
- Panel Setup Mode is described on page 171.

Section 7

LCD Series Panel Operation

Introduction

This section assumes that the LCD panels have been properly installed and configured for operation at your facility. Buttons are configured to control Sources and Destinations using the Jupiter CP Input and Output sets. Levels are determined with CP Level sets. These sets are assigned to the panel using the MPK Devices table (see *Section 4-Jupiter System Configuration*).

Basic Panel Operations

The following section will explain how to perform a Take for the various available modes, how to use the Protect and Lock features, and how to use the menu options.

Taking a Source to a Destination (Take)

The most basic operation of any router control panel consists of selecting a router Destination, followed by selecting a router Source. This process connects the router input (Source) signals to the router outputs (Destination). This process is called a Take. The Take process will be described for each available operating mode in the following sections.

Advise Router Option

When the Advise option has been set in the Jupiter Control system and an attempt is made to switch control to a new device, the switch will not occur. The system will instead display the following message on the control panel in two lines:

```
SRC in use
by: <Destination name>
```

The switch to a new device will not be executed until the Destination that is using the source is either:

- Switched to a different source.
- Switched to the "SAFE" input.

Note The Advise and Enforce options do not work when you are using Sequences or Multiple-Destination switching when the same source is being routed to more than one Destination.

This option will avoid having the control device connected to two machines at the same time.

XY Mode

The XY Mode was designed to easily give access to large numbers of Destinations and Sources. The XY Mode operates as a single Source to a single Destination and will switch ALL levels that are associated with the selected Destination. You must be in the main menu to see the **XY Mode** button.

Note The ability to perform a breakaway, lock, or protect is not allowed in this mode.

To perform a Take:

1. Press the Scroll wheel to go to the Main menu.
2. Press the **XY Mode?** button
3. Scroll through the available Destinations using the Scroll wheel (Destinations are displayed in Yellow).
4. Select the preferred Destination button by pressing it. The LCD panel will then automatically change to the Source-selection mode.
5. Scroll through the available Sources using the Scroll wheel (Sources are displayed in Green).
6. Select the preferred Source button by pressing it. The Take request is immediately sent to the host.

The panel will then change to show the Destinations. The selected Destination button will be white and will show the status of the selected Destination. The **Destination** button will return to yellow after five seconds.

Single Destination Mode

The Single Destination Mode was designed for situations where a single Destination is used and quick access to numerous Sources is required. This mode will "Take" a single Source to a single Destination and will switch all

levels that are associated with the selected Destination. You must be in the main menu to see the **Single Destination Mode** button. After making the switch you will remain on the same page. The page number can be found in the top left corner of the Single Destination Mode menu.

Note The ability to perform a breakaway, lock, or protect is not allowed in this mode.

To perform a Take:

1. Press the Scroll wheel to go to the Main menu.
2. Press the **Single Destination Mode?** button.
3. Scroll through the available Sources using the Scroll wheel.
4. Select the preferred Source. The panel will then display the Destination in line #3. The Source button that was selected will turn yellow and will show the status of the Destination. The Take request is immediately sent to the host.

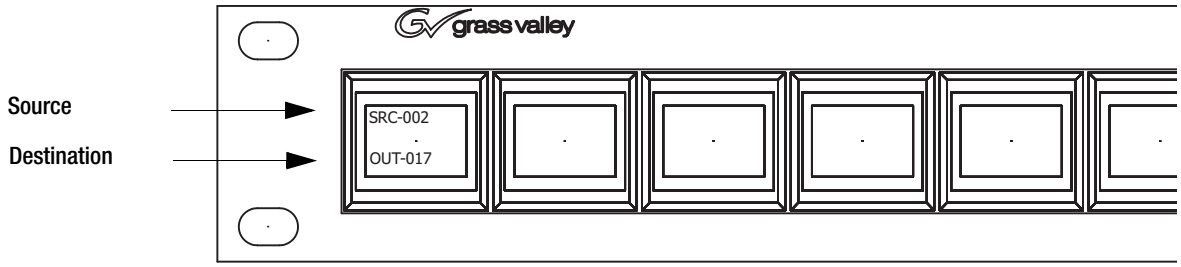
Multiple Destination Mode

The Multiple Destination mode is designed to provide access to many Destinations and connect them to a single Source. You must be in the main menu to see the **Multiple Destination Mode** button.

To perform a Take:

1. Press the Scroll wheel to go to the Main menu.
2. Select the **Multiple Destination Mode?** button.
3. Scroll through the available Destinations using the Scroll wheel.
4. Select the preferred Destination buttons by pressing them. More than one Destination may be selected. The selected Destination buttons will be white instead of yellow.
5. Press The **Select Source?** button.
6. Scroll through the available Sources using the Scroll wheel.
7. Press the preferred Source entry's button. The panel will then automatically return to the last page with a selected Destination on it.
8. The selected buttons will show the Source on the first line and the Destination on the third line (Figure 91).

Figure 91. Multi-Selection Displayed



9. Select the **Take** button. The Take request is immediately sent to the host.

The panel will then show the new current Source on line 2 of the button.

The Multiple Destination mode also supports "Sticky Destinations." When the "Sticky Destinations" feature is enabled (or turned on), the previously selected Destinations will remain selected after a Take is preformed.

Category Entry Mode

The Category Entry mode is designed to sort or group the Sources and Destinations by type, which provides quick, direct access to all of the Sources and Destinations. The LCD16 panel will change between displaying Sources and Destinations. Once selected, up to 98 categories can be displayed by using the Scroll wheel. The LCD48 is divided to show both Sources and Destinations.

Note You cannot perform a breakaway in the Category Entry mode.

The following figures show the Category Entry mode for the LCD16 and the LCD48 panel.

Figure 92. LCD16 -Category Entry Mode

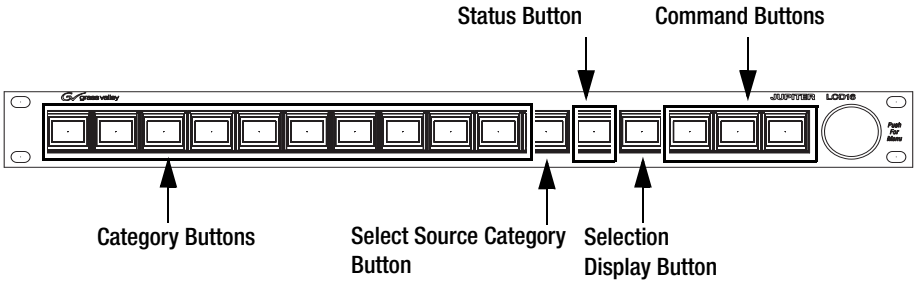
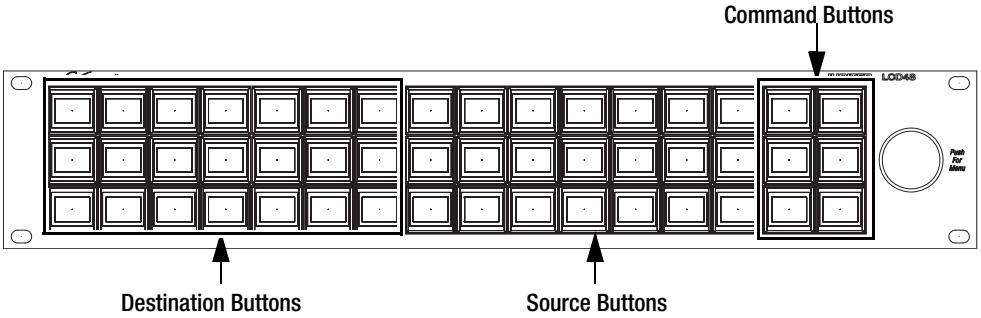


Figure 93. LCD48 - Category Entry Mode



The Category Entry mode functions as a single Source can be assigned to a single Destination and will switch all levels. The ability to do a Lock or Protect is allowed and will occur on all levels of the selected Destination. You must be in the main menu to see the **Category Entry** button.

There are two methods for finding a category, “Direct Entry,” and “Scroll.”

Using the Direct Entry Method

Follow these steps to select a category using the Direct Entry method:

1. Press the Scroll wheel to go to the Main menu.
2. Press the **Category Entry Mode?** button. The Category Entry menu will then appear.
3. Press the preferred **Category Entry** button. The selected Category is then active and the other available categories will be removed from the button display.
4. Press the preferred numbered button.
5. Press the **TAKE** button to make the selection active. The button will now return to the original color and the switch will then occur.

Using the Scroll Method

Follow these steps to select a category using the Scroll method:

1. Press the Scroll wheel to go to the Main menu.
2. Press the **Category Entry Mode?** button. The Category Entry menu will then appear.
3. Use the Scroll wheel to preview or search through the categories
4. Press the preferred **Category Entry** button.
5. Use the Scroll wheel to preview or search through the Sources.
6. Press the preferred Source button.

7. Press the **TAKE** button to make the selection active. The button will now return to the original color and the switch will then occur.

Level Mode

The Level mode is designed to provide access to each level that is assigned to a Destination, which makes breakaway switches easier to complete. Each panel displays the available levels for a selected Destination. An individual level may be locked or protected. You must be in the Main menu to see the **Level Mode** button.

When the Level mode menu appears, how the buttons appear will depend on the Sticky levels feature:

- If the Sticky levels feature is ON, all levels will be off (or unselected) and will be colored amber.
- If the Sticky levels feature is OFF, all levels will be on (or selected) and will be colored white.

The ability to quickly select individual levels is offered in this mode using the **Set All Levels** button. This feature is described below in the *Setting all Levels On or OFF* on page 155 section.

The following figures show the Levels mode for the LCD16 and the LCD48 panel.

Figure 94. LCD16 -Level Mode

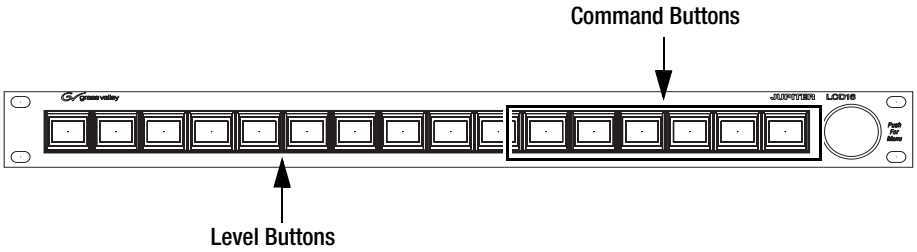
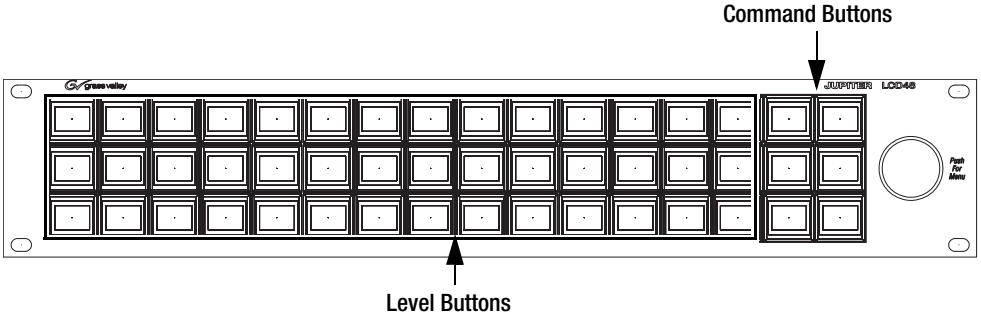


Figure 95. LCD48 - Level Mode



Setting levels for a breakaway switch

Follow these steps to set levels for a breakaway switch:

1. Press the Scroll wheel to go to the Main menu.
2. Press the **Level Mode?** button.
3. Select the preferred Destination. For steps to select a Destination, see the *Select Destination Mode* section. The selected output will be displayed.
4. Press the preferred level button(s), that would correspond to the levels required for the breakaway switch. The selected level buttons will then turn white. Press the preferred **Levels** button. The selected level buttons will then turn white.
5. Press the **Select Source** button, the Source menu will then appear.
6. Select the preferred Source. The panel will automatically return to the Level menu. The **Level** button will have the currently selected Source, if any, on line 2 and the preset source (the one just selected) will be displayed on line 1.
7. Press the **TAKE** button. The selected buttons will now return to amber and the switch will then occur. The active Source is now displayed on line 2 of the button.

The Level mode also supports "Sticky Levels." When the Sticky Levels feature is enabled (or turned on), the previously selected levels will remain selected after a Take is preformed.

Note If "Sticky Levels" is NOT turned on, then the selected levels will automatically be de-selected when the take button is pressed.

Setting all Levels On or OFF

The ability to quickly turn all levels on or off with a single button push is offered in this mode. The **Set All levels** button will select or deselect all buttons. The **Set All levels** button is #11 on the LCD16 and #31 on the LCD47. To select a specific level, press the preferred Level button.

The purpose of the **Select All levels** button is to give you a fast way to turn all the levels on (or all the levels off) with a single button press. For example, to switch all the levels except for the first level, you would press the **All Levels - ON** button to select all the levels. Then you press the first level button to de-select it. All levels have now been selected, except for the first level, in two button presses.

The following instruction describe how to set all levels on or off in more detail than the example above. These instructions assume that the Level mode has already been selected and that all levels are off and are amber.

Follow these steps to set all levels either on or off.

1. Press the **Set All Levels** button. All the available levels associated with the selected Destinations are now highlighted white including any levels that are on different pages. The button text will now display "SET ALL LEVELS- OFF." This text indicates that if the button is pressed again, that ALL the levels will be de-selected or turned Off.

2. Use the scroll wheel to cycle through the available level pages. Select the levels that you want to turn off by pressing the level's button; the buttons will then change color to amber. More than one button can be selected at a time.

   The **Set All Levels** button will now say "SET ALL LEVELS ON." This text indicates that if the button is press again, all the levels would be selected (highlighted white).

3. Press the **Take** button to perform the switch on the "Selected" levels only. If "Sticky Levels" has not been enabled, the selected level buttons will revert to amber.

B.P.S Mode

Note This mode requires at least one Destination have a button assignment in the Jupiter CP Output set. If no buttons are assigned, then the **B.P.S-Mode?** button in the Menu will be highlighted in red, and the mode will not be available.

The Button Per Source (B.P.S) mode is designed to easily assign a Destination, or a set of Destinations, that can be accessed anytime regardless of the selected Source page. The number of displayed Destinations, and their displaying order, are defined by the configuration of the Button field in the Jupiter Control Panel Output set. You must be in the main menu to see the **B.P.S Mode** button. The maximum number of Destination buttons that can be assigned for the LCD16 panel is 15 and the maximum number for the LCD48 is 47. If no Destination buttons have been assigned or if more than the maximum number of Destination buttons are assigned, the **B.P.S. Mode?** button in the Main menu will be Red and will display the text, "No Dest. Buttons Configured." The B.P.S mode will not be assessable if this is showing.

Note The ability to perform a Breakaway, Lock or Protect is not allowed in this mode.

Follow these steps to perform a Take:

1. Press the Scroll wheel to go to the Main menu.

2. Press the **B.P.S Mode?** button.

3. Press the preferred Destination button in the Destination button area. For an example, see Figure 96 and Figure 97. Destination buttons are yellow.

Note These figure are for example only, the number of Destinations are configurable.

Pressing more than one button will select multiple Destinations. The selected Destination buttons will then turn white.

Figure 96. LCD16 -BPS Mode

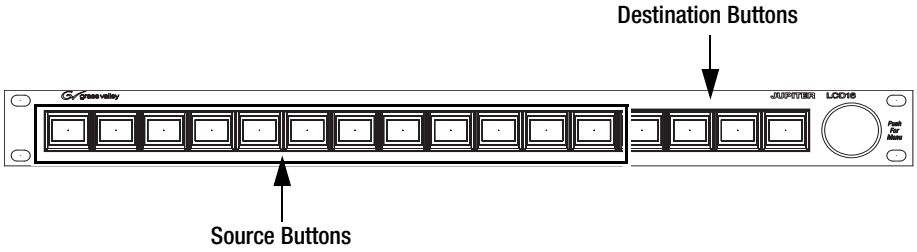
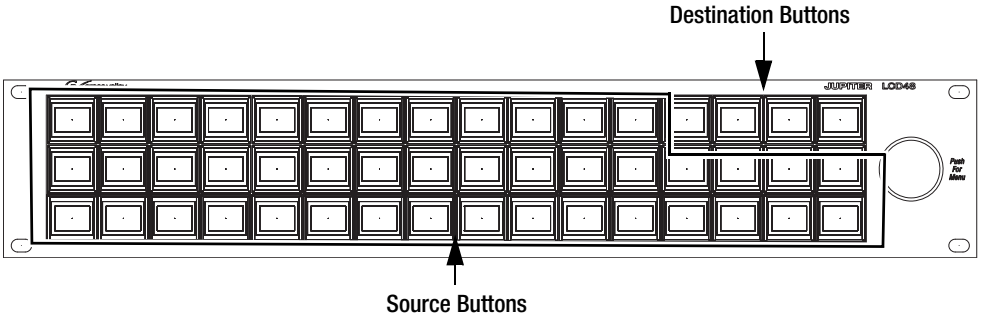


Figure 97. LCD48 - BPS Mode



4. Use the Scroll wheel to see the available Sources.
5. Select the Sources by pressing the preferred green Source button. The Take request is then sent immediately to the host.

Protection

Protecting a Destination prevents that Destination from being switched by other panels in the system. The protecting panel may still change the Destination. The **Protect/Lock** button on the panel that owns the protect function will blink magenta if any selected Destination's level is protected by the local panel. The button will illuminate solid magenta if protected by another panel. The panel that owns the protect function will also be displayed on the **Destination** button.

Protecting a Destination

To protect a Destination:

1. Select the Destination that you wish to Protect by pressing the button.

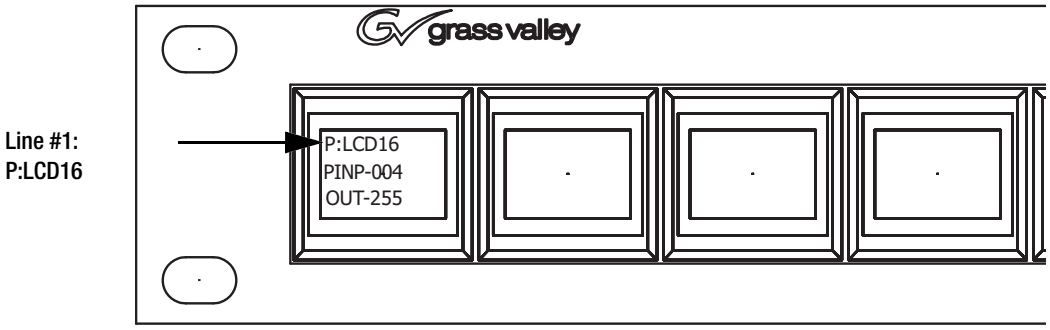
Note In the Multiple Destination mode, Destinations are locked or protected on a per page basis.

2. Press the **Protect/Lock** button in the Command buttons section once, the button will then turn magenta.
3. Press the **Take** button in the Command buttons section. The Destination button will then change color to magenta. The **Protect-Lock** button will also blink magenta.

Note If the Sticky Destination feature has been turned on for the panel, the button will be white. Press the selected button again to change the color.

The letter "P" will appear in front of the name of the panel that protected the Destination. See Figure 98 for an example.

Figure 98. Protected Destination Displayed



Locking

Locking a Destination prevents that Destination from being switched by any panel in the system, including the initiating panel. If any of a Destination's level is locked, the **Lock/Protect** button on that panel will illuminate red.

Locking a Destination

To lock a Destination:

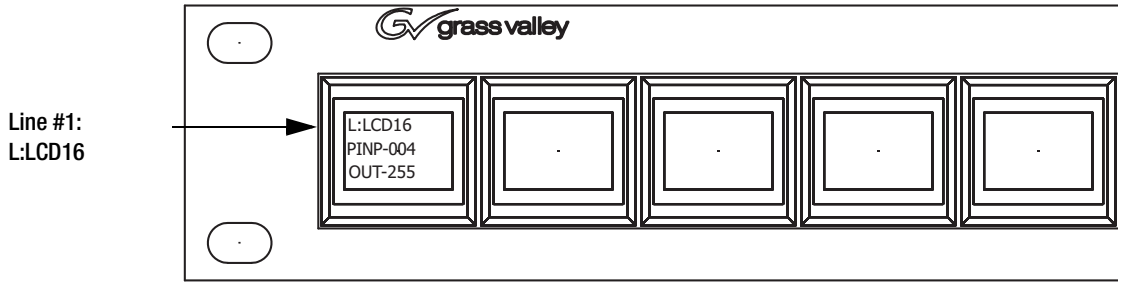
1. Select the Destination you wish to lock by pressing the button.
2. Press the **Protect/Lock** button in the Command buttons section twice. The button will then turn a solid red.

3. Press the **Take** button in the Command buttons section. The Destination's button color will then change to red and the **Protect/Lock** button will blink red.

Note If the Sticky Destination feature has been turned on for the panel, the button will be white. Press the selected button again to change the color.

The letter "L" will appear in front of the name of the panel that protected the Destination. See Figure 99 for an example.

Figure 99. Locked Destination Displayed



Selection Options

Select Destination Mode

You may have access to numerous Destinations or outputs. The Select Destination mode was designed to quickly find a specific Destination. The Select Destination mode can be accessed from the main menu's "select destination?" button. The Select Destination mode is also available for use in the following modes: XY-Mode, Multi-Destination mode, Single-Destination mode, and Level mode.

Note The Select Destination mode is not available in the Category entry and the B.P.S. modes.

There are two methods of selecting a Destination, Direct Entry and Category Entry. Each of these methods will be explained below. Both of these Instruction steps assume the **Destination** button in the Level mode has been pressed. The LCD16 is different from the LCD48 because the LCD48 displays both the Direct Entry (on the Left half) and the Category Entry (on the Right half) of the panel. The LCD16 requires the use of **Select Destination** button to switch between the direct entry and category entry modes.

Selecting the Destination using the Direct Entry Method

Follow these steps to select a Destination using the Direct Entry method:

1. Scroll through the available Destinations using the Scroll wheel. The Destinations will change.
2. Select the Destination by pressing the preferred button. The selected Destination now becomes "Preset source."

   The Preset source means that the selected source will be switched to the Destination when the **Take** button is pressed. The panel will then immediately revert back to the previous mode. For example, the Level mode.

Selecting the Destination using the Category Entry Method

Follow these steps to select a Destination using the Category Entry method:

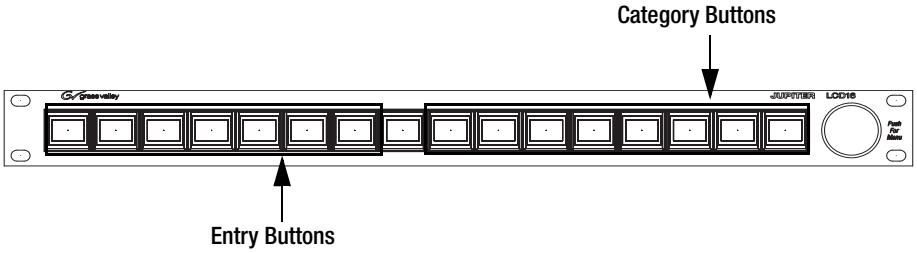
1. Press the category name and then scroll through the available Destinations using the Scroll wheel.
2. Select the entry number by pressing the **Destination** button.
3. Press the Take button. The panel will then immediately revert back to the previous mode. For example, the Level mode.

Note The **Select Destination?** button will not work in the Category Entry or the B.P.S. mode.

LCD16

- The panel will display the Destination entries on buttons #1-14.
- Button #15 is used to switch to category entry method of Destination selection.
- Button #16 will display the current Destination.

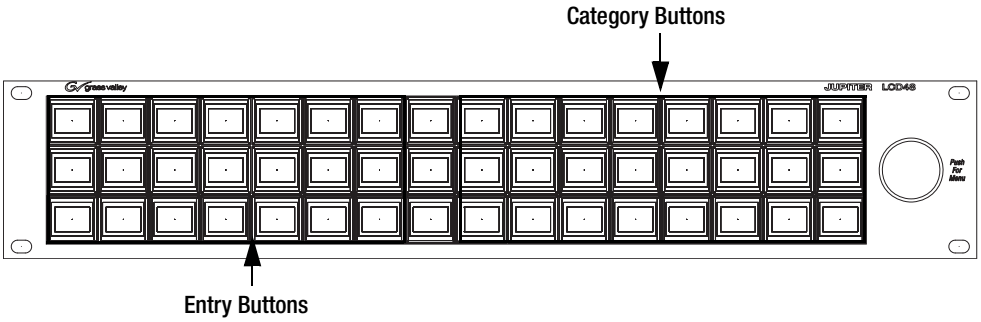
Figure 100. LCD16 -Select Destination Mode



LCD48

The LCD48 displays both the Direct Entry buttons (on the Left half) and the Category Entry buttons (on the Right half) of the panel (Figure 101).

Figure 101. LCD48 - Select Destination Mode



4. Select a Category from the Category side or right-hand side. The Entries that are assigned to the Category will then appear on the left -hand side.
5. Select a Destination from the Destination entries on the left hand side of the panel.

Selecting the Destination from the Level Menu

A Destination can be selected from the Level menu since there is a “shortcut key.

Selecting the Source from the Level or the Multiple Destination Menus

A Source can be selected from the Level or the Multiple Destination menus. There are two methods of selecting a Source, Direct Entry and Category Entry. Each of these methods will be explained below. Both of these Instruction steps assume the green **Source** button in the Level mode has been pressed. The LCD16 is different from the LCD48 because the LCD48 displays both the Direct Entry (on the Left half) and the Category Entry (on the Right half) of the panel. The LCD16 requires the use of **Select Source** button to switch between the direct entry and category entry modes.

Selecting the Source using the Direct Entry Method

Follow these steps to select a Source using the Direct Entry method:

1. Scroll through the available Sources using the Scroll wheel. The Sources will change.
2. Select the Source by pressing the **Destination** button. The selected Source is now the “current destination.” The panel will then immediately revert back to the previous mode. For example, the Level mode.

Selecting the Source using the Category Entry Method

Follow these steps to select a Source using the Category Entry method:

1. Press the category name and then scroll through the available Source using the Scroll wheel.
2. Select the entry number by pressing the Source's button.
3. Press the **Take** button. The panel will then immediately revert back to the previous mode. For example, the Level mode.

Select Sequence Mode

A *sequence* or a salvo, is the switching of one or more Sources to one or more Destinations with a single button press. Sequences can be done at any time, regardless of which mode the panel is in.

Note The Select Sequence mode requires that a least one sequence is assigned using the Jupiter configuration.

Follow these steps to select a *sequence* or a salvo:

1. Press the Scroll wheel to go to the Main menu.
2. Press the **Select Sequence?** button. The Sequence menu will then appear. These buttons will be pink and the name of the sequence will be on line #2.
3. Select the preferred Sequence; use the Scroll wheel to cycle through all the available "sequence" pages as needed. The panel will return to the last selected mode.

Select Override Mode

An Override is used to perform a pre-defined Take. The Take can include Input, Output and Levels. Overrides can be done at any time, regardless of which mode the panel is in.

Note The Select Override mode requires that a least one override is assigned using the Jupiter configuration.

Follow these steps to select an Override:

1. Press the Scroll wheel to go to the Main menu.
2. Press the **Select Override?** button. The Override menu will then appear. These buttons will be blue and the name of the override will be on line #2.
3. Select the preferred Override; use the Scroll wheel as needed.

The panel will NOT revert back to the previous panel mode after each selected override. This feature allows you to do several overrides within a single session. Press the Scroll wheel to go to the Main menu to exit.

Appendix A

L-S and LCD Panel Specifications

Mechanical Specifications

Table 5. Mechanical Specifications

Model	Depth[a]	Width	Height	Weight[b]	Rack Units
L32, LD4 S25, S50, SXY					
Basic panel	30.5 mm 1.199 in.	483 mm 19 in.	44.4 mm 1.75 in.	0.77 kg 1.7 lbs	1
with GPIO option	38.4 mm 1.511 in.			0.83 kg 1.9 lbs	
with internal power supply (“ACPS”)	109.8 mm 4.321 in.			1.2 kg 2.7 lbs	
L64, LD16 S100					
Basic panel	30.5 mm 1.199 in.	483 mm 19 in.	88.9 mm 3.5 in.	1.1 kg 2.6 lbs	2
with GPIO option	38.4 mm 1.511 in.			1.2 kg 2.8 lbs	
with internal power supply (“ACPS”)	109.8 mm 4.321 in.			1.6 kg 3.7 lbs	
LCD16					
Basic panel	37.7 mm 1.486 in.	483 mm 19 in.	44.4 mm 1.75 in.	0.77 kg 1.7 lbs	1
with GPIO option	45.7 mm 1.798 in.			0.83 kg 1.9 lbs	
with internal power supply (“ACPS”)	117.0 mm 4.608 in.			1.2 kg 2.7 lbs	

Table 5. Mechanical Specifications - (continued)

Model	Depth[a]	Width	Height	Weight[b]	Rack Units
LCD48					
Basic panel	37.7 mm 1.486 in.	483 mm 19 in.	88.9 mm 3.5 in.	1.1 kg 2.6 lbs	2
with GPIO option	45.7 mm 1.798 in.			1.2 kg 2.8 lbs	
with internal power supply (“ACPS”)	117.0 mm 4.608 in.			1.6 kg 3.7 lbs	
External power supply (“DCPS”)	132 mm 5.2 in.	58 mm 2.29 in.	30 mm 1.18 in.	0.29 kg. 0.65 lbs.	--

[a] Allow a minimum of four inches (100 mm) behind the frames for cabling

[b] All weights approximate.

Connection, Power, and Environmental Specifications

Table 6. Connection, Power, and Environmental Specifications

LAN 1	
Type	Ethernet
Connector	RJ-45
Cable	Cat 5e
LAN 2 (not supported)	
Type	Ethernet
Connector	RJ-45
Cable	Cat 5e
Serial Port (not supported)	
Type	RS-422, looping
Connector	9-pin D female
Cable	Dual twisted pair (balanced) plus ground
GPIO Option, Input Ports 1-6 (not supported)	
Type	RS-422
Connector	9-pin D female
Cable	Dual twisted pair (balanced) plus ground
GPIO Option, Output Port (not supported)	
Type	RS-422
Connector	9-pin D female
Cable	Dual twisted pair (balanced) plus ground

Table 6. - (continued)Connection, Power, and Environmental Specifications

Power Supply, External	
Type	Tabletop
GV model number	JUP-DCPS
OEM model number	XP AED45US12 (subject to change)
Input	100-240 VAC, 1.5 A, 50-60 Hz, auto-sensing
Output	12 VDC, 3.75 A
Power Consumption	20 W nominal, 30 W maximum
Power Supply, Internal	
Type	Rear-panel mount
GV model number	JUP-ACPS
Input	100-240 VAC, 0.65A-0.4A, 50-60 Hz, auto-sensing.
Output	12 VDC
Power Consumption	20 W nominal, 30 W maximum
Environmental	
Operating Temperature	0-45 degrees C (32-113 degrees F)
Storage Temperature	-40 to 95 degrees C (-104 to 203 degrees F)
Operating Humidity	5-95% non-condensing
Storage Humidity	5-95% non-condensing

Appendix B

L-S Front-Panel Service Modes

These modes are provided for panel maintenance and troubleshooting. They are not normally used by the operator.

Note S25 & S50 panels do not have displays. Information for these panels is accessible via their web pages.

Accessing Service Modes

Note On SXY panels the **Select** button is used instead of the **Menu** button, and the selector knob is used to choose values instead of the **Up/Down** arrow buttons.

1. Press **Menu** (or **Select**). The window will display mode types.
2. Use the **Up/Down** arrow buttons (or selector knob) to scroll to the desired mode and press **Take** (or **Select**). The service modes available include:
   - Panel Info
   - Panel Setup

Panels with many displays can show information in several windows simultaneously. Panels with fewer displays can show the information in pages, accessed with the **Up/Down** or **Select** buttons.

Panel Info Mode

This mode displays various version numbers and addresses that apply to the panel.

Panel ID

- Name of the panel (Source:"MPK Devices" Name column on MPK Devices table)
- Device ID number

Application Version, ReLoader Version

V:xx.yyy.zzz
B: nn

...where

xx = the major release number,
yyy = the minor release number,
zzz = the documentation number, and
nn = the build number.

FPGA Image Version

Image: User
V:xxx.yyyyy

Panel ID

- HW: (hardware number of the panel)
- Type of Panel (For example L32)

Pri. Net 1 GW, Sec. Net2 GW,

- Primary and Secondary Gateway addresses

Pri. Net 1 SN, Sec. Net2 SN

- Primary and Secondary Subnet Masks

Pri. Net 1 IP, Sec. Net2 IP

- Primary and Secondary ID Addresses

MAC-1, MAC-2

- Network 1 and 2 MAC Addresses

Pri. Host IP, Sec. Host IP

- Primary and Secondary Jupiter CM-4000 or CM-4400 IPs

Panel Setup Mode

Panel setup mode is used for service and troubleshooting only.

Change ID Procedure

1. Access Panel Setup mode.
2. Scroll to **Change ID?** The window will display the following:

   `-Change ID- From: xx To: xx`

CAUTION The Panel ID shown here must agree with the ID displayed in the **Address** column on MPK Devices table, and the **Device #** on the Panel Network Configuration web page.

3. Increment to the desired ID.
4. To accept the new ID, press **Take**.

Set Memory to Defaults

This menu provides options for resetting:

- All defaults
- Network defaults
- Host defaults
- Panel defaults
- Button defaults

Enter Diagnostics

This selection sequences through button and display colors. Press any single button to identify its LED. Press any two buttons simultaneously to exit Diagnostics mode.

Panel Reset Mode

This mode resets the panel.

Appendix C

Ordering Information

L-S and LCD Panel Overview

The Jupiter L,S and LCD series control panels are designed to control television matrix routers through a Grass Valley Jupiter Control System (JUP-CM-4000 or JUP-CM-4400) running the AccuSwitch application.

The panels are intended to control the Concerto, Trinix, Apex, and Venus routers. However, any matrix router that can be controlled by the AccuSwitch application can be controlled by these panels.

Panels with an "L" prefix have large (1/2-inch) multi-color buttons.

Panels with an "S" prefix panels are equipped with smaller (3/8-inch) multi-color buttons.

Panels with a "LCD" prefix panels are equipped with (3/4-inch) LCD buttons.

Note When ordering a control panel, either the JUP-ACPS-1RU, JUP-ACPS-2RU or JUP-DCPS is required as an additional model option on the PO. The control panel will NOT ship without a power supply.

Table 7. Jupiter L,S and LCD Series Control Panels Description

Model	Description
JUP-CP-S100	Jupiter 100x1 Button-per-Source (BPS) control panel. Two displays for destination, status, presets, and levels. Scroll through sources or destinations, Level selection. Serial or Ethernet LAN connections. Requires ordering AC (JUP-ACPS-2RU) or DC (JUP-DCPS) power supply per control panel. For GPIO option, order JUP-GPIO-2RU per control panel. For use with JUP-CM-4000/4400 Control units with AccuSwitch (AS) JUP-SW-4000 software only.
JUP-CP-S25	Jupiter 25x1 Button-per-Source (BPS) control panel with 25-source selection and 8 level selection push buttons. Rack or desk mount 1RU. Serial or Ethernet LAN connections. Requires ordering AC (JUP-ACPS-1RU) or DC (JUP-DCPS) power supply per control panel. For GPIO option, order JUP-GPIO-1RU per control panel. For use with JUP-CM-4000/4400 Control units with AccuSwitch (AS) JUP-SW-4000 software only.

Table 7. Jupiter L,S and LCD Series Control Panels Description

Model	Description
JUP-CP-S50	Jupiter 50x1 BPS routing switcher control panel with fifty source selection and eight level selection push buttons. Rack or desk mount 1RU. Serial or Ethernet LAN connections. Requires ordering AC (JUP-ACPS-1RU) or DC (JUP-DCPS) power supply per control panel. For GPIO option, order JUP-GPIO-1RU per control panel. For use with JUP-CM-4000/4400 Control units with AccuSwitch (AS) JUP-SW-4000 software only.
JUP-CP-SXY	Jupiter XY, 10 level control panel. Category entry or Scroll Wheel for source, destination with two displays for router statusing. Serial or Ethernet LAN connections. Requires ordering AC (JUP-ACPS-1RU) or DC (JUP-DCPS) power supply per control panel. For GPIO option, order JUP-GPIO-1RU per control panel. For use with JUP-CM-4000/4400 Control units with AccuSwitch (AS) JUP-SW-4000 software only.
JUP-CP-L32	Jupiter 32 Button-per-Source (BPS) control panel. Includes one display. Level selection and Lock/Protect modes. Rack or desk mount 1 RU. Serial or Ethernet LAN connections. Requires ordering AC (JUP-ACPS-1RU) or DC (JUP-DCPS) power supply per control panel. For GPIO option, order JUP-GPIO-1RU per control panel. For use with JUP-CM-4000/4400 Control units with AccuSwitch (AS) JUP-SW-4000 software only.
JUP-CP-L64	Jupiter 64 Button-per-Source (BPS) control panel. Includes two displays. Level selection and Lock/Protect modes. Rack or desk mount 2RU. Serial or Ethernet LAN connections. Requires ordering AC (JUP-ACPS-2RU) or DC (JUP-DCPS) power supply per control panel. For GPIO option, order JUP-GPIO-2RU per control panel. For use with JUP-CM-4000/4400 Control units with AccuSwitch (AS) JUP-SW-4000 software only.
JUP-CP-LD4	Jupiter XY, Sixteen category, full featured routing switcher control panel. Includes three displays and push buttons for Sources, Destinations, Salvos, and Level selection. Serial or Ethernet LAN connections. Requires ordering AC (JUP-ACPS-1RU) or DC (JUP-DCPS) power supply per control panel. For GPIO option, order JUP-GPIO-1RU per control panel. For use with JUP-CM-4000/4400 Control units with AccuSwitch (AS) JUP-SW-4000 software only.
JUP-CP-LD16	Jupiter 20 category control panel. Includes 8 displays and push buttons for Sources, Destinations, Overrides, and Levels. Rack or desk mount 2 RU. Serial or Ethernet LAN connections. Requires ordering AC (JUP-ACPS-2RU) or DC (JUP-DCPS) power supply per control panel. For GPIO option, order JUP-GPIO-2RU per control panel. For use with JUP-CM-4000/4400 Control units with AccuSwitch (AS) JUP-SW-4000 software only.
JUP-CP-LCD16	Jupiter 16 soft labeled RGB-backlit LCD button control panel, 1 RU. Can be configured for six user modes. Up to 98 input/output categories. Scroll Wheel accesses sources or destinations. Lock, Protect, Sticky levels and Destinations. Requires ordering AC (JUP-ACPS-1RU) or DC (JUP-DCPS) power supply per control panel. For GPIO option, order JUP-GPIO-1RU per control panel. For use with JUP-CM-4000/4400 Control units with AccuSwitch (AS) JUP-SW-4000 software only.
JUP-CP-LCD48	Jupiter 48 soft labeled RGB-backlit LCD button control panel, 2 RU. Can be configured for six user modes. Up to 98 input/output categories. Scroll Wheel accesses sources or destinations. Lock, Protect, Sticky levels and Destinations. Requires ordering AC (JUP-ACPS-2RU) or DC (JUP-DCPS) power supply per control panel. For GPIO option, order JUP-GPIO-2RU per control panel. For use with JUP-CM-4000/4400 Control units with AccuSwitch (AS) JUP-SW-4000 software only.

Power Supplies

Table 8. Power Supplies

Model	Description
JUP-ACPS-1RU	Jupiter LAN control panel, back mounted AC power supply. Input voltage 110V to 220V, Input frequency 50-60Hz Can only be purchased with and is installed on 1RU LAN control panels: S25, S50, SXY, LD4, L32 and LCD16.
JUP-ACPS-2RU	Jupiter LAN control panel, back mounted AC power supply. Input voltage 110V to 220V, Input frequency 50-60Hz Can only be purchased with and is installed on 2RU LAN control panels: S100, LD16, L64 and LCD48.
JUP-DCPS	Jupiter LAN control panel, external DC 12V/3.75mA switching power supply. Input voltage 100V to 240V, Input frequency 47-63Hz. Is connected to LAN control panels: S25, S50, S100, SXY, LD4, LD16, L32, L64, LCD16 and LCD48.

GPIO

Table 9. GPIO Options

Model	Description
JUP-GPIO-1RU	Jupiter General Purpose Input/Output Option Module with 24 Inputs and 4 Outputs. Installs on 1RU LAN control panels: S25, S50, SXY, LD4, L32 and LCD16
JUP-GPIO-2RU	Jupiter General Purpose Input/Output Option Module with 24 Inputs and 4 Outputs. Installs on 2RU LAN control panels: S100, LD16, L64 and LCD48

Appendix D

GPI/O

Overview

The new Jupiter S, L and LCD Control panels now offer GPI/O functionality for every panel. GPI/O operations help customers to trigger other 3rd party devices and can be triggered by other 3rd party devices. GPI/O operations can be:

- Source selection for both input and output Sources
  - Source latching and non-latching.
  - Output GPO On or GPO Pulse.
- Sequence GPI (latching and non-latching) for input Sources.

Note If the GPI is configured for sequence, the GPI will execute the sequence. There is no configuration setting for latching and non-latching.

Equipment Required

LCD, S, and L panel installations:

- Phillips (cross-tip) screwdriver

Software Required

There is no required Software installation for this release. The GPI/O is shipped with the latest version of the software.

Note The panel software must be version 1.0.2 or newer.

Ordering Information

Table 10. GPIO Model Number and Description

JUP-GPIO-1RU	Jupiter General Purpose Input/Output connector panel with 24 Inputs and 4 Outputs. For use with 1RU JUP Control panels: S25, S50, SXY, LD4, L32, LCD16
JUP-GPIO-2RU	Jupiter General Purpose Input/Output connector panel with 24 Inputs and 4 Outputs. For use with 2RU JUP Control panels: S100, LD16, L64, LCD48

Installation Instructions

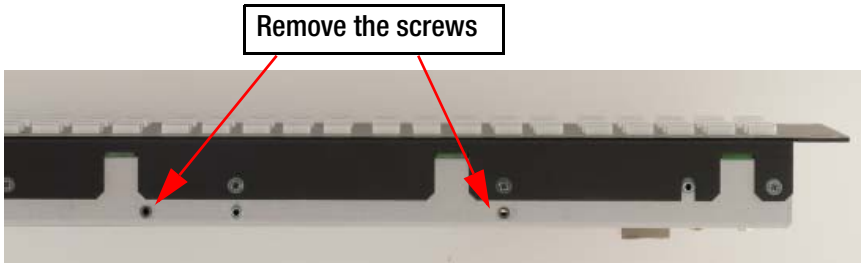
Hardware Installation

The following instructions will guide the customer in the installation of the GPI/O accessory. The Installation procedure will require you to remove the protective cover and then install the GPI/O in place of the cover.

To add the GPI/O to the S, L, or LCD control panel:

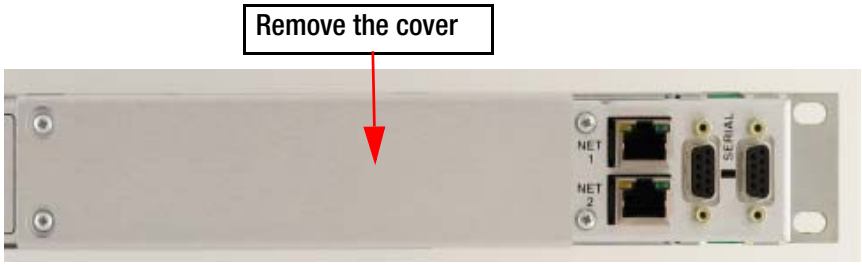
1. Remove the four screws (two on top and two on bottom) from the panel.

Figure 102. Location of the Four Screws



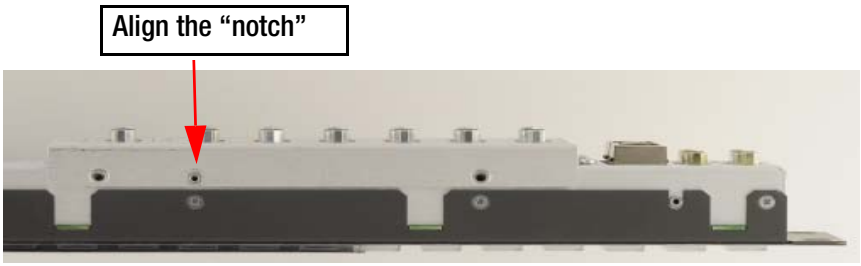
2. Remove the cover from the back.

Figure 103. The Back Cover



3. Align the GPI/O accessory to the S, L panel by aligning the notch in the GPI/O and the stud on the S, L panel.

Figure 104. Notch Alignment



4. Replace the four screws in the panel, securing the GPI/O accessory to the panel.

Figure 105. The Installed GPI/O

5. Connect the cables to the GPI/O’s 9-pin D connectors.

Now that the GPI/O connection plate is connected, the software will become active and you can configure your connections.

Configuration Instructions

After the GPI/O has been installed it must be configured before it can be used. The NetConfig application is used to configure the GPI/O or you can enter the IP address of the panel that the GPI/O is on, in the Address field of a Web browser.

Note For information about how to use the NetConfig application see the *NetConfig Instruction manual*.

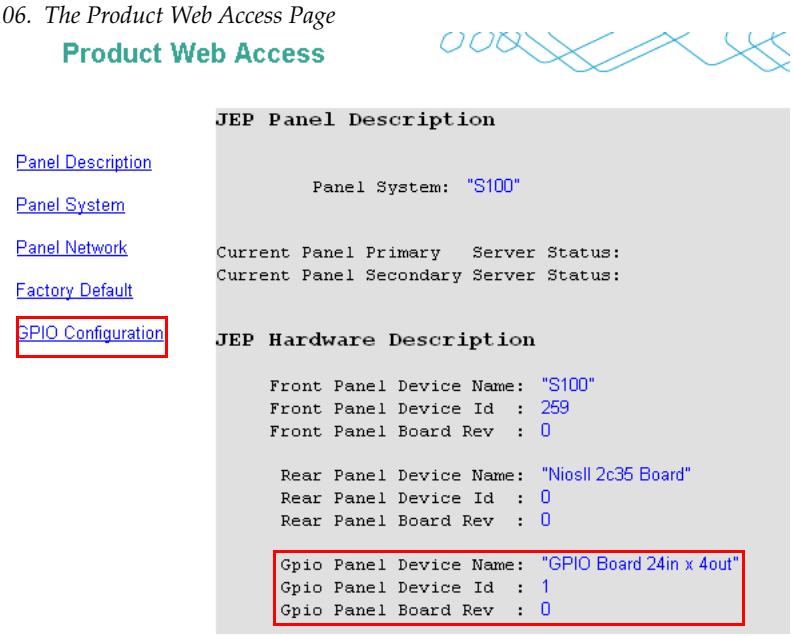
The following instructions will explain how to know if NetConfig has found the GPI/O accessory so it can be accessed, how to configure a GPI setting, and how to configure a GPO setting.

Note Grass Valley recommends that you do not use either “<--” or “-->” in the Source/Sequence names, as the name will be ignored and may not be displayed correctly.

Accessing the GPI/O Configuration Page

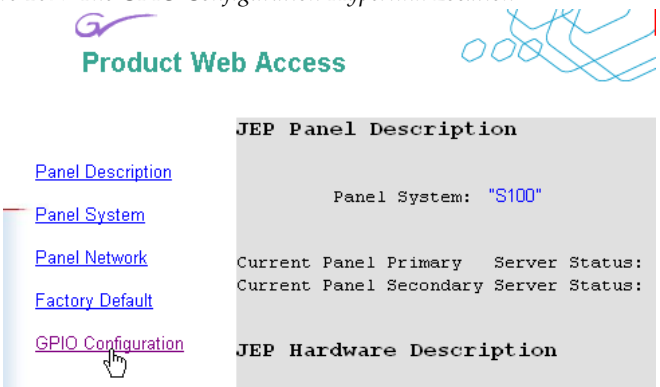
After starting NetConfig, navigate to the Product Web Access page. There are two indicators that the GPI/O is working and NetConfig has found it. On the left hand side of the page, the GPIO Configuration hyperlink will be seen. On the right side, (under the JEP Hardware Description section) the GPIO panel’s name, ID, and Rev will be displayed (Figure 106).

Figure 106. The Product Web Access Page



Click the GPIO Configuration hyperlink to start configuring the GPI/O (Figure 107).

Figure 107. The GPIO Configuration Hyperlink Location



The GPIO settings page will then appear.

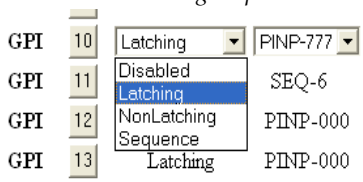
Configuring a GPI Setting

There are four possible types or options for a GPI setting, Disabled, Non-Latching, Latching, and Sequence (or Salvo). The difference between a Non-Latching GPI and a Latching GPI is that when a Latching GPI is triggered, the Source that is taken will remain when the GPI is no longer triggered. However, when a Non-Latching GPI is triggered, the Source that is taken will return to the previous Source when the GPI is no longer triggered. The following instructions will show how to configure a Latching GPI, although the steps for the other options are similar.

To configure Latching GPI setting:

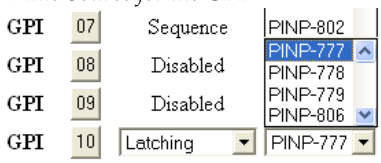
1. Click the Numbered box for the GPI that you want to modify. The screen will change so that a drop-down list will appear in the Type column.
2. Select the "Latching" option, see Figure 108.

Figure 108. The "Latching" Option



3. Select the Source from the Index drop-down list, see Figure 109.

Figure 109. The Source for the GPI



4. Click the Save New Settings button at the bottom of the page when you are finished (Figure 110).

Figure 110. The Save New Settings Button

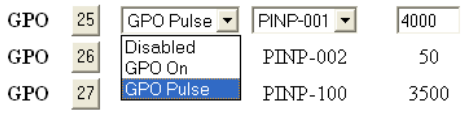
Configuring a GPO Setting

There are three possible types or options for a GPO setting, Disabled, GPO On, and GPO Pulse. The difference between a GPO On and a GPO Pulse is that when a GPO On is triggered, the Relay contact closure will stay closed until another Source is taken. However, when a GPO Pulse is triggered, the Relay contact closure will stay closed only for the specified time, which is in milliseconds. The following instructions will show how to configure a GPO Pulse setting.

To configure GPO Pulse setting:

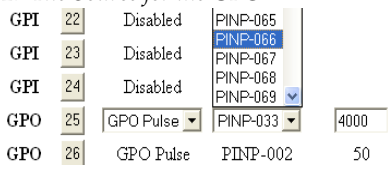
1. Click the Numbered box for the GPO that you want to modify. The screen will change so that a drop-down list will appear in the Type column.
2. Select the "GPO Pulse" option, see Figure 111.

Figure 111. The "GPO Pulse" Option



3. Select the Source from the Index drop-down list, see Figure 112.

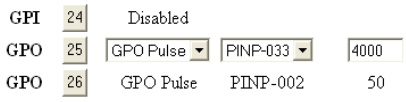
Figure 112. The Source for the GPO



4. Enter the amount of time, in milliseconds, that you want the contact closure to stay closed in the Pulse Width field (Figure 114).

Note The time entered must be between 10 and 5000 milliseconds.

Figure 113. The Pulse Width Field



5. Click the **Save New Settings** button at the bottom of the page when you are finished (Figure 114).

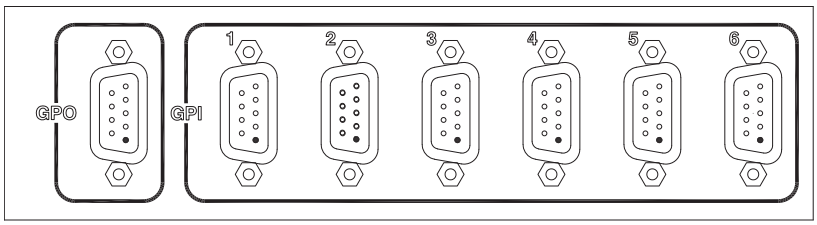
Figure 114. The Save New Settings Button

Note A GPO On setting is similar to the above steps, except you omit the “time” setting.

GPI/O Pin Mapping

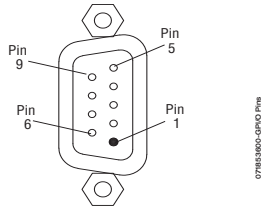
The tables and figures in this section will help you when configuring the GPI/O to know the GPI and GPO locations. The GPI/O panel has one GPO and six GPI connectors (Figure 115). The actual pin placement and location are described below in Table 11 and Table 12.

Figure 115. The GPI/O Connection Location



Use Figure 116 as a reference for the pin location for both the GPI and GPO tables.

Figure 116. The GPI/O Connection Location



GPO

The following information is about the GPO. The schematic is shown in Figure 117. Table 11 shows the GPO's pin mapping.

Figure 117. GPO Schematic

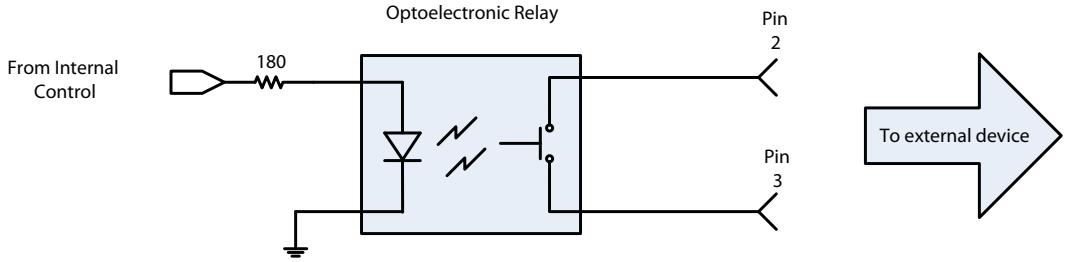


Table 11. Jupiter GPO Accessory Pin Mapping

Connector	Pin	GPO
1		
	2, 3	1
	4, 5	2
	6, 7	3
	8, 9	4

GPI

The following information is about the GPI. The schematic is shown in Figure 118. Table 12 shows the GPI's pin mapping. Only one GPI is shown however, the other five GPIs will be the same.

Figure 118. GPI Schematic

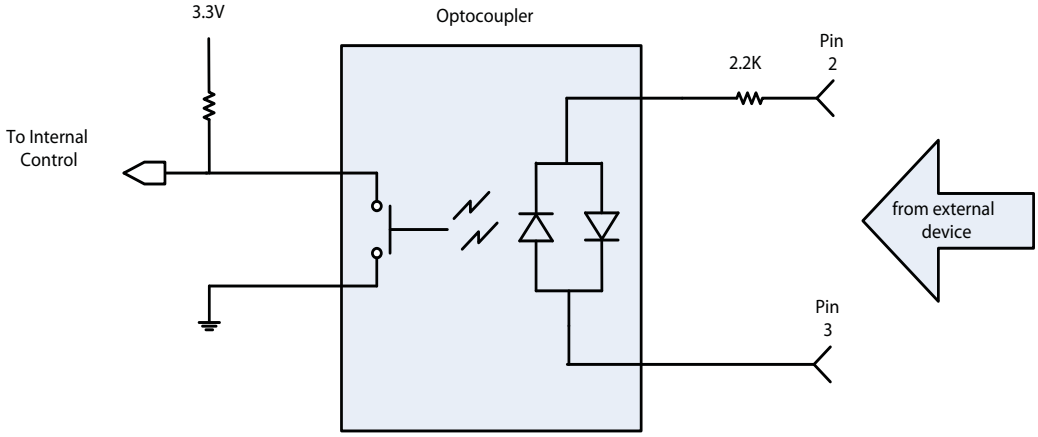


Table 12. Jupiter GPI Accessory Pin Mapping

Connector	Pin	GPI
1		
	2, 3	1
	4, 5	2
	6, 7	3
	8,9	4
2		
	2, 3	5
	4, 5	6
	6, 7	7
	8,9	8
3		
	2, 3	9
	4, 5	10
	6, 7	11
	8,9	12
4		
	2, 3	13
	4, 5	14
	6, 7	15
	8,9	16
5		
	2, 3	17
	4, 5	18
	6, 7	19
	8,9	20
6		
	2, 3	21
	4, 5	22
	6, 7	23
	8,9	24

Optoelectronic Relays

(Reference Figure 117) The relay that was selected for this design is an optically-coupled solid-state relay (*PVG613S-T*), which is capable of switching from 0 to 100 volts (AC or DC) at up to 300mA.

Relay Control

Each relay drive is controlled internally. The relay normally stays open, until a high level on the relay drive line closes the relay.

Optical Couplers

(Reference Figure 118) The optical coupler inputs respond to a differential voltage between the two input pins. The signal leg contains a series current-limiting resistors that were selected to provide between 1.75mA and 13.6mA of LED drive current at voltages of 5 to 28 volts (AC or DC).

Electrical Limitations

The GPI/O has the following limitations:

- GPI Electrical limitations: 24V (max) @13.6mA
- GPO Electrical limitations: 0-100V @ 300mA (max)

Note The GPO can handle a maximum of 300mA.

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Glossary

Note: terms set in SMALL CAPS are defined within this glossary.

10/100BaseT

ETHERNET configuration that uses twisted pair wiring (typically Cat 5 UTP un-shielded twisted pair cable with RJ45 8-pin connectors) to transmit data up to 100 Mbps.

A

AES

Audio Engineering Society. Internet address: http://www.aes.org.

AES3-1992

AES Recommended Practice for Digital Audio Engineering -- Serial transmission format for two-channel linearly represented digital audio data.

AES11

AES Recommended Practice for digital audio engineering -- Synchronization of digital audio equipment in studio operations.

AFV

Audio-Follow-Video. Normal operation of a distribution switcher where selection of a video Source automatically selects audio from that Source. Example: selection of VTR1 video automatically selects VTR1 Audio 1 and VTR1 Audio 2 as well.

Alta

Project name for Maestro Master Control Switcher.

audio modes

In Jupiter systems, special stereo switching modes, For example, left-only, right-only, mix, and reverse.

B

breakaway

Independent operation of a switcher level. Contrasts with normal AFV operation. Example: selecting video from VTR1 but audio from Announce Booth 2. A "breakaway" typically refers to an operation performed dynamically, using control panel buttons. Compare to SPLIT.

bus

In matrix routers, a channel leading to an output or Destination. Example: "controls 20 buses" means being able to select Sources for 20 Destinations.

button-per-input/output control panel

Buttons are dedicated to a particular Source or Destination. As opposed to CATEGORY/NUMBER control.

C

category/number selection method

Operator first picks category (example: VTR); then unit within category.

chop

Rapid, back-and-forth switching between two inputs.

CPL

Control Point Language. Protocol used to control Trinix router through Encore / SMS 7000 Ethernet connection to NR-33000 Broadlinx board.

crosspoint

Distribution switcher circuit where input signal can be connected to output bus.

crosspoint bus

Also called the *matrix bus.* A five-pair bus that carries switching and status commands between the crosspoint (matrix) cards and the control device.

CRS

Concerto Routing Switcher.

D

DDE

Dynamic Data Exchange. A form of interprotocol communication that uses shared memory to exchange data between applications.

delegation

Use of a special control panel or supervisory display to restrict control of a specific VTR to a particular control panel or panels. The delegation process does not actually connect a control panel to a machine; rather, it allows the connection to be made using the normal machine linkage procedures. See also Linkage.

DHCP

Dynamic Host Configuration Protocol. Provides automatic TCP/IP configuration when a DHCP server is present on the network.

DVB-ASI

Digital Video Broadcasting -Asynchronous Serial Interface.

DSP

Digital signal processor.

E

EBU

European Broadcasting Union. Internet address: http://www.ebu.ch/.

ESbus

Nickname for EBU/SMPTE RS-422 bus protocol for remote control of television production equipment using a full-duplex four-wire, asynchronous serial, 38.4 kbits/s digital channel. Connectors are 9-pin D. Incorporates ANSI-SMPTE 207M and Recommended Practice 113. The Jupiter Serial bus is designed to be compatible with ESbus; however, the serial data cable supplied by Thomson uses only 5 conductors. (In Jupiter systems, "ESbus" usually refers to VTR control.)

EScontrol

Control of a "remote" (non-crosspoint bus) routing switcher using proposed ESBUS routing switcher dialect. Also referred to as "**ESbus Router**" protocol.

ESnet

Nickname for EBU/SMPTE proposed protocol for remote control of television production equipment based on THIN NET.

ESswitch

control of a routing switcher using a third-party computer operating according to the proposed ESBUS routing switcher dialect. Also referred to as "ESBUS TRIBUTARY" protocol.

ESswitch protocol

(a.k.a. "ESW"). Protocol used for control of a routing switcher by a third-party computer. It is described in Thomson document "ESswitch Serial Routing Switcher Control Protocol, Enhanced Version." This is a simplified version of the ESBUS TRIBUTARY PROTOCOL.

ESbus Tributary protocol

(a.k.a. "ESTR" and "ES-trib"). Full tributary ESBus automation protocol, compliant with SMPTE EG 29-1993, and all associated normative references. The protocol supports all standard bit rates from 300 to 115.2 kBPS. Flow control is an advantage with this protocol.

exclusion

Lockout of selected inputs from selected outputs. Example: lockout of a test signal from bus leading to transmitter.

F

facility LAN

The Maestro "facility LAN" is a utility network for TCP/IP connection to Maestro-related equipment only. It should not be part of a general-purpose LAN such as an IT network.

file server

Computer dedicated to providing access to a hard disk on a LAN. In Jupiter systems, the PC that holds the Jupiter installation with the active set.

flip-flop

see *Source swap*.

follow switch

Switch made automatically on one level in response to a switch made by the operator on another level. See also AFV, REVERSE SWITCHING.

FPGA

Field Programmable Gate Array.

full-matrix control

Ability to select any Source for any Destination.

G

gateware

Configuration data downloaded to FPGA device.

gateway

Device for connecting two dissimilar networks.

H

hardware address

Another name for the link level address, a unique identifier required for every device that operates on a network (for example, 08000090acf6 [hex]). Compare with TCP/IP ADDRESS.

I

interface bus

ESBUS term for the channel that connects VTRs, control panels, bus controllers, etc. Uses 9-pin D connectors (but Thomson version uses only 5-conductor cable). See SERIAL BUS.

IP multicast

Protocol for sending messages to multiple receivers at the same time on TCP/IP networks, by use of a multicast address.

J

L

level

Historically, a switcher matrix that carries one type of signal, as determined by DIP switch settings on crosspoint boards. Example: level 1 for video, levels 2 and 4 for left and right audio, etc. However, in 3-stage switching systems this switch-set level is referred to as the "physical" level; and large systems may require more than one physical level to provide enough hardware for an entire "logical" level (such as video). The Jupiter Physical Switching menu refers to a "logical level" that is actually the logical level *number,* this being the row number on which the level is identified on the Switcher Level Descriptions table. The logical level *name* also appears on this table.

lock

On Jupiter/L-S series Control panels equipped with a LOCK button: after a given Source has been switched to a given Destination, and LOCK is pressed, the Source for that Destination can then be changed only at the panel which set the lock; and only after LOCK is pressed again.

LOS

Loss of Signal.

M

MAC address

See HARDWARE ADDRESS.

MADI

Multiplexed Audio Digital Interface. matrix bus

see CROSSPOINT BUS.

MDI

Multiple Document Interface.

MIDI

Musical Instrument Digital Interface. Serial interface bus used in Triton switchers.

mnemonic

Abbreviation, usually four characters long, for a particular input or output. Mnemonics appear in the LED status windows of the Control panels. However, the term is sometimes used to define an input or output in the sense of a logical device name.

MPK

Message-per-keystroke. Protocol developed by Thomson for Control panels and devices connected to the Jupiter Serial bus. Baud rate is variable, with 8 data bits, 1 start bit, 1 stop bit, and even parity; time out is 6 characters (1.72 msec). Note: the Jupiter "MPK Table" is used to identify control devices whether or not they actually use the MPK protocol.

multicast

see IP MULTICAST.

N

native protocol

GV Series 7000 Signal Management System Protocol via RS-232, RS-422, SLIP, or Ethernet. Maestro commands to an Encore control system use this protocol.

node

Device on a network, such as a controller board, control panel, file server, or VTR.

numeric mode

Switcher selection method using input and output numbers only (as opposed to category/number mode).

numeric set

Factory-supplied configuration set used to set up and operate the routing switcher in the minimum possible time.

O

OPM

OUTPUT MONITOR.

override

One-button selection of an input. Override button of a control panel is programmed to select a particular input that is used heavily.

output monitoring

Feature of routing switcher which allows control system to verify switcher performance without interrupting normal operations. A separate, internal switching system is used to switch the Monitor Output to any *output* of the switcher.

P

path finding

Switching technique allowing two or more routing switchers to operate as a system, where each switcher can access the other's inputs through a number of *tie lines*. Be cause the tie lines are limited, the path will be *blocked* when all lines are busy. Not to be confused with THREE-STAGE SWITCHING.

PCI

Peripheral Component Interconnect, a local computer bus standard developed by Intel Corporation. Most PCs include a PCI bus in addition to a more general ISA expansion bus.

physical level

see LEVEL.

Pmem

Battery-protected memory.

pPPM

Peak program meter.

protect

On Jupiter/ series panels with a PROTECT button: after a given Source has been switched to a given Destination, and PROTECT is pressed, the Source for that Destination can then be changed only at the panel which protected the output.

R

RCL

GV Router Control Language Protocol (Encore Control System Protocol via RS-232, RS-422, SLIP, or Ethernet.) Note: Maestro commands to an Encore control system use *NATIVE PROTOCOL*.

refresh

Continuous repetition of switching instructions and confirmation of crosspoint status. Reports any interruption of service – for example, if crosspoint board is removed. When board is replaced, automatically restores previous switch instructions.

repeater

Device for connecting two LAN segments.

RS-422

EIA standard which defines the electrical characteristics of balanced voltage digital interface circuits. More rugged than the earlier RS-232 standard, which employs unbalanced voltages. This standard does *not* specify a connector type. While the Jupiter VTR / control panel bus and CC 2010 matrix (crosspoint) bus are both based on the RS-422 standard, the VTR / control panel bus uses 9-pin D connectors and the CC-2010 matrix bus uses 15-pin D connectors.

RS-422 bus

see SERIAL BUS.

S

salvo

Single-command switching of Sources to multiple Destinations.

SCP

Software Control Panel.

segment

Portion of a LAN. In 10BASE2 systems, a segment is limited to 185 meters and 30 nodes. However, segments can be joined by repeaters.

sequencing

Command used in connection with Jupiter for single-command switching of one or more Sources to one or more Destinations.

server

1. Hardware: a computer that provides shared services to other computers over a network; For example, a file server.

2. Software: a program that provides data to client programs in the same or other computers. In Jupiter systems, a "JNS server" (software) is said to run on a "file server" (hardware).

single-bus control panel

Selects any Source for 1 Destination.

SMPTE

Society of Motion Picture and Television Engineers. URL: http://www.smpte.org.

SMPTE 259M-1997

Television standard: "10-Bit 4:2:2 Component and 4fsc Composite Digital Signals - Serial Digital Interface."

SMPTE 269M-1999

Television standard - "Fault Reporting in Television Systems."

SMPTE 274M-1998

Television standard: "1920 x 1080 Scanning and Analog and Parallel Digital Interfaces for Multiple Picture Rates."

SMPTE 292M-1998

Television standard: "Bit-Serial Digital Interface for High-Definition Television Systems."

SNMP

Simple Network Management Protocol.

split

Independent operation of a switcher level. Contrasts with normal AFV operation. Example: selecting video from VTR1 but audio from Announce Booth 2. A "split" typically refers to a programmed operation configured in advance using the control system editor. Compare to BREAKAWAY.

status

In a matrix router, a display indicating what Source is currently switched to a given Destination.

sticky

Retaining a control panel selection after a Take command has been executed, For example, continuing to perform video-only switching until the operator returns to all-level switch mode.

Sticky Destinations

The Sticky Destinations option is ONLY valid when using a "multi destination mode" such as "multiple destination mode" or "BPS mode". Sticky Destinations is used to remember the currently selected destinations. When ON, the destinations that are selected remain active (selected) after the "take" has been performed. Normally - Off - the destination selection would be cleared (deselected) after the "take".

Sticky Level

The Sticky Level option is used to remember the currently selected levels. When ON, the levels that are selected remain active (selected) after the "take" has been performed. Normally - Off - the level selection would be cleared (deselected) after the "take".

Source swap

If Source swap mode is ON, the display windows will return to the ***previously-selected*** Source after each Take. This permits flip-flop switching.

swap

see *Source swap*.

T

three-stage switching

Architecture used for very large switchers as a means of reducing the number of crosspoints needed for a given number of inputs/outputs. An array of relatively small matrixes is arranged in an input stage, an intermediate stage, and an output stage. The path taken by a given signal through these stages is determined by software and will vary according to which circuits are already in use. Unlike PATH FINDING between two discrete switchers, three-stage switchers are carefully designed so that all inputs are always available at all outputs; i.e., the switcher cannot be *blocked.*

tie line

see PATH FINDING.

TDM

Time Domain Multiplexing.

tributary

Term used in ESBUS documentation for an intelligent device (such as a VTR or control panel) connected to an ESBUS.

V

VDE

Verband Deutscher Electrotechniker e.V. (Union of German Electrical Engineers). Professional organization in Germany authorized to conduct product safety tests.

VITC

Vertical Interval Time Code, embedded in the vertical interval of the video signal.

VGA Status Display

Built-in switcher and machine control status display feature of the VM 3000. Can be controlled by front-panel buttons or with optional VC 3020 panel.

X

X-Y selection method

Full-matrix control of switcher, where Source is described as (x) and Destination is described as (y).