



HIGH-PERFORMANCE
PATCHING SYSTEMS

2013
CATALOG

BITTREE WAS ESTABLISHED IN 1978 WITH

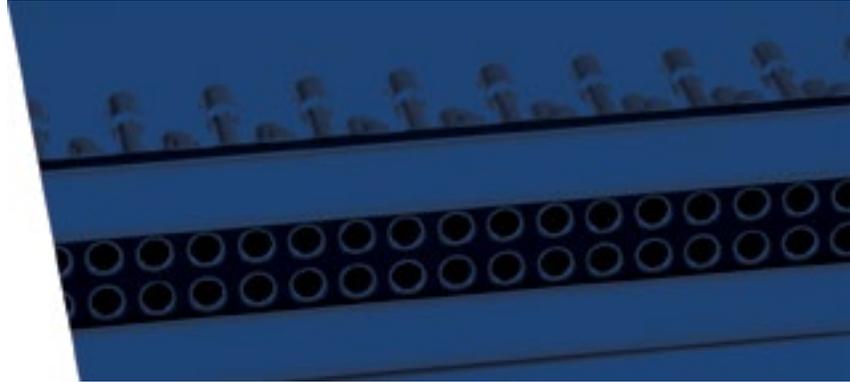
THE GOAL OF PROVIDING HIGH-QUALITY PATCHING SYSTEMS TO THE BROADCAST, ENTERTAINMENT AND A/V INDUSTRIES. IN THE 35 YEARS SINCE THEN, WE'VE EARNED AN INTERNATIONAL REPUTATION FROM CUSTOMERS LIKE YOU FOR QUALITY, INNOVATION, AND CUSTOMER SATISFACTION.

INNOVATION / QUALITY / CUSTOMER SERVICE

HIGH-PERFORMANCE PATCHING SYSTEMS

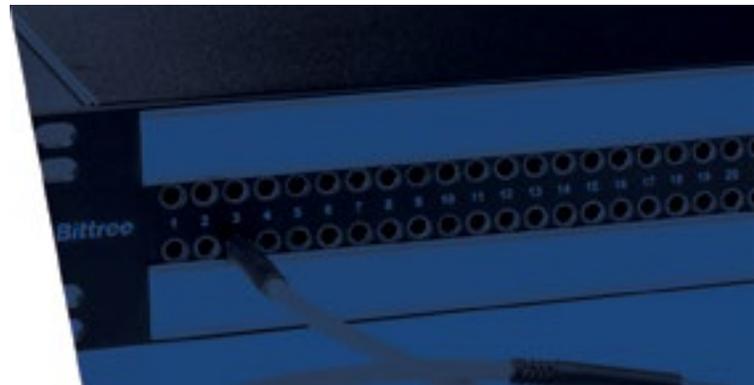
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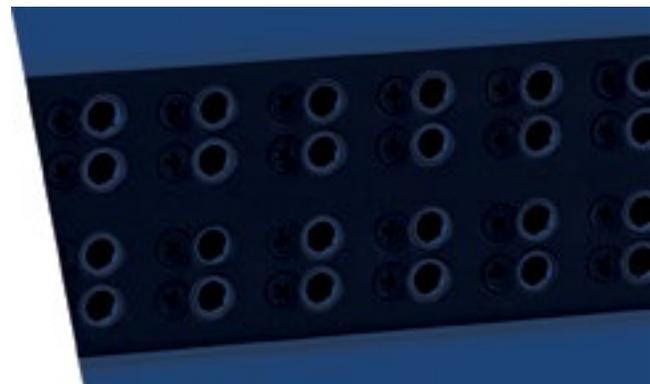
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VIDEO

HIGH-BANDWIDTH

Bittree offers a full line of reliable high-bandwidth video patchbays, ideal for SD/SDI, HD/SDI, 3 Gb/s and 3-D applications. Housed in a solid, powder-coated aluminum panel and featuring the industry's finest fit-and-finish, our high-bandwidth video patchbays are available in Micro-Video, Mini-WECO and WECO formats.

The Micro-Video patchbay boasts the industry's highest-density format at 2x48, in either a 1 or 1.5 RU size. Mini-WECO patchbays feature a high-density 32 jacks per row, and are available in 1x32, 2x32 or 3x32 configurations; rack sizes include 1, 1.5 or 2 RU. Meanwhile, the more-spacious WECO patchbays feature 24, 26 or 28 jacks per row, and are available in 1, 2 or 3 row configurations; panel height include 1RU, 1.5RU or 2 RU.

Bittree's high-bandwidth video patchbays are designed for exceptional performance in high-bandwidth applications such as 3-D, HDTV, SDI, AES and high-resolution computer graphics, as well as in conventional analog applications such as monitor routing, primary routing, re-routing, router backup and video distribution. All standard Bittree video jacks are SMPTE 292M and SMPTE 424M compliant.

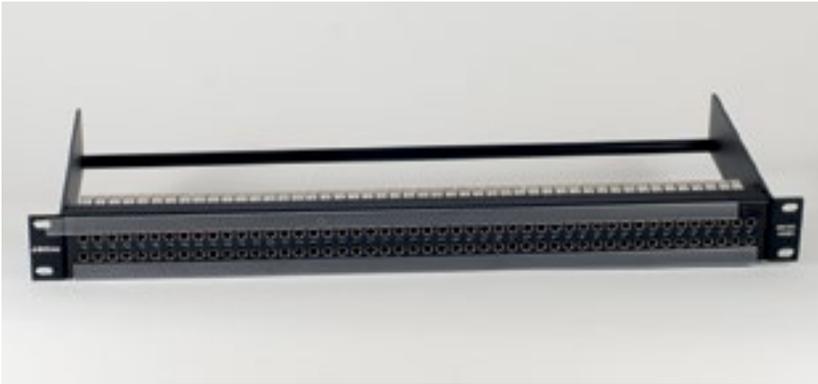
Notes on our Micro-Video, Mini-WECO and WECO formats: Most video patching systems in the U.S. use the WECO standard, developed by the Western Electric Company in the middle of the 20th century. WECO patchbays are usually considered easier to work with due to their spacious jack configuration (24-26-28 jacks per row), while Mini-WECO patchbays are ideal for higher-density patching (32 jacks per row). More recently, the demand for an even higher-density format led to the development of our Micro-Video Patchbay (48 jacks per row), which is ideal for small environments such as mobile production.



HIGH-BANDWIDTH

MICRO-VIDEO PATCHBAY

Our highest-density, high-bandwidth Micro-Video patchbays meet all SMPTE 292M and 424M specifications, and features DIN 1.0 / 2.3 rear terminations. In addition to the unparalleled performance of the video jacks, the design of the patchbay itself sets it apart from the competition in three ways. First, the patchbay features a lacing bar to help organize rack wiring. Second, the design provides an innovative option to recess the front panel and back to keep patchcords from protruding beyond the rack, saving space and ensuring snug connections in tight quarters. Third, the jacks are assembled to the patchbay with a captive front-mounting screw for easy maintenance.



FRONT



REAR

HIGHEST-DENSITY MICRO
VIDEO FORMAT FEATURES
48 JACKS PER ROW

2X48 CONFIGURATION;
1 & 1.5 RU SIZES

HD/SDI, SD/SDI, 3GB/S
AND 3-D APPLICATIONS

SMPTE 292M AND SMPTE
424M COMPLIANT

FEATURES

- Highest-density video jack count available, 2 x 48
- High-bandwidth performance for SD/SDI, HD/SDI, 3 Gb/s and 3-D applications
- Available in 1 or 1.5 rack unit (RU) sizes
- Jacks conform to SMPTE 292M and SMPTE 424M
- True 75ohm impedance with low return loss
- DIN 1.0 / 2.3 rear termination
- Jacks are isolated from the front panel, and have a captive front-mounting screw for easy maintenance
- Integrated lacing bar helps organize rack wiring
- Front panel can be recessed back 1" to reduce patchcord protrusion beyond the rack
- Panels made from solid, powder-coated aluminum
- Extra wide designation strips

OPTIONS

Jacks maybe ordered in four different configurations:

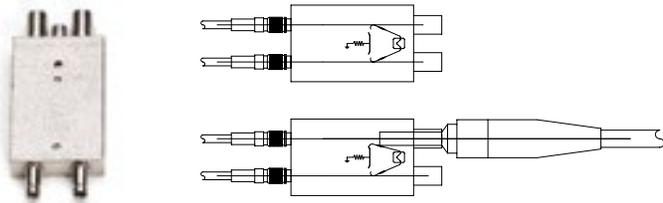
- Dual-body self-normaling, terminating (2MVTHD)
- Dual-body self-normaling, non-terminating (2MVNHD)
- Dual-body non-normaling, terminating (1MVTHD)
- Dual-body non-normaling, non-terminating (1MVNHD)

HIGH-BANDWIDTH MICRO-VIDEO PATCHBAY

JACK SCHEMATICS

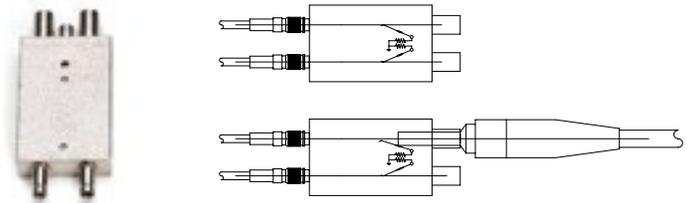
FULL-NORMAL / TERMINATING (2MVTHD)

Features a dual-body video jack. Signal flows through jack in un-patched state. When a patchcord is inserted, the signal path follows the patchcord, and the opposite side of the jack is terminated with a 75 Ohm resistor.



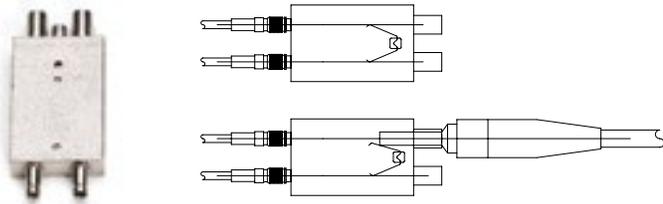
NON-NORMAL / TERMINATING (1MVTHD)

Features a dual-body video jack. When a patchcord is inserted, the signal path follows the patchcord. When patchcord is removed, circuit is terminated with a 75 Ohm resistor.



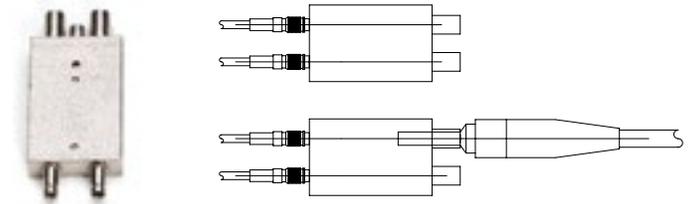
FULL-NORMAL / NON-TERMINATING (2MVNHD)

Features a dual-body video jack. Signal flows through jack in un-patched state. When a patchcord is inserted, the signal path follows the patchcord.

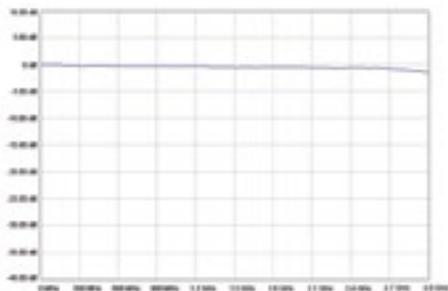


NON-NORMAL / NON-TERMINATING (1MVNHD)

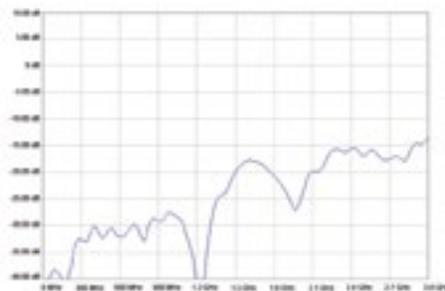
Features a dual-body video jack. When a patchcord is inserted, the signal path follows the patchcord.



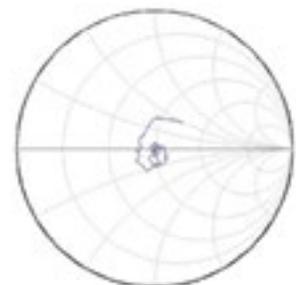
INSERTION LOSS / RETURN LOSS / SMITH CHART



INSERTION LOSS DIAGRAM



RETURN LOSS DIAGRAM



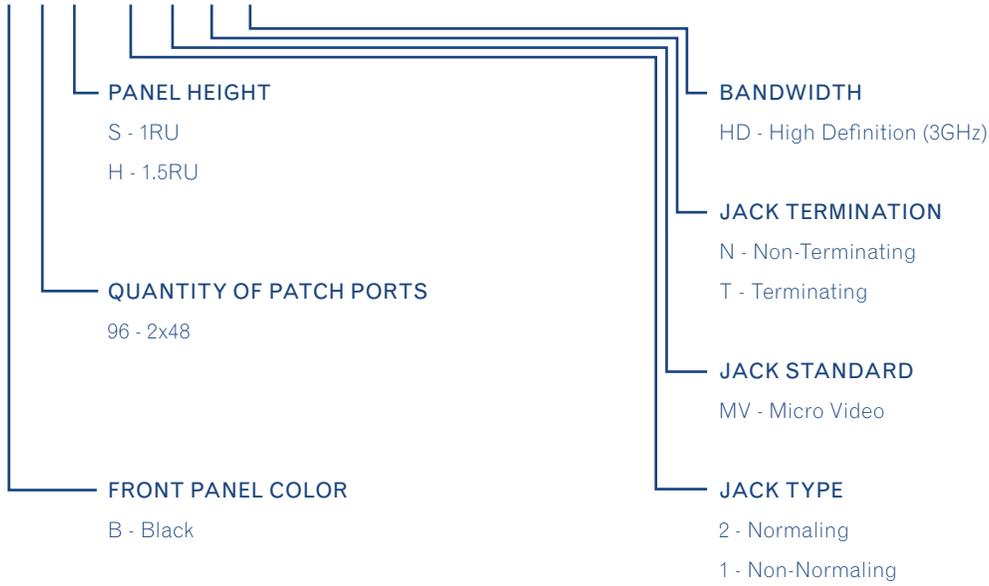
SMITH - Start: 30KHz / Stop:3.0GHz

HIGH-BANDWIDTH MICRO-VIDEO PATCHBAY

CODES / PATCHCORDS

MICRO-VIDEO ORDERING CODES

(B 96 S - 2 MV T HD)



MICRO-VIDEO PATCH CORDS

(VPCMV 24 00 - 75)



Other color available upon request

HIGH-BANDWIDTH

MINI-WECO PATCHBAY

Our wide range of Mini-WECO Video high-bandwidth patchbays are designed to meet all of your patching needs, from high bit-rate digital signals to base-band analog. Bittree Mini-WECO video patchbays are ideal for high-bandwidth applications such as HDTV, SDI, AES and high-resolution computer graphics, as well as in conventional analog applications such as monitor routing, primary routing, re-routing, router backup and video distribution.



FRONT



REAR

HIGH-DENSITY
MINI-WECO FORMAT
FEATURES 32 JACKS
PER ROW

1x32, 2x32 or 3x32
CONFIGURATIONS;
1, 1.5, OR 2 RU SIZES

HD/SDI, SD/SDI, 3GB/S
AND 3-D APPLICATIONS

SMPTE 292M AND SMPTE
424M COMPLIANT

FEATURES

- Highest-density video jack count of 32 per row
- High-bandwidth performance for SD/SDI, HD/SDI, and 3 Gb/s applications
- Jacks conform to SMPTE 292M and SMPTE 424M
- True 75ohm impedance with low return loss
- Panels made from 3/16" solid aluminum
- Staggered BNC rear interface
- Durable, scratch-resistant powder-coat finish
- Jacks are isolated from the panel
- Video panel can be configured 1x32, 2x32, or 3x32
- Available in 1, 1.5, or 2 rack units (RU)
- Black or gray front panel

OPTIONS

Jacks maybe ordered in four different configurations:

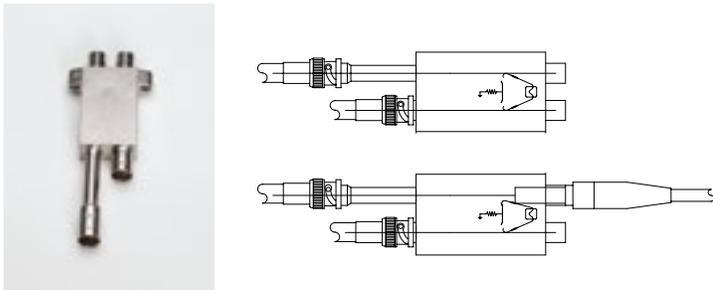
- Dual-body self-normaling, non-terminating (2MWNHD)
- Dual-body self-normaling, terminating (2MWTHD)
- Single-body or dual-body non-normaling, terminating (1MWTHD)
- Single-body non-normaling, non-terminating (1MWNHD)

HIGH-BANDWIDTH MINI-WECO PATCHBAY

JACK SCHEMATICS

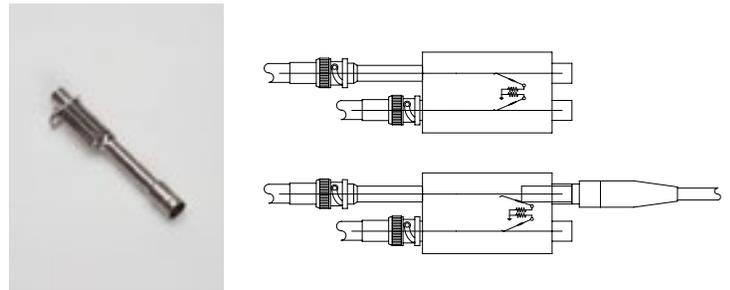
FULL-NORMAL / TERMINATING (2MWTHD)

Features a dual-body video jack. Signal flows through jack in un-patched state. When a patchcord is inserted, the signal path follows the patchcord, and the opposite side of the jack is terminated with a 75 Ohm resistor.



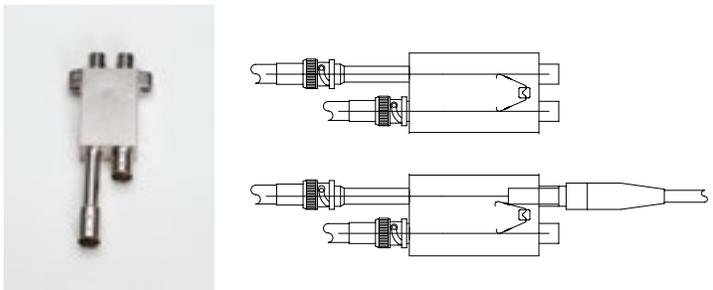
NON-NORMAL / TERMINATING (1MWTHD)

Features a single-body or dual-body video jack. When a patchcord is inserted, the signal path follows the patchcord. When patchcord is removed, circuit is terminated with a 75 Ohm resistor.



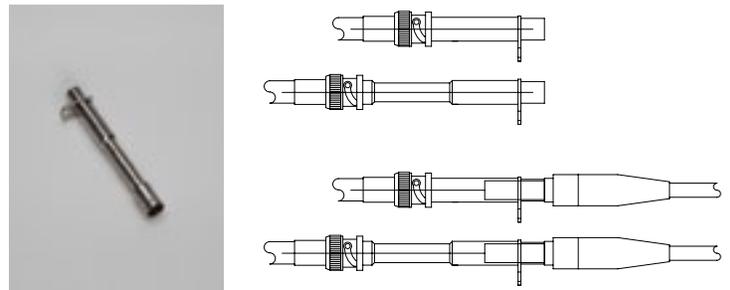
FULL-NORMAL / NON-TERMINATING (2MWNHD)

Features a dual-body video jack. Signal flows through jack in un-patched state. When a patchcord is inserted, the signal path follows the patchcord.

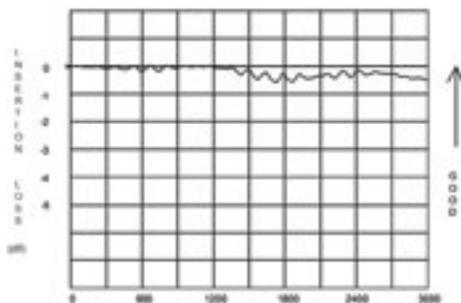


NON-NORMAL / NON-TERMINATING (1MWNHD)

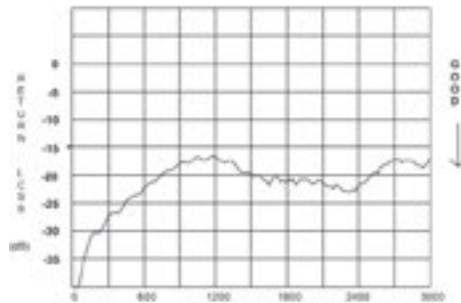
Features a single-body video jack. When a patchcord is inserted, the signal path follows the patchcord.



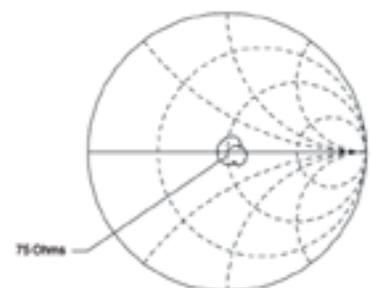
INSERTION LOSS / RETURN LOSS / SMITH CHART



INSERTION LOSS DIAGRAM



RETURN LOSS DIAGRAM



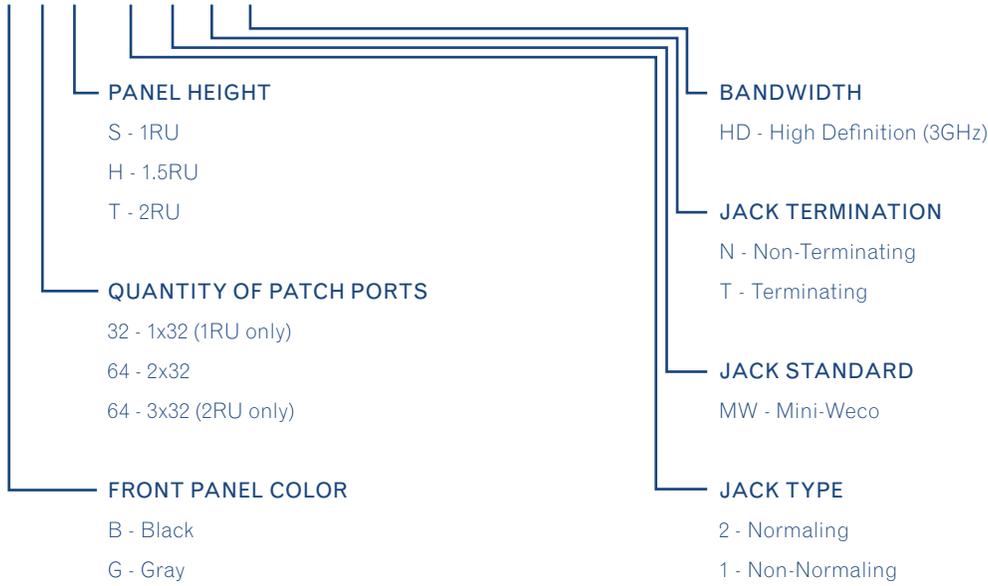
SMITH - Start: 30KHz / Stop:3.0GHz

HIGH-BANDWIDTH MINI-WECO PATCHBAY

CODES / PATCHCORDS

MINI-WECO ORDERING CODES

(B 64 T - 2 MW N HD)



MINI-WECO PATCH CORDS

(VPCM 24 00 -75)

LENGTH BY INCH (CM)	COLOR
24 (61)	00 - Black
36 (92)	02 - Red
48 (122)	04 - Yellow
60 (153)	05 - Green
72 (184)	06 - Blue
	07 - Purple



MINI-WECO LOOPING PLUGS

(LPM 75 06)



HIGH-BANDWIDTH WECO PATCHBAY

Our wide range of WECO Video high-bandwidth patchbays are designed to meet all of your patching needs, from high bit-rate digital signals to base-band analog. Bittree WECO video patchbays are ideal for high-bandwidth applications such as HDTV, SDI, AES and high-resolution computer graphics, as well as in conventional analog applications such as monitor routing, primary routing, re-routing, router backup and video distribution.



FRONT & REAR

SPACIOUS WECO FORMAT
FEATURES 24, 26, OR 28
JACKS PER ROW

1, 2, OR 3 ROW
CONFIGURATIONS;
1, 1.5, OR 2 RU SIZES

HD/SDI, SD/SDI, 3GB/S
AND 3-D APPLICATIONS

SMPTE 292M AND SMPTE
424M COMPLIANT

FEATURES

- High-bandwidth performance for SD/SDI, HD/SDI, 3 Gb/s and 3-D applications
- Jacks conform to SMPTE 292M and SMPTE 424M
- True 75ohm impedance with low return loss
- Panels made from 3/16" solid aluminum
- Durable scratch-resistant powder-coat finish
- Jacks are isolated from the panel
- Extra wide designation strips
- Spacious video jack counts of 24, 26, or 28 jacks per row in one or two row configurations
- Available in 1, 1.5, or 2 rack units (RU)
- Black or gray front panel

OPTIONS

Jacks maybe ordered in four different configurations:

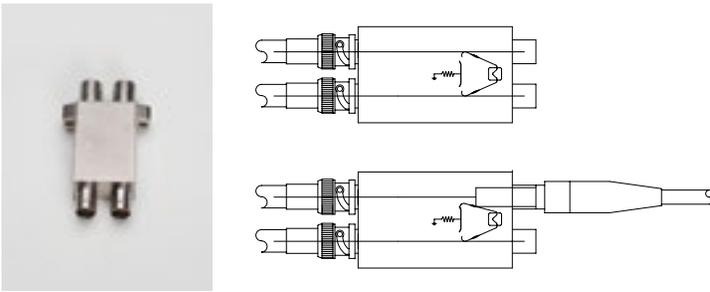
- Dual-body self-normaling, terminating (2WTHD)
- Dual-body self-normaling, non-terminating (2WNHD)
- Single-body or dual-body non-normaling, terminating (1WTHD)
- Single-body non-normaling, non-terminating (1WNHD)

HIGH-BANDWIDTH WECO PATCHBAY

JACK SCHEMATICS

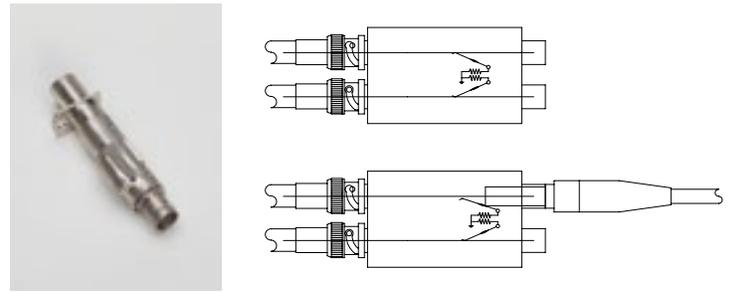
FULL-NORMAL / TERMINATING (2WTHD)

Features a dual-body video jack. Signal flows through jack in un-patched state. When a patchcord is inserted, the signal path follows the patchcord, and the opposite side of the jack is terminated with a 75 Ohm resistor.



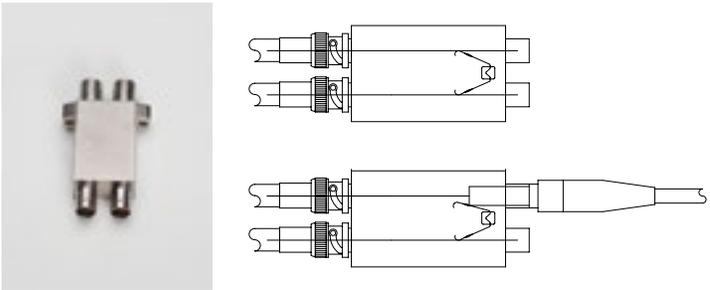
NON-NORMAL / TERMINATING (1WTHD)

Features a dual-body or single-body video jack. When a patchcord is inserted, the signal path follows the patchcord. When patchcord is removed, circuit is terminated with a 75 Ohm resistor.



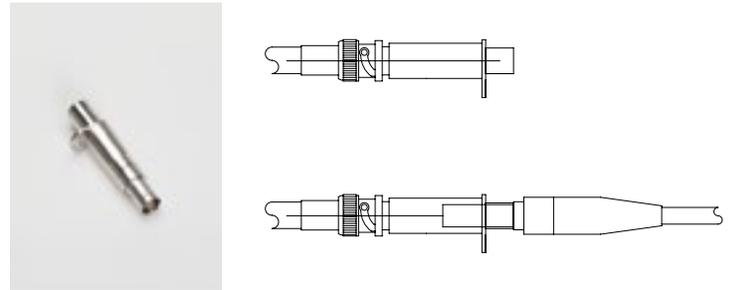
FULL-NORMAL / NON-TERMINATING (2WNHD)

Features a dual-body video jack. Signal flows through jack in un-patched state. When a patchcord is inserted, the signal path follows the patchcord.

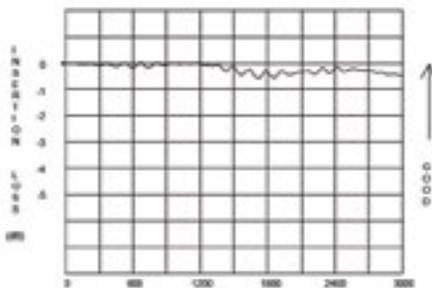


NON-NORMAL / NON-TERMINATING (1WNHD)

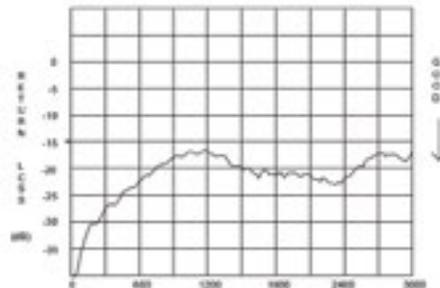
Features a dual-body video jack. When a patchcord is inserted, the signal path follows the patchcord.



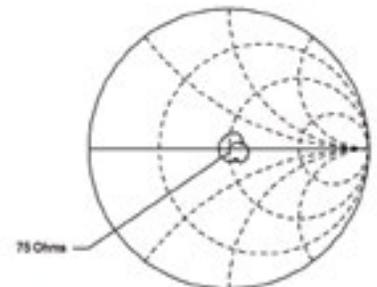
INSERTION LOSS / RETURN LOSS / SMITH CHART



INSERTION LOSS DIAGRAM



RETURN LOSS DIAGRAM



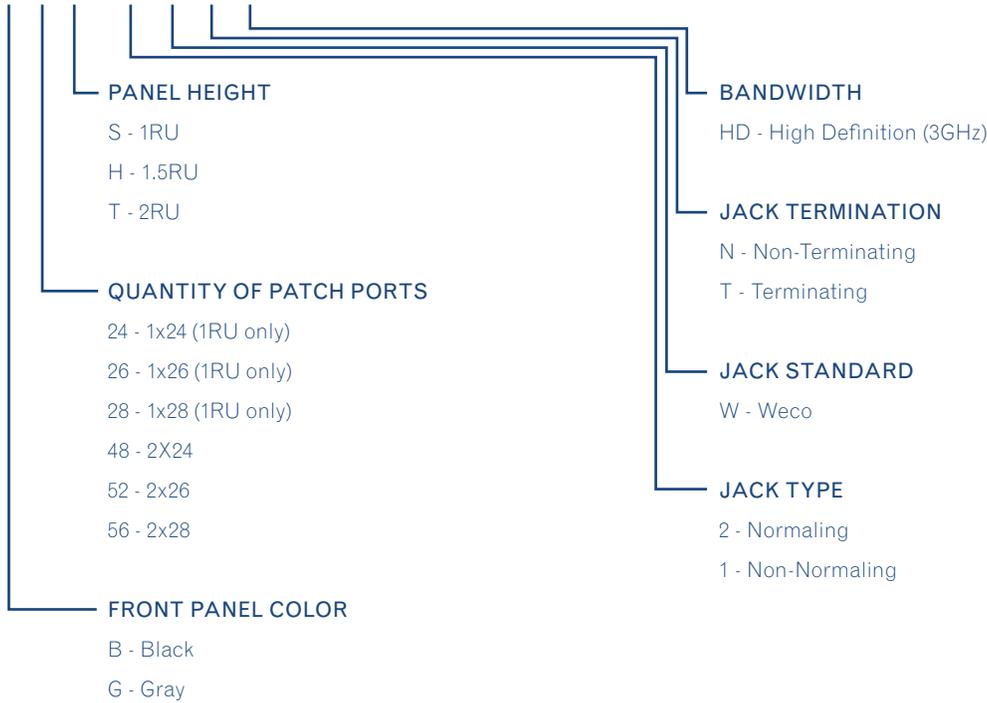
SMITH - Start: 30KHz / Stop:3.0GHz

HIGH-BANDWIDTH WECO PATCHBAY

CODES / PATCHCORDS

WECO ORDERING CODES

(B 48 T - 2 W N HD)



WECO PATCH CORDS

(VPC 24 00 -75)

LENGTH BY INCH (CM)	COLOR
24 (61)	00 - Black
36 (92)	02 - Red
48 (122)	04 - Yellow
60 (153)	05 - Green
72 (184)	06 - Blue
	07 - Purple



WECO LOOPING PLUGS

(LPM 75 00)

COLOR
00 - Black
02 - Red
04 - Yellow
05 - Green
06 - Blue
08 - Gray



HIGH-BANDWIDTH E-SERIES PATCHBAY

Our E-Series of WECO Video high-bandwidth patchbays are ideal for high-bandwidth applications such as HDTV, SDI, AES and high-resolution computer graphics, as well as for conventional analog applications such as monitor routing, primary routing, re-routing, router backup and video distribution. The E-series WECO has three additional features not found in the classic WECO video series: a flanged front panel, silk screened channel numbering on the front and rear of the panel for easy circuit identification, and front-load jacks.



FRONT

FRONT-LOADED JACKS

FRONT AND REAR
OF PANEL FEATURES
1-24 SILK-SCREENED
NUMBERING

HD/SDI, SD/SDI, 3GB/S
AND 3-D APPLICATIONS

CONFORMS TO SMPTE
292M AND SMPTE 424M
STANDARDS

FEATURES

- Spacious WECO format in 2 RU, 2x24 configuration
- Front panels feature 1-24 silk-screened numbering for easy circuit identification
- High-bandwidth performance for SD/SDI, HD/SDI, and 3 Gb/s applications
- Jacks conform to SMPTE 292M and SMPTE 424M
- True 75ohm impedance with low return loss
- Heavy-gauge aluminum panel features I-beam style construction for extra strength
- Durable, scratch-resistant powder-coat finish
- Extra wide designation strips
- Flanged panel

OPTIONS

Jacks maybe ordered in four different configurations:

- Dual body self-normaling, terminating (E-2WTHD)
- Dual body self-normaling, non-terminating (E-2WNHD)
- Dual body non-normaling, terminating (E-1WTHD)
- Dual body non-normaling, non-terminating (E-1WNHD)

HIGH-BANDWIDTH E-SERIES PATCHBAY

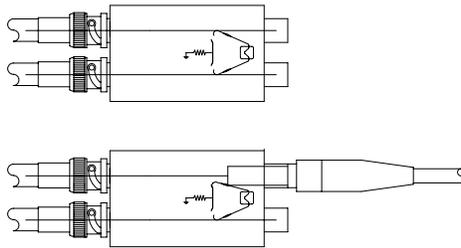
PRODUCT NUMBERS

- 2x24, 2 RU, Black Dual Body, Normal / Terminating (**EB48T-2WTHD**)
- 2x24, 2 RU, Black Dual Body, Normal / Non-Terminating (**EB48T-2WNHD**)
- 2x24, 2 RU, Black Dual Body, Non-Normal / Terminating (**EB48T-1WTHD**)
- 2x24, 2 RU, Black Dual Body, Non-Normal / Non-Terminating (**EB48T-1WNHD**)

JACK SCHEMATICS

FULL-NORMAL / TERMINATING (2WTHD)

Features a dual-body video jack. Signal flows through jack in un-patched state. When a patchcord is inserted, the signal path follows the patchcord, and the opposite side of the jack is terminated with a 75 Ohm resistor.



PATCHCORDS

E-SERIES PATCHCORDS (VPC 24 00 -75)

LENGTH BY INCH (CM)	COLOR
24 (61)	00 - Black
36 (92)	02 - Red
48 (122)	04 - Yellow
60 (153)	05 - Green
72 (184)	06 - Blue
	07 - Purple



E-SERIES LOOPING PLUGS (LPM 75 00)

COLOR
00 - Black
02 - Red
04 - Yellow
05 - Green
06 - Blue
08 - Gray



VIDEO

COMPONENT VIDEO

Bittree offers a full line of reliable component video patchbays, ideal for SD/SDI, HD/SDI, and other 3 Gb/s applications. Made from 3/16" solid aluminum and featuring the industry's finest fit-and-finish, our component video patchbays are available in both Mini-WECO and WECO formats. The Mini-WECO patchbays feature higher-density 1 x 6 up to 2 x 10 jack configurations, while the more spacious WECO format features 1 x 5 up to 2 x 10 jack configurations.

Both Mini-WECO and WECO are available in 1 or 2 RU sizes, and both come with an off-set "chevron" design to ensure correct patchcord insertion. Bittree component video patchbays are available in RGB and RGBHV models, and corresponding three-wire and five-wire patchcords are available. All component video jacks are SMPTE 292M and SMPTE 424M compliant.

Note on Mini-WECO vs. WECO formats: Most video patching systems in the U.S. use the WECO standard, developed by the Western Electric Company in the middle of the 20th century. WECO patchbays are usually considered easier to work with due to their more spacious jack configuration (1 x 5 configuration), while Mini-WECO patchbays are ideal for higher-density patching (1 x 6 configuration).

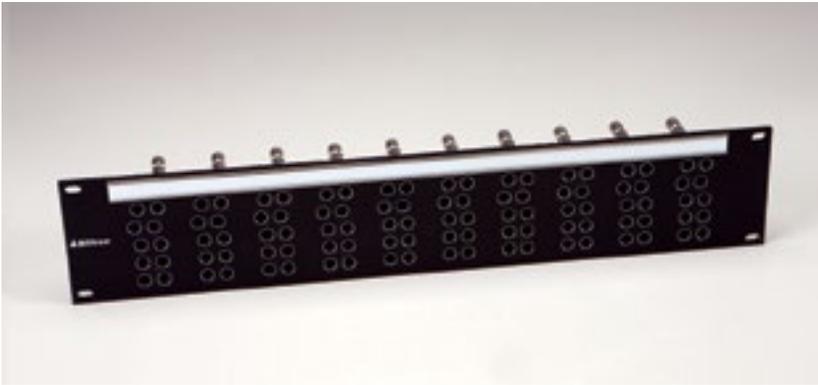


Bittree

COMPONENT VIDEO

MINI-WECO COMPONENT

Our wide range of Mini-WECO Video Component patchbays are designed to meet all of your patching needs, from high bit-rate digital signals to base-band analog. Bittree Mini-WECO video patchbays are ideal for high-bandwidth applications such as HDTV, SDI, AES and high-resolution computer graphics, as well as in conventional analog applications such as monitor routing, primary routing, re-routing, router backup and video distribution.



FRONT



REAR

RGB AND RGBHV
COMPONENT MODELS
AVAILABLE

1 OR 2 RU SIZES,
WITH OFFSET
CHEVRON DESIGN

HD/SDI, SD/SDI, 3GB/S
AND 3-D APPLICATIONS

THREE-WIRE AND FIVE-
WIRE PATCHCORDS
AVAILABLE

FEATURES

- High-bandwidth performance for SD/SDI, HD/SDI, 3 Gb/s and 3-D applications
- Jacks conform to SMPTE 292M and SMPTE 424M
- True 75ohm impedance with low return loss
- The center RGB circuit is offset to ensure correct patchcord insertion.
- Panels made from 3/16 solid aluminum
- Staggered BNC rear interface
- Durable scratch-resistant power-coat finish
- Jacks are isolated from the panel
- Extra wide designation strips
- 3-circuit and 5-circuit patchcords available
- Circuit counts range from 1x6 up through 2x10
- Available in 1 or 2 rack unit (RU) sizes
- For higher density, some component video patchbays use a vertical jack configuration

OPTIONS

Jacks maybe ordered in four different configurations:

- Dual body self-normaling, terminating (2MWTHD)
- Dual body self-normaling, non-terminating (2MWNHD)
- Single body non-normaling, terminating (1MWTHD)
- Single body non-normaling, non-terminating (1MWNHD)

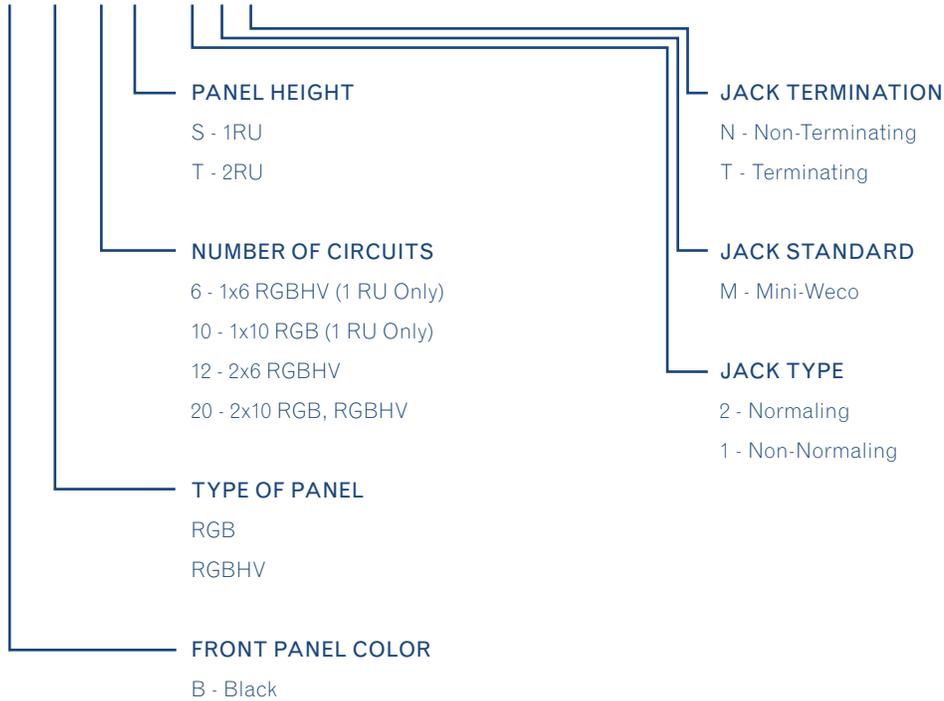
COMPONENT VIDEO

MINI-WECO COMPONENT

CODES / PATCHCORDS

MINI-WECO COMPONENT ORDERING CODES

(B RGB 20 T - 2 M N)



MINI-WECO COMPONENT PATCHCORDS

(CPCM HV 24 00 -75)

HV	LENGTH BY INCH (CM)	COLOR
HV - 5 wire (RGBHV) only	24 (61) 36 (92) 48 (122) 60 (153) 72 (184)	00 - Black



COMPONENT VIDEO

WECO COMPONENT

Our wide range of WECO Video Component patchbays are designed to meet all of your patching needs, from high bit-rate digital signals to base-band analog. Bittree WECO video patchbays are ideal for high-bandwidth applications such as HDTV, SDI, AES and high-resolution computer graphics, as well as in conventional analog applications such as monitor routing, primary routing, re-routing, router backup and video distribution.



FRONT

RGB AND RGBHV
COMPONENT MODELS
AVAILABLE

1 OR 2 RU SIZES,
WITH OFFSET
CHEVRON DESIGN

HD/SDI, SD/SDI, 3GB/S
AND 3-D APPLICATIONS

THREE-WIRE AND FIVE-
WIRE PATCHCORDS
AVAILABLE

FEATURES

- High-bandwidth performance for SD/SDI, HD/SDI, 3 Gb/s and 3-D applications
- Jacks conform to SMPTE 292M and SMPTE 424M
- True 75ohm impedance with low return loss
- The center RGB circuit is offset to ensure correct patchcord insertion.
- Panels made from 3/16" solid aluminum
- Staggered BNC rear interface
- Durable scratch-resistant power-coat finish
- Jacks are isolated from the panel
- Extra wide designation strips
- 3-circuit and 5-circuit patchcords available
- Circuit counts range from 1x6 up through 2x10
- Available in 1 or 2 rack unit (RU) sizes
- For higher density, some component video patchbays use a vertical jack configuration

OPTIONS

Jacks maybe ordered in four different configurations:

- Dual body self-normaling, terminating (2WTHD)
- Dual body self-normaling, non-terminating (2WNHD)
- Single body non-normaling, terminating (1WTHD)
- Single body non-normaling, non-terminating (1WNHD)

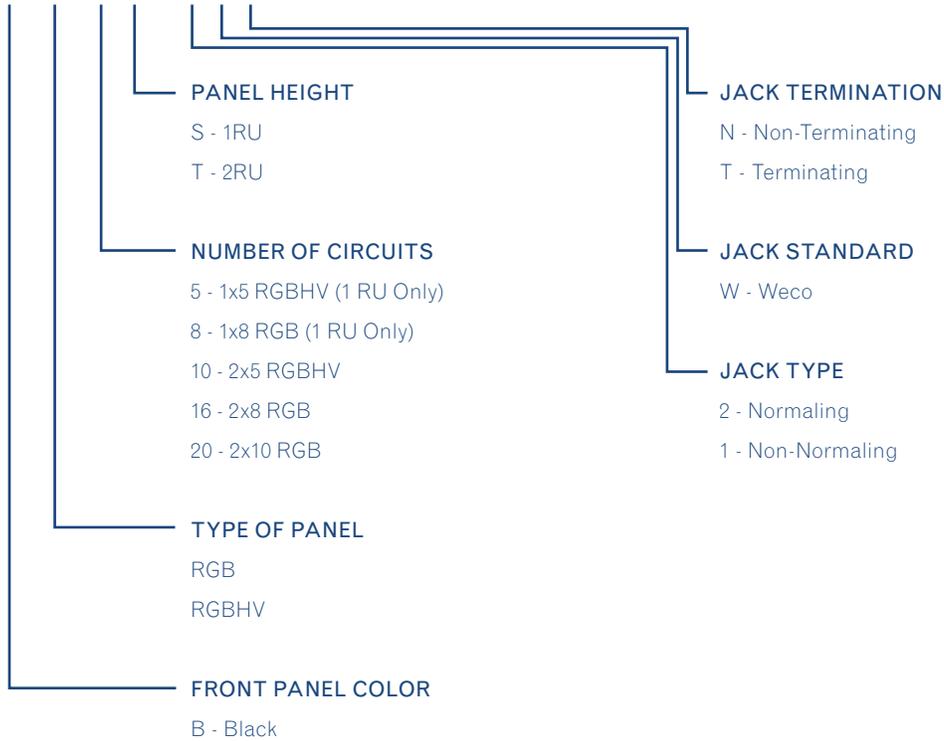
COMPONENT VIDEO

WECO COMPONENT

CODES / PATCHCORDS

WECO ORDERING CODES

(B RGB 16 T - 2 W N)



WECO COMPONENT PATCHCORDS

(CPC HV 24 00 -75)

HV	LENGTH BY INCH (CM)	COLOR
HV - 5 wire	24 (61)	00 - Black
(RGBHV) only	36 (92)	
	48 (122)	
	60 (153)	
	72 (184)	



AUDIO

DIGITAL-AUDIO

Bittree's 2 x 32 AES 75-ohm Audio Patchbay was developed specifically for today's digital audio environment, and serves as the ideal foundation for lower-cost, more reliable and easier-to-install digital audio patching systems. The key lies in the patchbay's hybrid bantam/BNC jack, featuring a patent-pending 75-ohm bantam jack with a BNC rear interface. The jack coupled with Bittree's 75-ohm patchcord helps you easily and reliably connect equipment using existing or 75-ohm coaxial infrastructures.

The result is a durable patchbay designed specifically for the growing number of facilities using 75-ohm unbalanced digital audio for routers and new-generation VTRs. Aside from the ease and reliability of the AES 75-ohm Audio Patchbay, it can also provide exceptional cost savings. Up until now, many installations have been using higher-end video patchbays for their 75-ohm digital audio, simply for the convenience of the BNC rear connectors. But the AES 75-ohm hybrid bantam/BNC audio patchbay brings you the same convenience and the same performance all at a lower price point.

In addition to the lower outright cost, the 75-ohm audio patchbay also lets you reclaim your existing video patchbays from audio duty, saving you money on future upgrades and installations. Other savings come from using the lower-cost 75-ohm bantam patchcords instead of mini-WECO patchcords when using video patchbays, or from eliminating the need for costly adapters and baluns when using traditional audio patchbays.



DIGITAL AUDIO

AES AUDIO

As can be expected, installation and maintenance is also faster and easier with the new patchbay, thanks to its easily accessible BNC connectors. Plus, unlike the mini-WECO video patchbays sometimes used for 75-ohm audio, the backplane is not staggered, so every BNC is easily accessible in tight quarters. In addition, the patchbay's front-loading modular design makes it easy to replace and maintain jacks whenever needed.

The 2 x 32 AES Unbalanced Audio Patchbay is as durable as it is efficient. Each jack features rugged box-frame construction made from nickel-plated cold-rolled steel, and gold-alloy cross bar switching contacts ensure reliable connections. The patchbay's innovative design and precise manufacturing gives you the convenience and performance of a video jack with the reliability and lower cost of an audio jack.

Available in 1, 1.5 and 2 RU, the AES 75-ohm Audio Patchbay is designed for broadcast, production and post-production. In addition, its light weight and available compact 1 RU size makes it ideal for mobile production.



REAR

JACKS RATED TO
30,000 MINIMUM
INSERTION CYCLES

RUGGED NICKEL-PLATED,
COLD-ROLLED STEEL, BOX-
FRAME CONSTRUCTION

COPPER-NICKEL-SILVER
ALLOY LEAF SPRINGS
WITH GOLD-ALLOY
CROSS BAR SWITCHING
CONTACTS.

FEATURES

- 2x32 jack configurations, available in 1, 1.5 or 2 RU
- Jacks conform to AES 75ohm unbalanced audio standards
- Patent-pending hybrid Bantam (TT) audio jacks with BNC connectors
- Jacks are isolated from the panel
- Uses lower-cost, ultra-reliable, unbalanced 75-ohm coaxial bantam patchcords
- Circuit ID numbers (1x32, left to right) clearly indicated on patchbay front
- Normal I/O paired ports

DIGITAL AUDIO

AES AUDIO

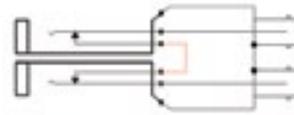
JACK SPECIFICATIONS

RATED BANDWIDTH: 100 MHz

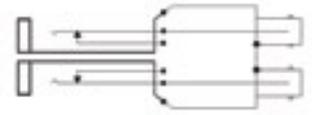
CHARACTERISTIC IMPEDANCE: 75-ohms

RETURN LOSS: < - .35db through the normal
< - .20db patched with 2-foot 75-ohm patchcord

INSERTION LOSS: < - .25db through the normal
< - .40db patched with 2-foot 75-ohm patchcord



NORMALED



NON-NORMALED

PATCHCORDS

REAR INTERFACE CONNECTIONS

SIGNAL: High-performance 75-ohm BNC

FRONT INTERFACE CONNECTIONS

SIGNAL: Bantam (TT) jacks

LIFE CYCLE: > 30,000 insertion cycles

PATCHCORD: Coaxial Bantam (TT) patchcords



PRODUCT NUMBERS

AES 75-OHM AUDIO PATCHBAYS

2 x 32, 1 RU, Full-Normal (**B64S-AV75**)

2 x 32, 1.5 RU, Full-Normal (**B64H-AV75**)

2 x 32, 2 RU, Full-Normal (**B64T-AV75**)

2 x 32, 1 RU, Non-Normal (**B64S-AV75N**)

2 x 32, 1.5 RU, Non-Normal (**B64H-AV75N**)

2 x 32, 2 RU, Non-Normal (**B64T-AV75N**)

UNBALANCED 75-OHM COAXIAL BANTAM PATCHCORDS

12" red (**AVPC1202**)

24" red (**AVPC2402**)

36" red (**AVPC3602**)

48" red (**AVPC4802**)

60" red (**AVPC6002**)

72" red (**AVPC7202**)



AUDIO

TT BANTAM

Bittree offers two formats of audio patchbays: Bantam (TT), described below, and Long Frame (1/4), described on page 38. Bantam patchbays are ideal for higher-density patching systems, due to their 2 x 48 jack configuration.

CHOOSING THE RIGHT AUDIO BANTAM PATCHBAY

969-A SERIES, FRONT PROGRAMMABLE

Our 969-A Series of Programmable patchbays allows you to change normaling and grounding for individual circuits simply by changing the shunt arrangement under the designation strips. Features convenient 1-48 left-to-right numbering on the patchbay front for easy identification of circuits. Available in 1.5 and 2 RU enclosed chassis.

969-S SERIES, FRONT PROGRAMMABLE

Includes the same features as the 969-A Series above, but also allows you to program switched grounds.

968 SERIES, INTERNALLY PROGRAMMABLE

Comes with the same programming capability as the 969 Series, but the programming is done internally.

968-S SERIES, INTERNALLY PROGRAMMABLE

Includes the same features as 968 Series above, but also allows you to program switched grounds.

961 SERIES, CLASSIC

Our original Bantam audio patchbay, featuring our most extensive selection of options available, including normals-out, over/over designations, stereo spacing, or single row patchbays.



TT BANTAM

969-A SERIES

Our 969-A Series features our innovative Programmable audio patchbays in a 2 x 48 1.5 or 2 RU size, and includes convenient 1-48 left-to-right numbering on the patchbay front for easy identification of circuits.

Programmable patchbays allow users to quickly and easily change the normals and grounding of individual circuits. Normals can be changed to full-normal, half-normal or non-normal. Grounding can be changed to bussed, isolated or looped (for switched grounds, consider the 969-S Series).

Because it's programmable, the 969 Series can serve as the foundation for virtually any new, reconfigured or legacy installation. The end result is a patchbay that allows integrators and installers to quickly re-configure patching systems, accommodate customer change-orders, and speed service-calls.



FRONT W/ TOP DESIGNATION REMOVED

FRONT PROGRAMMABLE
AUDIO BANTAM (TT)
PATCHBAY

NORMALS AND
GROUNDS CAN BE
EASILY RE-PROGRAMMED
BY THE END USER

HIGH-DENSITY 2X48 JACK
CONFIGURATION; 1.5 OR
2 RU SIZE

REAR INTERFACE
OPTIONS INCLUDE
E-3, E-90, ID (PUNCH-
DOWN) AND D25

1-48 NUMBERING ON
FRONT PANEL FOR EASY
CIRCUIT IDENTIFICATION



REAR

969-A SERIES

PROGRAMMING INSTRUCTIONS

HOW TO IDENTIFY A PROGRAMMABLE PATCHBAY

969-A Series programmable patchbays can be identified by the word Programmable and Model 969-A on the far right edge of the patchbay.

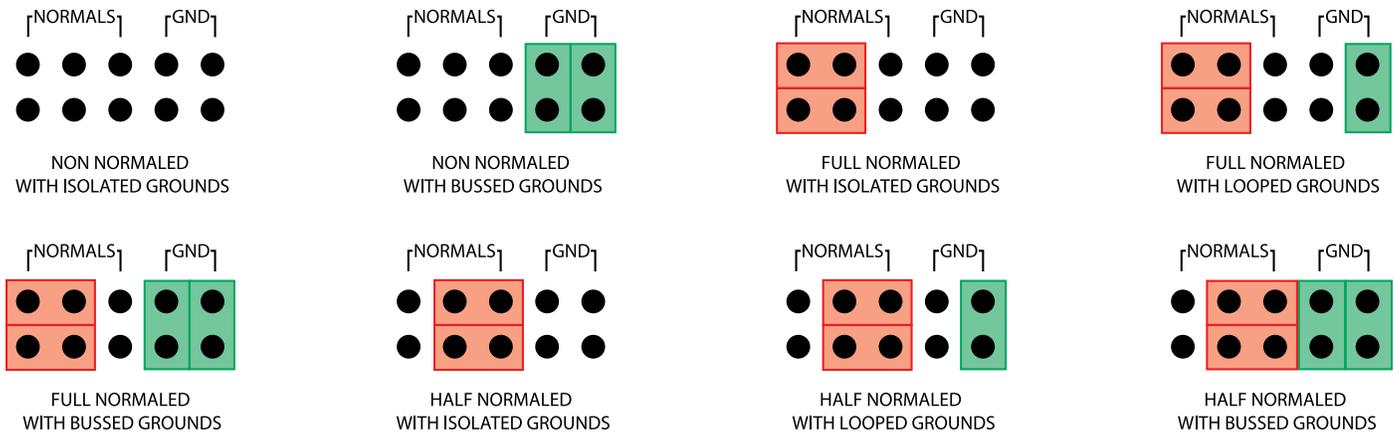


HOW TO CHANGE THE PROGRAMMING FOR A CIRCUIT

- 1: Remove the two designation strips.
- 2: Find your desired configuration in the diagram.
- 3: Arrange the programming shunts to match the appropriate diagram. Note: Each circuit can be programmed independently.
- 4: Ample shunts are provided with every programmable patchbay. Red shunts are placed horizontally and are used for normalizing options. White shunts (shown as light gray above) are placed vertically and are used for grounding options.
- 5: The circuits are numbered 1-48 and correspond to vertical jack pairs reading left to right, with the even-numbered circuits on the top row, and the odd-numbered circuits on the bottom row.
- 6: Replace the designation strips.

These programming instructions can be used for both the new 969-A Series and the original 969 Series.

SHUNTS SCHEMATICS



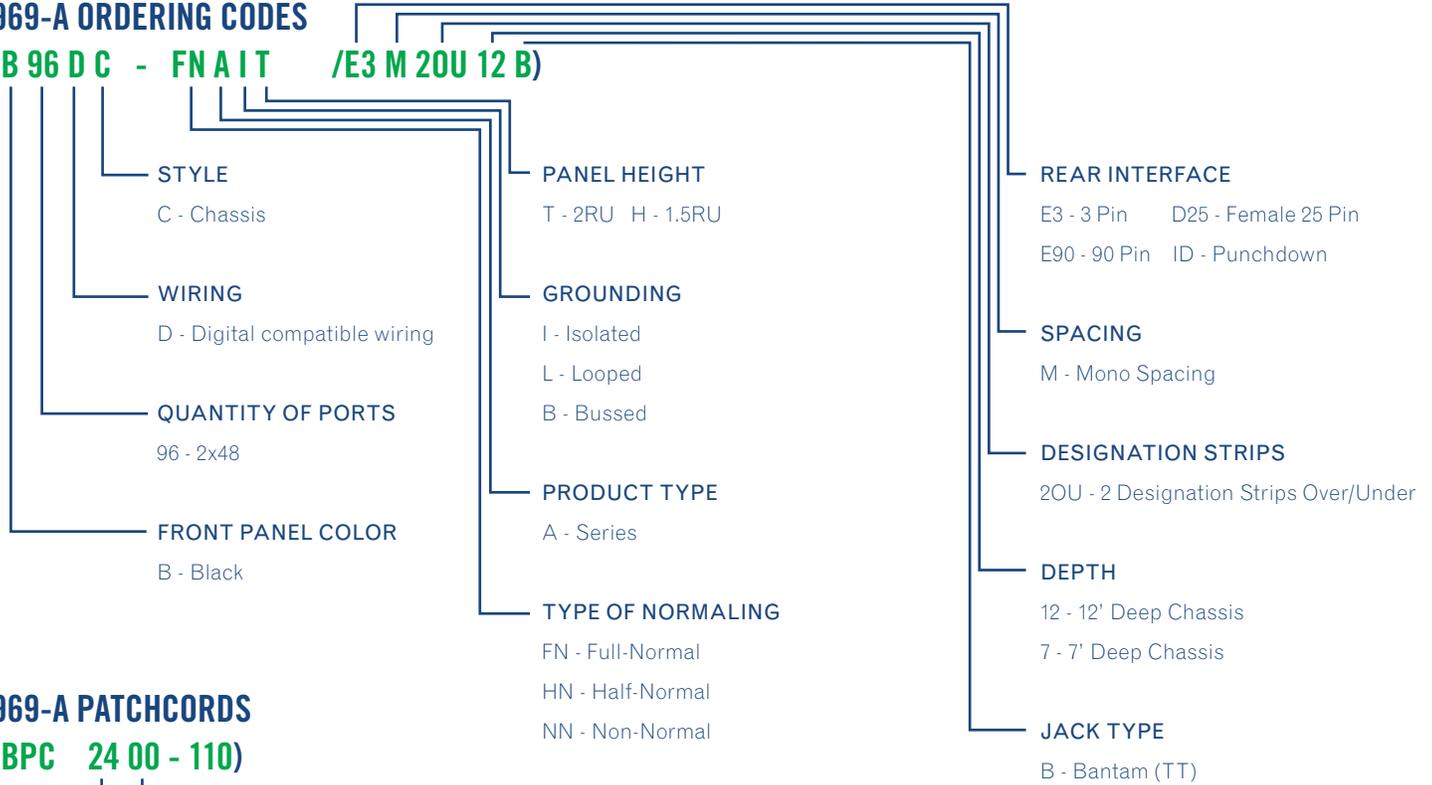
TT BANTAM

969-A SERIES

CODES / PATCHCORDS

969-A ORDERING CODES

(B 96 DC - FNAIT /E3 M 20U 12 B)



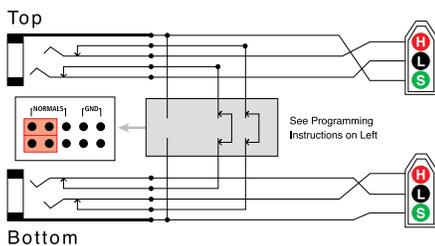
969-A PATCHCORDS

(BPC 24 00 - 110)

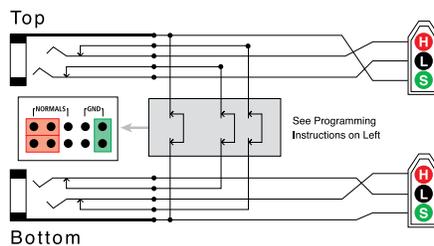
LENGTH BY INCH (CM)	COLOR
24 (61)	00 - Black
36 (92)	02 - Red
48 (122)	04 - Yellow
60 (153)	05 - Green
72 (184)	06 - Blue
	07 - Purple



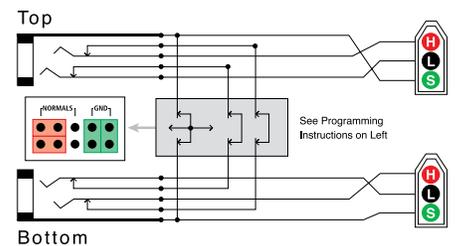
JACK SCHEMATICS (EXAMPLES)



FULL NORMALIZED PROGRAMMABLE ISOLATED GROUNDS



FULL NORMALIZED PROGRAMMABLE LOOPED GROUNDS



FULL NORMALIZED PROGRAMMABLE BUSSED GROUNDS

TT BANTAM

969-S SERIES

Our 969-S Series features our innovative Programmable audio patchbays in a 2 x 48 1.5 or 2 RU size, with the added capability of programming switched grounds. Switched grounds can help eliminate hard-to-find ground loops, and because it provides a more stable signal grounding structure, it's ideal for systems with audio signals coming from numerous locations.

The 969-S programmable patchbay allow users to quickly and easily change the normals and grounding of individual circuits. Normals can be changed to full-normal, half-normal or non-normal. Grounding can be changed to switched or bussed. Because it's programmable, the 969-S Series can serve as the foundation for virtually any new, reconfigured or legacy installation. The end result is a patchbay that allows integrators and installers to quickly re-configure patching systems, accommodate customer change-orders, and speed service-calls.



FRONT

FRONT PROGRAMMABLE
AUDIO BANTAM (TT)
PATCHBAY

NORMALS AND
GROUNDS CAN BE
EASILY RE-PROGRAMMED
BY THE END USER

ALLOWS SWITCHED
GROUNDS FOR A
MORE STABLE
SIGNAL STRUCTURE



REAR

HIGH-DENSITY 2X48 JACK
CONFIGURATION; 1.5 OR
2 RU SIZE

REAR INTERFACE
OPTIONS INCLUDE
E-3, E-90, ID (PUNCH-
DOWN) AND D25

PROGRAMMING INSTRUCTIONS

HOW TO IDENTIFY A PROGRAMMABLE PATCHBAY

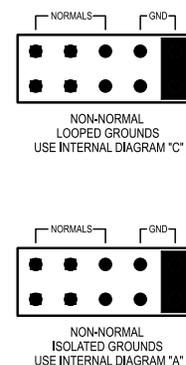
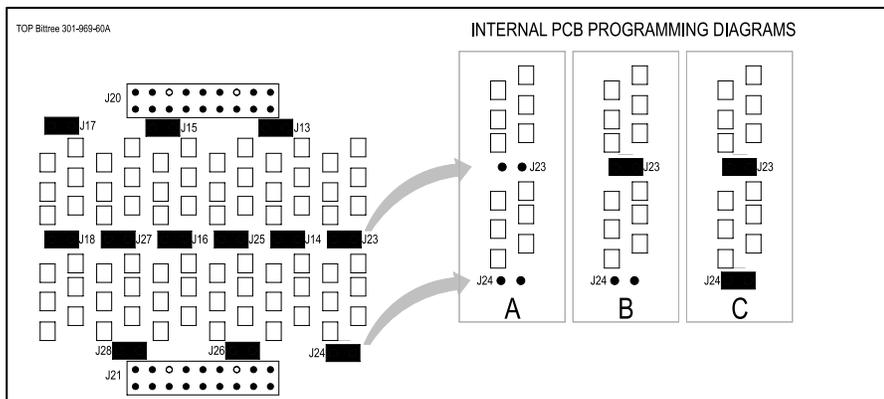
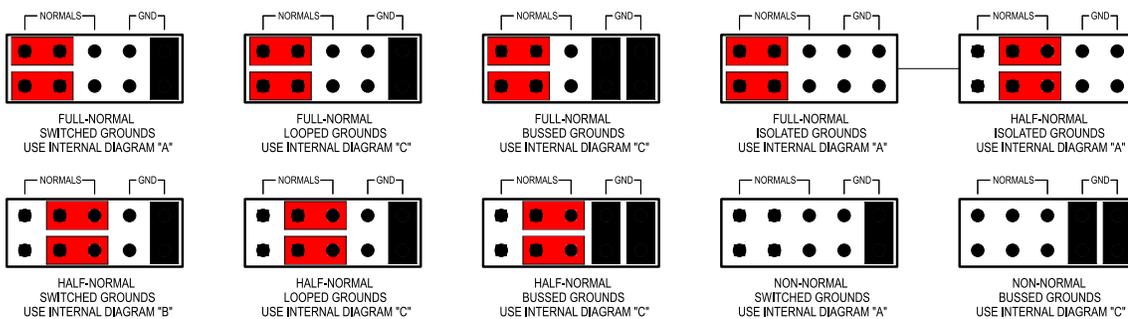
969-S Series programmable patchbays can be identified by the word Programmable and Model 969S on the far right edge of the patchbay.



HOW TO CHANGE THE PROGRAMMING FOR A CIRCUIT

- 1: Remove the two designation strips.
- 2: Find your desired configuration in the diagram.
- 3: Arrange the programming shunts to match the appropriate diagram. Note: Each circuit can be programmed independently.
- 4: Ample shunts are provided with every programmable patchbay. Red shunts are placed horizontally and are used for normalizing options. White shunts are placed vertically and are used for grounding options.
- 5: The circuits are numbered 1-48 and correspond to vertical jack pairs reading left to right, with the even-numbered circuits on the top row, and the odd-numbered circuits on the bottom row.
- 6: For the internal programming, unscrew the screws along the top edges and take off the patchbay dust cover. Locate the Internal PCB Boards inside, which are right behind the back of the jacks (for a better view, turn the rear of the patchbay toward you). There are eight PCB Boards; each one holds six circuits.
- 7: Depending on the Normal/Grounding configuration you want for each circuit, choose Internal Programming
- 8: Replace the dust cover and designation strips.

SHUNT SCHEMATICS

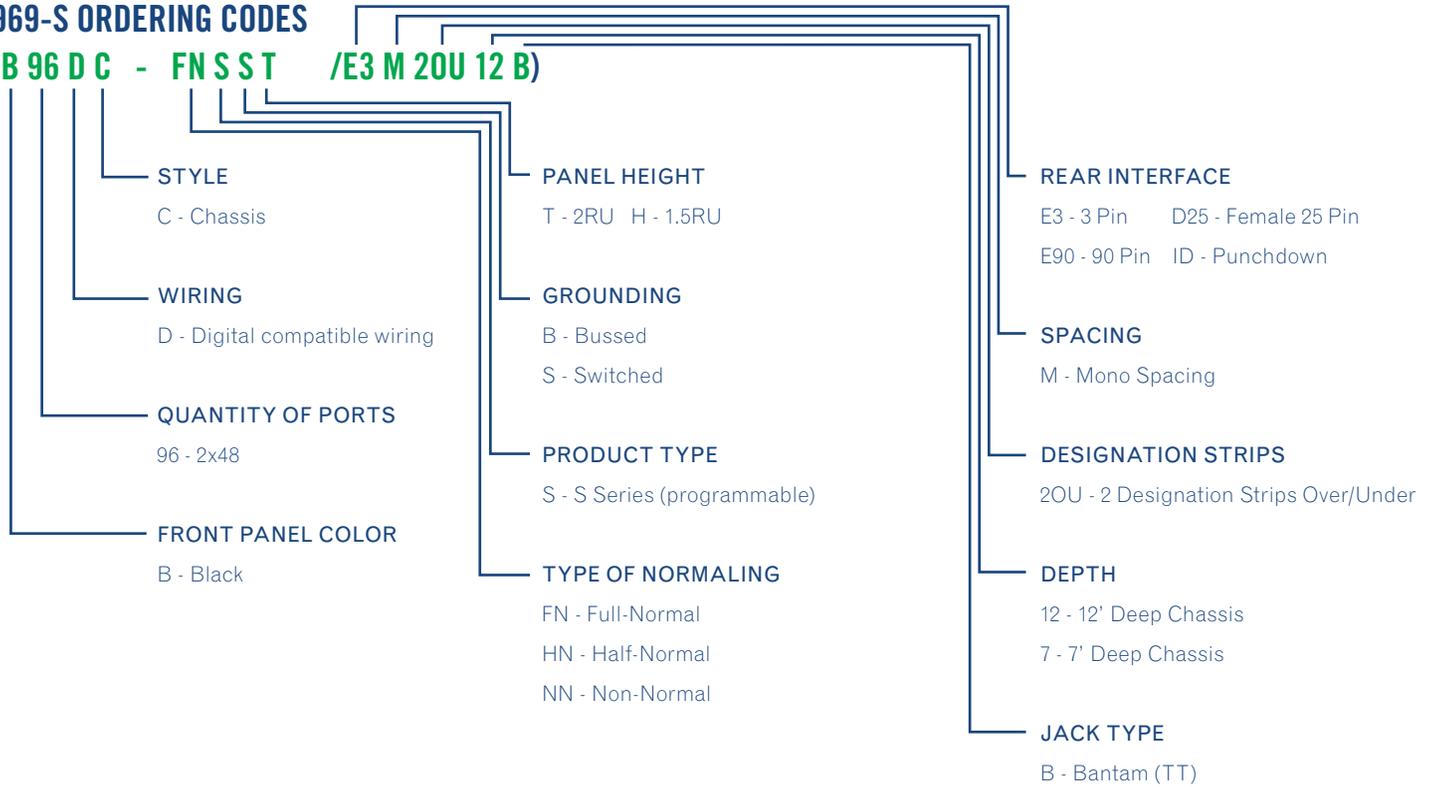


969-S SERIES

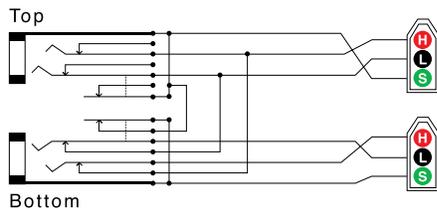
CODES / PATCHCORDS

969-S ORDERING CODES

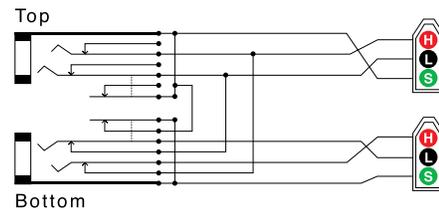
(B 96 D C - F N S S T /E3 M 2OU 12 B)



JACK SCHEMATICS (EXAMPLES)



FULL NORMALED SWITCHED GROUNDS



HALF NORMALED SWITCHED GROUNDS

TT BANTAM 968 SERIES

Our 968 Series features our innovative Programmable audio patchbays in a 2 x 48 1 RU, 1.5RU, or 2RU size, making them ideal for mobile production and other applications in tight quarters. With recent developments to our product line, Bittree's 968 series is now available in 1.5RU and 2RU versions as well.

Programmable patchbays allow users to quickly and easily change the normals and grounding of individual circuits. Normals can be changed to full-normal, half-normal or non-normal. Grounding can be changed to bussed, isolated or looped (for switched grounds, consider the 968-S Series). Because it's programmable, the 968 Series can serve as the foundation for virtually any new, reconfigured or legacy installation. The end result is a patchbay that allows integrators and installers to quickly re-configure patching systems, accommodate customer change-orders, and speed service-calls.

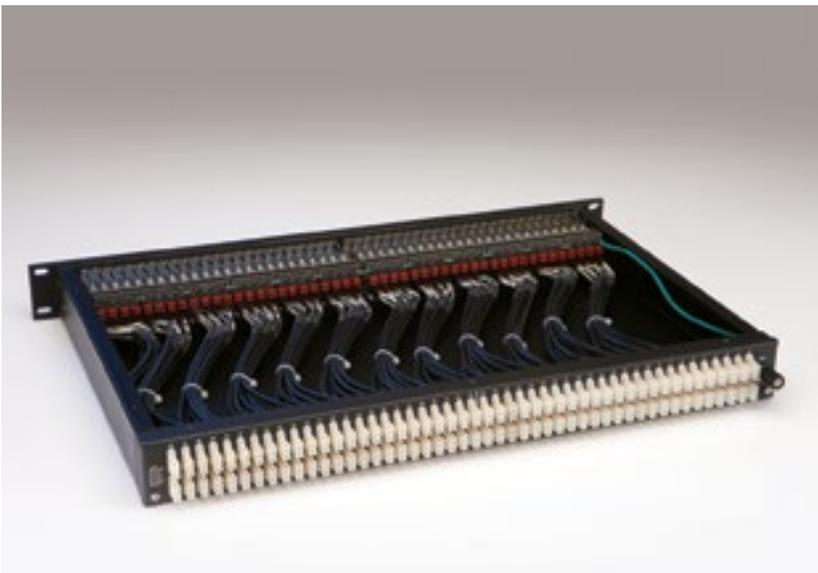


FRONT

FRONT PROGRAMMABLE
AUDIO BANTAM (TT)
PATCHBAY

NORMALS AND
GROUNDS CAN BE
EASILY RE-PROGRAMMED
BY THE END USER

HIGH-DENSITY 2X48 JACK
CONFIGURATION; 1.5 OR
2 RU SIZE



REAR

REAR INTERFACE
OPTIONS INCLUDE
E-3, E-90, AND D25

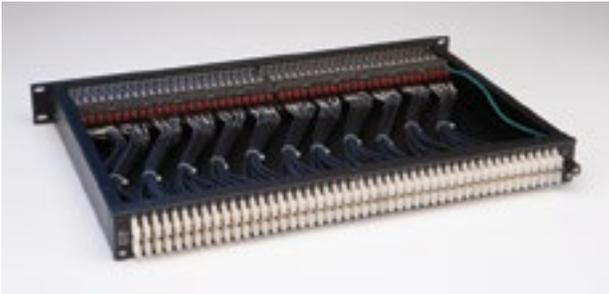
SMALL SIZE IS
IDEAL FOR MOBILE
PRODUCTION AND
OTHER APPLICATIONS
IN TIGHT QUARTERS

TT BANTAM 968 SERIES

PROGRAMMING INSTRUCTIONS

HOW TO IDENTIFY A PROGRAMMABLE PATCHBAY

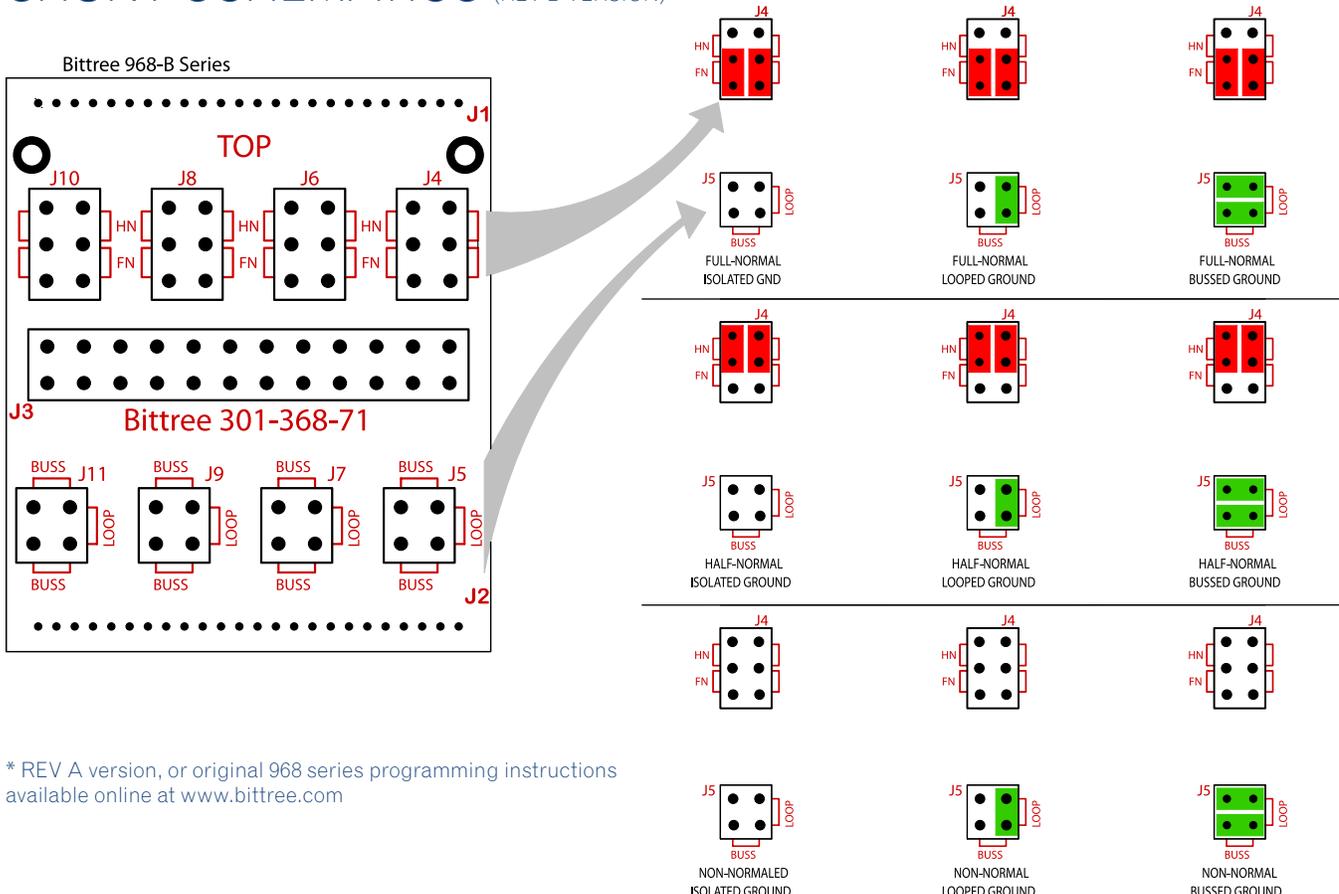
968 Series programmable patchbays can only be identified by removing the top dust cover and looking for the presence of red and white programming shunts inside.



HOW TO CHANGE THE PROGRAMMING FOR A CIRCUIT

- 1: Remove the top dust cover to expose the programming shunts on the rear of the circuit board.
- 2: Find your desired configuration in the diagram.
- 3: Arrange the programming shunts to match the appropriate diagram. Note: Each circuit can be programmed independently.
- 4: Ample shunts are provided with every patchbay. Red shunts are placed horizontally and are used for normalizing. White shunts are placed vertically and are used for grounding.
- 5: Replace the dust cover.

SHUNT SCHEMATICS (REV B VERSION)



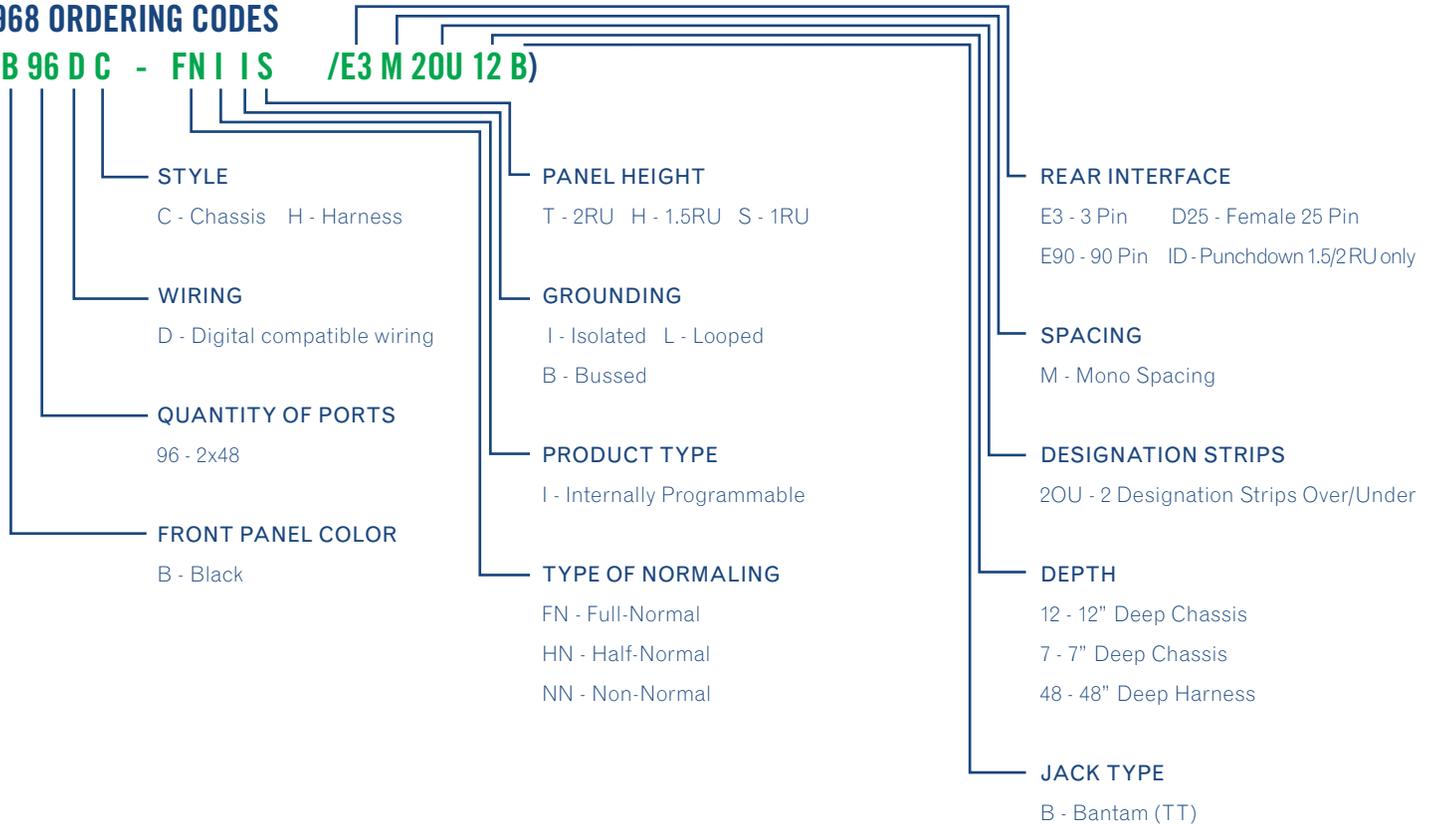
* REV A version, or original 968 series programming instructions available online at www.bittree.com

TT BANTAM 968 SERIES

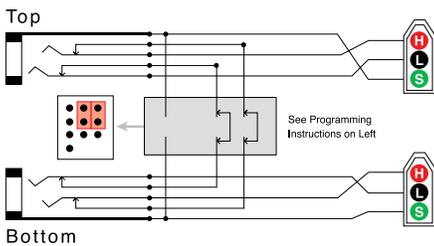
CODES / PATCHCORDS

968 ORDERING CODES

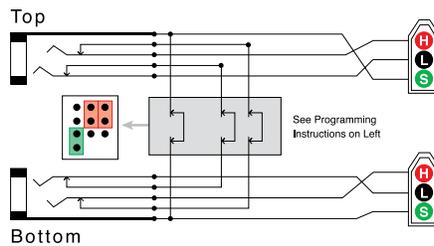
(B 96 D C - FN I I S /E3 M 20U 12 B)



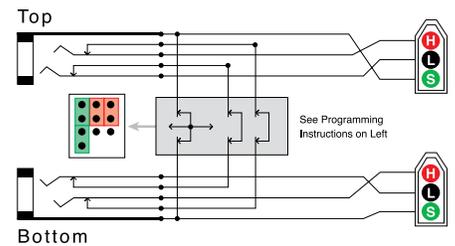
JACK SCHEMATICS (EXAMPLES)



FULL NORMALIZED PROGRAMMABLE
ISOLATED GROUNDS



FULL NORMALIZED PROGRAMMABLE
LOOPED GROUNDS



FULL NORMALIZED PROGRAMMABLE
BUSSED GROUNDS

* Example based on original 968 series

TT BANTAM

968-S SERIES

Our 968-S Series features our innovative Programmable audio patchbays in a 2 x 48 1 RU size, making them ideal for mobile production and other applications in tight quarters. In addition, the 968-S lets you program switched grounds. Switched grounds help eliminate hard-to-find ground loops. Because it provides a more stable signal grounding structure, it's ideal for systems with audio signals coming from numerous locations.

Programmable patchbays allow users to quickly and easily change the normals and grounding of individual circuits. Normals can be changed to full-normal, half-normal or non-normal. Grounding can be changed to switched or bussed. Because it's programmable, the 968-S Series can serve as the foundation for virtually any new, reconfigured or legacy installation. The end result is a patchbay that allows integrators and installers to quickly re-configure patching systems, accommodate customer change-orders, and speed service-calls.

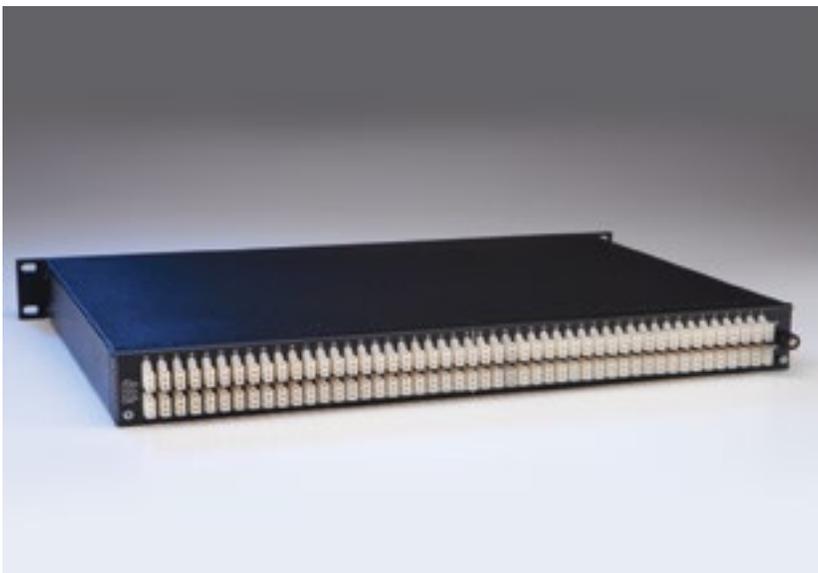


FRONT

NORMALS AND
GROUNDS CAN BE
EASILY RE-PROGRAMMED
BY THE END USER

ALLOWS SWITCHED
GROUNDS FOR A
MORE STABLE
SIGNAL STRUCTURE

HIGH-DENSITY 2X48 JACK
CONFIGURATION; 1.5 OR
2 RU SIZE



REAR

REAR INTERFACE
OPTIONS INCLUDE
E-3, E-90, ID (PUNCH-
DOWN) AND D25

SMALL SIZE IS
IDEAL FOR MOBILE
PRODUCTION AND
OTHER APPLICATIONS
IN TIGHT QUARTERS

968-S SERIES

PROGRAMMING INSTRUCTIONS

HOW TO IDENTIFY A PROGRAMMABLE PATCHBAY

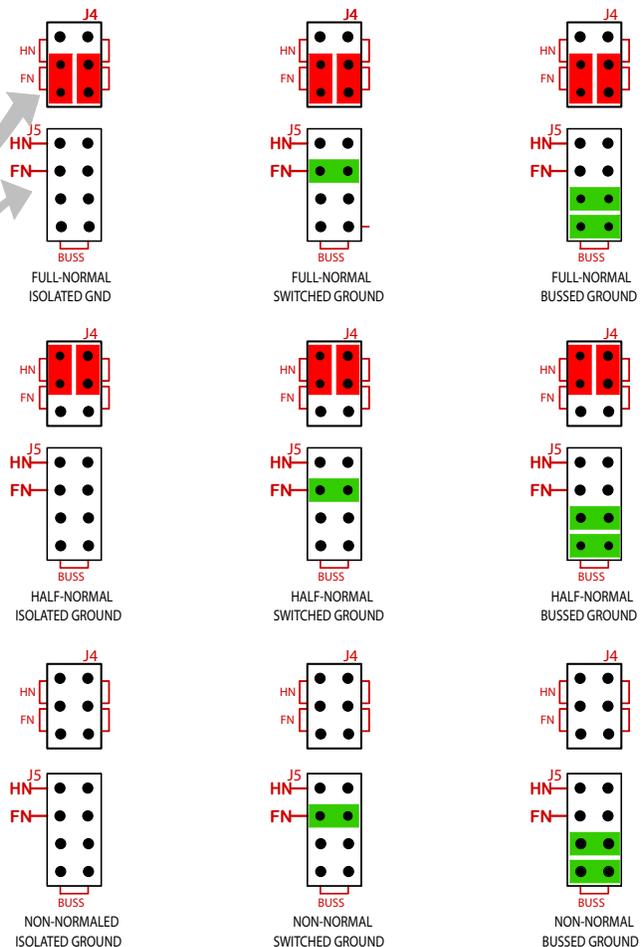
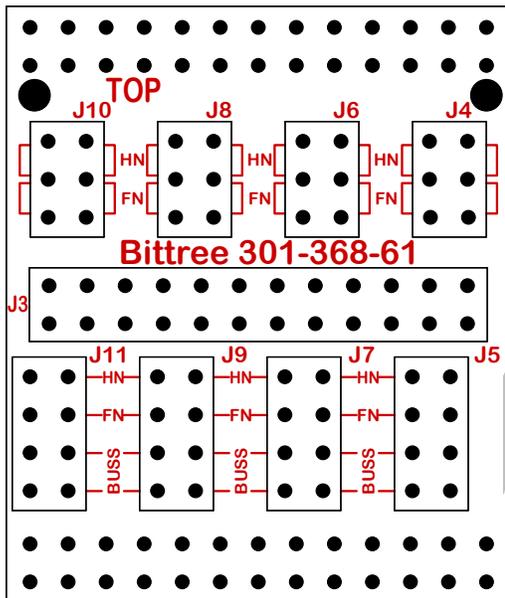
968-S Series programmable patchbays can only be identified by removing the top dust cover and looking for the presence of red and white programming shunts inside.



HOW TO CHANGE THE PROGRAMMING FOR A CIRCUIT

- 1: Remove the top dust cover to expose the programming shunts.
- 2: Find your desired configuration in the diagram.
- 3: Arrange the programming shunts to match the appropriate diagram. Note: Each circuit can be programmed independently.
- 4: Ample shunts are provided with every patchbay. Red shunts are placed horizontally and are used for normalizing. White shunts are placed vertically and are used for grounding.
- 5: Replace the dust cover.

SHUNT SCHEMATICS

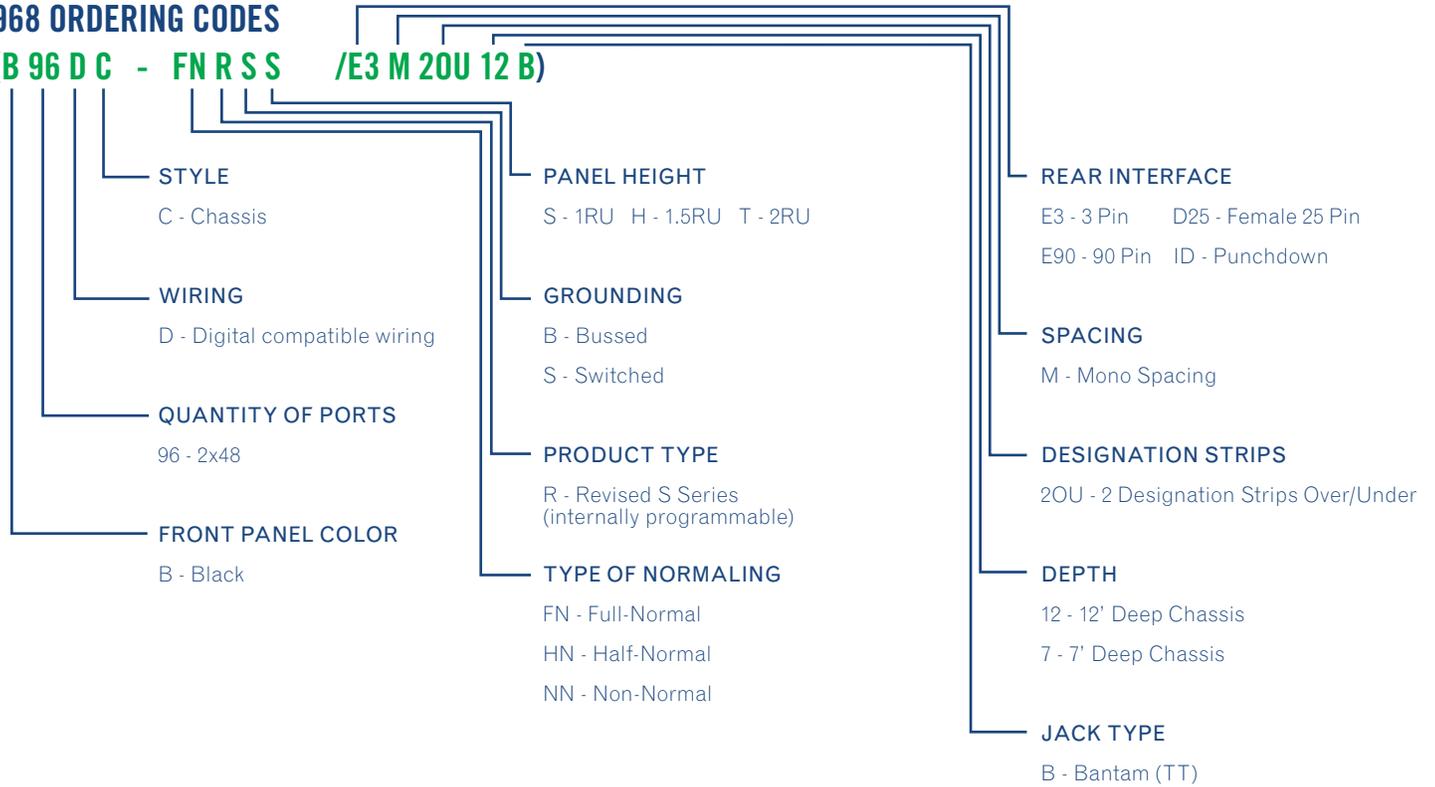


TT BANTAM 968-S SERIES

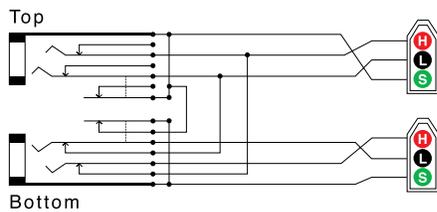
CODES / PATCHCORDS

968 ORDERING CODES

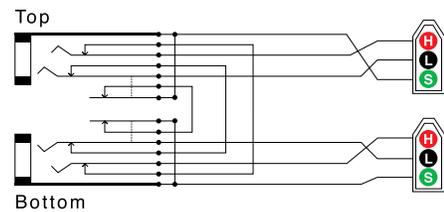
(B 96 D C - FN R S S /E3 M 20U 12 B)



JACK SCHEMATICS (EXAMPLES)



HALF NORMALED
SWITCHED GROUNDS



FULL NORMALED
SWITCHED GROUNDS

* Example based on original 968-S series

TT BANTAM 961 SERIES

Our 961 Series features our classic, non-programmable audio patchbays. With a jack configuration of 2 x 48, the 961 Series comes with the most options of any audio patchbay, including rear interface, normaling, grounding, jack spacing, panel color, chassis depth and rack-unit height.

All Bittree audio patchbays bring you enhanced studio versatility and instant signal re-routing, and are perfect for master control and central switching I/O, audio console I/O, recording device I/O, and audio routing switcher bypass and input rerouting. Our audio patchbays are built to AES/EBU specifications, and are internally wired with low-capacitance, shielded, 110-ohm twisted pairs. The low-capacitance characteristics make them ideal for both digital as well as analog applications.



STEREO-SPACED

NON-PROGRAMMABLE AUDIO BANTAM (TT) PATCHBAY

AVAILABLE WITH A
VARIETY OF OPTIONS,
INCLUDING NORMALS-
OUT, OVER/OVER DESIG-
NATIONS, STEREO SPAC-
ING, AND SINGLE ROW
PATCHBAYS



NORMALS-OUT



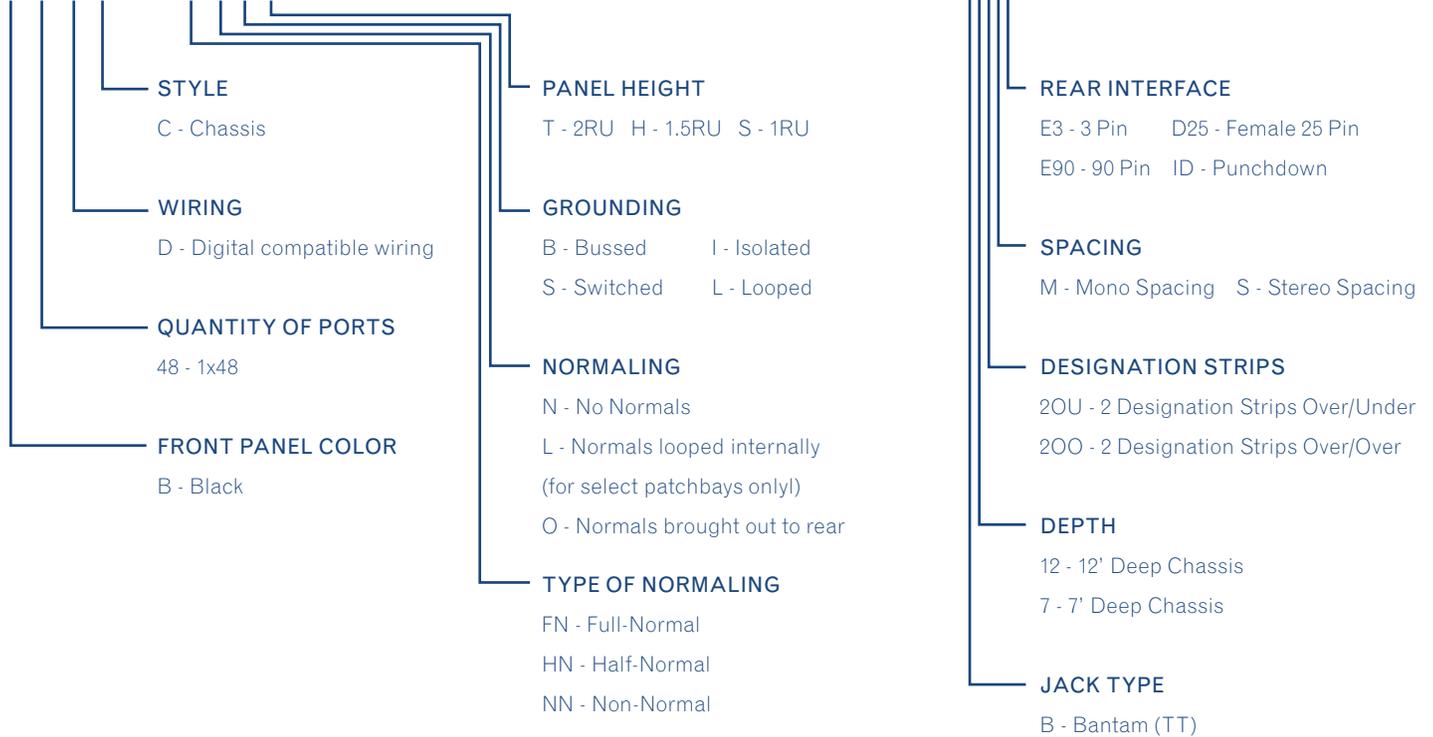
1x48 MONITOR ROW

TT BANTAM 961 SERIES

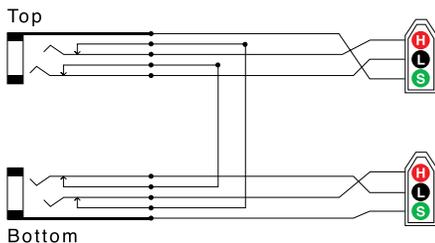
CODES / PATCHCORDS

968 ORDERING CODES

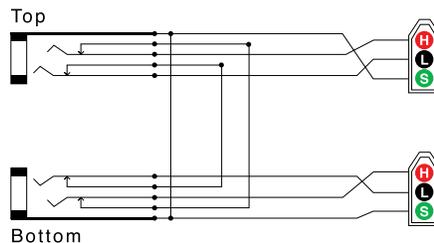
(B 96 D C - FN L I T /E3 S 200 12 B)



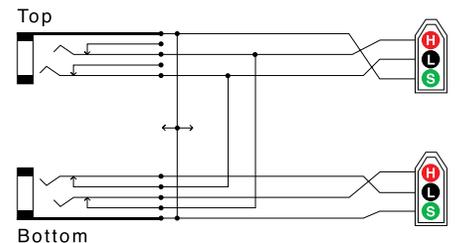
JACK SCHEMATICS (EXAMPLES)



FULL NORMALED
ISOLATED GROUNDS



FULL NORMALED
LOOPED GROUNDS



FULL NORMALED
BUSSED GROUNDS

AUDIO

AUDIO 1/4" LONGFRAME

Bittree offers two formats of audio patchbays: Long Frame (1/4"), described below, and Bantam (TT), described on page 33. Long-Frame patchbays are often considered easier to work with due to their spacious 2 x 24 jack configuration.

CHOOSING THE RIGHT LONG-FRAME PATCHBAY

489 SERIES, FRONT PROGRAMMABLE

Our Programmable patchbay allows you to change normaling and grounding for individual circuits simply by changing the shunt arrangement under the designation strips.

Available in 1.5 and 2 RU enclosed chassis.

489-S SERIES, FRONT PROGRAMMABLE

Includes the same features as the 489 Series above, but also allows you to program switched grounds in addition to bussed, isolated and looped grounds as with the original 489 series.

488 SERIES, INTERNALLY PROGRAMMABLE

Comes with the same programming capability as the 489 Series, but the programming is done internally so it can fit into a 1 RU enclosed chassis.

481 SERIES, CLASSIC

Our original Bantam audio patchbay, featuring our most extensive selection of options available, including normals out, grounding, and other internal hard-wiring options, rear panel configurations, stereo/mono spacing, panel color, rack-unit height, and harness configurations. Non-programmable.

521 SERIES, CLASSIC, 2 x 26

Includes the same extensive selections of available options as the 481 Series above, but in a slightly more condensed 2 x 26 format.



Bittree

1/4" LONGFRAME 489 SERIES

Our 489 Series features our innovative Programmable audio patchbays in a 2 x 24 jack configuration, with panel height options of 1.5 or 2 RU size. Programmable patchbays allow users to quickly and easily change the normals and grounding of individual circuits. Normals can be changed to full-normal, half-normal or non-normal. Grounding can be changed to bussed, isolated or looped(for switched grounds, consider the 489-S Series).

Because it's programmable, the 489 Series can serve as the foundation for virtually any new, reconfigured or legacy installation. The end result is a patchbay that allows integrators and installers to quickly re-configure patching systems, accommodate customer change-orders, and speed service-calls.

FRONT PROGRAMMABLE
AUDIO LONG-FRAME 1/4"
PATCHBAY

NORMALS AND
GROUNDS CAN BE
EASILY REPROGRAMMED
BY THE END USER

SPACIOUS 2x24 JACK
CONFIGURATION; 1.5 OR
2RU SIZE

REAR INTERFACE OPTIONS
INCLUDE E-3, E-90, D-25,
AND ID (PUNCHDOWN)



FRONT



REAR



NO STRIPS

1/4" LONGFRAME 489 SERIES

PROGRAMMING INSTRUCTIONS

HOW TO IDENTIFY A PROGRAMMABLE PATCHBAY

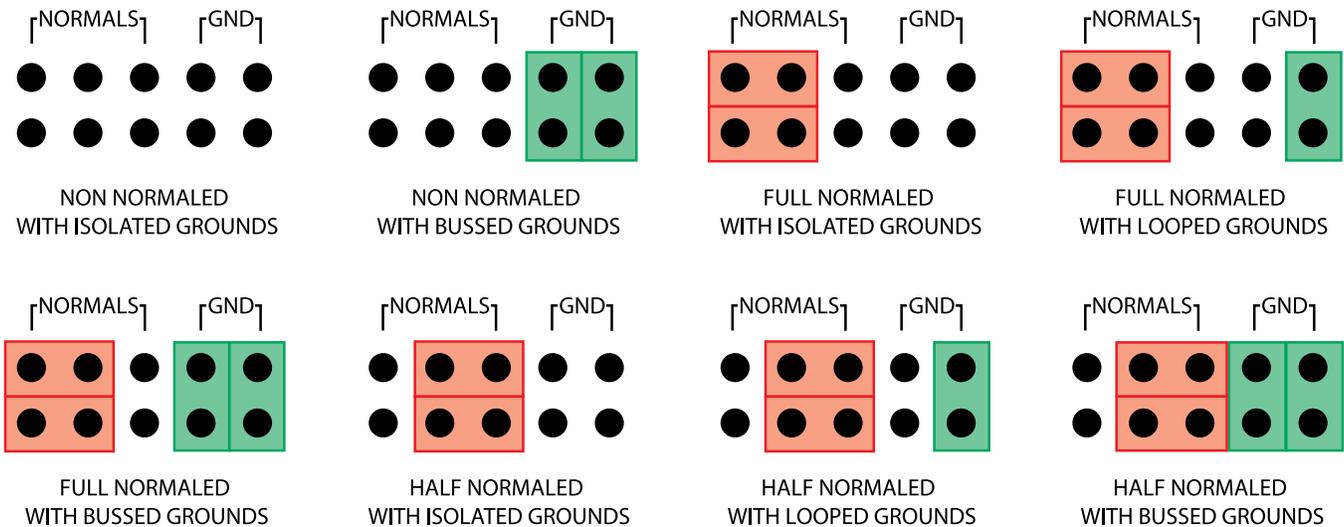
489 Series programmable patchbays can be identified by the Programmable Icon in the upper left corner of the patchbay.



HOW TO CHANGE THE PROGRAMMING FOR A CIRCUIT

- 1: Remove the top designation strip, as shown in the photo on the right.
- 2: Find your desired configuration in the diagram.
- 3: Arrange the programming shunts to match the appropriate diagram. Note: Each circuit can be programmed independently.
- 4: Ample shunts are provided with every patchbay. Red shunts are placed horizontally and are used for normaling. White shunts are placed vertically and are used for grounding.
- 5: The circuits are numbered 1-24 and correspond to vertical jack pairs reading left to right.
- 6: Replace the designation strip.

SHUNT SCHEMATICS

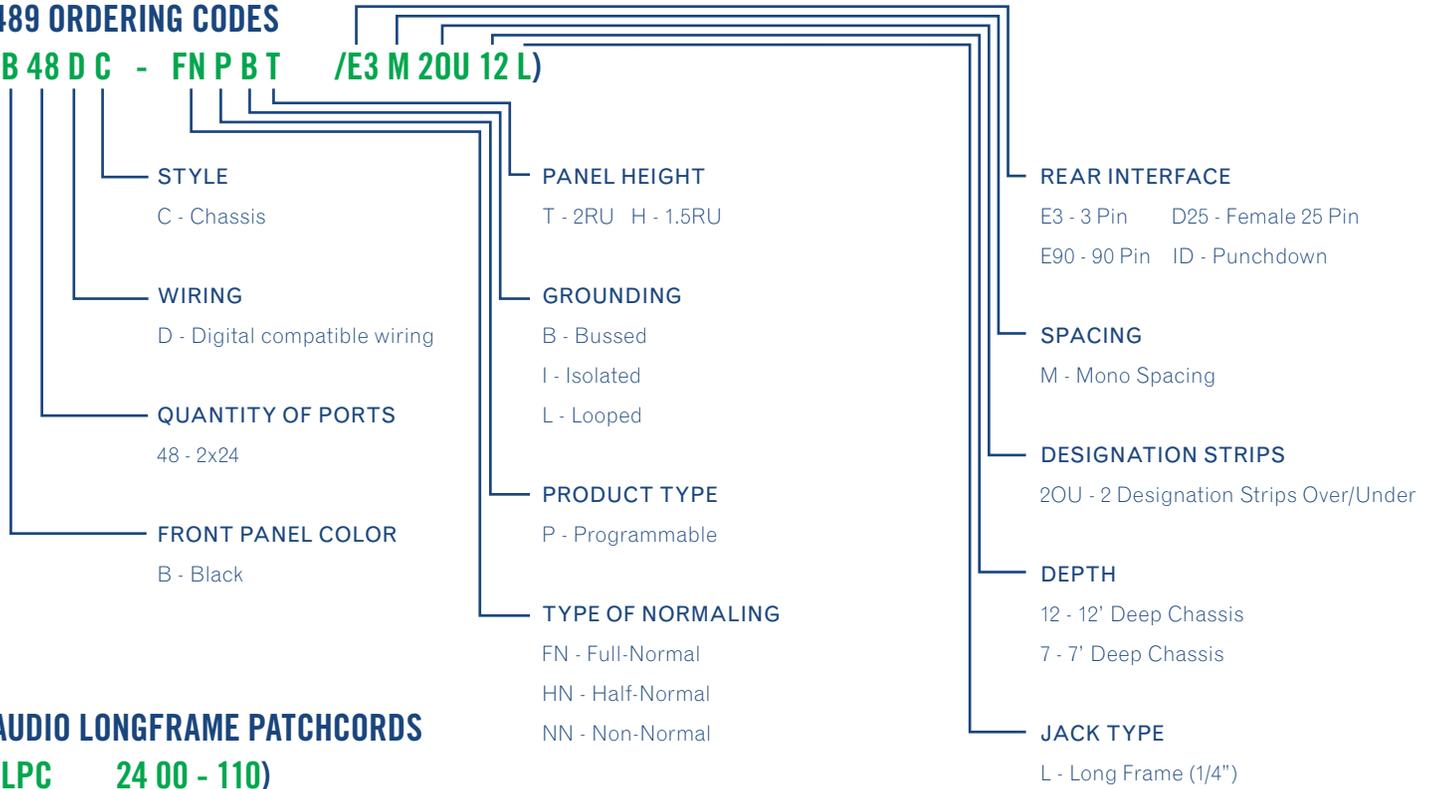


1/4" LONGFRAME 489 SERIES

CODES / PATCHCORDS

489 ORDERING CODES

(B 48 D C - FN P B T /E3 M 20U 12 L)



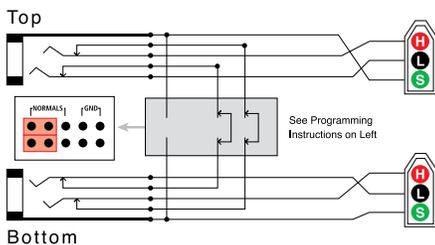
AUDIO LONGFRAME PATCHCORDS

(LPC 24 00 - 110)

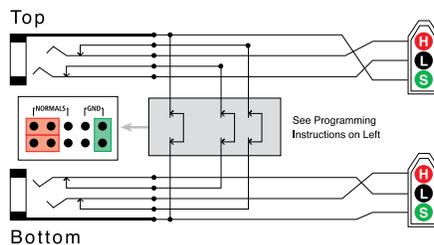
LENGTH BY INCH (CM)	COLOR
24 (61)	00 - Black
36 (92)	02 - Red
48 (122)	04 - Yellow
60 (153)	05 - Green
72 (184)	06 - Blue
	07 - Purple



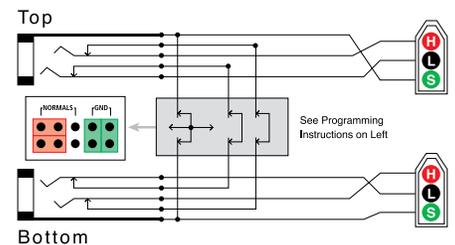
JACK SCHEMATICS (EXAMPLES)



FULL NORMALED PROGRAMMABLE
ISOLATED GROUNDS



FULL NORMALED PROGRAMMABLE
LOOPED GROUNDS



FULL NORMALED PROGRAMMABLE
BUSSED GROUNDS

1/4" LONGFRAME 489-S SERIES

Our 489-S Series features our innovative Programmable audio patchbays in a 2 x 24 jack configuration with a panel height of 1.5 or 2 RU size, with the added capability of programming switched grounds. Switched grounds can help eliminate hard-to-find ground loops, and because it provides a more stable signal grounding structure, it's ideal for systems with audio signals coming from numerous locations.

The 489-S programmable patchbay allow users to quickly and easily change the normals and grounding of individual circuits. Normals can be changed to full-normal, half-normal or non-normal. Grounding can be changed to switched, bussed, isolated or looped. Because it's programmable, the 489-S Series can serve as the foundation for virtually any new, reconfigured or legacy installation. The end result is a patchbay that allows integrators and installers to quickly re-configure patching systems, accommodate customer change-orders, and speed service-calls.

FRONT PROGRAMMABLE
AUDIO LONG-FRAME 1/4"
PATCHBAY

NORMALS AND
GROUNDS CAN BE
EASILY REPROGRAMMED
BY THE END USER

SPACIOUS 2x24 JACK
CONFIGURATION; 1.5 OR
2RU SIZE

REAR INTERFACE OPTIONS
INCLUDE E-3, E-90, D-25,
AND ID (PUNCHDOWN)



FRONT



REAR



NO STRIPS

1/4" LONGFRAME 489-S SERIES

PROGRAMMING INSTRUCTIONS

HOW TO IDENTIFY A PROGRAMMABLE PATCHBAY

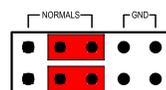
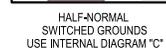
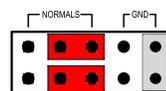
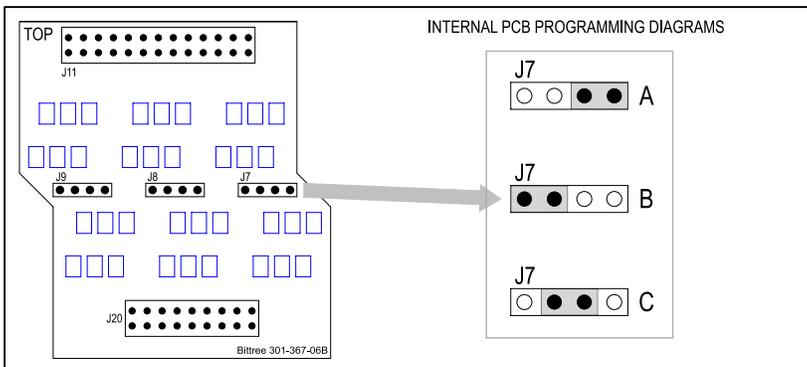
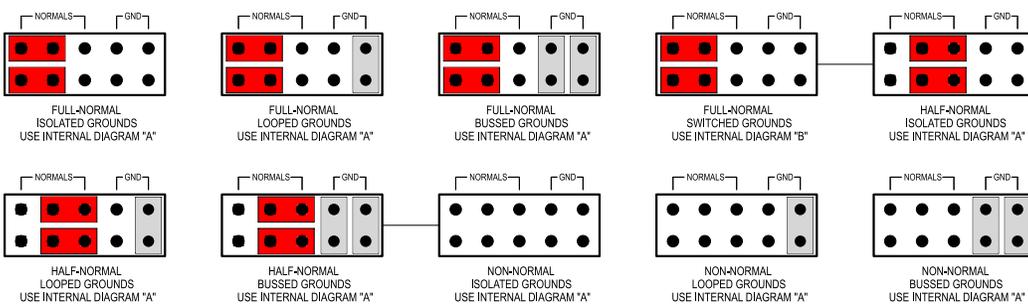
489-S Series programmable patchbays can be identified by the Programmable Icon in the upper left corner of the patchbay.



HOW TO CHANGE THE PROGRAMMING FOR A CIRCUIT

- 1: Remove the top designation strip.
- 2: Find your desired configuration in the diagram.
- 3: Arrange the programming shunts to match the appropriate diagram. Note: Each circuit can be programmed independently.
- 4: Ample shunts are provided with every patchbay. Red shunts are placed horizontally and are used for normalizing. White shunts are placed vertically and are used for grounding.
- 5: The circuits are numbered 1-24 and correspond to vertical jack pairs reading left to right.
- 6: For the internal programming, unscrew the screws along the top edges and take off the patchbay dust cover. Locate the Internal PCB Boards inside, which are right behind the back of the jacks (for a better view, turn the rear of the patchbay toward you). There are eight PCB Boards; each one holds three circuits.
- 7: Depending on the Normal/Grounding configuration you want for each circuit, choose Internal Programming Diagram A, B or C from the blue box above and program accordingly, using the same red and white shunts.
- 8: Replace the patchbay dust cover and designation strips.

SHUNT SCHEMATICS

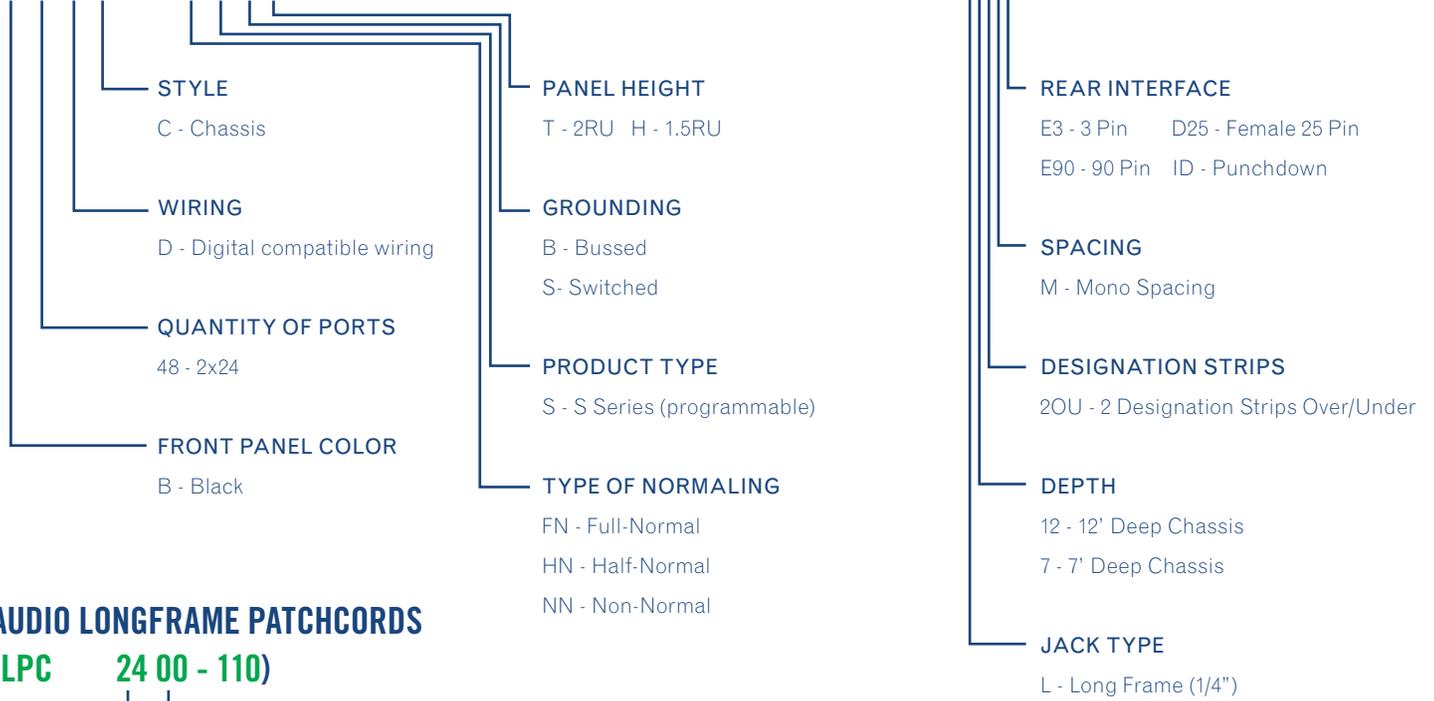


1/4" LONGFRAME 489-S SERIES

CODES / PATCHCORDS

489-S ORDERING CODES

(B 48 D C - F N S S T /E3 M 20U 12 L)



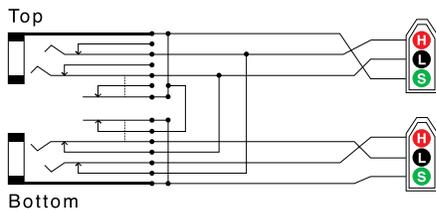
AUDIO LONGFRAME PATCHCORDS

(LPC 24 00 - 110)

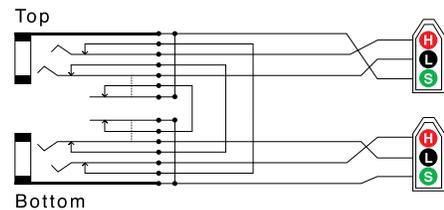
LENGTH BY INCH (CM)	COLOR
24 (61)	00 - Black
36 (92)	02 - Red
48 (122)	04 - Yellow
60 (153)	05 - Green
72 (184)	06 - Blue
	07 - Purple



JACK SCHEMATICS (EXAMPLES)



HALF NORMALIZED
SWITCHED GROUNDS



FULL NORMALIZED
SWITCHED GROUNDS

1/4" LONGFRAME 488 SERIES

Our 488 Series features our innovative Programmable audio patchbays in a 2 x 24 1 RU size, making them ideal for mobile production and other applications in tight quarters. Programmable patchbays allow users to quickly and easily change the normals and grounding of individual circuits. Normals can be changed to full-normal, half-normal or non-normal. Grounding can be changed to bussed, isolated or looped.

Because it's programmable, the 488 Series can serve as the foundation for virtually any new, reconfigured or legacy installation. The end result is a patchbay that allows integrators and installers to quickly re-configure patching systems, accommodate customer change-orders, and speed service-calls.

FRONT PROGRAMMABLE
AUDIO LONG-FRAME 1/4"
PATCHBAY

NORMALS AND
GROUNDS CAN BE
EASILY REPROGRAMMED
BY THE END USER

SPACIOUS 2x24 JACK
CONFIGURATION; 1RU SIZE

SMALL SIZE IS IDEAL
FOR MOBILE PRODUCTION
AND OTHER APPLICATIONS
IN TIGHT QUARTERS

REAR INTERFACE OPTIONS
INCLUDE E-3, E-90, AND D-25



FRONT



REAR

1/4" LONGFRAME 488 SERIES

PROGRAMMING INSTRUCTIONS

HOW TO IDENTIFY A PROGRAMMABLE PATCHBAY

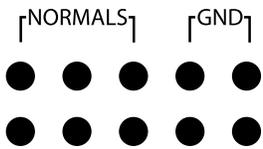
488 Series programmable patchbays can only be identified by removing the top dust cover and looking for the presence of red and white programming shunts inside.



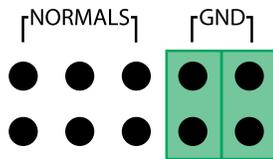
HOW TO CHANGE THE PROGRAMMING FOR A CIRCUIT

- 1: Find your desired configuration in the diagram.
- 2: Arrange the programming shunts to match the appropriate diagram. Note: Each circuit can be programmed independently.
- 3: Ample shunts are provided with every programmable patchbay. Red shunts are placed horizontally and are used for normalling options. White shunts are placed vertically and are used for grounding options.
- 4: Replace the dust cover.

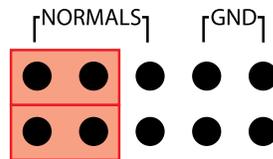
SHUNT SCHEMATICS



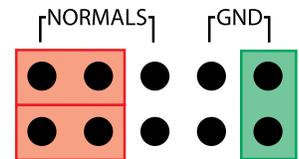
NON NORMALED
WITH ISOLATED GROUNDS



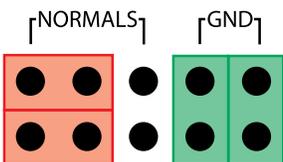
NON NORMALED
WITH BUSSED GROUNDS



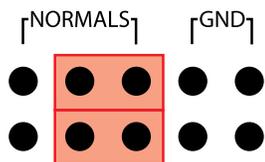
FULL NORMALED
WITH ISOLATED GROUNDS



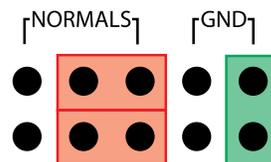
FULL NORMALED
WITH LOOPED GROUNDS



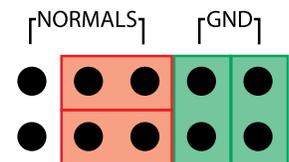
FULL NORMALED
WITH BUSSED GROUNDS



HALF NORMALED
WITH ISOLATED GROUNDS



HALF NORMALED
WITH LOOPED GROUNDS



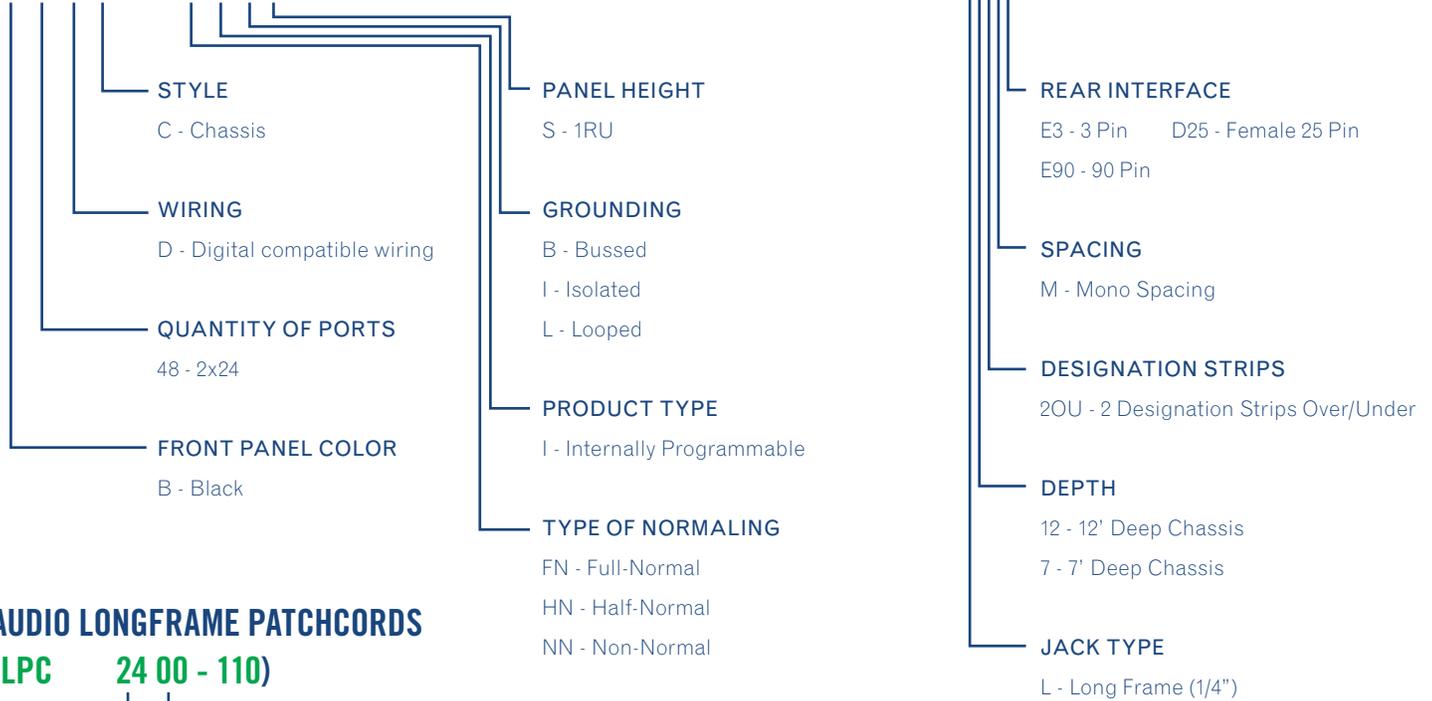
HALF NORMALED
WITH BUSSED GROUNDS

1/4" LONGFRAME 488 SERIES

CODES / PATCHCORDS

488 ORDERING CODES

(B 48 D C - F N I B S / E 3 M 20 U 12 L)



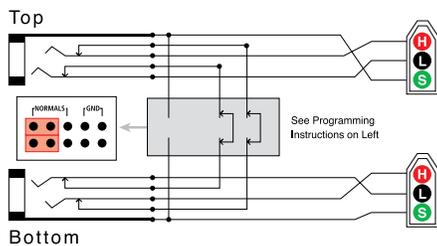
AUDIO LONGFRAME PATCHCORDS

(LPC 24 00 - 110)

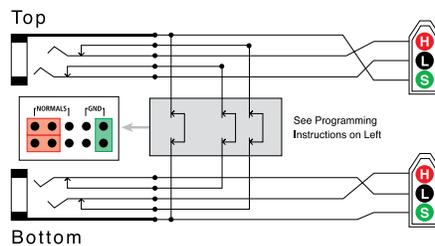
LENGTH BY INCH (CM)	COLOR
24 (61)	00 - Black
36 (92)	02 - Red
48 (122)	04 - Yellow
60 (153)	05 - Green
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	07 - Purple



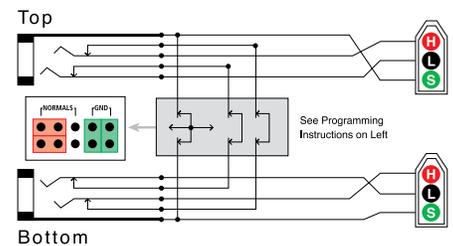
JACK SCHEMATICS (EXAMPLES)



FULL NORMALIZED PROGRAMMABLE
ISOLATED GROUNDS



FULL NORMALIZED PROGRAMMABLE
LOOPED GROUNDS



FULL NORMALIZED PROGRAMMABLE
BUSSED GROUNDS

1/4" LONGFRAME 481 SERIES

Our 481 Series features our classic, non-programmable audio patchbays. With a jack configuration of 2 x 24, the 481 Series comes with the most options of any audio patchbay, including rear interface, normaling, grounding, jack spacing, panel color, chassis depth and rack-unit height. All Bittree audio patchbays bring you enhanced studio versatility and instant signal re-routing, and are perfect for master control and central switching I/O, audio console I/O, recording device I/O, and audio routing switcher bypass and input rerouting.

Our audio patchbays are built to AES/EBU specifications, and are internally wired with low-capacitance, shielded, 110-ohm twisted pairs. The low-capacitance characteristics make them ideal for both digital as well as analog applications.

NON-PROGRAMMABLE AUDIO LONG-FRAME 1/4" PATCHBAY

AVAILABLE WITH MORE
OPTIONS THAN ANY
AUDIO PATCHBAY,
INCLUDING REAR I
NTERFACE, NORMALING,
GROUNDING, JACK
SPACING, PANEL COLOR,
CHASSIS DEPTH AND
RACK-UNIT HEIGHT

SPACIOUS 2x24 JACK
CONFIGURATION; 1, 1.5, OR
2RU SIZE

REAR INTERFACE OPTIONS
INCLUDE E-3, E-90, D-25,
AND ID (PUNCHDOWN)



FRONT



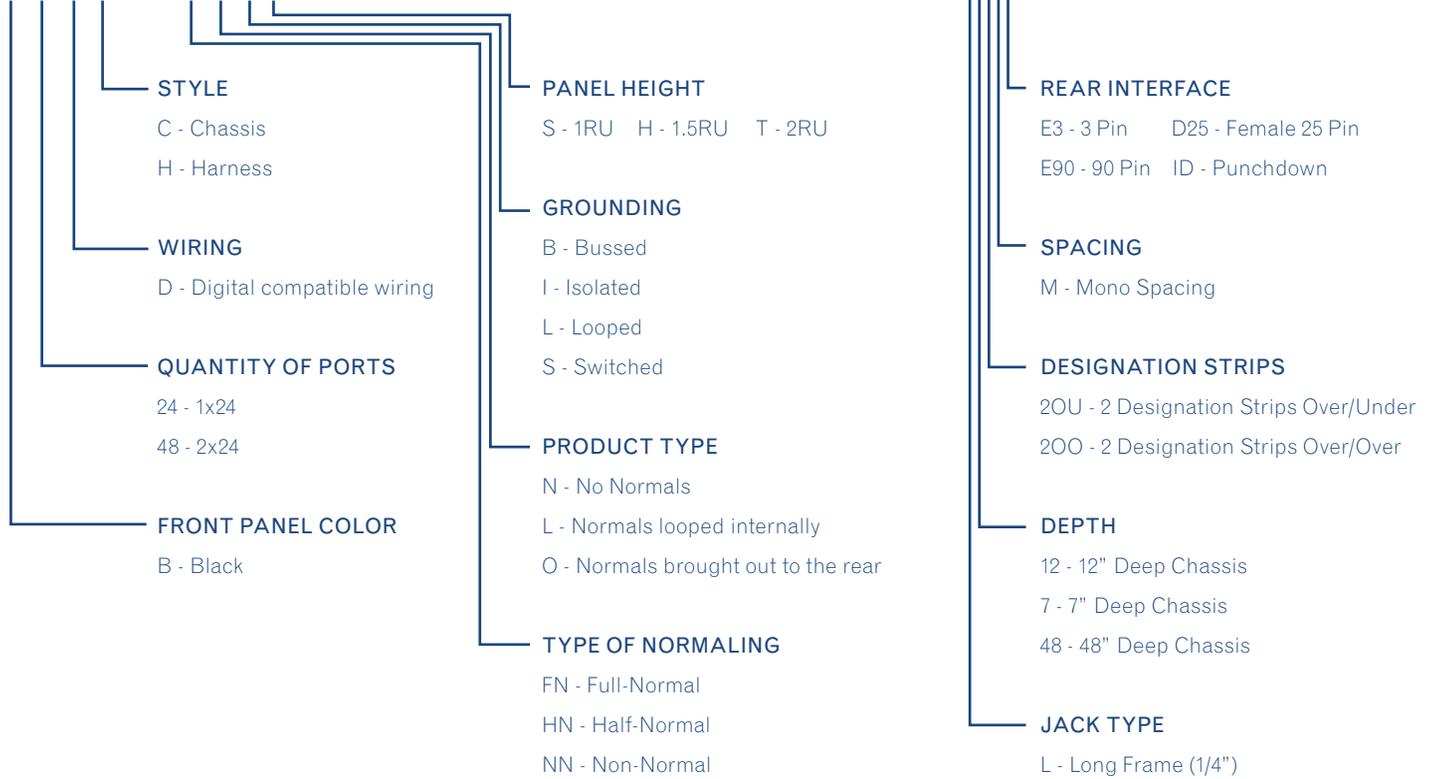
REAR

1/4" LONGFRAME 481 SERIES

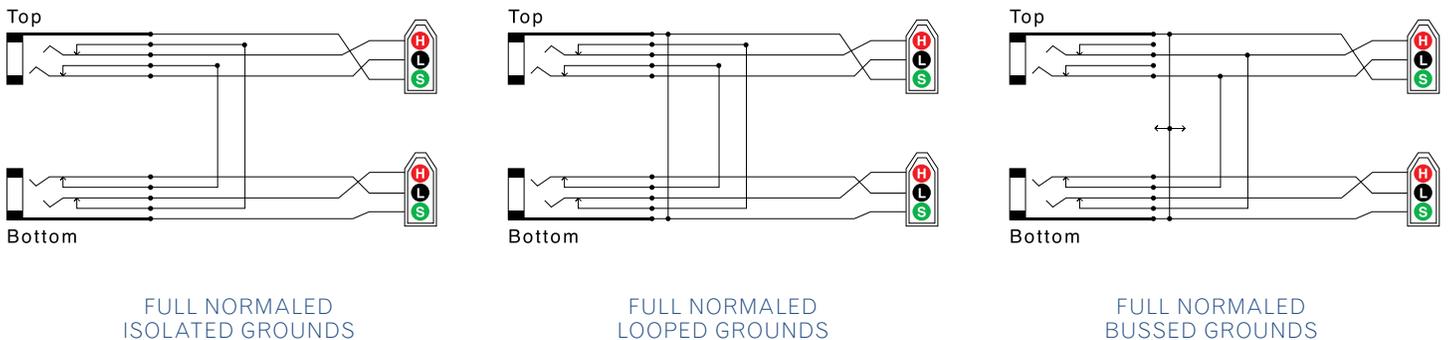
CODES / PATCHCORDS

481 ORDERING CODES

(B 48 DC - FN L I T /E3 M 20U 12 L)



JACK SCHEMATICS (EXAMPLES)



1/4" LONGFRAME 521 SERIES

Our 521 Series features our classic, non-programmable audio patchbays. With a jack configuration of 2 x 26, the 521 series is perfect for situations in which 48 point is not sufficient.



NON-PROGRAMMABLE
AUDIO LONG-FRAME 1/4"
PATCHBAY

SPACIOUS 2x26 JACK
CONFIGURATION; 1. 1.5,
OR 2RU SIZE

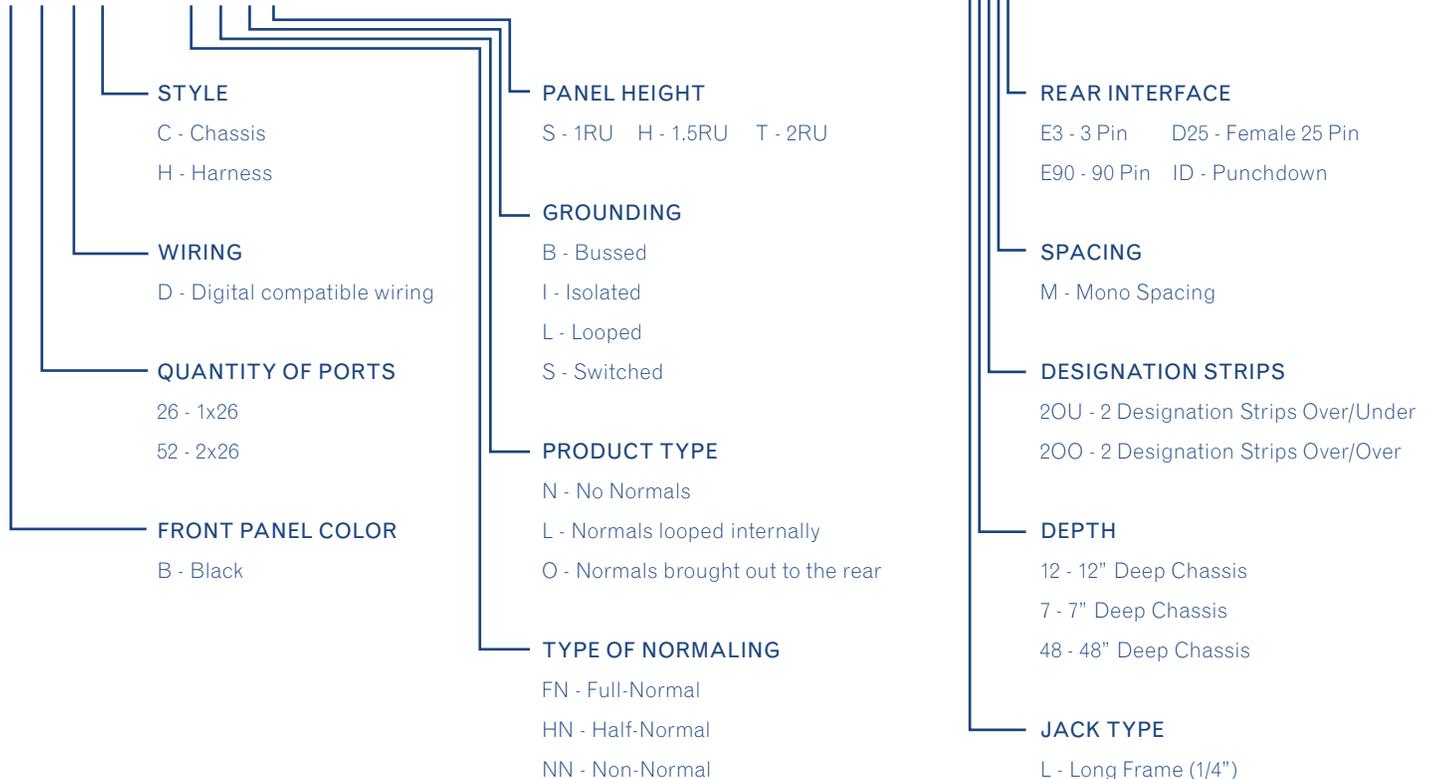
REAR INTERFACE OPTIONS
INCLUDE E-3, E-90, D-25,
AND ID (PUNCHDOWN)

FRONT

CODES / PATCHCORDS

521 ORDERING CODES

(B 52 D C - FN L I T /E3 M 20U 12 L)



DATA

RS-422

Bittree's RS-422 Programmable and Active Data Patchbays are ideal for edit bays and machine rooms in post-production, broadcast and duplication. All Bittree data patching systems are held to strict electrical and mechanical specifications to guarantee exceptional performance in traditional serial data applications. Ideal for edit system to VTR patching; remote control delegation (e.g., Sony and Lynx systems); computer data interconnection, control panel re-routing; and central distribution of 422 signals.

RS422 ACTIVE

The RS-422 64-Port Active Patchbay is designed for remote-delegation protocols such as Sony and Lynx, and features easy-to-read connection status lights, a high-quality power supply, patchbay power-indicator light, DE9 female rear interface and normalised I/O paired ports.

RS422 PROGRAMMABLE

The RS-422 Programmable Data Patchbay is as easy as it is adaptable. To program the Normals for individual circuits, users just need to insert or remove the programming shunts located underneath the patchbay dust cover. When the shunts are inserted, the circuit will be full-normal; when the shunts are removed, the circuit will be non-normal.

RS-422

ACTIVE (422A32)

Bittree's RS-422 64-Port Active Patchbay delivers the most significant improvement in RS-422 patching since its inception, making it easier to route, manage and verify RS-422 signals. The innovation lies in the patchbay's auto-sensing transceivers that receive, interpret and re-transmit perfectly regenerated RS-422 signals, eliminating inductive and capacitive signal-distortion frequently imposed by traditional passive switches. The patchbay also serves as a powerful diagnostic tool that quickly verifies the connection status between Masters and Remotes (i.e., Controllers and VTRs). The color-coded LEDs display the transmitting and receiving status of each machine plugged into the patchbay, providing a reliable way to manage and verify RS-422 signals, as well as determine which machines are set to Master or Remote.

The RS-422 64-Port Active Patchbay also increases the reliability of RS-422 system connections. Mechanically, the system will be more reliable because it uses standard, robust bantam (TT) audio patchcords instead of card edge patchcords used by competing 2x32 patchbays that can cost twice as much. Electrically, the system will be more reliable because it transmits regenerated, pristine RS-422 signals. In addition to signal-enhancement, diagnostic capabilities and increased reliability, the form-factor of the new RS-422 64-Port Patchbay is more efficient than competing models, thanks to its 2 x 32 port configuration that perfectly matches standard routers.

The RS-422 64-Port Patchbay is ideal for edit bays and machine rooms in post-production, broadcast and duplication. And because the patchbay also serves as a repeater, it excels in today's larger networked installations, helping to provide RS-422 runs of up to 8,000 feet, depending on the termination gear. The RS-422 64-Port Active Patchbay is designed for remote-delegation protocols such as Sony and Lynx, and features easy-to-read connection status lights, a high-quality power supply, patchbay power-indicator light, DE9 female rear interface and normalled I/O paired ports. The SMPTE 207 compliant, 2 rack-unit patchbay is ruggedly built yet finely finished, and is housed in a 12" chassis with a powder-coat finish and extra-wide designation strips.

FEATURES

- Color-coded LEDs make it easier to route, verify and diagnose RS-422 signals
- Auto-sensing transceivers transmit perfectly re-generated RS-422 signals for longer cable runs
- Rear port auto-senses/auto-configures for master or remote operation
- Uses reliable bantam audio patchcords
- SMPTE 207M compliant; accommodates remote delegation protocols such as Sony and Lynx
- Easy-to-read connection-status lights and patchbay power indicator light
- Includes high-quality, medical-grade power supply; optional dual power supply for on-air applications.
- Rugged nickel-plated, cold-rolled steel box-frame construction; jacks rated to 30,000 minimum insertion cycles
- Panels made from 3/16" solid aluminum with black durable powder-coat finish
- 2x32 ports, DE9 female rear interface, 2RU, 12" deep chassis; Extra-wide designation strips



FRONT

RS-422 ACTIVE

SPECIFICATIONS

REAR INTERFACE CONNECTIONS

SIGNAL: DE9 Female

LIFE CYCLE: > 10,000 insertion cycles

POWER: Locking Mini Power Connector L722A

FRONT INTERFACE CONNECTIONS

SIGNAL: Bantam (TT) jacks

LIFE CYCLE: > 30,000 insertion cycles

MAXIMUM INPUT TO OUTPUT PROPAGATION DELAY: 1250 ns

PATCHCORD: Standard Bantam (TT) patchcord

RS-422 PATCHCORD (BPC 24 00 - 110)

LENGTH BY INCH (CM)

24 (61)

36 (92)

48 (122)

60 (153)

72 (184)

COLOR

00 - Black

02 - Red

04 - Yellow

05 - Green

06 - Blue

07 - Purple

DE9 SLIM HOOD

The profile of the DE9 Slim Hood allows users to fit up to 32 connectors in each row and take advantage of all 64 ports in the new RS-422 64-Port Active Patchbay. The DE9 Slim Hood is easy to assemble, comes with a rugged tie-wrap strain relief to ensure solid connections, and features slotted thumb screws for maximum convenience.

PART NUMBERS:

DE9Slim1 one unit

DE9Slim16 set of 16

DE9Slim8 set of 8

DE9Slim32 set of 32

DE9 Slim Hoods not included with RS-422 64-Port Active Patchbay



POWER REQUIREMENTS

INPUT: 100-120V AC, 47-63Hz; 0.75 amps

OUTPUT: 5+0.1 volts DC Regulated; 2.4 amps max

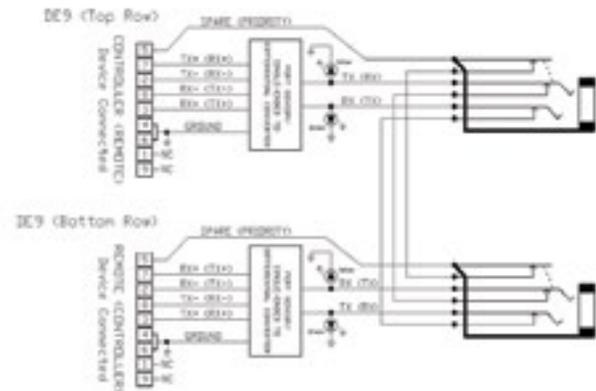
POWER SUPPLY CONNECTOR: Locking Mini Power Plug S760K

ENVIRONMENTAL

OPERATING TEMPERATURE: 0°C to 70°C

STORAGE TEMPERATURE: -55°C to 85°C

SCHEMATICS



PATCHBAY PRODUCT NUMBERS

RS-422 64-Port Active Patchbay, with single power supply (**422A32**)

RS-422 64-Port Active Patchbay, with dual power supply (**422A32-D**)

POWER SUPPLY

This high-quality power supply was designed exclusively for the RS-422 64-Port Active Patchbay. Screw lock-downs ensure power supply stays connected. Low-profile wall-plug helps power supply stay plugged in. 72ft cord, 5 volt, 2.4 amp.

Power Supply(s) included with RS-422 64-Port Active Patchbay.



RS-422

PROGRAMMABLE

Our RS-422 Programmable Data Patchbay, expressly designed to meet the needs of RS-422 serial data patching typically required in television broadcast or postproduction facilities, allows you to switch circuits between full-normal and non-normal and back again quickly, easily and reliably. The RS-422 Programmable Data Patchbay is as easy as it is adaptable. To program the Normals for individual circuits, users just need to insert or remove the programming shunts located underneath the patchbay dust cover. When the shunts are inserted, the circuit will be full-normal; when the shunts are removed, the circuit will be non-normal.

This flexibility means the RS-422 Programmable Data Patchbay can serve as the foundation for virtually any new, reconfigured or legacy installation. It also means that regardless of any design changes that arise during installation, it can always be re-programmed as needed right on the spot. The end result is that the RS-422 Programmable Data Patchbay allows integrators and installers to quickly re-configure patching systems, accommodate customer change-orders, and speed service-calls. It also allows system designers to more confidently assemble equipment lists and more accurately develop quotes earlier in the proposal process.

The RS-422 Programmable Data Patchbay features six-wire circuits, accommodating RS422 signals and providing two extra circuits for additional applications and protocols. The patchbay handles bi-directional signals such as RS-422, RS-232 and other general purpose interface applications. The RS-422 Programmable Data Patchbay features a D9 female rear interface and is SMPTE 207 compliant. The 2 rack-unit patchbay is ruggedly built yet finely finished, and is housed in a 12" chassis with a powder-coat finish and extra-wide designation strips. The RS-422 Programmable Data Patchbay is ideal for edit bays and machine rooms in post-production, broadcast and duplication, and can also accommodate remote-delegation protocols such as Sony and Lynx.

All Bittree data patching systems are held to strict electrical and mechanical specifications to guarantee exceptional performance in traditional serial data applications. Ideal for edit system to VTR patching; remote control delegation (e.g., Sony and Lynx systems); computer data interconnection, control panel re-routing; and central distribution of 422 signals.

FEATURES

- Programming shunts allow users to easily change between full-normal and non-normal circuits
- Red/white programming shunts are located inside, under the patchbay dust cover. Insert shunts to make the circuit full-normal; remove shunts to make the circuit non-normal.
- Robust six-wire circuits accommodate RS422 signals and provide two extra circuits for additional applications and protocols.
- Handles bi-directional signals such as SMPTE 207M RS-422, RS-232 and other purpose interface applications.
- Available formats include 2x6 and 2x12 in 1RU, and 2x12, 2x18 and 2x24 in 2RU, all in 12" deep chassis.
- Precision-stamped reinforced steel jack frame; jacks rated to 30,000 minimum insertion cycles
- Panels made from 3/16" solid aluminum with black durable powder-coat finish



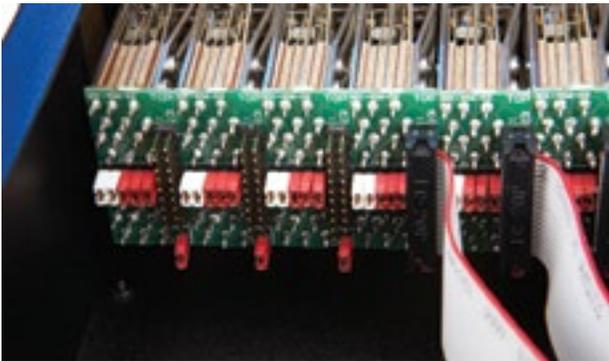
FRONT

PROGRAMMABLE

PROGRAMMING INSTRUCTIONS

HOW TO IDENTIFY A PROGRAMMABLE PATCHBAY

RS-422 Programmable Data patchbays can be identified by their product number. Locate the product number sticker toward the back of the left side panel. If the product number contains either an FI or NI in the product number, it is programmable.



HOW TO CHANGE THE PROGRAMMING FOR A CIRCUIT

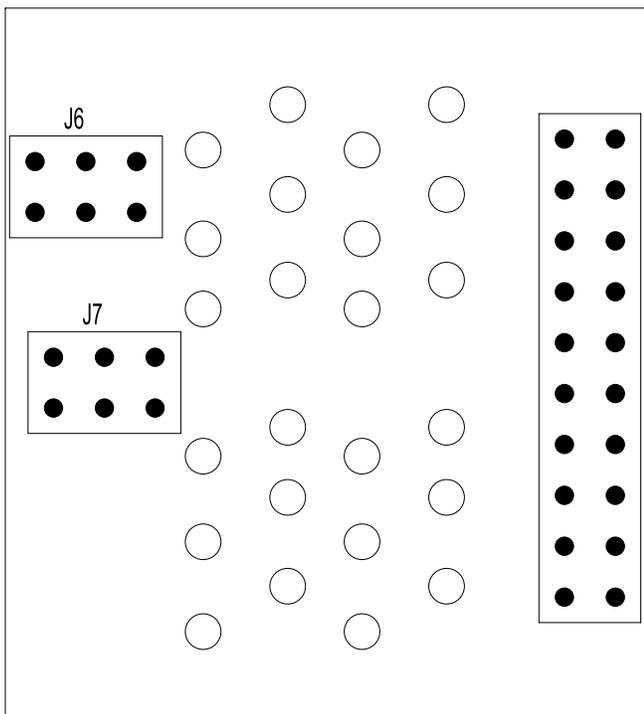
1: Remove the patchbay dust cover. Locate the Internal PCB boards inside, which are right behind the back of the jacks (for a better view, turn the rear of the patchbay toward you). There are 24 PCB Boards; each one holds one circuit.

2: Programming options are full normal or non-normal. Find your desired configuration in the diagram above.

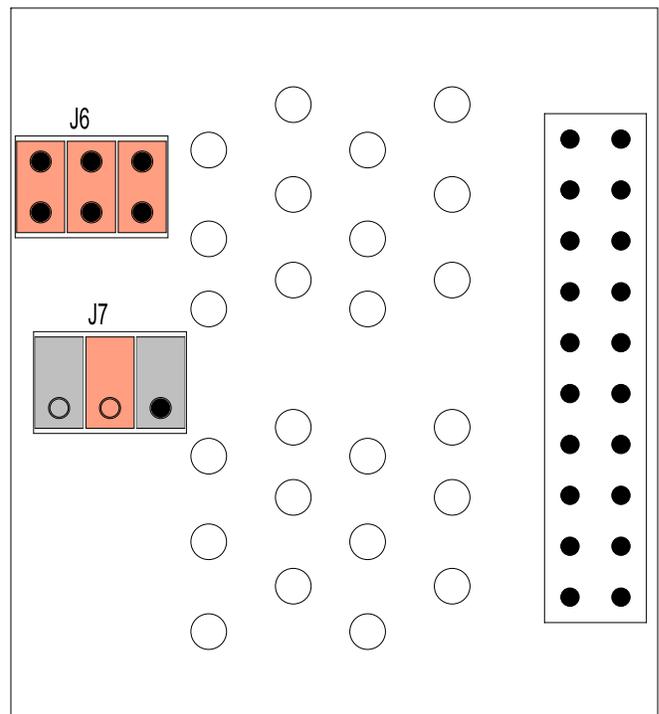
3: Ample red and white shunts are provided with every programmable patchbay. Arrange the programming shunts on the PCB Boards to match the appropriate diagram. When the programming shunts are inserted, the circuit will be full-normal; when the shunts are removed, the circuit will be non-normal. Note: Each circuit can be programmed independently.

4: Replace the dust cover.

SHUNT SCHEMATICS



NON-NORMAL



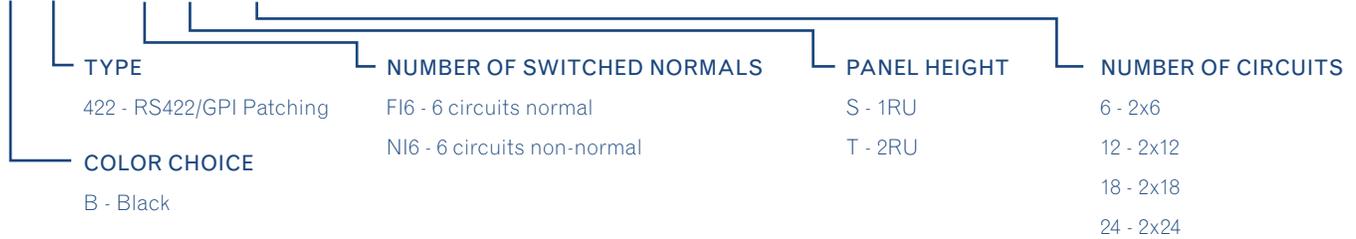
FULL-NORMAL

RS-422 PROGRAMMABLE

CODES / PATCHCORDS

DUAL BANTAM (TT)

(B 422 - FI 6 T / 24)



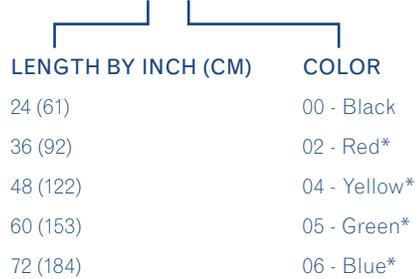
DUAL BANTAM (TT) SIX-WIRE

(GPI 24 00)



DUAL BANTAM (TT)

(DPC 24 00)

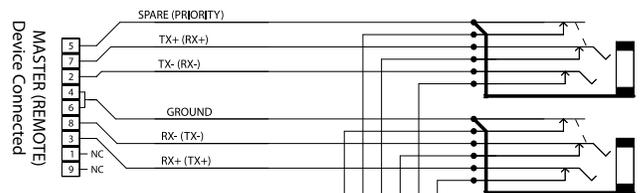


* Available in 24" and 36" only

SCHEMATICS



NON-NORMALED VIEW



FULL-NORMALED VIEW

DATA

FIBER & DATA

Recognizing the influence of emerging technologies in broadcast centers, as well as new environments for content creation and distribution, Bittree has expanded the potential for patching to accommodate Fiberoptic, Ethernet, and other data related cabling. As the boundaries between broadcast, Pro AV, and IT become less distinct, Bittree provides unique solutions that allow greater flexibility to fit the needs of a variety of professionals. Bittree high performance patching in data and fiber offers custom solutions necessary for the rapid expansion of creation and distribution of content.

FIBEROPTIC FEED THROUGH

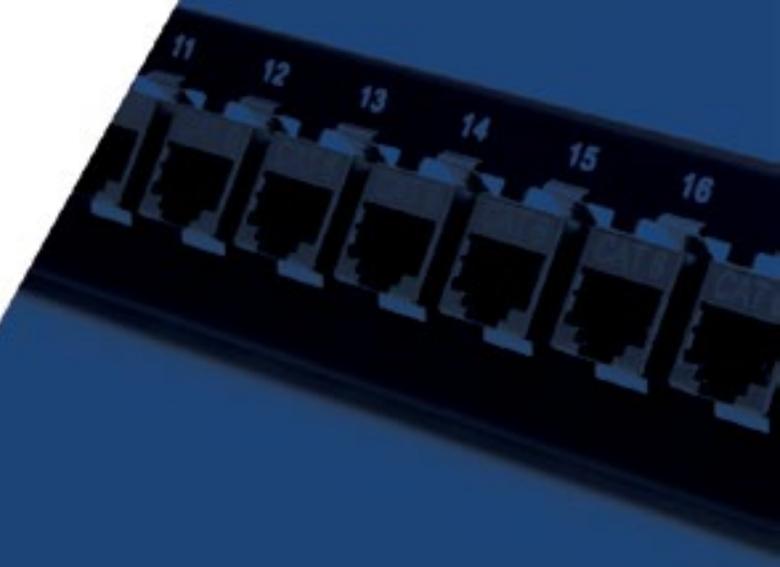
Includes Keystone panels populated with LC/LC, SC/SC, ar

CAT 6 FEED THROUGH

Convenient and highly affordable method of patching for unshielded Cat6 cable

CAT 6 SHIELDED FEED THROUGH

Our Shielded Cat6 products accommodate patching for shielded applications



FIBER & DATA

FIBEROPTIC PANELS

Bittree now offers an extensive line of fiber feed-through panels for LC/LC, SC/SC, and ST/ST. These fiber feed-through panels are the industry's first to provide optional designation strips. In addition, the design of these panels, allows customized combinations of LC, SC, and ST couplers, with the ability to mix and match accordingly. Available in 1RU, and 2RU with configurations of 1 x 12, 1x16, 1 x 24, and 2 x 16, our panels provide you with multiple options to specifically meet your project requirement. With the emergence of Fiberoptic technology across multiple industries, Bittree's fiber panels can be used in multiple applications from broadcast studios to server rooms.



OUR FIBER FEED-THROUGH PANELS ARE BUILT WITH SC, ST, OR LC KEYSTONE COUPLERS

PANELS CAN BE CUSTOMIZED WITH VARIOUS COMBINATIONS OF LC, SC, AND ST CONNECTORS

PANEL HEIGHTS OF 1RU AND 2RU, WITH CONFIGURATIONS OF 1X12, 1X16, 1X24, AND 2X16

ADDITIONAL CONFIGURATIONS AVAILABLE PLEASE CONTACT OUR CORPORATE OFFICE

Optional stick-on designation strip – can be ordered separately and installed at the factory.

DS250-20NH-ASSY - .250 inch x 17.8 inch bar and snap over cap design
DS380-10NH-ASSY .380 inch x 16.56 inch slider type

Contact our corporate office for additional options and configurations

FRONT

ORDERING CODES

(DSKP 1 24 - LC)

CONNECTOR TYPE

LC - LC/LC

SC - SC/SC

ST - ST/ST

COUPLERS PER ROW

12 - 12/row

16 - 16/row

24 - 24/row

NUMBER OF ROWS

1 - 1 Row of Couplers

2 - 2 Row of Couplers

PANEL TYPE

DSKP -Data System Keystone Panel

FIBER & DATA

FIBEROPTIC PANELS

FIBER CABLE COLOR DESIGNATION DESCRIPTION

AQUA/BLUE - 50/125 μm (core size/cladding size), multi-mode, OM3 and newer OM4 standards, "laser optimized", used with newer Vertical-Cavity Surface-Emitting Lasers (VCSELs) systems operating at 850 nm and 1300 nm wavelengths, used for 10Gbit/s at up to 300 meters, OM4 supports 40Gbit/s and 100 Gbit/s at up to 125 meters.

ORANGE - 0/125 μm and 62.5/125 μm (core size / cladding size), multi-mode, OM1 and OM2 standards, used with older LED systems, used for Ethernet (10 Mbit/s) and Gigabit Ethernet (1 Gbit/s) applications.

YELLOW - Single Mode, OS1 and OS2 standards, 8-10/ 125 μm (core size / cladding size), 1310 and 1550 nm wavelengths, more expensive equipment/ cheaper cabling than multi-mode, OM3 and OM4 speeds over greater distances – 10 Gbit/s for several thousand km and 40Gbit/s for several hundred km.



MULTI MODE FIBER CABLES (LASER OPTIMIZED)

LC/LC PATCHCORD

LC/LC 10 GIGABIT DUPLEX 12" BLUE (**DSP1206-LC/LC**)

LC/LC 10 GIGABIT DUPLEX 24" BLUE (**DSP2406-LC/LC**)

LC/LC 10 GIGABIT DUPLEX 36" BLUE (**DSP3606-LC/LC**)

SC/SC PATCHCORD

SC/SC 10 GIGABIT SIMPLEX 12" BLUE (**DSP1206-SC/SC**)

SC/SC 10 GIGABIT SIMPLEX 24" BLUE (**DSP2406-SC/SC**)

SC/SC 10 GIGABIT SIMPLEX 36" BLUE (**DSP3606-SC/SC**)

ST/ST PATCHCORD

ST/ST 10 GIGABIT SIMPLEX 12" BLUE (**DSP1206-ST/ST**)

ST/ST 10 GIGABIT SIMPLEX 24" BLUE (**DSP2406-ST/ST**)

ST/ST 10 GIGABIT SIMPLEX 36" BLUE (**DSP3606-ST/ST**)

MTP Multi-conductor cables available by special order.

Pull Eyes also available on cables by special order.

Optional Lengths and color types available please contact our corporate office.

SINGLE MODE

LC/LC PATCHCORD

LC/LC DUPLEX 12" YELLOW (**DSP1204-LC/LC S**)

LC/LC DUPLEX 24" YELLOW (**DSP2404-LC/LC S**)

LC/LC DUPLEX 36" YELLOW (**DSP3604-LC/LC S**)

SC/SC PATCHCORD

SC/SC SIMPLEX 12" YELLOW (**DSP1204-SC/SC S**)

SC/SC SIMPLEX 24" YELLOW (**DSP2404-SC/SC S**)

SC/SC SIMPLEX 36" YELLOW (**DSP3604-SC/SC S**)

ST/ST PATCHCORD

ST/ST SIMPLEX 12" YELLOW (**DSP1204-ST/ST S**)

ST/ST SIMPLEX 24" YELLOW (**DSP2404-ST/ST S**)

ST/ST SIMPLEX 36" YELLOW (**DSP3604-ST/ST S**)

FIBER & DATA

DATA PANELS

With data systems gaining popularity in broadcast and Pro AV environments, Bittree has added an additional line of Cat6 feed-through and bulk head panels. Bittree is the first to offer optional designation strips for circuit labeling on our feed-through panels. In addition, all panels come with silk screened numbering on the front of the panel as our standard option.



CAT6 TO PUNCHDOWN

CAT6 FEED THROUGH

CAT6 TO PUNCHDOWN PANELS
IN 1RU AND 2RU VERSIONS

SILK SCREENED FRONT PANEL
WITH NUMBERED CHANNELS

OPTIONAL DESIGNATION STRIPS
FOR CIRCUIT IDENTIFICATION
SOLD SEPERATELY

SHIELDED AND UNSHIELDED
PATCHING CABLES AVAILABLE

FIBER & DATA

DATA PANELS

PRODUCT NUMBERS

PUNCHDOWN TO CAT6

CAT6 PATCH PANEL BLK 1RU 1X12 RJ45/110 PUNCH (DSGIGE112)

CAT6 PATCH PANEL BLK 1RU 1X24 RJ45/110 PUNCH (DSGIGE124)

CAT6 PATCH PANEL BLK 2RU 2X24 RJ45/110 PUNCH (DSGIGE224)

RJ45 TO RJ45 FEED-THROUGH

BLACK 1RU 1X12 CAT6 RJ45 TO RJ45 ASSEMBLY (DSKP112-C6FT)

BLACK 1RU 1X16 CAT6 RJ45 TO RJ45 ASSEMBLY (DSKP116-C6FT)

BLACK 1RU 1X24 CAT6 RJ45 TO RJ45 ASSEMBLY (DSKP124-C6FT)

SHIELDED - RJ45 TO RJ45 FEED-THROUGH

BLACK 1RU 1X24 CAT6 RJ45 TO RJ45 SHIELDED ASSEMBLY (DSKP124-C6FTS)



PATCHCORDS

UNSHIELDED RJ45 PATCHCORD

CAT6 PATCH CORD BLUE 12"(30cm) 568B STRANDED (DSP1206-CAT6)

CAT6 PATCH CORD BLUE 24"(60cm) 568B STRANDED (DSP2406-CAT6)

CAT6 PATCH CORD BLUE 36"(90cm) 568B STRANDED (DSP3606-CAT6)

CAT6 PATCH CORD BLUE 48"(120cm) 568B STRANDED (DSP4806-CAT6)

CAT6 PATCH CORD BLUE 72"(2meters) 568B STRANDED (DSP7206-CAT6)

CAT6 PATCH CORD BLUE 240"(6meters) 568B STRANDED (DSP24006-CAT6)



SHIELDED RJ45 PATCHCORD

CAT6A SHIELDED PATCH CORD BLUE 2FT 568B STRANDED (DSP2406-CAT6S)

CAT6A SHIELDED PATCH CORD BLUE 3FT 568B STRANDED (DSP3606-CAT6S)

Optional stick-on designation strip – can be ordered separately and installed at the factory.

DS250-20NH-ASSY - .250 inch x 17.8 inch bar and snap over cap design

DS380- 10NH – ASSY .380 inch x 16.56 inch slider type

Contact our corporate office for additional options and configurations

DATA

COAX & TWISTED PAIR

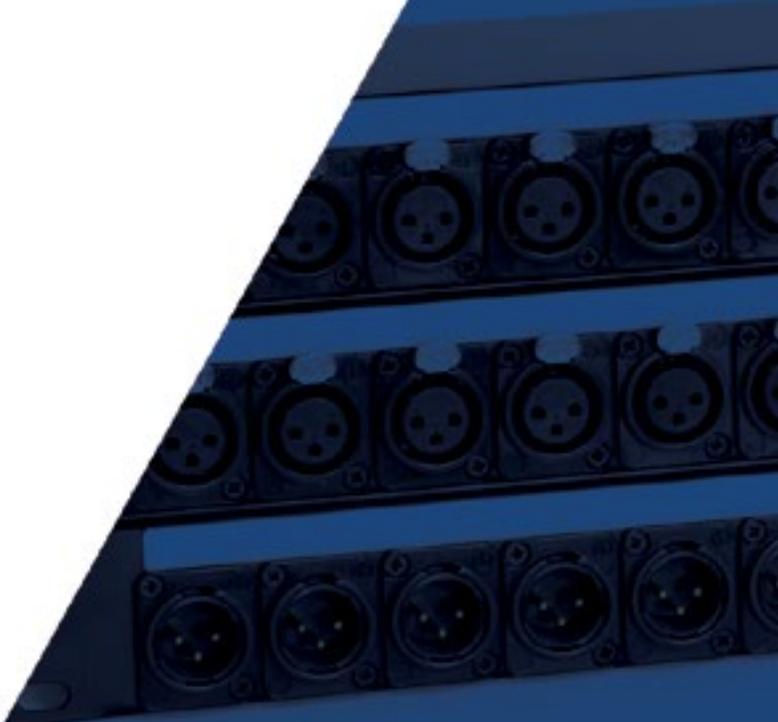
Bittree offers a wide variety of feed-through panels for both coaxial and twisted-pair wiring. These feed-through panels have multiple functions which often make them a perfect addition to your patching system, solving a wide range of needs. Some of the creative ways these panels have been used include acting as additional bulk heads on the rear of equipment racks, adapting one connector type to another, which may be simpler than re-terminating cabling with different connector types, serving as an intermediate d-mark location point on long cable runs or modular system designs.

COAXIAL FEED THROUGH

Typically used for video applications. They can often act as an intermediate d-mark location in a long cable run.

TWISTED PAIR FEED THROUGH

Typically used in audio applications. They act as an intermediate d-mark location in long cable runs and allow designers to build flexibility into modular racks.



COAX & TWISTED PAIR COAX



HD COMPATIBLE RATED TO 4GHZ

BNC CONNECTORS ON THE
FRONT AND REAR OF PANEL

HEIGHT OF 1RU OR 2RU WITH
CONFIGURATIONS OF 1X16, 1X24,
1X32, 2X16, OR 2X24

SILK SCREENED WITH OPTIONAL
DESIGNATION STRIPS

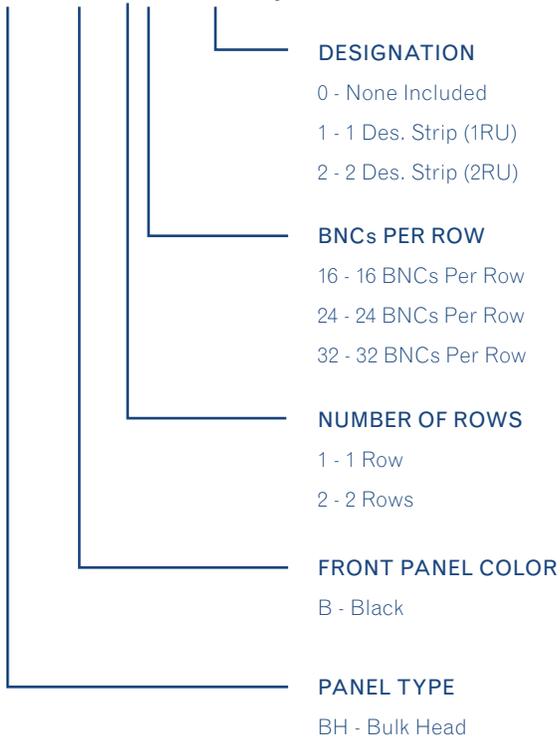
LACING BARS FOR THE FRONT
AND REAR OF THE PANEL

COAX & TWISTED PAIR

COAX

ORDERING CODES

(BH - B 1 16 A 0 B4)



BNC TO BNC

- 24" BNC TO BNC CABLE, BLACK (VBB2400-75)
- 36" BNC TO BNC CABLE, BLACK (VBB3600-75)
- 48" BNC TO BNC CABLE, BLACK (VBB4800-75)
- 72" BNC TO BNC CABLE, BLACK (VBB7200-75)
- 120" BNC TO BNC CABLE, BLACK (VBB12000-75)

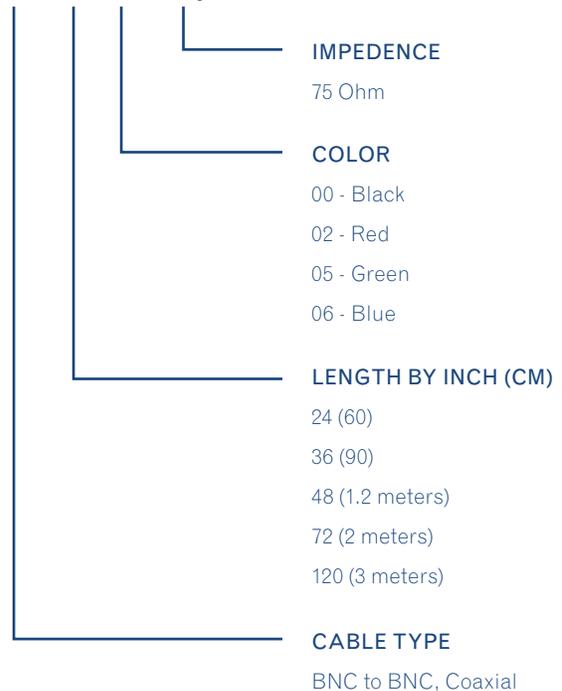


PRODUCT NUMBERS

COAXIAL

- 1RU 1X16 BNC 4GHZ ISO FEED-THRU 75OHM BLACK (BH-B116A0B4)
- 2RU 1X16 BNC 4GHZ ISO FEED-THRU 75OHM 2DES BLACK (BH-B116A2B4)
- 1RU 1X24 BNC 4GHZ ISO FEED-THRU 75OHM BLACK (BH-B124A0B4)
- 2RU 1X24 BNC 4GHZ ISO FEED-THRU 75OHM 2DES BLACK (BH-B124A2B4)
- 1RU 1X32 BNC 4GHZ ISO FEED-THRU 75OHM BLACK (BH-B132A0B4)
- 2RU 2X16 BNC 4GHZ ISO FEED-THRU 75OHM BLACK (BH-B216A0B4)
- 2RU 2X16 BNC 4GHZ ISO FEED-THRU 75OHM 2DES BLACK (BH-B216A2B4)
- 2RU 2X24 BNC 4GHZ ISO FEED-THRU 75OHM BLACK (BH-B224A0B4)
- 2RU 2X24 BNC 4GHZ ISO FEED-THRU 75OHM 2DES BLACK (BH-B224A2B4)

(VPP 36 02 - 75)



COAX & TWISTED PAIR

TWISTED PAIR

Our XLR to E3 panel assemblies are one such example of a unique solution to this problem. Now cables terminated with XLR connectors can be plugged into our XLR to E3 panel, and E3 cables can extend to the rear interface or your equipment or directly to your patchbay. Rack Mount harness assemblies with E3 or punchdown (ID) allow system designers and integrators to build flexibility into modular racks. They also act as an intermediate cross connect d-mark location.

PRODUCT NUMBERS

E3 SECTION

HARNESS 24PT 1RU E3F 1X24 PANEL ASSEMBLY (RP-24HS/E3-A)

HARNESS 32PT 1RU E3F 1X32 PANEL ASSEMBLY (RP-32HS/E3-A)

HARNESS 48PT 1RU E3F 2X24 PANEL ASSEMBLY (RP-48HS/E3-A)

HARNESS 48PT 2RU E3F 2X24 PANEL ASSEMBLY (RP-48HT/E3-A)

HARNESS 96PT 1RU E3F 2X48 PANEL ASSEMBLY (RP-96HS/E3-A)

HARNESS 96PT 2RU E3F 2X48 PANEL ASSEMBLY (RP-96HT/E3-A)
2RU (2X48) E3F BULKHEAD FEED-THRU (BH-E3F2X48)

Assembly E3F panels supplied with all mating connectors and contacts

PUNCHDOWN SECTION

REAR PANEL HARNESS TYPE 96 IDC TO IDC ASSEMBLY (RP-96HT/ID-A)

XLR TO E3

1RU BLK 1X16 M XLR TO E3F 3IN DEEP (SBCCRB01)

1RU BLK 1X16 F XLR TO E3F 3IN DEEP (SBCCRB02)

1RU BLK 1X16 8F/8M XLR TO E3F 3IN DEEP (SBCCRB09)

D SUB FEED-THROUGH

BLACK 2RU (2X24)DB9-F BULKHEAD FEED-THRU (BH-DB92X24)

FEATURES

- Our feed-through Panels for Twisted Pair come in a variety of options
- Interface options include punchdown (ID), E3, DB9, or XLR
- Harness assemblies for Punchdown (ID) and E3
- XLR panels come in 1RU panels with 1x16 connectors with different combinations of male and female XLR on the front, E3 on the rear



DATA

INTEGRATED

The revolutionary idea behind Bittree's Integrated Patchbays is to combine the three main patching requirements audio, video and data into a single integrated unit. Our Integrated patchbays therefore have the same professional quality and finish as the rest of our line, avoiding the loose pieces and sloppy look of modular patchbays offered by other companies.

Integrated patchbays are ideal for environments such as edit rooms and professional home studios that have multiple types of patching requirements (i.e., audio, video and data), but that have a minimal number of patching requirements. They are a cost-effective way to have the convenience, functionality and reliability of a multiple-patch system, without having to purchase three separate patchbays.

VIDEO PORTION

WECO or MINI-WECO

AUDIO PORTION

TT BANTAM or 1/4" LONGFRAME

RS422 PORTION

On select IPS Patchbays



Bittree

INTEGRATED

INTEGRATED PATCHBAY



FRONT



REAR

VIDEO FEATURES

- High-bandwidth performance for SD/SDI, HD/SDI, and 3 Gb/s applications available
- Jacks conform to SMPTE 292M and SMPTE 424M
- Available in both Mini-WECO and WECO formats
- BNC rear interface
- True 75ohm impedance with low return loss
- Jacks are isolated from the panel

DATA FEATURES

- Handles bi-directional signals such as SMPTE 207M RS-422, RS-232 and other general purpose interface applications
- Robust six-wire circuits accommodate RS422 signals and provide two extra circuits for additional applications and protocols
- Jacks rated to 30,000 minimum insertion cycles
- Precision-stamped reinforced steel jack frame
- Available as normaled or non-normaled
- D9 female rear interface

AUDIO FEATURES

- Bantam (TT) or Long Frame (1/4") Audio
- Jacks rated to 30,000 minimum insertion cycles
- Copper-nickel-silver alloy leaf springs with gold-plated cross bar switching contacts and nickel-plated sleeve bushings
- Precision-stamped reinforced steel jack frame
- Gold-plated contacts used in E3 rear interface
- Wired with low-capacitance, AES/EBU-rated, shielded, twisted pair
- Available in full normal, half-normal or non-normal
- Mating audio connectors and contacts are included

PANEL FEATURES

- Available in 1.5 or 2 rack units (RU)
- Panels made from 3/16" solid aluminum with a durable powder-coat finish
- 12" or 7" deep chassis
- Black or gray front panel
- Large user-friendly designation strips

INTEGRATED

INTEGRATED PATCHBAY



FRONT



REAR

PRODUCT NUMBERS

BANTAM (TT) AUDIO, 12" DEEP CHASSIS, MONO SPACING

- VIDEO 2X12 (1WN); AUDIO 2X24 (NNNIT/E3) **(BIPS-73)**
- VIDEO 2X12 (2WN); AUDIO 2X24 (FNLIT/E3) **(BIPS-54)**
- VIDEO 2X12 (2WT); AUDIO 2X24 (FNLBT/E3) **(BIPS-67)**
- VIDEO 2X12 (2WT); AUDIO 2X24 (FNLBT/E3) **(BIPS-109)**
- VIDEO 2X12 (2WT); AUDIO 2X24 (FNLIT/E3) **(BIPS-71)**
- VIDEO 2X12 (2MWT); AUDIO 2X16 (FNLIT); DATA 2X4 (F16) **(BIPS-142)**
- VIDEO 2X12 (2MWT); AUDIO 2X16 (HNLIT); DATA 2X4 (F16) **(BIPS-156)**

BANTAM (TT) AUDIO, 12" DEEP FULL CHASSIS, STEREO SPACING

- VIDEO 2X10 (1WN); AUDIO 2X20 (FNLIT/E3); DATA 2X4 (NNT) **(BIPS-90)**
- VIDEO 2X10 (1WN); AUDIO 2X20 (NNNIT/E3); DATA 2X4 (NNT) **(BIPS-1)**
- VIDEO 2X10 (1WT); AUDIO 2X20 (FNLIT/E3); DATA 2X4 (N4T) **(BIPS-149)**
- VIDEO 2X10 (1WT); AUDIO 2X20 (NNNIT/E3); DATA 2X4 (NNT) **(BIPS-103)**
- VIDEO 2X10 (2WN); AUDIO 2X20 (FNLIT/E3); DATA 2X4 (N4T) **(BIPS-2)**
- VIDEO 2X10 (2WN); AUDIO 2X20 (HNLBT/E3); DATA 2X4 (N4T) **(BIPS-91)**
- VIDEO 2X10 (2WN); AUDIO 2X20 (HNLIT/E3); DATA 2X4 (N4T) **(BIPS-3)**
- VIDEO 2X10 (2WT); AUDIO 2X20 (FNLBT/E3); DATA 2X4 (N4T) **(BIPS-110)**
- VIDEO 2X10 (2WT); AUDIO 2X20 (FNLBT/E3); DATA 2X4 (NNT) **(BIPS-65)**
- VIDEO 2X10 (2WT); AUDIO 2X20 (FNLLT/E3); DATA 2X4 (N4T) **(BIPS-4)**
- VIDEO 2X10 (2WT); AUDIO 2X20 (FNLLT/E3); DATA 2X4 (N4T) **(BIPS-164)**
- VIDEO 2X10 (2WT); AUDIO 2X20 (HNLBT/E3); DATA 2X4 (N4T) **(BIPS-174)**
- VIDEO 2X10 (2WT); AUDIO 2X20 (HNLIT/E3); DATA 2X4 (N4T) **(BIPS-7)**
- VIDEO 2X12 (2WT); AUDIO 2X24 (FNLBT/ID) **(BIPS-116)**
- VIDEO 2X12 (2WT); AUDIO 2X24 (FNLLT/ID) **(BIPS-112)**

BANTAM (TT) AUDIO, 7" DEEP FULL CHASSIS, STEREO SPACING

- VIDEO 2X10 (2WT); AUDIO 2X20 (FNLIT/E3); DATA 2X4 (N4T) **(BIPS-102)**
- VIDEO 2X12 (2WN); AUDIO 2X24 (FNLIT/E3) **(BIPS-5)**
- VIDEO 2X12 (2WN); AUDIO 2X24 (FNLST/E3) **(BIPS-137)**

BANTAM (TT) AUDIO, 5" DEEP HALF CHASSIS, MONO SPACING

- VIDEO 2X12 (2WNHD); AUDIO 2X24 (FNLIT/E3) **(BIPS-128)**
- VIDEO 2X12 (2WTHD); AUDIO 2X24 (HNLIT/E3) **(BIPS-133)**
- VIDEO 2X16 (2MWT); AUDIO 2X24 (FNLIT/E3) **(BIPS-74)**
- VIDEO 2X16 (2MWT); AUDIO 2X24 (HNLBT/E3) **(BIPS-182)**

BANTAM (TT) AUDIO, 5" DEEP HALF CHASSIS, STEREO SPACING

- VIDEO 2X12 (2WNHD); AUDIO 2X24 (HNLIT/E3) **(BIPS-89)**
- VIDEO 2X12 (2WTHD); AUDIO 2X12 (FNLIT/E3) **(BIPS-51)**
- VIDEO 2X12 (2WTHD); AUDIO 2X24 (FNLIT/E3) **(BIPS-82)**

LONG FRAME (1/4") AUDIO, 5" DEEP HALF CHASSIS, MONO SPACING

- VIDEO 2X12 (1WNHD); AUDIO 2X12 (NNNIT/E3) **(BIPS-63)**
- VIDEO 2X12 (2WNHD); AUDIO 2X12 (FNLIT/E3) **(BIPS-55)**
- VIDEO 2X12 (2WNHD); AUDIO 2X12 (FNLIT/ID) **(BIPS-136)**
- VIDEO 2X12 (2WNHD); AUDIO 2X12 (HNLIT/E3) **(BIPS-78)**
- VIDEO 2X12 (2WTHD); AUDIO 2X12 (FNLIT/E3) **(BIPS-165)**

ACCESSORIES

PATCHCORDS/ LOOPING PLUGS



AUDIO (TT) BANTAM
BPC PATCHCORDS
(BPC 24 00 - 110)

COLOR	LENGTH (CM)
00 - Black	24 (61)
02 - Red	36 (92)
04 - Yellow	48 (122)
05 - Green	60 (153)
06 - Blue	72 (184)
07 - Purple	



DUAL (TT) BANTAM
DPC PATCHCORDS
(DPC 24 00)

COLOR	LENGTH (CM)
00 - Black	24 (61)
02 - Red	36 (92)
04 - Yellow	48 (122)
05 - Green	60 (153)
06 - Blue	72 (184)
07 - Purple	



AUDIO (1/4") LONGFRAME
LPC PATCHCORDS
(LPC 24 00 - 110)

COLOR	LENGTH (CM)
00 - Black	24 (61)
02 - Red	36 (92)
04 - Yellow	48 (122)
05 - Green	60 (153)
06 - Blue	72 (184)
07 - Purple	



VIDEO COMPONENT
MINI-WECO PATCHCORDS
(VPCM 24 00 - 75)

COLOR	LENGTH (CM)
00 - Black	24 (61)
02 - Red	36 (92)
04 - Yellow	48 (122)
05 - Green	60 (153)
06 - Blue	72 (184)
07 - Purple	



VIDEO COMPONENT RGBHV
MINI-WECO PATCHCORDS
(CPCM HV 24 00 - 75)

COLOR	LENGTH (CM)
00 - Black	24 (61)
	36 (92)
	48 (122)
	60 (153)
	72 (184)



VIDEO
WECO PATCHCORDS
(VPC 24 00 - 75)

COLOR	LENGTH (CM)
00 - Black	24 (61)
02 - Red	36 (92)
04 - Yellow	48 (122)
05 - Green	60 (153)
06 - Blue	72 (184)
07 - Purple	



VIDEO COMPONENT RGBHV
WECO PATCHCORDS
(CPC 24 00 - 75)

COLOR	LENGTH (CM)
00 - Black	24 (61)
	36 (92)
	48 (122)
	60 (153)
	72 (184)



FIBER PATCHCORDS
(DSP1206 - LC)

LENGTH (CM)
24 (61)
36 (92)
48 (122)
60 (153)
72 (184)



VIDEO
WECO LOOPING PLUGS
(LP 75 00)

COLOR
00 - Black
02 - Red
04 - Yellow
05 - Green
06 - Blue
07 - Purple



VIDEO
MINI-WECO LOOPING PLUGS
(LPM 75 06)

COLOR
06 - Blue



BNC EXTRACTION
TOOL 12"
(RT1L)



BNC TO WECO
PATCH
(AD1W)



BNC TO MINI-WECO
PATCH
(ADMW12)



LACING
BARS



48-WIRE
NORMAL JUMPER
(NORMAL-48)



PUNCHDOWN HOUSINGS
AND PINS



PROGRAMMING
SHUNTS
Red - (382811-0)
White - (382811-9)



REPLACEMENT MATING
HARDWARE
(9603R)

PRODUCT NUMBERS

TOOLS

- CRIMP TOOL FOR EPIN (K2MA-01)
- EXTRACTION TOOL FOR EPIN (516-280-300)
- INSERTION TOOL FOR EPIN (516-280-400)
- COMPLETE E3 TOOLKIT (SBCTLKT01)
- PUNCHDOWN TOOL FOR ID (PT1LA)
- BNC EXTRACTION TOOL, 6" (RT1S)
- BNC EXTRACTION TOOL, 12" (RT1L)
- BNC EXTRACTION TOOL, 22" (RT1XL)
- BNC EXTRACTION TOOL, 12" (MINI-WECO) (RTMW1L)

ADAPTERS

- BNC TO WECO PATCH (AD1W)
- BNC TO MINI-WECO PATCH (ADMW12)

CONNECTORS

- MALE 3 PIN CONNECTOR (E3M)
- MALE W/SCREW 90 PIN CONNECTOR (E90MS)
- 90 PIN HOOD (E90HOOD)
- PIN (CRIMP TYPE) (EPIN)
- PUNCHDOWN HOUSING (RED) (K51002)
- PUNCHDOWN HOUSING (WHITE) (K51009)
- PUNCHDOWN HOUSING (BLACK) (K51000)
- PUNCHDOWN CONTACT (K514)

LACING BARS

- 6" DEEP LACING BAR (LB-17500)
- 3" DEEP LACING BAR (LB175-3)
- 19" WIDE RACK-RAIL LACING BAR (LB-1900)

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