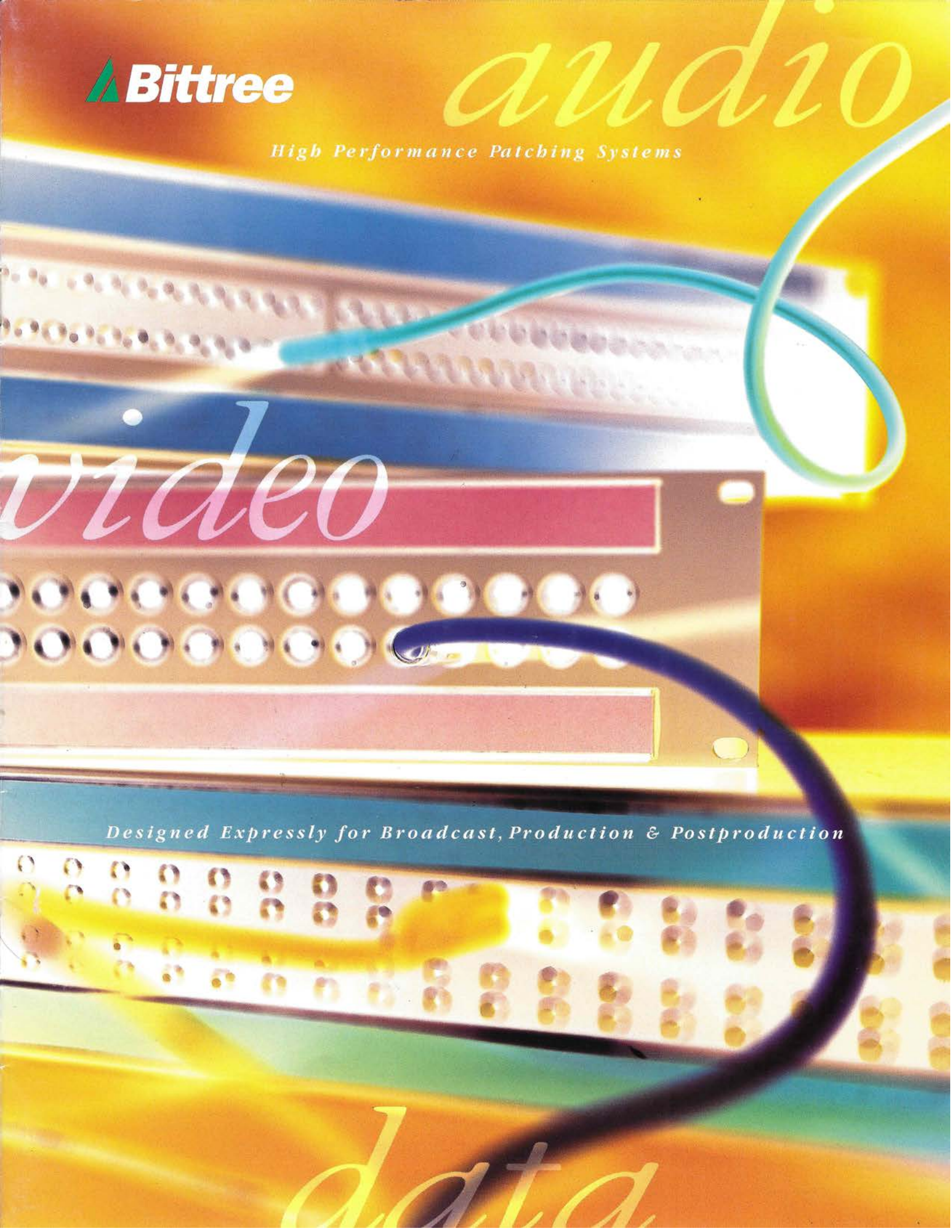
Bittree

audio

High Performance Patching Systems



video

Designed Expressly for Broadcast, Production & Postproduction

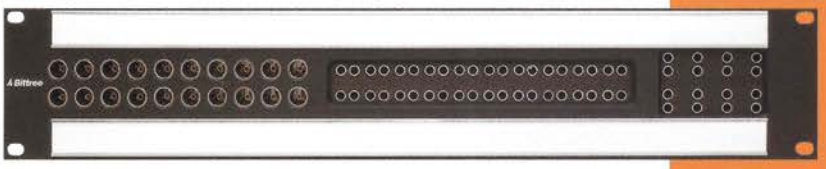
data

special

"IPS PATCH" 3-WAY HYBRID PATCHBAYS AUDIO/VIDEO/DATA

This combination two rack unit panel is perfect for installations where a limited number of patch points are required. It offers an combination of audio, analog and/or digital video, and serial data patching. The space savings is ideal where real estate is at a premium. The innovative patchbay provides easy access and local area panel commonality for related signal paths.

Standard configurations are full-normaled and non-normaled. Other configurations are available.



Two rack unit video/stereo audio/data patchbay with 2 rows of 10 video, 10 stereo audio & 4 data pairs

IPS Patch Front View

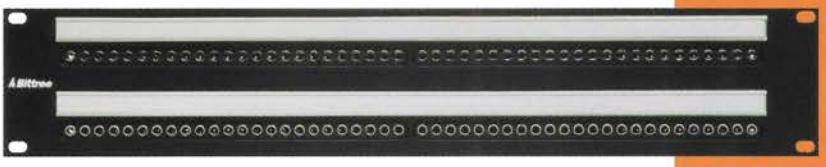
IPS Model with appropriate connections for each type of signal

IPS Patch Rear View

SPECIAL PATCHBAYS

Special RGB-S video patchbay shown with a single row of 20 grouped signal paths. The grouped RGB signals are patched with an RGB patchcord while the S signal is patched via a standard video patchcord

Model BRGBS20T Front View



Designation strips placed in over/over configuration on audio patchbay (available upon request)

Model APP96T Front View

CUSTOM PATCHING SYSTEM CABLE ASSEMBLIES

Bittree specializes in custom cable assemblies for fast installs. This in-house capability grew out of customer demand for reliable pre-wired cable assemblies and harnesses.

MATING CONNECTORS

All Bittree Audio Patchbays include mating connectors, contacts and normals (where applicable). Mating hardware may be shipped in advance to expedite construction.

Important Notice:
All possible care has been taken in preparing this catalog. Statements and specifications are believed to be true but are not guaranteed and we are not responsible for any inaccuracies. Catalog data should not be used to establish specification limits, nor should catalog data be used alone as the basis for design.

Bittree reserves the right to change or alter specifications or materials without notice, provided the function and performance of the product remains reasonably the same or is improved.

video Video Patching Systems

A

Model VPP52S (Shown)

Single rack unit video patchbay with two rows of 24 or 26 jacks

B

Model VPP48T (Shown)

Two rack unit video patchbay with two rows of 24 or 26 jacks

C

Model RGB-20T (Shown)

Two rack unit RGB video patchbay 20 position, normaled side-to-side

D

Model RGB-16T (Shown)

Two rack unit RGB video patchbay 16 position, normaled top-to-bottom

SERIAL DIGITAL PATCHING

Bittree Video Patching Systems are excellent for use in the high bit rate serial digital domain, including formats such as D1, D2, D3, D5, HDTV and high resolution computer graphics. Typical applications for serial digital patching include monitoring, output routing from distribution amplifiers, VTRs, DDRs, VDRs, and signal processing equipment. The jacks provide excellent return loss characteristics and a high degree of isolation between signals.

ANALOG VIDEO PATCHING

Bittree Video Patching Systems are designed for exceptional performance in conventional analog video applications such as monitor routing, video distribution, rerouting, back up feeds and bypass functions. Bittree products have been designed and tested to meet rigid quality standards to ensure their long term dependability. Only the very best materials are specified; backed up by stringent assembly and test procedures. All components are selected from established industry standard sources.

COMPONENT ANALOG VIDEO PATCHING – RGB

RGB patchbays are designed to provide error-free signal routing between source and destination points. When working within the component analog video environment this patchbay ensures signal integrity.

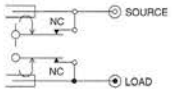
VIDEO PATCHBAYS – FEATURES AND OPTIONS

- True 75 ohm impedance with low return loss
- Serial digital performance beyond 720 MHz
- Number of jacks may be specified as 24, 26 or 28 per row
- Front panel may be gray or black, 1 or 2 rack units
- RGB video patchbays with vertically or horizontally oriented RGB jack pattern
- 75 ohm WECO standard: .090 center pin diameter on all jacks
- Jacks may be ordered in any one of four configurations
  - Dual self-normaling non-terminated (2WN)
  - Dual self-normaling terminated (2WT)
  - Single self-terminating (1WT)
  - Single non-terminating (1WN)
- All jacks completely isolated from each other

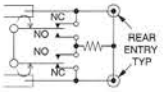
Bittree

video

SCHEMATICS



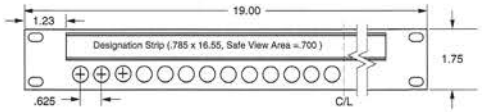
Non-Terminating



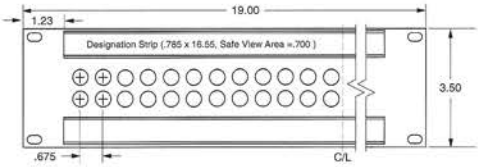
Terminating

Straight Through, Self Terminating

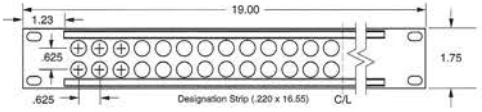
MECHANICALS



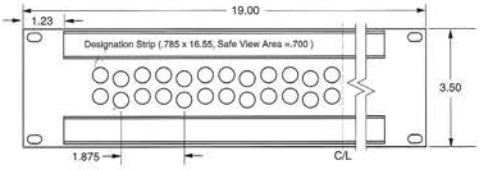
24/26S – One rack unit 1 row 24/26



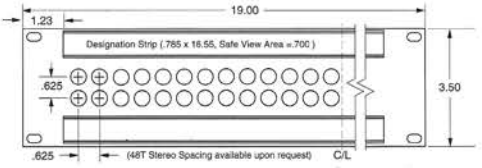
Special – Two rack unit 2 rows 24 (wider spacing)



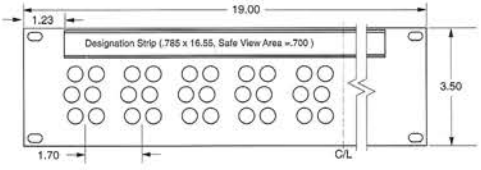
48/52S – One rack unit 2 rows 24/26



RGB16T – Two rack unit 2 X 8 RGB position



48/52T – Two rack unit 2 rows 24/26



RGB(S)20T – Two rack unit 2 X 10 RGB(S) position

BNC Connectors

AD1W (Shown)

BNC to Patch Plug Adapter

LPW-75 (Shown)

Looping Plugs

ORDERING VIDEO PATCHBAYS

G 48 T-2 W N

- **Jack Termination**
  - N = Non-terminated
  - T = Terminated
- **Jack Standard**
  - W = WECO (.090) 75 ohms
  - R = RCA (.070) 50 ohms
- **Jack Type**
  - 2 = Dual Jack, Normaled
  - 1 = Single Jack, Non-normaled
- **Panel Height**
  - S = 1 RU
  - T = 2 RU
- **Quantity of Patch Ports**
  - 48 = 2 X 24
  - 52 = 2 X 26
  - 56 = 2 X 28
- **Color Choice**
  - G = Gray
  - B = Black

ORDERING RGB/S VIDEO PATCHBAYS

G RGB 16T-2 W N

- **Jack Termination**
  - N = Non-terminated
  - T = Terminated
- **Jack Standard**
  - W = WECO (.090) 75 ohms
  - R = RCA (.070) 50 ohms
- **Jack Type**
  - 2 = Dual Jack, Normaled
  - 1 = Single Jack, Non-normaled
- **Quantity of Patch Ports**
  - 16T = 2 X 8 Position
  - 20T = 2 X 10 Position
- **Designation**
  - RGB
  - RGBS
- **Color Choice**
  - G = Gray
  - B = Black

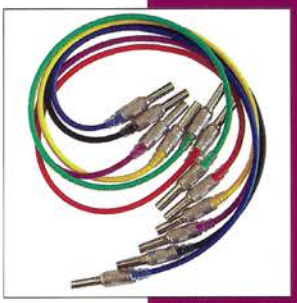
PCWR24 (Shown)

RGB Patchcord

ORDERING VIDEO PATCHCORDS

PCW 24 02-75

- **Color Choices**
  - 00 black
  - 02 red
  - 04 yellow
  - 05 green
  - 06 blue
  - 07 purple
- **Length in Inches**
  - 24, 36, 48, etc.



Bittree Video Patchcords

TT Audio Patching Systems

TT (Bantam) Patching for Analog & digital Audio Signals

A

Model APP96S
(Shown)

Single rack unit TT (Bantam) audio patchbay, prewired with two rows of 48 TT jacks

B

Rear View

Model APP96S with 90-pin connectors

C

Rear View

Model APP96S normals out with 90-pin connectors, 120-pin normals

D

Model APP96T
(Shown)

Two rack unit TT (Bantam) audio patchbay, prewired with two rows of 48 TT jacks

E

Rear View

Model APP96T with 3-pin connectors

F

Rear View

Model APP96T normals out with 90-pin connectors, 120-pin normals

CONVENTIONAL ANALOG AUDIO PATCHING

Bittree Audio Patching Systems employ TT (Bantam) jacks to provide increased density where space is at a premium. The compact jack assemblies enhance studio versatility through instant and flexible rerouting of signals without taking up valuable rack or console real estate.

Typical applications include audio console I/O, audio routing switcher bypass and input rerouting, recording devices I/O, and master control and central switching I/O.

AES DIGITAL AUDIO PATCHING

AES (digital audio) patchbays are also available as standard products. The signal is faithfully carried over low-capacitance, shielded twisted-pair cable with a characteristic impedance of 110 ohms to accommodate the AES specification. Typically patchbays are full-normaled or non-normaled since it is necessary to provide a single 110 ohm load for each source. This feature also ensures prevention of impedance mismatches, improper loading, multiple connections or double termination (half-normaled not recommended). (See part number code for ordering information.)

TIME CODE PATCHING

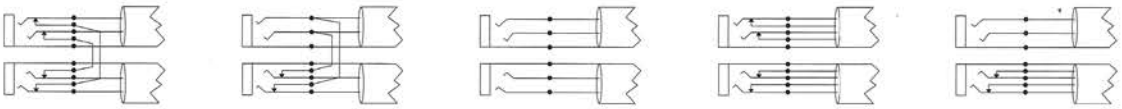
For time code applications, the same electrical and mechanical concerns as for AES digital signals apply.

AUDIO PATCHBAYS – FEATURES AND OPTIONS

- Style may be chassis (single enclosure with attached rear panel) or harness type (detached rear panel–see page 1)
- Rear panel may be individual 3-pin connections or 90-pin interface
- Front panel may be gray or black, 1RU or 2RU
- Mating connectors, contacts and normals (where applicable) are included
- Customization available
- A wide range of options allow for patchbay design and configuration to meet individual requirements. Options include rear panel configurations, normals, grounds, stereo spacing, panel color and rack unit height

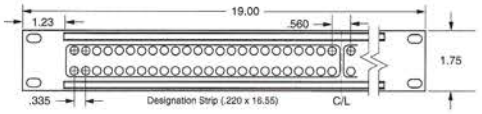
Bittree

SCHEMATICS

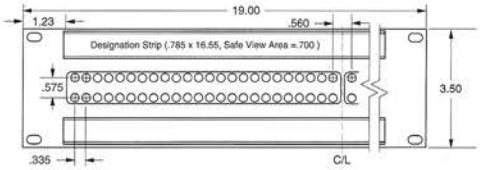


Full Normal (Looped) | Half Normal (Looped) | Non-Normaled | (Full) Normals Out | (Half) Normals Out

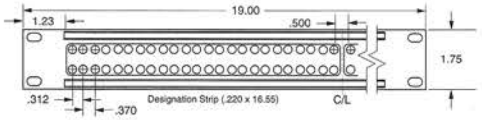
MECHANICALS



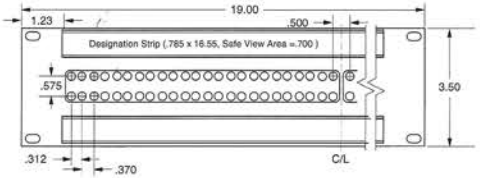
96S/Mono – One Rack Unit



96T/Mono – Two Rack Unit



96S/Stereo – One Rack Unit



96T/Stereo – Two Rack Unit

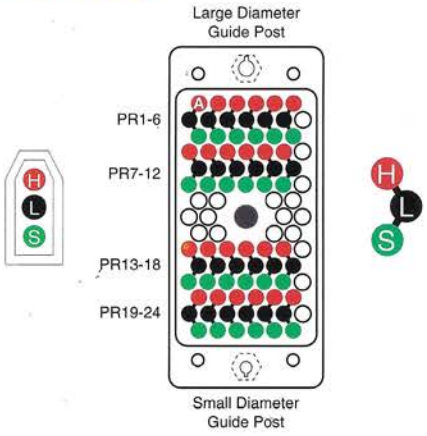
ORDERING TT AUDIO PATCHBAYS

G 96 D C-HN O B T/E3

- **Connector**
  - E3 = 3 Pin*
  - E90 = 90 Pin
- **Panel Height**
  - S = 1 RU
  - T = 2 RU
- **Grounds**
  - I = Isolated
  - L = Looped
  - B = Bussed
- **Normals**
  - L = Looped Internal
  - O = Normals Out
  - N = No Normals
- **Type of Normal**
  - FN = Full Normal
  - HN = Half Normal
  - NN = No Normals
- **Style**
  - C = Chassis
  - H = Harness
- **Digital Selection**
  - D = 110 ohm digital
  - No letter specifies analog
- **Color Choice**
  - G = Gray
  - B = Black

*Available on 2RU only, Normals out 3RU

PIN OUTS

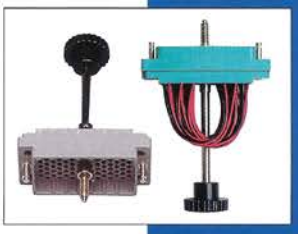


ORDERING TT AUDIO PATCHCORDS

PJM - 24 02

- **Color Choices**
  - 00 black
  - 02 red
  - 04 yellow
  - 05 green
  - 06 blue
- **Length in Inches**
  - 24, 36, 48, 60

3-pin Mating Connectors/Normals



90-pin Mating Connectors/ 120-Pin Normal

TT Audio Patchcords

1/4" Audio Patching Systems

Patching for Analog & Digital Audio Signals

Model APP48S (Shown)

Single rack unit 1/4" audio patchbay, prewired with two rows of 24 or 26 jacks

Rear View

Model APP48/52S with 90-pin connectors

APP48S (Shown)

Model APP48/52S with 3-pin connectors

Rear View

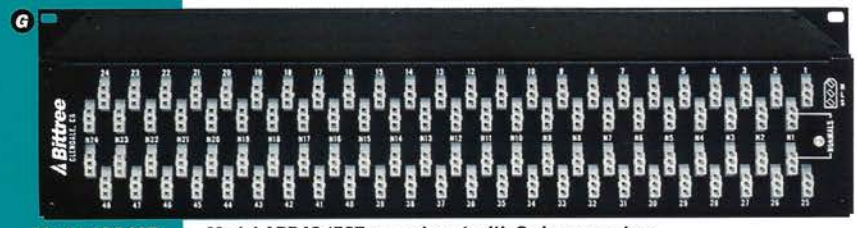
Model APP48/52S normals out with 90-pin connectors and 120-pin normal

Model APP52T (Shown)

Two rack unit 1/4" audio patchbay, prewired with two rows of 24 or 26 jacks

Model APP52T (Shown)

Model APP48/52T with 3-pin connectors



Model APP48T (Shown)

Model APP48/52T normals out with 3-pin connectors

CONVENTIONAL ANALOG AUDIO PATCHING

Bittree 1/4" Audio Patching Systems allow for enhanced studio versatility, instant and flexible rerouting of signals, and accommodate analog or digital signals. Bittree patchbays meet rigid quality standards to ensure their long term reliability. Only the very best materials and components are specified; backed up by stringent assembly and test procedures.

Typical applications include audio console I/O, audio routing switcher bypass and input rerouting, recording devices I/O, and master control and central switching I/O.

AES DIGITAL AUDIO PATCHING

AES (digital audio) patchbays are also available as standard products. The signal is faithfully carried over low-capacitance, shielded twisted-pair cable with a characteristic impedance of 110 ohms to accommodate the AES specification. Typically patchbays are full-normaled or non-normaled since it is necessary to provide a single 110 ohm load for each source. This feature also ensures prevention of impedance mismatches, improper loading, multiple connections or double termination (half-normaled not recommended).

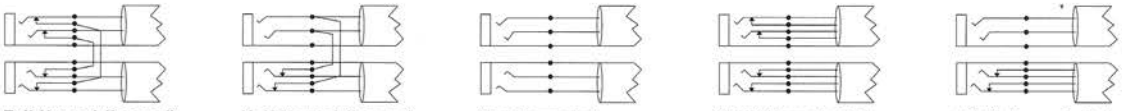
TIME CODE PATCHING

For TIME CODE applications, the same electrical and mechanical concerns as for AES digital signals apply.

AUDIO PATCHBAYS – FEATURES AND OPTIONS

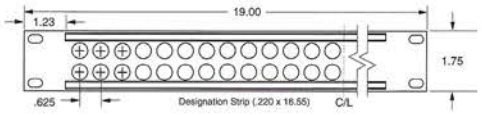
- Style may be chassis (single enclosure with attached rear panel) or harness type (detached rear panel–see page 1)
- Rear panel may be individual 3-pin connections or multi-pin interface
- Front panel may be gray or black, 1RU or 2RU
- Mating connectors, contacts and normals (where applicable) are included
- Customization available
- A wide range of options allow for patchbay design and configuration to meet individual requirements. Options include rear panel configurations, normals, grounds, panel color and rack unit height

SCHEMATICS

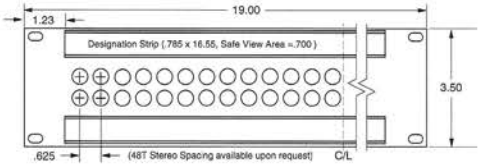


Full Normal (Looped) | Half Normal (Looped) | Non-Normaled | (Full) Normals Out | (Half) Normals Out

MECHANICALS

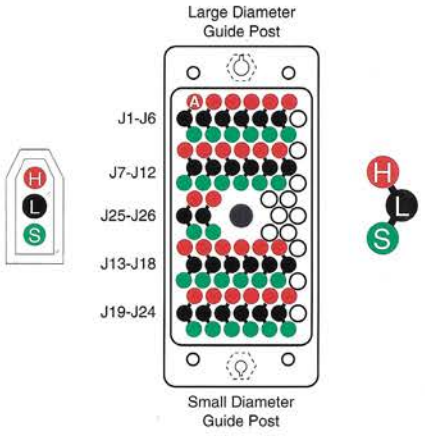


48/52S

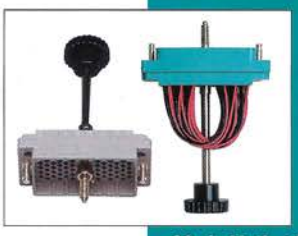


48/52T

PIN OUTS



3-pin Mating Connectors/Normals



90-pin Mating Connectors/ 120-Pin Normal

ORDERING 1/4" ANALOG AUDIO PATCHBAYS

G 48 D C-HN O B T/E3

- Connector
  - E3 = 3 Pin*
  - E90 = 90 Pin
- Panel Height
  - S = 1 RU
  - T = 2 RU
- Grounds
  - I = Isolated
  - L = Looped
  - B = Bussed
  - S = Switched
- Normals
  - L = Looped Internal
  - O = Normals Out
  - N = No Normals
- Type of Normal
  - FN = Full Normal
  - HN = Half Normal
  - NN = No Normals
- Style
  - C = Chassis
  - H = Harness
- Digital Selection
  - D = 110 ohm digital
  - No letter specifies analog
- Quantity of Jacks
  - 48, 52
- Color Choice
  - G = Gray
  - B = Black

*Normals out 2RU only

ORDERING 1/4" DIGITAL AUDIO PATCHCORDS

APC3 N D - 24 06

- Blue Only
- Length in Inches
  - 24, 36, 48, 60
- Nickel Plate Only

Digital Audio Patchcords

ORDERING 1/4" ANALOG AUDIO PATCHCORDS

APC3 N - 24 02

- Color Choices
  - 00 black
  - 02 red
  - 04 yellow
  - 05 green
  - 06 blue
  - 07 purple
- Length in Inches
  - 24, 36, 48, 60
- N = Nickel Plate
  - No letter specifies Brass

1/4" Audio Patchcords

Serial Data Patching Systems

Bittree Serial Data Patching Systems are designed to meet the needs of RS422 Serial Data patching. Strictly held specifications guarantee exceptional performance in traditional serial data applications.

Typical applications for balanced data line RS422 serial data patching include machine control signal routing, feeds to audio/video recording and signal generating/ processing equipment.

APPLICATIONS

- RS-422 serial data patching
- Edit system to VTR patching
- Remote control delegation (e.g., Sony and Lynx systems)
- Computer data interconnection
- Control panel re-routing
- Central distribution of 422 signals

SERIAL DATA PATCHBAYS – FEATURES AND OPTIONS

- Multiple "normaling" options
- All jacks are vertically paired with each pair normaled internally
- Rugged, reliable TT (Bantam) jacks on front panel
- Standard 9-pin D-Sub connectors on rear panel
- 12, 18, & 24 I/O paired ports available
- Single rack units available

A

Model DPP12T — **Two rack unit serial data patchbay with 12 paired ports**

B

Rear View — **Model DPP12T with two rows of 12 9-pin D-sub connectors**

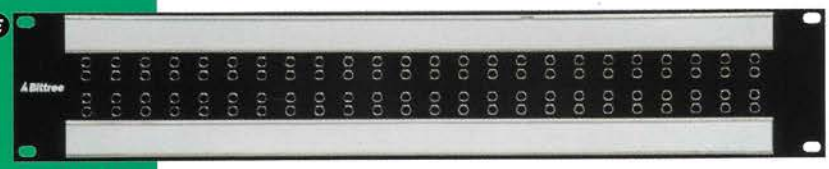
C

Model DPP18T — **Two rack unit serial data patchbay with 18 paired ports**

D

Rear View — **Model DPP18T with two rows of 18 9-pin D-sub connectors**

E



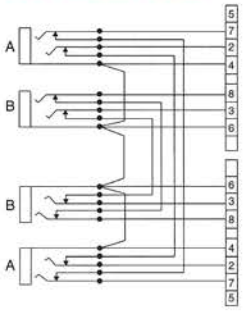
Model DPP24T — **Two rack unit serial data patchbay with 24 paired ports**

F

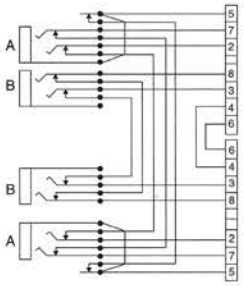
Rear View — **Model DPP24T with two rows of 24 9-pin D-sub connectors**

Bittree

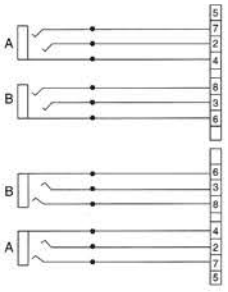
SCHEMATICS



4 normals wiring single patch connection PB422-N4T

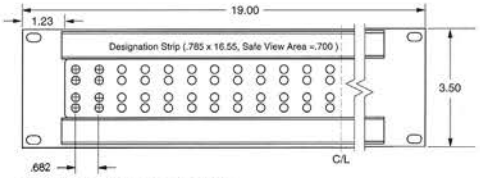


5 normals wiring single patch connection PB422-N5T

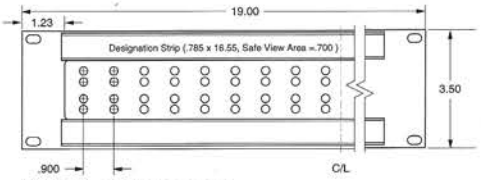


Non-normaled wiring single patch connection PB422-NNT

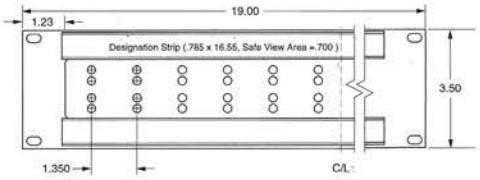
MECHANICALS



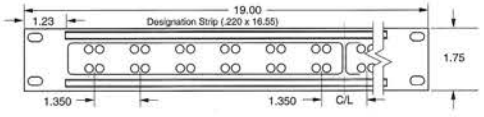
DPP24T – Two Rack Unit



DPP18T – Two Rack Unit



DPP12T – Two Rack Unit



DPP12S – Single Rack Unit

ORDERING DATA PATCHBAYS

G422 - N 4 T/24

- **Quantity I/O Paired Ports**
  12, 18 or 24
- **Panel Height**
  S = 1 RU (12 I/O ports only)
  T = 2 RU
- **Number of Switched Normals***
  4, 5 or "N" for not normaled
- **Color Choice**
  G = Gray
  B = Black

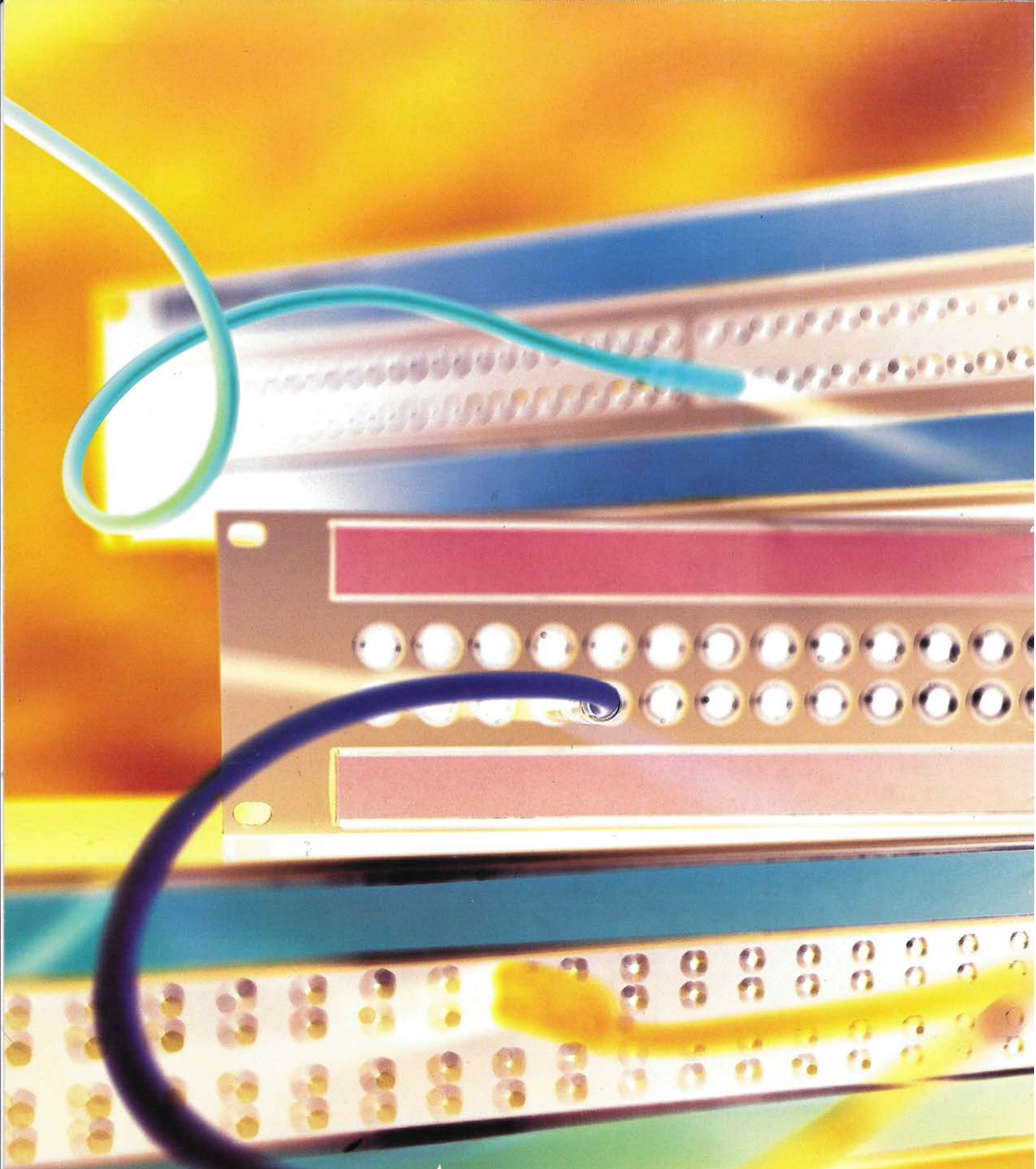
ORDERING DATA PATCHCORDS

TT 164 N8

- **N8 = Nickel Plate**
  No letter specifies Brass
- **Length in Inches**
  164 = 24"
  166 = 36"

Serial Data Patchcords

***N5T available in 12 & 18 I/O ports only**



Bittree

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