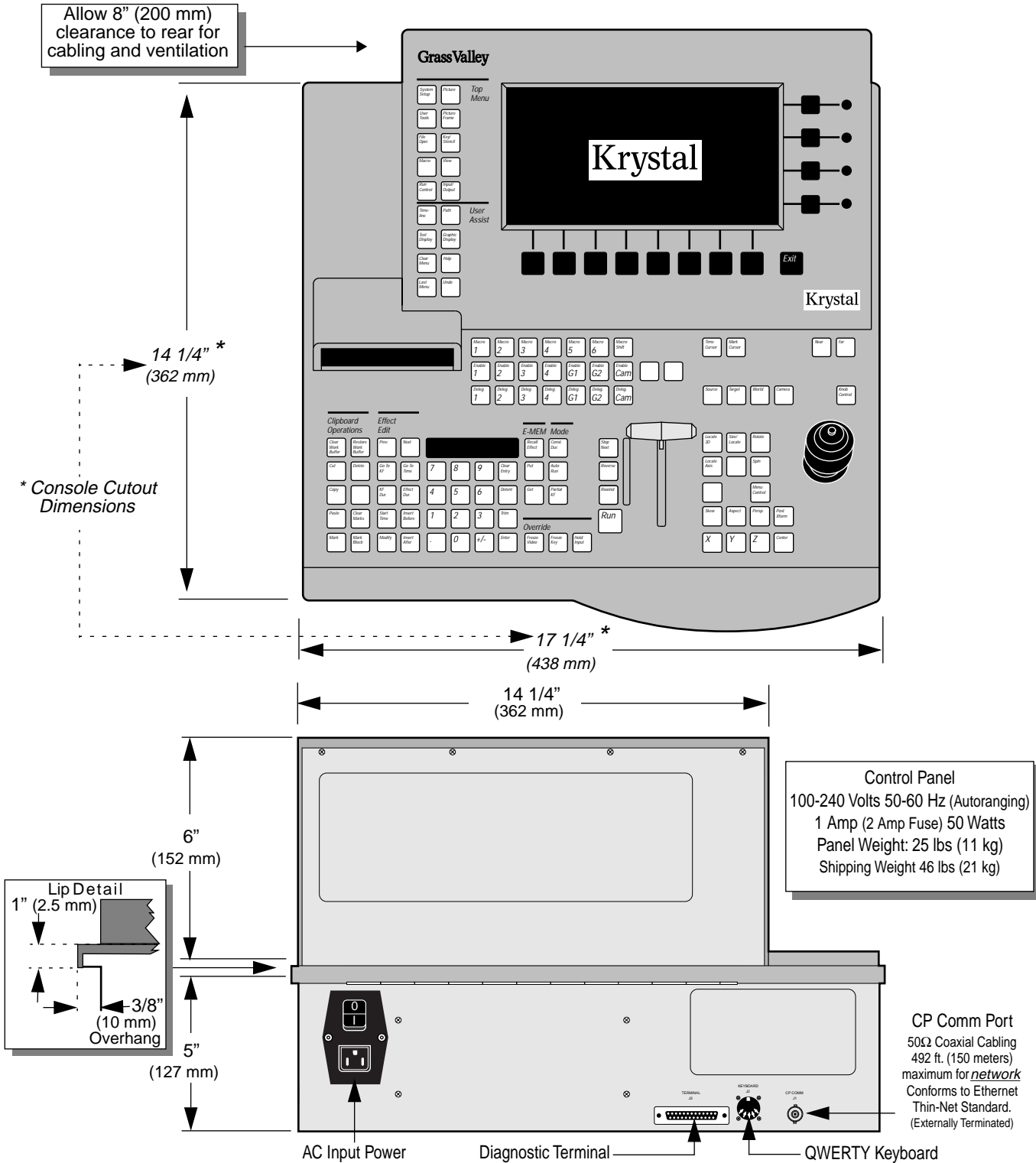
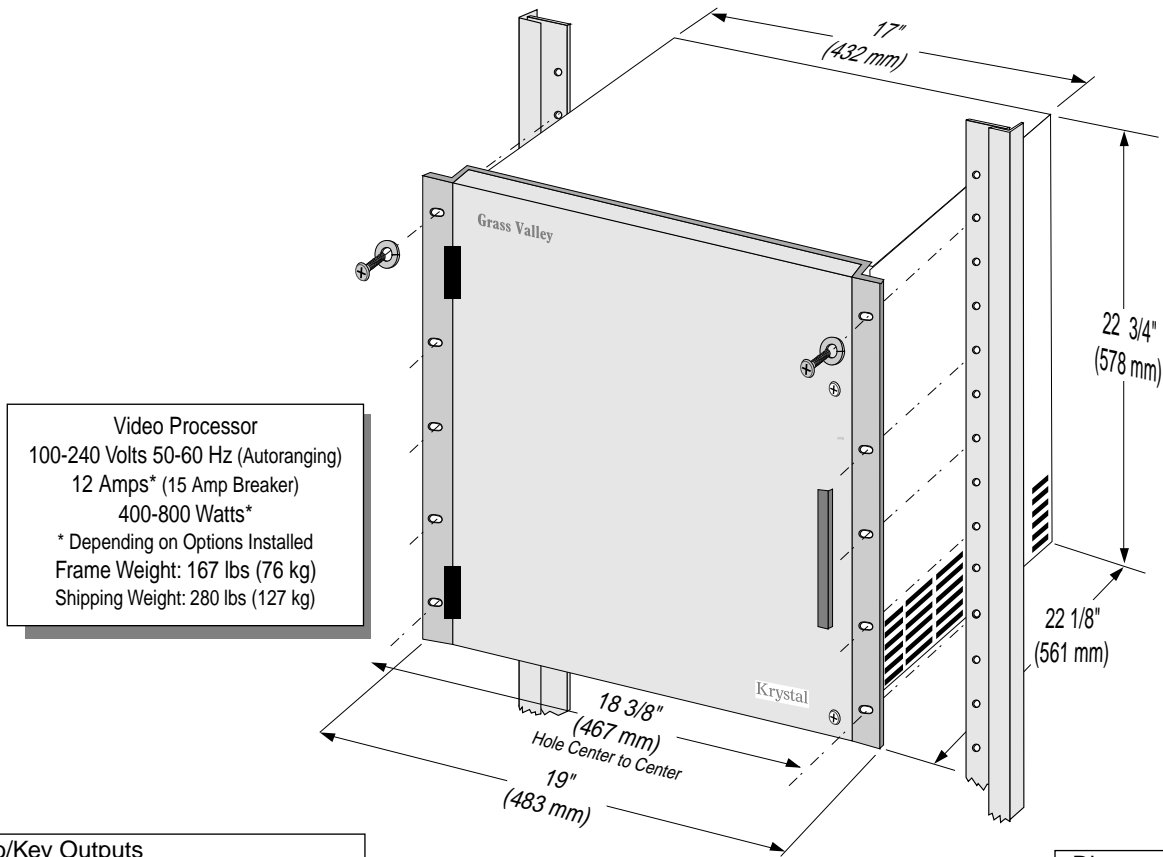


Grass Valley Krystal 4300 Digital Picture Manipulator Installation Planning Guide



Krystal Control Panel Dimensions and Connector Locations



Video Processor
 100-240 Volts 50-60 Hz (Autoranging)
 12 Amps* (15 Amp Breaker)
 400-800 Watts*
 * Depending on Options Installed
 Frame Weight: 167 lbs (76 kg)
 Shipping Weight: 280 lbs (127 kg)

Video/Key Outputs
 Serial Component Outputs:
 Preview Video, Program Video, & Key with Depth

- 10 bits
- > 15 dB from 5 MHz to 270 MHz
- Output Sync Adjust Range (± 5 Horiz Lines)

Coaxial Cable (75 Ω BNC)
 Belden Cable P/N 8281 (or equivalent)
 NOTE: May have 1 each or 2 each output connectors. See other V. P. frame drawing.

Diagnostic Port:
 RS-232 utility port
 25-Pin D-Type Connectors
 (See pinouts)

Router Port:
 9-Pin D-Type Connectors
 (See pinouts)

Video/Key Inputs:
 Serial Component Inputs

- Video A & B
- Key A & B

(Key B may be configured as Mask)

Return Loss:
 >15 dB from 5 MHz to 270 MHz
 Auto-Timing Range:
 $\pm 17 \mu\text{S}$ @ 13.5 MHz

75 Ω BNC Coaxial Cable
 Belden Cable P/N 8281 (or equivalent)

Reference Input
 Analog Color Black
 60 Hz or 50 Hz
 > 40 dB to 5 MHz
 A Loop-thru pair of BNC connectors
 75 Ω BNC Coaxial Cable
 Belden Cable P/N 8281 (or equivalent)

AC Grounding Lug
 (Earth Ground)

Graphics (option):
 Serial Component Inputs and outputs
 75 Ω BNC coaxial

Control Panel Comm Port:
 Control Panel communications cable connection.
 (50 Ω BNC coaxial - external termination)
 ANSI Standard 802.3-1985

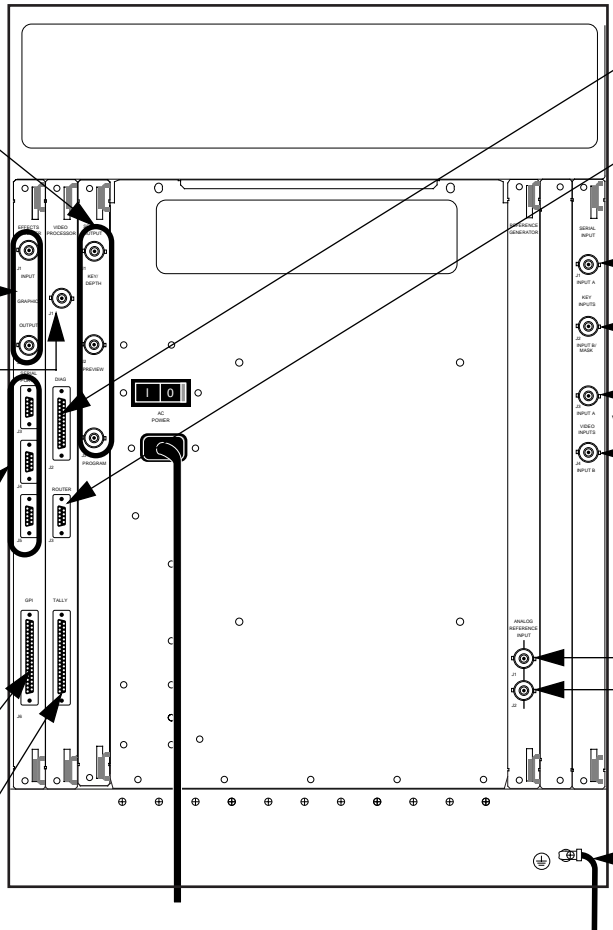
External Control Ports:
 9-Pin D-Type Connectors (See pinouts)
 Serial Ports (Tributary) 1-3 configurable for:

- Editor
- Switcher
- Aux

All Ports meet ANSI/SMPTE 207M-1984
 Shielded multi-conductor cable recommended. (See pinouts)

Video Processor GPI Port
 37-Pin D-Type connector (See pinouts)

Video Processor Tally Port:
 37-Pin D-Type Connectors
 (See pinouts)



4310 Video Processor Frame Connector Locations

Krystal System Characteristics

Sample Frequency: 13.5 MHz
 Serial Component Format
 525 Line format = SMPTE 529M and 125M
 625 Line format = EBU Tech 3267
 (525/625 switchable on a session by session basis)

Environmental Operating Characteristics

Temperature
 32-104°F (0-40°C)
 Humidity
 95% non-condensing (max)

Video/Key Outputs

Serial Component Outputs:
 Preview Video, Program Video, & Key with Depth
 • 10 bits
 • > 15 dB from 5 MHz to 270 MHz
 • Output Sync Adjust Range (± 5 Horiz Lines)

Coaxial Cable (75Ω BNC)
 Belden Cable P/N 8281 (or equivalent)

NOTE: May have 1 each or 2 each output connectors. See other V. P. frame drawing.

VP Param Port:

75Ω BNC coaxial/terminated
 Belden Cable P/N 8281
 (or equivalent)

VP Comm Ports:

Two 9-pin D-type connectors.
 Loop-thru to next Video Processor.
 (See pinouts)

Diagnostic Port:

RS-232 utility port
 25-Pin D-Type Connectors
 (See pinouts)

Router Port:

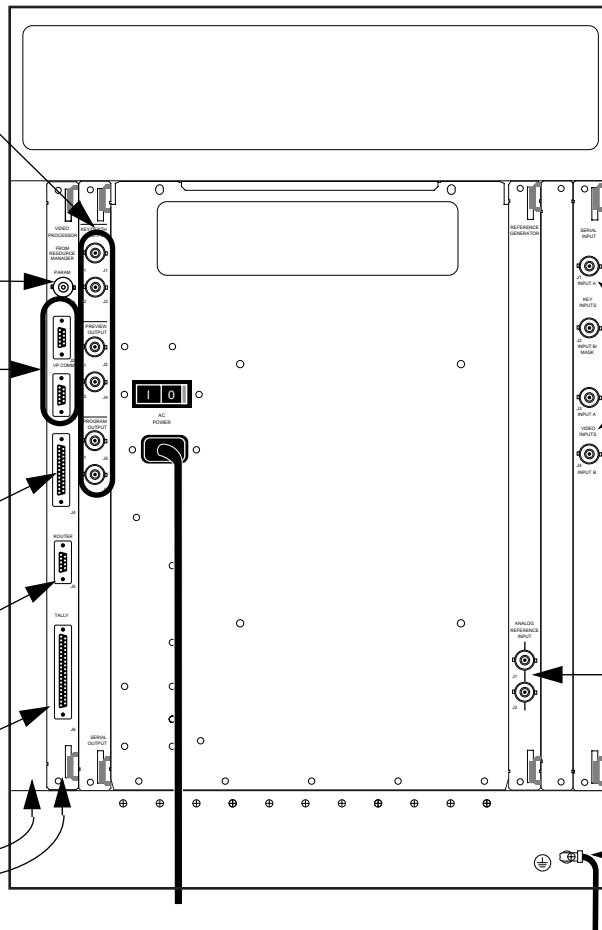
9-Pin D-Type Connectors
 (See pinouts)

Video Processor Tally Port:

37-Pin D-Type Connectors
 (See pinouts)

For 4320 and 4340 Models:

Effects Manager I/O module moves to the
 System Controller frame and a different
 Video Processor I/O is installed.

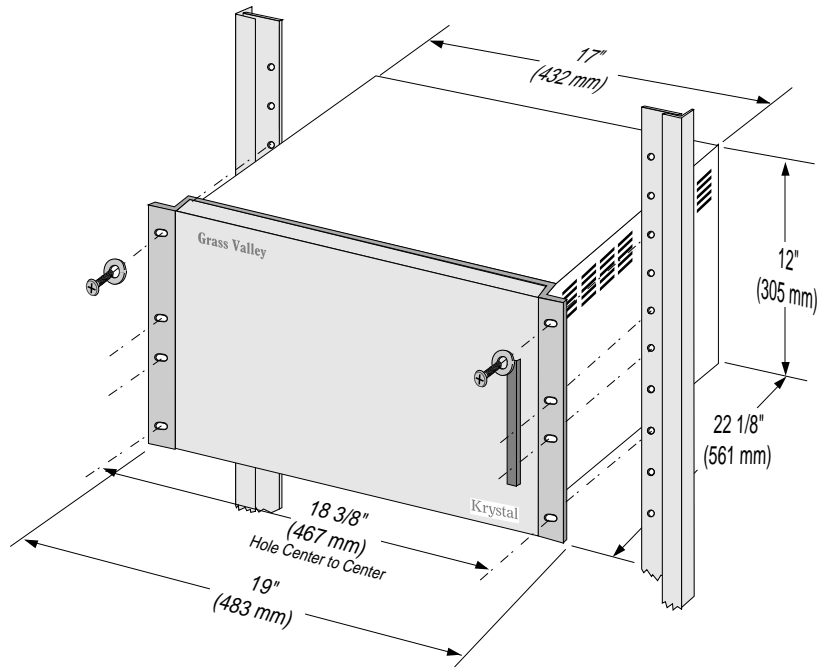


Video/Key Inputs:
 Same as 4310

Reference Input:
 Same as 4310

AC Grounding Lug
 (Earth Ground)

4320 and 4340 Video Processor Frame Connector Locations



Small System Controller
 100-240 Volts 50-60 Hz (Autoranging)
 3.5 Amps (6 Amp Breaker)
 300 to 500 Watts (depending on options)
 Frame Weight: 60 lbs (27 kg)
 Shipping Weight 105 lbs (48 kg)

External Control Ports:
 9-Pin D-Type Connectors (See pinouts)
 Serial Ports (Tributary) 1-3 configurable for:
 • Editor
 • Switcher
 • Aux
 All Ports meet ANSI/SMPTE 207M-1984
 Shielded multi-conductor cable recommended.
 (See pinouts)

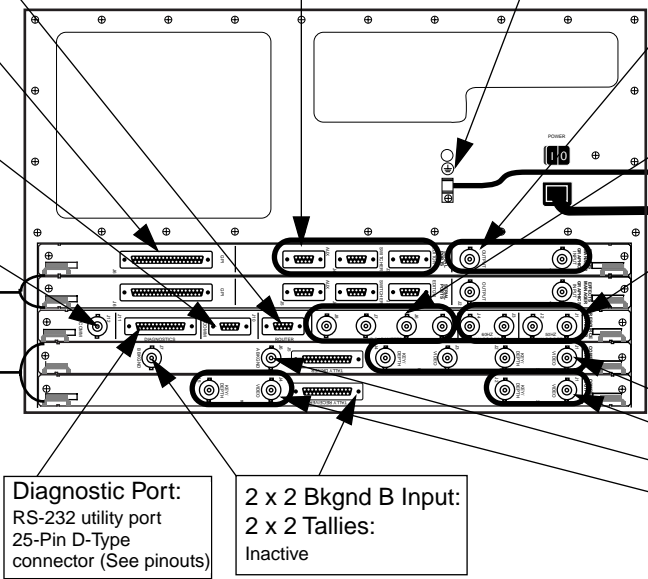
Router Port (Inactive)

Video Processor GPI Port
 37-Pin D-Type Connector
 (See pinouts)

VP Comm Control Bus Port:
 Daisy-Chain to Video Processors,
 terminated at last Video Processor.
 9-pin D-type connector
 (See pinouts)

Control Panel Comm Port:
 Communications cable connection
 to Control Panel, 50Ω BNC coaxial
 ANSI Standard 802.3-1985

**Small System Controller
 shown with all options:**
 Second Effect Manager •
 2 x 2 Combiner •



AC Grounding Lug
 (Earth Ground)

Graphics (option):
 Serial Component Inputs and outputs
 75Ω BNC coaxial

VP Param Ports: (4 total)
 One for each Video Processor Frame
 75Ω BNC coaxial/terminated
 Belden Cable P/N 8281

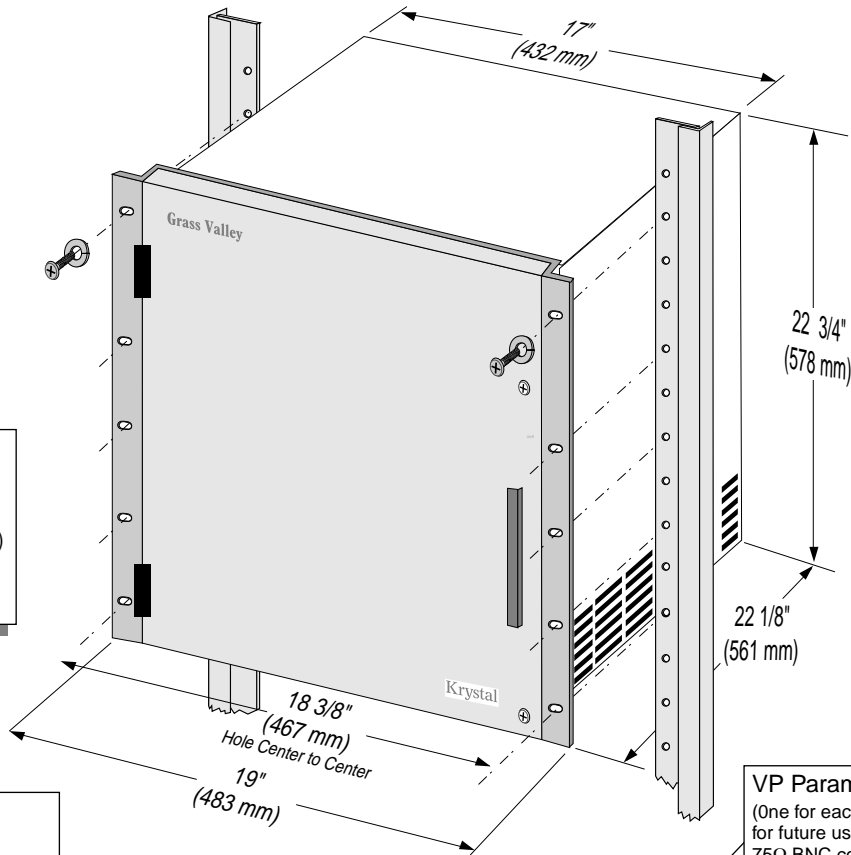
Reference Input
 Analog Color Black
 60 Hz and 50 Hz
 Loop-thru BNC connector pairs
 (one for 60 Hz, one for 50 Hz)

2 x 2 Combiner (option)
 Serial Component 75Ω BNC coaxial
 • Video/Key/Depth Inputs (A, B)
 • Video/Key A Outputs
 • Background A input
 • Video/Key B Outputs

Diagnostic Port:
 RS-232 utility port
 25-Pin D-Type
 connector (See pinouts)

2 x 2 Bkgnd B Input:
 2 x 2 Tallies:
 Inactive

4320 Small System Controller Frame Connector Locations



Large System Controller
 100-240 Volts 50-60 Hz (Autoranging)
 3.5 Amps (6 Amp Breaker)
 300 to 500 Watts (depending on options)
 Frame Weight: 150 lbs (68 kg)
 Shipping Weight 265 lbs (120 kg)

Reference Input
 Analog Color Black
 60 Hz and 50 Hz
 Loop-thru BNC connector pairs
 (one for 60 Hz, one for 50 Hz)

Graphics (option):
 Serial Component Inputs and outputs
 75Ω BNC coaxial

External Control Ports:
 9-Pin D-Type Connectors (See pinouts)
 Serial Ports (Tributary) 1-3 configurable for:
 • Editor
 • Switcher
 • Aux
 All Ports meet ANSI/SMPTE 207M-1984
 Shielded multi-conductor cable
 recommended. (See pinouts)

Router Port (Inactive)

VP Comm Control Bus Port:
 Daisy-Chain to each Video Processor,
 terminated at last Video Processor.
 9-Pin D-type connector (See pinouts)

Video Processor GPI Port
 37-Pin D-Type connector (See pinouts)

Diagnostic Port:
 RS-232 utility port
 25-Pin D-Type connector (See pinouts)

Control Panel Comm Port:
 Communications to Control Panel
 50Ω BNC coaxial
 ANSI Standard 802.3-1985

VP Param Ports:
 (One for each V.P Frame up to 8, one
 for future use)
 75Ω BNC coaxial/terminated
 Belden Cable P/N 8281 (or equivalent)

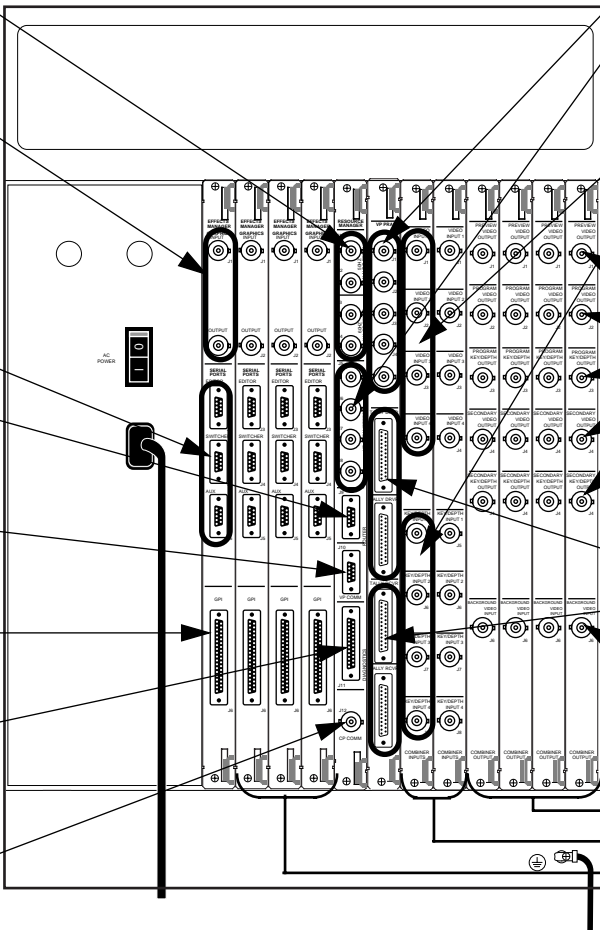
4 Channel Combiner Inputs
 (option)
 Serial Component 75Ω BNC coaxial
 • Video (4 on each)
 • Key/Depth (4 on each)

4 Channel Combiner Outputs
 (option)
 Serial Component 75Ω BNC coaxial
 • Preview Video (1 on each)
 • Program Video (1 on each)
 • Program Key/Depth (1 on each)
 • Secondary Video (1 on each)
 • Secondary Key/Depth (1 on each)

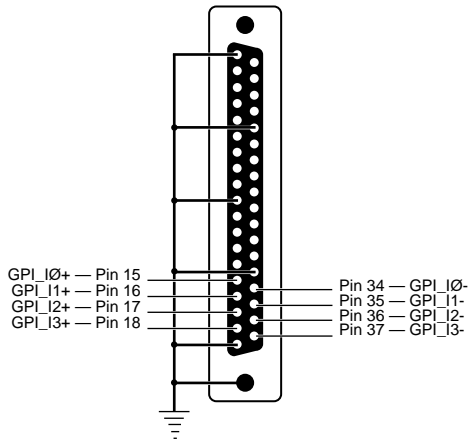
Lg. System Controller Tallies
 25-Pin D-Type connectors
 (See Pinouts)
 • Tally Drivers (2)
 • Tally Receivers (2)

Background Video Input
 Serial Component 75Ω BNC coaxial

**Large System Controller
 shown with all options:**
 • Four Combiner Output Modules
 • Two Combiner Input Modules
 • 2nd, 3rd, 4th Effect Managers

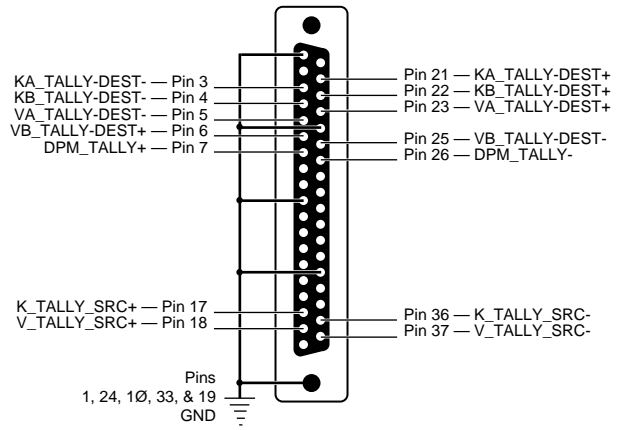


4340 Large System Controller Frame Connector Locations



GPI Connector

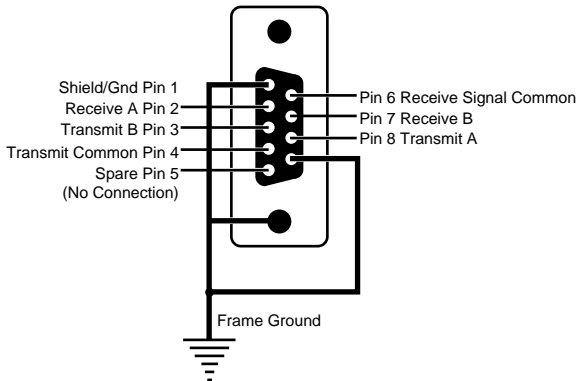
Female 37-Pin D-Type connector.
The General Purpose Interface (GPI) connector provides four dry-contact relay closure inputs.



Video Processor Tally Connector

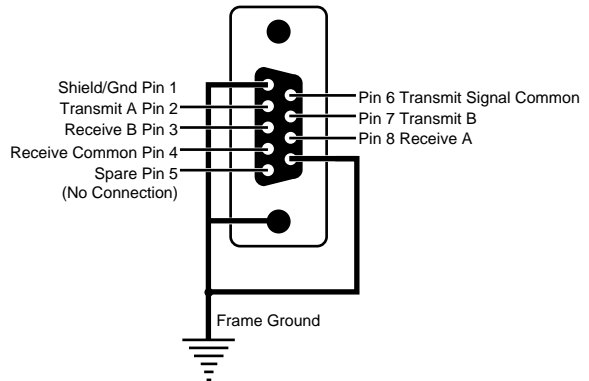
Female 37-Pin D-Type connector.
The V.P. Tally connector provides six dry-contact relay closure outputs and two opto-coupled inputs.

NOTE: GPI and Tally relay maximum ratings are 28 volts 100 mA, resistive load.
Multi-Conductor (Shielded) cabling should be used



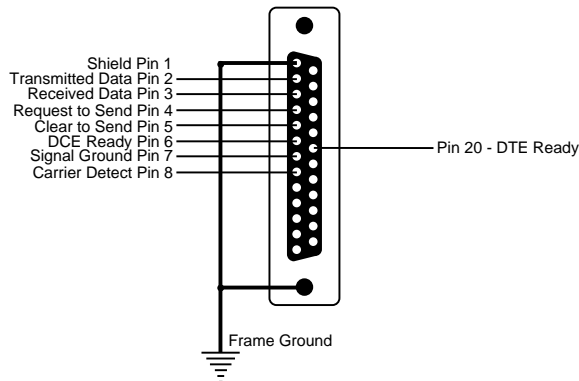
Serial Connector (Controller) Pinout

Female 9-Pin D-Type connector.
Multi-Conductor (Shielded) cabling ANSI/SMPTE 207M-1984
Also used for System Controller VP Comm Control Bus



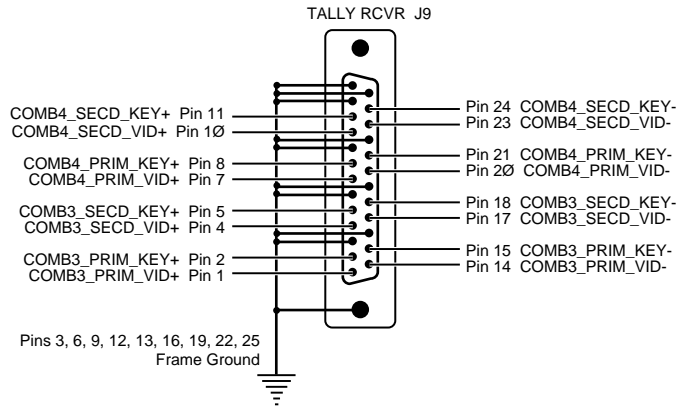
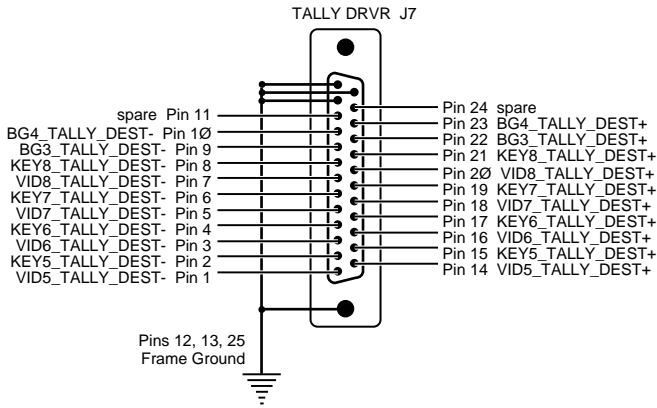
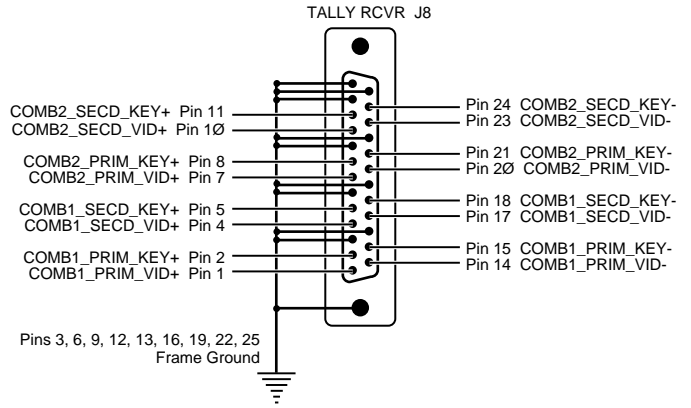
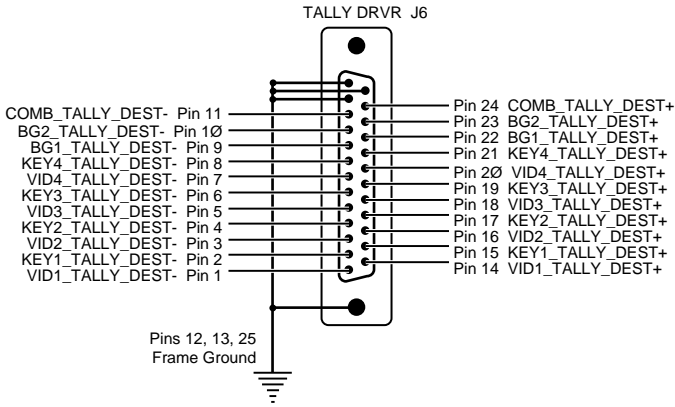
Serial Connector (Tributary) Pinout

Female 9-Pin D-Type connector.
Multi-Conductor (Shielded) cabling ANSI/SMPTE 207M-1984



Diagnostic Port Connector Pinout

Female 25-Pin D-Type connector.
Multi-Conductor (Shielded) cabling ANSI/SMPTE 207M-1984



Large System Controller Tally Driver Connectors.
Male 25-Pin D-Type connector.

Large System Controller Tally Receiver Connectors
Male 25-Pin D-Type connector.

NOTE: Tally relay maximum ratings are 28 volts 100 mA, resistive load.
Multi-Conductor (Shielded) cabling should be used

Options and specifications subject to change without notice.

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**For further product and service
information or the sales office
nearest you, please contact:**

Tektronix, Inc.
Video and Networking Division
P.O. Box 500
M.S. 58-965
Beaverton, OR 97077-0001
USA

Phone: (800) 547-8949 (North America)
No. America fax: (503) 627-7275
Europe fax: 33 (1) 69 07 0937
Asia fax: (852) 2802 2996
Japan fax: 81 (3) 5992 9377
Latin America fax: (305) 477-5385
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