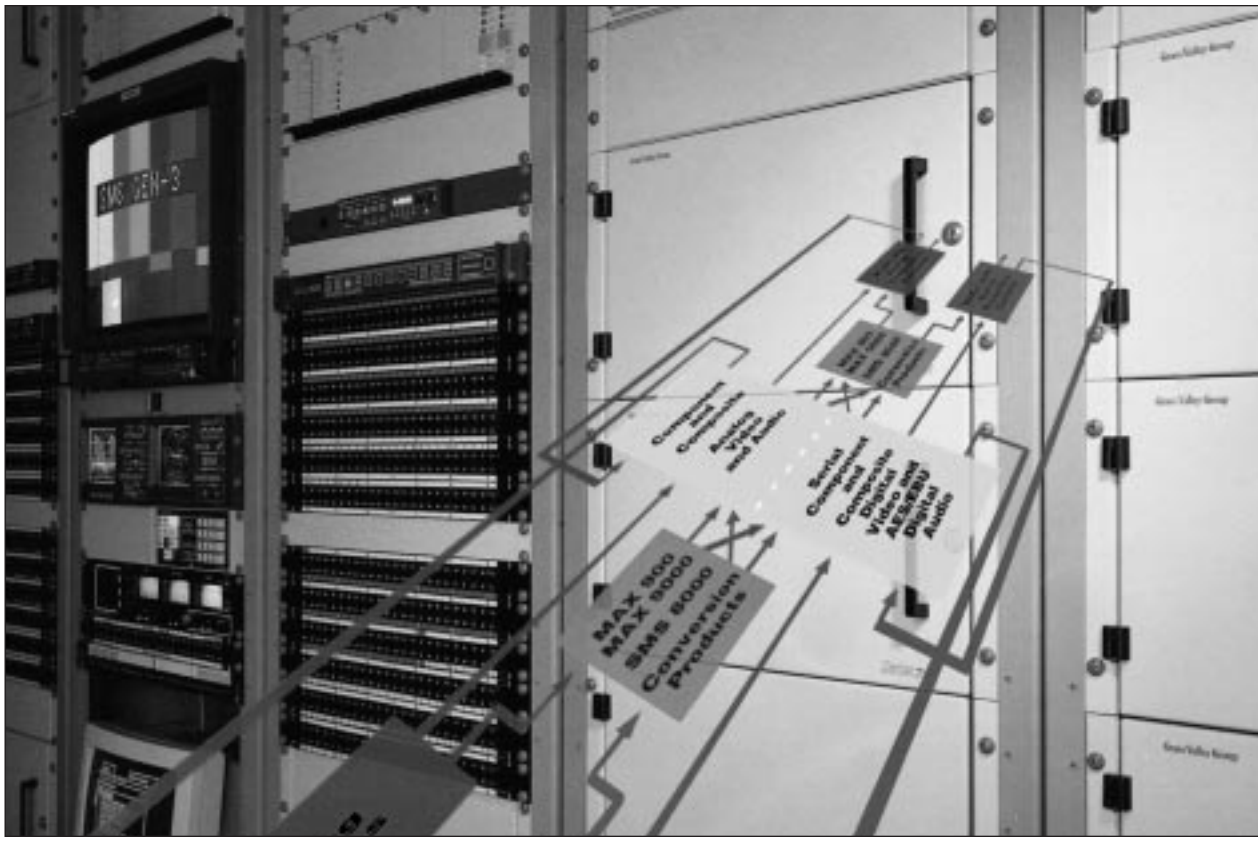
Tektronix

Grass Valley Series 7000 Signal Management System



Classic Series offer:

Analog and/or Digital Switching

Audio/Video/Data Routing Matrices to Accommodate most Format Needs

Multiformat System Compatibility up to 360 M/bits

Unmatched Control Power with Customizable Control Panels

Fully Programmable, PC-Based Graphical User Interface

Front removable/hot pluggable modules for safe "on-air" swapping

Scalable, Step-by-Step Expansion Utilizing Variable Frame Sizes

DV Series offer:

High Density Digital Video Switching

An Economical Migration Path for Serial Digital Routing Requirements

Complete Functionality in a Compact Frame Size

Exclusive Dual Sync Switching

Supports all Serial Digital Data Rates up to 360 Mbit/sec

Front removable/hot pluggable modules for safe "on-air" swapping

Full compatibility with Classic Series matrices and control system

HD Series offer:

High Definition Digital Video Switching

Compact 16x16 or 32x32 configurations

Front removable/hot pluggable modules for safe "on-air" swapping

Dual internal power supplies and redundant controllers for "on-air" reliability

Data reclocking at 1.485 Gbits/sec

Non-reclocking at 10 to 700 Mbits/sec enables standard definition signals to pass

Fully compatible with classic and DV Series matrices and control system

Multiformat Routing

Designed for maximum flexibility, the Series 7000 Signal Management System can control both composite and component analog plus serial composite and component digital video SDTV and HDTV matrices. Analog and AES/EBU digital audio can be intermixed in one frame.

Series 7000 is designed with your future in mind. The serial digital matrices accommodate 143, 177, 270, 360 Mbit/sec and 1.485 Gbits/sec data rates for compatibility with all current standards. This ensures complete preservation of your original investment so you can take advantage of new digital formats as they become available.

Flexible System Architecture

Series 7000 allows for uninterrupted, step by step expansion. You can start with a 16x16 video matrix and build matrix capacity in incremental steps.

Audio matrices are very compact. 6RU analog and digital audio frames house dual 64x64 matrices. 128x128 audio is housed in 12RU. Both analog and digital audio use a 32x32 crosspoint board and are configurable from 32x32 to 1024x1024. The digital audio frames can be equipped with analog audio modules, making analog to digital migration simple.

The data matrix provides high-speed, full duplex transmission of RS-422 and RS-485 data. It is built on 32x32 blocks in 6RU frames and is expandable to 256x256. The data matrices are ideal for routing high speed machine control commands.

Fast, Intelligent Control You Can Customize

When it comes to intelligent control, no system matches Series 7000. The system is built around a high-speed, distributed, RISC processing architecture. This provides frame-accurate switching of up to 32 levels of control. This assures responsive and predictable performance for years to come.

Graphical User Interface

Compatible with Windows® 95 and/or NT operating systems the Graphical User Interface features pull-down color menus which enhance system configuration and control panel programming. Off-line storage, editing and recall of configurations makes custom set ups and changes easy.

All control panels are fully user programmable, and are easily customized, to meet each user's particular application. The control panels make operation simple and intuitive, reducing the possibility of operator error.

DV Series Hi-Density Serial Digital Video System

The DV Series provides an economical migration solution to broadcast quality serial digital routing requirements. The system provides powerful new features, in a smaller space-saving frame size.

- 64x64 matrix in only 6 rack units.
- 128 x 128 matrix in only 12 rack units.
- 256 x 128 matrix in only 18 rack units.
- Dual Sync Switching selectable for each output. Supports mixed 525 and 625 line operation.
- Addresses all digital operating environments and is configurable to route compressed HDTV/ATV or uncompressed serial digital video up to 360 Mbit/sec.
- Programmable bypass mode supports other data rates.
- Easy expansion and integration with the rest of the Series 7000 Signal Management System family.

The same powerful Series 7000 control system and control panels can be used with the DV Series.

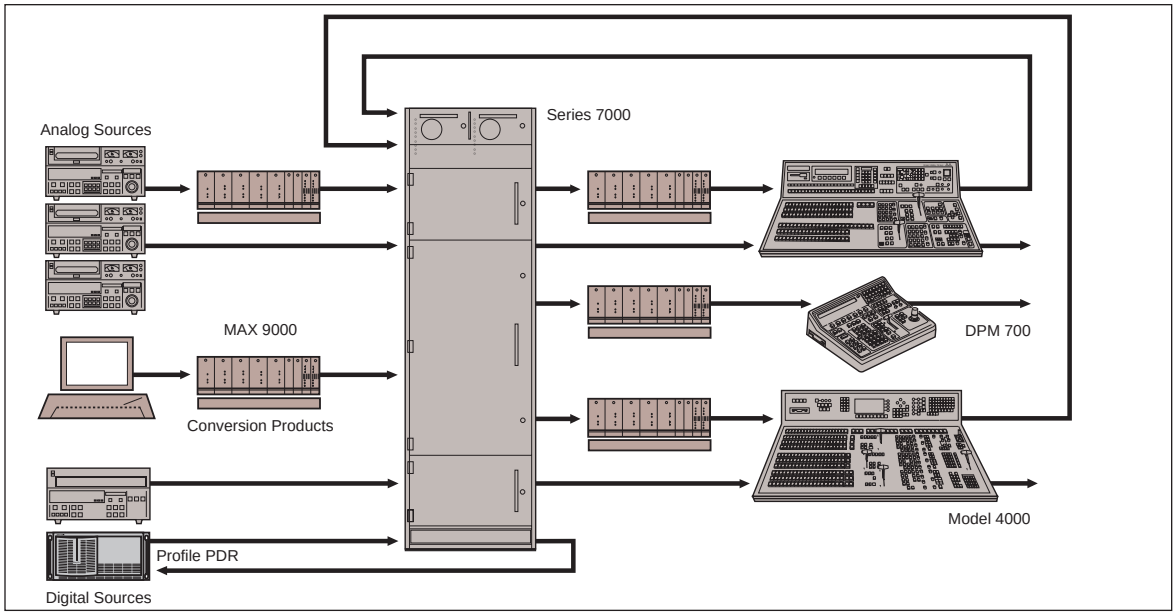
HD Series HDTV Video System

The Series 7000HD provides routing of full bandwidth 1.5 Gbits/sec HDTV signals. It is compatible with existing Series 7000 matrices and control panels, enabling the easy addition of an affordable layer of routing for high definition along with existing 270/360 Mbits/sec DTV formats.

- The first matrix frame is available in 16x16 or 32x32 configurations
- Integrated node control interface to standard 7000 control system within the frame
- BNC copper I/Os drive 100 meters of Belden 1694A cable, saving the cost of fiber optic converters
- Compact 4 RU frame

Control System Features

- Single bus, multibus, and XY control panels with relegendable buttons.
- Source tally system for remote GPI tally closures.
- Programmable 8-character names for sources, destinations, levels and panel names.
- Virtual matrix mapping.
- Serial interface for control by external devices.
- Powerful tie line management between matrices.
- Ethernet interface for control by external devices.



Full System Integration

Whether it's broadcast, commercial, post, training or corporate production, Series 7000 provides a cost-effective means of integrating with the total production environment. Series 7000 fully integrates with Grass Valley production switchers, digital effects devices, master control, machine control and automation systems. Other manufacturers' matrices can be integrated into Series 7000 systems.

Tektronix also provides a full array of analog and digital modular products for format translation, signal conversion system timing, and distribution that simplifies system design and integration.

Additional Resources

The following resources are available to obtain information on the Series 7000 Signal Management System and other Grass Valley products:

- Series 7000 Signal Management System Ordering Guide
- Series 7000 Planning Guide

Specifications Classic Series

Inputs

Analog Video —
Type - Differential Terminating

Digital Video —
Signal Type - Terminating, Conforms to SMPTE 259M, EBU Tech 3267.

Input Control - Each independently software controllable as 143, 177, 270 or 360 M/bits per second.

Analog Audio —
Maximum Input Level (balanced or unbalanced) - +24 dBu

Digital Audio - Conforms to AES3-1992

Outputs

Analog Video — 2 each
Type - 75 Ω

Digital Video — 2 each
Type - 75 Ω

Signal Type - Conforms to SMPTE 259M, EBU Tech 3267.

Output Control - Each independently software controllable as 143, 177, 270 or 360 M/bits per second.

Analog Audio —
Maximum Output Level (balanced) - +24 dBu

Digital Audio - Conforms to AES3-1992

64 x 64 Video

Dimensions	cm	in
Height 12 RU	53.34	21"
Width	48.30	19"
Depth	55.88	22"
Weight	51.71kg	114lb

128 x 128 Video

Dimensions	cm	in
Height 33 RU	146.69	57.75"
Width	48.30	19"
Depth	59.69	23.5"
Weight	152.86kg	337lb

Dual 64 x 64 Audio

Dimensions	cm	in
Height 6 RU	26.67	10.5"
Width	48.30	19"
Depth	46.99	18"
Weight	27.22kg	60lb

128 x 128 Audio

Dimensions	cm	in
Height 12 RU	53.34	21"
Width	48.30	19"
Depth	46.99	18.5"
Weight	54.43kg	120lb

64 x 64 Data Router

Dimensions	cm	in
Height 6 RU	26.67	10.5"
Width	48.30	19"
Depth	46.99	18"
Weight	27.22kg	60lb

Video Secondary Switch & DA Frame

Dimensions	cm	in
Height 6 RU	26.67	10.5"
Width	48.30	19"
Depth	55.88	22"
Weight	18.14kg	40lb

DA/SS Supply Frame

Dimensions	cm	in
Height 6 RU	26.67	10.5"
Width	48.30	19"
Depth	55.88	22"
Weight	18.14kg	40lb

Specifications Classic Series (Continued)

Control Frame

Dimensions	cm	in
Height 6 RU	26.67	10.5”
Width	48.30	19”
Depth	55.88	22”
Weight	24.49kg	54lb

Node Control Expansion Frame

Dimensions	cm	in
Height 6 RU	26.67	10.5”
Width	48.30	19”
Depth	55.88	22”
Weight	24.49kg	54lb

Power Requirements

Voltage Input Requirements - 95-130 VAC or 200-250 VAC, 47-63Hz

Power Consumption -
64 x 64 Video - 600W maximum

Audio - 300W maximum

Analog - 150W maximum Digital

Specifications DV Series

Video/Data Inputs and Outputs

64 x 64/128 x 128/256 x 128 - Serial Digital conforming to SMPTE 259M

Dimensions 64 x 64	cm	in
Height 6 RU**	26.67	10.5”
Width	48.30	19.0”
Depth	55.88	22.0”
Weight*	19.3kg	42.5lb

* Fully Configured
** DV frames include additional 3 RU power supply frame

Dimensions 128 x 128	cm	in
Height 12 RU**	53.34	21.0”
Width	48.30	19.0”
Depth	55.88	22.0”
Weight*	42.7kg	99lb

Dimensions 256 x 128	cm	in
Height 18 RU**	80.01	31.5”
Width	48.30	19.0”
Depth	55.88	22.0”
Weight	69.7kg	153.6lb

Power Requirements

Voltage - 90-264 VAC, 50/60 Hz

Frame Power Consumption -
64 x 64 system: 260 Watts total from an SMS7000 supply
128 x 128 system: 520 Watts total from an SMS7000 supply
256 x 128 system: 780 Watts total from an SMS 7000 supply

Environmental Characteristics: Classic, DV and HD Series

Temperature - 0-40 C ambient

Humidity - 10-90%, non-condensing

Specifications HD Series

Video/Data Inputs and Outputs

32 x 32 - Serial Digital conforming to SMPTE 292M
Connector — 75 Ohm BNC
Input Return Loss (1MHz to 1500 MHz) — 15 dB minimum
Output Return Loss (1MHz to 1500 MHz) — 10 dB minimum
Cable Equalization — Automatic for up to 100 meters of Belden 1964A @ 1.5 Gbits/sec

Operational Performance

Reclocked at 1.485 Gbits/sec

Non-reclocked — 10Mbits/sec to 700Mbits/sec

Vertical Interval Switch — Software controlled, with respect to the Analog Reference Input 59.94/60 Hz

Dimensions 32 x 32	cm	in
Height 4 RU	18.0	7.0”
Width	43.0	17.0”
Depth	49.0	19.25”
Weight*	19.99kg	44lbs

* Fully Configured

Power Requirements

Voltage - 90-240 VAC, 59.94/60 Hz Converted to +24VDC internal bus

Frame Power Consumption -
32 x 32 system: 120 Watts

Ordering Information

SMS-HD32x32: 4 RU Frame with power supply and internal fans

SMS-HD16: 16x16 video module

SMS-HD32EX: Upgrade from 16 to 32x32 (SMS-HD16 plus interconnection module)

SMS-HDNC: Controller (node control functionality)

SMS-HDPS: Power Supply

Warranty

Products offered by Tektronix are manufactured to provide the highest level of reliability and performance. Tektronix warrants these products against defects in materials and workmanship in accordance with the warranty statement applicable with each product. If any product fails during the warranty period Tektronix will provide the remedy set forth in the applicable warranty. A copy of the warranty applicable to a particular product offered by Tektronix may be obtained from your nearest Tektronix office.

Technical Support

Time is money. Tektronix Customer Services saves you both — with a comprehensive portfolio of software and hardware support services designed to ensure maximum performance from your Tektronix Video and Networking Products.

Services include Installation Services, Complimentary Support, Advance Exchange, Technical Phone Support, Extended Services, On-Site Support, Customer Training and Software Maintenance. Financing options available. Custom service packages can be developed to meet specific organization and system needs.

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