

XSWITCH

HARDWARE REDUNDANCY CONTROLLER

The Grass Valley XSWITCH facilitates redundancy system switching of a variety of signal types, all with a single button press. In addition, the XSWITCH can switch and reroute input signals from cameras, VTRs, video and audio servers, audio minidisk players, character generators, still stores, and other production devices.

The XSWITCH™ KVM, A/V, and control routing system is capable of an endless array of possible applications. To date, it has primarily been installed in broadcast news environments supporting the Grass Valley™ Ignite™ news production system facilitating switching of all PC keyboard/mouse controllers and video monitors (KVM), video and audio output signals from an Ignite system to the monitor wall, control room speakers, and other shared resources, and two Ignite system stations.

The XSWITCH facilitates Ignite system redundancy by providing a means of simultaneously rerouting all pertinent signals by manipulation of a single manual control, such as a push button. In addition, the XSWITCH can switch and reroute input signals from cameras, VTRs, video and audio servers, audio minidisk players, character generators, still stores, and other production devices.

Applications

The XSWITCH was developed to provide system redundancy between two Ignite

NEWS systems in critical broadcast “live” news production applications, and as a standalone device capable of switching between two computerized control systems.

Typically, a dual Ignite system is configured such that one system acts as a preparation station while the other is the on-air station. In this scenario, while the on-air station is producing a newscast, the prep station is being configured for the next newscast for back-to-back newscasts as an example.

If a failure were to occur with one system, the other can resume operations quickly during a commercial break by simply pressing a button on the XSWITCH and updating all files to the current show state where the failure occurred.

The XSWITCH allows for the appropriate signals to be routed between the prep and on-air Ignite stations. This avoids having to have duplicate ancillary equipment such as VTRs, character generators, still stores, cameras, and



associated teleprompter displays. The XSWITCH allows broadcasters to design a facility for maximum flexibility to accommodate standard workflow processes and modifications as needed to best fit their needs.

Detailed Description

The XSWITCH is a modular rack-mounted device, consisting of a frame and an array of switching cards. Connections to the outside world are brought out at the back of the frame. A backlit LCD readout and user interface button field are provided on the front panel of the frame along with other status indicators that show the position/state of the switching system. The system can also be expanded vertically by adding up to three expansion frames to any primary frame cage. The expansion frame is about half the size of the master frame and holds up to 10 switch cards. The primary frames can also be ganged to implement larger systems. In these horizontally expanded systems, one primary frame is designated as master

KEY FEATURES

- Single button front panel execution
- Remote control software application available
- Each card slot can be programmed independently
- 10 slots per frame, expandable with additional frames/cards
- Variety of card types for a multitude of applications
- Redundant power supplies
- Can be a standalone product

and controls the entire switching system. The individual primary frames can communicate with each other or with an outside host via RS-232.

In any expanded configuration, the microprocessor in the master unit keeps track of how many switch cards are in the system, the card type (what signals a given card is designed to switch) and the bus address of each card.

Each switch card is designed to perform switching of a specific signal type, i.e., communications, video, audio, etc.

The frame contains a back-plane PCB that incorporates plug-in connections for 10 switch cards of any combination, a microprocessor card and one KVM module. The microprocessor controls the switch cards, KVM module and provides user interface via the front panel mounted LCD and button field. A menu-driven set up facility allows the switching configuration to be programmed. Five different configurations can be programmed. A single button press can assert any one of the configurations.

SPECIFICATIONS

Mechanical

Mechanical dimensions:

- Master (DSW-2000/-3000/-3002):
 - Length: 17.5 in. (44.5 cm)
 - Height: 10.5 in. (26.7 cm)
 - Depth: 10.5 in. (26.7 cm)
- Expansion (DSW-2100):
 - Length: 17.5 in. (44.5 cm)
 - Height: 7.5 in. (17.8 cm)
 - Depth: 10.5 in. (26.7 cm)

AC power: 100V – 240 VAC, 60/50 Hz, 8A/4A

Power supply: hot-swappable, dual-redundant, 250W

Temperature range: 32° to 100°F (0° to 38°C)

Humidity range: 0-95% non-condensing

Display type: 160x80 STN LCD with backlight

Weight:

- Master (DSW-2000/-3000/-3002): 35 lbs. (16 kg)
- Expansion (DSW-2100/-3000/-3002): 19.5 lbs. (8.8 kg)

Electrical

Electrical com switch card:

- Connector type input: DB9-socket, output: DB9-pin
- Switch type: passive relay, "form C"
- Signal type: RS-232, RS-422, RS-485
- Signal switch timing: 6 ms including settling time

SDI switch card:

- Connector type: 75Ω, BNC
- Signal type: 270 Mb/s SDI (SMPTE 259M), composite
- Signal switch timing: 6 ms including settling time
- Switch type: passive relay
- Termination: 75Ω termination on "open" signal paths

HD/SD SDI switch card:

- Connector type: 75Ω, BNC (HD)
- HD mode signal types:
 - 1080i 29.97/30 (SMPTE 274M Table 1-4,5)
 - 1080i 25 (SMPTE 274M Table 1-6)
 - 1080p 24/23.97 (SMPTE 274M Table 1-10,11)
 - 720p 60/59.94/50 (SMPTE 211 Table 1-15, 16)
- SD mode signal types:
 - 525i 59.94 (SMPTE 259M)
 - 625i 50 (SMPTE 259M)
- Signal switch timing: 6 ms including settling time
- Switch type: active, re-clocking
- Audio switch card:
 - Connector type: XLR, balanced
 - Switch type: active, fully buffered, "pop free"
- Input impedance: 2 kΩ
- Output impedance: 300Ω
- Signal switch timing: 50 ms

KVM switch card:

- Connector type: 8P8C modular (RJ-45)
- Switch type: passive relay, "form C"
- Signal type: low power KVM cabling system (no IP emulation)
- Signal switch timing: 3 ms including settling time

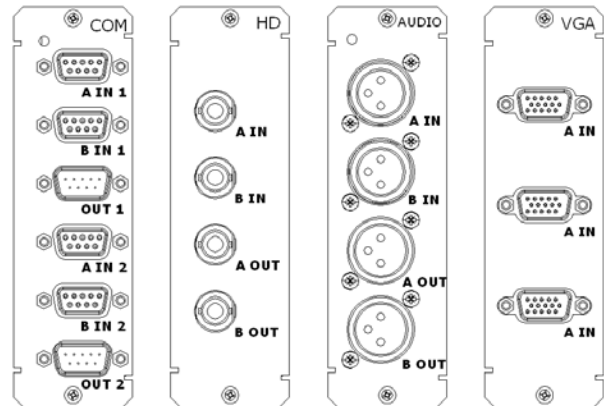
Auxiliary VGA switch card:

- Connector type:
 - Input: DB15-socket
 - Output: DB15-pin
- Switch type: passive relay, "form C"
- Signal type: VGA, Super VGA, XGA/XGA-2
- Signal switch timing: 6 ms including settling time

ORDERING INFORMATION

Please contact your authorized Grass Valley representative.

CARD TYPES AVAILABLE



CUSTOMER SUPPORT & PROFESSIONAL SERVICES

Our customer support and professional services offerings ensure optimal system performance and maximize uptime. These services include call centers staffed around the clock, commissioning, professional training courses, and technical maintenance programs and service agreements.

www.grassvalley.com/support