Crystal Vision

SW803 3G

3G/HD/SD 8 x 3 crosspoint routing switch

The SW803 3G is an 8 x 3 crosspoint routing switch designed to route eight 3Gb/s, HD or SD sources to any of three destinations. Ideal for those applications requiring a small pocket of extra routing, the SW803 3G is perfect as a secondary matrix for small studio uses and is particularly suited to applications already using other Crystal Vision boards – such as providing a selection of backgrounds for a chroma keyer.
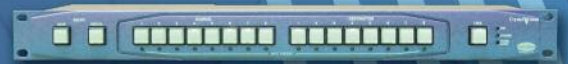
Housed in the standard frames alongside the rest of the Crystal Vision interface and keying boards and with up to six SW803 3G fitting in 2U, this 'double decker' 100mm x 266mm module saves valuable rack space compared to a stand-alone routing switch. It uses two RM50 frame rear modules to access the eight inputs and three outputs.

The SW803 3G makes it easy to set individual switches: simply select the output, select the input and press the 'Take' button. Alternatively multiple switch macros can be created to change a number of crosspoint switches simultaneously. To avoid picture disturbance, the SW803 3G can switch in the vertical blanking interval according to SMPTE RP168-2009, with timing information provided by either an HD tri-level syncs or SD Black and Burst analogue reference, or by a digital reference generated from any of the four main board inputs. The SW803 3G can also be set to switch immediately – useful in cases when all the signals have different timings and there is no common reference.

Control of the SW803 3G is quick and easy – whichever method you choose. Those who prefer tactile hands-on operation should select the SW808 Controller 1U control panel. Connected to the SW803 3G using an RS422 serial link, it has dedicated illuminated buttons for each of the three destinations and eight sources as well as buttons for 'Take' and the 'Save' and 'Recall' of macros. Useful features include the ability to quickly identify which input is connected to which output – press the destination button and the source connected to it will light – and the 'off' switch being dimly lit to simplify operation in low light. At only 90mm deep the SW808 Controller fits easily in a control desk and is ideal for live operation and for when the SW803 3G has regular adjustment. Alternative control options include board edge switches, an integrated control panel on the AE frames, the VisionPanel remote control panel, SNMP, the Statesman Lite PC software and the VisionWeb web browser control.

Using any of these control methods, as well as GPIs, up to 15 macros and presets can be easily created and stored – allowing you to pre-configure the SW803 3G for various situations and then recall these configurations as required. A macro is a batch of crosspoint assignments which are changed together and will only affect those crosspoints - allowing you to change part of the routing but leave the rest alone. A preset, meanwhile, is a snapshot of the router table which shows the state of every crosspoint as well as set up data, switching mode and reference selection, and should be used when all the routing needs to be brought into a known state. Ideal for bigger systems, macros and presets are ideal if you have several system set ups that you switch between on a regular basis.
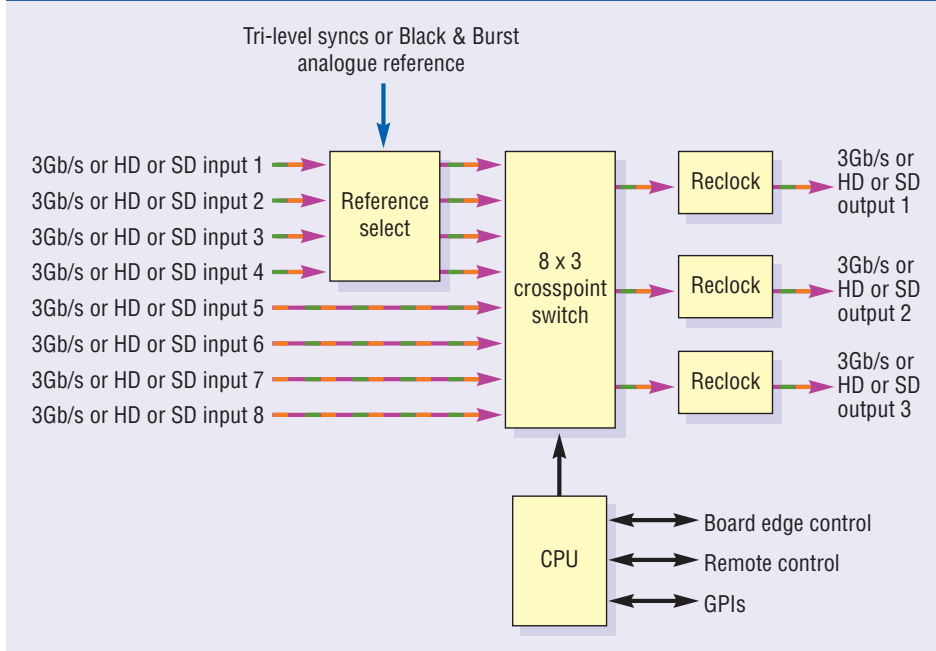
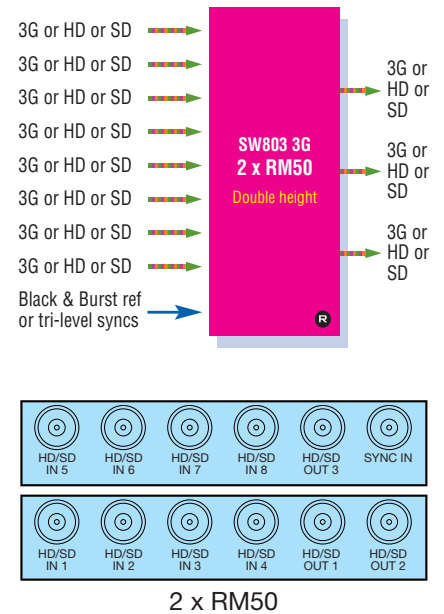For additional ease of use names can be assigned to the sources and destinations.

Tactile hands-on operation with the SW808 Controller control panel

- 8 x 3 crosspoint routing switch which works with 3Gb/s, HD and SD

- Eight sources can be routed to three destinations

- Ideal for use as secondary matrix for small studio uses, alongside other Crystal Vision equipment housed in the same frame

- Saves significant space compared to other routing switches: 'double decker' 100mm x 266mm module allows six SW803 3G in 2U (three in 1U and one in desk top box)

- No picture disturbance on switching: can switch in vertical blanking interval

- Choice of timing sources: either HD tri-level syncs or SD Black and Burst analogue reference, or digital reference generated from any of the first four inputs

- Choose either immediate routing of a selected source to a selected destination, or use macros to change a number of outputs at once

- Save and recall up to 15 macros and presets – ideal if you regularly need to switch between several system set ups

- Flexible control: select from board edge, front and remote panels, dedicated 1U control panel, GPIs, SNMP, PC software and your web browser

INPUTS & OUTPUTS

Tri-level syncs or Black & Burst analogue reference

3Gb/s or HD or SD input 1 → Reference select → 8 x 3 crosspoint switch → Reclock → 3Gb/s or HD or SD output 1

3Gb/s or HD or SD input 2
3Gb/s or HD or SD input 3
3Gb/s or HD or SD input 4
3Gb/s or HD or SD input 5
3Gb/s or HD or SD input 6
3Gb/s or HD or SD input 7
3Gb/s or HD or SD input 8

Reclock → 3Gb/s or HD or SD output 2

Reclock → 3Gb/s or HD or SD output 3

CPU
↔ Board edge control
↔ Remote control
↔ GPIs

REAR MODULE CONNECTIONS

3G or HD or SD →
3G or HD or SD →
3G or HD or SD →
3G or HD or SD →
3G or HD or SD →
3G or HD or SD →
3G or HD or SD →
3G or HD or SD →

SW803 3G
2 x RM50
Double height

→ 3G or HD or SD
→ 3G or HD or SD
→ 3G or HD or SD

Black & Burst ref or tri-level syncs →

HD/SD IN 5 | HD/SD IN 6 | HD/SD IN 7 | HD/SD IN 8 | HD/SD OUT 3 | SYNC IN

HD/SD IN 1 | HD/SD IN 2 | HD/SD IN 3 | HD/SD IN 4 | HD/SD OUT 1 | HD/SD OUT 2

2 x RM50

SPECIFICATION

MECHANICAL
'Double decker' module 266mm x 100mm (uses two frame slots)
Weight: 250g
Power consumption: 14 Watts

VIDEO INPUTS
Eight 3Gb/s, HD or SD inputs 270Mb/s or 1.5Gb/s or 3Gb/s serial compliant to SMPTE 259 or ASI data, SMPTE 292-1 and SMPTE 424/425-A
3Gb/s cable equalisation up to 80m using Belden 1694A. HD cable equalisation up to 140m with Belden 1694A or equivalent (approx. 100m with Belden 8281). SD cable equalisation >250m Belden 8281 or equivalent
Input return loss: -15dB for 50MHz to 1.5GHz
Auto 50/59.94/60Hz and video format selection

VIDEO OUTPUTS
Three 3Gb/s, HD or SD outputs 270Mb/s or 1.5Gb/s or 3Gb/s serial compliant to SMPTE 259 or ASI data, SMPTE 292-1 and SMPTE 424/425-A.
Output follows the input format
All outputs are DVB-ASI compatible.
Inputs 1 to 4 have two non-inverted outputs and one inverted output.
Inputs 5 to 8 have one non-inverted output and two inverted outputs

DELAY THROUGH BOARD
<1us

ROUTING AND TIMING INFORMATION
The eight inputs can be routed to any of the three outputs. One source can go to more than one destination
The SW803 3G allows both immediate routing of a selected single input to a selected output, and multiple routing to change a number of outputs at once by using

a macro. Up to 15 macros can be saved and recalled. Macros do not affect all of the outputs and allow part of the routing to be changed
Up to 15 presets (a snapshot of the state of every crosspoint) can be saved and recalled
The switch timing can be either immediate or timed (field or frame)
Vertical interval switching to SMPTE RP168-2009
Timing information is provided by either an HD tri-level syncs or SD Black and Burst analogue reference, or by a digital reference generated from any of the four main board inputs

LED INDICATION OF:
Power supplies
Eight inputs present

GPI INPUT LEVELS
Active pull to ground, pulled up to +5V through 4700 ohm

GPI OUTPUT LEVELS
Electrically: Open collector transistors 48V, 270 ohm current limit resistors. Pulled up to +5V through 6800 ohm

GPI INPUTS
Five GPI inputs - configurable for input selection/routing

GPI OUTPUTS
One GPI output - user configurable

LOCAL CONTROL
Intuitive board edge interface with two select buttons, shaft encoder and ten character alphanumeric display

REMOTE CONTROL
Control from integrated control panel on AE frames and remote panel
SW808 Controller is a dedicated 1U control panel allowing tactile operation
Statesman Lite allows control from any PC on a network
VisionWeb Control is available via the web server on the frame and allows operation using a standard web browser on a PC or tablet
SNMP monitoring and control available as a frame option
Control using ASCII and JSON protocols

ORDERING INFORMATION

SW803 3G	3G/HD/SD 8 x 3 crosspoint routing switch
Indigo 2AE	2U frame with active front panel featuring smart CPU and integrated control panel for up to 12 Crystal Vision modules
Indigo 2SE	2U frame with active front panel featuring smart CPU for up to 12 Crystal Vision modules
Indigo 1AE	1U frame with active front panel featuring smart CPU and integrated control panel for up to six Crystal Vision modules. Power supply redundancy available with Indigo 1AE-DP
Indigo 1SE	1U frame with active front panel featuring smart CPU for up to six Crystal Vision modules. Power supply redundancy available with Indigo 1SE-DP
Indigo DT	Desk top box with passive front panel for up to two Crystal Vision modules
Indigo DTSE	Desk top box with active front panel featuring smart CPU for up to two Crystal Vision modules
2 x RM50	Two single slot frame rear modules used together. Allows six boards in 2U, three in 1U and one in desk top box. Gives access to eight 3Gb/s, HD or SD inputs, three 3Gb/s, HD or SD outputs and an HD tri-level syncs or SD Black and Burst analogue reference
SW808 Controller	Dedicated 1U remote control panel for one SW803 3G 8 x 3 routing switch
VisionPanel	3U Ethernet remote control panel with touch screen
VisionWeb Control	VisionWeb web browser control included within frame software
Statesman Lite	PC Control System
SNMP	SNMP monitoring and control

Performance and features are subject to change. Figures given are typical measured values. SW8033G0617

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