CrossPoint Ultra Series
Ultra-Wideband Matrix Switchers with ADSP™ for RGB and Stereo Audio

SERIES FEATURES

- **Inputs**: Video on female BNC connectors; audio on captive screw connectors
- **Outputs**: Video on female BNC connectors; audio on captive screw connectors
- **Ultra-wideband performance**: 525 MHz to 600 MHz (-3dB), depending on model — CrossPoint Ultra models provide a minimum of 525 MHz (-3 dB) RGB video bandwidth, fully loaded, with many models providing 600 MHz (-3 dB) or more.
- **Ultra-flat frequency response**: ±0.5 dB from 0 to 130 MHz — CrossPoint Ultra provides an ultra-flat frequency response of ±0.5 dB or less, through the critical portion of the bandwidth curve, from 0 to 130 MHz. This means that the matrix switcher is virtually transparent to the A/V signal path for the most demanding, high resolution system designs with multiple levels of signal processing.
- **Ultra-low crosstalk** (-56) dB or better at 100 MHz — CrossPoint Ultra is engineered to achieve superb channel-to-channel isolation of -56 dB or better at 100 MHz.
- **Ultra-low power consumption**: 40 watts or less at 120 VAC — Draws less than 40 watts at 120 VAC under full load for increased product life with very low cost of operation.
- **ADSP™ - Advanced Digital Sync Processing technology**: — An exclusive, all-digital process that regenerates the sync signal waveform and restores sync level to 5.0 V p-p, TTL, specifications. This ensures a stable sync signal for improved signal compatibility with any LCD, DLP, plasma, or other digital display device.
- **DSVP™ - Digital Sync Validation Processing**: — Verifies active sources by polling all inputs for valid sync signals. DSVP then transmits the horizontal and vertical sync information to the user through the serial or IP Link ports.
- **Compatible with RGBHV, RGBS, RGS, HDTV, component video, S-video, composite video, and unbalanced/balanced stereo audio**: — All models switch separate horizontal and vertical sync to ensure proper sync polarity, providing a more stable image.
- **Buffered I/O**: — Each input and output is individually buffered to provide maximum performance and virtually no crosstalk or signal interference between channels.
- **Triple-Action Switching™ for RGB Delay**: — Blanks the screen when switching to a new source. The new sync signals precede the RGB signals, so there is no glitch shown during the transition. The time delay between the RGB and sync signals is adjustable up to five seconds through front panel, IP Link, or serial control.
- **Audio input gain and attenuation**: — Allows users to set the level of gain or attenuation for each audio input channel, eliminating noticeable volume differences when switching between sources.
- **Audio output volume adjustment and muting**: — Can be set dynamically for each channel through the front panel or serial control, eliminating the need for an audio preamplifier in many system designs.
- **QS-FPC™ - QuickSwitch Front Panel Controller**: — Provides a discrete, backlit button for each input and output, allowing for simple, intuitive operation.
- **Tri-color, backlit buttons**: — Can be custom labeled for easy identification. The buttons illuminate red, green, or amber, depending on function, for ease of use in low-light environments.
- **Front panel security lockout**: — Prevents unauthorized use in non-secure environments. In lockout mode, a special button combination is required to operate the switcher from the front panel controller.
- **View I/O mode**: — Users can easily view which inputs and outputs are actively connected.
- **Global presets**: — Frequently used I/O configurations may be saved and recalled either from the front panel, IP Link, or serial control. This time-saving feature allows I/O configurations to be set up and stored in memory for future use.
- **Control software**: — Provides a graphical, drag-and-drop interface for I/O configuration and other customization functions via RS-232 and RS-422 remote control. This software also offers an emulation mode for configuration of an offsite matrix switcher; the I/O configuration may be saved for future downloading to the matrix switcher.
- **Optional remote controls**: — Available control panels and keypads provide the flexibility to control a CrossPoint Ultra Series matrix switcher from a remote location.
- **Pack-mountable metal enclosure**: — CrossPoint Ultra matrix switchers are housed in 19-inch wide metal enclosures and feature integrated rack ears for ease of installation.
- **Internal universal power supply**: — The 100-240VAC, 50/60 Hz, international power supply provides worldwide power compatibility.

DESCRIPTION

CrossPoint Ultra ultra-wideband matrix switchers are designed to deliver exceptional performance in the most demanding, very high resolution computer-video and stereo audio routing systems. CrossPoint Ultra sets a new standard for engineering excellence in all critical measures of matrix switcher performance, including bandwidth, frequency response, efficiency, reliability, power consumption, and control. CrossPoint Ultra is available in six I/O sizes from 8x4 to 16x16 and is ideal for complex A/V routing applications that require efficient, reliable operation at the highest computer-video resolutions without signal loss or degradation.
CrossPoint Ultra combines this exceptional, ultra-wideband performance with Ultra-flat frequency response of ±0.5 dB or less, through the critical portion of the bandwidth curve, from 0 to 130 MHz. This means that the matrix switcher is virtually transparent to the A/V signal path supporting the most demanding, high resolution system designs with multiple levels of signal processing.

Ultra-low crosstalk
Crosstalk interference occurs when electrical signals “leak” from one component or circuit board signal line to another due to improper shielding or isolation. CrossPoint Ultra matrix switchers are engineered to achieve superb channel-to-channel isolation of -56 dB or better at 100 MHz. This minimizes signal leakage across video channels, and eliminates signal bleed-through that can compromise critical imaging or high-security presentation environments.

Ultra-efficient power supplies
Temperature has the highest impact on component life. Efficient enclosure design and, in particular, the power supply, can drastically cut down on heat generation and power consumption. CrossPoint Ultra matrix switches use a single, highly-efficient, cool-running power supply, allowing the utilization of a fan-free enclosure. Whether you’re considering thermal management in the equipment rack, or silent operation in a noise-sensitive environment, CrossPoint Ultra draws less than 40 watts at 120 VAC under full load, less than a standard desk lamp. Low power consumption equates to less heat generation which translates to a lower cost of ownership and an increased product lifespan.

Ultra-low power consumption
CrossPoint Ultra is engineered for use in high-demand, rack-mount applications with other A/V signal processing devices. Through efficiency of design and the careful selection of high-quality, long-life electronic components, CrossPoint Ultra draws less than 40 watts at 120 VAC under full load, less than a standard desk lamp. Low power consumption equates to less heat generation which translates to a lower cost of ownership and an increased product lifespan.

Ultra-reliable architecture
CrossPoint Ultra represents Extron’s 5th generation of CrossPoint design and technological development, resulting in new design architecture that yields higher performance, utilizes fewer boards and cables, and eliminates many of the most common failure points. The result is optimum reliability around the clock, year in and year out.

Ultra-flexible control
With so many makes and models of control systems available, you need a matrix switcher that can work with any or all of them, and one that does not lock your system design into a single closed, proprietary control protocol. That’s why all CrossPoint Ultra models come standard with front panel, RS-232/422 serial control, and IP Link Ethernet control. The QuickSwitch™ front panel controller is always available, whether it’s for convenient system testing or day-to-day operation without a control system.

The RS-232/422 serial control port utilizes Extron’s popular SIS™ Simple Instruction Set command protocol, allowing easy integration with virtually any third-party control system. IP Link enables CrossPoint Ultra to be controlled, monitored, and accessed from most IP-enabled control systems, or from any authorized computer connected to a Local Area Network, Wide Area Network, or the Internet.
CrossPoint Ultra Series

SPECIFICATIONS

VIDEO

Routing
84 Series 8 x 4 matrix
88 Series 8 x 8 matrix
128 Series 12 x 8 matrix
1212 Series 12 x 12 matrix
168 Series 16 x 8 matrix
1616 Series 16 x 16 matrix
Gain
Unity

Bandwidth
84/88/128 Series 600 MHz ±3 db, fully loaded
0 - 10 MHz No more than ±0.1 db
0 - 130 MHz No more than ±0.3 db
1212/168/1616 Series 525 MHz ±3 db, fully loaded
0 - 10 MHz No more than ±0.30 db
0 - 130 MHz No more than ±0.50 db
Crossstalk
84/88/128 Series -85 dB @ 1 MHz
-73 dB @ 5 MHz
-70 dB @ 10 MHz
-63 dB @ 15 MHz
-56 dB @ 100 MHz
-92 dB @ 1 MHz
-80 dB @ 5 MHz
-78 dB @ 10 MHz
-75 dB @ 30 MHz
70 dB @ 100 MHz
Switching speed
200 ns (max.)

VIDEO OUTPUT

Number/signal type 4, 8, 12, or 16 RGBHV, RGS, RGB, RoGb, RoGsB, HDTV, component video, S-video, composite video
Connectors 84/88 Series 8 x 8 BNC female
128/1212 Series 12 x 5 BNC female
168/1616 Series 16 x 5 BNC female
Nominal level 1 Vp-p-y of component video and S-video, and for composite video 0.7 Vp-p-y for RGB and B-Y of component video
0.3 Vp-p-y for C of S-video
Minimum/maximum levels
Analog: 0.2 V to 2.25 Vp-p with no offset
Impedance 75 ohms
Horizontal frequency 15 kHz to 150 kHz
Vertical frequency 30 to 150 Hz
Return loss <40 dB @ 5 MHz
DC offset (max. allowable) 1.47 V

SYNC

Input type RGBHV, RGS, RGB, RoGb, RoGsB
Output type RGBHV, RGS, RGB, RoGb, RoGsB (follows input)
Input level 0.5 V to 5.5 Vp-p, 4.0 Vp-p normal
Output level AGC to TTL: 4.0 V to 5.5 Vp-p, unilaterated
Input impedance Input 1 to 4: 750 ohms, switchable
Inputs 5 to 8, 12, or 16: 510 ohms
Output impedance 75 ohms
Max. input voltage 5.0 Vp-p
Max. propagation delay <120 ns
Max. rise/fall time 4 ns
Polarity Positive or negative (follows input)

AUDIO — AUDIO MODELS ONLY

Routing
84 Series 8 x 4 stereo matrix
88 Series 8 x 8 stereo matrix
128 Series 12 x 8 stereo matrix
1212 Series 12 x 12 stereo matrix
168 Series 16 x 8 stereo matrix
1616 Series 16 x 16 stereo matrix
Gain
Unbalanced output: -6 dB, balanced output 0 dB
Frequency response THD + Noise <0.01% @ 1 kHz or nominal level
S/N >105 dB, balanced, at maximum output (21 dBu), unweighted
Crossstalk <20 dB @ 1 kHz, fully loaded
Stereo channel separation >20 dB @ 1 kHz
CMRR >85 dB @ 20 to 20 kHz

Note: For complete specifications, please go to www.extron.com