

Specifications

Annotator 401

TRUE 4K specification

Max. 4K Capabilities		
Resolution and Refresh Rate	Chroma Sampling	Max. Bit Depth per Color
4096 x 2160 at 60 Hz	4:4:4	8 bit
3840 x 2160 at 60 Hz		
4096 x 2160 at 30 Hz		10 bit
3840 x 2160 at 30 Hz		
4096 x 2160 at 60 Hz	4:2:0	8 bit
3840 x 2160 at 60 Hz		

Frame rate¹ 24, 25, 30, 50, or 60 fps
 Chroma sampling¹ 4:4:4, 4:2:2, or 4:2:0 (4:2:0 supported on input only)
 Color bit depth¹ 8 or 10 bits per color
 Signal type DVI 1.0, HDMI 1.4 and 2.0, HDCP 1.4 and 2.3
 Max. video data rate 18 Gbps (6 Gbps per color)

NOTE: ¹Subject to the maximum data rate limit. Use our calculator at www.extron.com/8Kdata rate to determine video parameters supported by this data rate.

Video input

Number/signal type 1 HDMI/DVI
 Connectors 1 female HDMI
 Horizontal Frequency 15 kHz to 270 kHz
 Vertical Frequency 24 Hz to 240 Hz for resolutions up to 18 Gbps
 Resolution range 640x480 through 4096x2160 including 480i, 480p, 576i, 576p, 720p, 1080i, 1080p, 2K, 3840x2160 (up to 60 Hz), and 4096x2160 (up to 60 Hz)
 Standards DVI 1.0, HDMI 2.0, HDCP 1.4, HDCP 2.3

Video processing

Digital sampling 8 or 10 bits per color; 600 MHz pixel clock maximum
 Colors 1.07 billion, (10-bit processing with full 4:4:4 sampling)

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Video output

Number/signal type.....	2 HDMI/DVI
Connectors	2 female HDMI
Power for active cables.....	2.2 W total power for all HDMI ports 1.1 W max for each HDMI port
Peripheral device power.....	250 mA per output
Vertical frequency.....	23.98 Hz, 24 Hz, 25 Hz, 29.97 Hz, 30 Hz, 50 Hz, 59.94 Hz, 60 Hz
Scaled resolution	640x480 ⁸ , 800x600 ⁸ , 1024x768 ⁸ , 1280x768 ⁸ , 1280x800 ⁸ , 1280x1024 ⁸ , 1360x768 ⁸ , 1366x768 ⁸ , 1440x900 ⁸ , 1400x1050 ⁸ , 1600x900 ⁸ , 1680x1050 ⁸ , 1600x1200 ⁸ , 1920x1200 ⁸ , 2048x1200 ⁸ , 2048x1536 ⁸ , 2560x1080 ⁸ , 2560x1440 ⁸ , 2560x1600 ⁸ , 3840x2160 ^{1,2,3,4,5,6,7,8} , 4096x2160 ^{1,2,3,4,5,6,7,8} 480p ^{7,8} , 576p ⁶ , 720p ^{3,4,5,6,7,8} , 1080i ^{6,7,8} , 1080p ^{1,2,3,4,5,6,7,8} , 2K ^{1,2,3,4,5,6,7,8}
	¹ 23.98 Hz, ² 24 Hz, ³ 25 Hz, ⁴ 29.97 Hz, ⁵ 30 Hz, ⁶ 50 Hz, ⁷ 59.94 Hz, ⁸ 60 Hz
Standards	DVI 1.0, HDMI 2.0, HDCP 1.4, HDCP 2.3

Audio input

Number/signal type.....	1 HDMI embedded audio
Connectors	1 female HDMI

Audio output

Number/signal type.....	2 HDMI embedded audio
Connectors	2 female HDMI

Control/remote

Serial control port.....	1 RS-232 on captive screw connector on back panel
Baud rate and protocol	9600, 8-bit, 1 stop bit, no parity
Pin configuration	1 = TX; 2 = RX; 3 = GND
Program control.....	Extron configuration program for Windows® Extron Simple Instruction Set™ (SIS)
USB control ports	1 USB, female USB-C on front panel
USB standards	USB 2.0
Ethernet port.....	1 RJ-45 female connector
Ethernet data rate	10/100/1000 Base-T, half/full duplex with auto detect
Ethernet protocol	ARP, ICMP (ping), IP, TCP, DHCP, HTTP, Telnet, SMTP, SSH, HTTPS, SMBv2
Storage.....	4 GB user memory

Control/remote — annotation

Number/signal type.....	32 USB devices (via hubs)
Connectors	3 USB type A connectors (2 on rear and 1 on front), 1 RJ-45 female connector
USB standards	USB 3.0, USB 2.0, USB 1.1, USB 1.0 compatible
USB data rates	Low speed (1.5 Mbps), full speed (12 Mbps), high speed (480 Mbps)

Specifications • Annotator 401 (Continued)

Interconnection between Annotator 401 and USB Extender Plus Receiver

Connectors.....	1 female RJ-45
Termination standard.....	TIA T568B
Signal transmission distance	
Direct connection	330' (100 m)
Between network switches.....	330' (100 m) per connection, up to 5 network switches between the Annotator 401 USB Tx and Rx for a total of 1980' (600 m)

NOTE: The transmission distance varies depending on the type of cable used in the system.

Network

Protocol.....	Ethernet
Transport.....	TCP/IP, UDP
All supported	DHCP, DNS, HTTP, HTTPS, ICMP, NTP, SFTP, SMTP, SNMP, SSH, TCP/IP, UDP/IP
Standards.....	IEEE 802.3u (100Base-T), IEEE 802.3ab (1000Base-T)
IP Configuration.....	Static IP (default) or DHCP

USB device ports

Number/signal type.....	(1) 4-port, USB hub
Connectors.....	(2) female USB 3.2 type A (rear), (1) female USB 3.2 type A (front), (1) female RJ-45 (USB EXT) (rear)
Maximum built-in USB hubs.....	3
Minimum built-in USB hubs.....	1
Optional built-in USB hubs.....	(1) peripheral emulation, (1) 1:N network pairing
Available USB Power	500 mA (front), 250 mA per port (rear)

NOTE: Optional hubs apply only to USB EXT connection.

General

Power supply.....	Internal: 100-240 VAC, ~ 50-60 Hz
Power consumption.....	TBD
Auxiliary USB power output	5 VDC, 500 mA on front panel connector, 250 mA on each rear connector
Thermal dissipation	TBD
Temperature/humidity	Storage: -40° to +158° F (-40° to +70° C) / 10% to 90%, non-condensing Operating: +32° to +113° F (0° to +45° C) / 10% to 90%, non-condensing
Rack mount	Yes, with optional shelf
Enclosure type	Metal
Enclosure dimensions	1.66" H x 8.68" W x 9.5" D (1U high, half rack wide) (43 mm H x 221 mm W x 242 mm D) (Depth excludes connectors and knobs.)
Product weight	TBD
Regulatory compliance.....	UL, c-UL, CE, FCC Class A, VCCI, AS/NZS, ICES
Product warranty	3 years parts and labor
Everlast power supply warranty.....	7 years parts and labor

NOTE: All nominal levels are at ±10%.

NOTE: Specifications are subject to change without notice.

NOTE: Shipping weights and dimensions are available at www.extron.com.

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