

Specifications — USP 405

Video

Gain.....	Unity
Crosstalk.....	-50 dB @ 5 MHz

Video input

Number/signal type.....	1 RGBHV/RGBS/RGSB computer video with 1 local monitor loop-through 1 RGBHV/RGBS/RGSB computer video, RGBcvS, component video (Y, R-Y, B-Y), S-video, or composite video 1 S-video 1 composite video 1 SDI (optional)
Connectors	(2) 15-pin HD female: RGB computer video input and loop-through 1 x 5 BNC female: RGB computer video, component video, S-video, or composite video input 2 BNC female: composite video input and loop-through (2) 4-pin mini DIN female: S-video input and loop-through 1 BNC female: optional SDI digital component video input
Nominal level	1 V _{p-p} for Y of component video and S-video, and for composite video 0.7 V _{p-p} for RGB and for R-Y and B-Y of component video 0.3 V _{p-p} for C of S-video
Minimum/maximum levels.....	Analog: 0.3 V to 2 V _{p-p} with no offset
Impedance.....	75 ohms
Horizontal frequency	
Input 1.....	24 kHz to 100 kHz
Input 2 RGB, RGBS, HD component video	24 kHz to 100 kHz
Input 2 RGBcvS, component video, S-video, composite video	15 kHz
Inputs 3 and 4.....	15 kHz
Input 5.....	CCIR 601/ITU-RBT.601 (270 Mbps)
Vertical frequency.....	30 Hz to 120 Hz
Resolution range	Autoscan 640 x 480 to 1600 x 1200* *Input resolutions above 1400x1050 are undersampled.
Return loss.....	<-30 dB @ 5 MHz
DC offset (max. allowable).....	0.5 V
External sync (genlock)	0.3 V to 1.0 V _{p-p}

Video processing

Decoder.....	9 bit digital
Encoder.....	10-bit digital
Digital sampling.....	24 bit, 8 bits per color; 140 MHz
Colors.....	16.78 million
Horizontal filtering	8 levels
Vertical filtering	8 levels

Video output

Number/signal type.....	6 RGBHV, RGBS, component video (Y, R-Y, B-Y), optional SDI digital component video (CCIR 601/ITU-RBT.601), S-video, composite video
Connectors	1 x 5 BNC female (RGB, HD component video) (1) 15-pin HD female (RGB, HD component video) 3 BNC female (component video) (1) 4-pin mini DIN (S-video) 1 BNC female (composite video) 1 BNC female (optional SDI digital component video)

Specifications — USP 405, cont'd

Nominal level	1 Vp-p for Y of component video and S-video, and for composite video 0.7 Vp-p for RGB and for R-Y and B-Y of component video 0.3 Vp-p for C of S-video
Minimum/maximum levels.....	0 V to 2.0 Vp-p
Impedance.....	75 ohms
Scaled resolutions.....	640x480 ^{1,3,4,6} , 800x600 ^{1,3,4,6} , 832x624 ^{3,4,6} , 848x480 ^{3,6} , 852x480 ^{3,6} , 1024x768 ^{1,3,4,5,6} , 1280x768 ^{2,6} , 1280x1024 ^{1,3,6} , 1360x765 ^{3,6} , 1365x1024 ^{3,6} , 1400x1050 ^{1,3,6} , 576p ^{1,6} , 720p ^{3,6} , 1080p ^{3,6} , 1080i ^{1,3,6} , NTSC, PAL ¹ = at 50 Hz, ² = at 56 Hz, ³ = at 60 Hz, ⁴ = at 75 Hz, ⁵ = at 85 Hz, ⁶ = locked to the current input's vertical refresh rate (up to 60 Hz) (Accu- RATE Frame Lock)

NOTE For the output resolutions listed below, the total pixel and active pixel values are reduced:

1365x1024: 1280 active pixels

1080i: 1280 active pixels

1080p: 1280 active pixels

The sync timings and line widths are correct and most displays recognize the rate correctly.

Return loss.....	-30 dB @ 5 MHz
DC offset.....	These data are for output with input at 0 offset: ±25 mV maximum for RGB 350 ±25 mV maximum for Y of component video/S-video, composite video 650 ±25 mV maximum for R-Y & B-Y of component video, C of S-video
Switching type.....	Triple-Action

Sync

Input type.....	Autodetect (RGBHV, RGBS, RGsB), and component
Output type.....	RGBHV, RGBS, and component video (tri-level or bi-level)
Standards.....	NTSC 3.58, NTSC 4.43, PAL, and SECAM
Input level	2.75 V to 5.0 Vp-p for RGBHV or RGBS 0.6 Vp-p for component video tri-level sync 0.3 Vp-p for component video bi-level sync or RGsB
Output level.....	TTL: 5.0 Vp-p, unterminated, bi-level or tri-level
Input impedance	510 ohms
Output impedance	75 ohms
Max. input voltage.....	5 Vp-p
Polarity.....	Positive or negative (selectable)

Control/remote — switcher/scaler

Serial control port.....	RS-232, 9-pin female D connector
Baud rate and protocol.....	9600 baud, 8 data bits, 1 stop bit, no parity
Serial control pin configurations.	2 = Tx, 3 = Rx, 5 = GND
Contact closure	9-pin female D connector
Contact closure pin configurations.	1 = input 1, 4 = input 2, 6 = input 3, 7 = input 4, 8 = input 5
IR controller module.....	IR 801 (optional)
Program control.....	Extron's control/configuration program for Windows® Extron's Simple Instruction Set (SIS™)

General

Power	100 VAC to 240 VAC, 50-60 Hz, 30 watts, internal
Temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +3 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing
Cooling	Convection, vents on sides
Mounting	
Rack mount.....	Yes

Enclosure type	Metal
Enclosure dimensions.....	1.8" H x 17.5" W x 12.0" D (1U high, full rack wide) (4.6 cm H x 44.4 cm W x 30.5 cm D) (Depth excludes connectors and knobs. Width excludes rack ears.)
Product weight	
USP 405.....	6.3 lbs (2.9 kg)
USP 405, SDI input.....	6.4 lbs (2.9 kg)
USP 405, SDI output	6.5 lbs (2.9 kg)
USP 405, SDI in & output.	6.9 lbs (3.1 kg)
Shipping weight	
USP 405 w/SDI in & output	12 lbs (6 kg)
All other models.....	11 lbs (5 kg)
DIM weight (International)	12 lbs (6 kg)
Vibration.....	ISTA 1A in carton (International Safe Transit Association)
Regulatory compliance	
Safety.....	CE, CUL, UL
EMI/EMC	CE, FCC Class A
MTBF.....	30,000 hours
Warranty	3 years parts and labor

NOTE *All nominal levels are at ±10%.*

NOTE *Specifications are subject to change without notice.*

7.6-082409-D11