

# Appendix A – Specifications

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## HA5-4K Tech Specs

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### Video Formats

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- (4K) 4096x2160p
- (UltraHD) 3840x2160p
- (2K) 2048x1080p
- (HD) 1920x1080p
- (HD) 1920x1080i
- (HD) 1280x720p
- (SD) 720x576p
- (SD) 720x576i
- (SD) 720x480p
- (SD) 720x480i

### Video Input Digital

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- 1 x HDMI Type A connector, HDMI v2.0
- YCbCr 4:2:2/4:4:4/4:2:0
- RGB 4:4:4, SMPTE or Full level
- 8, 10, or 12 bit (HFR 4K/UltraHD 4:4:4 limited to 8 bit)
- HDR Infoframe decoder as defined in CTA-861.3 and HDMI v2.0a
  
- (4K) 4096 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (UltraHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (HD) 1920 x 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (HD) 1920 x 1080i 25, 29.97, 30
- (HD) 1280 x 720p 50, 59.94, 60
- (SD) 720 x 576p 50
- (SD) 720 x 576i 25
- (SD) 720 x 480p 59.94
- (SD) 720 x 480i 29.97

### HDCP Decryption

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- Not supported. By definition, SDI outputs are unencrypted.

### Video Output Digital

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- 4 x 3G-SDI BNC, SMPTE-259/292/424
- YCbCr 4:2:2/4:4:4
- RGB 4:4:4, SMPTE or Full level
- 10 bit
- Two Sample Interleave (2SI) or Square Division (Quadrant) source mapping

### 4 x 3Gb SDI (Level A or B-Dual Link)

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- (4K) 4096 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (4K) 4096 x 2160PsF\* 23.98, 24, 25, 29.97, 30

- (UltraHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (Ultra HD) 3840 x 2160PsF\* 23.98, 24, 25, 29.97, 30

*NOTE: PsF is Level B-Dual Link*

#### 4 x 1.5Gb SDI

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- (4K) 4096 x 2160p 23.98, 24, 25, 29.97, 30
- (4K) 4096 x 2160PsF 23.98, 24, 25, 29.97, 30
- (UltraHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30
- (UltraHD) 3840 x 2160PsF 23.98, 24, 25, 29.97, 30

#### 2 x 3Gb SDI (Level B-Dual Stream)

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- (4K) 4096 x 2160p 23.98, 24, 25, 29.97, 30
- (4K) 4096 x 2160PsF 23.98, 24, 25, 29.97, 30
- (UltraHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30
- (UltraHD) 3840 x 2160PsF 23.98, 24, 25, 29.97, 30

#### 1 x 3Gb SDI (Level A or B-Dual Link)

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- (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (2K) 2048 x 1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 1920 x 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (HD) 1920 x 1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 1920 x 1080i 25, 29.97, 30
- (HD) 1280 x 720p\* 50, 59.94, 60

*NOTE: 1280 x 720p is Level A Only*

#### 1 x 1.5Gb SDI

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- (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30
- (2K) 2048 x 1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 1920 x 1080p 23.98, 24, 25, 29.97, 30
- (HD) 1920 x 1080PsF 23.98, 24, 25, 29.97, 30
- (HD) 1920 x 1080i 25, 29.97, 30
- (HD) 1280 x 720p 50, 59.94, 60

#### 1 x 270Mb SDI

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- (SD) 625i 25
- (SD) 525i 29.97

#### Audio Input

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- HDMI embedded audio, 24-bit, 8-Channel

#### Audio Output

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- SDI embedded audio, 24-bit, 8-Channel

#### Size (w x d x h)

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- 5.76" x 4.02" x 0.90" (146mm x 102mm x 23mm)

#### Weight

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- 0.55 lb (0.25 kg)

#### Power

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- 5-20VDC regulated, 10 watts, power supply required, included with purchase
- AC Adapter: 100-240VAC, 50/60 Hz, universal input

## Environment

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- Safe Operating Temperature: 0 to 40 degrees C (32 to 104 degrees F)\*
- Safe Storage Temperature (Power OFF): -40 to 60 degrees C (-40 to 140 degrees F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

*NOTE: HA5-4K uses approximately 10 watts of power and convection cooling. It will be warm to the touch, which is normal. When installing the unit, mount in a location where it has access to air for proper cooling. Do not stack the HA5-4K with other Mini-Converters.*