

# MNA-440 ENC HDMI

4K AV-to-IP adapter for the OR and hybrid OR



- AV-to-IP conversion
- Up to 4K resolution
- Medical-grade
- Established 3rd generation technology

## Adapter for the operating room

The MNA-440 ENC HDMI converts HDMI 2.0 video signals to Nexxis RAW IP packets. Other non-video signals such as audio and USB for keyboard/mouse are also supported. End-to-end video latency is amazingly low and is guaranteed not to exceed a single frame. The video streams that are distributed over the Nexxis network can go up to a resolution of 4K.

## Capabilities

The MNA-440 adapters are part of Barco's Nexxis solution, which provides users with uncompromised networked visualization for the digital operating room. The compact Nexxis AV-to-IP adapters offer simplicity and flexibility while maintaining the highest possible performance standards and fitness for use in demanding medical environments.

As a third generation device, the MNA-440 ENC HDMI provides the full richness of the established Nexxis platform while:

- increasing future scalability
- improving ease of installation
- adding increased security performance
- reducing ecological footprint

**Product specifications****MNA-440 ENC HDMI**

General specifications	
Video conversion	Converts Digital video signals to uncompressed IP streams
Processing	4096x2160@60Hz on a single input channel Or 1920x1200@60 per input channel
Color depth	RGB 8-bit, YCbCr 4:4:4 8bit or YCbCr 4:2:2 10-bit
3D technology	The following video formats are supported: <ul style="list-style-type: none"><li>■ 1920x1080@60Hz Line-interleaved</li><li>■ Dualstream 1920x1080@60Hz (using both input channels)</li><li>■ UHD/4K60 3D Line interleaved half height: 3840/4096x1080 per view</li><li>■ UHD/4K30 3D Dual Stream: UHD/4K resolution for every view at half framerate (30Hz), one HDMI input per view</li></ul>
Latency	Subframe
Security	AES 128 encryption of all video, data & control signals
Video Input	2x HDMI 2.0 lockable connector
Network output	1x 4K/UHD uncompressed IP stream & 1x downscaled FHD IP stream of native 4K/UHD source Or 2x HD uncompressed IP stream
IP connectivity	2x 10GbE Fiber Optic Interface with SFP+ module
IP standards	Zeroconf, IPv4, IGMP, DHCP, RTP, RTCP, 802.1q, AES 128b, HTTP(s)
USB	1x micro-USB type B & 1x USB Type A
Audio	Stereo line in and Headset/Stereo line out 15mm length compatible 3.5mm TRRS jack
GPIO	1x GPI + 1x camera trigger via 15mm length compatible 3.5mm TRRS jack
Nexxis integration	Fully integrated in the Nexxis solution, compatible with MNA-1x0 and MNA-240 devices
PSU	External 12VDC Medical Approved PSU, 100-240VAC 50-60Hz 60W with lockable connector at DC side
Power consumption	Maximum: 25W Typical: 15W
Size	35 mm H x 103 mm W x 131 mm D   1.4" H x 4.1" W x 5.2" D (+/-2 mm / 0.1")
Weight	0.4 kg (0.88 lbs)
Temperature	5°C to 40°C (41°F to 104°F)
Humidity	Maximum 85%

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<b>Storage</b>	Storage temperature: -20°C to 60°C (-4°F to 140°F) Storage Relative Humidity: 10% to 93%
<b>Acoustic Noise</b>	Typical 32dBA at 20°C at 1m
<b>Mounting</b>	Versatile mounting bracket included
<b>Certifications</b>	<ul style="list-style-type: none"><li>■ CB (IEC 60601-1) Informative report</li><li>■ CB (IEC 60950-1)</li><li>■ cRU, RU (cRUus)</li><li>■ Demko</li><li>■ CE medical device class I</li><li>■ UKCA</li><li>■ BIS Registration, IS 13252 (part 1)</li><li>■ KC</li><li>■ BSMI</li><li>■ RCM</li><li>■ EAC</li></ul>
<b>Standards</b>	<p>Medical Equipment:</p> <ul style="list-style-type: none"><li>■ IEC 60601-1:2005 + Am1:2012</li><li>■ IEC 60601-1-6:2010 + Am1:2013</li><li>■ IEC 60601-1-2:2014 (ed4)</li><li>■ ANSI/AAMI ES 60601-1: A1:2012 + C1:2009/(R)2012 + A2:2010/(R)2012</li><li>■ CAN/CSA-C22.2 No.60601-1:14</li><li>■ EN 60601-1:2006 + A1:2013 + A12:2014</li><li>■ EN 60601-1-6:2010 + A1:2015</li><li>■ EN 60601-1-2:2015 (ed4)</li><li>■ FCC class B</li><li>■ ICES-001 Level B</li></ul> <p>ITE Equipment:</p> <ul style="list-style-type: none"><li>■ IEC 60950-1:2005 + Am1:2009 + Am2:2013</li><li>■ EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011</li><li>■ IS 13252</li></ul>

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