# advoli™

ADVOLI™ TA6 GRAPHICS CARD
PRODUCT SPECIFICATION

HDBaseT™ Certified Product

Modular

HDBaseT™ Certified Modular Graphics Card capable of using both Type A and Type B MXMs following the MXM spec 3.0 / 3.1
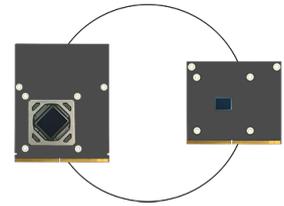
Emulated Controls

Graphics Card with Emulated CEC, RS232 and IR giving you the IOT power over your displays/projectors for remote access and control

Pass Through IR

Pass through IR via two 4-pin 3.5 mm phone jacks for IR in and IR out sending the IR signal up to a distance of 150 m per hop

Diagnostics

Built in cable diagnostics: cable distance, signal integrity for each twisted pair on the CAT cable and environmental diagnostics

6 x 4K over a distance of 100 meters

Using the power of HDBaseT™ one advoli™ TA6 graphics card can send six different 4K videos at a distance of 100 meters per hop

* Most likely, we haven't seen anything similar.

A MODULAR VIDEO CARD FOR LONG DISTANCES

The advoli™ TA6 is designed for audiovisual installations requiring long distances between server and displays/projectors for the following market segments:

KEY MARKETS

Education	Corporate Enterprise	Hospitality & Retail	Healthcare
Cultural & Event Centers	Large Home Installations	Broadcast	Government
House of Worship	Aerospace & Defense		

During the design process we wanted to ensure we designed something completely different to the existing market. Rather than competing in the vertical segment of processor speeds, we saw a large missing horizontal segment of functionality of graphics cards for audiovisual installations. We set out to develop a new type of graphics card with the following benefits:

KEY BENEFITS

Modular	Compatible with both Type A and Type B MXM 3.0/3.1 allow for higher customisability for audiovisual installations based on processor capacity and brand. For approved MXM modules please visit our website: advoli.com
6 independent channels	A single advoli™ TA6 graphics card to drive up to 6 display walls, each playing unique 4K resolution video at a distance of 100 meters each. Pair our graphics card with extenders and each channel can run up to 8 display walls at 100 metres per hop in clone mode.
Half-length and dual width	Use the advoli™ TA6 graphics card in PCIe x16 slots in ITX form factor motherboards for miniaturised installations all the way up to server sized motherboards.
Emulated Controls	Emulate any IR, CEC and RS232 signal. Allow for remote access and control of displays and projectors removing the need for physical remote controls, which is especially useful for digital signage installations.
Pass Through IR	Where physical IR remote controls are a necessity the advoli™ TA6 graphics card can pass through the IR signal from the receiver side or the transmitter side.
Diagnostics	Packed with real-time diagnostic features from temperature, signal strength to cable tampering, remote monitoring of server and displays/projectors is possible. Ensure your audiovisual installation is performing optimal from an environmental, safety and security perspective. Paired with a cloud system, remote management and notifications are made possible.

Cooling Redundancy	We use a pure copper heatsink that has a better thermal performance than most other competing designs. Two dual ball bearing fans running at 70% speed. Should one break the other will increase its speed to 100% to compensate. By using dual ball bearing fans the life cycle increases. The combined result is a much lower operating temperature and a much longer life cycle.
No Electricians	Virtually anyone can pull, place and terminate a CAT cable. Since we removed the need for dongles and power adapters, we have reduced the need of having an electrician come and install additional power outlets.
Device Reduction	If you use a HDBaseT™ certified transmitter and receiver with power adapters for six channels you have up to 54 points of failure between your media player and display. With our HDBaseT™ certified advoli™ TA6 graphics card combined with HDBaseT™ certified displays/projectors we can reduce this down to 6 points of failure. A lot less electronic waste, less points of failure, and potentially a lot less cost.
Plug and Play	No custom advoli™ drivers needed. Ensure you have the driver for the MXM, a free dual width PCIe x16 slot and a 6-pin 12V, free supplementary power cable and you are ready to go. All of our 'software' is built in as firmware.
Screen Order Preservation	We have built in screen order preservation in the firmware. Once you setup your displays, you can lock the EDID. By locking the EDID you can unplug and replug any new display at any other resolution, and your previous locked EDID and resolution will continue to function unchanged. This prevents the operating system from destroying your screen order setup and is valuable for quick display swap during critical operations.
Enormous Resolution	Each channel is capable of independent 4K resolution, however all six 4K channels can be combined into one enormous resolution display e.g. 12K by 4K.

CAT CABLE BENEFITS

Easily Terminated at Installation	Most other competing audiovisual cables do not allow for termination of cable on site and need to be preordered at certain lengths. In addition, competing cables are limited in functionality. CAT cables do not have this limitation.
Cheaper & Abundant	CAT cables are regularly used in networking and have been the standard for decades. Therefore, CAT cables are much cheaper and easier to source than other audiovisual standards.
Long Distances	Most other competing audiovisual cables are limited in length of 3-15 meters for high definition content. With shielded twisted pair CAT cables we can go up to 150 meters per hop for HD content and still pack in all the additional wonderful features.
Fire-resistant & Shielded	It is important to be compliant with regulations and when a necessity, CAT cables are usually much easier and cheaper to find in fire-resistant and shielded material.

advoli™
TA6 GRAPHICS CARD

TECHNICAL DETAILS

KEY FEATURES

Modular	Works with Type A and Type B MXM 3.0/3.1 Modules*
6 Independent HDBaseT™ Channels	6 x UHD (4K) over 100 meters
Half-length	L: 167 mm, H: 106 mm, W: 39 mm to fit ITX form factor
Emulated Controls	IR, CEC and RS232
Pass Through IR	IR in and out: 2 x 4-pin 3.5 mm phone jack
Diagnostics	HDBaseT™ and environmental diagnostics
Cooling Redundancy	Two dual ball bearing fans with pure copper heatsink

* Please refer to advoli™ website for updated list of compatible MXM Modules: www.advoli.com

CABLE LENGTH

Cable Type	Range	Supported Video
CAT5e/CAT6	100 meters	1080P, 60Hz, 36 bpp
CAT6a/CAT7	150 meters	1080P, 60 Hz, 24 bpp
CAT5e/CAT6	70 meters	4K2K, 30 Hz
CAT6a/CAT7	100 meters	4K2K, 30 Hz

CAT cables should be shielded twister pair: CAT 5e / CAT 6 / CAT 6a / CAT 7

DIAGNOSTICS

Temperature Sensors	2 Sensors on Card + MXM GPU Temperature pass through
Firmware	Version, Date and Factory Reset
Operating Time	Operation Time of Power in SRAM and Flash, # Power Cycles
Electrical Readings	Main voltages vs optimal
HDBaseT™ Channel and Cable	Chipset Type, Link Status, Video Type, Clock, Cable length, Each twisted pair signal integrity and Error Rate

MXM MODULE(S) SUPPORTED

AMD™	E9550™
Architecture	Polaris™
Compute Units	36, 5,8 TFLOPS
Memory	8GB GDDR5, 256 bit wide
Power	95W
Graphics Clock	1120 MHz
Memory Clock	1250 MHz
Video Encode/Decode	Support for 4K hardware-accelerated (HEVC/H.265 and AVC/H.264)

Will be further updated as we test and approve other MXM, please refer to advoli™ website: www.advoli.com

CONNECTORS

HDBaseT™	6 x RJ45: Female 8-pin Output
IR In Pass Through	4 pin 3.5 mm female plug connector
IR Out Pass Through	4 pin 3.5 mm female plug connector
USB Internal Header	10 PIN USB 2.0
Bus Type	PCI-Express 3.0 x16

POWER REQUIREMENT

Advoli™ TA6 Graphics Card	144 W max
Supplementary Power Connector	6-Pin (12V)

CONTROLS

EDID	Capture and display EDID: Raw or emulated
	Select virtual, locked or Auto detect EDID
	Configurable Hotplug Detect (HPD)
Serial Console	Mounts with built in drivers in Windows™, Linux and Mac™ operating systems
	Can be opened and used directly by Terminal Program or Serial Port Application
	Accessible through browser/javascript/ActiveX™
	Serves as IOT interface to advoli™ TA6 graphics card
IR	Capture and display IR: Raw IR data commands
	Emulation of any RC5 or CIRC IR commands through Virtual COM port
CEC	Capture and interprets CEC commands
	Send raw command CEC strings emulating any device
	Auto responds to any basic CEC commands
	Diagnostics mode: Show full raw data and timing information

PORT INDICATOR LIGHT

No Light	No power, no video, no signal
No Green Light	No power
Blinking Green Light	Power being sent
No Blue Light	No signal being sent
Permanent Blue Light	Data signal sent
No Red Light	No video signal
Blinking Red Light	Video being sent

ENVIRONMENTAL

Ambient Operating Temperature	0-40 C
Ambient Operating Humidity	10% to 90% non-condensing
Storage Temperature - Non Operating	0-60 C

REGULATORY COMPLIANCE

United States	FCC
Canada	IC
Europe	CE & WEEE
Japan	VCCI
Australia & New Zealand	C-Tick

For further details of regulatory compliance for our products please visit our website www.advoli.com

MAKE IT SIMPLE
…BUT POWERFUL

4K over 100 meters
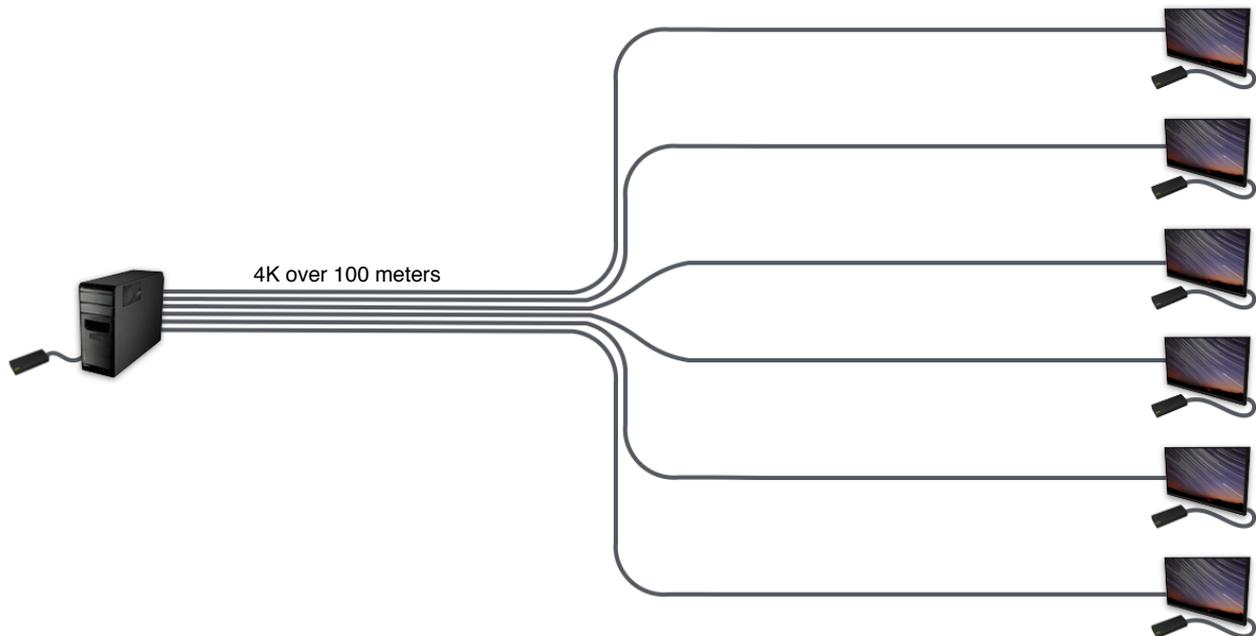
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