

# 7th Sense

Ultimate Performance, Pixel Perfect  
Uncompressed Media Serving

High Resolution, High Frame Rate, High Bit-Depth

Real-Time Media Compositing, Show Creation, Playback & Recording

Complete Pixel & Audio Control

Exceptional Service & Support



Radio City Music Hall Christmas Spectacular 2017 (credit: MSG)



Dragon Gliders at Bollywood Parks Dubai (credit DXB Entertainments)

# Endless Functionality, Total Control, Beautiful Media Serving

Since 2004, we've been designing and manufacturing media serving technologies that bring displays and experiences to life with advanced media management and playback of high resolution, high frame rate, high bit-depth media onto any shape or size display or object.

Our media engine solutions can be found in thousands of installations worldwide. Chosen for many of the world's most challenging and complex displays from theme parks and digital planetariums to large-scale projection mapped buildings and live events, the award-winning **Delta Media Server** range of solutions can take any media onto any display surface with the greatest dependability and the very best results.

## Expertise

We design and manufacture our entire range of products and so can support, guide and help you through the many stages of your project. As a team, we're highly experienced in serving incredibly complex displays and work closely with our integrator partners and end-users to deliver unique media solutions.



Wanda Movie Park, China (credit: Wincomn)

## Global Service, Training & Support

Beyond the technology, we take pride in delivering exceptional service and support across all timezones from our offices in the UK and North America. This dependability and level of support is one of the key reasons Delta is used in such demanding applications.

Our experienced team of engineers and developers provides dedicated, tailored training for integrators, resellers and end-users.

## Customisation

We understand that every project is unique and so our team will recommend the most suitable server from the range and then apply any customisation you might need. Since we always build our products to order and to specification, we're able to design new or custom features and tailor the configuration for its application.

**This means you'll always have the performance and features you do need, and you won't pay for the things you don't.**

## Applications

- Theme Park & Attraction
- Museum & Science Centre
- Fulldome & Planetarium
- Live Event
- Retail & Digital Signage
- Projection Mapping
- Large Format & Cinema
- Corporate

# DeltaGUI

## Show Creation, Playback, Compositing & Recording

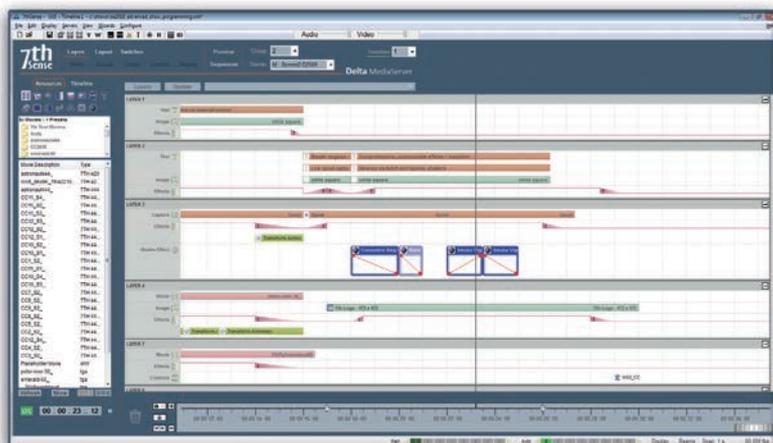
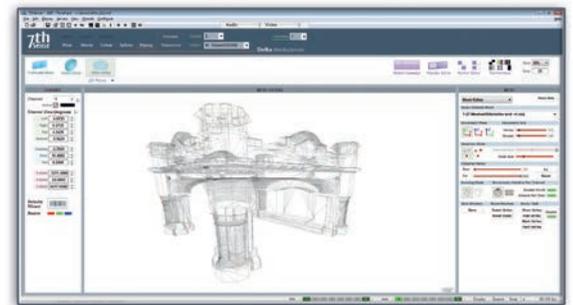
DeltaGUI is the control and configuration interface for Delta Media Servers. DeltaGUI allows the user to interact with one to several Delta Media Servers, all from a single application. Creating advanced shows with compositing and transitions between layers is simple with the intuitive drag and drop DeltaGUI application. The show creator can use basic elements such as fades, transparencies, luma and chroma keying through to advanced effects via a customisable OpenGL shader library or by using the power of a live video effects engine such as Notch.

For complex applications, it is easy to expand the capability of your Delta Media Server system by grouping multiple servers together. All Delta Media Servers running in a group configuration are seamlessly locked together leading to a very scalable solution for almost any kind of display configuration and performance requirement. All of this advanced capability is available across 32 frame accurate timelines. The powerful DeltaGUI also provides direct access to a detailed configuration of all servers and handles warping and blending of all display channels, compositing multiple sources, display configuration and management, spline editing, mesh editing and dome projector layout design.

In addition to show creation and the playback features of Delta is the ability to use the server for real-time and non-real-time recording and carving of media assets. This can be done on a single server, but for maximum efficiency and speed, multiple servers can be used in a cluster to create a parallel recording group, maximising the power of the complete system.

Delta has been designed by experts in display systems, who have been involved in projects utilising every type of projected and fixed-matrix type of display system from major theme park dark rides to large screen Hollywood cinemas and multi-channel digital planetariums to 6,000 seat theatres and full-scale building projection for mass audiences.

This in-house knowledge has been used to build the best display management tools available so that Delta can cope with any display surface you can imagine, whether it's a regular screen or an abstract shape.



### Display features

- Flat, curved, half-dome, fulldome and 3D modelled shape screen types.
- Underlap and Overlap correction.
- Cross-server "canvas" paradigm creates a single coherent multi-server display surface.
- Comprehensive warp & blend.
- Projection mapping Mesh Mode.
- Spherical or ellipsoid dome screen layout designer, fisheye media support with angular visual resource positioning.
- In-GUI visualisation of the flat, dome or 3D mesh screen.
- Composition Mode allows complex LED processor packing of media and output channels.
- HDMI, DVI, DisplayPort, SDI output support, with 8, 10 & 12-bit video modes and media.
- Live capture of multiple DP/HDMI/SDI/DVI Inputs.
- Real-time movement of channels on the canvas to support flying LED screen automation.
- Real-time virtual 3D environment with support for tracking systems for projection on moving objects.
- RGB & XYZ colour space support.

# DeltaVR Uncompressed Reality

Delta Media Server is integrated with a number of industry virtual reality (VR) headsets and head-mounted displays (HMDs) including, HTC VIVE and OCULUS Rift, or any other headset supported by the OpenVR platform.

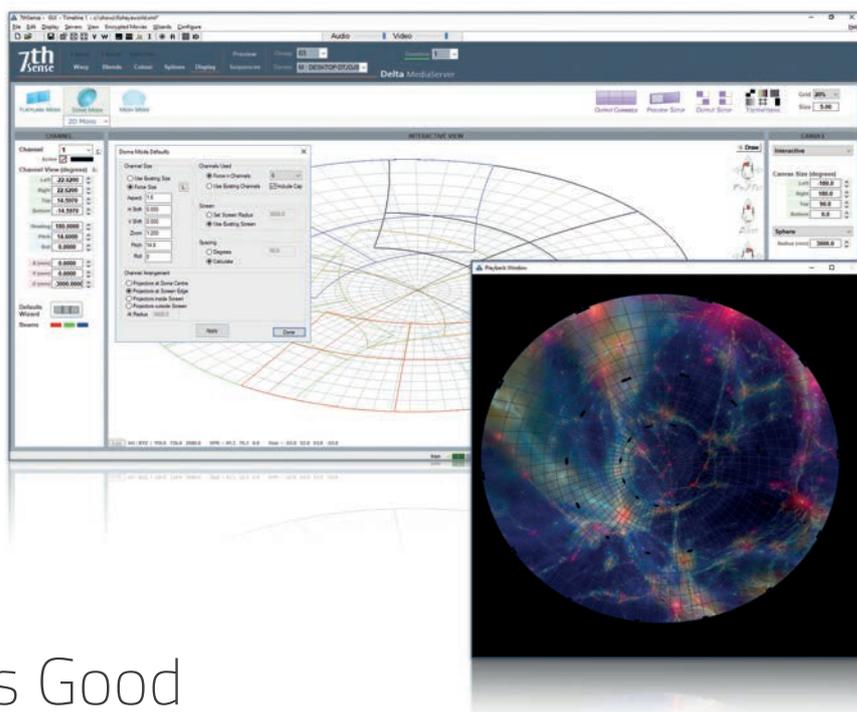
This feature can be used for display system pre-visualisation and analysis, and is also ideal for multi-user VR experiences and attractions.



# DeltaRealTime Uncompromised, Uncompressed Real-Time

Whether driving a VR experience that uses headsets or one that involves an everyday display using interactive technologies, DeltaRealTime provides the functionality to composite high resolution, high frame-rate, uncompressed playback with high quality real-time assets in a 3D environment, with per pixel depth testing, from platforms such as Unity and Unreal.

DeltaRealTime allows the individual system components to excel at what they do, which gives maximum flexibility, maximum reality and an amazing experience.



# DeltaAudio. Sounds Good

The entire Delta server range, from the dedicated NanoAudio through to the top of the range Infinity, comes with advanced audio playback capabilities. Having all the video and audio playback devices on the same Delta UI network simplifies the control and synchronisation of even the most demanding of systems.

- Up to 64 phase accurate outputs per server.
- Options for all common formats (Dante, AES67, AES, CobraNET, MADI, Balanced Analog, Unbalanced Analog).
- Comprehensive real-time audio mapping on a Channel, Timeline or file basis.
- Options for dynamic 3D sound positioning.
- Seamless audio stitching between tracks (providing tracks are seamlessly edited).
- LTC Input / Output.

# Delta Media Server Range



## Infinity

Infinity is our most powerful media server with a vast range of hardware and software options, designed to meet the demands of some of the most prestigious displays in the world.

Infinity is the cutting-edge in uncompressed media serving, capable of playing up to 8K x 4K 60 fps, or 4K 240 fps uncompressed video and offering passive and active stereo 3D, a full range of display matching, interactivity and control features, potential for many video / audio outputs and huge internal / external storage capability.

### Unique features include:

- Fully uncompressed media playback at 8K x 4K 60p (4:2:2), or true 8K x 4K 30p (4:4:4) from a single server solution.
- Up to 32 outputs from a single server.
- Pixel-accurate synchronisation including full video genlock between servers.
- Unique Fulldome Mode for live events or planetaria.
- Fully 3D interactive Mesh Mode which provides the necessary flexibility to create complex projection mapping onto objects or buildings.
- 8, 10, and 12-bit per pixel outputs (HDR Support).
- Up to 240 fps playback.

### Delta also offers:

- Display management in terms of warp, blend, overlap and underlap creation, with EDID management built into the system.
- 64-bit power, enabling the user to have more online imagery and higher throughput of media.
- Camera-based auto-alignment (Scalable Display and VESA MPCDI support for all display modes).
- Pre-warp workflow support to minimise dynamic distortion correction.
- Comprehensive 3D mesh import and multiple eye points and meshes.
- Dual Quad SDI outputs for 4K projectors, including 10-bit video and media, serving 2 x 4K 4:2:2 60p projectors from one server.

## Nucleus



Nucleus offers up to 6 x HD/WUXGA/2K of uncompressed playback at 60 fps or 1 x 4K at 60 fps in 4:4:4, pixel-accurate synchronisation, camera-based auto-alignment option and real-time warp and blend features.

With multi-timeline capabilities, auto-play for movies and audio and external control options, Nucleus is perfect for abstract mesh screens and full-dome projection for live events or digital planetariums and dome theatres.

## Proton



Proton comes in four different configurations and is capable of playing 4 x HD/WUXGA/2K of uncompressed playback at 60 fps in 4:4:4, or 4 x 4K 60 fps YCoCg (HAPQ).

With real-time warp and blend features, camera-based auto-alignment options, support for up to 4 projectors per server and full genlock, Proton is ideal for 3D interactive Mesh Mode (projection mapping), pixel mapping and live capture.

---

# Pico



Pico is a powerful media server in compact form – capable of uncompressed 4K 8-bit 4:2:2 playback at 60 fps from a solution with micro dimensions of just 145 x 152 x 44 mm. It's ideal for wall displays, multiple and small-scale installations.

It includes ruggedization features, which make it ideally suited to mobile installations. Pico comes with a full version of Delta Media Server which means it has all the feature capability of the Delta range.

---

# Nano



The Nano comes with a choice of hardware variants dependent on requirements, and is capable of playing up to WUXGA or 3 x 2K 30 fps 4:2:2 with full timeline control, warp and mask with an option for blending.

Nano is a strikingly affordable way to introduce uncompressed media playback into your workflow.

- Nano-2 has 2 x HD/WUXGA/2K outputs @ 4:4:4 over 2 x HDMI or 1 x HDMI + 1 x DVI at up to 30 fps (or 60 fps with one output).
  - Nano-3 has 3 x HD/WUXGA/2K outputs @ 4:2:2 over 2 x HDMI + 1 x DVI at up to 30 fps (or 60 fps with one output).
  - NanoAudio is a dedicated audio player fully integrated with all the Delta software features.
- 

# Nano-SDI



Nano-SDI is a highly affordable way of introducing uncompressed media playback into workflow for fixed installations. Developed primarily for theme parks, museums, science centres and attractions – venues with a lot of content, a lot of displays, and a need to quickly and easily deliver media without compromise on quality. A new, simplified web browser-based user interface has been developed specifically for simple playlist configurations while full DeltaGUI control is still available for more complex applications.

Nano-SDI is available in two configurations: Nano-SDI-1 with up to 2K / HD 60p output in both compressed and uncompressed playback formats. Nano-SDI-2 is capable of up to 2 x 2K / HD 60p SDI uncompressed output with storage and playback upgrade options available.

---

# Compare the Range

	Pico	Nano-2	Nano-3	NanoSDI	Proton	Nucleus	Infinity
<b>Outputs</b>							
DP, DVI or HDMI outputs*	1	2	3	1 Preview only	Up to 4	Up to 6	Up to 12
SDI outputs*	×	×	×	1	2	2	Up to 16
Option of 12G-SDI (coax or SFP)	×	×	×	×	×	×	✓
Output RS232*, UDP, TCP serial commands, RS422*	×	✓	✓	UDP/TCP/RS-422 input	✓	✓	✓
Software preview	✓	✓	✓	✓	✓	✓	✓
Hardware preview output*	×	×	×	×	✓	✓	✓
<b>Inputs</b>							
DP, DVI HDMI or SDI live inputs*	×	×	×	×	✓	✓	✓
Capture*	✓	×	×	×	✓	✓	✓
Art-Net input / output (DMX option*)	✓	✓	✓	✓	✓	✓	✓
<b>Audio</b>							
Audio options**	4U 16DS*	8U 8BU 8DS 20P	8U 8BU 8DS 20P	8A 8U 8BU 16DS	8U 24BU 16BP 16C 32DH 32DS 20P	8U 24BU 16BP 16C 64DH 64DS 20P	8U 24BU 16BP 16C 64DH 64DS 20P
<b>Storage</b>							
Typical internal solid state storage	up to 1 TB	up to 7.6TB	up to 7.6TB	up to 900 GB	up to 15.36 TB	up to 30.72 TB	up to 61.44 TB
Backup OS or RAID1 OS option	×	×	×	×	✓	✓	✓
<b>Playback Features</b>							
Typical playback of 4K 60 fps Movies	1	×	×	×	1	2	4
Play high rate fps movies*	60	30	30	60	50,60	50,60,120,240	50,60,120,240
<b>Networking</b>							
Gigabit Ethernet ports	2 x RJ45	1 x RJ45	1 x RJ45	2 x RJ45	2 x RJ45	2 x RJ45	2 x RJ45, option for 10 G
<b>Synchronisation</b>							
Playhead sync across multiple chassis via network	✓	✓	✓	✓	✓	✓	✓
Genlock between servers*	×	×	×	✓	✓	✓	✓
Master LTC	✓	✓	✓	✓	✓	✓	✓
Chase LTC*	(not genlocked)	(not genlocked)	(not genlocked)	✓	✓	✓	✓
<b>Physical Specification</b>							
Rackmount Dimensions*** (H x W x D mm)	-	(1U)44 x 483 x 241	(1U)44 x 483 x 241	(1U)44 x 483 x 321	(2U)89 x 483 x 545	(3U)113 x 483 x 497	(3U)113 x 483 x 603
Rackmount weight (approx., kg)	-	4.5	4.5	6	13	15	21
VESA Dimensions (H x W x D mm)	44 x 145 x 152	-	-	-	-	-	-
VESA weight (approx., kg)	1.4	-	-	-	-	-	-
Power supply	100-240 VAC, 60-50 Hz	100-240 VAC, 60-50 Hz	100-240 VAC, 60-50 Hz				
Current (A) (max)	3-1.5	3-1.3	3-1.3	4.5-2	7-3.5	10-5	10-5
Current (A) (typical)	0.6-0.3	0.9-0.5	0.9-0.5	1.2-0.6	1.5-0.8	2.2-1.1	2.7-1.4
Power (W) (typical)	60	100	100	130	165	240	300
Heat (BTU) (typical)	205	340	340	450	565	825	1015
Redundant power supply*	×	×	×	×	×	✓	✓
<b>Licensed options*</b>							
4K 60p (bandwidth)	✓	×	×	×	✓	✓	✓
High bit depth	×	×	×	×	×	✓	✓
SDI output	×	×	×	✓	✓	✓	✓
Capture	✓	×	×	×	✓	✓	✓
Genlock	×	×	×	✓	✓	✓	✓
3D passive / active / interleaved stereo	×	Options	Options	×	✓	✓	✓
Dome mode	×	×	×	×	✓	✓	✓
Mesh mode	✓	✓	✓	✓	✓	✓	✓
Composition mode	✓	✓	✓	✓	✓	✓	✓
Autoalignment import	✓	✓	✓	✓	✓	✓	✓
DMX lighting control	✓	✓	✓	✓	✓	✓	✓
Encrypted copy protection	✓	✓	✓	✓	✓	✓	✓
User expiry management	✓	✓	✓	✓	✓	✓	✓
Closed captioning	✓	✓	✓	✓	✓	✓	✓
7thConnect	✓	✓	✓	✓	✓	✓	✓

\* Optional features may be dependent on available hardware interface in the Delta Server model and licence(s) purchased.

\*\* Audio Option Codes: Max Channels + Type

A=AES BU=Balanced Analog USB DH=Dante Hardware OP=SPDIF Optical PCM  
 BP=Balanced Analog PCIe C=Cobranet DS=Dante Software U=Unbalanced Analog (3.5 mm TRS mini jack)



UK +44 (0) 1903 812299  
 USA +1 248 599 2717  
[www.7thsensedesign.com](http://www.7thsensedesign.com)