

PANDORAS BOX

**coolux**<sup>®</sup>  
A **CHRISTIE** COMPANY

**You've got the skills.**  
**We've got the tools.**



Field Guide

# SOFTWARE PLAYER



Features	LT	STD	PRO
Outputs	1	1	1
Playback Resolution	HD	HD	4K
Video Layer	1	2	4
Graphic Layer	Unlimited	Unlimited	Unlimited
Audio Tracks	1	2	4
StreamiX	1	2	4
Base Parameter	2D / XY	2D / XY	2D / XY
max. FX/Layer	None	2	4
max. Particle Systems	None	2 / 2D	4 / 2D
Encoder	Optional	Optional	Optional
Media Encryption	Decryption	Decryption	Decryption
Sequences	0	1	1
Network Sync	Yes	Yes	Yes
Playlists	Yes	Yes	Yes
Recording	No	No	No
Keystone	No	No	Yes
Genlock	Optional	Optional	Optional
Softedge	No	Yes	Yes
Warping	2D	2D	2D
Matrix	Yes	Yes	Yes
Video Input	DirectShow	DirectShow	DirectShow
Multi License Mode	Yes	Yes	Yes
Webbrowser	Yes	Yes	Yes

## HARDWARE PLAYER



Features	DUAL	QUAD
Outputs	2x DVI *	4x DVI-D
Playback Resolution	4K	4K
Video Layer	4	8
Graphic Layer	Unlimited	Unlimited
Audio Tracks	4	8
StreamiX	4	8
Base Parameter	2D / XY	2D / XY
max. FX/Layer	2	4
max. Particle Systems	2 / 2D	4 / 2D
Encoder	Optional	Optional
Media Encryption	Decryption	Decryption
Sequences	1	1
Network Sync	Yes	Yes
Playlists	Yes	Yes
Recording	No	No
Keystone	Yes	Yes
Genlock	Optional	Optional
Softedge	Yes	Yes
Warping	2D	2D
Matrix	Yes	Yes
Input Cards, opt.	1	1
Redundant SSD	500 GB/ 240 GB	500 GB/ 240 GB
Webbrowser	Yes	Yes

## COMPACT PLAYER



Features	
Outputs	1x DVI-I
Playback Resolution	HD
Video Layer	2
Graphic Layer	Unlimited
Audio Tracks	None
StreamiX	2
Base Parameter	2D / XY
max. FX/Layer	2
max. Particle Systems	2 / 2D
Encoder	Optional
Media Encryption	Decryption
Sequences	1
Network Sync	Yes
Playlists	Yes
Recording	No
Keystone	No
Genlock	No
Softedge	Yes
Warping	2D
Matrix	Yes
Input Cards, opt.	0
SSD	120 GB
Webbrowser	Yes

\* 1x DVI-I and 1x DVI-D Output

## DUAL SERVER



Features	EDU	LT	STD	PRO
Outputs	Device Dependent	2x DVI*	2x DVI*	2x DVI*
Playback Resolution	4K	4K	4K	4K
Video Layer	4	8	16	Unlimited
Graphic Layer	Unlimited	Unlimited	Unlimited	Unlimited
Audio Tracks	8	8	16	Unlimited
StreamiX	4	8	16	32
Base Parameter	3D / XYZ	3D / XYZ	3D / XYZ	3D / XYZ
max. FX/Layer	4	Unlimited	Unlimited	Unlimited
max. Particle Systems	4 / 3D	Unlimited	Unlimited	Unlimited
Encoder	Yes	Yes	Yes	Yes
Media Encryption	Encryption/Decryption	Decryption	Decryption	Decryption
Sequences	1	1	1	1
Network Sync	Yes	Yes	Yes	Yes
Playlists	Yes	Yes	Yes	Yes
Recording	Yes	Yes	Yes	Yes
Keystone / Warping	3D	3D	3D	3D
Genlock	Device Dependent	Optional	Optional	Optional
Softedge	Yes	Yes	Yes	Yes
Matrix	Yes	Yes	Yes	Yes
Input Cards, opt.	DirectShow	2	2	2
Redundant SSD	-	240 GB	480 GB	960 GB
Webbrowser	Yes	Yes	Yes	Yes

\* 1x DVI-I and 1x DVI-D Output

## QUAD SERVER



Features	LT	STD	PRO
Outputs	4x DVI-D	4x DVI-D	4x DVI-D
Playback Resolution	4K	4K	4K
Video Layer	8	16	Unlimited
Graphic Layer	Unlimited	Unlimited	Unlimited
Audio Tracks	8	16	Unlimited
StreamiX	8	16	32
Base Parameter	3D / XYZ	3D / XYZ	3D / XYZ
max. FX/Layer	Unlimited	Unlimited	Unlimited
max. Particle Systems	Unlimited	Unlimited	Unlimited
Encoder	Yes	Yes	Yes
Media Encryption	Decryption	Decryption	Decryption
Sequences	1	1	1
Network Sync	Yes	Yes	Yes
Recording	Yes	Yes	Yes
Playlists	Yes	Yes	Yes
Keystone / Warping	3D	3D	3D
Genlock	Optional	Optional	Optional
Softedge	Yes	Yes	Yes
Matrix	Yes	Yes	Yes
Input Cards, opt.	2	2	2
Redundant SSD	240 GB	480 GB	960 GB
Webbrowser	Yes	Yes	Yes

# BROADCAST DUAL SERVER



Features	LT	STD	PRO
Outputs	2x 3G HD-SDI	2x 3G HD-SDI	2x 3G HD-SDI
Playback Resolution	4K	4K	4K
Video Layer	8	16	Unlimited
Graphic Layer	Unlimited	Unlimited	Unlimited
Audio Tracks	8	16	Unlimited
StreamiX	8	16	32
Base Parameter	3D / XYZ	3D / XYZ	3D / XYZ
max. FX/Layer	Unlimited	Unlimited	Unlimited
max. Particle Systems	Unlimited	Unlimited	Unlimited
Encoder	Yes	Yes	Yes
Media Encryption	Decryption	Decryption	Decryption
Sequences	1	1	1
Network Sync	Yes	Yes	Yes
Recording	Yes	Yes	Yes
Playlists	Yes	Yes	Yes
Keystone / Warping	3D	3D	3D
Genlock	Yes	Yes	Yes
Softedge	Yes	Yes	Yes
Matrix	Yes	Yes	Yes
Built-in Inputs	2x HD SDI	2x HD SDI	2x HD SDI
Input Cards, opt.	1	1	1
Redundant SSD	240 GB	480 GB	960 GB
Webbrowser	Yes	Yes	Yes

# BROADCAST QUAD SERVER



Features	LT	STD	PRO
Outputs	4x 3G HD-SDI	4x 3G HD-SDI	4x 3G HD-SDI
Playback Resolution	4K	4K	4K
Video Layer	8	16	Unlimited
Graphic Layer	Unlimited	Unlimited	Unlimited
Audio Tracks	8	16	Unlimited
StreamiX	8	16	32
Base Parameter	3D / XYZ	3D / XYZ	3D / XYZ
max. FX/Layer	Unlimited	Unlimited	Unlimited
max. Particle Systems	Unlimited	Unlimited	Unlimited
Encoder	Yes	Yes	Yes
Media Encryption	Decryption	Decryption	Decryption
Sequences	1	1	1
Network Sync	Yes	Yes	Yes
Recording	Yes	Yes	Yes
Playlists	Yes	Yes	Yes
Keystone / Warping	3D	3D	3D
Genlock	Yes	Yes	Yes
Softedge	Yes	Yes	Yes
Matrix	Yes	Yes	Yes
Built-in Inputs	2x 3G HD SDI	2x 3G HD SDI	2x 3G HD SDI
Input Cards, opt.	1	1	1
Redundant SSD	240 GB	480 GB	960 GB
Webbrowser	Yes	Yes	Yes

# MANAGER



Features	Offline	LT	STD	PRO
Video Layer	Device Dependent	Device Dependent	Device Dependent	Device Dependent
Graphic Layer	Unlimited	Unlimited	Unlimited	Unlimited
Audio Tracks	Unlimited	8	16	Unlimited
Base Parameter	Volume, Pan L/R	Volume, Pan L/R	Volume, Pan L/R	Volume, Pan L/R
max. FX/Layer	Device Dependent	Device Dependent	Device Dependent	Device Dependent
max. Particle Systems	Device Dependent	Device Dependent	Device Dependent	Device Dependent
Sequences	Unlimited	2	8	Unlimited
Network Sync	No	Yes	Yes	Yes
Encoder	Optional	Yes	Yes	Yes
Media Encryption	Decryption	Encryption/Decryption	Encryption/Decryption	Encryption/Decryption
Video Export***	No	Yes	Yes	Yes
Recording***	No	Yes	Yes	Yes
Playlists	Yes	Yes	Yes	Yes
DMX Link	No	Optional	Optional	Optional
SMPTE Link	No	Optional	Optional	Optional
Fader Extension	Optional	Optional	Optional	Included
Jog Shuttle	Optional	Optional	Included	Included

\*\*\* Video Export is only available with an activated Encoder Extension



# WIDGET DESIGNER



Features	STD	PRO	ULT
Freeware License	Yes	No	No
Connections:			
SMPTE, DMX, Art-Net, Midi	Yes	Yes	Yes
TCP, UDP, Serial COM	Yes	Yes	Yes
TUIO Receiver & Transmitter	Yes	Yes	Yes
Multiple Pages	Yes	Yes	Yes
Script Language	Yes	Yes	Yes
Events (daily, weekly, etc.)	Yes	Yes	Yes
Macros	can be used when created with a PRO / ULT	Yes	Yes
Nodes	can be used when created with a PRO / ULT	Yes	Yes
Variables	no visible Variable list	Yes	Yes
Tools:			
AirScan	No	Yes	Yes
Kinect	No	Yes	Yes
Logitech Presenter	No	Yes	Yes
Face Tracker	No	Yes	Yes
Camera Tracker	No	Yes	Yes
Phidget Sensors	can be used when created with a PRO/ULT	Yes	Yes
Leap Motion	No	Yes	Yes
Web Server	Yes	Yes	Yes
- number of pages	1	unlimited	unlimited
- asynchronous page / sessions	No	No	Yes

## ACCESSORIES



AirScan



NET Link



SMPTE Link



DMX Link



ID Tag



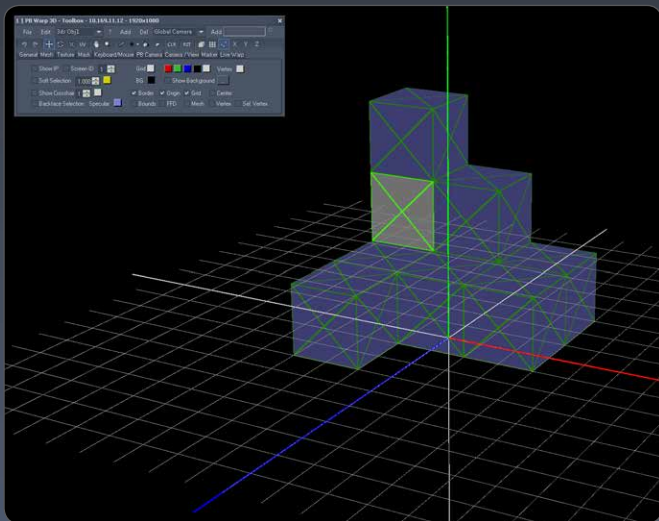
QUAD ID Tag

## DO YOU KNOW OUR WARPERS TOOL?

Using the Warper it is easy to apply textures to complex curved and shaped screens. With this tool it is possible to project onto regular 3D surfaces like a dome or sphere and realize amazing 360° projections. The Warper is an indispensable and advanced tool when it comes to cutting edge projection mapping. It also includes a 3D marker calibration mode to save valuable production time. The Warper also supports .3ds and .fbx files.

It is a specialized, basic 3D modeling software tool using custom shapes with scalable free-form-deformers (FFD).

This application is included as part of the Pandoras Box installer file and requires an attached dongle when started. Any PB Manager and PB Server come with the full 3D edition. PB Player systems come with the 2D edition.



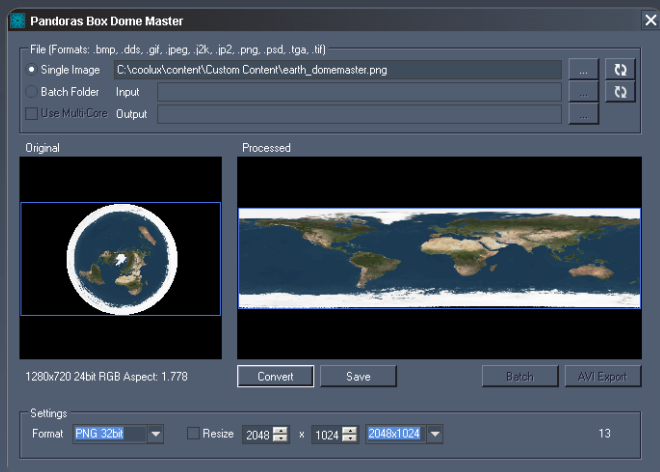
## DO YOU KNOW OUR DOME MASTER TOOL?

The Dome Master is a spherical map converter that allows the conversion of dome master files into spherical map files.

All the content one needs for a dome or sphere project should of course ideally have been formatted correctly prior to the actual production, but this tool allows users to make changes and to adjust content up to the last minute.

In order to map content to 3D spheres or to create so called Dome Warpings, one can convert Dome Master files to spherical maps. The Dome Master Converter allows a 1:1 conversion via pixel blending to achieve the best quality for the spherical map.

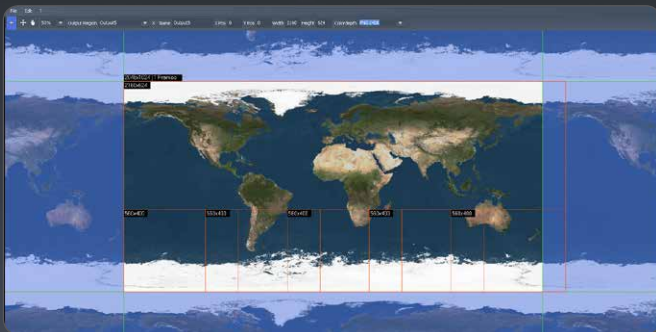
This tool is included as part of the Pandoras Box installer file and just requires an attached dongle when started.



## DO YOU KNOW OUR SPLITTER TOOL?

The Splitter is an extremely useful tool for splitting image sequences into multiple parts, that can then be distributed as a large master file over multiple servers. Perfect for panoramic projections and/or dome projections. Users can even edit their “split” zones, which is very convenient, especially since massive pixel panoramas are growing ever more popular.

The Splitter tool allows for setting up any amount of output regions. Output Regions can wrap around top/bottom or left/right. This is important for 360° Panorama / Sphere content overlap setups.





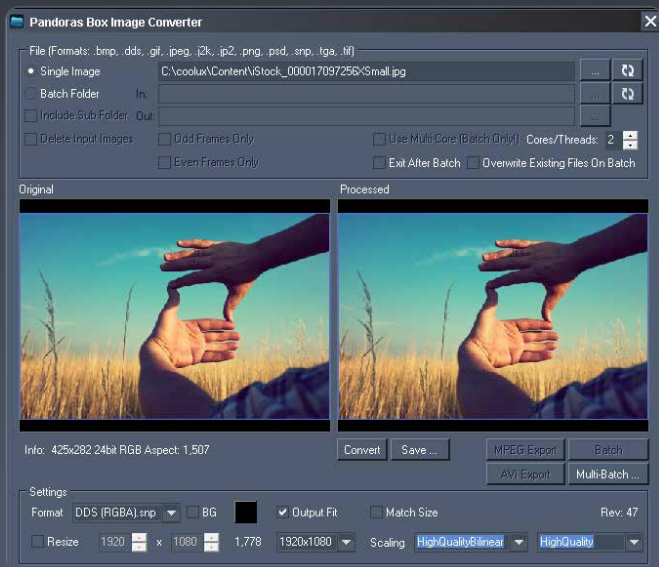
## DO YOU KNOW OUR IMAGE CONVERTER TOOL?

The Image Converter makes high performance image batch conversions possible and can turn image sequences into video files.

Users can resize images to any resolution or image ratio to fit screen sizes or to reduce the system load. Various output formats can be chosen to match the exact need for every conversion.

While encoding video files, one can choose to process the frames forwards or backwards.

Furthermore it is possible to extract an additional black and white movie to be used as a mask for keying in Pandoras Box. This is a recommended workflow when no alpha (transparent) channel is included within the video format.



## DO YOU KNOW OUR VENUE SITES?

Venue Sites are used for visualizing complete stage-, installation- and show-setups in realtime, using 3D models.

Media content can be pre-programmed per output and can then be routed to different 3D models this way. It can be used completely independently from the visualized 3D scenes. What is special about Venue Sites is that instead of just offering a standard 3D mapping approach for pre-visualisation, one can now use a realtime compositing environment as a complete whole to simulate video projectors virtually, using a light projection approach.





## DO YOU KNOW OUR PLAYLIST FEATURE?

Playlists make it really easy to play multiple media files in a row without the need of programming separate containers on the sequence.

This can be a huge time saver for producing slide shows or generating video playlists on the fly.

This feature is also a great way for realizing Digital Signage applications based on a Pandoras Box workflow.

Using Playlists you can now have the best of both worlds and combine the precision of our Pandoras Box timeline with an alternative and user friendly approach that is perfect for a great variety of scenarios.

Assets [G] Device Types [G] About Pandora [G] Playlist Editor [G] Devices [G] Local [G] Groups [G] Views [G]

Current Playlist: Playlist

Playback for: Not Assigned to any Layer.

▶ ◀ ⏮ ⏭ ⏪ ⏩ ⏸ ⏹

Index	Resource	Duration	Fade Out	Fade FX	In	Out	Notes
1	istock_00000222557 Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
2	istock_00000228203 Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
3	istock_00000772630 Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
4	istock_00001189074X Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
5	istock_000002158770X Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
6	istock_000002193842X Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
7	istock_000002503803 Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
8	istock_000005202633 Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
9	istock_000005265503X Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
10	istock_000005502800X Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
11	istock_000005642833X Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
12	istock_000006417112X Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
13	istock_000007022803 Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
14	istock_000009021892 Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
15	istock_000009784059X Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
16	istock_000010682359 Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
17	istock_000010705986 Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
18	istock_0000127550163X Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
19	istock_000015749135X Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
20	istock_000016071527 Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
21	istock_000016073630X Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
22	istock_000016128304X Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
23	istock_000017050784X Medium.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
24	istock_000017058785 Large.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
25	istock_000017066533 Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
26	istock_000017097256X Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
27	istock_000018653423X Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
28	istock_000018698319X Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
29	istock_000019025192X Small.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
30	istock_000025206510 Large.jpg	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
31	image-e4d09b19722867a3392a742b1e102a...	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
32	image-e4d09b19722867a3392a742b1e102a...	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	
33	image-e870628406167444c972a2251ca39342...	0:00:10:00	0:00:02:00	Crossfade	▼ 0:00:00:00	0:00:00:00	

Show in Inspector

## R3 SERVER HARDWARE PERFORMANCE

The following performance results are to be understood as approximate results. The results do not depend on the output resolution and equally apply to both DUAL and QUAD server systems.

	LT (SDD)	STD (SDD)	PRO (SDD)
<b>MPEG Videos</b>			
720p 1280x720p30 @14 Mbit/s	16	20	20
HD 1920x1080p30 @20 Mbit/s	8	10	12
4K* 4080x2160p30 @80Mbit/s	2	2	2
4K* 4080x2160p60 @160Mbit/s	1	1	1
<b>Pandoras Box DDS (Imageseq or MOV)</b>			
HD 1920x1080p30	16	20	24
4K* 4096x2160p30	2	2	2
4K* 4096x2160p60	1	1	1
<b>Pandoras Box DDSA (Imageseq or MOV)</b>			
HD 1920x1080p30	8	10	12
4K* 4096x2160p30	1	1	1
<b>Pandoras Box YCoCg (Imageseq or MOV)</b>			
HD 1920x1080p30	8	10	12
<b>Pandoras Box BMP (Imageseq or MOV)</b>			
HD 1920x1080p30 (SNP)	2	4	4
<b>AVI Uncompressed</b>			
HD 1920x1080p30	2	2	2
<b>QT ProRes 422</b>			
HD 1920x1080p30	2	2	2

All information contained within this document is subject to change without prior notice.

\*The same approximate values also apply to UHD 3840x2160 test results.

## R3 SERVER HARDWARE PERFORMANCE

The following results are to be understood as “mixed usage”, which refers to live-inputs together with video playback. They do not represent the maximum number of live inputs as such.

	LT (SDD)	STD (SDD)	PRO (SDD)
<b>HD-SDI Live-Input</b>			
1920x1080i59.94 (Deinterlaced, Top Field)	4	4	4
Additional simultaneous MPEGs 1920x1080p30@20 Mbit/s	0	0	0
or DDS 1920x1080p30	2	4	4
1920x1080i59.94 (Deinterlaced, Top Field)	1	1	1
Additional simultaneous MPEGs 1920x1080p30@20 Mbit/s	6	8	8
or DDS 1920x1080p30	16	18	20
<b>3G-SDI Live-Input</b>			
1920x1080p59.94	4	4	4
Additional simultaneous MPEGs 1920x1080p30@20 Mbit/s	2	4	4
or DDS 1920x1080p30	6	8	8
1920x1080p59.94	1	1	1
Additional simultaneous MPEGs 1920x1080p30@20 Mbit/s	6	8	8
or DDS 1920x1080p30	16	18	20



# WIDGET DESIGNER



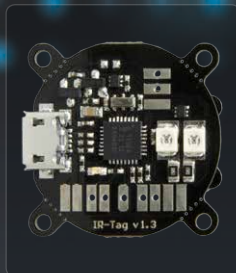
The free Widget Designer STD version allows you to create custom user-interfaces to suit your needs. The Widget Designer PRO version is even more flexible and includes a large feature set for visual node based programming.

It is an advanced control surface creation framework, that lets you create dedicated user interfaces and interaction logic by simply connecting visual control components.

The Widget Designer ULT is particularly well suited for large multiuser projects that focus on the integrated Web Server.

## ID TAGS

The coin sized coolux ID Tags and QUAD ID Tags make real-time tracking scenarios not only easier to set up, but also more reliable, more versatile and more cost effective. Each of the tags can be addressed with a unique ID, which opens up the possibility of up to 256 different unique IDs being tracked in real-time within a single setup.



### Technical Features

- Physical Dimensions: 26 x 26 mm
- Weight: 10g (without battery)
- Battery life:  
Appx. up to 10 hours with button cells. A micro USB port can be used for connecting additional power sources and configuration.
- Maximum number of unique IDs: 256
- Different modes with less IDs are available for faster detection time. 256, 128, 64, 32, 16, 8, 4
- Minimum number of tracking cameras needed for tracking setup:  
One camera for 2D setup, three cameras for 3D setup.
- Camera types suitable for ID tracking setups:  
USB cameras with 100 fps; network-powered Ethernet cameras with up to 250fps.  
Please consult with coolux – A Christie Company before specifying camera type.

## NET LINK INPUT MODULES INFO



The newly developed NET Link product family makes it possible to convert a great number of different external inputs into network data. Each NET Link unit can be equipped with up to two modules that can be freely configured.

Another very important role played by NET Link products is the connection between switching relays, sensor input and output and the multi award winning coolux Widget Designer control software.

Depending on specific project needs, the NET Link products are built to be equipped and configured in many different ways.

One of the most innovative product options is the use of the Fiber Link model as an ingenious, marker based calibration device for the acclaimed Pandoras Box Warper tool.

Re-calibrating projector positions has never been more reliable and user friendly.

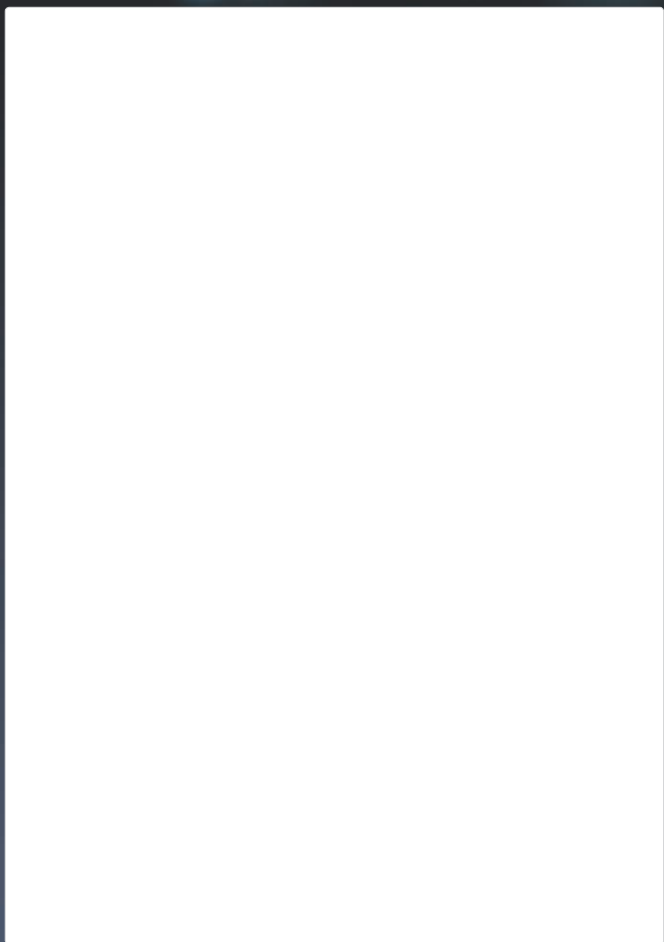
Fixed installations involving projections can now be set up in a way that allows for the creation of an exceptionally easy on-the-fly calibration environment, that can be operated even by non-specialists.

Whether inside a theatre, a modern museum or as part of a modern cruise ship's immersive entertainment world, installations featuring a Fiber Link unit can be made both cost effective and easy to maintain on a 24/7 basis.

### NetLink Modules

- 8x Calibration Fiber Input
- 8x 0-5V analog, external Power
- 8x 0-5V analog , internal Power for Sensors
- 8x 0-10V analog, external Power
- 8x Relay Digital Input 12V
- 8x Relay Digital Input 24V
- 8x Relay Output 48V 4A

## NOTES





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