

Комплексные системы для современных планетариев, цифровые звездные проекторы ASTERION, ASTERION Premium, VELVET LED, программное обеспечение UNIVIEW Software Suite

Технические характеристики

По вопросам продаж и поддержки обращайтесь:

Алматы (727)345-47-04
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35

Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

Россия +7(495)268-04-70

Казахстан +7(727)345-47-04

Беларусь +(375)257-127-884

Узбекистан +998(71)205-18-59

Киргизия +996(312)96-26-47

эл.почта: zsf@nt-rt.ru || сайт: <https://zeiss.nt-rt.ru/>

ASTERION® and ASTERION® Premium



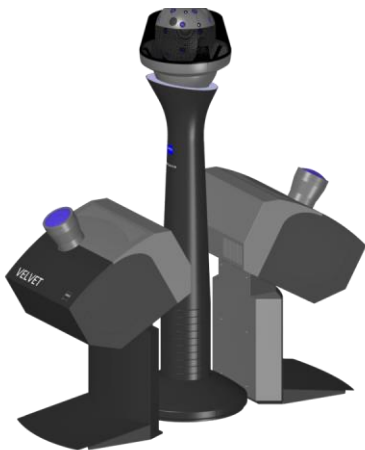
The New Star Ball for ZEISS Hybrid Planetariums

Fewer and fewer people have experienced for themselves an unspoiled view of the night sky. Planetariums, therefore, have the task of simulating the starry sky to appear in its most natural way possible. ASTERION is the contemporary answer to this task.

- **Brilliant Night Sky**
- **Compact and Elegant**
- **Economical and Environmentally Friendly**

Realistic

ASTERION is designed as an opto-mechanical hybrid component and shines with exactly what digital projections cannot: with stars, clear and bright, point-like and in natural gradation with a Milky Way that is particularly realistic to the eye.



True Black Hybrid Planetarium

Combine ASTERION with VELVET LED for the uncompromising combination of analogue starry sky projection with digital full dome projection. Uncompromising, because the digital projection does not interfere with the brilliance of the starry sky and because the digital and analogue planetarium always match one hundred percent.

TYPICAL CONFIGURATIONS

ASTERION VELVET for small size planetariums up to 12 m dome diameter

In smaller domes between 8 m and 12 m in diameter, the combination with a two-channel VELVET LED system is recommended. The two VELVET LED projectors in the center of the dome create a shadow-free dome image with nearly 3k resolution.

ASTERION VELVET for medium and inclined dome sizes

Example system configuration for an inclined dome of medium size. ASTERION with the projectors for the sun, moon and planets is located in the centre of the dome. Six VELVET LED projectors at the edge of the dome produce a shadow-free dome image with a resolution of almost 5k.



Economical and environmentally friendly

With just 220 watts you won't find ASTERION on your electric bill. ASTERION wants to be looked after, but will not devour your service budget. No consumables anymore to buy, exchange and waste.

Product Details

- **Technical Data**
- **Projection**
- **Projection Instrument**
-

	ASTERION	ASTERION Premium
Dome diameter / tilt	8 m – 14 m, 0° – 30°	15 m – 18 m, 0° – 30°
Dome Reflectivity	30 % – 60 %	45 % – 65 %
Horizon Height	1650 mm – 2055 mm (standard) min. 400 mm (in consultation)	2055 mm – 2200 mm (standard)
Lift	integrated lift for Starball optional	integrated lift for Starball optional
	ASTERION	ASTERION Premium
Starry Sky	approx. 7,000 stars (down to 6.3 mag)	approx. 9,000 stars (down to 6.55 mag)
Coloured Stars	natural tints for all stars down to 1.7 mag	natural tints for all stars down to 2.1 mag
Scintillation (all stars)	optional	standard
Milky Way	optical projection (based on Gaia data)	optical projection (based on Gaia data)
Deep Sky Objects	77	200+
Sun and Moon	optional	standard: approx. 1 degree diameter, Moon incl. clear surface details and phase changes

Planets

optional

Merkur, Venus, Mars, Jupiter, Saturn
(point-like)

ASTERION

Height max.

Footprint

Weight

Starball Diameter

Starball Rotation

Effect Lighting

ASTERION Premium

2322 mm

approx. 655 mm Dm.

approx. 130 kg

320 mm

up to 60° / s

RGB light ring

2377 mm

approx. 760 mm x 1660
mm

approx. 150 kg

320 mm

up to 60° / s

RGB light ring



ZEISS FULLDOME SYSTEMS

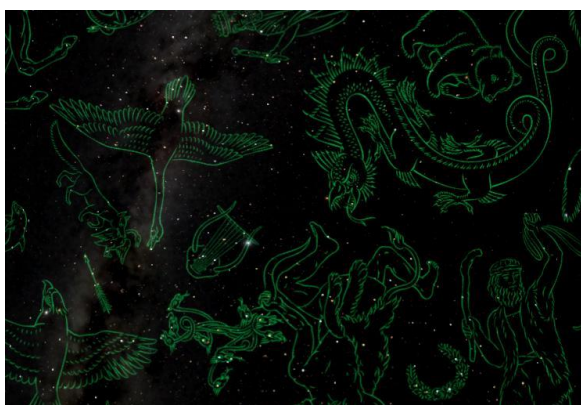
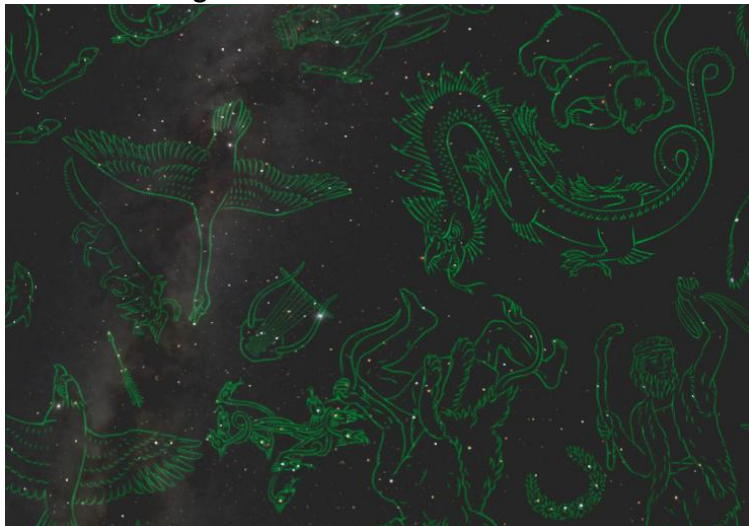
VELVET LED

Premium Digital Projector for Planetariums

The VELVET LED projector developed and manufactured by ZEISS is the only one in the world that has been created in every respect for astronomical displays in planetariums. It impresses not only with its enormous contrast ratio of 2,500,000 : 1, but also with its outstanding image quality.

- **Highest Contrast**
- **Brilliant Colors**
- **Ultimate Sharpness**

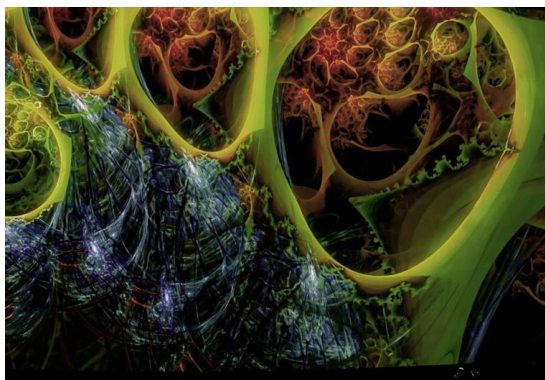
- **Perfect Blending**



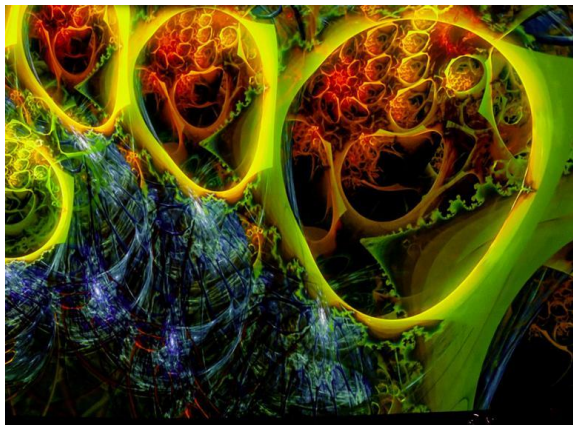
Contrast comparison of commercially available projectors with ZEISS VELVET LED

Black night sky and bright stars thanks to top contrast

As the only DLP projector on the market, VELVET achieves a contrast ratio comparable to ZEISS' fibre-optic star projection. VELVET LED provides an absolutely black image background. No grey background light brightens the night sky. Stars and objects shine on deep black.



Colour comparison of commercially available projectors with ZEISS VELVET LED



DLP Technology and LED Light Sources for Brilliant and Stable Colors

DLP technology provides stability and ensures consistent colours and brightness for many years. Even after many thousands of hours of operation, a VELVET LED projector delivers excellent

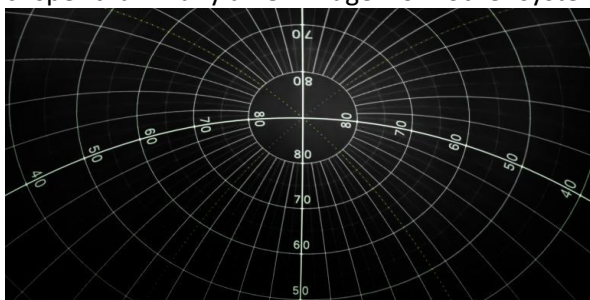
picture quality. The high contrast of the projector results in high color saturation. The eye perceives the high-contrast and color-intensive projection as particularly brilliant and pleasant. The new LED light sources provide an improved colour space compared to previous models.



WORLD-CLASS QUALITY WITH ZEISS DIGICON

ZEISS Optics for Pin-sharp Pixels and Excellent Pixel Contrast

Not only the number of pixels determines a good picture. Only the entire reproduction quality of the projection device defines sharpness and image impression. The VELVET LED incorporates ZEISS optics of the highest quality, guaranteeing impressive image quality. This is why a 6k dome image generated with VELVET LED looks sharper and crisper than many an 8k image from other systems.



Perfect Blending

Thanks to the absence of any backlighting by the VELVET projectors, there is no need for mechanical masks within or in front of the projection lenses, which is necessary with other projector technologies to reduce the visibility of channel blends. The transitions between the individual image channels are invisible with VELVET LED, the dome image is perfect.

Product Video ZEISS VELVET LED

in English

- ZEISS VELVET LED product presentation in English

Additional Information

- **Product Details**
- **Configuration Examples**
- **Technical Data**
-

Picture Quality

DLP technology and ZEISS optics for razor-sharp pixels and excellent pixel contrast
absolutely black image background, resulting in increased colour brilliance
high resolution for particularly detailed images: real pixels, no pixel shift
extended colour space and more saturated colours, pure white thanks to LED lighting
visibly improved colour fastness compared to previous models

Colours

30-bit colour depth for smooth colour gradients without banding
colour stability and homogeneity practically over the entire operating time

Brightness

Impressive brightness for all planetarium applications
higher stability of brightness compared to lamp projectors
invisible transitions between image channels (fades)
aperture calculations without greyscale loss

Blending

no mechanical masks for the best possible aperture quality
reduced overlapping area between channels, thus higher pixel utilisation
specially corrected ZEISS lenses that take into account the curvature of the projection surface

ZEISS Lenses

optimised image quality thanks to optics with extremely high and colour-pure transmission
practically vignette-free projection

Light Sources

extended availability by approx. 40 % thanks to LED light source (no warm-up, can be switched on and off at any time)

very long service life of ten years or more

encapsulated lightengine for long service-free operation

easy to adjust, less susceptible to servicing than projectors with a colour wheel

fast and cost-effective remote maintenance

service reliability for at least ten years

significantly reduced total cost of ownership

no stray light in the projector and lens

light-tightness, no light leakage from housing parts

improved cooling for noise-reduced operation

coordinated projector and software configuration from a single source

wide range of configuration options, also for off-centre projection

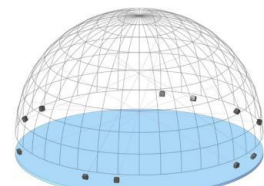
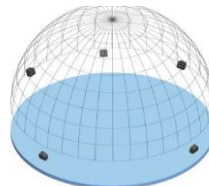
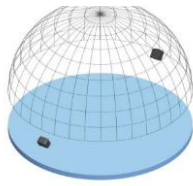
stereo-capable (active 3D projection - 120 Hz)

comprehensive calibration options (geometry, brightness, colours)

Maintenance and Service

Projector & Housing

Configuration & Calibration



Number 2
Projectors
Dome diameter 4,5 m bis 12 m
Resolution 3k
(approx.)

5
12 m bis 18 m
4,5k

11
23 m bis 30 m
7k

VELVET LED Projector	
Picture Format	WQXGA (2560 x 1600), native (up to 120 Hz)
Display Technology	LVDS DMD™ with DarkChip3™ ZEISS True Black Projection Technology
Brightness	corresponds to a visual impression of 2600 lm
Contrast (sequential)	2.500.000 : 1
Width x Height x Depth	approx. 674 mm x 729 mm x 500 mm, incl. lens and frame
Light Sources	LED-based RGB solid-state lighting
Video Inputs	2x DisplayPort digital RGB
Weight	ca. 70 kg
Projection Lens	ZEISS DIGIGON
VELVET LED Fulldome-System	
Projection Surface	360° x 180° (±15°)
Dome Diameter	4.5 to 30 m (various configurations)
Dome Inclination	0° to 30°
Dome Reflectance	35% to 60% recommended
Apertures between Channels	electronic, no masks in front of the lens
Configurations	2 to 10+ channels
Remote Maintenance	optional, internet connection required



SOFTWARE AND APPLICATIONS

ZEISS UNIVIEW Software Suite for planetariums

Planetarium control for beginners and experts

With the latest generation of the UNIVIEW Software Suite for planetariums, all aspects of the planetarium can be controlled intuitively and easily - from the projection system and external devices such as the dome lighting to the creation of presentations and their demonstration. The simple is simple and the complex is possible - with professional results.

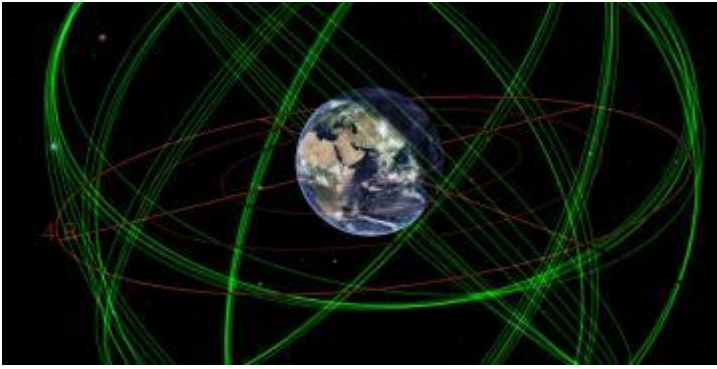
- **Versatile tools**
- **First-class performance**
- **Multi-faceted extensions**

Overview of ZEISS UNIVIEW



- **Outstanding performance**

ZEISS Uniview is characterised by the high playback quality of content, intuitive operation and synchronous control.



Versatile tools

The Uniview Software Suite includes a variety of tools that contribute to breathtaking shows and presentations.



Regular extensions

ZEISS Uniview offers the option of integrating extensions and extending the functional scope of the software.

-



Community content

ZEISS **UNIVIEW Usergroup** stands for exchanging ideas, tutorials and support. Get to know UNIVIEW User Site now!

From show creation to presentation

The ZEISS UNIVIEW Software Suite offers everything from the creation of your planetarium show to automatic playback. Live presentations of the terrestrial view of the sky and three-dimensional virtual journeys through the universe are also child's play to realise. An extensive library of astronomical images and video clips is an integral part of the suite.

User-friendly interface with intuitive operation

All visualisations are controlled via the graphical user interface. Operations such as navigation (flight), rotation, position changes, visualisation of objects etc. are displayed in real time in the main window. Navigation in space is so simple that even children can navigate through the universe in planetarium events.

True hybrid control

The ZEISS UNIVIEW software suite for planetariums controls both the optical-mechanical and the digital projection system and enables precise coupling of the two. Astronomical processes such as movements and object positioning of the optical-mechanical and digital planetarium are automatically synchronised. Transitions between earthbound astronomy and free flight through space are seamless (true hybrid).

Three-dimensional visualisations

Present astronomical basics, astrophysical facts, geosciences and a variety of other scientific contexts spatially and vividly. The theatre component enables the interactive, three-dimensional visualisation of astronomical databases and simulations in real time. The visualisation options range from a detailed model of the International Space Station ISS, the planet Earth, the solar system and the Milky Way to cosmic background radiation.

First-class performance and image quality

The ZEISS UNIVIEW Software Suite for planetariums offers stereo projection, 8k performance and extended colour depth of 10 bits per RGB colour channel for smooth gradients at frame rates of up to 120 fps (stereo). Thanks to the new, particularly efficient HEVC codec, compression artefacts in fulldome videos are a thing of the past and you gain free storage space.

UNIVIEW Open Dome

With Open Dome, you can present content from external sources (e.g. from a connected laptop) live on your planetarium dome in real time and in top quality. Excellent for all applications with fisheye output. You can place classic video formats anywhere on the dome.

- Real-time fulldome format
- Classic video formats (also distributed several times on the dome)
- Live presentations, videos, browser windows, production tools up to 4k resolution 60 Hz frame rate

Integration of external and own data

UNIVIEW is not a self-contained software programme. You can add your own modules and modules from other users, integrate individual objects or incorporate map data (WMS) from online sources. Selected content can be updated as required. Data can also originate from non-astronomical areas. For example, Uniview users have already created their own three-dimensional objects for architectural simulations or archaeological representations.



По вопросам продаж и поддержки обращайтесь:

Алматы (727)345-47-04
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижегород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35

Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

Россия +7(495)268-04-70

Казахстан +7(727)345-47-04

Беларусь +(375)257-127-884

Узбекистан +998(71)205-18-59

Киргизия +996(312)96-26-47

эл.почта: zsf@nt-rt.ru || сайт: <https://zeiss.nt-rt.ru/>