DIGISTAR REFERENCES

September 2021





Hello!

E&S and Spitz introduced many of the planetarium breakthroughs and developments considered essential today, and for the past four decades, we've been advancing digital dome technology and teaching. We have continued to push the boundaries of what is possible with dome graphics, while keeping true to our roots in astronomy and STEAM.

The continued success of our planetarium customers is incredible – but even more incredible is how our users tell their stories, create stunning content and meet the needs of their local and unique audiences.

For Digistar users, content sharing is easy with Digistar Cloud. What is created at one site can quickly be used at any other connected Digistar system around the world. E&S has delivered more hybrid planetarium systems (digital with optical mechanical) than any other company. We also have the most 8K and 3D dome display systems in use today.

The following pages highlight a few of the many Digistar systems around the world. The entire list would be a massive book! Feel free to contact any of these sites to learn more about their experiences with Digistar.

Best,

Your Cosm Sales Team The Cosm Family of Companies: E&S | Spitz | Cosm Immersive



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STANDALONE PLANETARIUMS



ZEISS Grossplanetarium

Berlin, Germany planetarium.berlin

The ZEISS Grossplanetarium is one of three planetariums operated by the Stiftung Planetarium Berlin (Berlin Planetarium Foundation). The primary dome is a 23-meter installation with ten ZEISS VELVET projectors that combine for 8K resolution. The Grossplanetarium installed Digistar 5 in 2016 and upgraded to Digistar 6 the next year.

Stiftung Planetarium Berlin

Dome Size: 23 meters Dome Tilt: 0 degrees Seats: 307 Digistar Version: Digistar 6 Projection System: Ten ZEISS VELVET projectors

Contact:

Tim Florian Horn President, Stiftung Planetarium Berlin Phone: +49 30 4218450 Email: <u>thorn@planetarium.berlin</u>



Planetarium Hamburg

Hamburg, Germany www.planetarium-hamburg.de

Planetarium Hamburg opened to the public April 30th, 1930 in a former water tower at the center of Hamburg Stadtpark. Planetarium Hamburg installed a Digistar 3 system in 2003. They upgraded with Digistar 4 in 2009 and then to Digistar 5 in 2012 with two new Sony projectors. In 2016, Planetarium Hamburg upgraded to Digistar 6 and replaced the Sony projectors with Christie Mirage 3D projectors giving them "8K" resolution on the dome. The imagery is kept perfectly aligned and blended with the Auto Alignment and Blending system.

Dome Size: 20.6 meters Dome Tilt: 0 degrees Seats: 253 concentric Digistar Version: Digistar 6 Projection System: "8K" 3D with five Christie Mirage projectors

Contact:

Dr. Thomas Kraupe Head of Planetarium Phone: +49 40.428865250 Email: thomas.krapue@planetarium-hamburg.de



PLANETARIUM HAMBURG



Stardome

Auckland, New Zealand www.stardome.org.nz

The observatory has operated since 1967 and added the planetarium in 1997 with an optical-mechanical star projector. In 2007 they upgraded to digital only with Digistar 3 and then Digistar 4 with Sony projectors. In 2013, Stardome upgraded to Digistar 5. In 2018, Stardome installed Digistar 6 and updated the projectors. In addition to the core school and general public shows, the staff presents a wide variety of live and locally produced programs. Stardome is very active in the Digistar Users Group and planetarium community sharing content and their rich experiences.

Dome Size: 11 meters Dome Tilt: 0 degrees Seats: 87 unidirectional Digistar Version: Digistar 6 Projection System: 4K with two Sony VPL-GTZ280 laser-phosphor

Contact:

Colin James Chief Technology Officer Phone: +64 9.624.1246 Email: colinj@stardome.org.nz



Planetario di Torino

Torino, Italy www.planetarioditorino.it

The planetarium opened in 2007 with Digistar 3 and in 2013 upgraded the system to Digistar 5 with cove mounted JVC projectors. They updated their software to Digistar 6 in 2017. Using the real-time features of Digistar, the staff has created multiple local shows, 3D models, and datasets to be integrated into the system. Infini.to has received three DUG awards for its real-time productions.

Dome Size: 12.2 meters Dome Tilt: 10 degrees Seats: 98 unidirectional Digistar Version: Digistar 6 Projection System: 4K with two JVC DLA-SH7NLG projectors

Contact:

Emanuele Balboni Scientific & Technical Collaborator Phone: +39 0118118737 Email: balboni@planetarioditorino.it

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Planetarium Wolfsburg

Wolfsburg, Germany www.planetarium-wolfsburg.de

In 2013, a six-channel Digistar 5 Image Generator was added to an existing 2010 ZEISS installation of StarMaster and six ZEISS VELVET projectors. Digistar was added for its real-time features and ability to easily create local content. In November 2018 they upgraded to Digistar 6.

Dome Size: 15 meters Dome Tilt: 0 degrees Seats: 144 epicentric Digistar Version: Digistar 6 Projection System: Six ZEISS VELVET

Contact: Isabell Schaffer Chief Executive Officer Phone: +49 5361.890255.10 Email: isabell.schaffer@planetarium-wolfsburg.de



RIUM

WOLFSBURG

Griffith Observatory: Samuel Oschin Planetarium

Los Angeles, California, USA www.griffithobservatory.com

The Griffith Observatory is located atop Mount Hollywood with amazing views of Los Angeles and the famous Hollywood Sign. First opened in 1935 and 2002-2006 underwent a significant renovation and expansion to include a Digistar 3 system using the world's first 4K laser projector, designed and built by E&S. This cutting-edge technology served Griffith well for nearly a decade. In 2015 they upgraded to an high-resolution Digistar 5 system that operates alongside and optical-mechanical star-ball.

Dome Size: 23.1 meters Dome Tilt: 0 degrees Seats: 290 unidirectional Digistar Version: Digistar 5 Projection System: Six Christie Boxer high-brightness projectors

Contact:

Mark Pine Deputy Director Phone: +1 213.473.0835 Email: mark.pine@lacity.org

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DIGISTAR

Adler Planetarium

Chicago, Illinois, USA www.adlerplanetarium.org

Founded in 1930, the Adler Planetarium was the first planetarium built in the United States. The Adler operates two Digistar 6 domes -- the Grainger Sky Theater (21.3m) and the Definiti Space Theater (16.8m). In 1999, the Adler installed a Digistar StarRider system and upgraded to Digistar 4 a few years later. In 2016, Adler upgraded both theaters to Digistar 6.



Dome Sizes: 21.3 & 16.8 meters Dome Tilts: 0 & 15 degrees Seats: 195 & 181, unidirectional Digistar Version: Digistar 6 Projection System: Six Sony SRX-T615 4K; Six Sony VPL-GTZ280 laser- phosphor

Contact:

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SCIENCE CENTERS



Catawba Science Center

Hickory, North Carolina http://www.catawbascience.org/attractions/ planetarium/

The Millholland Planetarium at the Catawba Science Center opened its doors in 2007 with a 1.5K-resolution Konica-Minolta Mediaglobe II. The 65-seat theater upgraded to a Canon 4K600Z, 2400-pixel resolution, single-projector Digistar 7 configuration in 2021.

Dome Size: 9.1 Meters Dome Tilt: 0 degrees Seats: 65 unidirectional Digistar Version: Digistar 7 Projection System: Single, center-mounted Canon 4K projector, 2400-pixel resolution

Contact:

Tricia Little Director Phone: 828.322.8169 Email: info@catawbascience.org

DIGISTAR

science

European Southern Observatory

Munich, Germany http://supernova.eso.org

The European Southern Observatory's Supernova planetarium and science centre opened in 2018. The 14 meter dome has five ZEISS VELVET projectors that combine for approximately 4.25K resolution. The planetarium is powered by Digistar 6.

Dome Size: 14 meters Dome Tilt: 25 degrees Seats: 109 Digistar Version: Digistar 6 Projection System: Five ZEISS VELVET projectors

Contact:

Tania Johnston ESO Supernova Coordinator Phone: +49 89 320 06 900 Email: supernova@eso.org

DIGISTAR

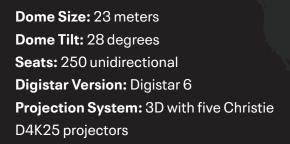


ESO Supernova

Science Museum of Virginia

Richmond, Virginia, USA www.smv.org

The Science Museum of Virginia installed the very first Digistar I system in 1983. They replaced that system with a Digistar II in the 1990s. In 2013, they upgraded their theater to a state of the art Digistar 5 "8K" system and then to Digistar 6 in 2018. The Science Museum of Virginia has taken advantage of the powerful real-time capabilities of Digistar 6 to present and engaging live astronomy shows. They also play Giant Screen Film transfers and other fulldome shows.



Contact:

Justin Bartel Immersive Experience Manager Phone: +1 804.864.1431 Email: jbartel@smv.org





INTUITIVE Planetarium: U.S. Space & Rocket Center

Huntsville, Alabama, USA <u>www.rocketcenter.com/INTUITIVEPlanetarium</u>

The INTUITIVE Planetarium is one of the most advanced installations in North America, with 8K resolution provided by five Christie laser projectors on a Spitz NanoSeam dome. The facility upgraded to Digistar 7 in 2020.

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Dome Size: 20.4 meters Dome Tilt: 30 degrees Seats: 248 unidirectional Digistar Version: Digistar 7 Projection System: Five Christie laser projectors

Contact: David Wiegel Director Email: davidw@spacecamp.com



Melbourne Planetarium: Scienceworks Museum

Melbourne, Australia

museumsvictoria.com.au

The Melbourne Planetarium is located at Scienceworks Museum in Spotswood. It features a 16-meter domed ceiling, reclining seats, a 7.1 surround sound system and a fulldome video projection system. The result is spectacular color and movement like never before, creating a unique immersive environment and awe-inspiring astronomical experience.

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Dome Size: 16 meters Dome Tilt: 0 degrees Seats: 150 unidirectional Digistar Version: Digistar 6 Projection System: Six Sony VPL-GTZ280 laser-phosphor

Contact:

Warik Lawrance Digital Production Designer Phone: +61 3.9392.4800 Email: wlawrance@museum.vic.gov.au

Soref Dome Theater & Planetarium

Milwaukee, Wisconsin, USA www.mpm.edu

The Dome Theater and Planetarium installed a Digistar 4 system with Sony projectors in 2003. In 2016, Milwaukee Public Museum's planetarium became Wisconsin's largest and most modern planetarium and the first in the world to debut a Digistar 6 computer projection system. The staff creates shows highlighting vistas of the night sky, planets, the Milky Way and distant wonders of the universe.

Dome Size: 22.5 meters Dome Tilt: 30 degrees Seats: 275 unidirectional Digistar Version: Digistar 6 Projection System: Five (5) Christie Boxer projectors

Contact:

Bob Bonadurer Director, Dome Theater & Planetarium Phone: +1 414.378.1198 Email: <u>bonadurer@mpm.edu</u> 

ONE THEATER

Burke Baker Planetarium

Houston, Texas, USA www.hmns.org/planetarium

Opened in 1964, the Burke Baker Planetarium has presented astronomical programs to millions of visitors from school groups to the general public. In 1990, The Houston Museum of Natural History installed a Digistar I. They upgraded to Digistar 5 March 2015 and then to Digistar 6 in 2016. The Burke Baker Planetarium is the world's first True8K[™] system, with over 50 million unique pixels on the dome. The imagery is kept perfect and seamless with Auto Alignment and Blending.



Dome Size: 15.2 meters Dome Tilt: 20 degrees Seats: 187 unidirectional Digistar Version: Digistar 6 Projection System: True8K with ten Sony VPL-GTZ270 laser-phosphor

Contact:

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Liberty Science Center

Jersey City, New Jersey, USA www.lsc.org/explore/planetarium

Liberty Science Center is home to the Jennifer Chalsty Planetarium, the biggest planetarium in the Western Hemisphere. This stunning space boasts a True8K[™] Digistar 6 system. It is the worlds first True8K[™] giant screen digital dome, replacing a 15/70 film system.

Dome Size: 26.8 Meters Dome Tilt: 30 Degrees Seats: 400 unidirectional Digistar Version: Digistar 6 Projection System: True8K with ten Christie Boxer System

Contact:

Mike Shanahan Planetarium Director Phone: +1 201.253.1346 Email: mshanahan@lsc.org

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LIBERTY

Pilikula Regional Science Centre: Swami Vivekananda Planetarium

Mangaluru, India

https://pilikularsc.com

Pilikula Regional Science Centre was built to create awareness in the latest fields of science and technology. In 2018, a Digistar 6 state-of-the-art active 3D hybrid Planetarium was built to focus on astronomy-based shows and activities.

Dome Size: 17 meters Dome Tilt: 15 degrees Seats: 170 unidirectional Digistar Version: Digistar 6 Projection System: 3D with five Christie Mirage projectors

Contact:

Dr. K V Rao Director of Pilikula Science Center Phone: +919880799284 Email: kvrao044@gmail.com

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We The Curious

Bristol, United Kingdom www.wethecurious.org

We The Curious, one of the UK's leading interactive science centers is the UK's first digital 3D Planetarium in 2015 with the installation of Digistar 5 with Christie Mirage high contrast active stereo 3D projectors. They upgraded to Digistar 6 in 2017.

Dome Size: 12.2 meters Dome Tilt: 15 degrees Seats: 98 unidirectional Digistar Version: Digistar 6 Projection System: 4K 3D with two Christie Mirage projectors

Contact:

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DIGISTAR

Verkehrshaus Swiss Museum of Transport

Luzern, Switzerland

www.verkehrshaus.ch

Verkehrshaus opened in 1969 as an optical-mechanical planetarium. In 2013, they installed Digistar 5 and converted to a digital-only planetarium. Using their existing projectors, they upgraded to Digistar 6 in 2017. The imagery is kept perfect with Auto Align and Blending. They continue a long tradition of live star shows, and in-house produced content and fulldome shows.

Dome Size: 18 meters Dome Tilt: 0 degrees Seats: 230 concentric Digistar Version: Digistar 6 Projection System: Five JVC SH7NLG 4K projectors

Contact:

Marc Horat Head of Planetarium Phone: +41 41.375.74.69 Email: marc.horat@verkehrshaus.ch

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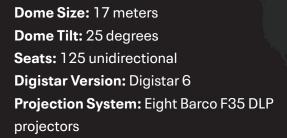


DIGISTAR

Denver Museum of Nature & Science

Denver, Colorado, USA www.dmns.org/planetarium

The Denver Museum of Nature & Science is the Rocky Mountain Region's leading resource for informal science education. Their mission is to be a catalyst and ignite the community's passion for nature and science, with the Gates Planetarium as a popular focal point for astronomy education for audiences of all ages. Upgraded in September 2016, the Gates Planetarium features an 8-channel Digistar system connected to eight (8) projectors with E&S' proprietary auto-alignment and auto-blending systems. The software was upgraded to Digistar 6 in 2017.



Contact:

Greg Mancari Planetarium Manager Phone: +1 303.370.835 Email: greg.mancari@dmns.org





Adventure Science Center

Nashville, Tennessee, USA www.adventuresci.org/sudekum-planetarium

The Sudekum planetarium opened its doors on 3 March 1952 with a Spitz projector. Since then, Adventure Science Center has offered a wide variety of fulldome programming in the Sudekum Planetarium. At the center of the Judith Payne Turner Theatre's 63-foot dome is the GOTO Chiron optical star projector. In 2008, Digistar 3 was installed and integrated with the GOTO projector so that the two work in tandem. In 2014, the Digistar system was upgraded to the Digistar 5 fulldome projection system. This hybrid system is unparalleled throughout the United States.



Dome Size: 19.2 meters Dome Tilt: 20 degrees Seats: 166 unidirectional Digistar Version: Digistar 5 Projection System: Hybrid with two Sony S110 & GOTO Chiron

Contact:

Drew Gilmore Planetarium Manager Phone: +1 615.401.5077 Email: dgilmore@adventuresci.org



YOUR NOTES

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Half Hollow Hills High School

Long Island, New York, USA www.halfhollowhills.k12.ny.us

Half Hollow Hills Central School District is home to the Peter F. Connors Planetarium. The facility services the school district's students, K-12. Associated with the planetarium is a district hands-on Discovery Center which is designed to supplement science education for the school district. In 2015, Half Hallow Hills installed Digistar 5 and upgraded the software to Digistar 6 in 2018.

Dome Size: 7.3 meters Dome Tilt: 0 degrees Seats: 80 unidirectional Digistar Version: Digistar 6 Projection System: Two HDQ F35 WQX-GA cove projectors

Contact: Tom Affatigato Phone: +1 631.592.3100 Email: ptaffatigato@hhh.k12.nv.us



ALF HOLLOW HILL

HICH SCHOOL

University of South Carolina: Aiken

Aiken, South Carolina, USA rpsec.usc.edu

The Ruth Patrick Science Education Center (RPSEC) is a cooperative effort by the University of South Carolina Aiken, local industry, and public-school districts in the Central Savannah River Area. The purpose of this effort is to establish a permanent program for enhancing Science, Technology, Engineering and Mathematics (STEM) education in the elementary, middle and high schools of the area.

Dome Size: 16.8 meters Dome Tilt: 30 degrees Seats: 45 unidirectional Digistar Version: Digistar 6 Projection System: Two Sony VPL-GTZ280 laser-phosphor

Contact:

Dr. Gary Senn Director Phone: +1 803.641.3558 Email: <u>seeng@usca.edu</u>

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Ruth Patrick Science Education Center

Ho Tung Visualization Lab: Colgate University

Hamilton, New York, USA

https://www.colgate.edu/about/campus-facilities/ho-tung-visualization-laboratory

Colgate University initially purchased a Digistar 3 SP2 HD system in 2007 and upgraded the projection system to an E&S Laser Projector in 2008. In 2010, they upgraded to a Digistar 4 system with dual JVC 4K projectors and then upgraded to Digistar 5 in 2013. In 2017 they upgraded to Digistar 6 and replaced the JVC projectors with Sony laser phosphor projectors.



DIGISTAR

Dome Size: 10 meters Dome Tilt: 13 degrees Seats: 54 unidirectional Digistar Version: Digistar 6 Projection System: 4K with two Sony VPL-GTZ280 laser-phosphor

Contact:

Joseph Eakin Senior Designer & Technician Phone: +1 315.228.6126 Email: jeakin@colgate.edu

Michigan State University: Abrams Planetarium

East Lansing, Michigan, USA www.abramsplanetarium.org

The Talbert and Leota Abrams Planetarium serves as an astronomy and space science education resource center for central Michigan. The planetarium is an outreach unit of the Department of Physics and Astronomy and supports astronomy teaching on campus as well as offer a variety of planetarium shows to the public--preschool through senior citizens.

Abrams Planetarium MICHIGAN STATE

Dome Size: 15.2 meters Dome Tilt: 0 degrees Seats: 147 unidirectional Digistar Version: Digistar 6 Projection System: 4K with two JVC projectors

Contact:

Dr. Shannon Schmoll Director Phone: +1 517.355.4676 Email: schmoll@pa.msu.edu



Fachhochschule Flensburg Planetarium

Flensburg, Germany www.planetarium-gluecksburg.de

The planetarium is part of the Flensburg University of Applied Sciences and located off campus in Glücksburg. It originally opened in 1969 with a Zeiss optical-mechanical projector. In 2011 they added Digistar with dual center projectors. In 2013, they upgraded to Digistar 5. In 2018, they replaced their Digistar 5 with a Digistar 6 system. While they do show pre-rendered shows, they are most well-known for live programs. These interactive shows take advantage of the real-time features of Digistar. They are also a primary beta test site for Digistar software.

Dome Size: 6 meters Dome Tilt: 0 degrees Seats: 55 concentric Digistar Version: Digistar 7 Projection System: Two F35 2560x1600 cove projectors

Contact:

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DIGISTAR

Mediendom

Kiel, Germany

The Mediendom is part of the University of Applied Sciences where they teach and research immersive technology and content. Staff and students are known around the world for their cutting-edge work that has won numerous awards. The Mediendom installed Digistar 3 in 2003 and upgraded to Digistar 4 a year later. In 2014, they upgraded to Digistar 5 and installed new projectors. In 2017, they introduced Digistar 6 3D with six (6) projectors. Mediendom also has a computer lab with 21 Digistar 6 workstations where students learn to use Digistar 6 and create real-time content.

Dome Size: 9 meters Dome Tilt: 0 degrees Seats: 64 concentric Digistar Version: Digistar 6 Projection System: Six F32 VizSim 1400x1050 projectors

Contact:

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MEDIENDOM

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GIANT SCREEN THEATERS



Taiwan National Museum of Natural Science

Taichung City, Taiwan

www.nmns.edu.tw/index_eng.html

The Space Theatre opened in 1986 with an IMAX® 15/70 Omnimax film projector and a GOTO opto-mechanical star projector. In 2014, they replaced their 15/70 film system and opto-mechanical star projector with a Digistar 5 system using six projectors with exceptional brightness, stunning star quality, and nearly 30 unique megapixels across the dome.



Dome Size: 23 meters Dome Tilt: 30 degrees Seats: 300 unidirectional Digistar Version: Digistar 5 Projection System: Six Sony SRX-T615 projectors

Contact:

Chi-Long Lin Associate Curator of Exhibition Dept. Phone: +886 4.322.6940 Email: lingo@mail.nmns.edu.tw

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Omniversum

The Hague, Netherlands <u>www.omniversum.n</u>

The system uses a blended array of five Christie D4K40 RGB lasers projectors to cover the 23-meter diameter dome. The ESX installation includes both auto-alignment and auto-blending capabilities. The new installation replaces an existing 15/70 film projector.

Dome Size: 23 meters Dome Tilt: 27 degrees Seats: 300 unidirectional Digistar Version: Digistar 6 Projection System: Five Christie D4K40 RGB laser phosphor projectors

Contact:

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