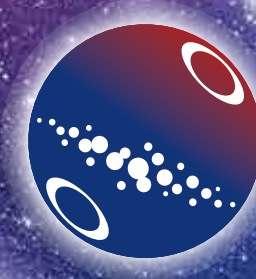


Ohira Tech

www.megastar.jp/en/



MEGASTAR



Surrounded by the beauty of the skies... Touching the infinity of the universe...

MEGASTAR reminds us of our belonging to the Milky Way Galaxy.

MEGASTAR is a new-generation planetarium system created by Takayuki Ohira at a time when the existing planetariums were able to project stars only up to the 6th and 7th magnitude, or around six to thirty thousand stars. In 1998, during the London IPS Conference, MEGASTAR-I made its debut, showing 100 times more stars than conventional planetariums, showing those stars up to the 11th magnitude – a staggering one million – plus stars. It was a revolution in the planetarium world. Currently, a maximum of about 1.2 billion stars, up to 20th magnitude can be projected. Although indistinguishable to the human eye, the small stars are there, shining in deep space. MEGASTAR's close-to-real projections allow you to view the faint stars like tiny grains of sand, as they form the depth and breadth of the galaxy. People watching MEGASTAR shows are so touched by the beauty of the skies that they often shed silent tears. Possibly the stars in the vast universe make us instinctively appreciate the fragile life on our planet, as we are awed by the mysteries of our universe.

Reality in the Starry Skies

True to its name, MEGASTAR will unfold the constellations made up of millions of stars. The Milky Way will be viewed, for the first time in the world as huge clusters of stars, not just a hazy band. Using binoculars, as Galileo Galilei did about 400 years ago, you will be able to see not only the individual stars of the Milky Way, but you will also discover all of the Messier objects. There are over 140 to 170 clusters and nebulae you can view with the help of MEGASTAR.

Hybrid Solution

The MEGASTAR is designed to work along with digital planetarium systems. The optical MEGASTAR star projector creates the beautiful realistic star field, along with the bright naked eye visible planets, Sun and Moon, while description images (labels, figures, guide lines, etc.) are projected digitally. Such features like the geometry tools on the starball, Solid-State Shutter for star masking concept, independent bright star control, open control interface enable the MEGASTAR to be easily integrated with the digital planetarium. Electronically controlled Solid-State Shutter and the "MEGASTAR-FUSION" which integrates optical stars and digital images enable more accurate projection, with no optical stars overlapping the digital images.

Compact

Our star projectors are surprisingly small, lightweight and of simple design. The projector body might be installed not to block any visitor's view nor cast a shadow when used alongside a digital planetarium system. Besides all this, its installation space requirement is small. Some portable models are available for planetarium shows not only in stationary domes, but also in mobile planetarium domes or square venues.

Easy maintenance and Low Running Cost

The entire MEGASTAR series use ultra-bright LED lamps as light sources, a first in the planetarium industry. There is nearly no need to replace the lamps (lamp life time 30,000 hours). It is a notably safer and environmentally-friendly device with lower power consumption. All of the rotational electrical components are sealed with precious metallic slip rings, thus eliminating the need to clean or exchange the hard-to-access parts. The electronic Solid-State Shutter provides projection masking without using movable parts, keeping the mechanism reliable and long-serving.



Flagship projector for installations

MEGASTAR-III

[for domes 15 - 30m, Flat / Tilted]

This high-specification projector has been developed for large domes. Equipped with 135 individually dimmable bright star projectors, it can be used as a MEGASTAR-FUSION system (optional / see p. 7) to seamlessly blend optical stars and digital images to create an unprecedentedly realistic and transformative starry sky. The optional three layers surrounding twilight projectors is automatically linked to sunrise and sunset. An industry pioneer, LEDs are used as the main light source.

The magnificent starry skies for mid-large domes for installations

MEGASTAR-IIA

[for domes 10 - 25m, Flat / Tilted]

MEGASTAR-IIA is for midium to large domes. The projector system is divided into 32 lenses reproducing a starry sky with the precision and high definition only possible with MEGASTAR. Also, the brightest 40 stars (optionally can be increased to 62) are projected independently each with its own color and magnitude. MEGASTAR-IIA is the first planetarium in the world to implement LED lamp as light source for large domes. This eliminates the need of lamp replacement.

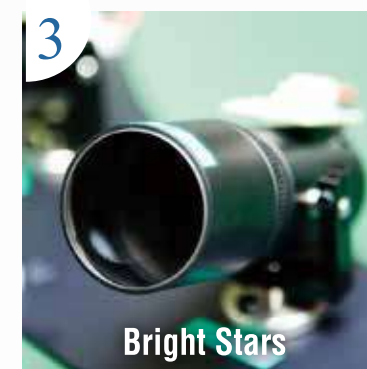
FUNCTION



The projectors support Fusion projection (see details on page 7) with digital projection system. This opens new horizon of hybrid projection with stars been projected using both digital system and the MEGASTAR.



The camera and laser device are used for starfield alignment as well as calibration with the digital planetarium system.



MEGASTAR is facilitated with individual projectors for the brightest stars. Each projector reproduces one star with its color and apparent magnitude as well as adjustable twinkle. Bright stars can be controlled independently allowing smooth fade on/off and variable stars simulations.



The electronically controlled shutter allows custom masking of the stars over the dome surface. It functions without any movable parts, making it life lasting feature. The Solid-State Shutter is an original feature of the MEGASTAR, and enables it to function in flat and tilted domes, as well as opening new possibilities in hybrid projection.

OPTION

Three layers surrounding twilight projectors (optional)

GIGAMASK

for MEGASTAR-III
MEGASTAR-IIA

Projects the world's most impressive starry sky of 1.2 billion stars. The star plate is based on the latest observation data "Gaia-DR3" from the European Space Agency (ESA), and faithfully reproduces stars from 1st to 20th magnitude. In collaboration with Sony Music Solutions Inc, we have succeeded in processing the world's smallest ultra-micro holes with a diameter of 180 nm (= 18/100,000 mm) have been successfully processed. The world's highest quality starry sky.



SWING AXIS

for MEGASTAR-IIA
MEGASTAR-Neo II

World's first 4-axis cradle control technology. Gimbal lock-free. Avoids unnatural movements that occur when passing through a singularity, and optical stars follow the digital images smoothly and at high speed, even in scenes where we fly out of the ground into space. Sharper and more realistic optical stars can be used even in space.



The Atmosphere that Dwells in the Starry Sky for installations

MEGASTAR-NeoII

[for domes 4 - 10m, Flat / Tilted]

ULTRA-COMPACT
Spherical diameter 280mm
Weight 25kg

Developed for small domes, it is an 'affordable solution' that is low-cost to install, simple to maintain and long-lasting. Equipped with electronically controlled Solid-State Shutter, it also fits tilted domes. Gradients on stars near the horizon can realistically reproduce even atmospheric effects (atmospheric extinction and the twinkling of stars etc.). MEGASTAR-Neo II even shows the "atmosphere in the starry sky", offering an emotional experience akin to touching the mysteries of the universe under the actual night sky.



Even the effects of the atmosphere (Atmospheric extinction)

Equipped with electronically controlled Solid-State Shutter that can selectively darken or illuminate any part of the starry sky. This ensures that stars do not overlap with digitally projected foregrounds such as landscapes. By applying gradients to stars near the horizon, it can recreate the realism of observing the starry sky outdoors.



Digital System Integration

Optimized for integration with digital planetarium systems.



Camera & Laser

Faster and more accurate calibration between a starball and digital planetarium systems.



TECHNOLOGY

A next-generation to the hybrid solution

MEGASTAR FUSION

[Patented]

This is a new projection concept, and a next generation to the hybrid solution. The Fusion is about projecting starfield using: an optomechanical system for projecting brightest stars sharply, and a digital system for projecting fainter stars as well as digital images. This concept, when high contrast and high resolution digital projector used, provides not only realistic and impressive starfield, but also beautiful graphical sceneries where stars no longer overlap the digital images, as MEGASTAR has individual control over each star. Such effects as shiny stars blinking from behind fast moving clouds become possible. With Fusion different sceneries with stars can be created.

MEGASTAR-IIA with increased bright stars number and MEGASTAR-III are optimal projectors for Fusion shows.



Ultra-precision star plate by original star data

MEGASTAR is associated with its rich and deep starfield, with stars of the milky way projected separately in a realistic manner. This is achieved thanks to the advanced laser in-house production technology of the star plates. In collaboration with Sony Music Solutions Inc, we have succeeded in processing the world's smallest ultra-micro holes with a diameter of 180 nm (= 18/100,000 mm). GIGAMASK projects the world's largest number of 1.2 billion stars.

We have completely original star data, which was created by combining the latest stellar data released by space agencies with Takayuki Ohira's own data collected over many years. We also provide our star data for the home planetarium "HOMESTAR" (Sega Fave, formerly Sega Toys).

HOMESTAR

SEGA FAVE (formerly Sega Toys)
1.7 million units were sold in the world.
Produced by Takayuki Ohira.



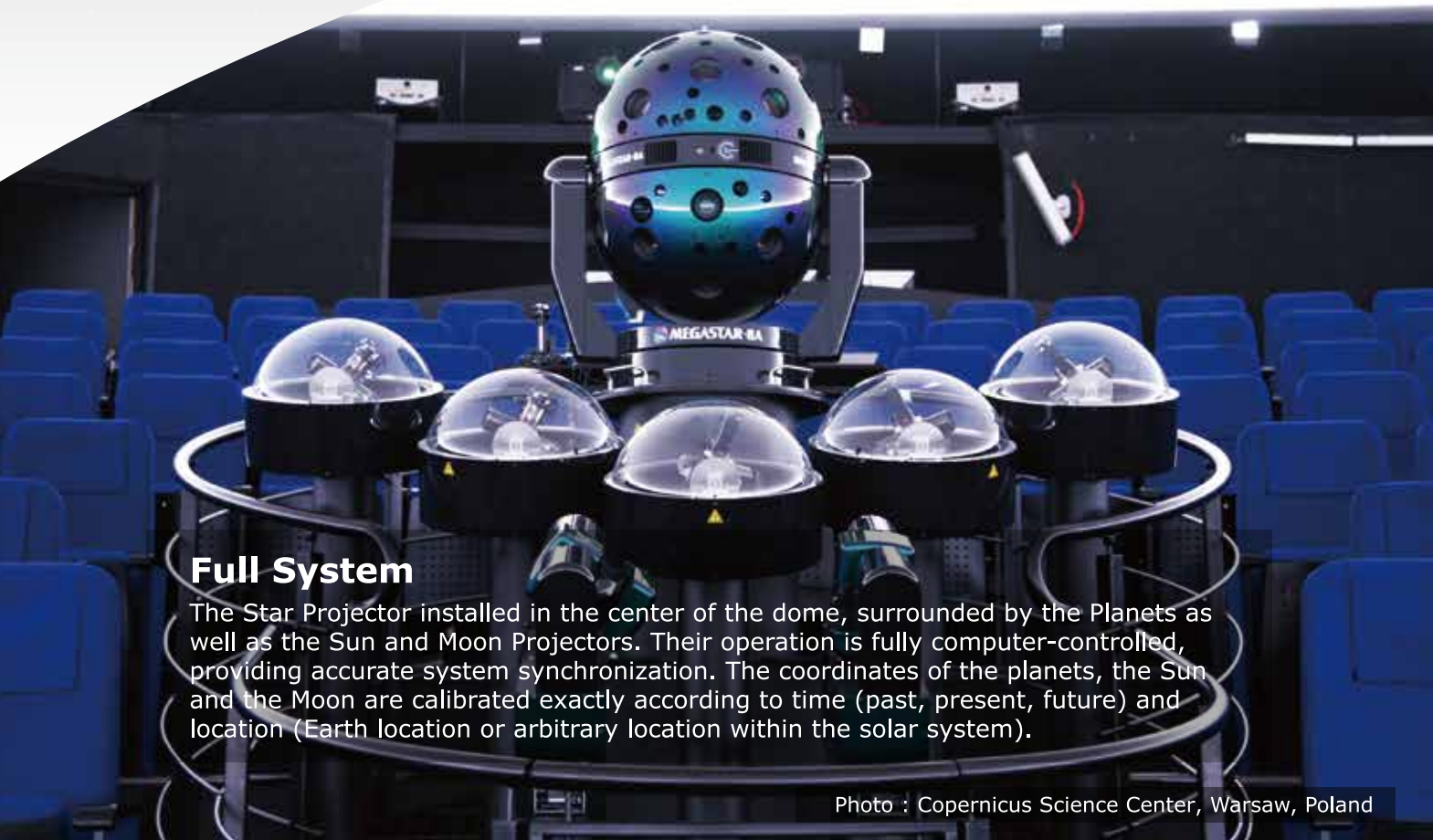
GIGAMASK

The world's largest projection of 1.2 billion stars.



Planets, Sun and Moon Projectors

for installations



Full System

The Star Projector installed in the center of the dome, surrounded by the Planets as well as the Sun and Moon Projectors. Their operation is fully computer-controlled, providing accurate system synchronization. The coordinates of the planets, the Sun and the Moon are calibrated exactly according to time (past, present, future) and location (Earth location or arbitrary location within the solar system).

Photo : Copernicus Science Center, Warsaw, Poland



Photo : Kazan Federal University Planetarium, Kazan, Russia



Sun and Moon Projectors (large/small)

The state-of-the-art Sun and Moon Projectors, the Eclipse System, have adopted a completely new concept in digital imaging. A dynamic visible diameter, red Sun, planet transition, Moon surface features and phase can be demonstrated.



Large type



Planet Projectors (large/small)

Planet projectors are computer controlled independent projectors. Using ultrabright LED lamps for vivid images, you are not encumbered by lamp replacements. The entire projector is given a stylish design and housed in a transparent cover, thus no movable parts are exposed. Planet Projectors are characterized by their reliable long-life designs.



Small type



Planet Projectors Dome edge mounted

The world's first planet projector to be installed on the dome edge (cove). It uses a separate and independent XY control system, and projects five planets from a single box. Normally, they are installed in pairs on opposite sides of the dome. The dome center space can be used more effectively.



Image Projection with Eclipse System

The Eclipse System allows you to view a highly realistic depiction of the luminous Moon with all of its surface features. Visitors can see the total solar eclipse with the corona, the breathtaking diamond ring, the bronzed Moon during a lunar eclipse and much more. Enjoy the elaborate and beautiful views and performances of the Sun and the Moon. It's an ideal tool for projecting realistic eclipse images.



Blue Sky and Twilight Projectors

In addition to planet projectors, Ohira Tech offers LED separate projectors to reproduce blue sky and twilight colors. These projectors are controlled by the same system, and work in synchronization with the Star and Sun projectors. It adds beautiful effects to your planetarium, uses little space and consumes little power with no need for maintenance.



Related product

NanoDimmer

[Patented]

NanoDimmer is LED lighting system for dark theater environment. Its main advantage is the extremely high contrast (1 to 10 million) and its smooth dimming.

Often in planetariums, bright cove lighting is used, however, when it comes to really dark environment, ordinary cove light fails to perform smooth transitions, and below a certain level of brightness it completely turns off.

NanoDimmer addresses this issue, providing smooth transition down to barely visible brightness.

This is ideal for planetarium and twilight environments.



4 Features of the Nano Dimmer

1 Ultra-wide contrast range (the world's highest range)

Enables a full-range smooth transition from faintest to brightest light

2 Full color

Supports RGB 3 colors

3 Computer and DMX control

Can be controlled using a computer or DMX512 controller

4 Use of LED strips

Can function with various types of LED strips of 24 V

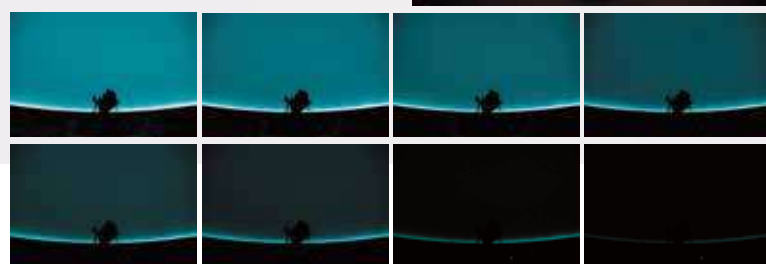
■ Planetariums and theaters

Smooth and extremely low brightness become possible.

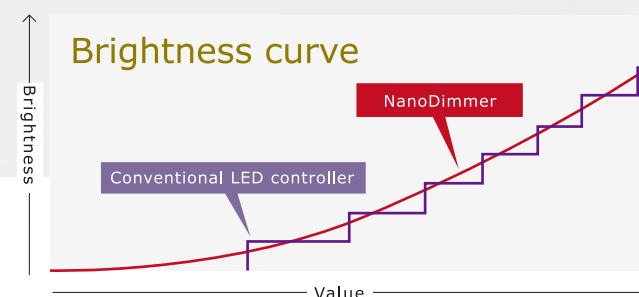


■ Interior lights

Cove lights, and smooth variation in the reproduction of natural lights



NanoDimmer in Bangkok planetarium



Mobile planetarium



Stars in a living room



Restaurant, bar, spa etc.

for personal use Your personal planetarium projector

MEGASTAR CLASS

[for domes, rooms and spaces up to 7m,]

MEGASTAR CLASS is our planetarium product for personal use. Its name is an acronym for C (Compact), L (Light), A (Accurate), S (Simple) and S (Silent). The device is easy to set up, easy to move. It has one wide lens (180 deg projection) projecting stars from latitude 35 Northern Hemisphere and provides daily motion. It projects million stars and has ambient lighting. It can be controlled via handy controller. This planetarium with its simple concept is ideal for small domes and mobile planetariums, and can be used for a wide range of purposes, from private homes to commercial and public facilities.



MEGASTAR

Achievements in Japan

(As of July, 2024)

Nara City Education Center

Nara city, Nara
MEGASTAR-ZERO
Diameter:6m Flat
October, 2011



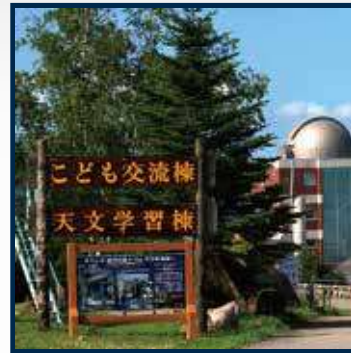
Nishimino Planetarium in Fujihashi Castle

Ibi, Gifu
MEGASTAR-IIB
Diameter:9.2m Flat
April, 2012



Kigoyama Communication & Training Center

Kanazawa, Ishikawa
MEGASTAR-Neo
Diameter:10m Flat
March, 2018



Yamanashi Prefectural Science Center

Kofu, Yamanashi
MEGASTAR-IIA
Planets, Sun, Moon
and twilight projectors
Diameter:20m Tilted
March, 2010



Moiwayama Observatory

Sapporo, Hokkaido
Dome theater:MEGASTAR-IIB
Diameter:6m Flat
Restaurant:Digital Projection System
December, 2011
*Planetarium operations
ended in 2021.

Hitachi Civic Center

Hitachi, Ibaraki
MEGASTAR-IIA
Planets, Sun, Moon and
twilight projectors
Diameter:22m Tilted
July, 2011



Higashiyamato City Folk Museum

Higashiyamato, Tokyo
MEGASTAR-IIB
Sun and Moon projectors
Diameter:14m Flat
March, 2014



[Excursion train with steam locomotive] SL Ginga (JR East)

Kamaishi Line, Iwate
MEGASTAR-Jr.
April, 2014
*The service ended in 2023.
Tours are held irregularly.



Sakado Children's Center Research Dome Facility

Yokohama Mobile Planetarium
MEGASTAR-ZERO
June, 2008



[Private classes]
Keishin Juku
MEGASTAR-ZERO×2
May, 2007

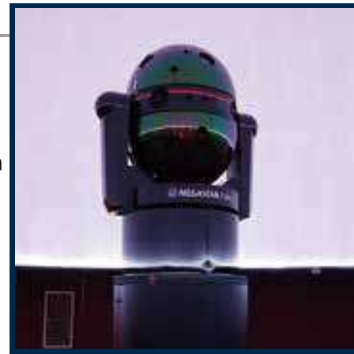
National Museum of Emerging Science and Innovation

Koto-ku, Tokyo
MEGASTAR-II cosmos
MEGASTAR-ZERO
Planets, Sun and Moon projectors
Diameter:15.24m Tilted
July, 2004



Kokonoe Youth House

Kusu, Oita
MEGASTAR-Neo
NanoDimmer
StarStream
5.1 surround sound system
Diameter:12m Flat
April, 2021



Itami City Culture and Science Museum for Children

Itami, Hyogo
MEGASTAR-IIB
Planets, Sun, Moon and
twilight projectors
Diameter:14m Flat
March, 2013

Mitsubishi Motors Nagoya Plant

Okazaki, Aichi
MEGASTAR CLASS prototype
Diameter:6m Flat
October, 2015



[Road station] Fujikawa-Rakuza

Fuji, Shizuoka
MEGASTAR-IIA
NanoDimmer
MEGASTAR CLASS
Diameter:14m Tilted
July, 2018
※Upgraded from MEGASTAR-IIB of 2010



Kanagawa Institute of Technology Atsugi City Children's Science Center

Atsugi, Kanagawa
MEGASTAR-IIB
Diameter:12m Flat
July, 2009



Ohira Tech

Yokohama, Kanagawa



[Spa / Stone sauna] RAKU SPA Tsurumi

Yokohama, Kanagawa
MEGASTAR CLASS
(March, 2023)
MEGASTAR-Jr.
(August, 2014)

Hamagin Space Science Center

Yokohama, Kanagawa
MEGASTAR-IIA+GIGAMASK+SWING AXIS
Sun, Moon and
planets (dome edge mounted)
NanoDimmer
Diameter:23m Tilted
December, 2022



Kawasaki Municipal Science Museum

Kawasaki, Kanagawa
MEGASTAR-III FUSION
Planets, Laser Venus, Sun,
Moon and twilight projectors
MEGASTAR CLASS
Diameter:18m Flat
April, 2012



Planetarium BAR

Minato-ku, Tokyo
MEGASTAR-ZERO(June, 2008)
MEGASTAR CLASS(June, 2016)
Diameter:4m Flat



Achievements in the World (As of July, 2024)

ASIA

AMERICA



Hudson River Museum
Yonkers, USA
MEGASTAR-IIA
Diameter:12m Flat
February, 2014



Fiske Planetarium
Boulder, USA
MEGASTAR-IIA
Sun and Moon Projectors
Diameter:20m Flat
September, 2013



Galileo Galilei Planetarium
Buenos Aires, Argentine
MEGASTAR-IIA
Diameter:20m Flat
January, 2012



Sir Thomas Brisbane Planetarium
Brisbane, Australia
MEGASTAR-IIB
Diameter:12.5m Flat
March, 2013
*Removal in 2020

OCEANIA



Bohyunsan Astronomical Science Museum
Gyeongsangbuk-do, Korea
MEGASTAR-Neo
Diameter:8m Flat
December, 2019



Daejeon Observatory
Daejeon, Korea
MEGASTAR-Neo
Diameter:9.5m Flat
May, 2018



Geumnyeonsan Youth Training Institute
Busan, Korea
MEGASTAR-IIB
Diameter:9m Flat
February, 2017



Macao Science Center
Macau, China
MEGASTAR-IIB
Diameter:7m Flat
(in the exhibition hall)
December, 2023

EUROPE



Madrid Planetarium
Madrid, Spain
MEGASTAR -IIA
Diameter:17.5m Flat
October, 2017



Polish Naval Academy
Gdynia, Poland
MEGASTAR-Neo II
StellaDome Pro (AstroArts)
2 JVC DLA-NZ8 projectors
Diameter:8m Flat
November, 2023



Copernicus Science Center
Warsaw, Poland
MEGASTAR -IIA
Planets, Sun and Moon projectors
Diameter:16m Flat
June, 2011



AHHA Science Center
Tartu, Estonia
MEGASTAR-IIA*
MEGASTAR-ZERO
Diameter:9.3m Full sphere
September, 2016
*Upgraded from MEGASTAR-IIB of 2011



Shanghai Astronomical Observatory
Shanghai, China
MEGASTAR-Neo
Diameter:8m Flat
December, 2022



Phitsanulok Science Center for Education
Phitsanulok, Thailand
MEGASTAR-IIA
Sun, Moon and planets (dome edge mounted)
Diameter:12m Tilted
October, 2023



Nakhon Ratchasima Planetarium
Korat, Thailand
MEGASTAR-IIA
Diameter:20m Flat
June, 2012



Swami Vivekananda Planetarium
Mangalore, India
MEGASTAR-IIA
Planets, Sun and Moon projectors
Diameter:18m Tilted
March, 2018



Lakhta Center Planetarium
St. Petersburg, Russia
MEGASTAR-IIA FUSION + GIGAMASK
Sun, Moon and planets (dome edge mounted)
Diameter:14m Tilted
February, 2020



Kazan Federal University Planetarium
Kazan, Russia
MEGASTAR-IIA
Planets, Sun and Moon projectors
Diameter:15m Tilted
June, 2013



Konya Science Center
Konya, Turkey
MEGASTAR-IIA
Diameter:14m Tilted
February, 2015



Kavaratti Science Museum & Planetarium
Kavaratti, India
MEGASTAR-IIB
Diameter:10m Flat
January, 2011



Nehru Planetarium
Delhi, India
MEGASTAR-IIB
Diameter:15m Flat
October, 2010



Sharjah Centre for Astronomy & Space Sciences
Sharjah, UAE
MEGASTAR-IIA
Planets, Sun and Moon projectors
Diameter:18m Tilted
May, 2015



Incheon Student Science Museum
Incheon, Korea
MEGASTAR-IIB
Diameter:15m Flat
December, 2023



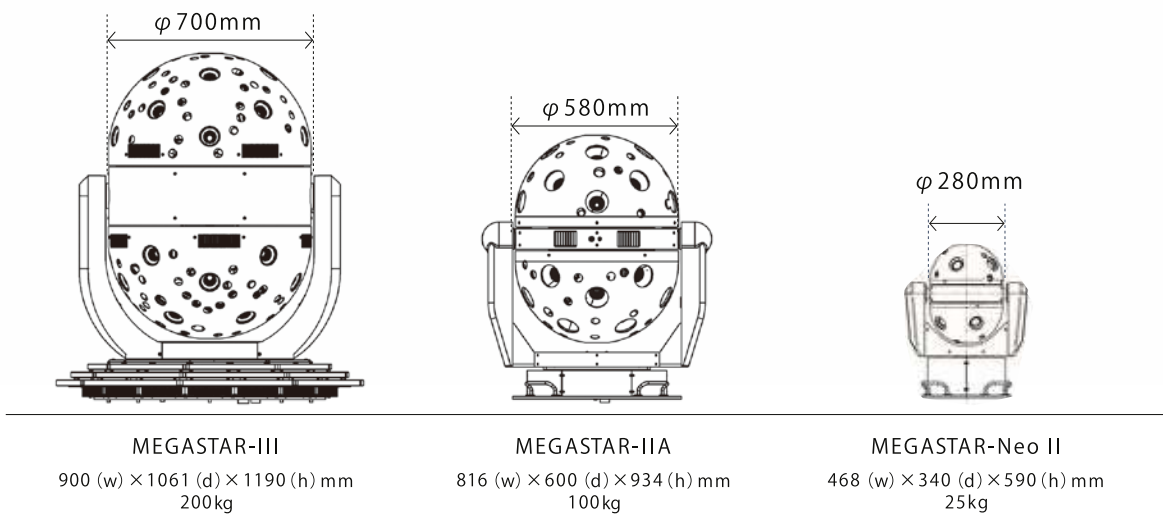
Gimhae Astronomical Observatory
Gyeongsangnam-do, Korea
MEGASTAR-Neo
Planets (dome edge mounted)
Diameter:8m Flat
December, 2020



Miryang Arirang Observatory
Miryang-si, Korea
MEGASTAR-IIA
Planets (dome edge mounted)
Diameter:14m Tilted
March, 2020

Technical Specifications

Star Projector	MEGASTAR-III	MEGASTAR-IIA	MEGASTAR-Neo II
Dome diameter range	15-30m flat/tilted dome	10-25m flat/tilted dome	4-10m flat/tilted dome
Number of stars	1 million - 20 million		1 million (default configuration)
Deep Space Objects	over 170, including all Messier objects		over 140, including all Messier objects
Projection type	32 optical projection units		12 optical projection units
Light source	Ultra bright LED light source (lamp life expectancy 30,000 hours)		
Dimming	Electronic control 0-100%		
Star masking	Solid-State shutter (electronically controlled)		
Twilight projectors	Optional: Integrated (for flat dome only)	Optional: Independent projectors	Optional: Integrated (for flat dome only)
Motion	Time motion : Diurnal, Annual, Precession Geographical motion : Longitude, Latitude (Full sphere) , Azimuth		
Physical axes	Three axes, speed 0 - 20deg/sec	Three axes, speed 0 - 40deg/sec	
Cooling	8 built-in controllable fans	4 built-in controllable fans	More than 8m dome: Built-in controllable fans Less than 8m dome: Natural convection cooling
Bright Stars with twinkle	135	21 - 62	16
Calibration	Equatorial camera and laser		
Dimensions	900(w)×1061(d)×1190(h)mm	816(w)×600(d)×934(h)mm	468(w)×340(d)×590(h)mm
Weight	200kg	100kg	25kg
Power consumption (max)	2.4kW (Starball) 1.0kW (Twilight projectors)	1.4kW	250W (with fans)



Planet Projector	Large	Small	Dome Edge Mounted
Shape	Independent XY computer controlled projectors		
Light source	Ultra bright LED		
Cooling	Natural (Fanless)		
Dimensions	443(w)×443(d)×312(h)	200(w)×200(d)×216(h)	750(w)×550(d)×250(h) *Angle depends on the facility

Sun, Moon Projector	Large	Small
Shape	Independent XY computer controlled projectors	
Light source	Ultra-high pressure mercury lamp	LED
Projected images	Brightness variation, visible diameter variation, surface features, eclipses, Moon phases, planet transitions	
Dimensions	625 (w) × 294 (d) × 1003 (h)	453 (w) × 164 (d) × 410 (h)

Control

Console PC	WINDOWS-OS
Manual operation	Dials or faders independent parameters control/Time (diurnal, annula, precession) / Location (longitude, latitude) / Axes control (diurnal axis, latitude axis, azimuth axis) / Individual object brightness/Dome Illuminations control
Control interface	Windows-GUI, DMX-512, LAN
Operation modes	Manual mode, Auto mode, SMPTE input voice time code

Other

Power supply	100V-240V AC 50/60Hz
Safety features	Emergency safety switch (optional)

NanoDimmer	Control Unit
Power	+5 V DC 2 A (provided with AC adapter 100~240 V)
Front indicators	Power, input control, state, and output control
Control interface	RS232C or DMX512 (switching)
Driver unit connections	Dual RJ45 (two sets)
Dimensions	250 (w) × 102 (d) × 44 (h)
Weight	820g
Other	●Optional light-on button ●Optional 19 in. rack mounting ears

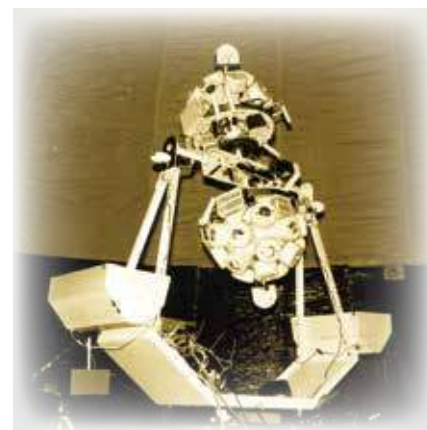
NanoDimmer	Driver Unit
Power	+24V DC maximum 12 A
Control unit/ Driver unit connections	two sets: input & output
LED strip connection	PHOENIX CONTACT MSTB2.5-4-GF-5.08 (MSTB 2.5-4-STF-5.08 on LED side)
Dimensions	Maximum 4 A per channel
LED power output	130 (w) × 82 (d) × 30 (h)
Weight	160g
Used LED strips	ColorBright RGB Color Changing 300LED Strip Light CB-RGB2-24V-REEL
Used AC adapters	Mean Well HLG-320H-24A (power up to two aforementioned LED stripes) Mean Well HLG-240H-24A (power up to one aforementioned LED stripe)

MEGASTAR CLASS	
Price in Japan	1,300,000 JPY (Excl. Tax)
Available colors	Black and white
Number of stars	More than 1 million
Light Source	Ultra-bright LED
Environmental lights	Ultra-wide-range RGB colors: Blue sky, twilight effects, candle and other effects
Maximum room dimension	3.5 m from the device (7m dome)
Motion	Diurnal star motion for 35° from the Northern Hemisphere
Projection environment	Total darkness
Temperature/humidity	5~35°, up to 80% humidity
Power consumption	35 W maximum (100 V)
Dimensions	190 (φ) × 240mm (h)
Weight	4kg (without controller)
Handy controller Dimension / weight	162mm (w) × 45.8mm (h) × 84.3mm (d) 2.5m (cable) / 400g (without cables)
Accessories	Handy controller, AC adapter (100-240 V), cables, lens covers, and user manual
Warranty	1 Year (within Japan)

Technologies for Science & Art & Entertainment

MEGASTAR is an accurate simulator for the night sky. It is an educational tool. However...

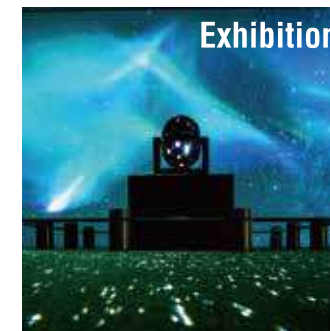
Why are we so moved when we look up at the magnificent star-filled skies? Something really happens in our hearts. Why do the stars have such power over us? It seems as if something transcendental is trying to deliver his message to us through the stars... Megastar might be the tool to deliver this message.



Astroliner, an opto-mechanical projector completed by Takayuki Ohira when he was a university student.



Nov, 2010
An exhibition "Sky Planetarium" was held at the Mori Arts Center Gallery (Roppongi Hills Mori Tower 52F).



Jun, 2014
The art installation "Imaginary Cosmos" by MEGASTAR-II exhibited at the Museum of Contemporary Art Tokyo.



Nov, 2022
Developed **SWING AXIS**, the world's first cradle-type four-axis control technology.

Feb, 2023
MEGASTAR-IIA + GIGAMASK + SWING AXIS delivered to the Hamagin Space Science Center was recognised by Guinness World Records® as "the most number of stars projected by a planetarium projector (one-off)*".
*Custom-built

Nov, 1991

Takayuki Ohira developed an opto-mechanical projector **Astroliner**, a project which was said to be impossible to accomplish by an individual person.

Jun, 1998

MEGASTAR achieved more than 1 million stars for the first time in the world. It was announced at the IPS in London.

Apr, 2004 MEGASTAR-II Phoenix was installed in Kawasaki Municipal Science Museum.

Jul, 2004 MEGASTAR-II cosmos developed jointly with the National Museum of Emerging Science and Innovation (Miraikan).

Nov, 2004 MEGASTAR-II cosmos certified by Guinness World Records as **the world's most advanced planetarium projector**.

June, 2003 MEGASTAR-II is shown for the first time at the former Goto Planetarium (Tokyo).

Feb, 2005 Established Ohira Tech Ltd.

Aug, 2005

The world's first home optical planetarium **HOMESTAR** released jointly with SEGA TOYS CO., LTD.

Sep, 2005 The Science for Adults: **Vol.9 Ultimate pinhole planetarium (magazine)** was released jointly with Gakken Education Publishing Co., Ltd.

Oct, 2006 MEGASTAR-II selected for the "New Japan Style" best 100 (by Ministry of Economy, Trade, and Industry).

Dec, 2008 Developed the world's first LED optical star projector MEGASTAR-IIB for permanent installations in medium size domes.

Jun, 2008 2008 At the IPS in Chicago, **SUPER MEGASTAR-II** shows the world's largest number of 22 million projected stars.

Dec, 2009

Developed the world's first LED optical star projector **MEGASTAR-IIA** for permanent installations in large domes.

Apr, 2012

Developed a revolutionary new projection method **MEGASTAR-III FUSION** that combines optical and digital methods.

May, 2011 MEGASTAR used as an optomechanical unit of the world's first 360-degree all-sky ball planetarium installed in the AHAA Science Center (Tartu, Estonia)

Jul, 2011 MEGASTAR-IIB at Roadside Rest Area FUJIKAWA-RAKUZA certified by Guinness World Records as the world's most advanced planetarium projector.

Aug, 2011 Moved the office to Yokohama from Kawasaki.

Oct, 2015

Joint development with Sony Music Solutions of **GIGAMASK**, an ultra-precise star plate projecting more than one billion stars, the largest number in the world.

Nov, 2015

Projected MEGASTAR-II in the cave on the seaside as a part of an exhibition "Space Art Tanegashima".



Exhibition

Mar, 2016

Developed full-dome personal ultra-small planetarium projector **MEGASTAR CLASS**.

Oct, 2017

Developed **MEGASTAR-Neo** for small domes.

Jul, 2018

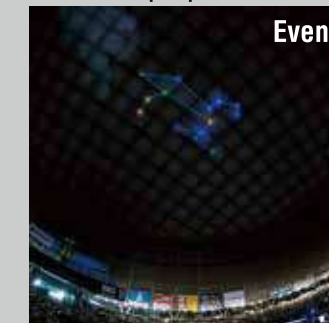
Takayuki Ohira won the **IPS (International Planetarium Society) Technology & INNOVATION AWARD 2018**.

Dec, 2018

Development of the **GIGANIUM**, a new planetarium projector projecting onto a giant dome of 500 m diameter.

Aug, 2019

GIGANIUM achieved the largest planetarium in history, with 10,000 people at a baseball stadium.



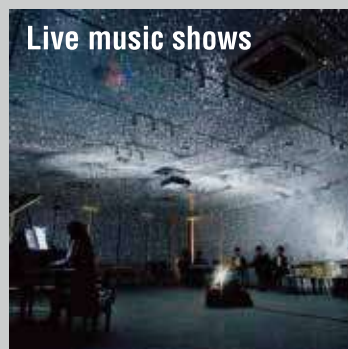
Event

Aug, 2023

GIGANIUM is recognised by Guinness World Records® as "the 'largest area projected by a planetarium projector'".

Nov, 2023

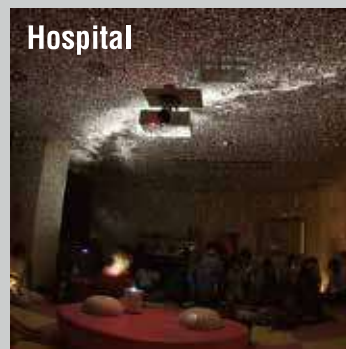
Developed **MEGASTAR-Neo II** for small flat and tilted domes.



MEGASTAR appears at concerts of numerous artists.



Reproduce at the wedding ceremony a starry sky of important days.



Watching the stars brings relief from the fear and tension, and gives an opportunity to think about the meaning of one's existence in the universe.



We deliver stars to any desired place.

COMPANY PROFILE

Company Name	Ohira Tech Ltd.
President	Takayuki Ohira
Address	4489-1 Ikonobecho, Tsuzukiku, Yokohama City, Kanagawa, 224-0053, Japan
Tel	+81-(0)45-507-3531
Fax	+81-(0)45-507-3532
Established	February 2005
Capital	10,000,000 JPY
URL	https://www.megastar.jp/en/
E-mail	sales@megastar.jp

