



CATALOG PLANETARIUM COLUMBIA OPTICS

**We have the honor to show you some of our products in the
field of digital planetariums.**

PROJECTOR FOR PLANETARIUM DIGITAL

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DIGITAL PROJECTOR FULL-DOME



Particular system of our production of computerized digital video projectors, created for the projection and reproduction of effects and animations of large field (170°) inside of the planetarium or hemispheric domes of any kind.

This system has a zoom mode that allows the angular projection from 100° to 170° degrees adapted to any dome or different type of projection in variable dimensions with an optical diaphragm for the correction of inclination of the image to put it on horizontal way with the dome.

With this system connected to a PC (PC and software not included must be ordered separately) its possible to reproduce astronomical animations with reality effects inside of the planetarium dome, also it can project animation movies in full dome and others, in a simple and

practical way obviously through a special software.

This instrument is a video projector system in FULL HD definition with 1800 pixel meridian and is connected to a computer (portable or fixed) and used with any type of software fisheye. You can request our software (VPlanistar) allowing the use of planetarium and full dome it includes movies, images and animations. It is delivered on a DVD with the respective license and guide manual.

The structure is built in a mobile service but also can be used in fixed areas. It's recommended for domes of 3-7 meters.

DIGITAL PROJECTOR PLANETARIUM FULL-DOME 1080 PROJECTOR



Hemispherical projection system of our production of computerized digital video projectors, created for the projection and reproduction of effects and animations of large field (170°) inside of the planetarium or hemispheric domes of any kind.

This system has a zoom mode that allows the angular projection from 100° to 170° degrees adapted to any dome or different type of projection in variable dimensions with an optical diaphragm for the correction of brightness and also adaptable to different diameters. Built with a mechanical structure in order to use the projector with domes of horizontal position of any kind. Audio system 2.1 power of 50 watts or more integrated into the mechanical structure. Comes with a PC to put on the support base which is reclining

(laptop with INTEL processor with power and speed correct for the system) plays planetarium and astronomical animations with immersive effect; Full dome movies and others in a practical and simple way in high resolution.

This instrument is conformed of a video projection system Full HD with 1080 pixel meridian, minimum contrast 1/30.000 and brightness not less than 2.000 lumens in all colors. Computer included (laptop can be used with any planetarium software for fisheye) our software VPlanistar is included, it allows to be used as planetarium and also Full Dome including movies full dome (num.3) images and animations.

The projector can be also used in a fixed environment. It's recommended for domes of 3-7 meters.



HIGH RESOLUTION PLANETARIUM

DIGITAL PLANETARIUM VPLANISTAR

VP3 HR FULL HD

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It's a digital planetarium with a higher resolution image, 1080 pixel meridian, plays movies full dome in 1K format, includes laptop or tower with flat screen with liquid crystal, you can request a screen with Touch-screen it can be controlled through a tablet via Wifi. Integrated audio system with stereo reproduction of high fidelity 2.1. The resolution of this planetarium is approximately 5.6' therefore at the level of an optical planetarium of good capacity. The features and functions described in the VPlanistar program (installed in the computer with the respective license) also with this system will be possible to enjoy the planetarium as well as projection multimedia of other elements or functions not only astronomical.

Suitable for domes up to 14 meters of diameter. The projector can be also used effectively with broader diameters respect to indicated, accepting a reduction of brightness projected compared to recommend. It can be used in fixed and portable domes, the weight of the machine is approximately 10kg (portable version) to 50kg (tower version).

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PROJECTOR FOR DIGITAL PLANETARIUM TYPE VPLANISTAR VP5 HR 1200



This is a digital planetarium with the highest image resolution possible nowadays, with a higher number of 400% pixel compared to Full HD model with a projection same as 2000 pixel meridian, includes a computer and monitor flat screen with liquid crystal. Contains a screen with Touch-screen control besides it can be controlled through a tablet via Wi-Fi for remote control integrated audio system with stereo reproduction with high fidelity 2, 1 RSM power for at least 3' watts per channel. The audio boxes are installed to the side walls of the tower holding the projector, while the bass system may be located inside or in the base of the tower. The resolution of this planetarium is approximately 4' therefore is at the level of an optical planetarium of good capacity. The features and functions of this

planetarium are attached in a file related to the software as well as the mode and features of automatic programming. Also with this system will be possible (using the graphic functions of the program) to use the planetarium like a multimedia projector of other elements.

The projection system base will have a 4K projector of at least 1700 ansi lumens, a native resolution of 4000x2160 a contrast full on-full off with at least 50.000/1 and a lamp power of 230w, it's suitable for domes of approximately 7 meters.

With the software we offer for free 4 movies scientific-astronomical kind, included within the same software plus a script series with automatic astronomical lessons.

DIGITAL PROJECTOR FULL- DOME VPLANISTAR SISTEM DOUBLE HR 2K (3.2 MEGAPIXEL) SISTEM DOUBLE HR 4K (12 MEGAPIXEL)



It's a digital projection system with images of composition of projectors. All dome is illuminated by the composition of 2 high resolution projectors that are part of the special system of video projection, composed set of special optics located centrally in a single block or at the sides of the dome divided in two parts leaving free the middle. The combination of this system through a "mosaic" compose

images 360° degrees inside the dome.

Each projector is composed of a special optical system which adapts the images to the requirements according to the position of the projection. A powerful computer system allows the operation of the planetarium, conformed by a Touch-screen monitor, mouse and control with a wireless tablet remote control. The resolution of this planetarium 6' by pixel to the 2K version while for the 4k version is 2.8' per pixel. The features and functions of the planetarium are those of VPlanistar as well as the mode and characteristics of automatic programming. Besides with this system will be possible (using the graphics program functions) to manage separately or in blocks the videos, enjoying the planetarium as well as the multimedia projection room.

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The VPlanistar double system adapts to fixed planetariums the most important technical feature of this projection system is the playback with 2k resolution (2000x2000 pixel) or 4k (4000x4000 pixel) It means that with projection respectively with 3 megapixel and 12 megapixel in the dome at high resolution, suitable for professional systems or planetarium of medium or large dimension. Average light output of 30 lumens per square meter.

This system has been studied and designed so you can enjoy, also it works like a film-dome with separate projection in the dome into a single direction pre-chosen occupying an angular area of approximately 200 degrees azimuth and 110 degrees zenith. Adapted to project movies directly without going through the conversion software the system allows to adapt the projector through a script programmed by the operator.

The total projected power is not less than 35 lumens per square meter, the minimum contrast 1/50.000 for a black background. It's included in the program: colorful stars, magnitude management, leaning luminous management, management of individual pixel movement, all sky movies projection (supplied with astronomical and scientific films).

Bodies are mounted laterally on the edge of the dome, therefore won't occupy space in the middle while the control console can be installed at the desired location. The weight of the machine is 10-50kg (depending the diameter of the dome) approximately a body.

Along with the software we offer for free 4 movies scientific and astronomical type, included within the same software plus a script series with automatic astronomical lessons.

The version of VPlanistar software installed allows direct management through the script to use, composing or decomposing parts of the films in the system in order to make compositions and integrate custom lessons.

Regulation and calibration of deformation, blending (union of 2 images) and dimensions, arrange VPlanistar software and then internal computer program.

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DIGITAL PLANETARIUM VPLANISTAR TYPE SISTEM 7 HR4 – 11MP PROYECCION FULL - DOME 4K

It's a type of digital planetarium with images composed by projector. The entire dome is illuminated by the set of 6 high resolution video projectors, located radially in the dome. All of these through a particular "mosaic" composing images of 360° throughout the dome. Each projector (Full HD or higher type) is composed of a particular optical system that adapts the image to the requirements according to the position of projection. A powerful computer system allows the management and operation of the system.

With a Touch-screen control monitor with a mouse and tablet Wifi for wireless remote control. The resolution of this planetarium is about 4' therefore high resolution. The features and functions of the planetarium are similar to those used with VPlanistar.

With this system will be possible (using the graphic functions of the program) to manage the videos separately or in blocks enjoying the planetarium like a multimedia projector, therefore is possible to follow animations only on the horizon or the apex of the dome in a separately or overlaying form. The control center (console) can be installed in the center or the edge of the dome as customer prefers.

This product can be combined with a system of optical planetarium (hybrid) in order to have the two possibilities or insert images to the stellar sky.

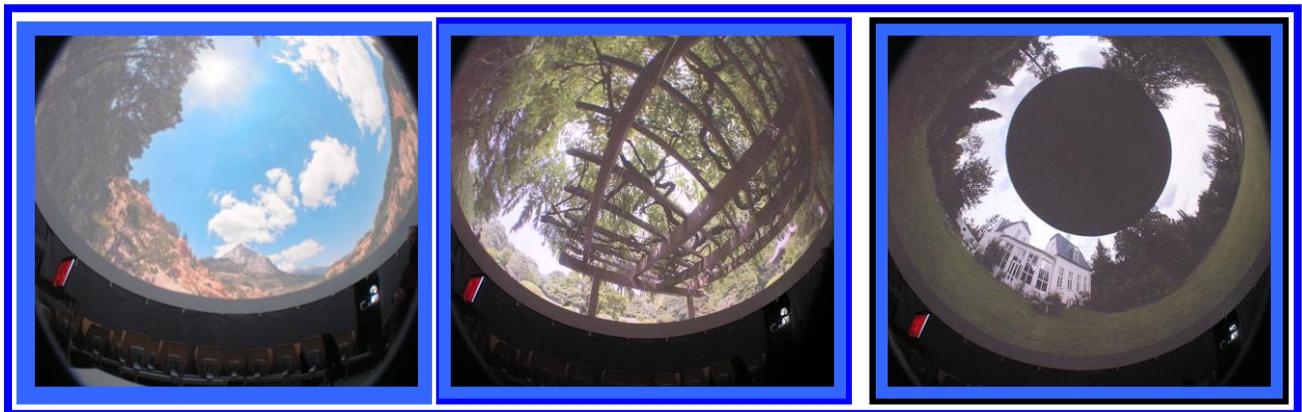
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CONTROL SYSTEM SOFTWARE



All products are equipped with the planetarium software VPlanistar of production Columbia Optics and MSB software.

Designed and built specifically to be used with digital planetariums. All functions are simple and controllable through direct controls and classic planetarium consoles apart from the new typical commands or digital systems and programming.



Ejemplos de reproducción en cúpula durante la proyección de una película en un sistema VPLANISTAR

I. LIST OF FEATURES OF VPLANISTAR PROGRAM PLANETARIUM REPRODUCTIONS

- ❖ Movement of AR with 5 step of speed in both directions
- ❖ Latitude movement AR with 5 step of speed in both directions
- ❖ Precession movement with 5 step of speed in both directions
- ❖ Solar system movement (in the middle the stars) with the particular command "Follow the sun" that allows to keep fixed the sun (allows to watch the analemma route) and watch the movements of planets and the moon through the months and years with the consequent movement of the stars respect to the solar system
- ❖ Room lights (digital simulation)
- ❖ Positioning of the sun- planets since the date wanted (SET DATA)
- ❖ Separate command to turn on the sun, planets and the moon
- ❖ Lunar phase automatically direct for the day requested
- ❖ Projection of separate command of the ecliptic- celestial equator- declination- meridian- cardinal directions- arctic circle- precession circle
- ❖ Equatorial grid with circles of division of the sky in 2 hour per 15°
- ❖ Equatorial grid with circles of division of the sky in 15° per 15°

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- ❖ Constellations selectable singularly with command and direct button for all the possible functions
- ❖ Zodiacal constellations selectable singularly with a direct command for all possible functions
- ❖ Constellations reproduced in line or overlapped images.
- ❖ Constellations in pre-ordained groups (No 10, zodiacal, north polar, south polar, from different mythologies, from summer or winter)
- ❖ Reproduction, projection and regulation of the Milky Way
- ❖ Name of the planets and constellations selectable
- ❖ Automatic effect of sunset and dawn
- ❖ Images slides (an area dedicated with the possibility to regulate the dimension) that can be selected and projected in the dome; an option that allows to keep in practice a projector with the planetarium or a video area where you can project movies or animations
- ❖ Objects in the deep sky (installed in the memory area and with object images that you can keep introducing until 1000 objects) and with the progressive zoom of the messier object or another chosen
- ❖ Animation and simulation of a shooting star in all sky superimposed in the stellar sky with simple positioning and continuous of the radiant
- ❖ Animation and movement of the comet in the stellar sky
- ❖ Didactic graphic animation of the solar system with date and reference of position about the ecliptic and with possibility of select the planets that you want
- ❖ Graphic animation of the Jupiter system in wide vision
- ❖ Virtual animation of the eclipse between the moon and the sun
- ❖ Virtual animation of Jupiter watched from Io in all-sky
- ❖ Virtual animation of Saturn watched from the Titan in all-sky
- ❖ Graphic animation of our galaxy and rotation in wide vision
- ❖ Script for programming all functions of time and events that the planetarium can realize with different ways that the programmer wants, in order to be able to use the planetarium in total or partial automatic function. The programs created can be kept in a file and can be selected directly from the program when you want to use it
- ❖ Audio- control system with script programming to introduce music and voice and use it with animations
- ❖ Panoramic versions 3D full dome that can be installed if you want
- ❖ Sky line animation that can be selected to install



We can attach other accessories with the purchase of new software. Animations or variants in the program are made by personal request. The cost will change according to applications.

You can request automatic lessons created by an expert astronomer.

FOR INFORMATION AND REQUESTS:

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