

**Comparison Between the Starlab LED pinhole projector and the Digitalium® Delta 3**  
 Compiled by Digitalis Education Solutions, Inc. Please let us know if you find any errors.

	<b>Starlab LED projector with one starfield cylinder</b>	<b>Digitalium Delta 3 (digital system running Nightshade software)</b>
Simulate the sky from any point on Earth	Yes, but must buy and change separate cylinder to show opposite hemisphere.	Yes, without any equipment changes.
Simulate the sky from points other than Earth	No	Yes, from any point in the solar system or from a point above the solar system.
Demonstrate annual motion	No	Yes, including planet trails.
Simulate atmospheric effects (sunrise, sunset, etc.)	No	Yes
Show one constellation at a time	No—starfield cylinder has no constellation images, lines, or names. Constellation cylinders (additional cost) only show all constellation lines or art at once.	Yes, show names, line drawings, or artwork one at a time, a few at a time, or all at once.
Show constellations of different cultures	Requires purchase of separate cylinder for each sky culture; requires changing cylinders to show different cultures.	Yes, without any equipment changes.
Zoom in on or label any object	No	Yes
Demonstrate effects of precession and proper motion	No	Yes
Automatic and accurate positioning of all celestial objects	No; users can only manually approximate planet and lunar positions using a system of mirrors and magnets.	Yes
Display reference lines and grids	Only meridian and cardinal points are projected with LED projector and starfield cylinder. Separate cylinder projects ecliptic, celestial equator, precession circle, Milky Way line, and equatorial grid.	Included: cardinal points; ecliptic; celestial equator; tropic lines; meridian; circumpolar circle; precession circle; equatorial grid; galactic grid; and azimuthal grid.
Change colors of reference lines/grids	No	Yes
Display photos/images on any subject	No (Separate clear cylinder and pen set is available; can project anything the teacher can <b>draw</b> ).	Yes
Display videos on any subject	No	Yes, can even play back prerecorded fulldome movies.

Warranty period	One year standard.	Three years standard; up to five years extended.
Dimensions and weight	<p>Projector and starfield cylinder case: 24 by 24 by 15 inches (60 by 60 by 37.5 cm); 56 lbs (25 kg)</p> <p>To show all other available content would require 11 extra travel cases (each holds 4 cylinders), each 24 by 24 by 15 inches (60 by 60 by 37.5 cm); 34 lbs (15.4 kg)</p> <p>Total weight = 430 lbs (195.5 kg)</p> <p>Total storage/transport space needed = 60 cubic feet (1.4 cubic meters)</p>	<p>Delta 3 system in transit case: 27 x 24 x 16 inches (67.5 x 60 x 40 cm); 67.5 lbs (30.5 kg)</p>
Pricing (US prices in USD)	<p><b>\$5,650</b> for projector (unclear if any cylinders are included)  <b>\$21,150</b> for projector, 13 cylinders, and 5m Starlab dome  <b>\$53,330</b> for projector, 5m dome, 43 cylinders,  and travel cases for 43 cylinders  (see below for price calculation with all 43 cylinders)</p>	<p><b>\$15,900</b> for projection system only (includes free future upgrade to Nightshade NG Basic software);  <b>\$22,100</b> for system and 5m Digitalis dome</p>

## Starlab Cylinder Pricing and Storage Case Information

*Per Starlab price list, Ultra Deluxe Package includes projector, one starfield cylinder, 13 non-starfield cylinders, and three additional cylinder travel cases.*

Cylinder title	Q'ty needed for full coverage (i.e., project both hemispheres)	Unit price	Extended price
Multi-lens starfield; hemisphere-specific; one hemisphere may be included with projector purchase	1	\$1,995	\$1,995
Constellations (hemisphere-specific)	2	\$675	\$1,350
Urban starfield (hemisphere-specific)	2	\$925	\$1,850
Celestial coordinates (hemisphere-specific)	2	\$675	\$1,350
Deep sky objects (hemisphere-specific)	2	\$675	\$1,350
Solar system and galaxy	1	\$675	\$675
Lewis and Clark celestial navigation	1	\$675	\$675
The Civil War sky	1	\$675	\$675
Earth (hemisphere-specific)	2	\$675	\$1,350
Plate tectonics (hemisphere-specific)	2	\$675	\$1,350
Geocentric Earth	1	\$675	\$675
Geologic time	1	\$675	\$675
Ocean currents	1	\$675	\$675
Weather	1	\$675	\$675
Greek mythology (hemisphere-specific)	2	\$675	\$1,350
Ancient Egyptian culture	1	\$675	\$675
Native American mythology	1	\$675	\$675
Hindu mythology	1	\$675	\$675
Ancient Chinese seasons	2	\$675	\$1,350
Ancient Chinese legends	2	\$675	\$1,350
Lapp (Sami) mythology	1	\$675	\$675
African mythology (hemisphere-specific)	2	\$675	\$1,350
Maya skies	1	\$675	\$675

Navajo skies	1	\$675	\$675
Radio sky	1	\$1,000	\$1,000
Polynesian voyaging (hemisphere-specific)	2	\$675	\$1,350
Inuit star lore	1	\$675	\$675
Biological cell	1	\$675	\$675
Transparent cylinder with set of four pens	1	\$300	\$300
Bird migration	1	\$675	\$675
Moon	1	\$925	\$925
<b>Totals</b>			<b>\$30,370</b>

The highest priced non-starfield cylinders are the Radio Sky at \$1,000 and Moon at \$925. All other non-starfield cylinders are \$675 each. Total deduction for 13 additional cylinders is:

\$1,000 (Radio Sky) + \$925 (Moon) + \$7,425 (11 cylinders times \$675) = **\$9,350 total savings**

**Total cost of all additional cylinders:**

\$30,370 - \$9,350 package savings = **\$21,020**

**Travel case cost calculation:**

Travel cases needed for the additional 29 cylinders: Each travel case holds four cylinders, so eight extra travel cases are needed (one will hold only one cylinder).

Price per cylinder travel case is \$1,395.00. \$1,395 times 8 travel cases = **\$11,160**.

**Total cost:**

\$26,550: Package price (projector, 14 cylinders, travel cases for projector and cylinders, 5m Starlab dome)

\$21,020: Other 29 cylinders

\$11,160: Travel cases for 29 additional cylinders

**\$58,730**

**Storage/transport space needed:**

Each case is 2 by 2 by 1.25 ft, so 5 cubic feet of space is needed per case. (.6m x .6m x .375m = .135 cubic meter)

5 cubic feet times 12 cases (11 extras plus 1 case for projector and two cylinders) = 60 cubic feet. (1.62 cubic meters)

**Weight calculation for cases:**

Weight would be 56 lbs (25 kg) for projector and two cylinders, 34 lbs (15.4 kg) for each extra case. Total weight would be 430 lbs (194.5 kg).

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