NORTHSTAR

StarScan™

Dec 2012

Automatic image alignment scanner

StarScan provides complete 3D measurement of display system geometry in immersive display systems. Using high precision gimbal pointing, StarScan operates over a full 360-degree azimuth and 135 degree elevation range, with options for eye limiting resolution accuracy.

StarScan measures both the exact 3D screen geometry and the projected image geometry with absolute precision, for the most demanding applications. This enables the display system to meet absolute performance requirements at installation and during maintenance operations.

StarScan devices can be mounted virtually anywhere in the display system and can automatically align itself using reference points on the screen, enabling repeatable, high accuracy performance, even from off-center locations.

Key Features

- Precision 3D image mapping
- Absolute geometric accuracy 1 - 5 arc min
- Off axis alignment head positioning
- Screen installation support
- Display channel setup support
- Easy and cost-effective retrofit of auto-alignment to existing installations

Screen Measurement and 3D mapping

A complete screen surface map is derived in system using the gimbal mounted rangefinder. This map is used in geometric projection software to calculate the location for every alignment point on the real display surface. This surface map can also be used for display system acceptance testing to ensure compliance with design specifications.

Screen integration support

The integrated rangefinder can be used to accurately locate a screen to specified coordinates to ensure proper setup.

Scan for video of StarScan in operation or visit:
http://bit.ly/starscan

3D perception's Northstar™

Northstar™ is 3D perception's turn-key simulation display solution, and is the fusion of nBox™ display processors, 3DP Certified Projectors™ and auto-alignment technologies via sensor-instrumented Aurora™ smart screens or StarScan™ precision 3D scanners.

SPECIFICATIONS

GEOMETRIC ACCURACY
1 to 5 arc min

RANGE OF OPERATION
Azimuth 340 degrees (optional 360 degrees)
Elevation -25 to +70 degrees (optional -45 to +90 degrees)

LIGHT LEVEL SUPPORT
Sensitivity .001 to 15 fL

ALIGNMENT HEAD
Position - Off axis viewing support
Orientation - Horizontal and vertical

GUI CONTROL
nControl - Display system management software

Why StarScan?

As the number of projected images within a display system increases, it becomes increasingly desired to incorporate automatic alignment. Automatic alignment systems should be easy to use for the maintainer of the system. Providing an automatic alignment system which retains projector and image generator independence is critical. StarScan requires no special software to be loaded onto the image generator, nor does it require the 1.5-2 ms of image generator render time required by software and camera-based solutions.

StarScan is an ideal automatic alignment technology for new and existing multi-projection display projects - direct, collimated, front or back projected. It's well suited for use with any screen shape.

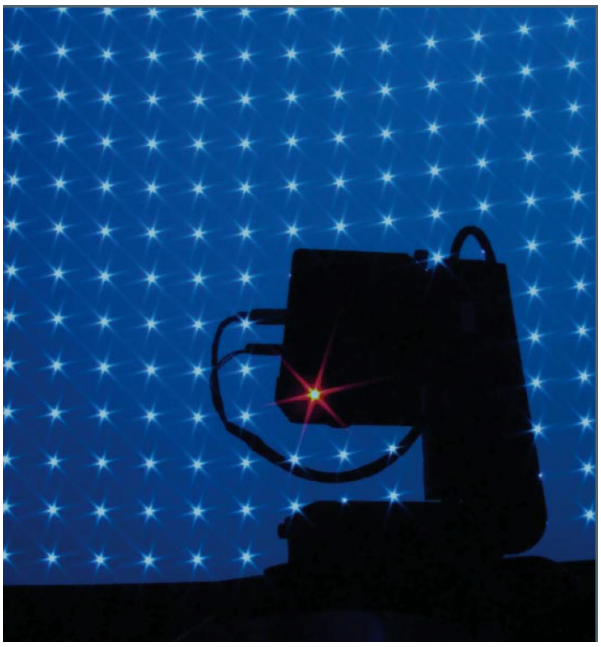
Advantages

Uniform results

- Resolution - channel layout matches closely after each alignment
- Geometric alignment - Alignment points placed to arc-minute accuracy
- Edge blending - Blending points aligned like geometry

System installation & setup support

- Rangefinder provides real-time distance feedback
- Visible outline of channels to minimize projector overshooting



nControl™

Display System Management Software

nControl is an intuitive, user-friendly graphical interface for installation, user control, and maintenance for nBox and Northstar displays. nControl is responsible for maintaining a consistently pixel-perfect image, and in concert with nBox and StarScan, it automatically performs geometry adjustment, edge blending, color balancing, and gamma correction. With a push of a button, it automates maintenance procedures and will readjust the system's image in seconds.

Key Features

- Centralized interface for integrated control of entire display system
- One-click power up/down and maintenance
- Save/load multiple training configurations - changes eyepoints, accounts for different obstructions
- Scenario Management
- Automatic alignment procedures

About 3D perception

3D perception provides immersive visual display solutions and technologies for high fidelity simulation and visualization applications.

Main Offices

Europe
Solbråveien 20
N-1383 Asker, Norway
+47 66 98 70 70

United States
12600 Challenger Pky, Ste 155
Orlando, Florida 32826
+1 321-235-7999

SEAMLESS IMMERSIVE DISPLAYS
SOLUTIONS • TECHNOLOGIES • INSTALLATION • SUPPORT

info@3d-perception.com www.3d-perception.com