TREALITY
Simulation Visual Systems

# TREALITY® CD-series

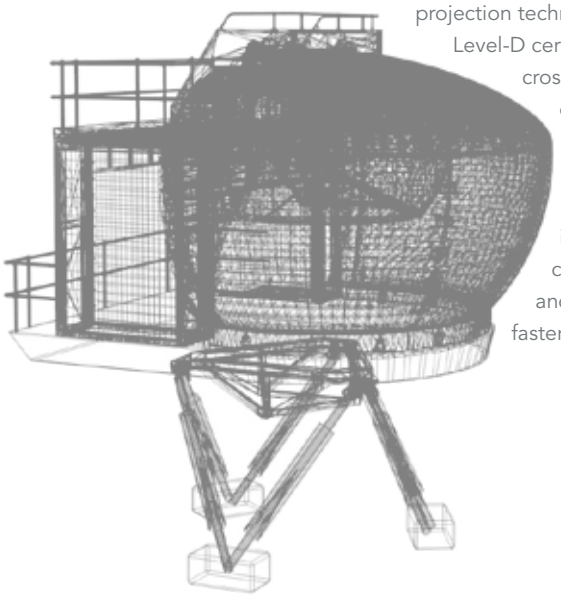
## Cross-cockpit collimated display system

The TREALITY® cross-cockpit collimated display systems are fully integrated, optimized simulation visual displays for accurate side-by-side cockpit training for fixed wing and rotary aircraft. The CD-series combines the TREALITY expertise in projection, mechanical structures, screens and display alignment to form one comprehensive solution from the same manufacturer. This means you only need one company to turn to for design, installation and service. With an extensive experience of over 25 years in the training and simulation market as the key independent visualization provider, TREALITY has the right know-how in the design, manufacturing and installation of complex display systems.

# Cross-cockpit collimated display system

## Superior system performance

Since TREALITY manufactures all the main components of this display, Esterline can guarantee the total TREALITY® system performance. The CD-series offer the highest resolution and highest brightness images available, and exceeds the new ICAO 9625 Ed. 3 performance standard. The CD-series offer a choice of either glass or polyester film mirrors. Our mirrors have the best optical performance in the industry and are the heart of the displays.



## Superior image quality

The CD-series collimated mirrors have been designed and manufactured according to the latest state-of-the-art production process for the best-in-the-industry image quality and accuracy. The CD-series comes with advanced projection technology that is FAA Level-D certified. The TREALITY® cross-cockpit collimated display features projection technology that strongly reduces smearing of fast-moving images so that pilots can detect, recognize and identify objects much faster. Available extremely deep black levels and separate infrared input options are ideal for nighttime and NVG training.

## World-wide presence and service

TheTREALITY worldwide presence and long-term involvement with the training and simulation market ensures we can implement the collimated display globally, with our local teams and partners. Our after-sales care is not an afterthought, but a full commitment to increasing system uptime. Esterline works with you on a tailor-made maintenance program to help you achieve the performance you target. In addition, we employ service desks that can help you in your native language, and offer service agreements tuned to your needs.

*High Quality Glass Mirror Production*

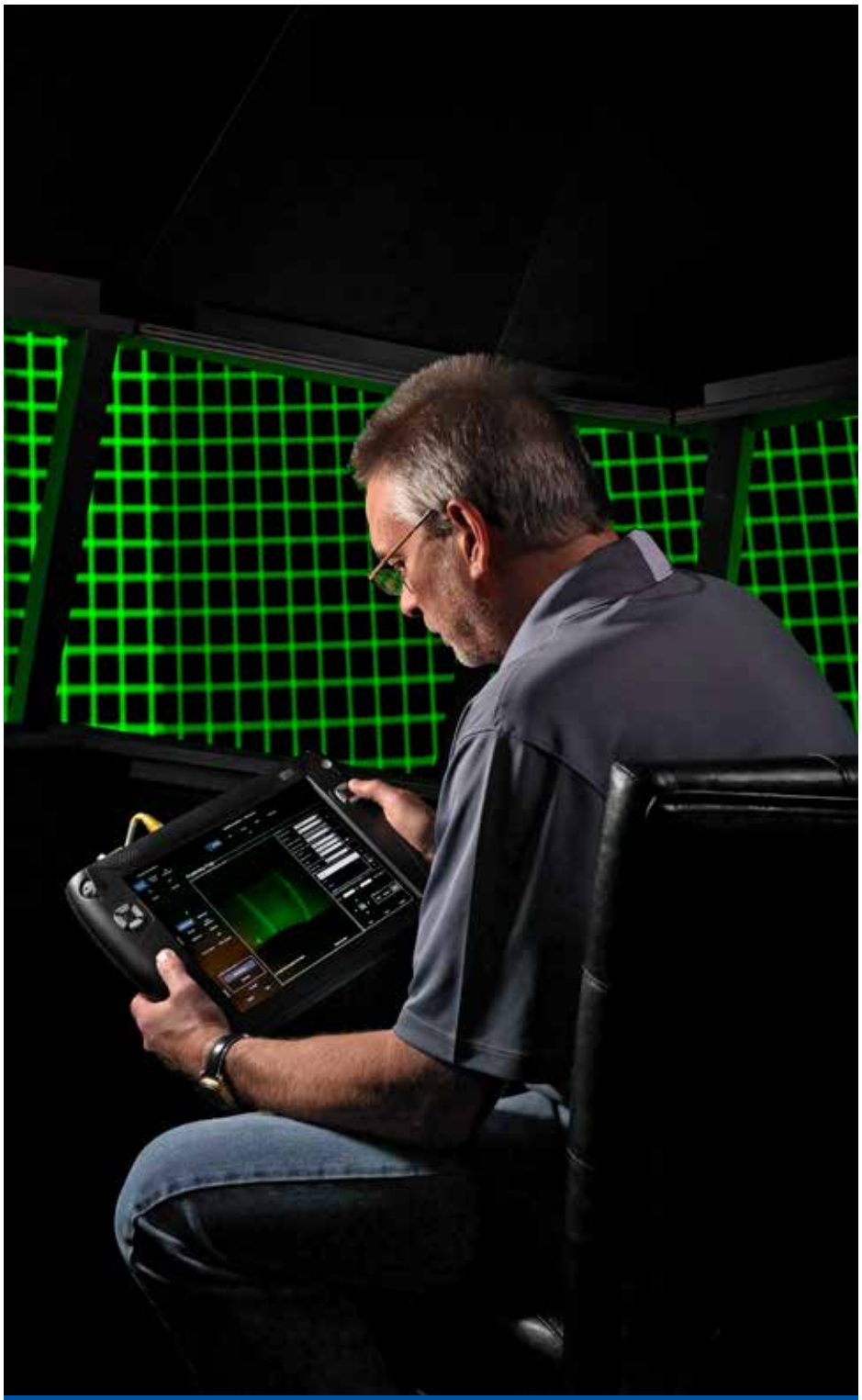
*True-to-life image quality*

*Easy to maintain*

## The right technology

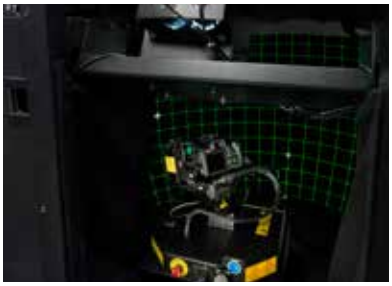
TREALITY offers both high-contrast liquid crystal on silicon (LCoS) or low-maintenance solid-state DLP projectors in different resolutions. Both options have the needed technologies for use in multichannel set-ups.

With our state-of-the-art NOCTIS blending technology creating a true neutral density filter the NOCTIS true gray scale has been optimized to work equally well with visible and infrared light. Providing excellent blending performance optimized for any time of day and for stimulated NVG applications. The blend transition is calculated by TREALITY® SimCAD design tool which accurately predicts the blend quality of the multi-channel projection visual display. The calculations are based on system projector configuration, projector optical design and lens characteristics. We can deliver the highest quality of blend overlap and the best image performance.



## Accurate night training

The cross-cockpit collimated display is compatible with actual night vision goggle equipment. Through several visual optimizations, the system displays halo and bloom effects with extreme realism. One of these optimizations is the increased infrared (IIR) spectrum. In this way, pilots can gain experience that is crucial for life-critical night missions.



*Fast mapping of projectors*

**Key features:**

- wide field of view (Mylar < 225° & Glass Mirror > 225°)
- most accurate system geometry
- exceeds Level D and ICAO 9625 Ed.3 standards
- lightweight
- glass or film-mirror option
- motion-base compatibility
- choice between three, five or seven-projector set-up (a customer may choose 7 projectors for a max FOV glass solution)
- automated alignment tools
- smear-free operation
- flawless edge blending
- color and brightness uniformity
- stimulated night vision

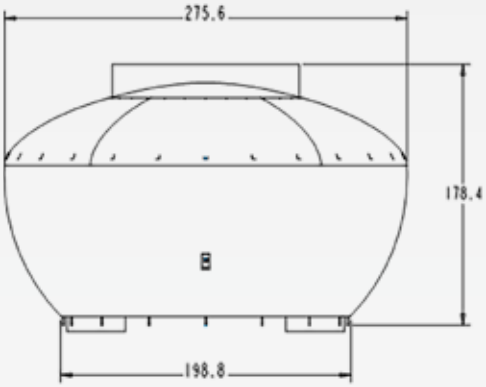
## Real uptime

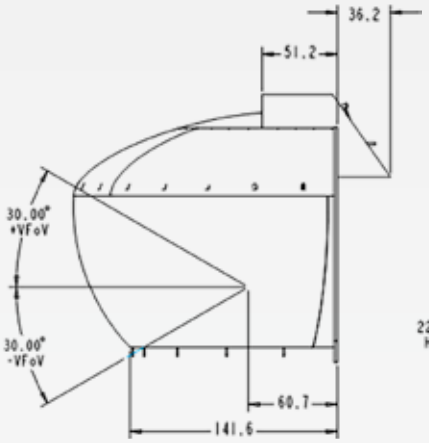
The TREALITY CD-series was designed with service and a maximum uptime in mind. In case a projector needs to be swapped, training can continue in less than one hour. The TREALITY® laser diode array trackers (LDAT) indicate the right spot for the projection to be mapped. TREALITY has also developed an entire set of alignment tools (including the ACURAS system and the XDS-RACU controller) that make system set-ups easier, quicker and repeatable with predictable results. In addition, the TREALITY global service teams ensure fast intervention and efficient, professional assistance.

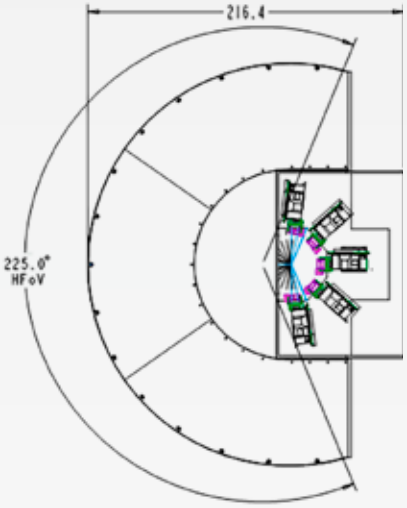
# CD-series

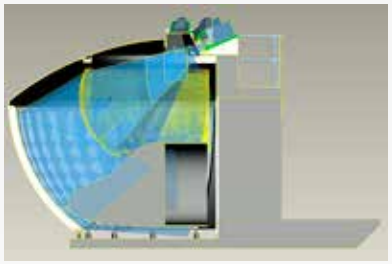
| | CD2040F-20 | CD2245-22.5 | CD2245-25 | CD2260-20 | CD2260-30 | CD2460-20 |
|---|---|---|---|---|---|---|
| Field of view | 200°x40° (+/-20 °) | 220°x45° (+/-22.5°) | 220°x45° (+25°/-20°) | 220°x60° (+20°/-40°) | 225°x60° (+/-30°) | 240°x60° (+20°/-40°) |
| # of projectors | 3 | 5 | 5 | 5 | 5 | 7 |
| Luminance* | >8ftL (27cd/m²) | >8ftL (27cd/m²) | >8ftL (27cd/m²) | >8ftL (27cd/m²) | >8ftL (27cd/m²) | >12ftL (27cd/m²) |
| Contrast | >10:1 | >6:1 | >6:1 | >8:1 | >8:1 | >10:1 |
| Resolution | 6 Arcmin/OLP | 5 Arcmin/OLP | 5 Arcmin/OLP | 5 Arcmin/OLP | 5 Arcmin/OLP | 3 Arcmin/OLP |

*based on SIM 7QP HB&C



Example CD2260-30

- 11 feet radius film mirror
- light weight < 4000 lbs
- AFT structure option

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