

# SCHOTT® Wide Field of View Head Mounted Display

Near-eye imaging using bonded fiber optics and lens design by SCHOTT



## Performance Characteristics

Enables a low distortion wide field of view image from a low-power OLED microdisplay.

Fused fiber optic components can be optically coupled to OLED microdisplay, allowing for simplified and customized imaging solutions.

High resolution images from the microdisplay are transferred through fiber optics to the output surface.

Fiber optic components can be finished with a convex radius for wide viewing angles or a concave radius for integration with existing lens assemblies or simple optics designs.

More robust than lens assemblies for demanding applications.

Customized sizes, formats and magnification ratios available to meet application specific requirements.

Glass materials provide inert and durable surface properties, for compatibility with optical coatings and bonding materials.

SCHOTT has the in-house design capabilities for precision coupling of fused fiber optic imaging components with microdisplays, designing custom lens assemblies and designing the mechanical housing for packaging of the final assembly.

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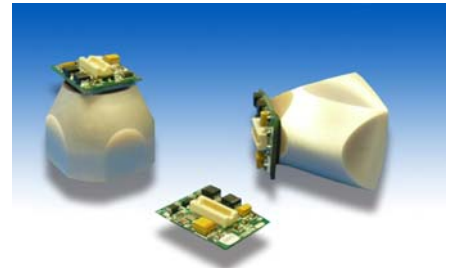
## Specifications

Display Technology:	Full Color AMOLED
Resolution:	SVGA (800 x 600)
Diagonal Field of View (FOV):	60°
Fiber Optic:	Taper with concave radius on output surface
Number of Lens Elements:	4
Eye Relief:	26.5 mm
Exit Pupil:	4 mm

The bonded fiber optic taper - OLED subassembly in SCHOTT's Helmet Mounted Display allows for improved imaging performance at wider fields of view. SCHOTT's unique design incorporates a fiber optic taper with a spherical radius on the output surface to minimize the number of lenses in the eyepiece while maintaining a high fidelity image quality. SCHOTT's assembly process also employs an active alignment process step to precisely align the spherical radius of the fiber optic to the center of the OLED to reduce centering errors in the overall system.



Marines train with the Future Immersive Training Environment (FIME) Joint Capabilities Technology Demonstration (JCTD) Virtual Reality system which operates within Helmet Mounted Display (HMD) technology. Photograph courtesy of the US Navy



Micro-OLED courtesy of eMagin Corp. with bonded SCHOTT Fiber Optics.



Bonded fiber optic faceplate with a concave radius.

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