

Opticis Co., Ltd
EXHIBIT 1019
IPR Petition for
U.S. Patent No. 7,198,416

**Explore Imaging, Optics, and Illumination Strategies at the *Vision Spectra*
Conference (July 16-18)**

Photonics Dictionary

optical combiner

An optical combiner, in the context of optics and display technologies, refers to a device or component that combines multiple optical signals or images into a single output. The purpose of an optical combiner is often to overlay or merge different images or information sources, creating a unified visual experience. Optical combiners are commonly used in various applications, including augmented reality and head-up display systems.

Here are a few types of optical combiners and their applications:

Beamsplitter combiners: Beamsplitter combiners use dichroic mirrors or beamsplitters to combine separate optical paths. These combiners are often employed in head-mounted displays for augmented reality. They allow the user to see both the virtual or augmented content and the real-world environment simultaneously.

Waveguide combiners: Waveguide-based optical combiners use waveguide technology to guide and mix light from different sources. These are commonly used in compact and lightweight AR glasses. Waveguides direct light from micro displays to the user's eyes, creating the illusion that digital content is integrated

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images by manipulating the phase of light. DOEs can be designed to redirect specific wavelengths or angles of light, enabling the superimposition of digital information onto the user's field of view.

Prism combiners: Prism-based combiners use prisms to combine and direct light paths. These are often employed in optical systems where compactness and efficiency are important. Prisms can be used to merge images or information from different sources.

The goal of optical combiners is to seamlessly integrate virtual and real-world content, providing users with an enhanced and immersive visual experience. The choice of a specific type of optical combiner depends on the application requirements, such as form factor, field of view, and image quality.

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