

## Prototyping of visual micro optoelectronic systems

Trivisio builds customized products and prototypes fast while aiming to reach the highest levels of adaptation for our customers' applications, and using the latest technologies. We can quickly develop products with specific configurations and unique features for universities and laboratories which conduct research in the field of VR/AR technology. Our devices are available for commercial applications and are used in industrial, medical, law enforcement and entertainment segments.

Customers can specify the type of camera interface and optic (PAL/NTSC or USB), the type of tracker and connectors that suit best for their application. The new power unit with a joystick and an onscreen display (OSD) makes it easier to choose working regimes.

In our devices we use LCOS displays that offer an excellent quality of image.

### Differences between LCOS and OLED

*	LCOS	OLED
Fill Factor	93%	33% (grainy image is the result)
Contrast	>100:1	100:1 (only in the beginning. OLED degrades with time and contrast is never as good as in the beginning).
Refresh Rate	120Hz	60Hz (flicker can be visible.)
Uniformity	Excellent	Poor (in solid images there are splotchy areas in OLED.)
Color Accuracy	Excellent	Poor (yellow and orange areas are not accurate; black images look brownish.)
Lifetime	100,000 hrs+	50,000 hours

\* provided by Brillian Corp.

## Product Overview

**ARvision-3D** is a full stereoscopic Video see-through binocular display. Two separate color cameras offer realistic 3D-effect in different working distances by the means of convergence adjustment. Excellent image quality and variety of capabilities make this device the best in AR range for viewing in 3-D. Field of view is 40° diagonal and 800x600 resolution.



Commercial applications: visualizing in 3D new designs (cars, cottages, buildings, boats, etc.), augmented video see-through holograms, paleontology, reconstruction of ancient ruins and monuments, design and visualization of architectural projects.

**ARvision-S** is a stereoscopic video see-through binocular display. The camera signals are used for video-tracking or can be superimposed by a stereoscopic virtual PC image. Field of view is 40° diagonal and 800x600 resolution.



Commercial applications: visualizing in 2D and 3D immersive or semi-immersive mixed reality tasks, urban planning and landscaping, computer-based work environments, augmented video see-through holograms, paleontology, reconstruction of ancient ruins and monuments, design and visualization of architectural projects.

**ARvision** is a monoscopic video see-through binocular display. The video signal is augmented by PC and the combination is viewed as a virtual image inside the glasses. It is suited best for design and development projects where the real world objects are superimposed by virtual, PC generated objects.



Commercial applications: visualizing in 2D immersive or semi-immersive mixed reality tasks, urban planning and landscaping, computer-based work environments, augmented video see-through holograms, paleontology, reconstruction of ancient ruins and monuments, design and visualization of architectural projects.

## Product Overview

**3Scope** allows experiencing 2D and 3D data visualization in full privacy. Tracking and programming solutions enables to increase the virtual field of view to 360 degrees diagonally. It offers a 3D color image without the loss of image information or light intensity. A big field of view is 40° diagonal and 800x600 resolution.



Commercial applications: facilitates training in medical, law enforcement and industrial segments; gaming industry, design, planning and visualization of architectural projects.

**VRscope** offers a high contrast crisp color image with a 800x600 resolution and a big field of view (40° diagonal). It is ideal for viewing 2D images and videos in full privacy.



Commercial applications: facilitates training in medical and industrial segments; gaming industry and other entertainment applications.

**Monocular M3** is a portable monitor with the option of optical see-through capabilities with a field of view (32° diagonal). Optical see-through offers brilliant transparency combined with brightly projected virtual images. (800x600 resolution) An optional camera for interactive support applications can be attached. Ideal for using with wearable computers.



Commercial applications: multimedia and telemedicine, facilitates training in medical, law enforcement and industrial segments, deployed in repair and maintenance of industrial equipment and machinery.

## Product Overview

**AR Bino** is a stereoscopic video see-through handheld binocular with a big field of view (32° diagonal), very high quality of image. Can be offered without cameras for VR applications.



Commercial applications: tourist attractions (entertainment and education); at exhibitions – visualization of various design and architectural projects, augmented video see-through holograms, paleontology, reconstruction of ancient ruins and monuments, visualizing 3D new designs (cars, buildings, boats, aircraft, etc.).



**AR telescope** is a monoscopic video see-through telescope for tourist attractions (coin telescope). Based on **50° field of view optic** with a color camera and PC.

Commercial applications: tourist attractions (entertainment and education), historical sites (reconstruction of ruins and monuments), architecture (new project tenders), city planning (visualization of new buildings, bridges, parks, monuments), promotion of products and brands.



**MultiVision** is a state of the art opto-electronic night vision device. MultiVision enables to see and move safely in poor visibility and in the dark. A build-in electronic zoom magnifies images of the observed objects; the effect is similar as with binoculars. MultiVision can be connected to external devices, such as video/TV, DVD players and computers, enabling to view these images inside the device.



Commercial applications: used by law enforcement agencies, and for medical and research applications.