

I) TECHNICAL CHARACTERISTICS



The ARvision-3D is a specialized product designed for Augmented Reality applications. It is an opto-electronic device that projects an image or a streaming video through the near-the-eye micro-displays.

a) Display Features

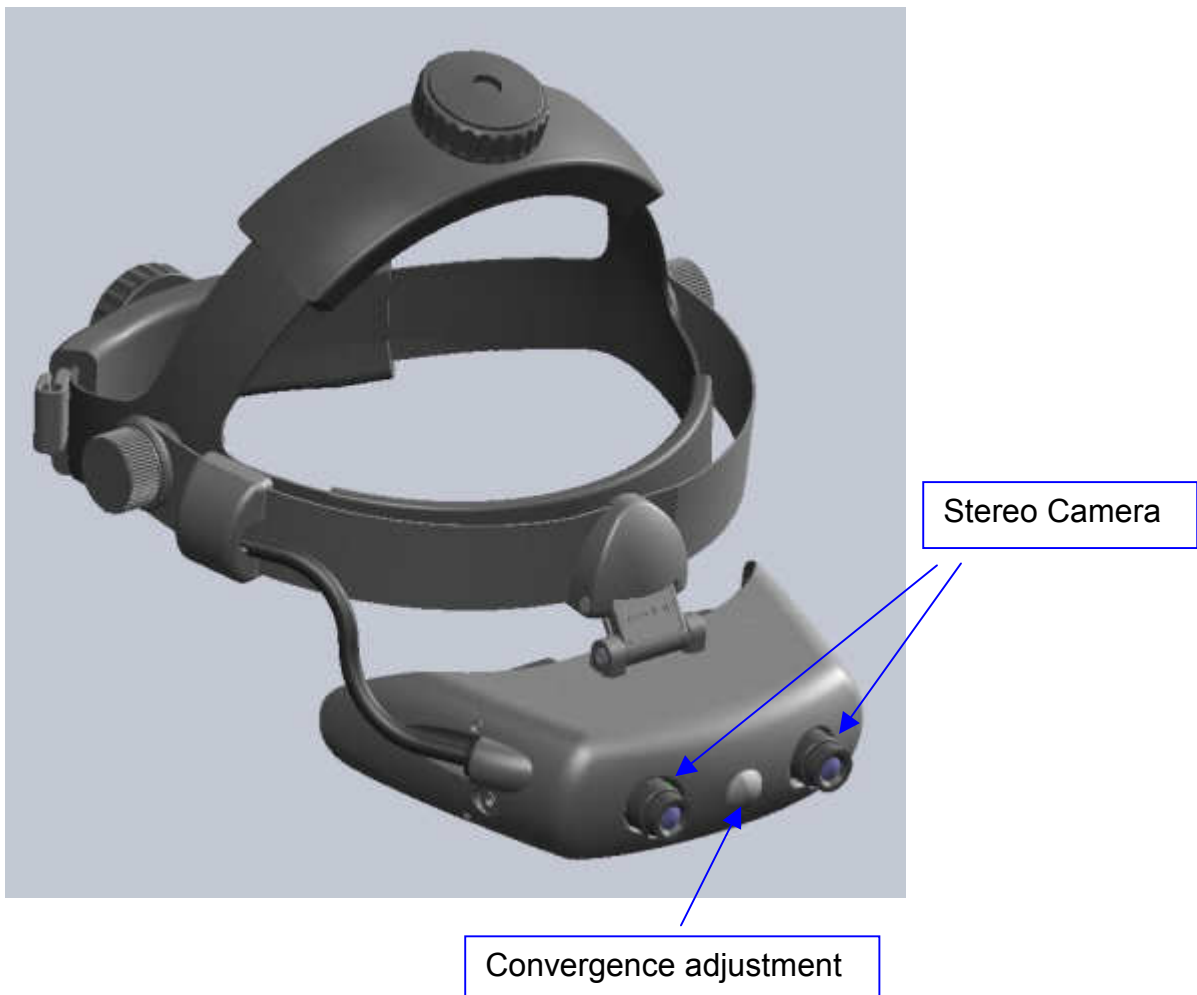
The ARvision-3D offers micro-screens with the following characteristics:

- 800 x 600 resolution, equals 1.4M pixels and full color.
- Displays are Liquid Crystal (LCD), one of the best quality of image. The image has an excellent sharpness, brightness, and contrast which allows a comfortable reading visibility without getting your eyes tired.
- Brightness and contrast are adjusted by computer, through a software, provided for the device.

b) Camera Features

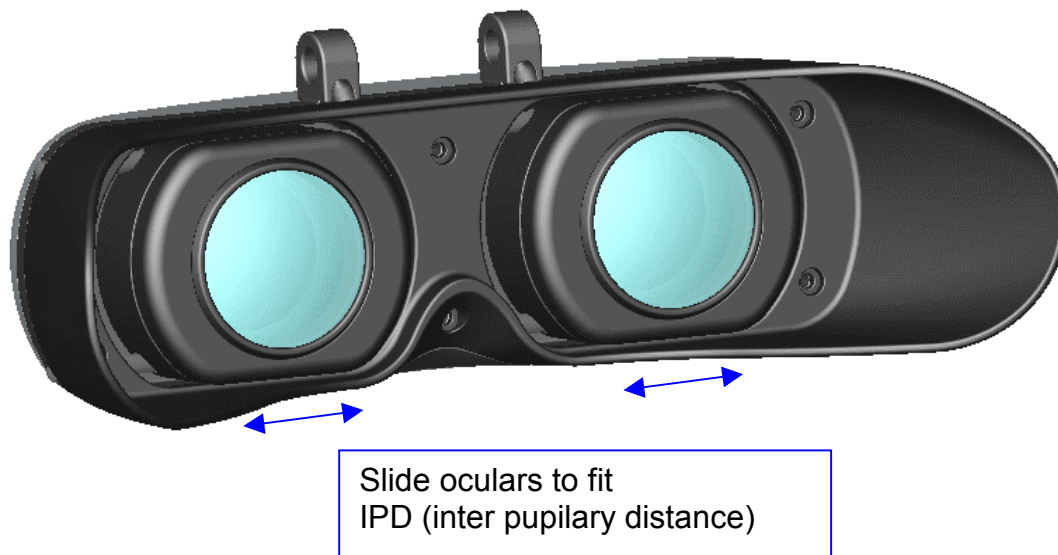
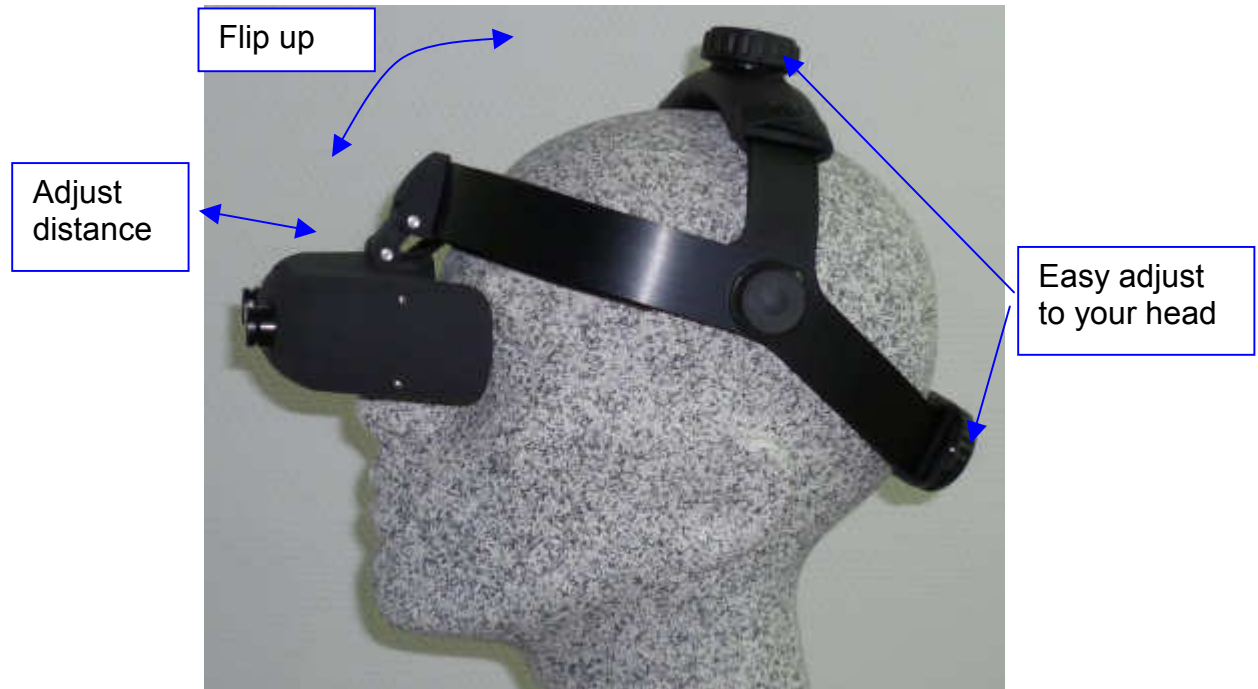
The cameras we offer for the Augmented Reality range of products are:

- USB 2.0
- IEEE 1394 (FireWire)
- 752 x 480 resolution, 61fps, color or b/w
- Progressive scan 1/3" CMOS, global shutter
- Camera control by software
- Gain control: automatic / manual, 0 dB to 12 dB
- Shutter Speed: automatic / manual, 0.12 ms to 512 ms
- Synchronization: external trigger, software trigger, or free-running
- Power requirement: 5V (USB), <1 Watt
- Standard lens 6mm, changeable by user, lens mount M12
- Convergence adjustment



c) Attachment and Mechanical Adjustment

- Head Band: The ARvision-3D-HMD

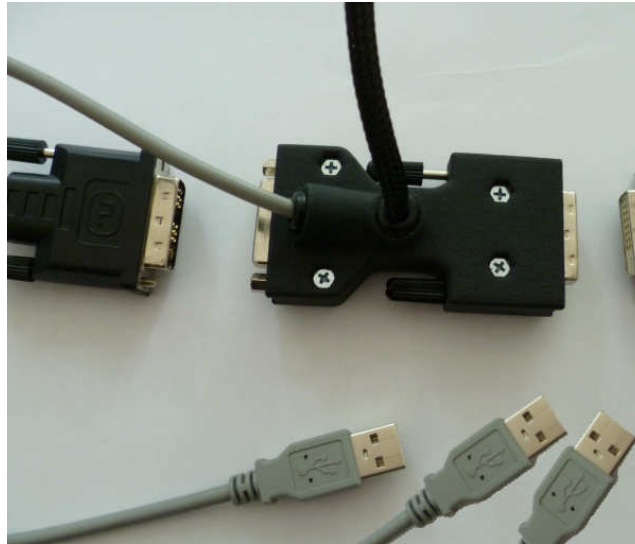


d) Connectivity and GPU Support

Any computer, laptop or other video source with digital DVI output is suitable

... to HMD

DVI socket
Aux = Right channel
(cable from 2nd DVI
graphics card output)



DVI socket
Main=Left channel
(graphics card or
extender cable)

USB
- Power supply 5V/0.5A
- Audio signals
- Display adjustments
- Firmware updates

USB-Cameras 2x

e) Stereoscopic Signals

The ARvision-3D-HMD offers two stereo options:

- Passive stereo (two DVI channels)
- Active Stereo

f) Audio

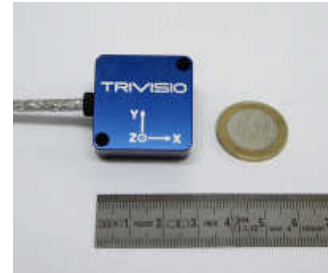
- Microphone is integrated
- Earphone jack (3.5 mm) for external earphones
- Audio signals by USB

II) Additional Features and Options

a) Inertial Motion Sensor

Upon request we can integrate inertial motion sensors:

- Wireless Colibri
- Colibri (with USB cable)



b) Cable Length

The HMD comes with a basic cable length of 2.2 meters, but can be extended upon request to 5m.

c) Earphones

The optional earphones provide an excellent sound quality and a very good shielding of ambient noise.



III) Overview

Technical Specifications	Cameras 2x	752x480 (max 61fps), USB 2.0 (optional IEEE1394)
	Camera Sensor	1/3" CMOS, progressive scan, global shutter
	Gain	auto/manual, 0 dB to 12 dB
	Shutter Speed	auto/manual, 0.12 ms to 512 ms
	Synchronization	external trigger, software trigger, or free-running
	Convergence	manually adjustable
	Focus	manually adjustable
	Iris	fixed
	Standard Lens	6mm (0.9x vision), changeable by user , lens mount M12
	Microdisplays 2x	SVGA AMLCD 800x600 color (equals 1,440,000 pixels)
	Display Color	24 bit
	Frame Rate	60fps
	Overlap	100%
	Field of View	42° diagonal (4:3, 34° (horiz), 25° (vert))
	Distortion	3.1% (horiz), 1.9% (vert),4.0% corner
	Eye distance (IPD)	55-72mm adjustable
	Eye Relief	27mm
	Eye Motion Box	7mm (horiz) x 6mm (vert)
	Video Interface	DVI-D
	Stereoscopic Modes	Mono, passive stereo, active stereo
Audio	Microphone integrated, 3.5mm socket for headset (via USB)	
Cable Length	2.2m (optional 5m)	
Power Consumption	Display 2.5W, Camera <1W each (5V, taken from USB port)	
Operating Temperature	0°C to +40°C	
Weight	290 g (without headband)	
Dimensions (W/H/D):	150mm x 42mm x 84mm	

Subject to technical modifications