ZED 2



ZED 2 Camera and SDK Overview

The **ZED 2** is a stereo camera that provides high definition 3D video and neural depth perception of the environment. It has been designed for the most challenging applications, from autonomous navigation and mapping to augmented reality and 3D analytics.



Spatial Object Detection

Detect and track object with spatial context. By combining AI and 3D the ZED 2 localizes the objects in space and provides the tools to create the next-generation spatial awareness.

All-Aluminium Case

The ZED 2 comes with a more robust all-aluminium enclosure with thermal control that compensates focal length and motion sensors biases.

Camera Control

The ZED 2 is a UVC video camera with low level access to the device. It provides control over all the camera parameters such as exposure, gain, sharpness, etc.

Neural Depth Sensing

The ZED 2 is the first stereo camera that uses neural networks to reproduce human vision, bringing stereo parception to a new level.

Built-in Sensor Stack

The most extensive sensor stack is available on ZED 2. Togheter with inertial data, the ZED 2 also captures elevation and magnetic field in real-time.

Cloud Connected

Monitor and control your camera remotely. Using the dedicated cloud platform, capture and analyze spatial data anywhere in the world. Manage your application remotly and update you camera at an time.

General Specifications

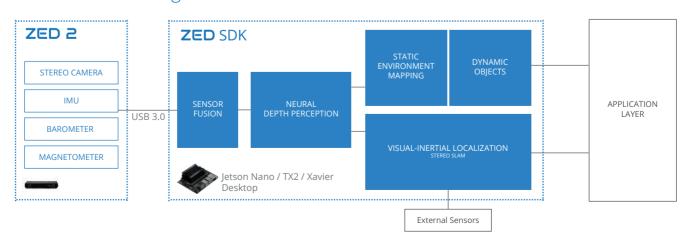
Camera

Output Resolution	Side by Side 2x (2208x1242) @15fps
	2x (1920x1080) @30fps
	2x (1280x720) @60fps
	2x (672x376) @100fps
Field of View	Max. 110°(H) x 70°(V) x 120°(D)
Interface	USB 3.0/2.0 - Integrated 1.2m cable
Depth Range	0.3 m to 20 m (1 to 65.6 ft)
Depth Accuracy	< 1% up to 3m < 5% up to 15m

Sensors

Motion	Gyroscope, Accelerometer Magnetometer
Environmental	Barometer Temperature
Physical	
Dimensions	175 x 30 x 33 mm (6.89 x 1.18 x 1.3"
Weight	166g (0.36 lb)
Operating Temp.	-10°C to +45°C (14°F to 113°F)
Power	380mA / 5V USB Powered

Functional SDK Diagram



Inertial Measurement Unit Accelerometer Range +/- 8G

0.16 dps

Accelerometer Range +/- 8G Accelerometer Resolution 0.244 mg Accelerometer Noise Density 3.2 mg Gyroscope Range +/- 1000 dps Gyroscope Resolution 0.03 dps

Motion/Environmental Sensors

Sensitivity Error +/- 0.4% Output Data Rate 400 Hz

Gyroscope Noise Density

Magnetometer

Magnetic Field Range	+/- 2500 μT (z) +/- 1300 μT (x,y)
Magnetic Field Resolution	0.3 μΤ
Output Data Rate	50 Hz

Barometer

Pressure Range	300 to 1100 hPa	
Pressure Resolution	0.18 Pa	
Relative Pressure Accuracy	0.12 hPa	
RMS Noise	0.2 Pa	
Output Data Rate	25 Hz	

Temperature Sensors

Temperature Range	-40 to 125 °C
Abs. Temperature Accuracy	+/- 0.5 °C
Output Data Rate	25 Hz

Dual Image Sensors

Sensors

Sensor Type	1/3" 4MP CMOS		
Array Size	2688 x 1520 pixels		
Pixel Size	2μm x 2μm		
Shutter	Electronic synchronized rolling shutter		
Output Resolution	n (Side by side)		
	2x (2208x1242) @15fps	cropping mode	
	2x (1920x1080) @15/30fps	cropping mode	
	2x (1280x720) @15/30/60fps	binning 2x2 mode	
	2x (672x376) @15/30/60/100fps	binning 4x4 mode	
Output Format	YUV 4:2:2 - UYVY (8bits)		
Max S/N Ratio	38.3 dB		
Dynamic Range	64.6 dB		
Sensitivity	1900 mV/Lux-sec		

ZED 2 Detailed Specifications

Lenses

Baseline	120 mm (4.7")
Focal Length	2.12mm (0.08")
Field of View	Max. 110°(H) x 70°(V) x 120°(D)
Aperture	f/1.8
TV Distortion	5.07%

System Requirements

Supported OS

Windows 10 - 64 bit Ubuntu 16.04/18.04 - 64 bit Debian, CentOS (via Docker) Jetson L4T

CPU

Dual-core ≥ 2.4GHz processor Minimum 4GB RAM

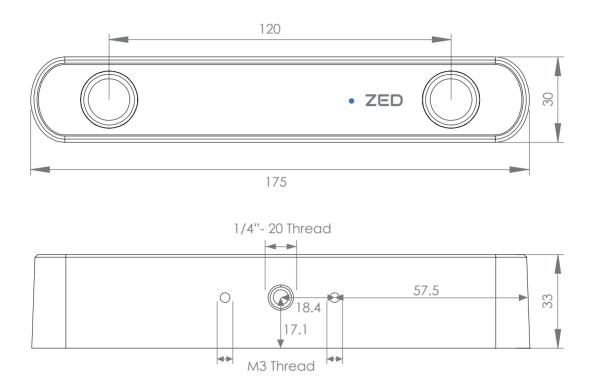
GPU

NVIDIA GPU ≥ 2GB Memory NVIDIA Compute capability ≥ 3.0 Compatible with:

- · NVIDIA Jetson Nano
- NVIDIA Jetson TX2
- NVIDIA Jetson Xavier

ZED 2 Mechanical Drawing

Dimensions are in mm



Sensors Diagram

