

X2000 MULTICAM SERVER

The X2000 MultiCam Server is a powerful industrial PC, capable of advanced neural network image detection. It integrates an NVIDIA GPU and 32GB of DDR5 RAM, enabling the execution of advanced deep learning algorithms for real-time image analysis and pass/fail inspections on multiple cameras at once.

The X2000 MultiCam Server natively supports Allied Vision USB and GigE Cameras, with additional USB and GigE camera support available on request. It is accessible via a browser interface, simplifying setup and use. The X2000 MultiCam Server can be modified to support 2-8 cameras, ranging from 1.6 MP to 25 MP, depending on the use case and camera configuration.



Features

- ▲ **AI-Powered Processing**
 Embedded NVIDIA™ GPU and CPU for real-time image analysis.
- ▲ **Built-in Deep Learning Training App**
 Remotely connect to, and train with, the X2000 MultiCam Server.
- ▲ **Industrial-Grade Design**
 Fanless, rugged construction ideal for industrial environments.
- ▲ **Large Storage Capacity**
 4TB storage for extensive image history.
- ▲ **Simple Connectivity**
 Features GigE, SFP+ and USB camera integration.

Technical Specs

System Specs

Memory	32 GB 256-bit LPDDR5x
Interfaces	2x Gigabit Ethernet 2x USB 3.1 Type-A 1x 10G (SFP+ Based) 1x CAN Bus
24V GPIO	2x Digital Input 3x Digital Output
Network Capabilities	Remote login with VPN
Power Supply	24 VDC @ 2A (up to 30-50 watts max power draw)
Mass Storage	4 TB SSD
Operating Systems	Ubuntu Linux 20.04

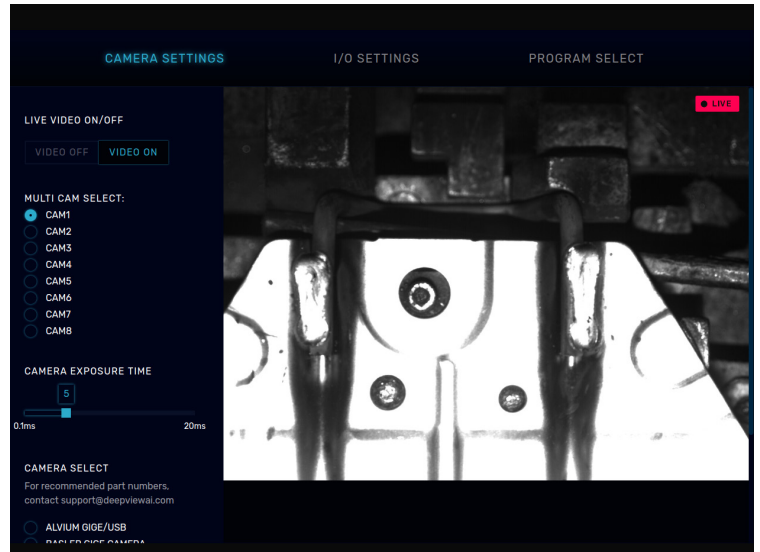
Physical

Operating Temperature	-25°C to 65°C
Size	105 mm x 210 mm x 82 mm
Weight	TBD

Integrated Vision System

The X2000 MultiCam Server is designed to support multi-camera configurations with advanced software that allows flexible and efficient management of up to 8 cameras. The server excels in environments where multiple cameras are necessary, such as for industrial inspection across multiple production lines or for monitoring complex products from various angles.

It can be accessed by opening any web browser and navigating to **192.168.2.45**.



Seamless Browser-Based Operation

The interface is designed for easy access via standard web browsers, eliminating the need for specialized software. The streamlined interface supports intuitive setup and control of multi-camera systems, making it easy to monitor and configure all connected cameras from a single location.

Advanced Multi-Camera Functionality

The X2000 MultiCam Server's software allows for complete flexibility in how multiple cameras are used, supporting both synchronous and independent triggering options:

Trigger All or Trigger Independently

Choose between triggering all cameras simultaneously or operating each camera on independent triggers, offering control over how images are captured based on specific inspection requirements.

Run Same or Different Jobs

The system supports running the same job across multiple cameras or configuring each camera to perform different tasks. This flexibility is ideal for complex setups requiring multiple inspection points or varied operations across a production line.

Centralized Setup and Management

All camera settings, jobs, and production monitoring are controlled through a single interface. This eliminates the need to configure each camera independently, significantly reducing the setup time and potential for errors when managing multiple lines or inspection points. Once a job is updated, it is propagated to all relevant cameras, ensuring consistency across the system.

Simplified Neural Network Training

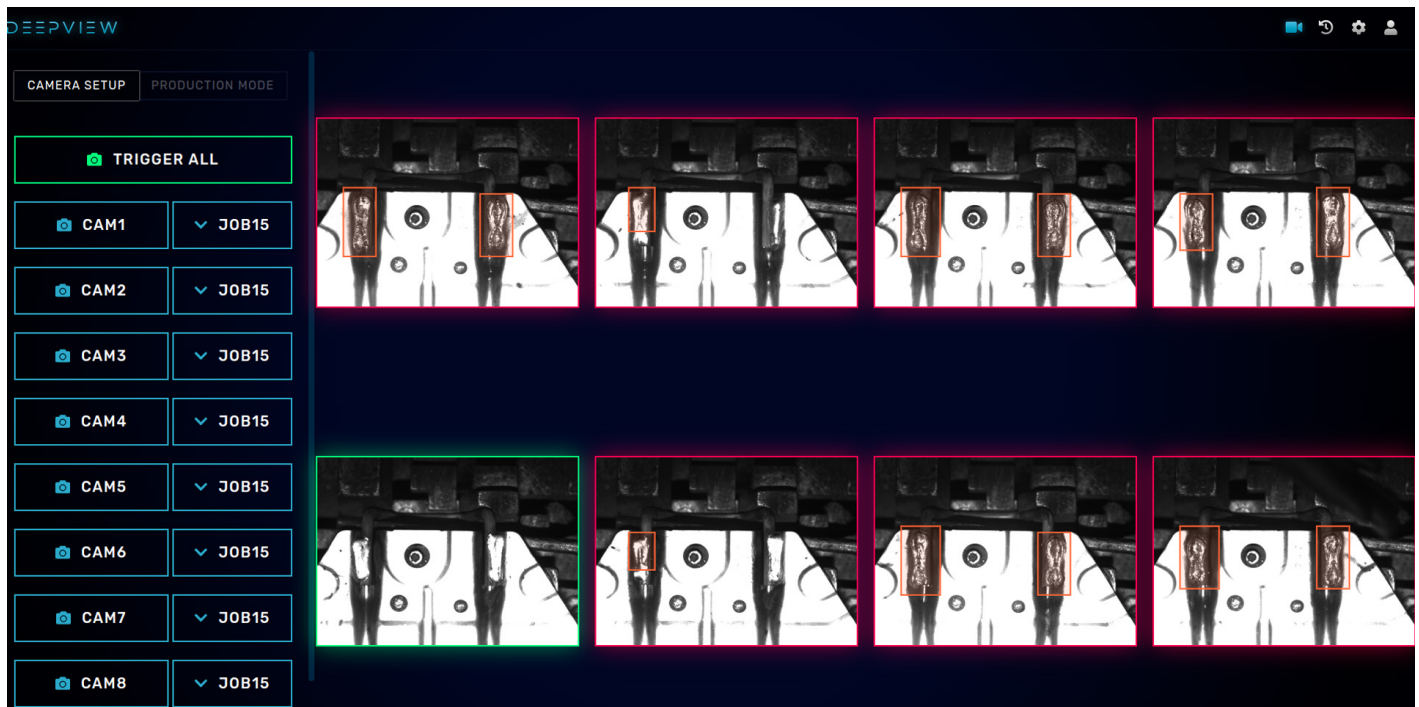
The Training module interface allows users to organize, label, and train neural networks with ease. It features tools for defect marking and categorization based on pass/fail criteria. Additionally, images from production or camera history can be seamlessly added back into the training module, ensuring continuous optimization of AI algorithms.

Real-Time Monitoring and Predictive Analysis

The system provides real-time visualization of camera feeds, including an integrated production view for multi-camera setups. Predictive analysis tools display confidence ratings, allowing operators to monitor inspection accuracy and system performance at a glance. The software offers full control over camera settings such as exposure and I/O configurations, enabling fine-tuned adjustments for each camera in the system.

Data Management and Historical Analysis

The platform offers comprehensive data management, including the ability to review historical image data, compare results across multiple production runs, and generate detailed reports. The historical analysis functionality is crucial for identifying trends and optimizing production processes.



Mounting

The X2000 MultiCam Server can be mounted via M4.5 tabs on the sides.



Back Panel

An ethernet switch can be used to extend the capabilities of the X2000 MultiCam server to accept up to 8 cameras.¹



¹See page 5 for accepted camera configurations

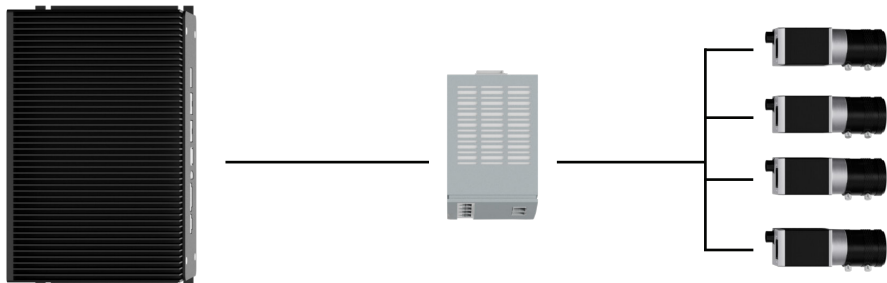
Camera Configurations

The X2000 MultiCam Server can be used natively with up to two USB cameras - or in conjunction with an ethernet switch to support up to eight GigE cameras.

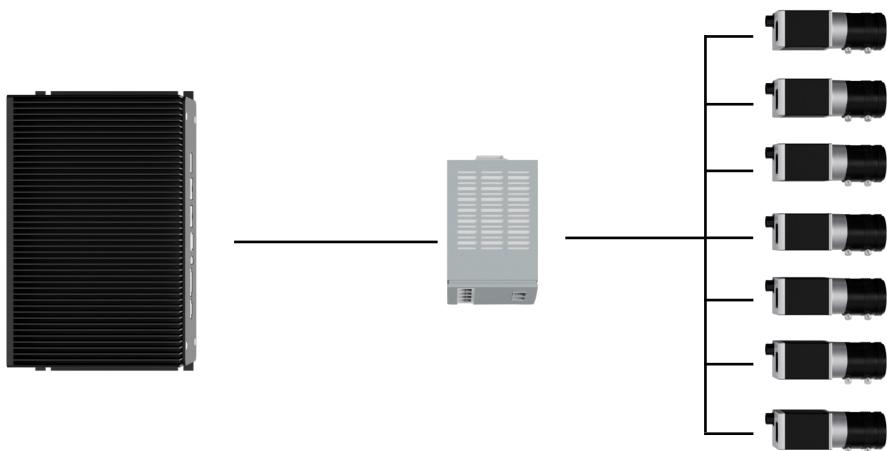
Two USB Cameras up to 25 MP



Four GigE Cameras up to 5 MP



Eight GigE Cameras up to 5 MP



Accessories

Additional GigE / USB camera support available on request. Compatible with Basler and IDS cameras as well as AB Logix PLCs, 24V I/O, EtherNet/IP PLCs, and Profinet (in development).

	Part Number	Description
	Alvium 1800 C-2460c Alvium 1800 C-2460m Allied Vision	Color camera (c) Monochrome camera (m) 24.6 MP USB 3.0
	Alvium G1-500c Alvium G1-500m Allied Vision	Color camera (c) Monochrome camera (m) 5.0 MP GigE
	Alvium G1-158c Alvium G1-158 Allied Vision	Color camera (c) Monochrome camera (m) 1.6 MP GigE
	FL SWITCH 1100T-8POE-2SFP Phoenix Contact	Ethernet Switch 1 Gigabit, PoE
	M117 Series Tamron	C-Mount lens family Available in 6, 8, 12, 16, 25, 30, 50, and 75 mm focal lengths
	C Series Edmund Optics	C-Mount lens family Available in 3.5, 4.5, 6.0, 8.5, 12, 16, 25, 35, 50, 75, 100 mm focal lengths
	12310-02 Allied Vision	Camera mount Allied Vision cameras

Technical Drawings

Dimensions are in mm.

