

**COGNEX®**

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VisionPro 9.21

About This Release

4/10/2024  
Version 1.0

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## VisionPro

5481712, 5495537, 5548326, 5583954, 5602937, 5640200, 5751853, 5768443, 5825913, 5850466, 5872870, 5901241, 5943441, 5978080, 5978521, 5987172, 6005978, 6039254, 6064388, 6075881, 6137893, 6141033, 6167150, 6215915, 6240208, 6324299, 6381366, 6381375, 6411734, 6421458, 6459820, 6490375, 6516092, 6563324, 6658145, 6687402, 6690842, 6697535, 6718074, 6748110, 6771808, 6804416, 6836567, 6850646, 6856698, 6920241, 6959112, 6963338, 6973207, 6975764, 6985625, 6993177, 6993192, 7006712, 7016539, 7043081, 7058225, 7065262, 7088862, 7164796, 7190834, 7242801, 7251366, 7313761, EP0713593, JP3522280, JP3927239

## DataMan

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## CVL

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## VGR

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## OMNIVIEW

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## CVL Vision Library

5495537, 5548326, 5583954, 5602937, 5640200, 5717785, 5751853, 5768443, 5825483, 5825913, 5850466, 5859923, 5872870, 5901241, 5943441, 5949905, 5978080, 5987172, 5995648, 6002793, 6005978, 6064388, 6067379, 6075881, 6137893, 6141033, 6157732, 6167150, 6215915, 6240208, 6240218, 6324299, 6381366, 6381375, 6408109, 6411734, 6421458, 6457032, 6459820, 6490375, 6516092, 6563324, 6658145, 6687402, 6690842, 6718074, 6748110, 6751361, 6771808, 6798925, 6804416, 6836567, 6850646, 6856698, 6920241, 6959112, 6975764, 6985625, 6993177, 6993192, 7006712, 7016539, 7043081, 7058225, 7065262, 7088862, 7164796, 7190834, 7242801, 7251366, EP0713593, JP3522280, JP3927239

## SMD 4

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## BGA II and BGA III

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## Wire Bonder

5495537, 5532739, 5581632, 5602937, 5640199, 5640200, 5642158, 5676302, 5754679, 5757956, 5768443, 5825483, 5835622, 5850466, 5859923, 5861909, 5949905, 5978080, 5991436, 5995648, 6002793, 6005978, 6035066, 6061467, 6075881, 6137893, 6141033, 6157732, 6167150, 6215915, 6289492, 6324299, 6381375, 6408109, 6411734, 6421458, 6457032, 6459820, 6490375, 6516092, 6563324, 6658145, 6690842, 6748110, 6751361, 6771808, 6804416, 6836567, 6850646, 6856698, 6959112, 6975764, 6985625, 6993192, 7006712, 7016539, 7043081, 7058225, 7065262, 7088862, 7164796, 7171036, 7190834, 7242801, 7251366

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## About This Release

VisionPro 9.21 contains new or changed features since the previous release of VisionPro 9.20.

### New Features in This Release

This release supports the following new features:

- This release introduces the ViDiEL OCR tool to find and identify characters in your acquired images. By default, a ViDiEL OCR tool can identify many known characters from just a single training image, but using additional training images improves the ability of the tool to identify all possible characters in your finished application.

See the topic *Using a ViDiEL OCR Tool* in your installed VisionPro documentation for more information.

**Note:** Cognex recommends you read the topic *Development and Deployment Requirements for VisionPro 9.10 and later* in your installed VisionPro documentation as you create your vision application using a ViDiEL OCR tool.

- This release enhances the **Image Acquisition Device/Frame Grabber** list of the QuickBuild Image Source dialog box to list each connected GenTL acquisition device in a unique and repeatable order by the following information:
  - Transport layer
  - Make and model
  - Serial number
  - A unique ID when two identical devices share the same serial number

See the section *Acquiring From a Connected Device* in your installed VisionPro documentation for more information on selecting an acquisition device within a QuickBuild Job.

### 3D Operations Requirements

Your processor must support the AVX2 instruction set for any Cognex 3D operations.

VisionPro supports the **CPUCanExecute3D** method to return **True** if the processor in your computer is capable of executing Cognex 3D operations. Otherwise, the method returns **False**. Use the **CPUCanExecute3D** method to verify any computer you use to create or deploy your application can perform 3D operations.

### Supported Operating Systems

VisionPro supports development and deployment on single or multiprocessor machines using native languages (English, Japanese, German, Korean, and Simplified Chinese) on a variety of Windows 64-bit operating systems.

VisionPro supports 2D vision tools and features on Windows 10 Pro, Windows 10 IoT Enterprise, and Windows 11 Pro.

VisionPro supports various 3D sensors and 3D vision tools based on your 64-bit operating system:

3D Hardware/Feature	Required 64-Bit OS
VisionPro with the 3D-L4000, DS1000 and DS900 series sensors	Windows 10 Pro and Windows 10 IoT Enterprise, Windows 11 Pro
VisionPro with the DSMax series sensors	Windows 10 Pro, Windows 11 Pro
3D-A5000 sensor with A5000 Viewer and 3D HandEye Field Calibrator	Windows 10 Pro, Windows 11 Pro
CAD Import Tool	Windows 10 Pro, Windows 11 Pro
Cognex 3DExpress	Windows 10 Pro, Windows 11 Pro

## Supported Visual Studio Development Environments

VisionPro 9.21 supports application development and deployment using any version of Visual Studio that enables the targeting of projects to .NET Framework 4.8.

**Note:** Be aware that only versions of Visual Studio prior to and including VS2017 support adding VisionPro UI tool controls to Visual Studio Winform Designer.

## Acquisition Platforms

Refer to the VisionPro Camera Support website

(<https://www.cognex.com/products/machine-vision/vision-software/visionpro-software/visionpro-camera-support>) for a complete list of cameras VisionPro supports. Be aware that not all acquisition platforms are supported on all operating systems.

- GigE Vision and related performance drivers
- 3D-A5000 3D Sensor
- DS1000 Series 3D Sensors
- 3D-L4000 Series 3D Sensors (3D-L4050, 3D-L4100, 3D-L4300, 3D-L4033)
- DS900 Series 3D Sensors
- DSMax Series 3D Sensors
- MVS-851x series (Only MVS-8511, MVS-8511e, MVS-8514, MVS-8514e)
- CFG-8700 series
- USB 3.0 cameras by means of a GenTL consumer

## Support for Cognex Designer and VisionPro Deep Learning

Refer to the following for information on using Cognex Designer and VisionPro Deep Learning with VisionPro 9.21:

Designer	VisionPro 9.21 supports Designer 4.4.3 - 4.5 VisionPro Deep Learning users must update to Designer 4.5
VisionPro Deep Learning (VPDL)	Using VisionPro 9.21 and VisionPro Deep Learning on the same system requires you install both: <ul style="list-style-type: none"> <li>• VPDL 3.3.0 (earlier versions of VPDL are <b>not</b> compatible)</li> </ul>

	<ul style="list-style-type: none"> <li>The VisionPro 9.21 supplemental GPU installer, which you can find in the same location on <a href="#">MyCognex</a> as the VisionPro 9.21 installer.</li> </ul> <p>The VisionPro 9.21 supplemental GPU installer <b>must</b> be run after VisionPro has been installed to ensure correct operation of each product. Failure to run this installer can result in errors when executing VisionPro EL tools, VPDL tools, or both, depending on the order of execution of the tools.</p>
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### Security Key Firmware

VisionPro uses a USB security key attached to your computer to ensure the software is properly authorized for use. This release supports firmware version 4.12 for VisionPro security keys. See the topic *Security Key Updates* in your installed VisionPro documentation for how to check the firmware version on your security key.

If you are using a security key with a previous version of firmware, contact Cognex Support for assistance in upgrading to the latest version. Keep your security key firmware up to date to take advantage of the latest features and improvements to Cognex software security.

### Find Additional VisionPro Documentation Online

The [VisionPro Support website](#) contains additional VisionPro documentation not included with your VisionPro installation.

### Needed Instruction Sets

The following table lists the specific instruction set your processor must support for various vision tools:

Tool	Instruction Set	Notes
PMAAlign	SSE4.1	Instruction set needed for 16-bit image analysis only
PMRedLine	SSE4.1	
<ul style="list-style-type: none"> <li>Any 3D operations</li> <li>ViDiEL tools</li> </ul>	AVX2	Any AVX instruction sets prior to AVX2 are not sufficient for 3D operations.