ENGLISH

WOLFVISION®

VZ-9plus

Easy to Use:
Zoom Wheel / Continuous Autofocus

For a smooth presentation, it is very important that a Visualizer is extremely easy to use.

Less experienced users only need to use the **zoom wheel** on top of the camera head (or the zoom keys on the remote control). Everything else (focus, iris etc.) is adjusted automatically by the VZ-9plus. The zoom wheel offers the possibility to zoom with **varying individual speeds**.

The **continuously working autofocus** recognizes all objects very quickly and precisely. As a result, a presenter never needs to worry about focusing. For special objects a manual focus is also available.

Built-in LCD Monitor

The VZ-9plus has a **built-in LCD monitor** on the left upper corner of the slightly oblique working surface. This is the perfect place for a monitor as the presenter always sees it from almost every angle.

The built-in monitor makes **positioning of objects** very easy and there is no need for an additional control monitor on the table.

1-Step Set Up

The VZ-9plus can be **set up in 1 second**. With just one simple pull, the arm comes up, camera and light automatically move into the working position and the unit switches on.

Just as easily, it folds back into its compact size, to be neatly stored during or after a presentation.

48x Zoom (12x Optical and 4x Digital)

A large optical zoom range is one of the most important features of a Visualizer. It is absolutely necessary that objects in every size can be picked up in **full resolution**.

WolfVision's **optical 12 times zoom** offers the possibility to pick up objects as large as an open book (370 x 276mm / 14.6" x 10.9") and as small as a stamp (33 x 25mm / 1.3" x 1") in full size to fill the screen.

For enlarging even smaller objects down to 8 x 6 mm (0.3" x 0.25") the Visualizers also offer 4x digital zoom. This allows for enlarging objects like a very small coin.

Due to the large range optical zoom, it is not even necessary to use much of the digital zoom, so in most cases you can work with full resolution.

Recordings in Front of or Behind the Unit, with Turntable

When objects are too big to be placed on the working surface or need to be shown from the side (like glasses of liquids etc.), just tilt the camera head and the light of the Visualizer and pick-up objects **behind** the unit.

But the VZ-9plus makes recording outside of the working surface even more comfortable as it is **mounted on a turntable**. In this way a Visualizer can be used just like a **camera on a tripod**. Even **horizontal pan shots** are possible.

Image Flip

The VZ-9plus can not only record objects **behind** the unit. The camera head can also be turned to record **in front of** the unit.

This is perfect for **showing a speaker** or **charts on a wall behind the speaker** on a large screen during a presentation. When the camera of the Visualizer is turned to record in front of the unit, the image is **automatically turned around 180 degrees ("image flip")**, because originally such recordings would be upside down.

With the **turntable** of the VZ-9plus it is very comfortable to follow a speaker or pick up charts on the wall during a presentation. It's just like a camera on tripod!

Flexible Viewing Angle

Another very comfortable feature for recordings outside of the working surface is the **flexible viewing angle** of the VZ-9plus.

Sometimes a lower viewing angle than the one from the normal working position would be required. In such cases just fold the arm of the VZ-9plus down as much as required. The arm remains in this position, to **shoot objects from any angle**.

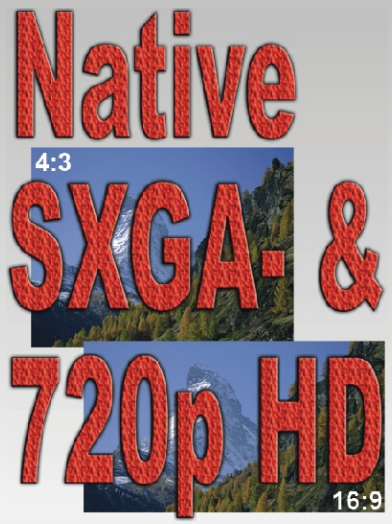
Light System with Flexible Spot Light

The light system of the VZ-9plus is almost a "**light projector**". It is equipped with a custom made diffuser lens to assure a very even lighting without a hot spot. The light can be turned around vertically at an angle of 270 degrees. So it is possible to **illuminate just about everywhere** on and outside of the working surface.

Due to the special lamp housing, **neither the audience nor the speaker will be blinded** in a darkened room. Furthermore, there is **no disturbing stray light** from the VZ-9plus to the projection screen.

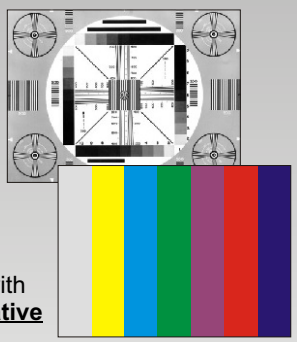
For capturing objects at a larger distance to the unit, the **close-up lens** of the VZ-9plus can be hinged away from the camera. It **can not get lost**, because it remains attached to the unit.

State of the Art Picture Quality:
Progressive Scan with 30 Pictures per Second



The key elements of the exceptional picture quality are:

- **WolfVision's Progressive Scan Lens** (The image is extremely sharp, even in the corners of the picture)
- **WolfVision's Progressive Scan Camera** (Resolution and color reproduction are outstanding.)
- **WolfVision's Intelligent Electronics**



The VZ-9plus features a **sensational 1-CCD camera** with **1280 x 960 pixels** at **30 frames per second**. This is **native SXGA- resolution** with an aspect ratio of **4:3**.

The camera also outputs **native 720p HD (High Definition)** with 1280 x 720 pixels and an aspect ratio of **16:9**. Using a display device with 1280 x 960 (or more) pixels, **820 lines of resolution** are visible on your screen!

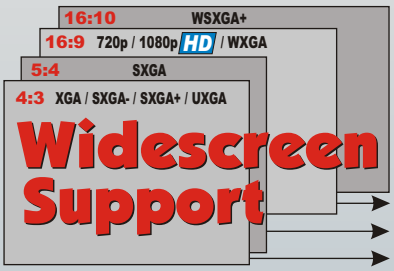
But even when the image is downscaled by the Visualizer to XGA and output on an XGA display device the resolution is **still around 740 lines**. This is a much higher resolution than a native 1-CCD XGA camera can provide.

The image is output on **RGB** (15-ping D-Sub/VGA-plug) and **DVI-I** ports (HDMI compatible).

connectors of VZ-9plus

Auto resolution: The Visualizer recognizes units connected to the DVI and RGB output and automatically selects the perfect output mode.

High End Scaler / Widescreen Support



The high end scaler of the VZ-9plus can scale the picture at the image source. As a result the picture quality is not only perfect in the native resolution, but also in all scaled signal formats:

SVGA	800 x 600 pixel	4:3	scaled
XGA	1024 x 768 pixel	4:3	scaled
SXGA-	**1280 x 960 pixel**	**4:3**	**native**
SXGA	1280 x 1024 pixel	5:4	scaled
SXGA+	1360 x 1024 pixel	4:3	scaled
UXGA	1600 x 1200 pixel	4:3	scaled
720p HD	**1280 x 720 pixel**	**16:9**	**native**
1080p HD	1920 x 1080 pixel	16:9	scaled
WXGA	1366 x 768 pixel	16:9	scaled
WSXGA+	1680 x 1050 pixel	16:10	scaled

All projectors, monitors or plasma displays on the market can display at least one of these standards. If new standards come up in the future, WolfVision will be there with Firmware Updates!

sRGB Color Precision

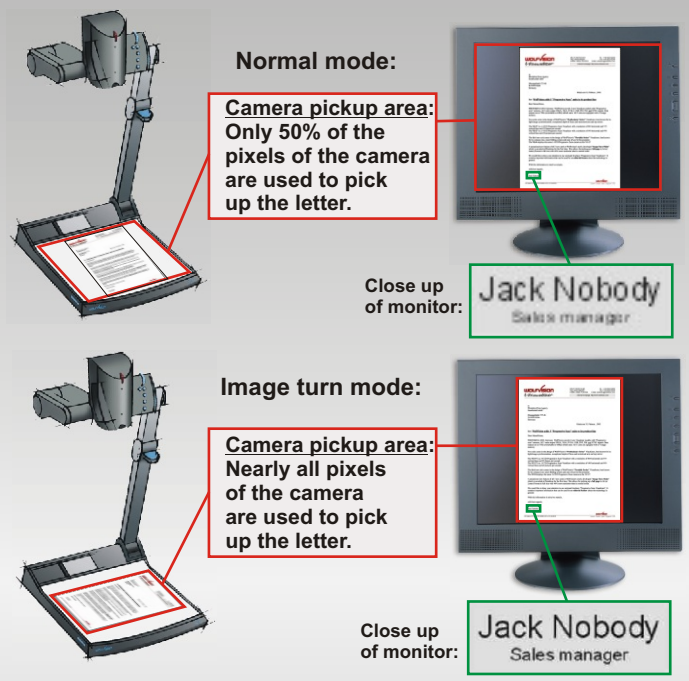
WolfVision Visualizers have always been famous for their perfect colors. The outstanding color precision even meets the high requirements of the sRGB standard.

"**Motion**" used to be the weakness of Progressive Scan cameras. Until recently they could only pick up 15 or less pictures per second. A low number of pictures per second often resulted in a disturbing strobe effect on the screen, whenever something was moved in the picture or when adjusting the zoom or iris.

WolfVision's Progressive Scan Visualizers could always pick up at least 20 pictures per second, which is very important for showing motion in good quality.

WolfVision has improved the technical standards for Progressive Scan cameras even more. All current WolfVision Visualizer models can now pick up **30 pictures (frames) per second**. There is almost no difference in the smoothness of motion, when compared to PAL/NTSC video cameras. But the resolution is much higher!

"Image Turn" Mode for Higher Resolution



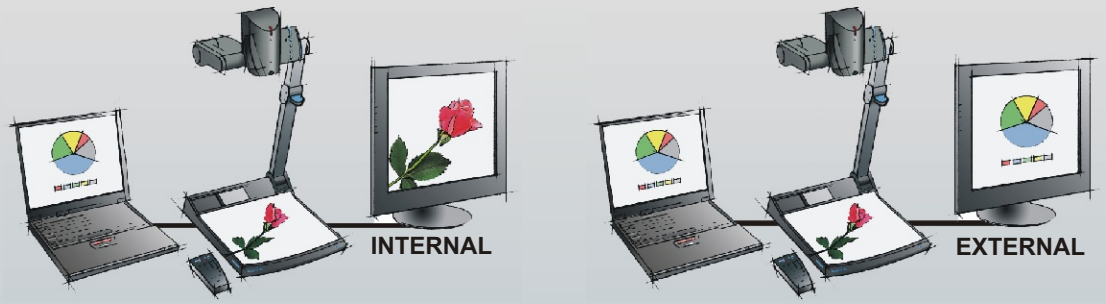
Picking up a complete vertical (portrait) letter or A4 page has always been a critical issue for a Visualizer, because the image is always picked up in a horizontal (landscape) format. As a result, only 50% of the camera pixels could be used to pick up the vertical (portrait) document.

WolfVision's "**Image Turn**" mode solves this problem. The user places the document on the working surface horizontally and zooms in on it completely. In doing so, approximately 90% of the camera's effective pixels are used to pick up the document. WolfVision's state of the art electronics turn the image at an angle of 90 degrees and output it in a vertical format with **40% higher resolution**. The margins left and right are blacked out.

In this mode the resolution of a **complete** vertical (portrait) document is much better. Even **8-point** characters are readable now.

Another advantage of the image turn mode is that very long vertical pages (like **US legal format**) can be picked up completely.

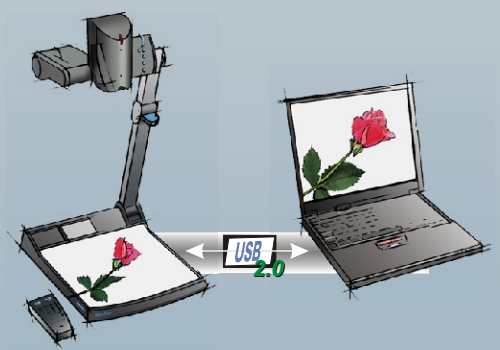
Computer Input (Internal/External Switch) / Digital Scaler



A computer can be connected to the RGB input (15-pin D-Sub/VGA-plug) of the Visualizer. With the **Ext/Int switch**, a user can switch between the Visualizer image and computer image to be output by the Visualizer's **RGB and DVI output**. The VZ-9plus has a **built-in Digital Scaler** which converts the RGB signal from the external input for all outputs.

The advantage of using the Ext/Int switch is that **only one RGB- or DVI cable** to the display unit (projector, monitor, video conferencing system etc.) is required and **no separate remote control** has to be used for switching between the two image sources.

USB 2.0 port / Twain Compatible 3-D Scanning



The USB output of the Visualizer can be used to transfer images from a Visualizer to a computer and save them in JPG, TIF or BMP format. This way the Visualizers can be used as a **3-D scanner** for a computer.

WolfVision Visualizers are equipped with a fast USB 2.0 port. This allows for uploading images onto a PC in a fraction of a second. Connecting slower computers with the older USB 1.1 standard is also no problem. It still takes only a small fraction of the time a desktop scanner requires to scan an image.

WolfVision's USB software works under Windows 98, ME, 2000, XP and Apple Macintosh and is fully Twain compatible. This is important when using the Visualizer in connection with popular graphic programs such as Photoshop, or for connecting them to Interactive Whiteboards (Smart Boards).

The fast USB 2.0 port can also output live motion. The WolfVision USB software can store AVI-files and includes a video capture driver. You can view and save the live image from the Visualizer on your computer in almost every modern video editing software.

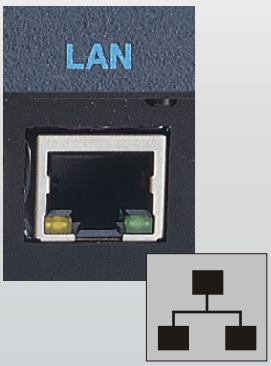
Special Surface for Transparencies / Reflection Free Working Surface

All WolfVision Visualizers have a special **crystalline white working surface** for perfect reproduction of transparencies. The quality of a transparency on this surface is even better than with a bottom light, because there is more contrast and the colors are not "washed out".

The **whole working surface has the same even color**, providing a perfect background for transparencies and other objects. For x-rays or oversized slides, external lightboxes are available.

Due to the clever design of the housing, the whole working surface is **completely reflection free**. In the upper part the working surface, where the light is normally reflected into the camera, the surface is slightly curved, so that reflections are not possible on any part of the working surface.

Ethernet (LAN) Port / Advanced LAN features



The Visualizer is equipped with an Ethernet (LAN) port (10/100 Mbps). It is IP-addressable, so that it can be integrated into a computer network and controlled from any computer in the network. It can even be controlled over the internet, if it is assigned an official (WAN) IP-address.

The network/LAN-port has become a key feature of all high-end Visualizers from WolfVision in recent years. Many new network features have been developed and most of them can also be added to older units via Firmware Updates.

New LAN features are for example: E-Mail Notification, Status Page and Quality Optimized Image Transfer via LAN.

Optimized for Video Conferencing

WolfVision's camera electronics produce a very **strong and stable picture**, which is very important when a Visualizer is used as a document camera for videoconferencing systems. The **even lighting**, **smooth auto iris** and **perfect focus** are very important features, enabling video conferencing systems to digitize and transfer the picture from a WolfVision Visualizer much **faster** than pictures from other document cameras.

Furthermore there is no blinding **stray light** from a WolfVision Visualizer, which could disturb the auto iris of the room camera.

Due to features like **"Turntable"** and "**Image Flip**" the VZ-9plus also works perfect as an **additional room camera** of a videoconferencing system

Of course these features are equally important for live image presentations with a data projector and for other Visualizer applications. The Visualizer also supplies the proper signal for modern **widescreen** videoconferencing systems.

9 Picture Memory

With the VZ-9plus a user has the opportunity to **store 9 images** and recall them by just pressing one of the numerical keys on the infrared remote control.

By pressing the "All" key, a **split image with all 9 pictures** of the memory can be displayed, enabling easy selection. The 9 pictures in the memory can also be downloaded to a PC via USB.

The VZ-9plus is equipped with a **battery backup**, so pictures remain in the memory for 1-4 weeks even when the power is disconnected.

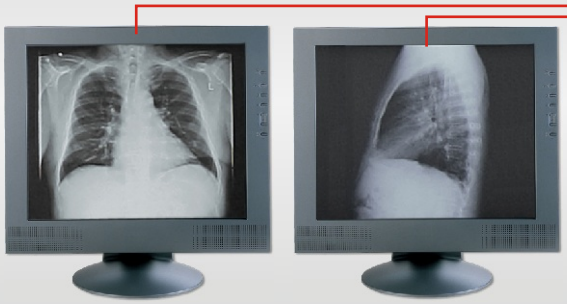
Firmware Updates Via Internet

WolfVision's Visualizers are the only units on the market that offer an upgradeable firmware. This allows for new features and technical improvements to be added at no cost!

Downloading firmware updates from the internet and up-loading them onto the Visualizer is very easy. On the VZ-9plus the user can choose 3 different connections between Visualizer and computer for updating the firmware: **Serial (RS232)**, **USB** or **Ethernet (LAN)**.

WolfVision's engineers are constantly working on new improvements and features to **keep your units up to date with the technology of tomorrow**!

Live to Freeze Comparison



Live Image *Freeze Image*

The DVI- and RGB outputs of the Visualizer can be set to output **different signals**. One of them can always output the **live image** of the Visualizer camera, while the other one can be set to output a **"freeze" image**.

This can be used for a "Live Picture to Freeze Picture Comparison" on two monitors or screens with just one Visualizer. While one monitor or screen displays a "freeze" image that can be used for comparison, another monitor or screen can be used for presenting the live image from the Visualizer.

Lightfield for Slides

The VZ-9plus has a built-in **lightfield for slides**.
It is situated on top of the working surface, just beside the LCD-monitor.

External Controlling

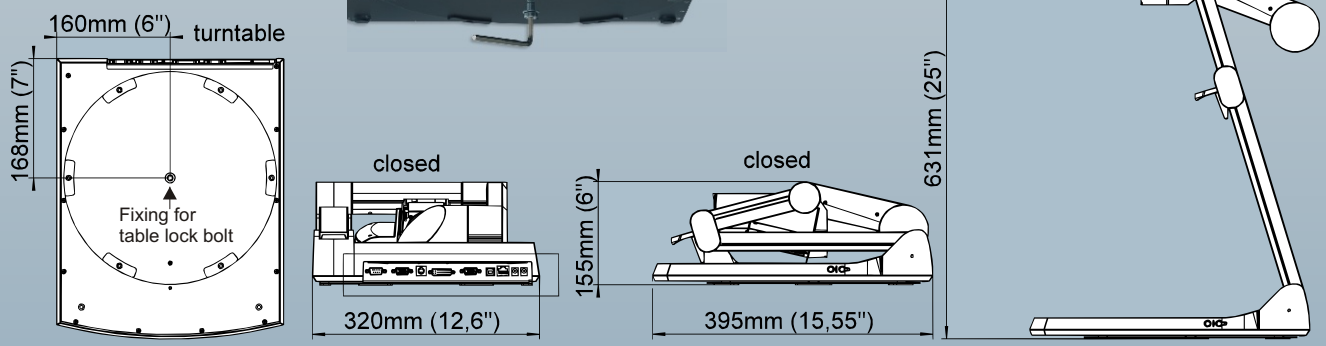
The VZ-9plus offers **4** different possibilities to control the unit from external devices, such as a remote control system for the whole room, a video conferencing system or a computer:

- **Serial (RS232)**
- **USB**
- **Ethernet (LAN)**
- **Infrared**

Anti-theft Devices

The Visualizer has two anti-theft devices.
On the bottom of the working plate (in the center of the turntable) is a thread for attaching the unit to a table with the supplied **table lock bolt**. **T-Lock (Kensington® Lock)** devices can also be used. The connection can be found on the bottom of the arm.

Dimensions:



Technical Data VZ-9plus

Technology / Camera	1-CCD 1/3" Progressive Scan camera
Pictures per second (as picked up by the camera)	30 frames (=full pictures)
Effective Pixel (=pixels actually used for image information)	1280 x 960 (=1,228,800)
Total pixels of CCD(s)	1.320.000
Pixels processed per second (=effecitve pixels x frames per second)	36,864,000
Color reproduction / precision	very good colors (sRGB color precision)
Native signal output	SXGA- (1280x960) and HD (High Definition) 720p (1280x720)
Converted output signals (4:3)	UXGA (1600x1200), SXGA+ (1360x1024), SXGA (1280x1024), XGA (1024x768), SVGA (800x600)
Converted Widescreen output signals (16:9 and 16:10)	1080p HD (1920x1080) (High Definition at 50/60Hz), WXGA (1360x768), WSXGA+ (1680x1050)
Resolution (measured)	820 lines
Resolution in Image turn mode	1050 lines
Image Turn mode (for increased resolution when picking up large portrait pages)	yes
Image Rotation	90, 180 and 270 degrees
Signal format	non-interlaced
Iris and White balance	automatic and manual
Autofocus / Speed	yes (continuously working, high speed)
Manual focus	yes
Built-in LCD preview monitor	yes (70x45mm / 2.7"x1.8")
Text Enhancer	yes
Live to Freeze comparison (on two monitors or screens with just one Visualizer)	yes (RGB and DVI output can output different signals. One can output a live image and the other one a "freeze" image)
On screen menu and help	yes
Firmware Updates via	USB, RS232, LAN
Lens / Zoom	48 x zoom (12x optical + 4x digital), zoom wheel with multiple speed
Max object height on working surface	230mm (9.6") in tele position 370mm (15") in wide position
Max. pick-up area on working surface	Length: 276mm (10.9"), Width: 370mm (14.6")
Max. pick-up area on working surface in Image Turn mode	Length: 370mm (14.6"), Width: 276mm (10.9")
Min. pick-up area on working surface (in full resolution, with optical zoom)	33 x 25 mm (1.3" x 1")
Min. pick-up area on working surface (with digital zoom)	8 x 6 mm (0.3" x 0.25")
Max. pick-up area outside of working surface	unlimited
Depth of focus on small object (42 x 33 mm)	10mm (0.4")
Depth of focus on large object (360 x 270 mm)	260mm (10.2")
Light source	long life halogen spot light with diffuser lens and glare protection, vertical rotation 270 degrees, lamp lifetime 4500 hours 35W, 12V
USB software for image capturing and controlling	included (for Windows and Macintosh, Twain compatible, with video capture driver)
Time for still image capture through USB software	approx. 1/2 sec. (with fast PC and USB 2.0)
Reflection free area on working surface	whole working surface
Recordings outside of the working surface	yes (to the back and to the front of the unit)
Automatic image flip	yes (for recordings to the front of the unit)
Turntable mounted (for horizontal pan shots outside of the working surface)	yes
Intelligent folding system	articulated arm, 1-step set up
User programmable presets	3 (plus 8 fixed presets through RS232)
Special working surface for transparencies	yes
Slide pick-up	through integrated slide lightfield
External computer input / Input switch	yes (15-pin D-Sub/VGA plug)
Built-in digital scaler for the computer input	yes (processes the signal from computer input for RGB- and DVI-output)
Image memory and "Show all"	9 pictures
Alternative Image display	negative image / negative-blue image / black and white image
RGB output	one (15-pin D-Sub/VGA-plug)
DVI output	DVI-I (digital and analog)
HDMI output	when using a DVI-HDMI cable
USB port / standard	USB 2.0
Ethernet/LAN port and advanced network features	yes, IP-addressable, 10/100 Mbps
RS232 port and serial protocol with position setting and status report	9-pin D-Sub
Weight	5.1 kg (11 lbs)
Infrared remote control	yes (with laserpointer)
Antitheft device	T-Lock (Kensington® Lock) and table lock bolt
Power (external power pack on portable units)	multi range 100-240 V, 55W weight: 0.3kg (0.6lbs)
Carrying case	included (soft case)
Made in	EU / Austria
Warranty	3 years

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Design and specifications subject to change!

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WOLFVISION®

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