WOLFVISION®
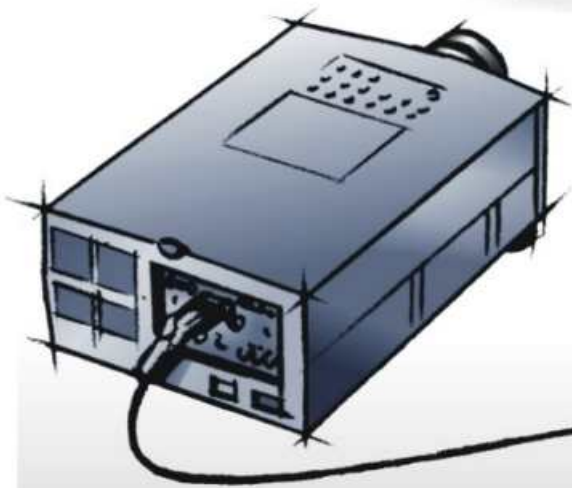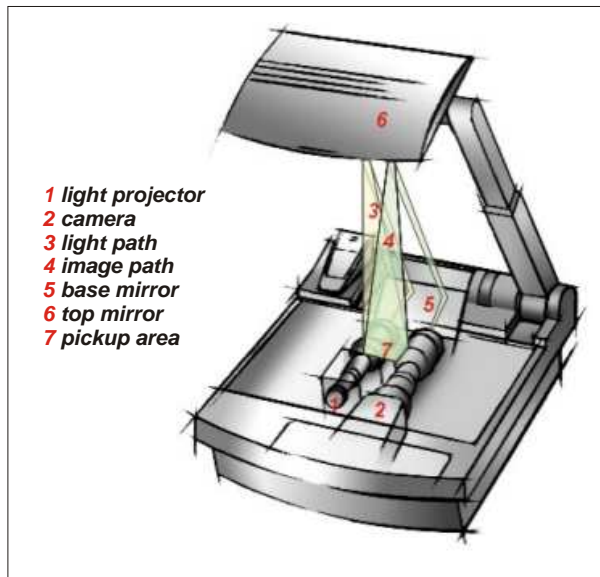
Visualizer *Professional series*

VZ-17 / VZ-27 / VZ-37 / VZ-57

The professional WolfVision Visualizer technology:

1 light projector
2 camera
3 light path
4 image path
5 base mirror
6 top mirror
7 pickup area

How it works:

A **light projector (1)** inside the unit projects a **light field (7)** the same size as the pick-up area of the built-in camera via the **base mirror (5)** and the **top mirror (6)** onto the working surface. The image is recorded by the **camera (2)** using the same path.

The lenses of the **light projector (1)** and the **camera (2)** are synchronized. Thus the size of the light field on the working surface changes when the user changes the zoom range of the camera.

This patented WolfVision scanning and illuminating system offers a number of unique advantages as described in this brochure.

Easy positioning (with synchronized light field)

A light field, the size of the pick-up area of the built-in camera is projected onto the working surface. The illuminated part of the working surface is always identical to the pick-up area of the camera. When zooming in and out, the size of this lightfield changes accordingly.

The synchronized lightfield is a special patent of WolfVision and can be found only on WolfVision's professional Visualizers.

This allows very **easy positioning of objects**. There is no need to look at a monitor. Just place the object in the illuminated portion of the working surface!

Excellent picture quality

VZ-17 VZ-37 - The "Video" Visualizers

PAL or **NTSC** video is the "classic" technology which has always been used for Visualizers or document cameras.

"Video" based Visualizers sell at a lower price than the new "Progressive Scan" Visualizers and have the advantage that they can show **motion** in even better quality. This is because they pick up 50 (=PAL) or 60 (=NTSC) half-images (=fields) per second in interlaced mode.

WolfVision's **3-CCD** Visualizer **VZ-37** offers the maximum picture quality which can be achieved with the "video" technology. A resolution of 800 horizontal- and 420 (PAL) or 370 (NTSC) vertical lines, absolutely lifelike colors, a true RGBS output and even a component output (YUV). This is true **broadcast quality**.

The Visualizer **VZ-17** provides great picture quality - unmatched in the **1-CCD** "video" category. 470 horizontal- and 400 (PAL) or 350 (NTSC) vertical lines and perfect color saturation.

VZ-27 VZ-57 - The "Progressive Scan" Visualizers

Modern **data projectors** provide the ability to display higher resolution images using its "data" input instead of its "video" input. This is where "Progressive scan" cameras come in. They output a "data" signal with more resolution than PAL/NTSC "video" could provide. Especially the vertical resolution is no longer limited by the PAL/NTSC standard at 350-420 lines.

WolfVision's Progressive Scan Visualizers can output the image in either **SVGA, XGA** or **SXGA** mode on **RGBHV** and **DVI** outputs.

The image is output with **75Hz**, which is important for flicker free viewing, even with CRT monitors or projectors. The image can also be switched to 60Hz for special applications.

"Motion" used to be the weakness of Progressive Scan cameras. Until recently they could only pick up 7.5 (or less) pictures per second. This resulted in a disturbing strobe effect on the screen, whenever something was moved in the picture or when adjusting zoom or iris.

As it is very important for a professional presentation that **motion** can be shown in good quality and without any image disturbance. WolfVision uses newly developed Progressive Scan CCDs which can pick up **25** (VZ-57) and **20** (VZ-27) **pictures per second**. As a result motion looks almost as good as with PAL/NTSC "video" cameras. But the resolution is much higher!
In addition to its Progressive Scan outputs the VZ-57 and VZ-27 also output converted **PAL** and **NTSC** video signals.

The **VZ-57** is the new "high end" unit on the market. It has a bulit-in **3-CCD** camera with 800 horizontal- and 575 vertical lines resolution and 100% lifelike colors.

"Image turn" mode for higher resolution *(VZ-27 and VZ-57)*

Working surface:

Output picture:

Normal mode:
Only 50% of the pixels are used to pick up the letter

Image turn mode:
90% of the pixels are used to pick up the letter

Picking up a complete vertical (portrait) letter or A4 page has always been a critical issue for a video camera based system, because the image is always picked up in a horizontal (landscape) format. **Progressive Scan** cameras handle this task much better, because of the improved resolution.

But the ultimate tool to pick up a full page is WolfVision's new "**Image turn**" mode. A user can place a letter on the working surface horizontally and zoom in on it completely, so that about 90% of the pixels of the built-in camera are used to pick up the letter. The picture is then turned electronically 90º and output the right way up with **40% higher resolution** than in normal mode. The left and right margins are black.

Nine Picture memory / USB output / Input switch *(VZ-27 and VZ-57)*

With the Visualizers VZ-57 and VZ-27 a user can 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.

Split image of 9 picture memory

The **USB** output of the VZ-57 and VZ-27 can be used to transfer Visualizer images onto a computer. No additional computer hardware (like a grabber card) is required. In this way the Visualizers can be used as a 3-D scanner for your computer.

A Computer can also be connected to the **RGBHV (VGA) input** of the Visualizer. With the **Ext/Int switch** a user can switch between the Visualizer and computer image to be displayed to the audience.

High end components

Resolution = **Camera lens** + **Camera chip (CCD)** + **Camera electronics** + **Visualizer electronics**

It's a common misunderstanding that the number of pixels of the CCD chip says everything about the resolution of a Visualizer (or any camera).
Because if a cheap lens or bad electronics would be used, the resolution visible on the projection screen would be much lower than the built-in CCD could provide.

Only a combination of **high quality components** as used in all professional WolfVision's Visualizers can produce a high-resolution picture on your screen.

Especially WolfVision's **professional telezoom camera lenses** are of superior quality and allow the CCD to really "see" the pixels it is supposed to pick-up.
Check out the exceptional **edge focus** of these lenses!

Depth of focus (depth of field)

WolfVision uses professional telezoom lenses (without close-up adapter lenses) for the professional Visualizer series. Together with the **perfect lighting**, this results in a **superior depth of focus - even with big enlargements.**

The greatest depth of focus for objects on the working surface is:

250mm (9.8") in wide position
= pickup area: 360 x 270mm (14.2" x 10.6")

70mm (2.8") in tele position (without macro)
= pickup area: 42 x 32mm (1.6" x 1.3")

Due to the great depth of focus, an autofocus function is not necessary, as it is usually not necessary to adjust the focus.

Shadow free illumination

As the camera and the light projector are situated side by side within the unit and follow the same path, shadows are almost completely eliminated.

During a presentation it is very often necessary to write something on a document on the working surface or to point to a certain detail with a finger or a pencil.

The professional WolfVision Visualizers are perfectly suited for this, as there is practically **no shadow** covering up important details.

Illumination of hollow objects / No light adjustments

Due to the special light system of WolfVision's professional Visualizers, every part of the recorded picture is always perfectly illuminated.

Hollow objects or **complex 3-D objects** are always completely illuminated - even on the inside.

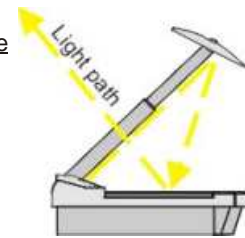As a result there is never a need for adjustment of the light.

Reflection free area

Reflection free area

Due to WolfVision's special illumination system the <u>whole</u> working surface is a reflection free area.

No adjusting of lights is necessary in order to avoid disturbing reflections on glossy material (photos, transparencies etc.)

Light path

Quick recordings outside the working surface

With WolfVision's professional Visualizers, recording outside the working surface can be done very quickly and easily by just tilting the top mirror. Recording is possible at any distance from the unit.

In this way, a WolfVision Visualizer works just like a camera on a tripod.

Even the zoom range outside of the working surface is the same as with most professional video cameras.

This feature is very important for picking up objects which are too large to be placed on the working surface or which need to be shown from the side.

No disturbing stray light / No blinding the audience or the speaker

As the light of WolfVision's professional Visualizers is projected precisely onto the working surface and the light source is not visible, there is absolutely no stray light from the Visualizer.

This is very important for video projection. A WolfVision Visualizer can even be placed directly beside or in front of the screen without disturbing the projection.

Furthermore neither the audience nor the speaker will be blinded by the Visualizer's light.

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 autoiris 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 autoiris of the room camera.

Of course these features are equally important for live image presentations with a video/data projector and for other Visualizer applications.

Motorized arm and top mirror (for scrolling)

By the push of one button, the motorized arm of the Professional Visualizers can be moved up and down automatically.

The top mirror is also motorized. This allows for scrolling text in a document or showing an object in detail by just pressing the up/down keys on the infrared remote control from anywhere in the room.

12 x optical zoom / macro position / 24 x zoom (with digital zoom)

The motorized arm of the professional Visualizers offers the possibility of increasing the zoom range from an optical 8.5 times zoom to an optical 12 times zoom.

In the fully extended position of the arm, the largest pick-up area is 360 x 270mm (14.4" x 10.8") and the smallest pick-up area is 42 x 33mm (1.6" x 1.3").

When the macro function is activated the length of the arm is automatically reduced, which allows for picking up objects as small as 30 x 22mm (1.2" x 0.9").

In other words: Objects **as small as a coin** or as large **as an open book** can be picked up in full size on the working surface.

The Visualizers VZ-57 and VZ-27 have an additional **2x digital zoom** extension in the macro mode. When the digital zoom is activated the smallest picuture is 15 x 11mm (0.6" x 0.5"). This increases the whole zoom range to a **24x zoom**.

Very large built-in bottom light / special surface for transparencies

Normal transparencies:

As on WolfVision's previous Visualizer models the working surface has a special crystalline white color. This is perfect for true color reproduction of **transparencies** with the Visualizer's **top light**.

Slides, x-rays and darker transparencies:

For these objects the new professional Visualizer models are equipped with a very large built-in bottom-light. The size is: 380 x 280 mm (15" x 11") - this is the whole working surface. Furthermore, in certain situations the bottom light can be the better solution for transparencies (reflecting room light or very dark or wavy transparencies)

Laser center marker *(VZ-57, VZ-37 and VZ-17)*

One of the main advantages of WolfVision's professional Visualizers has always been the synchronized lightfield which marks the pickup area of the built-in camera.

However this function is not available when the bottom light or the macro function of the new Visualizers are used.

As a substitute, the VZ-57, VZ-37 and VZ-17 are equipped with a laser pointer which marks the center of the pick-up area. By means of a special technique this laser pointer dot is <u>NOT</u> visible on the picture the audience sees.

Text enhancement (in color)
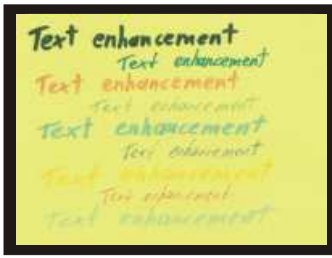
WolfVision's text enhancement function can be found on all four professional Visualizer models.

By pressing the "TEXT" button, the contrast of the picture is improved dramatically, resulting in much better readability of text, sketches and x-rays.

This contrast enhancement is utilized without losing the color of the picture.

Intelligent control panel / Infrared remote control

Control panel in "unit off" position

Control panel in "unit on" position, text enhancement and macro function activated - camera menu and help not visible

Intelligent control panel

With the Visualizer's intelligent control panel it is extremely easy to control the unit - even for non experienced users. Every key is equipped with a light and only the functions which are available in the current operation mode are illuminated.

Infrared remote control

The most frequently used functions of the unit can also be controlled with its infrared remote control. After use it can be stored in a drawer above the working surface.

Other features:

Professional serial input (RS232) for external control (including position setting and status report)

User programmable presets (for zoom, focus, iris, light, vertical scrolling position, camera settings etc.)

Image on / off switch (for all outputs, except Preview output for control monitor)

Constant sync signal on all outputs (no image distortion when switching the image on and off)

Intelligent automatic lamp changer (built-in spare lamp is automatically activated if the first lamp fails. An on-screen warning message indicates if a bulb is faulty)

Halogen light (with constant light spectrum, for true color reproduction)

Lamp lifetime enhancement circuit and temperature management

Remote service and software updates can be made through RS232 (through modem / internet in preperation)

Flicker-free scanning of monitors with a different image frequency possible *(VZ-37 and VZ-57)*
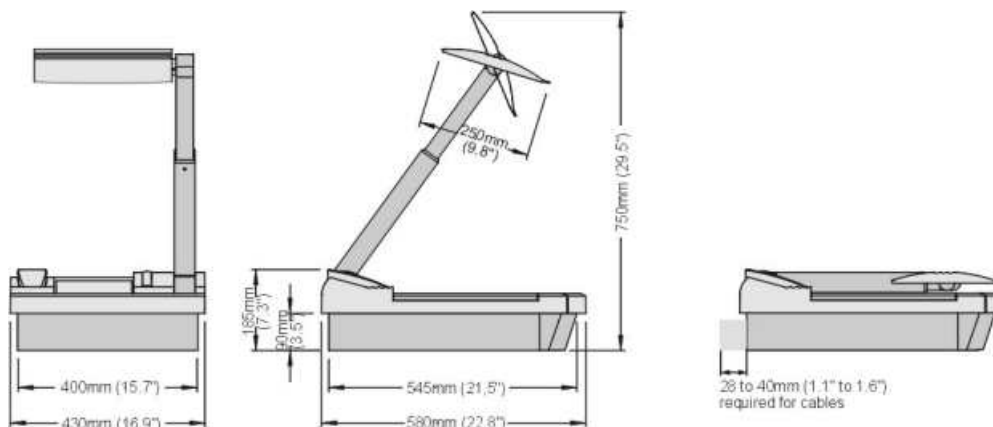
Positive/Negative switch *(VZ-27, VZ-37 and VZ-57)*

Black/White switch *(VZ-27 and VZ-57)*

On-screen menu for basic settings of the unit (plus professional camera settings on VZ-37 and VZ-57)

On-screen help

Dimensions:

Technical data:

	VZ-57	VZ-37	VZ-27	VZ-17
Camera	1/3" 3-CCD Progressive Scan	1/3" 3-CCD Video	1/3" 1-CCD Progressive Scan	1/2" 1-CCD Video
Output signals	SXGA, XGA, SVGA, PAL, NTSC, DVI, USB	PAL or NTSC	SXGA, XGA, SVGA, PAL, NTSC, DVI, USB	PAL or NTSC
Pictures per second (as picked up by the camera)	25	PAL: 50 half-pictures / NTSC: 60 half-pictures	20	PAL: 50 half-pictures / NTSC: 60 half-pictures
Horizontal resolution	800 lines	800 lines	640 lines	470 lines
Vertical resolution	575 lines (800 lines in Image Turn Mode!)	420 lines (PAL) / 370 lines (NTSC)	490 lines (640 lines in Image Turn Mode!)	400 lines (PAL) / 350 lines (NTSC)
Effective Pixel (=pixels which are actually used for the image information)	1,300,000	3 x 752 x 582 (PAL) / 3 x 768 x 494 (NTSC)	810,000	752 x 582 (PAL) / 768 x 494 (NTSC)
Color reproduction	100% lifelike colors		very good colors	
Vertical image-frequency	Prog.Scan: 75 Hz and 60 Hz, PAL: 50 Hz, NTSC: 60 Hz	PAL: 50 Hz / NTSC: 60 Hz	Prog.Scan: 75 Hz and 60 Hz, PAL: 50 Hz, NTSC: 60 Hz	PAL: 50 Hz / NTSC: 60 Hz
Horizontal image-frequency	15.7 and 37.3 - 80 kHz	15.7 kHz	15.7 and 37.3 - 80 kHz	15.7 kHz
Signal format	non-interlaced and interlaced	interlaced	non-interlaced and interlaced	interlaced
Iris	automatic and manual			
White balance adjustment	automatic and manual			manual
Synchronized lightfield	yes (in size of the pick-up area of the built-in camera - for easy positioning of objects)			
Laser center marker	yes	yes	-	yes
Text enhancement function	yes (in color)			
On screen menu	yes, for operation functions, camera settings and on-screen help			
Menu reset function	yes			
Lens / Zoom	two telezoom lenses (12 x optical zoom, incl. Macro), f = 2.0			
Digital Zoom (additional to optical Zoom)	2 x digital zoom	-	2 x digital zoom	-
Max. pick-up area	360 x 270 mm (14.4" x 10.8") on working surface, outside of working surface unlimited			
Min. pick-up area on working surface	15 x 11 mm (0.6" x 0.5")	30 x 22 mm (1.2" x 0.9")	15 x 11 mm (0.6" x 0.5")	30 x 22 mm (1.2" x 0.9")
Max object height on working surface	250mm (9.7")			
Depth of focus	70mm (2.75") on small object (42 x 33 mm) / 250mm (9.7") on large object (360 x 270 mm)			
Shadow free illumination	yes			
Illumination of hollow objects	yes			
Disturbing stray light	none at all			
Blinding of audience or speaker	none at all			
Infrared remote control	yes			
Light source	standard halogen lamp (12V/100W), 3200 Kelvin (constant light spectrum)			
Automatic lamp changer	yes (with built-in spare lamp)			
Reflection free area	whole working surface			
Motorized top mirror	yes - for scrolling text with remote control			
Motorized arm	yes - for up/down position and macro zoom function			
User programmable presets	3 (plus 8 fixed presets trough RS232)			
Special working surface for transparencies	yes			
Bottom light	yes, built-in, size: 380 x 280 (15" x 11") = whole working surface, light source: 4 x CCFL			
Image on/off switch	yes (with constant sync signal)			
Image memory	9 pictures	-	9 pictures	-
Image turn mode	yes	-	yes	-
Positive/negative switch (in menu)	yes	yes	yes	-
Black/white switch (in menu)	yes	-	yes	-
Outputs	RGBHV *(2x 15-pin VGA- and BNC plugs)*, DVI, S-Video *(converted Prog.Scan, 4-pin plug)*, Composite Video *(converted Prog.Scan, BNC-plug)*, USB	RGB(S) *(true RGB, BNC plugs)*, Component Video *(YUV - BNC plugs)*, S-Video *(4-pin and BNC plugs)*, 2x Composite Video *(BNC plugs)*	RGBHV *(2x 15-pin VGA- and BNC plugs)*, DVI, S-Video *(converted Prog.Scan, 4-pin plug)*, Composite Video *(converted Prog.Scan, BNC-plug)*, USB	RGB(S) *(converted Y/C, BNC plugs)*, S-Video *(4-pin and BNC plugs)*, 2x Composite Video *(BNC plugs)*
Inputs	RGBHV *(15-pin VGA plug)* for PCs, Serial control input *(RS232)*	Genlock *(Sync in)*, Serial control input *(RS232)*	RGBHV *(15-pin VGA plug)* for PCs, Serial control input *(RS232)*	Genlock *(Sync in)*, Serial control input *(RS232)*
Weight	17 kg (36 lbs)			
Made in	Austria (European Community)			

Specifications and availability subject to change !

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Your WolfVision dealer:

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Visualizer
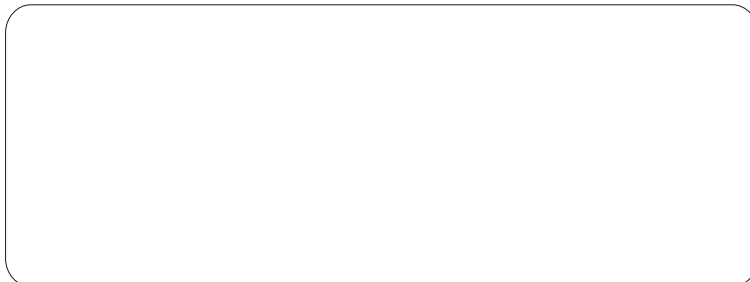
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