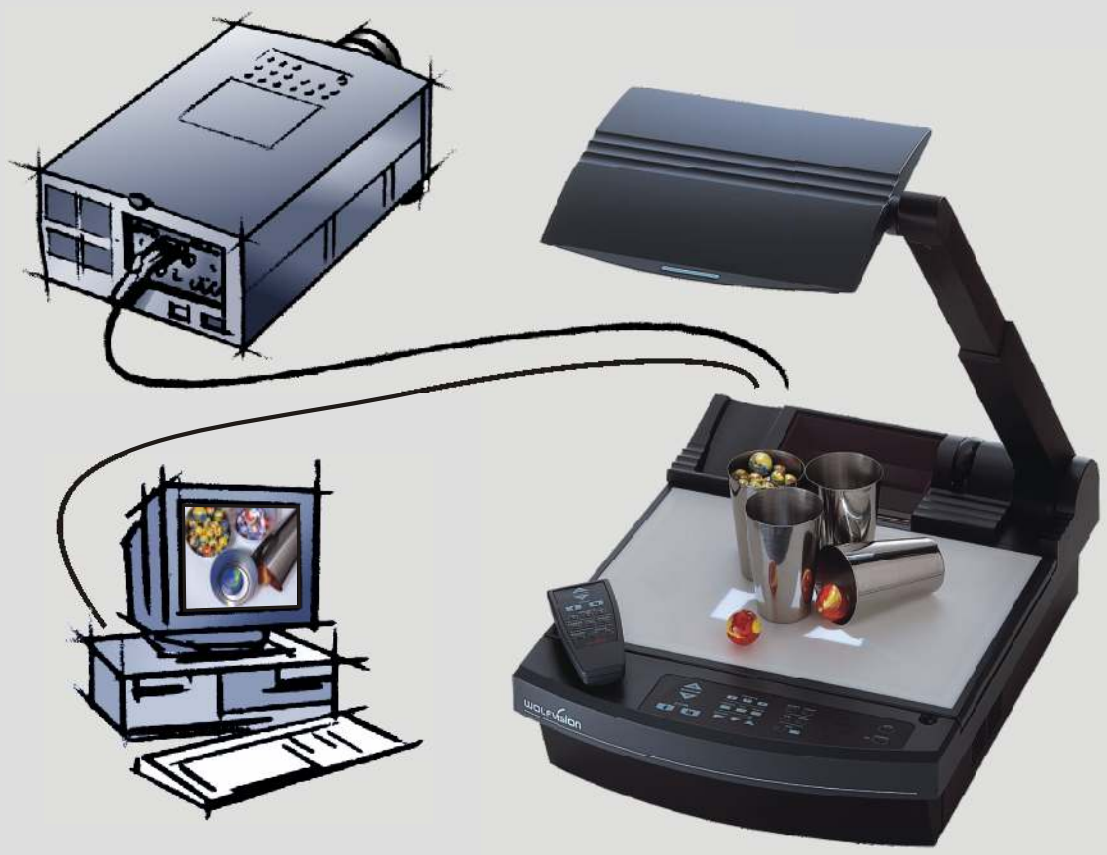


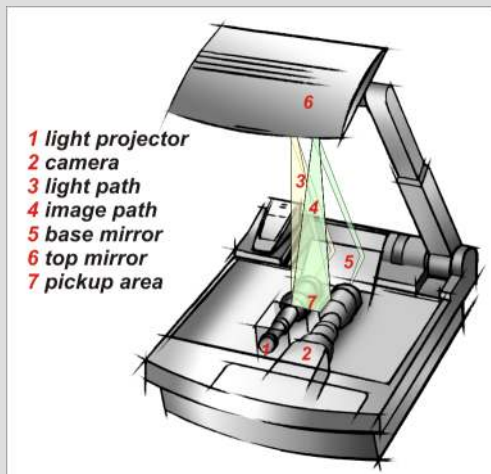
Professional Services

**VZ-27 / VZ-57**  
**Progressive Scan**

**WOLFVISION**<sup>®</sup>  
*Visualizer*



# The professional WolfVision Visualizer technology:



## Technical description:

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 Lightfield)



A lightfield, 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.

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!

The Synchronized Lightfield is a special patent of WolfVision and can only be found on WolfVision's Professional Visualizers.

## 24x zoom (12x optical and 2x 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** (360 x 270mm / 14.4" x 10.8") and **as small as a stamp** (30 x 22mm / 1.2" x 0.9") in full size to fill the screen.

For enlarging even smaller objects down to 15 x 11mm (0.6" x 0.5") the VZ-27 and VZ-57 also offer a **2x digital zoom**. This allows for enlarging objects like a **very small coin**.

Of course 2 times digital zoom means double the size and half the resolution. Up to 2 times the quality of a digital zoom is acceptable. More digital zoom would show an ugly pixel structure. Therefore, WolfVision invested very much in a large range **optical** zoom.

## "Progressive Scan" with High Resolution

SVGA XGA SXGA  
DIGITAL DVI  
75Hz / 60Hz

Until recently all Visualizers were equipped with PAL or NTSC video cameras.

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 to 400 lines from top to bottom (PAL standard) or 350 lines (NTSC standard).

WolfVision's Progressive Scan Visualizers can output the image in either **SVGA, XGA or SXGA** mode (at 75 or 60Hz), on **RGBHV** (D-Sub and BNC) and **DVI** outputs.

In addition the original Progressive Scan signal is also output converted into **PAL** or **NTSC** video (switchable).

1-CCD  
3-CCD

The **VZ-57** is the **HIGH END** unit on the market. It has a built-in **3-CCD** camera with 800 horizontal- and vertical lines resolution (1030 lines in image turn mode) and 100% lifelike colors.

## Live-Image (25 and 20 pictures per second)

This is an example of live motion: 1/2 second of a hand moving a piece on a board game:



25 pictures per second (like WolfVision's VZ-57): The motion can easily be followed (13 different pictures in 1/2 sec.)

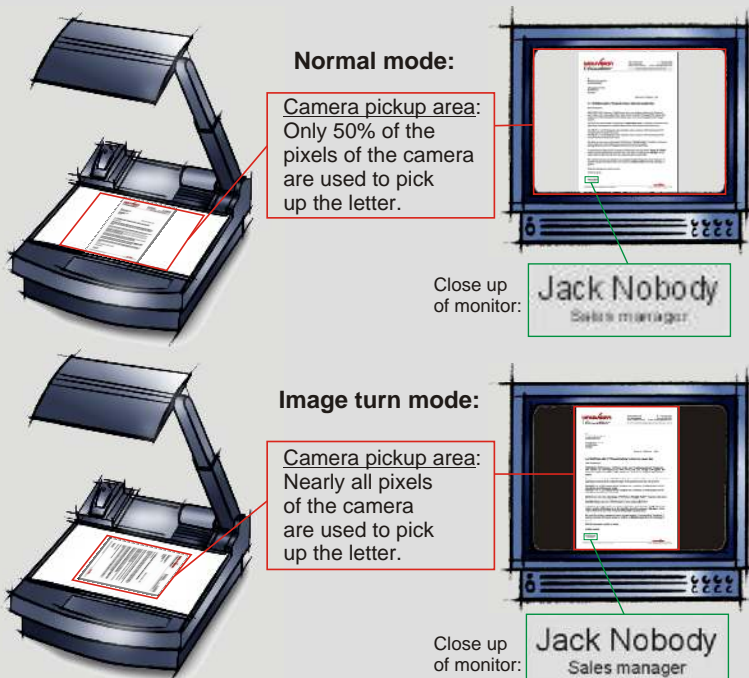


7.5 pictures per second (like other manufacturer's units): Every picture is output a couple of times. (Only 4 different pictures in 1/2 sec.)  
The motion is jerky and hard to follow

**"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.

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!

## "Image turn" mode for higher resolution



### Normal mode:

Camera pickup area:  
Only 50% of the pixels of the camera are used to pick up the letter.

Close up of monitor:

Jack Nobody  
Sales manager

### Image turn mode:

Camera pickup area:  
Nearly all pixels of the camera are used to pick up the letter.

Close up of monitor:

Jack Nobody  
Sales manager

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 unique **"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.

## Depth of focus (depth of field)



WolfVision uses professional **telezoom** lenses (**without a close up adaptor lens**) for the professional Visualizer series. Together with the **perfect lighting**, this results in a **superior depth of focus**:

**250mm (9.8") in wide position**  
with pickup area of 360 x 270mm (14.2" x 10.6")

**70mm (2.8") in tele position** (without macro / digit. zoom)  
with pickup area of 42 x 32mm (1.6" x 1.3")

Depth of focus with **big enlargements** is a very difficult task for a Visualizer. No other unit on the market comes close to the extremely high depth of focus of WolfVision's Professional Visualizers!

Due to the great depth of focus, there is no need for an auto-focus, because 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.



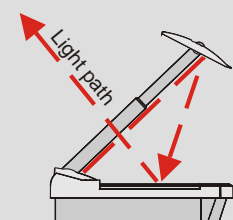
## Reflection free area







### Reflection free area

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

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



## 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 camera's CCD 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 WolfVision 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!

## Firmware updates via Internet



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

Downloading firmware updates from the internet and up-loading them onto the Visualizer is very easy.

Some examples of the new "**software features**" which were made available after the first VZ-27s and VZ-57s were shipped to customers:

- improved contrast and auto iris
- automatic power off function
- auto resolution feature
- improved USB support
- enhanced on-screen help menu
- ... more new features will be coming up!

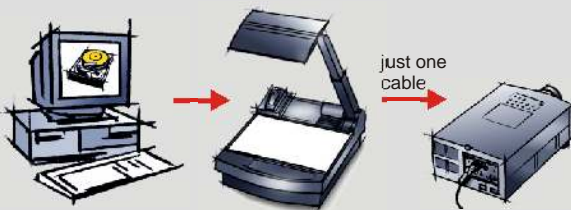
## USB output / 3-D scanning in just 2 seconds



The **USB** output of the VZ-27 and VZ-57 can be used to transfer still pictures from a Visualizer to a computer. In this way the Visualizers can be used as a **3-D scanner for a computer.** No additional hardware is required for this. It only takes **2 seconds** until images are loaded onto the computer. This is much faster than with any desktop scanner. In addition, the Visualizer can also be controlled through the USB software. The software works under Windows 98, ME, 2000 and XP and is fully **Twain compatible.** Updates can be downloaded from WolfVision's internet homepage.

The USB-connection is perfect for transferring **still pictures.** **Live images** can also be transferred onto a computer very easily using a standard PAL/NTSC video digitalisation card (grabber card).

## Computer input (loop-through)



A computer can be connected to the **RGBHV input** (15-pin D-Sub-plug) of the Visualizer. With the **Ext/Int switch** a user can switch between the Visualizer image and computer image to be displayed to the audience.

Only one 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.

## 9 Picture memory



Split image of 9 picture memory

With WolfVision's Progressive Scan Visualizers 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.

## Motorized arm and top mirror (for scrolling)



With the push of one button, the motorized arm can be raised or lowered 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.



## Quick recordings outside of 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.

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.



## Very large built-in bottom light / Special surface for transparencies



### Normal transparencies:

The Visualizer's 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 professional Visualizers are equipped with a very large built-in bottom-light. The size is the whole working surface: 380 x 280 mm / 15" x 11" (In Image Turn mode it is: 280 x 380 mm / 11" x 15").

In certain situations the bottom light may also be the better solution for transparencies (when the room light is reflecting or when the transparency is very dark or wavy.)



## Laser center marker (VZ-57 only)

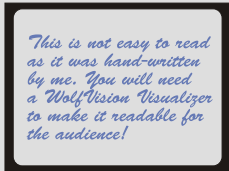


One of the main advantages of WolfVision's professional Visualizers has always been the Synchronized Lightfield which marks the pickup area of the built-in camera (see page 2).

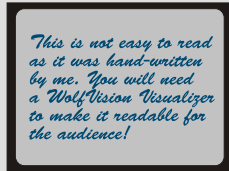
However this function is not available when the bottom light or the macro function of the Visualizer is used.

As a substitute, the VZ-57 is 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 NOT visible on the picture the audience sees.

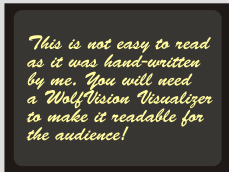
## Text Enhancer / Negative / Negative-blue



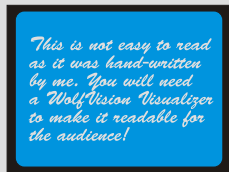
Original



with Text Enhancer



Negative



Negative/Blue

The VZ-27 and VZ-57 offer many possibilities to improve the readability of text.

By pressing the "**Text Enhancer**" button, the contrast of the picture is improved dramatically. The colors are just a little bit darker than before.

Sometimes dark text on a bright background may be easier to read if you switch the Visualizer to "**negative**" or "**negative/blue**".

For special applications (like analysing x-rays) the image can also be switched to **black and white**.

## 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.

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

## Other important features:

**DVI-output** (DVI is the new standard for 100% digital image transfer. No image adjustments are necessary on a projector or monitor with DVI input.)

**Infrared remote control**

**Intelligent control panel** (active functions are illuminated)

**No disturbing stray light** (important for projection) and **no blinding of the audience or the speaker**

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

**3 user programmable presets** (for zoom, focus, iris, light, mirror position, camera settings etc.)

**Preset keys** can also be used for **specific functions** (like black/white, negative, negative/blue, image on/off, iris etc.)

**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)

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

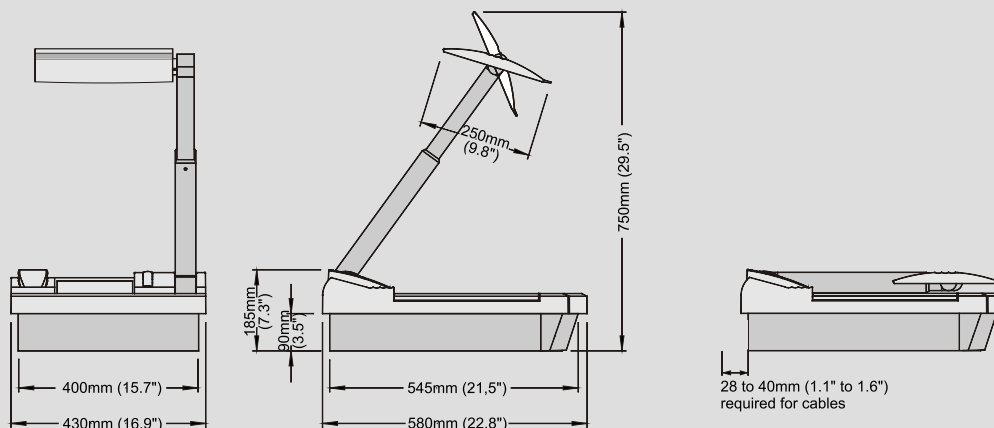
**Constant sync signal on all outputs** (no image distortion when switching the image on and off)

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

**On-screen menu for setting up the unit according your own requirements**

**On-screen help menu with Reset function**

**Dimensions:**



## Technical data:

	<b>VZ-27</b>	<b>VZ-57</b>
<b>Camera</b>	1/3" 1-CCD Progressive Scan	1/3" 3-CCD Progressive Scan
<b>Pictures per second</b> (as picked up by the camera)	20	25
<b>Horizontal resolution</b> (Progressive Scan)	640 lines (820 lines in Image Turn mode)	800 lines (1030 lines in Image Turn mode)
<b>Vertical resolution</b> (Progressive Scan)	640 lines (820 lines in Image Turn mode)	800 lines (1030 lines in Image Turn mode)
<b>Total Pixels of CCD</b>	840,000	1,420,000
<b>Effective Pixel</b> (=pixels which are actually used for the image information)	810,000	1,300,000
<b>Color reproduction</b>	very good colors	100% lifelike colors
<b>Laser center marker</b>	-	yes
<b>Output signals</b>	SXGA, XGA or SVGA (switchable); PAL or NTSC (switchable); USB	
<b>Vertical image-frequency</b>	Progressive Scan: 75 Hz or 60 Hz (switchable), PAL: 50 Hz, NTSC: 60 Hz	
<b>Horizontal image-frequency</b>	Progressive Scan: 37.3 - 80 kHz, PAL/NTSC: 15.7 kHz	
<b>Signal format</b>	non-interlaced (Progressive Scan) and interlaced (PAL/NTSC video)	
<b>Iris</b>	automatic and manual	
<b>White balance adjustment</b>	automatic and manual	
<b>Synchronized Lightfield</b>	yes (in size of the pick-up area of the built-in camera - for easy positioning of objects)	
<b>Text enhancer</b>	yes (in color, improves the contrast and the readability of text)	
<b>On screen menu</b>	yes (for operation functions, camera settings and on-screen help)	
<b>Menu reset function</b>	yes (user programmable menu setups also available)	
<b>Lens / Zoom</b>	two telezoom lenses (12 x optical zoom, incl. Macro), f = 2.0	
<b>Digital Zoom</b> (additional to optical zoom)	2 x digital zoom (total: 24 x zoom)	
<b>Max. pick-up area on working surface</b>	Normal mode: Length: 270 mm (10.8"), Width: 360 mm (14.4") Image Turn mode: Length: 360 mm (14.4"), Width: 270 mm (10.8")	
<b>Max. pick-up area outside working surface</b>	unlimited (works like a video camera)	
<b>Min. pick-up area on working surface</b>	15 x 11 mm (0.6" x 0.5") (The max. pickup area is 24 times higher because of 24 x zoom)	
<b>Max object height on working surface</b>	250mm (9.7")	
<b>Depth of focus (Depth of field)</b>	70mm (2.75") on small pickup-area (42x33mm) / 250mm (9.7") on large pickup-area (360x270mm)	
<b>Shadow free illumination</b>	yes	
<b>Illumination of hollow objects</b>	yes	
<b>Disturbing stray light</b>	none at all	
<b>Blinding of audience or speaker</b>	none at all	
<b>Reflection free area</b>	whole working surface	
<b>Upgradeable firmware</b>	yes (updates downloadable from <a href="http://www.wolfvision.com">www.wolfvision.com</a> )	
<b>USB-software</b>	included on CD-ROM (for Windows 98/ME/2000/XP, updates available at <a href="http://www.wolfvision.com">www.wolfvision.com</a> )	
<b>Light source</b>	standard halogen lamp (12V/100W), 3200 Kelvin (constant light spectrum)	
<b>Automatic lamp changer</b>	yes (with built-in spare lamp)	
<b>Reflection free area</b>	whole working surface	
<b>Motorized top mirror</b>	yes (for scrolling text with remote control)	
<b>Motorized arm</b>	yes (for moving up and down and macro zoom function)	
<b>User programmable presets</b>	3 (plus 8 fixed presets through RS232), Presets for specific functions also available	
<b>Special working surface for transparencies</b>	yes	
<b>Bottom light</b>	built-in, size: 380 x 280mm (15" x 11") = whole working surface, light source: 4 x CCFL	
<b>Image on/off switch</b>	yes (with constant sync signal)	
<b>Image memory</b>	9 pictures (user can select if images should be deleted or not when the power is disconnected)	
<b>Show all function</b>	displays all 9 images in the memory at once	
<b>Image turn mode</b>	improves the resolution of vertical (Portrait) documents significantly	
<b>Alternative image display</b>	Negative, Negative/Blue, Black/White	
<b>Infrared remote control</b>	included	
<b>Progressive Scan outputs</b>	RGBHV (2x 15-pin D-Sub and 4x BNC plugs), DVI-I (digital and analogue), USB	
<b>PAL/NTSC Video outputs</b> (switchable)	S-Video (converted Progressive Scan, 4-pin plug), Composite Video (converted Progressive Scan, BNC-plug)	
<b>Inputs</b>	RGBHV (15-pin D-Sub plug) for PCs (the computer signal can be looped through the Visualizer) Serial input (RS232) for controlling and firmware updates	
<b>Weight</b>	17 kg (36 lbs)	
<b>Optional accessories</b>	Carry case, Shipping case (with wheels), Extension cable for built-in lightbox	
<b>Made in</b>	Austria (European Community)	

Printed in Austria, November 2001

Specifications and availability subject to change !

Your WolfVision dealer:

**WOLFVISION**  
*Visualizer*

More information on our Internet homepage:  
**[www.wolfvision.com](http://www.wolfvision.com)**

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