WOLFVISION
Visualizer

INSTRUCTIONS
BEDIENUNGSANLEITUNG
VZ-8light² & VZ-8plus²

ENGLISH / DEUTSCH

Check out our internet homepage for additional information
www.wolfvision.com/support

Precautions

ENGLISH

WARNING!

Risk of electric shock
Dangerous voltage inside

Please observe the following:

USE THIS MACHINE ONLY WITH THE CORRECT VOLTAGE AS SHOWN ON THE TYPE LABEL !

DO NOT EXPOSE THE UNIT TO EXTREME HEAT OR MOISTURE !

PROTECT THE UNIT FROM EXCESSIVE SHOCKS !

Make sure that sufficient air circulation for cooling the unit is possible!

If there is any abnormality (abnormal noise, smell, smoke etc.) disconnect the unit from mains immediately and contact your Visualizer dealer!

Do not use a damaged power cord / power supply.
This may cause short circuits or electrical shocks!

To prevent danger, do not modify the Visualizer or operate without the cover panel firmly in place!

Do not expose the Visualizer to water, metallic objects or any flammable material.

Avoid installing the Visualizer in environments where there is radiation.

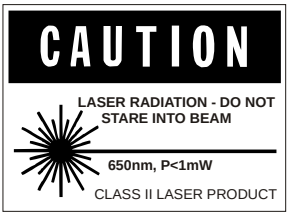
Avoid installing the Visualizer in locations exposed to strong magnetic fields or electrical currents. This could cause monitor image distortion or damage to the CCD camera.

Do not pull the plug from the power socket with wet hands!

If the Visualizer is not used for a long time, disconnect it from mains!

The external power supply has to be approved by CSA or UL in accordance to CSA 22.2-60950 or UL 1950. The outputs have to be LPS (limited power source) rated!

Precautions for laser pointer:



Laser information
FDA accession number:
9912688-00

This device complies with
21 CFR 1040.10 and 1040.11

Approval

Marks on the unit:

FCC information:
This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note:
This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC rules.

Information to user:
The user manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This product is built according to Directive EMC and to Directive electrical equipment.
Inspections, tests and evaluation are according to UL 60950. CSA 22.22-60950
Inspections, tests and evaluation are according to the CB-Scheme
Inspections, tests and evaluation are according to the PCT-Scheme

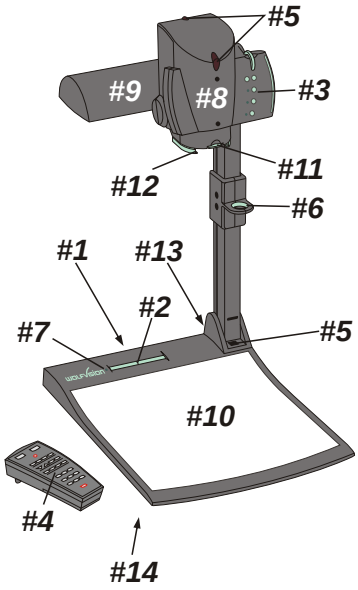
Worldwide Patents

US 7,035,011
KR 0576806
RU 2265284
TW I 226969
and others

Copyright Information

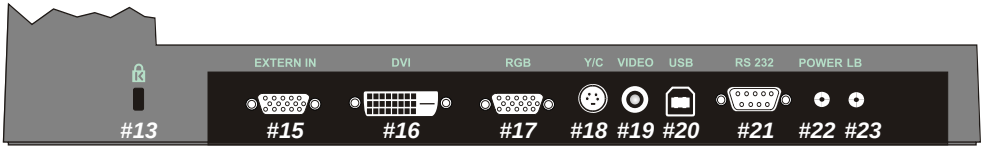
The units are "MADE IN EU/AUSTRIA"

Printed in Austria, October 2007



#1 Connectors
(on the back as shown below)
#2 Power and light on/off key *(see page 4)*
#3 Camera keys, zoom wheel *(see page 4)*
#4 IR-remote control ***VZ-8plus² only***
(see page 5)
#5 IR-receiver ***VZ-8plus² only***
(2 receivers on camera head and 1 on base)
#6 Pull pad to lift the arm up/down *(see page 6)*
#7 Power indication LED
#8 Camera head *(see pages 4, 6 and 7)*
#9 Light *(see pages 4, 6 and 7)*
#10 Working surface *(see page 6)*
#11 Close up lens for camera *(see page 7)*
#12 Slide drawer ***VZ-8plus² only***
(see page 7)
#13 Slot for Kensington lock®
(on the back)
#14 Alternative Antitheft security
*(found underneath the unit
as shown on page 10)*

Connectors *(#1)*



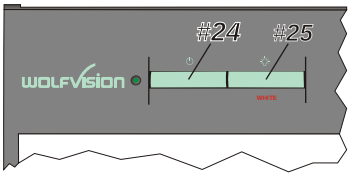
#13 **Slot for Kensington lock®** *(see page 10)*
#15 **External input** for computers *(see page 10)*
#16 **DVI** output ***VZ-8plus² only*** *(see pages 10-11)*
#17 **RGB** output *(see page 10)*
#18 **PAL/NTSC Y/C** (S-Video) output ***VZ-8plus² only*** *(see page 12)*
#19 **PAL/NTSC composite VIDEO** output ***VZ-8plus² only*** *(see page 12)*
#20 **USB** port *(see page 12)*
#21 **RS-232** serial control input *(see page 12)*
#22 **Power connection** 12V
#23 **DC**-output for lightbox *(see page 6)*

Keys on the Visualizer

Base

***#24* POWER key**

Switches the unit on and off. When switching the unit on the Visualizer automatically runs power-on preset.



***#25* LIGHT key**

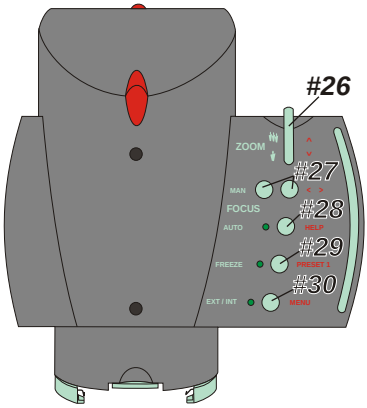
Switches the top light on and off.
If a separate optional WolfVision light box is connected, the LIGHT switch toggles between top light, external WolfVision light box and light off.
The LIGHT key also works as ONE PUSH WHITE BALANCE key if pressed for 2 seconds *(see page 8)*.

Camera Head

One of the great features of WolfVision's Portable Visualizers is that only the most necessary keys are on the unit itself. Therefore anyone can use it without instructions. For more experienced users there are some additional functions on the remote control of the VZ-8plus². Nearly all functions on the remote control can also be controlled through the keys on the camera head:

#26* ZOOM WHEEL / *menu: scroll wheel

Turn the wheel down to zoom in (TELE), and up to zoom out (WIDE). The more you turn the ZOOM WHEEL, the faster the zooming works. Using the ZOOM keys (wheel) also switches auto iris on again.
When on-screen menu is activated, it works as scroll wheel for navigating through the on-screen menu.



#27* Manual FOCUS keys / *menu: select keys

When the Manual FOCUS keys are pressed the Visualizer switches off the autofocus function. Using the AF-key switches the autofocus function on again.
When on-screen menu is activated, it functions as select keys.

#28* AUTO FOCUS (AF) key / *menu: help key

Switches the auto focus on and off. The AF light indicates if the AF is switched on. *When on-screen menu is activated, it functions as Help key.*
Pressing this key for 2 seconds resets the selected menu item.

#29* FREEZE key / *PRESET 1 key

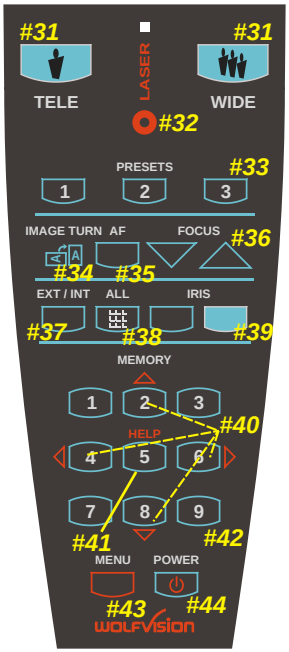
Freezes the current image. The FREEZE light indicates if the FREEZE-mode is activated.
By pressing the FREEZE key for 2 seconds, preset 1 will be recalled. (see page 8).

#30* EXT/INT key / *menu key

Switches between Visualizer image and external input *(for more details - see page 10).*
The EXT IN light indicates that a signal from the external input is shown.
Pressing this key for 1 second activates the on-screen menu (see page 13).

Infrared Remote Control

VZ-8plus² only



#31 ZOOM keys
The ZOOM keys work like the ZOOM WHEEL on the camera head of the Visualizer. Using the ZOOM keys (wheel) also switches auto iris on again.

#32 LASER POINTER key
Important: Do not stare directly into the beam. This is hazardous for your eyes!

#33 PRESET keys (programmable settings)
For storing a preset, press one of the PRESET keys for more than 2 seconds. For recalling a preset, press the PRESET key quickly *(see page 8).*

#34 IMAGE TURN mode key
For picking up vertical (portrait) pages with higher resolution *(see page 9).*

#35 AUTO FOCUS (AF) key
Switches the auto focus on and off.

#36 Manual FOCUS keys
When the FOCUS keys are pressed the Visualizer switches off the autofocus function. The next time the AF-key is pressed, autofocus is switched on again.

#37 EXT/INT key
This switches between Visualizer image and external input *(see page 10).*

#38 ALL key
For displaying all 9 pictures of the memory as split image *(see page 9)*.

#39 Manual IRIS keys (brightness adjustment)
When the IRIS keys are pressed, the Visualizer switches off the Auto iris function. The next time the ZOOM keys/wheel are used the auto iris is switched on again.
For specialists: The overall iris level can be changed in the on-screen menu (see page 13).

#40 SELECT keys (double function of MEMORY keys 2, 4, 6 and 8)
For navigating through the on-screen menu *(see page 13).*

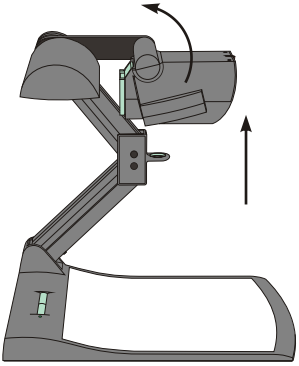
#41 HELP/RESET key for on-screen menu (double function of MEMORY key 5)
While you are in the on-screen menu you can activate the on-screen help by pressing the number 5 key. Pressing this key for 2 seconds resets the selected menu item *(see page 13).*

#42 MEMORY keys 1 - 9
For saving and recalling pictures *(see page 9).*

#43 MENU key
Pressing this key for 1 second activates the on-screen menu *(see page 13).*

#44 POWER key
Pressing this key switches the unit on and off. When switching on the unit, the Visualizer runs the power-on preset.

Setting Up the Visualizer



1. Connect the power pack to the power-input *(#22)*.
2. Connect your display device (projector, monitor, video conferencing unit etc.) to the appropriate output of the Visualizer *(#16, #17, #18, #19 or #20)*.

> **IMPORTANT:**
> For choosing the right output please read the detailed description on page 11!

3. Pull the arm upwards by using the pull pad *(#6)*.
4. Turn the camera head to working position.
5. Switch on the Visualizer with the power key.

Power-on preset:
The power-on preset is automatically activated when switching on the unit.
The settings are: zoom size: approx. 20 x 15 cm (DIN A5), autofocus: on, auto iris: on.

Working Surface

The working surface of the Visualizer *(#10)* has a special crystalline white color, which is especially designed for perfect reproduction of transparencies.
In the following cases, an optional lightbox is recommended:

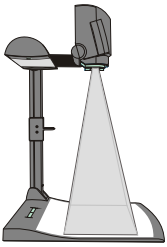
- If the transparency is very dark
- If the transparency is very wavy and causes reflections
- If the room light causes reflections on a transparency

External WolfVision Lightboxes (optional)

Connect the power cord of the WolfVision lightbox to the lightbox connector *(#23)* on the back of the Visualizer. The LIGHT key *(#25)* of the Visualizer can now be used to switch between the light of the Visualizer and the light of the WolfVision lightbox.

When using a lightbox with a separate power supply be sure that the light of the Visualizer is switched off to prevent reflections.

Shooting Area on the Working Surface

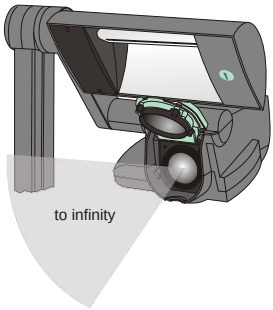


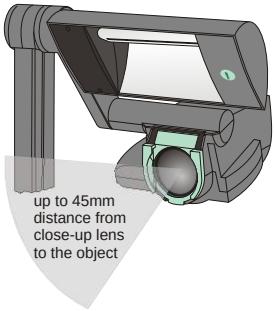
Eliminating reflections
In order to eliminate reflections (on high gloss photographs etc.) just move the recorded object or document and rotate the camera head to center the desired pick-up area.
It is also possible to turn the camera arm with the light up or down wards and rotate the camera head to the center of the desired pick-up area to eliminate reflections.

Please note that reflections can also be caused by general room lighting conditions.

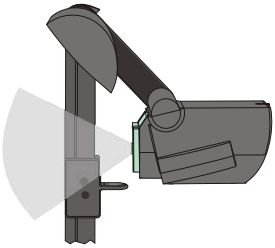
Shooting Area Outside of the Working Surface

Close-up adaptor lens
For shooting an object outside of the working surface, the close up lens *(#5)* has to be removed. In this case just hinge the lens away from the camera head. It is impossible to remove the lens completely from the unit and therefore can not get lost.
When using the Visualizer to again record on the working surface, put the close up lens back to its original position.





Turning the camera arm downwards or upwards
In order to enable recordings with illumination outside of the working surface, the camera arm and also the light of the Visualizer can be turned vertically.



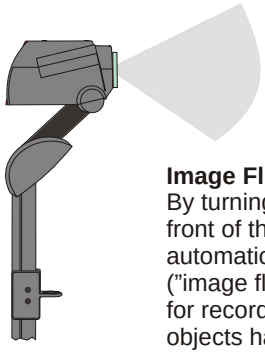
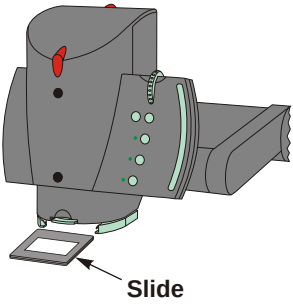


Image Flip
By turning the camera head to record in front of the Visualizer, the image will be automatically turned 180 degrees (”image flip”). This feature is very useful for recording the face of the presenter or objects hanging on the wall behind the unit.

Slide Drawer *VZ-8plus² only*



First make sure that you remove any object from the working surface (very important!). Then insert a slide in the slide drawer. The camera automatically recognizes the slide and focuses on it.
In case the slide is out of focus:

- Make sure that the slide is firmly in place
- Make sure that the ZOOM is not in the maximum tele position (=smallest picture).
  Use the ZOOM-keys/wheel *(#26 or #31)*.

Autofocus

Please note that objects with very low contrast (like blank sheet of paper) are difficult to focus. If the autofocus does not work just move the object slightly.

For special applications the autofocus can also be switched off using the on/off switch *(#28 or #35).* The autofocus is also switched off when the manual FOCUS keys *(#27 or #36)* are used.

Digital Zoom

Please note that the Visualizer has an **optical 12x zoom.** The digital 2x zoom increases the overall zoom range to a **24x zoom**. The smallest pickup size on the working surface without digital zoom is 23 x 31mm (0.91" x 1.22"). When you zoom in further the digital zoom is automatically activated and the smallest pickup size is **12 x 16mm** (**0.48" x 0.62"**). However please be aware that when the digital zoom is used, the resolution of the picture is not as high as before. The default setting displays a message on-screen when you are in the digital zoom mode.
Still pictures in the memory can also be digitally zoomed.
You can change the behavior of the Visualizer in the digital zoom mode in the on-screen menu (see page 13).

White Balance

Correct white balance adjustment is important for exact color reproduction.
"**Auto Tracking**" is the default white balance setting when the Visualizer is shipped. This means that the white balance is continuously adjusted automatically.
For an exact white balance, 10% of the recorded image should be white (measurement area is in the center of the image).
For a precisely fixed white balance adjustment use the "**One Push**" white balance. This can be done by completely zooming in on a white sheet of paper on the working surface and pressing the LIGHT key *(#25)* for 2 seconds. When the white balance is stored, an on-screen message appears. Setting a "One Push" white balance switches off the "Auto Tracking" mode (when the unit is switched off and on again the "Auto Tracking" mode will be reactivated). When the lighting conditions change (e.g. light box, sunlight or different room light) the white balance should be readjusted!

*For specialists: The Visualizer can be switched between "**Auto Tracking**", "**One Push**" and "**Manual**" white balance mode in the on-screen menu (see page 13) If you work with negative transparencies and a light box, use a blank (black in the image) piece of the negative film for white balance adjustment!*
The "One Push" white balance will be separately adjusted and stored for top light and external light box (if available).

Preset Function

The Visualizer offers the possibility to store the current settings as a preset and recall them by just pressing the respective PRESET key *(#33)* on the remote control.
The Preset 1 can be recalled by pressing the FREEZE key (#29) on the camera head for 2 seconds.

For storing a preset: adjust any function as required and then press any one of the PRESET keys on the remote control for 2 seconds or more. An on-screen message will inform you when the preset is stored.
The presets can also be stored in the on-screen menu.

As mentioned above, when presets are stored all current settings like zoom, focus, iris etc. are also stored. Contrary to this, a user also has the opportunity to assign only specific functions such as "Negative", "Negative/Blue", "Black/White" etc. to a PRESET key in the on-screen menu of the Visualizer *(see page 13).*

Image Memory for 9 images *VZ-8plus² only*

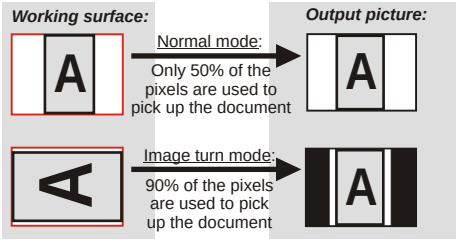
Split image of 9 picture memory

You can store 9 images and recall them by just pressing one of the numerical keys *(#42)* on the infrared remote control:

Storing an image:	Press one of the MEMORY keys *(#42)* for 2 seconds or more
Recalling an image:	Press one of the MEMORY keys *(#42)* quickly

By pressing the "All" key *(#38)* a split image with all 9 pictures of the memory can be displayed.
When pressing the ALL key *(#38)* for 4 seconds, a menu appears on the screen asking if you would like to erase all stored pictures (black picture) or if you would like to fill the memory with “snapshots”. When choosing “snapshot” the Visualizer stores a new image every second until all 9 memory locations are full. The VZ-8plus² is equipped with a memory backup battery. If the power supply has been disconnected any pictures in the memory will be stored for up to 4 weeks.
The functional settings of memory erasing can be changed in the on-screen menu.

Image Turn Mode (for a higher resolution) *VZ-8plus² only*



Picking up a complete vertical (portrait) document or A4 page has always been a critical issue for a Visualizer because the image was always picked up in a horizontal (landscape) format.
The camera could only use 50% of its pixels to pick up a vertical (portrait) page. WolfVision's "**Image turn**" mode solves this problem.

Just place your document (or other vertical object) on the working surface horizontally and zoom in on it completely, so that approx. 90% of the pixels of the built-in camera are used to pick up the document, then press the IMAGE TURN key *(#34)*. The Visualizer turns the picture electronically 90º and outputs correctly with a **much higher resolution** than in normal mode. The left and right margins will be black.

Text Enhancement

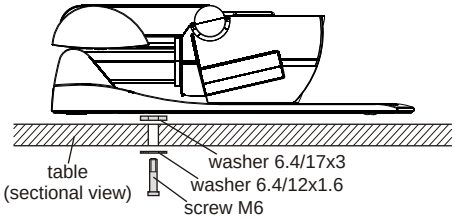
For improving the readability of text, sketches or x-rays, the text mode can be activated by pressing the programmed PRESET-key *(#33)*.
This mode enhances the contrast of the picture. Please note that the colors are now **darker than usual**. To switch off the text enhancement mode, press the programmed PRESET-key again. When the text enhancement mode is in use, the message "TEXT" is permanently displayed on the output.

This should remind the user to switch off the text mode when it is no longer required. It should also prevent users trying to correct dark colors by opening the iris, resulting in a poorly adjusted picture.

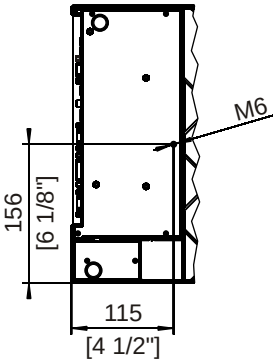
Anti-theft device 1: T-bar lock

The Visualizer can be fixed with a security cable T-bar lock (Kensington® Lock), so that it **can not be stolen**. Follow the instructions from the cable lock manual.

Anti-theft device 2: table lock bolt



Please note that the usable depth of thread is 8mm, do not screw in more than this.



The Visualizer can also be fixed onto a table with the supplied table lock bolt in order to minimize the risk of theft. The thread to fix the bolt is on the bottom of the unit. Supplied accessories for anti-theft device (part number):

Socket head cap wrench 5mm	(E 27400)
Screw DIN 912, M6x35 Zn	(D 25260)
Screw DIN 912, M6x50 Zn	(D 25270)
Washer DIN 125A 6.4/12x1.6	(D 13770)
Washer DIN 7349 6.4/17x3	(D 13920)
Assembly instructions VZ-8²	(E 28920)

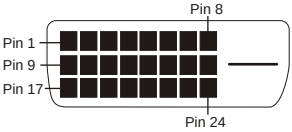
EXTERNAL INPUT - EXT/INT

A computer can be connected to the **External RGB input** *(#15)* of the Visualizer. With the **EXT/INT switch** *(#30 or #37)* a user can switch between the Visualizer image and the image of the external input to be displayed to the audience. The signal from the computer is only looped through the Visualizer and is not processed in any way. In order to avoid that your projector or monitor adjusts itself when switching, it is recommended that you set the output of the computer to the same signal format and vertical frequency as the Visualizer.

Please note that the image from the External RGB input *(#15)* can be displayed on the RGB output *(#17)* only.

DVI PORT

VZ-8plus² only



1 - T.M.D.S. Data2-	9 - T.M.D.S. Data1-	17 - T.M.D.S. Data0-
2 - T.M.D.S. Data2+	10 - T.M.D.S. Data1+	18 - T.M.D.S. Data0+
3 - T.M.D.S. Data2/4 Shield	11 - T.M.D.S. Data1/3 Shield	18 - T.M.D.S. Data0+
4 - T.M.D.S. Data4- *(*)*	12 - T.M.D.S. Data3- *(*)*	19 - T.M.D.S. Data0/5 Shield
5 - T.M.D.S. Data4+*(*)*	13 - T.M.D.S. Data3+ *(*)*	20 - T.M.D.S. Data5- *(*)*
6 - DDC Clock	14 - +5V Power	21 - T.M.D.S. Data5+ *(*)*
7 - DDC Data	15 - Ground (return for +5V, HSync and Vsync)	22 - T.M.D.S. Clock+
8 - Analog Vertical Sync *(**)*	16 - Hot Plug Detect	23 - T.M.D.S. Clock-
		24 - Analog Vertical Sync *(**)*

**...not used*
***...not available*

Choosing the Correct Output Mode

The DVI- and RGB-output *(#16 and #17)* can output signals in the following formats:
The DVI-port (#16) is available on VZ-8plus² only.

VZ-8light²
- **XGA (4:3 - 1024x768 pixels) at 60Hz or 75Hz - native image**

VZ-8plus²
- SVGA (4:3 - 800x600 pixels) at 60Hz, 75Hz or 85Hz
- **XGA (4:3 - 1024x768 pixels) at 60Hz, 75Hz or 85Hz - native image**
- SXGA- (4:3 - 1280x960 pixels) at 60Hz or 85Hz
- SXGA (5:4 - 1280x1024 pixels) at 60Hz or 75Hz
- SXGA+ (4:3 - 1400x1050 pixels) at 60Hz or 75Hz
- WXGA/60 (16:9 Widescreen - 1360x768 pixels at 60Hz)
- 720p (16:9 Widescreen HD/HDTV - 1280x720 pixels at 50Hz or 60Hz)

The "**Auto resolution**" function is activated by default. In this mode the Visualizer contiously checks which devices are connected to the RGB *(#17)* and DVI output *(#16)* and automatically sets the optimal output mode for each connected device separately. Please note that the Visualizer can not check the possible resolution, if the connected units or the cables* are not "Plug and Play" compatible. If the Visualizer can not detect the resolution of the connected device, the output is set to the default of XGA (1024x768)/60Hz.
*(*Cables with plug and play compatibility must have a 15-pin plug on both ends with all pins connected, pin 9 is not used).*

If you can not use the "Auto resolution" function, you can select the output mode manually in the on-screen menu of the Visualizer *(see page 13)*.

In order to achieve the best picture quality you must set the outputs of the Visualizer to match the native resolution of your display unit (e.g. LCD or DLP projector or monitor). Important: What matters is the native resolution of the projector or monitor, not the maximum resolution that it can display (in compressed mode). The native resolution is the actual number of pixels of the built-in LCD display or DLP chip of a projector or monitor. Most LCD or DLP projectors can also display higher resolutions than their native resolution, but only in compressed mode and with inferior picture quality.
Do NOT set the output of the Visualizer to a higher standard than the native resolution of your display unit!

If you output the Visualizer image on a CRT monitor or CRT projector, use an output mode with 75 or 85Hz, because 60Hz may show a slight image flickering. For LCD/DLP projectors or monitors and video conferencing units 60Hz is the best choice. If you are unsure what the best mode is, read the user manual of the connected units.

Do not set a higher refresh rate than your monitor or projector can display, otherwise the monitor or projector can be damaged!
Follow the instructions in the user manual of the connected units.

Please note, if 4:3 and 16:9 or 16:10 display is used simultaneously, the 4:3 display shows black bars on top and bottom. This is necessary to ensure that all displays show the same image content (widescreen supported by VZ-8plus² only).

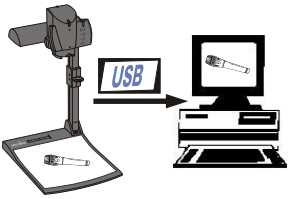
PAL/NTSC Video Output *VZ-8plus² only*

Please note, that the PAL/NTSC video outputs (composite and s-video) are switched OFF by default. This is because the picture quality of these outputs is MUCH LOWER then the quality of the DVI and RGB outputs, due to the limitations of the PAL/NTSC video technology. WolfVision wants to prevent that customers accidentally use an output with lower picture quality as the main image output. If you want to use the PAL/NTSC video outputs, switch them on with the following key combination:

PAL: Simultaneously press both FOCUS keys *(#27)* on the camera head and the Preset 1 key *(#33)* on the remote control
NTSC: Simultaneously press both FOCUS keys *(#27)* on the camera head and the Preset 2 key *(#33)* on the remote control.

The video outputs can also be switched between **PAL, NTSC** and **OFF** in the on-screen menu.

USB Port

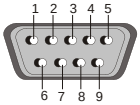


The USB output of the Visualizer can be used to transfer images from a Visualizer to a computer and save them in JPG, TIF or BMP format. This way, Visualizers can also be used as scanners for 3-dimensional objects.
WolfVision Visualizers are equipped with a fast USB 2.0 port. This allows uploading images 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 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. Please download the latest version of the WolfVision USB-software from: **www.wolfvision.com/support.**

RS-232, Serial Control Input

The serial port can be used to control the Visualizer through an external device, such as a room control system that are used to integrate conference rooms.



9-pin D-Sub connector on unit; male (front side)

Pins: 2: RX, 3: TX, 5: GND
Baud Rate: 9200, 19200, 38400, 57600 or 115200 (selectable)
databits: 8, stopbit: 1, parity: no
The baud rate can be changed in the on-screen extra menu *(see page 13)*.
Please note that decimal codes (=ASCII codes or Hex codes) must be sent as one single byte (e.g. 199 and not: 1 + 1 + 9) !

The complete serial protocol can be found on our website under:
www.wolfvision.com/support

The following chapter is for experienced users only:

ON-SCREEN MENU / ON-SCREEN HELP

For regular use of the WolfVision Visualizer, it is not necessary to go into the Visualizer's menu and change settings. Inexperienced users should not make any adjustments here.

To enter the on-screen menu press the **MENU**-key *(#30 or #43)* for one second. Settings of the Visualizer's basic functions and the built-in camera can be made here using the 4 **SELECT**-keys on the remote control *(the numerical keys with red arrows - #40)* or the **ZOOM**-wheel *(#26)* and **FOCUS**-keys *(#27)* on the camera head.
Please note that some basic settings in the menu can only be changed if you set the menu item "**Format protect**" to "OFF" first.

If more information on a function in the on-screen menu is required, set the cursor in the respective line and press the **HELP** key *(#41, this is a dual function of the Number 5 key)* or the **AF**-key *(#28)* on the camera head. A detailed description of this function appears on the screen. If you want to **reset** the selected item to the default setting, press the **HELP**-key *(#41 or #28)* for 2 seconds.

By pressing the **MENU**-key for 4 seconds the Extra Menu appears.
In the Extra Menu, settings like baud rate can be changed.

The functions of the on-screen menu are not described in detail in this user manual since the **HELP** menu is an integrated part of the Visualizer's software (firmware). The information you see on your screen always belongs to the current Visualizer firmware.

Switching To Negative, Negative/Blue and Black/White

The output image of the Visualizers can be switched from positive to negative in the on-screen menu. In addition, the background of a negative image can be switched to blue for better readability of text. You can also switch between color or black and white in the on-screen menu.
TIP: If you often switch to negative, negative/blue or black/white images, you can assign this function to one of the Preset keys *(see page 8)* in the on-screen menu.

Changing the Standard Contrast (Color) Settings

If the picture or the colors on your screen appear to be too dark, you can lower the overall contrast of the picture in the "Color Settings" menu of the on-screen menu. The settings can be made separately for the normal mode and the text mode.

Auto Power-off

In the "Power Control" settings of the on-screen menu you can select that the Visualizer will be automatically switched off after a certain amount time.

Reset On-Screen Menu Settings

All settings in the on-screen menu can be set back to the factory defaults. "Reset" is a category in the on-screen menu. In case you can not read the menu on a screen you can also set the unit back to the factory defaults by simultaneously pressing both **FOCUS**-keys on the camera head *(#27)* and the **Number 4**-key *(back-arrow, #40)* on the remote control *(VZ-8plus only)*.
If you only want to reset the item that is currently selected to the default setting, press the **HELP**-key for 2 seconds!

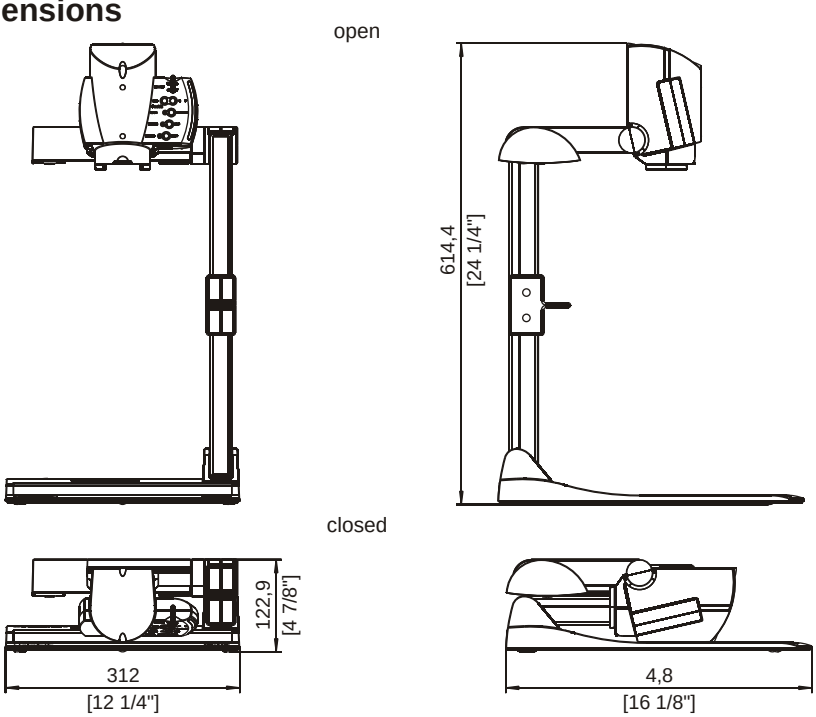
Firmware Upgrades

The software (firmware) of your Visualizer (including the on-screen HELP) can easily be upgraded to the latest version.
The firmware update can be done via USB or RS232.

Firmware update files can be downloaded for free at:
www.wolfvision.com/wolf/fware.html
Updates via USB can be made with the WolfVision USB Software and updates via RS232 can be made with WolfVision's Firmware Update Utility. Both programs can also be found under the same link.

For the RS232 connection, use a crossed serial RS232 cable (Null modem cable).

Dimensions



All measurements in millimeters and [Inch]

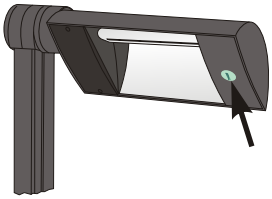
Transport Protection

The arm of VZ-8plus² and VZ-8light² is equipped with a transport protection. If the arm is exposed to sudden impact the lock-up for the arm positions is released in order to avoid damage to the arm mechanic. If the transport protection is activated the pre-defined positions of the camera will no longer be correct. If this should occur, please please move the arm of the camera head completely upwards and then completely downwards. This deactivates the transport protection.

MAINTENANCE

Changing the Lamp of the Visualizer

1. Remove the power cord of the Visualizer
2. Open the cover screw by using a coin
3. Turn down the lamp incl. lamp cover
4. Change the lamp
   Place the new lamp very carefully into the socket
   CAUTION: LAMP CAN BE HOT!
5. Mount the lamp cover in reverse order (3 to 1).



Lamp type: High Frequency Lamp 9W at 10'000 h average burning life.
WolfVision part no. 4656

Cleaning

Cabinet: Clean the cabinet by gently wiping it with a soft, lint freecloth.
Lenses: Clean the lenses by gently wiping with a soft, lint free cloth (do not use a paper tissue!). Clean by breathing on the lens to create moisture then wipe with lint free cloth (If need be, use a special optical cleaner only!).
Never use strong cleaning agents such as acetone or benzene!
These substances can damage the surface and the anti-reflex coating!

Infrared Remote Control *VZ-8plus² only*

Please note that an infrared remote control can only be used up to a certain distance from the unit. Objects situated between the Visualizer and the infrared remote control, and weak batteries, interfere with reception.

If the Visualizer can only be controlled from a close distance, or if it cannot be controlled at all with the infrared remote control, you may have to change the batteries.
Open the cover on the back of the remote control and replace the two 1.5 V AA batteries with new ones.
Check the polarity of the batteries!

front back (open)

Different IR Codes *VZ-8plus² only*

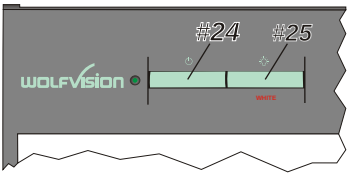
If you want to work with more than one Visualizer in the same room, the units should be set to different infrared codes, in order to control them all individually.

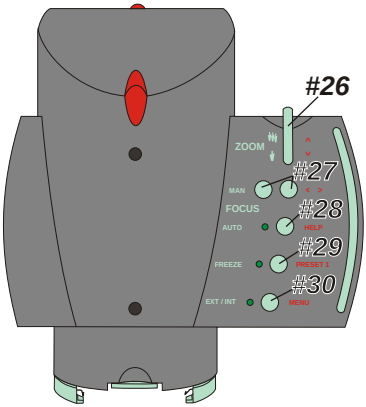
To change the IR code, enter the on-screen menu, go to "Misc. Settings" and set the "IR Code" to A, B, C or D (code A is default). To change the IR code on the remote control, simultaneously press **PRESET 1, PRESET 2** *(#33)* and **ZOOM TELE** *(#31)*. Each time this key combination is used, the code switches from A to B, C, D ... A ...in the given order.
For resetting the remote control to code A, simultaneously press **PRESET 1, PRESET 2** and **ZOOM WIDE**.
The LED shows the selected code (it flashes one time for code A, two times for code B, three times for code C and four times for code D).

Technical data

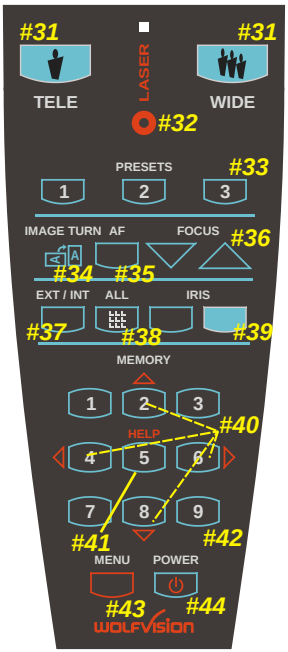
	VZ-8light²	VZ-8plus²
Camera / Technology	1-CCD 1/3" Progressive Scan camera	
Pictures per second (as picked up by the camera)	30 frames (=full pictures)	
Effective Pixel (=pixels actually used for image information)	1024 x 768 (=786,462)	
Total pixels of CCD	850,000	
Pixels processed per second (=effective pixels x frames per second)	23,600,000	
Color reproduction	very good colors	
Native signal output	XGA (1024x768)	
Output signals	XGA, USB2.0	HD/HDTV 720p / WXGA / SXGA+ / SXGA / SXGA- / XGA / SVGA (switchable), PAL / NTSC (switchable), USB 2.0
Resolution (measured)	640 lines	
Resolution in Image Turn mode (measured)	not available	820 lines
Image Turn mode (for increased resolution when picking up complete portrait pages)	not available	yes
Image rotation in Image turn mode	not available	90, 180 and 270 degrees
Vertical image-frequency	Progressive Scan: 75 or 60 Hz (switchable)	Progressive Scan: 85, 75 or 60 Hz (switchable); PAL: 50 Hz NTSC: 60 Hz (switchable)
Horizontal image-frequency	Progressive Scan: 60 – 60.2 kHz	Progressive Scan: 37.3 – 85.7 kHz, PAL/NTSC: 15.7 kHz
Signal format	non-interlaced	non-interlaced and interlaced
Iris	automatic (manual in on-screen menu)	automatic and manual
White balance adjustment	automatic and manual	
Autofocus / Speed	yes (continuously working, high speed)	
Manual focus	yes	
Text enhancement function (in color)	yes	
On-screen menu and on-screen help	yes	
Upgradeable firmware	via serial (RS232) or USB	
Lens / Zoom	24 x zoom(12 x optical + 2 x digital), individual speed zoom wheel	
Max object height on working surface	230mm (9.6") in tele position, 370mm (15") in wide position	
Max. pick-up area on working surface	276mm x 370mm (10.9" x 14.6")	
Max. pick-up area on working surface in Image Turn mode	not available	370mm x 276mm (14.6" x 10.9")
Min. pick-up area on working surface (in full resolution, with optical zoom)	33mm x 25mm (1.3" x 1")	
Min. pick-up area on working surface (with digital zoom)	17mm x 13mm (0.7" x 0.5")	
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")	
Disturbing stray light or blinding of audience or speaker	almost none	
Light source	long life high frequency fluorescent lamp, 9W, 10'000 hours average lamp lifetime	
USB software for image capture and controlling	included (for Windows and Macintosh, Twain compatible, with video capture driver	
Time for still image capturing and controlling	approx. 1/2 sec. (with fast PC and UB 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)	
Image flip	yes (for recordings to the front of the unit)	
Intelligent folding system	pneumatic arm, 3-step set up	
User programmable presets	1 (plus 2 progammable and 8 fixed presets trough RS232)	3 (plus 8 fixed presets trough RS232)
Special working surface for transparencies	yes	
Bottom light	with optional external light box	
Slide pick-up	with optional external light box	trough slide drawer on camera head
Computer input / Input switch	yes (15-pin D-Sub plug), loop through	
Image memory	1 image freeze	9 pictures (with battery backup), 1 image freeze
Show all function (displays all 9 pictures of current memory as one split image)	not available	yes
Alternative Image display	negative image / negative-blue image / black and white image	
PAL / NTSC video output	not available	composite video on RCA-plug and S-video (Y/C) on 4-pin plug (converted Progressive Scan)
RGB (=data RGB) output	15-pin D-Sub-plug	
DVI output	not available	DVI-D (digital)
HDMI output	not available	when using a DVI-HDMI cable
USB port / standard	USB 2.0 (also compatible with USB 1.1 with less speed)	
RS232 port and serial protocol with position setting and status report	9-pin Sub-D plug	
12V output	for external lightbox	
Dimensions in operation (L x W x H)	408mm x 312mm x 614,4mm (16 1/8" x 12 1/4" x 24 1/4")	
Dimensions folded (L x W x H)	408mm x 312mm x 122,9mm (16 1/8" x 12 1/4" x 4 7/8")	
Weight	5kg (11lb) / portable	
Infrared remote control	not available	yes (with laserpointer)
Power (external power pack)	LPS (limited power source) multi range 100-240 V, weight: 0.3kg (0.6lbs)	
Carrying case	yes	
Anti-theft device	T-Lock (Kensington Lock®) and table lock bolt	
Warranty	3 years	
Made in	Austria (European Union)	

Specifications and availability are subject to change!





Remote Control
VZ-8plus² only



CODES

One Push White Balance:
Press the **LIGHT** key *(#25)* for 2 seconds to perform one push white balance.

Activating the on-screen menu:
Press the **MENU** key *(#30)* (**EXT/INT**-key) on the camera head for 2 seconds to activate the on-screen menu. Use the **ZOOM**-wheel (*#26*) and the **FOCUS** keys (*#27*) to navigate. For the help function, press the **AF** key (*#28*).

Recalling Preset 1:
Press the **PRESET 1** key *(#29)* on the camera head for 2 seconds.

Video output (PAL or NTSC) *VZ-8plus² only*:
PAL: Simultaneously press both **FOCUS** keys *(#27)* and the **FREEZE** key *(#29)* on the camera head.
NTSC: Simultaneously press both **FOCUS** keys *(#27)* and the **EXT/INT** key *(#30)* on the camera head.

CODES IR-Remote *VZ-8plus² only*

Storing presets:
Press one of the **PRESET** keys *(#33)* for 2 seconds.

Storing images:
Press one of the **MEMORY** keys *(#42)* for 2 seconds.

Filling the memory quickly:
Press the **ALL** key *(#38)* for more than 4 seconds then follow the instructions of the on-screen menu (Press **MEMORY 1** *(#42)* for snapshot or **MEMORY 3** *(#42)* to erase the memory).

Activating the on-screen menu:
Press the **MENU** key *(#43)* for 1 seconds to activate the on-screen menu. Use the **Number** keys (*#40*) to navigate. For the help function, press the **Number 5** key (*#41*).

Switching the output mode:
Higher mode: Simultaneously press both **FOCUS** keys *(#27)* on the camera head and the **Number 2** key *(arrow-up) (#40)* on the remote control.
Lower mode: Simultaneously press both **FOCUS** keys *(#27)* on the camera head and the **Number 8** key *(arrow-down) (#40)* on the remote control.

Resetting the output mode to the default of "auto resolution":
Simultaneously press both **FOCUS** keys *(#27)* on the camera head and the **Number 5** key *(#41)* on the remote control.

Resetting the Visualizer's menu:
For resetting the whole menu simultaneously press both **FOCUS** keys *(#27)* on the camera head and the **Number 4** key *(back arrow) (#42)* on the remote control.
For resetting only the selected item press the **Number 5** key *(#41)* on the remote control for 2 seconds.

Video output (PAL or NTSC):
PAL: Simultaneously press both **FOCUS** keys *(#27)* on the camera head and the **Preset 1** key *(#33)* on the remote control
NTSC: Simultaneously press both **FOCUS** keys *(#27)* on the camera head and the **Preset 2** key *(#33)* on the remote control.

Change IR code:
Change the IR code in the on-screen menu "Misc. Settings" (code A is default). Change the IR code on the remote control too by pressing simultaneously **PRESET 1, PRESET 2** *(#33)* and **ZOOM TELE** *(#31)* to switch from code A to B, C, D ... A ...in the order given. For resetting the remote control to code A simultaneously press **PRESET 1, PRESET 2***(#33)* and **ZOOM WIDE** *(#31) (on the remote control).*

Vorsichtsmaßnahmen

DEUTSCH

WARNUNG!
Elektroschockrisiko
gefährliche Spannungen
im Geräteinneren

Angeführte Vorsichtsmaßnahmen unbedingt beachten:

DAS GERÄT NUR MIT DER AUF DEM TYPENSCHILD ANGEGEBENEN SPANNUNG BETREIBEN !

DAS GERÄT VOR FEUCHTIGKEIT SCHÜTZEN !

DAS GERÄT VOR ERSCHÜTTERUNG SCHÜTZEN !

Bitte darauf achten, dass eine ausreichende Luftzirkulation zur Kühlung des Gerätes möglich ist!

Bei jeder Art von Störungsanzeichen (abnormale Geräusche, Geruch, Rauchentwicklung etc.) das Gerät abschalten. Setzen Sie sich bitte in solchen Fällen umgehend mit Ihrem Visualizer-Händler in Verbindung!

Niemals ein beschädigtes Netzkabel / Netzteil verwenden. Andernfalls kann es zu Kurzschlüssen und zu elektrischen Schlägen kommen!

Am Gerät keinerlei Umbauten vornehmen und das Gerät niemals ohne Gehäusedeckel in Betrieb nehmen!

Keine entflammbaren oder metallischen Gegenstände oder Flüssigkeiten in das Geräteinnere dringen lassen!

Das Gerät nicht im Bereich von starken Magnetfeldern und elektrischen Feldern in Betrieb nehmen!

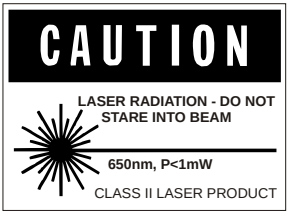
Das Gerät nicht im Wirkungsbereich von Röntgenstrahlung betreiben. Dadurch können Teile der Kamera beschädigt werden.

Das Netzkabel und den Netzstecker niemals mit feuchten Händen berühren!

Das Gerät bei längerer Nichtbenutzung vom Netz trennen (Netzstecker ziehen)!

Das verwendete Netzteil benötigt eine europäische Zertifizierung nach EN 60950 oder von CSA/UL nach UL60950 oder Ul1950. Das Netzteil muss LPS (Limited Power Source - mit begrenzter Leistung) einhalten!

Vorsichtsmaßnahmen für den Laserpointer:



Laser Information
FDA Zugriffsnummer:
9912688-00

Der Laser entspricht den Vorschriften:
21 CFR 1040.10 und 1040.11