Vision
ENGINEERING

VisionZ

User Guide
VisionZ, with Benchtop stand

Table of Contents

Package Contents

Your VisionZ package contains:

- VisionZ camera and table
- Power supply
- HDMI to DVI cable
- Operation manual
- Grounding cable

Optional

- VisionZ Console
- VisionZ Capture Control
- Foot switch

Installation

Cabling

Plug the power supply into a mains socket. Plug the power lead from the power supply into the VisionZ, at the rear of the unit as shown below.

Plug the HDMI cable into the VisionZ and the other end into your DVI compatible monitor, (In the case of a TV a HDMI to HDMI cable may be required).

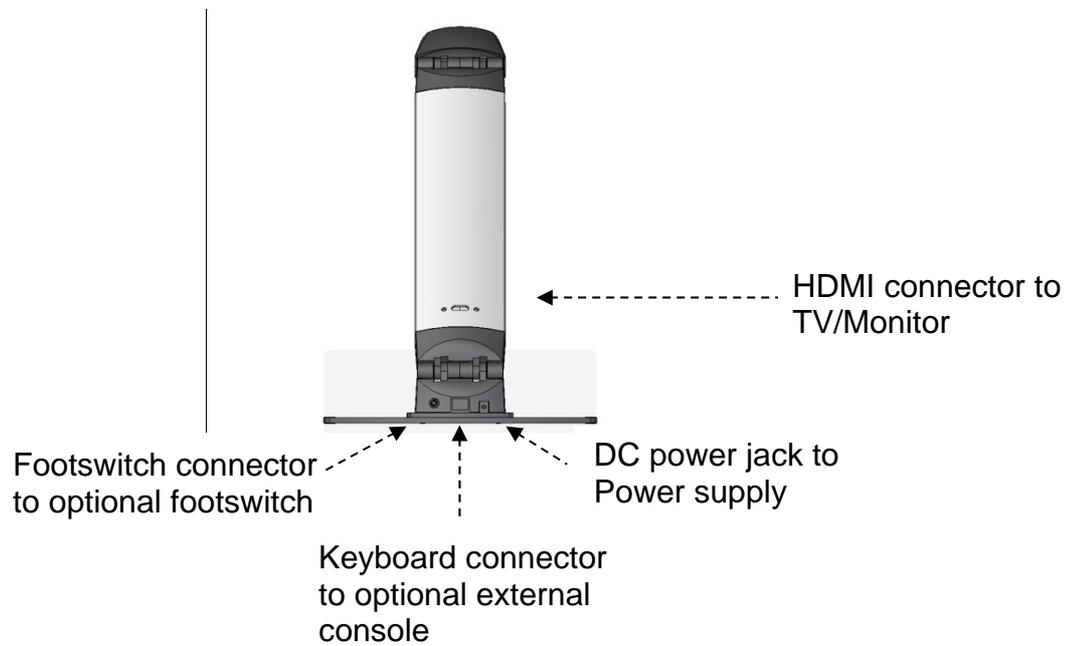Plug the external keyboard (optional) into the keyboard Mini-Din socket.

Plug the footswitch (optional) into the footswitch jack at the base of the unit.

VisionZ Benchtop side view
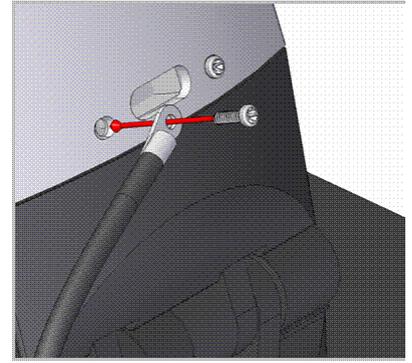
Camera Head

Camera Lens

Adjustable light source

VisionZ Benchtop rear view

HDMI connector to TV/Monitor

Footswitch connector to optional footswitch

DC power jack to Power supply

Keyboard connector to optional external console
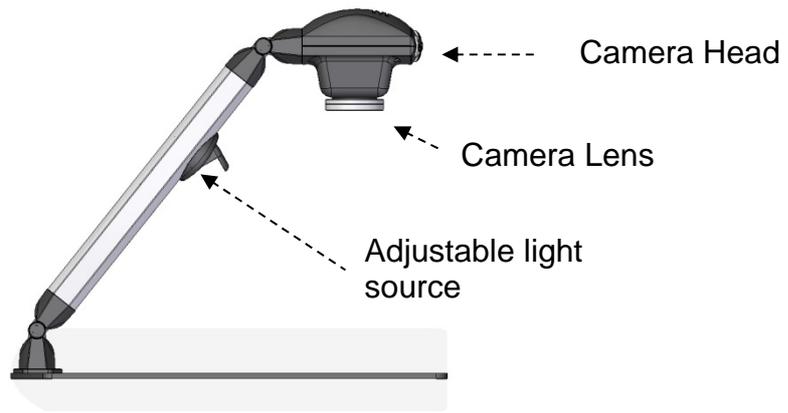
Ground Strap

To ground the VisionZ chassis secure the supplied grounding strap to one screw on the HDMI connector as shown below.

Light Adjustment

The light can be rotated as shown. It should be adjusted so that it shines on an area centred about the camera's image.
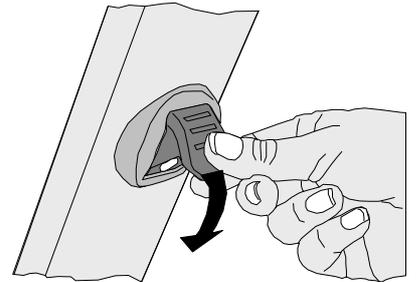
Foot Switch

A footswitch is available for the VisionZ Table. This allows control of the zoom functions. The left pedal will zoom in and the right will zoom out. This is useful for hands free operation of the zoom function.

To use the footswitch simply plug the jack into the footswitch socket at the bottom rear of the unit. See diagram on previous page for location of foot switch socket.

Controls

Power

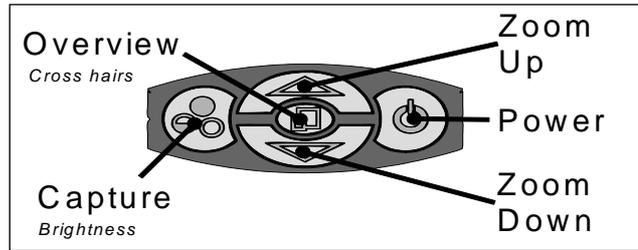Push the power button to turn the unit on. A blue image will appear on your screen and, after a few seconds, the picture from the camera will appear. If not, use your monitor's remote control or control panel to switch to the appropriate input used for the VisionZ. Pushing the Power button again will power-off the VisionZ.

Capture

To use this feature you must have the VisionZ Capture Control hardware attached along with a USB connection to a PC running the VisionZ Capture Control software.
Pressing the capture button will save the current image frame on a connected PC. See the VisionZ Capture Control user guide for more information.

Magnification

Press the Zoom-Up button to enlarge the image and Zoom-Down to reduce the image size. The unit will make a sound to indicate when it has reached maximum or minimum zoom limits.

Overview

Overview allows you to easily locate a point of interest on the object you are viewing. Press and release the Overview button to make the camera zoom out fully and revert to full-colour mode. A cross is displayed in the centre of the screen as an aid to location. Place the point of interest under the cross and press any key to restore the magnification to the previous level.

Cross Hairs

Cross hairs are two artificially generated lines that appear on the screen in both the horizontal and vertical directions which intersect at the centre of the screen. Press and hold the Overview button to display the crosshairs. When the cross hairs appear release the button. To remove the cross hairs press and hold the overview button once again.

If you would like to change the colour of the cross hairs then press and hold the overview button, however do not release the button when the cross hairs appear. Instead keep the button pressed and you will see the cross hair change colour. The colours will cycle through the following sequence: white, black, green, blue, red, yellow, dark blue and orange and then back to white again. Release the button the when desired colour is displayed.

Focus

The camera will continuously autofocus to achieve the sharpest image. However, please be aware that there is a limited range over which the camera can focus. Raising the camera too high or placing the camera too low will mean the camera cannot focus at high magnification correctly. If the image does not appear to be in focus, try raising or lowering the camera to correct it.

Brightness

The image brightness can be adjusted to suit your preference. Press and hold the **Capture** button for three seconds until the unit beeps. You will see a brightness symbol on the top right of the screen to indicate you are in brightness mode. Use the **Zoom Up** and **Zoom Down** buttons to adjust the image brightness as desired. Press **Capture** again to save the setting or let it timeout after three seconds indicated by a beeping sound. The setting you choose will be saved and used subsequently for that mode of operation.

Focus lock

Press **Capture** and **Overview** simultaneously to turn off the autofocus facility and lock the focus at its current point. Repeat to re-enable autofocus. An audible tone will play when the focus lock has toggled on or off.

Lighting on/off

If you wish to turn off the LED lighting then, with the unit powered off, press Zoom Up and power the unit on. Repeat to allow the lighting to function again.

Sound on/off
The sounds can be disabled by pressing Zoom Down while powering on the unit. Repeat to enable the sounds again.

Factory defaults
Press **Capture** while powering-on the VisionZ to restore factory settings for sound, lighting, brightness settings and video frame rate.

The factory default settings are lights on, sound on and the frame rate that was set for your country before shipping.

Frame rate selection

The VisionZ can output video at a frame rate of 50Hz or 60Hz. To achieve flicker free video set the VisionZ video frame rate to the same frequency as the mains electricity supply in your country, e.g. 50Hz for countries where the mains electricity supply is 50Hz. To set the frame rate on the VisionZ, see 'Changing the output Frame Rate' in the Troubleshooting section.

Note that if you are using a TV to display the VisionZ video, some TVs in the U.S. only support 60Hz operation.

Changing the Camera Macro Lens

The VisionZ is shipped with a Ø52mm lens with a focal length of 250 mm (+4 Dioptre). It is threaded into the camera using an adaptor which has a 37mm thread size on one side and a 52mm on the other side.
The lens can be replaced by a Ø52mm lens using the existing adaptor or by a 37mm lens which requires removing the adaptor and threading directly to the camera.

Note that a lens with a decreased focal length may require the VisionZ to be adjusted lower to remain within focal range and vice versa for a higher focal length lens.

# Troubleshooting

Changing the Output Frame Rate
Most monitors and HD televisions can display all the many different standards of HD signals, however some cannot. If your monitor/TV does not display the image from the VisionZ you should try the following: power-off the VisionZ, press and hold the Overview button and power on the unit. This will change the unit from 50 Hz mode to 60 Hz or vice versa. You will hear a sequence of three beeps confirming the frequency change.

Taking Care of your VisionZ

Do not touch the lens. Dirt on the lens will appear as a blurred or dim image or as fuzzy spots on the screen. If you believe the lens is dirty, it can be cleaned with a **soft**, dry cloth applying minimal pressure. As the lens is polished and coated, do **not** use a wet or coarse cloth; avoid detergents and abrasive substances or solvents to clean it.

WARNING: Never look directly at the LED light source for any prolonged period of time.

If the hinges loosen with use they can be tightened with the Allen key provided. To do this, insert the Allen key into the screw head. Turn each screw clockwise about a quarter turn. Do not over-tighten.
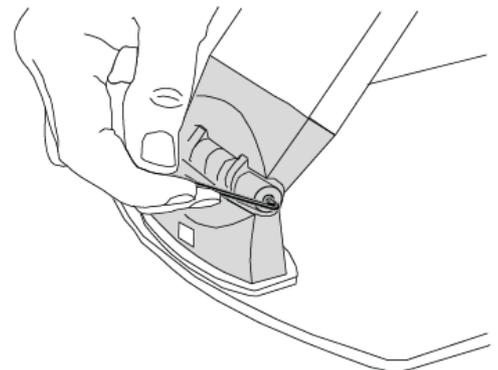
Use only the supplied power supply and inspect the cabling regularly for damage.

Specifications

Power:	8 Watts
Weight	1.1Kg
Magnification:	4 Dioptre Lens 2.0x - 55x (22" screen)
Temperature:	Storage: -10°C to +60°C. Operating: +5°C to +40°C
Camera Format	HD 720p at 50/60Hz
Output	DVI/HDMI, TMDS

$$CE$$

Warranty

This product is warranted to be free from defects in material and workmanship for a period of one year from the date of invoice to the original purchaser.

If during the warranty period the product is found to be defective, it will be repaired or replaced at facilities of Vision Engineering or elsewhere, all at the option of Vision Engineering. However, Vision Engineering reserves the right to refund the purchase price if it is unable to provide replacement, and repair is not commercially practicable or cannot be timely made. Parts not of Vision Engineering manufacture carry only the warranty of their manufacturer. Expendable components such as fuses carry no warranty.

This warranty does not cover damage in transit, damage caused by misuse, neglect, or carelessness, or damage resulting from either improper servicing or modification by other than Vision Engineering approved service personnel. Further, this warranty does not cover any routine maintenance work on the product described in the user guide or any minor maintenance work which is reasonably expected to be performed by the purchaser.

No responsibility is assumed for unsatisfactory operating performance due to environmental conditions such as humidity, dust, corrosive chemicals, deposition of oil or other foreign matter, spillage, or other conditions beyond the control of Vision Engineering.

Except as stated herein, Vision Engineering makes no other warranties, express or implied by law, whether for resale, fitness for a particular purpose or otherwise. Further, Vision Engineering shall not under any circumstances be liable for incidental, consequential or other damages.

For more information...

Vision Engineering has a network of offices and technical distributors around the world. For more information, please contact your Vision Engineering branch, local authorised distributor, or visit our website.

Distributor

CE

LIT4935/R1.0/05/13

Vision Engineering Ltd.
(**Manufacturing**)
Send Road, Send,
Woking, Surrey, GU23 7ER, England
Tel: +44 (0) 1483 248300
Email: generalinfo@visioneng.com

Vision Engineering Ltd.
(**Commercial**)
Monument House, Monument Way West,
Woking, Surrey, GU21 5EN, England
Tel: +44 (0) 1483 248300
Email: generalinfo@visioneng.com

Vision Engineering Inc.
(**Manufacturing & Commercial**)
570 Danbury Road, New Milford,
CT 06776 USA
Tel: +1 (860) 355 3776
Email: info@visioneng.com

Vision Engineering Inc.
(**West Coast Commercial**)
745 West Taft Avenue, Orange,
CA 92865 USA
Tel: +1 (714) 974 6966
Email: info@visioneng.com

Vision Engineering Ltd.
(**Central Europe**)
Anton-Pendele-Str. 3,
82275 Emmering, Deutschland
Tel: +49 (0) 8141 40167-0
Email: info@visioneng.de

Vision Engineering Ltd.
(**France**)
ZAC de la Tremblaie, Av. de la Tremblaie
91220 Le Plessis Paté, France
Tel: +33 (0) 160 76 60 00
Email: info@visioneng.fr

Vision Engineering Ltd.
(**Italia**)
Via Cesare Cantù, 9
20092 Cinisello Balsamo MI, Italia
Tel: +39 02 6129 3518
Email: info@visioneng.it

Vision Engineering
(**Brasil**)
Email: info@visioneng.com.br

Nippon Vision Engineering
(**Japan**)
272-2 Saedo-cho, Tsuduki-ku,
Yokohama-shi, 224-0054, Japan
Tel: +81 (0) 45 935 1117
Email: info@visioneng.jp

Vision Engineering Ltd
(**China**)
11J, International Ocean Building,
720 Pudong Avenue, Shanghai,
200120, P.R. China
Tel: +86 (0) 21 5036 7556
Email: info@visioneng.com.cn

Vision Engineering
(**S.E. Asia**)
Email: info@visioneng.asia

Vision Engineering
(**India**)
Email: info@visioneng.co.in

Visit our website:

www.visioneng.com