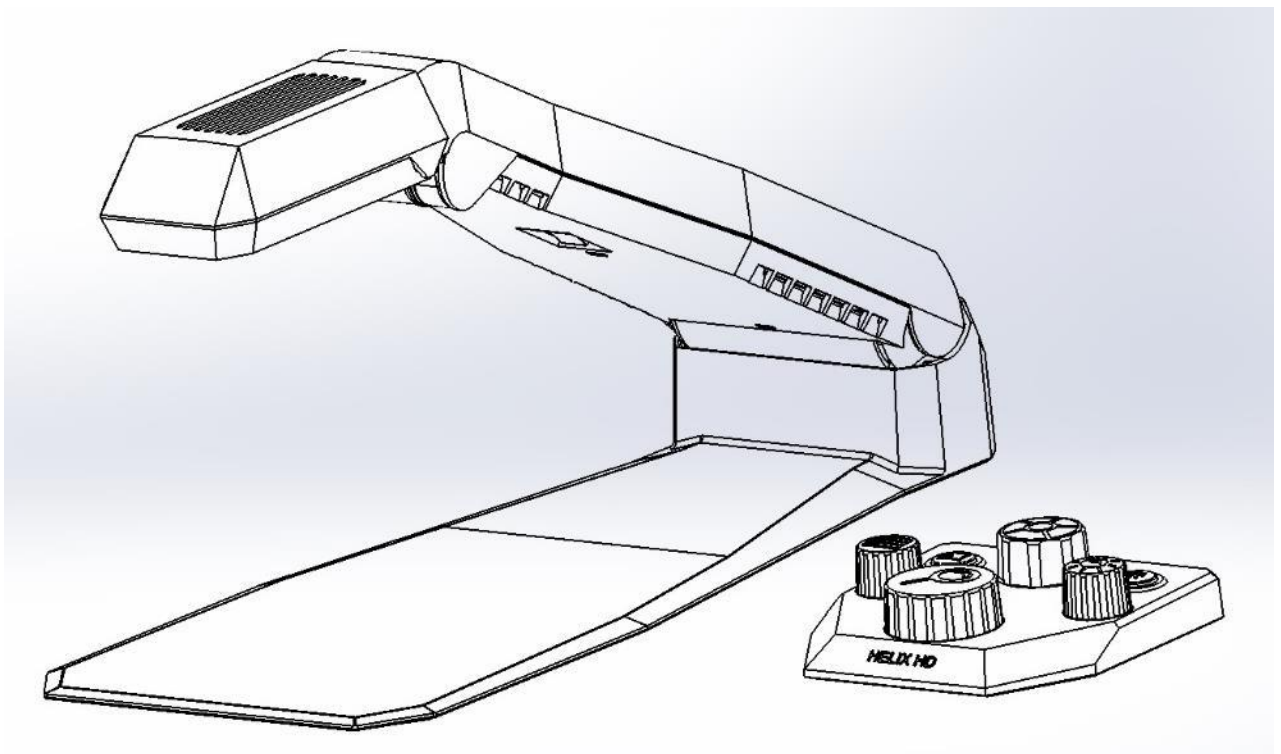


Helix HD

User Manual

English, Version 1.0.2A

HELIX HD



VisionAid International

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General description

Congratulations on choosing the Helix HD transportable video magnifier.

The Helix HD has a unique dual-camera system that offers an exceptionally wide magnification range, from 2x to 300x (display size dependent). This complete solution is ideal for users requiring full page margin magnification through to those needing much higher levels of magnification. It connects via HDMI to any suitable display (TV screen or computer monitor). The Helix HD is supplied with a tactile wireless control pad which provides simple and intuitive controls.

Improvement program

Users are the best people to help us further improve and develop our products so if you have any ideas or suggestions, no matter how small, please do contact us:

Email:

suggestions@visionaid.com

Post:



Helix HD Suggestions
VisionAid International Ltd.
Bridge Lodge
Spalding
Lincolnshire
PE11 3AU
United Kingdom

Phone:

+44 (0) 1775 711 977

Thank you and enjoy your new Helix HD video magnifier!

Ownership and intellectual property

The software installed on the Helix HD makes use of third party software libraries that are redistributed under their own respective licenses.

Copyright (C) 2009-2016 D. R. Commander. All Rights Reserved.

Copyright (C) 2000-2015, Intel Corporation, all rights reserved.

Copyright (C) 2009-2011, Willow Garage Inc., all rights reserved.

Copyright (C) 2009-2015, NVIDIA Corporation, all rights reserved.

Copyright (C) 2010-2013, Advanced Micro Devices, Inc., all rights reserved.

Copyright (C) 2015, OpenCV Foundation, all rights reserved.

Copyright (C) 2015, Itseez Inc., all rights reserved.

Copyright (C) 2015 The Qt Company Ltd.

Third party copyrights are property of their respective owners.

Safety

Pacemaker Safety Guidelines

Do not use the Helix HD near inadequately shielded medical devices.

There are 2 magnets located within the base of the Helix HD and 3 in the control pad. The magnets used are: Neodymium N42 22 x 11 x 2 mm.

If you have a pacemaker fitted please consult the manufacturer's guidelines for safe operating distances.

Do not place the control pad or Helix HD directly on your chest.

General Safety Guidelines

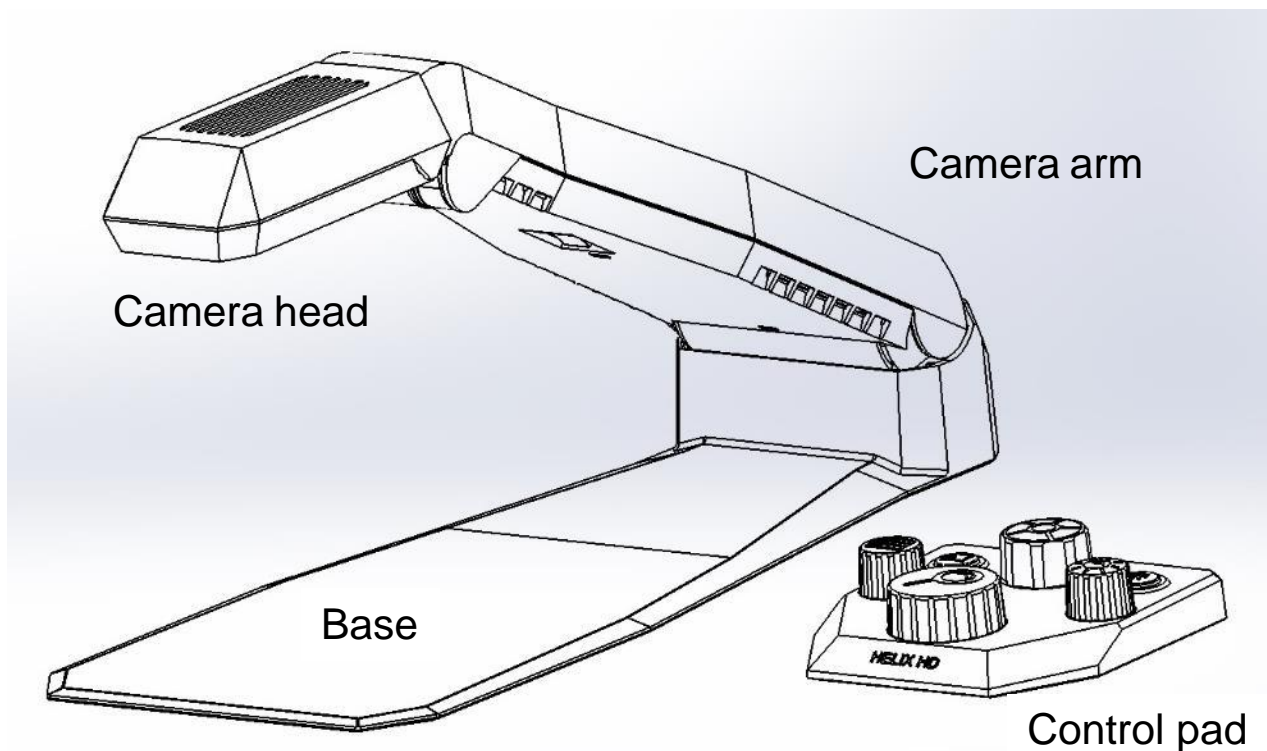
- Please handle the Helix HD with care as rough handling may damage internal components and will void your warranty.
- Always operate the unit in a place where the temperature is between 10°and 35°C (50°and 95°F). Do not expose to excessive heat, cold or direct sunlight.
- Keep the unit away from wet areas, rain, and other sources of fluid, moisture and chemicals. Do not submerge the unit.
- Do not attempt to repair the unit; any unauthorised attempt will void the product warranty. Please contact your distributor.
- Use only the supplied power adapter.
- Always unplug the Helix HD before cleaning. Only use a soft damp cloth to clean the exterior. Do not use cleaning agents or abrasive materials as they will damage your unit.
- Please be aware of the risk of explosion if the battery is replaced by an incorrect battery type.
- Use of the Helix HD other than as described in this manual will exclude it from warranty.

Box contents

Your Helix HD box contains the following items:

1. Helix HD video magnifier.
2. Helix HD control pad (with magnetic control pad overlay).
3. 2 x AAA batteries.
4. HDMI cable.
5. Power supply.
6. Laminated Quick Reference Guide.
7. User Manual.

If any of these items are missing from your box, please contact your local distributor immediately.



Unpacking

Carefully open the box and remove the Quick Reference Guide and the User Manual. Remove the top foam sheet. Take out the HDMI cable (in plastic bag).

Lift the Helix HD out of its box (the control pad is located under the camera arm in the transport position). Place the Helix HD with its foam base down, onto a flat surface.

Remove the power supply and 2 x AAA batteries from the small compartment at the end of the box.

Positioning Helix HD for use

When placing the Helix HD onto a surface for use, ensure it is clean, flat and large enough for you to position the items you wish to view under the camera head. For optimal image quality try not to place the Helix HD directly underneath any bright lighting or direct sunlight.

Unfolding Helix HD

- 1) Place the Helix HD on a flat stable surface.



- 2) Place one hand on the base and use your other to lift the front narrow section of the camera arm. Raise the camera arm from its transport position to the **second** (high) click position (approximately 30 degrees).



- 3) Grasp the top of the camera head (underneath the camera arm) and carefully rotate it downwards, towards you and up (approximately 160 degrees) until it is parallel to the base of the unit. This is its **first** click position (high), used for lower levels of magnification. For more information please see Adjusting camera head height on page 12.



- 4) Remove the control pad from its stowed position.



Folding Helix HD for transport

To fold the Helix HD for transport, please carefully follow the unfolding steps in reverse order.

Plugging in:

All connections for the Helix HD are located on the rear panel of the unit.

Display connection

IMPORTANT:

Before inserting the HDMI connector, make sure that the flat edge of the HDMI connector is facing upwards. Damage caused by incorrect insertion will void your warranty.

- 1) Insert one end of the HDMI cable into the MON connection located on the bottom left of the rear panel.
- 2) Insert the other end of the HDMI cable into a suitable display (TV screen or computer monitor).



HDMI Switcher connection (if required)

The Helix HD has an integrated HDMI switcher that can be used to connect an additional video device such as a digital TV box or DVD player. This function simplifies switching between the Helix HD and the additional device. It is also useful if you have no available HDMI connections on your chosen display.

- 1) Insert the HDMI cable from your existing device e.g. digital TV box or DVD player, into the IN connection.
- 2) To show the connected device on your display either switch off the Helix HD, or press the external Input Select button located on the top left of the Helix HD Control pad explained (see on page 13). The Helix HD must be connected to the mains and the mains power switched on for the HDMI switcher to function.

Power connection

- 1) Insert the round connector from the power adapter into the round PWR connection on the right-hand side of the rear panel.



- 2) Insert the mains plug into a wall socket and ensure it is switched on.

Insert batteries into the control pad

Remove the battery cover located on the underside of the control pad.

Remove the 2 AAA batteries from their plastic film.



Insert 2 AAA batteries into the battery compartment matching the – and + symbols correctly.

Turning on / off

The on / off rocker switch is located in the centre of the underside of the camera arm approximately 12cm (4.7 inches) from the back of the unit and 22cm (8.7 inches) from the front.

To turn the Helix HD on, rock the switch away from you.

After turning on, the Helix HD's lights will flash momentarily to indicate start up. It will take approximately 10 seconds to show the Helix HD logo on your display.

If nothing appears on your display check that the correct input source is selected (for further details please consult your display's user manual).



To turn the Helix HD off, rock the switch towards you.

Positioning documents

The Helix HD cameras are located in the underside of the camera head. Place the document / object on the base, with the area you are wanting to view directly underneath the camera head.

Adjusting camera head height

Helix HD features 2 camera head heights: high and low. The high position is for lower levels of magnification. The low position is for higher levels of magnification. It is important to note that for both positions the camera head should always remain parallel with the base.

Lowering camera head (higher magnification)

With the camera head and camera arm in the high position, grasp the sides of the camera head and lower the camera arm until it clicks into the first (low) click position.



Next, raise the camera head so that it remains parallel with the base.

Raising camera head (lower magnification)

With the camera head and camera arm in the low position, grasp the sides of the camera head and raise the camera arm until it clicks into the second (high) click position.

Next, lower the camera head so that it remains parallel with the base.

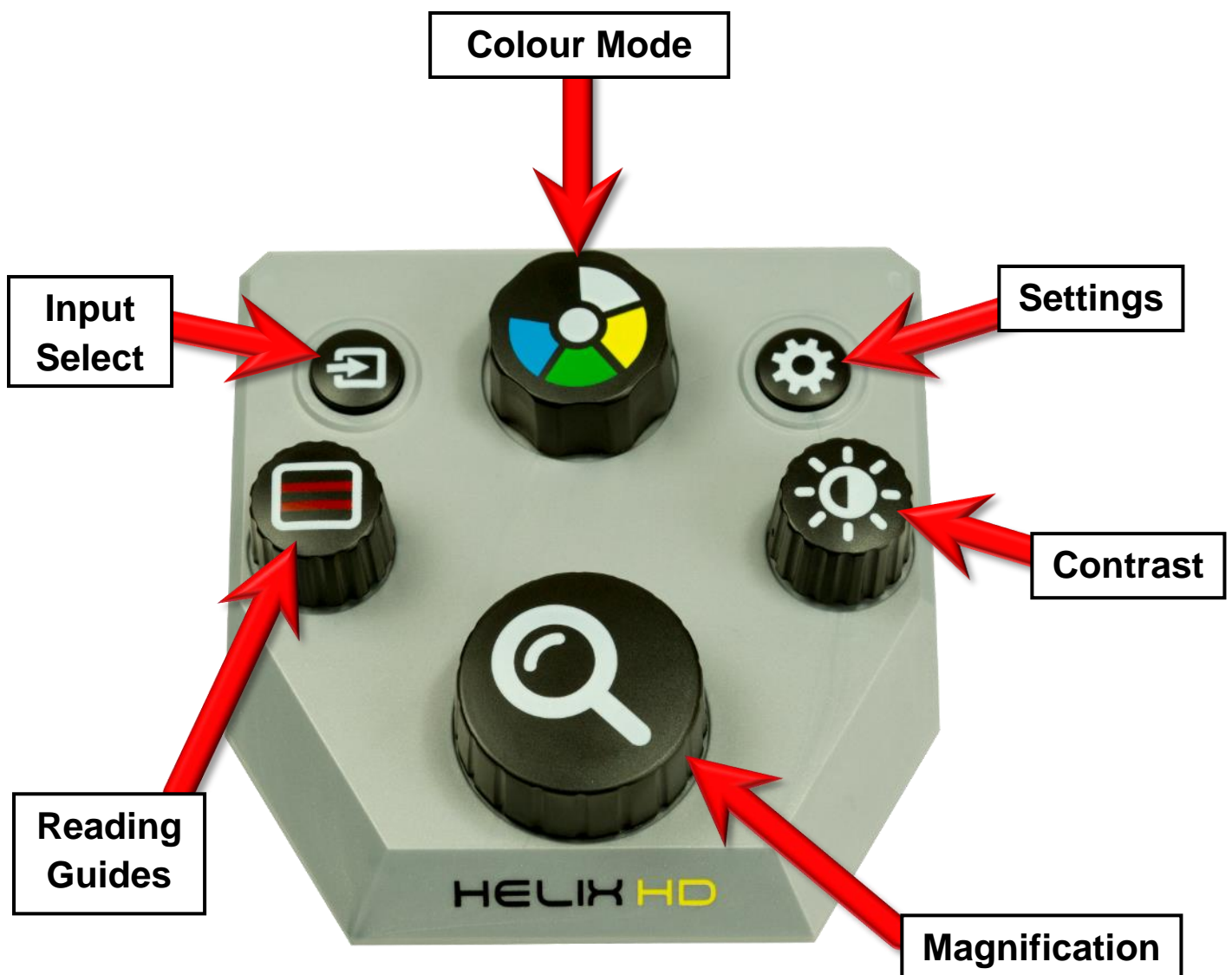
Control pad explained

Overlay

Simply lift the magnetic overlay off the control pad to show all dials and buttons.

If you only require the basic features of your Helix HD, simply place the magnetic overlay back over the advanced feature controls on the control pad.

Helix HD Bluetooth control pad with magnetic overlay removed.



The dial and button names will be used as labelled throughout the manual.

Magnification

Rotate: Clockwise to increase magnification and anticlockwise to decrease magnification.

Quick press: Handwriting mode, locks the focus and optimises camera settings for writing.

Press and hold: Overview mode which reduces magnification to the minimum level. A rectangle appears displaying the area the Helix HD will zoom back to upon release.

Colour Mode

Quick press: Switch between full colour for viewing pictures and enhanced reading colours for reading text.

Rotate: When in enhanced reading colour mode, rotate the dial to cycle the colour options: white on black, black on white, blue on yellow, yellow on blue, green on black, black on green, yellow on black and black on yellow.

If one of the above colour combinations is not suitable it is possible to create your own. Once you have created your custom colour combination it will store this in addition to the above. When you rotate the colour Mode dial in enhanced reading colour mode it will appear automatically. Please follow the instructions in Custom colour combination to customise (see page 17).

Contrast

Rotate: Clockwise to increase contrast and anticlockwise to decrease.

Quick press: Turn the lights off / on.

Press and hold: Enter Freeze mode. A snowflake icon will appear in the top right corner of your display. This is useful for viewing items without having to continue to hold them.

Reading Guides

Quick press: Cycle through the guides; two vertical lines, two horizontal lines, horizontal blinds, vertical blinds, multiple lines and signature box.

Rotate: Resize currently selected guide.

Press and hold: Turn off the guides and stores the last used reading guide. Quick press again to return to last used guide.

Input Select

Quick press: Switch between the Helix HD and another connected video device (see HDMI Switcher connection (if required) on page 10).

Settings

Quick press: Helix HD Settings appear on display.

Rotate Colour Mode dial to navigate through the on-screen menu. Quick press the Colour Mode dial to confirm selection.

Select the Back option or quick press the Settings button to return to the previous menu.

To exit Settings menus select Exit in main Settings menu or quick press on the Settings button.

Settings Menu Layout

Settings

Reading guides (Lines and blinds)

Signature guide

Simple: default setting (when rotating the Reading Guides dial it adjusts width and height simultaneously).

Advanced: allows adjustment of all signature box parameters; useful for larger signature boxes e.g. passport applications.

When the signature box is displayed:

1. Rotate reading guides dial to adjust width, quick press to confirm.
2. Rotate dial to adjust height, quick press to confirm.
3. Rotate dial to adjust horizontal position, quick press to confirm.
4. Rotate dial to adjust vertical position, quick press to confirm.

Line thickness (1-10)

Allows you to adjust the thickness of the horizontal lines, vertical lines and signature guides.

Line thickness in multi-line mode (1-10)

Allows you to adjust the line thickness of the multi-line guide.

Line colour (multiple)

Allows you to select the line colour of the horizontal, vertical, signature and multi-line guides.

Line opacity (10-100)

Default setting is 100 (no opacity).

Allows you to adjust the opacity of the horizontal, vertical, signature and multi-line guides.

Blind opacity (10-100)

Default setting is 100.

Allows you to adjust the opacity of the horizontal and vertical blind guides.

Back

Display brightness (10 - 100)

Adjust to your desired level (10 is least bright and 100 is brightest).

Custom colour combination

Foreground colour (Alphabetical)

Aquamarine, Beige, Black, Cyan, Green, Khaki, Light Blue, Light Cyan, Light Pink, Light Salmon, Light Yellow, Orange, Pale Green, Red, Yellow and White.

Background colour

Same as foreground colour options shown above.

Back

Menu text size (1-20)

Default setting is 14. Adjusts the size of text used in all menus to suit your requirement.

Language

English (UK), Danish, Dutch, French, German, Polish, Russian, Italian, Japanese, Korean, Portuguese, English (US), Arabic, Chinese, Norwegian, Spanish (more available).

Control pad battery (0-100%)

Advanced settings

Handwriting focus control

Locked: default setting. Autofocus is active until handwriting mode is selected. See

Magnification on page 14.

Manual: when Manual is selected quick press on the Colour Mode dial to select manual focus adjustment. Rotate

the dial to adjust focus. Quick press again to return to auto-focus.

Lighting

Automatic: default setting. Helix HD selects the appropriate lighting level.

Off: for viewing shiny material e.g. mobile phone screens etc.

Low: for use in bright environments.

Medium: for use with glossy print e.g. magazines.

High: for use in poorly lit or dark environments.

Power line frequency

This needs to match your country's power line frequency to prevent image banding.

50 Hz

60 Hz

Display size detection

Automatic: default setting. This should automatically adjust to your display screen size.

Manual: Quick press the Colour Mode dial to select this to amend display size.

Display size (inches)

With Display size detection in Manual mode enter your screen size manually here.

This information allows your Helix HD to accurately display the magnification level.

Reset to defaults

Quick press the Colour Mode dial to enter the reset. A warning screen will appear on your display to confirm that you want to reset to default settings. Select OK to confirm or Cancel to return to advanced settings.

Back

About Helix HD

No update available on USB stick (For updates see page 19)

Manufacturer information

VisionAid International details

Distributor information

Distributor details

Software version

Serial number

Open source licences

Back

Exit

Updating your Helix HD

Your Helix HD is fully software upgradeable. If new features become available a software update can be downloaded from the VisionAid International website. Please contact us or your distributor to find out if an update is available.

You will need access to a computer and a minimum 4GB USB 2.0 memory stick.

Downloading

Once you have contacted your local distributor they will send you a link to download the latest software onto your computer.

Copying to a USB stick

Copy the files you have downloaded to the root folder of your USB memory stick.

Inserting USB stick into your Helix HD

Plug the USB stick into the USB port on the rear panel of your Helix HD. The USB stick will only insert one way up so take care when inserting.

Forcing the USB stick into the USB port incorrectly can damage the unit and your memory stick; this will not be covered by warranty.

Installing the update

Follow this path in Settings to install the update:

- Settings
 - About Helix HD
 - Install image: version to be installed.
(Quick press to install update).

Installation may take up to 5 minutes. Do not turn off the Helix HD or unplug the USB stick while the update is in progress. After installation is complete your Helix HD will automatically restart to finalise the update process.

Hints and Tips - Troubleshooting

The unit does not turn on

- Check the connection to the power adapter on the rear panel.
- Ensure the power adaptor is plugged in and the mains power is switched on.
- Ensure the unit's rocker switch is on (rock the switch away from you).

Nothing appears on your display

- Ensure that the HDMI connection is fully inserted into the MON port located on the rear panel of the Helix HD.
- Check that the opposite end of the HDMI connection is fully inserted into the appropriate input on your display.
- On your display ensure that HDMI is selected as the input source. Please consult your display's user manual for further input instruction.
- If you have an additional video device connected to the IN port at the rear of the Helix HD, ensure that the HDMI switcher has been selected to display the correct source (see page 10).

The image does not change

- Ensure Freeze mode is not active (snowflake icon in the top right corner of your display); press or rotate any control pad control to deactivate Freeze mode.

Smudges or blemishes appear on the display

- Turn off the Helix HD and clean the camera lens (the underside of the camera head) with a dry lint free cloth.

Does not focus correctly

- Ensure the handwriting mode is not selected (see page 14).
- Check that the item you are trying to view is not too close to the camera (it should be approximately 40mm away from the camera head).
- Make sure that you have the Helix HD positioned at its correct height position for the level of magnification you require (see page 12).

Control pad is not working

- Ensure the batteries are located correctly in the control pad battery compartment located on the underside of the control pad.
- Control pad battery level is low: The control pad will display an on-screen warning if its battery level is low. If the battery level is low replace the batteries (see page 11) with 2 AAA batteries.
- If the display says that there is no control pad connected press one of the dials on the control pad and wait 30 seconds for it to connect.
- Make sure that your control pad is not more than 8 metres from the Helix HD.

Reset to factory settings

- Follow this path in Settings to Reset to default factory settings:
 - Settings
 - Advanced settings
 - Reset to defaults
(Quick press to reset).

Terms and conditions of sale

This product is guaranteed from manufacturing faults for 24 months from the date of purchase. If you have any issues with the product and you did not purchase directly from VisionAid International then please contact your retailer in the first instance.

For all returns and repairs contact your authorised distributor.



This product is CE marked and fully complies with all applicable EU legislation.



■ The WEEE logo on the product or its box indicates that this product must not be disposed of or dumped with your other household waste. You are liable to dispose of all your electronic or electrical waste equipment by relocating over to the specified collection point for recycling of such hazardous waste. Isolated collection and proper recovery of your electronic and electrical waste equipment at the time of disposal will help conserve natural resources. Moreover, proper recycling of the electronic and electrical waste equipment will ensure the safety of human health and the environment. For more information about electronic and electrical waste equipment disposal, recovery, and collection points, please contact your local authority, household waste disposal service, shop from where you purchased the equipment, or manufacturer of the equipment.

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Appendix A: Technical Information

General information	
Footprint (WxD)	400 x 150 mm 15.7 x 5.9 inches
Unit dimensions (Folded) (LxWxH)	400 x 150 x 80 mm 15.7 x 5.9 x 3.1 inches
Unit dimensions (In operation) (LxWxH) (footprint remains unchanged)	400 x 150 x 210 mm 15.7 x 5.9 x 8.3 inches
Unit weight:	1.10 kg (2.5 lbs)
Control pad weight:	0.16 kg (0.35 lbs)
Display connection:	HDMI & DVI
Colour mode:	True colour, 8 Simplified enhanced colour modes and 1 customisable

Operating conditions	
Relative Humidity:	<70%, no condensation
Temperature:	10 to 35 °C

Storage and transport conditions	
Relative humidity:	<95%, no condensation
Temperature:	-20 °C to 60 °C