imv imaging

Instruction manual

BUG

BUG versions

BUG-OLED™

BUG-VGA™

Contents

Introduction

IMV imaging is the market leader in the development and production of "real time" ultrasound pregnancy scanners for large animal species. One of the main benefits of IMV's scanners is the versatility and ergonomics of our viewing devices. BUG (BCF Universal Goggles) are available in two versions: LCD BUG and VGA BUG.

IMV imaging has utilised the latest **OLED technology in BUG** to deliver the highest quality image.

LCD technology is used in **VGA BUG**. VGA BUG provides a soft and more familiar image.

The BUG devices are designed and manufactured in Scotland at:

IMV imaging
Imaging House,
Phoenix Crescent
Strathclyde Business Park,
Bellshill ML4 3NJ
Scotland, UK

+44 (0) 1506 460 023

info@imv-imaging.com

www.imv-imaging.co.uk

As specialists in providing ultrasound imaging equipment for animal husbandry applications, we understand the importance of using reliable equipment. All **IMV imaging** products are designed and manufactured to withstand the environments in which they are used. However, should you experience any problems with your BUG, **IMV imaging** service engineers are available to provide rapid service support and ensure optimum performance of your **IMV imaging** system.

BUG devices have been designed to operate as a component of **IMV imaging** ultrasound scanners and as such the combined system conforms with the requirements of European Directive 89/336/EEC relating to electromagnetic compatibility (EMC) and also 2002/95/EC relating to Reduction of Hazardous Substances (RoHS). If you require any further information regarding these directives please contact us directly.•

Note:
All **IMV imaging** products are to be used for animal applications only.

Operator safety

The BUG devices should only be used for IMV imaging ultrasound scanning systems, and only when scanning animals. Please be aware of your own spatial environment to avoid colliding with unseen objects.

Any head mounted viewing device should not be used continuously over a long period of time. Periods of use should not exceed two hours without a break. Mounting the glasses above the line of sight as recommended in this manual will assist your comfort. •

1. Operating instructions

1.1 Connecting to scanner

BUG goggles are available with two different types of connectors. One is screw type and the other is a push fit.

With the screw type, the connector must be screwed tight into the scanner to ensure environmental proofing of the connector and cable.

With the push fit, check the cable plug and the scanner socket are clean and free of debris then push the connector firmly into the scanner. •

1. Operating instructions

1.2 Display positioning

The displays are designed to allow you to see the ultrasound image in front of your eyes. This ensures maximum animal awareness whilst ensuring a clear view of the image.

Fig 1. Too close: head gear is hitting the forehead causing discomfort and limiting adjustment.

Fig 2. Too far: Distance from eyes is too great causing a less than optimal image.

Fig 3. Correct fit (flexi headband only): To test if the housing is too close, place BUG on your head and press unit into your forehead. If the unit is in the correct position, you should only just be able to press the housing onto your forehead.

Fig 4. Correct fit (firm headband only): To set the goggles as close as possible to your eyes without the housing touching your forehead, adjust the inner headband angle (position on your forehead) and then pivot the outer band for correct display alignment.

Fig 5. Raised position (for both headbands): You can move goggles up and down as you would do with sunglasses when not in use. This positioning is useful when you are not scanning.

If glasses are normally worn then please continue to use glasses. This position will not be affected by glasses. •

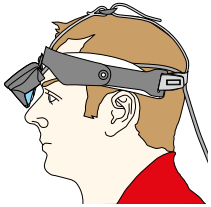

Fig 1. Too close

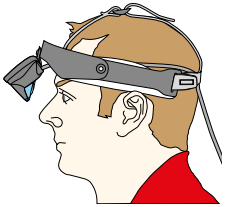

Fig 2. Too far

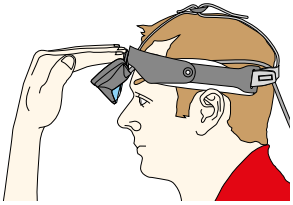

Fig 3. Correct fit
(flexi headband)

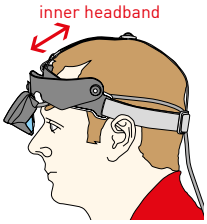

Fig 4. Correct fit
(firm headband)

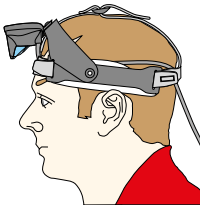

Fig 5. Raised position

1.3 Strap adjustment (firm headband)

Fig 6. Once you have obtained a good position for the display, tension the two straps, first adjusting the back strap by sliding the adjuster 1 , and then tension the crown strap 2 .

For further video instruction on how to adjust BUG goggles, please visit the "Service and support" section on our website: www.imv-imaging.com •

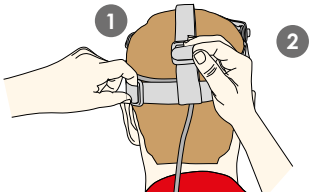

Fig 6. Strap adjustment (firm headband)

1.4 Brightness adjustment

When the BUG devices are connected to the newest model of Easi-Scan, the brightness of the image can be adjusted from the scanner's setup menu. Refer to the Easi-Scan user manual for details.

This feature is not available when used with Duo-Scan or older versions of Easi-Scan. •

2. Care and maintenance

We have built the BUG display headset to be rugged and splash resistant, however it does contain sensitive electronics and optics. With a little care and maintenance you will enjoy many years of excellent imaging.

2.1 Care

The BUG headset may become damaged if you:

- Drop it
- Hose it down
- Wipe the lenses with your thumb

For a long and happy BUG life:

- Treat the lenses as you would treat your favourite glasses/sunglasses.
- Clean immediately after use – before any debris dries solid. Disconnect from scanner.
- Grit / mud should first be removed by rinsing gently – do not rub the lenses.
- Dry excess water off the housing with a clean soft cloth – do not rub the lenses.
- Only wipe the lenses with spectacle cleaner fluid and a clean cloth or computer screen wipe – allow to evaporate.
- Store your BUG in a protective carry case once clean and dry •

2.2 BUG facts

We used plastic lenses to ensure lightweight and achieve desired optical properties of the BUG. They can be replaced at your nearest **IMV imaging** service centre. The headset housing is splash resistant to withstand use in the rain and gentle rinsing. They will not withstand powerful water jets – i.e. tap full on, hose down or immersion in water.

BUG devices are available with two different connector types. The push fit connector is sealed to IP65 and is splash resistant to the same level as the housing. The screw connector is only sealed when properly secured to the scanner but is vulnerable when disconnected. Do not rinse or submerge the connector. •

2.3 Maintenance

Replacement forehead pads are available in two different thicknesses. Peel the old pad from the 'velcro' on the inner headband and reattach a new one with the absorbent cotton side towards the skin.

Your BUG device is sealed. Do not try to take it apart. Return your headset to your authorised **IMV imaging** service centre or distributor in your country for an annual check, replace seals, elastics and adjust drive circuits for continued high performance. •

3. Technical specifications

3.1 BUG OLED specifications

Optical lens and display – per eye

Pixel resolution:	SVGA 800 x 600
Display size:	12.78 x 9 mm
Luminance:	850 cd / m2 (white)
Contrast ratio:	> 300:1

Headset

Power consumption:	700 mW @ 5 V (Easi-Scan 3) or 900 mW @ 6.5 V (Easi-Scan 3 or Duo-Scan)
Voltage input:	5.0 V to 6.5 V
Environmental proofing:	IP65
Video format:	NTSC / PAL monochrome – auto detect
Temperature range:	-40 °C to +40 °C (-40 °F to +131 °F)
Weight:	300 g
Compatible with:	Easi-Scan and Duo-Scan

3. Technical specifications

3.2 BUG VGA specifications

Optical lens and display – per eye

Pixel resolution:	VGA 640 x 480
Display size:	9 x 6.8 mm
Luminance:	160 cd / m2 (white)
Contrast ratio:	80:1

Headset

Power consumption:	1.2 W
Voltage input:	4.8 V to 10 V
Environmental proofing:	IP65
Video format:	NTSC/PAL Monochrome-Auto detect
Temperature range:	-10 °C to +40 °C (+14 °F to +104 °F)
Weight:	235 g
Compatible with:	Easi-Scan. Possible to connect to Duo-Scan, older versions of Easi-Scan with adapter leads, with no brightness control.

Note:
For further information on care and maintenance of the BUG devices please visit the "Service and Support" section of the IMV imaging website www.imv-imaging.com

4. Service centres

Your BUG does not contain user serviceable parts. Servicing must be done by **IMV imaging** authorised service centres. Your BUG device is sealed, do not try to take it apart.

Your equipment should be returned periodically to an **IMV imaging** service centre. Our qualified service engineers will use special test equipment to thoroughly check the instrument and advise of any work that appears to be necessary.

If your BUG requires servicing, please contact an official authorised service centre or the distributor in your country. •

United Kingdom HQ

IMV imaging
Imaging House
Phoenix Crescent
Strathclyde Business Park
Bellshill ML4 3NJ
Scotland, UK

+44 (0) 1506 460 023
info@imv-imaging.com
www.imv-imaging.co.uk

Ireland

IMV imaging
Unit 2, Block 3
CityNorth Business Campus
Gormanston, Co. Meath
K32 ER81
Ireland

+353 (0) 42 932 0070
ireland@imv-imaging.com
www.imv-imaging.ie

North America

IMV imaging
2900 43rd Street NW
Suite 600
Rochester
MN 55901, USA

(507) 529-8200
(800) 210-9665
F 507-529-8205
contact@imv-imaging.com
www.imv-imaging.com

Australasia

BCF Ultrasound
Australasia Pty Ltd
10/56 Norcal Road
Nunawading 3131
Melbourne, Victoria
Australia

+61 3 9894 8980
service@bcfultrasound.com
www.bcfultrasound.com

South Africa

IMV imaging
6 Crieff Rd
Parkview
Johannesburg
2193

+27 82 6164685
Tim.perks@imvimaging.com
www.imv-imaging.co.za

France

IMV imaging
126, Boulevard de la
République
16000 Angoulême
France

+33 4 3702 1766
france@imv-imaging.com
www.imv-imaging.fr

imv imaging

Contact us now

www.**imv-imaging**.com

+44 **(0) 1506 460023**

info@**imv-imaging**.com

facebook.com/**IMVimaging**

twitter/**IMVimaging**