



Instruction manual

Wi-Fi BUG

BUG-VGA:Go

BUG-OLED:Go

picture
example

replace with
relevant picture

BUG-VGA:Go™

BUG-OLED:Go™

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Certification

Hereby, **BCF Technology Ltd.**, trading as **IMV imaging**, declares that the radio equipment type Wi-Fi BUG is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:

➤ www.imv-imaging.com/bug-doc/

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 of the device.

If the user makes any modifications not expressly approved by the party responsible for compliance it could void the user's authority to operate the equipment.

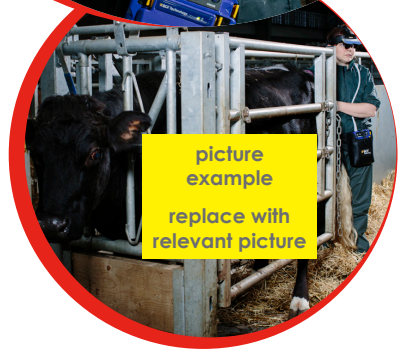
This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

1. This device may not cause interference; and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Cet équipement est conforme et se soustrait de Licence au Cahier des Charges sur les Normes Radioélectriques (RSS) d'Industrie Canada.

L'opération est soumise aux deux conditions suivantes:

1. Cet appareil ne cause pas d'interférence; et
2. Cet appareil accepte toute interférence, y compris les interférence pouvant provoquer un fonctionnement indésirable de l'appareil. •



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 imaging** scanners is the versatility and ergonomics of our viewing devices.

Wi-Fi BUG is available in two versions:



BUG-VGA:Go
(BGV01)




BUG-OLED:Go
(BGO01)

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

LCD technology is used in BUG-VGA:Go, which provides a soft and more familiar image.

The BUG devices are designed and manufactured in Scotland at:

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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, our service engineers are available to provide rapid support service and ensure optimum performance. •

Operator safety

The BUG devices should only be used with **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. •

Note:

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

Operating instructions

Power on

Fit the battery into the rear battery cradle and ensure that the battery clip is fully engaged.

To power on the Wi-Fi BUG, press and hold the power button until the power LED starts flashing, then release the button, after a few seconds, the power LED will remain on, while the Wi-Fi LED continues flashing. •

Connecting to scanner

The Wi-Fi BUG will automatically check for available scanners and will display "SCANNING" in the upper right corner of the screen.

Once the Wi-Fi BUG has connected to a scanner, the Wi-Fi LED will stop flashing and remain blue. The "SCANNING" message will be replaced by the serial number of the scanner to which you are connected, the serial number is displayed for approximately 5 seconds. •

Changing scanner

To connect to a different scanner, press and release the power button on the Wi-Fi BUG, the "SCANNING" message will be displayed and the Wi-Fi LED will flash as the BUG searches for the available next scanner.

Once the BUG is connected to the new scanner, the Wi-Fi LED will stop flashing and remain blue and the "SCANNING" message will be replaced by the serial number of the scanner that the BUG is connected to, the serial number is displayed for approximately 5 seconds. •

On screen indicators

In addition to the "SCANNING" and scanner serial numbers, the Wi-Fi BUG will display the current charge level of both the scanner (lower left of the display) and of the Wi-Fi BUG (lower right of the display).

Graphic of how this looks?

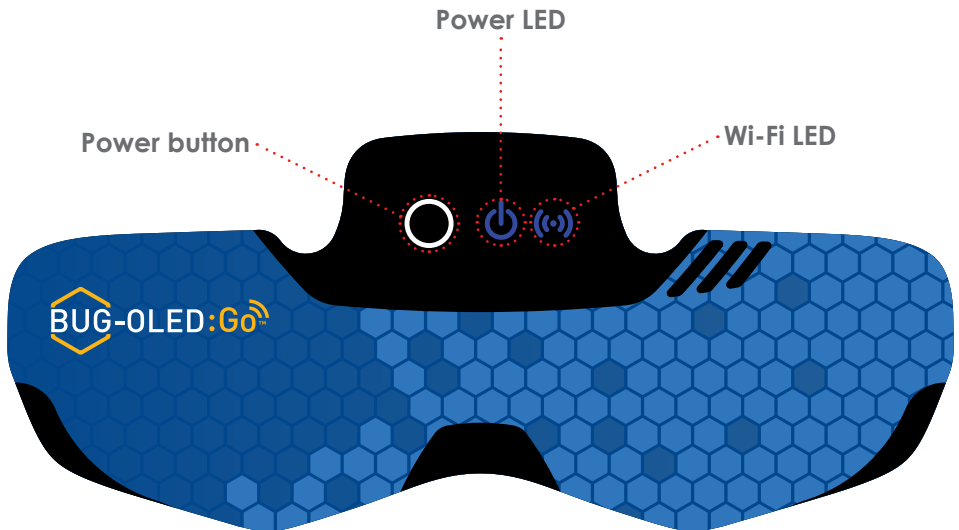
The BUG will display the freeze indicator when the scanner freeze button is pressed, the gain indicator when gain is adjusted on the scanner and the depth indicator when depth is adjusted on the scanner (gain and depth adjustments are only available on Easi-Scan:Go scanners). •

Operating instructions

LED indicators

The Wi-Fi BUG has 2 LEDs on the front panel. •

LED sequence	Power LED	Wi-Fi LED
Blue Flashing	Scanner turning on	BUG searching for available scanner
Blue	Scanner on and battery between 66-100% charge	Connected to scanner
Yellow	Scanner on and battery between 33-66% charge	–
Yellow flashing	Scanner on and battery between 0-33% charge	–
Both LEDs flashing Yellow	Updating Firmware	Updating Firmware



Operating instructions

Charging

The battery can be charged in the charging dock, powered by a standard outlet. The charging dock can also be connected for in-car charging using the cigarette lighter.

A fully discharged battery should be fully charged within 5.5 hours. While in a good condition, the battery run time will be 8 hours. The Li-ion cells used in the battery pack do not suffer from the 'Memory effect'. For optimal battery longevity, avoid letting the battery run completely down and recharge at approximately 20 Celsius/68 Fahrenheit. Electrical connection to the power pack is through the gold pads on the battery and the BUG. Power pack output is protected but care should be taken to prevent short circuiting the gold connector pins and pads. •



Warning:

To reduce the risk of burns, fire, electric shock or injury to persons an appliance should never be left unattended when plugged into mains or 12 V cigarette lighter.

LED sequence

One Blue Flashing	Charging, charge level below 33%
First LED solid blue Second LED flashing blue	Charging, charge level below 66%
First and second LEDs solid blue Third LED flashing blue	Charging, charge level below 100%
All LEDs solid blue	Fully charged
All LEDs flashing yellow	Temperature is too high (more than 45 Celsius, 113 Fahrenheit) for safe charging
All LEDs flashing blue	Temperature is too low (less than 0 Celsius, 32 Fahrenheit) for safe charging

Operating instructions

Display positioning

The BUG is fully adjustable for your comfort and to ensure you are not straining to see the ultrasound image.

The Velcro strap behind the lens can be easily adjusted, altering how far away the lenses are from your head. Straps across the top and around the side of your head can be adjusted to size.

When the BUG is not in use, you can flip the lens up using the hinges on the side to put the lenses out of sight. •

Image to be added



Care and maintenance

The BUG headset is rugged and splash proof; however, it does contain sensitive electronics and optics and so care must be taken in order to preserve its longevity.

The BUG headset may become damaged if you:

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

Cleaning

Please note the following important points:

- The unit is not sealed against jets of water. Water will penetrate the BUG if it is hosed down or rinsed under a fast-flowing tap.
- The unit is not corrosion proof and should not be left wet. Take care to detach the battery and ensure interconnecting area is dry.
- The battery charger is not water proof – avoid getting it wet.

To keep your BUG in good condition please follow the below points:

- Clean immediately after use – before any debris dries solid.
- 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. •

Specifications

Size – 285mm(L) x 195mm(W) x 178mm(H)

Weight – 0.363kg

Scanner operating frequency bands:

B1=2412MHz-2462MHz and B2=5150MHz-5250MHz. Maximum radio-frequency power transmitted in the frequency bands: 16.1 dBm for B1 and 18dBm for B2. •

Power and charging

Removable li-ion battery gives 8h runtime.

Battery charge time 5.5h. Only use **IMV imaging** approved/supplied battery, 12V vehicle power supply, battery charger and DC power adapter.

ESG-CHARGER: Input: 12V, 2A / Output: 4.2V, 2A.

IMV imaging Vehicle Power Outlet/Cigarette Plug Cable (Model: ACC-DC LEAD):12VDC, 2A Fused.

Only to be used when charging from a vehicle supply.

Only replace fuse with 2A medium acting fuse rated to 125V, 10kA breaking capacity (F2A M125V).

DC power Adapter (XP Power, Model: VEP24US12): Input: 100-240VAC, 0.6A/Output: 12VDC, 2.0A

Battery (Model: ESG-BATT): 3.6Vdc, 6700mAh. •

Temperature range

BUG: -10 Deg C to 45 Deg C *.

Battery Charge: 0 Deg C to 35 Deg C *

Battery Charger has under and over temperature protection and LED status indication.

Warning:

if the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

* Best charged at 25 Deg C, frequent charging at 35 Deg C / 95 F may shorten battery lifetime. •

Warranty

IMV imaging warrants Wi-Fi BUG against defects in materials for one year from the date of purchase. **IMV imaging** does not warrant against normal wear and tear, nor damage caused by accident or abuse. Lifetime warranty is available on request. •

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. •



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