



Instruction
manual

iMAGo



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1. Safety instructions

1.1 Probe information

1.1.1 Probe types and corresponding applications

The probes provided with the Imago device are the following :

- LB760P Linear Rectal probe, 7,5 MHz (this rectal probe is used for gynaecology and reproduction diagnosis).
- LB760 S Linear Rectal probe, 7,5 MHz (this rectal probe is used for gynaecology and reproduction diagnosis).
- CB360S Convex probe, 3.5 MHz (this external probe is used for the following applications : general, abdominal, obstetrics).
- LB740R Linear probe, 7.5 MHz (this external probe is used for the following applications: general, orthopedics, small parts).
- SB355M Mechanical probe, 5 MHz (this external probe is used for the following applications: general, abdominal, small parts).
- DB355M Mechanical probe 5 MHz (this rectal probe is used for gynaecology and also abdominal, small parts).

1.1.2 Handling of probes

- Probes are fragile and require careful handling, care and cleaning. Probe care includes daily inspection, cleaning and disinfection between animals. Please refer to chapter 5 for further instructions.

- Do not bend or twist the probe cable. If the probe housing becomes cracked or broken or there are cuts or openings in the cable, the electrical safety of the probe may be compromised.
- Do not immerse the probe connector in any liquid. Immersion can destroy the electrical safety features.

1.1.3 Ultrasound gel

Some ultrasound gels and lotions can damage probes.

Agents containing the following chemicals are known to damage probes:

- Acetone
- Methanol
- Denatured ethyl alcohol
- Mineral oil
- Iodine
- Any lotion or gel that contains perfume.

Check gel contents before use.

2. Getting started

2.1 Connection and disconnection of probes

To connect a probe, place the probe connector in the slot on the back left of the scanner with the connector pointing upwards. Turn the locker in the middle of the connector with slight pressure to engage the locking mechanism. When the mechanism is engaged, push and make a quarter turn clockwise so that the probe is connected.

The probes can be changed during the examination without restarting the scanner, just freeze the image before.

To disconnect a probe, make a quarter turn anti-clockwise to unlock the connector. Take the connector out of the scanner and store the probe safely, protected from any shocks.

2.2 Starting of the device

Only supplied power cord can be used to power the system. To start the ImaGo, ensure a probe is connected and press the power switch on the right side of device.

The ImaGo equipment starts in B mode with the probe connected. If no probe is connected, the system will display 'no probe'. Connect a probe and press 'Freeze', or restart the equipment.

To turn off, press the power switch again and a shutdown procedure will run before the system turns off.

3. Scanner menus

3.1 Keyboard description

The menu displays on the left side of the screen. You can change it to the right side; Settings > System > Activate 'Right-Handed'

Do not use any instruments to touch the screen that could damage it.

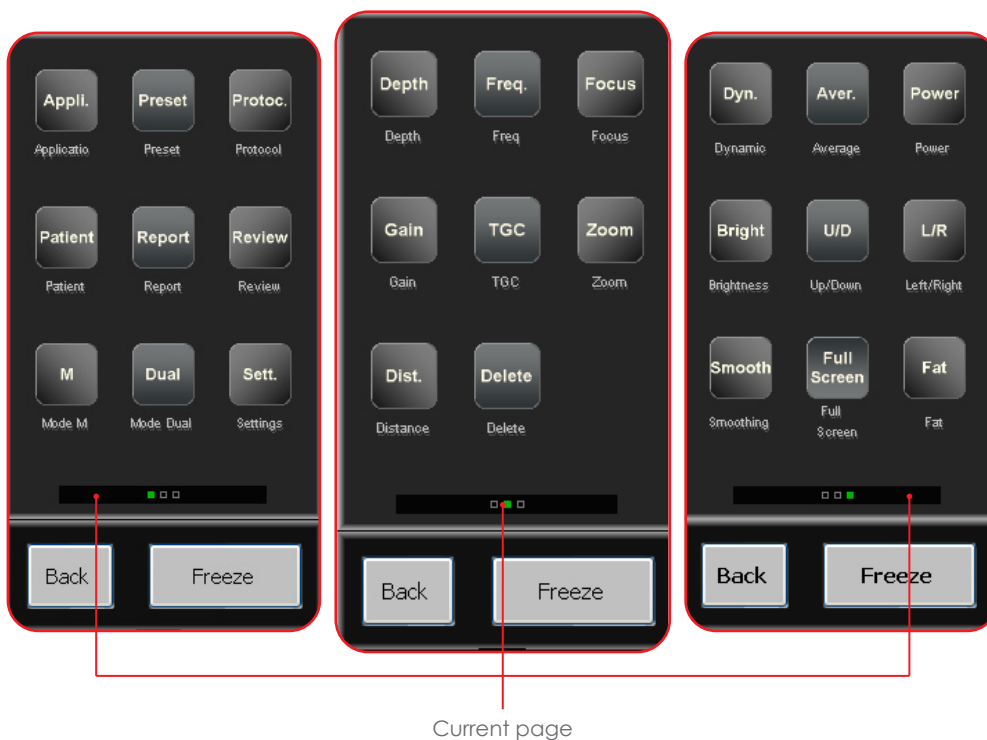
3.1.1 Simplified Interface

When the device is initially started, only the homepage is shown (below left) to facilitate the use of the device. When in Freeze mode (below right) other functions are available. To return to homepage, press freeze again.



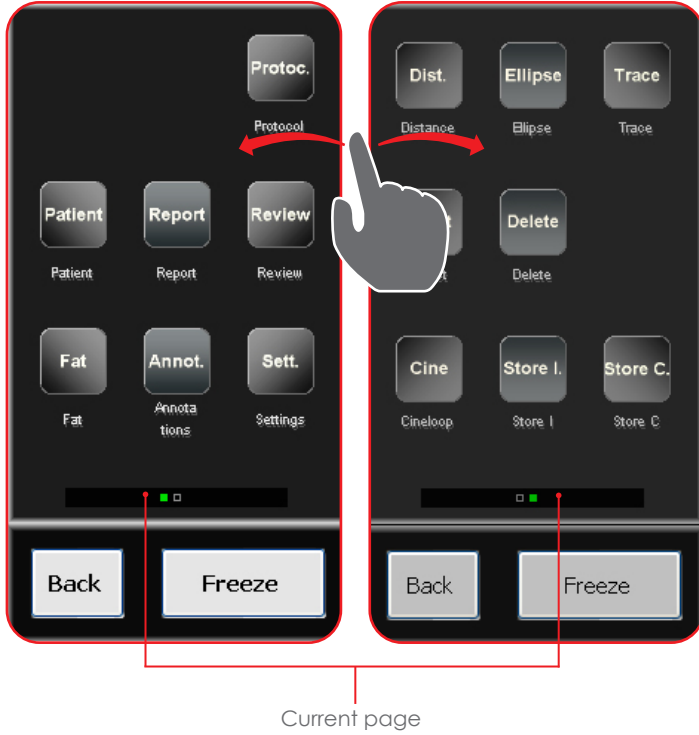
3.1.2 Normal Interface

After turning the scanner on, 3 pages are available; you always start on page 2 (below, center) as default setting.



3. Scanner menus

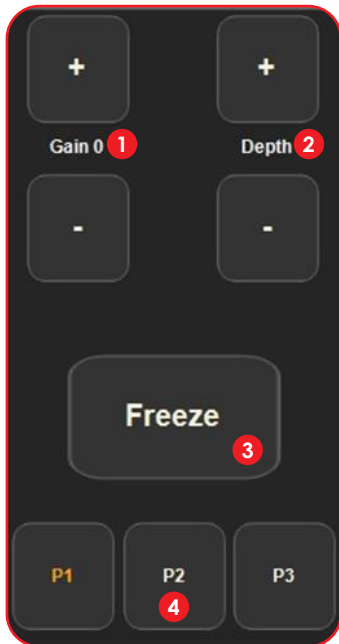
When image is frozen, 2 pages are available:



3.2 Keyboard function

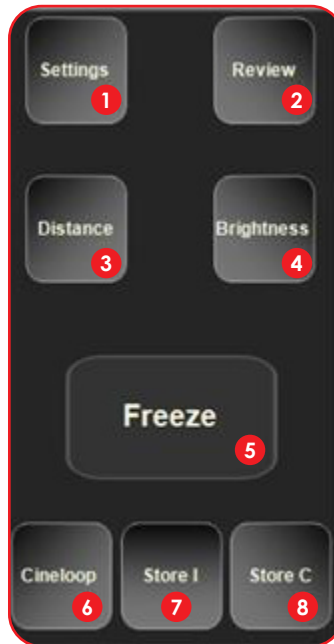
3.2.1 Simplified Interface

Live scanning



- 1 **Gain:** press + to increase the gain and - to decrease it.
- 2 **Depth:** press + to increase and - to lower the depth.
- 3 **Freeze:** allows to freeze the image and the other menu appears (see below).
- 4 **P1, P2, P3:** Easily access pre-registered presets (factory or user settings)

Freeze menu



- 1 **Settings:** access to user's set up.
- 2 **Review:** to visualize images and clips saved.
- 3 **Distance:** to make measurements on frozen image.
- 4 **Brightness:** to be increased or lowered.
- 5 **Freeze:** allows to come back to B image.
- 6 **Cine loop:** allows to review the last registered images of the ultrasound session.
- 7 **Store I:** allows to register an image.
- 8 **Store C:** allows to register the last few seconds on the scanned session (clip/video).

3.2.2 Normal Interface

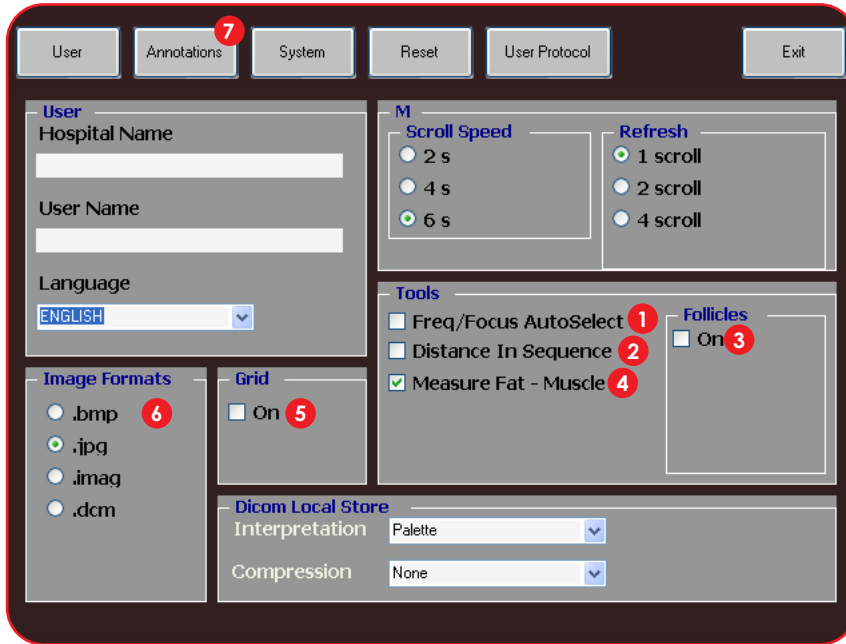
When the device is initially started, only the homepage is shown (below left) to facilitate the use of the device. When in Freeze mode (below right) other functions are available. To return to homepage, press freeze again.

Page 1



- 1 **Application:** The following choices are available; cow, horse, sheep, sow, llama, dog, cat. Press load to confirm your choice.
- 2 **Preset:** Access factory presets of the system, which are highlighted in yellow, or save/load your own presets.
- 3 **Protocol:** Access all measurements and tables available for the chosen application. Each applications has its own protocols.
- 4 **Patient:** Record patient data, save animal data, scroll patient list and start a patient exam. Don't forget to click '**end of exam**' after finishing or the patient file will be erased when the system is turned off.
- 5 **Report:** View a report while an exam is in progress. This report can be exported to a USB in Review. If no exam is in progress, the report key remains inactive.
- 6 **Review:** Access images and video clips that the user has previously recorded. The review mode will access USB drive automatically if there is one connected. When connecting the USB, just wait for 'USB' indication at the bottom of the screen to access USB images and clips. If no USB connected, the review mode will access the internal memory of the device.
- 7 **M:** Start M mode. Position the red line with the track pad and press select to start the measurement.
- 8 **Dual:** Splits the screen. Press select to switch from one side to the other. You can freeze the image on one side and take measurements.
- 9 **Settings:** Enter user settings
- 10 **Exit:** If image is live, press exit. If image is frozen, click freeze and exit.

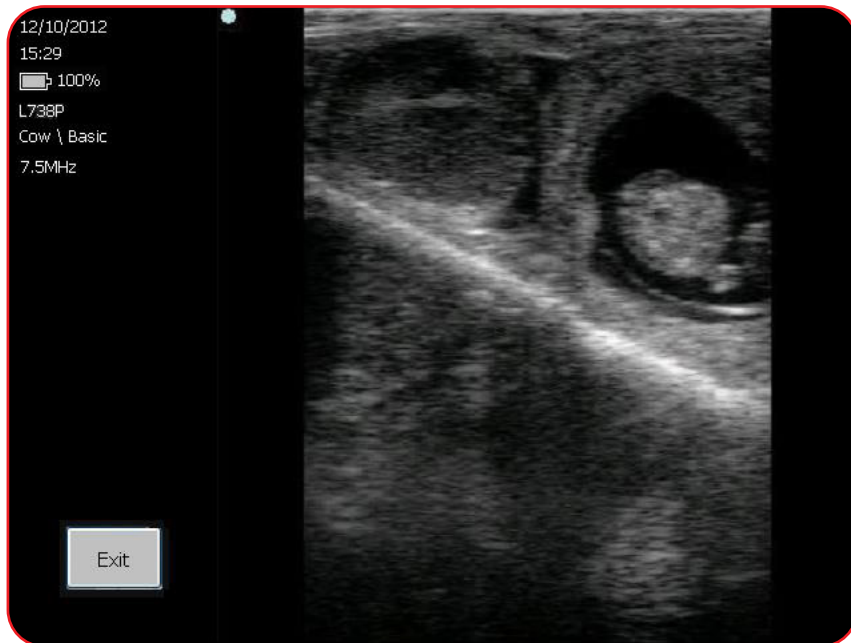
3. Scanner menus



- 1 **Freq/Focus AutoSelect:** Focus will move automatically according to depth.
- 2 **Distance:** A new distance will be automatically activated after the first one.
- 3 **Follicles:** Automatically measure follicle diameter. Different options are available: On Live/On freeze, Ellipse/Diameter, One scan/two scan
- 4 **Fat + Muscle:** When image is frozen and function is active, you can directly proceed to backfat measuring.
- 5 **Grid:** Activates grid mode on screen
- 6 **Image Formats:** Choose preferred format for saving images
- 7 **Annotations:** You can record the 10 frequently used annotations for inserting comments in frozen images. *If Restore the last annotation is activated, the last annotation will be automatically proposed.*



- 1 **System:** Change date and time
- 2 **About:** Software version and manufacture date
- 3 **Auto Freeze:** add details
- 4 **USB:** If you have problems storing using USB drive, activate this function
- 5 **Keypad:** Activate Azerty/Querty keypad
- 6 **Right-Handed/Left-Handed:** Reverse screen depending on preference
- 8 **Energy Save:** Screen deactivates after 20s inactivity when using BUGs. Only available in large screen mode.
- 9 **Reset:** Reset the configuration system of IMAGO with factory settings



- 7 Full screen:** activating full screen mode. The only visible indications are date & time, battery level, probe name, preset application and name, and frequency. Press Exit to return to the conventional mode.

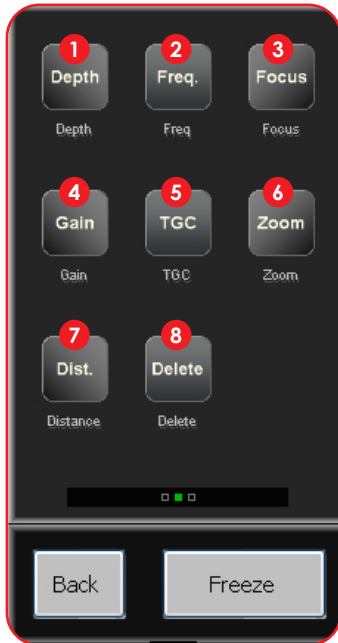
User Protocol

Access to the User Protocol menu to create user-defined protocols. The contextual menu includes:

- **Create:** add a new line in the User Protocols list. Start by selecting the application in the list to the left in which the user protocol should be created. The user can select which measurements from the Protocol Items list will be included in the user protocol by clicking on the corresponding box. Protocol name can be modified by typing the new name in the text field located in the lower left part of the menu. Press Save when selection is finished.
- **Delete:** delete the selected User Protocol from the User Protocols list.
- **Save:** save the created User Protocol.
- **Tables:** display the current protocol table in data or graphical mode (Data/Graph control). Next and Previous controls are used to review equivalent table with different authors (if any).
- **Exit:** exit the User Protocol menu and return to the Settings menu.
To activate a user protocol, select the Application, click on Patient, select Exam and choose the protocol for the examination.

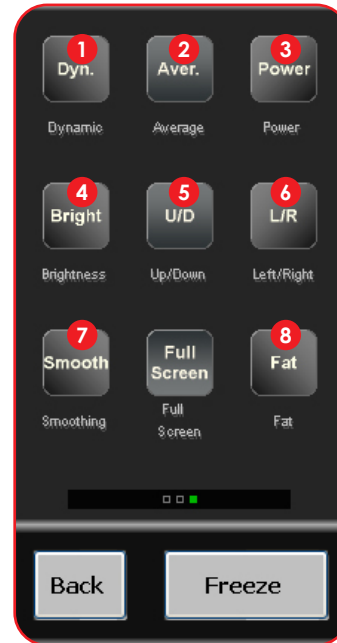
3. Scanner menus

Page 2



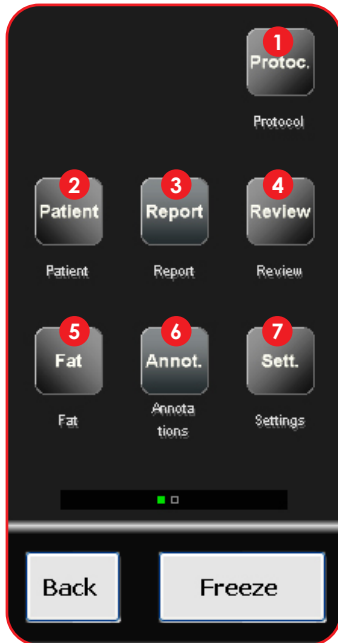
- 1 **Depth:** Access vertical cursor to change depth depending on current probe and application.
- 2 **Frequency:** Choice of 3 frequencies depending on probe you are using.
- 3 **Focus:** Vertical cursor that gives you a choice of focus positions.
- 4 **Gain:** Gain control is represented by a tuner button that is turned by pressing the white dot. It will be green when activated. Turn clockwise to increase gain and anticlockwise to decrease.
- 5 **TGC:** In TGC, 4 cursors will appear that correspond to different area of the screen. TGC allows you to chose gain by zone. Pulling cursor to the right will increase gain and to the left will decrease.
- 6 **Zoom:** To magnify a part of the screen, press Zoom and choose preferred window, x1.5, x2, x3. then position the window over the part of the screen you would like to magnify. Press B to return to normal imaging.
- 7 **Distance:** Distance allows you to make measurements without having to freeze the picture. Position cursor with touchpad, press valid to start measurement and move second cursor. Toggle will switch sides on your measurement. Press Valid again to close the measurement. Distance will display at the bottom of the screen. You can do up to 7 measurements on the same image. You can put up to 7 measurements on the same image (4 distances, 2 Ellipses, 1 trace).
- 8 **Delete:** Delete any measurement on the screen (select the one(s) you want to delete using the key Select).

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- 1 **Dynamic range:** This function allows you to create a harder or smoother picture. Press the Dynamic key and chose your dynamic range on the vertical cursor. The lower the dynamic is the harder is the picture and the higher the dynamic is the smoother is the picture.
- 2 **Average:** This function allows you to adjust the persistence of the image among SLOW – SLOW MEDIUM – MEDIUM FAST & FAST.
- 3 **Power:** You can modify the emission power of the probe. Press the Power key and choose your emission power in % on the vertical cursor.
- 4 **Brightness:** Allows you to change the screen brightness.
- 5 **U/D:** Reverse the image on the screen
- 6 **L/R:** Change the side of the picture
- 7 **Smoothing:** 3 levels are available ; level 3 is the highest ; level 2 is active as a standard feature.
- 8 **Fat:** Automatic measurement of back fat (for pigs with sector or linear probes ; cattle or small ruminants with linear probe). Available in frozen mode also.

FREEZE page 1



- 1 **Protocol:** Protocol - Access different measurement and gestation tables, this is in accordance with the specie selected in application mode.
- 2 **Patient:** Access patient menu.
- 3 **Report:** Allows the user to review the report while doing an exam.
- 4 **Review:** View the pictures and the video clips that you have previously recorded.
- 5 **Fat:** Automatic back fat measurement. Available in live mode too. Ensure application is correct before measuring.
- 6 **Annotations:** Allows you to write annotations on a frozen picture or choose an annotation that you have previously recorded in the settings menu.
- 7 **Settings:** Preset the machine to your own convenience, and have access to the user protocols.

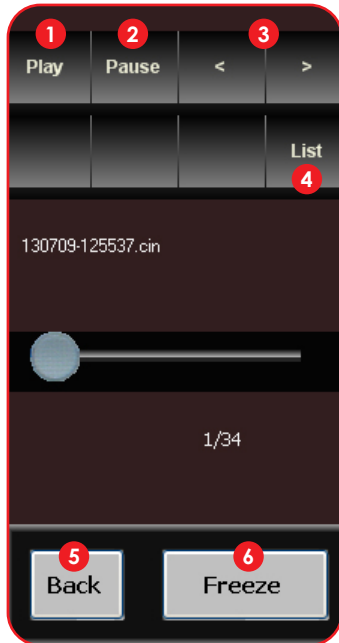
FREEZE page 2



- 1 **Distance:** Make a measurement on a frozen image.
- 2 **Ellipse:** This allows to draw an ellipse on a frozen picture.
- 3 **Trace:** This allows to draw a trace on a frozen picture.
- 4 **Select:** Switch between different measurements on the frozen image.
- 5 **Delete:** Delete measurements, ellipses or traces from the screen.
- 6 **Cineloop:** Displays cineloop menu.
- 7 **Store I:** Store current frozen image.
- 8 **Store C:** Store cineloop that has just been created.

3. Scanner menus

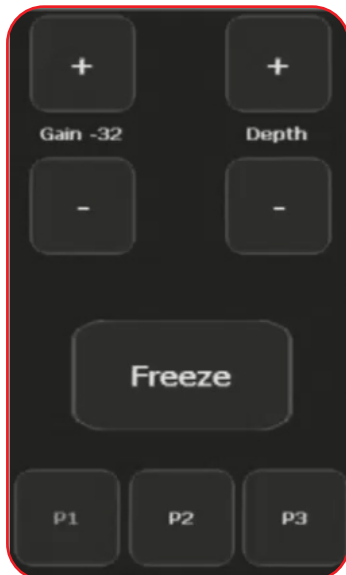
CINELOOP : Replay the last seconds of scanning that have just been done (124 pictures with linear and convex probes ; 62 pictures with sectorial probe).



- 1 Play the cineloop.
- 2 Pause the cineloop.
- 3 These keys allow the user to skip forward and back through the cineloop
- 4 Return back to review mode with the list of cineloops.
- 5 Back to main menu of freeze.
- 6 Return to B mode menu and unfreezes the image.

3.2.3 Moving from Normal to Simplified interface

Within Settings function



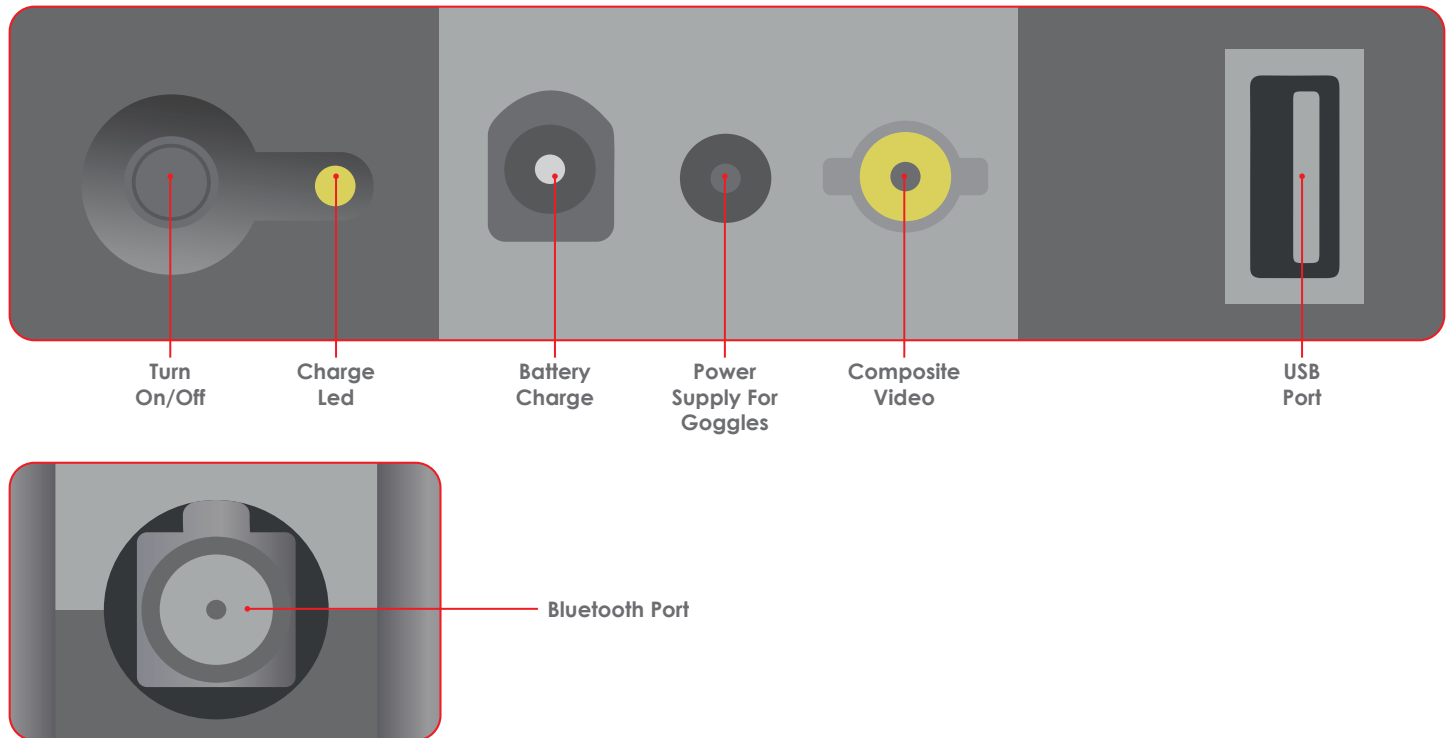
When in simplified mode, only the essential functions will be displayed.

In simplified mode, you can select three different presets (P1, P2, P3). Choose for each from factory presets or your own user presets.

Once selected, click save. Unticking Simply will return the scanner to normal mode.

4. Connection of peripherals

The Imago equipment can be connected to several peripherals:



5. Cleaning and disinfection instructions

5.1 Cleaning and disinfection of the device

Warning:

Do not pour liquid directly on to the scanner. Before closing the case, ensure the scanner and probe are dry.

The following disinfection solutions have been tested and their compatibility with the components of the device has been proved:

- Cidex
- Cidex plus
- Cidex OPA

It is recommended to use one of these solutions to avoid any deterioration during the cleaning and disinfection process. Using any other solution other than those indicated as it may damage components of the scanner.

5.2 Cleaning and disinfection of probes

The following disinfection solutions have been tested for their compatibility with the components of the probes:

- Alkazyme
- Klenszyme
- Cidezyme
- Nu-Cidex
- Anioxyde
- Gigasept-FF
- Steranios
- Cidex OPA

It is strongly recommended to use one of these solutions in order to avoid any deterioration during the cleaning and disinfection procedure.

6. Environmental conditions of use

The device is designed and tested to be operated within this range of temperature:

- -20°C to +60°C during transportation and storing
- -10°C to +40°C during operation.

To preserve battery life, the system should be stored with a charge of between 15-50% and at a room temperature of 30°C (86°F).

5. 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 5 45 92 03 57
france@imv-imaging.com
www.imv-imaging.fr





Contact us now

 www.imv-imaging.com

 +44 (0) 1506 460023

 info@imv-imaging.com

 facebook.com/IMVimaging

 [twitter/IMVimaging](https://twitter.com/IMVimaging)

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