

DE BEERS GROUP

SynthDetect XL

Operating Manual



PLEASE READ THIS IMPORTANT INFORMATION PRIOR TO USE

DISCLAIMER

The intended use of this SYNTHdetect instrument is expressly limited to that set out in Terms and Conditions for the Supply of SYNTHdetect instruments, Software and Warranty support services (the “Conditions”) and this Operating Manual. Changes to this Operating Manual will be effective once they are published on <https://www.iidgr.com>. Continued use of the SYNTHdetect instrument signifies acceptance of these changes.

The use of the AMS2 Device signifies acceptance of the above conditions.

DISCLAIMER

This product is to be used in conjunction with the original SYNTHdetect™ illumination module.

Please refer to SYNTHdetect™ Operating Manual for all operating procedures and safety information.

IMPORTANT NOTICE

There are no user serviceable parts within the SYNTHdetect XL

INSTRUMENT COVERS.

DO NOT TAMPER WITH THE DOOR INTERLOCK SWITCH.

Check for any cover damage (including both concertinas) before powering the SYNTHdetect™ illumination module.

Ensure all access panels are fitted before powering the SYNTHdetect™ illumination module.

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1 LIMITATIONS OF USE

The SynthDetect XL module

- Is a module intended for use in all locations where loose diamond and diamond containing jewellery pieces are handled and which meet the environmental conditions specified in both Section 2 of this document and Section 2.4 of the SynthDetect operating manual.
- Is a module for manoeuvring jewellery pieces or loose stones on a one-dimensional plane.

2 SAFETY INFORMATION

2.1 Enviromental

The SynthDetect XL module is designed for indoor use only.

The SynthDetect instrument should only be used in accordance with the instructions given in this Operating Manual. Failure to follow these instructions could impair the safety protection that is provided.

The SynthDetect XL module when used in conjunction with the SynthDetect contains a short wave ultraviolet source. The safety aspects of this potential hazard are also discussed in the section 2.3.



Use of controls or adjustments or performance of procedures other than those specified herein may result in exposure to hazardous ultraviolet radiation.

2.2 General safety

The SynthDetect XL unit should only be used in accordance with the instructions given in this Operating Manual. **Failure to follow these instructions could impair the safety protection that is provided.**

The SynthDetect XL unit when used with the SynthDetect is a Class 1 Ultraviolet (UV) product. The safety aspects of these potential hazards are discussed in section 2.3.

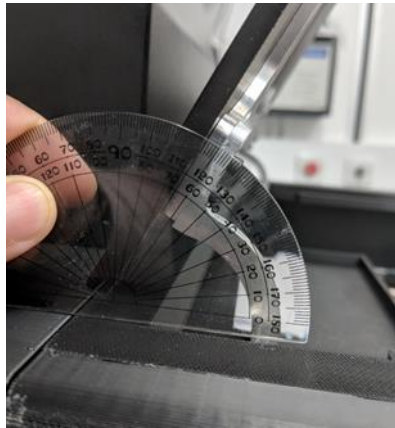
Warning



Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous exposure ultraviolet radiation.

For machine safety instructions, please refer to the SynthDetect Operating Manual Section 2.

Please note the Door Finger Trap Warning. The door is designed to stay opened above 60°, however, below this opening angle; the door will fall under its own weight. A soft close mechanism is fitted to the module however caution should still be exercised.



2.3 UV Safety

The SynthDetect XL has been designed to protect the user from exposure to UV radiation. Internally the UV light path is entirely enclosed and the bottom jewellery chamber forms part of an interlock system. Prior to using the SynthDetect the condition of the covers should be inspected.

In the event that the cover becomes cracked, the user should immediately isolate the SynthDetect unit from the mains and return it to the supplier for servicing.

2.4 Service Warning

SynthDetect will warn the user periodically that a calibration is required. It is strongly advised that this is conducted. Refer to the SynthDetect Operating Manual section 5.2 Calibration.

Warning



There are no user serviceable parts within the SynthDetect XL unit enclosure.

3 INTRODUCTION

3.1 GENERAL

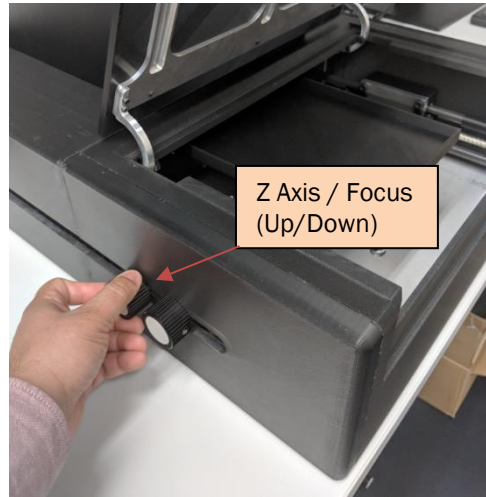
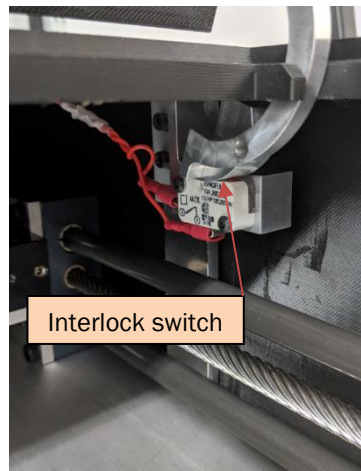
SynthDetect is a modular assembly; the head unit or top module accommodates the camera and illumination system. Designed to accommodate a variety jewellery pieces the *standard* lower module allows rotational manipulation. Based around a large A4 sized platform with no rotation (screening on a single viewing plane), SynthDetect XL is aimed at large fixed necklaces and multiple pieces.

The SynthDetect XL module increases the platform size, which permits screening of larger jewellery pieces, small volumes of similar products (for example solitaire rings), and increased melee capacity.

The XL module utilises the same interface as the standard SynthDetect machine lower module. This allows swapping the modules with no requirements for software or hardware upgrades.

The Loading Tray has three axis of movement (**X** = Left/Right, **Y**=Forward/Back, **Z/Focus** = Up/Down) with three control knobs to drive them. The door interlock switch is positioned near the right hand hinge and is pre-set to allow UV/Strobe to cut off when door is opened. This **MUST NOT** be tampered with at any point.

3.2 COMPONENT IDENTIFICATION

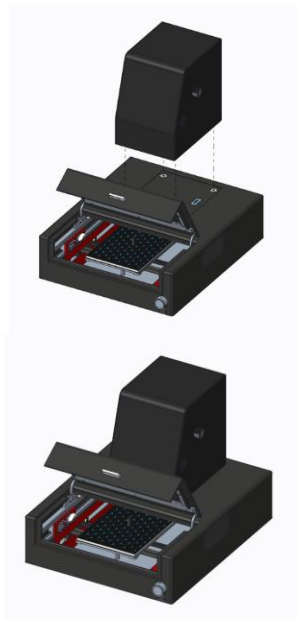


4 EXTERNAL CONNECTIONS

The interface between the SynthDetect and the XL module is provided via a sprung loaded contact switch therefore no user connections are required.

5 INSTALLATION

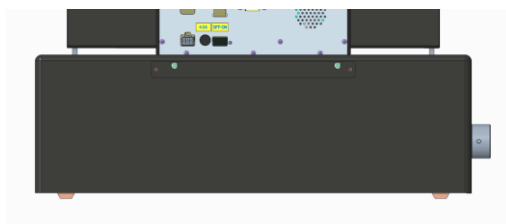
1. Lift SynthDetect top module onto XL base.



2. Fasten 2 front fixing screws using allen key provided (2.5mm Hex Key).



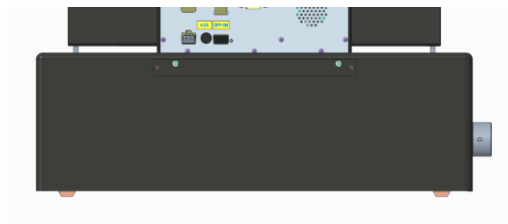
3. Remove rear access panel using Hex key provided (2mm Hex Key).



4. Fasten 2 rear fixing screws using allen key provided (2.5mm Hex Key).



5. Refit rear access panel.



6. Assembly complete.



6 SOFTWARE USER INTERFACE

Please refer to 3677-4980 SynthDetect Operating Manual

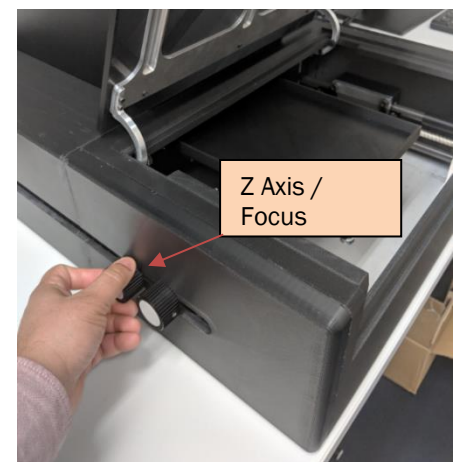
7 OPERATING

The Loading Tray has three axis of movement with three control knobs to drive them:

X = Left/Right

Y=Forward/Back

Z/Focus = Up/Down



8 TROUBLESHOOTING & MAINTENANCE

There are no user serviceable parts within the SynthDetect XL unit enclosure.

In the event that the cover becomes cracked, the user should immediately isolate the SynthDetect unit from the mains and return it to the supplier for servicing.

9 UNPACKING AND PACKING SYNTHDETECT XL

9.1 Unpacking the SynthDetect

Warning



Appropriate manual handling procedures should always be followed whilst moving the SynthDetect.

1. Ensure the box is the correct way up before removing the external packing tape. Open the box.
2. Remove the ancillary items which will now be accessible. Carefully remove all the items from the box.
3. Remove the top layer of packing foam from the box.
4. The SynthDetect XL can now be removed from the packaging.
5. Ensure the desk surface where the machine is to be placed is clear and the path between the module and the desk is unobstructed.
6. Lift the module clear of the box and gently place it on the desk.
7. The packaging should be retained in case it is necessary to return the SynthDetect XL to the supplier for servicing or repair work.

9.2 Packing the SynthDetect

Warning



Appropriate manual handling procedures should always be followed whilst moving the SynthDetect XL. If the SynthDetect XL is not returned to the supplier in the correct transit case then damage in transit is highly likely. Remedial work to correct such damage will be at the expense of the customer.

1. Position the SynthDetect XL transit box suitably close to the SynthDetect XL module to avoid having to carry the device too far.
2. Disconnect the SynthDetect XL from the illumination module.
3. Lift the machine and lower it into the transit box base.
4. Fit the top section of the SynthDetect XL packing foam.
5. Insert any ancillary items that are also being returned with the machine.
6. Tape the box shut.

9.3 Packing list

In addition to this manual, be certain that you have the following items:

- SynthDetect XL module
- Jewellery tray

If any item is missing or damaged please contact your supplier for assistance.

10 SPECIFICATION

Model number: 3677
Instrument: SynthDetect XL
Environment: Indoor use
Weight: 17kg
Dimensions: 558 mm (w) x 685 mm (d) x 169 mm (h)
492 mm (h with illumination module fitted)

Manufacturer: De Beers Group Ignite
Belmont Road
Maidenhead SL6 6JW
United Kingdom

11 LEGISLATIVE COMPLIANCE TESTING

Please refer to Section 11 SynthDetect Operating Manual.