HOLOSCOPE™ *i*

3D Control Device
Operators Guide

Manual Catalog Part Number: 20-18-003, Revision A
Revision Date: March 2020

Contact information for equipment manufacturer and technical services:

Manufacturer: RealView Imaging Ltd.
Address: Hatnufa 4
Yokneam Israel 2069202
Tel: + 972-72-220-0177
Fax: + 972-72-220-0178
www.realviewimaging.com

1. Product Overview

> **Note**
>
> For complete instructions pertaining to the HOLOSCOPE-*i* system's deployment and operation, refer to the HOLOSCOPE-*i* system's operation guide (P/N # 20-18-001).

The 3D Control Device is used to navigate through functions that control hologram interaction. It is one of several ways of communicating with the HOLOSCOPE-*i* system and entering commands and provides the interface for performing interactions with the hologram. It is equipped with a complete set of hologram-manipulation buttons that duplicate the commands available on the touch-screen monitor and in the hologram itself. The 3D Control Device can be mounted on the bedside with the ability to easily remove it.

The 3D Control Device is powered by an internal Lithium Ion (Li-On) battery. The battery should be recharged at least once a week.

The 3D Control Device communicates with a USB Dongle that is located in the main system (This Dongle is FCCID: 2AAHQ-SMPW-RC).

Isometric View   Top View
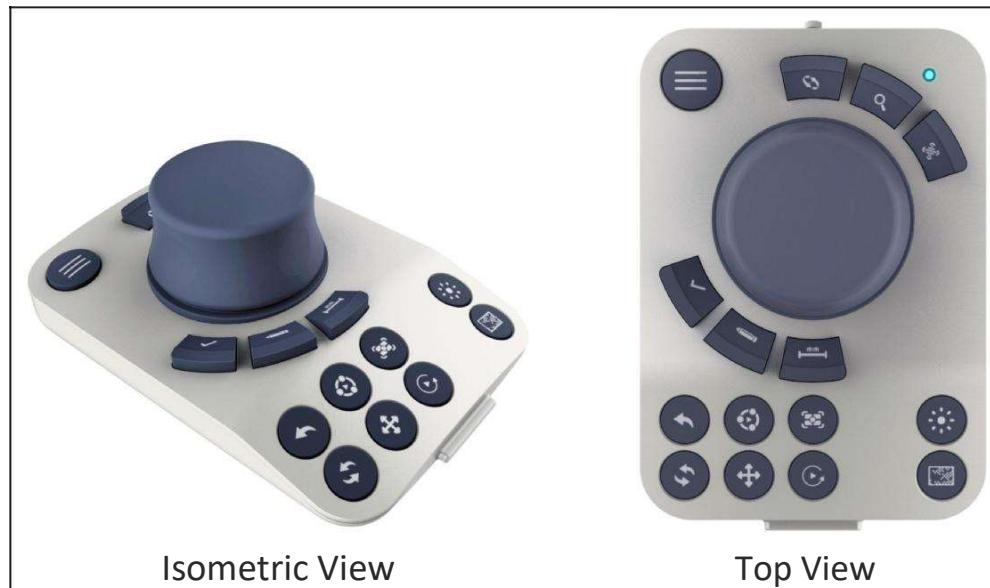
Figure 1: HOLOSCOPE-i System 3D Control Device

2. Specifications

Environmental Specifications

- Operational Environment:
    - ➢ Ambient temperature: +10 to +30°C / +50 to +86°F
    - ➢ Relative humidity: 30-80% (non-condensing)
- Transportation Environment (packaged):
    - ➢ Ambient temperature: +10 to +30°C / +50 to +86°F
    - ➢ Relative humidity: 30-80% (non-condensing)

Protection Against Ingress of Liquids

- 3D Control Device: IP20

3. 3D Control Device Description

The 3D Control Device incorporates buttons and a joystick that duplicate buttons seen on the HOLOSCOPE-*i* system's main screen during the active session.

The numbers of the following paragraphs correlate to the numbered arrows in Figure 2.

⚠️   *Warning*

The 3D Control Device is powered by a rechargeable Li-Ion battery. Always ensure that the 3D Control Device is charged outside of the interventional suite.

---

1. **Operational LED** – indicates that the battery is charged, and the unit is ready to operate when properly paired with the system.

2. **Menu** – press this button to access the HOLOSCOPE-*i* system's **Holo-*Menu***. Available options are: ***Log off***, ***Demo mode***, ***Preferences and Settings***, ***Software versions*** and ***Shut down***.

3. **3-Dimensional Joystick** – allows the operator to manipulate the hologram after the mode or action (***Rotate***, ***Zoom***, etc.) has been activated.

4. **Select** – press this button to select a mark or a measurement that you made on the hologram *(see # 5 and # 6 below)*.

5. **Mark** – activate this function to mark any anatomical landmark. A marker will appear on the screen. Use your finger or control device to mark the area in the visual field and press the ***Select*** button *(see # 4 in Figure 2) to mark*.

6. **Measure** – two measurements may be taken and saved on the hologram; press the ***Measure*** button to enter the appropriate mode. Measurements are made by marking two points in the hologram between which the measurement is desired, and then pressing the ***Select*** button *(see # 4 in Figure 2). The anchor points of both measurements will be color-coded, and their length will be displayed on the screen.*

7. **Undo** – press this button to reverse your last action.

8. **Play** – press this button to continue the stream during a real-time session.

9. **Reset** – all the hologram interactions (Rotate, Spin, Zoom, etc.) may be "un-done" in one move by pressing this button; the hologram will return to its original state as when loaded, and all marks will be removed.

10. **Move** – when this button is pressed, the hologram may be panned anywhere within the visual FOV. This is performed via the joystick (forward, backward, right, left, up or down).

Figure 2: 3D Control Device Description

11. **Holo-capture** – press this button to generate a static image at any time during the stream of the hologram; these images (captures) will be saved in the *Saved Captures* pop-up on the screen with a camera icon next to it.

12. **Play Loop** – press this button to play and replay the streaming data video in an endless loop; press it again to cease playing.

13. **Brightness** – press this button to define the brightness of the hologram.

14. **Threshold** – this mode defines how much data you are seeing in the hologram, allowing you the option of removing background electronic noise from the hologram's image. Activate this function to display the scroll bar you may use to adjust the threshold.

15. **Slice** – After activating the *Slice* mode, you can slice into the hologram to view the internal anatomy. In the frame that appears you may define the plane (direction) you want to slice into, then move the cursor into the visual field and slice into the image.

16. **Rotate** – activate this function to rotate the hologram in any desired direction, either by inserting your hand into the visual field and rotating the hologram with your index finger, or via the 3D Control Device.

17. **Zoom** – activate this function to zoom in or out of the hologram via the joystick (push forward to zoom in; pull back to zoom out).

4. Regulatory Information

FCC

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

ISED

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Changes or modifications to this equipment not expressly approved by the party responsible for compliance (RealView Imaging Ltd.) could void the user's authority to operate the equipment.

ISED Caution: This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

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

ISED Attention: L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage ;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

5. Identification Nameplate