3DISC

Heron IOS

User Manual

Version 3.7

IOS-FPM-71-001_EN

Document	Software version	Date (d.m.y)
Heron™ IOS User Manual IOS-FPM-71-001_EN	1.0	01.08.2018
	2.0	01.10.2019
	3.0	01.01.2020
	3.4	20.09.2021
	3.4.x	27.10.2021
	3.4.x	09.11.2021
	3.5	02.01.2022
	3.5.x	08.04.2022
	3.6	15.06.2022
	3.6.x	20.07.2022
	3.7	20.10.2022

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Heron™ IOS

THE BEAUTY OF SIMPLICITY

Introducing the Heron™ IOS

1.1 Introduction

Thank you for purchasing the **Heron™ IOS** from **3DISC**.

The Heron™ IOS is designed and developed to produce high-quality digital intraoral scans or models, for dental restoration or analysis.

Designed with you as a dentist and your patient in mind, the Heron™ IOS scanning device is lightweight, versatile and easy to use, enabling fast, accurate scans and enhanced patient experience.

Combined with the HeronClinic™ 3D Scanning and Case Management software, and the HeronCloud™ file-sharing platform for ordering and communicating with labs, the Heron IOS solution provides a comprehensive, intuitive and fully digital experience.

We hope you enjoy your new intraoral scanner solution.

1.2 What's new in this version

This document update incorporates new features and improvements added to the HeronClinic™ 3.7 software release.

For more information consult: HeronClinic 3.7 Release Notes.

3DISC Online Help

For your comfort, **3DISC Online Help** is now available at:

3DISC Online Help

Links to 3DISC Online Help are indicated by the following icon:

1.3 Indications supported

The software enables you to select the following indications* when filling out orders for restoration:

- Conventional crowns
- Anatomic crowns
- Copings
- Provisional crowns
- Anatomical pontics
- Reduced pontics
- Provisional pontics
- Inlays/Onlays
- Implant abutments
- Implant-based bridges
- Tooth-based bridges
- Orthodontic aligners
- Nightguards
- Splints
- Retainers
- Bleach trays
- Sleep appliances
- ...

* Verify with your dental lab or service provider about their capabilities to produce particular indications.

1.4 Certification and compliance

The system has been tested and conforms to the following standards:

• IEC 60601-1, Medical electrical equipment - Part 1: General requirements for basic safety and essential performance

• IEC 60601-1-2, Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral Standard: Electromagnetic disturbances

- Requirements and tests:

• IEC 62471, Photobiological safety of lamps and lamp systems

1.5 Regulatory

The Heron™ IOS is manufactured and marketed in accordance with US FDA Regulations and EU Medical Device Regulation 2017/745.

1.6 Intended Use

The Heron™ IOS is an optical impression system. It is used to record the topographical characteristics of teeth, dental impressions, or stone models for use in the computer-aided design (CAD) and computer-aided manufacturing (CAM) of dental restorative prosthetic devices.

CAUTION: Rx only - Federal law restricts this device to be sold by or on the order of a Dentist.

WARNING: Unintended use of the system can result in physical injury to the patient and operator, and damage to the system.

1.7 Classifications

The Heron™ IOS system has the following classifications

- Protection against electrical shock: Type B Applied Part
- Protection against harmful ingress of water: Ordinary equipment (IPX0)
- Safety of application in the presence of a flammable anesthetic material with air or with oxygen or nitrous oxide: Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.

1.8 3DISC Privacy Policy and GDPR Privacy Statement

Your privacy and the privacy of the patient data managed by you is important to 3DISC.

For information on 3DISC Privacy Policy, go to:
Privacy policy - 3DISC

To access 3DISC's GDPR Privacy Statement, go to:
GDPR Privacy statement - 3DISC

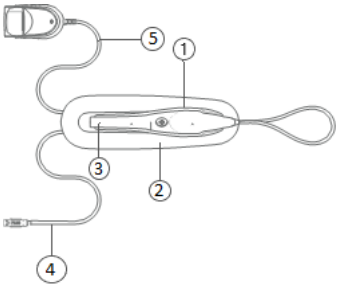
2. Components Overview

The Heron™ IOS system is composed of hardware and software components.

2.1 Hardware Components

The Heron IOS system is composed of the following hardware components*:

1. Heron IOS Scanner
2. Heron IOS base
3. Removable autoclavable tips
4. USB 3.0 cable
5. AC/DC power adapter



Hardware Component	Part Number
Heron™ IOS (Includes 3 Tips)	IOS-FP-71-001
USB 3.0 Cable	IOS-CP-00-043
AC/DC Power Adapter	IOS-CP-00-088

Save the Box: It is highly recommended that you store the packaging in a safe place and do not dispose of it. The original packaging box is optimal for any necessary transportation or shipment of the Heron™ IOS.

***Note**: *Packaging details and contents may vary from those described in this guide.*

2.2 Software Components

The Heron™ IOS system comprises the following software components:

HeronClinic™ : 3D Scanning and Case Management software.

HeronCloud™ : Dedicated cloud platform for ordering and communicating with labs.

2.3 System Requirements and Specifications

Scanner Specifications

Scanner Type	Hand-held (chairside) scanner that creates optical impressions for dental restorations.
Design	Compact, lightweight, ergonomic – designed to be operated with little physical effort.
Dimensions Base	Size: L 306mm, W 98mm, H 72mm
Dimensions Scanner	Weight: 150 grams
	Size: L 256mm, W 43mm, H 43mm
	Cable length (scanner to base): 2m
Power Requirement	DC 5.0V / 4A (Power supply included)
Scanner Tip	Reusable up to 250 times, sterilize using steam autoclave
Heating Element	Ventilated. Prevents formation of fog on optics
Acquisition Method/Imaging technology	Hybrid technology: active stereo imaging and structured light
Sensor technology	CMOS
Color Scanning	24-bit (8-bit per channel)
Scanning frequency	25-30 FPS
Imaging field-of-view	12mm x 14mm
Light sources	High-power LEDs

Scanning Process

Tooth Preparation	No powder or spray required
Scanning Principle	Continuously scanning and accumulating (stitching) depth and color data
Distance Scanner - Tooth	-1mm – 19mm
Possible contact duration by operator	<10 min. **Note**: May vary with hardware configuration
Operator accessible part	Handpiece

Possible contact duration by patient	t ≤ 10 min
Patient accessible part (Type B Applied Part)	Tip (autoclavable)
Computer – Scanner Interface	USB 3.0

2.4 Software output and design software compatibility

Output File Format	STL, PLY, OBJ
Compatibility with CAD/CAM Systems	Open Architecture Output format STL, PLY, OBJ Compatible with most Dental CAD systems

2.5 Minimum Computer Requirements

The following requirements have been defined by 3DISC to ensure the HeronClinic™ software operates properly. The related configurations have been tested by 3DISC.

For an online version, visit: Minimum Computer Requirements

IMPORTANT NOTICE: The use of any other hardware units and/or other base software modules to run the HeronClinic™ software is not recommended and is not supported by 3DISC.

Minimum Software Requirements

Operating System	Windows 10 (Excluding Windows 10 S, now defunct) Administrative rights required.
Disk Space	100 GB or greater of free disk space
Ports	At least 1 x USB 3.0 port (SuperSpeed)
Nvidia Driver	Nvidia Studio driver version 471.68 is currently required. Nvidia gamer-ready driver should not be used with the HeronClinic software.
NVIDIA GPU operation mode	The PC must be able to ensure that the **Nvidia GPU is the only GPU activated on the PC** and that any Intel integrated GPU is disabled. (This is usually achieved using high level configuration tools or BIOS commands). **Warning**: Certain models of computer of the following

	brands - Acer, MSI, HP,… - provide no option to only have the Nvidia GPU active. This may affect performance: low FPS or freeze during scan.
Screen resolution	**Full HD (1920 x 1080) with DPI 100%** **NOTE**: The use of 4K (3840 x 2160 pixels) or Ultra-Wide (3440 x 1440 pixels) resolutions is also possible, however the impact on performance has not been quantified by 3DISC at this stage.

Software Configuration Recommendations

Windows automatic updates	3DISC recommends deactivating all Windows automatic updates (except for security updates).
Nvidia driver automatic updates	Nvidia driver automatic updates should be disabled.
Windows Battery Settings	On laptops, the battery setting in Windows should be configured to **high performance mode only**, with no battery saving option.

Minimum Hardware Requirements

CPU Type	Intel 10, 11 and 12 generation. Intel i7 or i9 – 4 Cores give best performance.
CPU Clock	2.8 GHz clock or greater “Turbo” and “boost” speeds cannot be considered.
Memory	16 GB of RAM or greater (DDR4 or better)
Graphics Card Memory	6GB of RAM minimum on the graphics card are needed. Below this, the software will not launch: an error message will inform you that the minimum requirement is not reached.
GPU	• Quadro RTX3000, RTX4000 and above for laptop and desktop • RTX2070 for laptop and desktop • RTX2080 for laptop and desktop • RTX2080TI for desktop • RTX3070 for laptop and desktop • RTX3080 for laptop and desktop • RTX3090 for desktop

These PC requirements may be revised without notice by 3DISC to take into account observations made on the field or additional test results performed by our teams.

IMPORTANT: **Compatibility of AMD GPUs is not guaranteed with the Heron™ IOS**.

Not meeting minimum hardware requirements will affect the performance of the scanner.

2.6 Environment Conditions

Operating Temperature	10°C to 30°C
Operating Relative Humidity	10% to 80% (non-condensing)
Storage Temperature	- 20°C to 60°C
Storage Relative Humidity	10% to 80% (non-condensing) Indoor use only
Installation Category	1
Pollution Degree	2
Ingress of Liquids	IPXO
Protective Class	Class IIIb
Overvoltage category	II per IEC 60664-1
Max. working condition	Continuous cycles with image capture and transmission from/to Notebook or non-medical grade PC.
Other possible accessories (IEC60601-1 3rd, Cl. 16)	Notebook with AC/DC Adapter.
Equipment Maintenance	No user maintenance is required, and no user service is allowed. Please contact technical support in case of problem.
Cleaning	Do not try to clean the inside of the device. Refer to section 10: Cleaning the Handpiece for cleaning and sterilization.

2.7 Power Input

The power adapter input is 5V DC, 100-240V AC, 50-60Hz.

2.8 Reusable Tips

Scanner tip is autoclavable up to 250 times in a steam autoclave when used with min cycle:

- 132°C (270°F) at 4 minutes, or
- 134°C (273°F) at 4 minutes, or
- 121°C (250°F) at 45 minutes.

See below: section 10.2 Cleaning and Sterilizing Tips.

2.9 Scanner Base and Handpiece

The scanner body consists of the Docking Base and Handpiece, which are connected by a flexible, non-detachable cable.

2.10 Calibration

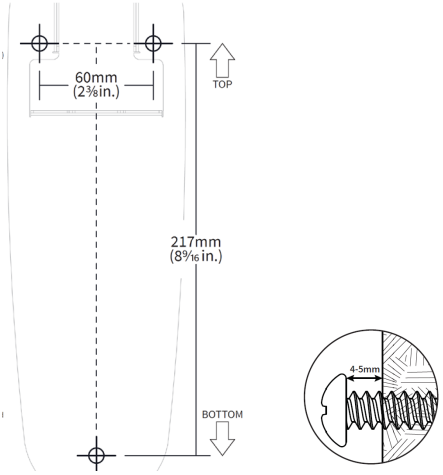
The Heron™ IOS™ is factory calibrated. In the case of calibration issues due to transport, please contact your reseller or 3Disc support technician.

3. Installing and connecting the Heron™ IOS

3.1 Wall Mount Install Instructions (Optional)

When wall mounting the scanner base, be careful to respect measurements indicated to drill holes for the wall mount.

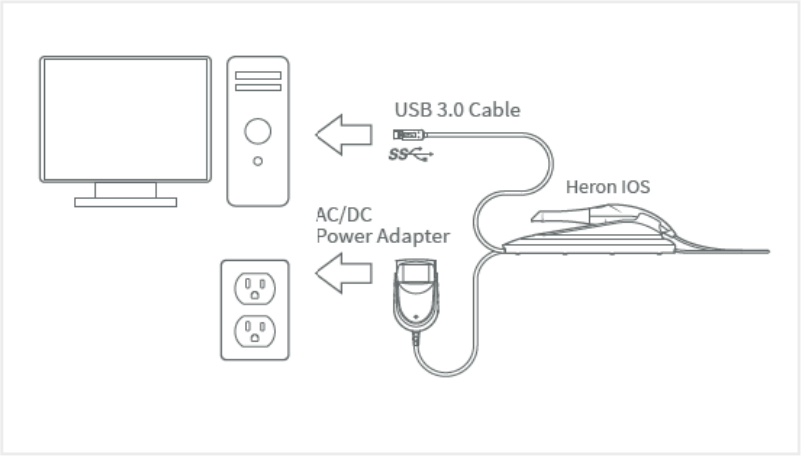
- It is recommended to use wall anchors and threaded screws with an 8mm (5/16th inch) head diameter.
- A 4-5mm (3/16th in) distance between wall and bottom screw head is recommended.



Caution: If the docking base is not properly installed there is a possibility of the base falling and damaging the scanner.

IMPORTANT: 3DISC is not responsible for accidents or damage caused in the event the scanner falls.

3.2 Connecting the Heron™ IOS



For an online version, visit: Getting Started with Heron™ IOS

To install and connect the Heron™ IOS Scanner:

Step 1. Place the docking base on a flat, stable surface and place the Heron™ IOS handpiece securely on the base.

Step 2. Connect the AC/DC power adapter cable to the docking base (the connector socket is located underneath the base of the scanner).

WARNING: Make sure you use the 5.0V 4A power adapter provided. Failure to do so may result in damage to the scanning device.

Step 3. Connect the provided USB 3.0 cable to the docking base (the connector socket is located underneath the base of the scanner).

WARNING: Using a USB cable other than the one provided may result in system malfunction or reduced performance.

Step 4. Connect the other end of the USB 3.0 cable to the computer.

IMPORTANT: Make sure to use a USB port that is compatible with USB 3.0 (SuperSpeed), usually indicated by this symbol: not doing so may result system malfunction or reduced performance.

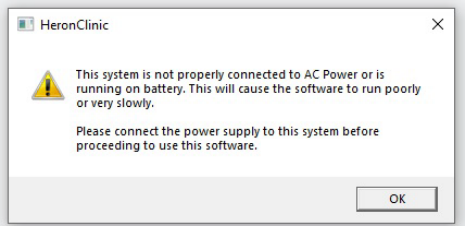
IMPORTANT: When using a desktop computer, it is strongly recommended to plug the USB cable to a USB port located at the back of the computer; not doing so may result in system malfunction or reduced performance.

DO NOT plug the USB cable into an intermediate hub.

Step 5. Connect the adapter block provided to a power outlet.

IMPORTANT: Connect to Power Supply before Scanning!

If your laptop computer is not properly connected to a power outlet, the following message will appear:

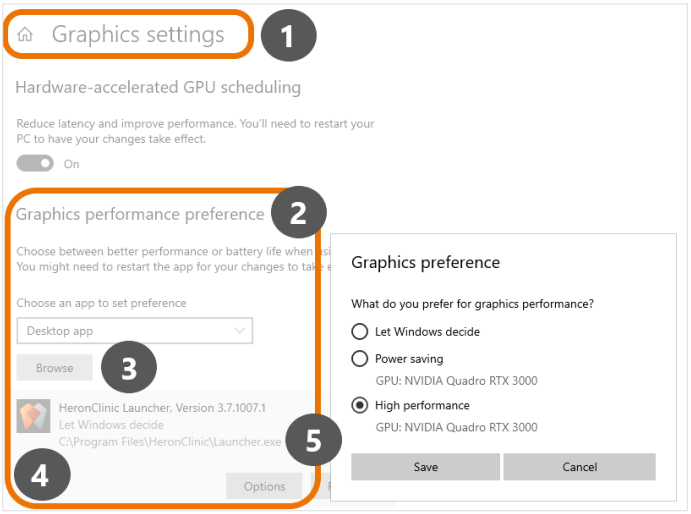


In this case, please connect your laptop to the power supply **before proceeding to use to scanner**.

IMPORTANT: If using a laptop computer, make sure the power supply is connected to a power outlet and not running on battery power. Failure to do so will mean that the scanner will not have sufficient power to produce images.

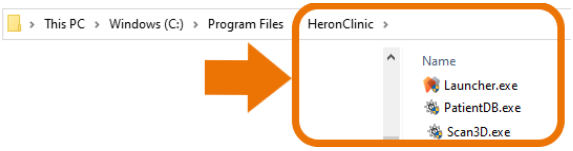
3.3 Configuring Windows High Performance Graphics Mode

On laptop computers, battery settings in Windows should be configured to high performance mode only, with no battery saving option (Settings/System/Battery).



To select High Performance mode for the HeronClinic application:

1. In Windows **Graphic settings**: click to activate **Hardware-accelerated GPU scheduling**
2. In **Graphics performance preference**: select **Desktop app**
3. Click **Browse** and select the **HeronClinic** app as shown (**Launcher.exe**):



4. In **Options**, select **High performance**, and click **Save**.
5. Repeat this for the **HeronClinic PatientDB.exe** and **Scan3D.exe** executable files.
6. Restart your PC to apply changes.

IMPORTANT: On laptop computers, battery settings in Windows should be configured to high performance mode only, with no battery saving option (Settings/System/Battery).

WARNING: Unsuitable installation sites

WARNING: Unsuitable installation sites:

- Locations with excessive humidity or dust
- Locations subject to high temperature
- Locations subject to shaking or vibration
- Locations exposed to considerable electrical or magnetic noise, or other forms of electromagnetic energy

4. Getting Started With HeronClinic™

For an online version, visit: Getting Started with Heron™ IOS

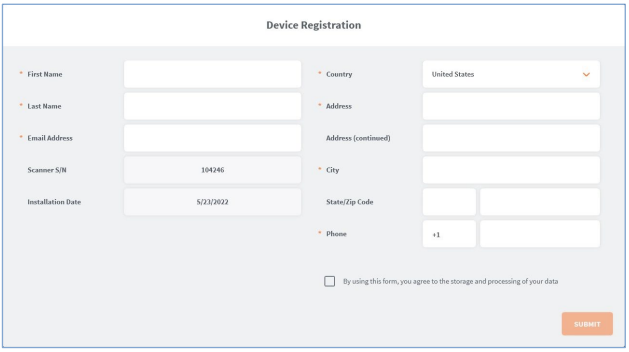
4.1 Launching HeronClinic™

Once you have connected the Heron™ IOS scanner, you are ready to launch the HeronClinic™ software installed on your computer.

Step 1. Click on the **HeronClinic™** desktop icon to launch the HeronClinic™ software.

Registration & Activation

On first launch, you will be invited to register and activate the HeronClinic™ software on your computer.

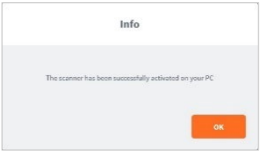


In the Device **Registration** dialog box:

Step 2. Enter your registration details (required information is indicated by *)

Step 3. Tick the **consent** checkbox, to consent to the collection and processing of data.

Step 4. Click **SUBMIT**.



IMPORTANT: It will not be possible to perform new scans or export existing scans if the device has not been registered on the PC.

Data collected is used in accordance with the **General Data Protection Regulation** (GDPR) and is not shared with third parties. For information, see:

- section 1.8 - 3DISC Privacy Policy and GDPR Privacy Statement
- https://gdpr-info.eu/

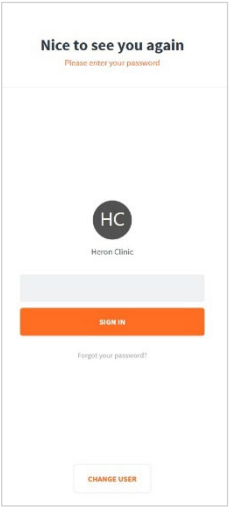
Accessing the Admin User Account

The HeronClinic™ Start Screen will display the default HeronClinic™ Admin User Account (**HC**) in the left-hand menu.

To access the Admin user account:

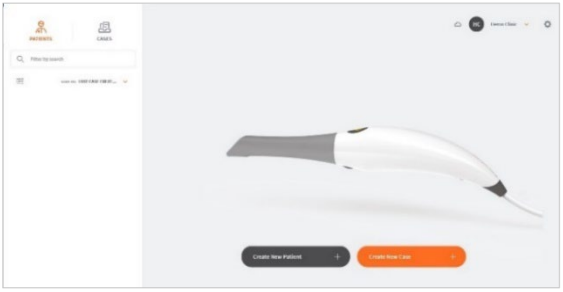
Step 1. Click on the Admin User Account (**HC**) icon in the left-hand menu.

The HeronClinic Sign In page invites you to **sign in** or **create a new account**.



Step 2. Enter your password and click **Sign In**.

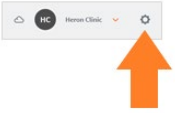
The Admin User Start Screen displays as shown:



4.2 Setting Up A HeronClinic™ User Account

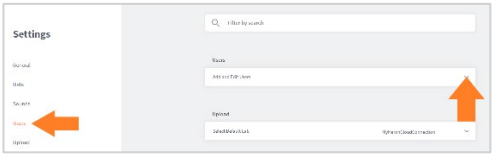
Customizing the Admin User Account

To customize the **HeronClinic™** Admin User Account (**HC**):



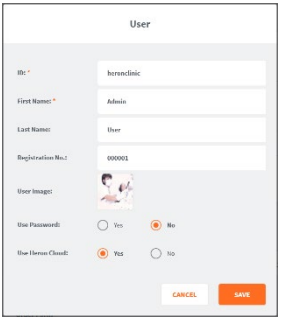
Step 3. Click the System icon located in the top right-hand corner of the User Start Screen, to access the **Settings** interface.

Step 4. Select **Users** in the left-hand **Settings** menu, and click on **Add and Edit Users**.

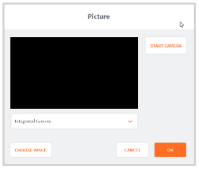


Step 5. Select the default "**Heron Clinic**" **User profile**, and click on the **Edit** icon to customize the default Admin User account.

Note: *The default admin ID "**heronclinic**" cannot be modified.*



Step 6. In the **User Image** field, you can click to open the Picture dialog box, to add or take a User Photo.



Step 7. To apply changes, **restart** the **HeronClinic™** application.

4.3 Adding a New User Account

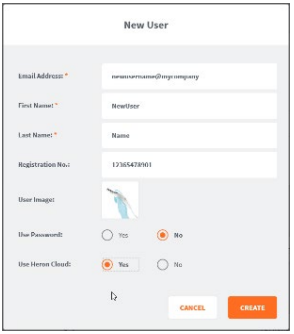
Only the **HeronClinic™** Admin User profile (HC) can add new User Accounts.

To add a new User account:

Step 1. In Settings/Users, click **ADD NEW USER**:

This opens the **New User** dialog box.

Step 2. Enter User information: email, first name, last name, registration no. (optional), photo (optional).



Password Protecting a User Account

To password protect a User profile (recommended):

Step 3. Select **Yes** in the **Use Password** field.

Step 4. **Enter and confirm** the password to apply to this user account.

Step 5. Click **CREATE**.

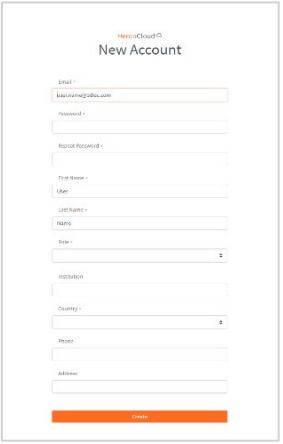
Step 6. To apply changes, **close and restart** the application.

IMPORTANT: To protect the privacy of patient data processed by you, it is important to password protect all user accounts.

4.4 Linking a User Account to the HeronCloud™

You can link your **HeronClinic™** User account(s) to the **Heron™ IOS** solution's dedicated **HeronCloud™** platform. The **HeronCloud™** enables users to easily and efficiently setup and manage file transfers and connections with labs.

Note: The Heron IOS **HeronCloud™** platform is designed to facilitate file sharing and manage connections with laboratories. **It is not a cloud storage service.**



To link the **HeronClinic™** User profile to a **HeronCloud™** account:

Step 1. Using the Admin account, In Add and Edit Users, click **ADD NEW USER** to create a User account.

Step 2. Enter account details, and in the **Use HeronCloud** field, Select **Yes**.

Step 3. Click Create, to add the new User account.

Step 4. Click **OK**.

The **HeronCloud™ Login** window will open automatically, inviting you to **Login** or to **Create a New HeronCloud™ Account**.

For more information, see below:

Chapter 9 - Communicating With Labs:

- 9.1 - Linking a HeronClinic™ account to HeronCloudTM
- 9.2 - Creating A HeronCloud™ User Account (Clinic)

4.5 Accessing the HeronClinic™ Start Screen

User accounts are displayed in the left-hand menu of the HeronClinic™ Home Page.

To access the User **Start Screen**:

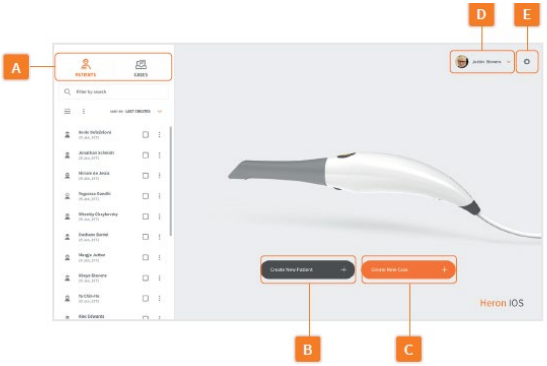
Step 1. Click on your User profile in the left-hand menu of the HeronClinic™ Home page.

The **HeronClinic™ Login** window will open automatically, inviting you to **Login** or to **Create a New Account**.

Step 2. Enter your password and click **SIGN IN**.

4.6 Overview of the HeronClinic™ Start Screen

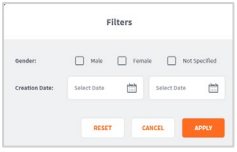
When you login to your **HeronClinic™** User account, the Start Screen is displayed as shown:



A. Patients/Cases View

You can toggle between **Patients** and **Cases** views, and Filter or search desired Patients/Cases.

Filter/Search



Search by term or Click on the Filter icon to open the **Filters** dialog box. You can filter by **Gender** and/or **Date Range.**

Select A User Start Page Default View

To select a preferred **Default View** for the **User Start Page**:

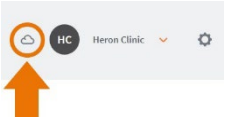
Step 1. Click **Settings** (E).

Step 2. In the left-hand **Settings** menu select **General.**

Step 3. Click **Preferred Start Page**, and

Step 4. In the drop-down menu, select **Recent Patients** or **Recent Cases**.

Access directly your HeronCloud™ account



You can access the HeronCloud™ dashboard linked to your account by clicking on the Cloud icon opposite your username.

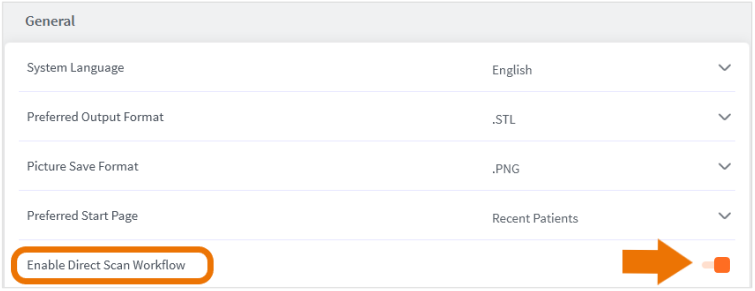
Enabling Direct Scan

It is possible to directly access the scanning module without first selecting a patient profile or adding a case.
To enable **Direct Scan**:

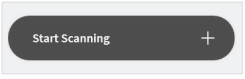
Step 1. Click **Settings (E)** to access System Settings.

Step 1. In the Settings Menu, select **General**.

Step 2. In General settings, Select **Enable Direct Scan Workflow**. (Note: this option is disabled by default).



The **Start Scanning** bar is displayed in the User Start Screen.



Next Steps

For information on configuring **HeronClinic™ Settings**, see:

- Chapter 5 - Configuring Settings & Preferences

For information on managing patient cases in **HeronClinic™** see:

- Chapter 6 - Managing Patients & Cases

For information on scanning with **HeronClinic™** see:

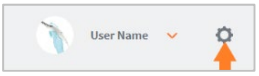
- Chapter 7 - Scanning with Heron™ IOS

5. Configuring Settings & Preferences

For an online version, visit: HeronClinic Settings

Accessing the Settings Menu

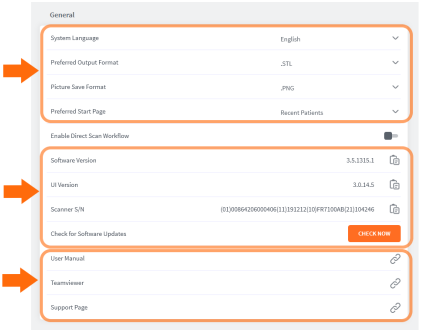
System settings can be accessed by clicking the System icon located in the top right-hand corner of the HeronClinic™ User Start Screen.



Settings Groups

To access a specific Settings group, you can select from the left-hand **Settings Menu**, filter by search or scroll down.

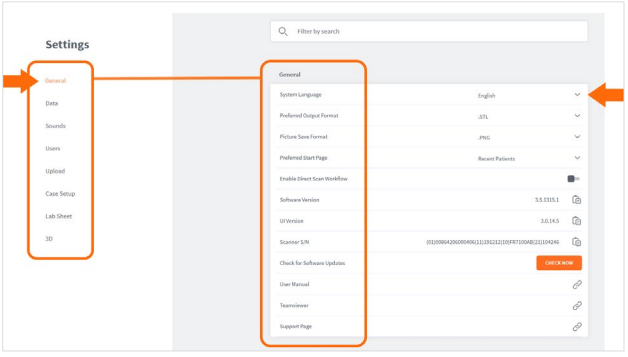
Note: System settings are automatically applied to **all users**.



5.1 General Settings

The **General** settings menu enables you to select the following:

- **User preferences**: language, default file and image formats etc.
- **Versioning information**: software, UI and Scanner, updates
- **Access resources**: access the latest online user documentation, 3DISC Online Help, 3Disc support portal...



If you make a support request, you will be asked to specify the software version, User Interface (UI) version and Scanner Serial Number (S/N).

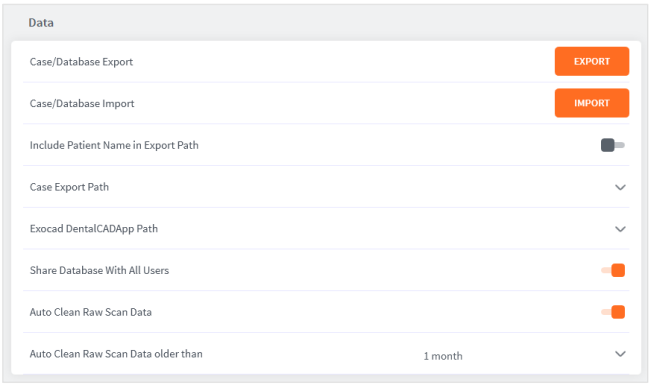
These can be copied by clicking on the corresponding copy icon.

System Setting	Description
System Language	Select graphical user interface language
Preferred Output Format	Select default 3D file format: .STL, .PLY, .OBJ
Picture Save Format	Select default image format: .PNG, .JPG
Preferred Start Page	Select Recent Patients or Recent Cases default start page
Enable Direct Scan Workflow	Select to enable **direct access to the Scan workflow** without first associating the scan with a patient profile. When enabled, a **Start Scanning** button is displayed in the Start Screen.
Software Version	Click to copy scanning module software version 
UI Version	Click to copy user interface version 
Scanner S/N	Click to copy scanner serial number.  In accordance with Medical device Regulation (EU) 2017/745, the UDI is composed of a device identifier (UDI-DI) and a production identifier (UDI-PI). The last 6 digits represent the scanner's Serial number (S/N). E.g.: **(01)00864206000406(11)191212(10)**FR7100AB(21)**104246**
Check for Software Updates	Click **Check Now** button to manually check for software updates. An automatic check is done at launch
User Manual	Click to access User Manual online. **Note:** Access to the User Manual is password protected. 
3DISC Online Help	Click to access the 3DISC Online Help. 
Teamviewer	Click to allow secure remote control of your workstation by a 3Disc support technician. 
Support Page	3DISC support homepage. 
Restore Default Settings	Click to restore default settings for the **HeronClinic™** software.

5.2 Configuring Data Settings

Data settings enable users to:

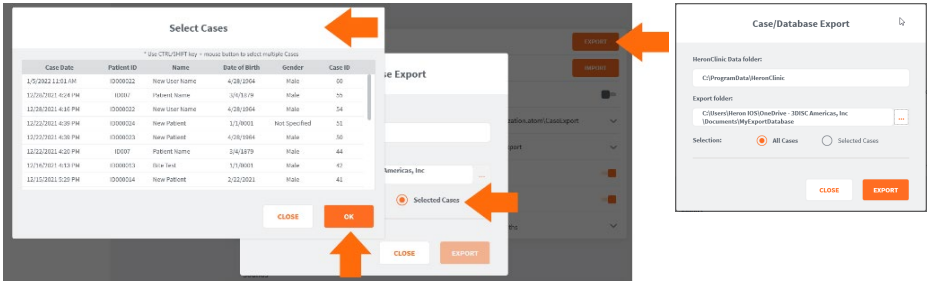
- Configure Case/Database Import/Export settings
- Carry out Case/Database Import/Export
- Share/Restrict access to the Database
- Program automatic deletion of raw scan data (Auto Clean)



Case/Database Export

To configure **Case/Database Export** settings:

Step 1. Click on the **EXPORT** button to select the **Export folder** linked to your **HeronClinic™ Data folder**.



To export **All** or **Selected Cases** to the Export folder:

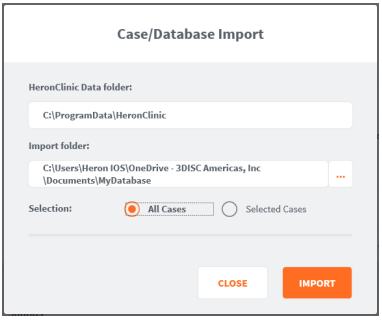
Step 2. Click **Selected Cases** and **EXPORT** to access the **Select Cases** window.

Step 3. Use **[CTRL]+left-click** to select multiple cases.

Step 4. Use **[CTRL]SHIFT+left-click** to select a range of cases.

All files related to the selected case(s) will be exported to the folder configured in Data Settings. ***Note:*** *The destination folder must be empty.*

Case/Database Import



To configure **Case/Database Import** settings, in **Data** Settings:

Step 1. Click on the **IMPORT** button to select the Import Folder linked to your HeronClinic™ Data folder.

As for Data Export settings above, you can import **All** or **Selected Cases**.

Exocad DentalCADApp Path

To select the export path to your Exocad CAD application:

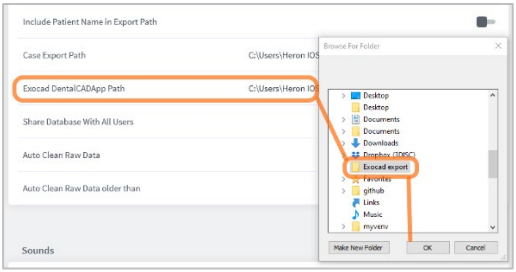
Step 1. In **Data** Settings, click on **Exocad DentalCADApp Path**.

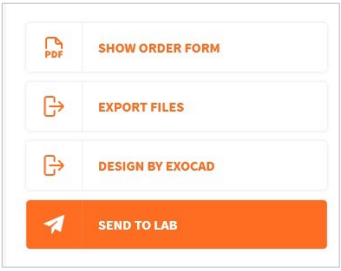
Step 2. Select the desired folder.

Step 3. **Click OK.**

Step 4. **Restart** the **HeronClinic™** application to apply changes.

Note*:* When the **Exocad DentalCADApp** export path is configured in **Data Settings**, the **Design BY Exocad** export option is displayed in the **Finalization** page.





See below: Chapter 8. Finalizing a Patient Case

Auto Clean Raw Scan Data

Auto Clean settings enable you to automatically clean project data for cases after 1 week, 1 month or 3 months (default period: 3 months).

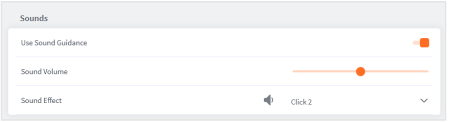
Auto Clean will delete raw scan data, while still keeping case data sets available for review (indication and prescription remain available for cleaned cases).

Data Settings Description

Data Setting	Description
Case/Database Export	Click on the **EXPORT** button to select the **HeronClinic™ Data folder** and **Export** folder, and to export **All** or **Selected Cases**
Case/Database Import	Click on the **IMPORT** button to select the **HeronClinic™ Data folder** and **Import** folder, and to import **All** or **Selected Cases**
Include Patient Name in Export Path	Select this option to include patient name in the export path. Deactivated by default
Case Export Path	Click to specify the default Case Export folder
Exocad DentalCADApp Path	Click to define **Exocad export file path**. **NOTE**: The **Design By Exocad** option is displayed in the **Case Finalization Export** options only when the export path is configured
Share Database With All Users	Activate this feature to share or restrict Database access
Auto Clean Raw Scan Data	Activate this feature to delete scan data automatically after a predefined period. When you activate **Auto Clean Raw Scan Data**, data for deleted scans is only available in review mode. Case data can be reviewed and shared, but it is no longer possible to update the scan
Auto Clean Raw Data older than…	Select predefined period after which scan data will be deleted automatically: 1 week, 1 month, 3 months. The **default period** is **3 months**

5.3 Configuring Sound Settings

Sound settings enable you to activate/deactivate the Audio Guidance feature during scanning, and to preselect sound effects and volume.



Note: if the computer's volume is deactivated or muted the user will not hear the sounds.

Sound Settings Description

Sound Setting	Description
Use Sound Guidance	Activate to use Sound Guidance during scanning (Recommended)
Sound Volume	Preselect volume
Sound Effect	Preselect sound effect

Audio-guidance

The following audio-guidance sounds are available when scanning:

- One sound for upper arch when registered
- One sound for lower arch when registered
- One sound for both and with sufficient data (just before/after user stops scanning)

5.4 Configuring User Settings

To access **User Settings**, click **Users** in the left-hand **Settings** menu.
You can use the Admin User profile (HC) to add new User profiles.

Note: Non-admin User accounts can only edit User profile details.

Adding a New User Account

To add a new user account, see above:

Section 4.2 Setting Up A HeronClinic™ User Account.

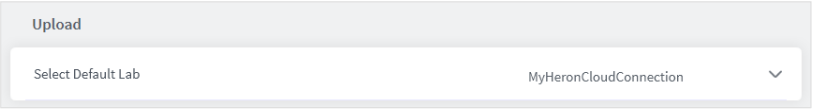
Connecting A User Account To HeronCloud™

You can connect to the Heron™ IOS solution's dedicated **HeronCloud™** platform, to manage file transfers and connections with labs.

See above: Section 4.4 Linking a User Account to the HeronCloud™.

5.5 Configuring Upload Settings

The Upload setting enables users to select a default lab to transfer files to via their HeronCloud account.



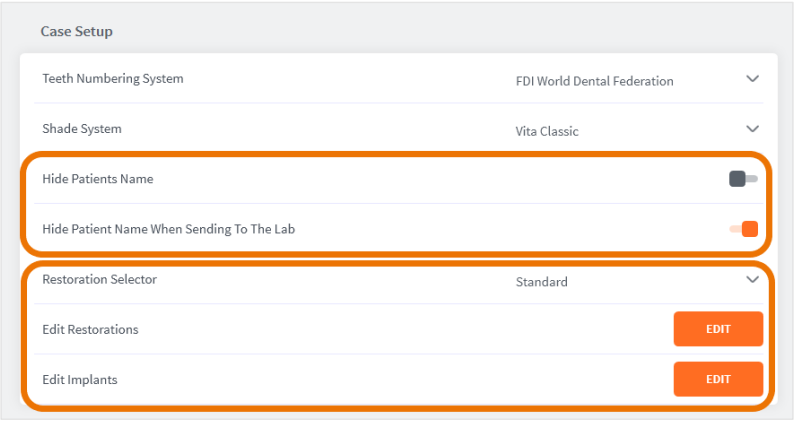
The default connection will be selected automatically when preparing orders to send to a lab.

See below: Finalizing an Order

5.6 Configuring Case Setup Settings

For an online version, visit: Case Setup Settings

Case Setup settings enable you to adapt the Case Setup page to your ordering, restoration and patient requirements.



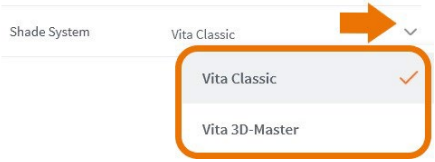
Select Teeth Numbering System

In **Teeth Numbering System**, click to select the notation system of your choice:

- FDI World Dental Federation
- Universal Numbering System
- Palmer Notation Method
- Palmer Notation (digital)
- Primary Tooth Numbering System (for pediatric restorations)

Select Shade System

In Select Shade System, click to select the desired Shade System: **Vita Classic** or **Vita 3D-Master**.



Hide Patient Name

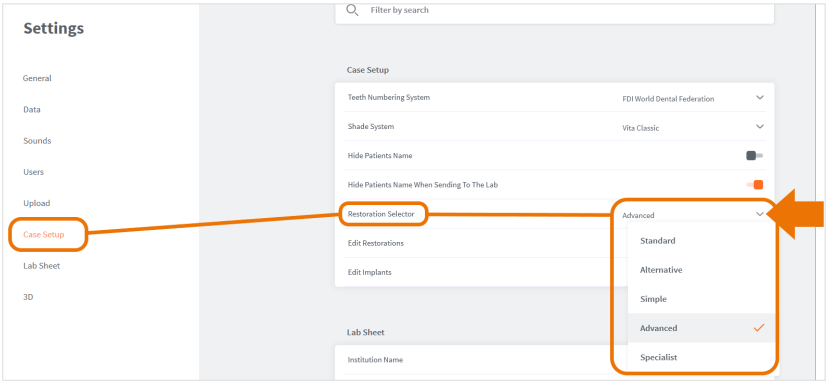
Activate the **Hide Patient Name** feature to anonymize patient identity. This can be useful to protect patient privacy or to use anonymous case examples for training and presentation purposes.

Hide Patient Name When Sending to the Lab

Enables you to configure settings so Patient Names are anonymized by default when sending patient cases to Labs. Click slider to the *right to activate* , to the *left to deactivate* .

Restoration Selector

The **Restoration Selector** setting allows you to select **the** organization of restoration types**,** enabling you to adapt the management of available restoration options to your specific restorative needs.



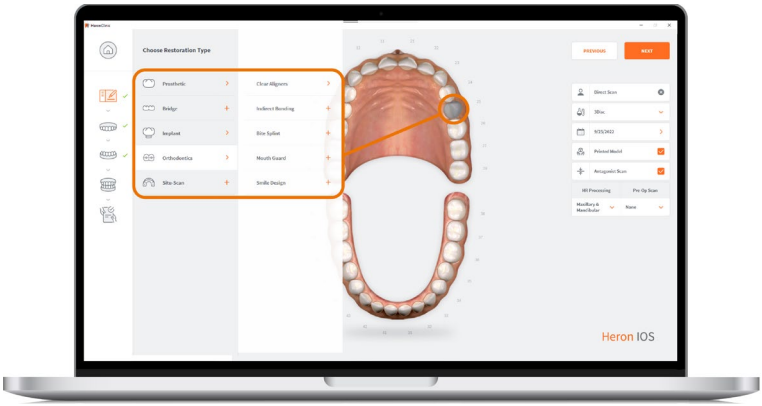
In **Settings**, select **Case Setup**, and in the **Restoration Selector** field, click to select **Standard, Alternative**, **Simple**, **Advanced** or **Specialist**.

When you select a **Restoration Selector** in **Case Setup** Settings, the **Restoration Editor** window will automatically reflect this choice.

Note: *When you select restorations using a selector, you cannot switch to another selector in the same patient case without first deleting selected restorations.*

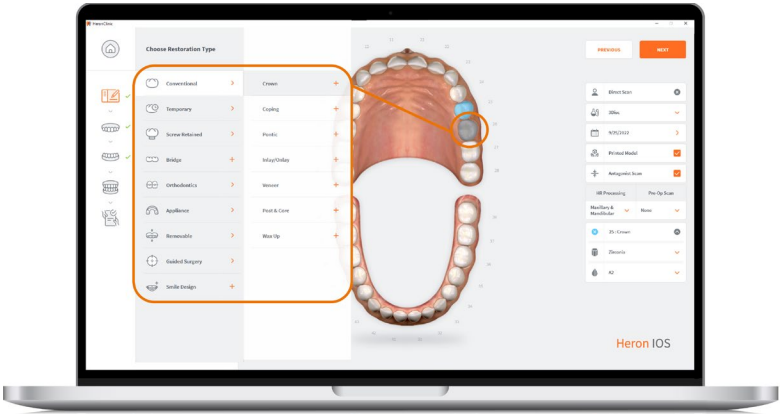
Restoration Selector: Alternative

When the Alternative option is selected in Settings, in the Case Setup page the Choose Restoration Type selector is displayed as shown:



Restoration Selector: Standard

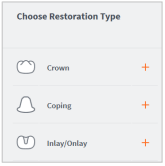
When the **Standard** option is selected in **Settings**, in the **Case Setup** page the **Choose Restoration Type** selector is displayed as shown:



Restoration Selector: Simple

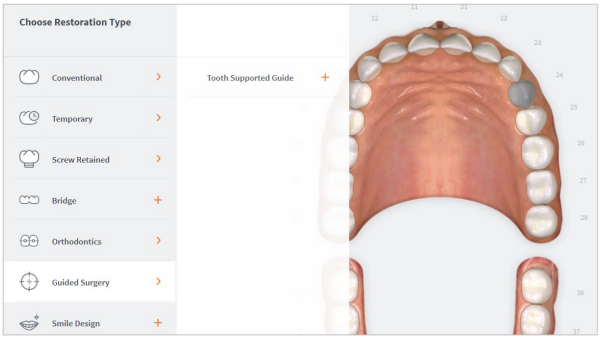
If the main work of your practice is limited to crown, coping or inlay/onlay preparations, a **Simple** option is proposed.

When the **Simple** option is selected in **Settings**, in the **Case Setup** page the **Choose Restoration Type** selector is displayed as shown.



Restoration Selector: Advanced/Specialist ¶

When the **Advanced** Restoration Selector option is selected in **Settings**, in the **Case Setup** page the **Choose Restoration Type** selector is displayed as



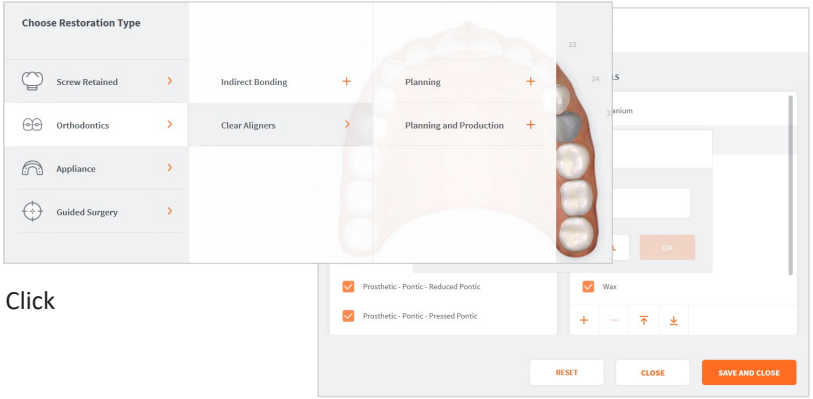
shown:

When the **Specialist** Restoration selector option is selected in **Settings**, in the **Case Setup** page the **Choose Restoration Type** selector is displayed as shown:

Edit Restorations

The Restoration Editor enables you to select/deselect the Restoration types and materials available when filling out Case Setup ordering details*.

Elements may be added to or deleted from Restorations options, or their order modified, by clicking on the icons at the base of each column.



- Click

  + or - to Add or Remove Restorations or Materials.

- Click Up or Down in the Restoration Editor to bring Restorations or Materials higher or lower in the list of available options.

To **Edit Restorations** options, in **Case Setup** settings:

Step 1. Click **Edit** to open the **Restoration Editor**.

Step 2. Click to **Select/Deselect** available **Restorations** and/or **Materials** options*

Step 3. Click **Reset** to reset to default user settings.

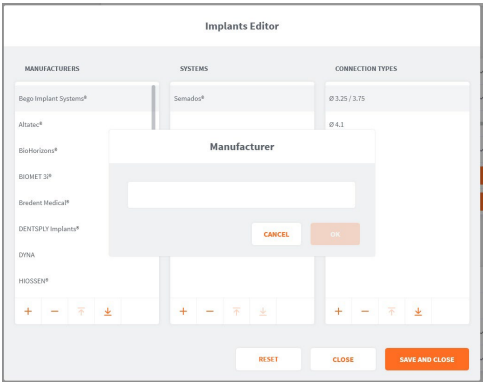
Step 4. Click **Save and Close** to save changes.

Click **Close** to close without saving changes.

Step 5. **Restart** the **HeronClinic™** application to apply changes.

***Note:** Please verify with your dental lab or service provider about capabilities to produce particular indications.

Editing the Implants Library



The **Implants Editor** enables users to customize the Manufacturers , Systems and Connection types available when filling out order forms.

In **Case Setup** settings/**Edit Implants**:

Step 1. Click **Edit** to open the **Implants Editor**.

Step 2. Click to **Select/Deselect** available **Implants**, **Systems** or **Connection Types** options.

Add To/Delete From Implants Library

Elements may be added to or deleted from the Implants library, or their order modified, by clicking on the icons at the base of each column.

Step 3. Click **Reset** to reset to default user settings.

Step 4. Click **Save and Close** to save changes, or

Click **Close** to close without saving changes.

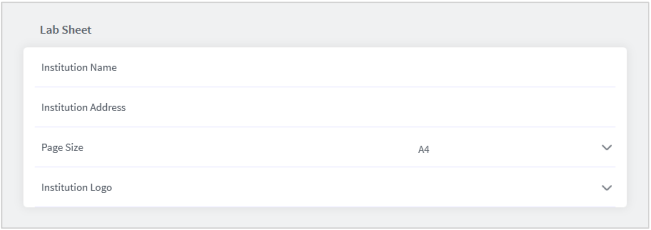
Step 5. **Restart** the **HeronClinic™** to apply changes.

Case Setup Settings Description

Case Setup Setting	Description
Teeth Numbering System	Select order form teeth numbering system
Shade System	Select order form Shade System
Hide Patient's Name	Activate this feature to anonymize patient identity. This can be useful to protect patient privacy and to use anonymous case examples for training and presentation purposes.
Hide Patient's Name When sending to the Lab	Enables you to configure settings so Patient Names are anonymized by default when sending patient cases to Labs. Click slider to the right to activate , to the left to deactivate .
Restoration Selector	Enables you to choose from two different Restoration selectors, Standard and Alternative. Note: When you select restorations using a selector, you cannot switch to the **othe**r selector in the **same patient case** without first deleting selected restorations.
Edit Restorations	The **Restoration Editor** enables users to customize Restoration types and materials available when filling out Case order forms.
Edit Implants	The **Implants Editor** enables users to Customize the Manufacturers, Systems and Connection types that are available when filling out order forms.

5.7 Configuring Lab Sheet Settings

Lab Sheet settings enable users to customize Order forms for use by their organization, by adding the name, address and corporate logo to their Lab Sheets, and selecting a page format (A4/US Letter).

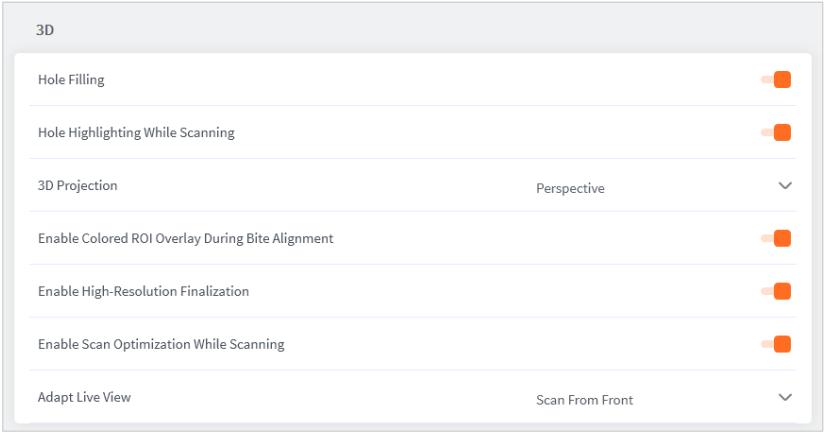


Order Forms are published in PDF format, and created automatically based on the **Case Setup Options** and **Lab Sheet** settings selected by you.

5.8 Configuring 3D Settings

For an online version, visit: Configuring 3D Settings

3D Settings enable you to select scanning and 3D projection options.



Hole Filling

When this feature is activated the 3D scanning software automatically fills any regions in the scan or “holes” where data is missing. Holes are filled when the user stops scanning and the model is displayed on the screen.

Hole Highlighting While Scanning

When automatic hole highlighting is activated, this option highlights those areas during the live scan. This enables the user to see where holes are and complete them.

3D Projection

Click to select either Perspective or Parallel default view of scanned arches.

Note: This option is available in the 3D viewer after Finalization, and in the Case Finalization page. It is not available while scanning.

Enable Colored ROI Overlay During Bite Alignment

Select to display colored ROI overlay during Bite Alignment. Activated by default. Triggers a green/red overlay during scan phase to indicate actively gathering data.

Enable High-Resolution Finalization

Select to enable default high-resolution finalization. For all indications, It is possible in the **Case Setup** page to modify the setting per case.

Enable Scan Optimization While Scanning

When activated, carries out scan optimization in the background during the scan.

Note: *This setting is particularly recommended for new users, or for users who encounter difficulties during scanning.*

Adapt Live View

Adapt Live View window to view **Scan From Front** or view **Scan From Behind**, to adjust the orientation of the live view based on the position adopted by the doctor.

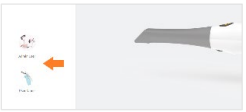
3D Settings Description

3D Scan Setting	Description
Hole Filling	3D scanning software automatically fills any regions in the scan or “holes” where data is missing. Holes are filled when the user stops scanning and the model is displayed on the screen.
Hole Highlighting While Scanning	Highlights those areas where holes are located during the scan. This enables the user to see where holes are and complete them.
3D Projection	Select either Perspective or Parallel default view of scanned arches
Enable Colored ROI Overlay During Bite Alignment	Select to display colored ROI overlay during Bite Alignment. Activated by default. This triggers a green/red overlay during scan phase to indicate actively gathering data.
Enable High-Resolution Finalization	Select to enable default high-resolution finalization
Enable Scan Optimization While Scanning	When activated, carries out scan optimization in the background during the scan. Note: This setting is particularly recommended for new users, or for users who encounter difficulties during scanning.
Adapt Live View	Adapt Live View window to view **Scan From Front** or view **Scan From Behind**, to adjust the orientation of the live view based on the position adopted by the doctor. For demonstrations and models it is recommended you select the *default* option (view **Scan From Front)**.

6. Managing Patients & Cases

For an online version, visit: Managing Patients & Cases

To start a User session, select a User account in the left-hand menu of the HeronClinic Start Screen.
This will open the User Start Screen.



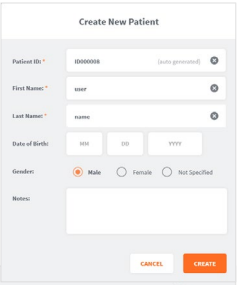
To create a User Account, see above: Adding a New User Account

6.1 Managing Patient Profiles

For an online version, visit: Managing Patients

Creating a New Patient Profile

To create a new patient profile:

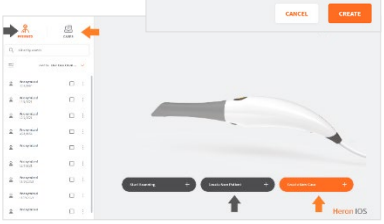


Step 1. Click on the **CREATE NEW PATIENT** click-bar in the User start screen.

Step 2. In the **Create New Patient** dialog box, enter the patient details.

Step 3. Click **Create**.

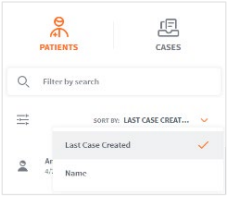
The patient profile will appear in the User Start Screen left-hand menu.



Filtering Patient Profiles

To select the list of Patient profiles:

Step 1. Click on the **PATIENTS** icon in the left-hand menu.

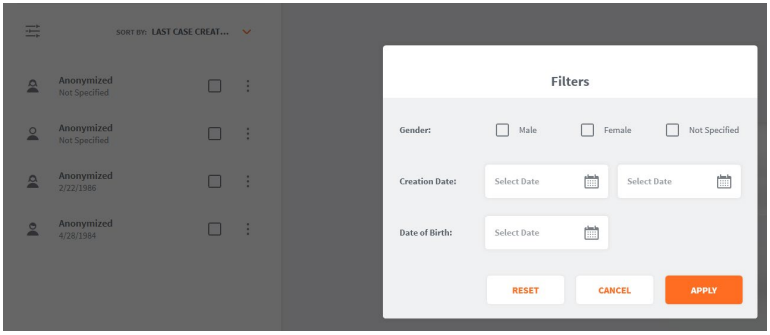


To organize patient profiles:

Step 2. Click Last Case Created or Name.

You can display a list of Patients by:

- **Gender**
- **Creation Date** (or range of dates)
- **Date of Birth**



Step 3. Click the **Filter** icon, and in the Filters dialog box select filter details.

Step 4. Click **Apply** to apply the filter, or **Cancel** to cancel any modifications made to the filter.

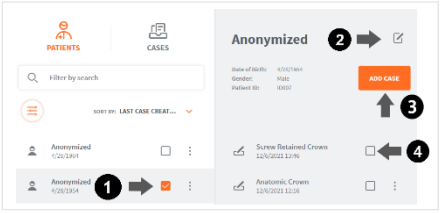
An active filter is indicated by a circle as shown.

To remove an active filter:

Step 5. Click on the active filter icon.

Step 6. In the Filters dialog box, click **Reset**.

Editing Patient Profiles



To **Select** a Patient profile:

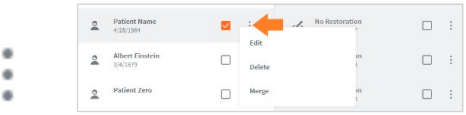
Step 1. Tick the patient checkbox as shown (1).

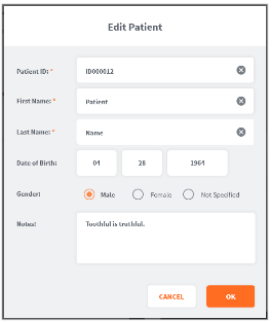
To **Edit** a **patient** profile:

Step 2. Click the edit icon as shown (2).

This opens the **Edit Patient** dialogue box: modify details and click **OK** to apply changes.

Edit, Delete or Merge Patient Profiles





It is possible to Edit, Delete or Merge a Patient profile by clicking on the 3-point icon to the right of the Patient folder and selecting the desired option.

For information on merging patient profiles, see below:

Merging a Direct Scan with a Patient Profile.

Deleting Multiple Patient Profiles

To delete multiple patient profiles, select the patient profiles in the left-hand menu of your Start Screen and click **DELETE PATIENTS**.

Note: Only patient profiles with no cases can be deleted. Cases linked to a patient must be deleted first.

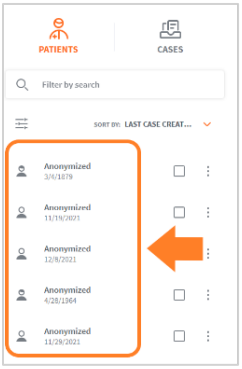
Anonymizing Patient Data

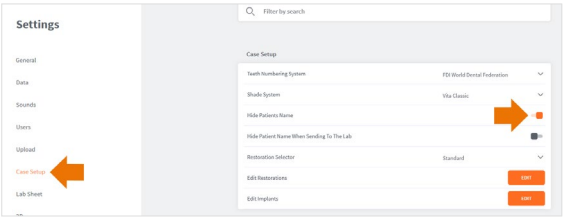
You can anonymize patient data before sharing patient files with labs. This can be useful to protect patient privacy, and to use anonymous case examples for training or presentation purposes

To anonymize patient data in HeronClinic:

Step 1. In the **Settings** Menu select **Order Form** settings.

Step 2. **Click to Activate** the **Hide Patient Names** option.





To anonymize patient data when sending an order to a lab:

Step 3. **Click to Activate** the **Hide Patient Name When Sending to the Lab** option.

6.2 Managing Patient Cases

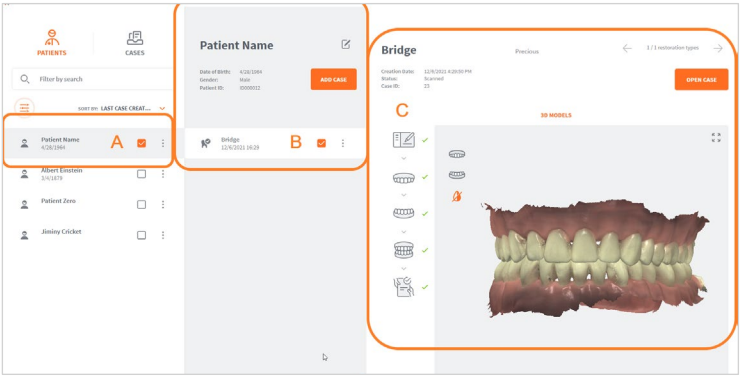
Previewing a Patient Case

The **Case Finalization page** provides detailed case information at-a-glance: creation date, case ID, restoration types, status, and any 3D models and 2D images associated with the case...

To preview a patient case:

Step 1. Select a patient in the left-hand menu.

Step 2. Select a case in the list of cases associated with the patient profile (4).



The **Case Preview** is displayed as shown.

Opening a Patient Case

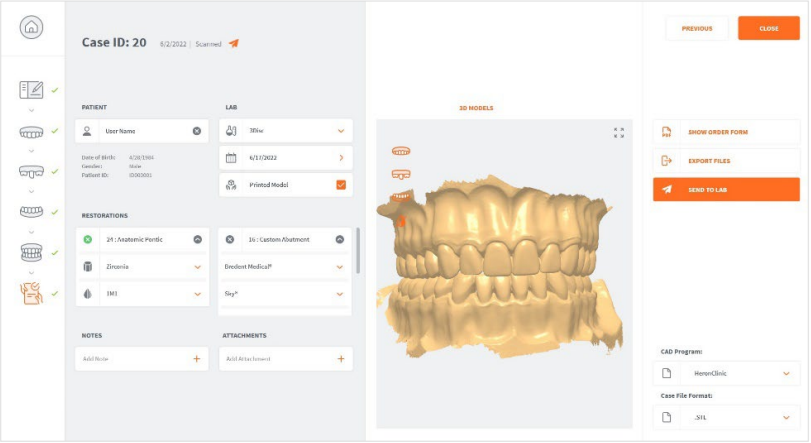
To open an existing patient case:

Step 3. Click **Open Case** in the **Case Preview** window.

This will open the **Finalization** page.

To directly access any step of the **Case Workflow**:

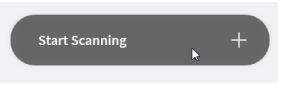
Step 4. Click on the relevant icon in the left-hand menu.



For information on using the **Finalization** page, see below:

- Chapter 87 - Finalizing a Patient Case

6.3 Using Direct Scan



It is possible to skip the **Case Setup** step and directly access the Heron™ IOS Scanning module. To do so, select the **Start Scanning** click bar in the HeronClinic™ Start Screen.

In the case of a Direct Scan, the scan data is not associated with an existing patient profile, and is attributed an automatically generated patient ID.

Note: *The Direct Scan feature is not activated by default. To activate click* ***Enable Direct Scan Workflow*** *in System Settings.*

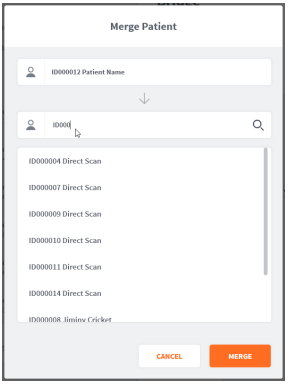
6.4 Merging a Direct Scan with a Patient Profile

It may be useful to merge a direct scan you have carried out with an existing patient profile. You do this by merging the automatically generated DirectScan profile with an existing profile.

To merge patient profiles:

Step 1. Select the profile to be merged and click the icon to the right of the patient folder (see above).

Step 2. Select merge in the expanded list.



In the **Merge Patient** window:

Step 3. Search and select a patient ID.

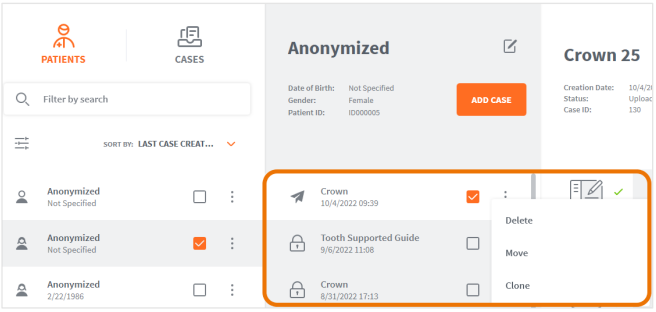
Step 4. Click **Merge** and **Confirm**.

Cloning a Case

It is possible to duplicate an existing case and all associated data, including order form, scan data, intraoral photos, and attachments.

To clone a case:

Step 1. Click on the 3-point icon to the right of the selected case as shown

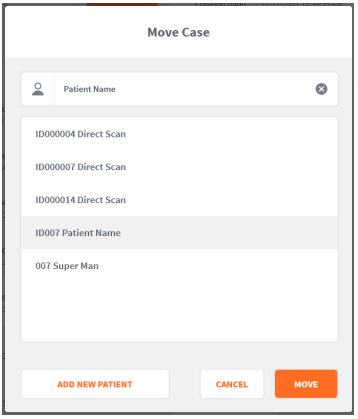


Step 2. Click **Clone** in the drop-down list.

Note: You cannot clone a case for which scan data has already been deleted.

Moving a Case

If a case has been associated with an incorrect patient profile, you can move a case from one patient profile to another.



To move a case:

Step 1. Click on the 3-point icon to the right of the selected case.

Step 2. Click **Move** in the expanded list.

In the **Move Case** dialog box:

Step 3. Select or create a patient profile (**ADD NEW PATIENT**).

Step 4. click **MOVE**.

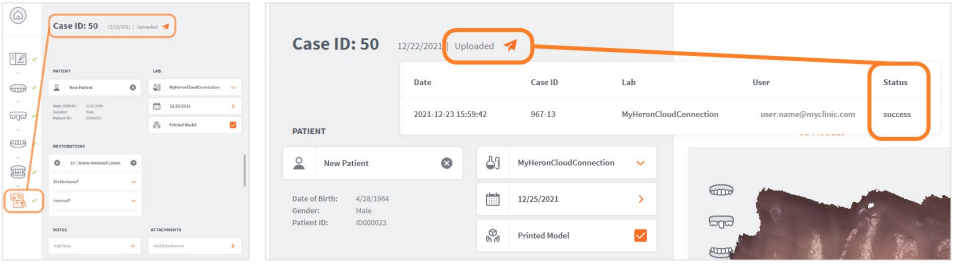
The case is associated with the selected patient profile.

6.5 Viewing Case Status

To access **Case status** details in the **Finalization** page:

Step 1. Click on the status icon as shown above.

The expanded list provides information on the User, Case ID, Lab, Date the case was last modified, and the send status.



Case Status Icons

	Case Status	Description
	Created	Case is created and currently in progress.
	Scanned	Case is scanned and finalized.
	Uploaded	Case is uploaded to lab via HeronCloud™.
	Closed	Case is closed. When the **Auto Clean Raw Scan Data** option is enabled in **Data Settings**, cases for which raw scan data is deleted are automatically closed.

6.6 Setting Up a Case in HeronClinic™

The following workflow briefly describes the typical steps and options available to set up a patient case in HeronClinic™.

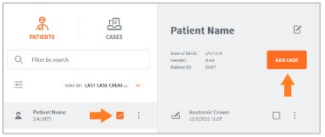
For an online version, visit: Creating a Patient Case

Task 1: Create a New Case

To create a new patient case:

Step 1. Click **Create New Case** in the User Start Screen

or,

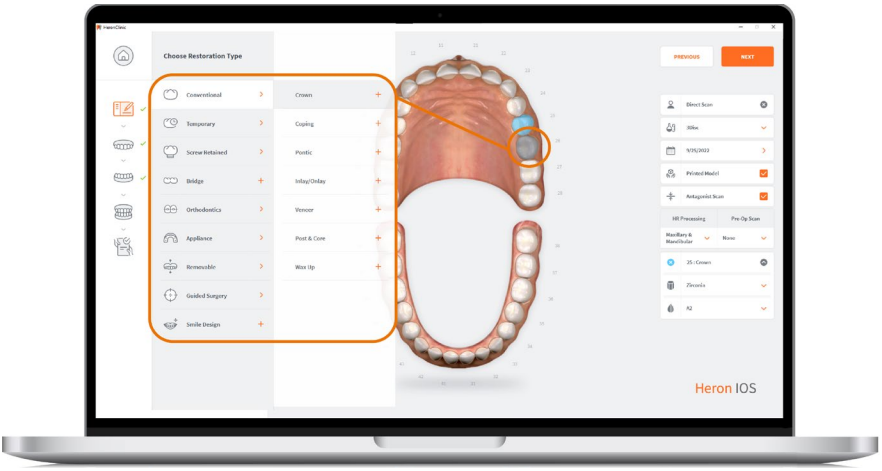


Step 2. Select a patient in the **Patient Preview** page click **ADD CASE**.

This opens the HeronClinic™ **Case Setup** page.

Using the Case Setup Page

When you open the **Case Setup** page, the **Case Setup** icon is highlighted in the HeronClinic™ Scan Workflow Menu.



The left-hand **Scan Workflow Menu** will adapt automatically to the **Restoration Type(s)** selected for the current patient case.

Order Form details for the patient case are displayed on the right-hand side of the screen.

Task 2: Select tooth/teeth for restoration

Step 1. Click on the tooth or teeth to select for restoration.

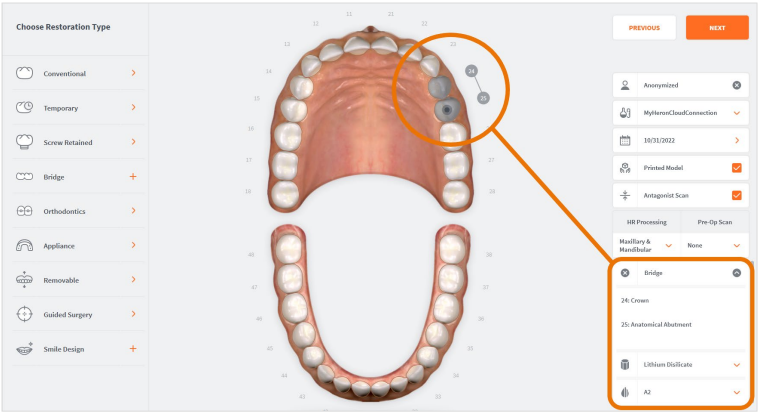
The **Choose Restoration Type** menu displays automatically.

NOTE: You can select a default **Teeth Numbering System** in **Case Setup Settings** options.

Selecting teeth for a bridge restoration:

To select **multiple** teeth to be bridged:

Step 2. Select a tooth and **Hold [CTL]** to select a second tooth.



Bridged **teeth** are displayed as shown.

Task 3: Choose Restoration Type

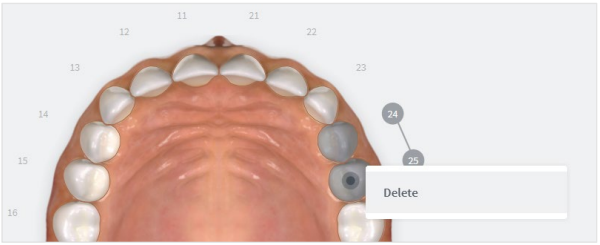
Step 3. Click on a **Restoration Type** in the left-hand menu:

Options available for the selected restoration type are displayed automatically.

Step 4. Select the Restoration Type: the tooth to which the restoration is applied is highlighted is color-coded according to the type selected.

To change the selected restoration type:

Step 5. Right-click on the selected tooth to **Delete** and then select another restoration type.



Configuring a default Restoration Selector

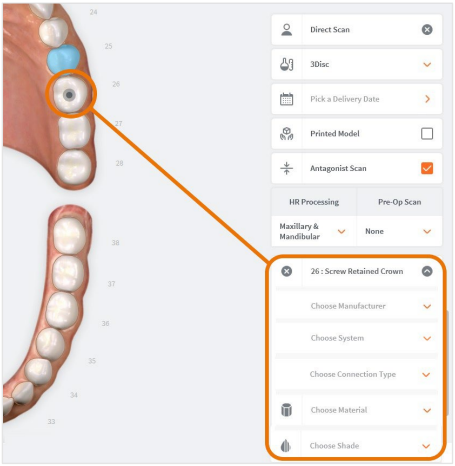
You can choose between different **Restoration Selector** options in **Case Setup Settings**.

See above: Restoration Selector.

Note: *When you select restorations using a default selector, you cannot switch to an alternative selector in the **Case Setup** page without first deleting already selected restorations.*

Task 4: Select Restoration Options

Selected **Restoration Types** and available options are displayed in the right-hand **Case Setup** menu.



Step 1. Select Manufacturer*

Step 2. Select System

Step 3. Select Connection Type

Step 4. Select Material

Step 5. Select Shade

Restoration options

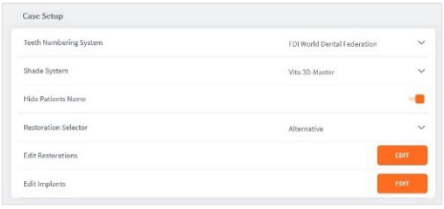
Restoration option	Description
Manufacturer	Available Manufacturers
System	Available Manufacturer Systems/Models
Connection Type	Available implant Connection types and sizes
Material	Available printed model materials
Shade	Available shade systems and shades

NOTE: *Available restoration options are displayed automatically depending on the selected restoration.*

Configuring Restoration Settings

Available restoration options can be configured in the **Case Setup Settings**.

See above: section 5.6 - Configuring Case Setup Settings



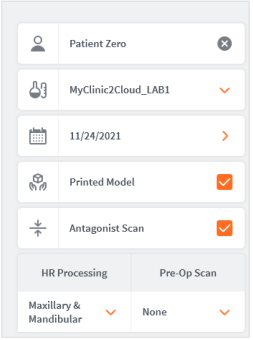
For an online version, visit: Case Setup Settings

Task 5: Enter Order Form Options

Enter Order Form options in the top right-hand menu of the Case Setup page: **Patient ID**

A direct scan can be associated with an existing Patient ID by clicking on the Patient ID field and selecting a Patient ID from the drop-down menu.

To create a new Patient ID, click **ADD NEW PATIENT** in the drop-down menu and enter patient details.



LAB

Specify the laboratory to which to send your order.

Order Form & Scan Options		Description
	Patient ID	Patient Name or Anonymized ID
	Lab Connection	Connection to lab configured in the HeronCloudTM
	Delivery Date	Requested delivery date for your order
	Printed Model	Check this option to order a printed model
	Antagonist Scan	Include a scan of the opposing teeth (selected by default). The antagonist can be de-selected if not required.
	HR Processing	Use High Resolution processing
	Pre-Op Scan	Include a pre-operative scan

Customizing your Order Form

To customize the Order Form to be sent to the lab, see above:

- Section 5.7 - Configuring Lab Sheet Settings.

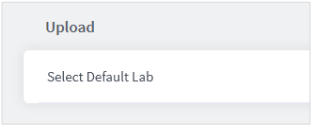
Setting up a connection with a lab

Before selecting a lab in the Case Setup page, you must first set up a connection with the lab via the **HeronCloud™** platform. See above:

- Section 4.4. - Linking a User Account to the HeronCloud™

Configuring a default lab connection

In Configuring Upload Settings, you can select a default lab from those connected to your HeronCloud account.



The default lab will be displayed automatically in the Order Setup menu.

For information on selecting a default lab, see above:

- Section 5.5 - Configuring Upload Settings

The Scan Workflow Menu

Depending on selected **Case Setup** options, relevant scanning steps will be automatically added to the Scan Workflow menu.

For information on scanning with Heron IOS, see below:

- Chapter 7 - Scanning with HeronTM IOS

Finalizing Patient Cases

For information on finalizing cases, see below:

- Chapter 8 - Finalizing a Patient Case

7. Scanning with Heron™ IOS

For an online version, visit: Scanning with Heron IOS

7.1 Before You Scan

Before scanning, take time to familiarize yourself with the Scanning tools and features available in the Heron™ IOS solution and the HeronClinic™ interface.

Scan Tools Overview

The following scan tools are available with the current version.

Start Scan
Start/pause scan.

Reset
Reset will delete the current scan and associated files.

Adjust Zoom level
You may change the zoom level.

Center Scan on Screen
Moves the scan to the center of the screen for ease of use.

Color-Based Quality Map
Toggles between color/grayscale display and Quality Map.
The Quality Map feature enables the user to assess in real-time if enough data was collected in the area of the scan.

Trim tool
Used to trim/delete areas on the scan.

Measurement tool
Used to place points to measure distance.

Undercut tool

Displays undercut areas automatically based on the chosen angle.

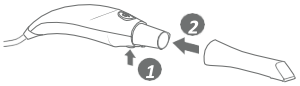
Auto-Realignment

This feature enables the user to optimize alignment of scans, in preparation for Bite Alignment or for Finalization.

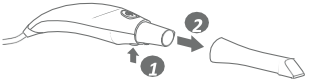
7.2 Using the Scan Tip

Each scanner is delivered with three (3) reusable tips, that can be sterilized in an autoclave up to 250 times.

Step 1. **Attach** the tip with the mirror side facing down- ward. Firmly press the tip onto the scanner until you hear it lock into place.

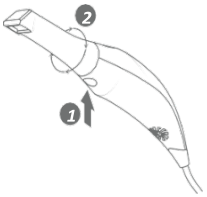


Step 2. **Detach** the tip by pressing the button located on the bottom of the handpiece (1) while pulling away from the scanner (2).



IMPORTANT: To avoid scanning errors, make sure the scanner tip clicks securely into place

Step 3. **Rotate**. To make the scanning process **more comfortable** for maxillary scans, you may remove the tip by pressing the button (1) located on the bottom of the handpiece and rotate the scanner tip 180 degrees (2).



Step 4. **Start**. To start scanning, press the **Start/Stop** button on the top of the scanner, or click the Start/Stop icon in the right-hand **Scan Tools** menu.

For ease of use, hold the Heron™ IOS handpiece as shown.

IMPORTANT: Make sure the computer on which the HeronClinic™ software is installed is connected to an external power source before starting to scan with the Heron™ IOS.

Do not scan using a battery-powered computer.

7.3 An Example Scan Workflow Menu

In the example shown below, based on the selected Restorations, the Scan Workflow indicates 6 Scan Steps and Finalization of the Order.

Step 1. Pre-Op Scan

Used to integrate pre-operative scans in the scan workflow.

Step 2. Maxillary Scan

To carry out a scan of the Maxillary arch.

Step 3. Scan body (Maxillary)

Integrates a scan body step of the maxillary arch in the scan workflow.

Step 4. Mandibular Scan

To carry out a scan of the Mandibular arch.

Step 5. Scan body (Mandibular)

Integrates a scan body step of the mandibular arch in the scan workflow.

Step 6. Bite Alignment

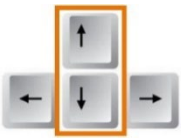
Used to carry out an automatic or manual bite alignment.

Step 7. Finalization

Verification and finalization step, before sending the Order to the lab.

Using Arrow Keys to Navigate

For ease-of-use, you can navigate between **Scan Workflow** steps using the **up-down arrow keys** on your keyboard.



7.4 Useful Scanning Tips

Before You Scan ¶

- **To scan the maxillary arch, rotate tip to face up**

  To make the scanning process more comfortable for maxillary scans, remove the tip by pressing the button located under the handpiece and rotate the scanner tip 180 degrees. Make sure the tip locks correctly into place before starting to scan.

- **Avoid moving tissue: retract lips, cheeks & tongue**

- **Take care when using a dental mirror**

  Caution is needed when using the back of the mirror for retracting the cheeks as this can get captured in images and lead to slowing down of the scan, as the elements are not native in the scene.

- **Take care when using retractors**

  Caution is needed when using different retraction techniques - retractors can cause some issues in anterior area and at the junction of cheek and jaw tissue. Retractors stretch the soft tissue which means on bite step when there is no retraction the soft tissue has changed from the upper and lower scans.

- **Make sure that contact points are captured**

IMPORTANT: Before each patient, the scanner's removable tip must be sterilized using an autoclave. See below: 10.2 Cleaning and Sterilizing Tips.

When Scanning…

- **Keep close to teeth**
  (recommended distance from tip to tooth is 0-12 mm)
- **Scan slowly and smoothly**, to avoid interrupting the 3D reconstruction (minimum 1 second per tooth)
- **Keep teeth in center of the field of view**
- **Angle the scanner tip** to take in **as much gingiva as possible**
  (bite alignment is based on gingival data)
- **Avoid extraneous items** (lips, cheeks, tongues, gloves, etc.)
- **Do not hesitate to reset scan if necessary**

Begin your scan by starting on the arch of chosen restoration. If you have selected to scan the antagonist, you may start by scanning either arch.

Important Notice

Before launching a scan, make sure that:

- The computer on which the **HeronClinic™** software is installed meets Minimum Requirements.
- The computer on which the **HeronClinic™** software is installed is connected to an external power source.
- The **Heron™ IOS Scanner** is correctly connected to the computer via the **USB 3.0 cable** and the **HeronClinic™** software is running.

IMPORTANT: If using a laptop computer, **make sure the power supply is connected to a power outlet** and not running on battery power. Failure to do so will mean that the scanner will not have sufficient power to produce images.

On laptop computers, **battery settings in Windows** should be configured to **high performance mode only**, with **no battery saving option** (Settings/System/Battery).

See above: Section 3.2 Connecting the Heron™ IOS

7.5 Accessing the HeronClinic™ Scan Workflow

To access the Scan Workflow:

Step 1. Click NEXT in the **Case Setup** page, or

Step 2. Select the **Maxillary** arch in the left-hand **Menu** by clicking on the icon, or by using the **Down** key on your keyboard.

7.6 Scanning the Maxillary Arch

Step 3. Start scanning by pressing the **Start/Stop button** on the scanner.

Step 4. Scan the Maxillary arch following the Scanpath Strategy described below:

- section 7.9 Recommended Scanpath Strategy

Step 5. Stop scanning by pressing the **Start/Stop button** on the scanner.

The Heron software will process the Maxillary scan data before moving on to the next phase of the Scan Workflow.

7.7 Scanning the Mandibular Arch

If you have selected **Antagonist Scan** in the **Case Setup** page, you will be invited to select the Mandibular arch:

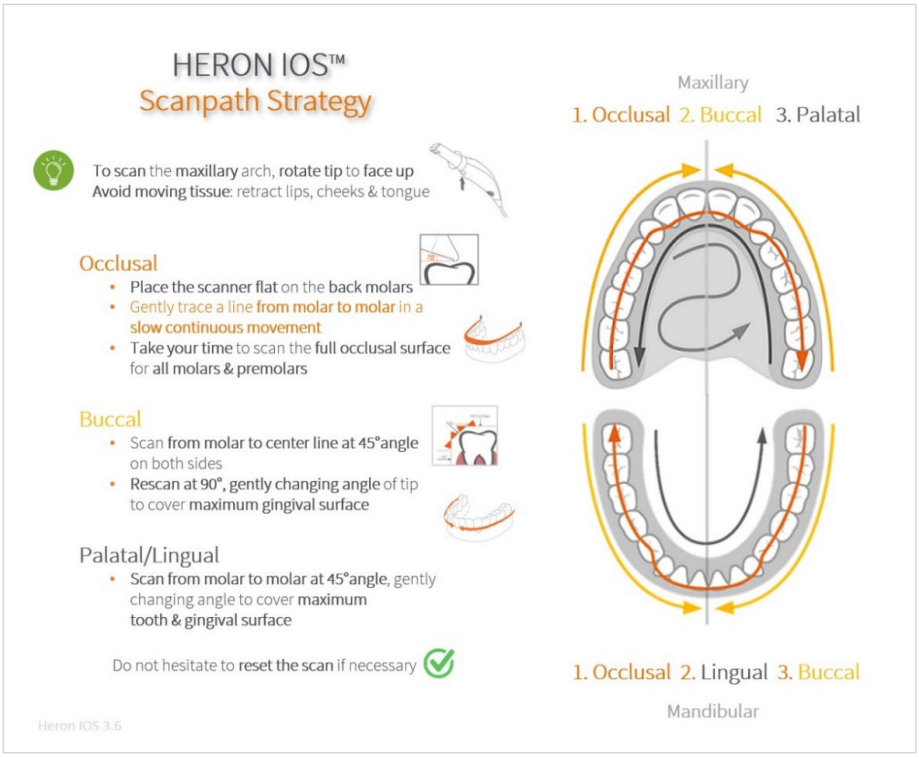
Step 6. Click **NEXT**, or select the **Mandibular** arch in the left-hand **Scan Workflow Menu** by clicking on the icon or by using the **Down** key on your keyboard.

Step 7. **Repeat the same scanning strategy** as **described** above for the **Maxillary** arch…

During the scan workflow, you can use the **Scan Tools** available in the right-hand menu to edit scans. See below:

- section 7.13 - Using Scan Tools

7.8 Recommended Scanpath Strategy



Evolution of Scanpath Strategy

Please note that the current Scanpath Strategy may evolve to take into account the latest algorithmic developments in 3D imaging. If in doubt, check with your 3DISC support contact.

Scanning the Maxillary Arch

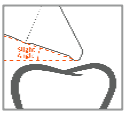
For an online version, visit: Scanning the Maxillary Arch

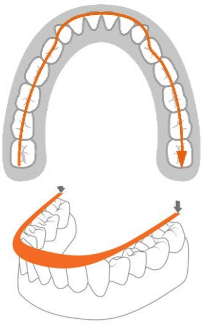
When scanning the Maxillary arch, we recommend you scan in the following order:

1. Occlusal – 2. Buccal – 3. Palatal

Step 1. Scan Maxillary Occlusal End-to-End

First scan the **OCCLUSAL surface** from molar to molar, with a **slow smooth motion,** ensuring **full occlusal surface** is captured for all molars and premolars.





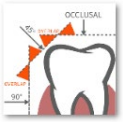
This initial path will drive the cross-arch accuracy of the scan, so **always stay flat on the teeth.**

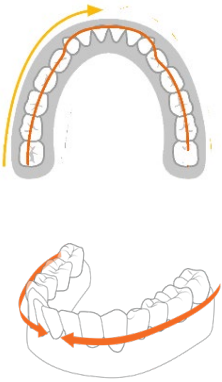
It may be useful to **angle the scanner slightly** when you come to the incisor and canine teeth.

Step 2. Scan Maxillary Buccal LEFT

a. Scan the **BUCCAL** area **from molar to center line** on **LEFT side**, ensuring the connection of surfaces:

- Scan with **45°angle** to get part **occlusal + part buccal**
- Scan with **90°angle** to get remaining part of buccal



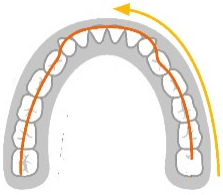


b. Scan **gum 3-4mm** in molar/pre-molar area **on LEFT side**.

Step 3. Scan Maxillary Buccal RIGHT

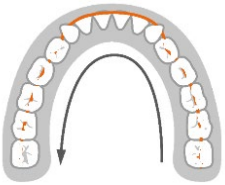
a. Scan **BUCCAL** area from **molar to center line** on **RIGHT side,** ensuring the connection of surfaces:

- Scan with **45°angle** to get **part occlusal + part buccal**
- Scan with **90°angle** to get remaining part of **buccal**



b. Scan **gum 3-4mm** in molar/pre-molar area **on RIGHT side**

Step 4. Scan Maxillary **Palatal** End-to-End



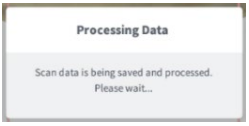
Scan the **PALATAL** area **from molar to molar**, ensuring the connection of the surfaces (overlap):

- Scan with **45°angle** to get **part occlusal + part palate**
- Scan with **90°angle** to get remaining part of palate

When you are finished scanning:

Step 5. Turn the scanner off using the **Start/Stop button** on the scanner.

The Heron software will process the Maxillary scan data before moving on to the next phase of the Scan Workflow.



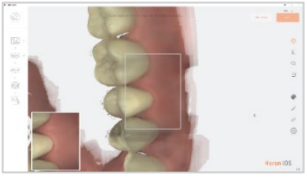
If you have selected **Antagonist Scan** in the **Case Setup** page, you will be invited to select the Mandibular arch:

Step 6. Click **NEXT**, or select the **Mandibular** arch in the left-hand **Scan Workflow Menu** by clicking on the icon ↓ or by using the **Down** key on your keyboard.

Scanning the Mandibular Arch

Step 7. **Repeat the same scanning strategy** for the **Mandibular** arch as **described** above for the **Maxillary** arch, but in the following order:

1.Occlusal – 2. Lingual – 3. Buccal

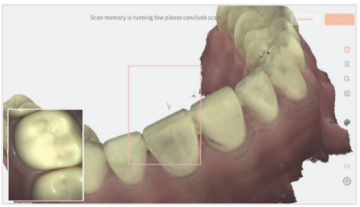


NOTE: this is due to the **specific environment of the mandibular arch**.

When the scan is completed, the Heron software will process the Mandibular scan data before moving on to the Bite Alignment phase of the Scan Workflow.

This may take a couple of minutes.

7.9 Scan Memory Use



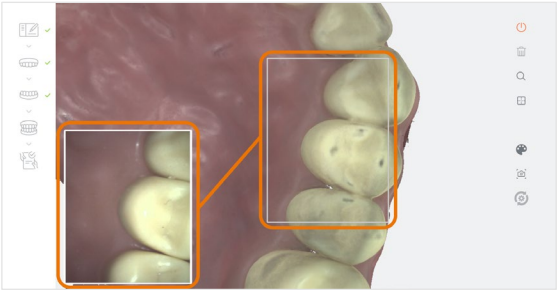
Over-scanning may use up available memory space. When the warning **"Scan memory is running low please conclude scan"** is displayed, no more frames will be added to the scan after this point. If the result is unsatisfactory, It is recommended you **delete and redo the scan**.

IMPORTANT: When you receive the warning "**Scan memory is running low please conclude scan**" no more frames will be added to the scan after this point. If the result is unsatisfactory, it is recommended you **delete and redo the scan**.

7.10 Scan Live View

The **Live View** window in the lower left displays what the Heron™ IOS Scanner is actually seeing. 3D reconstruction of the scan is displayed in the middle of the screen.

- If the scanner loses connection with the reconstructed image, the Live View perimeter frame will be displayed in red.



- Return the scanner tip to an already scanned section to resume the scan.

In **3D Settings**, you can adapt the **Live View** to **Scan From Behind** or **Scan From Front** .

If **Use Sound Guidance** is enabled in **Sound settings**, the system will indicate an interrupted scan by going silent.

NOTE: *Using the ON/OFF button on the handpiece, you can pause the scanner at any time during the scanning process without leaving the scan workflow.*

7.11 Using Scan Tools

At each step of the scan workflow, you can use the features available in the right-hand **Scan Tools** menu.

For an online version, visit: Using Scan Tools

For an overview of available scan tools for this release, see above: **Scan Tools Overview**.

Scan Tool	Description
Start Scan	START/STOP/PAUSE the scan.
Reset Scan	Reset will delete the current scan step and associated files.
Adjust Zoom level	Change the ZOOM level of the digital 3D model.
Reset VIEWPORT	Re-center the digital 3D model on the screen.
Quality Map	Toggle between color/grayscale display and **Quality Map** . The **Quality Map** feature enables the user to assess in real-time if enough data was collected in the area of interest.
Live View Screenshot	Take a Live View screenshot during the scan simply by pressing the C key or clicking on the **Screenshot** icon.
Auto-Realignment	Optimize the alignment of scans, in preparation for Bite Alignment or for Finalization. **NOTE:** You may also configure the **Enable Scan Optimization While Scanning** feature in **3D Settings** .

7.12 Using the Quality Map ¶

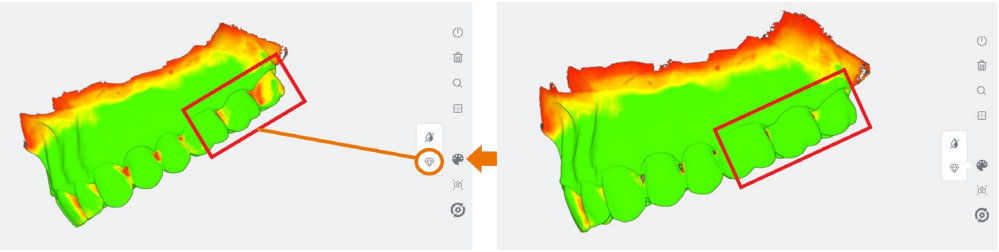
The **Quality Map** tool enables you to assess in real-time if enough data has been collected in the area of interest of the scan.

For an online version, visit: Using the Quality Map©

To access the **Quality Map** :

1. Click on the *Color Palette* icon in the right-hand tools menu.
2. In the extended menu, click on the *Quality Map* icon.

The digital 3D model will indicate in red those areas where insufficient data has been obtained.



3. Using the **Quality Map** as a guide, rescan the area(s) of interest.
4. To close the **Quality Map** , click again on the *Color Palette* icon.

NOTE: The **Color Map** is disabled automatically when you select another Scan Tool or move to the next step in the scan workflow.

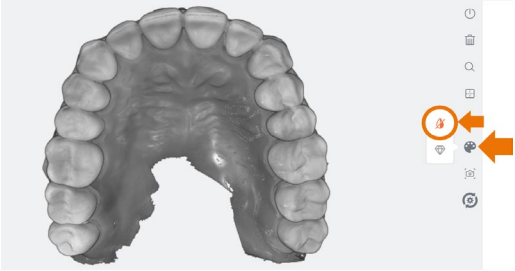
TIP: Do not over-scan in an effort to recover extra data: it is better to reset and redo the scan if the result is not satisfactory.

Disable/Enable Captured Color ¶

To make contours more visible, you may wish to disable the natural color of the digital 3D model.

To **Disable Captured Color** :

1. Click on the *Disable Captured Color* icon in the extended *Color Palette* menu.
2. To return to the natural colors of the scan, click again on the *Disable/Enable Captured Color* icon.



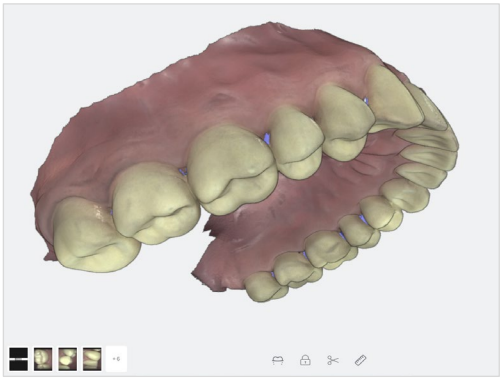
3. To close the extended menu, click again on the *Color Palette* icon.

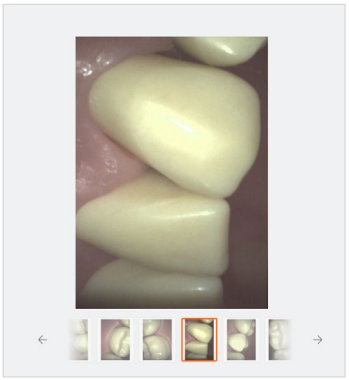
7.13 Taking Live View Screenshots

To obtain Live View Screenshots during the scan:

1. Press the **C** key on your keyboard or click on the icon in the scan tools menu.

2D Live View Screenshots are displayed in thumbnail format in the bottom left-hand corner of the screen.





2. Click on a *thumbnail image* to inspect the 2D images in **fullscreen** format.

3. Click on the *Delete* icon to delete as necessary.
4. Click on the *Close* icon in the top right-hand corner to close the fullscreen view.

Live View Screenshots taken during the scan can be viewed in the **Finalization** page.

7.14 Using Auto-Realignment ¶

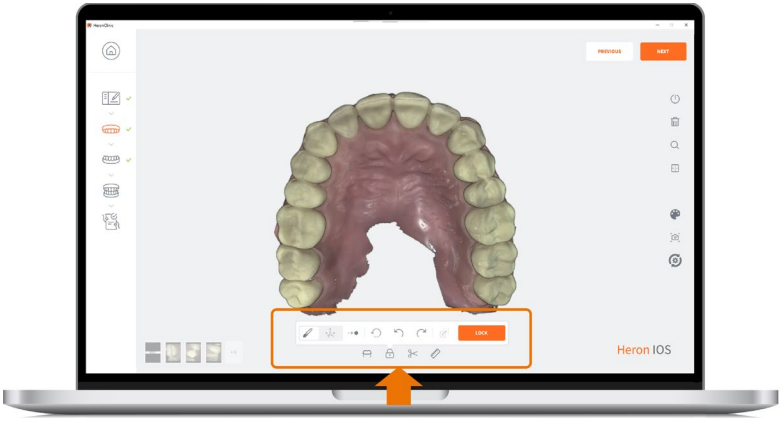
The **Auto-Realignment** tool carries out realignment of the scans, optimizing the scan data based on **Artificial Intelligence** (AI). To simplify, the scan data is cleaned by discarding frames that are calculated to be misaligned with respect to the totality of the available data.

You are advised to use the **Auto-Realignment** tool ***before*** proceeding to the **Bite Alignment** step, as optimization may modify the occlusal position of the realigned arches.

7.15 Using HeronClinic™ Live Scan Tools ¶

During the **HeronClinic™ Scan Workflow** , **Live Scan Tools** are displayed below the digital 3D Model.

For an online version, visit: Using HeronClinic™ Live Scan Tools



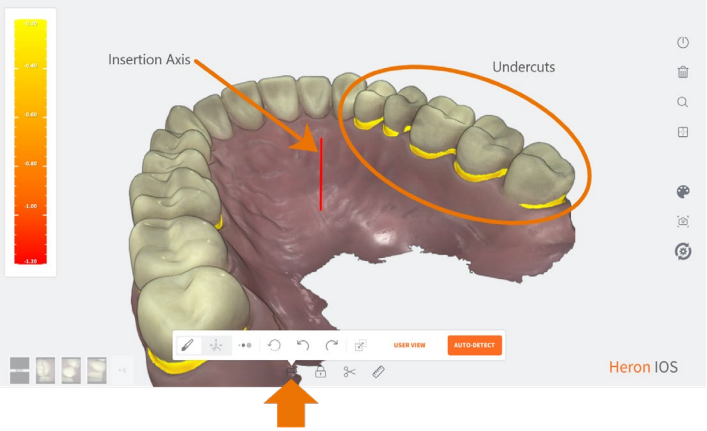
Live Scan Tool	Description
Undercuts Tool	The **Undercuts Tool** enables you to detect and calculate undercuts: **User View:** enables user to choose the insertion axis that will be used to calculate undercuts on the dental arch **Auto Detect:** determines the optimal insertion axis and displays the undercuts. Undercut areas of the scan model are indicated using a color-coded gradient.
Region Lock	Tool to support the locking of a region while scanning to avoid any further updates of that region.
Cut Tool	Tool enabling you to delete mesh data as required.
Measurement Tool	Tool enabling you to take measurements on the 3D digital model.

7.16 Using the Undercuts tool ¶

The **HeronClinic™ Undercuts Tool** automatically detects and calculates undercuts on the digital 3D model:

- **User View:** enables the practitioner to choose the insertion axis that will be used to calculate undercuts on the dental arch
- **Auto Detect:** determines the optimal insertion axis and displays the undercuts

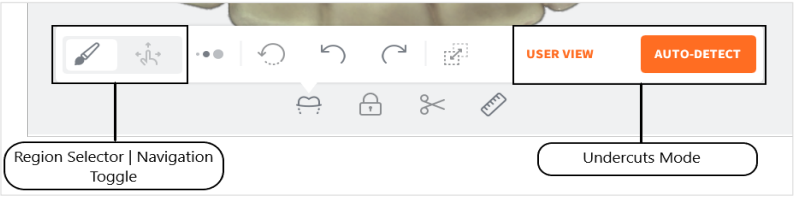
The insertion axis is indicated by a rod.



Undercuts Tool: Expanded Menu ¶

To access the **Undercuts** tool expanded menu:

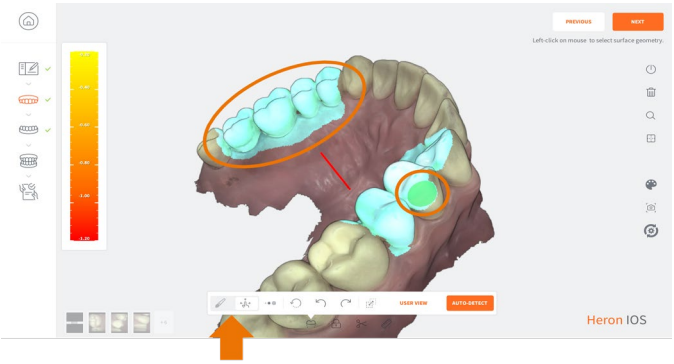
- Click on the Undercut icon in the **Live Scan Tools** menu, displayed below the 3D digital model.



Positioning the 3D Digital Model ¶

To position the 3D digital model:

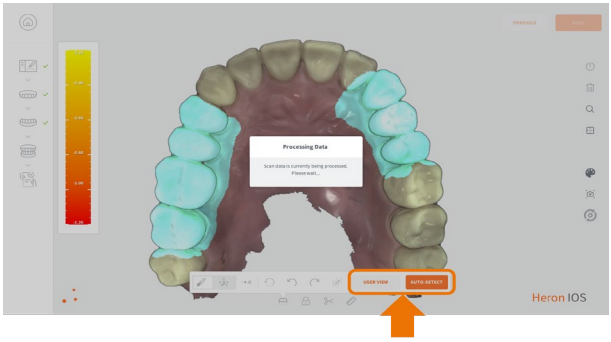
- Click on the **Navigation** icon of the **Region selector | Navigation** toggle button.
- Using the **Navigation tool** , ***Left-Click+Drag*** the 3D digital model to the desired axis of insertion for the restoration.



Selecting a Region ¶

To Select a Region for which to calculate undercuts:

- Click on the **Brush** icon of the **Region selector | Navigation** toggle button.
- Select the **Brush Size** in the expanded **Undercuts** menu.
- Using the **Brush** tool, *Left-Click+Drag* to select the **Region** of interest.



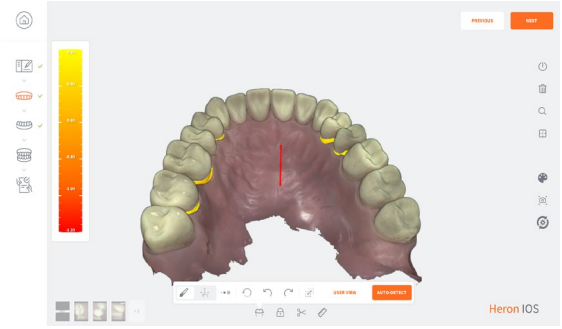
NOTE: *You can select multiple regions by repeating the same procedure for another region.*

Undercuts: User View ¶

The User View option enables you to choose the insertion axis, used to calculate undercuts on the dental arch.

- Using the **Navigation tool** , ***Left-Click+Drag*** the 3D digital model to the desired axis of insertion for the restoration.
- Click on the **User View** button.

The Undercuts tool will detect and calculate undercuts based on the chosen insertion axis.



Undercuts: Auto-Detect ¶

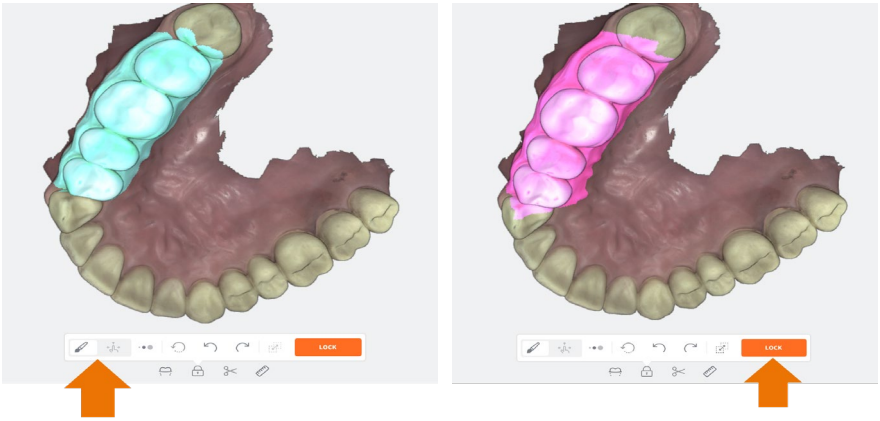
To auto-detect undercuts based on the ideal angle for the arch:

- Click on the **Auto-Detect** button. The Undercut tool will automatically calculate the undercuts for an optimal insertion axis.

Undercut areas of the scan model are indicated using a color-coded gradient.

7.17 Using the Region Lock tool ¶

The **HeronClinic™ Region Lock Tool** allows you to lock data for a region/regions while scanning, to avoid any further updates of that region.



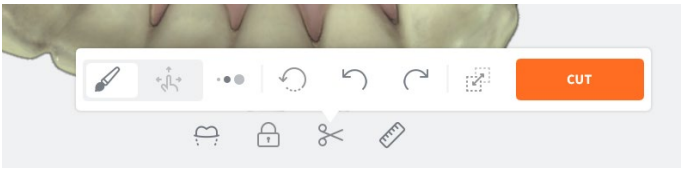
To Select a **Region** to lock:

- Click on the **Brush** icon of the **Region Selector | Navigation** toggle button.
- Select the **Brush Size** in the expanded **Region Lock** menu.
- Using the **Brush** tool, ***Left-Click+Drag*** to select the **Region** of interest.
- Click on the **LOCK** button.

NOTE: *You can select multiple regions by repeating the same procedure for another region.*

7.18 Using the Trim tool

After scanning, you can use the Trim tool in the Live Scan Tool menu to trim the 3D model and remove any unwanted data.



To use the Trim tool:

Step 1. Click on the Trim icon in the **Live Scan Tools** menu.

Step 2. Select the **Trim** brush size.

Step 3. Click on the **Navigation** icon of the **Trim | Navigation** toggle button: using the **Navigation** tool , **Left-Click+Drag** to *position* the 3D digital model.

Step 4. Click on the **Trim** icon of the **Trim | Navigation** toggle button: **Left-Click+Drag** to select the surface area to be removed.

Step 5. Click on the **Cut** button to remove unwanted mesh data.

Step 6. Click **OK** to Confirm Trim Operation.

IMPORTANT: Trimmed data cannot be recovered!

7.19 Using the Measurement Tool ¶

Step 1. **Left-Click+Drag** to position the 3D digital model.

Step 2. Click on the Measurement icon in the Live Scan Tools menu.

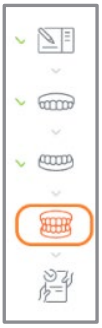
Step 3. **Left-Click** on a first measurement point.

Step 4. **Left-Click** on a second measurement point.

The measured distance is displayed in the top right-hand corner of the screen.

7.20 Carrying Out A Bite Alignment

The Heron™ IOS enables you to carry out fast and accurate **Bite Alignment** based on the previously scanned Maxillary and Mandibular arches.



To advance to the **Bite Alignment** step:

- Click **Next**, or
- Click on the **Bite Alignment** icon in the left-hand **Scan Workflow Menu**, or
- Navigate using the **Down** ↓ key on your keyboard.

Changing between automatic and manual mode

The Bite Alignment process can be carried out automatically or manually.

You can change between automatic and manual mode at any step of the bite alignment procedure without losing scan data.

Using audio-guidance

The following audio-guidance sounds are available when scanning the bite segments:

- One sound for upper arch when registered
- One sound for lower arch when registered
- One sound for both and with sufficient data (just before/after user stops scanning)

Audio-guidance options can be configured in Settings.

For more information see:

- Section 5.3 - Audio-guidance

NOTE: For a better scanning experience, it is recommended to **first position the scanner in the fully open patient mouth** and then ask the patient to bite down.

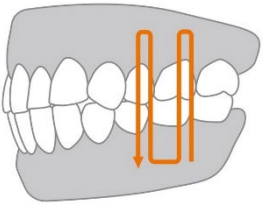
7.21 Automatic Bite Alignment

The Automatic Bite-Alignment feature enables the 3D software to automatically recognize and align the patient's maxillary and mandibular arches based on a brief scan of a segment of the patient's bite in occlusion.

For an online version, click: Automatic Bite Alignment

Recommended Scanpath Strategy

Scan Molar/Pre-Molar Segments



For the HeronClinic™ to automatically recognize the Mandibular and Maxillary arches in occlusion, it is recommended you follow the following Scanpath Strategy:

Step 1. **Start scanning** by pressing the **Start/Stop button** on the scanner.

Step 2. Scan vertically along a tooth and 1cm of gingiva in the molar/pre-molar region

Step 3. Angle the scanner tip to take in as much gingiva as possible

Step 4. Pause 3-4 seconds on mandibular gingiva

Step 5. Scan up from mandibular gingiva to maxillary gingiva

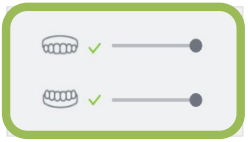
Step 6. Pause 3-4 seconds on maxillary gingiva

Step 7. **Repeat** for **adjacent** tooth as necessary…

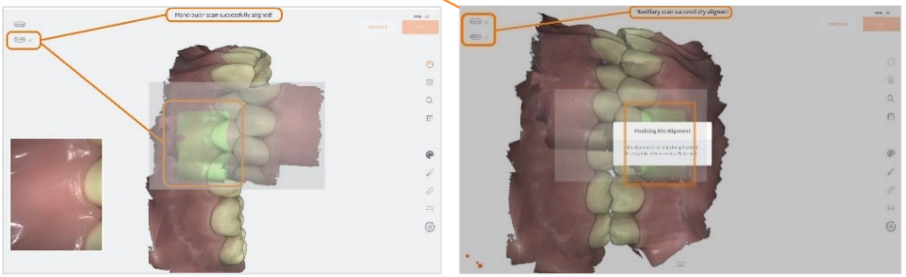
Note: Take your time when scanning gingival regions. The Heron IOS software calculates the **3D bite reconstruction** based on **gingival** data. This makes it possible to successfully scan **edentulous** areas of the arch.

Auto-locking of bite scan

Once the software recognizes the scanned bite segment:



- A sound signal is heard
- The scan automatically **locks**
- The **initial scanned arches are overlayed**
- A green checkmark displays in the top-left of the screen, indicating you have **finished scanning** that segment.



Step 8. You will be invited to repeat for the opposing side…

Bite-alignment using a single bite segment

While it is **recommended,** when carrying out full-arch scans, that you scan **both left and right bite segments**, it is also possible to carry out bite alignment by scanning a single bite segment (left or right).

To do so, simply click **Cancel** when invited to scan the opposing side.

The **Automatic Bite Alignment** may take a minute or two to process.

Note: *In the event of a quadrant scan, you will be asked to scan only the side of the quadrant. When doing full arch scans, you will be prompted to*

scan bilateral.

Based on the left/right bite segment scans, the Heron™ IOS will automatically reconstruct the alignment of the full Maxillary and Mandibular arches in occlusal mode.

When **the Automatic Bite Alignment** is completed, the 3D reconstructed image is displayed, and the **Bite Alignment Tools** menu becomes available.

For information on using **Bite Alignment Tools**, see below:

- Section 7.18 - Using Bite Alignment Tools

7.22 Carrying out a Manual Bite Alignment

If the **Automatic Bite Alignment** is unsuccessful, due to specific challenges related to the scanned arches that render automatic reconstruction problematic, the **Manual Bite Alignment** tool enables you to **manually** select specific location points on the Maxillary and Mandibular arches.

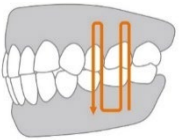
For an online version, click: Manual Bite Alignment

To Carry out a **Manual Bite Alignment**:

A. Align Mandibular-Paired Points

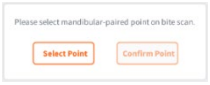
Step 1. Click on the **Manual Alignment** icon in the **Bite Alignment tools** menu at the bottom of the screen.

Step 2. Scan **a 2-3 teeth and 7-8mm gum segment** on the LEFT molar/pre-molar region in Occlusion.



You will be prompted to **select a mandibular paired point** on the bite segment.

Step 3. Click **Select Point** and choose a point on the **mandibular arch** of the **LEFT** bite segment.



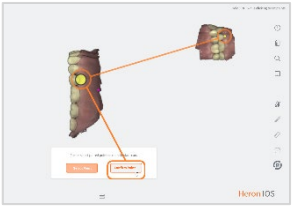
Step 4. When you have positioned the marker, **left-click**: a yellow dot will indicate the selected mandibular-paired point.

Step 5. Click **Confirm Point**.

The bite scan segment and the selected mandibular-paired point is displayed automatically in the top right-hand of the screen.

You will be prompted to select the corresponding paired point on the mandibular arch.

Step 6. As before, click **Select Point** and **left-click**: a **yellow dot** will indicate the selected mandibular-paired point.



Step 7. Click **Confirm Point**.

You will be prompted to select a **maxillary-paired point** on the bite segment.

When selecting pair points, choose an **easily identifiable surface**, without dense image complexity.

The HeronTM IOS software calculates the matching position based on **recognizable surrounding surfaces** and not on the **specific point** you have chosen, so you do not need to worry about replicating the **exact position.**

B. Align Maxillary-Paired Points

Step 8. Click **Select** Point and choose a point on the maxillary arch of the LEFT bite segment.

Step 9. When you have positioned the marker, **left-click**: a **yellow dot** will indicate the selected maxillary-paired point.

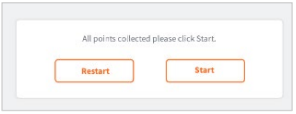
Step 10. Click **Confirm Point**.

The bite scan segment and the selected maxillary-paired point is displayed automatically in the top right-hand of the screen. You will be prompted to select the corresponding paired point on the maxillary arch.

Step 11. **Click Select Point** and choose a point on the maxillary arch of the LEFT side.

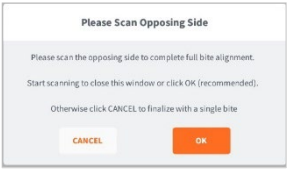
Step 12. When you have positioned the marker, **left-click**: a yellow dot will indicate the selected maxillary-paired point.

Step 13. Click **Confirm Point** to complete the manual alignment for the LEFT side.



Step 14. You will be invited to start the **Bite Alignment** based on the chosen paired-points: click **Start**.

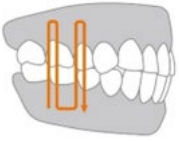
C. Scan a molar/pre-molar bite segment on the opposing side



When you have finished manually aligning one side of the bite, you will be prompted to scan the opposing side.

Carry out the same procedure as described above in **steps 2-14**.

Step 15. **Scan a 2-3 teeth and 7-8mm gum segment** on the RIGHT molar/pre-molar region in Occlusion…



NOTE: While it is **recommended,** when carrying out full-arch scans, to scan **both left and right bite segments**, it is possible to carry out bite alignment by scanning a single bite segment.

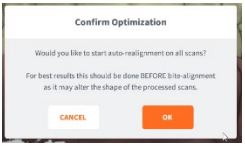
See above: Bite-alignment using a single bite segment

7.23 Auto-Realignment

The **Auto-Realignment** feature enables you to optimize the scans of the maxillary and mandibular arches. The Heron IOS software's AI will recalculate the results using specially developed imaging algorithms, retaining only the most accurate frames for 3D image reconstruction.

Step 1. In **the Tools** menu, click on the **Auto-Realignment** icon.
You will be prompted to confirm the optimization.

Step 2. **Click OK** to start **Auto-Realignment** optimization of the scans.

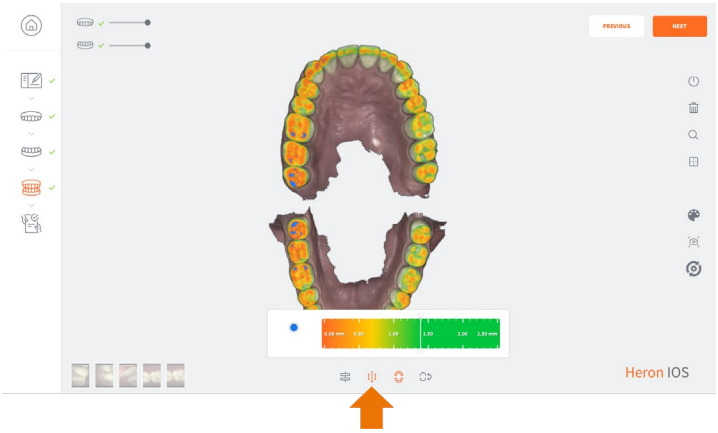


NOTE: **Auto-Realignment** may take a couple of minutes.

7.24 Using Bite Alignment Tools

The **Bite-Alignment tools** allow you to visually inspect the quality of the alignment scans.

The Bite-Alignment Tool menu is displayed below the 3D reconstructed image.



Occlusion Distance Map

To visually check the clearance distance between the maxillary and mandibular arch scans:

Step 1. Click on the **Occlusion Distance Map** icon in the Bite Alignment Tool menu.

Step 2. Adjust the color map by dragging the visual slide-rule to the desired value.

Contact points are indicated as shown.

Open Jaws

You can use this tool to open the jaws after the bite alignment, to better inspect your scans.

Swap Jaws

Allows the user to swap jaw scans (in case lower was scanned instead of upper or vice versa).

8. Finalizing a Patient Case

For an online version, click: Finalizing a Case in HeronClinic_

8.1 Finalizing an Order

When you have completed the Scan Workflow for a patient, you are ready to finalize your order :

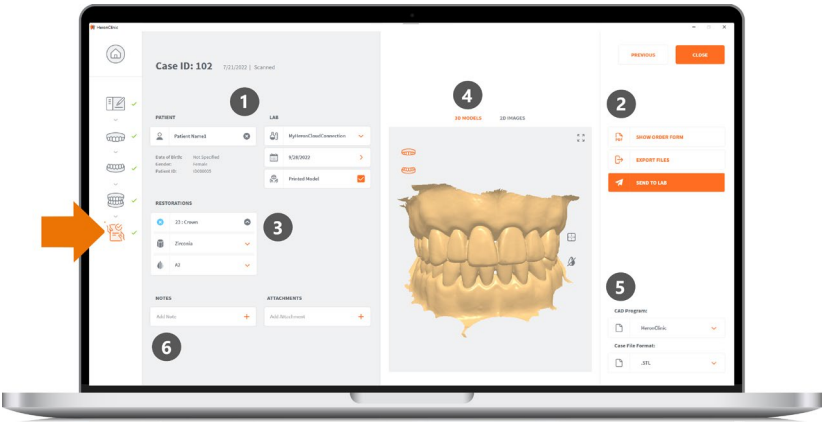
Step 1. Click on the **Finalization** icon in the left-hand Scan Workflow menu, or click **Next**:

This will launch the **Finalization** process, and then open the **Finalization** page.

The **Case Finalization** page enables you to:

1. Review/modify Case Setup Options.
2. Complete Case Finalization Options ¶ (see *below* for details).
3. Edit Case Files using the Case Finalization Tools
4. Send your Order to a Lab , or Export Case Files for integration in a third party system.

Case Finalization Options ¶



The following **Case Finalization Options** are available:

No.	Finalization Option	Description
1	Patient Details	Patient Name, Date of Birth, Gender, Patient ID. For Patient Details options go to: *Task 5: Enter Order Form Options*
	Lab Details	Lab connection, Requested Delivery Date, Printed Model. For details of Lab options go to: *Task 5: Enter Order Form Options*
2	Order Form & Export	Order Form PDF, Local Export configuration, Send to Lab. For more details go to: *Task 5: Enter Order Form Options*
3	Restorations	For details of available Restorations options, go to: *Task 4: Select Restoration Options*
4	3D Models & 2D Images	Preview of **3D Model** and **Live View Screenshots** , providing access to **Case Finalization Tools** : - For information on Live View Screenshots taken during the scanning process, go to: Taking Live View Screenshots - For information on **Case Finalization Tools** , go to: Using Case Finalization Tools
5	File Export & Format	CAD Program and Case File Format options: CAD Program Options resendingCase File Format Options
6	Notes & Attachments	Add relevant notes and files

8.2 Using Case Finalization Tools

For an online version, click: Using Case Finalization Tools

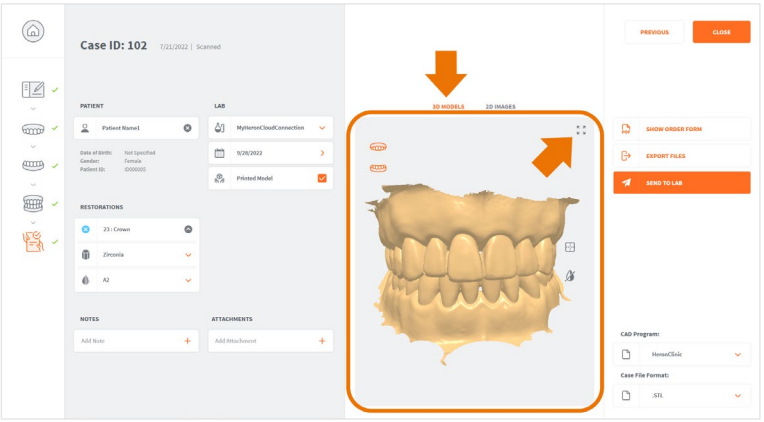
Accessing Case Finalization Tools

Case Finalization Tools are available in the **Case Finalization** 3D Models tab.

To access **3D Model** Case Finalization Tools :

Step 1. Click on the **3D Models** tab.

Step 2. Expand full-screen to access all view and edit options.



Case Finalization Tools

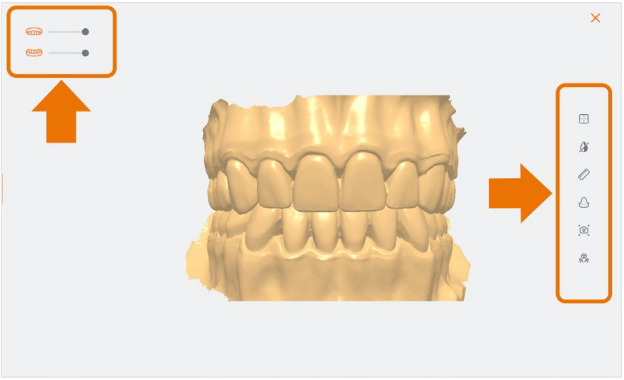
The following **Case Finalization Tools** are available in **HeronClinic™** :

Icon	Case Finalization Tool	Description
	Reset Viewport	Re-center the digital 3D model on the screen.

Icon	Case Finalization Tool	Description
	Choose Color Display	Choose between natural captured color, grayscale and bi-color display of digital 3D Model.
	Measurement	Tool enabling you to take measurements on the digital 3D Model.
	Margin Line Tool	The Margin Line Tracing tool enables you to trace margin lines on 3D models, in order to enhance the accuracy of lab restoration work.
	Screenshot	Take screenshots of the 3D model as you edit it.
	Model Close Tool	Enables you to prepare the digital model, in order to create a 3D printed model.
	Display Maxillary Arch	Click on the icon to hide/display the Maxillary arch. use the slider to increase/decrease the opacity of the display.
	Display Mandibular Arch	Click on the icon to hide/display the Mandibular arch. use the slider to increase/decrease the opacity of the display.

8.3 Using the Margin Line Tool

The **Margin Line Tool** enables you to trace margin lines on 3D models, in order to ensure the accuracy of restorations ordered from the lab.



To access the **Margin Line Tool,** in the **Finalization Page**:

- Click to expand the **3D Models** tab to full-screen.
- Click on the **Margin Line Tool icon** in the right-hand **Case Finalization Tools** menu.

This opens the **Margin Line Tool : Step 1 - Select Tooth**

STEP 1. Select Tooth

- Click on the maxillary or **mandibular** icon to display the arch.
- Click to select a tooth already selected for restoration in Case Setup.

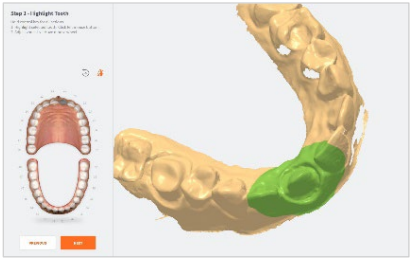
(see: section 6.6 - Setting Up a Case in HeronClinicTM)

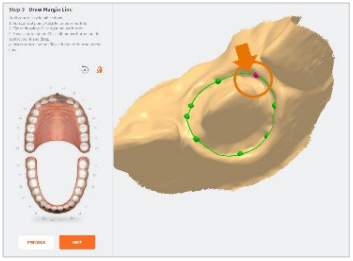
- Click **Next**.

This opens the **Margin Line Tool : Step 2 - Highlight Tooth**

STEP 2. Highlight Tooth

- To highlight a tooth/zone: **Click-left**
- To expand zone size: **Click-left** again (repeat as necessary).
- To adjust the zone size**: HOLD[CTRL] + scroll wheel**
- Click **Next**.





STEP 3. Draw Margin Line:

- To start margin line: **Click-left** then trace line.
- To add control point: **Click-left** where required.
- Reposition 3D Model: **Click-left + drag**.
- Insert control point: **Click-left on line**.
- Finish margin line: **Double-Click-left**.
- Click **NEXT**.

The **Margin Line** can be viewed in the **3D MODELS** tab of the **Finalization** page.

Modifying a Margin Line ¶

To modify a Margin Line:

1. Click to expand the **3D Models** tab to full-screen.
2. Click on the **Margin Line** icon in the right-hand **Case Finalization Tools** menu.
3. Click to select the tooth for which a margin Line has been drawn.
4. In the **Confirm** Dialog Box, to **Edit** the existing margin line click **EDIT.**
5. To delete the Margin Line, click **DELETE.**
6. Follow the **Margin Line** procedure described above.

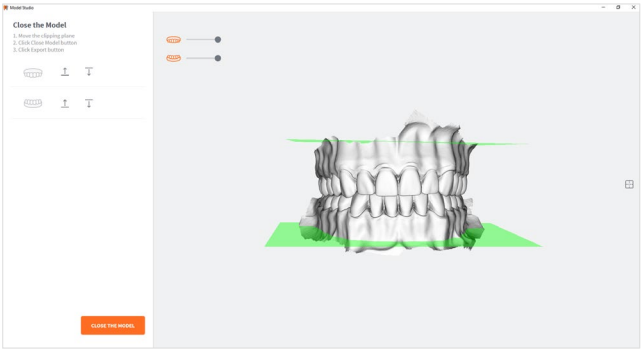
8.4 Using the Model Closing Tool ¶

The **Model Closing** tool enables you to prepare 3D models for printing.

To access the Model Studio **Model Closing** tool, in the **Finalization Page:**

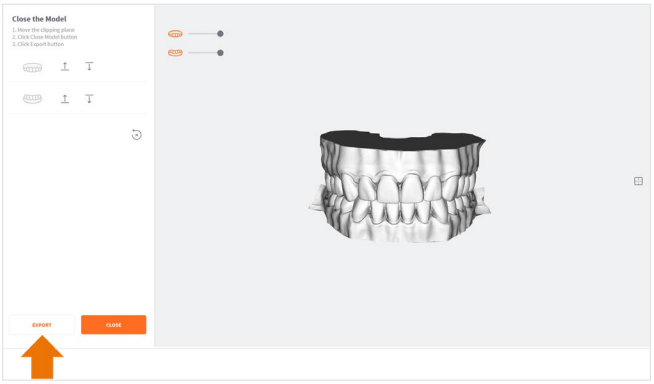
1. Click to expand the **3D Models** tab to full-screen.
2. Click on the **Model Studio** icon in the right-hand **Case Finalization Tools** menu.

This will open the **Model Studio** and invite you to prepare the digital 3D model for printing (also referred to as *closing* the model).



To **Close** the 3D Model:

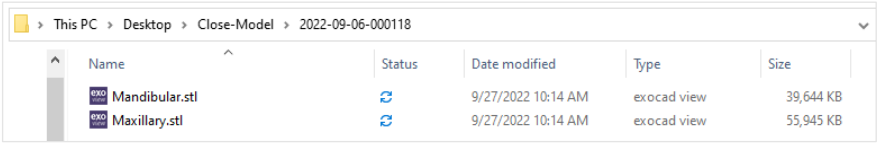
1. Move the *clipping plane* to the desired position.
2. Click the button: **CLOSE THE MODEL.**



The closed 3D Model is displayed, and you are invited to **EXPORT** the model files.

3. Click **EXPORT**
4. Select or create an export folder, and Click OK.

The closed model files are exported in the **Case File Format** selected in the **Case Finalization** page.



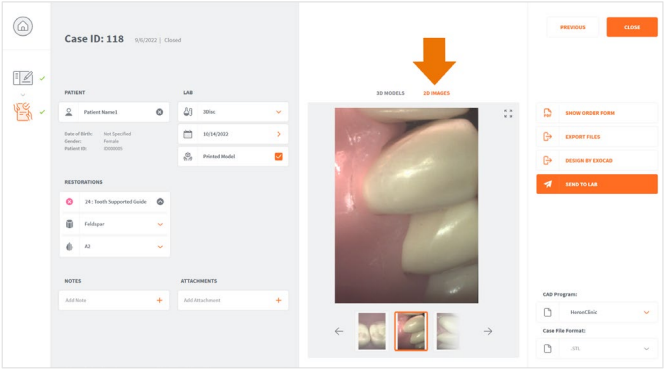
For more information, visit: **Case Finalization Options ¶**

5. Click **Close** to exit the **Model Studio** page.

8.5 Reviewing 2D images

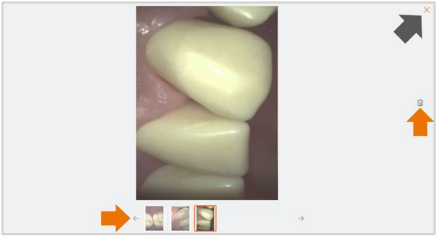
You can consult 2D images taken during the scan by clicking on the **2D IMAGES** tab in the **Finalization** page:

Step 1. Click on the **2D Models** tab.



Step 2. Click on a thumbnail image to preview the selected 2D image.

Step 3. Click on the expand icon to view 2D images in fullscreen mode.



Step 4. Delete unwanted

images by selecting and clicking on the delete icon.

Step 5. Click **OK** to Confirm.

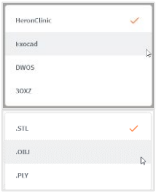
Step 6. Click the top-right corner to leave fullscreen view.

8.6 Check And Send Your Order

Verify Patient & Restoration details

Step 1. Verify & complete as necessary **Patient** and **Restorations** information defined during the **Case Setup** step.

Step 2. Add any notes and attachments as necessary.

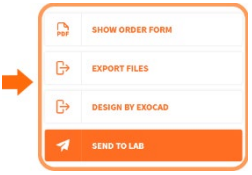


Verify Export settings

Step 1. Verify/select **CAD Program**: (HeronClinic, Exocad, DWOS, 3OXS,…).

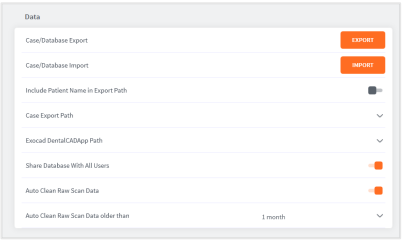
Step 2. Verify/select **Case File Format**: (.STL, .OBJ, .PLY)

Step 3. Verify/select **Export** (Local export, Exocad, Lab).



In **Data Settings**, you can configure :

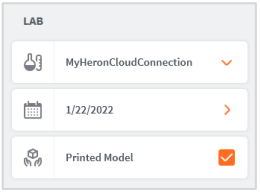
- **Case/Database Export** settings
- the **Exocad export** file path



NOTE: the **Design By Exocad** option will appear in **Finalization Export** options only when the Exocad export path has been configured in **Data Settings**.

Verify Lab Order Details

Verify and complete **Lab** order details:



Step 1. Verify/select the desired lab connection displayed in the **LAB** menu.

Note: In Configuring Upload Settings, you can **add lab connections,** and **select a default lab** from those connected to your HeronCloud account.

See above: Configuring a default lab connection

Step 2. Enter or verify the desired **delivery date.**

Step 3. Tick the checkbox to select a **Printed Model** if required.

Select Default Lab

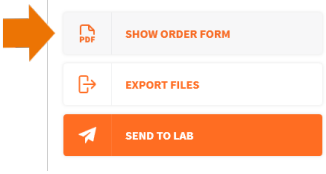
In **Upload** settings, you can select a **default lab**.

The default lab will be displayed automatically in the **Case Setup** and **Finalization** pages. The case files and order form will be sent to this lab by default.

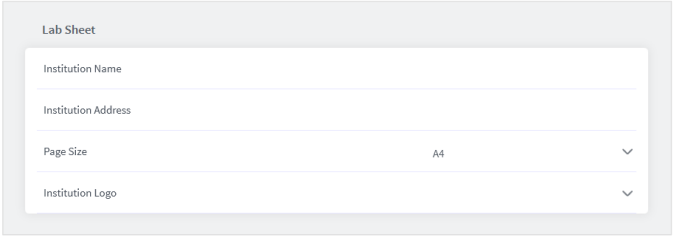
See above: section 5.5 Configuring Upload Settings

Verify Order Form Details

Step 1. Click **Show Order Form** to display and verify the case **Order Form** (Lab Sheet PDF) that will be sent to the lab.



In **Lab Sheet Settings**, you can customize the prescription to be sent to the lab:



- Institution Name,
- Institution Address,
- Page Size,
- Institution Logo.

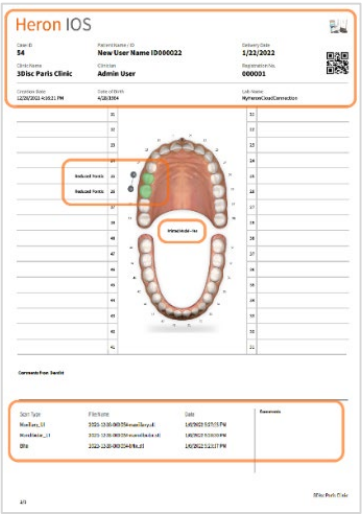
Step 2. Verify **Case**, **Patient** and **Order** details on the Lab Sheet.

- Verify Restoration information.
- Verify attached files and file format.

On page 2 of the **Lab Sheet**:

- Verify **3D Models** and **2D Photos**.

Step 3. Click Send To Lab.

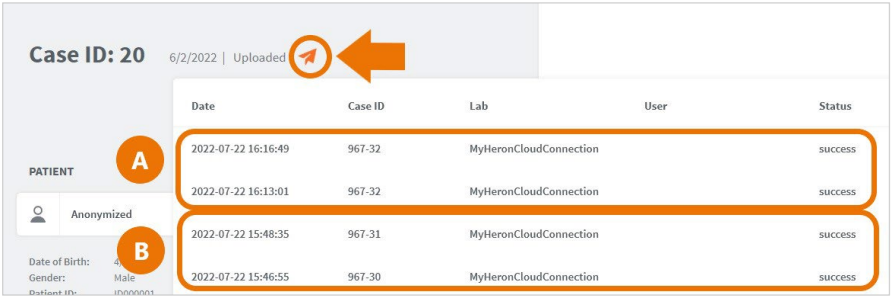


This uploads the **Case files** and **Order Form** to the selected lab via the HeronCloud™ connection you have configured for this lab.

Verify Case Status

To verify the status of **cases sent/resent** to labs:

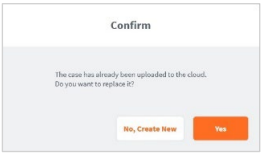
- click on the **status icon** in the **Finalization** page for details



Resending a Modified Order Form

If you wish to modify and resend an order to a lab, you will be asked if you want to replace the order sent or create a new order:

- If you choose to **replace** the case already sent to the lab, the same Case ID will be assigned in HeronCloud™ **(A)**.
- If you choose to **create a new case**, a new **Case ID** will be assigned in HeronCloud™ **(B)**.



NOTE: The **Case ID** assigned in HeronCloud™ always differs from the **Case ID** in HeronClinic™.

NOTE: Before selecting a lab, you must first set up a connection with the lab via your HeronCloud™ account.

For more information, see below:

- Section 9.1 - Linking a HeronClinic™ account to HeronCloudTM
- Section 9.7 - Configuring Connections with Labs

9. Communicating With Labs

For an online version, visit: Communicating with Labs

The HeronCloud enables you to send orders directly to labs, manage the progress and status of orders, and create and manage groups of Dental Clinic and Dental lab profiles.

To send orders to a lab via the HeronCloud™ platform:

Step 1. Link your **HeronClinic™** account to the **HeronCloud™** platform.

Step 2. Create a **HeronCloud™** User Account

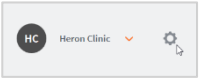
Step 3. Configure a connection with a lab in **HeronCloud™**.

Note: In **HeronClinic™,** you can also communicate directly with labs by exporting files to your computer or transferring them via a third party platform.

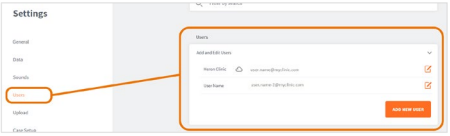
IMPORTANT: The HeronCloud™ platform is designed to facilitate file sharing and manage connections with laboratories. It is **NOT** intended as a cloud storage service.

9.1 Linking a HeronClinic™ account to HeronCloud™

To link your HeronClinic™ account to the HeronCloud:



Step 1. Click on the System Settings icon in the HeronClinic™ Start screen.



Step 2. In Users settings, click **Add or Edit Users** using the administrator account (**HC**).

Step 3. Select **Use HeronCloud™** in the **Add or Edit Users** dialog box.

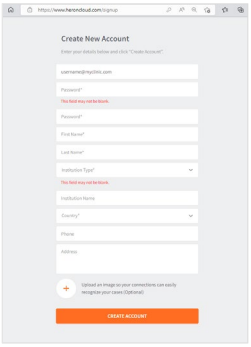
Step 4. Click **Save**.

The **HeronCloud™ Login** window will open automatically, inviting you to **Login** or to **Create a New Account**.

9.2 Creating A HeronCloud™ User Account (Clinic)

To create a user account in HeronCloud™:

Step 1. Click **Create New Account**.



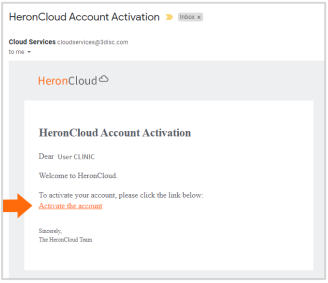
Step 2. In the dialog box **fill** in the required fields (marked with a red *)

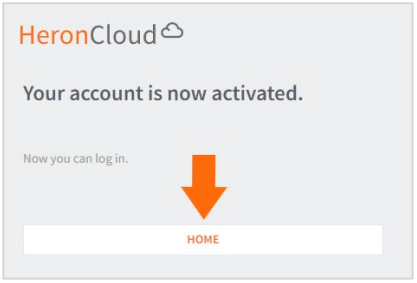
Step 3. Click **Create**.

An email will be sent to you to confirm the email address.

Step 4. Click the confirmation link to activate your **HeronCloud™** account.

Step 5. Click **HOME** to access the **HeronCloud™ Sign In** page.

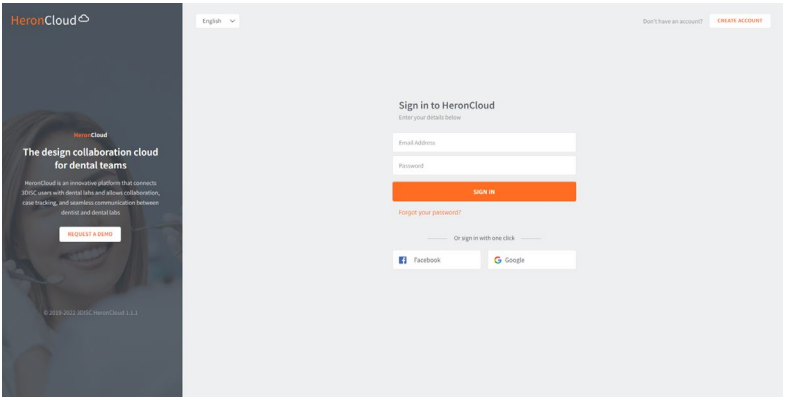




Step 6. Select a **language** in the scroll-down menu.

Step 7. Enter your Admin account email address and password.

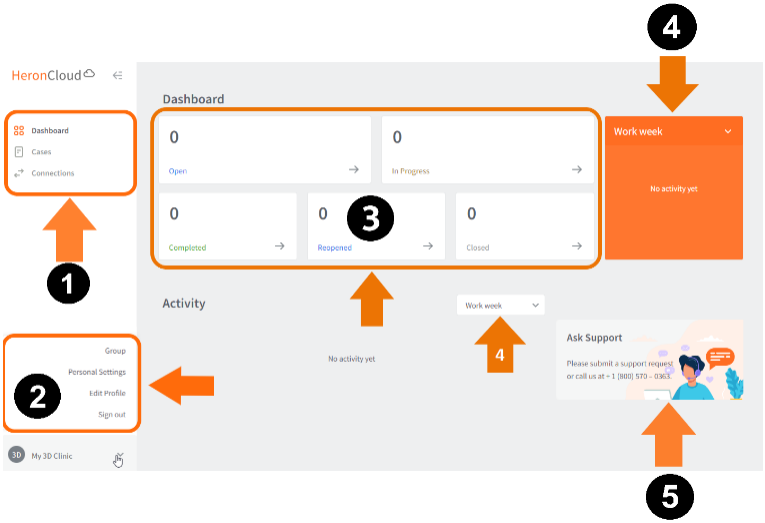
Step 8. Click **Sign In** to access your **HeronCloud™** Clinic account.



The HeronCloud™ platform provides labs you have configured with secure access to all Patient Case files associated with orders sent to them.

9.3 Overview of the HeronCloud™ Dashboard

The **HeronCloud™ Dashboard** provides an at-a-glance overview of activity and options associated with your account:



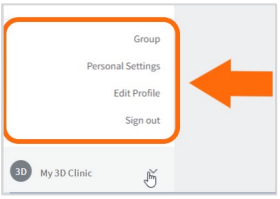
The **Dashboard** enables users to:

1. Access Patient Cases and configure connections with labs.
2. Configure account settings: Groups, Personal Settings, User Profile, Login/out.
3. Overview at-a-glance and access Patient Cases based on Case Status.
4. Select activity based on the display period.
5. Contact Support.

IMPORTANT: The HeronCloud™ platform is designed to facilitate file sharing and manage connections with laboratories. **It is NOT intended as a cloud storage service.**

9.4 Configuring HeronCloud™ User Settings

To configure user settings in HeronCloud™ :



Step 1. In the bottom left-hand menu, click on your **account ID**.

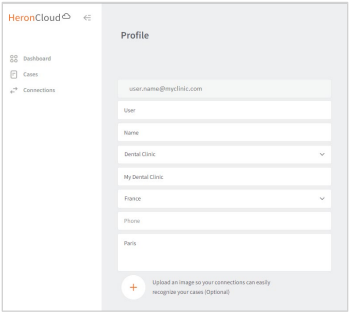
Step 2. in the expanded list, select the desired option.

The following configuration options are available for your HeronCloud™ account:

HeronCloud Settings	Description
Edit Profile	Opens the Profile page, where you can enter and edit your HeronCloud account details. Also enables you to access the Change Password window.
Sign out	To sign out from your account.
Group	Enables you to setup and manage Shared Groups.
Personal Settings	Enables you to configure view settings and notification settings for your HeronCloud account.

9.5 Editing your HeronCloud™ Profile

To edit your HeronCloud™ profile:



Step 1. Select **Edit Profile** in the expanded list.

Step 2. In the **Profile** page, enter/edit profile details.

Dental Clinic and Dental Lab profiles

The **HeronCloud™** provides permissions and workflows specifically adapted to **Dental Clinic** and **Dental Lab** accounts.

IMPORTANT: Make sure you specify the correct **Dental Clinic** or **Dental Lab** profile in user settings, as this will define permissions for your account.

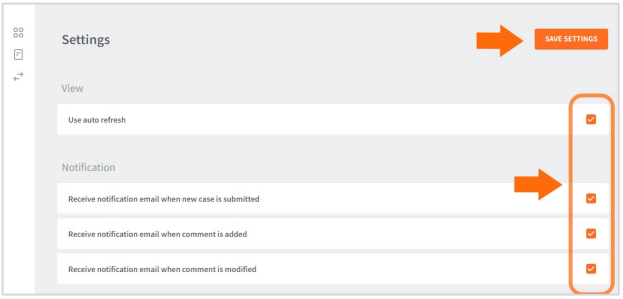
9.6 Configuring View & Notification Settings

To configure **view & notification settings**, in the **HeronCloud™ Profile** expanded list:

Step 1. Click **Personal Settings.**

Step 2. In the **Personal Settings** page:

- Click checkboxes to select View and Notification settings for your HeronCloud™ account.



Step 3. Click **Save Settings**.

The following **view & notification settings** are available in HeronCloud™:

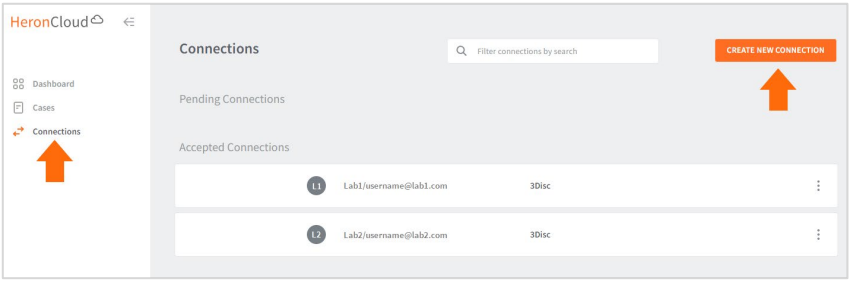
Settings	Description
View Settings	Show 'Cases/Drafts' filter above case list
	Show 'Assignee' column in case list
	Use auto refresh
Push Notification Settings	Receive notification email when new case is published
	Receive notification email when case is modified
	Receive notification email when comment is added
	Receive notification email when comment is modified

9.7 Configuring Connections with Labs

When you have created a HeronCloud™ account and are logged in, you can now configure connections with the labs of your choice.

Adding a lab connection

To add a connection with a lab:



Step 1. Click **Connections** in the HeronCloud™ menu.

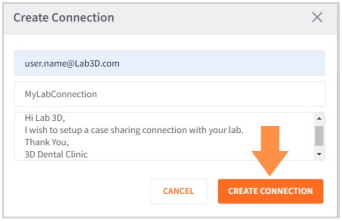
Step 2. Click Create New Connection.

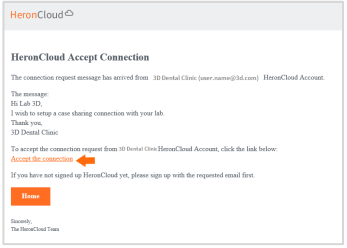
Step 3. In the **Create Connection** dialog box, enter the Lab email address, Alias (optional) and Message.

Step 4. **Click Create Connection**.

A request email is sent inviting the lab to accept the connection.

Step 5. **Click Connections** to view connection status or to add another lab connection.





Current connection requests are displayed in the list of **Pending Connections** in HeronCloud™.

Selecting Default Upload Settings in HeronClinic™

You can select a **default lab connection** in HeronClinic™, to transfer files to via your HeronCloud account:

Step 1. Click the HeronClinic™ **Settings** icon.

Step 2. Scroll to **Upload** Settings.

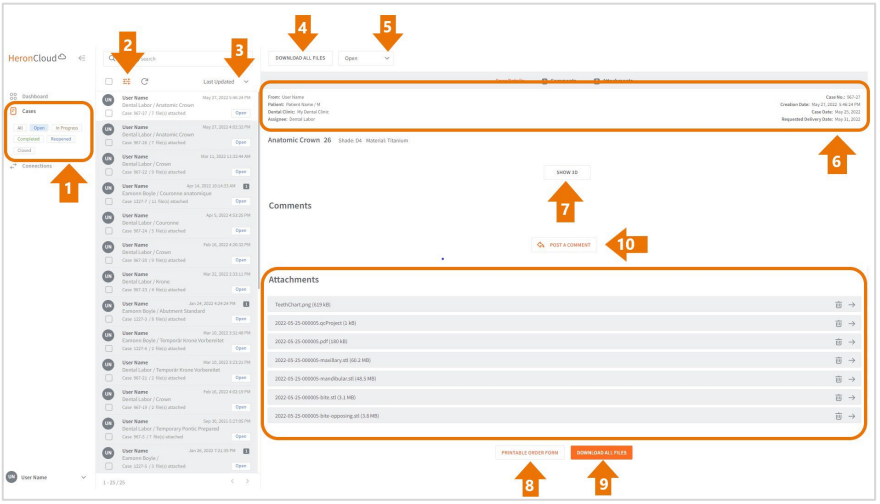
Step 3. Click **Select Default Lab**, and choose a lab from the expanded list.

The default Lab connection will be selected automatically in the Case Setup and Finalization pages.

9.8 Managing Cases in HeronCloud™

To access patient cases in the **HeronCloud™ Dashboard**:

Step 1. Click on the **Cases** icon in the left-hand menu.



The Cases page is displayed, showing the list of uploaded cases

Step 2. Click on a case to display case details.

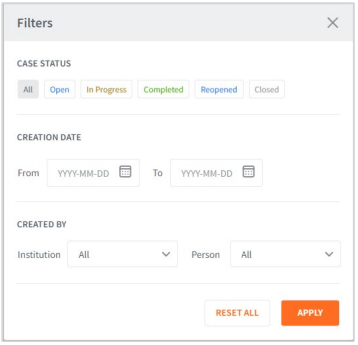
The **HeronCloud™ Cases** page enables users to:

1. Select cases based on status.
2. Filter cases.
3. Display cases bases on Last Updated, Creation date and/or Status.
4. Download all files associated with a selected case.
5. Modify the Case Status.
6. Consult Case details.
7. Display 3D file associated with a case.
8. Display the Case Order Form in PDF format.
9. Download all files associated with a case.
10. Add a comment or file to a case.

9.9 Managing Case Status in HeronCloud™

Filtering Cases

To filter cases in **HeronCloud™**:



Step 1. Select the filter icon at the top of the list of cases.

Step 2. Select the status, creation period, and/or an institution/user.

Step 3. Click **Apply**.

To remove an active filter click **Reset All**.

Displaying Cases by Status

To display patient cases by status in HeronCloudTM:

Step 1. Click on the **Cases** icon in the left-hand menu.

Step 2. Click on a Status button to display the corresponding list of cases.

Step 3. Click again on a Status button to deselect a status.
(You can select multiple status).

Changing the Status of a Case

To change the case status:

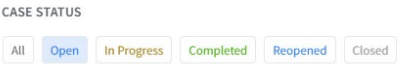
Step 1. Click on the status in case details

Step 2. Select a status from the expanded list.

Permissions enabling a user to modify the case status depend on whether the user profile is a Clinic or a Lab. Permitted options are displayed automatically.

Case status descriptions and permissions

The following case status are available in HeronCloud™:



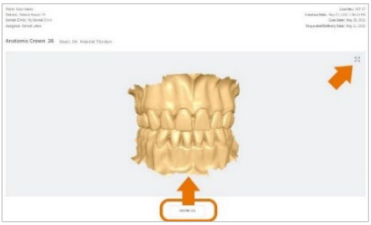
Status	Description	Managed by
Open	Case uploaded by Clinic to HeronCloud™	Clinic
In Progress	Case being processed by Lab (case status modified by lab)	Lab
Completed	Case treated and completed by Lab (case status modified by lab)	Lab
Reopened	Case closed and reopened. (case status modified by Clinic)	Clinic
Closed	Case closed. (case status modified by Clinic)	Clinic

9.10 Displaying 3D Views in HeronCloud™

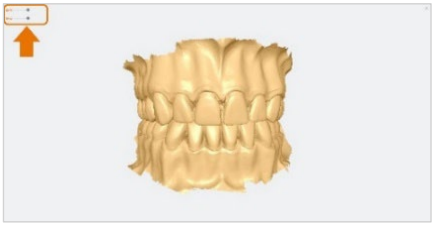
To display the **3D View** for a selected case:

Step 1. Click **SHOW 3D**.

Step 2. To view the 3D model in full screen: click on the icon in the top right-hand corner.



Step 3. To increase/decrease the transparency for an arch: drag the slider left/right.



Step 4. To hide/display an arch: click on the corresponding icon.

Configuring 3D Projection Settings

For information on configuring **3D Projection Settings**, see above:

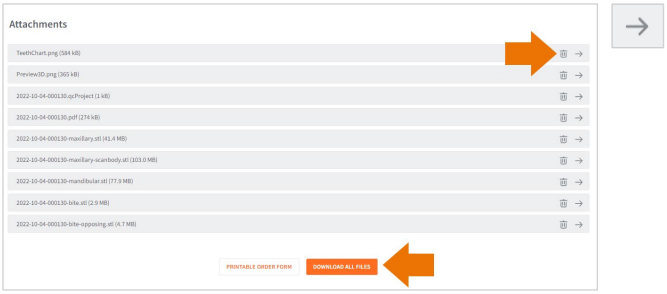
- Section 5.8 - Configuring 3D Settings: 3D Projection

9.11 Downloading Case Files in HeronCloud™

Downloading specific case files

To download specific case files, in the Case details page:

Step 1. Scroll down to **Attachments**.



Step 2. Click on the arrow icon opposite the file attachment.

Downloading all case files

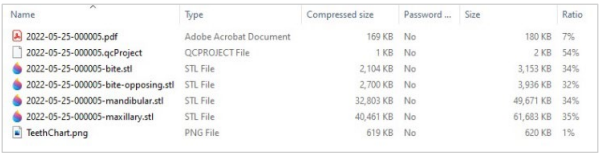
To download all files for a selected case:

Step 3. click on the **Download All Files** button.

Case File Details

Clicking the **Download All Files** button downloads a compressed (.zip) file containing the following:

- The Case **Project** file.
- **3D Scan files** (STL, OBJ, PLY) in the **Preferred Output Format** configured in the **Settings** page
- The case **Order Form** (PDF).



Name	Type	Compressed size	Password ...	Size	Ratio
2022-05-25-000005.pdf	Adobe Acrobat Document	169 KB	No	180 KB	7%
2022-05-25-000005.qcProject	QCPROJECT File	1 KB	No	2 KB	54%
2022-05-25-000005-bite.stl	STL File	2,104 KB	No	3,153 KB	34%
2022-05-25-000005-bite-opposing.stl	STL File	2,700 KB	No	3,936 KB	32%
2022-05-25-000005-mandibular.stl	STL File	32,803 KB	No	49,671 KB	34%
2022-05-25-000005-maxillary.stl	STL File	40,461 KB	No	61,683 KB	35%
TeethChart.png	PNG File	619 KB	No	620 KB	1%

NOTE: To configure the **Preferred Output Format** for your case files, see above:

- Section 5.1 - General Settings.

9.12 Displaying a Case Order Form in HeronCloud™

To display a **Case Lab Sheet/Order Form** in **HeronCloud™**:

Step 1. Click the **Printable Order Form** button at the bottom of the **Case details** page.

This will open the **Lab Sheet/Order Form** in .pdf format.

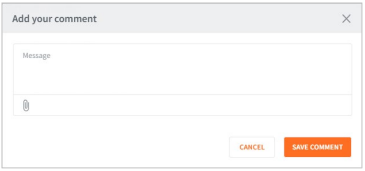
Configuring Lab Sheet/Order Form settings

For information on configuring **Lab Sheet/Order Form settings**, see above:

- Section 5.7 - Configuring Lab Sheet Settings

9.13 Adding a Comment to a Case

To add a comment to a case in **HeronCloud™**, in the **Case details** page:

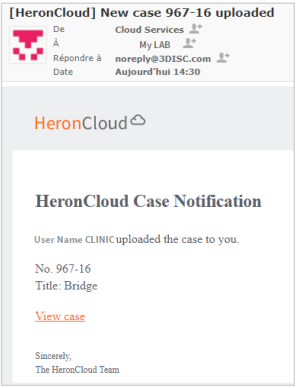


Step 1. Click on Post A Comment.

This will open the **Add your comment** dialog box.

Step 1. Enter your comment and add any files as required.

Step 2. Click **Save Comment**.



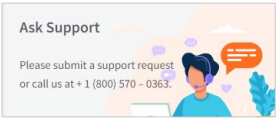
The lab to which you sent the case will receive an email notification inviting them to view your comment.

NOTE: You can also add comments to a case before upload, in the **HeronClinic™ Finalization** page. For more information, see above:

- Chapter 8 - Finalizing a Patient Case

9.14 Contacting 3DISC Support in HeronCloudTM

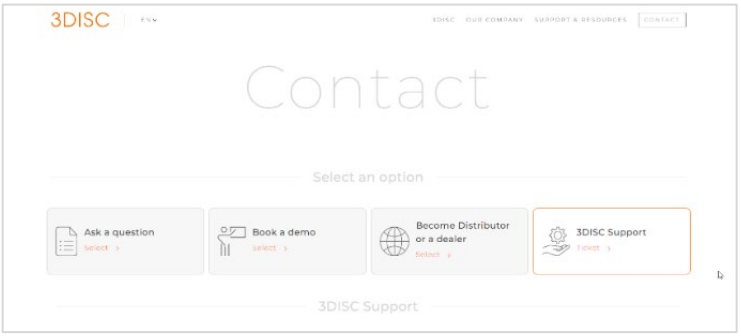
To contact **3DISC Online Support** via the **HeronCloud™ Dashboard:**



Step 1. Click on **Ask Support** in the HeronCloud™ Dashboard.

This opens the Contact page of the 3DISC website.

Step 2. Click **Ask a question/Book a demo/3DISC Support** and enter your request.



NOTE: All 3DISC online support requests are encrypted to respect user and patient data protection.

Step 3. Click **Submit** to send your request to **3DISC Support**.

10. Maintenance

10.1 Cleaning the Handpiece

The entire body, cord and base of the scanner must be wiped down using a **Federal Environmental Protection Agency (EPA)** approved disinfectant that is labeled and specified for tuberculocidal/ mycobactericidal activity. Do not use disinfectant on the nozzle.

IMPORTANT: All components of the scanner (excluding the tips) must be **wiped down** and not sprayed. Avoid getting any moisture, alcohol or disinfectant inside the open scanner chamber.

Recommended and approved surface disinfectants:

- Birex Wipes: TB Claim= 10 minutes- 'Phenolic (Dual) Water-Based'
- Prospray Wipes: TB Claim=10 minutes- 'Phenolic (Dual) Water-Based'
- Cavicide Wipes: TB Claim=3 minutes- 'Phenolics (Dual) Alcohol-Based'
- DisCide ULTRA Wipes: TB Claim-1 minute- 'Phenolics (Dual) Alcohol-Based'
- Maxiwipe Germicidal Cloth: TB Claim=5 minutes- 'Phenolics (Dual) Alcohol-Based'
- Ster 1 Plus: TB Claim=5 minutes- 'Quaternary ammonium and Alcohol-Based'

10.2 Cleaning and Sterilizing Tips

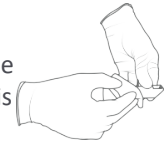
IMPORTANT: The included tips must be autoclaved prior to use as they do not come pre-sterilized.

IMPORTANT: Ensure that the surface of the mirror does not show residues, smudges, scratches, or any damage, as this would affect the performance of the device.

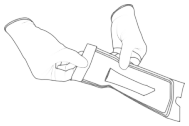
Step-by-Step Procedure

Step 1. Clean the tip with soapy water, ensuring that the mirror is clean and free of smudges, stains, or any residue. Avoid using abrasive cloth materials as this will scratch the mirror.

Step 2. After drying the tip exterior, carefully dry the interior and mirror with lint free wipes ensuring you do not scratch the sur- face. The mirror should be free of any noticeable debris or water spots.

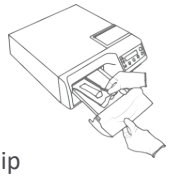


Step 3. Insert and seal the tip into a sterilization pouch. Make sure the seal is airtight. Each tip should be packaged individually.



Step 4. Sterilize the wrapped tip in a steam autoclave at the following parameters:

- 132°C (270°F) at 4 minutes, or
- 134°C (273°F) at 4 minutes, or
- 121°C (250°F) at 45 minutes



Step 5. Ensure the dry cycle is complete prior to removing the tip from the autoclave. If the pouch is damp with moisture, proper sterilization cannot beguaranteed

WARNING: Always autoclave the tip wrapped in a sealed sterilization pouch; failure to do so will result in permanent stains on the mirror.

NOTE: Tips should not be placed in an ultrasonic cleaner or any cold sterile solutions. The sterilant solutions will leave a sticky residue or film on the mirror when drying

WARNING: Do not autoclave the handpiece of the device.

WARNING: Do not remove the pouch before the sterilizer completes its full dry cycle. If the pouch is wet or has any signs of moisture, this can potentially leave water spots on the mirror which can affect image quality during scanning.

10.3 Disposal

The Heron is an electrical device with electronical components inside and should be disposed of in accordance with local environmental laws and regulations.

10.4 Calibration

The Heron™ IOS is calibrated in the factory and therefore does not require calibration when installed.

WARNING: General prohibition indication. The functionality of the system can be destroyed in the case of incorrect use. If unauthorized changes have been made to the delivered system and accessories, the warranty by 3DISC becomes void. 3DISC will not accept any responsibility or liability for the improper functioning of the product in such a case.

WARNING: Use extreme caution when cleaning the mirror as it is very delicate and is prone to scratching.

If the **Heron™ IOS** begins to have problems scanning and recognizing teeth models, contact your dealer or **3DISC Support** technician.

If the scanner cannot be recalibrated remotely, this may result in the system being returned for repair/ calibration.

For more information, see below:

- Chapter 12 - Support, Warranty and Repair Service.

11. Safety Guidelines and Warnings

11.1 Warnings and Symbols

NOTE: Notes represent information that is important to know but which do not affect the functionality of the system.

WARNING: The functionality of the system will be limited in the case of incorrect use.

11.2 General Guidelines

- Do not spill liquids on the body of the device
- Never operate the device in a wet environment.
- Keep the device away from radiators and heat sources.
- Use the device only with the accessories supplied.
- Do not alter the device or open enclosures.

WARNING: General prohibition indication. The functionality of the system can be destroyed in the case of incorrect use. If unauthorized changes have been made to the delivered system and accessories, the warranty by 3DISC becomes void. 3DISC will not accept any responsibility or liability for the improper functioning of the product in such a case.

If any of the following conditions occur, unplug the device from the electrical outlet and contact authorized service personnel:

- The power cord or power adapter is damaged.
- The device has been exposed to water.
- The device has been damaged.
- The device does not operate correctly when the operating instructions are followed.

11.3 General Warnings

System Modification

WARNING: Modifying the system may result in physical injury to the patient and operator, and damage to the system.

Approved Software

The Heron™ IOS device is designed to operate with the HeronClinic™ software.

WARNING: The Heron™ IOS scanner should only be used with approved, compatible software.

Equipment Failure

WARNING: In case of **system** malfunction or failure, you should:

- Prevent any contact between the system and the patient.
- Unplug the system from the power outlet and the computer.
- Store the system away so it cannot be used by someone else.
- Contact service personnel.

11.4 Mechanical Hazards

Moving Parts

NOTE: All moving parts are inside handheld scanner so do not open the unit.

Dropped Equipment

WARNING: If the scanner tip is dropped, ensure that the mirror is not damaged and that it is not detached; if the tip is damaged it should be disposed of immediately. If the scanner handpiece is dropped or bumped, ensure that no part of the system is damaged as it could affect performance.

Base

NOTE: When not in use, always rest the handpiece on the Base. The Base may be mounted on the wall per provided instructions. Do not place the Base on a slanted surface. Place the cables (power cable and USB cable) where people cannot accidentally get caught in them and potentially damage the system.

11.5 Electrical Safety

Electrical Shock

WARNING: There is a risk of electrical shock when opening or attempting to open any part of the system; only qualified service personal should open parts of the system.

Stress on Cables

WARNING: Care should be taken not to apply unnecessary stress on the cables of the system, whether it is the power cable, the USB cable or the cable between the handpiece and the Base.

WARNING: Only use the power adapter supplied as a part of the system.

11.6 Eye Safety

WARNING: During operation, the system emits a bright, flashing light from its tip. Although the system complies with standard IEC 62471 (Photobiological safety of lamps and lamp systems), prolonged exposure to flashing light may result in discomfort, seizure or eye irritation.

11.7 Hygiene

WARNING: In order to maintain safety for the patient, wear surgical gloves when handling any parts of the system. Always ensure that the tip is mounted on the handpiece before inserting it into the mouth of the patient. Before using the system with a new patient, ensure that the system is disinfected, and the tip is sterilized.

11.8 Precautions During Systems Operation

WARNING: The Heron™ IOS system contains delicate optical and mechanical elements and therefore should be handled carefully. Do not drop, bump, or shake the handpiece or the tip. Always place the handpiece on the Base when not in use. Do not put stress on the cable connecting the handpiece to the Base. Do not submerge the handpiece or the Base in any liquid. Do not place the handpiece or the Base on wet or heated surfaces. Hold the handpiece with a firm grip when handling it.

WARNING: Portable RF communication equipment (including peripherals such as antenna cables and external antennas) should not be used within 30 cm of any part of the Heron™ IOS, including cables specified by the MANUFACTURER. Otherwise, performance degradation of this equipment may occur.

NOTE: During operation of the system, the handpiece and the tip may get slightly warm; this is normal.

WARNING: In order to prevent over-heating of the system, the ventilation opening at the bottom of the handpiece should never be obstructed.

WARNING: Use of this equipment adjacent to or on other equipment must be avoided as it may result in improper operation. If this use is necessary, it is advisable that this and the other equipment be observed to verify that they are operating normally.

Heron™ IOS Performance

Under normal use, the Heron™ IOS should transmit images to the laptop/workstation with the installed image manipulation software and the video stream is visible in the bottom left corner of the screen. If not used properly, there may be loss of transmission of image information or slow transmission temporarily.

11.9 Accessories

WARNING: Only use 3DISC approved accessories. Not using 3DISC approved accessories may result in deterioration of performance.

Accessory	3DISC Part Number
USB 3.0 Cable	IOS-CP-00-043
AC/DC Power Adapter	IOS-CP-00-088

Heron™ IOS is intended for use in a professional healthcare setting with electromagnetic environment specified below.

11.10 EMC Guidance and Declaration

Electromagnetic Emissions

Emissions Test	Compliance	Electromagnetic Environment Guidance
RF Emissions CISPR 11	Group 1, Class A	Heron™ IOS uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage Fluctuations/Flicker Emissions IEC 61000-3-3	Complies	Heron™ IOS is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.

Electromagnetic Immunity

Immunity Test	Test Level	Compliance Level	Electromagnetic Environment Guidance

Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV /Contact ± 2 kV, ± 4 kV, ± 8 kV, ± 15 kV /air	± 8 kV /Contact ± 2 kV, ± 4 kV, ± 8 kV, ± 15 kV /air	Surface should be wood, concrete, or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/ burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines ± 1 kV for input/output lines	Mains power quality should be that of a typical professional healthcare facility environment.
Surge IEC 61000-4-5	± 0.5 kV, ± 1 kV line(s) to line(s) ± 0.5 kV, ± 1 kV, ± 2 kV line(s) to earth	± 0.5 kV, ± 1 kV line(s) to line(s) ± 0.5 kV, ± 1 kV, ± 2 kV line(s) to earth	Mains power quality should be that of a typical professional healthcare facility environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% UT (>95% dip in UT) for 0,5 cycle 40% UT (60% dip in UT) for 5 cycles 70 % UT (30% dip in UT) for 25 cycles <5% UT (>95% dip in UT) for 5 s	<5% UT (>95% dip in UT) for 0,5 cycle 40% UT (60% dip in UT) for 5 cycles 70 % UT (30% dip in UT) for 25 cycles <5% UT (>95% dip in UT) for 5 s	Mains power quality should be that of a typical professional healthcare facility environment.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a location in a typical professional healthcare facility environment.
Radiated RF IEC 61000-4-3	Table 9 in IEC-60601-1-2 2014	Table 9 in IEC-60601-1-2 2014	Portable and mobile RF communications equipment should be used no closer to any

Conducted RF IEC 61000-4-6	3V 0.15-80MHz 6V in ISM bands between 0.15 MHz and 80 MHz 80% AM at 1KHz	3V 0.15-80MHz 6V in ISM bands between 0.15 MHz and 80 MHz 80% AM at 1KHz	part of the Heron™ IOS system, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance: $d = [\frac{3.5}{V1}]\sqrt{P}$ 150 kHz to 80 MHz $d = \left[\frac{3.5}{E1}\right]\sqrt{P}$ 80 MHz to 800 MHz $d = \left[\frac{7}{E1}\right]\sqrt{P}$ 800 MHz to 2.5 GHz where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, should be less than the compliance level in each frequency range. Interference may occur in the vicinity of equipment marked with the following symbol: 

NOTE: UT is the A.C. mains voltage prior to application of the test level.

Recommended Separation Distances Between Portable and Mobile RF Communications Equipment and the Heron™ IOS System that is not Life-Supporting

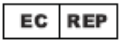
Heron™ IOS System is intended for use in the electromagnetic environment in which radiated RF disturbances are controlled. The customer can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Heron™ IOS system as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = [\frac{3.5}{V1}]\sqrt{P}$	80 MHz to 800 MHz $d = [\frac{3.5}{E1}]\sqrt{P}$	800 MHz to 2.5 GHz $d = [\frac{7}{E1}]\sqrt{P}$
0,01	0.12	0.12	0.23
0,01	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.
NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

11.11 Symbols on the Heron IOS and Transport Case

Symbol	Description
	Manufacturer's trade name and address (ISO 15223-1)
	Date of manufacture (ISO 15223-1)
	Equipment Power On/Off (push/push)
	USB 3.0 plug
	Warning, Consult Accompanying Documents
	General mandatory action manual
	General prohibition indication
	User Manual Reference
	Directive on Waste Electrical and Electronic Equipment
	Authorized Representative in the European Community
	Warning label for LED
	Non-ionizing electromagnetic radiation
	Direct Current
	Type(B) Level of protection against electric shock
	Consult operating instruction for use.
	European Conformity mark
	Prescription symbol
	Non-sterile (Scanner-Tips) (IOS-FPL-71-001)
	User manuals are available electronically at the link provided (3disc.com/support-resources/heron-ios-user-manuals/)

	INMETRO Certification Mark
	Ukraine Conformity Mark

12. Support, Warranty and Repair Service

12.1 Support

If you have questions about the software, please consult the manual and Help menu in the software. If you are experiencing issues with your software, please check the list of common issues provided below prior to contacting a dealer. It could be simply a question of a minor issue that can be fixed quickly. However, if you're still experiencing problems after following the recommendations in this section, then please contact the dealer where you bought the equipment.

Operating Issues Checklist

Issue	Recommendation
There's a memory full error message that pops up when the software is open.	Clear some space on the C Drive
The status in the Live view window is "Disconnected".	Check that you have external power to the Heron and that the USB cable is connected to a USB 3 Port.
Scanning is very slow.	Check that the Laptop is connected to an external power source.
The corners are cut in the live view window.	Check that the Tip is correctly mounted and when rotating it is locking in place with a click.
There is a red square in the scan window	Go back to a tooth that is scanned and start from there again
No images appear when scanned but everything else (e.g. live window image, sounds, FPS) works fine.	The scanner might need to be recalibrated. Please contact your local dealer for support.
There are spots on the Live view window.	Check and clean the mirror of the tip.
Where can I get the Heron™ IOS software and manuals?	Software and manuals can be downloaded in the Support section of the 3DISC website.

12.2 Standard Warranty

3DISC warrants its non-consumable hardware products to be free from defects in materials and workmanship. The warranty covers the cost of parts and labor to repair the product.

Please keep the shipping container for future use. Products returned to the factory for

repair should be properly packaged. To obtain warranty service, follow the procedure described in the Repair Service section. Failure to do so will cause delays and additional expense to the customer.

The warranty is valid when the product is used for its intended purpose and does not cover products which have been modified without written permission from 3D Imaging and Simulation Corp. Americas, or which have been damaged by abuse, accident or connection to incompatible equipment.

This warranty is in lieu of all other warranties, expressed or implied.

12.3 Repair Service

The Heron™ IOS cannot be serviced locally. In the event of a hardware malfunction, contact your dealer to arrange for a swap unit (same model or newer) so your unit can be replaced, and work can continue. Some testing might be needed in order to verify the Hardware/Software error or malfunction.

The company reserves the right to cease providing repair, maintenance, parts and technical support for its non-consumable hardware products five years after a product is discontinued.

12.4 Out of Warranty Repair Service

Out of warranty repair service is available in selected geographical locations.
Contact the supplier for current terms and rates.

We hope this User Manual was helpful to you.
For additional material and user information go to:

3disc.com/support-resources/

Heron™ IOS User Manuals

Heron™ IOS How-to Videos

Heron™ IOS Training Videos

3DISC

CE EC REP

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