User Manual

Version 3.6

EzScan-i

vatech

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Introducing the EzScan

1.1 Introduction

Thank you for purchasing the EzScan solution from Vatech. The EzScan solution is designed and developed to produce high-quality digital intraoral scans or models, for dental restoration or analysis.

The EzScan solution is designed with you as a dentist and your patient in mind. The scanner is lightweight, small and easy to use, enabling fast, accurate scanning and great patient experience. The Case management application provides efficient and customizable order management, for easy and intuitive use. 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 EzScan-i 3.6 software release.

For more information consult: EzScan-i 3.6 Release Notes.

1.3 Indications supported

The data sets from the EzScan can be used for the following indications.

- Conventional crowns
- Anatomic crowns
- Copings
- Provisional crowns
- Anatomical pontics
- Reduced pontics
- Provisional pontics
- Inlays/Onlays
- Implant abutments
- 3-unit implant bridges
- Up to 5-unit 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 EzScan is manufactured and marketed in accordance with US FDA Regulations and EU Medical Device Regulation 2017/745.

1.6 Intended Use

The EzScan 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 EzScan 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.

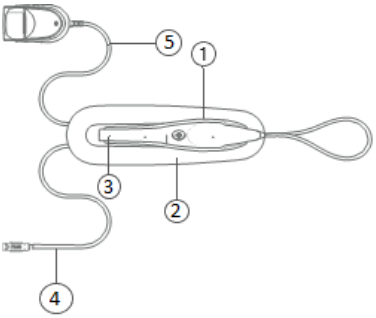
2. Components Overview

The EzScan system is composed of hardware and software components:

2.1 Hardware Components

The EzScan system is composed of the following hardware components*:

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



Hardware Component	Part Number
EzScan System (Includes 3 Tips)	V2810110
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 box in a safe place and do not dispose of it. The box is optimal for any necessary transportation or shipment of the EzScan.

2.2 Software Components

The EzScan system comprises the following software components:

EzScan-i : 3D Scanning and Case Management software.

EzScanCloud : 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 Computer Requirements

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 EzScan-i software.
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 at this stage.

Software Configuration Recommendations

Windows automatic updates	We recommend 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
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

WARNING: AMD GPUs are NOT guaranteed compatible with EzScan.
Not meeting minimum hardware requirements will affect the performance of the scanner.

2.6 Environment Conditions

Operating Temperature	10°C to 40°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 9.1: 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 132°C/134°C 4 mins cycle or 121°C 45 min cycle.

See below: section 9.2 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

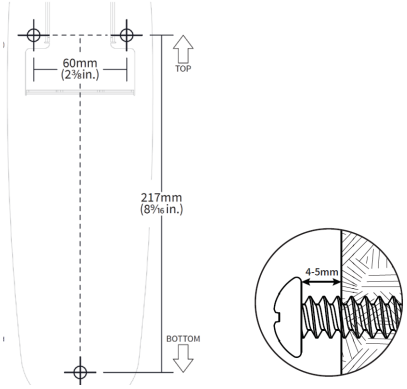
The EzScan™ intraoral scanner is factory calibrated. In the case of calibration issues due to transport, please contact your reseller or Vatech support technician.

3. Installing and connecting the EzScan

3.1 Wall Mount Installation Instructions (Optional)

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

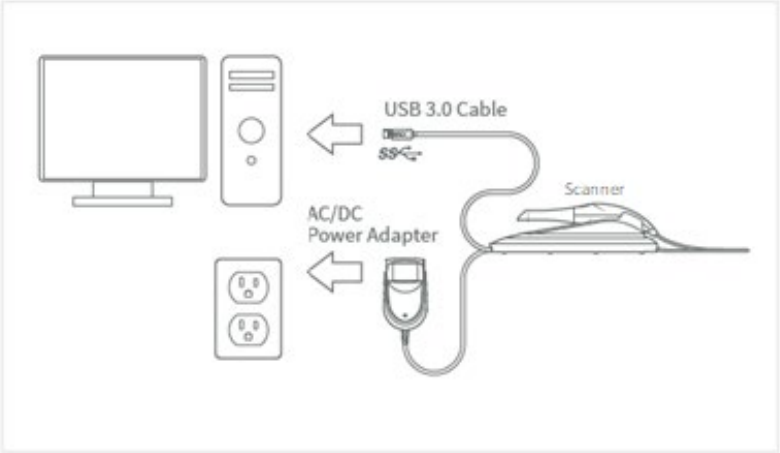
- It is recommended to use wall anchors and threaded screws with an 8mm (5/16th inch) head diameter.
- A 4-5mm (3/16th in) distance between wall and bottom screw head is recommended.



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

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

3.2 Connecting the EzScan



To install and connect the EzScan Scanner:

STEP 1. Place the docking base on a flat, stable surface and place the EzScan 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.

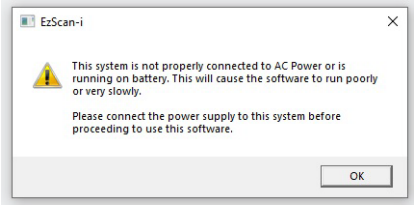
STEP 5. Connect the adapter block provided to a power outlet.

IMPORTANT: 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).

IMPORTANT: Connect to Power Supply before Scanning!

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



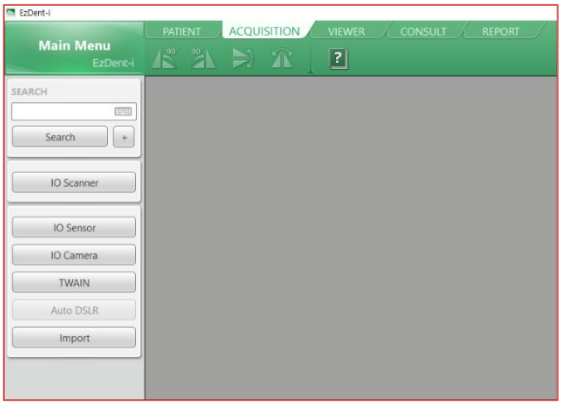
In this case, please connect your laptop to the power supply **before proceeding to use to scanner**.

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

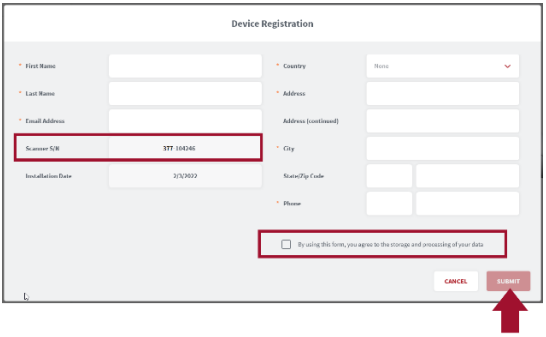
4. Getting Started With EzScan-i

Once you have connected the EzScan, you are ready to launch the EzScan-i software installed on your computer. The EzScan-i software is launched by selecting the **IO Scanner** option in **EzDent-i**.



4.1 Device Registration

When you launch the EzScan-i software for the first time, you will be invited to register your EzScan device:



In the Device **Registration** dialog box:

STEP 1. Enter your personal contact details.

STEP 2. Copy/paste the scanner serial number from General settings

STEP 3. Tick the consent box to agree to the storage and

processing of your data.

STEP 4. Click to **Submit** device registration information.

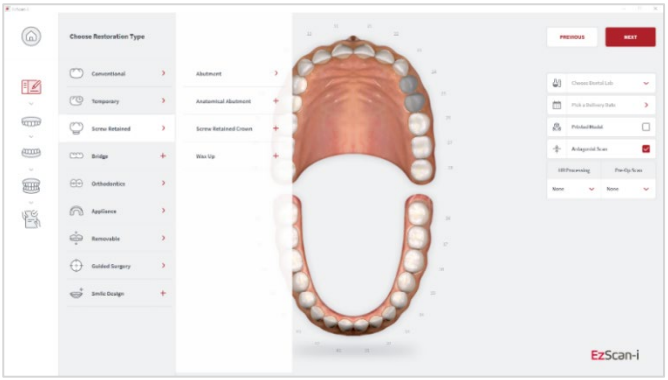
When you submit the device registration form, the EzScan-i interface will open directly in the **Case Setup** page.

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

Case Setup

The Case Setup icon is highlighted in the left-hand menu.

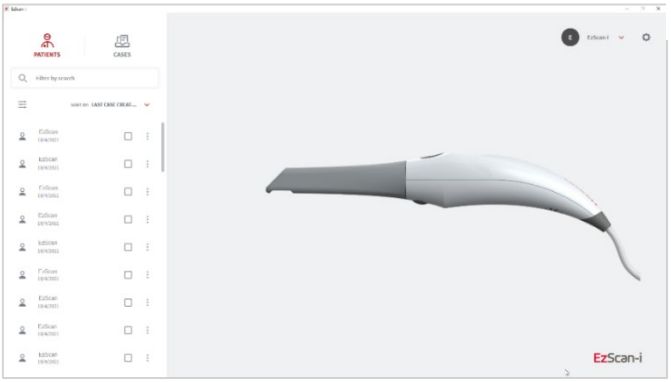
The Case Setup page enables you to select restorations, and to enter restoration and order form details.



For more information see below: section 6.3 Setting Up a Case in EzScan-i

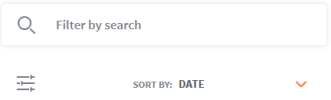
4.2 Accessing the EzScan-i Homepage

To go to the EzScan-i homepage, click on the **Home** icon in the top left corner of the **Case Setup** window.



Patients/Cases View

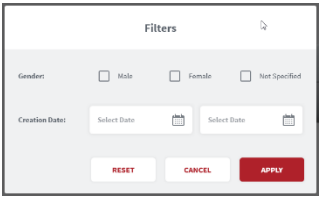
In the EzScan-i homepage, you can toggle between **Patients** and **Cases** views, and Filter or search desired Patients/Cases.

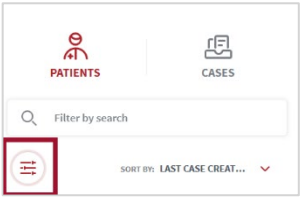


Filter/Search

You can search by term or Click on the Filter icon to open the Filters dialog box.

Patients and cases can be filtered by Gender and/or Date.





An active filter is indicated as shown above.

Select A User Start Page Default View

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

STEP 1. Click **Settings**.

STEP 2. In **the** left-hand **Settings** menu select

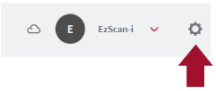
General.

STEP 3. Click **Preferred Start Page**, and in the drop-down menu select **Recent Patients** or **Recent Cases**.

4.3 Customizing the EzScan-i Admin User Account

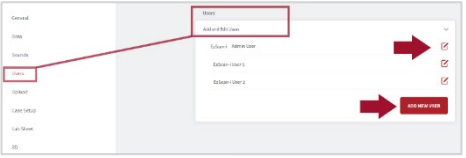
To customize the **EzScan-I** Admin User Account (E):

STEP 1. Click **the EzScan-i** Admin User Account icon (**E**) : This will open the User Start Screen.



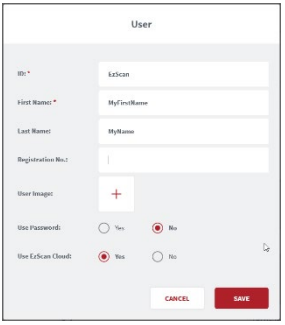
STEP 2. Click the **System** icon located in the top right-hand corner of the User Start Screen, to access the **Settings** interface.

STEP 3. Select **Users** in the left-hand **Settings** menu, and click on **Add and Edit Users**.



STEP 4. Select the default "EzScan-i" **User profile**, and click on the **Edit** icon to customize the default Admin User account.

Note: The default admin ID "EzScan" cannot be modified.



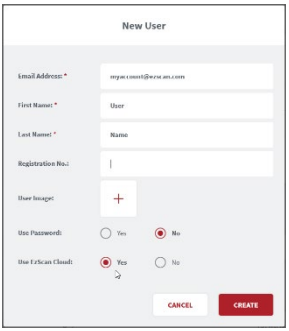
STEP 5. In the User Image field, you can click to open the Picture dialog box, to add or take a User Photo.

STEP 6. To apply changes, **restart** the application.

4.4 Adding a New User Account

You can use the **EzScan-i** Admin User profile (E) to add new User Accounts.

To add a new User account:



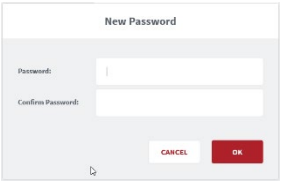
STEP 1. In Add and Edit Users, click **ADD NEW USER:**

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

STEP 2. Enter User information: email address, first name, last name, registration no. (optional) and 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. E**nter and confirm** the password to apply to this user account.

STEP 5. To apply **User** changes, close **and restart** the application.

4.5 Accessing Your EzScan-i User Account

User accounts are displayed in the left-hand menu of the EzScan-i Home Page.

To access your User account **Start Screen**:

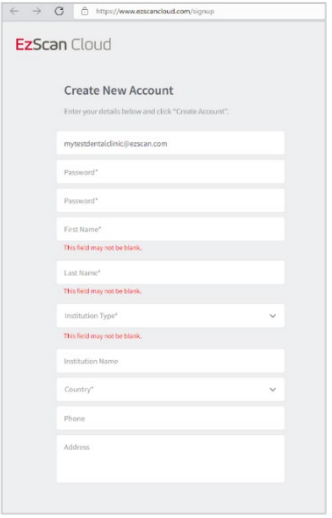
STEP 1. Click on your User profile in the left-hand menu of the EzScan-i Home page.

The **EzScan-i Login** window will open automatically, inviting you to **Login** or to **Create a New Account**.

STEP 2. Enter the password and click **SIGN IN**.

4.6 Linking a User Account to the EzScanCloud

You can link your **EzScan-i** User account(s) to the **EzScan** solution's dedicated **EzScanCloud** platform. The **EzScanCloud** enables users to easily and efficiently setup and manage file transfers and connections with labs.



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

To link the **EzScan-i** User profile to an EzScanCloud 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 EzScanCloud** field, Select **Yes**.

STEP 3. Click **Create**, to add the new User account.

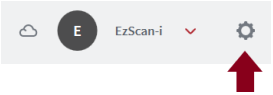
STEP 4. Click **OK**.

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

5. Configuring EzScan-i Settings

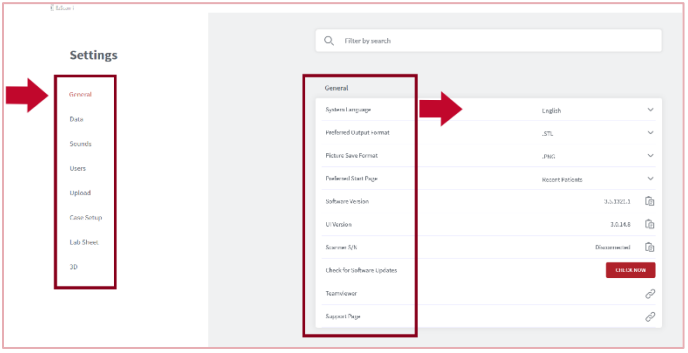
Accessing the Settings Menu

System settings can be accessed by clicking the System icon located in the top right-hand corner of the EzScan-i 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.

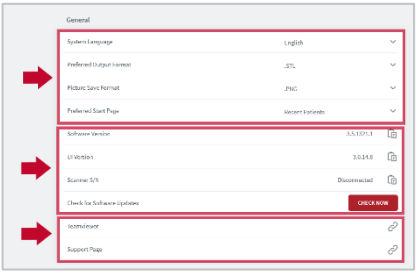


Note: System settings are automatically applied to **all users**.

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 support**: access the EzScan 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.

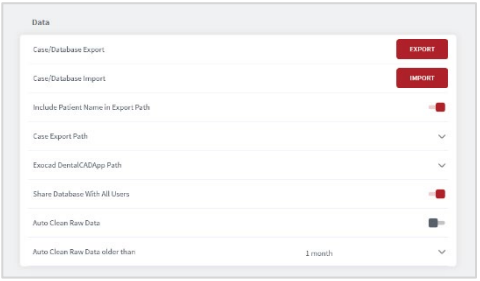
General Settings

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
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
Teamviewer	Click to allow secure remote control of your workstation by a Vatech support technician
Support Page	Vatech online support

5.2 Data Settings

Data settings enable users to:

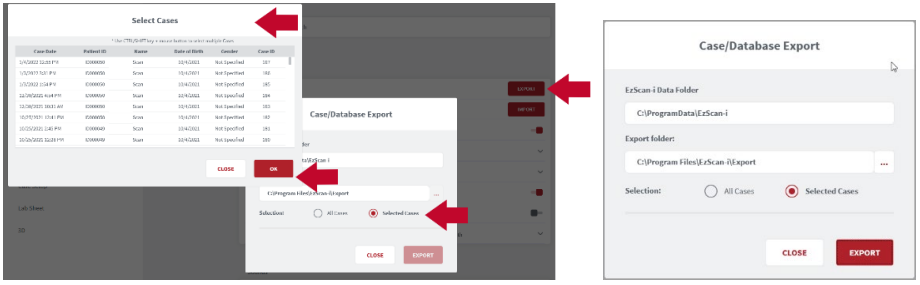
- Configure Case/Database Import/Export settings
- Carry out Case/Database Import/Export
- Share/Restrict access to the Database
- Program automatic deletion of raw scan data (Auto Clean)



Case/Database Export

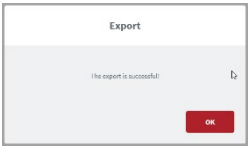
To configure **Case/Database Export** settings:

- Click on the **EXPORT** button to select the **Export folder** linked to your **EzScan-i Data folder**.



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

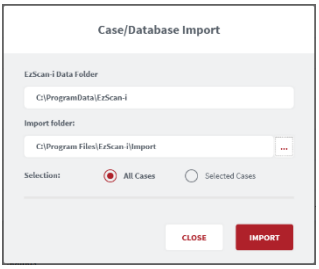
- Click **Selected Cases** and **EXPORT** to access the **Select Cases** window.
- Use [**CTRL]+left-click** to select multiple cases.
- Use [**CTRL]SHIFT+left-click** to select a range of cases.



All files related to the selected case(s) will be exported to the folder configured in Data Settings.

Note: *The export destination folder must be empty.*

Case/Database Import



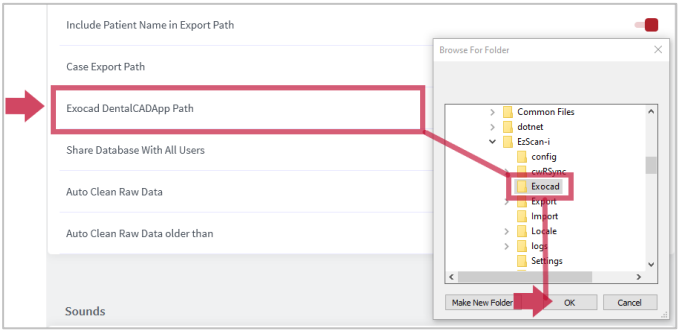
In **Data** Settings:

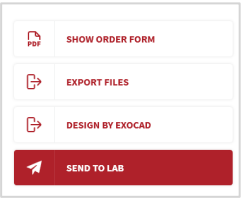
- Click on the **IMPORT** button to select the Import Folder linked to your EzScan-i Data folder.

You can import **All** or **Selected Cases**.

Exocad DentalCADApp Path

In **Data** Settings, click on **Exocad DentalCADApp Path** to select the export path to your Exocad CAD application.

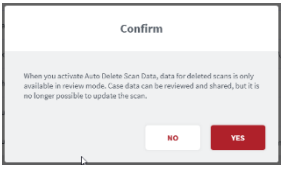




Note*:* When the **Exocad DentalCADApp** export path is configured in **Data Settings**, the **Design BY Exocad** export option is displayed in the **Case Finalization** page.

See below: section 7.9 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.

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

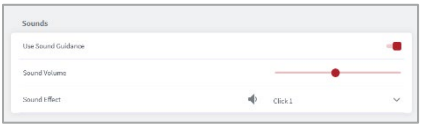
Data Settings Description

Data Setting	Description
Case/Database Export	Click on the **EXPORT** button to select the **EzScan-i Data folder** and **Export** folder, and to export **All** or **Selected Cases**
Case/Database Import	Click on the **IMPORT** button to select the **EzScan-i 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 Sound Settings

Sound settings enable you to activate/deactivate the Sound 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.



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)

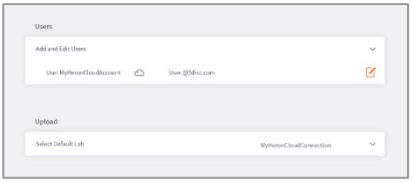
Sound Settings Description

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

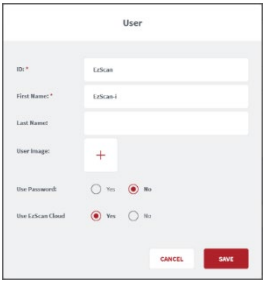
5.4 User Settings

In User settings you can Add or Edit Users using the administrator account.

User dossiers can be password protected, and linked to an EzScanCloud account.



Add And Edit Users



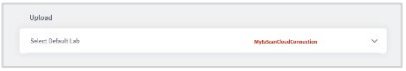
Click the right-hand Edit icon to enter/modify User information: email, name and photo.

Select Use Password to password protect the User account.

Select Use EzScanCloud to link to an EzScanCloud account.

See above: section 4.6 Linking a User Account to the EzScanCloud

5.5 Upload Settings

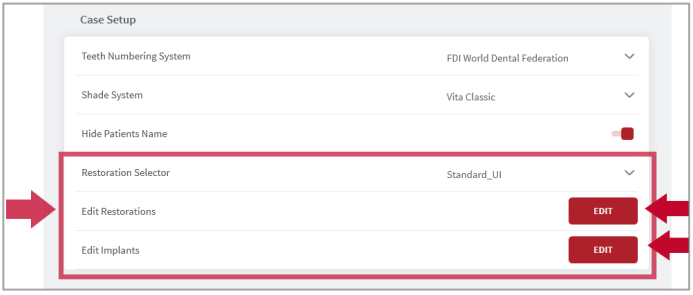


The Upload setting enables users to select a default lab to transfer files to in their EzScanCloud account.

The default connection will be selected automatically when preparing orders to send to a lab. See below: Finalizing A Patient Case.

5.6 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)

Select Shade System

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

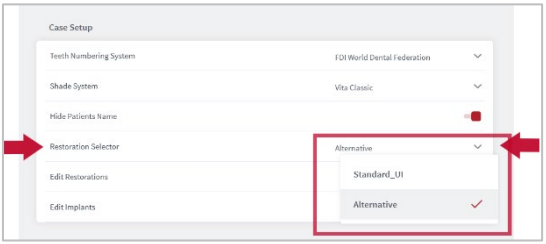
Hide Patient Name

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.

Restoration Selector

The **Restoration Selector** setting allows you to select **Standard** or **Alternative** 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** or **Alternative**.

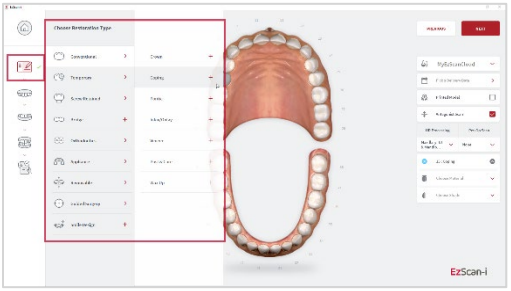


Restoration Selector: Alternative

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:



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

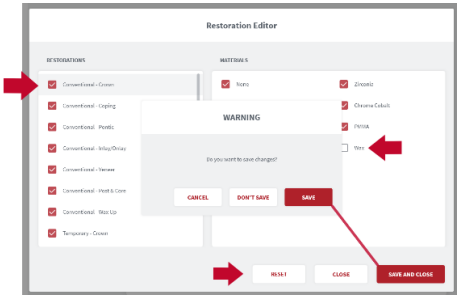
When you select a **Restoration Selector** in **Case Setup** Settings, the **Restoration Editor** window will automatically reflect this choice.

Edit Restorations

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

To **Edit Restorations** options:

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.

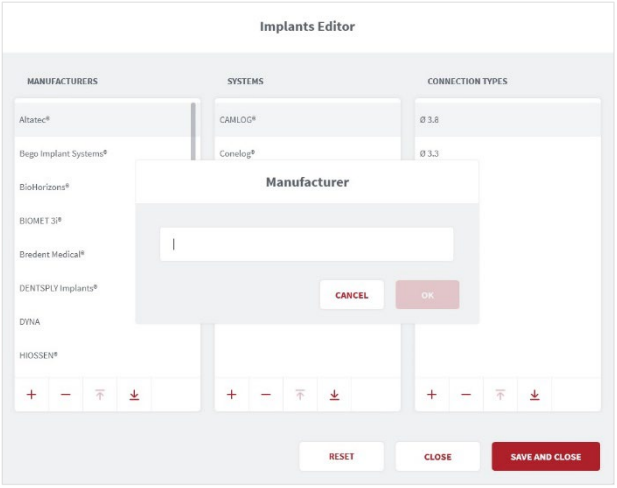
STEP 4. Click **Save and Close** to save changes.
Click **Close** to close without saving changes.

STEP 5. **Restart** the EzScan-i application to apply changes.

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

Implants Editor

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



STEP 1. Click Edit to open the Implants Editor.

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

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 2. Click **Reset** to reset to default user settings.

STEP 3. Click **Close** to close without saving changes.
Click **Save and Close** to save changes.

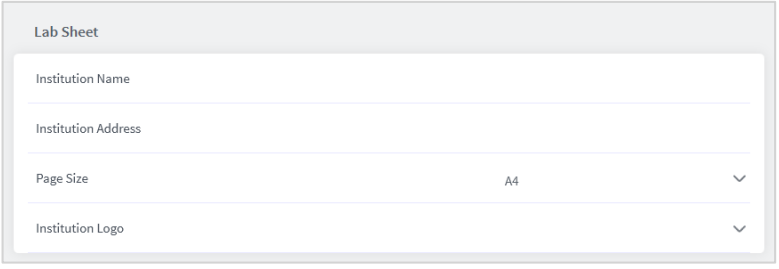
STEP 4. **Restart** the EzScan-i to apply changes.

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.
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.

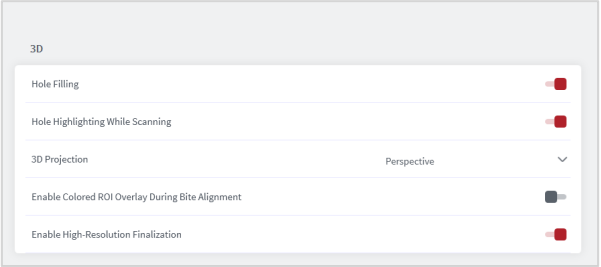
5.7 Lab Sheet Settings

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).



5.8 3D Settings

3D Settings enable you to select live scan 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 Preview 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

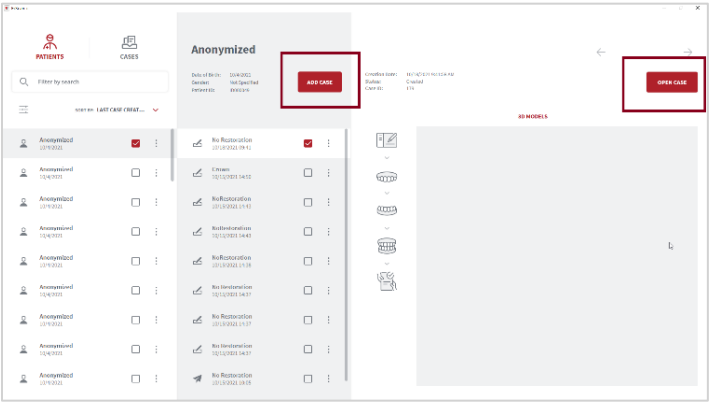
Select to enable default high-resolution finalization.

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

6. Managing Cases in EzScan-i

Patients and their associated case files can be accessed in the EzScan-i homepage. All patient information can be modified in EzDent-i.

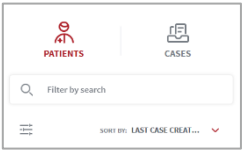


If Patient ID does not already exist in the EzScan database, EzScan-i creates a new Patient entry using Patient ID, names, date of birth and gender provided by EzDent-i.

6.1 Managing Patient Profiles

Filtering Patient Profiles

To select the list of Patient profiles:

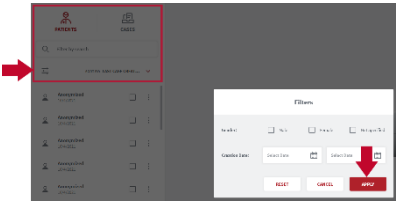


STEP 1. Click on the **PATIENTS** icon in the left-hand menu.

To organize patient profiles,

STEP 2. Click Last Case Created or Name.

To filter patient profiles by **Gender** and/or a **Creation Date** range:



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

STEP 4. Click **Apply** to apply the filter, or

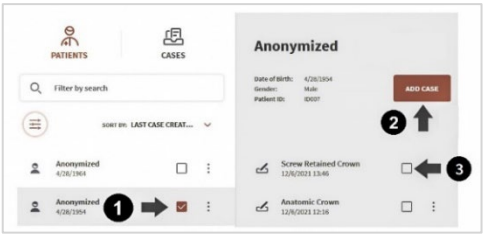
STEP 5. Click **Cancel** to cancel any modifications made to the filter.

An active filter is indicated by a circle as shown.

To remove an active filter:

STEP 6. Click **Reset**.

Selecting A Patient Profile



- To **Select** a Patient profile:

STEP 1. Tick the patient checkbox as shown.

Deleting Patient Profiles

- To delete a Patient profile:

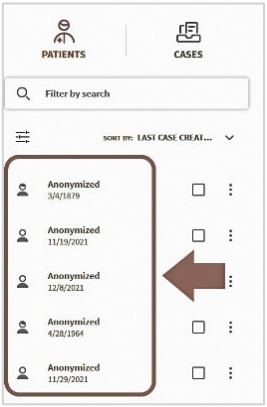
STEP 2. Click on the 3-point icon to the right of the Patient folder, and select **Delete**.

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.

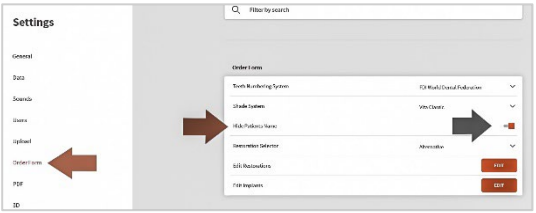
To anonymize patient data:



STEP 1. Go to Settings.

STEP 2. In the Settings Menu select **Case Setup** settings.

STEP 3. Activate the **Hide Patient Names** option.



6.2 Managing Patient Cases

Previewing a Patient Case

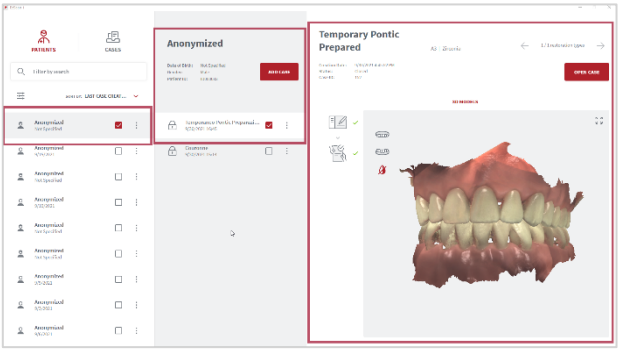
The **Case Preview** page provides detailed case information at-a-glance: creation date, case ID, restoration types, status, and any 3D models and 2D images associated with the case...

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.

The Case Preview is displayed as shown.



Opening a Case

To select a patient case,

STEP 3. Click Open Case in the Case Preview window:

This will open the **Case Review** page.

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

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

Case Status

The **Case status** is displayed in the **Case Finalization/Review** page. To access, click on the **Finalization** icon in the lefthand menu, or select a Case in your **User Start Screen**.

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 EzScanCloud .
	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.

Accessing the Case Setup page

Adding a new case automatically opens the **Case Setup** page, and the icon is highlighted in the EzScan-i Scan Workflow menu.

6.3 Setting Up a Case in EzScan-i

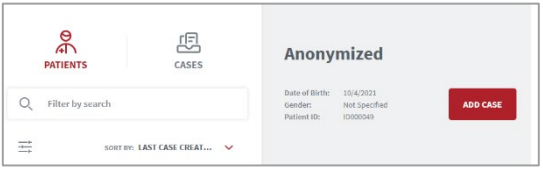
The following walkthrough shows the typical steps and options available in the EzScan-i Scan Workflow.

TASK 1. Add a New Case

To add a new patient case:

STEP 1. Select a patient and in the **User Start Screen** and

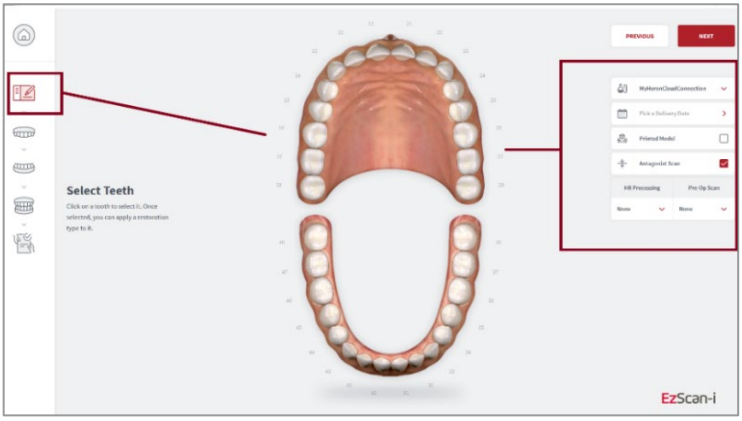
STEP 2. In the **Case Preview** page, click **Add Case**:



This opens the EzScan-i **Case Setup** page.

Using the Case Setup Page

When you open the **Case Setup** page, the **Case Setup** icon is highlighted in the EzScan-i left-hand Menu.



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

You can select a default lab from those connected to your EzScanCloud account in system Upload Settings.

TASK 2. Select tooth/teeth for restoration

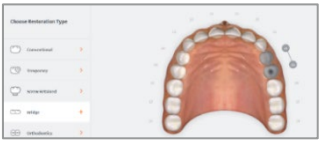
STEP 1. Click on the tooth or teeth to select for restoration.

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

Selecting a bridge:

To select teeth to be bridged:

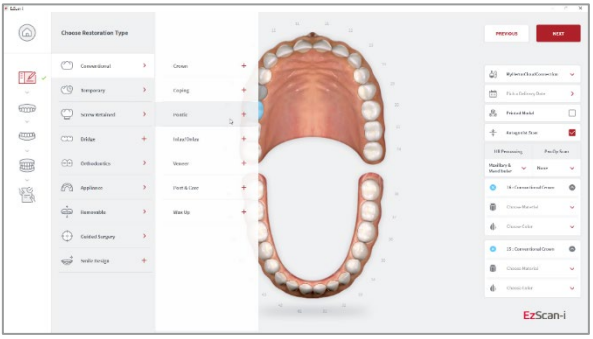
STEP 2. Select a tooth and then **Hold [CTL]** to select a second tooth.



Bridged teeth are displayed as shown.

TASK 3. Choose Restoration Type

STEP 1. Click on a **Restoration Type** in the left-hand menu: options available for the selected restoration type are displayed automatically.



STEP 2. Select the Restoration Type: the tooth to which the restoration is applied is highlighted in blue/green.

To change the selected restoration type:

STEP 3. Right-click on the selected tooth to delete and then select another restoration type.

Available options for the selected Restoration Types are displayed in the right-hand **Order Form** menu.

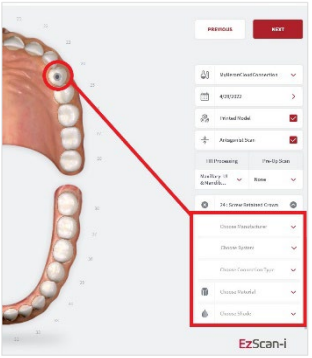
Configuring a default Restoration Selector

You can choose between Standard and Alternative Restoration Selector options in Order Form 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

Select Restoration options for the chosen Restoration type in the right-hand **Order Form** 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 options	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

You can customize Order Forms to specific ordering, restoration and patient requirements in Case Setup Settings.

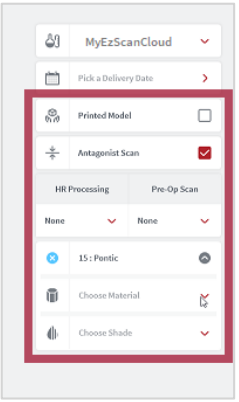
TASK 5. Enter Order Form details

Enter Order Form details 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.

Note: Before selecting a lab, you must first set up a connection with the lab via the **EzScanCloud** platform.

See above: section 4.6 Linking a User Account to the EzScanCloud

Order Form details	Description
Patient ID	Patient Name or Anonymized ID
EzScanCloud Connection	Connection to lab configured in the EzScanCloud .
Delivery Date	Requested order delivery date
Printed Model	Order a printed model
Antagonist Scan	Include a scan of the opposing teeth (selected by default)
HR Processing	Use High Resolution processing
Pre-Op Scan	Include a pre-operative scan

The antagonist can be de-selected if not required.

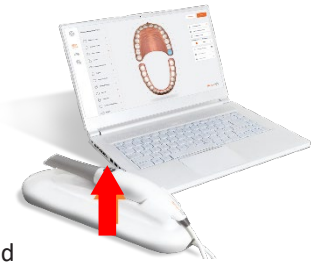
You can customize Order Forms to your ordering, restoration and patient requirements: see above: section 6.7 Lab Sheet Settings.

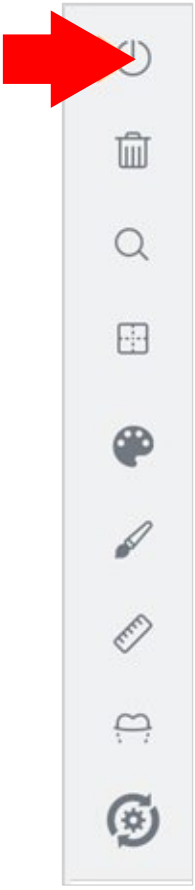
7. Scanning with EzScan

7.1 Before You Scan

Before scanning, take time to familiarize yourself with the Scanning tools and features available in the EzScan solution and the EzScan-i interface.

Scan Tools Overview





Scanning Tools

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.

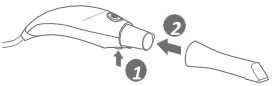
Undercut tool
Displays undercut areas automatically based on the chosen angle.

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

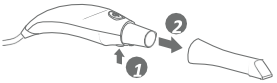
7.2 Using the Scan Tip

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.

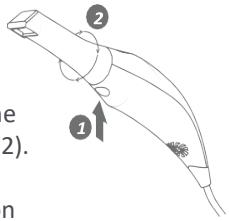


STEP 2. **Detach** the tip by pressing the button located on the bottom of the handpiece (1) while pulling away from the scanner (2).



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 **Scanning Tools** menu.

For ease of use, hold the EzScan handpiece as shown.

IMPORTANT: Make sure the computer on which the EzScan-i software is installed is connected to an external power source before starting to scan with the EzScan.

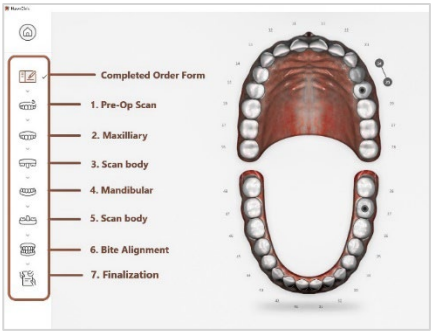
Do not scan using a battery-powered computer.

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

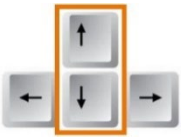
Verification and finalization step, before sending the Order to the lab.

To access the Scan Workflow for your restorations, click **NEXT** in the **Case Setup** page, or click on the next icon in the **Scan Workflow Menu.**

The case workflow will open automatically at the step last worked on.

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

- **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: Before each patient, the scanner's removable tip must be sterilized using an autoclave. See below: Section 9.2 Cleaning and Sterilizing Tips.

7.5 Before You Scan: Important Notice

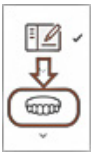
Before launching a scan:

- Make sure the EzScan Scanner is correctly connected to the computer via the USB 3.0 cable provided and the EzScan-I software is running.
- Make sure the computer on which the EzScan-i software is installed is connected to an external power source.

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).

7.6 Accessing the 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.

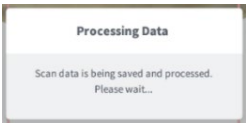
7.7 Scanning the Maxillary Arch

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:

- Section7.9 - Recommended Scanpath Strategy

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



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

7.8 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

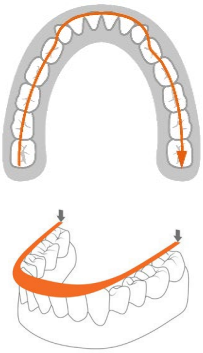
7.9 Recommended Scanpath Strategy

Scanning the Maxillary Arch

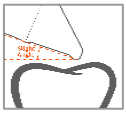
When scanning the Maxillary arch, we recommend you scan in the following order:

1. Occlusal – 2. Buccal – 3. Palatal

STEP 1. **Scan Maxillary Occlusal End-to-End**



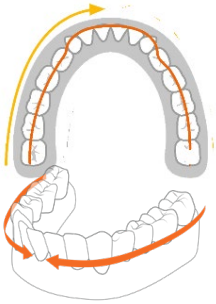
First scan the **OCCLUSAL surface** from molar to molar, **with a slow smooth motion,** ensuring **full occlusal surface** is captured for all molars and premolars.



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

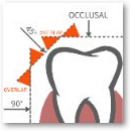
It may be useful to angle the scanner slightly when you come to the incisor and canine teeth.

STEP 2. **Scan Maxillary Buccal LEFT**



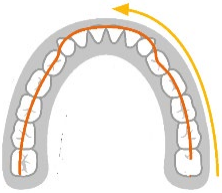
a. Scan the **BUCCAL** area **from molar to center line** on **LEFT side**, ensuring the connection of surfaces:

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



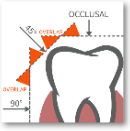
b. Scan **gum 3-4mm** in molar/pre-molar area **on LEFT side**.

STEP 3. **Scan Maxillary Buccal RIGHT**



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

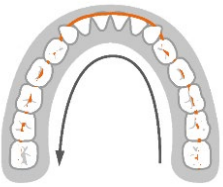
- Scan with **45°angle** to get **part occlusal + part buccal**
- Scan with **90°angle** to get remaining part of **buccal**



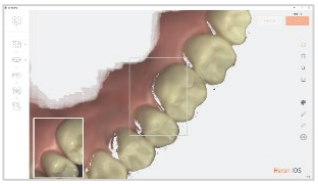
d. Scan **gum 3-4mm** in molar/pre-molar area **on RIGHT side**

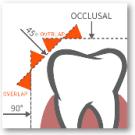
STEP 4. **Scan Maxillary Palatal End-to-End**

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



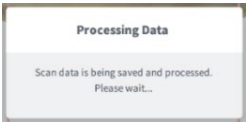


When you have finished scanning:

STEP 5. **Switch the scanner off using the Stop button**

Processing Data

The EzScan-i 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:

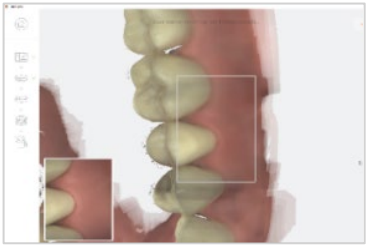
STEP 6. **Click NEXT**, or select the **Mandibular** arch in the left-hand **Scan Workflow Menu** by clicking on the icon or by using the **Down** key on your keyboard.

Scanning the Mandibular Arch

STEP 7. **Repeat the same scanning strategy** as described above for the **Mandibular** arch.

However, due to the **specific environment of the mandibular arch**, it is recommended you observe the following scan path:

1. Occlusal – 2. Lingual – 3. Buccal.



When the scan is completed, the EzScan-i software will process the Mandibular scan data before inviting you to advance to the Bite Alignment phase of the Scan Workflow.

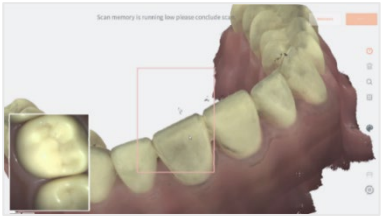
This may take a couple of minutes.

Next Step

To advance to the Bite Alignment:

- 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.

7.10 Scan Memory Use



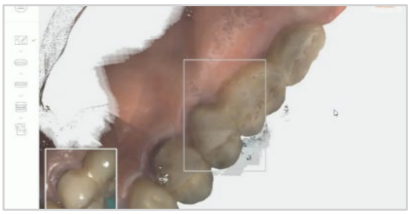
Over-scanning may use up available memory space. When the warning **"Scan memory is running low please conclude scan"** is displayed, no more frames will be added to the scan after this point.

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**.

7.11 Scan Live View

The **Live View** window in the lower left displays what the EzScan-I 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.

NOTE: You can continue to the next scanning area or pause the scanner at any time during the Scanning process without leaving the scanning workflow.

7.12 2D Live Capture

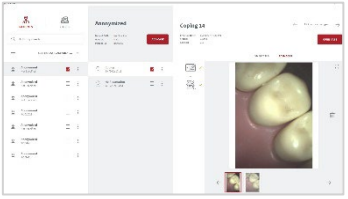
During the scan process, press the **C** key on your keyboard to take and store **2D images**.

2D images are displayed in **thumbnail** format in the bottom left-hand corner of the screen.

STEP 1. Click on a **thumbnail** image to view the selected photo in more detail.

STEP 2. Click on the **Delete** icon to delete as necessary.

In the **Case Review** page, you can consult 2D images taken during the scan by clicking on the **2D IMAGES** button.



For information on reviewing 2D images in the **Case Review** page, see below:

- Section 8.2 - Case Review: Reviewing 2D images

7.13 Using Scan Tools

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

Using the Scan Trim tool

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

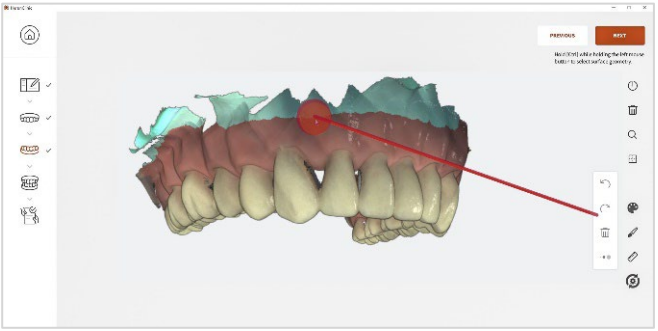
To use the Trim tool:

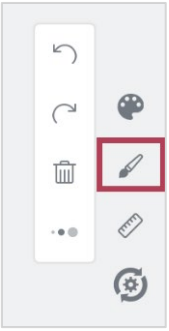
STEP 1. Click on the **Scan Trim** icon in the **Scan Tool** menu.

STEP 2. Select the **Scan Trim** size.

STEP 3. **Click+Hold [Ctrl]** to select the surface area to be removed,

STEP 4. Click on the **Delete** icon to remove unwanted scan areas.





STEP 5. Click OK to **Confirm Trim Operation.**

IMPORTANT: Trimmed data cannot be recovered.

Using the Quality Map tool

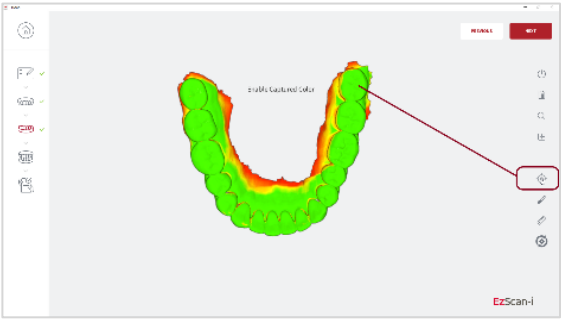
The **Quality Map** tool allows the user to assess in real-time if enough data is collected in the area of the scan.

STEP 1. Click on the **Disable Captured Color** icon.

The 3D scan will display in grayscale.

STEP 2. Click on the **Quality Map** icon.
Regions where sufficient data has been scanned are displayed in green, regions where insufficient data has been scanned are displayed in red.

STEP 3. Rescan the areas displayed in red that are required for the planned restoration work.



STEP 4. Click on the **Enable Captured Color** icon, to disable the **Color Map** tool.

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.

Using the Undercut Tool

When preparing restorations, it is important to take into consideration undercuts. The EzScan-i **Undercut Tool** will automatically calculate undercuts from a chosen insertion axis (User View) or calculate the undercuts for an optimal insertion axis (Auto-Detect).

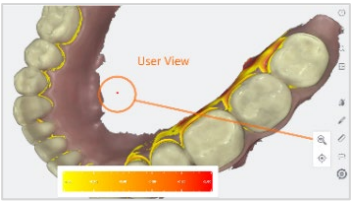
To open the undercut tool:

STEP 1. Click on the **Undercut** icon in the right-hand **Scan Tools** menu.

STEP 2. Select either **User View**, **Auto-Detect** or **Region Selection** in the **Undercut** menu.

User View

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



STEP 3. Using **click+drag**, position the 3D scan model to the desired angle for the restoration.

STEP 4. Click on the User View icon.

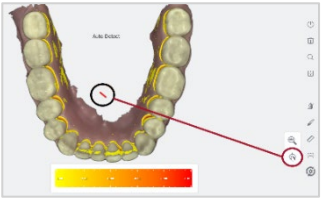
The User View tool will recalculate undercuts based on the chosen insertion axis.

STEP 5. You can **click+drag** to reposition the 3D scan model or to examine the undercut areas.

The chosen axis of the 3D scan model is indicated by a rod (see above).

Auto Detect

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



STEP 6. Click on the **Auto Detect** icon.

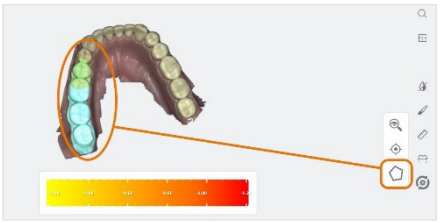
The Undercut tool will automatically calculate the undercuts for an optimal insertion axis. Undercut areas of the scan model are indicated using a color-coded gradient.

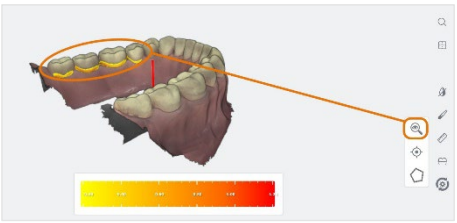
Region Selection

To calculate and display undercuts for a user-defined region of the arch:

STEP 1. Click on the **Region Selection** icon in the **Undercuts** Tool Menu.

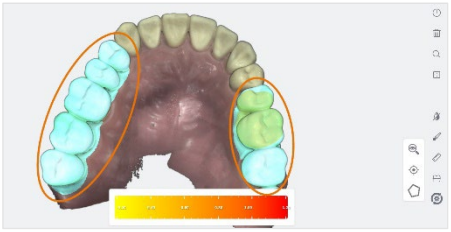
STEP 2. **Click+Hold [Ctrl]** and **select** the region for which you want to calculate undercuts. You can **click+drag** to cover the desired **region**.

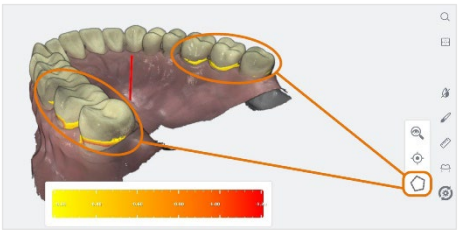




NOTE: You can select multiple regions by releasing the **HOLD [Ctrl]** key and repeating the same procedure for another region.

STEP 3. To deactivate the **Region Selection** tool, click again on the icon.





STEP 4. To calculate undercuts for the selected regions:

- click on the **User View** icon and follow the procedure described above.

7.14 Carrying Out A Bite Alignment

The EzScan enables you to carry out **Bite Alignment** based on the previously scanned Maxillary and Mandibular arches. The Bite Alignment can be carried out automatically or manually.

Accessing Bite Alignment in the Scan Workflow

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:

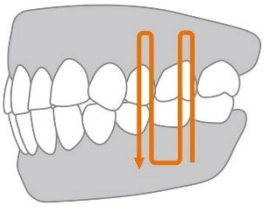
- Section 5.3 - Audio-guidance

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.

7.15 Carrying out an 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.

Recommended Scanpath Strategy



Scan Molar/Pre-Molar Segments

For the EzScan-i to automatically recognize the Mandibular and Maxillary arches, it is recommended you:

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…

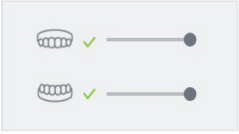
Note: Take your time when scanning gingival regions. The EzScan software calculates the **3D bite reconstruction** based on **gingival** data.

This makes it possible to successfully scan **edentulous** areas of the arch.

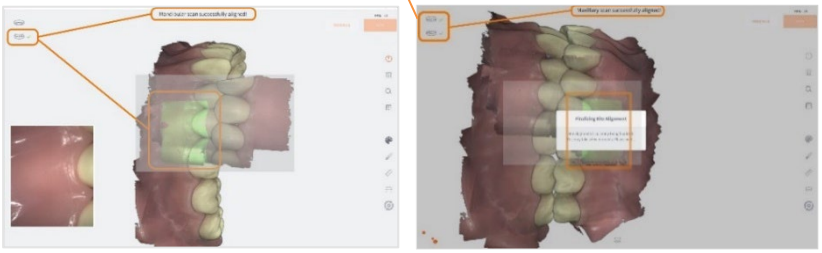
Auto-locking of bite scan

Once the software recognizes the scanned bite segment:

- A sound signal is heard
- The scan automatically **locks**
- The **initial scanned arches are overlayed**



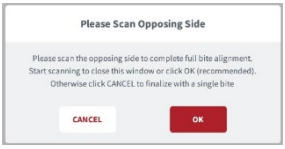
- A green checkmark displays in the top-left of the screen, indicating you have **finished scanning** that segment.



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).



STEP 9. To scan the opposing side, click **OK**;
to base the bite alignment on a single bite segment,
click **Cancel**.

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 and right-side bite scans, the EzScan-i 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 more information see below: section 7.18 Using Bite Alignment Tools.

7.16 Carrying out a Manual Bite Alignment

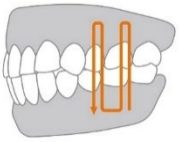
If the **Automatic Bite Alignment** is unsuccessful, due to specific challenges related to the scanned arches that render automatic reconstruction problematic, the **Manual Bite Alignment** tool enables you to **manually** select specific location points on the Maxillary and Mandibular arches.

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 scan segment.

STEP 3. Click **Select Point** and choose a point on the **mandibular arch** of the LEFT-side bite scan.

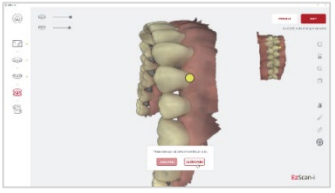
STEP 4. When you have positioned the marker, **HOLD [Ctrl] and click**: a yellow dot will indicate the selected mandibular-paired point.

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**, **HOLD [Ctrl] and click**: a yellow dot will indicate the selected mandibular-paired point.

STEP 7. Click **Confirm Point**.

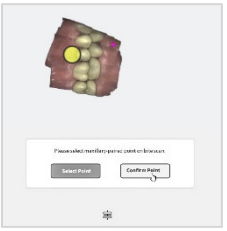


You will be prompted to select a maxillary-paired point on the bite scan.

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

The EzScan-i 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-side bite scan segment.

STEP 9. When you have positioned the marker, HOLD [Ctrl] and 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, **HOLD [Ctrl] and 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.

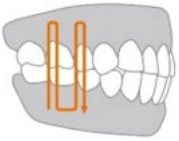
STEP 14. You will be invited to start the Bite Alignment based on the chosen paired-points: click **Start**.

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…



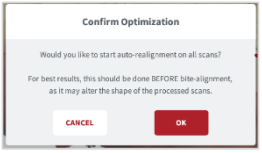
NOTE: While it is **recommended,** when carrying out full-arch scans, to scan **both left and right bite segments**, it is possible to carry out bite alignment by scanning a single bite segment.

See above: Bite-alignment using a single bite segment

7.17 Auto-Realignment

The **Auto-Realignment** feature enables you to optimize the scans of the maxillary and mandibular arches. The EzScan-i 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.

7.18 Using Bite Alignment Tools

When you have successfully completed the Bite Alignment for your patient, you can use the **Bite-Alignment tools** to visually inspect the quality of the alignment scans.

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

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 slider 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).

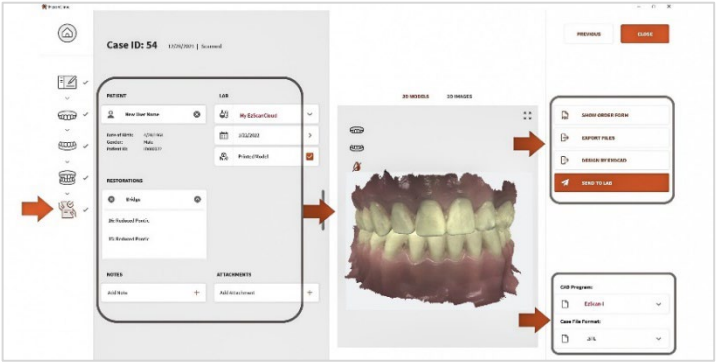
8. Finalizing A Patient Case

8.1 Finalizing Your Order

When you have finished scanning, you can move to the finalization step of your workflow

STEP 1. Click on the **Finalization** icon in the Scan Workflow menu or click **Next**:

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



Verify Patient & Restoration details

STEP 2. Verify & complete as necessary **Patient** and **Restorations** information defined during the **Case Setup** step.

STEP 3. Add any notes and attachments as necessary.

8.2 Case Review: Reviewing 2D images

You can consult 2D images taken during the scan by clicking on the **2D IMAGES** tab in the **Case Review** 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 more detail.

STEP 4. Delete unwanted images by selecting and clicking on the delete icon.

8.3 Case Review: Reviewing 3D Models

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

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

STEP 3. Draw margin lines in **3D Model** as necessary.

8.4 Using the Margin Line Tracing Tool

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

To trace a **Margin Line,** in the **Review Page**:

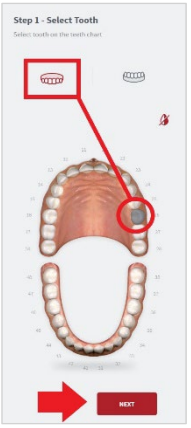
STEP 1. Click to expand the **3D Model** tab to full-screen.

STEP 2. Click on the **Margin Line** icon in the top left-hand menu.
This opens the **Margin Line Tracing tool**.

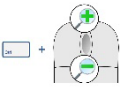
Follow the on-screen steps:

STEP 1. **Select Tooth:**

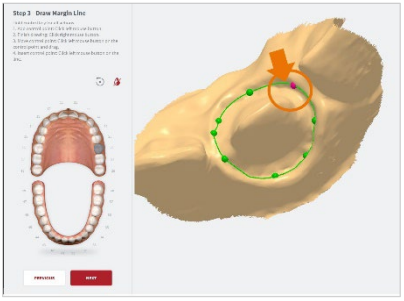
- Click on the **maxillary** or **mandibular** icon to display the arch.
- Click to select a tooth in the diagram.
- Click **Next**.



STEP 2. **Highlight Tooth:**



- To highlight a tooth/zone: **HOLD[CTRL] + left-click**.
- To adjust the zone size**: HOLD[CTRL] + scroll wheel**
- Click **Next**.



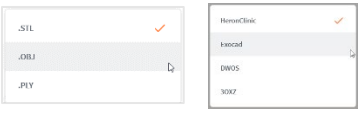
STEP 3. **Draw Margin Line:**

- To add control point: **HOLD[CTRL] + left-click**
- To finish tracing the margin line: **HOLD[CTRL] + right-click**
- To move a control point: **HOLD[CTRL] + left-click + drag**
- To add a control point: **left-click** on the margin line.
- Click **NEXT**.

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

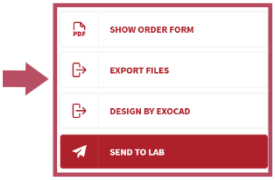
Verify Export settings

STEP 1. Verify/select **CAD Program**: (EzScan-i , 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

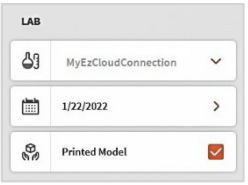
NOTE: The **Design By Exocad** option will appear in **Case Finalization Export** options only when the Exocad export path has been configured in settings.

Verify Lab Details

Verify and complete **Lab** order details:

STEP 1. Verify/select the desired lab connection displayed in the Case Preview **LAB** menu.

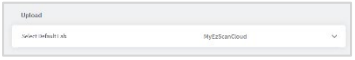
STEP 2. Enter or verify the desired delivery date (the connected lab's interactive calendar can display here to provide available dates).



STEP 3. Tick the checkbox to select Printed Model if required.

Select Default Lab

In **Upload** settings, you can add lab connections, and select a default lab from those connected to your EzScanCloud account.



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

See above: section 5.5 Upload Settings.

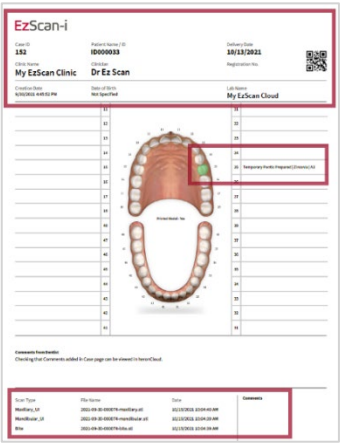
Verify Order Form Details

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

Lab Sheet details

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.**

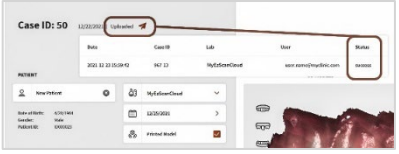
This uploads the **Case files** and **Order Form** to the selected lab via the EzScanCloud connection configured for this lab.

The dental lab will receive an automatic email notification.

When the lab clicks on the email notification of your order, relevant Case details are displayed in their **Dental Lab** account in **EzScanCloud**.

Verify Case Status

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



STEP 1. Click on **the status icon** in the **Case Review** page for details

See above: Case Status Icons

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 EzScanCloud.
- If you choose to **create a new case**, a new **Case ID** will be assigned in EzScanCloud.

Note*:* Before selecting a lab, you must first set up a connection with the lab via the **EzScanCloud** platform.

For more information, see:

- section 4.6 - Linking a User Account to the EzScanCloud
- section 9.1 - Linking an EzScan-i account to EzScanCloud

9. Communicating With Labs

The EzScanCloud 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 EzScanCloud platform:

STEP 1. Link your EzScan-i account to the EzScanCloud

STEP 2. Create an EzScanCloud User Account

STEP 3. Configure a connection with the lab in EzScanCloud

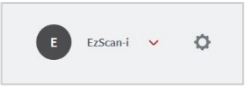
Note: In EzScan-i, you can also communicate directly with labs by exporting files to your computer and transferring them via a third party platform.

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

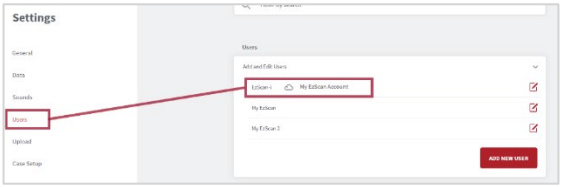
9.1 Linking an EzScan-i account to EzScanCloud

To link your EzScan-i account to the EzScanCloud :

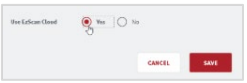
STEP 1. Click on the System Settings icon in the EzScan-i Start screen.



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



STEP 3. Select **Use EzScanCloud** in the **Add or Edit Users** dialog box.



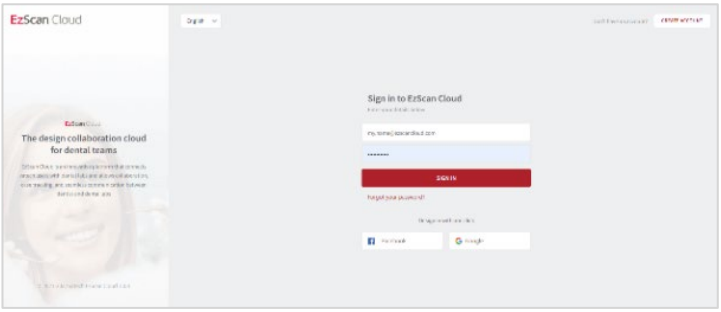
STEP 4. Click **Save**.

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

9.2 Creating An EzScanCloud User Account (Clinic)

To create a user account in **EzScanCloud:**

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**.

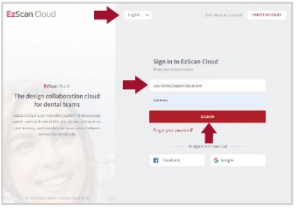
An email will be sent to confirm the email address.

STEP 4. Click the confirmation link to activate your **EzScanCloud account.**

STEP 5. Click **HOME** to access the **EzScanCloud Sign In** page.

STEP 6. Select a **language** in the scroll down menu.

STEP 7. Enter your account email address and password.

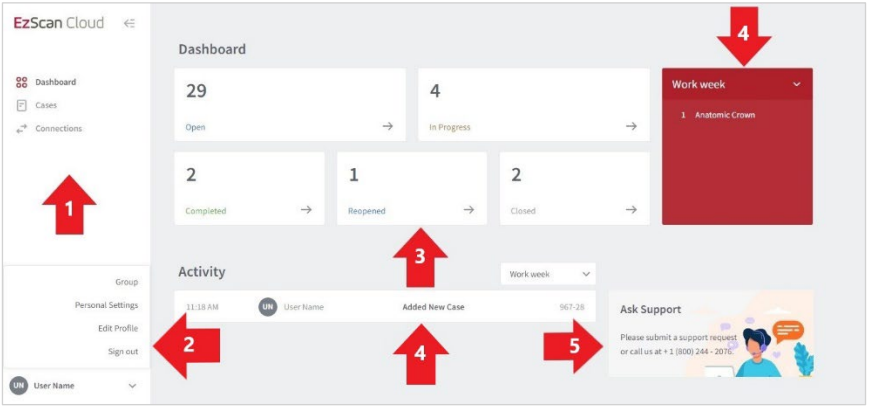


STEP 8. Click **Sign In** to access your **EzScanCloud** Clinic account.

The **EzScanCloud** platform provides the lab with secure access to all Patient Case files associated with your Order.

9.3 Overview of the EzScanCloud Dashboard

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



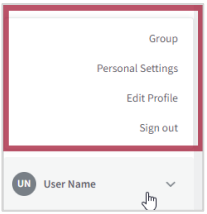
The **Dashboard** enables users to:

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 EzScanCloud platform is designed to facilitate file sharing and manage connections with laboratories. **It is NOT intended as a cloud storage service.**

9.4 Configuring EzScanCloud User Settings

To configure user settings in EzScanCloud:



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

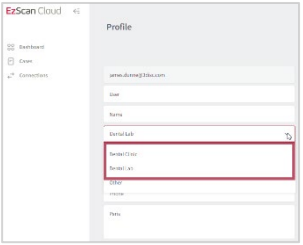
STEP 2. In the expanded list, select the desired option.

The following options are available in the scroll menu:

EzScanCloud Settings	Description
Edit Profile	Opens the Profile page, where you can enter and edit your EzScanCloud 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 EzScanCloud account.

9.5 Editing your EzScanCloud Profile

To edit your EzScanCloud profile:



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

STEP 2. In the **Profile** page, edit profile details.

Dental Clinic and Dental Lab profiles

The EzScanCloud 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.

9.6 Configuring View & Notification Settings

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

STEP 1. Click **Personal Settings**.

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

- select **View** and **Notification** settings for your **EzScanCloud** account.

STEP 3. Click **Save Settings**.

The following **view & notification settings** are available in **EzScanCloud:**

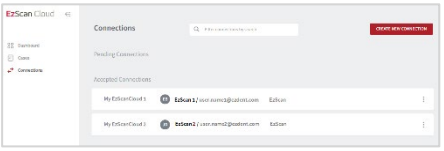
Settings	Description
View Settings	Show 'Cases/Drafts' filter above case list
	Show 'Assignee' column in case list
	Use auto refresh
Push Notification Settings	Receive notification email when new case is published
	Receive notification email when case is modified
	Receive notification email when comment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

9.7 Configuring Connections with Labs

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

Adding a lab connection

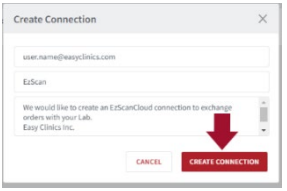
To add a connection with a lab:



STEP 1. Click **Connections** in the EzScanCloud menu.

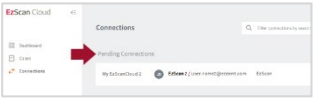
STEP 2. Click **Create New Connection**.

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 to the lab inviting it to accept the connection.

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



Current connection requests are displayed in your list of **Pending Connections** in **EzScanCloud**.

Selecting Default Upload Settings in EzScan-i

you can select a **default lab connection** EzScan-i, to transfer files to via your **EzScanCloud** account:

STEP 1. Click the EzScan-i **Settings** icon.

STEP 2. Scroll to **Upload Settings.**

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

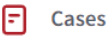
STEP 4. **Restart** the application to apply changes.

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

9.8 Managing Cases in EzScanCloud

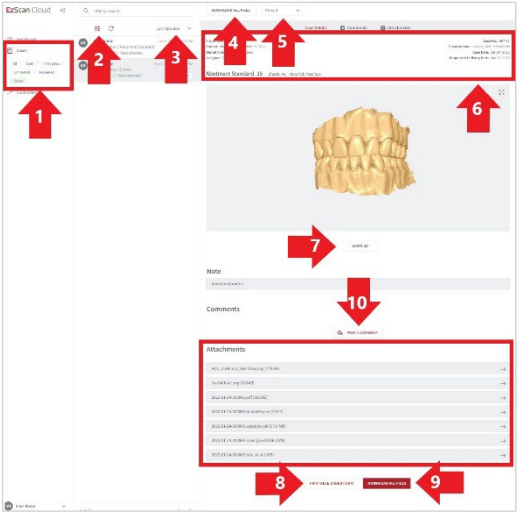
To access patient cases: click on the **Cases** icon in the left-hand menu of the **EzScanCloud Dashboard**.

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 details.



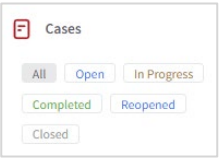
The **EzScanCloud Cases** page enables users to:

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 EzScanCloud

Displaying Cases by Status

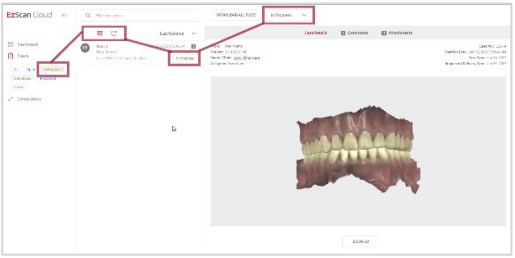
To display patient cases by status:



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 that status. (You can select multiple status).



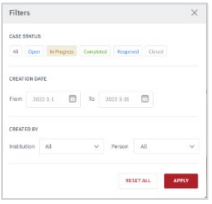
Filtering Cases

To filter cases:

STEP 1. Select the filter icon at the top of your 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**.



Changing Case Status

To change the status of a case:

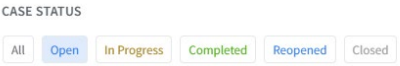
STEP 1. Click on the status in case details

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

The following case status are available in EzScanCloud:



Status	Description	Managed by
Open	Case uploaded by Clinic to EzScanCloud	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

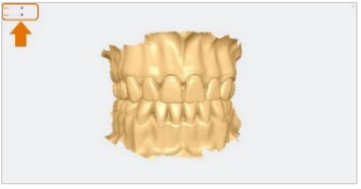
9.10 Displaying 3D Views in EzScanCloud

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.

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

- Section 5.8 - 3D Settings: 3D Projection

9.11 Downloading Case Files in EzScanCloud

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 EzScanCloud

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

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 - Lab Sheet Settings

9.13 Adding a Comment to a Case

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

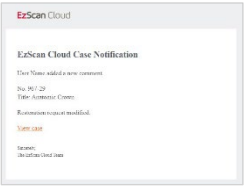
STEP 1. Click on Post A Comment.

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

STEP 2. Enter your comment and add any files as required.

STEP 3. 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 EzScan-i **Case Review** page.

For more information, see above:

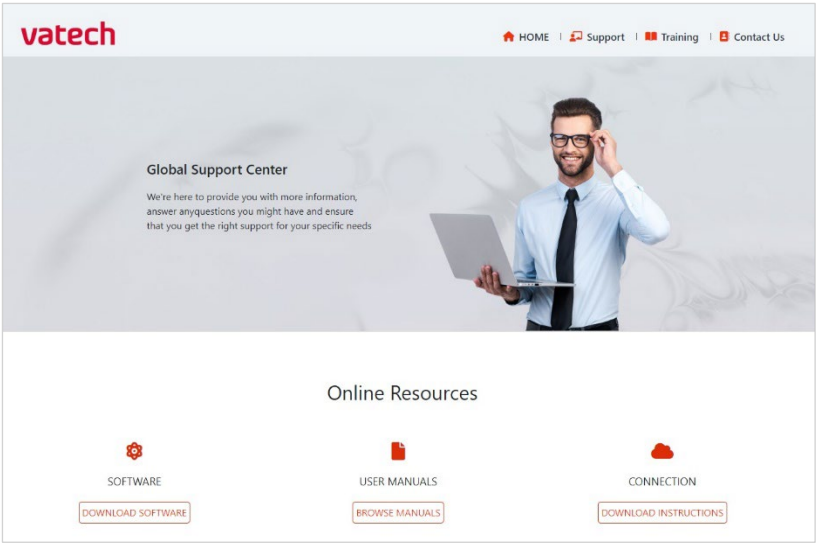
- Chapter 8 - Finalizing a Patient Case

9.14 Contacting Support via EzScanCloud

To contact **Vatech Support** via the **EzScanCloud Dashboard:**

STEP 1. Click on **Ask Support** in the EzScanCloud Dashboard.

This opens the Support page at [EzScan (vatechezscan.com)]



STEP 2. Follow Online Instructions.

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.

NOTE: 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:

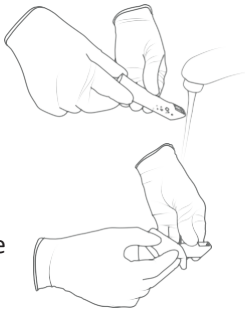
- Birex Wipes: TB Claim = 10 minutes- 'Phenolic (Dual) Water-Based'
- Prospray Wipes: TB Claim = 10 minutes- 'Phenolic (Dual) Water-Based'
- Cavicide Wipes: TB Claim = 3 minutes- 'Phenolics (Dual) Alcohol-Based'
- DisCide ULTRA Wipes: TB Claim = 1 minute- 'Phenolics (Dual) Alcohol-Based'
- Maxiwipe Germicidal 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

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

NOTE: 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.

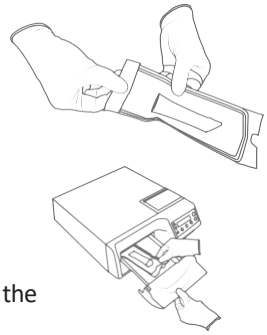
Procedure



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 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 be guaranteed.

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.

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

10.3 Disposal

The EzScan 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 EzScan 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 Vatech becomes void. Vatech will not accept any responsibility or liability for the improper functioning of the product in such a case.

If the EzScan begins to have problems scanning and recognizing teeth models, contact your dealer or Vatech support technician.

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

For more information see: 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 Vatech becomes void. Vatech 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 EzScan device is designed to operate with the EzScan-i software.

WARNING: The EzScan 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 personal.

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 EzScan 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 EzScan, 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.

11.9 EzScan Performance

WARNING: Under normal use, the EzScan should transmit images to the laptop/notebook 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.

11.10 Accessories

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

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

EzScan is intended for use in a professional healthcare setting with electromagnetic environment specified below.

11.11 EMC Guidance and Declaration

Electromagnetic Emissions

Emissions Test	Compliance	Electromagnetic Environment Guidance
RF Emissions CISPR 11	Group 1, Class A	EzScan 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	EzScan 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 part of the EzScan 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 $d = [\frac{3.5}{E1}]\sqrt{P}$ 80 MHz to 800 MHz $d = [\frac{7}{E1}]\sqrt{P}$ 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:
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	

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 EzScan System that is not Life-Supporting

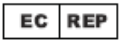
EzScan System is intended for use in the electromagnetic environment in which radiated RF disturbances are controlled. The customer can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the EzScan system 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.

11.12 Symbols on the EzScan 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 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: http://vatechezscan.com/support

	INMETRO Certification Mark
	Ukraine Conformity Mark

12. Support, Warranty & 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 EzScan 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 EzScan software and manuals?	Please find them in the Support section of Vatech website.

12.2 Standard Warranty

Vatech 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 EzScan 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
www.VatechEzScan.com/support

EzScan User Manuals
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EzScan Training Videos

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