Philden

PD-3 LAB SCANNER

Shenzhen Philden Tech Co., Ltd

USER MANUAL

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PD-3 Lab Scanner User Manual

Philden

PD-3 LAB SCANNER

User Manual

1. Basic Information

1.1 Product Use

The dental desktop 3D scanner is mainly used to turn dental models into digital models. The software outputs 3D digital models through 3D scanning, which facilitates CAD design and CAM manufacturing.

1.2 System Configuration

▲ Recommended Configuration

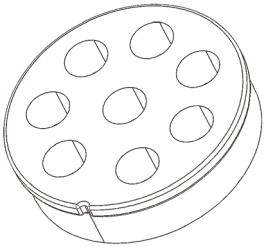
CPU	Intel I7 13700 or higher
Memory	32G or higher
Graphic	NVIDIA GeForce GTX2060SUPER 8G or higher (Not supporting Radeon)
Operating System	Windows 11 64-bit

▲ Minimum Configuration

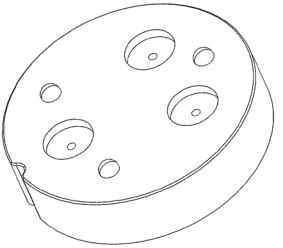
CPU	Intel I7 10700 or higher
Memory	16G or higher
Graphic	NVIDIA GeForce GTX1660 6G or higher (Not supporting Radeon)
Operating System	Windows 10 64-bit

*You can get a better experience with the recommended configuration

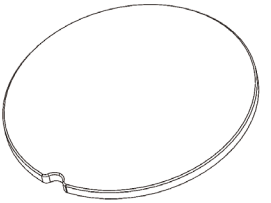
1.3 Accessories Illustration



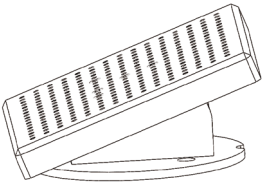
▲ Generation plate



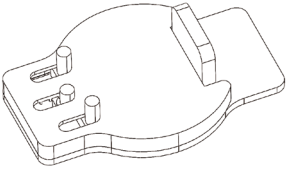
▲ Pads



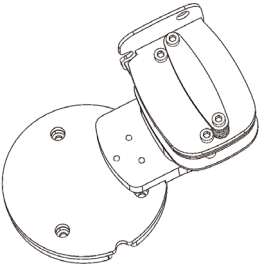
▲ Scan Tray



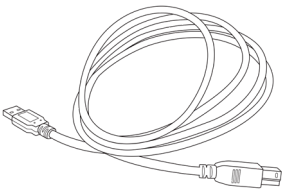
▲ Calibration plate



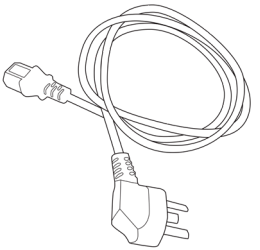
▲ Arch Clamp



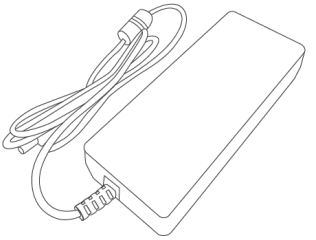
▲ Impression Jig



▲ 3.0USB wire



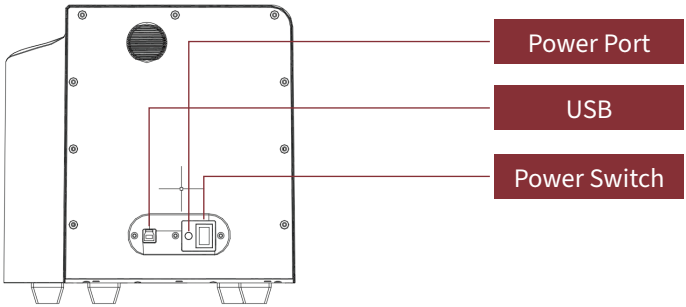
▲ Power cord



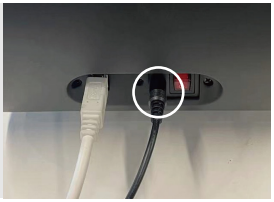
▲ Power adapter

1.4 Product Installation

1.4.1 PD-3 Installation



① Connect the power



② Using a USB 3.0 cable, connect the scanner to the computer's USB 3.0 port

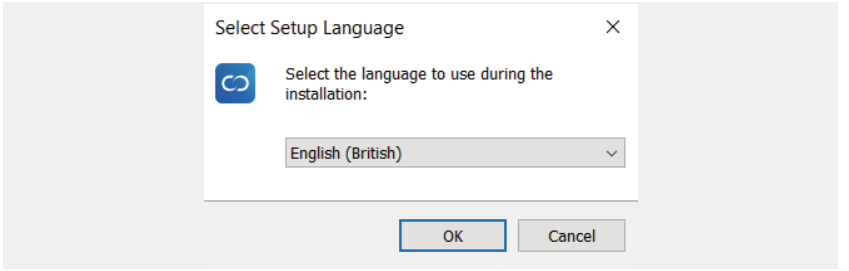
*Note: For desktop computers, be sure to connect the USB 3.0 port on the back of the host computer.

③ Turn on the power switch

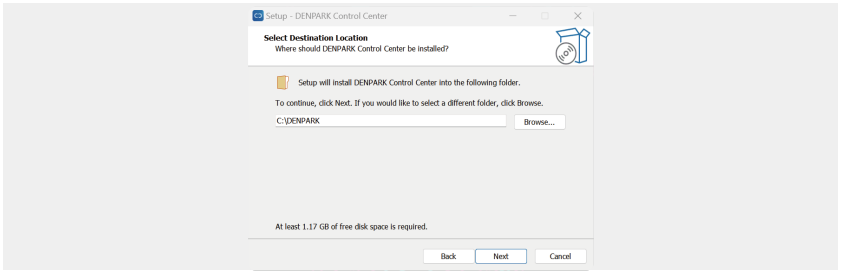
1.4.2 Software Installation

Scan for Lab is installed with Control Center. View the Control Center instructions for more information.

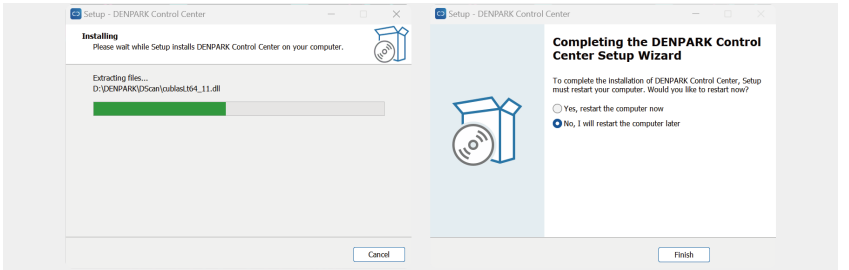
▲ Run the ControlCenter _X.X.X.X.exe file and select the installation language.



▲ Select the path to install the software and click [Next] to start the installation.



▲ The program will install automatically and may take a few minutes. Do not turn off your computer or unplug it until the installation is complete.

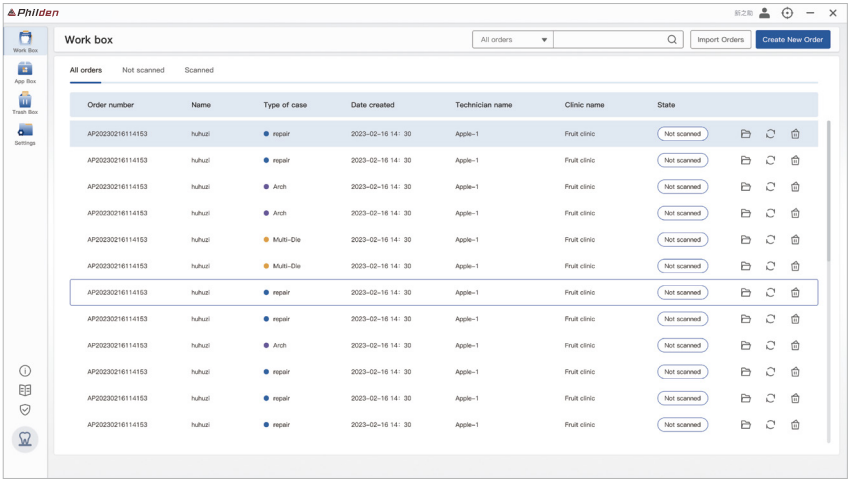


2. Calibration Guide

After installing the software, the scanner needs to be calibrated for the first use. You can also calibrate it regularly to get good quality scanning data.
Please note that the calibration plate is a precision accessory, do not contaminate or scratch the surface. If the calibration process is not performed properly, please check the calibration plate. If the surface of the calibration plate is damaged, please contact the manufacturer or your local distributor promptly.

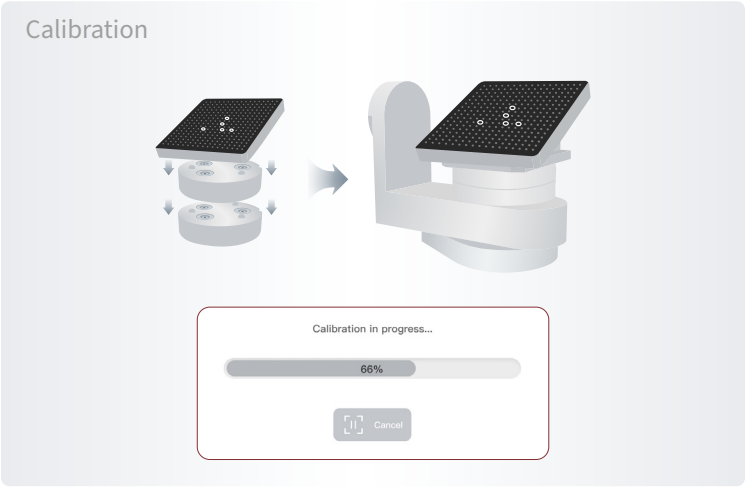
2.1 General Version

▲ To start a scanner calibration you need to enter from ControlCenter and click to enter the scanner calibration screen.



▲ After entering the calibration page, place the calibration plate according to the prompt and click [Auto Calibration] to start the calibration.

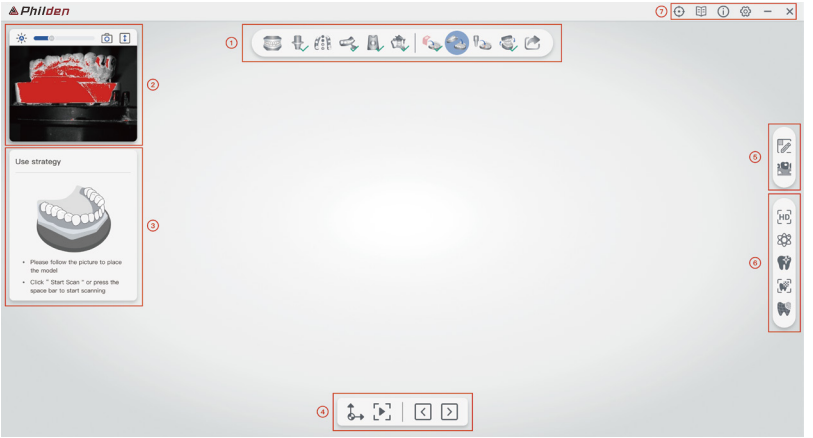
▲ During the calibration process, the calibration progress is displayed in real time, and if you need to cancel the calibration, you can click the [Cancel] button.



▲ After the calibration is completed, click the [Close] button to finish the calibration operation.

3. Scanning Guide

3.1 User Interface Overview



1 Navigation Bar 2 Camera Window 3 Usage Strategy

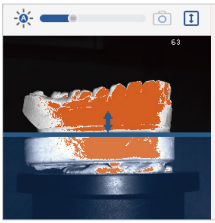
4 Operation Bar 5 Tool Bar 6 Function Bar 7 Title Bar

3.1.1 Navigation Bar

The navigation bar shows each scanning step and the alignment steps required to complete the scan. You can follow the given steps in order to complete the scan, or you can freely switch the scanning steps according to your actual needs.

*Note: Only the scanning step can be switched freely, the alignment step cannot be switched freely for the time being.

3.1.2 Camera Window



The camera viewport displays the window screen in real time and also includes the following features.

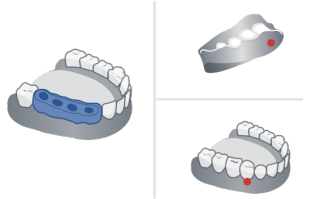
	Auto brightness adjustment	For automatically adjusting the brightness suitable for scanning according to the model
	Manual brightness adjustment	For manual adjustment of the brightness suitable for scanning
	Camera view switch	For switching between left and right camera views
	Scan height setting	Used to set the scanning height of the model, models below the blue line data is not scanned

3.1.3 Usage Strategy

At the scanning step, the strategy area indicates the model to be scanned at the current step and the position of the model in the fixture; at the alignment step, the strategy area indicates the object to be aligned at the current step and a schematic of the alignment operation.

▲ Unsegment

▲ Articulator



▲ Align bitewax jaw

3.1.4 Operation Bar

The specific actions for each software function module appear in the action bar area.

▲ Scanning module

	Axis initia	Initialize the zero position of the axis
	Start	Start scanning
	Stop	Stop scanning
	Re-sweep	Rescan
	Completion	Confirm completion of current scan data
	Previous	Switch to the previous step
	Next	Switch to the next step
	Rectification	Access to manual alignment module
	Export	Complete the scanning process and export the scanned data

▲ Complementary sweep module

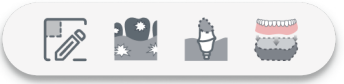
	Manual mode	Using manual mode to add scan
	Auto mode	Using auto mode to add scan
	Add scan	According select mode to add scan
	Delete scan	Deleting manually added scan data

▲ Alignment module

	Single point align	Select a set of corresponding points on the model to complete the alignment
	Three point align	Select three sets of corresponding points on the model to complete the alignment
	Point clear	Clear selected points
	Reset	Reset alignment status
	Exit	Exit manual alignment mode

3.1.5 Tool Bar

The toolbar area includes the commonly used model editing tools.

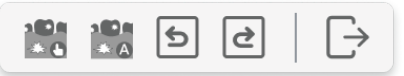


	Select tool	Various selection tools for data deletion from models
	Hole filling	Filling of model hole areas
	Screw Channel Sealing	Fill the abutment hole instead of the traditional wax filling method
	Base generation	Generate a closed base for the tooth model

▲ Select tool

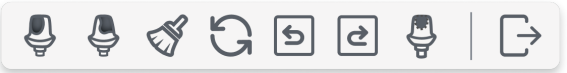
	Brush	Select the brush tool, hold down the left mouse button to paint and select the desired data area
	Plane	Select the plane tool, you can freely drag and rotate the plane to select the desired data area
	Rectangle	Select the rectangle tool, hold down the left mouse button and drag to select the desired data area
	Lasso	Select the lasso tool, hold down the left mouse button and drag freely to select the desired data area
	Link area	Select the connected domain tool and left mouse click to automatically select the connected body area
	Intersect	When turned on, the selection tool will enable pass-through selection
	Invert sel	Inverse selection area
	Clear	Cancel all selected areas
	Delete sel	Delete selected data
	Repeal	Repeal the previous operation
	Recover	Resume the previous operation
	Exit	Resume next operation
	Eraser	With the selection tool, you can deselect the data in the selected area

▲ Hole filling tools



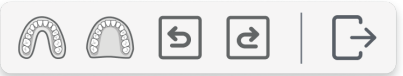
	Manual hole filling	Double click on the left mouse button to select the hole area to be filled
	Auto hole filling	Automatically fills all hole areas shown
	Repeal	Repeal the previous operation
	Recover	Resume the previous operation
	Exit	Resume next operation

▲ Abutment hole



	Flat Mode	Flat hole filling effect
	Curve Mode	Curve hole filling effect
	Clear Point	Clear selected points
	Reset	Reset hole filling status
	Repeal	Repeal the previous operation
	Recover	Resume the previous operation
	Seal	Execute hole filling
	Exit	Exit manual alignment mode

▲ Base Generation



	Plateless	Usually made in a horseshoe shape, the base will recreate the shape of scan data
	Plate	The plate will follow the shape of the scan data
	Repeal	Repeal the previous operation
	Recover	Resume the previous operation
	Exit	Exit manual alignment mode

3.1.6 Shortcut

▲ F1 Show/Hide Shortcut Panel--Scan

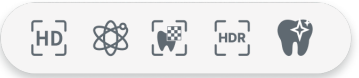
Shortcut key	Command	Corresponding icon
ESC	Cancel Scan	
Space	Start scan/Add scan	/
Enter	Next/Export	/

▲ F1 Show/Hide Shortcut Panel--Edit

Shortcut key	Command	Corresponding icon
Shift+C	Clear Selection	
Delete	Delete data	
Shift+R	Invert Selection	
Ctrl+Z	Repeal	
Ctrl+Y	Recover	
Shift	Eraser	

3.1.7 Function Bar

The function bar area includes the scanning function settings

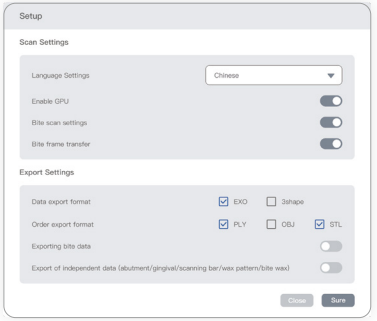


	HD scan	When the function is turned on, fine scanning will be performed to improve the quality of model data
	Multi-path scan	When the function is turned on, the model will be scanned at more angles
	Texture scan	When the function is turned on, the real color of the model will be obtained
	HDR scan	In HDR mode, the integrity of scan data can be enhanced, such as gum scans
	Reflective object scan	After turning on the function, the scanning effect of reflective parts such as the abutment and scan body rod can be improved

3.1.8 Title Bar

	Help manual	Open operation manual
	About software	About software details
	Setting	Setting of the scanning software, mainly including scanning settings and output settings
	Minimize	Minimization software
	Close	Close software

1 Settings: mainly includes scan settings and output settings



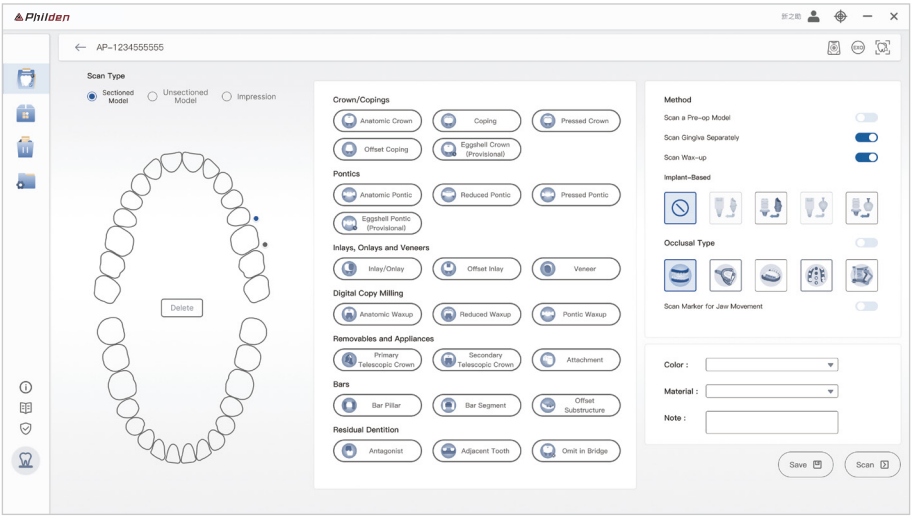
2 About: Show software information

4. Case Demonstration

The following is a demonstration of the split pattern, showing the entire process from order creation to scanning.

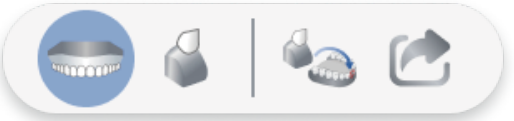
4.1 System Configuration

Use Control Center to create a split order and click Scan to scan the operation screen.

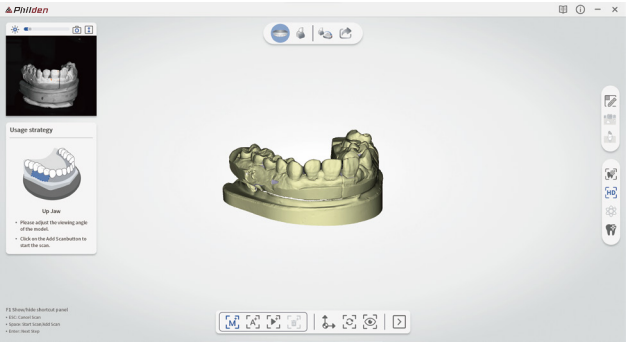


4.2 Scanning

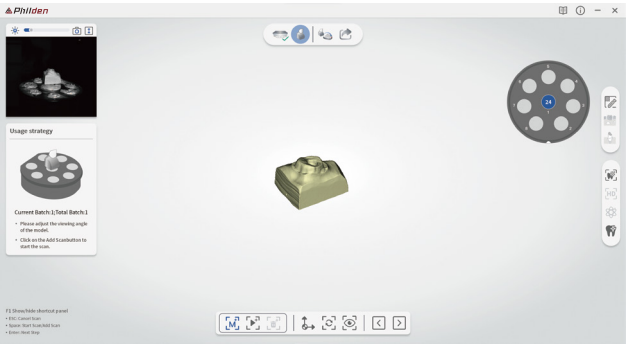
The scanning process for this order is maxillary scanning, surrogate scanning, surrogate alignment, and export.



▲ Scanning the upper jaw



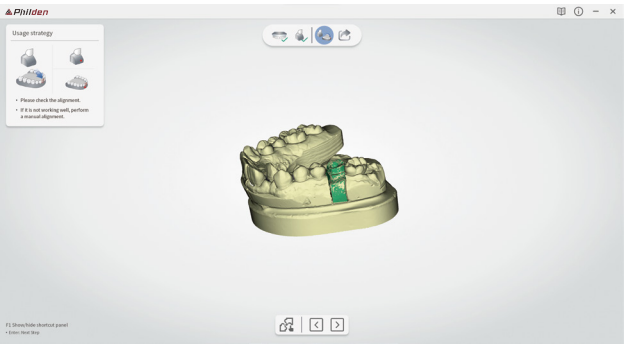
▲ Generation type scan



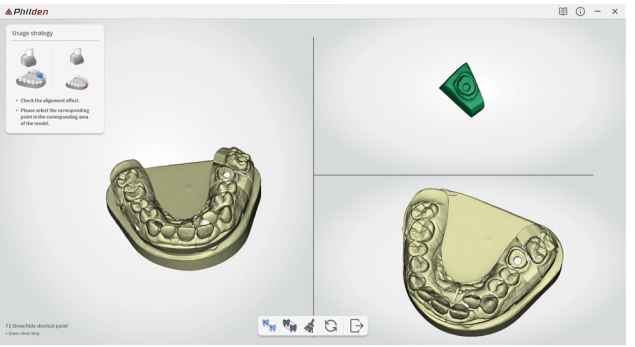
4.3 Alignment

Once you enter the alignment step, the software will automatically perform the alignment. If you are not satisfied with the alignment result, you can enter the manual alignment interface to complete the alignment operation.

▲ Auto alignment



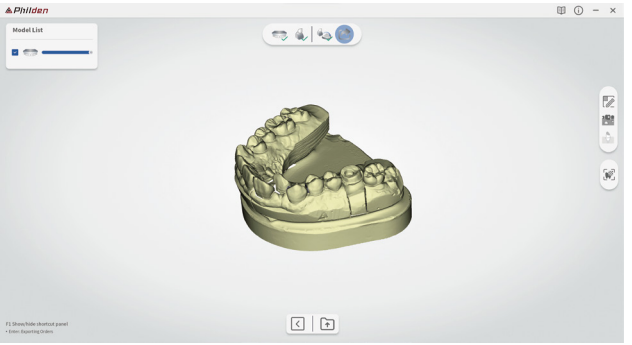
▲ Manual Alignment



4.4 Export

The Export page allows you to view and edit the data in the model list and click to complete the scan order.

▲ Export Page



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CONTROL CENTER

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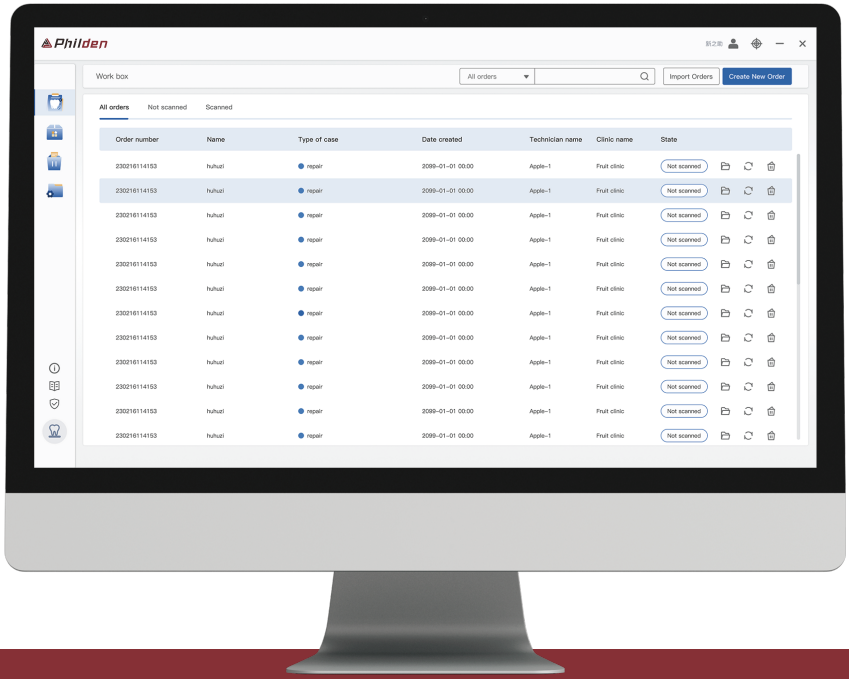

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PD-3 Lab Scanner Control Center User Manual

1. Introduction

ControlCenter is a control platform that initiates scanning by creating an order type. The control platform has a wide range of order types, including restorative dentistry, orthodontics and surrogate trays, covering a wide range of scenarios.

1.1 System Configuration

▲ Recommended Configuration

CPU	Intel I7 13700 or higher
Memory	32G or higher
Graphic	NVIDIA GeForce GTX2060SUPER 8G or higher (Not supporting Radeon)
Operating System	Windows 11 64-bit

▲ Minimum Configuration

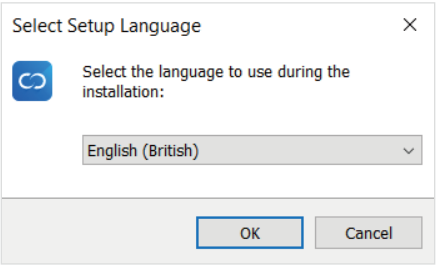
CPU	Intel I7 10700 or higher
Memory	16G or higher
Graphic	NVIDIA GeForce GTX1660 6G or higher (Not supporting Radeon)
Operating System	Windows 10 64-bit

*You can get a better experience with the recommended configuration

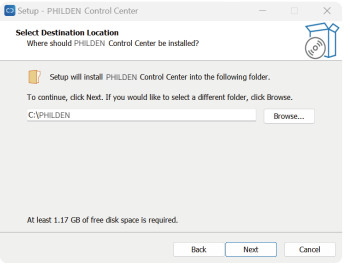
1.2 Installation Steps

Scan for Lab is installed together with Control Center. View ControlCenter instructions for more information.

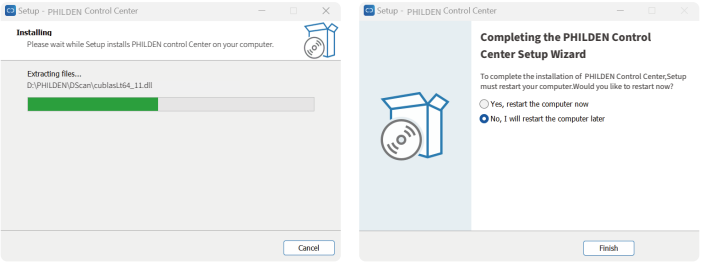
▲ Run the Control Center_XXXX.exe file and select the installation language.



▲ Select the installation software path, click 【Next】 to start the installation.

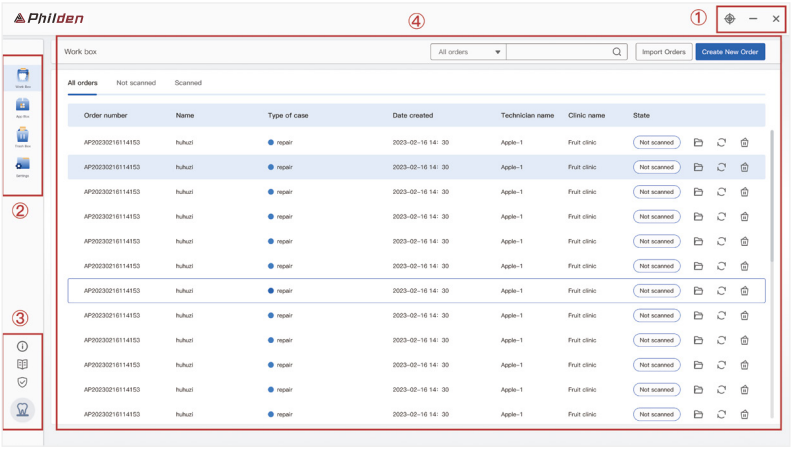


▲ The program will install automatically and may take a few minutes. Do not turn off your computer or unplug it until the installation is complete.



2. Control Center Overview

2.1 Layout Structure



1 Title Bar 2 Function Bar 3 Tool Bar 4 Work Space

2.1.1 Title Bar

✕	Close	Close software
—	Minimize	Minimization software
⊕	Calibration	Calibration of the scanner

2.1.2 Function Bar

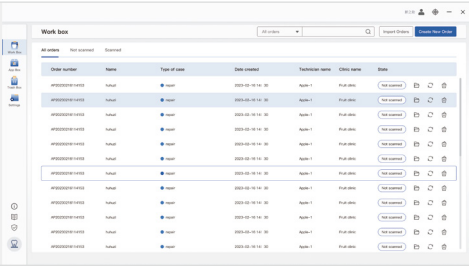
Work Box	Work Box	You can view the orders that have been created
App Box	App Box	Software updates and downloads available
Trash Box	Trash Box	Deleted orders can be viewed
Settings	Settings	Software functions can be set

2.1.3 Tool Bar

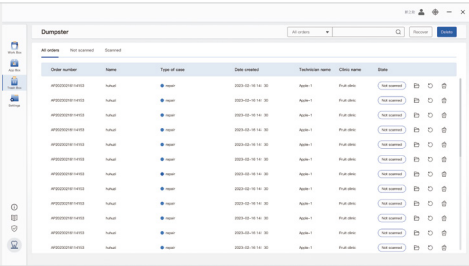
	About software	More about ControlCenter
	Help booklet	Open the ControlCenter operating manual
	Authorisation	View device usage information and device upgrades
	Mode switching	Toggle between port scanning build mode or desktop scanner build mode

2.1.4 Work Space

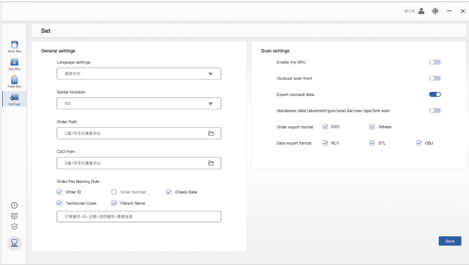
▲ Work Box



▲ Trash Box



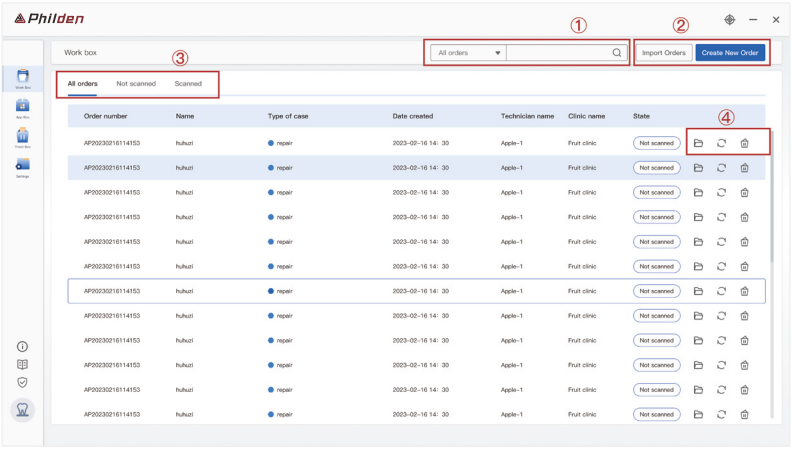
▲ Settings



3. Control Center Function

3.1 Wrok Box

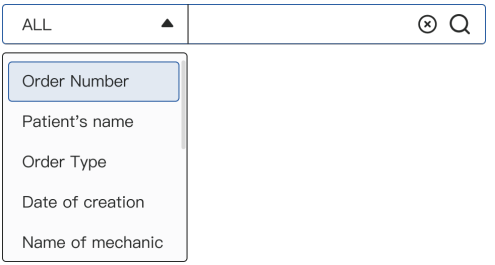
The WorkBox contains all completed orders, detailing the order number, patient name, type of repair, creation date, technician name, clinic name and the completion status of the order.



1 Search Box 2 New Case 3 Statu Filter 4 Shortcut Keys

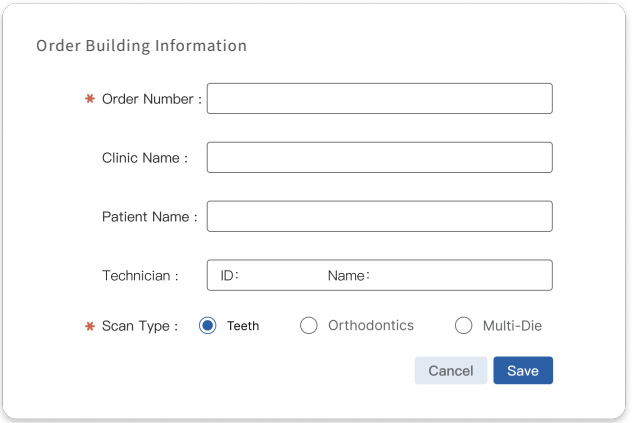
3.1.1 Search Box

Enter the content directly in the search box and the software will automatically perform a fuzzy search; when a specific search range is selected under, the fuzzy search will match at the corresponding entry.



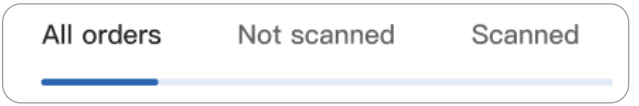
3.1.2 New Case

Click on the Create New Order button to create a new order. The * item represents required information, save the information and enter the order edit page.



3.1.3 Status Filter

Filter the order list by the current completion status of the order.



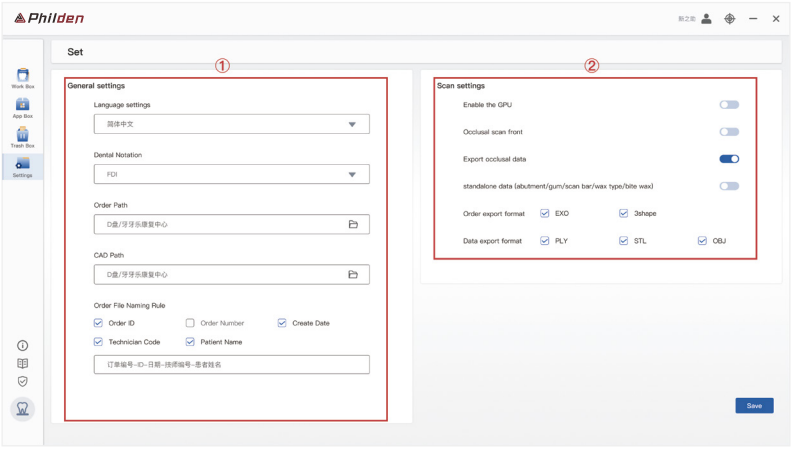
3.1.4 Shortcut Keys

Quickly perform actions on orders.

	Browse	Open the path to the local folder where the order file is located
	Reset	Reset order status
	Delete	Delete orders to Trash Box

3.2 Settings

The settings mainly include the General Settings and the Scan Settings.



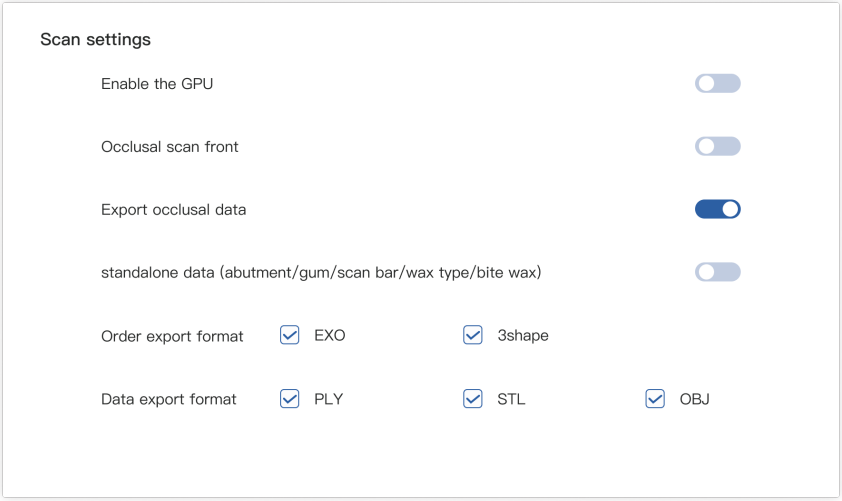
1 General Settings 2 General Settings

3.2.1 General Settings

General settings: General settings allow you to modify the software language, the way you code your teeth, the path to save orders, the path to design software and the rules for naming orders.

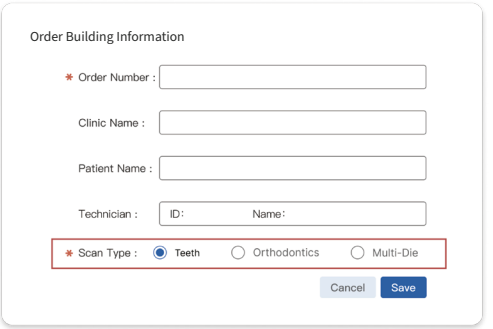
3.2.2 Scanning Settings

The scanning settings can be set to enable or disable the GPU, to prepend the occlusal scan, to export occlusal data or not, to export independent data (abutment/gingival/scanning bar/wax type/bite wax), order export format selection and scan data output format selection.

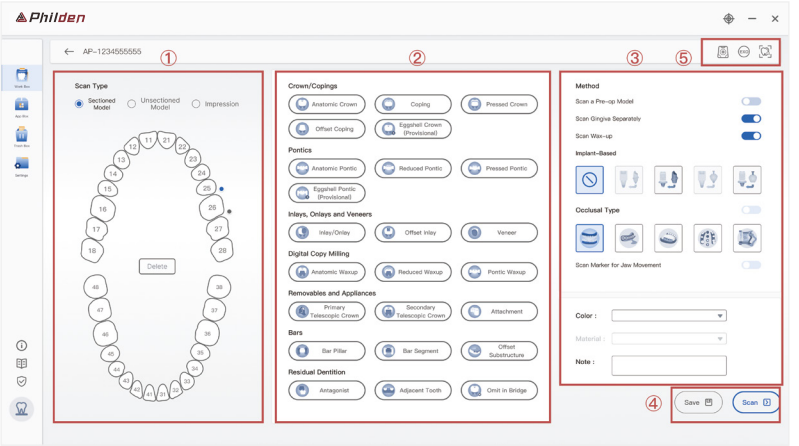


4. Create Order Type

When creating an order, you need to select the type of order: restorative dentistry, orthodontics, generational trays.



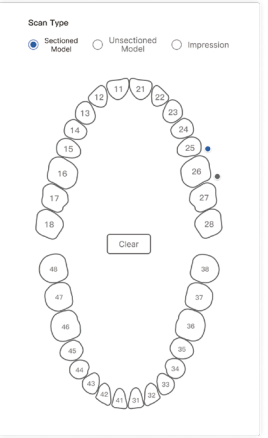
4.1 Dental Restoration Models



1. Model And Position Selection
2. Choice Of Restoration Type
3. Methods And Remarks
4. Saving And Scan
5. Small Functional areas

4.1.1 Model And Position Selection

You can choose between a divided arch, an undivided arch or an impression and select the position to be restored. Between restorations you can choose whether to create a bridge or not. The restoration type can be deleted by right-clicking on the position area and all positions can be reset with one clear click. Hold down the left mouse button and drag to select multiple tooth positions.

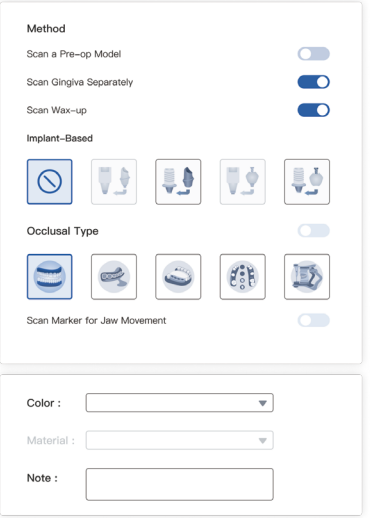


4.1.2 Choice Of Restoration Type

The types of restoration include common types of restorations such as crowns, inlays, veneers, waxes and bar cards.

4.1.3 Methods And Remarks

Depending on the type of restoration different method options are displayed, different implant types and different occlusion types, the remarks field allows for additional instructions on the order.



4.1.4 Save And Scan

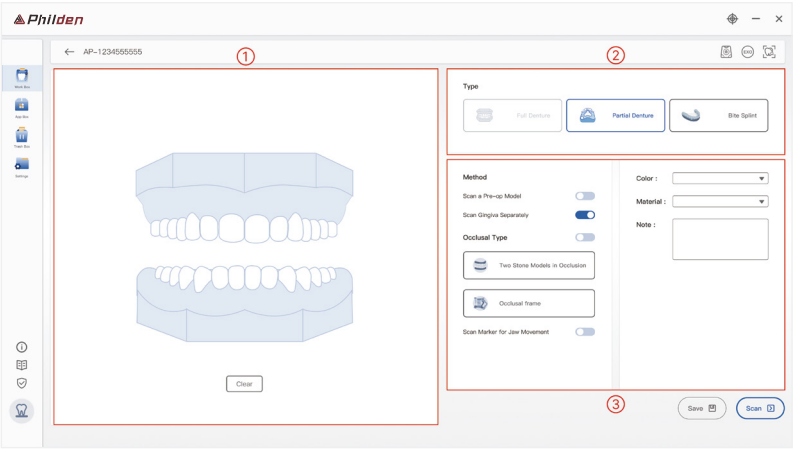
When you have finished editing the order, you can save or directly scan the order.

4.1.5 Small Functional Areas

	Virtual bite frame transfer calibration	To ensure that the virtual bite carrier transfer functions properly, please make sure that a virtual bite carrier transfer calibration must be carried out
EXO	CAD design	If you have set the CAD software path you can open the design directly software
	Model view	Completed scan orders with direct access to model data

4.2 Orthodontic Model

The orthodontic mode operates in much the same way as the restorative mode. You can select the desired arch, choose the type of restoration and the corresponding method type and occlusal relationship, and complete the order editing.



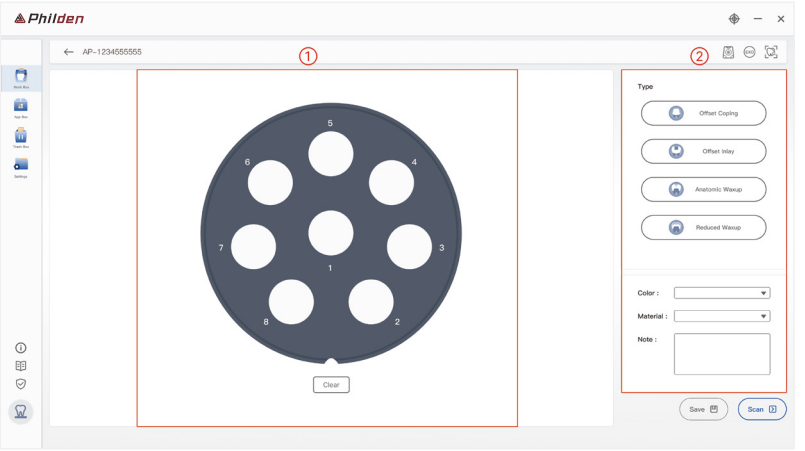
1 Arch Selection

2 Restoration Type Selection

3 Method And Remarks

4.3 Generation Plate Model

The generation tray model requires the selection of the hole first, followed by the selection of the repair type to complete the order creation.



1 Choice Of Empty Space 2 Choice Of Restoration Type

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