# **KP Dental Software Manual**

### 1. Summary

KP Dental is the software component of k-Sensor K1/K2/K1.5、u-Sensor、KP Cam Pro, which is produced by Guilin Kevin Peter Technology Co., Ltd. It runs separately on the Windows system and performs functions such as receiving image data from k-Sensor K1/K2 、u-Sensor、KP Cam Pro, as well as image processing.

### System function overview

The KP Dental software consists of several modules, each performing a specific function to

enable the case examination process and provide valid diagnostic image data.

Login module: Administrator registration, user login, automatic login, password remembering, etc.

Patient module: Register/modify/delete/view patient, image preview and image acquisition, etc.

Viewer module: Image preview and image processing, etc.

Report module: Add/delete/save/open report, etc.

Setting module: Basic system setting, clinic management, default processing algorithm setting, device

management, staff management.

### 2. Working conditions

• Minimum computer configuration requirements:

CPU: Quad-core 3.0GHz processor

Memory: 8GB

Hard disk: 500GB

Graphics card: NVIDIA GT710

Display resolution: 1920 \* 1080 and above

• Software environment:

Windows7, Windows8, Windows10, Windows11

• Network conditions:

LAN is available, with client and server in the same LAN.

# 3. Software function

3.1 Software installation

3.1.1 The software installation package is stored in the U disk of the equipment box.Double-click the installation program, as shown in Figure 1:

📴 KP Dental-V1.0.0-setup.exe	2023/9/18 16:04	应用程序	278,956 KB

Figure 1

3.1.2 Select "Setup Language", as shown in Figure 2:

Select the language to use o	during the installation.
English	~

Figure 2

3.1.3 After the installation program is started, click the "Browse" button to select the installation path. After the path is selected, click the "Next" button, as shown in Figure 3:

			83
lect folder			
Select Destinat	ion Location		6
			2.5
Setup will insta	l into the following folder,if you want to change loca	ation, click "open" button	
C: WP Dental			open
Images will be	raved in location.		
default	C:\KP Dental-Images		
At least 159.6	MB of free disk space is required.		
		-	
		Nevt >	Can



3.1.4 Read the software license agreement, agree to this agreement and click "I accept the agreement", click Next to continue installation, disagree with this agreement and click "I do not accept the agreement" to exit the installation program, as shown in Figure  $4_{\circ}$ 

cense Agreement			
Please read the following important information before	continuing.		C
Please read the following License Agreement. You musi continuing with the installation.	t accept the terms of this agr	eement before	
			~
USE LICENCE FOR	THE KP Dental SOFTWA	ARE	
THE PURCHASER, HEREINAFTER DESIGNATED AS THE TERMS OF THE PRESENT LICENSE AND COMMITS HIM ACTION OF CLICKING ON THE «ACCEPTANCE» BUTTO ANY WAY WHATSOEVER THE "KP Dental" SOFTWARE, «SOFTWARE».	E «LICENSEE », EXPLICITLY / SELF THERETO IPSO FACTO DN, OR BY INSTALLING, COP' HEREINAFTER DESIGNATED	ACCEPTS THE BY THE MERE YING OR USING I AS THE	IN
IF THE «LICENSEE» DOES NOT ACCEPT THE PRESENT INDICATING «NON-ACCEPTANCE» AND HE AGREES N «SOFTWARE» IN ANY WAY WHATSOEVER.	AGREEMENT, HE MUST SELE OT TO INSTALL, COPY OR US	CT THE BUTTON	
THE «LICENSEE» SHALL THEN HAVE TO CONTACT HIS WILL INFORM HIM ABOUT THE PROCEDURES FOR RE	RESELLER AS SOON AS POS TUNING THE «SOFTWARE».	SIBLE, WHICH	~
I accept the agreement			
• I do not accept the agreement			
○ I <u>a</u> ccept the agreement ● I <u>d</u> o not accept the agreement			

Figure 4

3.1.5 Select components. The user selects the corresponding component as needed, and then click the "Next" button, as shown in Figure 5:

lect Components	
Which components should be installed?	ļ
Select the components you want to install; dear the co when you are ready to continue.	omponents you do not want to install. Click Next
Extension(Client)	36.1 M
Most(Server)	70.0 M

Figure 5

3.1.6 Set whether to create a desktop shortcut and server auto start, click the "Next" button after completion, as shown in Figure 6:

🕎 Setup - KP Dental version V1.0.0			×
Select Additional Tasks Which additional tasks should be performed?		d	
Select the additional tasks you would like Setup to perform while installing KP Denta	al, then click Ne	ext.	
Additional shortcuts:			
server auto start			
< <u>B</u> ack	<u>N</u> ext >	Car	ncel
		112	

Figure 6

3.1.7 Click the "Install" button to start the installation, as shown in Figure 7:

etup is now ready to begin installing KP Dental on your computer.		
lick Install to continue with the installation, or click Back if you want to r	eview or change any s	ettings.
Destination location: C:\KP Dental		^
Setup type: full		
Selected components: Extension(Client) Host(Server)		
Additional tasks: Additional shortcuts: Create a desktop shortcut server auto start		
<		>

Figure 7

3.1.8 After the "Install" button is clicked, the program starts to install. The user just waits for the installation to complete, as shown in Figure 8:

🕎 Setup - KP Dental version V1.0.0	27 <u>-</u> 25		×
Installing			
Please wait while Setup installs KP Dental on your computer.		(	
Extracting files			
C: \KP Dental\jre \COPYRIGHT			
		Can	cel

Figure 8

3.1.9 Install the driver, click "Next", click "Next", and then click "Finish", as shown in Figure 9, 10, and 11. If the system has already installed the driver, the page of Figure 9 will display Figure 12, select "Repair", and then click "Next".



Figure 9

Device Driver Installation Wiz	ard
	Welcome to the Device Driver Installation Wizard!
	This wizard helps you install the software drivers that some computers devices need in order to work.
	To continue, click Next.
	< Back Next > Cancel

Figure 10



Figure 11





3.1.10 After the software is installed, click the "Finish" button, as shown in Figure 13:



Figure 13

3.2 Login module

Double-click "KP Dental-Server" to start the server. After the server is started successfully (as shown in Figure 14), double-click "KP Dental-Client" to start the software and enter the software login interface (as shown in Figure 15). Enter the user name and password, and click the "Login" button to log in to the main interface, as shown in Figure 16.

The first time you use the software, you don't have a user name and password, as shown in Figure 17. Click "Sign up for free" to register the administrator, as shown in Figure 18. Enter user name, password, confirm password, and other information to register successfully. Enter the user name and password in the login interface to log in to the main interface of the software. The administrator account has user management functions such as New User, Delete User, Modify User and Search User. Ordinary users do not have user management functions. For details, please refer to "3.6.6 Staff Management".



Figure 14



Figure 15

<b>KP</b> Dental	Patient	Viewe	r Repo	ort S	Setting			? -	
	<u></u>								
Name	Demo		Preview			А	cquisition		
Sex	М	O Date 2022-1	12-05 × — 20	22-12-05 ~	Refresh				
Age	More Details>>	Image Source	All Images 🛛 👻	Image Analysis	All Images	✓ Tooth	All Images	~	All Images
KeyWords x ्	Advance Search								
Name Age Sex NewDate	ViewTime								
Demo M 2022-12-05	2022-12-05								
		Select O Se	elect all Exp	oort Delete	0 image(s)	),displayed on	each page 10	• 🔇	1/1 🕥
Hi,admin									

Figure 16

KP Dent Welcome to use KF	tal P Dental	
8	~	
D Password	h <sub>had</sub> at	forget?
<ul><li>Ø automatic login</li><li>Ø Remember passw</li></ul>	ord	
Login		
No administrator,	Register	

Figure 17

Registered Administrate	or	×
Username*	please enter user name	
Login Password*	Please enter password	Ŷ
Confirm Password*	Please confirm the password	
Staff ID	001	
Gender*	Male     O Female	
Phone	Please enter phone	
Position*	Administrator	~
Department	Please enter department	



3.3 Patient module

Click the "Patient" button to enter the patient module.

3.3.1 Add, delete, modify and query patients

The patient toolbar is as shown in Figure 19. Click the "Add Patient" button to enter the information, click "OK" and a patient can be added, as shown in Figure 20. If you need to modify the patient information, click the "Modify Patient" button to modify the patient information. Click "Modify" and the modification can be successful, as shown in Figure 21. If you need to delete a patient, click the "Delete Patient" button and click "OK" after 3 seconds, as shown in Figure 22.

<b>KP</b> Dental	Patient	Viewer	Report	Setting	?	- C	$\times$
	ନ ନ୍ଧ	8					

Figure 19

<b>KP</b> Dental	Patient	Viewer	Re	port	Setting		?	- 🗆 X
	ନ୍ ଓ	8						
Name	Create Patient							
Sex		Doctor* admir	· · ·	Chart No.				
Age		Name* Demo	2	SurName		Tel.	Input fixed telephone	All Images
KeyWords X 0		Gender* 🔵 Ma	ale O Female	Age	Input number	Cellphone	Input number	
Name Age Sex NewDate	•	Birthday* 2000	-01-01 ~	Email		Fax		
Demo M 2022-12-05		Country Input	country	State	Input state	City	Input city	
		Area Input	regions	Please inp	out Address			
	Medic	al History Please	input Past Cases					
	Remarks							
					C	h la la	Canal	
	•							1/1 🕥

<b>KP</b> Dental	Patient	Viewer	Report	Setting		? – 🗆 X
	<b>A</b> (2	<u>}</u>				
Nai Modify Patient					×	n
	Doctor*	admin 🗸	Chart No.			
	Name*	Demo2	SurName	Tel.	Input fixed telephone	✓ All Images
KeyWords	Gender*	Male O Female	Age Input n	umber Cellphone	Input number	
Name Age Sex	Birthday*	2000-01-01 ~	Email	Fax		
Demo2 M 2	Country	Input country	State Input st	cate City	Input city	
Demo M 2	Area	Input regions	Please input Addres	s		
	Medical History	Please input Past Cases				
Remarks						
				Madifi	Geneal	
				Modily		0 ~ 🔇 1 / 1 📎

Figure 21

<b>KP</b> Dental	Patient	Viewer	Report	Setting				
	<u></u>	& &						
Name	Demo2	1	Preview		А	cquisition		
Age	More Details>>	Date 2022-12-05 Image Source All Ima	v — 2022-12-05 ges v Image Analys	Kefresh     All Images	Ƴ Tooth	All Images	All Imag	es
KeyWords × ्	Advance Delete P	atient		×				
NameAgeSexNewDateDemo2M2022-12-05DemoM2022-12-05	Viev 2022 2022	Are you sure to delete Der	mo2 ? es(3s) No	)				
Hi,admin		Select O Select all	Export Delet	e 0 image(s	s),displayed on	each page 10	× << 1 / 1	$\odot$

Select the patient in the patient list, as shown in Figure 23. The patient information is displayed on the patient information interface. Click "More Details" to view detailed patient information. Enter patient information in the search bar. Click "Advance Search", enter or select information such as New Date, Age, Sex, and Doctor, and click the search button to query the specified patient. If you only want to view the patients created by the current user, select "Current User" in the Doctor option, as shown in Figure 24.



Figure 23



Figure 24

#### 3.3.2 Image acquisition

Click the "Acquisition" button to enter the image acquisition interface.

Take the sensor as an example. After entering the software, click the "Acquisition" button, connect the sensor device to the computer USB interface, and select the "Sensor" device type. Click "Open", the k-Sensor device will enter the acquisition state, and start to acquire images. At this time, the sensor serial number is displayed in the software status bar, as shown in Figure 25. When the sensor is used for the first time, the calibration file will be downloaded through the network, and the user will be prompted "Whether to manually import the calibration file". Click "Yes" to select the calibration file to import. Generally, the image acquired by the sensor will be better after the calibration file is selected, as shown in Figures 26.



Figure 25

KPDe	ental	Patient	Viewer	Report	Setting	? _ 🗆 ×
		R	& Ø			
	Name	Demo		Preview		Acquisition
	Sex	м	Sensor	18 17 16 15 14 13	12 11 21 22 23 24 25 26 27	28 X-ray Parameter:
	Age	More Details>>	Camera	<b></b>	A A A A A A A WW	Voltage: 65.00 kV
			File Import	ght		left Expose Time: 0.00 s
KeyWords	×	Advance Search		al a la		Dose Area: 0.00 mGy*cm2
Name	Age	Sex NewDate	👿 Tips		× 32 33 34 35 36 37	38 Full Mouth Open full mouth mode
Demo		M 2023-10-14	? Whether	to manually import the calib	ation file	
				Yes	No	
Hi,admin						PE644110T210230002X has no correction file

Take "u-Sensor" as an example. After entering the software, the software automatically detects the device, click the capture button, the u-Sensor device is connected to the computer USB interface, select the "Sensor" device type, the button displays "Exposure", the software detects the device, click the exposure, you can start the acquisition images, as shown in Figures 27, 28, 29. When the equipment is used for the first time, the calibration file must be made manually. The software will prompt "The calibration file does not exist. Do you want to create a calibration file". Click Yes, the software will display the manual calibration page, as shown in Figures 30 and 31. Click "Calibration Help" to view the steps of making the calibration file, as shown in Figure 32, or in 3.6.5.2 u Sensor Equipment Management of this document.



KP Den	tal	Patient	Viewe	r Report	Setting	? _ O ×
		R	8 8	-		
N	lame	Demo		Preview		Acquisition
	Sex Age	М	Sensor Camera	18 17 16 15 14 13	12 11 21 22 23 24 25 26 27 28	X-ray Parameter: Voltage: 65.00 kV
KeyWords	× Q 🚺	fore Details>> Advance Search	File Import	right		Electric: 3.00 mA
Name	Age Sex	NewDate	Exposure	48 47 46 45 44 43	42 41 31 32 33 34 35 36 37 38	Full Mouth Open full mouth mode
			_			
			expose 25			
		Ļ	2023-11-15 11:11	:41		

Figure 28



Figure 29

KPDental Patient Viewer Report Setting ?	_ @ ×
Name Demo Proview Acquisition	
Name       Demo       M       2023 10 14       T	20 IV: 0 mil: 0 s; 0 millions 0 millio

<b>KP</b> Dental	Patient	Viewer	Report	Setting	-	
Basic Setting	Exposure time (S)					
Clinic Management	25					
Image Processing	Correction	ŕ.				
Network Settings	Make correction	Manual correction				
Device Management	Image Processing	Standby Image Display			Exposure Remaining Exposures 8	
Staff Management	Denoising	Image Average Count:	In	nage Average Count:	Image Average Count:	Image Average Count:
DICOM Setting	Sharpness					
	Contrast					
		Please put aluminum	plate	Please put aluminum plate	Please put aluminum plate	Please put aluminum plate
		Image Average Count		ande Average Countr	Image Average Count:	Image Average Count
		Intage Average count		lage Average Courts		
		Please put aluminum	plate	Please put aluminum plate	Please put aluminum plate	Please put aluminum plate
		Tip: The average count of th	e image is regul	red to be > 500 when taking ti	a aluminum plate image otherwise the gene	aration of the correction file will fail
		inp. The average count of th	e image is requi	red to be > 500 when taking a	ie aluminum plate image, otherwise the gene	radion of the conection me will tall.
Hi,admin						

Figure 31



The k-Sensor sensor and the u-Sensor sensor are generally not used on the same computer at the same time. If you need to use them at the same time, please plug in the k-Sensor sensor first, click Open, open the k-Sensor, and then plug in the u-Sensor sensor, you can use two sensors by switching the sensor, as shown in Figure 33

KPDe	ntal	Patient	Viewe	er Report	Setting	? _ 🗆 X
		ج	8			
	Name	Demo		Preview		Acquisition
KeyWords Name Demo	Sex Age Age S	M More Details>> Advance Search ex NewDate M 2023-10-14	Sensor Camera File Import u-Sensor Sensor1	18 17 16 15 14 13 1 19 17 16 15 14 15 1 19 17 16 15 14 13 1 19 17 16 15 14 15 15 1 19 17 16 15 15 15 15 15 15 15 15 15 15 15 15 15	12 11 21 22 23 24 25 26 27 28	X-ray Parameter:         Voltage:       65.00       kV         Ieft       Electric:       3.00       mA:         Expose Time:       0.00       s:       Dose Area:       0.00       mGy*cm2.         Full Mouth       Open full mouth mode       Open full mouth mode       Open full mouth mode
Hi.admin						Detector connected

#### Figure 33

Take the camera as an example. After entering the software, click on the acquisition button, select "Camera", click on "Open" to enter the image acquisition page of the oral digital observer (hereinafter referred to as "Camera"), as shown in Figure 34. If the handle of the oral digital observation device is inserted, the image acquisition page of the oral digital observation device will display the name of the camera. Click "Start" to display real-time video in the central video stream display area. Click "Capture Photo" to save the photo to the software and display the image on the right side of the page, as shown in Figure 35. Click "Stop" to shut down the device. Click

"Recording" to record the video stream in real-time and form a file. Click the play button to achieve video playback, as shown in Figure 36. Users can select full screen, split screen, or quarter screen to view images as needed, and click Clear to clear the image in the display area, but the image will not be deleted. The page also has functions such as image flipping, creating new patients, modifying patients, and querying patients, as shown in Figure 37. Cameras have different resolutions. You can click on "Format Setting" and select the desired resolution. The default is the maximum resolution. The image captured in the display area has a sharing function. Click the sharing button, and the patient will connect their phone to the same network as their current computer. Scan and download the image. As shown in Figure 38. The image list on the right displays all images captured by the patient's camera, with pagination function. Click on "Multiple Choice" to select the desired image for export and deletion, as shown in Figure 39.



Figure 34



Figure 35



Figure 36



Figure 37



Figure 38





Take file import as an example. After entering the software, click the "Acquisition" button. Select the "File Import" device type and click "Import" to enter the image selection interface. The software supports the import of images in PNG, JPG, JPEG, BMP, DCM and other formats, as shown in Figure 40. After selecting the image, click "OK" to enter the "Import image" interface, as shown in Figure 41. You can select the target patient and shooting time for each image, and click "OK" to save the image to the specified patient.

Select Files				X
← → ~ ↑ 📙 > 此电脑 > 桌面 > image	~	õ	在 image 中搜索	P
组织 ▼ 新建文件夹			<b>•</b> •	0
<ul> <li>\$\$\phi\$\phi\$\phi\$</li> <li>\$\phi\$\phi\$\phi\$</li> <li>\$\phi\$\phi\$\phi\$</li> <li>\$\phi\$\phi\$\phi\$</li> <li>\$\phi\$\phi\$</li> <li>\$\phi\$\phi\$</li> <li>\$\phi\$\phi\$</li> <li>\$\phi\$</li> <li>\$\phi\$</li></ul>				
La 本地磁盘 (C:)				
文件名( <u>N</u> ):		×	Images(*.png *.jpg *.jpeg *.t	~
			打开(Q) ▼ 取消	

Figure 40

mport image			×
	Patient		
Constant of the	unknown - unknowr image	1	
T MARK	Choose a patient:	Demo	~
	Shooting time:	2022-12-05 22:09:27	~

When the software is used for the first time, the user will be prompted to set the relevant parameters of the clinic' s X-ray source. X-ray sources are divided into power frequency, medium frequency and high frequency. Select AC for power frequency and DC for medium and high frequency. The voltage and current are set according to the X-ray source parameters, as shown in Figure 42:

KP Dental Patient	Viewer Report	Setting	? _ Ø ×
(Å	(} ()		
Name Demo		Preview	Acquisition
Sex M	O Date 2022-12-05 ~ - 2022-12-	05 ~ Refresh	
More Details>>	Image Source All Images  V Image	Analysis All Images Y Tooth All Images Y All Images	
KeyWords x Q Advance Search			
Name Age Sex NewDate ViewTime	a setting		
Demo M 2022-12-05 2022-12-05	i and the second		
	2022-12-05 22:00:57		
		X-ray source trigger settings	
		X-ray source	
		Type O DC O AC	
		Voltage O 60 0 65 O 70 O 75 O 80	
		Electric O <=0.2 O 0.5 O 1.0 O 2.0 O >=3.0	
		OK Cancel	
	Select O Select all Export	Delete	1 image(s),displayed on each page 50 🛛 🖌 1 / 1 📎
Hiadmin			Correction file loaded successfully

Figure 42

During the acquisition, problems such as network instability may be encountered, resulting in the failure of image saving. In this case, there is an image saving failure mark in the lower right corner of the image. Right-click the image and it can be exported to local and saved again, as shown in Figure 43 and Figure 44.



Figure 43



Figure 44

3.3.3 Image preview

Click the "Preview" button to view acquired images. Select an image, right-click and select "Export" to export the image to the local. Select "Information" to view the information of the image. Select "Delete" to delete the image after the user confirms to delete. Double-click the image to enter the viewer interface. If you want to delete or export multiple images, you can click "Select..." to select the images you want and then export or delete them. As is shown in Figure 45,46:

The image preview interface has filter image functions such as Date, Image Source, Image Analysis, Tooth Profile, All images, etc. Click the "Refresh" button, and the software will synchronize the latest image data of the patient and display it in the image list.



Figure 45

Prev	view		Acquisition					
O Date 2022-05-06 ~	- 2022-05-09 ~	Refresh						
Image Source All Images	✓ Image Analysis	All Images	✓ Tooth	All Images	~	All Images		
Delete In 2022-05-	nage Are you sure to delete this	picture? Yes	No	×				
Select O Select all	Export Delete	1 image	(s),displayed on	each page 10	~ (<	) 1 / 1 📎		

Figure 46

3.4 Viewer module

Click the "Viewer" button to enter the viewer module.

Click the image on the left to select an image to be processed. There are image processing tools on the right side of the viewer interface, such as Display, Image Correction, Measuring, View, Enhance, Sharpening, Histogram, Annotation, etc. Select the image processing tool and adjust the image quality to a satisfactory level. In the Enhance, click the "HD" button and the image will be enhanced. Click the "HD" button again to cancel the enhancement.

Use image processing tools to adjust image quality. Click the "Add Temporary State" button to save the image quality at this time. Select the temporary state in the drop-down box to reproduce the image.

There are delete, export, and image information functions above the processed image. These functions are similar to the corresponding functions of the patient module. When multiple images are selected for processing, click the "Clear" button to close them all.

Move the mouse wheel up and down to zoom in and out of the image. Hold down the right button and move the mouse up to increase contrast, move down to decrease contrast, move left to decrease brightness, and move right to increase brightness.

Select an image, and click the linear measurement icon (or angle measurement icon) in the Measuring. Click the left mouse button to form the starting point and move the mouse. Click the left mouse button again to form the end point and right-click the end point to end the measurement. The measurement line will be displayed on the image, and meanwhile the corresponding annotation of the measurement line will be displayed in the Annotation, as shown in Figure 47:

For images acquired by File Import, etc., the measured value may be inaccurate, and can be

calibrated through the calibration function. Select the measurement line, enter the actual length of the measurement line in the Measuring, and click the "Modify" button to perform calibration.



Figure 47

Image processing function list

Ð	Adapt to window
Q	Zooming to 100%
5	Forward rotation 90°
C	Reverse rotation 90°
$\langle \cdot \rangle$	Left and right reverse
	Up and down reverse
-;-/;	Brightness
	Contrast
Ŷ	Gamma
(0 (0 (0 (0)))	Pseudo-color
	Reverse
С	Intra-oral Caries

НD	Intra-oral High Definition							
F	Intra-oral Fine							
k→	Straight line measurement							
$\triangleleft$	Angle measurement							
	Delete measurement							
Ø	Scale							
6P	Calibration line							
-;&;-	Flash lamp							
Q	Magnifying lens							
$\sim$	Relief							
	Contour enhancement							

If it is an image captured by the u-Sensor sensor, the image processing toolbar has display, postprocessing, measurement, and annotation categories. There are 6 types of post-processing, namely automatic contrast enhancement, automatic sharpening enhancement, denoising, softening, normalization, and embossing, as shown in Figure 48.



Figure 48

3.5 Report module

Click the "Report" button to enter the report module. Click the "New Report" button to create a new report template. Drag an image from the left to the image box, and enter the diagnosis result in the text box, etc. If you need more pages, click "Add Page", and a page will be added to the report. After writing the report, click the "Save to Server" button to save the report to the server. When you want to view the report, click "Open Report", select the report you want, and click "Open" to view. Click the "Export to PDF" button to export the report to the local. As is shown in Figure 49:

KPDental	Patien	t	Viewer	Re	eport	Setti	ng					$\times$
	(Ŧ	Ŧ	Ŵ	۵	-C			$\Box$				
2022-12-05 22:11:47	-H	Ð		Drag in the pi Please inpu	Chart No: Name:Demo Sex:M Age: cture from the	left sis result	2022-12-05	22:16				
				Address:		Contact D	etail:					
					() 1	/ 1 (	$\supset$					
Hi,admin									Correcti	on file loade	d success	sfully

Figure 49

#### 3.6 Setting module

Click the "Setting" button to enter the setting module.

### 3.6.1 Basic setting

Click the "Basic Setting" button to enter the basic setting page. Click the "Sign Out" button to return to the login interface. Click the language drop-down box to select the software language. Click the tooth profile drop-down box and select the tooth profile number. As is shown in Figure 50:

<b>KP</b> Dental	Patient	Viewer	Report	Setting	? – 🗆 X
Basic Setting	Sign Out	Sign Out			
Clinic Management	Language	English	Ý		
Image Processing	Image Path				
Network Settings	Data Path				
Device Management	Tooth	EDI	× O Sho	w tooth position on image	
Staff Management	18 17	16 15 14 13 12 1	1 21 22 23 24 25 26	27 28	
DICOM Setting	W W.		****	WW 🕜	
	right A	****			
	48 47	46 45 44 43 42 4	1 31 32 33 34 35 36	37 38	
Hi,admin					Correction file loaded successfully

Figure 50

#### 3.6.2 Clinic management

Click the "Clinic Management" to enter the clinic management interface and enter the clinic information, as shown in Figure 51:

<b>KP</b> Dental	Patient	Viewer	Report	Setting		? – 🗆 X
Basic Setting	Clinic Information					
Clinic Management	Clinic Name		Website		Fax	
Image Processing	Contact Detail					
Network Settings	Address				Country	
Device Management	City		State		Postcode	
Staff Management						
DICOM Setting	Clinic Logo					
	● Text 微软	雅黑	<ul> <li>Clinic Logo</li> </ul>			
Hi,admin					Corre	ection file loaded successfully

Figure 51

3.6.3 Image processing

Click the "Image Processing" button to enter the image processing interface. Select the HD checkbox, select "HD", and the acquired image will be initialized and HD processed automatically. Select "Fine" and the acquired image will automatically undergo initialization and fine processing.

Click the "Setting" button to set the initial color of the measurement line of the diagnostic module. As is shown in Figure 52:

<b>KP</b> Dental	Patient	Viewer	Report	Setting	?	- 0	×
Basic Setting	Image processing set	ings					
Clinic Management	• HD	HD	~				-
Image Processing	Q Magnifying lens	Middle	~				
Network Settings	-兴- Flash lamp	Middle	Ý				
Device Management	Measuring	æ					
Staff Management	Image Correction	Save					
DICOM Setting							
Hi,admin					Correction file I	oaded succ	essfully

#### 3.6.4 Network setting

Click the "Network Setting" button to enter the Network setting interface. Enter the IP address and port number. Click "Connection Test" to view the test result. Click "Modify" to switch the connected server, and the software need restarting at this time. As is shown in Figure 53:

<b>KP</b> Dental	Patient	Viewer	Report	Setting		? -		×
Basic Setting Clinic Management	IP Address Port	127.0.0.1 8203		Search Server				
Image Processing	Test Connection	OK,Successful con	nection					
Network Settings		Modify	Cancel					
Device Management								
Staff Management								
DICOM Setting								
. Geologiaet						CL 1		<b>C</b> 11
Hi,admin					Correcti	on tile load	ied succe	sstully

Figure 53

3.6.5 Device management

The related settings of k-Sensor and u-Sensor sensors are in the device management interface. If there is no sensor device connected, you cannot enter this interface, as shown in Figure 54

<b>KP</b> Dental	Patient	Viewer	Report	Setting	? .	- 0	×
Basic Setting	Sign Out	Sign Out					
Clinic Management	Language	English	~				
Image Processing	Image Path						
Network Settings	Data Path		)				
Device Management	Tooth	FDI	<ul> <li>O Shot</li> </ul>	w tooth position on image			
Staff Management	18 17	16 15 1	×	27 28			
DICOM Setting	right 7 8 47		ase connect the device	37 38			
Hi,admin					Detect	or disconn	iected

Figure 54

#### 3.6.5.1 k-Sensor device management

After the k-Sensor is connected, Click the "Device Management" button to enter the device management interface, as shown in Figure 55:

KP Dental	Patient	Viewer	Report	Setting	? _ 🗆	×
Basic Setting	Sonsor V Pay					
basic secting	Sensor X-Ray				<u></u>	
Clinic Management	TriggerMode:	Enm_TriggerMode_AE	D_DC			
Image Processing	TriggerThreshold:	Enm_TriggerThreshold	_200uGy _			
Network Settings	Modify Sensor X-R	ау				
Device Management	Modify				_	
Staff Management	Correction					
DICOM Setting	Load correction	file			_	

### Figure 55

Before using this function, you need to determine whether the sensor is successfully connected and whether "IO sensor connection successful, Please take images" is displayed in the lower right corner. If it does not appear, please go to the acquisition interface in the patient interface to connect the sensor. As is shown in Figure 56:

<b>KP</b> Dental	Patient	Viewe	er Report	Setting	? – 🗆 X
	R	8 8			
Name	Demo		Preview	1	Acquisition
Sex	м	Sensor	18 17 16 15 14 13 1	2 11 21 22 23 24 25 26 27 28	X-ray Parameter:
Age	More Details>>	File Import	- A. M. M. ( )	VUILLARE	Electric: 3.00 mA
KeyWords X	Q Advance Search		right	PREFILTER	Left Expose Time: 0.00 s
Name Age Sex New!	Date ViewTime	. d		<b><i>x y y y y y com v</i></b>	Full Mouth
Demo M 2022-1	2-05 2022-12-05	Close	40 47 40 43 44 45 4	2 41 51 52 55 54 55 50 57 50	Open full mouth mode
		ļ			
Hi,admin				PF644011T05	08220507,The calibration file is loaded successfully

After the connection is successful, return to the device management interface in the setting interface to set the sensor parameters. Before setting new parameters, first determine whether the X-ray trigger mode is AC or DC. If it is DC mode, set "TriggerMode" to "Enm\_TriggerMode\_AED\_DC", and "TriggerThreshold" to "Enm\_TriggerThreshold\_50uGy"; if it is AC mode, set "TriggerMode" to "Enm\_TriggerThreshold\_50uGy". Then click "Modify" and "Ok, Setup succeeded" will be displayed after the modification is successful. As is shown in Figure 57:

<b>KP</b> Dental	Patient	Viewer	Report	Setting
Basic Setting	Sensor X-Ray			
Clinic Management	TriggerMode:	Enm_TriggerMode_AE	D_DC _▼	
Image Processing	TriggerThreshold:	Enm_TriggerThreshold	1_200uGy 🔄	
Network Settings	Modify Sensor X-R	lay		
Device Management	Modify OK	Setup succeeded		
Staff Management	Correction			
DICOM Setting	Load correction	n file		

#### Figure 57

If there is no picture during the shooting process, the exposure time can be appropriately adjusted to re-expose. If the picture still cannot be produced, set "TriggerThreshold" to "Enm\_TriggerThreshold\_100uGy" or "Enm\_TriggerThreshold\_200uGy" for re-exposure. If the picture still cannot be produced, please contact the relevant personnel.

Note: If incorrect parameter settings are made or the sensor is not connected, "Sorry, Setup failed" will appear and the previous parameters will be displayed, as shown in Figure 58:

Basic Setting	Sensor X-Ray		
Clinic Management	TriggerMode	Enm_TriggerMode_AED_DC	Ŧ
Image Processing	TriggerThreshold:	Enm_TriggerThreshold_200uGy	*
Network Settings	Modify Sensor X-F	Ray	
Device Management	Modify So	rry,Setup failed	
Staff Management	Correction		
DICOM Setting	Load correction	n file	

Figure 58

#### 3.6.5.2 u-Sensor device management

After the u-Sensor is connected, click the device management button to enter the device management interface, as shown in Figure 59.

KP Dental	Patient	Viewer	Report	Setting
Basic Setting Clinic Management Image Processing	Exposure time (S) 25 Correction Make correction	file Calibrat	tion Help	
Network Settings	Image Processing			
Staff Management	Denoising -	•	2	
DICOM Setting	Sharpness -		2	
	Contrast -	•	3	



When the equipment is used for the first time, the correction file must be made manually,We recommend that users calibrate the device every six months, or when abnormal points, lines, or artifacts appear in the acquired images. Before starting the system, check the connection status of the USB cable with the digital sensor and computer to ensure that the connection is normal.

Please follow the steps below to complete the calibration procedure:

(1) Connect the intraoral digital X-ray imaging system to the software via USB, and place the detection surface of the sensor toward the center of the X-ray collimation window. Place a 6mm thick pure aluminum body film on the detection surface of the sensor. As shown in Figure 60 below:



Figure 60: Sensor and Aluminum Sheet Placement Connect the sensor, Click [Settings] - [Device Management], click [Make Calibration File]; open the calibration window, as shown in Figure 61;

	Exposure Remaining Exposures 8	
Image Average Count:	Image Average Count:	Image Average Count:
Please put aluminum plate	Please put aluminum plate	Please put aluminum plate
Image Average Count:	Image Average Count:	Image Average Count:
Please put aluminum plate	Please put aluminum plate	Please put aluminum plate
	Image Average Count:          Please put aluminum plate         Image Average Count:         Please put aluminum plate	Image Average Count:       Image Average Count:         Please put aluminum plate       Please put aluminum plate         Image Average Count:       Image Average Count:         Please put aluminum plate       Please put aluminum plate

### Figure 61: Acquisition of images

- (3) Perform image acquisition according to the following steps:
- a. Select a setup view;
- b. Click the [Exposure] button, as shown in Figure 62;
- c. Set the corresponding exposure time based on the x-Ray tube current value.

≤0.2Ma	3.0s-5.0s
0.5Ma	1.0s-2.0s
1.0Ma	0.8s-1.5s
2.0Ma	0.4s-0.8s
≥3.0Ma	0.32s-0.8s

d. According to the status prompt, press the exposure handbrake to expose.

e. Perform operations a-c to sequentially acquire images to the remaining seven placement views. As shown in Figure 63:

L	Exposure Remaining Exposures 7	
Image Average Count:	Image Average Count:	Image Average Count:
Please put aluminum plate	Please put aluminum plate	Please put aluminum plate
Image Average Count:	Image Average Count:	Image Average Count:
Please put aluminum plate	Please put aluminum plate	Please put aluminum plate
	Image Average Count: Please put aluminum plate Image Average Count: Please put aluminum plate	Image Average Count:       Image Average Count:         Please put aluminum plate       Please put aluminum plate         Image Average Count:       Image Average Count:         Image Average Count:       Image Average Count:         Please put aluminum plate       Please put aluminum plate

Figure 62: Image acquisition.



Figure 63: Acquisition complete

(4)Click the [Generate] button, After success, the software will automatically restart. As shown in Figure 64 and Figure 65 below:



Figure 64: Calibration complete



Figure 65: Loading correction file

Specifications of the aluminum plate: 99.9% pure aluminum; 6mm thick. If the plate is round, the diameter should be no less than 40mm; if the plate is rectangular, the width should be no less than 40mm.

Click Correction Help to view how to create correction files, as shown in Figure 66.

Caution



Figure 66: Calibration Help

#### 3.6.6 Staff Management

Only when the administrator account is logged in to the software, there will be a "Staff Management" button in the setting module. Click the "Staff Management" button to enter the staff management interface, as shown in Figure 67.

The staff management interface has the functions of New User, Delete User, Modify User and Search User. Click the New User and enter the User Name, Login Password, Confirm Password and other information, as shown in Figure 68. Enter the user name in the search bar to query the specified user. Double click the staff information bar to query the details of the user.

When the administrator forgets the login password, Open the login interface and click "forget?", Enter the security question and reset the password, as shown in Figure 69. If an ordinary user forgets the login password, double-click the staff information bar, and the staff information interface will pop up. Press and hold the password viewing button, the login password input box will display the staff's password, as shown in Figure 70. The problem of forgetting the password can also be solved by changing the staff's password.

<b>KP</b> Dental	Patient	Viewer	Report	Setting		? – 🗆 X
Basic Setting	Staff List					
Clinic Management	Enter username	Search	<u>A</u>	8		
	Name	Staff ID	Sex	Phone	Position	Department
Image Processing	admin	001	м		Administrator	
Network Settings			н.			
Device Management						
Staff Management						
DICOM Setting						
		Figu	ire 67			

Registered Staff		>
Username*	please enter user name	
Login Password*	Please enter password	ç
Confirm Password*	Please confirm the password	
Staff ID	Please enter staff ID	
Gender*	Male     O Female	
Phone	Please enter phone	
Position*	Doctor	~
Department	Please enter department	



KPDental	_ ×	Check Secret
Welcome to use KP Dental		Check Secret
(A) admin ~		Question 1* What is your mother's name?
<u>A</u>	forgot2	Answer* 1
Ø automatic login	1	Question 2* What is your mother's birthday? Answer* 2
Remember password	/1	ОК
		Reset Password ? X
		New Password* Please enter password
	3	Confirm Password* Please confirm the password
		ОК

Figure 69

lodify Staff			
Username*	admin		
Login Password*	123456		
Confirm Password*	•••••		
Staff ID	001		
Gender*	Male	O Female	
Phone	Please enter p	hone	
Position*	Administrator	54	~
Department	Please enter d	lepartment	

Figure 70

#### 3.6.7 DICOM setting

3.6.7.1 Set the PACS system parameters

(1) Storage Host — setting the IP, PORT, and AETitle (the three are provided by the PACS system manufacturer) of the PACS system image storage server

(2) WORKLIST — setting the IP, PORT, and AETitle (the three are provided by the PACS system manufacturer) of the PACS system worklist server

(3) Local Host — setting the IP, PORT, and AETitle of KP Dental software. IP is the computer's IP address, PORT is "1234", and AETitle is "KPPACS". "IP", "PORT", and "AETitle" can be modified according to the actual situation.

(4) Upload

Upload Location: If you don't need to connect to PACS system, choose "KP Dental"; if you need to connect to "PACS system", choose "PACS" or "All". If you choose "PACS", the images will only be transferred to PACS system; if you choose "All", the images will be transferred to PACS system as well as saved on KP Dental system.

Upload Method: If you need to connect to PACS system, there are two ways to upload images: uploading a single image and uploading all images together.

After setting, click "Connection Test" to test whether the connection between the configured PACS system and KP Dental system is normal, and then click "Modify". As is shown in Figure 71.

<b>KP</b> Dental	Patient	Viewer	Report	Setting	? -	- 0	×
Basic Setting	Storage Host						
Clinic Management	IP Address	192.168.10.34		1		0	
Image Processing	Port	1040					
Network Settings	AE Title	RINGPACS					
Device Management	WORKLIST						
Staff Management	IP Address	192.168.10.34					
DICOM Setting	Port	1040					
	AE Title	RINGPACS					
	Local Host						
	IP Address	192.168.10.123					
	Port	1234					
	AE Title	KPPACS					
	Upload						
	Upload Location	O KP Dental	O PACS	AII			
	Upload Method	O Single	All	OK Successful connection			
		wodity	Test Connection	Christice and Connection			
Hi,admin							

Figure 71

#### 3.6.7.2 Connection to PACS system

Log in to the software, go to the main interface, and click "Acquisition", as shown in Figure 72.

<b>KP</b> Dental	Patient	Viewe	r Report	Setting		? –	o ×
	<u> </u>	8					
Name	Demo		Preview		Acqu	uisition	
Name     Sex       Age     X       Name     Age       Sex     NewDate       Demo     M       2022-12-05	M More Details>> Advance Search ViewTime 2022-12-05	Sensor File Import Exposure	right 48 47 46 45 44 43	<ul> <li>Patient name</li> </ul>	rial number P	X-ray Parameter: Voltage: 65.00 Electric: 3.00 Expose Time: (0.00 Dose Area: (0.00 Full Mouth Open full mouth mode Patient ID Birthd	kV: mA: i: mGy*cm2: e
Hiadmin						Correction file loaded	successfully

Click "Search" to get the patient list of the PACS system. Find out the specified patient to display the patient-related information. Perform image acquisition, click "Upload" button to upload the images to the PACS system. As is shown in Figures 73 and 74.

(	Preview		Acquisition			
u-Sensor File Import	18 17 16 15 14		26 27 28	X-ray Parameter: Voltage: Electric: Expose Time: Dose Area:	75.00 kV 2.00 mA 0.00 s 0.00 mGy*cm2	
Exposure	48 47 46 45 44	43 42 41 31 32 33 34 35	36 37 38			
Upload	Search HUA WEI	V O HUA WEI	0000008	15000008	Birthday	
2022-05-09 1	7:50:26					

Figure 73



Figure 74

### 3.7 Help document

Log in to the main interface of the software and click "?" on the upper right corner. There are online help documents such as KP Dental manual, etc. In addition, click "Privacy Policy" to view and modify the privacy policy settings, as shown in Figure 75, "About KP Dental" can be clicked to check the software version. As is shown in Figure 76:

Privacy Policy

#### KP Dental Privacy Policy

When you use our services and/or products, we may collect and use your relevant information. We hope to explain to you through this Privacy Policy how we collect, use and store this information when you use our services and/or products.

The information we collect includes: Computer operating system type and number of digits, computer name, IP address, computer hard disk space, software installation path, the number of patients stored in the software, the number of images, the number of registered doctors, and the language used by the software. This information is not a software data backup and corput be used to

This information is not a software data backup and cannot be used to restore data.

Collection method: These data will be automatically sent to a server in China and saved every 1 hour, and there is cross-border transmission.

```
Purpose of collection:
```

The purpose of collecting this information is to enable developers to better understand software usage, adjust software development strategies according to usage, and continuously improve user experience. This information will only be used by software

Agree	O Disagree	
	ок	

Figure75

			-			
<b>KP</b> Dental	Patient	Viewer	Report	Setting		? – O ×
						KP Dental Manual
	6 (G					Privacy Policy
						About KP Dental
Name	Demo		Preview		Acquisition	

Figure 76

3.8 Software upgrade

The software has an automatic upgrade function. If the KP Dental server is installed on the computer and the software can be upgraded, there will be a pop-up window indicating whether to upgrade. Click "Upgrade", as shown in Figure 77. After the upgrade is completed, click "Finish", as shown in Figure 78. After started, all clients connected to the server will receive the upgrade countdown 10s. The software will automatically close after 10s, and start to upgrade. Click "Cancel", the software will not be upgraded temporarily.

×



Figure 78

### 3.9 Exception handling

(1) In case of unclear image, please adjust the exposure time first.

(2) During the use of the software, when the server is unavailable due to some reasons, the software will enter the server disconnect interface, as shown in Figure 79. At this time, the user can check whether the network is normal or restart the server.



Figure 79

# 4. Training and maintenance

After the user purchases this product, the dealer will come to train the operator. If there are still questions, you can contact the dealer. In addition, users are not allowed to change the intended use of the product or software.

When there is a problem with the device or software, contact the dealer, who will contact KP and we will then arrange professional staff for maintenance.

# 5. Others

Please operate the device and software in good light so as not to interfere with viewing image details.

This software will collect patient and doctor related data, such as name, gender, and oral imaging. The data is stored on the user's device where the software is installed. Users are advised to take security measures for patient and doctor data to avoid data leakage.