

■ USB 2.0 Intraoral Camera **DiaCam**



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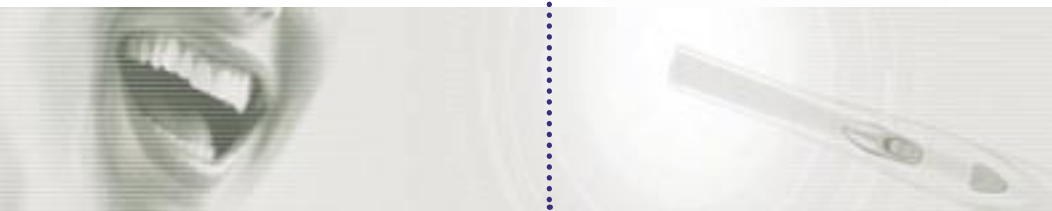


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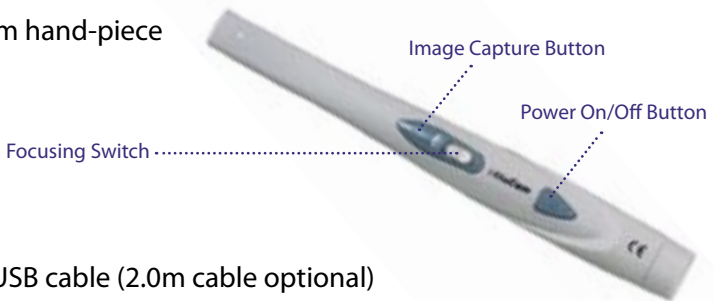
1.1 Overview

DiaCam is an advanced USB 2.0 intraoral camera that is ergonomically designed with easy-to-operate buttons built right on the slim and lightweight hand-piece. DiaCam has the following features:

- High resolution - 1.2 mega pixels
- Energy efficient CMOS image sensor
- Equipped with 6 bright LEDs
- Capture, focus and power on/off buttons are conveniently placed on the hand-piece
- Direct connection to computer via USB 2.0 port
- No separate power supply or other image capturing device drivers are required

1.2 System Parts & Components

I. DiaCam hand-piece



II. 5.0m USB cable (2.0m cable optional)

III. Disposable Sheathes

IV. Hand-Piece Holder

V. User Manual

VI. DiaCam USB2.0 Device Driver/Imaging Software CD

1.3 System Parts & Components

I. Pentium IV-1 GHz or above

II. USB 2.0 port

III. 512 MB RAM

IV. 64 MN Video Memory

V. Windows 2000/XP with DirectX 9.0 or higher

DiaDent DiaCam is designed in conformity with ISO, EMC & UL standards. To prevent damage to equipment and risks for patients, users, and third parties, please follow the safety notes and operate with care. Liability can not be accepted for damage resulting from misuse or failure to operate in compliance with the safety notes.

Safety & Storage Information

Conformed Safety Standard	EMC - EN 60601 - 1:1990+A1+A2	
	EMC - EN 60601 - 1 - 2:2001	
Operating Conditions	Temperature	10 - 40
	Ambient Pressure (hPa)	800 - 1060
	Relative Humidity	10% - 85%
Transportation and Storage Conditions	Temperature	10 - 40
	Ambient Pressure (hPa)	600 - 1060
	Relative Humidity	10% - 90%



Precaution

- Avoid physical impacts on DiaCam
- Place the hand-piece in the hand-piece holder when not in use
- Use disposable sheaths to avoid cross contamination
- Camera may reach a maximum temperature of 46°C if operated in an ambient temperature of 40°C



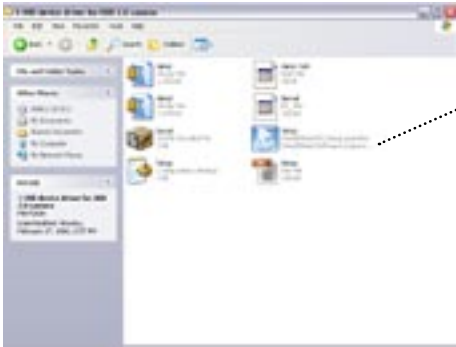
Warning

- DiaCam is not waterproof. Do not immerse DiaCam in water
- DiaCam is not autoclavable.
- Beware of electromagnetic radiation generated from other electrical appliances, as they may cause DiaCam to malfunction
- Do not operate DiaCam with devices that do not comply with EN 6060-1 and EN 6060-1-2 medical equipment standards

Installation

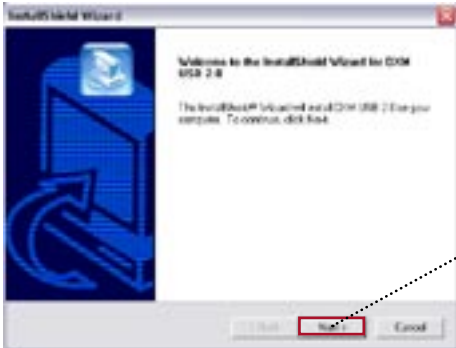
!!! Please install DiaCam USB device driver BEFORE connecting DiaCam into the USB 2.0 port.

3.1 DiaCam USB Device Driver Installation



Step 1. Open the "DiaCam USB2.0 Device Driver" folder

Step 2. Double Click on "Setup.exe"

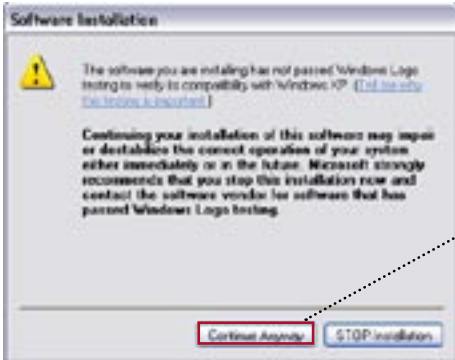


Step 3. Click on "Next" to proceed



Step 4. Set up is in progress

3.1 DiaCam USB Device Driver Installation



Step 5. Click on "Yes" to continue



Step 6. Click on "Finish" to complete the installation. Rebooting your computer at this point is recommended

3.2 DiaCam Hardware Installation



Step 1. Connect the USB cable into the USB 2.0 port

3.2 DiaCam Hardware Installation



Step 2. Check "Install the software automatically" and click on "Next" to proceed



Step 3. Click on "Continue Anyway" when Windows XP logo testing message appears



Step 4. Click on "Finish" to complete the installation.

3.1 DiaCam Uninstallation

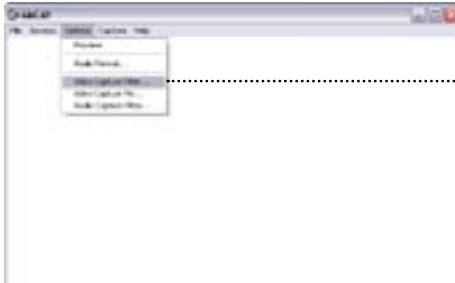
To uninstall the DiaCam device driver:

1. Run the installation CD
2. Double Click on "setup.exe"
3. Select "Remove" to proceed uninstallation

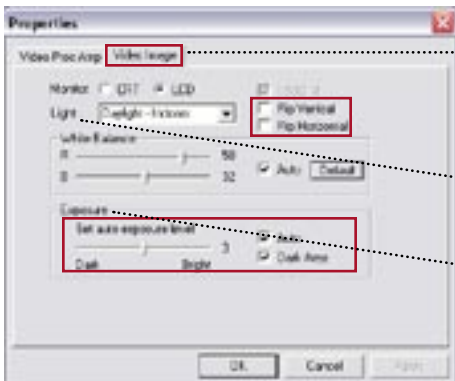
3.4 Testing and Setting DiaCam with emAMCAP (Optional)



Step 1. Double click on the "emAMCAP" icon



Step 2. Go to the "Options" pull-down menu and click on "Video Capture Filter"



Step 3. Go to the Video Image folder, uncheck the boxes "Flip Vertical" and "Flip Horizontal"

Step 4. Set "Light" in the "Daylight-Indoors" mode

Step 5. Adjust "Exposure" as desired

4.1 Camera On-Off/LED Brightness

Camera on-off and its LED brightness are both controlled by the On-Off button on the hand-piece. The functions of the On-Off button are summarized in the table below:

CAMERA STATUS	HAND-PIECE OPERATION	OUTPUT STATUS
Camera Off	Press and hold the On/Off button	Camera On LED at max brightness
Camera On LED at max brightness	Single Click on the On/Off button	Camera On LED at low brightness
Camera On LED at low brightness	Single Click on the On/Off button	Camera On LED Off
Camera On	Press and hold the On/Off button	Camera Off

Note:

- 3-step LED brightness control function is in sequence:
LED max. -> LED low -> LED off
- Automatic power shut down function: when not in use for 10 minutes, the camera will be turned off automatically

4.2 Camera Focus

DiaCam features an adjustable focusing mechanism that allows a depth of field from 6mm up. Adjust the relative distance of the hand-piece and slide the focusing switch to obtain a focused image on an area of interest.

In general, the focusing switch is utilized only when the area of interest is within 4 cm relative to the position of the camera image sensor.

4.3 Image Capture

Press and hold the image capture button on the hand-piece to store still images onto a computer memory via imaging software such as the EzViewer program.

5.1 Hand-Piece Cleaning



Please disconnect the camera from the USB port and detach the USB cable from the hand-piece before any cleaning procedures. Do not immerse the hand-piece in fluids. Do not spray any cleaning solutions directly on the hand-piece.

To clean the hand-piece housing, use a soft, clean, and lint-free cloth dampened with non-corrosive disinfectant solution.

To clean the camera image sensor, use pressurized air to rid of any debris.

Warranty

 **DiaCam**

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DiaDent offers a one year warranty from the date of purchase. Defects or malfunctions that are consequences of material failure or manufacturing errors can be repaired with no charge at our service department within the warranty period.

DiaDent cannot accept any liability or provide any service for DiaCam in case of:

- Noncompliance with this operations manual
- Operating and handling without care
- Damages caused by natural disasters
- Damages resulting from repairs or modifications not serviced by the manufacturer

Specification

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Image Sensor	1/4" CMOS
Image Resolution	1280 x 960, 640x480, 320x240
Light Source	10% ~ 85%
Video Output	Digital
Focus Range	6mm and up
View Angle	68°
Handpiece Dimension	20x23x193mm
Handpiece Weight	35g
Power Supply	USB2.0 port
USB Cable	Available in 2m or 5m

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