



*PaX - Duo3D*

## **3-D Dental Imaging**

Digital Panoramic &  
CBCT X-ray Imaging System - 2 in 1 System



# Contents

<b>Chapter 1. Introduction .....</b>	<b>6</b>
1.1. Product Overview.....	6
1.2. Product Features.....	6
1.3. Product Components .....	7
1.4. Marks & Graphic Symbols .....	8
<b>Chapter 2. Components and Functions.....</b>	<b>10</b>
2.1. Hardware Components and Functions .....	10
2.2. Dimension of PaX-Duo3D.....	11
<b>Chapter 3. Preparing for Installation .....</b>	<b>14</b>
3.1. Checking Packages .....	14
3.2. Checking Carton No. 1.....	15
3.3. Checking Carton No. 2.....	16
3.4. Checking the packing list of the accessory box .....	17
3.5. Replacement parts and positioning accessories .....	19
3.6. Tools require .....	20
3.7. Unpacking Carton .....	21
<b>Chapter 4. Installing the unit .....</b>	<b>24</b>
4.1. Assembling the column and the base plate .....	25
4.2. Balancing the system after finishing unit assembly .....	33
4.3. Assembling covers .....	34
4.4. Connecting Cables.....	35
<b>Chapter 5. Configuring computer.....</b>	<b>38</b>
5.1. PC system requirements.....	38
5.2. Installing LAN card .....	39
5.3. Connecting the LAN cable .....	39
5.4. Connect the Frame grabber cable and the USB cable.....	40

5.5. Installing 2 USB-type License Keys.....	41
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## **Chapter 6. Installing software ..... 43**

6.1. Installing Imaging Software and Frame grabber Driver .....	44
6.2. HASP Device Driver.....	54
6.3. DirectX Driver.....	56
6.4. Serial Card Driver Setting .....	58

## **Chapter 7. Using the HyperTerminal ..... 62**

## **Chapter 8. Technical specification ..... 66**

8.1. PaX-Duo3D Specifications.....	66
8.2. Panorama X-ray detector.....	66
8.3. Image Magnification .....	67
8.4. Anatomic Programs .....	67
8.5. User Interface.....	67
8.6. X-ray Generator .....	67
8.7. Collimator .....	67
8.8. X-ray Tube .....	68

## Attention

For improvement of product performance, supplementation, or follow-up of information; the contents of this manual are subject to change without separate prior notice.

Please note that our company has neither responsibility for any accidents nor obligation to do free repair service for any damage of the equipment due to user's mistake, which resulted from failure to follow the contents in this manual. Make sure to be familiar with the safety precautions and usage procedures. Also note that the product may slightly differ from the contents of this manual depending on specification.

The following marks are used in this manual for the effective use of the product.



**Indicates useful information and tips to use the system and about the system.**



**Indicates important instructions. If not observed, malfunction or damage to the system or other property may occur.**



**Indicates warnings and instructions for SAFETY. If not adhered, serious risks and injury may be caused to the patient and user.**

## Caution for System Installation

1. To maintain safety, the installer must read and follow this manual carefully.
2. The installer must confirm that the system is installed according to this manual and perform the appropriate procedures therein.
3. Only a VATECH & E-WOO technician or a qualified technical expert can install the system.
4. Applying pressure or spraying liquid on the system can cause fire and electrical accidents.
5. Do NOT install the system in an environment exposed to volatile gas or vapor.
6. For a stable power supply avoid using the system simultaneously with any other system of high electrical capacity, and make sure to establish a ground for the system.
7. If there is any doubt about operation or condition, do NOT install the system until a VATECH & E-WOO customer support team checks and confirms its reliability.

## Guidelines for Protection against Radiation

The X-ray system may cause injury to the patient if used improperly. The instructions contained in this manual must be read and followed when operating PaX-Duo3D. The world standard regulations pertaining to radiation safety must be observed.

When exposing X-ray, User must be behind a protective wall, or take other protective actions. User should keep at least 2m (7feet) away from the X-ray system when pressing the exposure switch while observing the patient and capture-progress.

User must provide protective clothing to the patient. Before capturing, a pregnant woman must always consult with the doctor.



*Do not use this system in a place where there is danger for explosion.*

## X-ray Room for System Installation

### Recommended Minimum Space

- PaX-Duo3D (L)1490\*(W)1057\*(H)2346 mm
  - Above space is established considering the movements of both system operator and patient.
  - The system is normally installed beside a wall, and operator uses the system on the left.

### Width of Door

- The door of the X-ray room should have a clearance of more than 800mm wide to provide enough space for transporting the system inside.

### Floor area

- The floor of the X-ray room should be stable for system balance.
- The floor should also be able to support a minimum weight of 500KG.

### Power Supply

- For system stability, please guarantee 3KW power supply.

### Protection against radiation

- For protection against radiation, follow the government or local standards.

### Safety Zone

- Check the safety zone.

# Introduction

# 1

**This chapter describes the overall features and technical specifications of the system.**

## Chapter 1. Introduction

### 1.1. Product Overview

**PaX-Duo3D** is the diagnostic system which consists of Advanced Digital Dental Tomographic and Panoramic X-ray units. Its economical CT is completely distinguished from among the other existing technology of Tomography.

More so, its advanced digital imaging process allows for a considerably efficient diagnosis, a variety of management information, and real-time sharing of image information in a network. It is equipped with state-of-the-art area sensor to capture 3D Digital Tomogram Scanned Image.

- Movement Technology: Multi-motor with digital trajectory control / motorized carriage movement
- Patient Positioning: Panoramic - Triple [Mid-Sagittal, Frankfurt, Canine] laser beams positioning  
CT - Triple [Mid-Sagittal, Frankfurt, Canine] laser beams positioning  
Patient Positioning Aid: Chin rest, Chin support, bite fork, mirror, LCD for instruction
- Occlusion corrector, Edentulous positioned

### 1.2. Product Features

Its features include:

- Making the unit more economical, thanks to 2-into-1 combination of Panoramic and CT imaging.
- Automatically switching the sensors from panoramic mode to CT imaging mode or vice versa.
- Incorporating the multi FOV to reduce the X-Ray dose to the patients.
- Drastically reducing X-Ray expose dose, compared with medical CT in consideration of patient's safety.
- Helps the patients understand the diagnosis result by viewing the invisible part with a 3-D viewer program, Ez3D2009.
- The disk space required for installation is no more than a general panoramic system is.
- A clear Tomography image up to minimum 0.1mm at any directions.
- You can set and control the Examination Program Mode on the console PC.
- Support more accurate diagnosis imaging on LCD as well as voice announcement function for patients and staffs.
- Supports the DICOM Format.



The **PaX-Duo** has been designed to carry out the following radiological examinations.

- Panorama Normal
- Panorama Special
- CT
- Dental CT TMJ

Imaging mode	Sub mode	
Panorama	Normal	Standard
		Fast
	TMJ	Open
		Close
CT	Mandible	
	Maxillary	
	Occlusion	
CT TMJ	Right	
	left	

### 1.3. Product Components

#### <Hardware Components>

- Equipment main system
- User's manual
- Installation CD
- Accessories including Lock-Keys (Reconstruction Key and 3D Viewer Key)

#### <Software Components>

- Image Viewer program : **EasyDent4 V4 program, Ez3D2009(3D Viewer program)**
- Imaging program : **EasyDent V4**

**Note**

*For improvement of product performance, the Components and specification of this product may be subjected to changes without any previous notice.*

## 1.4. Marks & Graphic Symbols



TYPE B Equipment



Radiation hazard

**CE 0499**

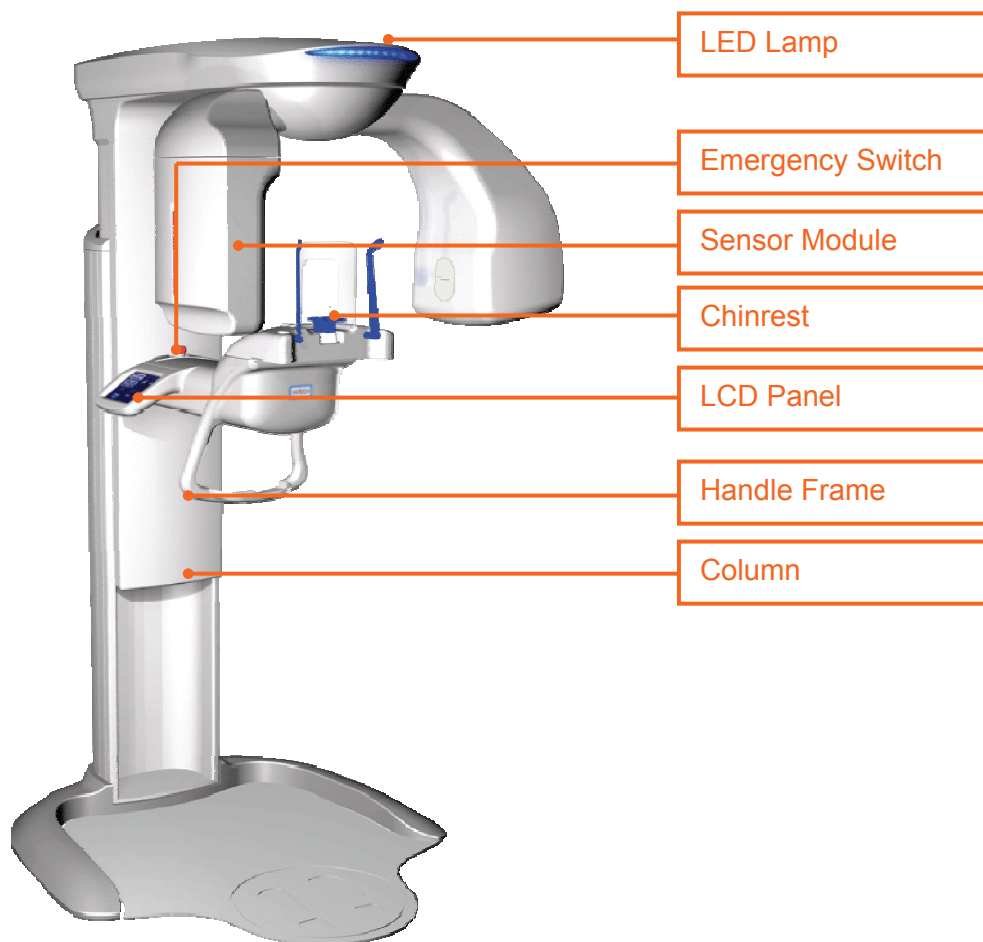
This CE symbol grants the product compliance to the European Directive for Medical Devices 93/42 as a class IIB device, as Authorized by Grand-Duche De Luxemburg.

# Components **2** and functions

**This chapter describes the overall features and functions of the system.**

## Chapter 2. Components and Functions

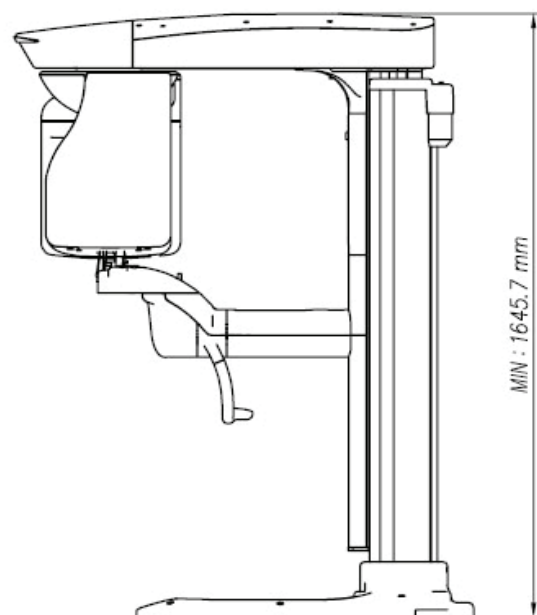
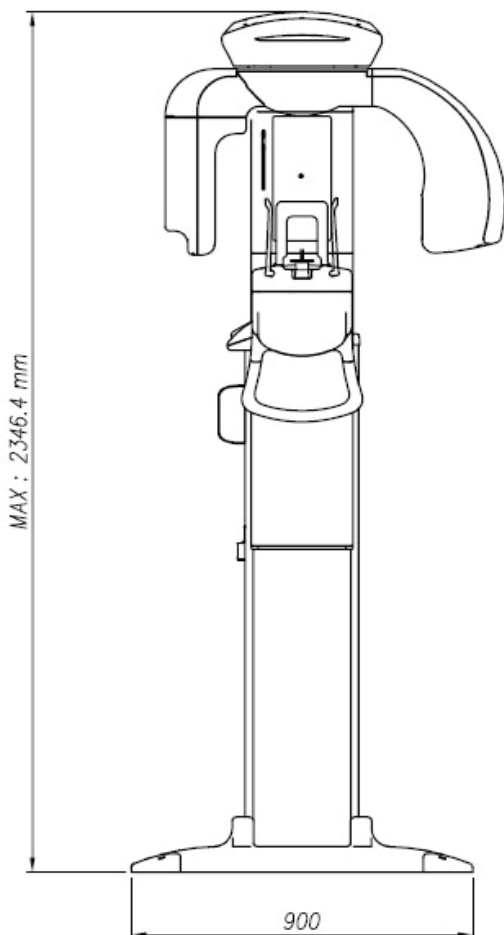
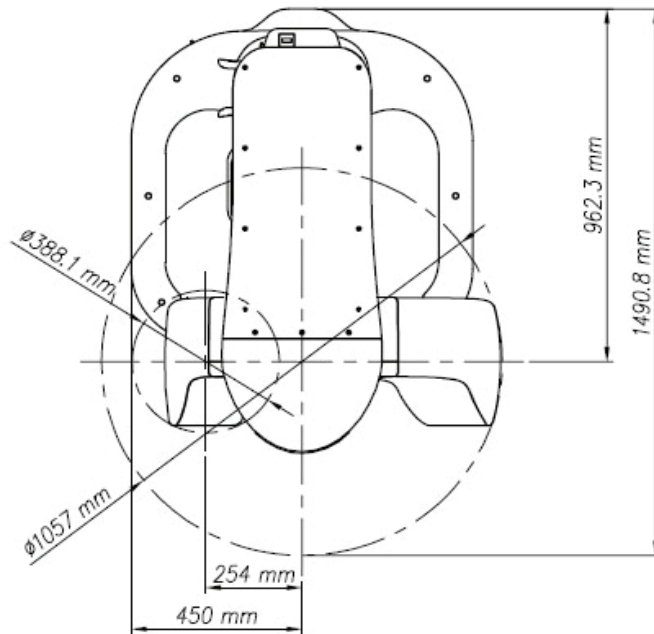
### 2.1. Hardware Components and Functions



- **LED Lamp:** Indicating the current X-Ray emission activity of unit. While it stays green when the unit is idle, led lamp turns orange when the unit is in operation.
- **Emergency switch:** stop the movement of the unit when it abnormally operates.
- **Sensor Module:** Digital X-ray image sensor module for Panoramic and Dental CT imaging units. With its Auto-Switching sensor technology, there is no need to change sensors when imaging mode changed.
- **Chinrest:** provide the patient comfort and rest while imaging, thus producing better image.
- **LCD panel:** the supporting device to monitor and control the Unit activity.
- **Handle frame:** is used for the patient to hold firmly while imaging to stabilize his or her position.
- **Column:** is used to adjust the unit height according to the height of patient.

**Note** *This configuration may differ depending on the specification of your product.*

## 2.2. Dimension of PaX-Duo3D





# Preparing for **3** installation

This chapter describes the pre-installation for the system.

## Chapter 3. Preparing for Installation

### 3.1. Checking Packages



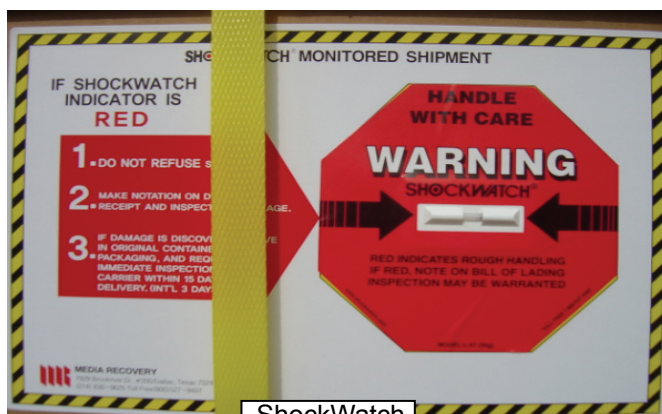
*The installers and/or supervisor should check the following before system installation.*

#### 3.1.1. Checking “ShockWatch” and “TiltWatch”



*The “ShockWatch” and “TiltWatch” become red in case for cartons of being damaged.*

Check whether “ShockWatch” and “TiltWatch” on each carton has been damaged. If it is the case, please contact your shipping company, agent or E-WOO.



ShockWatch



TiltWatch



[Components in Packages]

No.	Part Name	Specification	Q'TY
1	Vertical Column Assembly, Rotating Unit Assembly	With Vertical Handler	1
		Vertical Front Case+LED Case	1
		Vertical Top Case	1
		Vertical Left Case	1
		Vertical Right Case	1
		Column Back Case Cover	1
		Base Foot Board	1

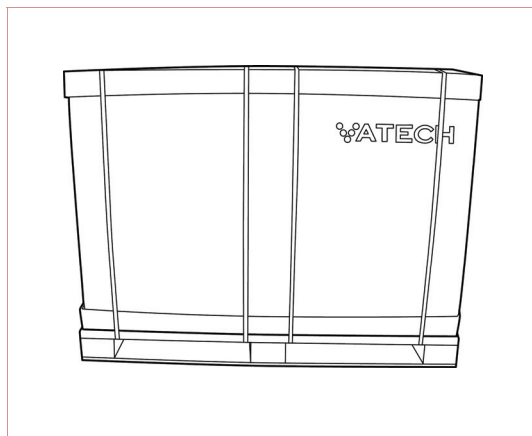


*If the serial numbers don't match, please don't install the system.*



*Please make sure each carton isn't damaged.*

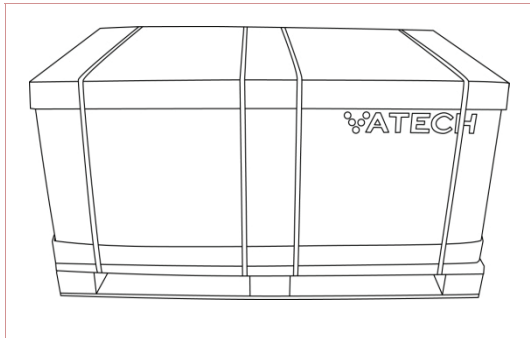
### 3.2. Checking Carton No. 1



[Components in carton No. 1]

No.	Picasso Duo	
	Description	Q'TY
1	Column and Rotating unit assembly	1
2	Rotator upper cover	1

### 3.3. Checking Carton No. 2



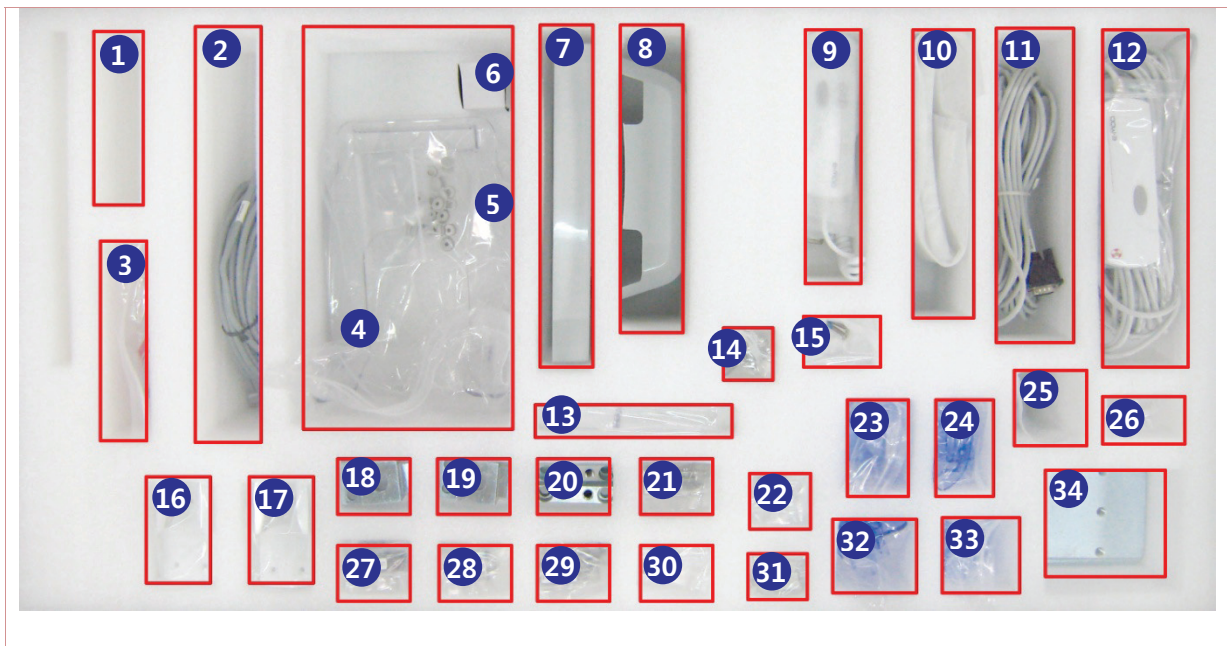
[Components in carton No. 2]

No.	Picasso Duo	
	Description	Q'TY
1	Base	1
2	Accessory box	1



*For the Panoramic unit, column, Base, and Accessory boxes are packed separately.*

### 3.4. Checking the packing list of the accessory box



1	Cable Tie	70mm	10
2	Hub Cable		1
3	LAN Cable	8PIN LAN for PANO 5M	1
4	Head Rest		1
5	Rubber Cap		
6	Disposable Bag	Small size	1
7	Cover	Column Bottom Cover	1
8	Column Back Case Cover	Column Top Cover	1
9	Switch	Up/Down	1
10	Handle table		
11	RS232 cable		1
12	Switch	X-ray Exposure Switch	1
13	Normal Bite		1
14	Wrench Bolt	8*15	4
15	Flat Headed Bolt	4*20	2
16	Holder	X-ray Exposure Switch Holder	1
17	Holder	X-ray Exposure Switch Holder	1

18		Column Support Block A	1
19	Block	Column Support Block A	1
20		Column Support Block B	1
21		Wrench Bolt	12*40
22	Screw	T/T 4*12	3
23	Toothless support		1
24	Sinus support		1
25	Wrench Bolt	8*25	8
26	Flat Headed Bolt	4*10	6
27	Truss Bolt	4*10	4
28	Wrench Bolt	8*40	4
29	Truss Bolt	4*6	15
30	Flat Headed Bolt	3*8	3
31	Chin Support	With Pin(2EA)	1
32	Normal support		1
33	TMJ support		1
34	Block	Base Support Block	1
	Disposables	Nonwoven for Headrest	1
		Nonwoven for Chinrest	1
	Spring Washer	ø8	6
	Flat Washer	ø8	6
Computer	Computer		1
	Mouse		1
	Key Board		1
	Vaccine	CT Software Kit with activation code	1
Monitor	Monitor	17"	1

### 3.5. Replacement parts and positioning accessories

The unit comes with 4 different types of the support for the patient positioning to acquire the better quality of images.



① Normal bite



② Toothless support



③ TMJ support



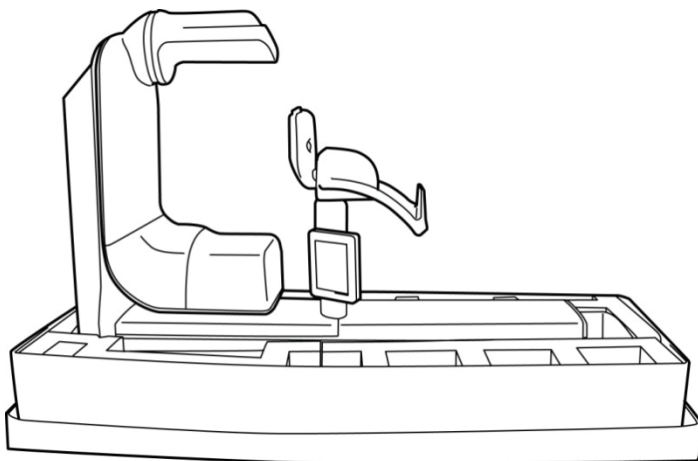
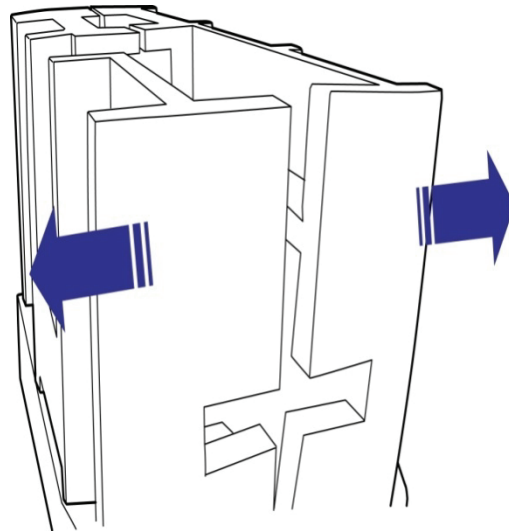
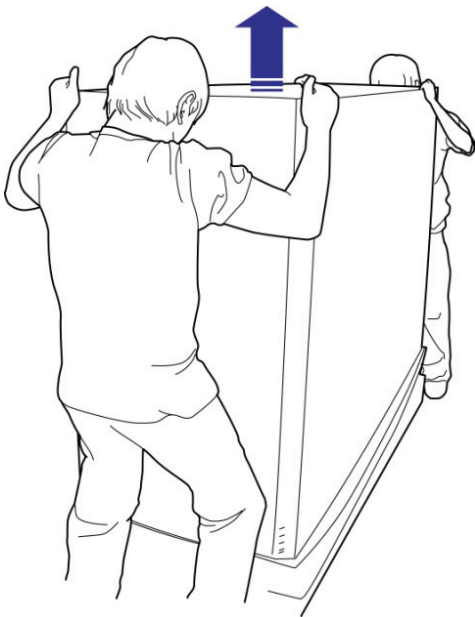
④ Sinus support

## 3.6. Tools require

No	Name	Specifications	Q'ty (ea)	Remark
1	L-Wrench set	1.5/2/2.5/3/4/5/6/8/10 MM (9 PCS)	1Set	1Set
2	Monkey Spanner	8"	1EA	
3	Digital tester (Multi Meter)		1EA	AC/DC Tester
4	Driver	Long, Middle, Short	1Set	Cross type
5	Cutter		1EA	
6	Long Nose Flier		1EA	
7	Side Cutting Flier		1EA	
8	Iron Block		1EA	For Level
9	Spirit Level		1EA	SB300



### 3.7. Unpacking Carton







# Installing the **4** unit

**This chapter describes how to install the system properly and safely.**

## Chapter 4. Installing the unit



*At least 3 persons are needed to carry and install the product to prevent it from being damaged.*



*Before installing the column, please check if the floor condition is proper for system installation.*

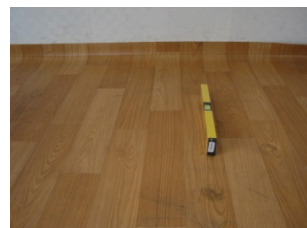
**Back**



**Left**



**Right**



**Front**



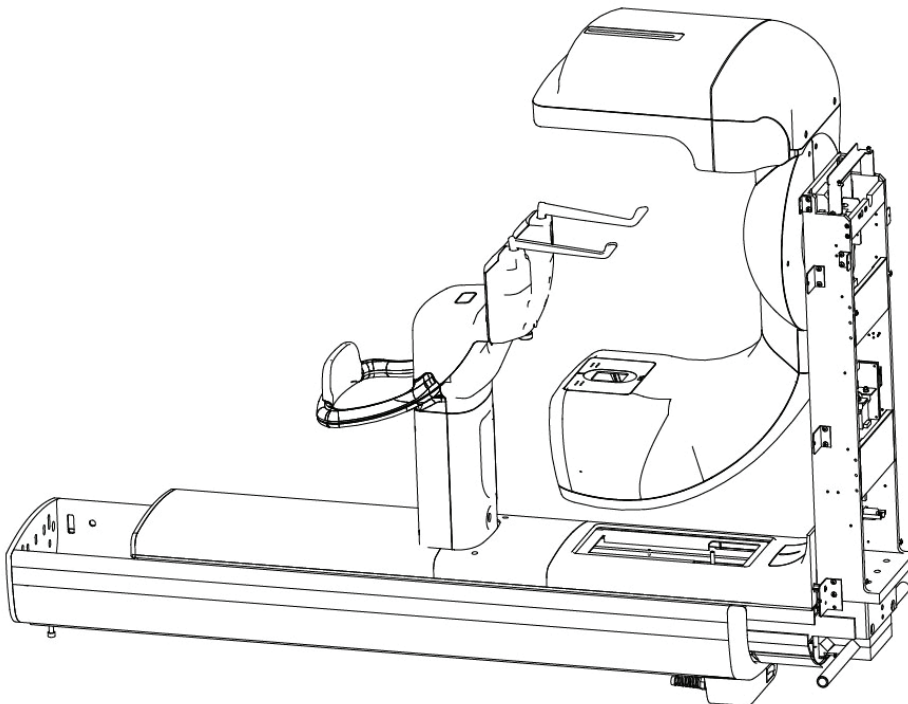
## 4.1. Assembling the column and the base plate

### Step 1. Attach the column on the base

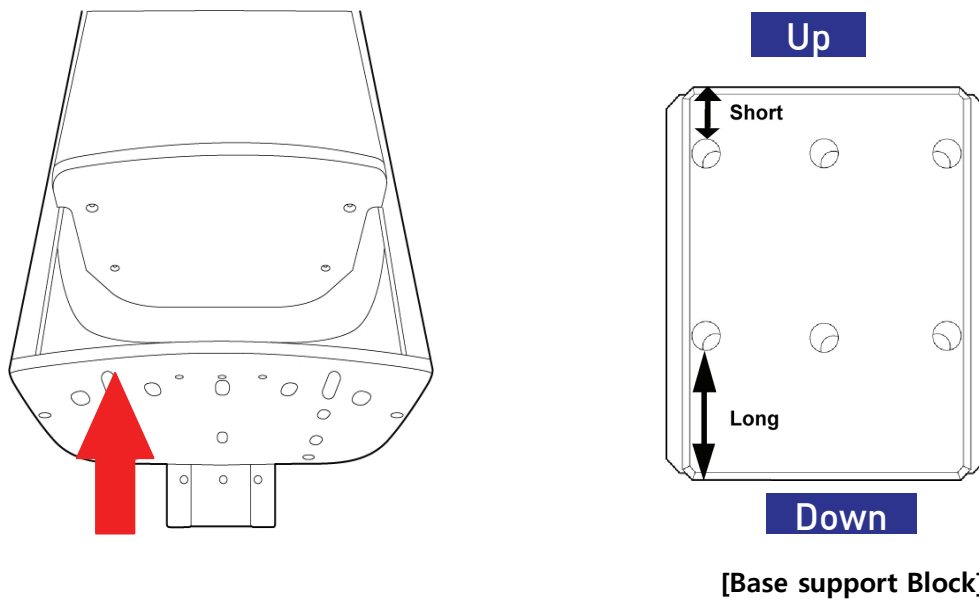


*Please keep a minimum of 300mm distance from the wall because you need space for cable work & covers assembly on the backside.*

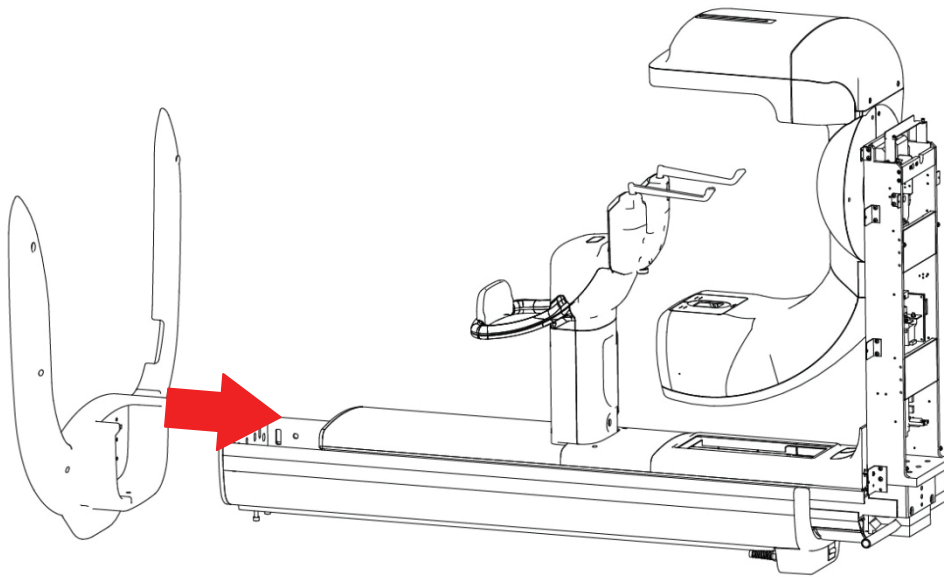
1-1. Unpack the Picasso Duo and assemble the column with the base plate, as shown below.



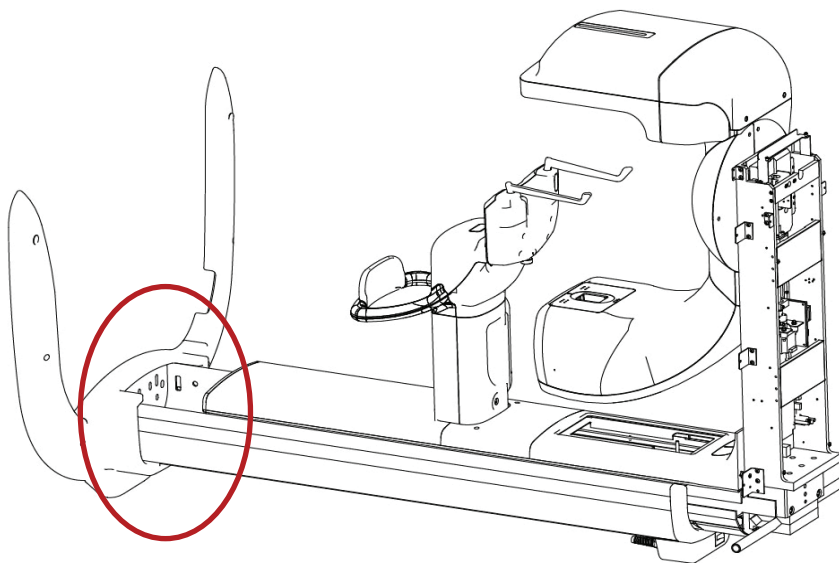
1-2. Insert the Base bracket (Accessory No.34) through the bottom of the column.



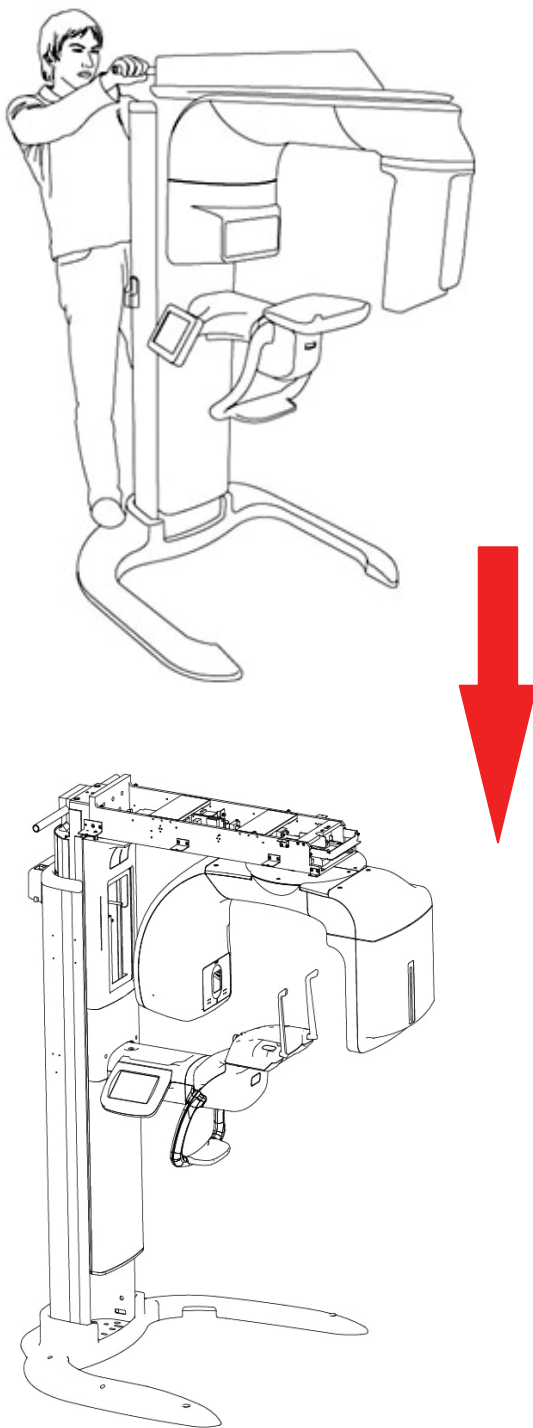
1-3. Please combine the Column with the base plate, as shown below.



The following figure shows the completion result. (See the circled area)

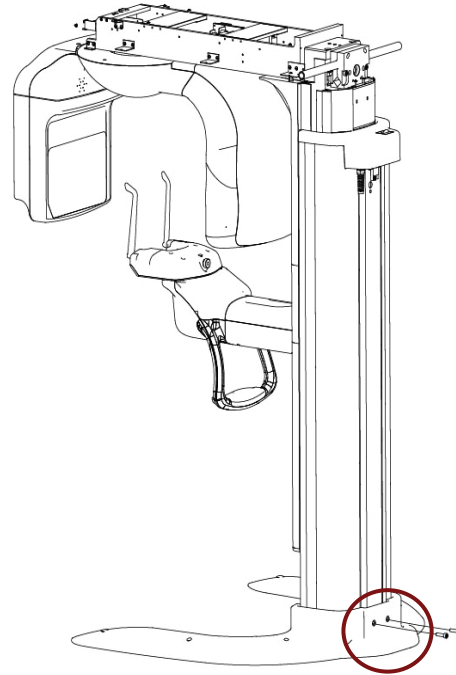


1-4. Erect the column with help from others, as shown in the illustration below.



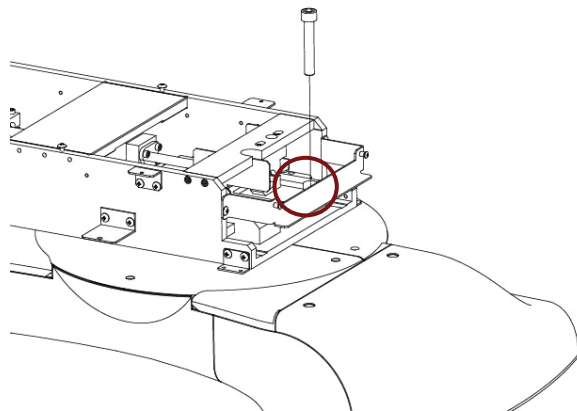
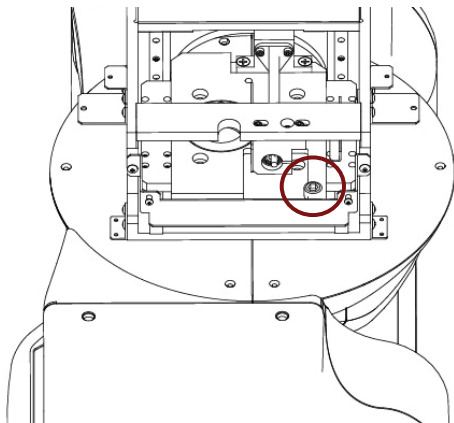
*At least 1 person should grasp the bar on the column to support the system.*

1-5. Screw 2 wrench bolts [M8\*25] (Accessory No. 25) to fix the column to the base.



## Step 2. Install the column and supply electricity

2-1. Remove the wrench bolt that is locking the Rotating unit.

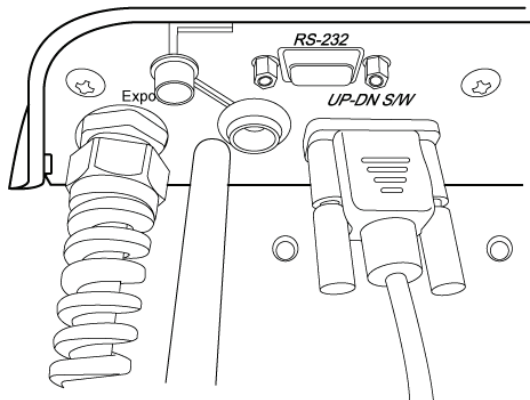


2-2. Move the Rotating unit slowly until you hear the “Tick” sound.

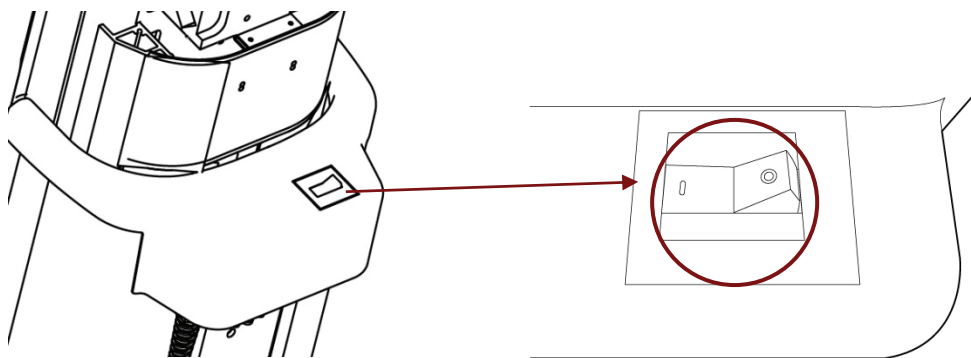


*Move the Rotating Unit slowly so as not to cause malfunctioning of the product.*

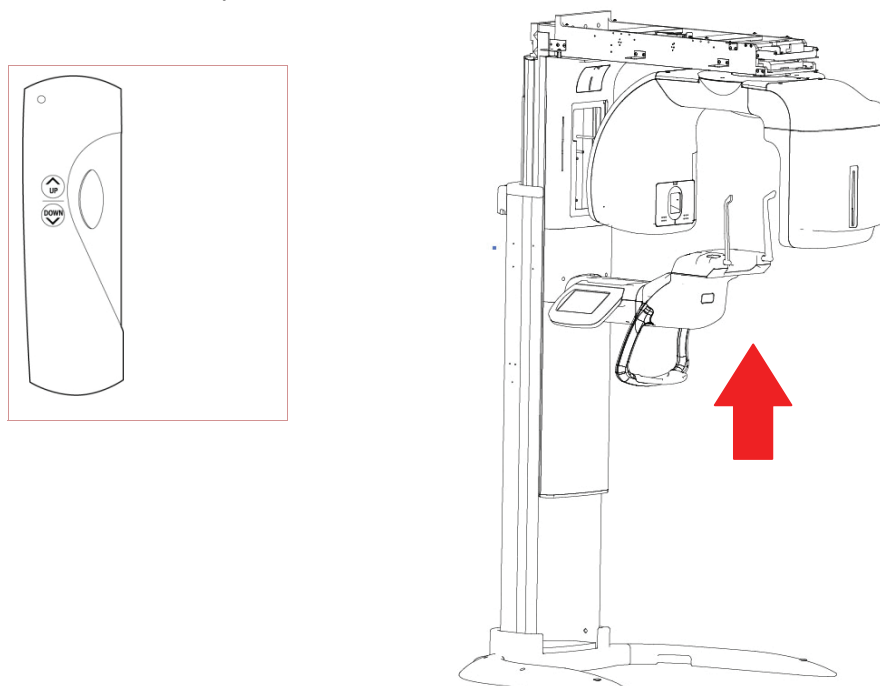
2-3. Insert the main power plug into the power outlet. Then connect the Column up/down switch (Accessory No. 9).



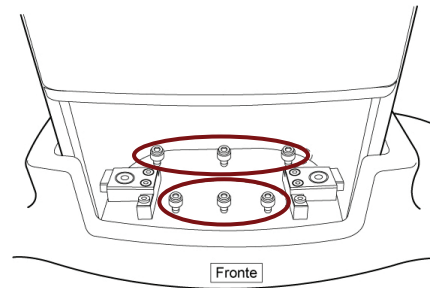
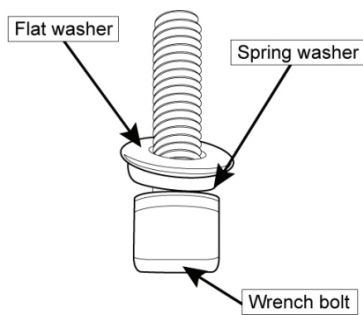
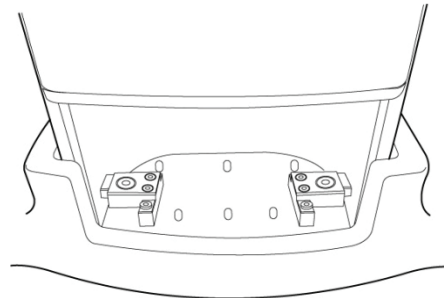
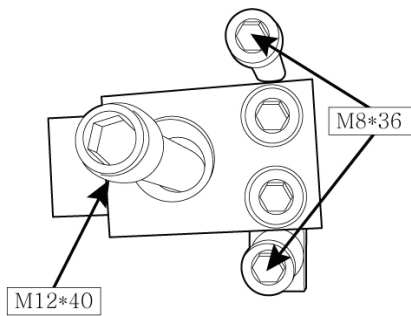
2-4. Please turn on the Power Switch.



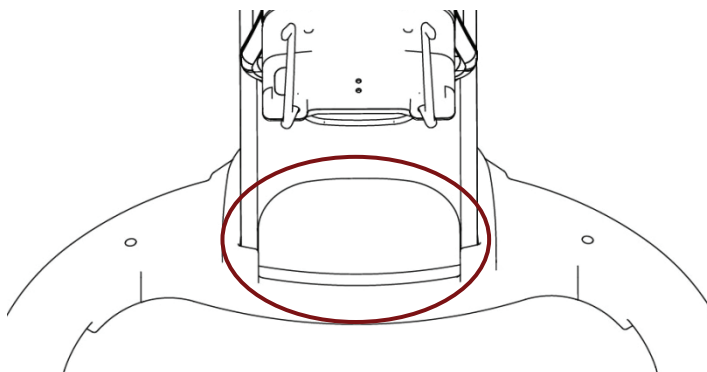
2-5. Press the Up/Down Switch buttons. Adjust the column height slightly upward, enough for fixing the wrench bolts spanner.



2-6. Screw the Fixing block with 6 wrench bolts [M12\*40, M8\*40] (Accessory No.21 & No. 28) and 6 set of bolts [M8\*25 – Wrench bolt, 8Φ – Flat washer & spring washer] (Accessory No.25).

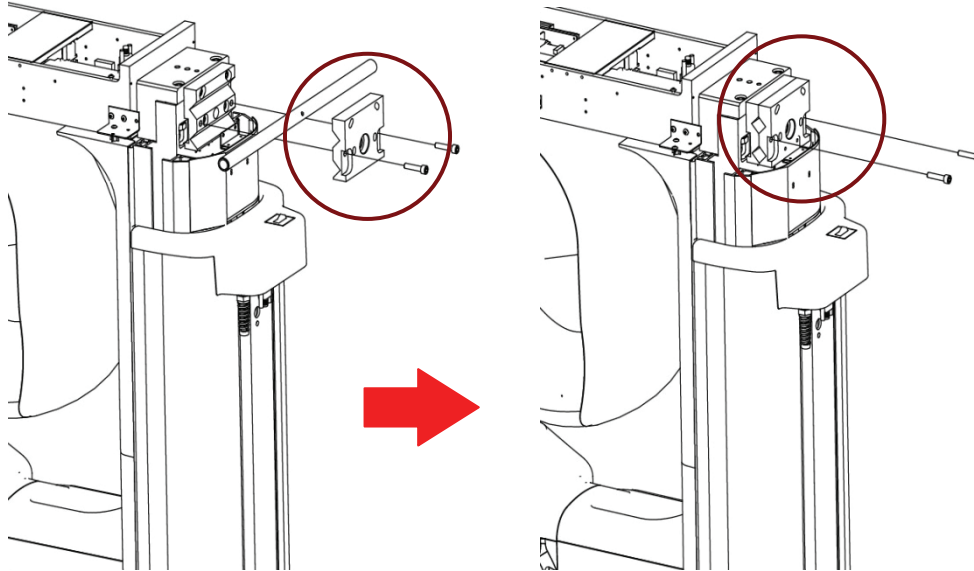


2-7. Attach the base cover. (Accessory No. 7)





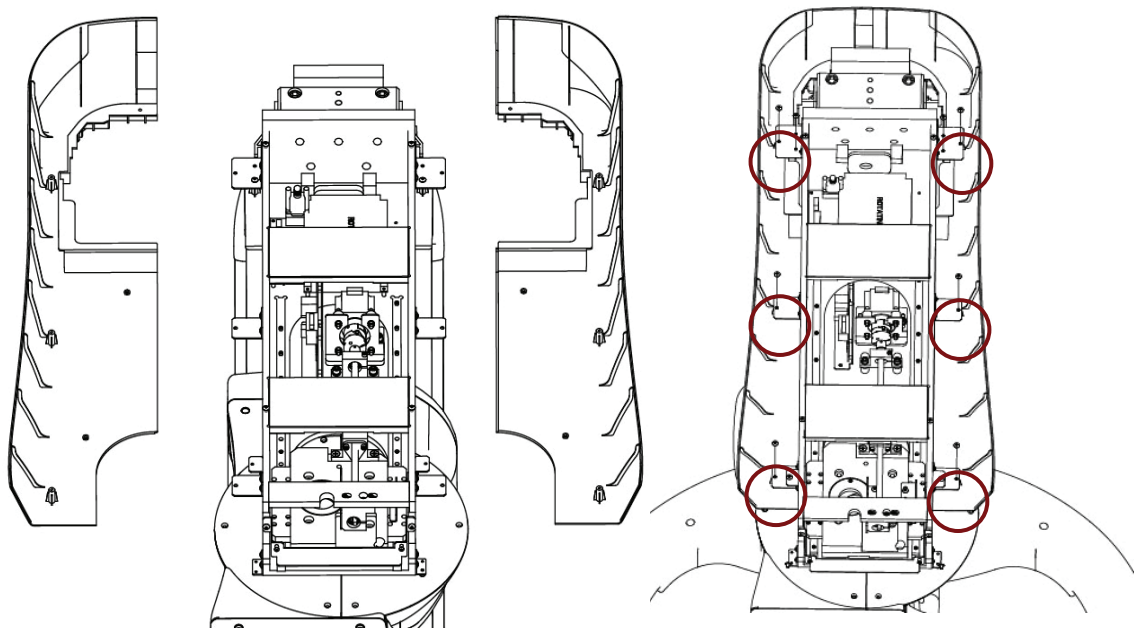
2-8. Take out the 2 wrench bolts at the top of the column and remove the Handle pipes. Then, re-attach the block and screw back the 2 wrench bolts.

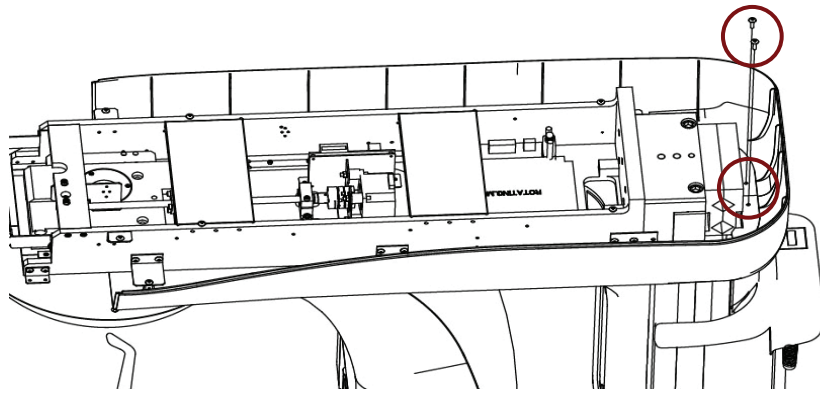


*When removing the Handle pipes, please hold the Bracket and Handle pipes while taking out the bolts.*

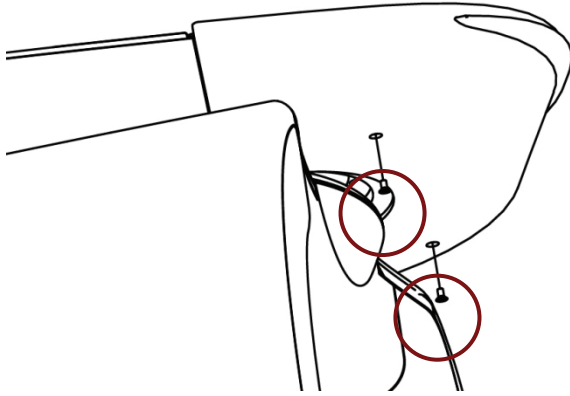
### Step 3. Case Assembly - 1

3-1. Please fix the vertical left and right covers with 8 pcs. of 4\*6 truss bolts (Accessory No. 29).





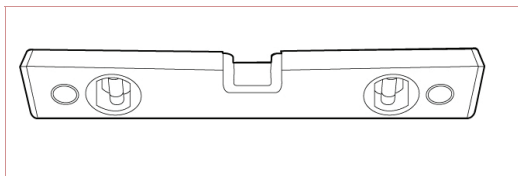
3-2. Attach the vertical front cover with 2 4\*10 flat headed bolts. (Accessory No. 26)



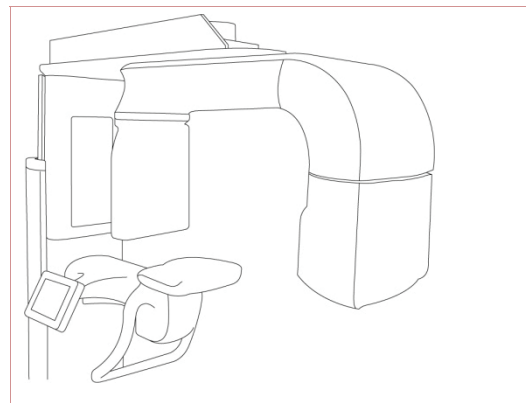
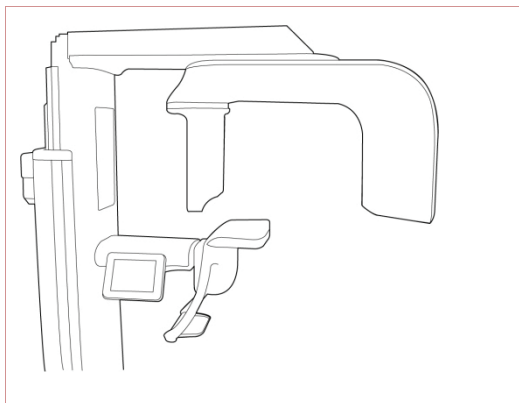
## 4.2. Balancing the system after finishing unit assembly

<Balance the system on the ground>

- ① Prepare the spirit level

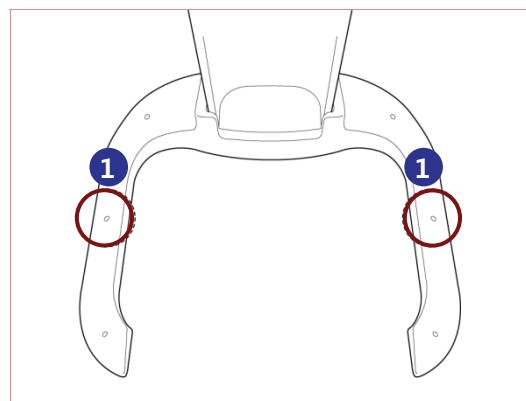
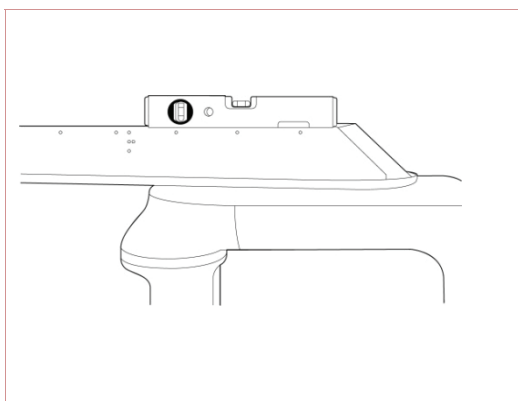


- ② Position the Rotating unit parallel to the column, as shown below



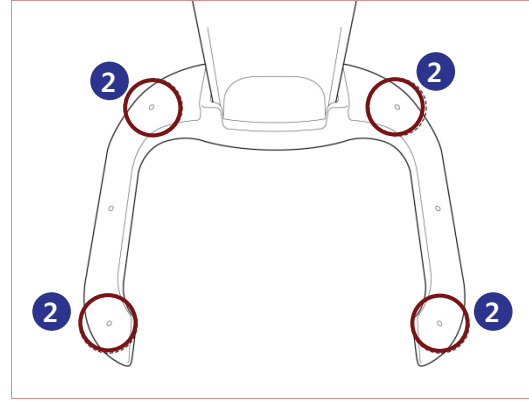
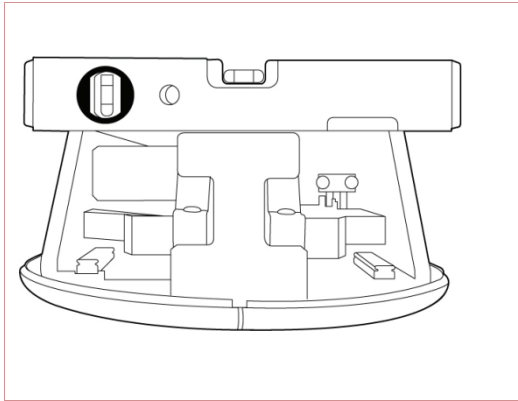
- ③ Please balance the Left and Right of the unit

To do this, put the Level on the Column Carriage and adjust the balance, while observing it, by turning the bolts on both sides of the base plate [No. ①]



- ④ Please balance the Front and Back of the system.

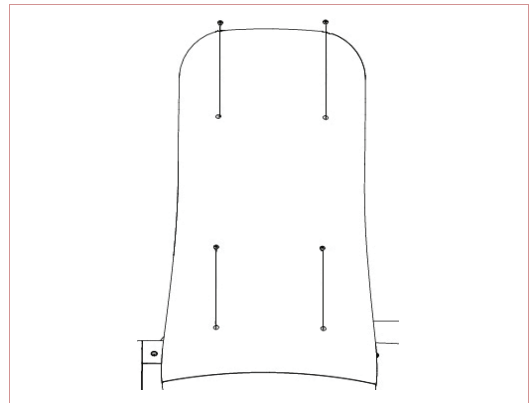
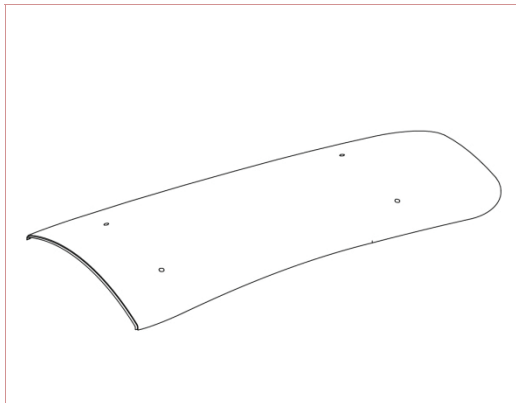
Put a Level on the Column Carriage and adjust the balance by turning 4 bolts [No.② (Front and Back)] at the Base.



## 4.3. Assembling covers

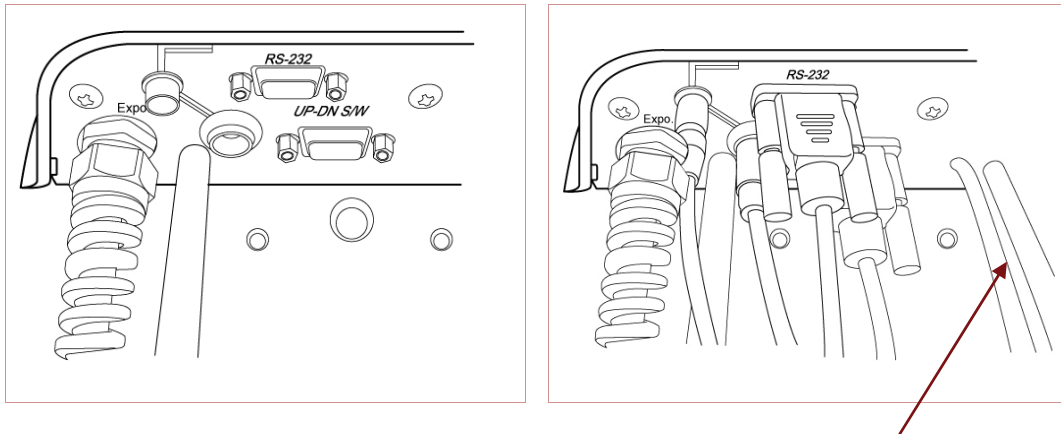
### <Assembling Rotating unit upper cover>

Attach the Rotating unit upper cover with 4 truss bolts 4\*10 (Accessory No.26).



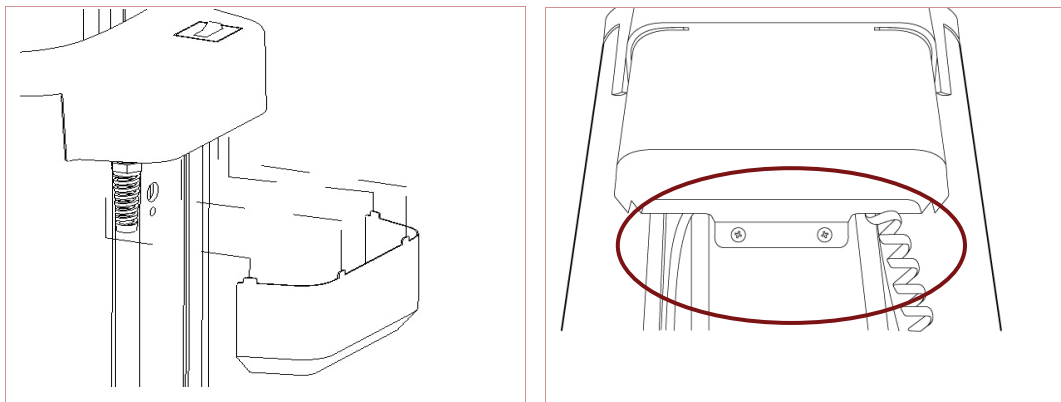
## 4.4. Connecting Cables

- ① Connect RS-232 (Accessory No.11), Up/Down switch (Accessory No.11), Exposure switch (Accessory No. 12) and LAN cable (Accessory No.8).



Frame grabber cable

- ② Attach the cover and place the cables along the grooves of the cover, as shown below. Then, attach the column top case with 2 4\*10 flat headed bolts (Accessory No.26).





# Configuring Computer

# 5

**This chapter describes how to set computer properly and safely.**

## Chapter 5. Configuring computer

### 5.1. PC system requirements

It is mandatory to check that the PC system configuration is compatible with the PC system requirements for the PaX-Duo3D. If necessary you must update your PC system configuration. DO NOT place the PC and the peripheral equipment connected to it in the immediate vicinity of the patient in the Unit. Leave at least 1.5 m distance from the Unit.

Item	Minimum Image Viewing Requirements	Minimum Acquisition Requirements	Comments
CPU	2 GHz Intel Duo Core	3 GHz Intel Pentium 4	
RAM	1GB	2GB	RAM has a major impact on system performance.
Hard disk drive	• 40GB for software installation • 80 GB free space to use the software	20GB for software installation	
Graphic board	128 MB 128bit	128 MB 128bit	The video RAM has major impact on system performance.
Monitor	19" or larger 1024 x 768 minimum screen resolution - 32 bits color mode	19" 1024 x 768 minimum screen resolution	Your monitor is a vital component in displaying quality images. Low-quality screens will prevent you from proper diagnoses and treatment.
Operating system	Windows XP Home / Pro edition SP2 •	Windows XP Home / Pro edition SP2 •	
Ethernet interface	1 Ethernet interface	1 Ethernet interface (100Mbits)	
Serial Port	1-RS232	1-RS232	To communicate with the unit
CD/DVD drive	A CD-ROM drive is required to install the product.	A CD-ROM drive is required to install the product.	



## 5.2. Installing LAN card

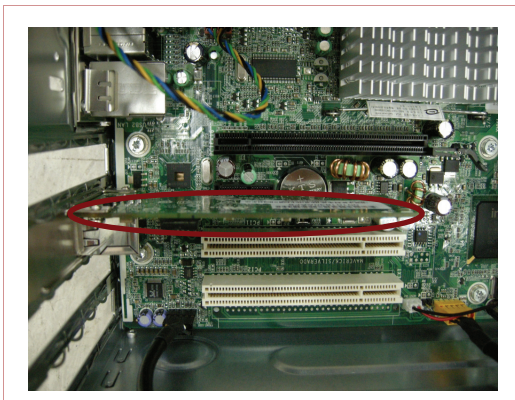


*The computer for PaX-Duo3D should have at least 1 unoccupied PC slots.*



*Please use the LAN card which is provided by E-WOO. Otherwise, we cannot guarantee an optimal and accurate image processing.*

- ① Please locate the empty slot for the LAN card.
- ② Insert the LAN card firmly into that slot.

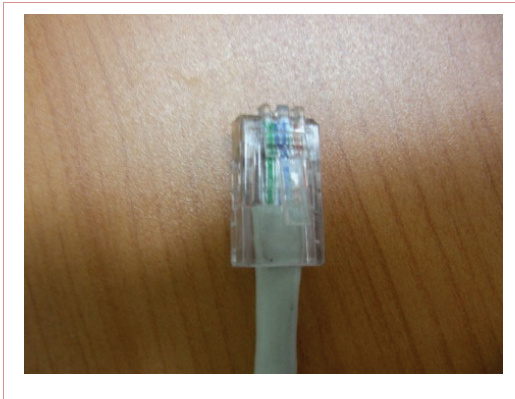


## 5.3. Connecting the LAN cable



*Connect the cables firmly.*

- ① Connect the LAN cable (Accessory No. 11).



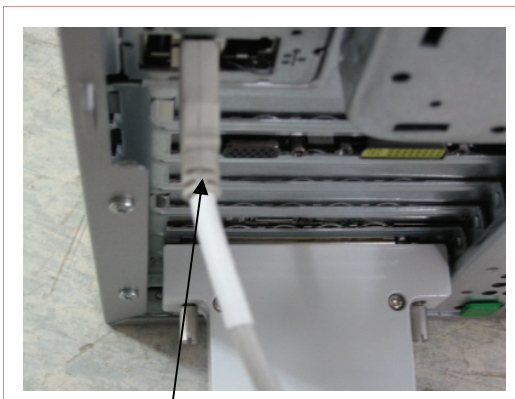
- ② Connect the Serial cable (Accessory No. 12).



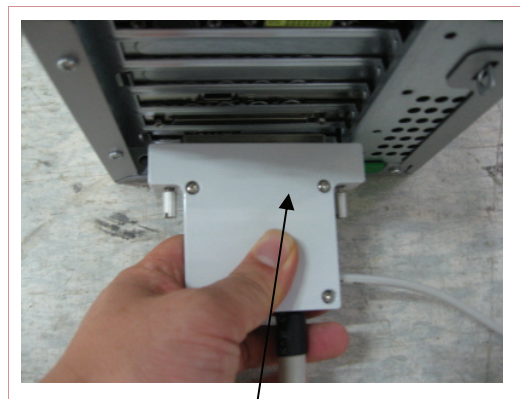
## 5.4. Connect the Frame grabber cable and the USB cable.



*There are two connectors, the Frame grabber for transferring image signals and USB for supplying electric power.*



USB cable



Frame grabber cable

## 5.5. Installing 2 USB-type License Keys.



HASP KEY for Reconstruction

WIBU KEY for ECT Viewer



[ HASP Key(Left)



WIBU Key(Right)]



# Installing software

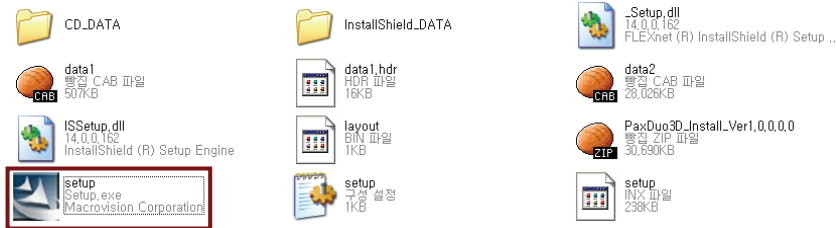
# 6

**This chapter describes how to set computer properly and safely.**

## 6.1. Installing Imaging Software and Frame grabber Driver

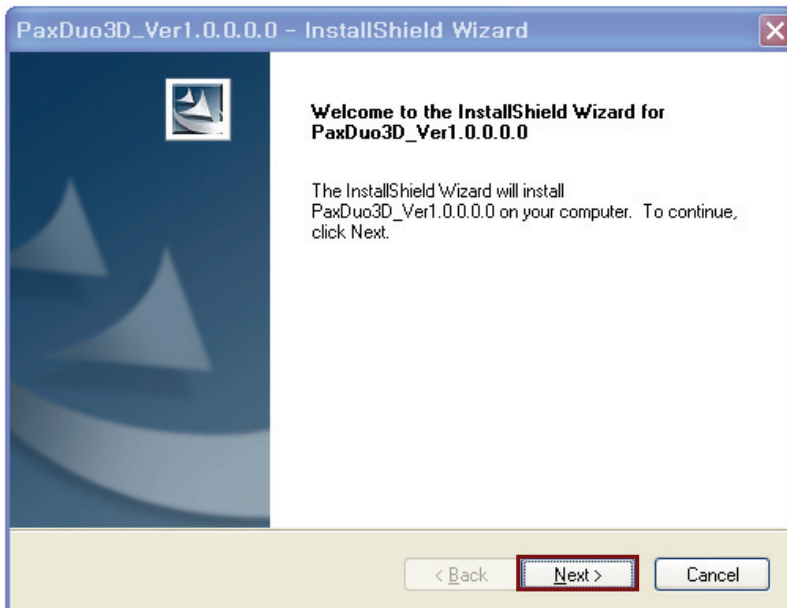
To install the imaging software and frame grabber driver for the first time, go the drive where the following files are in.

- ① Please focus on the **setup.exe** and double-click it

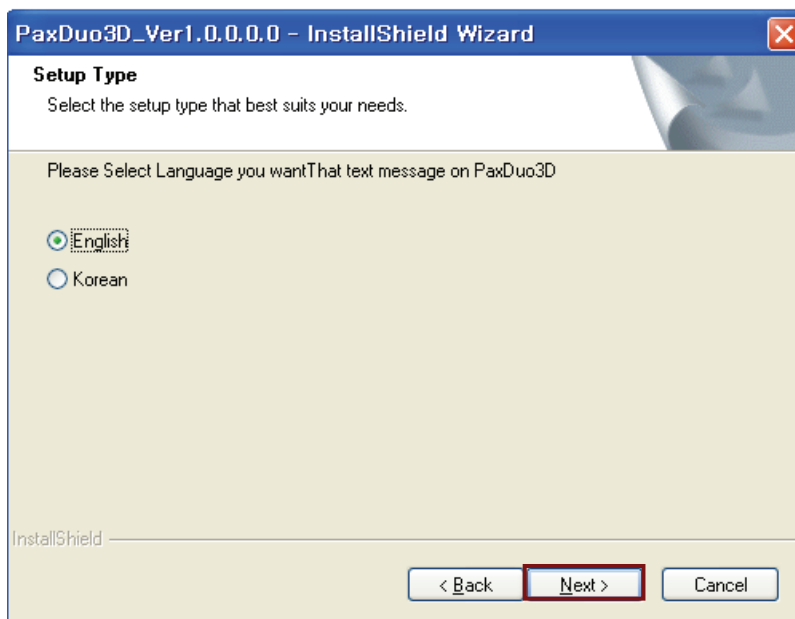


<For the first time installation>

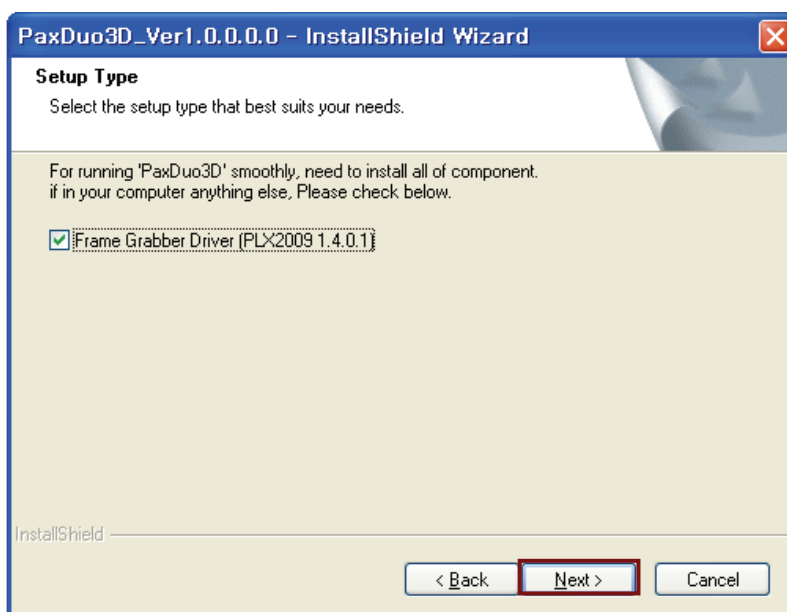
- ② The following screen will appear and click **Next**.



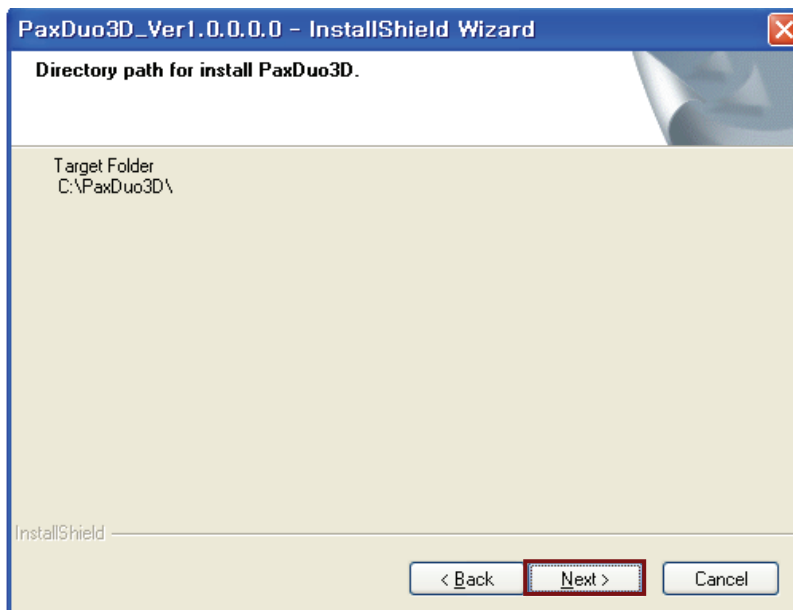
- ③ Please select the language from the group of radio buttons and then click **Next**.



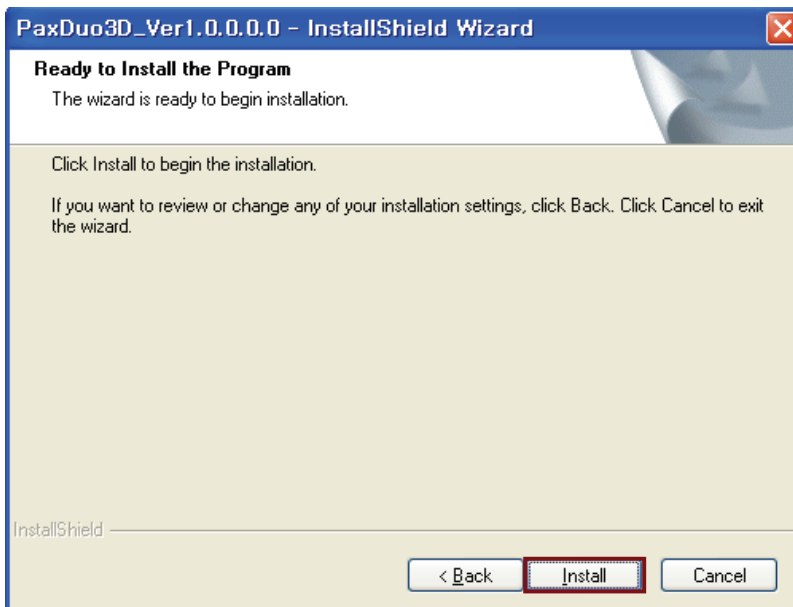
- ④ From the next screen, check the box to install the frame grabber driver, since the acquired data are transmitted to the PC via frame grabber card installed in the PC.



- ⑤ Make sure that the correct designation directory is created and click **Next**.

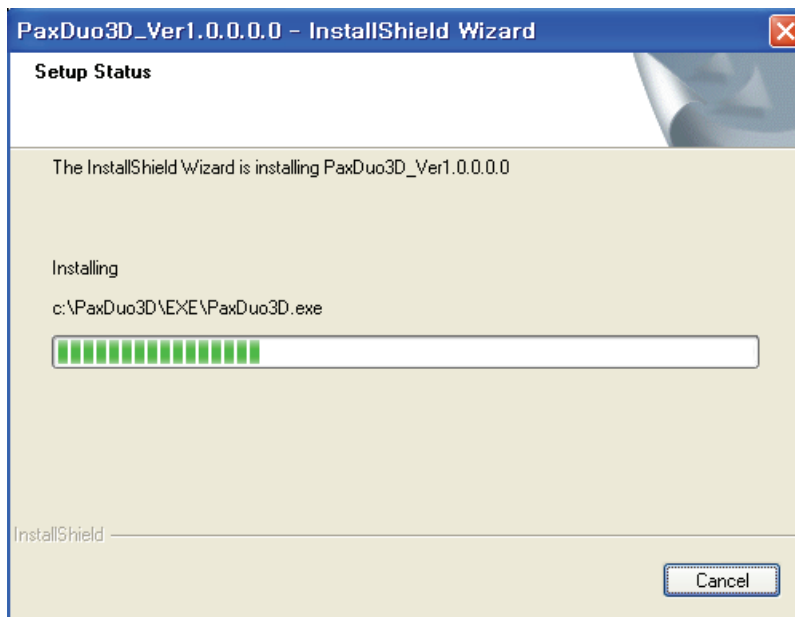


- ⑥ This is the last step before you can reconfigure the parameters or options by clicking the **Back**. Provided that preparation for installation is O.K, click **Install**.

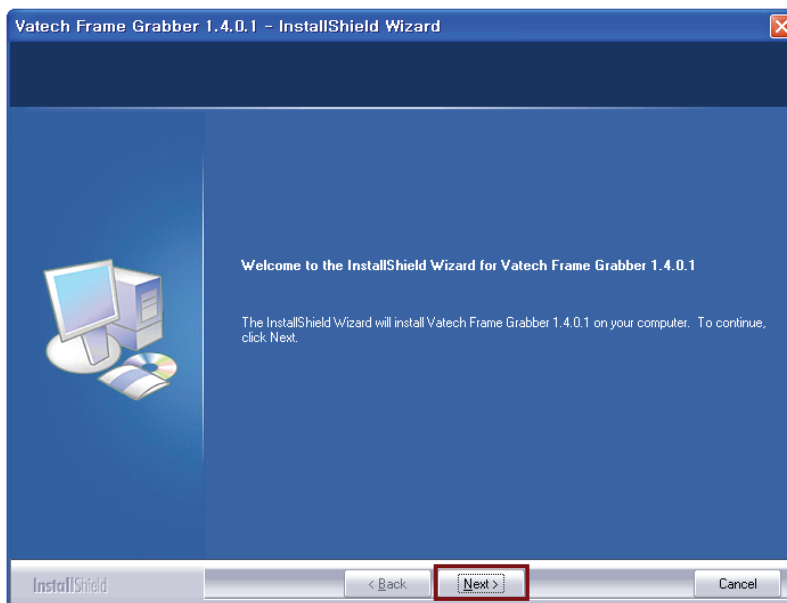




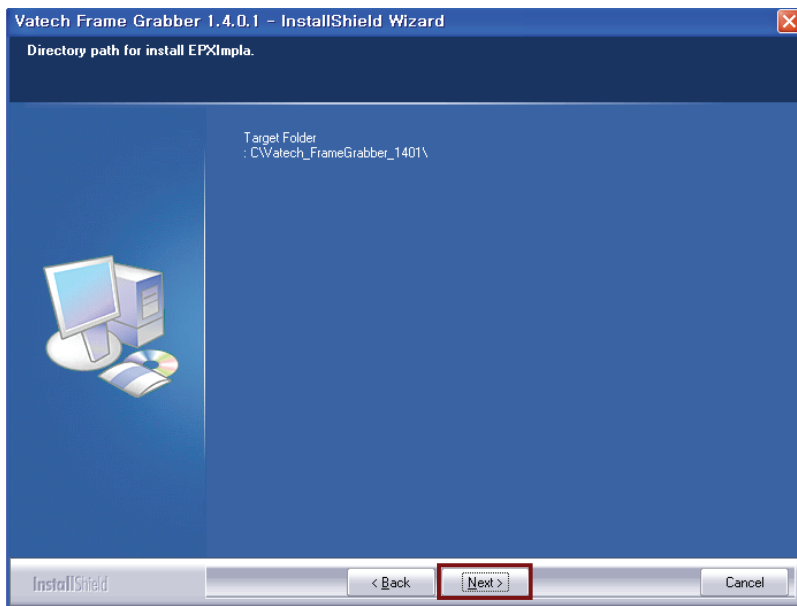
- ⑦ Now installation is in progress.



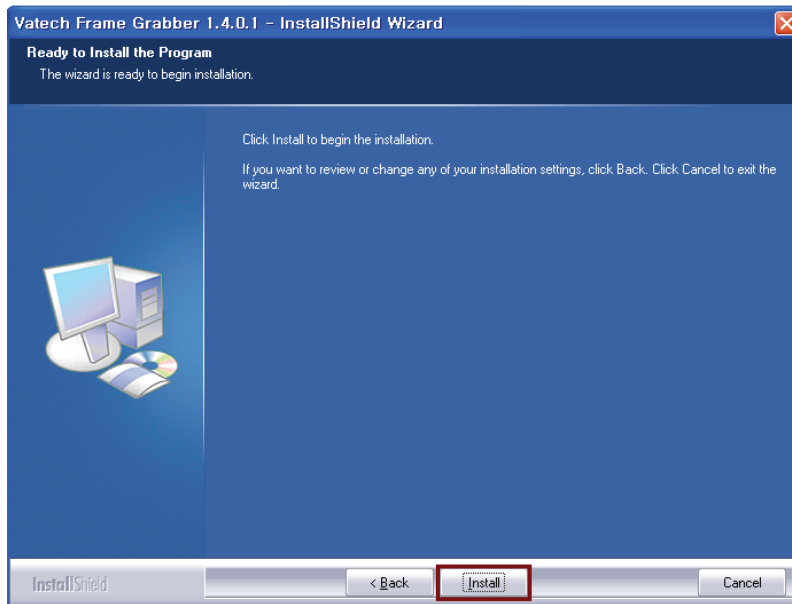
- ⑧ Upon finishing installation of the imaging software, you are welcome to the frame grabber driver installation with the following screen. Click **Next**.



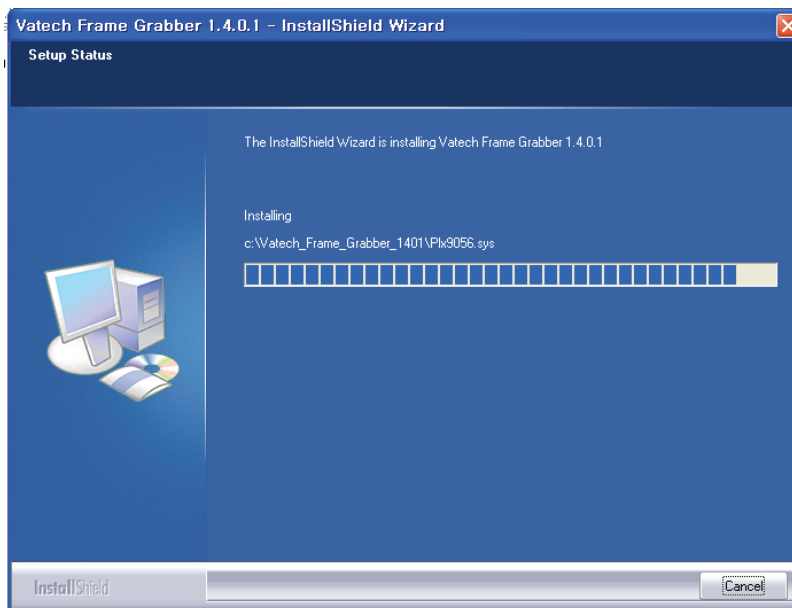
- ⑨ Make sure the destination folder and click **Next**.



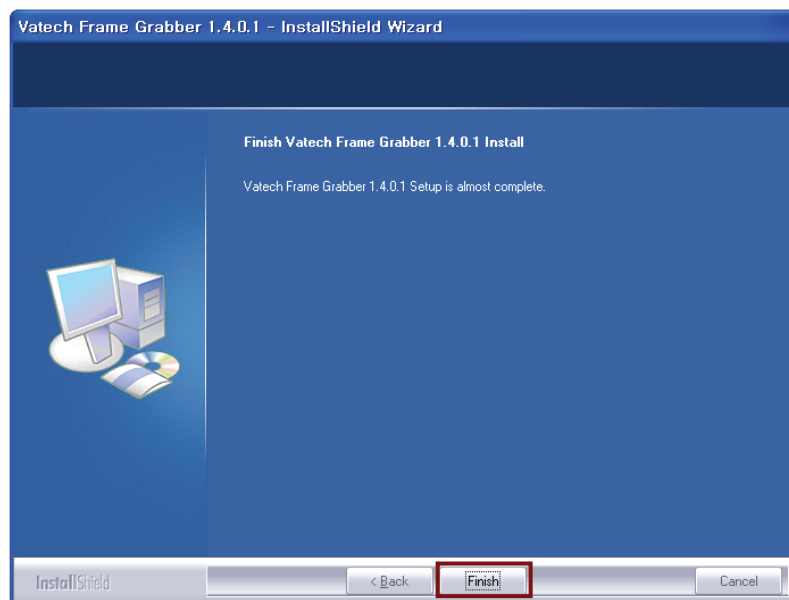
- ⑩ This is the last step. By clicking installation it will proceed.



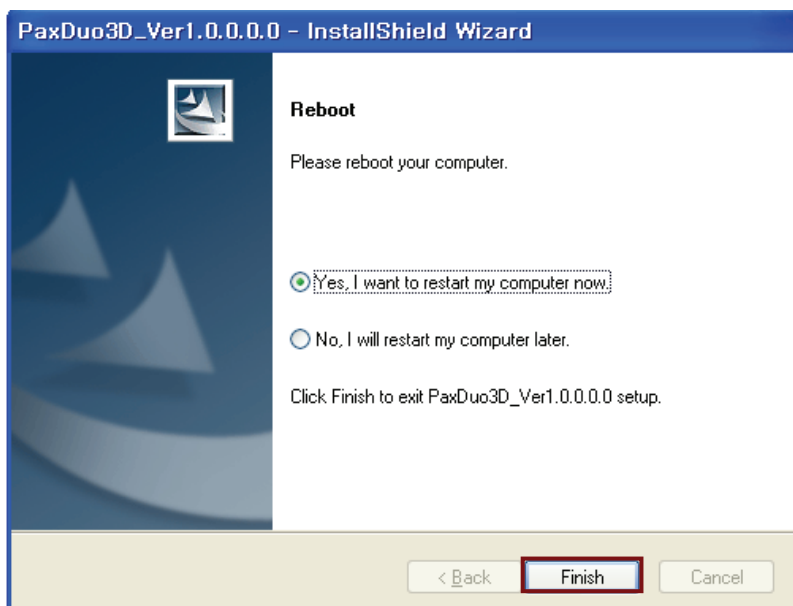
- ⑪ Now installing the driver.



- ⑫ Installation is complete and click **Finish**.

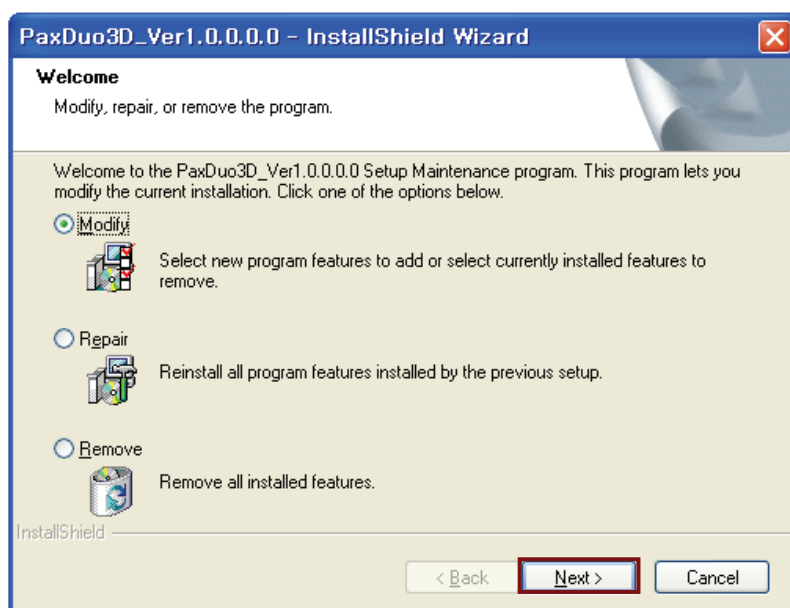


- 13 Reboot the PC to take those configurations into effect. Check the radio button of **Yes, I want to restart my computer now** and click **Finish**.

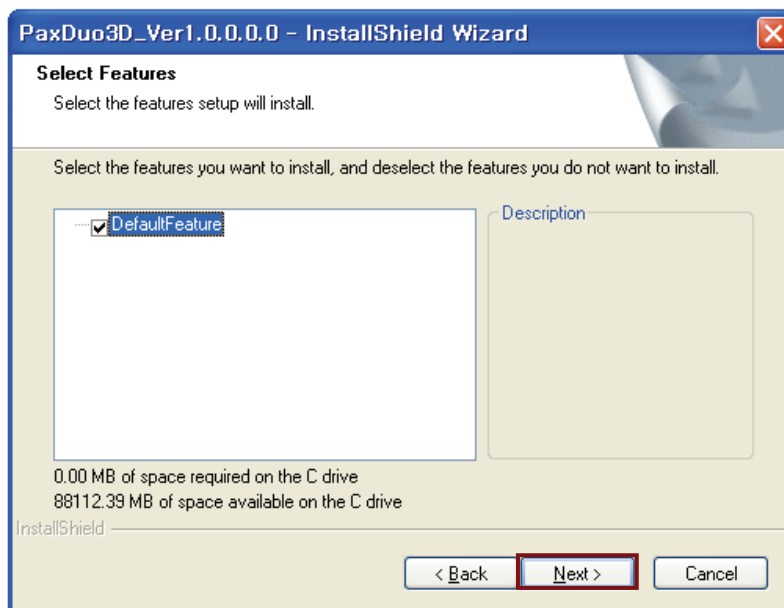


## <To reinstall or repair the programs>

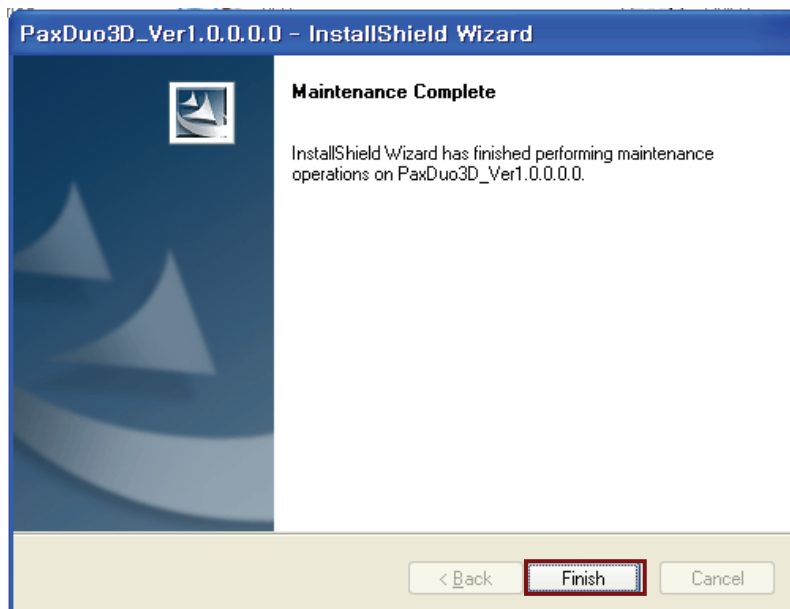
- 1 Please double-click the **setup.exe**.  
The initial screen after clicking the **setup.exe** looks like the following. Check the **Modify** radio button and **Next**.



- ② Select the default and click **Next**.



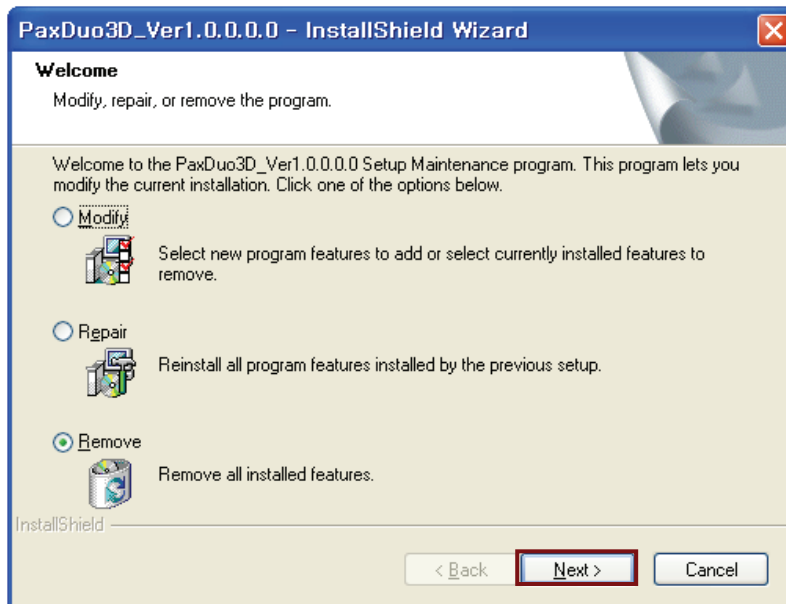
- ③ Modification is complete and click **Finish**.



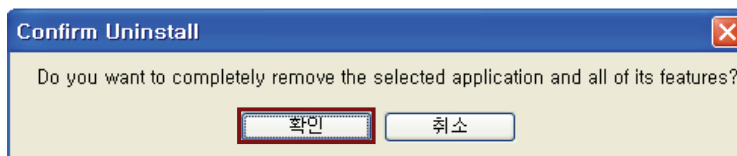
## <To remove the frame grabber driver from the PC>

- ① Go to **My computer->Control panel->Add/Remove programs**.  
Locate the **PaXDuo3D\_Ver1.0.0.0.0** and click **Remove**.

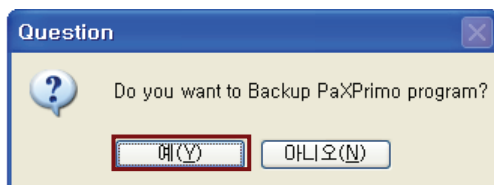
Select **Remove** button and click **Next**.



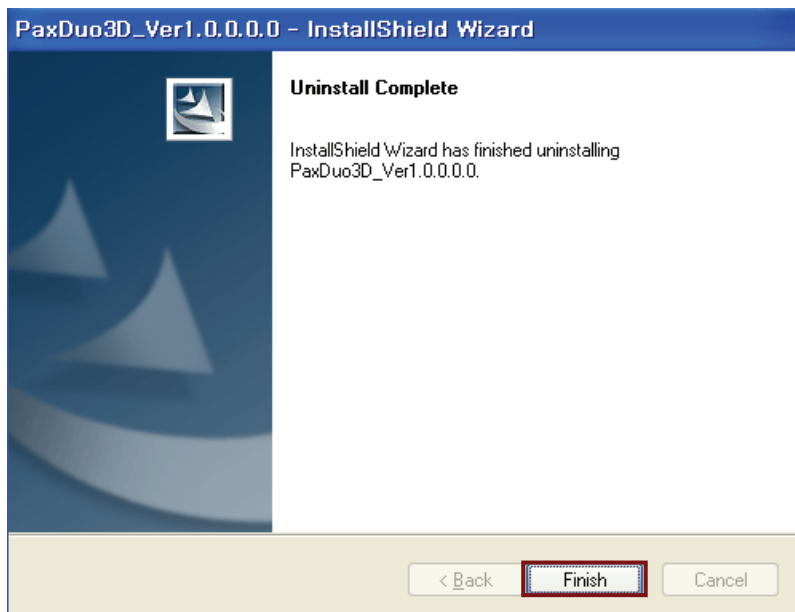
- ② The small warning screen will pop up and click **Confirm**.



- ③ The following screen will appear. And click **Yes**.



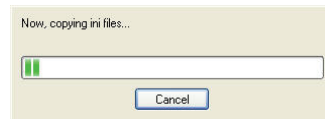
- ④ Removal process is finished and click **Finish**.



- ⑤ Make sure that the programs have been removed from the programs list.

## 6.2. HASP Device Driver

If “HASP Driver” was selected upon set-up, a **HASP Device Driver** window will appear automatically after completing the installation of Picasso Duo - InstallShield Wizard.

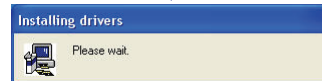
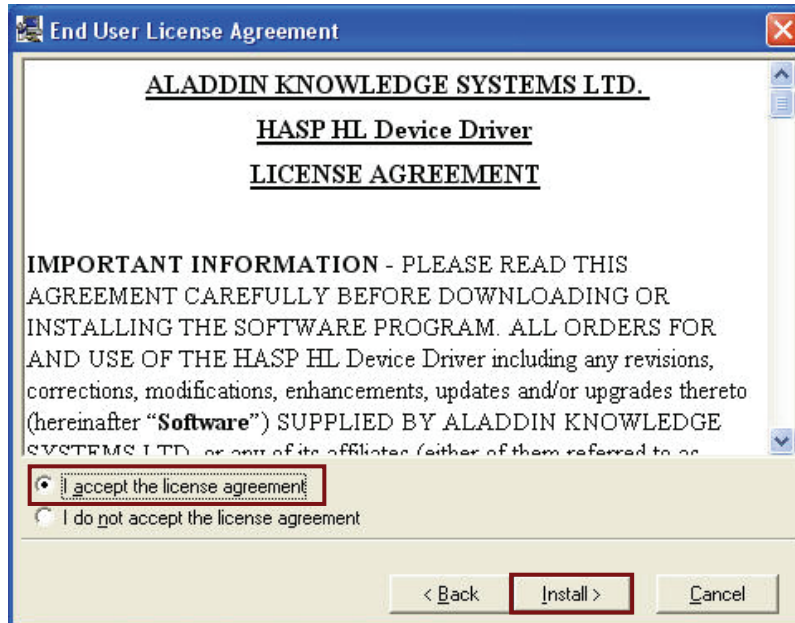


- ① Click “**Next**” to install HASP Device Driver.

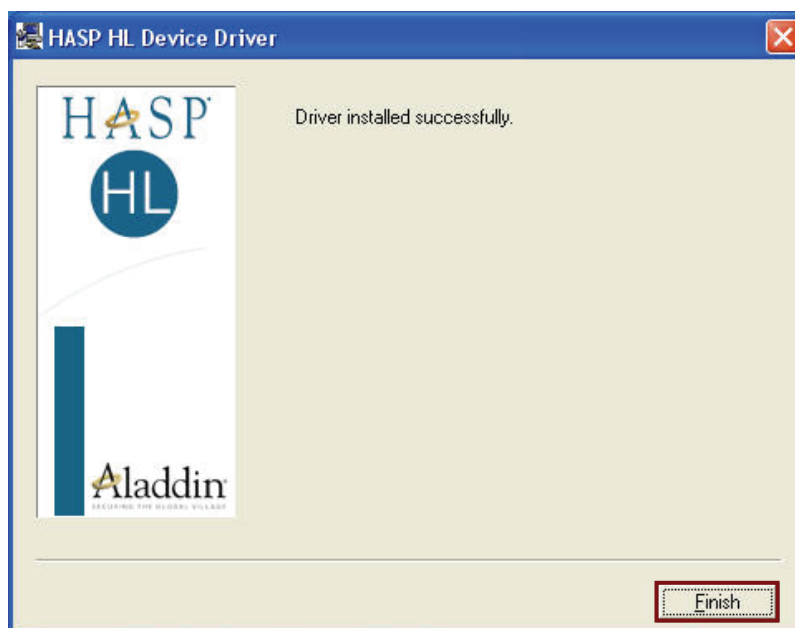




- ② Select “I accept the license agreement”, and then click “Install”.



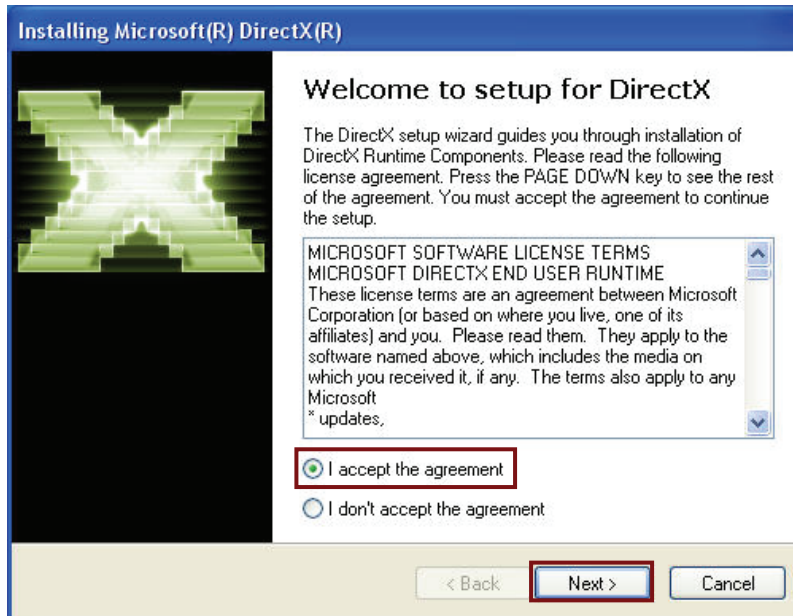
- ③ After the successful installation of HASP Device Driver, click “finish”.



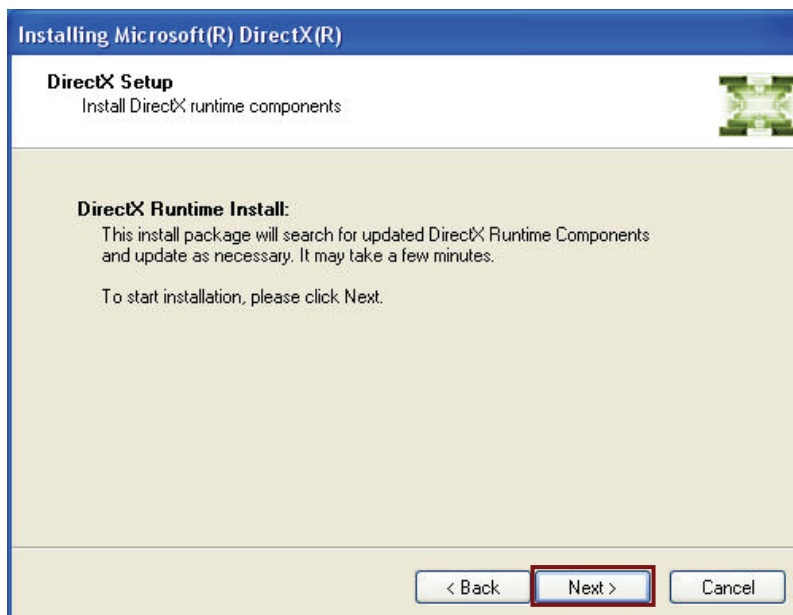
## 6.3. DirectX Driver

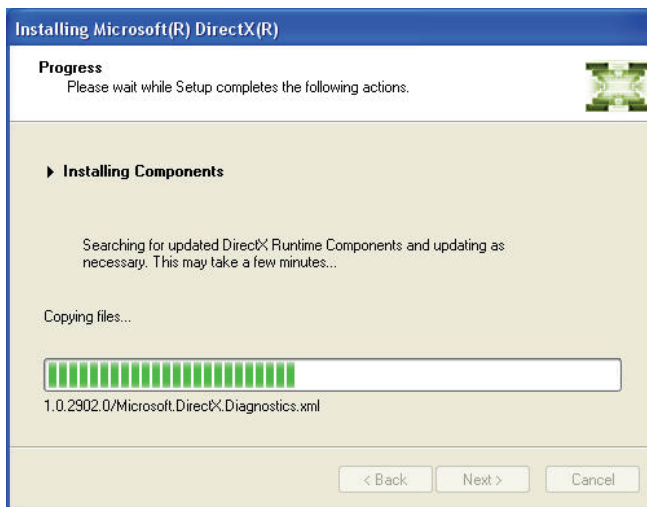
If “DirectX” was selected upon set-up, a **DirectX** set-up window will appear automatically after completing the installation of HASP Device Driver.

- ① Select “**I accept the agreement**”, and then click “**Next**”.

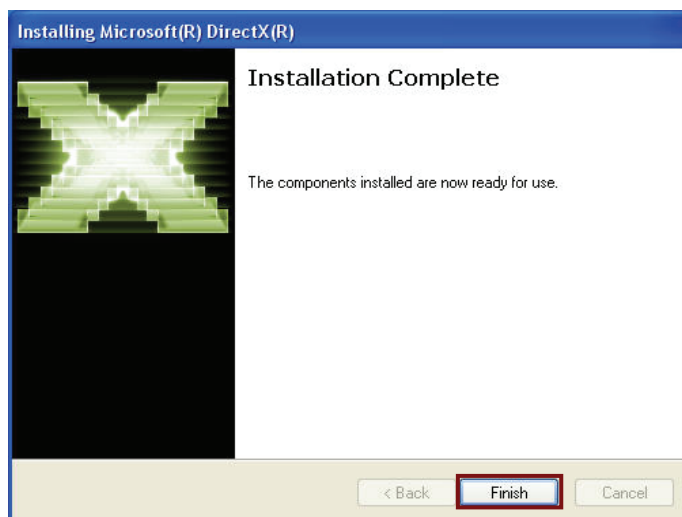


- ② Click “Next” to install DirectX Driver.



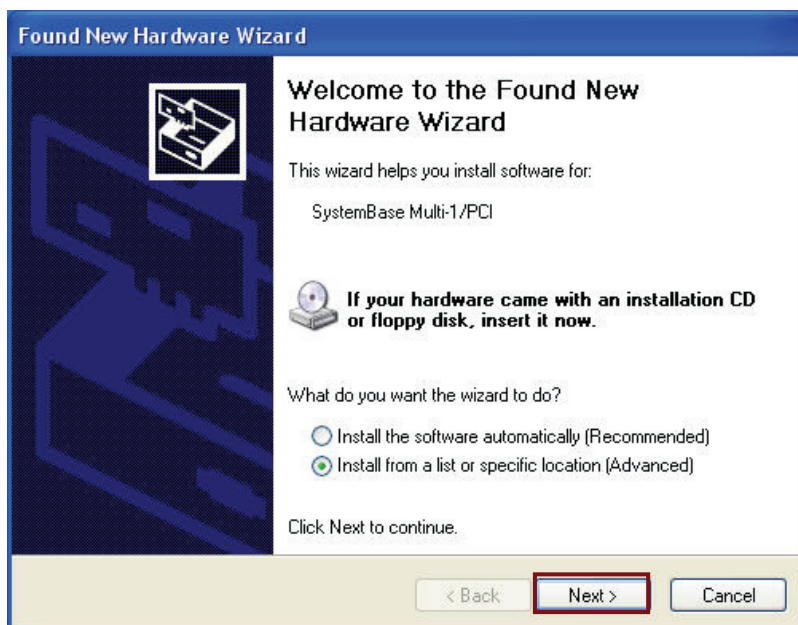


- ③ Once completely installed, DirectX is ready to be used. Click **“Finish”**.

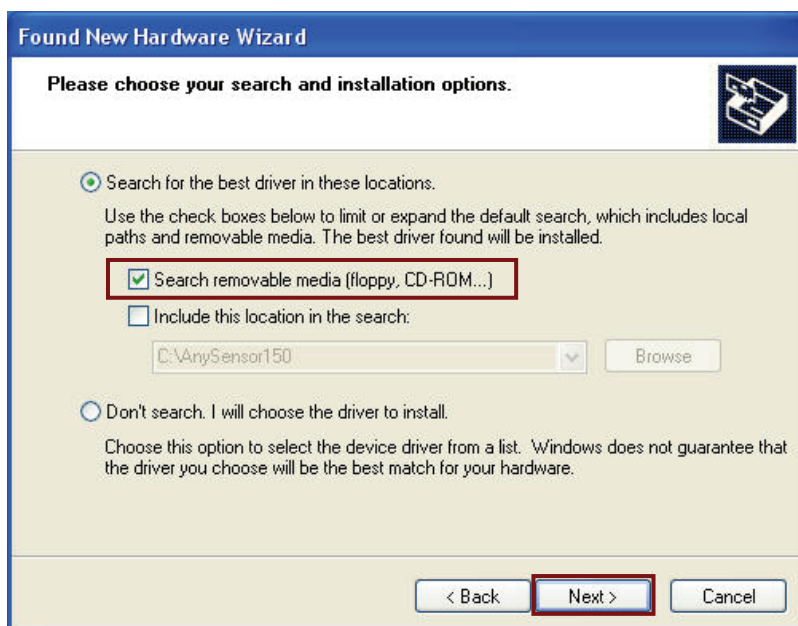


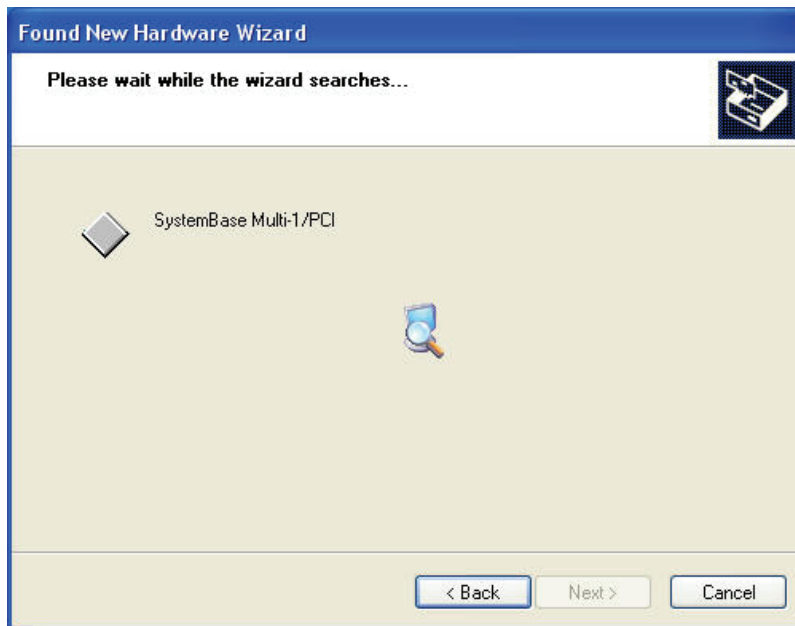
## 6.4. Serial Card Driver Setting

- ① New hardware will be detected automatically.
- ② Select “Install from a list or specific location (Advanced)” and click “Next”.



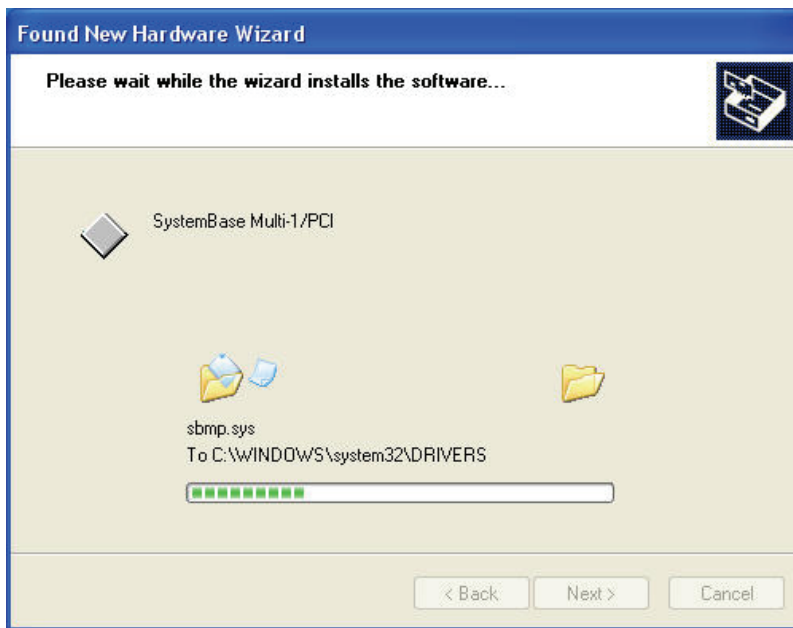
- ③ Insert the Multiport/PCI Installation disk, as provided, into the CD-Rom drive.
- ④ Select “Search removable media (floppy, CD-ROM...)”, and then click “Next”.





- ⑤ Click "Continue Anyway".





- ⑥ After completing the Multiport/PCI Installation, click **“Finish”**.

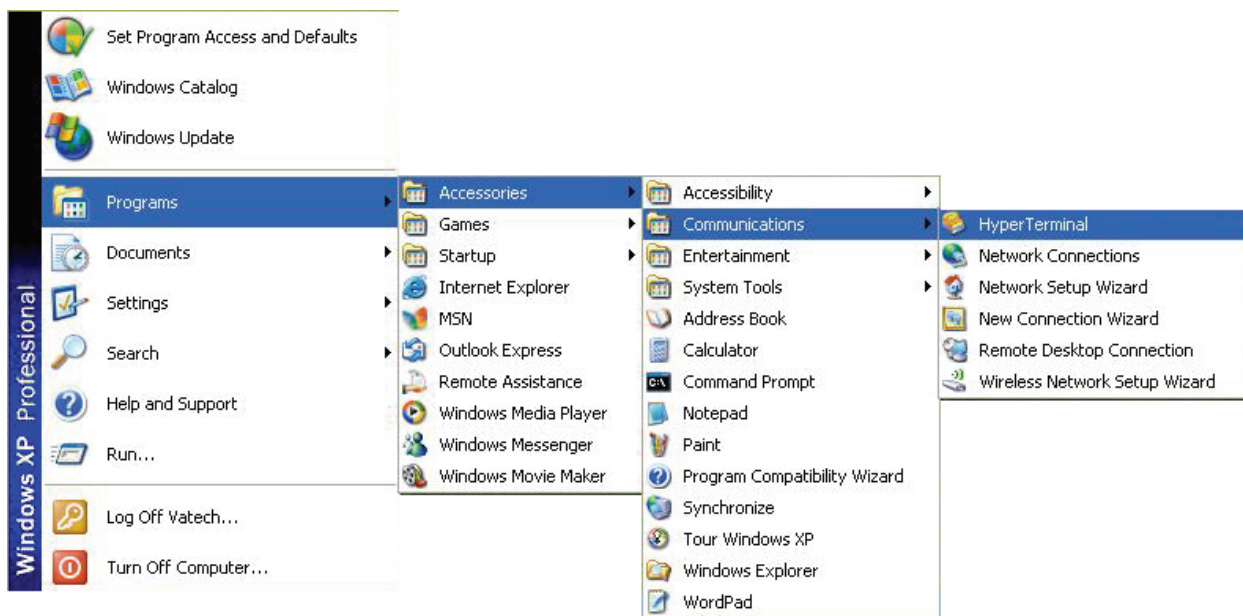


# Using the **7** HyperTerminal

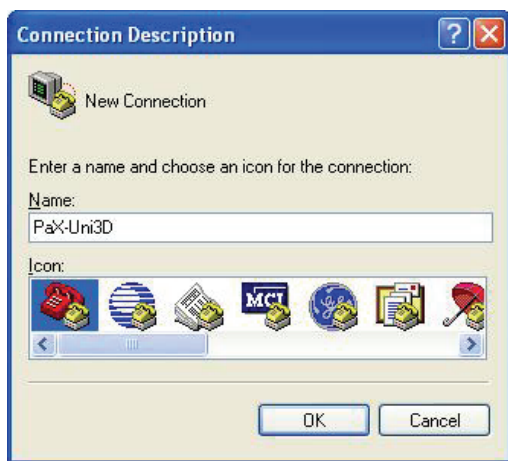
**This chapter describes how to set computer properly and safely.**

## Chapter 7. Using the HyperTerminal

- ① Run HyperTerminal



- ② Type in any name you want, then click "OK".

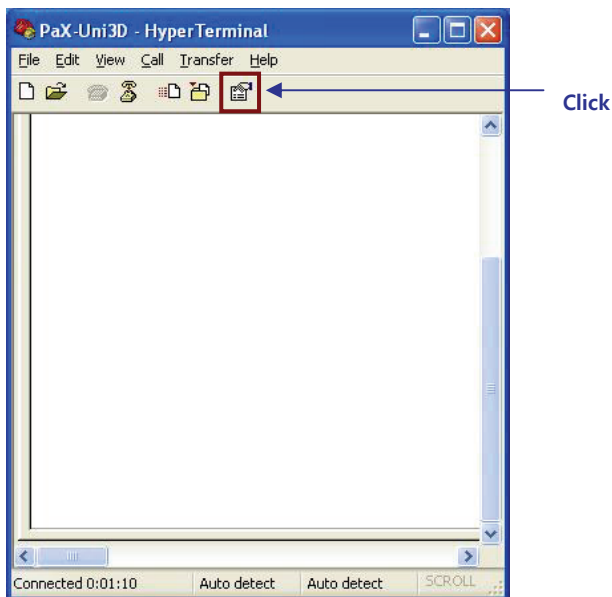
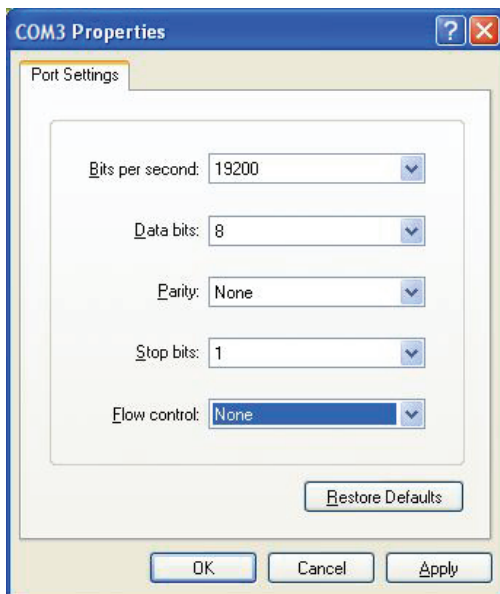


- ③ Connect using: COM3

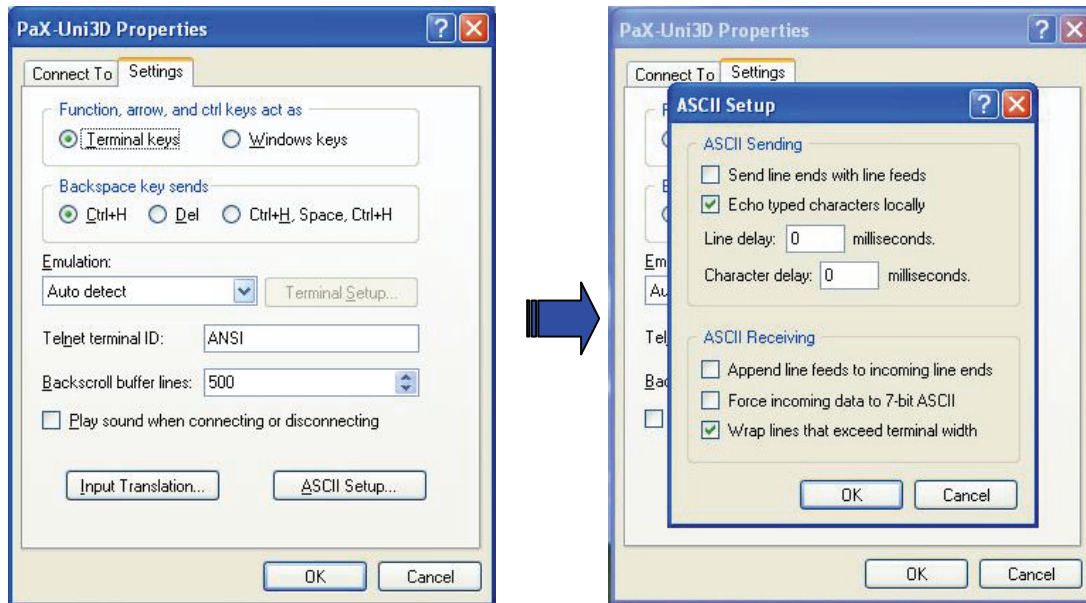




- ④ Bits per second: 19200  
Flow control: None



⑤ Settings → ASCII Setup → Settings



**Technical  
specifications**

**8**

## Chapter 8. Technical specification

### 8.1. PaX-Duo3D Specifications

- **Weight:** 185 kg
- **Measurements (mm):** (L) 1490\*(W) 1057\*(H) 2346
- **X-ray Beam:** Cone Beam
- **Data Bit:** 12bit
- **Slice Thickness (mm) range:** 0~10mm
- **Rotating Unit Scan Angle (degree):** 185 deg for 5 x5, 360 deg for other FOVs
- **Number of Views:** 720 frames
- **Number of Sliced Images:** 384 slices
- **Voxel size:** 0.2 mm
- **Patient Position:** standing
- **Patient Alignment:** Normal standard Arch Alignment
- **FOV:** 5 x5, 8.5x5, 8.5 x8.5, 12x8.5 (Cm)
- **Reconstruction Time**  
5 x5:54 sec, 8.5X5: 58 sec:  
8.5x8.5: 60 sec, 12x8.5: 86 sec
- **Exposure Time:**  
Standard Panoramic Adult/Child  
  - Standard scan 13sec
  - High scan 9sec
 Hemi-Panoramic (Left and Right) 6.5sec  
 Frontal Dentition 10sec  
 TMJ Open/Close mouth 2.8x4sec  
 Maxillary Sinus 10sec  
 Incisor clear 5sec  
 Canal clear 3.8sec  
 Maxillary Molar clear 3.8sec
- **Scan Time:** High 24 sec, Normal 15 sec

### 8.2. Panorama X-ray detector

- **Technology:** TDI type (Time Delay Integration)
- **Active Area:** 147.456x6.144mm
- **Image Acquisition Area:** 146x6mm
- **Pixel Resolution:** 5.2 lp/mm
- **Gray Level:** 12 bit

### 8.3. Image Magnification

Digital CT Magnification (DICOM Image) 1:1

### 8.4. Anatomic Programs

- Patient Type: 3 choices (adult man, adult woman, child)
- Patient Size: 3 choices (hard, normal, soft)
- Patient Jaw Size 4 choices (Normal, Narrow, Wide, child)

### 8.5. User Interface

- All operating functions are easily controlled from the PC (kVp, mA, Image Capture Mode)
- Voice instruction in English
- X-ray exposure switch with extensible cable

### 8.6. X-ray Generator

- High frequency generator, constant potential, micro processor controlled
- Ripple < 4%
- Inverter frequency 36 kHz push-pull
- Tube type D-051, stationary anode type
- Nominal power Less than 1.3 KW
- Tube voltage – 90 kV (adjustable by 1 kV)
- Tube current 2 ~ 10 mA (adjustable by 1 mA)
- High voltage DC
- Cooling by force, one minute for cooling / Protect  $\geq 50^{\circ}\text{C}$

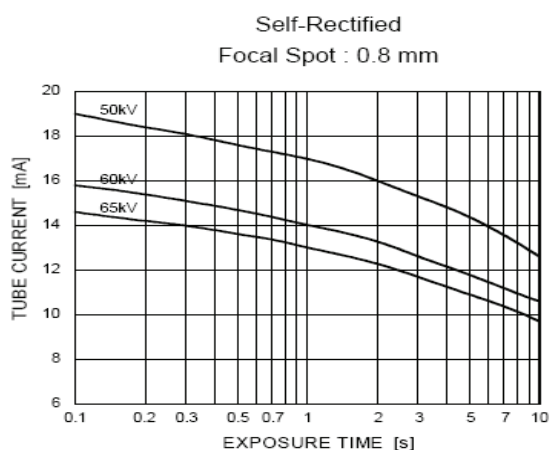
### 8.7. Collimator

- Primary collimator: Changeable as per FOV Size

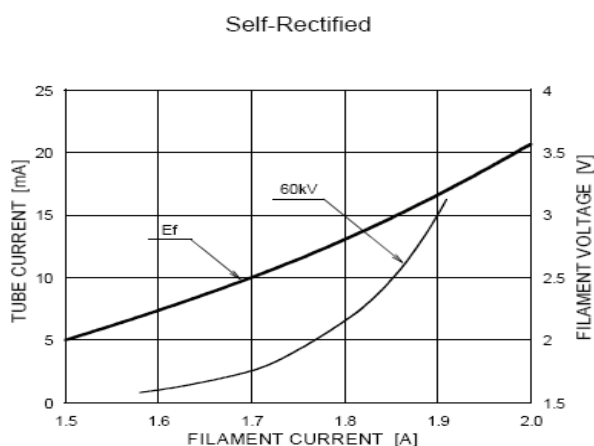
## 8.8. X-ray Tube

- Tube voltage: 50 ~ 100 kV
- Tube current: 1 ~ 22 mA
- Focal spot: 0.5 mm
- Inherent filtration: 0.8 mm Al
- Added filtration: 2.0 mm Al
- Total filtration: 2.8 mm Al
- Filament characteristics: 3.5~4.9V 3.5A(max. filament current)
- Anode angle: 5°
- Anode Hu: 28000J
- Anode cooling rate: 265W
- Input energy at 1 sec: 1750W
- Tube target material: Tungsten

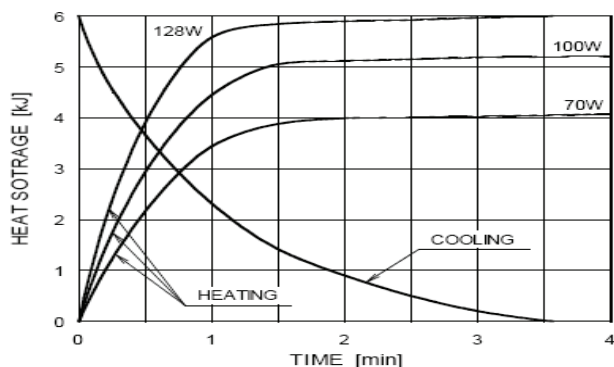
**Maximum Rating Charts**  
(Absolute maximum rating charts)



**Emission & Filament Characteristics**



**Anode Thermal Characteristics**



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If you do not properly set the device setting, causing the device to malfunction or fail, we cannot guarantee any responsibility.

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**CE 0499**

CE symbol grants the product compliance to the European Directive for Medical Devices 93/42 as a class

IIB device. Authorized by **Grand-Duche De Luxemburg**.

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**Factory No.2**

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