MORITA

Veraview X800

Cephalo

INSTRUCTIONS FOR USE

This manual is for making cephalo exposures.
Use it along with the manual for panorama and CT exposures.

Thinking ahead. Focused on life.

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1 Prevent Accidents

1.1 Attention Customers

This manual is for making cephalo exposures with the Veraview X800. It must be used along with the Veraview X800 manual for panorama and CT exposures. Keep this manual in a readily accessible place for quick and easy reference.

1.2 Prevent Accidents

Most operation and maintenance problems result from insufficient attention being paid to basic safety precautions and not being able to foresee the possibilities of accidents.

Problems and accidents are best avoided by foreseeing the possibility of danger and operating the unit in accordance with the manufacturer's recommendations. First, thoroughly read all precautions and instructions pertaining to safety and accident prevention; then, operate the equipment with the utmost caution to prevent either damaging the equipment itself or causing bodily injury.

The following symbols and expressions indicate the degree of danger and harm that could result from ignoring the instructions they accompany:

⚠WARNING	A hazard with a medium risk of injury or death if not avoided.
⚠CAUTION	A hazard with a low risk of minor or moderate injury if not avoided.
(Usage Note)	This informs the user of important points concerning operation or the risk of equipment damage.

The user (i.e., healthcare facility, clinic, hospital etc.) is responsible for the management, maintenance and use of medical device.

Disregarding the information on safety is considered ABNORMAL USE.

This equipment must only be used by dentists and other legally licensed professionals.

Do not use this equipment for anything other than its specified dental X-ray exposure purpose.

Caution: Federal law restricts this device to sale by or on the order of a dentist and a licensed healthcare practitioner.(for USA)

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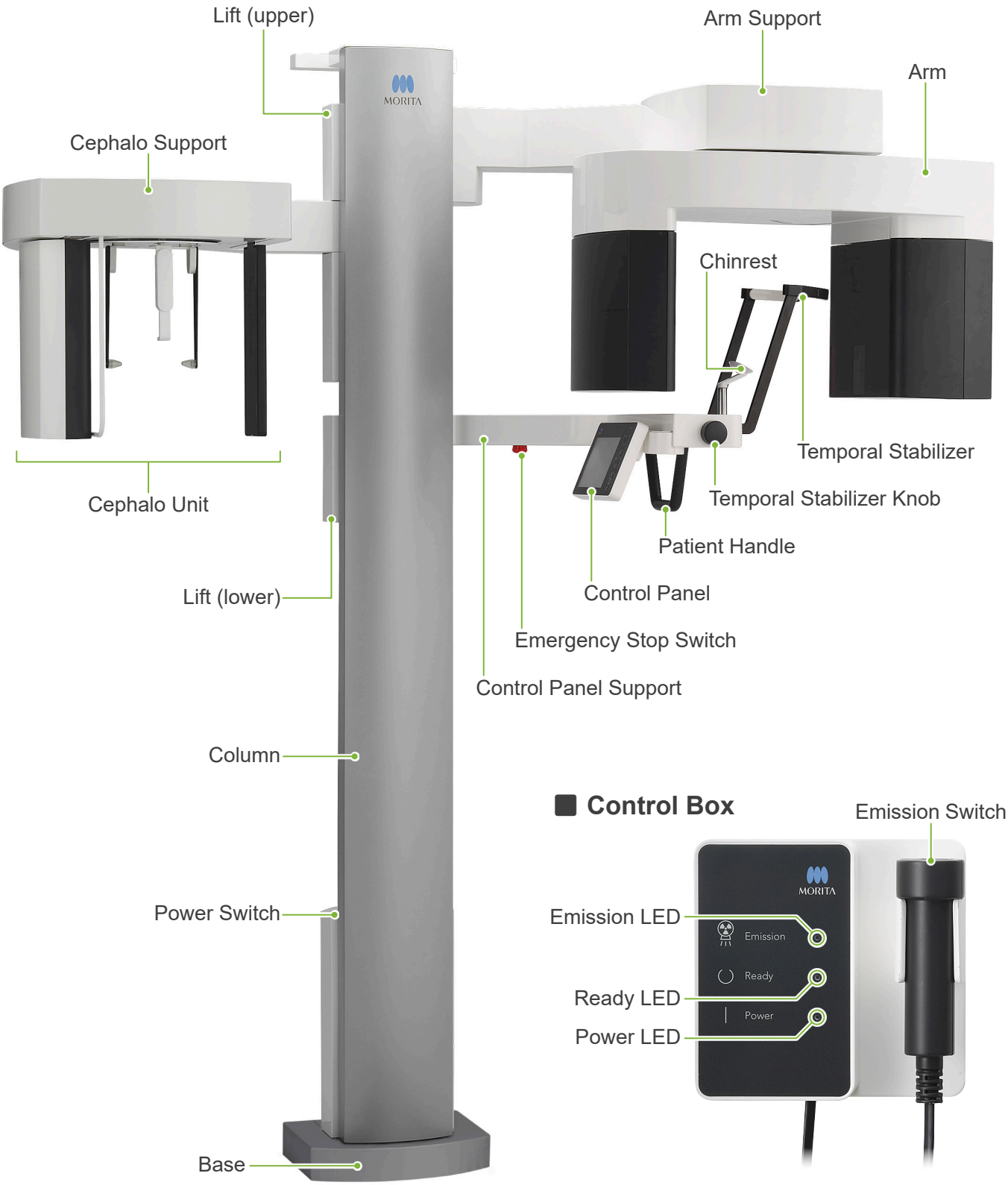
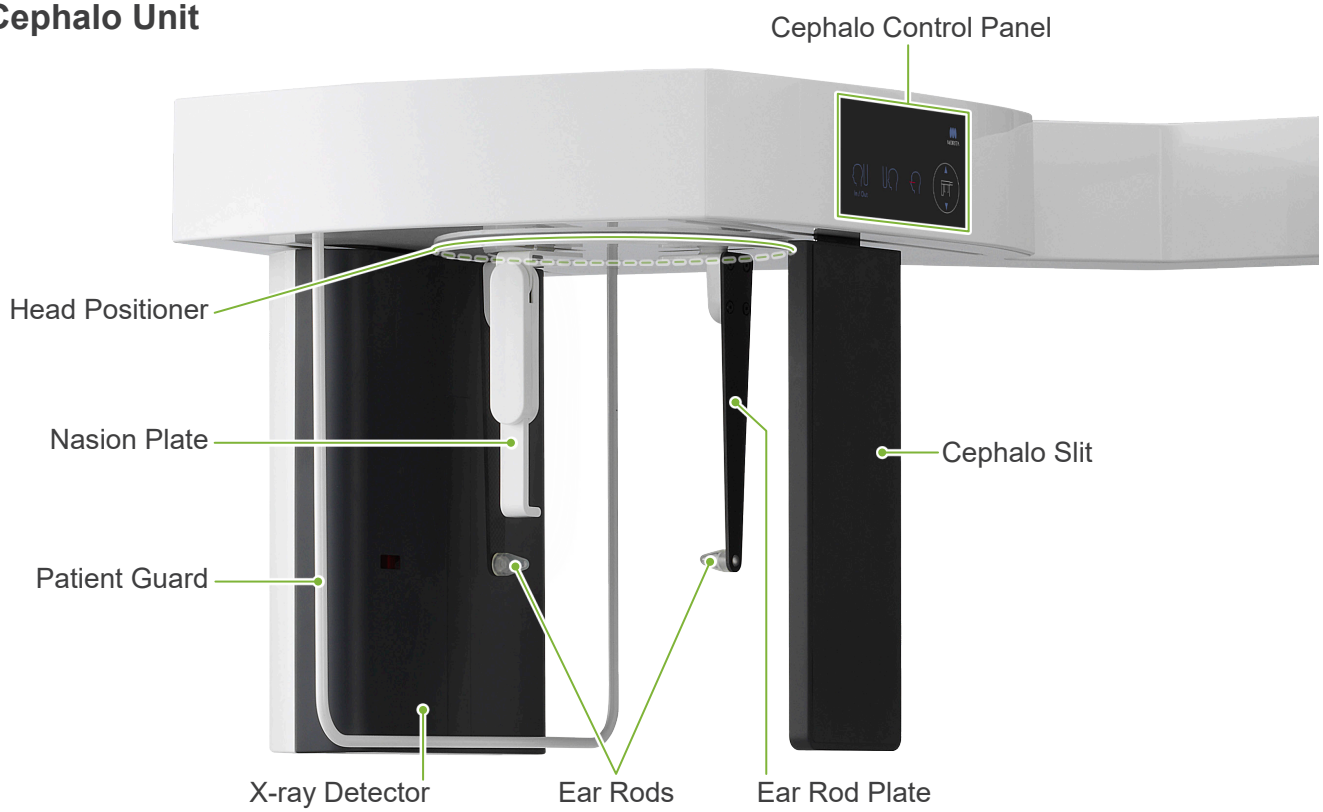
2 Parts Identification

Main Unit



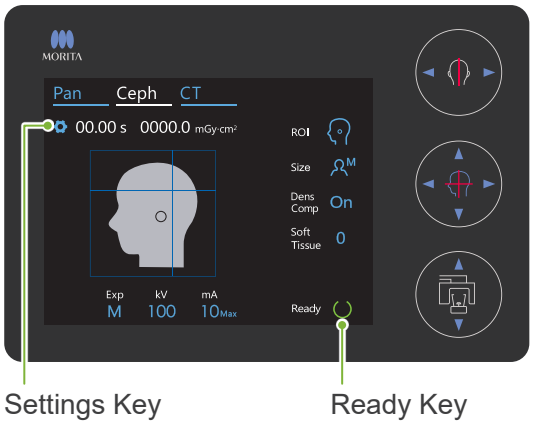
Control Box

Cephalo Unit

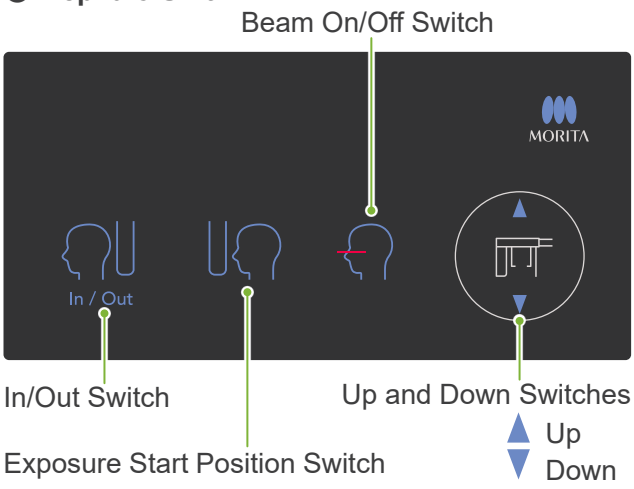


Control Panel **Blue** icons and the Ready key are activated by touch.

Main Unit



Cephalo Unit



Do not press down with excessive force on either of the control panels. Do not press on the panels with any sharp objects like ballpoint pens or fingernails etc.

Do not use the Beam On/Off or Lift Up/Down switches while touching some other part of the panel.

Patient Positioning Tools and Consumable Parts

- Hand Plate (1)
- Ear Rods (2)

3 Before and After Use

3.1 Operation Conditions

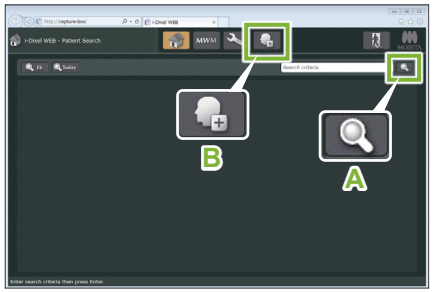
● Use the Veraview X800 under the following conditions:

The Veraview X800 must be operated under specific conditions (ambient temperature range, humidity, and atmospheric pressure range). Refer to the Instructions for Use for Panorama and CT, and follow the descriptions in the **“Operating Conditions” of “13.1 Technical Specifications”**.

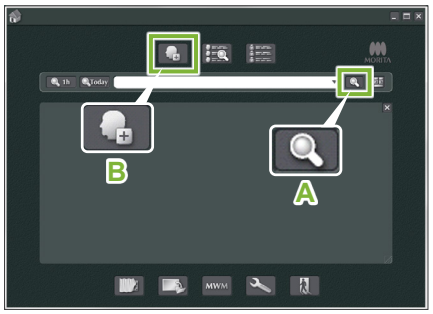
* If an accident occurs, the equipment must not be used until repairs have been completed by a qualified and trained technician authorized by the manufacturer.
* Have patients remove glasses, earrings and any other accessories that might interfere with the exposure.
* Before use make an initial inspection to make sure the unit will operate properly and safely.

3.2 Set Up

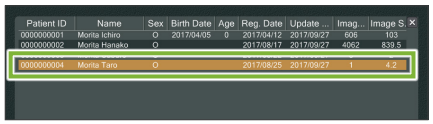
3.2.1 Start i-Dixel WEB



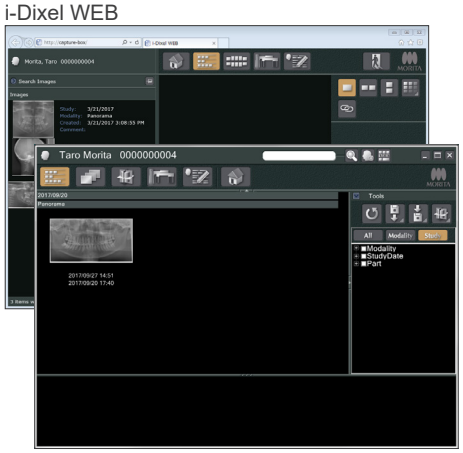
i-Dixel WEB



i-Dixel



i-Dixel WEB



i-Dixel

1. Start i-Dixel or i-Dixel WEB

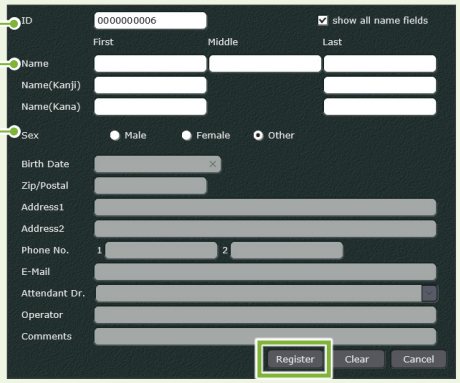
Start the i-Dixel or i-Dixel WEB software (hereinafter referred to as “i-Dixel WEB”).

2. Retrieve a registered patient

Enter the patient ID in the search field and click the search icon (**A**). To use the patient list, select a patient and then double-click it.

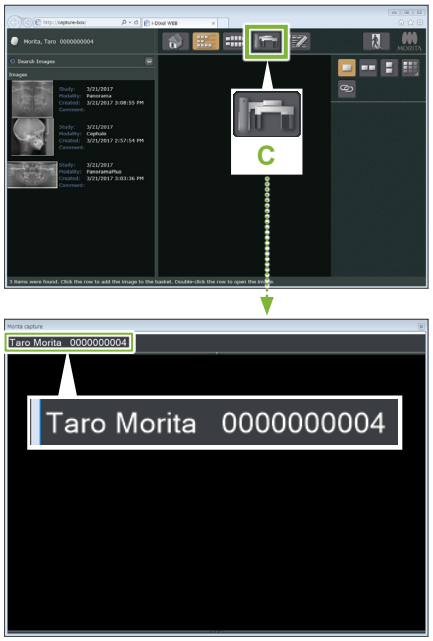
● Register a New Patient

To begin, register a patient. Click the icon **B** to register a new patient. Fill out the form that appears and then click the Register button.



* Patient ID, Name and Sex are required items.

An image list will appear.



3. Open X800 Exposure window

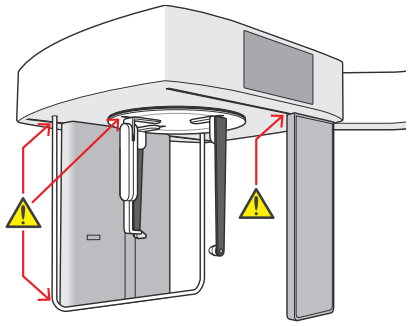
Click the X800 Exposure Window icon (C).
When the window opens, an exposure can be made.

⚠CAUTION

- When a patient is selected with i-Dixel WEB, the patient name appears on the title bar for the X800 Exposure Window. Before making the exposure, make sure the name on the title bar is the name of the patient subject to the exposure. If it is not the right name, close the window, and then click the icon (C) to reopen the window. Check that the right name appears on the title bar, and then make the exposure. If the wrong name is on the title bar, the exposure data will be saved for the wrong patient.
- If multiple tabs or windows are open for i-Dixel WEB, processing can become unstable and this could lead to saving data in the wrong patient file or not being able to make the exposure. Do not fail to close all tabs and windows before clicking the icon (C) for the X800 Exposure Window.

* Do not fail to open the X800 Exposure Window before making an exposure.
* For details refer to the Instructions for Use for i-Dixel WEB.

3.2.2 Safety Check for Moving Parts

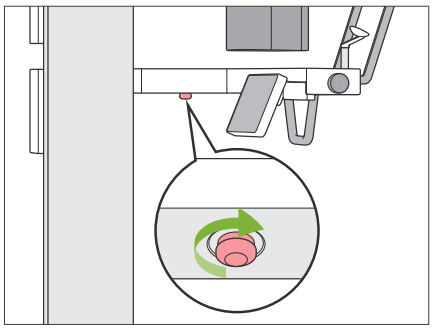


For safety, make sure that fingers will not be pinched before moving any parts.

⚠CAUTION

- Keep fingers away from gaps and openings of moving parts such as the head positioner as well as the holes on the support column.

■ Emergency Stop Switch



● In Case of Emergency

Press the Emergency Stop switch. This will stop the arm rotation and X-ray emission.

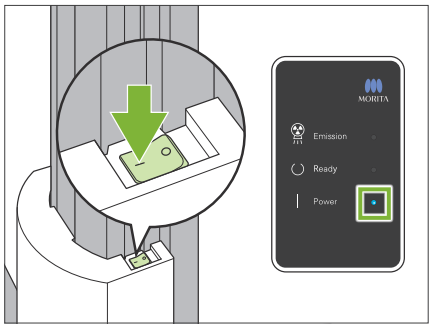
* Never use this switch except in the case of an emergency.

● After Pressing the Emergency Stop switch.

1. Guide the patient away from the unit and turn off the Power switch.
2. Restore the unit to a safe condition.
3. Turn the Emergency Stop switch in the direction shown by the arrow in the illustration until it clicks to release it.
4. Restart the computer.
5. Turn on the Power switch.
6. Check the panorama, CT, and cephalo exposure operation.

If the unit cannot be returned to a safe condition or will not operate, contact your local dealer or J. MORITA OFFICE.

3.2.3 Start Main Unit



Press the side of the Power switch on the lower part of the column that is marked with a line (|).

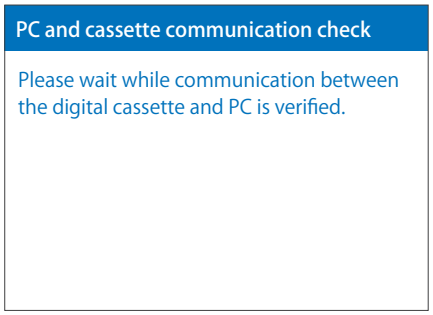
The unit will turn on and the blue Power LED on the control box will light up.

⚠CAUTION

- Do not press the Power switch if the patient is near or inside the equipment. Otherwise, the arm will rotate and the control panel support will move and could injure the patient.

If the Emergency Stop switch has been inadvertently pressed while the unit was being cleaned etc., the unit cannot be turned on. Release the Emergency Stop switch, and then turn on the unit.

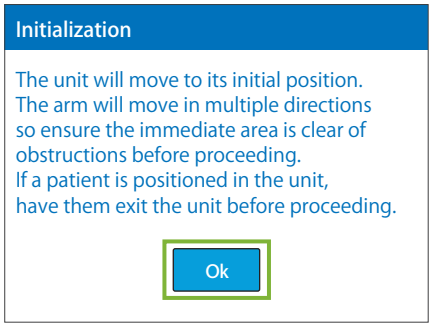
When starting up the Veraview X800 right after turning it off (e.g., rebooting the equipment), wait at least 5 seconds to turn it on again. Failure to do so could result in malfunction or damage to the equipment.



The “PC and cassette communication check” dialogue box will appear.

⚠CAUTION

- If the temporal stabilizers are open, a message will appear warning to check them. The arm might hit them so turn the knob and close them.



Then the “Initialization” dialogue box will appear.

If the patient is already in position, have him step away from the equipment.

Check the area and then click the “Ok” button.

The arm will move to the patient entry position.

⚠CAUTION

- Do not fail to move the patient away from the equipment and check the area for safety before initializing the equipment. Otherwise, the arm might move and it could hit the patient.

3.3 Start-up Inspection

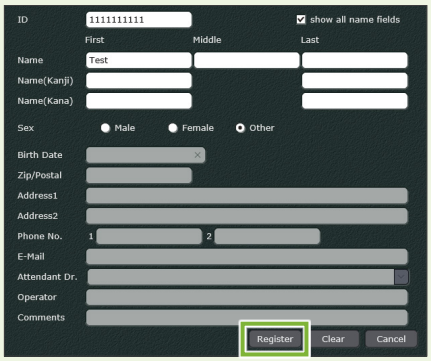
Before use make a start-up inspection to make sure the unit will operate properly and safely.

1. Open the image list for the start-up inspection

Select the test patient used for the start-up inspection from the i-Dixel WEB patient list and display the image list for it.

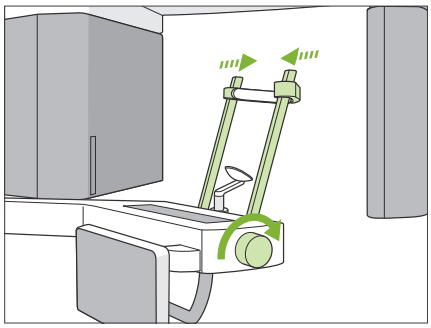
● First Time Only

To begin, the test patient must be registered in i-Dixel WEB. Click the Patient Registration Window icon to display the registration window, fill out the form and then click the Register button.



2. Open X800 Exposure window

Click the X800 Exposure Window icon to open it.

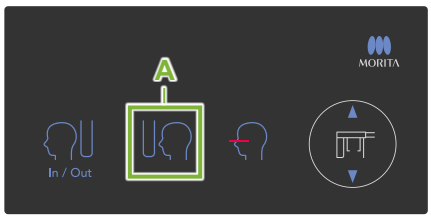


3. Check operation for cephalometric exposure

Touch the Ceph key on the control panel.
Set the exposure conditions as shown below.

- Region Of Interest (ROI): Lateral
- Exposure Setting (Exp): “M” (manual)
- Tube Voltage (kV): 60 kV
- Tube Current (mA): 2 mA

Turn the temporal stabilizer knob and close the stabilizers completely.
Press the Ready key to move the X-ray head and the arm into their cephalo positions.
Check that the Ready LED on the control panel or the control box is on.



Touch the Exposure Start Position switch (**A**) on the cephalo control panel to move the cephalo unit to its exposure start position.
Hold down the Emission switch and check the following items:

- X-rays are being emitted.
- The Emission LED is on and the melody is playing.
- X-rays emission stops when the exposure is completed.
- The Emission LED turns off and the melody stops.

Release the Emission switch.

4. Image Display

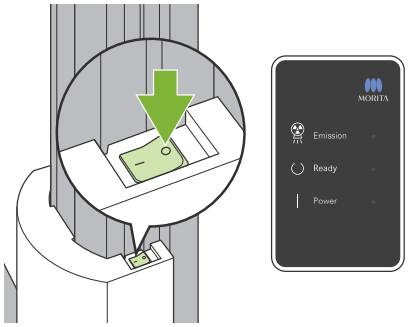
A message will appear in i-Dixel WEB that says “Transferring image!”, and after about 30 seconds the inspection image will appear.

5. Delete the inspection data

Delete the data acquired during the inspection exposure.

3.4 After Use

3.4.1 Turn Off the Unit



Press the side of the Power switch marked with a circle (○).
The unit will turn off. The Ready and Power LEDs will turn off.

⚠CAUTION

- Do not fail to turn off the Power switch. This prevents the risk of current leakage, inadvertent operation, etc.

When starting up the Veraview X800 right after turning it off (e.g., rebooting the equipment), wait at least 5 seconds to turn it on again. Failure to do so could result in malfunction or damage to the equipment.

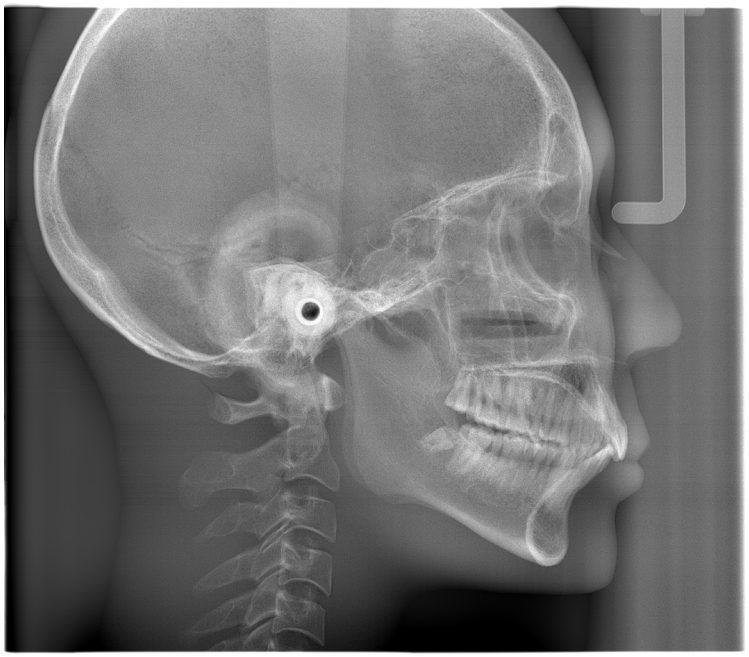
4 Cephalo Exposure

4.1 Exposure Types and Functions

4.1.1 Exposure Area (ROI: Region Of Interest)

■ Lateral

Lateral cephalometric exposure.



Lateral Exposure

■ PA (Posterior-Anterior)

PA cephalometric exposure.

PA Exposure

■ 45° Angle

Cephalometric exposure at 45° angle.

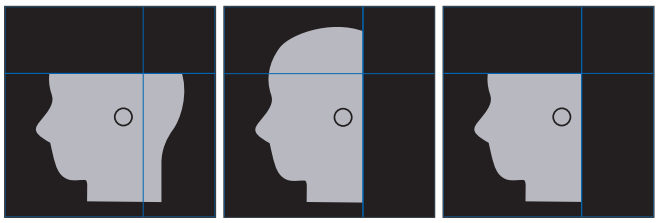
■ Hand

Cephalometric hand exposure.

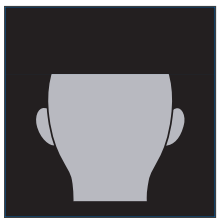
4.1.2 Partial Cephalo

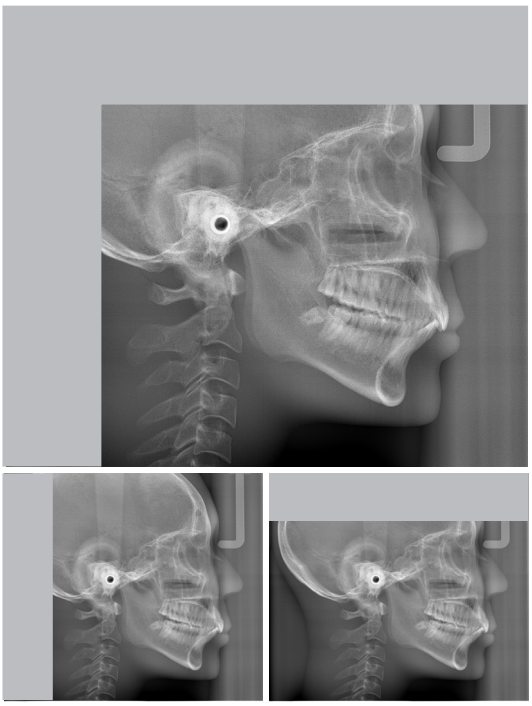
A partial cephalometric exposure trims the X-ray field and reduces the patient's X-ray dosage.
There are three ways to trim a lateral exposure, and one way to trim a PA exposure.

● **Lateral Exposure**



● **PA Exposure**





Partial Cephalometric Exposure

4.1.3 Density Compensation (Dens Comp)

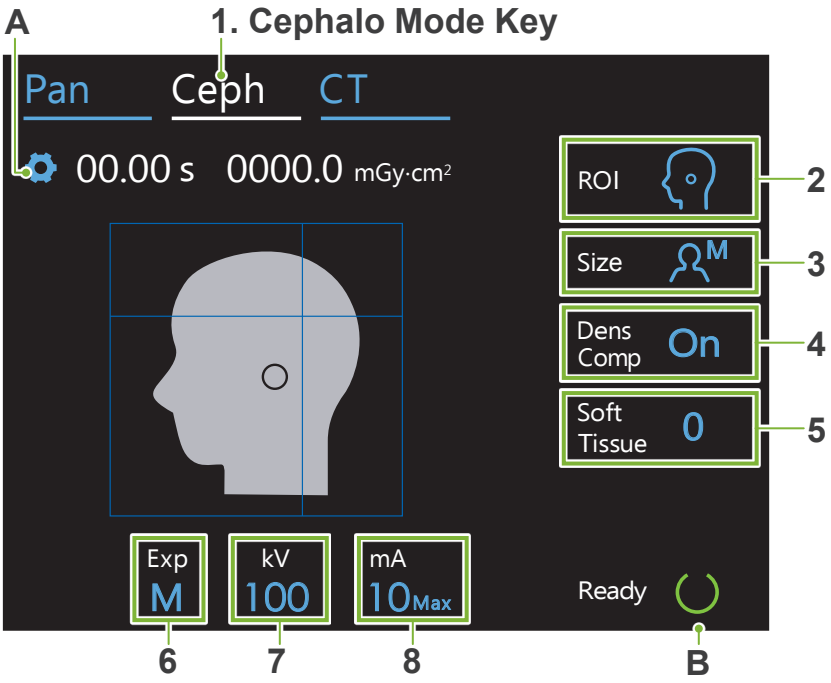
This is used for an image that will show both soft and hard tissues.
The speed of the X-ray detector's movement and the tube current are changed to get an image with easily discernible gray scale.
The starting position for density compensation can be adjusted in 5 mm increments to match the size of the patient.

● **Intended ROI**

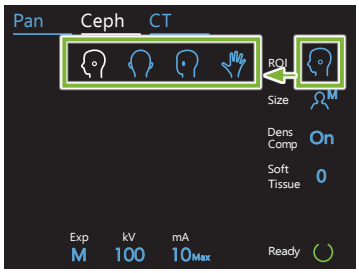
Lateral and PA exposures

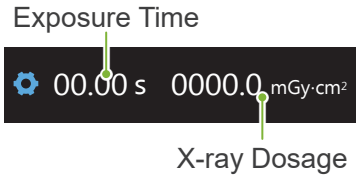
4.2 Operation and General Settings

4.2.1 Cephalo Display



Numbers 2 to 8 show the current settings. Touch any one of the icons to show other selections.





A. Settings Key

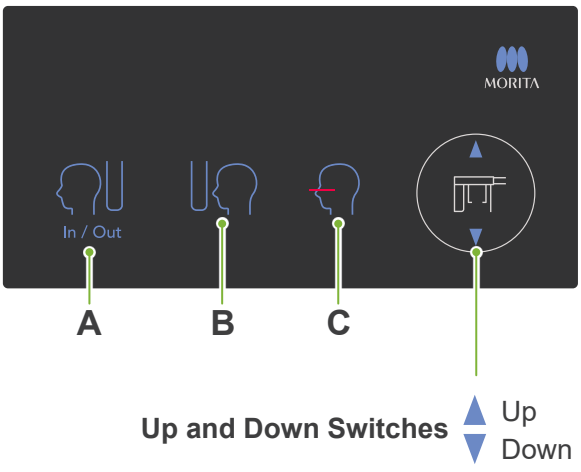
Hold down this key to save the current settings for exposure conditions. The Veraview X800 will load these settings as the default values from the next start-up.

B. Ready Key

Shows that the unit is in the ready state.

- This key blinks when the Power switch is turned on.
- Touch it before guiding the patient into position. It stays on when it is touched to show that the unit is in the ready position. The X-ray head will turn to its cephalo direction and the arm will automatically go to its cephalo exposure position.

■ Cephalo Control Panel



A. In/Out Switch

Touch for patient entry and egress. The cephalo slit and X-ray detector will move forward into their start positions.

B. Start Position Switch

The cephalo slit and X-ray detector will move forward into their start positions.

C. Horizontal Beam On/Off Switch

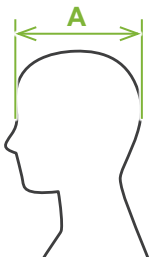
The X-ray detector moves and the horizontal beam turns on or off.

Do not press down with excessive force on the control panel.
Do not press on the panels with any sharp objects like ballpoint pens or fingernails etc.

4.2.2 Settings

2. Exposure Area (ROI)	3. Patient Size (Size)	4. Density Compensation (Dens Comp)	5. Dens. Comp. Start Pos. (Soft Tissue)	6. Exposure Setting (Exp)	7. Tube Voltage (kV)	8. Tube Current (mA)
Lateral		**On**	10 5 0 -5 -10	**M** (Manual Exposure)	100 95 90 85 80 75 70 65 60	10 9 8 7 6 5 4 3 2
PA		**Off**				
45° Angle				**Off** (No X-ray Emission)		
Hand						

■ Patient Size and Tube Voltage / Current



Tube voltage and current are adjusted according to patient size.

The set values for patient size is the sagittal length of the skull (**A**).

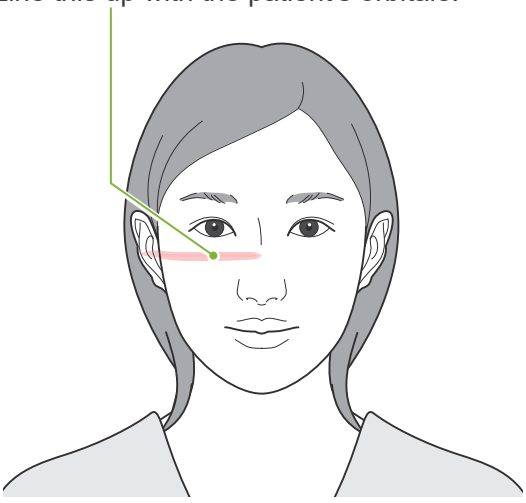
	C (Child)	S (Small)	M (Middle)	L (Large)
Sagittal Length (**A**)	max. 17 cm	max. 17 cm	max. 19 cm	max. 21 cm
Tube Voltage	100 kV	100 kV	100 kV	100 kV
Tube Current	6 mA	8 mA	10 mA	10 mA

* The above values are estimates only. The dentist should judge this by the patient's body type, skeletal structure etc.

4.2.3 Positioning Beam

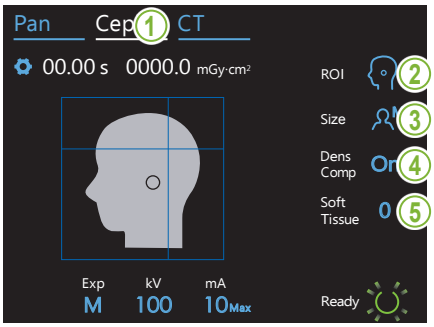
Horizontal Beam

Line this up with the patient's orbitale.



4.3 Lateral, PA, and 45° Angle Exposures

4.3.1 Preparation

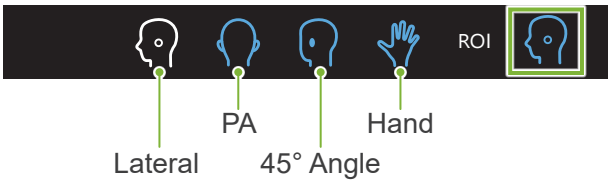


1. Select the cephalometric exposure mode.

Touch the Ceph key to select the cephalometric exposure mode.

2. Select the exposure area

Touch the icon to the right of “ROI” to select the region of interest.



3. Select patient size

Touch the icon to the right of “Size” to select the patient size.

4. Set density compensation

*** Lateral and PA only.**

Touch the icon to the right of “Dens Comp” to turn it on and off.

What is Density Compensation (Dens Comp)?

This is used for an image that will show both soft and hard tissues.

This must be turned on to get an image that shows both hard and soft tissues that are needed to make cephalometric measurements.

(Soft tissues will not appear if it is turned off)

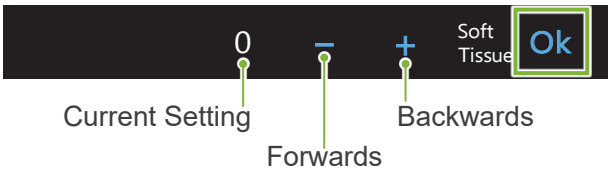
* The density compensation feature is not the same as the auto exposure feature.
* Since the tube current changes during the exposure when this is turned on, the tube current value is not shown in the operation panel.
* For infants, lower the tube voltage to 80 kV.

5. Set density compensation

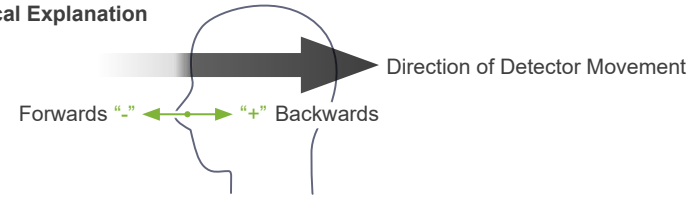
*** Lateral only**

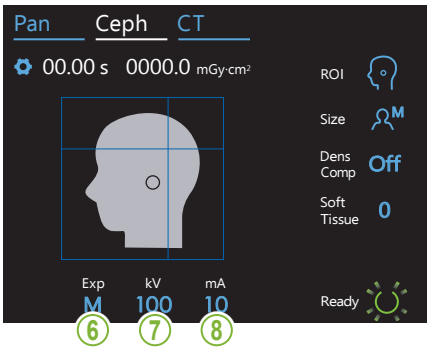
Touch the number to the right of “Soft Tissue” to set the position for starting the density compensation feature.

It can be set from -10 to 10 mm (5 steps in 5 mm increments).



Graphical Explanation





6. Make exposure setting

Touch the letter under “Exp” to make the exposure setting.

* The auto feature cannot be used for cephalo exposures.

- M — Manual Exposure
- Off — No X-ray emission
  This is used to observe the movement of the cephalo slit without emitting X-rays.
- Exp M — Current setting

7. Set tube voltage

Touch the number under “kV” to set the voltage.

It can be set from 60 – 100 kV in 5 kV increments.

- 100 — Current Setting
- \+ — Increase
- − — Decrease
- kV Ok — Set

Patient Size	C	S	M	L
Estimated Tube Voltage [kV]	100	100	100	100

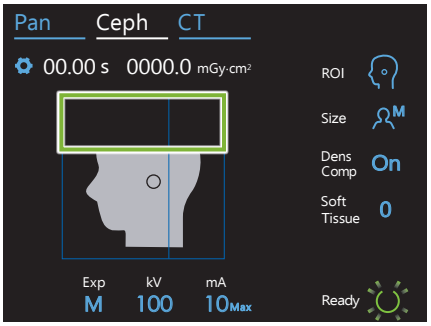
8. Set tube current

Touch the number under “mA” to set the tube current.

It can be set from 2 – 10 mA in 1 mA increments.

- 10 — Current Setting
- \+ — Increase
- − — Decrease
- mA Ok — Set

Patient Size	C	S	M	L
Estimated Tube Current [mA]	6	8	10	10



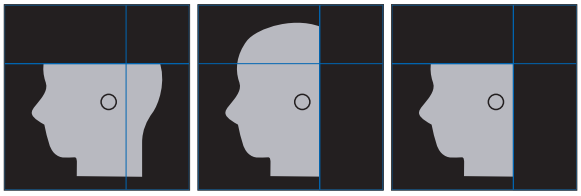
9. Select areas to cut

*** Lateral and PA only, as necessary.**

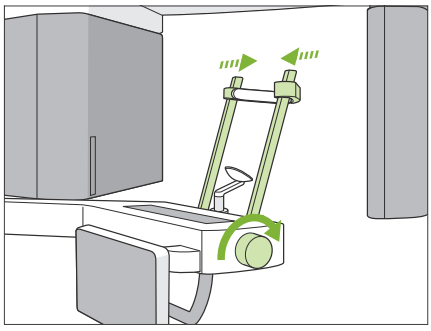
To reduce the patient's X-ray dosage, no X-rays will be emitted to selected areas.

Touch the rectangular areas in the cephalo image to make them black and stop them from being exposed to X-ray emission. Touch an area again to restore it to original and allow X-ray exposure.

Lateral

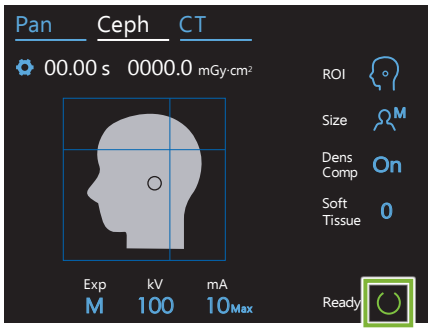


PA



10. Check temporal stabilizers

Check that the temporal stabilizers used for panorama exposures are completely closed.



11. Touch Ready key

Touch the Ready key.

The X-ray head will turn to its cephalo direction and the arm will automatically move to its cephalo exposure position.

⚠CAUTION

- Make sure the patient is not near the unit when you touch the Ready key. Otherwise the arm might hit the patient.

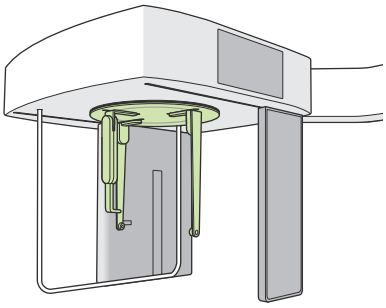
Never move the arm manually. The arm might not be set in the proper cephalo position if it is suddenly moved by hand. Also, it may come into contact with persons in the nearby vicinity when it is moving to its cephalo position. If the arm has been inadvertently moved manually or hits something when it is moving, touch the Pan key. Then touch the Ceph key again and touch the Ready key.

If the temporal stabilizers are not completely closed or if the patient has not left the unit after the exposure, an error message may appear in the control panel.

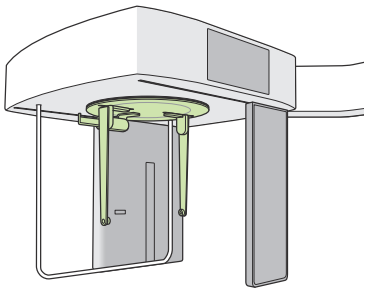
12. Set cephalo head positioner

Set the head positioner at the correct angle for the intended exposure.

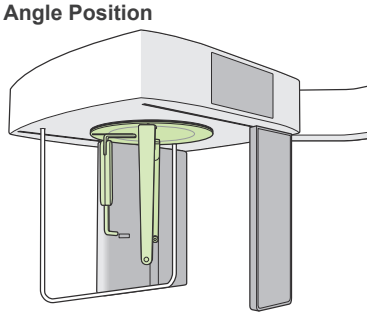
Lateral Position



PA Position

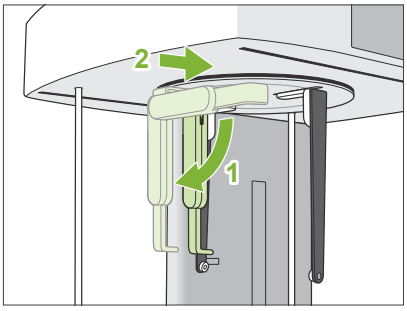


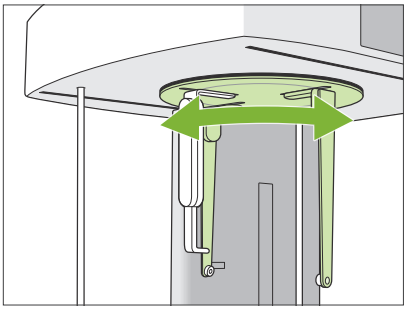
45° Angle Position



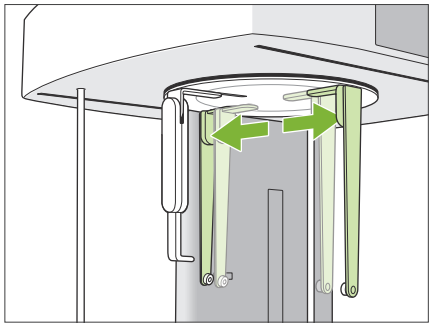
If for a PA exposure, the nasion plate is slid to the outside, something could be damaged. Always put it up as shown in the illustration.

When rotating the head positioner, swing the nasion plate down and move it inside. Hold the ear rod plates at their bases and carefully rotate the head positioner.

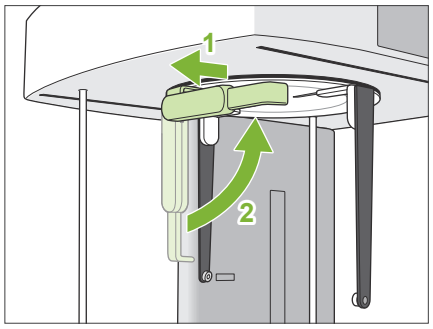




To move the nasion plate, grip it by its base. It could break if it is gripped by the end.



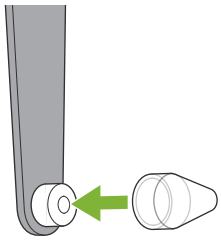
Hold the ear rod plates, one in each hand and open them up completely.



Move the nasion plate to the outside and swing it up.

⚠CAUTION

- When swinging the nasion plate up, swing it in the direction shown in the illustration. Swinging it in the opposite direction will break it.



13. Put ear rods on

Put the ear rods on their shafts.

⚠WARNING

- Disinfect the ear rods and the nasion plate after each use by wiping it with ethanol (70 vol% to 80 vol%). Replace it if it is worn, damaged, or dirty.

4.3.2 Patient Entry and Positioning

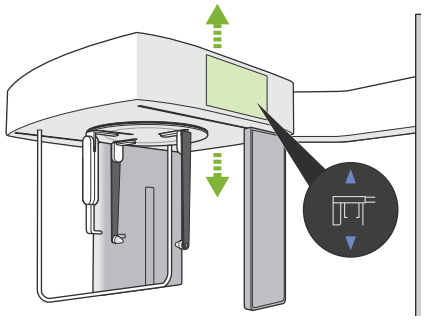
1. Prepare patient

Have the patient wear an X-ray protection apron etc.

⚠CAUTION

- Patient must remove glasses and all accessories like necklaces etc. Otherwise the exposure could fail.
- Make sure the patient's hair cannot get caught in moving parts.

2. Patient entry



Adjust the height of the cephalo unit so that the ear rods are about the same height as the patient's ears.

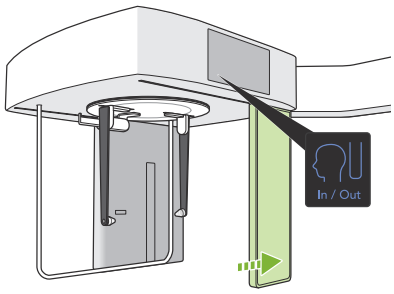
Press and hold the Up and Down switches to raise or lower the unit; release the switch to stop the unit.

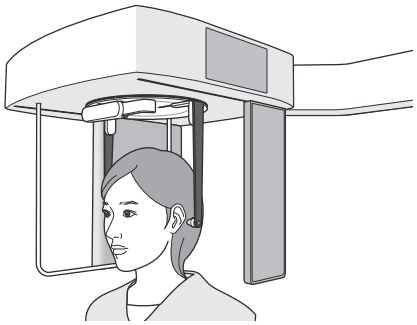
Always use the Up and Down switches to adjust the unit's height. Never try to force it; this would damage the unit.

⚠CAUTION

- Keep fingers away from gaps and openings of moving parts such as the head positioner as well as the holes on the support column.
- When uplift or lowering the cephalo unit and cephalo support, take care that it does not hit the patient.

For PA exposures, touch the In/Out switch. The cephalo slit will move to the rear the patient can easily enter the unit.

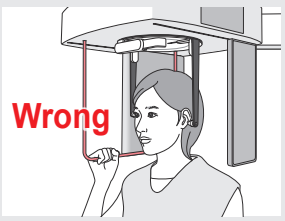




Have the patient stand straight up directly under the head positioner.

⚠CAUTION

- Never let the patient hold onto the patient guard.



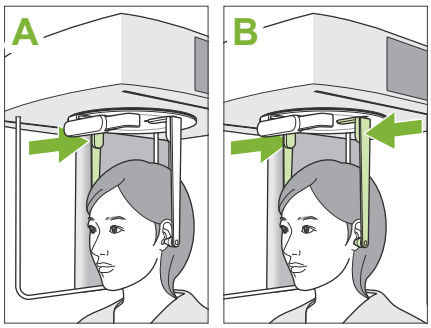
3. Insert ear rods

Use the Up and Down switches to raise or lower the unit so that the ear rods are line up with the patient's outer ear orifice.

⚠CAUTION

- When lowering the cephalo unit and cephalo support, take care that it does not hit the patient.

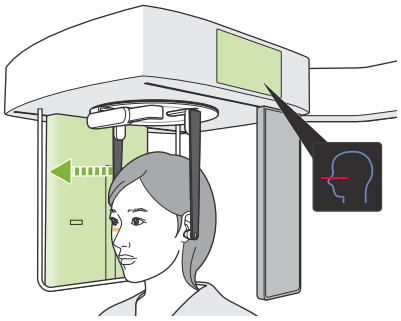
Before inserting the ear rods warn the patient not to move until the exposure is finished.



Insert the right ear rod first (**A**).
Then carefully close the ear rod plates with both hands and carefully insert the left ear rod (**B**).

⚠CAUTION

- Move the ear rod plates very carefully when inserting the ear rods. Do not raise or lower the cephalo unit after inserting the ear rods. Otherwise, the patient could be injured.
- If the patient moves during emission, the detector or the slit might hit him resulting in image distortion or some other exposure failure.

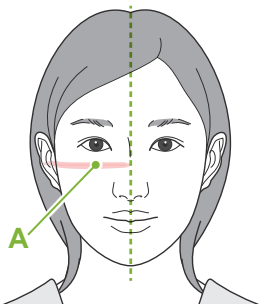


4. Patient positioning

*** Lateral only**

Press the Beam On/Off switch.

The X-ray detector will move and the horizontal beam will light up.

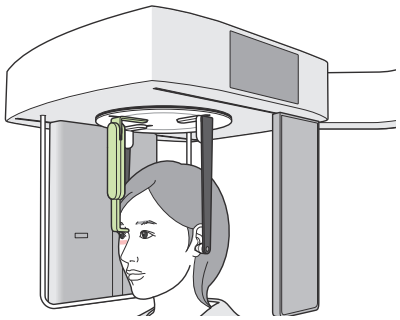


Move the patient's head to line it up with the beam.

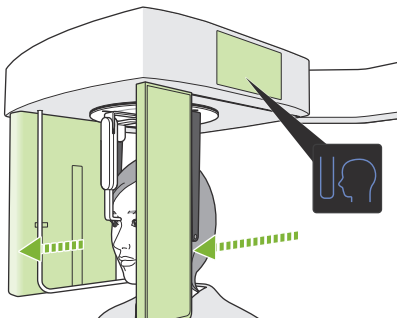
Check that the beam is lined up with the patient's orbitale (**A**) and that the patient's mid-sagittal plane is perpendicular.

⚠WARNING

- The laser beam could damage a person's eyesight; never look directly into the beam and let it strike anyone's eyes.



Adjust the height of the nasion plate and then carefully put it against the patient's nasion.



5. Press Exposure Start Position switch

Press the Exposure Start Position switch.
The detector and the cephalo slit will move to their start position and the unit will go into **Ready state**.

At this time, make sure that neither the detector nor the slit contact the patient.

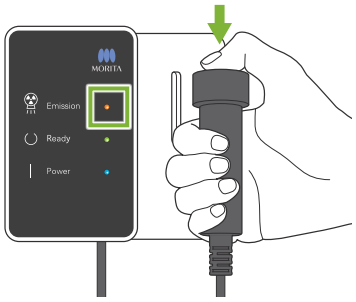
Tell the patient you are going to start the emission with a clear and sufficiently loud voice and then go out of a X-ray room.

4.3.3 Exposure

1. Check ready state

Check that the Ready key on the control panel and the Ready LED (green) on the control box are on.

2. X-ray emission



Hold down the Emission switch.

Emission will start after a few seconds and the cephalo slit will move.

The Emission LED (yellow) on the control box will light up and the melody will sound.

As much as 15 seconds could elapse from the time the emission switch is pressed until X-ray emission actually starts. This is not abnormal. It takes some time for the unit to verify the computer settings.

⚠WARNING

- In an emergency, release the Emission switch or press the Emergency Stop switch. X-ray emission, the detector and the slit will all stop immediately.

⚠CAUTION

- Go outside the X-ray room to press the Emission switch.
- If the operator must stay in the X-ray room for some reason, he should wear an X-ray protection apron and stay at least 2 meters away from the X-ray emission focal point. Also he should stay outside the area exposed to X-ray emission.
- Keep holding down the Emission switch until X-ray emission has been completed. If the switch is released during emission, the exposure will be terminated.
- If X-ray emission has been terminated before completion of the exposure, move the patient away from the unit. Then repeat the patient positioning and the emission procedure.

* It is a good idea to have a mirror for the patient to see himself to help him make sure he does not move.

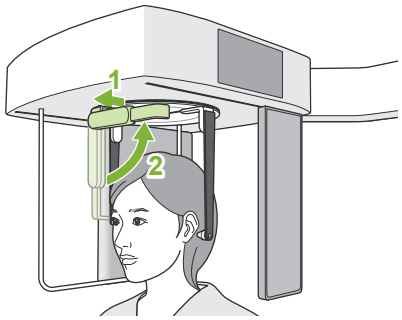
3. Exposure completed

The melody stops when the exposure has been completed.

Release the Emission switch and put it in its holder on the control box.

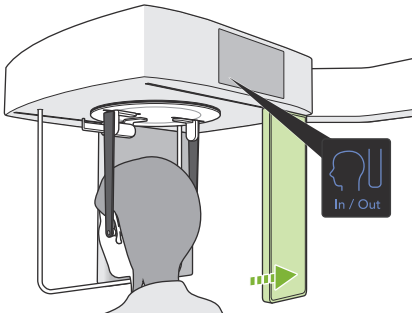
4.3.4 Patient Egress

1. Guide patient away from the unit



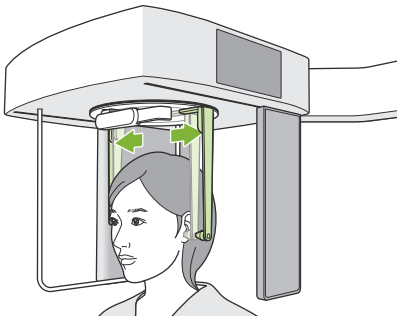
● **Lateral Exposure**

Pull the nasion plate out and then swing it up.



● **PA and 45° Angle Exposures**

Press the In/Out switch to move the cephalo slit to the right edge.



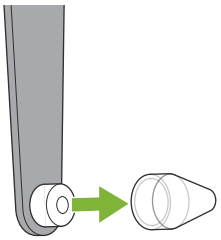
Open the ear rods plates carefully with both hands to retract the ear rods from the patient's ear orifice.

Guide the patient away from the unit.

⚠CAUTION

- Move the ear rod plates very carefully to get the ear rods out of the ear orifice and make sure the ear rods are all the way out. Otherwise, the patient could be injured.

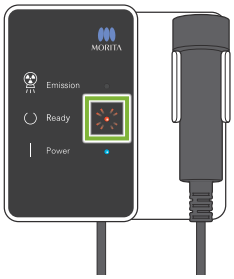
2. Remove ear rods



Remove the ear rods.

Disinfect the ear rods by wiping it with ethanol (70 vol% to 80 vol%).

4.3.5 Image Transmission



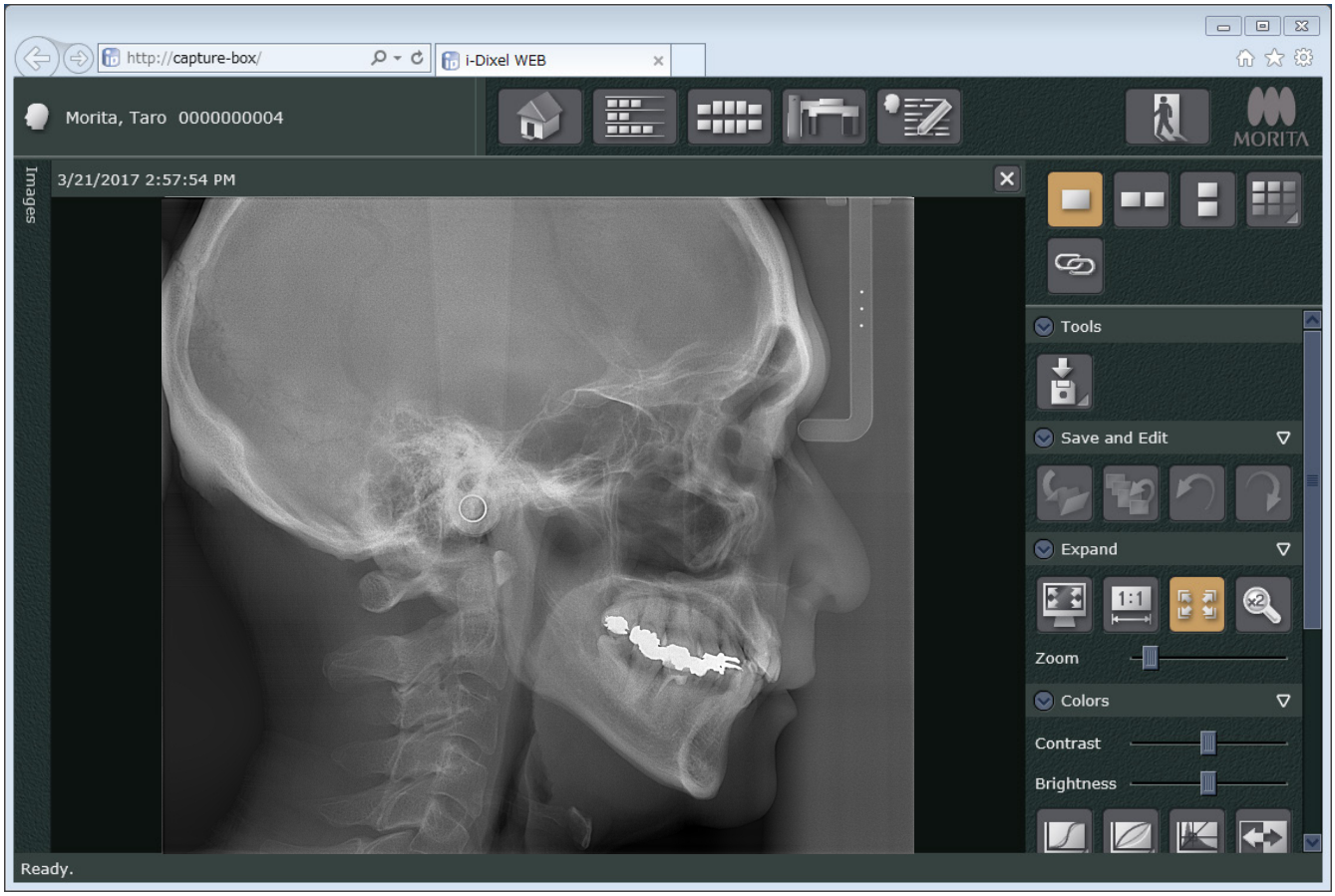
1. Image transmission

After the exposure is completed, the image is sent to i-Dixel WEB.
During transmission, the Ready LED is red and blinks on and off.

2. Image reconstruction

A message will appear in i-Dixel WEB that says “Transferring image!”, and after about 30 seconds the image will appear.
After transmission has been completed, the Ready LED on the control box and the Ready key in the control panel will turn green and blink on and off.

A two-toned beep sound when transmission has been completed and the LED turns green and blinks, but another exposure cannot be made until the image appears in the computer screen.

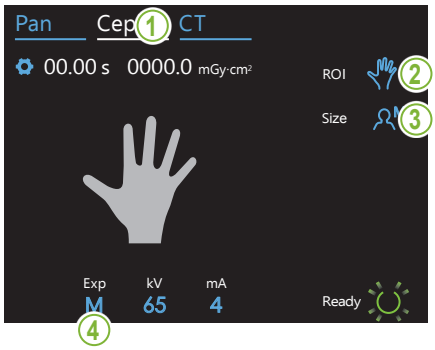


* Automatic density compensation is used for digital exposures to make a better image. However, if some areas of the image are exceptionally dark, the density compensation will tend to make the entire image whiter than usual.
* Horizontal lines divide the image into three parts. These lines are only visible when the image is magnified. These lines are where the 3 sections of the detector are joined and are not abnormal or a sign of a malfunction.

* There are 3 steel balls with a diameter of 1 mm in the center of the nasion plate spaced 5 mm apart.
  For making measurements directly on i-Dixel WEB, the default setting for these is 5 mm, but exported data is magnified 1.1 X.
  These balls can be used to estimate lengths when, for instance, using analysis software etc.

4.4 Hand Exposure

4.4.1 Preparation

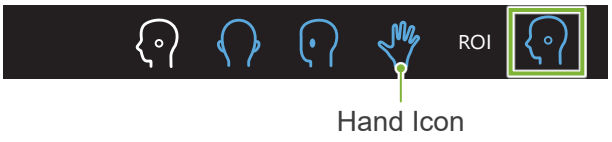


1. Select cephalometric exposure mode

Touch the Ceph key to select the cephalometric exposure mode.

2. Select exposure type

Touch the icon to the right of “ROI” to select the hand.



Hand Icon

3. Select patient size

Touch the icon to the right of “Size” to select the patient size.

Child S M L

4. Exposure setting

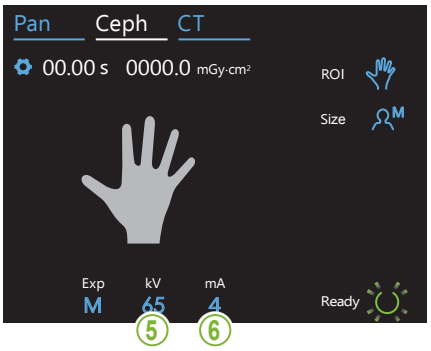
Touch the letter under “Exp” to make the exposure setting.

* The auto feature cannot be used for cephalo exposures.

M — Manual Exposure

Off — No X-ray emission
This is used to observe the movement of the cephalo slit without emitting X-rays.

M — Current Setting

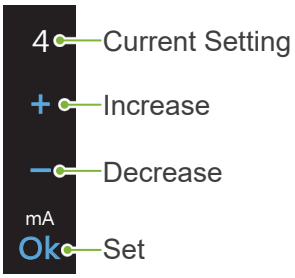


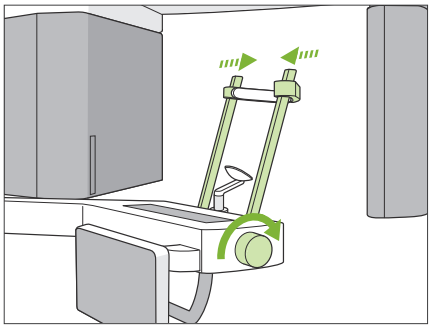
5. Set tube voltage

Touch the number under “kV” to set the voltage.
It can be set from 60 – 100 kV in 5 kV increments.
Estimated voltage: 65 kV (all patient sizes)

6. Set tube current

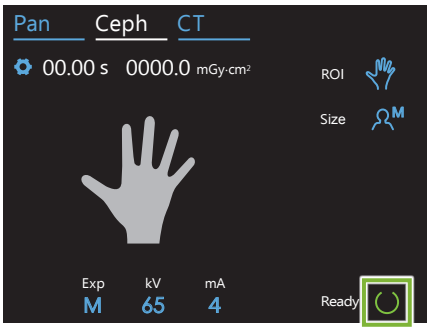
Touch the number under “mA” to set the tube current.
It can be set from 2 – 10 mA in 1 mA increments.
Estimated current: 4 mA (all patient sizes)





7. Check temporal stabilizer

Check that the temporal stabilizers used for panorama exposures are completely closed.



8. Touch Ready key

Touch the Ready key.

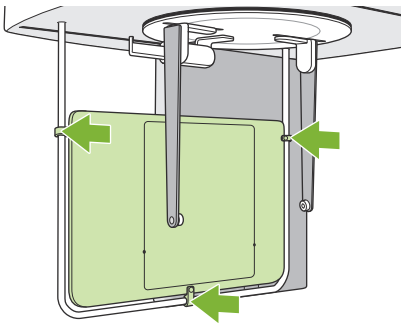
The X-ray head will turn to its cephalo direction and the arm will automatically go to its cephalo exposure position.

⚠CAUTION

- Make sure the patient is not near the unit when you touch the Ready key. Otherwise the arm might hit the patient.

Never move the arm manually. The arm might not be set in the proper cephalo position if it is suddenly moved by hand. Also it might hit the dentist in the shoulder or some other place when it is moving to its cephalo position. If the arm has been inadvertently moved manually or hits something when it is moving, touch the Pan key. Then touch the Ceph key again and touch the Ready key.

If the temporal stabilizers are not completely closed or if the patient has not left the unit after the exposure, an error message may appear in the control panel.

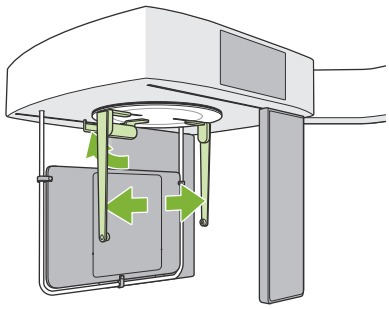


9. Put on hand plate

Put the hand plate on the patient guard.

⚠WARNING

- The hand plate must be disinfected by wiping it with ethanol (70 vol% to 80 vol%) after each patient. If the patient has an open or bleeding wound on his hand, cover the plate with something to keep the plate from being contaminated.

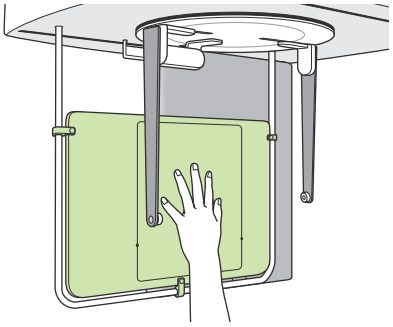


10. Set cephalo head positioner

Set the head positioner in the PA exposure position.

Fold the nasion plate up and open the ear rod plates all the way.

4.4.2 Patient Entry and Positioning

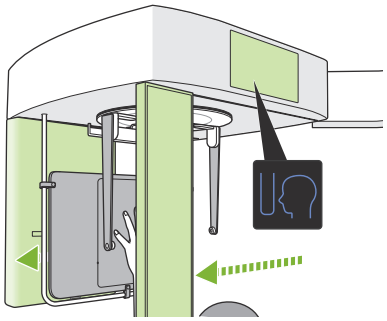


1. Patient entry

Have the patient place his hand inside the rectangle on the hand plate.

⚠CAUTION

- Make sure nothing other than the patient's hand is inside the rectangle on the hand plate.



2. Press Exposure Start Position switch

Press the Exposure Start Position switch.
The detector and the cephalo slit will move to their start position and the unit will go into **Ready state**.

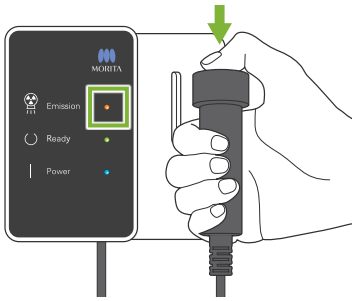
At this time, make sure that neither the detector nor the slit contact the patient.

Tell the patient you are going to start the emission and then go out of a X-ray room.

4.4.3 Exposure

1. Check ready state

Check that the Ready key on the control panel and the Ready LED (green) on the control box are on.



2. X-ray emission

Hold down the Emission switch.

Emission will start after a few seconds and the cephalo slit will move.

The Emission LED (yellow) on the control box will light up and the melody will sound.

As much as 15 seconds could elapse from the time the emission switch is pressed until X-ray emission actually starts. This is not abnormal. It takes some time for the unit to verify the computer settings.

⚠WARNING

- If an emergency occurs, release the Emission switch. Or press the Emergency Stop switch. X-ray emission, the detector and the slit will all stop immediately.

⚠CAUTION

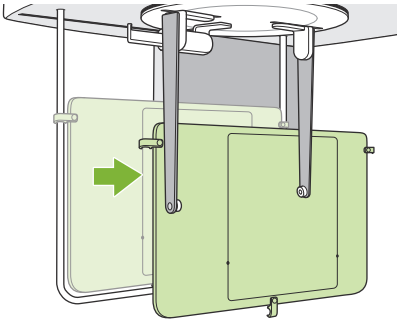
- Go outside the X-ray room to press the Emission switch.
- If the operator must stay in the X-ray room for some reason, he should wear an X-ray protection apron and stay at least 2 meters away from the X-ray emission focal point. Also he should stay outside the area exposed to X-ray emission.
- Keep holding down the Emission switch until X-ray emission has been completed. If the switch is released during emission, the exposure will be terminated.
- If X-ray emission has been terminated before completion of the exposure, move the patient away from the unit. Then repeat the patient positioning and the emission procedure.

3. Exposure completed

The melody stops when the exposure has been completed.

Release the Emission switch and hang it in its holder on the control box.

4.4.4 Patient Egress



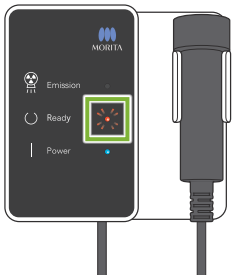
1. Guide patient away from the unit

2. Remove hand plate

⚠CAUTION

- Do not fail to remove the hand plate after the exposure is completed. If a cephalo exposure is made with the hand plate in place, the resulting image will not be good enough for diagnosis.

4.4.5 Image Transmission



1. Image transmission

After the exposure is completed, the image is sent to i-Dixel WEB.
During transmission, the Ready LED is red and blinks on and off.

2. Image display

A message will appear in i-Dixel WEB that says “Transferring image!”, and after about 30 seconds the image will appear.
After transmission has been completed, the Ready LED on the control box and the Ready key in the control panel will turn green and blink on and off.

A two-toned beep sound when transmission has been completed and the LED turns green and blinks, but another exposure cannot be made until the image appears in the computer screen.

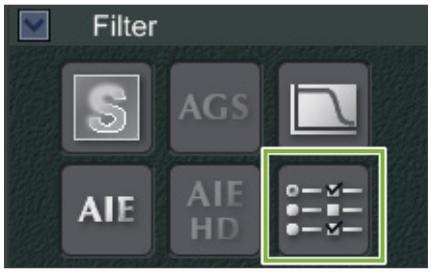
4.5 Cephalo Image Enhancement

If it is hard to identify measurement points in Cephalo images, the Auto Image Enhancement (AIE) software feature of the i-Dixel WEB can be used to identify them more precisely.

4.5.1 AIE (Auto Image Enhancement)

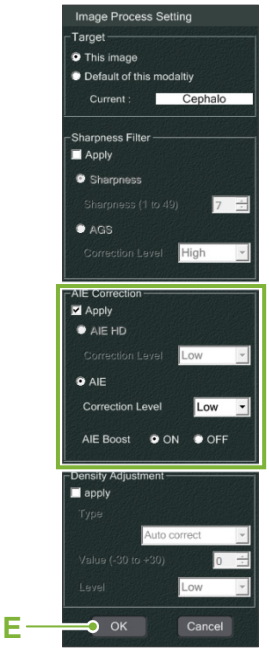
The AIE software feature equalizes the density for panorama and cephalo images and makes them sharper and clearer.

Using and Making Settings for AIE:



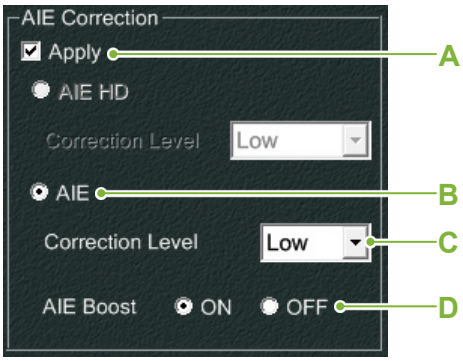
1. Click Settings Button

Display the image in the 2D viewer and then click the Settings button for the Filter category.



2. Make AIE Settings

A panel to make AIE settings will appear. Check the box for Apply (**A**) and select the AIE (**B**). Select the AIE Correction Level (**C**) and select ON or OFF for the AIE Boost (**D**). Then click OK (**E**).



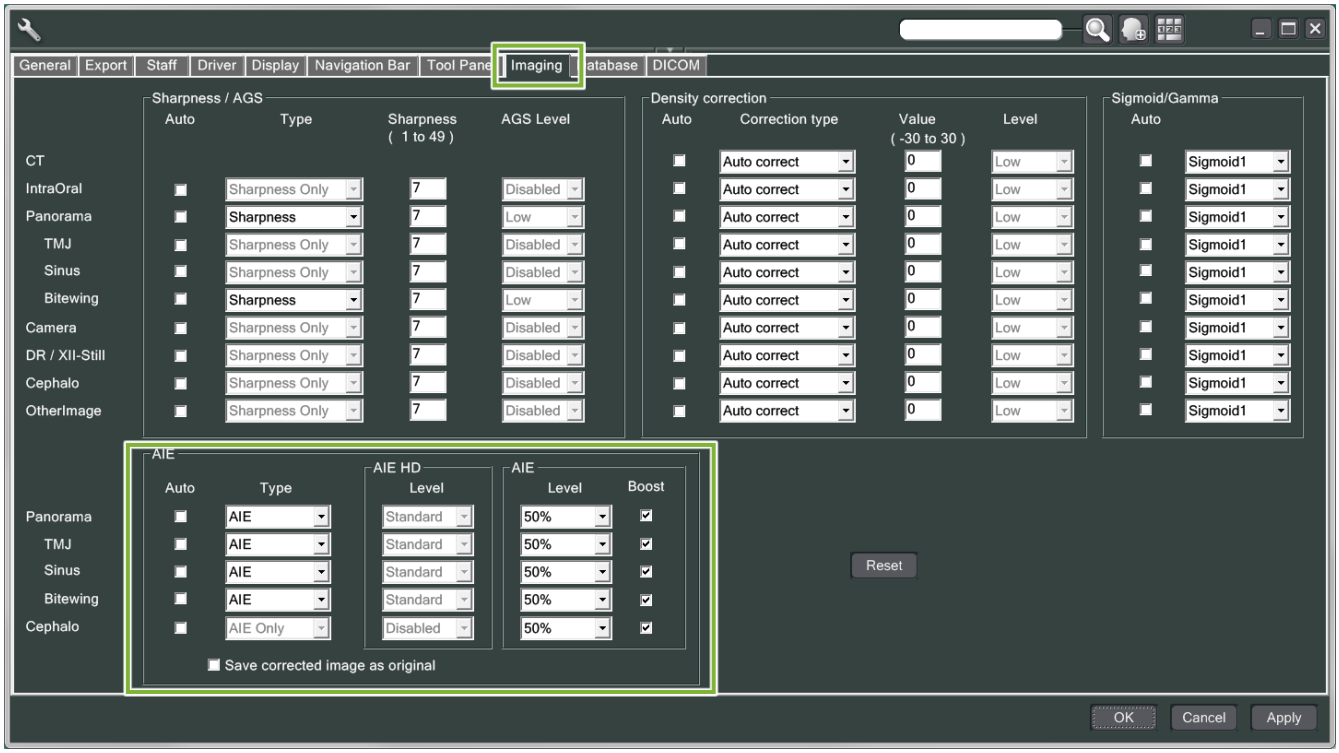
Turning the AIE Boost “ON” will make edges sharper and thus make it easier to identify cephalo measurement points.

3. Click AIE Button

Click the AIE button in the Filter category for the 2D viewer to apply the AIE feature to the image currently being displayed.

● AIE Default Settings

You can make AIE default settings so that the AIE feature is applied to every image automatically. To make default settings, go to the Maintenance page and then click the Imaging tab.



[NOTE]

It may take longer to process images when the AIE function is used, especially in the following cases:

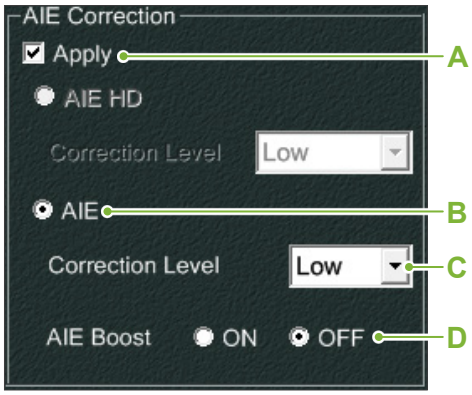
- When there is not much memory available
- When the CPU clock is slow
- If the exposure is made while many image windows are open

Turning the AIE Boost on will increase the contrast and sharpen the image, but, at the same time, it also brings out noise and creates a grainier image. It may also create artifacts on the edges of teeth and prosthetic devices. In other words, AIE Boost has both advantages and disadvantages.

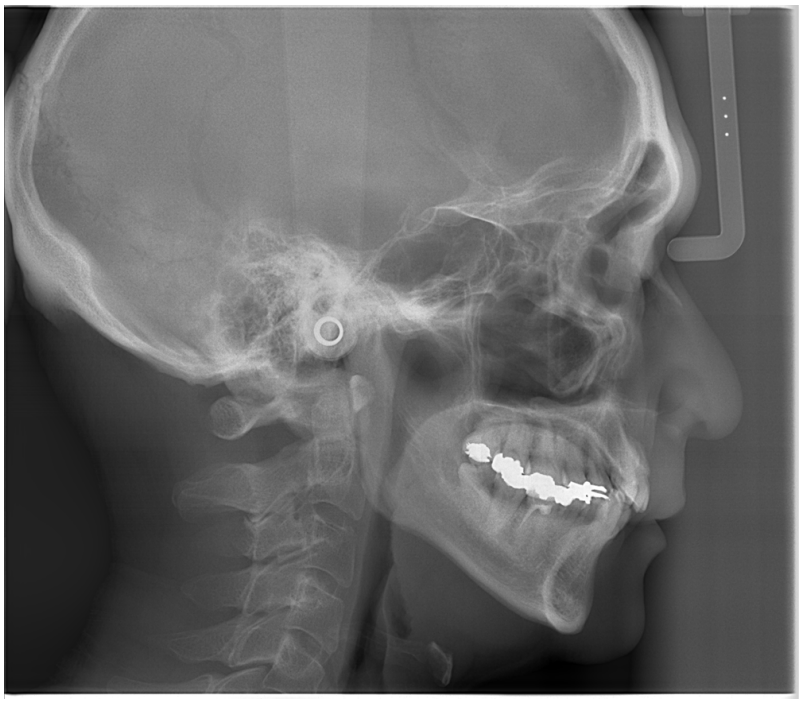
4.5.2 Examples of AIE Images

These examples show the difference between turning the AIE Boost on and off.

Make Measurement Points Clearer



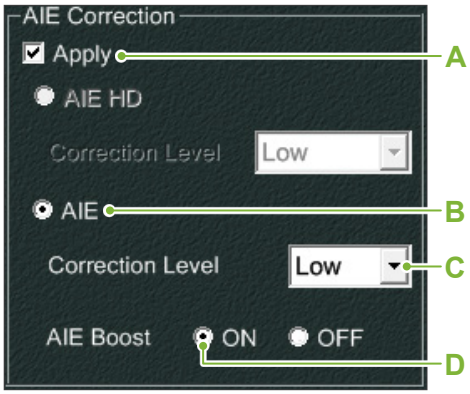
A. Check the Apply box
B. Select the AIE
C. Set the AIE Correction Level
D. Turn the AIE Boost off



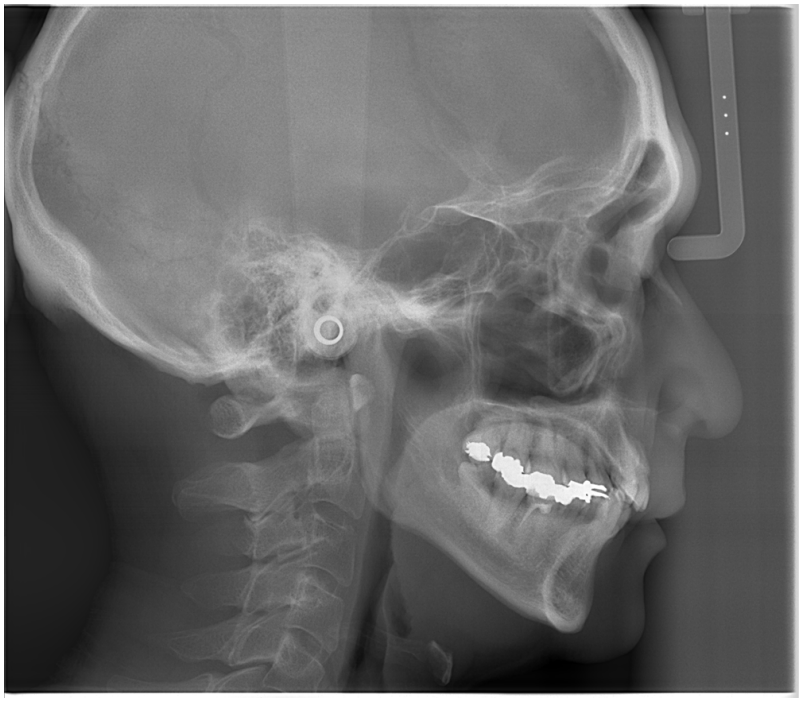
Without using AIE

With Low AIE Correction Level and AIE Boost turned off

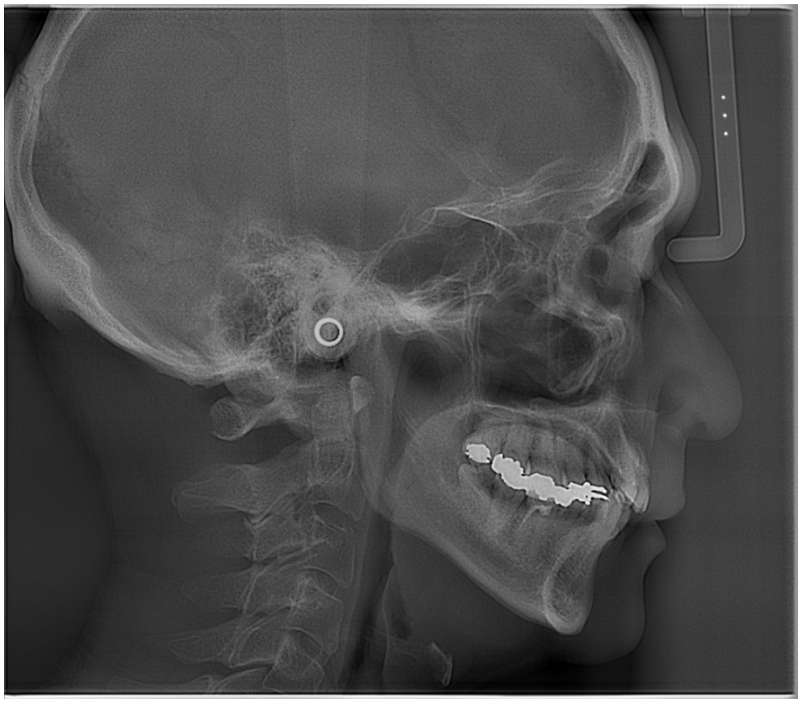
Make Measurement Points Even Clearer



A. Check the Apply box
B. select the AIE
C. set the AIE Correction Level
D. and turn the AIE Boost on



Without AIE



With Low AIE Correction Level and AIE Boost turned on

Horizontal Lines in Cephalo Images

Horizontal lines that seem to divide the image into sections may be visible. These lines are produced by the lines where the three sections of the sensor are joined. They are not due to a malfunction of the Veraview X800 or the i-Dixel WEB.

[NOTE]
Applying the Sharpness Filter will make measurement points even clearer and easier to identify but will also make the image grainier.

4.6 Notes for Exporting Cephalo Data to Analysis Software

Whenever cephalo data is exported to analysis software, calibration must be performed to create compatibility between the cephalo image and the analytic software.

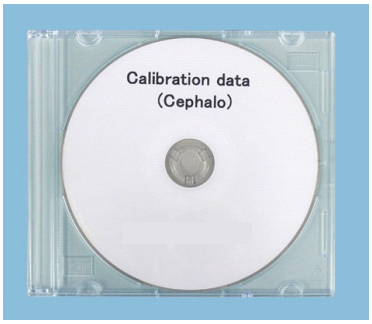
⚠CAUTION

• Accurate measurements cannot be made if calibration is not performed.

* Cephalometric image data is equivalent to 96 µm pixels = (264.58) dpi.

4.6.1 Calibration Data

The calibration data for the cephalo unit is on the CD-R provided:
Chart (264 dpi).jpg.
Keep the calibration data in a handy, safe place.
It is recommend that you copy the data onto your hard drive in a folder named “C:\Program Files\3dxcom”.



CD-R

4.6.2 How to Use Calibration Data

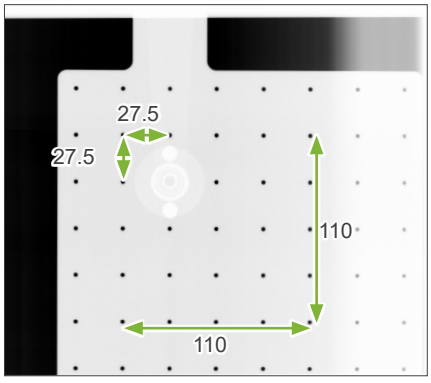
1. Import data

Import the data into your analysis software.

2. Perform calibration

Use the measurements in the chart as reference to obtain the calibration points and have the program recognize the distance between dots. For example, calibrate the software so that the distance from one cross to the fourth cross away from it is 110 mm.

* For details, refer to the user manual for the analysis software.

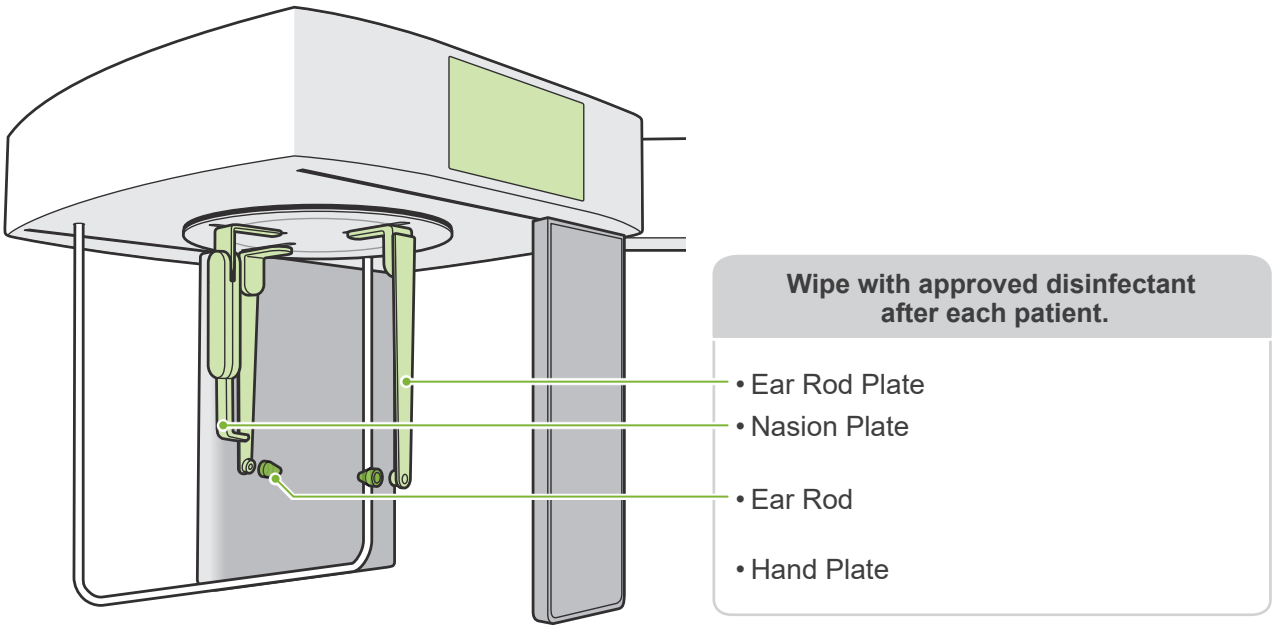


CD-R Chart (264dpi).jpg [mm]

5 Maintenance, Parts Replacement, and Storage

5.1 Maintenance (Cleaning and Disinfection)

Always turn off the Power switch before performing regular maintenance.



Parts to be operated for each patient (i.e., Control Panel, Cephalo Control Panel, Emission Switch) wipe with approved disinfectant once a day or when visibly contaminated.

● Disinfection procedure

If visibly contaminated, wipe with approved disinfectant until contamination is removed, then disinfect. The surface to be disinfected must be exposed to disinfectant for a specified period of time to achieve the disinfecting effect. Follow the product information of the disinfectant manufacturer.

Clean other exterior surfaces regularly.

⚠WARNING

- Do not fail to turn off the Power switch. This will avoid the risk of electric shocks, burns, or accidentally pressing a switch.
- When disinfecting with approved disinfectants, take care that none of it seeps inside the unit. This could damage mechanical parts.

- Wear gloves when cleaning and disinfecting.
- The disinfectant must be soaked in a wiping cloth before use. The disinfectant never be dropped directly on the surface to be disinfected. A microfiber cloth is recommended for better wiping performance.
- Visually check the surface to be disinfected, and if cracks or discoloration occur, change the disinfectant and replace or repair the necessary parts.
- Never use alkaline or acidic solutions, cresol soap, or other chemical solutions to clean outer surfaces. These can cause discoloration and material degradation.
  Use only ethanol (70 vol% to 80 vol%), neutral detergent, or cleaning detergent supplied with the equipment (if supplied with the equipment).
- Use ethanol (70 vol% to 80 vol%) to immediately wipe off any water, detergent or other chemicals that get on the outer surfaces.
- The ear rod plates, nasion plate, ear rods, and hand plate cannot be autoclaved.

● Approved disinfectants

Ethanol (70 vol% to 80 vol%), if it is not possible to obtain use one of the disinfectants listed below; do not use any other type of disinfectant.

- DÜRR DENTAL's FD 322 quick disinfectant
- DÜRR DENTAL's FD 333 forte quick-action disinfection
- DÜRR DENTAL's FD 366 sensitive disinfection of sensitive surface

5.2 Replacement Parts

* Replace the consumables and replacement parts as necessary depending on the degree of wear and length of use. Refer to the Instructions for Use for Panorama and CT, and follow the descriptions in **“12 Service Life, Consumables, and Replacement Parts”**.
* Order parts from local dealer or J. MORITA OFFICE.

5.3 Storage

The Veraview X800 must be stored under specific conditions (ambient temperature range, humidity, and atmospheric pressure range). Refer to the Instructions for Use for Panorama and CT, and follow the descriptions in the **“Transport and Storage Conditions” of “13.1 Technical Specifications”**.

• Do not expose the equipment to direct sunlight for an extended period of time.
• Store ear rods, and hand plate in a clean, uncontaminated area.
• If the unit has not been used for a long time, make sure it works properly before using.

6 Troubleshooting

6.1 Troubleshooting

If the equipment does not seem to be working properly, the user should first inspect the locations described below.

* If the user is unable to inspect the instrument himself or if the instrument fails to work properly after being adjusted or after parts are replaced, contact your local dealer or J. MORITA OFFICE.
* The inside parts of the equipment are charged with high voltage. Do not attempt to perform maintenance or adjustment that is not described in the troubleshooting table.
* If an accident occurs, the equipment must not be used until repairs have been completed by a qualified and trained technician authorized by the manufacturer.

● **Before Inspection and Adjustment**

Check that the Power LED (blue) on the control box is lit.

Symptoms	Possible Cause	Remedies
• Image is too light • Lines in image • White margins are too large • Image is partial • Image is completely black	• Noise • Momentary power interruption	Turn off the Power switch and have the patient leave the unit. Turn on the Power switch again and see if it operates normally. * Make sure the power supply is on a devoted circuit and is AC 100 V, 20 A, minimum. Also the ground line must be sufficiently grounded. Do not use any nearby devices that could produce noise during the exposure.
Uneven density in image.	i-Dixel WEB setting is not right.	Go to the i-Dixel WEB tool bar and adjust this.
Extremely dark areas or the whole image is too white.	Incorrect exposure conditions.	Adjust tube voltage (kV) and tube current (mA).

6.2 Error Messages

Error messages will appear in the control panel when some problem or error is detected.

If the suggested response does not work, contact your local dealer or J. MORITA OFFICE.

Make a note of the error number and report it when requesting help for the company.

The list of error messages is in the separate manual of Panorama and CT.

Diagnostic and Imaging Equipment

Treatment Units

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Endodontic Systems

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Laboratory Devices

Educational and Training Systems

Auxiliaries

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