

i-CAT VISION MANUAL

Raising the Standard of care







CT DENT DENTAL CT IMAGING CENTRE

CT Dent is a leading London based independent imaging centre with over 3,000 dental specialists who use us on a regular basis for their imaging needs.

We provide a flexible online appointment system and walk-in service that offers low dose Cone Beam CT scans at the lowest cost in the UK to dental practitioners.

The i-CAT scanner is the industry leading dental imaging system, which is in use throughout the USA for the past 8 years in all areas of dental speciality. It outperforms all other existing scanning methods and considered the standard of care in implant dentistry.

Cone Beam CT Scanning



- ▶ Low Radiation
- ▶ Minimises Risk
- ▶ Surgical predictability
- ▶ Saves surgery time and reduces cost
- ▶ Decreased medical and legal risks





I-CAT VISION

Is a unique planning software allows you to view, plan, measure, manipulate, print reports, create duplicates (for colleagues/patients) and most important show the actual treatment and assessments to your patients on your computer screen with all of his x-ray images and 3D images. The patient will understand the entire procedure and cannot fail to be impressed by the technology and your detailed assessment.

To watch a tutorial movie for i-CAT Vision visit **www.ct-dent.co.uk**
Then, click 'Formats' followed by 'i-CAT Vision' in the drop-down menu.
Or to schedule a training session please contact us on: **0800 0842 417**

Benefits:

- FREE
- Real time manipulation of images
- Visual chairside tool providing effective communication to the patient
- Facilitates effective treatment planning

i-CAT Vision Features:

- Interactive measurement of all images for surgical implant treatment planning
- Multiple customizable visual display modes available including:
 - Axial
 - Panoramic
 - Cross-sectional
 - Auto loading – installs itself!
 - Easy to use

**THIS SOFTWARE ENABLES YOU TO
MANIPULATE THE DATA FOR YOUR PATIENT
RIGHT ON YOUR OWN COMPUTER SCREEN!**

**To install the software and start using this software
please follow the instructions on the next page.**



INSTRUCTIONS

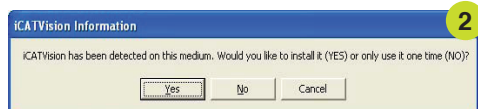
1. Load the supplied cd into your cd reader

- The CD will start automatically
- A "Licensing Terms Agreement" screen appears
- Click the "ACCEPT" option



2. Install the Software

- A screen will appear asking you to accept installation of the the 'iCATVision' software on to your hard drive or to run the software from the CD (Figure 2). If this is the first time that you have used iCATVision, it is suggested to install the software.
- A screen appears asking you to accept the location of the installation. (Figure 3).
- Click "OK"





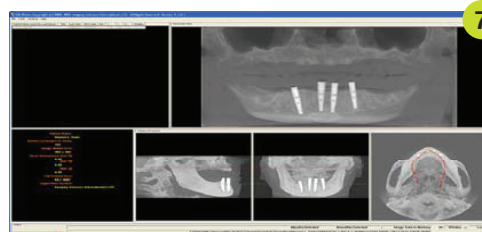
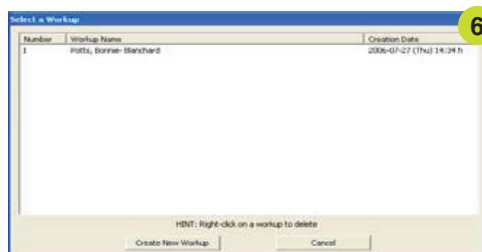
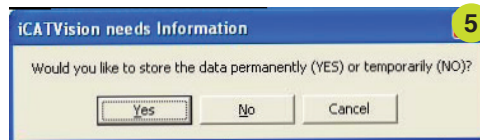
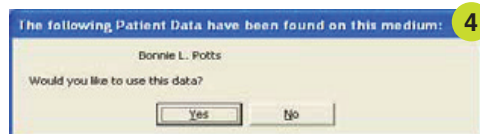
4

3. Open the patient file

- a) Once installed the “iCAT Vision” software will access the patient DICOM files and request that you to access these files (Figure 4).
- b) Click “Yes” icon on the desktop to launch the program.
- c) Then the “iCAT Vision” software will ask if you only wish to read the patient data from the disc (click “No”) or wish to load the patient data onto your hard drive (click “Yes”).

We suggest that if you wish to have access to the data every time iVision starts that you click “Yes” so that the data is stored permanently (Figure 5).

- d) Next a screen will be displayed (“Select a Workup”) requesting loading of a plan for the specific patient accessed (Figure 6).
- e) Highlight the name by clicking on the name of the plan (usually developed by the referring OMF Radiologist) to access the patient file. (Figure 7)
- f) A preview screen will now launch from which you can alter the display of the patient data.

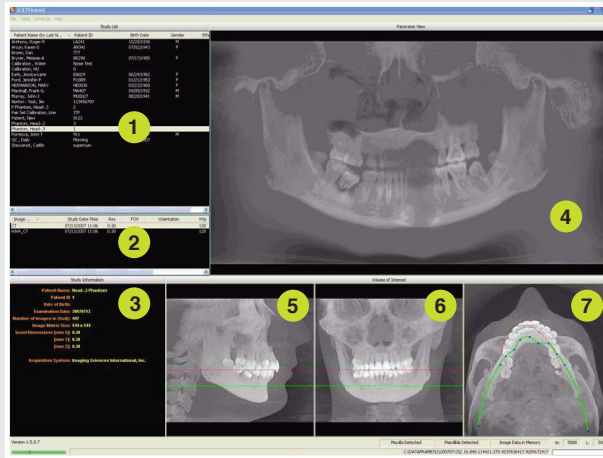




Navigating the i-CAT® Interface

This guide shows you how to:

- View reconstructed images
- Use main features and tools to optimize an image



Reminder

Images are displayed as if you are looking at the patient from the front.

To display patient image

- 1 Click Patient Name
- 2 Click Patient Scans

Displayed Views

- 3 Patient study info
- 4 **Panoramic view**
> Opens to **implant** screen
- 5 **Sagittal view**
> Opens to **ortho** screen
- 6 **Coronal view**
> Opens to **MPR** screen
- 7 **Axial view**
> Opens to **TMJ** screen

Measurements - HU Statistics

(Bone Density) Right click a view and select '**HU Statistics**'. Drag and click to define an area. Statistics appear in upper right corner. A maximum of 4 HU stats can be taken at a time in a normal view and 2 in a cross section view.

Measurements - Distance

(Linear Measurement) right click a view and select '**Distance**'. Point, click, drag, and release to draw a line. A measurement in mm appears in the upper left corner. A maximum of 9 distance measurements can be taken at a time in a normal view and 4 in a cross section view.

Right click and select "**HU Stats**" or "**Distance**" again to turn the tool off.

Right click the actual measurement statistic to remove, inactivate, or activate them.

Cursor Tools



Rotation tool - hover cursor over the lower right corner of the desired view. Cursor changes to the rotation tool.



Brightness / contrast tool - drag cursor up, down, left, and right to adjust brightness and contrast.



Mip/radiograph - the system software enables displaying images as mip or radiograph. Move cursor to the top right of any image. The cursor becomes an 'M', toggle a selection.



Maxilla and mandible contour lines - can be repositioned with a click and drag to the desired location



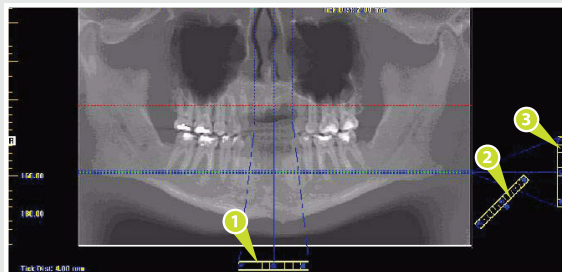
Pan Tools

Horizontal Tool Bar

Drag this center tool left to right to move the slice location of the Cross Sections. The center slice is outlined in Blue on the Cross Sections.

- Drag the tool to the right to adjust the slice thickness of the Cross Sections.

Panoramic Map



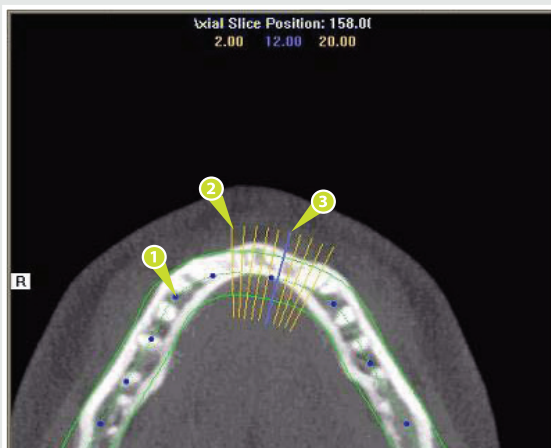
Diagonal Tool Bar

- Drag this tool to adjust slice thickness of Panoramic View.
- Drag the center tool to adjust Pan Focal Trough.
- Click the bottom tool to change the Pan view from Radiographic to MIP.

Vertical Tool Bar

- Drag this center tool up or down to adjust height of anatomy viewed in the Cross Sections and Axial.

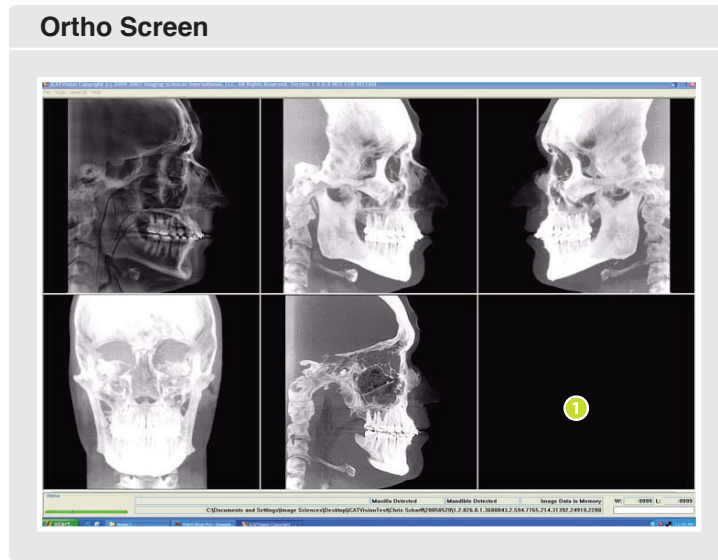
Axial Slice Position



Axial Tools

- Drag blue dots to adjust Pan Map.
- Orange hash marks are Slice Location Indicators.
- Blue hash mark represents the centerline of the axial slices displayed on the Cross Section views.





1

Right click blank screen and select 'Tag Airways'. This generates a 3D view of the airways for the patient in the blank view.

In addition, the tagged airway data is displayed in the view at the bottom center of the Ortho screen.

Displayed Views

The Ortho Screen displays the Lateral Ceph in Radiographic and MIP mode as well as a Coronal View and a Mid Sagittal Slice (15mm thick).

Cursor Tools

All views have Brightness/Contrast, Zoom and Pan.

Pop-up Menus

Right click to display the Pop Up menu to select:

- Set Filters
- Save as JPEG
- Open Output Folder

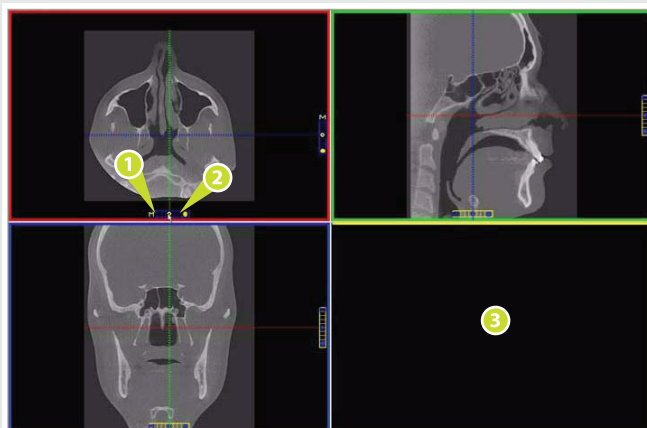
Reminder

Ortho Screen is acquired by double clicking Sagittal View from Preview window.



8

MPR Screen



Reminder

MPR Screen is acquired by double clicking Coronal View from Preview window

1

Drag center tools from any view to move slice location. The views are color coded to correlate which view will adjust.

- 2 Drag tool to the right for horizontal and bottom for vertical bars to adjust slice thickness of the corresponding color coded view.
- 3 Right click any of the 3 views and select Irregular, Line, or Explore for additional cut planes to be displayed in the blank area.

Displayed Views

The MPR Screen allows you to scroll through the Axial, Sagittal, and Coronal Slices.

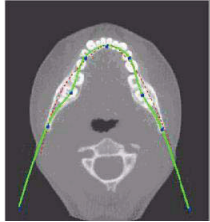
Cursor Tools

All views have Brightness/Contrast, Zoom and Pan.

Pop-up Menus

Right click to display the Pop Up menu to select:

- Irregular
- Line
- HU Statistics
- Explore Speed
- Set Filters
- Save as JPEG
- Open Output Folder
- Reset Volume Rotation
- Distance



Suggestions for Adjusting Panoramic Map

Start adjusting the Panoramic map from the Preview Screen. It is recommended to center the anterior point at midline and then move the next two points up closer to the anterior point on each side. Place them a few teeth away from anterior center. Then move the next two points closer to the molars.

Filtering Defaults

There are already filters applied to all images. The filters are defaulted as seen below.

- 1 Preview Screen: **Hard** all images.
- 2 Implant Screen: **Hard** all images.
- 3 TMJ Screen: **Hard** for first 3 and **Normal** for Condyle Ortho Images.
- 4 MPR Screen: **Normal** all images.
- 5 Ceph (Ortho) Screen: **Very Sharp** for Upper Left Right Lateral & **Hard** for others.

These defaults can always be changed by clicking **Tools > Filter Settings > Set Filters**. They can also be changed “on the fly” by right clicking an individual image, selecting **Filter Setting > Set Filter** and clicking the desired option (Smooth, Normal, Hard, Sharp, Very Sharp). They can be changed back to the default by clicking **Tools > Filter Settings > Reset to Default**.

Removing Circumference Artifact

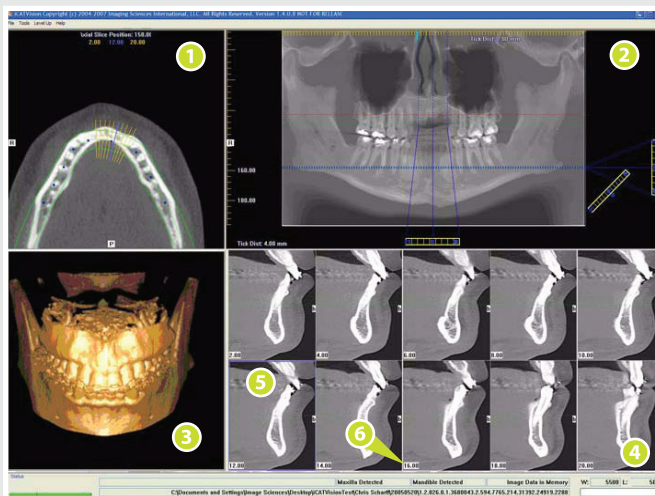
Circumference Artifact are seen visually in the Preview Screens as horizontal lines in the Coronal and Sagittal images and a white partial circle around the axial image. This can be removed from the dataset by right clicking the screen and selecting **Remove Data Outside of Center Scanfield**. The data re-calculates and the image is displayed without that artifact.

Saving and Loading Workups

Created plans can be saved for retrieval. When a plan is changed and an attempt to exit or switch patients is made, iCATVision prompts to save the workup. To save the workup, click Yes. A window is displayed to **Create New Workup**. Click this button and enter a new title for your workup or choose an existing workup name (if one) from the list to overwrite. Once the workup is named, click **OK** to save.



Implant Planning Screen



Double click an individual Cross Section to zoom in.
Double click again to reduce to original size.

Reminder

Implant Screen is acquired by double clicking Panoramic View from Preview window

Displayed Views

- 1 Axial slice position
- 2 Panoramic map
- 3 3D model
- 4 Cross sections
- 5 Center slice is outlined in blue
- 6 Slice location number

Labels:

The following labels on the images help clarify the orientation of the anatomy:

- R: Right Side (Axial, Pan)
- B: Buccal (Cross Sections)
- P: Posterior (Axial)

Cursor tools:

- All views, except the 3D Model, have Brightness/Contrast, Rotate, Drag, Zoom and Pan. 3D Model only has Rotate.
- **Back Tool:** to exit out of a planning screen back to the Main Display, move cursor to the very top left corner of screen until 'X' is displayed and click. Or click the **Level Up button** on the Main Menu bar.

Pop up Menus

Right click cross section views to display the Pop Up menu to select:

- Display Formats : The default is 5 x 2. The other options are 7 x 3 and 3 x 1. Nerve Canal detection is not yet functioning.
- HU Statistics
- Distance
- Set Filters
- Open Output Folder
- Save as JPEG



THE IMAGING SYSTEMS WE USE

The i-CAT™ scanner is specially designed for dental use and its technology is known as Cone Beam CT (CBCT). It is non-invasive, comfortable, safe, quick, precise (accuracy up to 0.1mm) technique with amazing results guaranteed.

What is CBCT Scanning?

Cone Beam CT provides high resolution, volumetric images that provide complete three-dimensional views of critical anatomy for more thorough analysis of bone structure and tooth orientation. Cone Beam CT delivers accurate scans with images comparable to medical CTs with a lower radiation dose, in-chair patient positioning (as opposed to a tunnel) and quicker scan times.

Cone Beam CT is different from typical dental X-rays that focus on a small area to produce flat, 2D pictures. 3D Cone Beam images provide more complete, accurate, and visual images to study your case with greater accuracy and less radiation than ordinary medical CT machines. 3D Cone Beam images can be duplicated and are always stored in case they are needed in future.

This allows dental specialists to dramatically enhance their patient care in a variety of ways.

“3D Cone Beam images provide more complete, accurate, and visual images to study your case with greater accuracy and less radiation than ordinary medical CT machines.”





MAIN APPLICATIONS OF CT IMAGING:

Dental Implants: 3D CT scans allow the surgeon and restorative dentist to optimally plan and place dental implants. Their uses and benefits are present throughout the continuum of care from diagnosis to treatment to post-op examinations.

Orthodontic: Improve orthodontic diagnosis and treatment by providing the multiple projection perspective necessary to accurately assess tooth relationships and further support the objective interpretation of anatomy.

Impaction: CT delivers precise 3D views of impacted molars within the alveolar bone, location relative to adjacent teeth, and proximity to vital structures, such as the nerve canal, sinus walls, and cortical borders.

Analysis: CT detects and evaluates problems before they become serious by accurately measuring bone and jaw deformities, assessing bone lesions and changes of the jaw, and detecting other pathologies, such as cysts, tumours, and disease.

Air Way assessment: 3D data enhances airway assessment and can result in reconsideration of the treatment plan if the patient has a typical airway, versus a restricted airway, which may be susceptible to collapse

TMJ: 3D images allow the specialist to view critical structures for complete TMJ analysis and diagnosis clearly showing the condyles and surrounding structures, of bone morphology, joint space, and function all critical to TMJ dysfunction treatment and care.



To watch a tutorial movie for i-CAT Vision please visit:
www.ct-dent.co.uk > formats > i-CAT Vision

The screenshot shows the CTdent website interface. At the top, there is a logo for CTdent (DENTAL IMAGING CENTRE) and a 'Remote Support' button. A navigation bar contains links: HOME, WHO WE ARE, FORMATS, CONE BEAM CT, TESTIMONIALS, ONLINE BOOKING, and CONTACT US. The 'FORMATS' menu is expanded, showing options: I-CAT VISION, PHOTO PAPER, SIMPLANT, IDENT, NOBEL GUIDE, and DICOM FILES. The 'i-CAT Vision' section is highlighted. It features a video player with a play button and a 'YouTube' logo. Below the video, there are three sample images: 'Training Manual', 'Mandible Sample', and 'Maxilla Sample'. To the right of the video, there is a description of i-CAT Vision and a list of benefits.

Call: 0800 0842 417

i-CAT Vision

i-CAT Vision is a unique planning software allows you to view, plan, measure, manipulate, print reports, create duplicates (for colleagues/patients) and, most important, show the actual treatment and assessments to your patients on your computer screen with all of his images and 3D images.

Benefits

- > Free
- > Real time manipulation of image
- > Visual chair side tool providing effective communication to patient
- > Facilitates effective treatment planning

i-CAT vision features

- > Free
- > Real time manipulation of image
- > Visual chair side tool providing effective communication to patient
- > Facilitates effective treatment planning

[Training Manual](#) [Mandible Sample](#) [Maxilla Sample](#)

For assistance or to schedule a training session please contact us on:

0800 0842 417



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