



ImplantMaster

Advanced Technology for Dental Implants

I-Cat Scanning Protocol



Scanning Protocol for the I-Cat Scanner – For Use with ImplantMaster

General

This protocol is written specifically for users of I-CAT cone beam CT scanners.

- Patient Scan – with the template firmly fixed in the patient’s mouth, as instructed by the dentist.
- Dual Jaw Scans (where necessary): mandible and maxilla must be scanned separately.
- Radiographic Template Scan – template alone in the Styrofoam holder provided by iDent.
- Remove metallic objects such as jewelry and metal prostheses.

I-Dent Scan Parameters

Use one of the following **iDent Protocols** installed on your I-Cat scanner:

- IDENT Maxilla 6 cm
- IDENT Mandible 6 mm

If the iDent protocol has not yet been installed, please use the following settings:

- Voxel: 0.4
- Medium scan height
- Scan time: 20 seconds



Do NOT use the 10 second or 40 seconds scan

Patient Preparation, Positioning and Scanning

- a) **Template Positioning:** Ensure that the template is fixed and stable in the patient's mouth. The technologist should not perform the scan if the template does not fit easily and soundly in the patient's jaw – contact the dentist.
- b) **Patient Positioning:** The patient and the template should be motionless during the scanning procedure. In order to ensure this, the patient's head should be firmly attached to the Head Holder. If the lower jaw (mandible) is to be scanned, instruct the patient to bite an object such as a gauze pad.

The patient's head should be tilted so as to minimize the interference of the jaw and teeth images with artifacts stemming from metal fillings. A first positioning (before the Pilot scan) should be with the occlusal plane parallel to the scanner light marker. If the pilot scan reveals that the angulation is wrong, then further head tilting should be carried out. Each time that the patient's head is re-positioned, attachment to the head holder should be checked.

Any metal object such as jewelry should be removed from the scanned region.

- c) **Patient Scanning:** The region to be scanned should include all the relevant jaw volume, the template and the teeth. The horizontal marker line should be in center of the region of interest, in order not to miss relevant volume due to accidental patient motion.

Prior to the scan, the patient should be instructed not to swallow. The CT Technologist may wish to instruct the patient to swallow several times before starting the CT scan.

The Template Positioning and Scanning

- a) **Positioning:** The template should be placed in the Styrofoam (Polystyrene) box supplied by iDent, in the same orientation as scanned in the patient's mouth. The template should be positioned on the I-Cat platform similarly to the patient's head position during the patient scan, including the distance to the center of the FOV, the angle and the orientation.

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- b) **Template Stability:** Ensure the stability of the template, using either the wide or the narrow slot in the Styrofoam box.



Never place the template in a vertical position.

Data Export

- a) **Classic I-Cat:** Save **Recon** data in **DICOM 3** multi-file format using the scanner export function.
- b) **I-Cat New Generation:** Export data from the I-Cat Vision software using the **Legacy DICOM plug-in**.



If the Legacy plug-in is not installed, contact the I-Cat support.

Data Saving

- a) Data for each jaw to be saved in **separate data sets (see below)**. The data for each diagnostic template should correspond to the data of the jaw.
- b) Output media: **CD disk**.

CD 1: Maxilla



Patient's scan data



Template scan data

CD 2: Mandible



Patient's scan data



Template scan data