



Dental Printer Calibration

This document is applicable for the following printers:

- Eden260V/260VS/350V/500V
- Connex350/500
- Objet260 ('Connex 260')
- Objet260/350/500

This procedure describes how to calibrate printers using Dental materials only.

Required Tools and Materials

- The relevant software patches for Dental material.
You can download these files from MyStratasys. They are located under *Products > Materials > Dental Materials*.
- Dental jig STL.
You can download this file from MyStratasys. It is located under *Products > Materials > Dental Materials > Dental Printer Calibration*.

Related Documents

Printer installation guide.

Procedure

The procedure in this document has the following general steps:

1. "Preliminary Steps" on page 1
2. "Configuring the Dental Material Parameters" on page 2
3. "Configuring the Model Accuracy Parameters" on page 3

1 Preliminary Steps

1. Install the printer according to the printer installation guide.
2. Disable the screen saver, Windows® updates, power-saving features, etc. on the server computer, as described in the printer installation guide.
3. Uninstall all unnecessary applications from the server computer, after consulting with the customer.
4. Install Objet Studio on the server computer.
5. Install the software patches for the Dental materials on the server computer.

2 Configuring the Dental Material Parameters


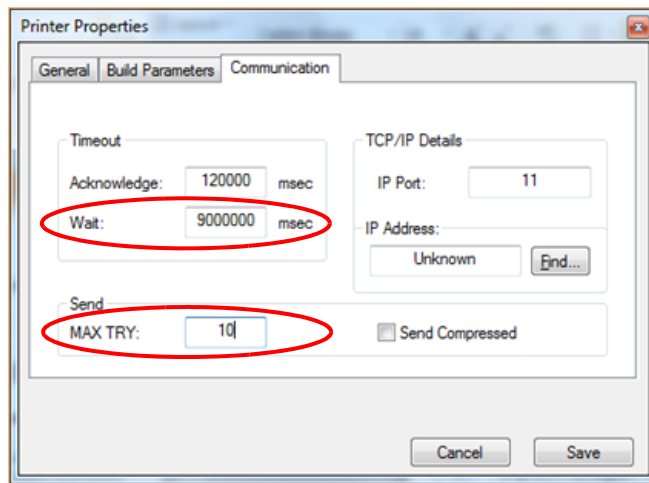
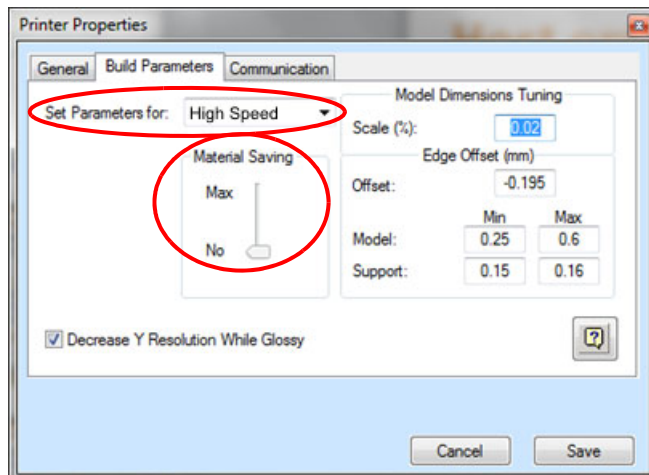
1. In the upper-left corner of Objet Studio, click  or the *File* menu, and select **Printer Properties**.
2. Enter the password. If needed, consult your Regional Technical Specialist (RTS).
3. Select the *Communications* tab, and change the current parameters to the following values:
 - In the *Wait* field, enter 9000000.
 - In the *Max try* field, enter 10.

Figure 1: *Printer Properties* dialog box - *Communications* tab



4. Click **Save**.
5. Select the *Build Parameters* tab.

Figure 2: *Printer Properties* dialog box - *Build Parameters* tab



6. Verify that the *Material Saving* slider is set to **No** for both *High Speed* and *High Quality* modes.
7. Click **Save**.
8. Close the *Printer Properties* dialog box, and open it again to verify that the changes in both tabs were saved.
9. Create a folder on the server computer desktop called **Objet Studio Backup**.
10. Navigate to the following folder, according to the versions below:
 - Objet Studio version 8 on Windows XP:
C:\ProgramFiles\ObjetStudio\Grende\Bin
 - Objet Studio version 9 on Windows XP:
C:\Documents and Settings\All users\Application Data\Objet Studio\Config
 - Objet Studio version 9 on Windows 7:
C:\ProgramData\ObjetStudio\Config
11. Copy the *Objet.ini* file (which contains all of the new parameter changes), and paste it in the *Objet Studio Backup* folder on the desktop you created.

3 Configuring the Model Accuracy Parameters

1. Print the dental jig with a matte surface finish.
2. Remove the finished model from the tray.
3. Clean the model using a waterjet.
4. Prepare a solution of 2% caustic soda (sodium hydroxide).
5. Soak the model for 30 minutes in the above solution.
6. Clean the model using the waterjet again.
7. Dry the model thoroughly, and verify that no Support material remains.
8. Measure the X- and Y-dimensions on each of the 3 cubes using digital calipers, and record the results.
9. Calculate the average of all of the X and all of the Y dimensions, and proceed as follows:
 - If the average values for X and Y are between 9.935 mm and 10.085 mm, the calibration is correct. You have completed this procedure.



For orthodontic labs, the average values for X and Y must be between 9.800 mm and 10.200 mm.

- If the average values for X and Y are greater than 10.085 mm (or 10.200 for orthodontics labs), proceed with the following steps.

- Using Notepad, open the current *Objet.ini* file (not the backup) from the path shown in step 10 above, and search for **Use New Algorithms**.



If there is no *Use New Algorithms* parameter, close the file, and continue with step 13.

- Change the value to 0.
- Save the file and close it.
- Open the *Printer Properties* dialog box, *Build Parameters* tab, as described in section 2.
- Change the *Offset* parameter to -0.13.



If there are no *Edge Offset* parameters displayed, verify in the current *Objet.ini* file that the *Use New Algorithms* parameter = 0. Repeat step 10 through step 14.

- Repeat step 1 through step 9. If additional adjustment is required, continue with step 16.
- Open the *Printer Properties* dialog box, *Build Parameters* tab, and change the *Offset* parameter to -0.15.
- Repeat step 1 through step 9.



If the average values for X and Y are still greater than 10.085 mm (or 10.200 for orthodontic labs), do not repeat the procedure. Contact your Stratasys Regional Technical Specialist (RTS) for further instructions.

