

Calibration and Simulation - **Sample**

In this Advanced Tutorial you will learn how to create and work with calibration and simulation curves.

Duration: You will need approximately 2 hours to complete the lessons in this Advanced Tutorial.

- ▶ Advanced Tutorial Objectives 2
- ▶ Before You Begin 3
- ▶ Contact Us 3
- ▶ About Calibration and Simulation 4
- ▶ Lesson 1: Creating a Calibration Curve 5
- ▶ Lesson 2: Using Test Page Values to Edit a Calibration Curve 9
- ▶ Lesson 3: Editing the Calibration Curve for Yellow 11
- ▶ Lesson 4: Checking Calibration Curve Results..... 14
- ▶ Lesson 5: Mapping Calibration Curves..... 18
- ▶ Lesson 6: Using Mapped Calibration Curves 20
- ▶ Lesson 7: Importing a Calibration Curve..... 23
- ▶ Lesson 8: Creating a Simulation Curve..... 27
- ▶ Lesson 9: Combining a Calibration Curve and a Simulation Curve..... 29
- ▶ Lesson 10: Importing a Data Text File to Create a Calibration Curve.. 32



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Advanced Tutorial Objectives

This Advanced Tutorial is divided into a series of lessons. In these lessons, you will learn how to:

- Create a calibration curve in order to compensate for dot gain on the printing press.
- Enter the measured values from a test page in order to edit a calibration curve.
- Edit the calibration curve for the yellow separation only. You will reset the original yellow compensation values and replace them with the test page values.
- Use a calibration curve, and check its results in a processed document.
- Map a calibration curve: :APOGEE Prepress can automatically select the best calibration curve from one of the maps you create, based on screen type, resolution, frequency, dot shape, paper type and ink set defined in the job.
- Configure :APOGEE Prepress to automatically select the correct mapped calibration curve for the processing of your document, depending on the job settings.
- Import calibration curves in :APOGEE Prepress.
- Create a simulation curve in order to quickly and easily compensate for dot gain for all separations of the output.
- Combine a calibration curve with a simulation curve.

Before You Begin

CAUTION: The lessons in this Advanced Tutorial can only be performed on a Windows platform.

Before you start the lessons in this Advanced Tutorial, make sure that you are logged on to the :APOGEE Prepress System with Administrator access level.

You will also need the following sample files and tickets which are bundled together with this Advanced Tutorial PDF file:

- lesson curve.txt
- measurements.pdf

These files are provided in a single ZIP file, which is available for downloading from the Graphics Portal - Services Library website.

NOTE: While working through the lessons in this Advanced Tutorial, do not forget to replace **studentname** with your own name in the Administration tab.

Check that your imagesetter or platesetter is installed, configured and linearized. In this Advanced Tutorial you will work with the **TIFF Platesetter** as output device.

Make sure that your press is installed and configured. In this Advanced Tutorial you will work with the **Press** as print device.

NOTE: You cannot make calibration curves if the client is installed on a Macintosh computer.

Contact Us

Agfa welcomes your suggestions, questions or comments about this documentation. You can send e-mail feedback to: Apogee@agfa.com

About Calibration and Simulation

About Calibration Curves

A calibration curve is applied to an output device in order to compensate for discrepancies between the desired and the actual output result. In other words, a calibration curve compensates for dot gain and other deviations on the printing press.

About Simulation Curves

A simulation curve is a calibration curve for special needs, e.g. a fast and easy way to compensate for a certain dot gain. It does not contain measured values, only wanted values. In this Advanced Tutorial you will use a simulation curve to increase or decrease the dot gain compensation of the calibration curve.

About Dot Gain

The maximum amount of dot gain that is accepted for a press is 15%. If more dot gain is measured on paper, you should use a calibration curve. Too much dot gain can occur when using special ink, special paper, a special press device or a special screen.

Impact on the Output

Each curve has an impact on the output result. If you use a calibration curve and a linearization curve, both curves will influence the result. Even if you choose a simulation curve, this will influence the output.

LESSON 1: Creating a Calibration Curve

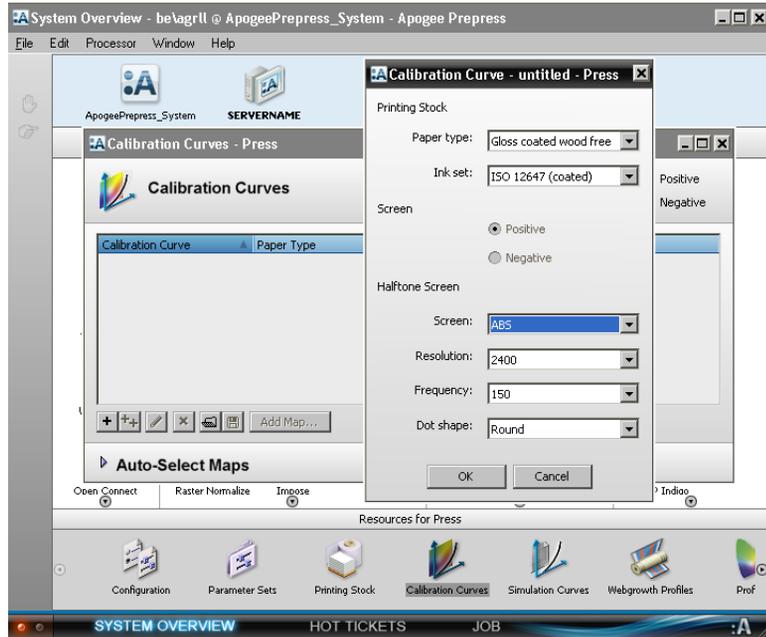
In this lesson you will learn how to create a calibration curve in order to compensate for dot gain on the printing press.

▷ **To create a calibration curve**

- 1 In the System Overview window click the **Press**.
- 2 Double-click the **Calibration Curves** Resource.
- 3 Click **New**.

The Calibration Curve window is displayed.

- 4 In the **Printing Stock** pane set the following:
 - Paper type: Gloss coated wood free
 - Ink set: ISO 12647 (coated)
- 5 In the **Halftone Screen** pane set the following:
 - Screen: ABS
 - Resolution: 2400 dpi
 - Frequency: 150 lpi
 - Dot shape: Round



- 6 Click **OK**.
- 7 In the Create Table window ensure that **Manually** is selected and click **Next**.
- 8 Ensure that the **Standard 31** value is selected and click **Next**.
- 9 Select the **Simulate dot gain** option.

This option allows you to define the amount of dot gain you want on paper. This means that the wanted column will be filled automatically.

- 10 Enter the following values:

- Dot gain: 15%
- Highest dot gain at: 50%

Create Table

Select the values to fill the Wanted column:

Linear (same as Stimuli)
 Simulate dot gain
 Compensate for dot gain

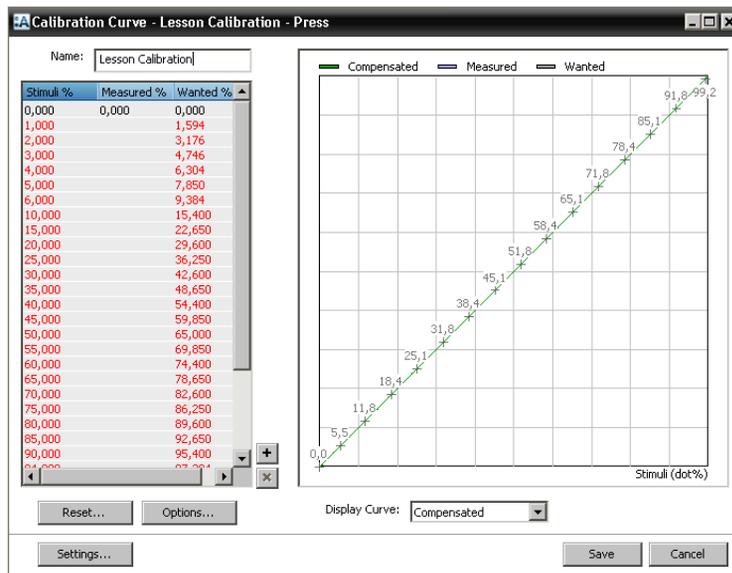
Dot gain: %

Highest dot gain at: %

11 Click Finish.

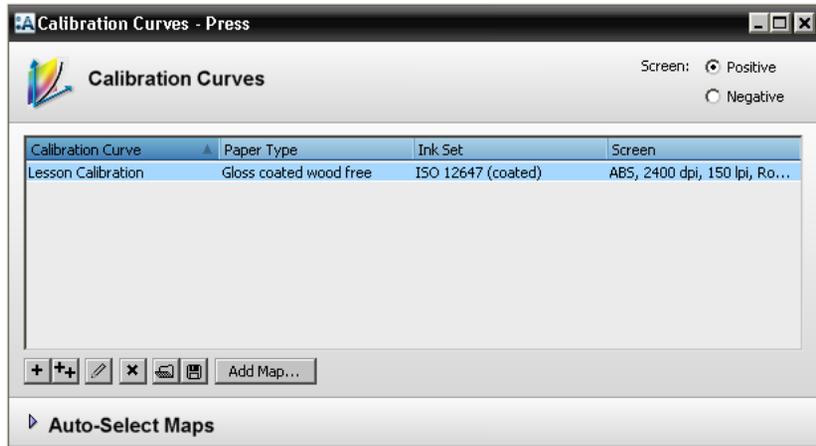
The Calibration Curve window is displayed.

12 In the Name box type Lesson Calibration.



13 Click Save.

You have created a new calibration curve: Lesson Calibration.



14 Close the Calibration Curves window.

LESSON 2: Using Test Page Values to Edit a Calibration Curve

In this lesson you will learn how to enter the measured values from a test page in order to edit a calibration curve.

NOTE: You will find the measured values in the Measurements.pdf sample file.

▷ To enter the measured values

- 1 Open the **measurements.pdf** sample file.
- 2 Take a look at the measured values on the test page.

	C	M	Y	K	3-C
5	8	8.1	7.8	8	
10	16	16.2	15.8	16	
15	23.8	24	23.6	23.9	
20	31.4	31.5	31	31.5	
25	38.8	39	38.4	38.9	
30	45.8	46	45.4	45.9	
35	52.6	52.8	52.2	52.7	
40	58.9	58.9	58.4	58.9	
45	64.8	64.9	64.4	64.8	
50	70	70.1	69.7	70	
55	74.7	74.8	74.3	74.8	
60	78.8	78.8	78.5	78.9	
65	82.6	82.7	82.2	82.7	
70	85.9	85.9	85.5	85.9	
75	88.7	88.8	88.4	88.7	
80	91	91.1	89.7	91	
85	93.8	93.9	93.5	93.8	
90	96	96.2	95.7	96.1	
95	98	98	97.8	98.1	
100	100	100	100	100	



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Black: 70%

- 3 In the System Overview window click the **Press**.

LESSON 6: Using Mapped Calibration Curves

In this lesson, you will learn how to configure :APOGEE Prepress to automatically select the correct mapped calibration curve for the processing of your document, depending on the job settings. After the processing of the job you will check whether the correct curve was used.

▷ To use a mapped curve

- 1 In the Job List, context-click the **studentname-calibration-0001** job and choose **Edit job** from the context menu.
- 2 In the Plan tab click the **Press**.
- 3 Select the **Auto-select from map** check box beside the Calibration drop-down list.

The screenshot shows the 'Plan' tab settings for a job. The settings are as follows:

- Printing | Ink Saving | Finishing
- Paper Type: Gloss coated wood free
- Ink Set: ISO 12647 (coated)
- Border: <None>
- Color Profile: StandardEURO
- Auto-select from map:
- Fallback: <None>
- Calibration: Lesson Calibration
- Auto-select from map: (highlighted with a red box)
- Simulate: <None>
- Web Growth: <None>
- Create InkDrive file:
- After rendering:
- After imaging:

4 Submit your changes.

The job is dynamically resubmitted. The **Lesson Calibration** curve is used because the job matches the following settings:

- Paper type: Gloss coated wood free
- Ink set: ISO 12647 (Coated)
- Screen Type: ABS
- Resolution: 2400 dpi

- ❑ Frequency: 150 lpi
- ❑ Dot shape: Round

▷ To check the correct use of the mapped curve

- 1 When the job is rendered, context-click the **studentname-calibration-0001/measurements** job in the Job List, and choose **Log for Job** from the context menu.
- 2 Click the latest **Render/Resource selection/calibration curve** message.

In the message details you will see that the Lesson Calibration curve was used for calibration.

When	From	Event	Description
14:39:10, 11/06/2009	PDFRender	Resource selection	halftone screen
10:31:06, 12/06/2009	be/agrifl	Job edited	Job edited by be/agrifl
10:31:06, 12/06/2009	be/agrifl	Job Ticket on hold	Job put on hold by be/agrifl
10:32:32, 12/06/2009	be/agrifl	Job Ticket continued	Job continued by be/agrifl
10:32:32, 12/06/2009	be/agrifl	Changes submitted	Changes submitted by be/agrifl
10:32:34, 12/06/2009	PDFRender	Job edited	Job edited by PDFRender
10:32:34, 12/06/2009	PDFRender	Job edited	Job edited by PDFRender
10:32:39, 12/06/2009	PDFRender	Color Management	Input Color Management for measurements.pdf Page 1
10:32:39, 12/06/2009	PDFRender	Resource selection	resolution
10:32:39, 12/06/2009	PDFRender	Resource selection	calibration curve
10:32:39, 12/06/2009	PDFRender	Resource selection	halftone screen

10:32:39, vrijdag 12 juni 2009
PDFRender - Resource selection - calibration curve

Used calibration curve Lesson Calibration for measurements.pdf Page 1

- 3 Close the Job Log window.
- 4 In the Job List context-click the **studentname-calibration-0001/measurements** job and choose **Edit Job** from the context menu.



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LESSON 10: Importing a Data Text File to Create a Calibration Curve

You can import a text file of data to create a calibration curve. This seems to work fine if there is a “single curve for all colors”. You can import files with measurement data for cyan, magenta, yellow and black separately and thus combine them to one calibration. You will still have a separate curve for each color.

▷ To import the text files

- 1 In the **System Overview** window, click the **Press** Task Processor.
- 2 Double-click the **Calibration Curves** Resource.
- 3 Click the **New** button (+).

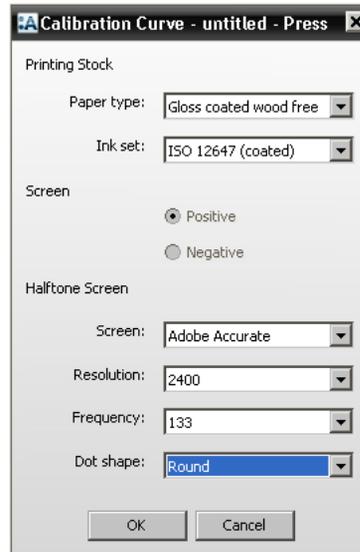
The **Calibration Curve** window is displayed.

- 4 In the **Printing Stock** area, set the following:

- Paper type: Gloss coated wood free
- Ink set: ISO 12647 (coated)

- 5 In the **Halftone Screen** area, set the following:

- Adobe Accurate
- Resolution: 2400
- Frequency: 133
- Dot shape: Round



- 6 Click **OK**.
- 7 In the **Create Table** window, select **Import from file** and click **Next**.



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- 12 In the **Table Options** window, click the **Inks** tab.
- 13 In the **Measurements** list, click **One set per ink**.