

## How To – Create a Gradation Curve

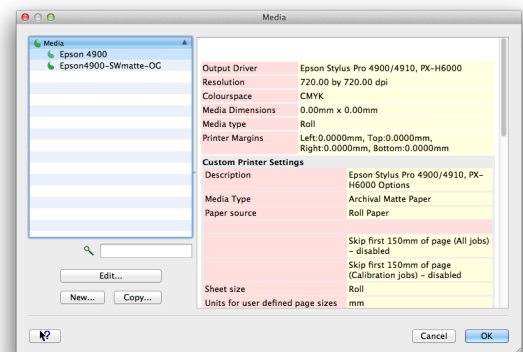
A Gradation Curve is used to adjust the output colour of a job by applying a curve to the individual process colours. A Gradation Curve can be applied to a Media either as a Linearisation Curve or as a Correction Curve.

A Linearisation Curve is the most common form of Gradation Curve used and is almost always applied to a Media as part of the calibration process. Linearisation Curves are created by printing and measuring linearisation charts using a supported spectrophotometer and the Lineariser Application (see the product manual and calibration guide for details).

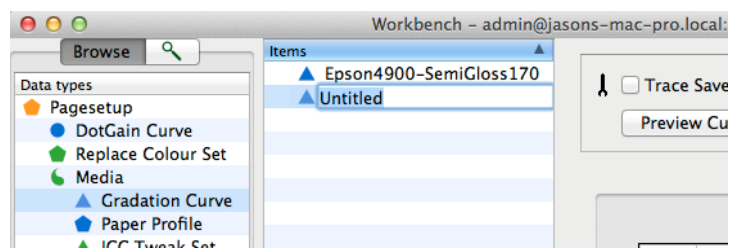
A Correction Curve is applied to Media if a small amount of fine-tuning is required after normal calibration procedures. Gradation Curves used for colour correction can be created manually by a click-and-drag method, by entering individual input and output points or by entering values into a Gradation Table.

### To make a Gradation Curve

1. Open the Workbench Application.
2. Select *Gradation Curve* from the Workbench Data Types list.
3. Create a new curve by choosing File menu > New.
4. Select the Media to which the Gradation Curve will be assigned from the chooser.

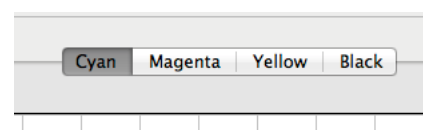


5. Enter a name for the curve by typing in the highlighted "Untitled" name field in the Items list. Press Enter.
6. Open the Gradation Curve toolbar (spanner icon).
7. Use any of the methods below to make a DotGain Curve.

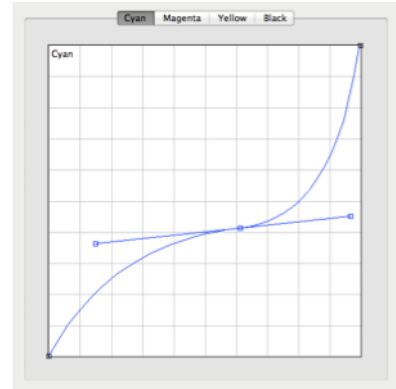
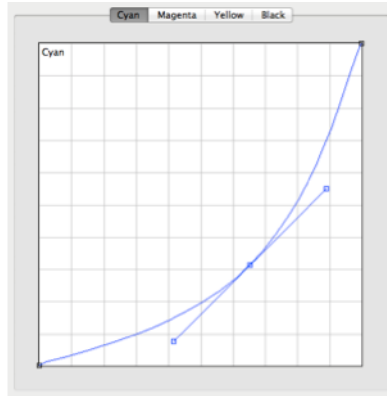
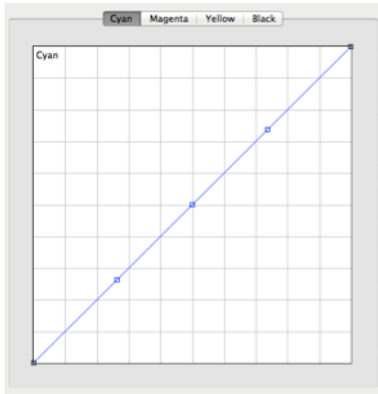


### Click and Drag

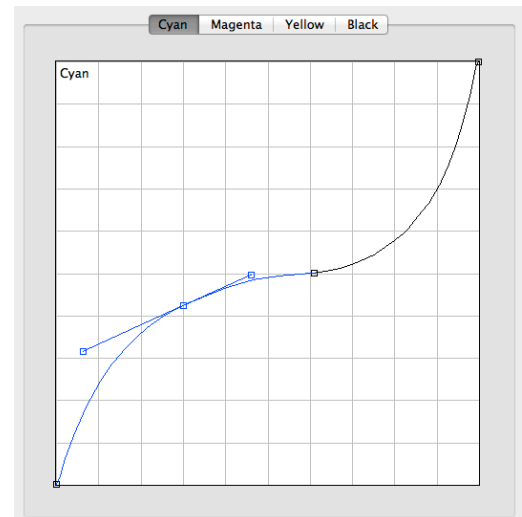
1. Select the specific Output colour channel to which the curve will apply from the available channel Tabs.
2. New curves are displayed as a straight line (linear, with no effect on output colour). Left-click on any point of the curve and drag the curve to the desired shape.



- The curve produced is a Bezier curve. A line with a handle at each end passes through the anchor point on the curve.
- Dragging each handle alters the curve at the anchor point. Increasing or decreasing the handle distance from the anchor point smoothes or sharpens the curve shape on either side of the anchor, which remains fixed.



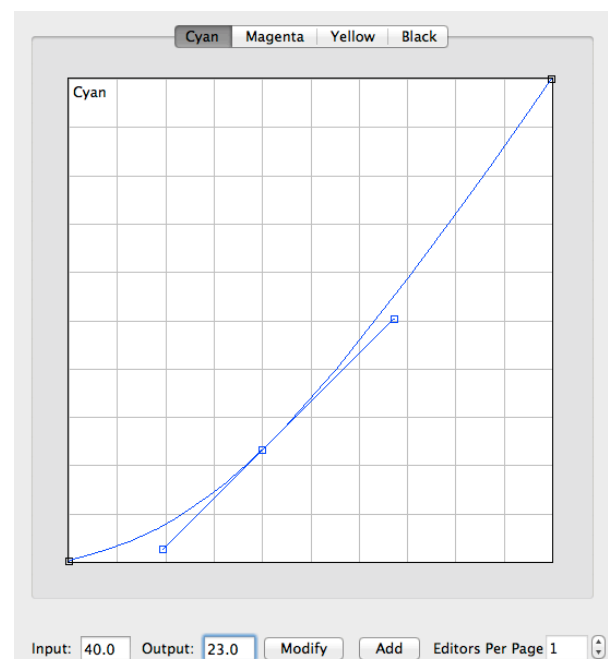
- If required, left-click on another part of the curve to create a new anchor and drag the curve into the desired shape. Any number of additional anchors can be added.
- To remove an anchor point, select the point and press the Delete key.
- Repeat steps 1 - 5 if required to make gradation curves for the remaining output colour channels.
- Save the completed Gradation Curve. File Menu > Save. Assign the curve to the Correction LUT field in the Colour Correction panel of the Media.



### ***Entering Individual Input and Output values***

Anchor points used to create a dot gain curve can be entered precisely in the Input (source file ink coverage) and Output fields. Output is the adjusted print coverage value to be used to reproduce the required source coverage taking dot gain into account.

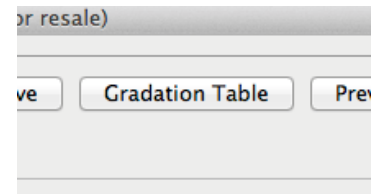
- Enter values into the *Input* and *Output* fields, then press *Add* to create the anchor point.
- Existing anchor points can be changed by first selecting the point on the curve, altering the *Input* and *Output* values, then pressing *Modify*.



## Gradation Table

A correction curve can be created by entering values directly into a *Gradation Table*.

1. After creating and naming a new Gradation Curve., press the *Gradation Table* button in the toolbar. A pop-up window containing the gradation table will open.
2. Double-click on each of the *coloured fields* for each output colour channel and enter the required coverage values for each coverage % listed in gray (left). Anchor points will be added, creating the gradation curve as each value is entered in the table.
3. Close the Gradation Table window.
4. Save the completed Gradation Curve. File Menu > Save. Assign the curve to the *Correction LUT* field in the Colour Correction panel of the Media.



	Cyan	Magenta	Yellow	Black
0	0	0	0	0
1	0.34	1	1	1
2	0.59	2	2	2
3	0.85	3	3	3
4	1.11	4	4	4
5	1.39	5	5	5
10	3.04	10	10	10
20	7.69	20	20	20
25	10.71	25	25	25
30	14.24	30	30	30
40	23	40	40	40
50	33.68	50	50	50
60	45.49	60	60	60
70	58.19	70	70	70
75	64.81	75	75	75
80	71.61	80	80	80
90	85.64	90	90	90
95	92.85	95	95	95
96	94.31	96	96	96
97	95.76	97	97	97
98	97.21	98	98	98
99	98.65	99	99	99
100	100	100	100	100

The screenshot shows the software interface with the 'Gradation Table' window open. The table in the window is identical to the one shown above. To the right, a graph displays the 'Cyan' curve, showing a non-linear relationship between input and output values. The graph has a grid and a line with square markers representing the data points from the table. Below the graph, there are input and output fields: 'Input: 99.0' and 'Output: 98.7', along with 'Modify', 'Add', and 'Editors Per Page 1' buttons.