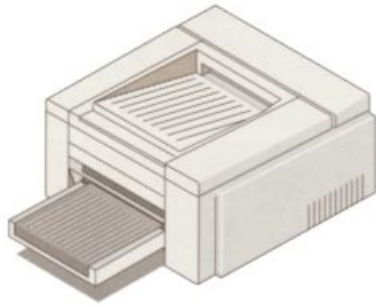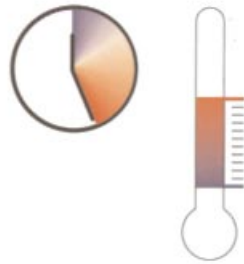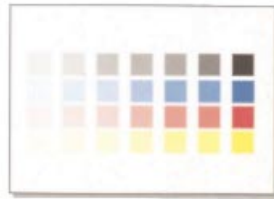# CALIBRATING PRINTERS

Matthew Boulton College

CALIBRATING PRINTERS

Switch-on the printer and adjust to
normal operating conditions.

Manufacturer's
Calibration
Wedge

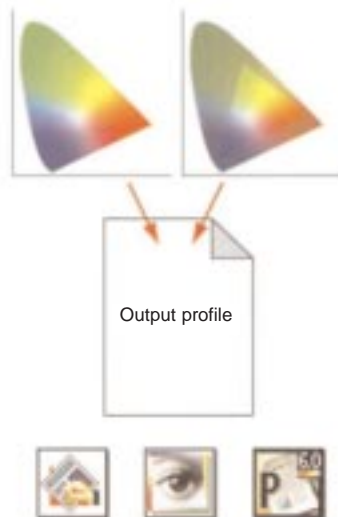Calibrate to manufacturers specifications.

Output the IT8 7/3 reference model.

CALIBRATING PRINTERS

- *After measurement, the values of the colour patches are read into the colour management software*

- *The measurements are related with the CMYK values sent to the printer*

- *CMS software generates colour profile*

Output profile

After installing the colour profile in the application, perform some tests to check if the profile yields a desirable result.

Reference Images

ITB, 7/3
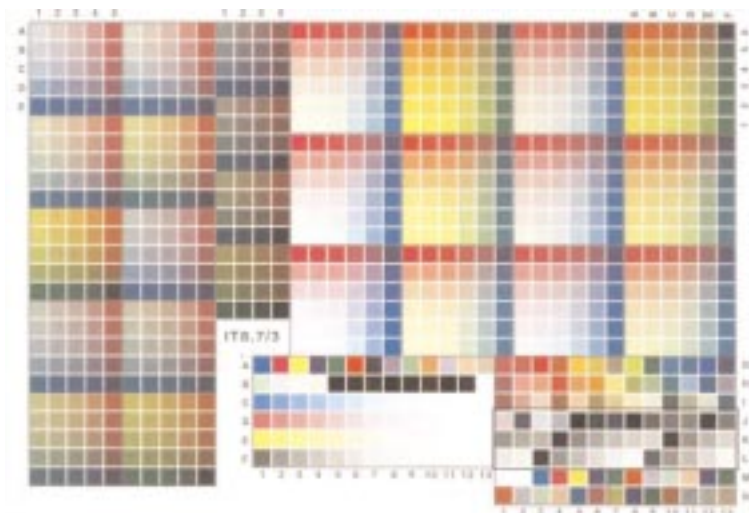
The IT8 7/3 chart is an electronic file which can be sent to an ouput device to determine its gamut.

CREATING AN ICC PRINTER PROFILE

The same image, printed on various output devices can yield different results. Hence the need to calibrate adequately the specific printer.

Calibrating a printer is similar to calibrating a scanner or a monitor. In this case it is best to make a print of the industry standard IT8 7/3 which contains 928 small patches of different CMYK colour values. Each one of the colour patches on the IT8 7/3 reference sheet which is printed is measured with a colorimeter or spectrophotometer.

As it reads the colour values of the different patches, the CMS relates the actual colour printed to the original CMYK values for each colour patch. Thus the CMS is able to build a complete profile of the printer. Once this profile is built, the CMS will automatically perform the necessary adjustment on the colour information sent to the printer.

For example if the measurement of the test chart shows that most test patches are a little too red, the CMs can compensate for this by reducing the amount of red in the images.

Before printing the IT8 7/3 a stable environment must be established, in which all the output parameters will be the same as when eventually the job is printed. The type of paper, ink, screening techniques and even the temperature of the work environment all influence the accuracy of the calibration.

It is important to remember that the profile for a particular situation will not be valid for any other situation, ie one in which one or more of the parameters will have been altered. Check the situation regularly and do not hesitate to re-calibrate the output device.

Some of the better colour management systems available today offer the option of measuring and comparing (on screen) the profile being built with the most recent profile recorded. A decision can then be made to implement the new output profile.

PC: Adding a Colour Profile To A Printer
Start Menu/Settings/Control Panel

Select: Printer Icon

Right click printer required

Select: Colour management

Select either: Automatic or Manual

Automatic
windows will automatically select the best colour profile from the list or associated colour profiles.

Manual
A profile for the printer can be added

QUESTIONS ON CALIBRATING PRINTERS

(1)   What are the 'reference images' used to
       calibrate a printer?

(2)   What equipment is used to measure the output from a printer?

(3)   What colour model does the reference images use?

(4)   Give an example when a new profile for the printer will need
       to be calibrated?