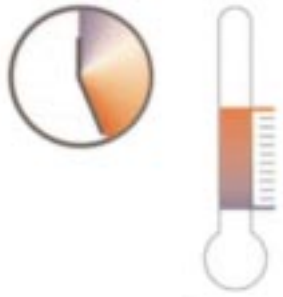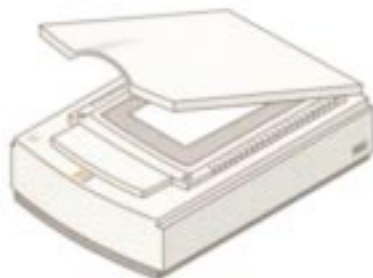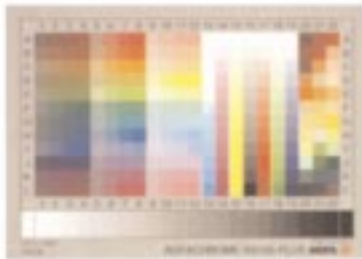# CALIBRATING SCANNERS

Matthew Boulton College

CALIBRATING SCANNERS

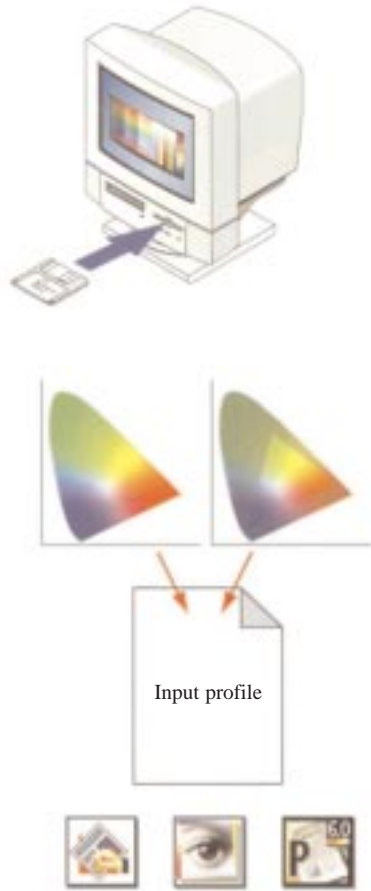*Switch-on the scanner and let it warm up to operating temperature.*

Calibrate the scanner and set all settings to reflect normal operating conditions.

Scan the IT8.7/1 or IT8.7/2 reference model. Turn off any descreening, sharpnes or tone curve settings.

CALIBRATING SCANNERS

- *Read values of the scan.*

- *Relate with the original target values supplied with the CIE model.*

- *CMS software generates colour profile.*

Input profile

After installing the colour profile in the CMS, perform some tests to check if the profile yields a desirable result.
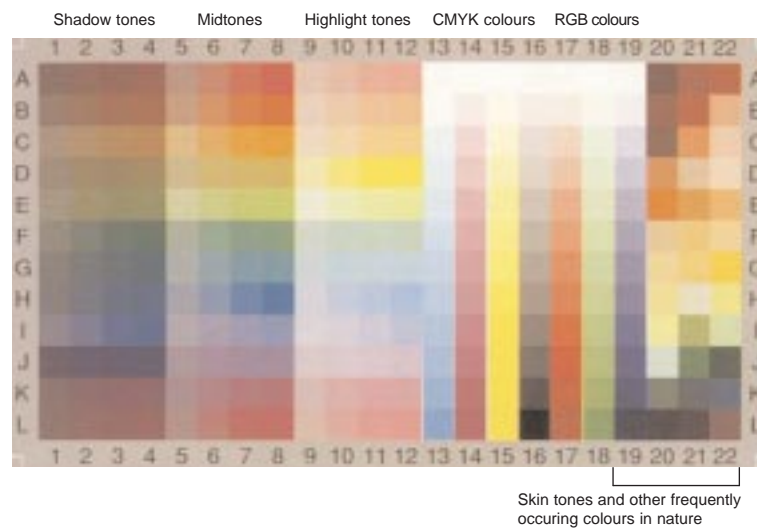
CREATING AN ICC SCANNER PROFILE

The first important step when setting up a colour management system (CMS) is calibrating the scanner so that it understands small colour changes, each time an image is scanned.

A *reference image* containing well defined colour patches is scanned. The results are related to the 'ideal' values, measured with a spectrophotometer in the manufacturers lab and supplied on a disk.

The 2 sets of data are assembled to yield a complete *profile* of where that particular scanner differs from the ideal.

Once the CMS understands the individual characteristics of the scanner, it will be able to correct these everytime it performs a scan. If a particular scanner yields results that are a little strong in blues and slightly weak in the reds. Once the CMS know this about a scanner, it will control the blues and adapt the reds accordingly, to yield results that correspond to the ideal.

Reference Images

Shadow tones | Midtones | Highlight tones | CMYK colours | RGB colours

Skin tones and other frequently occuring colours in nature

Samples from the CIELAB colour space are used to create industry standard reference charts called IT8 Charts. There are 2 essential charts:

- *IT8 7/1: measures transmission colour*

- *IT8 7/2: measures reflective colour*

QUESTIONS ON CALIBRATING SCANNERS

(1)   Why is it important to switch-on the scanner and leave it for a short period?

(2)   What are the 'reference images' used to calibrate a scanner?