Purpose

The purpose of this document is to provide enough information to allow manipulation or creation of a file to be imported into Ink Master to define a standard. The standard will be formulated in Ink Master, and the results of the formulation are transferred out of Ink Master. It is not the intent to describe the every other detail of the *.mif file format.

File format for Standards Input to Ink Master

Following is a typical *.mif file to import into Ink Master. The file format is similar to a typical windows *.ini file. The section headings are in brackets. A description of each section and its contents follows:

```
[FILE INFO]
VERSION=2000
TIME=0
ANGLE=45
SOURCE=QA-2000
[CUSTOMER]
IDNT=XR
COMP=X-Rite Inc.
ADD1=3100 44th ST SW
ADD2=
CITY=Grandville
STAT=MI
ZIPC=49418
COUN=USA
PROV=
CONT=John Smith
PHON=(6161) 534-7663
FAXN=(616) 534-2513
NOTE=This customer is tops!
[STANDARD]
CUST=XR
NAME=SingleBlue
DESC=Single Angle Sample
NOTE=This is a note.
[MEASUREMENT]
TIME=5596507
TYPE=S
APER=0
CAGE=0
AVGS=1
INST=0
ANGL=45 10.007 19.931 28.290 35.007 40.372 44.763 47.827 49.322 49.210
47.259 44.107 40.265 35.858 31.110 26.245 21.512 17.136 13.419 10.266
7.690 5.695 4.355 3.476 2.862 2.509 2.344 2.374 2.582 3.021 3.744 4.730
```

[FILE INFO]
VERSION: Version of software that created the file. This is not used.
TIME: This represents the creation time. It can be zero.
ANGLE: This is a critical entry. If '45' is selected it implies that a 0/45 or 45/0 instrument was used to create the data. If 'InEx' is selected it implies that a sphere type instrument was used to create the data. (See ANGL description below.)
SOURCE: This is the program used to create the *.mif file. In this case it was 'QA-2000'. It can be 'IM' for Ink Master, or something else. It is not critical for importing into Ink Master.

[CUSTOMER]
All values in this section should match the data in the Edit Customer dialog in Ink Master. As a special note, the value IDNT is a value used by the database in Ink Master to identify the company. If any of these values don't match, Ink Master may put this standard into the wrong place in the database. (See CUST below)

[STANDARD]
CUST: This value must match the value for IDNT above and is shown in the Edit Customer dialog in Ink Master.
NAME: This is the name of the new standard to be imported into Ink Master. It can be 30 characters long.
DESC: This is a description of the standard to be imported into Ink Master. It can be 40 characters long.
NOTE: This is an additional line of text that may be added to describe the standard. There can be multiple NOTE lines.   The limit is 80 characters per line. Inclusion of these notes in the file is optional.

[MEASUREMENT]
TIME: This is the time the measurement was taken. It is not critical.
TYPE: This must be 'S' for standard
APER: This should always be zero.
CAGE: This should always be zero
AVGS: This should always be one.
INST: This is the instrument used to do the measurement. In can be zero.
ANGL: This is the reflectance data of the standard. In the case of a single angle instrument, it would have only one angle, 45 (as shown above). The first item is the angle 45 followed by the % of reflectance for each wavelength. This starts with a wavelength of 400 nm and goes to 700 nm in 10 nm increments. In the case of a sphere instrument the data file would contain two ANGL entries, one for 'In' and one for 'Ex'. See the file samples for an example of a sphere.

File format for Output from Ink Master

This is a typical *.mif file exported from Ink Master. The file format is similar to a typical windows *.ini file. It is a readable text file with section headings. The section headings are in brackets. A description of each section and its contents follows:

```
[FILE INFO]
VERSION=Version 1.80.3
TIME=5596511
ANGLE=45
SOURCE=IM
[COLORANT]
V=14430|RAIN|C|MF Example
P=14432|RAIN|B|Black|MF Example
P=27636|RAIN|P|Cyan Green|MF Example
P=27614|RAIN|P|Reflex Blue|MF Example
[CUSTOMER]
IDNT=XR
COMP=X-Rite Inc.
ADD1=3100 44th ST SW
ADD2=
CITY=Grandville
STAT=MI
ZIPC=49418
COUN=USA
PROV=
CONT=John Smith
PHON=(6161) 534-7663
FAXN=(616) 534-2513
NOTE=This customer is tops!
[STANDARD]
CUST=XR
NAME=SingleBlue
DESC=Single Angle Sample
NOTE=This is a note.
[MEASUREMENT]
TIME=5596507
TYPE=S
APER=0
CAGE=0
AVGS=1
INST=968
ANGL=45 10.01 19.93 28.29 35.01 40.37 44.76 47.83 49.32 49.21 47.26
44.11 40.26 35.86 31.11 26.25 21.51 17.14 13.42 10.27 7.69 5.70 4.36
3.48 2.86 2.51 2.34 2.37 2.58 3.02 3.74 4.73
[SAMPLE]
CUST=XR
NAME=SingleBlue
LOT=
RJCT=0
CTYPE=M
SUBST=0
ITEM= 14430 14432 27636 27614 0 0 0
PNAME=MF Example
```

```
FPERC= 87.56
PNAME=Black
FPERC= 1.30
PNAME=Cyan Green
FPERC= 7.07
PNAME=Reflex Blue
FPERC= 4.08
[MEASUREMENT]
TIME=5596510
TYPE=M
APER=
CAGE=0
AVGS=
INST=968
ANGL=45 21.71 24.79 28.43 32.68 37.37 42.64 47.59 51.76 54.04 52.78
49.13 43.29 36.43 29.68 23.40 18.43 14.49 11.75 9.68 7.74 6.25 5.44
5.12 5.14 5.57 6.37 7.83 10.42 13.58 16.90 20.50
[SAMPLE]
CUST=XR
NAME=SingleBlue
LOT=
RJCT=0
CTYPE=M
SUBST=0
ITEM= 14430 14432 27636 27614 0 0 0
PNAME=MF Example
FPERC= 87.56
PNAME=Black
FPERC= 1.30
PNAME=Cyan Green
FPERC= 7.07
PNAME=Reflex Blue
FPERC= 4.08
[MEASUREMENT]
TIME=5596510
TYPE=M
APER=
CAGE=0
AVGS=
INST=968
ANGL=45 21.71 24.79 28.43 32.68 37.37 42.64 47.59 51.76 54.04 52.78
49.13 43.29 36.43 29.68 23.40 18.43 14.49 11.75 9.68 7.74 6.25 5.44
5.12 5.14 5.57 6.37 7.83 10.42 13.58 16.90 20.50
```

[FILE INFO]
VERSION: This is the version number of Ink Master
TIME: This represents the creation time.
ANGLE: If '45' is displayed it implies that a 0/45 or 45/0 instrument was used to create the data. If 'InEx' is selected it implies that a sphere type instrument was used to create the data. (See ANGL description below.)
SOURCE: This is 'IM' for Ink Master

[COLORANT]
The lines with the 'V' indicate the Calibration set used.

The following lines ('P') represent the ink's used in the formula.

[CUSTOMER]
All values in this section should match the data in the Edit Customer dialog in Ink Master.

[STANDARD]
CUST: This is the customer's identifier listed in the Edit Customer dialog in Ink Master.
NAME: This is the name of the standard.
DESC: This is the description of the standard
NOTE: This line (and others that have the same NOTE beginning) is the note associated with the standard.
[MEASUREMENT]
All of this data should match the data imported with the standard.
[SAMPLE]
CUST: This is the customer's identifier listed in the Edit Customer dialog in Ink Master.
NAME: This is the name of the standard.
LOT, RJCT, CTYPE, and SUBST: These values don't apply to the scope of this document.

ITEM: A database reference of the inks used.
PNAME: The first instance of this is the Calibration set used.
FPERC: This is the percent by volume of extender in the formula.
PNAME: This is the first ink name used.
FPERC: This is the percent by volume of the above listed ink.
.
Etc.
.
[MEASUREMENT]
(All of this data is associated with the formula.)
TIME: The time the formula was created.
ANGL: This is the reflectance data of the formula. In the case of a single angle instrument, it would have only one angle, 45 (as shown above). The first item is the angle (45) followed by the % of reflectance for each wavelength. This starts with a wavelength of 400 nm and goes to 700 nm in 10 nm increments. In the case of a sphere instrument the data file would contain two ANGL entries, one for 'In' and one for 'Ex'. See the file samples for an example of a sphere.

The [SAMPLE] data can be repeated in the file for each sample.