

## Technical Note 23: Preparing Calibration Files for the Series 1000 Analysers.



### Introduction:

The Series 1000 is driven by a Rabbit Microprocessor IC. As such it does not provide the same flexibility as the Cropscan 2000 and NIT-38 Analysers and calibrations are handled differently to these instruments. This technical note provides an explanation of the procedure to prepare a calibration file, ie, XXXX.bin file, and how to download the file into the Series 1000 Analysers.

### Collecting Spectra from the Series 1000 Analysers

Connect the Series 1000 Analyser to a PC using a null modem cable. Turn the S1000 OFF and holding the SCROLL button down, turn the instrument back ON. When the prompt appears on the screen, press the ENTER button. Wait till the screen refreshes and press CANCEL.

Open NTAS and select the Scan and Display menu. When the screen displays the Connection Dialogue window, press the CONNECT button. If the instructions say that the connection was successful, proceed to the GET SCAN section. If no connection is made, press the CANCEL button and press the SCANNING menu at the top of the screen. Ensure that the Baud Rate is set to 38400, COMS1 is highlighted. Select the Instrument menu and scroll to the Cropscan 1000G option. Press the Save Default, Set Default and OK buttons in this sequence.

Select the Options menu and Connection Dialogue and press the CONNECT button.

### Get Scan:

Fill a sample cell and press GET SCAN. The screen on the S1000 will instruct when to insert the sample cell.

When the scan is completed and the spectrum is shown on the screen, type in the sample ID and press ENTER to move to Constituent 1 box. Type in the % concentration for Constituent 1, press ENTER, and type in % concentration for Constituent 2. Then press UP and DOWN to record the spectrum. Repeat this process for each sample used for calibration.

NOTE that the Series 1000 Alcohol and Moisture Analysers require that the % Alcohol or %

Moisture must be entered into Constituent 2. For safety, enter the same value into Constituent 1 and 2.

Save the spectra by selecting the File menu and press SAVE FILE. A window will pop up. Select a suitable folder, enter a name and press SAVE. Quit the Scan and Display menu.

## Preparing a Calibration File for the Series 1000 Analysers:

In NTAS, click on the Calibration Creation button. Select the LOAD button and when the window opens, find the previously saved file and press OPEN. The calibration spectra will be loaded into the program. Press the CALIBRATION button and run a PLS calibration on the first constituent. Select the optimum number of principal components and when satisfied with the calibration, select the SAVE MODEL button.

The screen will prompt you to enter a folder and a calibration file name. Click on the box below the box where the file name is entered. Select the "NTAS 38 Element Calibration Text File" option. Enter a file name with a maximum of 8 characters and press SAVE.

Repeat the process for Constituent 2, and when you press SAVE MODEL, the screen will prompt with the question to use the same file name. Press YES.

Select the CREATE CAL button. Enter the name of the product into the box where it shows the word Calibration. The name of the product must end in "(DAT)". For example, Wheat(Dat). The name can only be 10 characters including the (DAT). Complete the calibration menu items and press CONVERT after each window has been edited. Close the window.

## Downloading a Calibration File to the Series 1000 Analyser.

Calibration files can only be downloaded into the Series 1000 using WGA-Test.exe. Connect the S1000 to a PC. Open WGA-Test.exe. Click on the FILE DOWNLOAD button and type in;

WGA File:	C:\wga\calibr\Product1.bin
PC File:	C:\wga\XXXX.bin

Where the file XXXX.bin is stored on the PC in the C:\wga\ folder.

A box will be displayed saying that the calibration has been successfully downloaded. To add another calibration, repeat the process and enter in Product2.bin for the second calibration file.

Close the WGA-Test.exe window.