There are two choices for programming the SC 450 for Percent Concentration measurement. The simplest, is to select one of the “built-in” tables already provided in the SC 40. However, if none of these Tables meet the application requirements, then the second option of creating your own Table specific to your needs can be used.

This Tech Note is designed to guide you through the programming steps required for Custom curves. All of the steps you will follow are in your SC 450 Instruction Manual, but we have pulled out just those steps.

You will be programming the Analyzer to display in “Percent Concentration”; programming the desired Percent Concentration Matrix; Setting your 4-20 mA output and finally, setting (or turning off your Alarm contacts to eliminate any error codes being displayed.

Option One - Programming using Preset Concentration Matrix

At the opening Screen – Press the WRENCH Key
Press the **Measurement setup** diamond

At the Measurement setup screen you will see that **Conductivity only** is displayed. Press the dropdown box to reveal the other options.

Using the Down Key, select **Concentration only**

THEN . . .

Press the **Concentration** diamond

Press the dropdown box and select **Enabled** (next to additional table)

THEN . . .

Press the **Define Table** diamond
Press the **Enter Values** diamond

You need to know what you min and max percent concentrations will be and what the conductivity values will be throughout the range.

The program only requires you to know the min and max value but in order to have an accurate matrix it is good to know values in between.

To Enter a conductivity value press next to the number and the following screen will pop up, where you use the numeric key pad to select your concentration number.

To Enter a value press next to the % and the following screen will pop up, where you use the numeric key pad to select your concentration number.
To move thru the screens press the **Next** diamond.

On the third screen you have to input the Max percent and the conductivity value.

Select Finish once all the desired values have been entered thru your range.

You will be returned to this screen automatically.

Then...

Press the return arrow until you return to the measurement screen. You now have to set up the instrument to use your user defined matrix.
Do set up the instrument to use your user defined matrix for percent concentration press the Temp. Compensation diamond

Make sure that the Concentration is set for NaCl

NOW . . . Press the RETURN Key (3 times) until the Commissioning screen comes up again.

Press the Output setup diamond.

Select Output on mA1 and then Press Enter
Press Drop Down Menu and select **CONCENT1**

Press **Linear** in Drop Down box so that the **Linear mA1** menu appears.

The **0% value** is equivalent to your desired 4 mA and the **100% value** is equivalent to 20 mA. So, if your 4 – 20 mA range is to be 0-8% NaOH, leave the **0% value** as it is.

Press the **100% value** window to bring up the Key pad.

Using the Numeric Pad, enter 8.00 and Press the **Enter** Key.
Now the 4-20 mA on mA1 of the Analyzer is set for 0-8% percent concentration.

NOW . . . Press the RETURN Key until the Commissioning screen comes up again.

Press the Output setup diamond.

Now you can set up your Alarms (S1, S2, and S3) if you desire. If you are NOT using them, Press the Drop Down Menu and select Off. This will eliminate any setup errors being displayed on the Main Menu.

When you are finished, Press the Home Key.