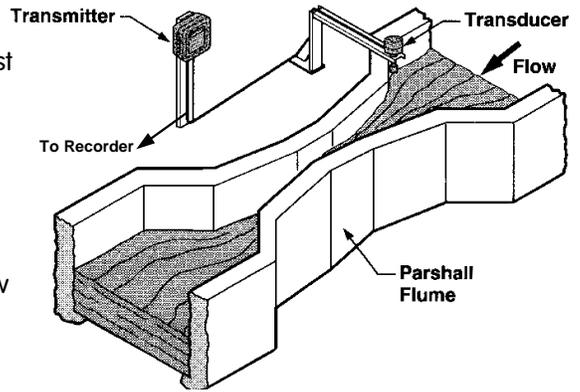


1. Before setting up a math channel for totalization, you must first have a "base" channel configured from which the totalizer gets its information (i.e. A channel receiving a signal from a flow meter that is proportional to flow rate).

For this example we will configure math channel A to be the totalizer. Channel 1 is already configured as the flow rate channel receiving a 4-20mA signal from an open channel flow meter (see previous visual guide for setting up a 4-20ma input). The flow rate is 0 to 50 MGD (million gallons/day).



2. Once in the main program menu use the up/down arrow keys to select **Points**, then touch **ENTER**.



3. **Prog point** and **Constants** will appear. Using the up/down arrow keys select **Prog point** and touch **ENTER**.



4. The numbers **1 – 9** and letters **A, B, C, D, E and F\*** will be displayed. Touch the number that represents the input or channel you wish to configure. For this example select **A** and touch **ENTER**. (**Channel A, B, C, D, E, or F must be used for totalization channels** as these channels will hold the total value in the event of a power outage. **Channels 1-9 will not**, they will reset).

\* Version 2.5f include up to 12 direct inputs plus 3 math channels for a total of 15.



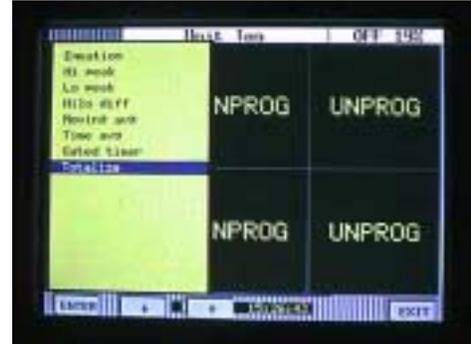
5. If you are configuring the Data-Chart for the first time a menu having **Setup**, **Copy** and **Restore** will appear. If you are changing a point that you have already configured the menu will have **Modify pt** and **Delete pt**. Depending on which menu appears, use the up/down arrow keys to select **Setup** or **Modify** then touch **ENTER**.



- The menu containing types of inputs should now be displayed. Use the up/down arrow keys to select **Calculated** then touch **ENTER**.



- The menu displaying the various calculated channel types should now appear. For this example use the up/down arrow keys to select **Totalize** then touch **ENTER**.



- The menu starting with **Point tag** will appear. Using the up/down arrow keys select **Point tag** and touch **ENTER**. An alphanumeric keypad will be displayed. Enter a word or phrase (up to 10 characters)\* that describes this particular point. For this example enter the word **TOTAL** and touch **ENTER**.

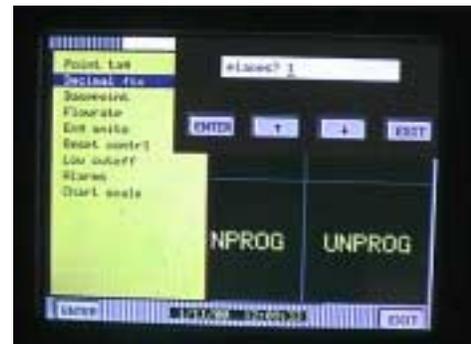
\* Only 6 will be displayed in certain views although all 10 characters will be recorded and displayed in Companion.



- The menu starting with **Point tag** will again be displayed. Scroll down to **Decimal fix** and touch **ENTER**.



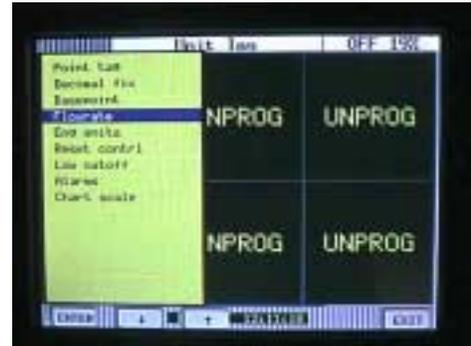
- You will be prompted with **places>?** (0,1,2,3,4 or 5). Using the up down arrows you may select the appropriate number of decimal places. For this example select 1 and touch **ENTER**.



- You will now be back at the menu starting with **Point tag**. Scroll down to **Basepoint** and touch **ENTER**. You will be prompted with **base pt?** Use the up/down arrow keys to select the channel from which the totalizer will derive its information. For this example, select channel 1 and touch **ENTER**.



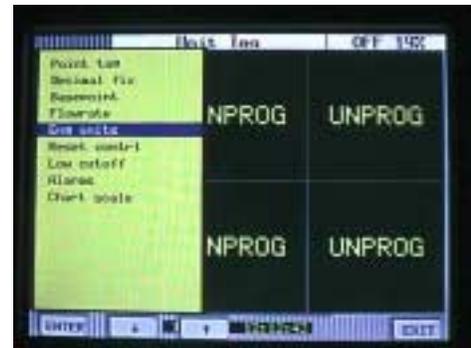
- You should now be back at the **Point tag** menu. Scroll down to **Flowrate** and touch **ENTER**.



- You will be prompted with **flow = /sec, / min, /hr, /day** as shown to the right. Use the up/down arrow keys to select the rate that matches that of your flow meter. In this example our flow meter on channel one measures millions of gallons per day so select **flow= /day** and touch **ENTER**. You will have to touch **EXIT** to leave this menu



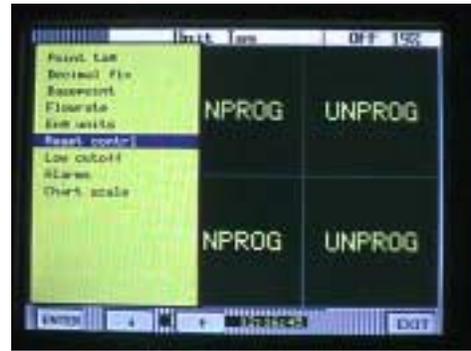
- You will again be back at the Point tag menu. Use the up/down arrow keys to select **Eng units** and touch **ENTER**.



- The alphanumeric should now appear. Enter up to 5 characters to describe the engineering units. For this example enter **MG** (for million gallons) and touch **ENTER**.



16. You will now be back at the Point tag menu. Use the up/down arrow keys to select **Reset contrl** and touch **ENTER**.

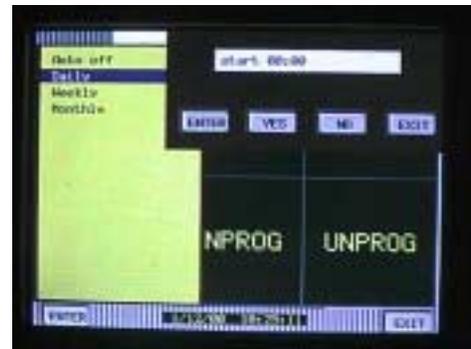


17. You will now be in the Reset Control menu. Use the up/down arrow keys to select **Auto reset** and touch **ENTER**.

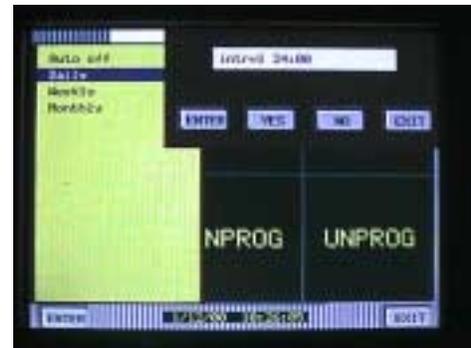
**Note:** The Auto reset menu allows you to program the recorder to reset the totalizer automatically at a desired time interval. If you choose Auto off the totalizer will not reset unless done so manually.



18. You will be prompted with **Auto off, Daily, Weekly, Monthly**. For this example we would like daily totals so use the up/down arrow keys to select Daily and touch **ENTER**. You will now be prompted with **start 00:00**. This is the time (24 hour format) that you would like the totalizer to begin. Leave the number at 00:00 and touch **ENTER**. This signifies that you would like to start totalizing at 12:00am.



19. You will now be prompted with **intrvl 00:00**. This is the time interval you would like to have the totalizer reset. You can choose from one minute to 24 hours. Touch **NO**. You will be prompted **int hrs 0**. Using the numeric keypad below, enter 24 and touch **ENTER** then **EXIT**.



20. You will now be back at the Reset Control menu. Use the up/down arrow keys to select **Reset Print** and touch **ENTER**. You will be prompted with **print=NO\***. Touch the **YES** key then **ENTER** then **EXIT**. This enables the recorder to post the totalizer reset information to the alarm/event page. This is where you would view your daily totals.



21. You should now be back at the menu beginning with Point tag. Use the up/down arrow keys to select **Low cutoff** and touch **ENTER**. You will be prompted with cut = 0.0. → This feature allows you to enter a minimum flow rate at which the totalizer should cut out and stop totalizing. This is for transmitters that become very inaccurate at low flow rates. Since ours is an open channel meter we will not program a low cutoff. Leave it set at 0.0 and touch

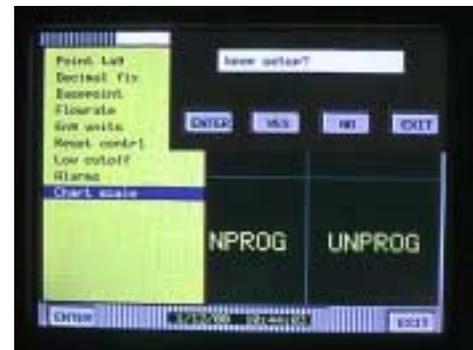


22. You should now be back in the menu beginning with Point tag. Use the up/down arrow keys to select **Chart scale** and touch **ENTER**. You will be prompted with **chart scl=** . Use the up/down arrow keys to select **A** and touch **ENTER** then touch **EXIT**.

**Note:** Since the range of the flow meter is 0 – 50 MGD and we will only be totalizing for a maximum of one day the totalizer will not exceed 50 so we can use the same scale. If we were totalizing over long periods of time we would have to put in an appropriate scale for the totalizer channel.



23. You will be prompted **keep setup?** Touch **ENTER** and you will be returned to the main program menu.



24. You have now successfully configured a totalization channel!

