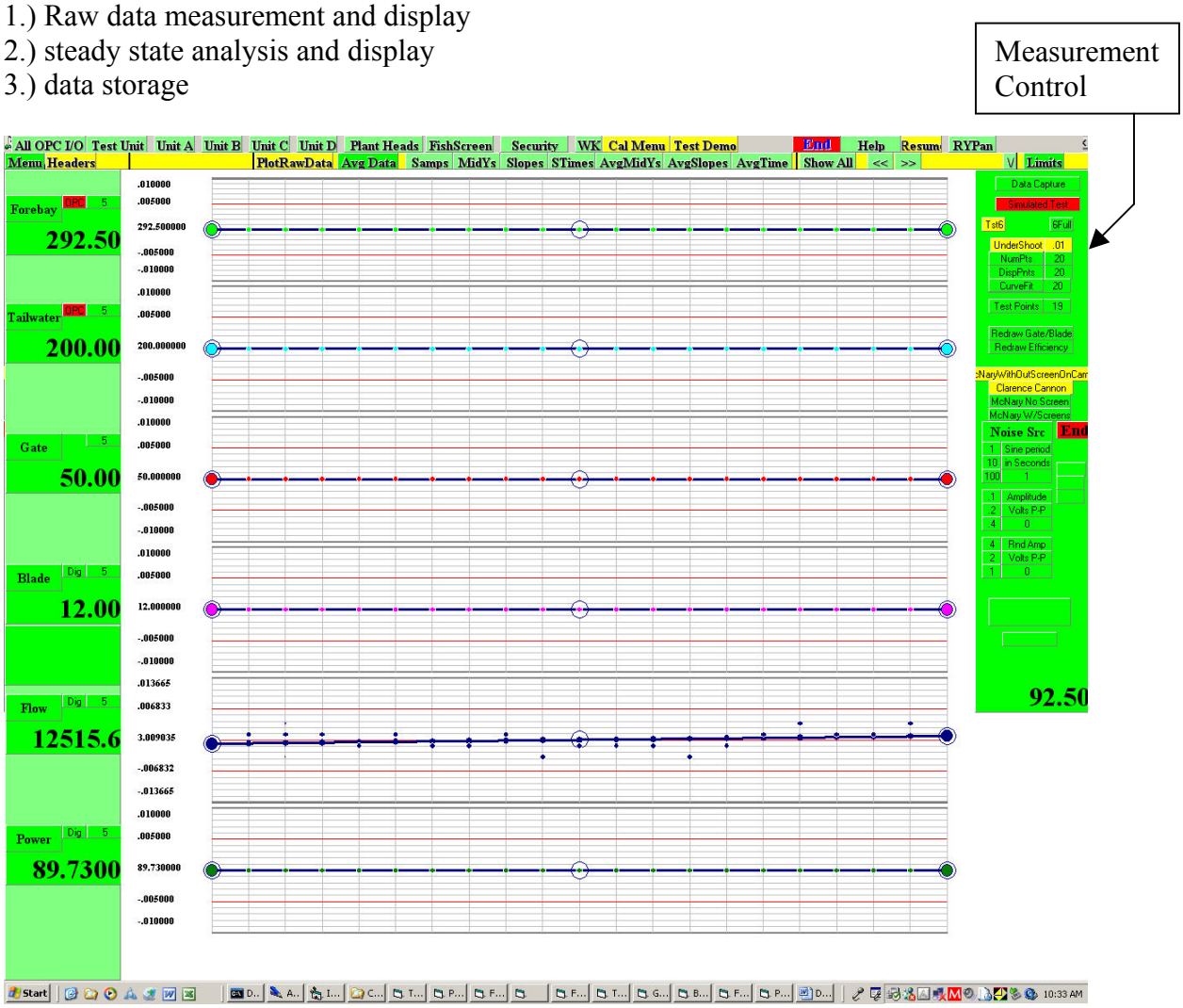
Dear Ed,
This program has been modified per your requests, or as much as I remembered. If you don't see something you want, or see something you don't, ask for it.

The program has been simplified for the first data collection outing by removing the
1.) 3-D cam
2.) data graphing
3.) test simulation
4.) turbine modeling
5.) ability to select AIn, OPC or Dig input.
6.) Gate and blade servo pressure channels

Leaving just the:
1.) Raw data measurement and display
2.) steady state analysis and display
3.) data storage



The raw data collection display is shown above.

When the computer is restarted it will boot to this screen and start collecting data automatically.

Shown above is one data set of 20 measurements. Number of measurements is set by the NumPts variable in the Measurement Control Panel, shown above right.
Operator servicing of the unit will consist of periodically flushing the lines by opening the bypass valve on the Winter Kennedy plumbing setup.

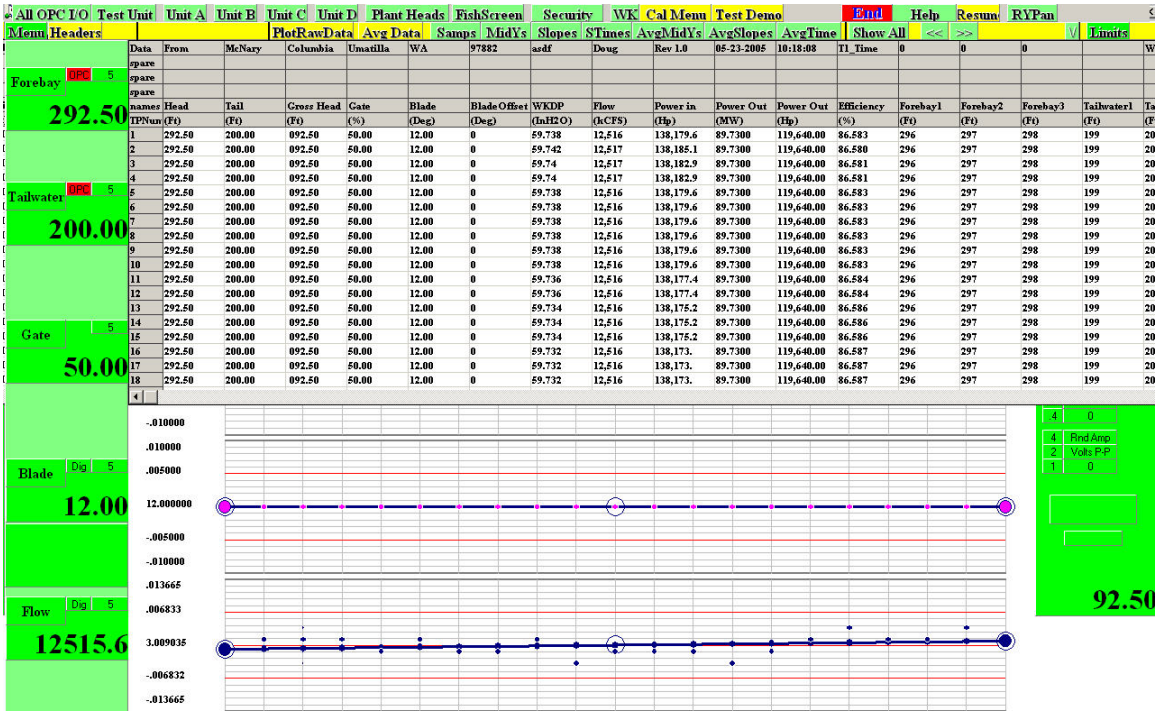
Opening this valve will also be the input signal to the ITB telling it to copy everything from the folders:

C:\vb\ITB Rev 1\Cals*.* (to get calibration and setup information for the data set)
C:\vb\ITB Rev 1\Dat*.* (to get the data stored for the unit)

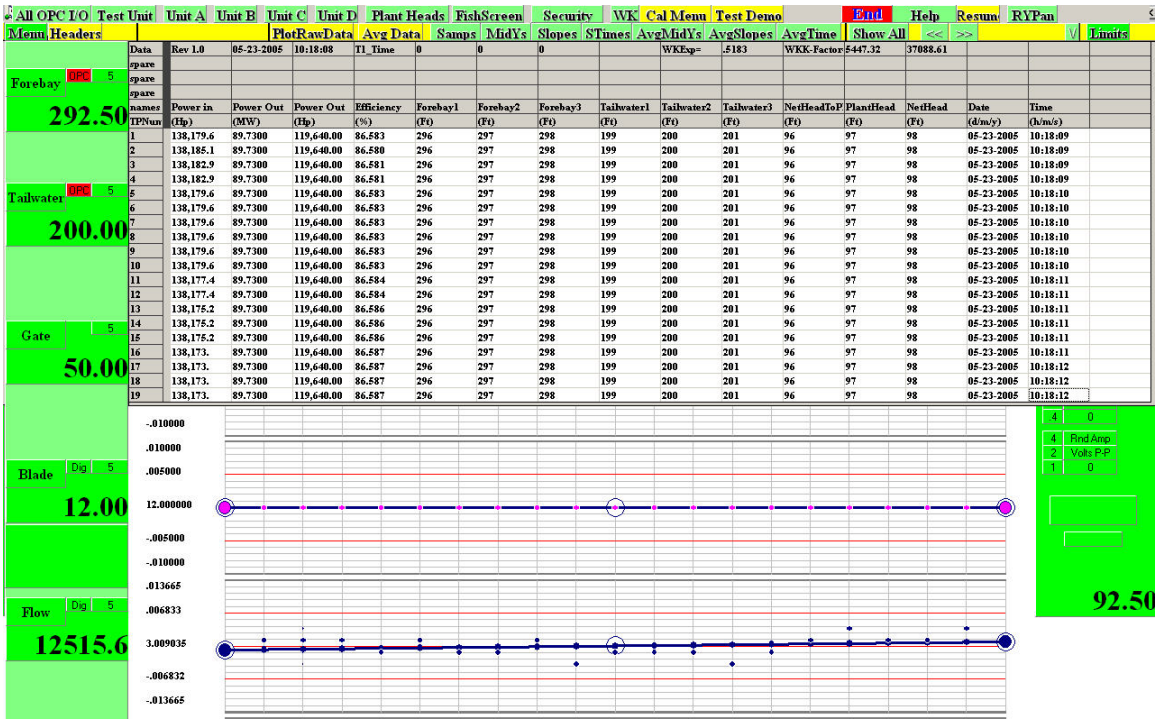
To the memory stick or "thumb drive" plugged in the USB port on the front of the ITB.

Copies of all collected data will remain on the hard drive of the ITB until manually removed from the ITB using Microsoft Windows Explorer in the conventional manner.

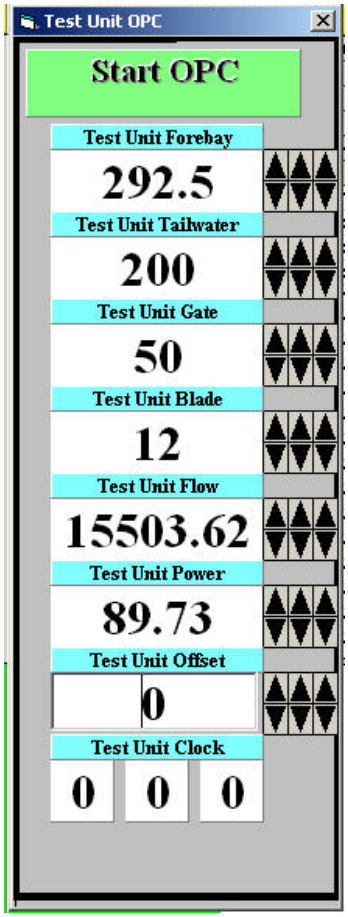
Data will be temporarily stored and manipulated in a VB Data Array as shown below:



The array can be as large as you like. To view columns off-screen to the right, click the "<<" button to compress the first 10 columns to 1 pixle wide and pull the off-screen columns into view. The ">>" button restores normal display. If the array gets really big, more buttons can be added to make moving around in the array easy and convenient.



Here is what it looks like with the leftmost 10 columns collapsed to 1 pixle wide.

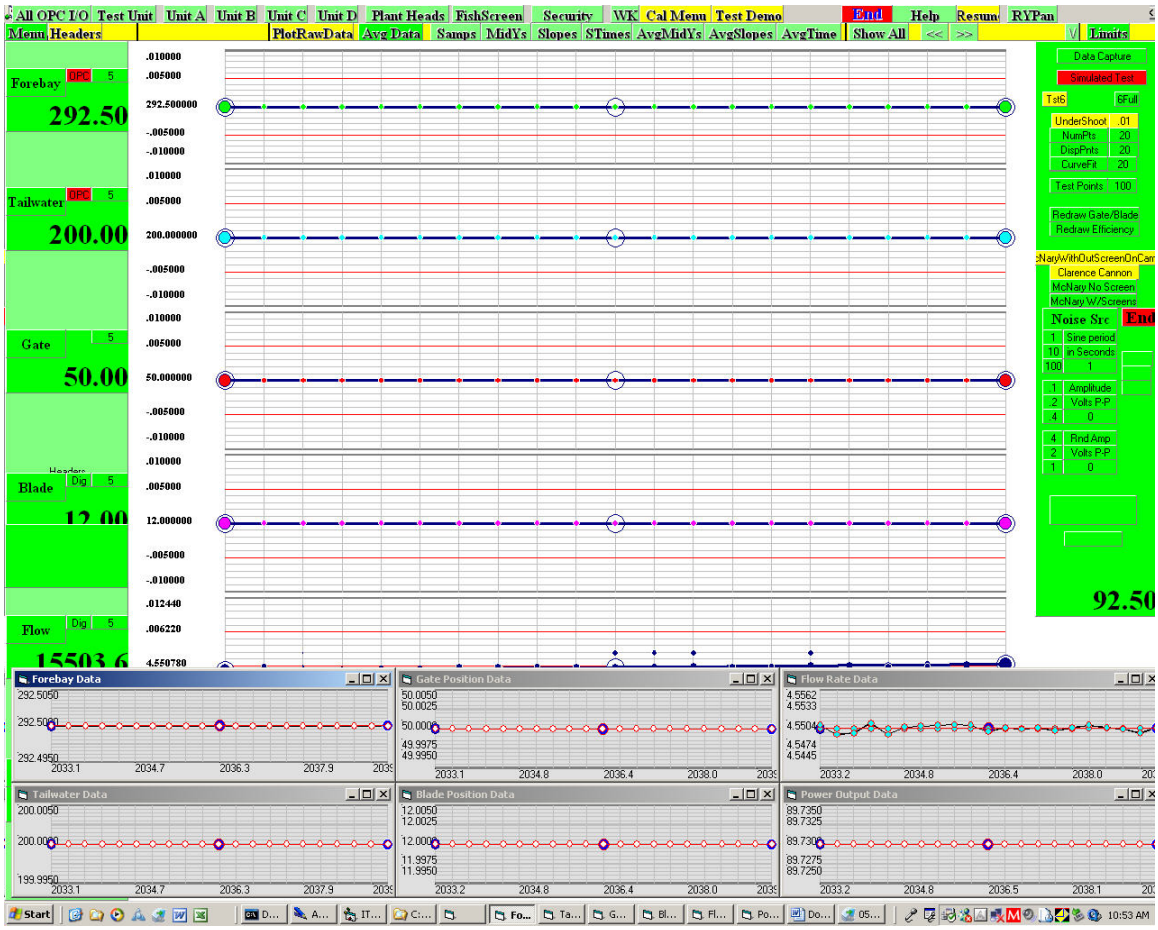


All of the values shows are simulated by plugging them into the TestUnitOPC form, shown at left.

The scroll-buttons provide a simulator function so you can observe the software's response to changes in the simulated data shown.

When you click "Start OPC", the scroll buttons are all removed and the simulated values all zeroed.

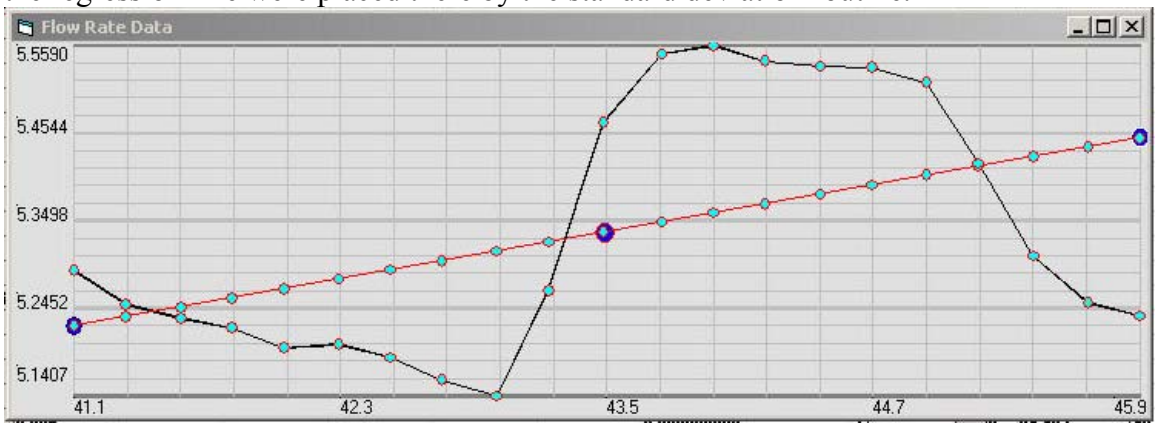
All buttons were converted to SSPanel.caption features to remove the ability to write back to GDACS, except for the Test Unit Offset button, which is still a TextBox.text type.



Shown above are the output displays of the second linear regression. Note the large blue ball centered in each graph. This is the average value of both X and Y axes. The line drawn through each data set is slope of the data as computed by a linear regression routine.

Another look at the flow graph below shows the voltage input to the A/D converter moved to demonstrate how the linear regression tracks the slope of the data set. E

The slope of the data is shown by the linear regression line. The dots along the length of the regression line were placed there by the standard deviation routine.



The calibration of this graph is X=seconds, Y = Volts from flow transducer input.

Notes on ITB Rev 1.br4
The program will automatically start collecting data on startup.
If a shortcut icon is put in the StartUp folder, this program will launch on boot.
After seeing it run a while, click the "Pause" button on the top row.
Click the "Avg Data" button a couple times to make the DataGrid go away so you can see the raw data graphed underneath.

Let me know what you think of this stripped down model.
(Oh yeah, I changed your passkey so it puts the password characters in the boxes for you too…)
Doug.