

Flow_Trak 3.0

Volume 2

Displays

Jessel Technologies, Inc.

PO Box 58016
Webster, Texas 77598
Flow_Trak@jesseltech.com

May 4, 2004

Main System Display

On startup of the program, a base display is presented. This display contains a real time clock, two title lines for the application, and eight selection buttons, namely Displays, Reports, Proving, Batch, Historical, Control, Parameters, and Configuration. This display can not be minimized, and clicking the close button will terminate the application, only if in the system is in the engineering mode. Engineering mode can be entered, by entering the default “system” in the password entry under the Parameter button.



Figure 1
Base Display

Displays

This selection button evokes a menu with several basic display options, namely Current Conditions, Active Alarms, Communications, Event Log, Analogs, Meter Graphic and Group Graphic. By clicking on the specific topic, the user may view detail information available within the system.

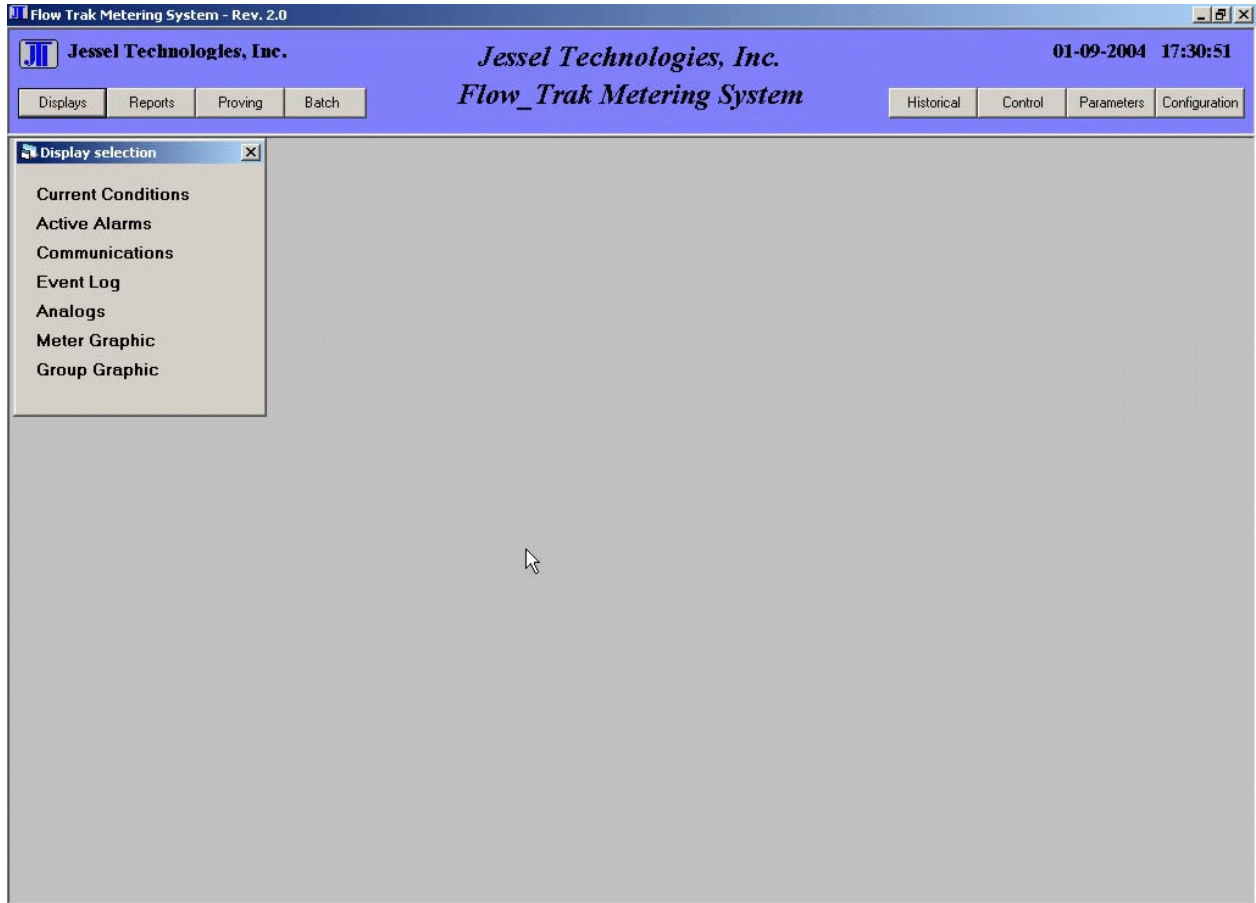
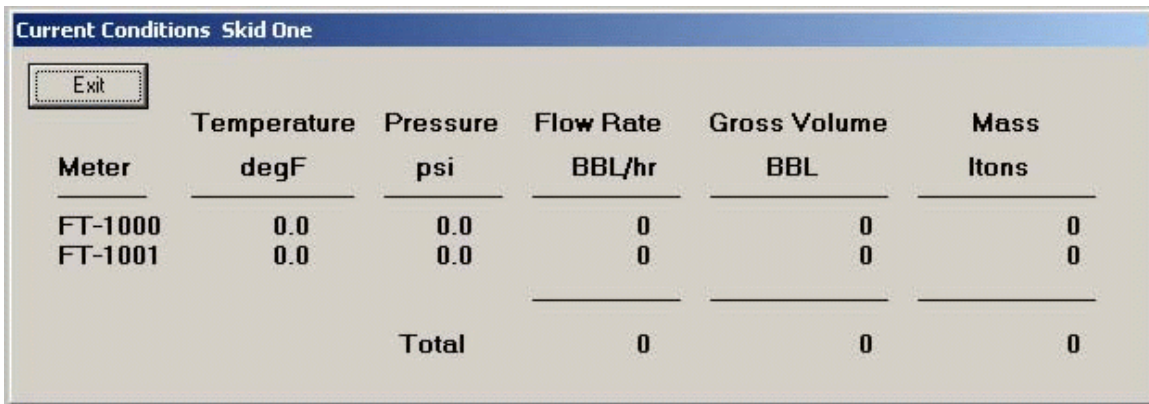


Figure 2
Display Menu Selection

Current Conditions

This selection allows the operator to view the current pressure, temperature, flow rate, and two configurable columns of accumulated volumes or mass. If groups are defined, a secondary menu will be presented with the names of the defined groups, upon clicking the group name the detail current conditions will be displayed. If the skid graphics option is selected, then this display will contain all the meters defined for the skid, up to five total. If skid graphics is not selected, then the group display option will allow up to ten (10) individual meters within this display. If more than 10 meters are defined in the system, then multiple groups should be configured so that all meters can be displayed.



Meter	Temperature degF	Pressure psi	Flow Rate BBL/hr	Gross Volume BBL	Mass ltons
FT-1000	0.0	0.0	0	0	0
FT-1001	0.0	0.0	0	0	0
		Total	0	0	0

Figure 3
Current Conditions Display

Active Alarms

The active alarms display has two functions, namely to display the last 20 alarms received, and to allow acknowledgment of the alarms and warnings. Although the display only shows the 20 most recent alarms, it utilizes a 100 element queue, so as an alarm is cleared, an older alarms will be displayed as space occurs. Color codes are shown to differentiate the various states of the displayed information.

There are two acknowledgment buttons which allow the operator to acknowledge alarms, a simple acknowledgment for the oldest alarm, and a acknowledge all to acknowledge all alarms. These acknowledgments are also logged in the event log discussed below.

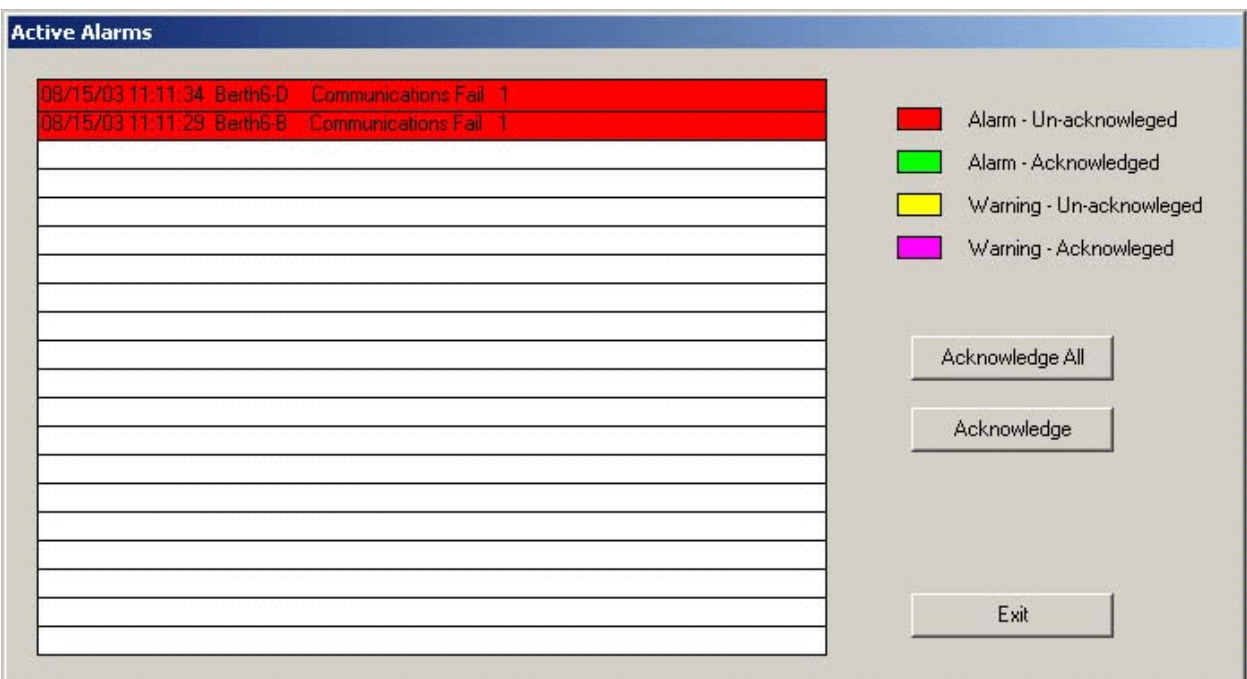
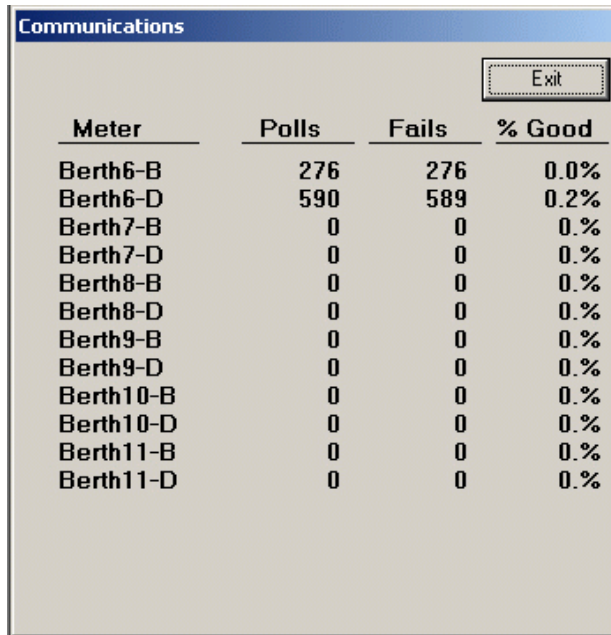


Figure 4
Active Alarm Display

Communications

Communications activity is displayed for each flow computer by meter tag name. As polling occurs, the data for the individual flow computer is updated. The number of polls made for each flow computer is given as well as the number of times there was no response from the flow computer. As the polling occurs a calculation is made to relate the per cent good replies received from the flow computer. This display resets at midnight each day and if any communication failures have occurred the total number of polls will be logged in the system log..



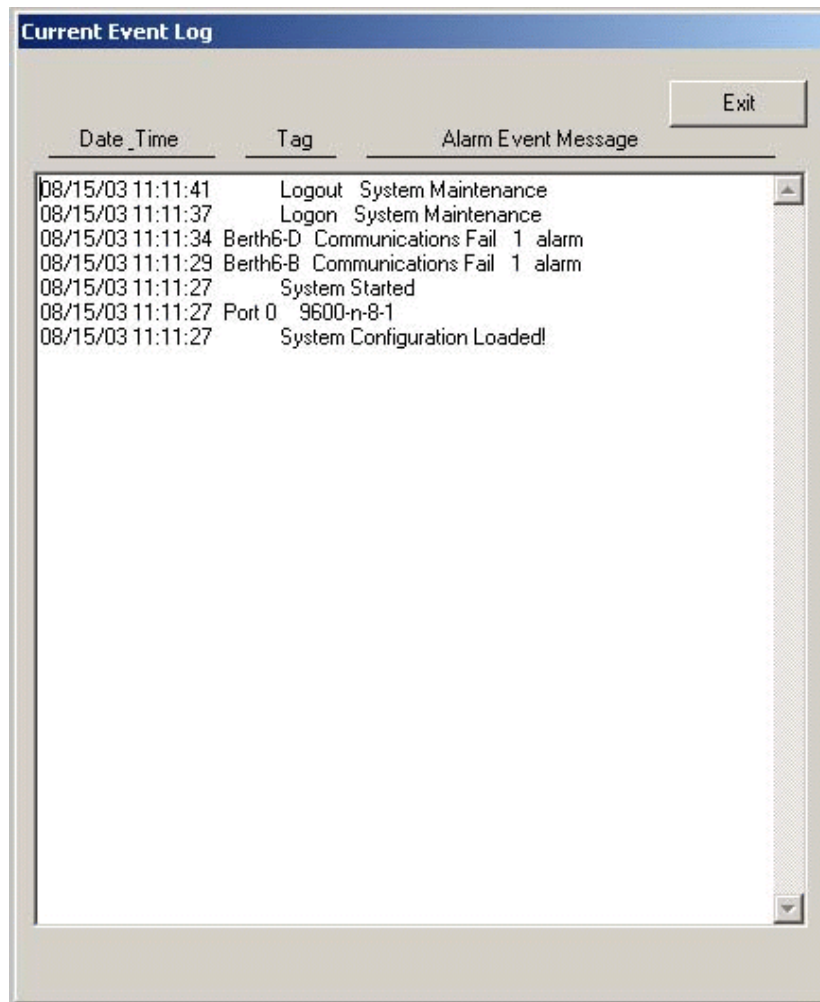
The screenshot shows a window titled "Communications" with a blue header bar. In the top right corner of the window, there is a button labeled "Exit". Below the header, there is a table with four columns: "Meter", "Polls", "Fails", and "% Good". The table lists data for various meter tags from Berth6 to Berth11, each with two sub-entries (B and D). The "Polls" column shows values of 276, 590, and 0 for the respective meters. The "Fails" column shows values of 276, 589, and 0. The "% Good" column shows values of 0.0%, 0.2%, and 0%.

Meter	Polls	Fails	% Good
Berth6-B	276	276	0.0%
Berth6-D	590	589	0.2%
Berth7-B	0	0	0.0%
Berth7-D	0	0	0.0%
Berth8-B	0	0	0.0%
Berth8-D	0	0	0.0%
Berth9-B	0	0	0.0%
Berth9-D	0	0	0.0%
Berth10-B	0	0	0.0%
Berth10-D	0	0	0.0%
Berth11-B	0	0	0.0%
Berth11-D	0	0	0.0%

Figure 5
Communications Display

Event Log

The event log display shows the activity of the system, with the newest event listed first. The system startup, alarms, acknowledgment, operator's logon and logoff are all noted in this display. It provides a convenient location to view past activity. At midnight each day the display is reset. The software can be configured to log these events to hard disk as well, see the configuration chapter.

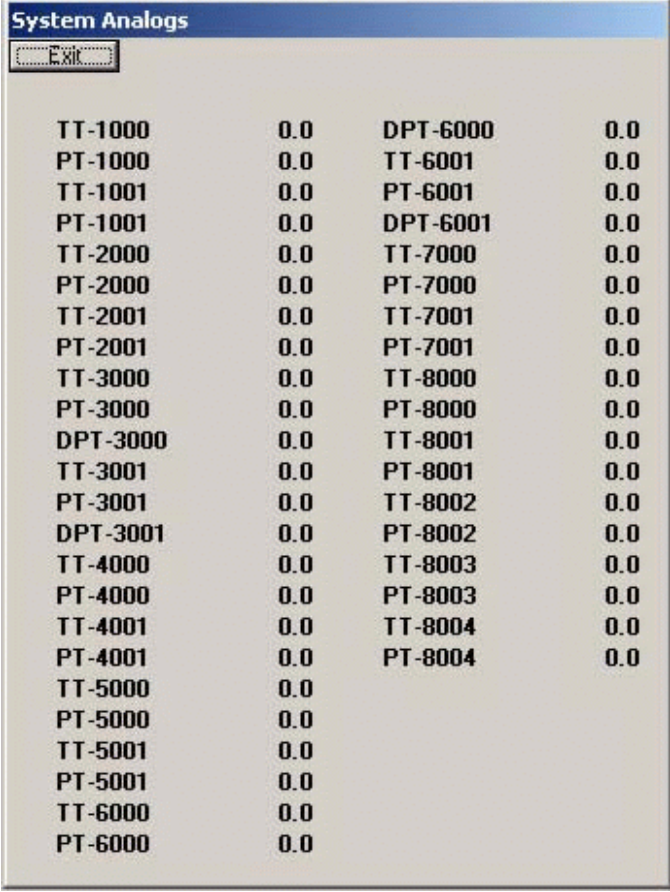


Date_Time	Tag	Alarm Event Message
08/15/03 11:11:41	Logout	System Maintenance
08/15/03 11:11:37	Logon	System Maintenance
08/15/03 11:11:34	Berth6-D	Communications Fail 1 alarm
08/15/03 11:11:29	Berth6-B	Communications Fail 1 alarm
08/15/03 11:11:27		System Started
08/15/03 11:11:27	Port 0	9600-n-8-1
08/15/03 11:11:27		System Configuration Loaded!

Figure 6
Current Event Log Display

Analogs

All meter temperatures and pressures defined in the system are displayed in the analog display by tag name provided.



The screenshot shows a window titled "System Analogs" with a blue header bar. Below the header is a button labeled "Exit". The main area of the window contains a list of tags and their corresponding values, arranged in two columns. The tags include TT (Temperature) and PT (Pressure) for various units (1000, 2000, 3000, 4000, 5000, 6000, 7000, 8000), and DPT (Differential Pressure) for units 3000 and 6000. All values are displayed as 0.0.

Tag Name	Value	Tag Name	Value
TT-1000	0.0	DPT-6000	0.0
PT-1000	0.0	TT-6001	0.0
TT-1001	0.0	PT-6001	0.0
PT-1001	0.0	DPT-6001	0.0
TT-2000	0.0	TT-7000	0.0
PT-2000	0.0	PT-7000	0.0
TT-2001	0.0	TT-7001	0.0
PT-2001	0.0	PT-7001	0.0
TT-3000	0.0	TT-8000	0.0
PT-3000	0.0	PT-8000	0.0
DPT-3000	0.0	TT-8001	0.0
TT-3001	0.0	PT-8001	0.0
PT-3001	0.0	TT-8002	0.0
DPT-3001	0.0	PT-8002	0.0
TT-4000	0.0	TT-8003	0.0
PT-4000	0.0	PT-8003	0.0
TT-4001	0.0	TT-8004	0.0
PT-4001	0.0	PT-8004	0.0
TT-5000	0.0		
PT-5000	0.0		
TT-5001	0.0		
PT-5001	0.0		
TT-6000	0.0		
PT-6000	0.0		

Figure 7
Analog Display

Meter Graphic

At present the default software provides for each meter a generic graphic for flow rate, temperature and pressure for each meter. When this menu item is selected, a secondary selection menu will appear, where the specific meter can be selected from a selection drop down menu.

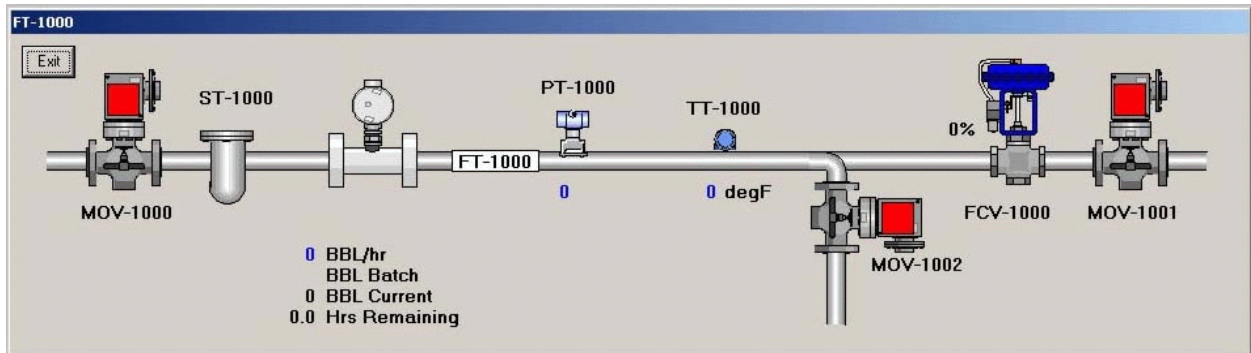


Figure 8
Meter Line Display

Group Graphic

When groups are defined into the system, this selection will provide a secondary menu to select a specific group. All meters, up to the maximum of the selected type of display are presented and the individual meter temperature, pressure and flow rates are updated.

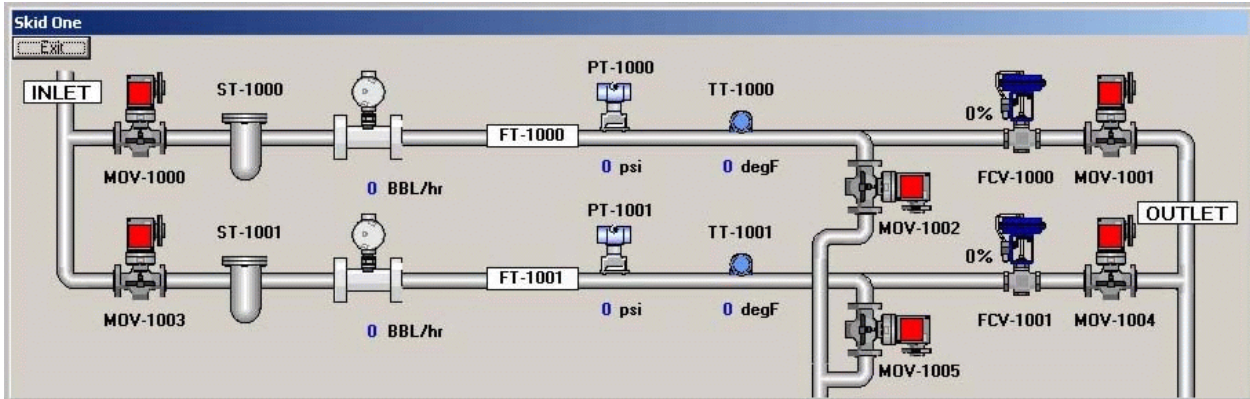


Figure 9
Group Display with Skid Graphics

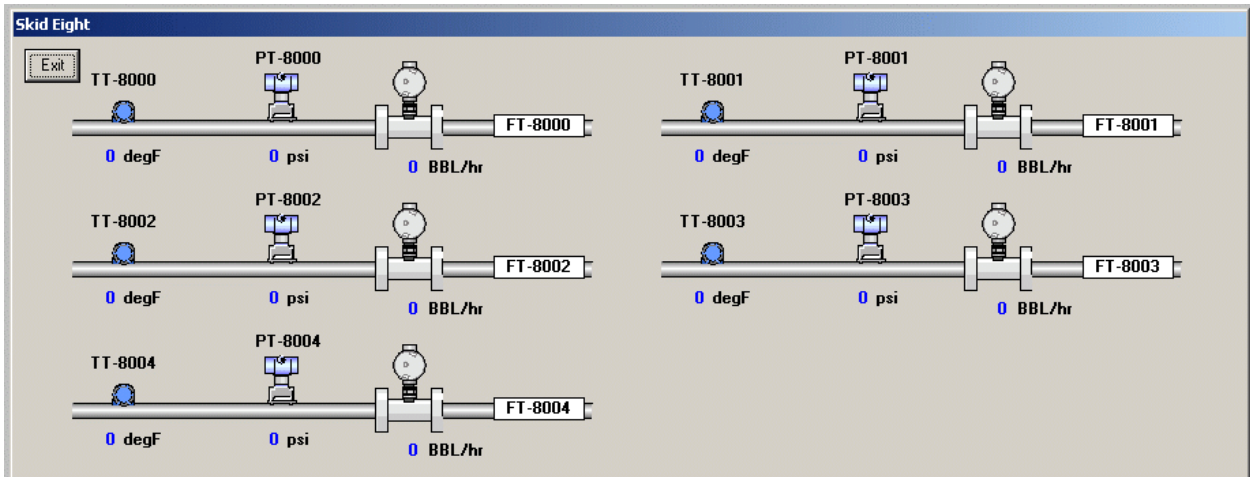


Figure 10
Group Display without Skid Graphics