fann® iPRO™

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iPRO HPHT Main Menu Bar

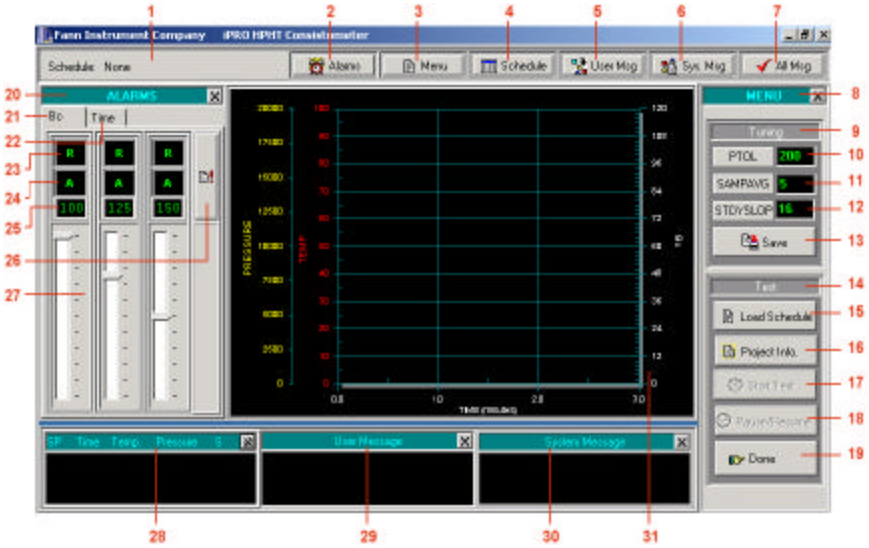
Sensor Display Mode

1. **Current Values.** Displays four real-time readings for the current test:
   Bc – Consistency of the slurry mixture in Bearden constants.
   Aux. Temp. – Auxiliary temperature in ?F.
   S. Temp. Slurry temperature in ?F.
   Pressure. Pressure in PSI.
2. **Test Set-point.** Displays four values for each Set-point:
   SP. Set-point number.
   Aux. Temp. Auxiliary temperature in º F.
   S. Temp. Slurry temperature in º F.
   Pressure. Pressure in PSI.
3. **Times.** Displays Test Time.
4. **Motor.** Switches the motor ON/OFF.
5. **Coolant.** Switches the coolant ON/OFF.
6. **Heater.** Switches the heater ON/OFF.
7. **SENSOR**. Goes to Sensor Mode.
8. **MENU**. Goes to Menu Mode.
9. **EXIT.** Exits the system.
10. Locks and Unlocks screen.
11. **Alarm.** Switches Alarm ON/OFF.
12. **Siren.** Switches Siren ON/OFF.
13. **Pressure Up.** Takes pressure up.
14. **Pressure Dn.** Takes pressure down.

Menu Display Mode

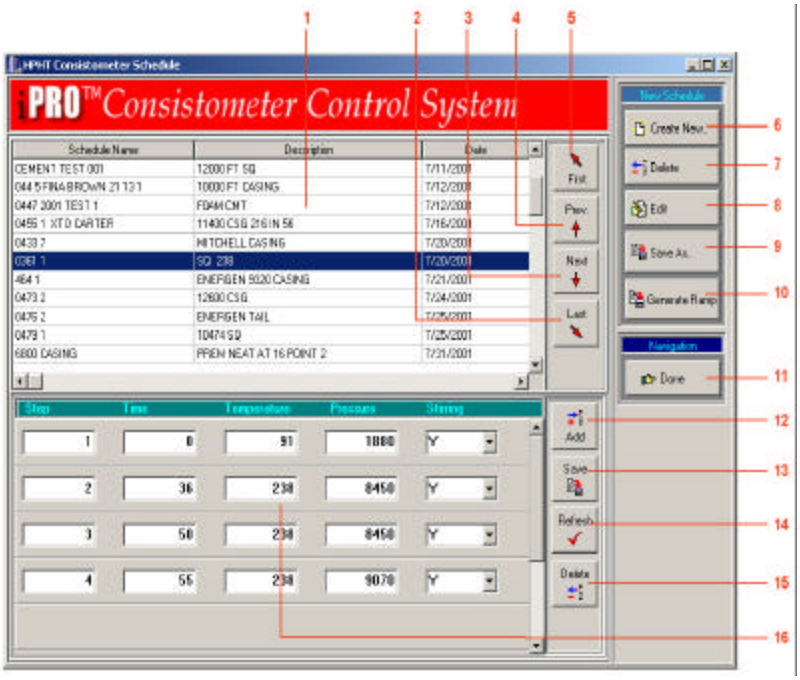
1. **Test.** Displays screen for running a test.
2. **Monitor.** Displays screen to allow remote monitoring and controlling of tests via Ethernet network or Internet connections.
3. **Report.** Displays screen to view reports and graphs.
4. **Schedule.** Displays screen to create and maintain all Test Schedules
5. **Web.** Displays iPRO HPHT and related web sites.
6. **History.** Displays system maintenance history screen.
7. **Calibration.** Displays calibration screen.
8. **Manual.** Displays On-Line User Manual.
9. **Systems.** Displays user's configurable parameters.

Main Test Screen



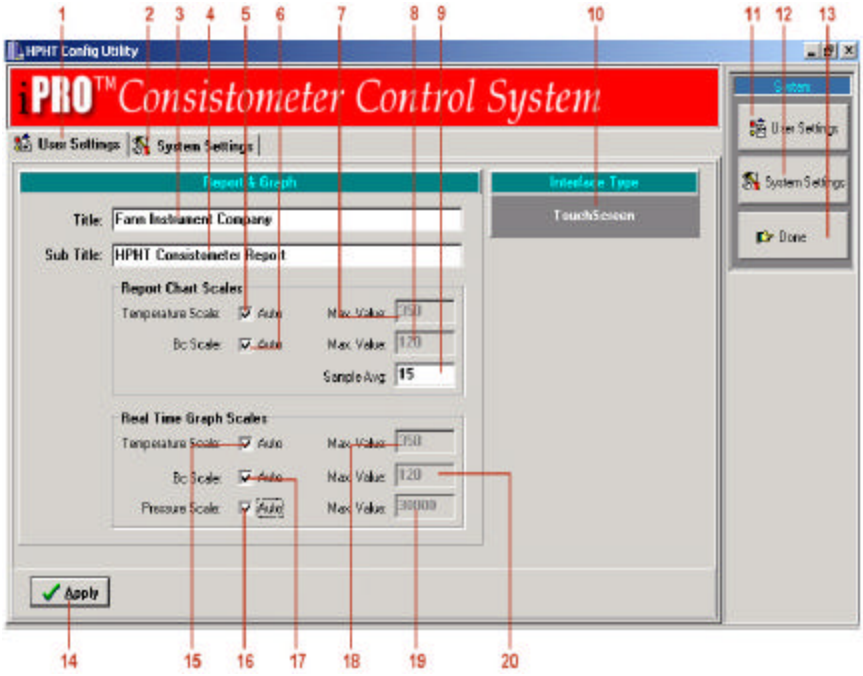
1. **Schedule.** Displays name of the currently loaded schedule.
2. **Alarms.** Hides/Shows ALARMS panel.
3. **Menu.** Hides/Shows MENU panel.
4. **Schedule.** Hides/Shows Schedule panel (No. 28).
5. **User Msg.** Hides/Shows User Message panel (No. 29).
6. **Sys. Msg.** Hides/Shows System Message (No. 30).
7. **All Msg.** Hides/Shows Schedule, User Message, and User Message panels.
8. **MENU.** Menu panel containing all buttons for test control.
9. **Tuning.** Panel that displays system tuning parameters.
10. **PTOL.** Displays Pressure tolerance. Click on the display to change the value.
11. **SAMPAVG.** Number of sample points to average.
12. **STDYSLOP.** Temperature tuning parameter.
13. **Save.** Saves all tuning parameters.
14. **Test.** Panel that displays all test related buttons.
15. **Load Schedule.** Selects and loads a Test Schedule.
16. **Project Info.** Enters test's project information.
17. **Start Test.** Starts a test after loading Schedule and entering project information.
18. **Pause/Resume.** Pauses or Resumes a test in progress.
19. **Done.** Click this button when a test is completed.
20. **ALARMS.** Panel that displays and configures all alarm types.
21. **Bc.** Tab that displays Consistency Alarms.
22. **Time.** Tab that displays Time Alarms.
23. **R.** Click here to turn off alarm siren for this particular alarm.
24. Shows Alarm status: Active (**A**), Disable (**D**) or Shutdown (**SD**).
25. Click on this display to set new alarm value. A Zero value disables the alarm.
26. Saves all alarm settings.
27. Alarm value indicator.
28. **Schedule Panel.** Displays current selected test schedule.
29. **User Msg. Panel.** Displays various messages to users.
30. **System Msg. Panel.** Displays various system messages.

Schedule Screen



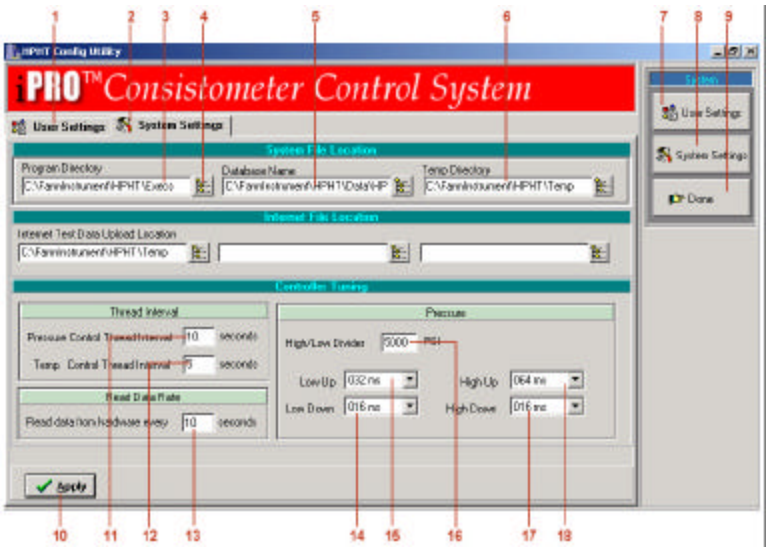
1. Panel that displays all existing schedules.
2. **Last.** Selects last schedule.
3. **Next.** Selects next schedule.
4. **Prev.** Selects previous schedule.
5. **First.** Select first schedule.
6. **Create New.** Creates new schedule.
7. **Delete.** Deletes selected schedule.
8. **Edit.** Edits selected schedule.
9. **Save As.** Saves selected schedule as a new schedule.
10. **Generate Ramp.** Generates detail Ramp step for selected schedule.
11. **Done.** Exits this schedule module.
12. **Add.** Adds a new Set-point for selected schedule.
13. **Save.** Saves changes made to selected schedule.
14. **Refresh.** Re-reads schedule's Set-point from the database.
15. **Delete.** Deletes selected Set-point of selected schedule.
16. Panel that displays Set-points for the selected schedule.

User Configuration Screen



1. **User Settings.** Displays various parameters that user can customize.
2. **System Settings.** Displays various setting that affects the performance of the system.
3. **Title.** Title to be displayed in reports and graphs.
4. **Sub Title.** Sub-Title to be displayed in reports and graphs.
5. **Temperature Scale Auto.** Scales temperature automatically in test report graph.
6. **Bc Scale Auto.** Scales Bc scaled automatically in test report graph.
7. **Temperature Max.Value.** If Temperature Scale Auto (No. 5) is not checked then enter the maximum value for the scale here.
8. **Bc Max.Value.** If Bc Scale Auto (No. 6) is not checked then enter the maximum value for the scale here.
9. **Sample Avg.** Number of points to be averaged in the report graph. The larger the number, the smoother the graph line will look.
10. **Touch Screen.** Switches between Touch screen mode and Keyboard mode.

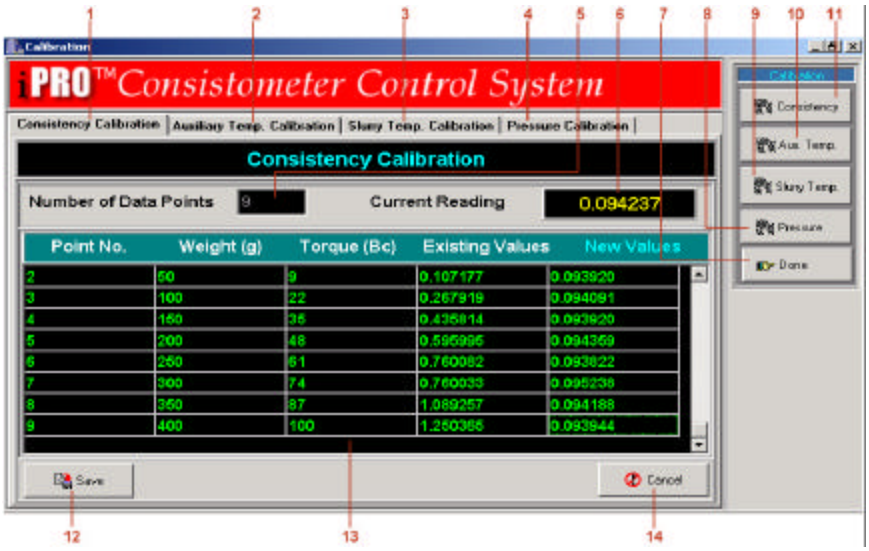
System Configuration Screen



1. **User Settings.** Displays User Setting screen.
2. **System Settings.** Displays System Setting screen.
3. **Program Directory.** Displays location of iPRO HPHT executables.
4. **Browse Icon.** Displays screen to allow for selection of Program Directory.
5. **Database Name.** Displays location of iPRO HPHT database file.
6. **Temp Directory.** Displays directory to be used for temporary files.
7. **User Settings.** Displays User Setting screen.
8. **System Settings.** Displays System Setting screen.
9. **Done.** Exits this module.
10. **Apply.** Saves changes made to this screen
11. **Pressure Control Thread Interval.** Specifies how often the system should examine the pressure value to and control it.
12. **Temp. Control Thread Interval.** Specifies how often the system should examine the temperature value and to control it.
13. **Read data from hardware every.** Specifies how often the system should look at the data from the hardware and to control it.
14. **Low Down.** Specifies how long the pressure pump's valve should stay opened to decrease pressure if the current pressure is less than High/Low Divider value.
15. **Low Up.** Specifies how long the pressure pump's valve should stay opened to increase pressure if the current pressure is less than High/Low Divider value.
16. **High/Low Divider**. Displays boundary between high and low pressures.
17. **High Down.** Specifies how long the pressure pump's valve should stay opened to decrease pressure if the current pressure is more than High/Low Divider value.
18. **High Up.** Specifies how long the pressure pump's valve should stay opened to increase pressure if the current pressure is more than High/Low Divider value.

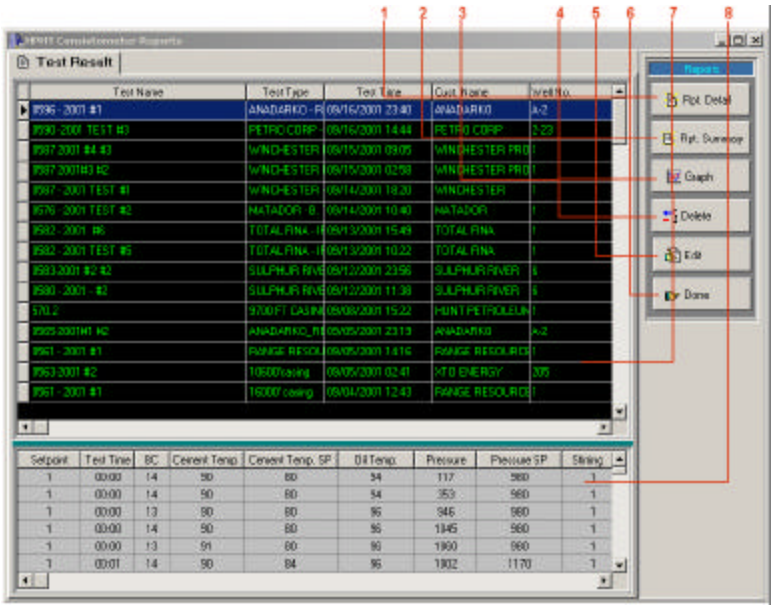
Important Note: The new configuration does not take effect until the system is rebooted.

Calibration Screen



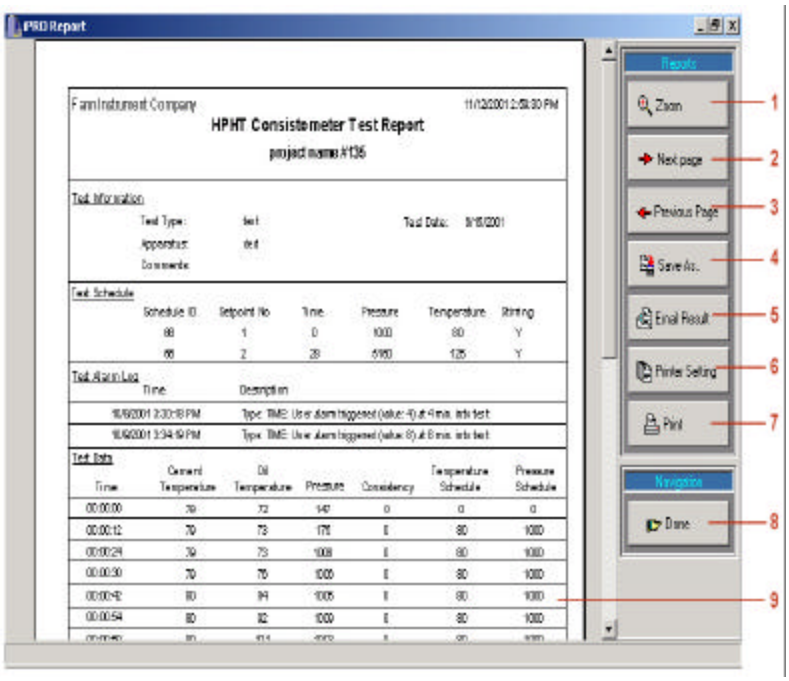
1. **Consistency Calibration.** Displays Consistency Calibration Screen.
2. **Auxiliary Temp. Calibration.** Displays Auxiliary Temperature Calibration Screen.
3. **Slurry Temp. Calibration.** Displays Slurry Temperature Calibration Screen.
4. **Pressure Calibration.** Displays Pressure Calibration Screen.
5. **Numbers of Data Points.** Displays number of points to calibrate.
6. **Current Reading.** Displays currents reading from the hardware.
7. **Done.** Exits Calibration module.
8. **Pressure.** Displays Pressure Calibration Screen.
9. **Slurry Temp.** Displays Slurry Temperature Calibration Screen.
10. **Aux. Temp.** Displays Auxiliary Temperature Calibration Screen.
11. **Consistency.** Displays Consistency Calibration Screen.
12. **Save.** Saves calibration values.
13. Displays calibration data.
14. **Cancel.** Cancels current calibration session and keep previous calibration data.

Main Report Screen



1. **Rpt. Detail.** Displays detail report for selected test.
2. **Rpt. Summary.** Displays summary page report for selected test.
3. **Graph.** Displays plot for selected report.
4. **Delete.** Deletes selected report.
5. **Edit.** Edits header information of selected report.
6. **Done.** Exits Report module.
7. Displays all reports.
8. Displays records for selected report.

Detail Report Screen

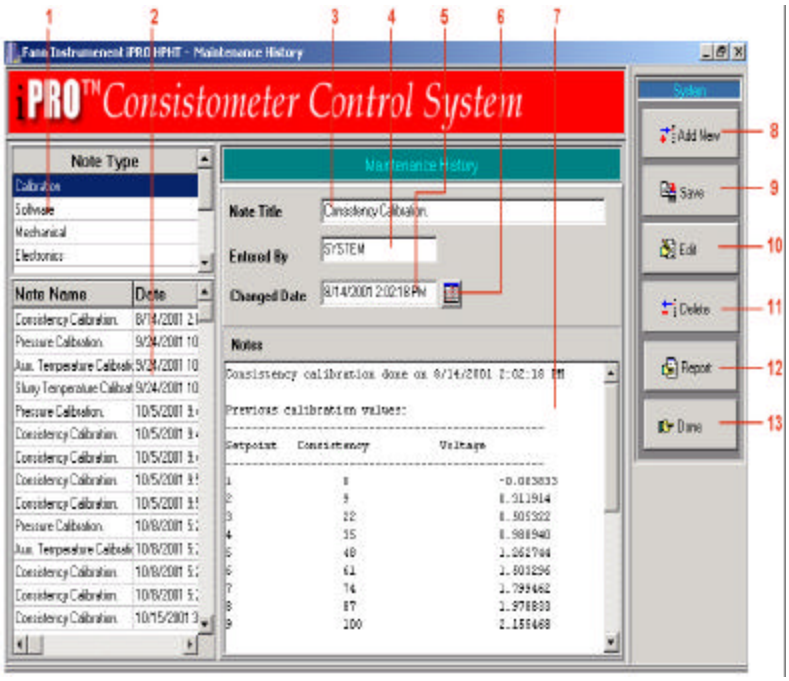


1. **Zoom.** Enlarges report.
2. **Next Page.** Goes to next page.
3. **Previous Page.** Goes to previous page.
4. **Save As.** Saves report under a different name.
5. **Email Result.** Emails report.
6. **Printer Setting.** Displays dialog to configure printer's setting.
7. **Print.** Prints selected report.
8. **Done.** Exits Report module.
9. Report page.

Web Screen

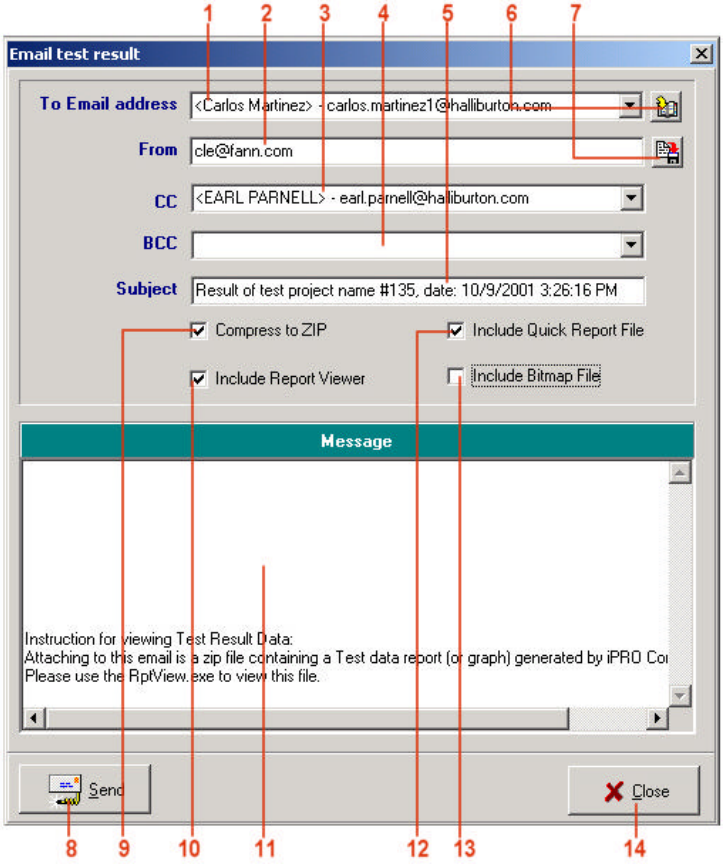
1. **HPHT Support Web Site Tab.** Displays iPRO HPHT Web Site.
2. **Fann Instrument Web Site Tab.** Displays Fann Instrument Site.
3. **Halliburton Company Web Site Tab.** Displays Halliburton Web Site.
4. **Back.** Goes to previous web page.
5. **Forward.** Goes to next web page.
6. **Refresh.** Refreshes current web page.
7. Displays Web page contents.
8. **Exit.** Exits Web Browser module.

System History Screen



1. **Note Type.** Displays all Note Categories.
2. **All notes for selected category.**
3. **Note Tile.** Shows Note's Title.
4. **Enter By.** Shows person who entered the notes.
5. **Changed Date.** Shows note's date.
6. **Calendar.** Shows calendar to select a date.
7. **Notes.** Displays note's content.
8. **Add New.** Adds new note.
9. **Save.** Saves new note.
10. **Edit.** Edits existing note.
11. **Delete.** Deletes selected notes.
12. **Report.** Displays and Print reports for notes
13. **Done.** Exits System History Screen.

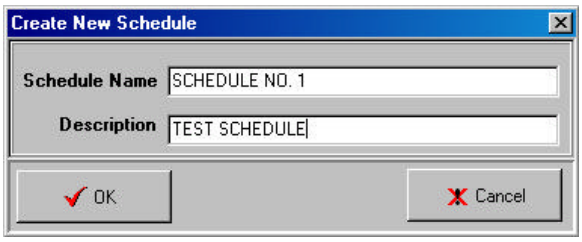
Email Report Screen



1. **To Email address.** Shows email address to send report to.
2. **From.** Shows email address of the person who sends the report.
3. **CC.** Shows Email carbon copy list.
4. **BCC.** Shows Email blank carbon copy list.
5. **Subject.** Shows email subject.
6. Displays screen to maintain address book.
7. Saves From (No. 2) email address.
8. **Send.** Sends email.
9. **Compress to Zip.** Compresses file before send
10. **Include Report Viewer**. Sends Report Viewer program to view files in Fann Report format.
11. **Message panel.** Displays email content send.
12. **Include Quick Report File.** Sends report in Fann report format..
13. **Include Bitmap File.** Sends graphs as bitmap format.
14. **Close.** Exits this dialog.

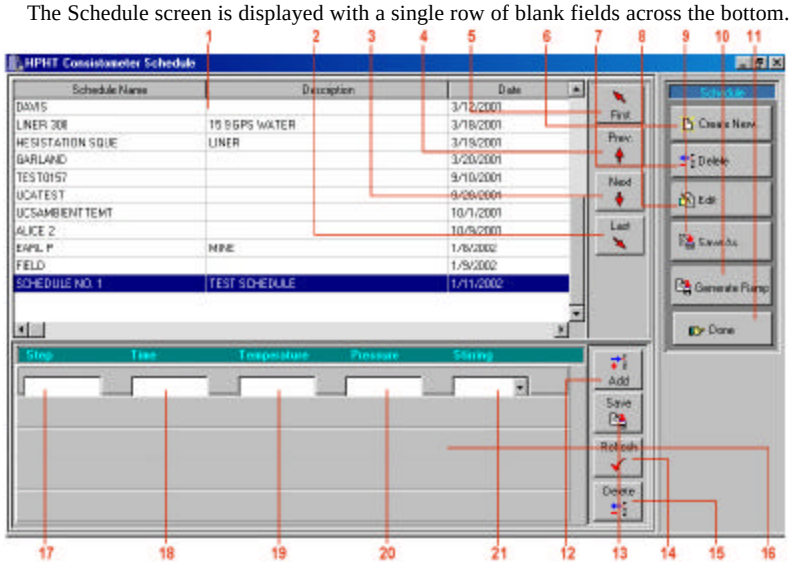
Create New Test Schedule

1) Press **Create New** (No. 6 from Schedule Screen). The Create New Schedule pop-up box displays.



2) Enter appropriate name for the new Test Schedule and optional Schedule description. Press **OK** to save the information and return to the Schedule screen.

3) The Schedule screen is displayed with a single row of blank fields across the bottom. [**Step**, **Time**, **Temperature**, **Pressure**, **Stirring**]



4. Press the **Step** field (No. 17). A keypad displays. Enter the number of the set-point. The system automatically reorders the entries according to this field, beginning with the number 1.

5. Press the **Time** field (No. 18). A keypad displays. Enter the number of minutes into the test at which the set-point occurs. **Note:** Always enter zero (0) for the time field of the first set-point.

6. Press the **Temperature** field (No. 19). A keypad displays. Enter the temperature in F° for the set-point. **Note:** Temperature value for first set-point is usually 80 degree F.

7. Press the **Pressure** field (No. 19). A keypad displays. Enter the pressure setting in PSI for the set-point.

8. Press the **Stirring** field (No. 20). Choose in the dropdown list **Y** for yes, **N** for no, or **A** for alternating.

9. Press **Add** (No.12) to add another set-point (row of blank fields).

10. Repeat step No. 4 to step No. 10 to define data for the new step

11. When done with creating all set-points, press **Save** (No. 13).

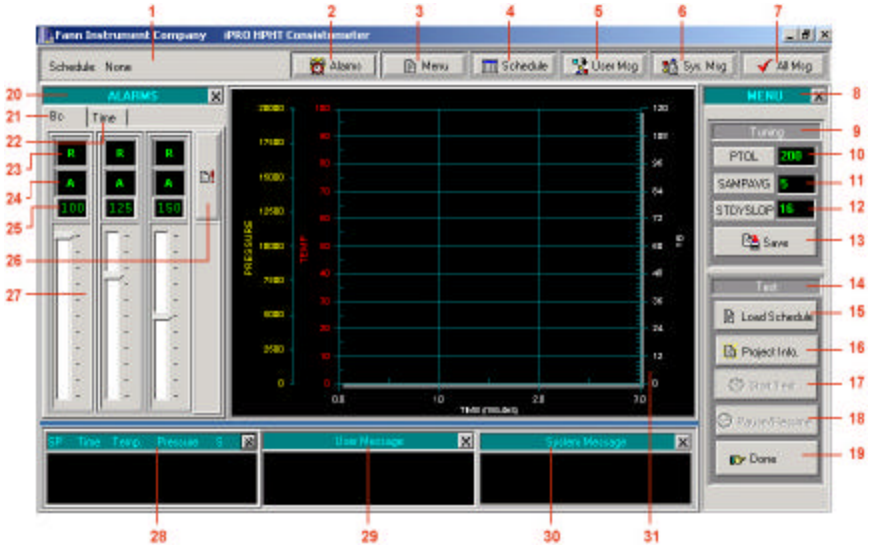
12. Press **Generate Ramp** (No. 10) to create the Ramp steps.

13. Press **Done** (No. 11) to exit this module.

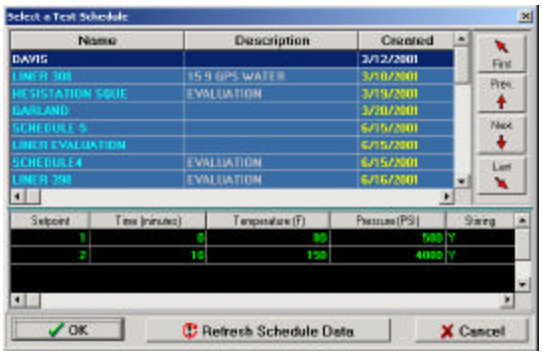
Run a Test

1) If the iPRO HPHT Main menu bar is not in Menu mode then press **MENU** to switch into Menu display mode.

2) Press **TEST**(No. 1) on the menu to have **Main Test Screen** appears.



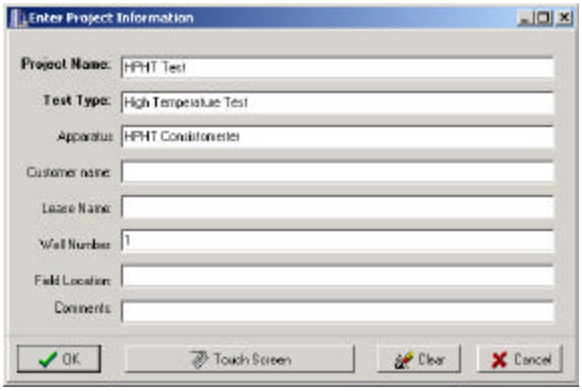
3) Press **Load Schedule** (No. 15) and the Select a Test Schedule pop-up window displays.



4) Select a schedule by pressing on a name (use **First**, **Prev.**, **Next**, or **Last** for browsing the list). The details of the selected schedule are displayed across the bottom of the dialog.

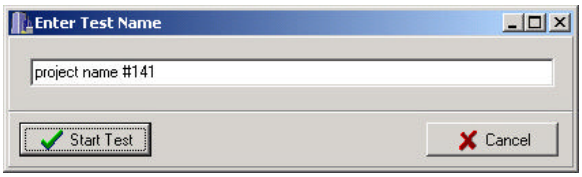
5) Press **OK** to finish the selecting test schedule.

6) Press **Project Info**. (No. 16) from the Main Test Screen. A dialog displays.



7) Enter appropriate name for the **Project Name**, **Test Type** and optional **Apparatus**, **Customer name**, **Lease Name**, **Well Number**, **Field Location**, or **Comments**. Press **OK** to save the information and return to the Test screen.

8) Press **Start Test** (No. 17) from **Main Test Screen** from the Main Test Screen. A dialog displays.



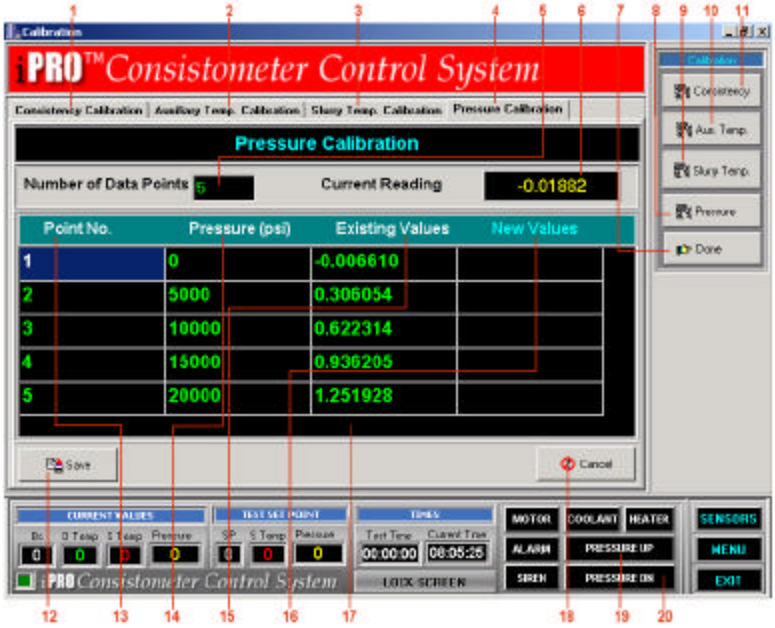
9) Enter appropriate name for the **Project Name** or choose the name appeared in the box and press **OK** to start the test.

10) Press **Done** (No. 19) from **Main Test Screen** when the test finishes.

Calibrate Sensors: Pressure

1) If the iPRO HPHT Main Menu Bar is not in Menu mode then press **MENU** to switch into Menu display mode.

2) Press **CALIBRATION** (No. 7) on the Main Menu Bar to have **Calibration Screen** appears.



3) Press **Pressure** (No. 8) to have the Pressure Calibration tab displays. There are 5 pressure data points to be calibrated. They are listed in **Point No.** column (No. 13). Their corresponding pressure values are listed in **Pressure** column (No. 14). The **Existing Values** column (No. 15) shows the previous calibration values.

4) To calibrate point No. 1 for value of Zero PSI: Touch **PRESSURE DN** (No. 20) to bring pressure down to Zero PSI. Wait until the corresponding voltage value in **Current Reading** display (No. 6) to stabilize then touch the 1st cell in **New Values** column (No. 16) to record the new calibration value for this point.

5) To calibrate next point: Touch **PRESSURE UP** (No. 19) to bring the pressure up to the appropriate value then touch the corresponding cell in **New Values** (No. 16) column to record it.

6) Repeat the above step no. 5 for all points to be calibrated.

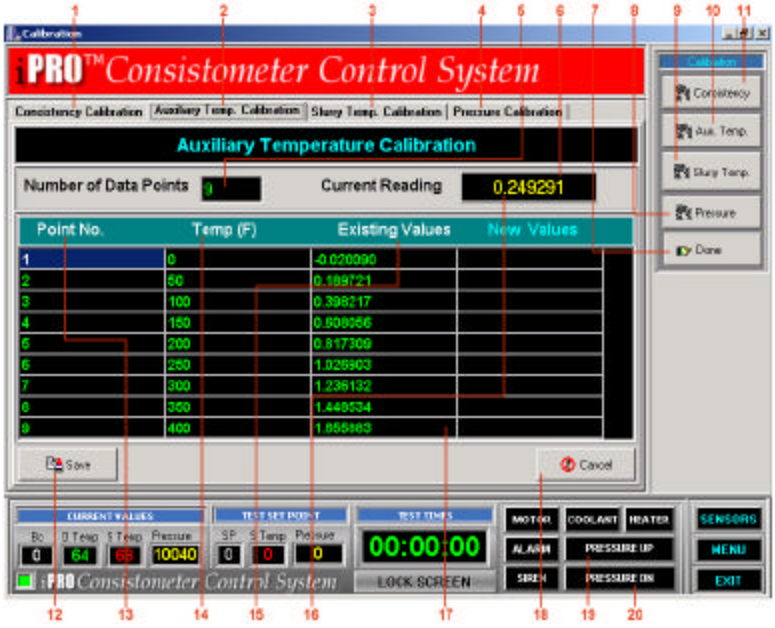
7) Touch **Save** (No. 12) to save the calibration result. Otherwise, press **Cancel** (No. 18) to discard all new calibration values and to restore the previous calibration values.

8) Reboot the system for changes to take effect.

Calibrate Sensors: Auxiliary Temperature

1) If the iPRO HPHT Main Menu Bar is not in Menu mode then press **MENU** to switch into Menu display mode.

2) Press **CALIBRATION** (No. 7) on the Main Menu Bar to have **Calibration Screen** appears.



1) Press **Aux. Temp** (No. 10) to have the Auxiliary Temp. Calibration tab displays. There are 9 temperature data points to be calibrated. They are listed in **Point No.** column (No. 13). Their corresponding temperature values are listed in **Temp. (F)** column (No. 14). The **Existing Values** column (No. 15) shows the previous calibration values.

2) Plug in a warmed up and charged Biddle to Chamber Thermocouple port (located underneath the cabinet).

3) Biddle: Dial to 0 degree F.

4) iPRO HPHT Auxiliary Temperature Calibration Screen: Wait until the corresponding voltage value in **Current Reading** display (No. 6) to stabilize then touch the cell in **New Values** column (No. 16) that is on the same line with Point No. 1 to record the new auxiliary Temperature Calibration value for the first point.

5) Biddle: Dial to 50 degrees F. Note: Do not spend too much time in trying to get the Biddle at exactly 50.0 degrees or other degree points! If it is close, i.e. 48, touch the corresponding cell in **Temp. (F)** column and enter 48 for this point.

6) iPRO HPHT Auxiliary Temperature Calibration Screen: Wait until the corresponding voltage value in **Current Reading** display (No. 6) to stabilize then touch the cell in **New Values** column (No. 16) that is on the same line with Point No. 2 to record the new auxiliary Temperature Calibration value for this point.

7) Repeat the above step no. 14 and 15 for all temperature points to be calibrated.

8) Touch **Save** (No. 12) to save the calibration result. Otherwise, press **Cancel** (No. 18) to discard all new calibration values and to restore the previous calibration values.

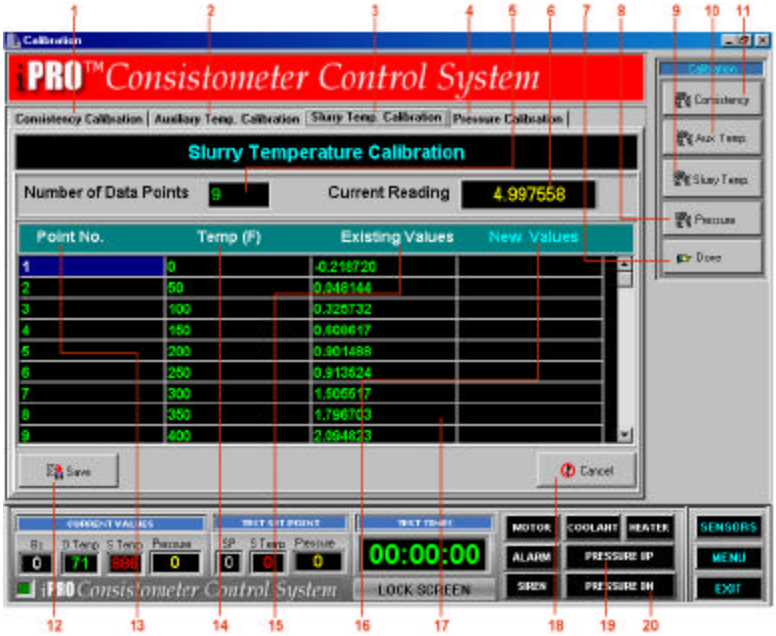
9) Disconnect and store Biddle.

10) Reboot the system for changes to take effect.

Calibrate Sensors: Slurry Temperature

1) If the iPRO HPHT Main Menu Bar is not in Menu mode then press **MENU** to switch into Menu display mode.

2) Press **CALIBRATION** (No. 7) on the Main Menu Bar to have **Calibration Screen** appears.



3) Press **Slurry. Temp** (No. 9) to have the Slurry Temp. Calibration tab displays. There are 9 temperature data points to be calibrated. They are listed in **Point No.** column (No. 13). Their corresponding temperature values are listed in **Temp. (F)** column (No. 14). The **Existing Values** column (No. 15) shows the previous calibration values.

4) Plug in a warmed up and charged Biddle to Cement Temp Thermocouple port (located on the front panel).

5) Biddle: Dial to 0 degree F.

   iPRO HPHT Slurry Temperature Calibration Screen: Wait until the corresponding voltage value in **Current Reading** display (No. 6) to stabilize then touch the cell in **New Values**

6) column (No. 16) that is on the same line with Point No. 1 to record the new auxiliary Temperature Calibration value for the first point.

7) Biddle: Dial to 50 degrees F. Note: Do not spend too much time in trying to get the Biddle at exactly 50.0 degrees or other degree points! If it is close, i.e. 48, touch the corresponding cell in **Temp. (F)** column and enter 48 for this point.

8) iPRO HPHT Slurry Temperature Calibration Screen: Wait until the corresponding voltage value in **Current Reading** display (No. 6) to stabilize then touch the cell in **New Values** column (No. 16) that is on the same line with Point No. 2 to record the new auxiliary Temperature Calibration value for this point.

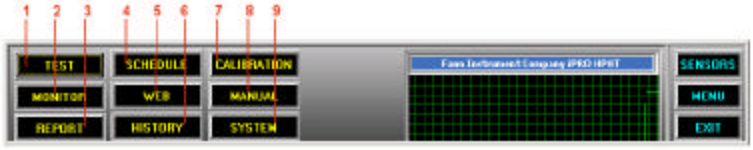
9) Repeat the above step no. 14 and 15 for all temperature points to be calibrated.

10) Touch **Save** (No. 12) to save the calibration result. Otherwise, press **Cancel** (No. 18) to discard all new calibration values and to restore the previous calibration values.

11) Disconnect and store Biddle.

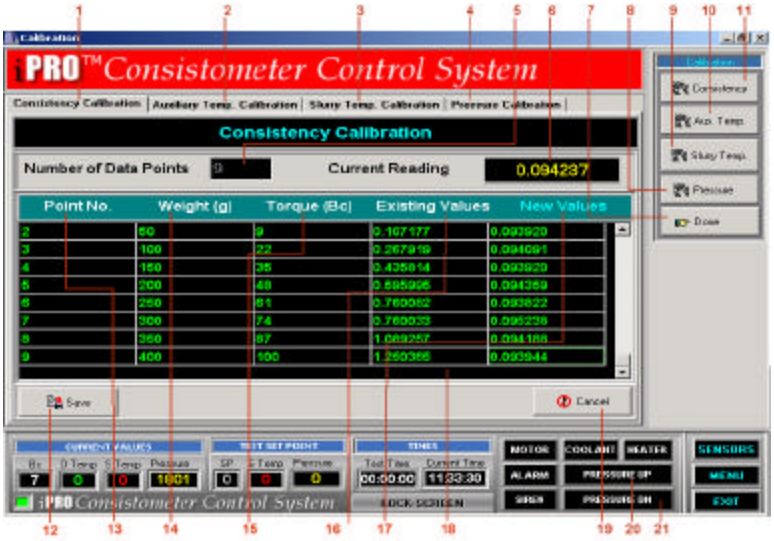
12) Reboot the system for changes to take effect.

Calibrate Sensors: Consistency



1) If the iPRO HPHT Main Menu Bar is not in Menu mode then press **MENU** to switch into Menu display mode.

2) Press **CALIBRATION** (No. 7) on the Main Menu Bar to have **Calibration Screen** appears.



3) Setup the Potentiometer/Weight Calibrator kit.

4) CALIBRATOR: Connect wires to the chamber and apparatus.

5) PRO HPHT Consistency Calibration Screen: Wait until the corresponding voltage value in **Current Reading** display (No. 6) to stabilize then touch the cell in **New Values** column (No. 16) that is on the same line with Point No. 1 to record the new Consistency Calibration value for the first point with zero weight and Bc Value of zero.

6) CALIBRATOR: Hang 50 grams on potentiometer string.

7) PRO HPHT Consistency Calibration Screen: Wait until the corresponding voltage value in **Current Reading** display (No. 6) to stabilize then touch the cell in **New Values** column (No. 16) that is on the same line with Point No. 2 to record the new Consistency Calibration value for the second point with 50 grams in weight and Bc Value of 9.

8) Repeat the above step no. 6 and 7 for all consistency points to be calibrated.

9) Touch **Save** (No. 12) to save the calibration result. Otherwise, press **Cancel** (No. 18) to discard all new calibration values and to restore the previous calibration values.

10) Reboot the system for changes to take effect.

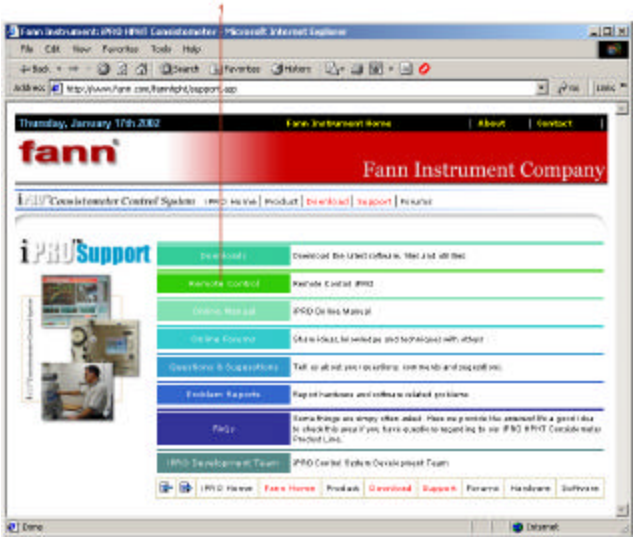
Remote Test Monitor

The optional iPRO HPHT Remote Control feature allows you to view and control up to four tests being run on four different iPRO HPHT units remotely via Ethernet or Internet connection. You can view real tim e graphs and test related data such as temperature, pressure, etc. You can also make changes to system tuning parameters, stop a test, view test reports, etc. remotely using this service.

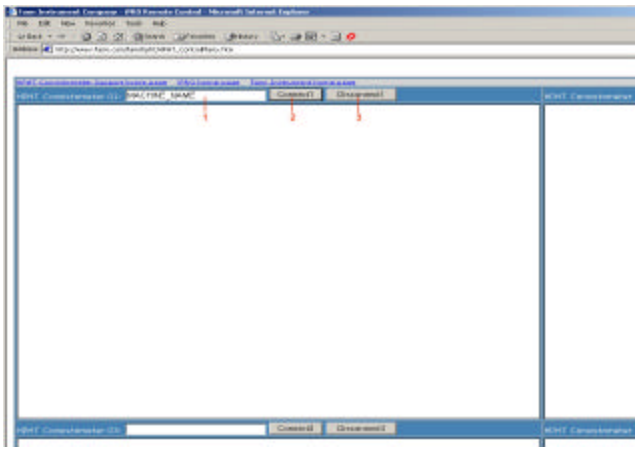
This chapter shows you how to remotely monitor an iPRO HPHT test session using Microsoft Internet Explorer Browser.

1) At the top of your Internet Explore window, next to ADDRESS, type http://www.fann-ipro.com to go to Fann Instrument's iPRO support web site. The following screen is displayed.

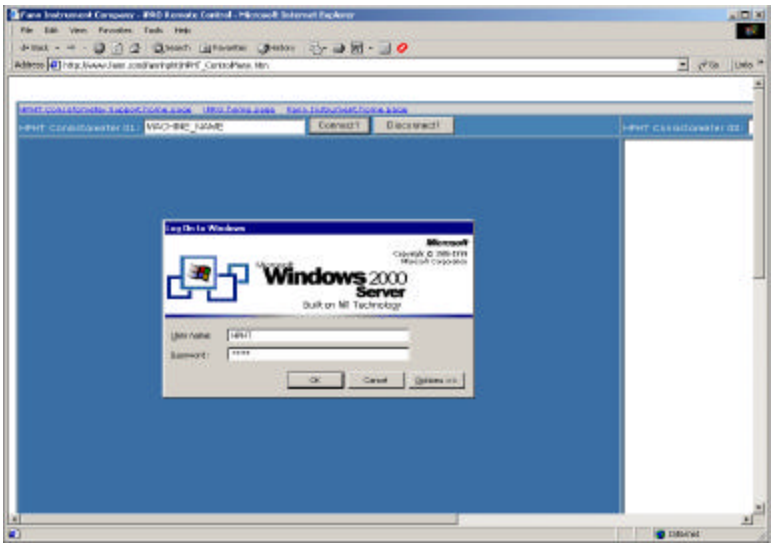
2) Click on Support (No. 1).The following screen is displayed.
3)



4) Click on Remote Control link (No. 1) (Note: If this is the first time you access to this link on the current computer then there will be a delay of several minutes as the additional software is downloaded to the computer). The following screen is displayed. Please note that if your computer monitor is of smaller size, you will not able to see all four screens.



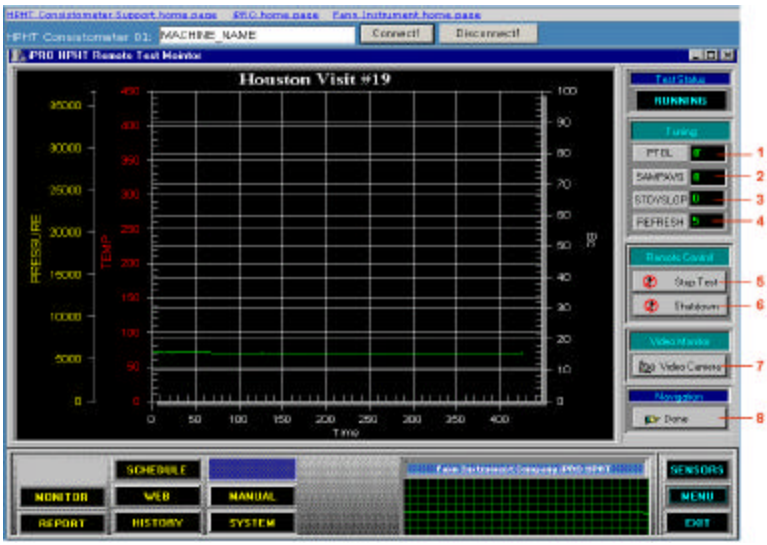
5) Type in the name of the iPRO HPHT unit that you wish to monitor in the Machine Name field (No. 1) and click **Connect** (No. 2). The following dialog is displayed.



6) Enter the password for this particular iPRO unit then press ENTER. If there is a test currently running on this iPRO HPHT then you will see a screen with the following message:

7) Click YES to only monitor the test. You will see the Main Menu Control bar being displayed at the bottom of the screen as in the following screen.

8) Click on MONITOR (No. 1) to start monitoring the test. The following screen is displayed.



If you want to exit the session but still want to leave the monitor session running so that you can log back in (from the same or from a different computer) to continue monitoring the test, simply click **Disconnect** button located at the top of the screen (or you can simply exit the Microsoft Internet Explore browser). This will log you out of the monitoring session but your monitoring session is still kept alive. When you reconnect to this machine later, you will be at the point where you left.

If you want to exit the session and to quit the monitoring session altogether, do the followings:

a. Click **Done** button (No. 8) from the **iPRO HPHT Remote Test Monitor** screen to quit the Remote Monitoring program.

b. Click **Exit** button from the **Main Menu Control Bar** at the bottom of the screen to complete the log out.

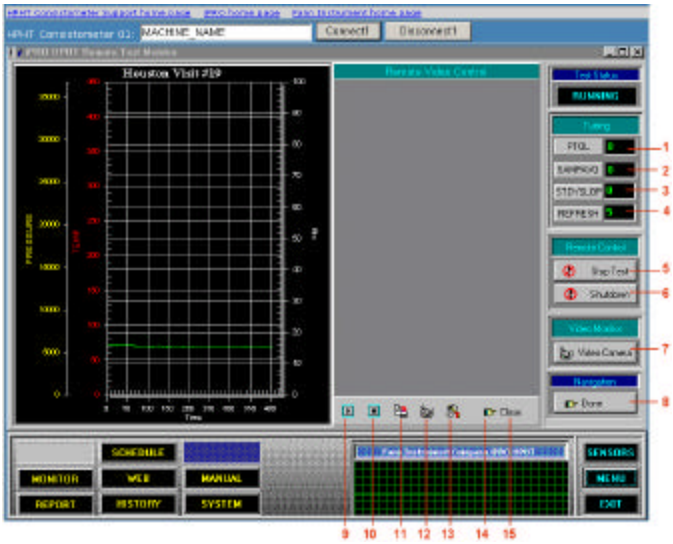
9) From **iPRO HPHT Remote Test Monitor** screen you can modify tuning parameters such as Pressure Tolerance (No. 1), Number of sample points to average (No. 2 Heat Controller Tracking (No. 3), and number of seconds to refresh this Remote Test Monitor Screen (No. 4). You can also stop a test by clicking on **Stop Test (No. 5).**

Remote Video Monitor

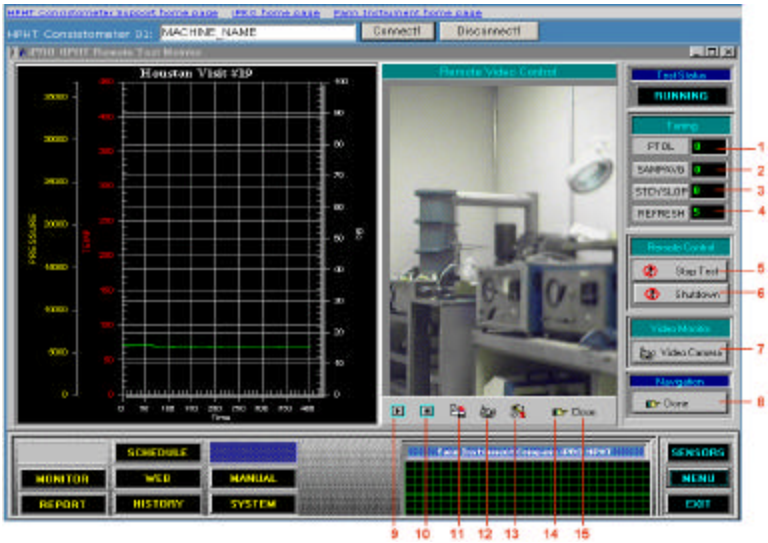
The optional Remote Video Monitor feature allows you to remotely monitor your lab where the iPRO HPHT Consistometer is located. You can have up to four video sessions from one single computer. You can control image quality, video screen size, zoom, move camera in/out, and capture video frames to disk. Among many applications for this features are visual collaboration, training, maintenance, and security.

This chapter shows you how to start an iPRO video monitor session using Microsoft Internet Explorer Browser.

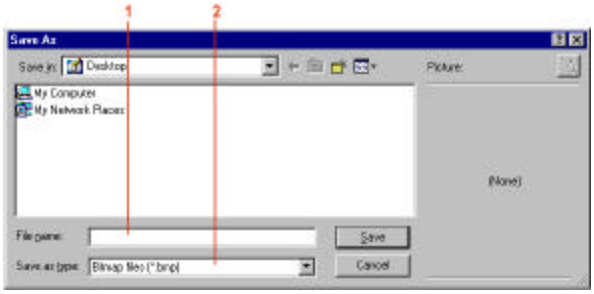
1) Follow instructions from step no. 1 to step no. 7 of the previous chapter (Remote test Monitor) to connect to the desired iPRO HPHT Consistometer. To activate the camera for remote monitor, click on Video Camera (No. 7). The following screen is displayed.



2) To start the camera, click on the **Play** button (No. 9). You should see video image from the remote location being displayed similar to the following screen:

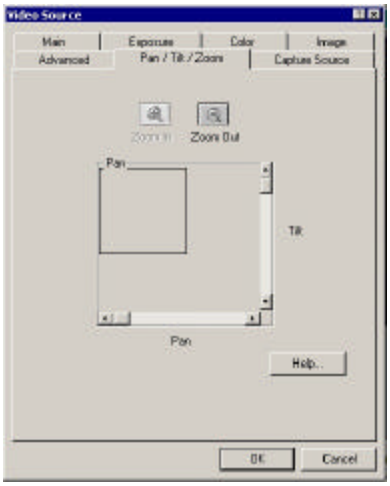


3) To capture a video frame to disk, click on **Video-Capture** button (No. 11). A dialog is displayed as shown below. Select folder where you want to save the image, type in file name (No. 1), select the desired bitmap format (No. 2) and click on **Save** button to save the image.



10) To Pan, tilt or zoom, click on **Video Source** button (No.13) on **iPRO HPHT Remote Test Monitor** screen. The Video Source dialog is displayed. Click on Pan/Tilt/Zoom tab. Within this tab, you can control location of the image in the field of view.

11) To stop video monitoring, click Stop button (No. 10) on the **iPRO HPHT Remote Test Monitor** screen.



Pan – moves across the image horizontally. This option does not work when the camera is zoomed all the way out or when the capture size is 640 x 480.

Tilt – moves across the image vertically. This option does not work when the camera is zoomed all the way out or when the capture size is 640 x 480.

Zoom In – zooms in on the portion of the image currently visible in the video window. The size of the rectangle shows the amount that the camera is zoomed.

Zoom Out - zooms out on the portion of the image currently visible in the video window. The size of the rectangle shows the amount that the camera is zoomed.

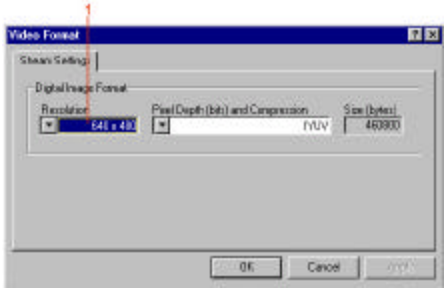
Tip: Right-clicking the mouse inside the pan area brings up a menu with the following:

MaxZoom In – the camera zooms all the way in

MaxZoom Out - the camera zooms all the way out

Center View – places the image in the center of the field of view. .

12) To change the size of the video display window, click on **Video Format** button (No. 12). The Video Format dialog is displayed. Click on the drop down box (No. 1) to select the desired resolution.


Video Format
Stream Setting
Digital Image Format
Resolution
640 x 480
Pixel Depth (bit) and Compression
YUV
Size (bytes)
460800
OK
Cancel

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