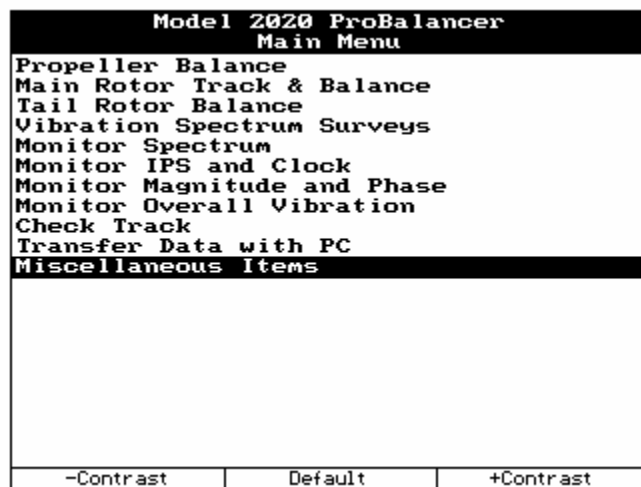
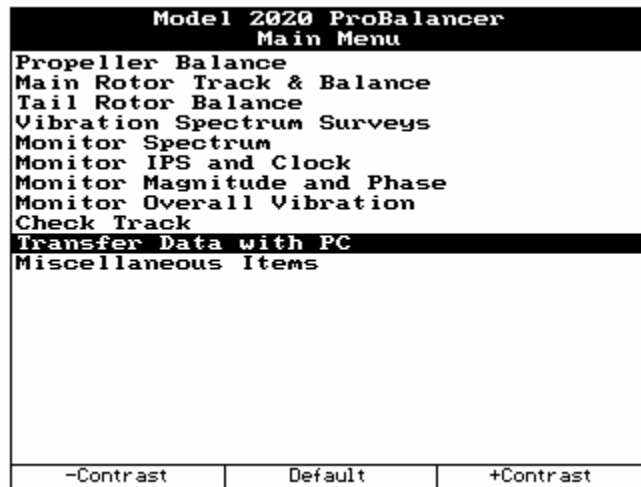

Chapter 13

Transfer Data with PC and Miscellaneous Items

(Revision 2, February 2005)

“Transfer Data with PC” and “Miscellaneous Items” are two analyzer functions that are accessed from the analyzer’s Main Menu banner screen as shown below. A description of each of these two functions follows, along with the information required to complete the menu screens within these functions, and the steps necessary to perform the functions.



13.1 - Transfer Data with PC

The “Transfer Data With PC” menu selection is used in conjunction with ACES Systems’ *AvTrend Bronze™*, *WinFlash™*, and *ACES Comm™* software programs. The Model 2020 ProBalancer Analyzer supports all these software programs.

AvTrend Bronze is included with all new Model 2020 ProBalancer Analyzers. It allows the user to link between the PC and the analyzer enabling the user to update software, store data, and print reports. Data files can be found on the ACES Systems’ web page or emailed from the factory to upgrade the analyzer. Data from the field can be emailed to the factory for troubleshooting and evaluation. Reports can easily be printed on most printers attached to the PC.

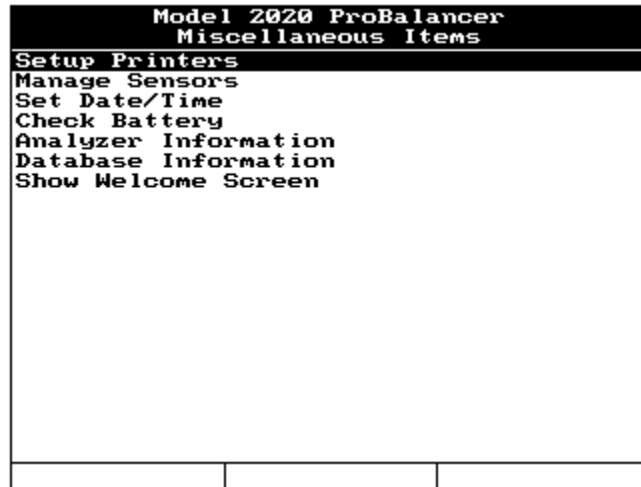
WinFlash provides a link between your PC and the analyzer so you can upgrade the analyzer software version without the having to send the analyzer back to the factory. Upgrade files will be sent to you on a floppy disk but can be emailed to you upon request.

ACES Comm is a software program that accomplishes several tasks. It enables you to download jobs to your PC for storage only. It also facilitates the download of your current setups into a PC for storage. When the download takes place, the influence for a particular setup is upgraded to include its most recent uses. This refines the influence and further expands the ability to conduct a single run adjustment.

A user manual as well as help files accompanies each of these software programs. Refer to those sources for detailed operating instructions.

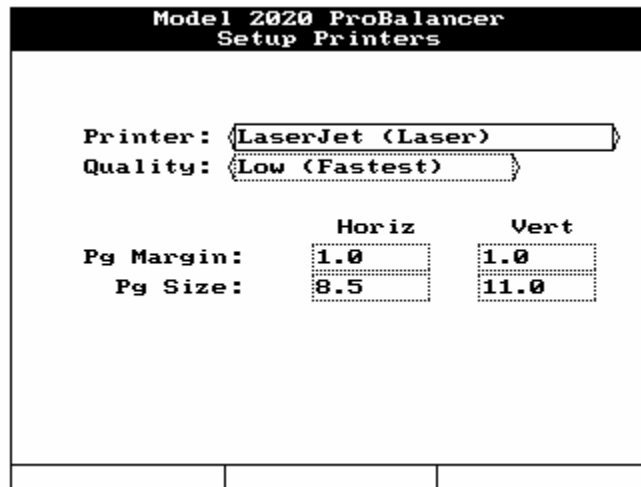
Open the appropriate PC based software. Connect the Model 2020 ProBalancer Analyzer with the supplied COMM/Print cable to the PC serial port. Select “Transfer Data with PC” from the “Main Menu” and press [ENTER]. Data transfer will begin. When finished, the “Main Menu” will reappear.

13.2 - Miscellaneous Items



The “Miscellaneous Items” banner menu screen shown above contains several menu items, three of which are used for identification of the analyzer. The other items are user-accessible and editable items. All are described in the following sections.

13.2.1 - Setup Printer



The “Setup Printer” option allows you to select from three possible printer types, three print qualities, horizontal and vertical page margins, and paper size. The analyzer supports Epson FX compatible dot matrix printers, Hewlett-Packard Laser Jet II or higher version Laser Jet printers, and Seiko DPU-414 thermal printers. (See your specific printer manual for Epson FX compatibility information.) The analyzer supports only the three listed printer types with its direct serial output. However, the analyzer will also support parallel printers but a serial-to-parallel print converter is required to accomplish this. The converter can be purchased from

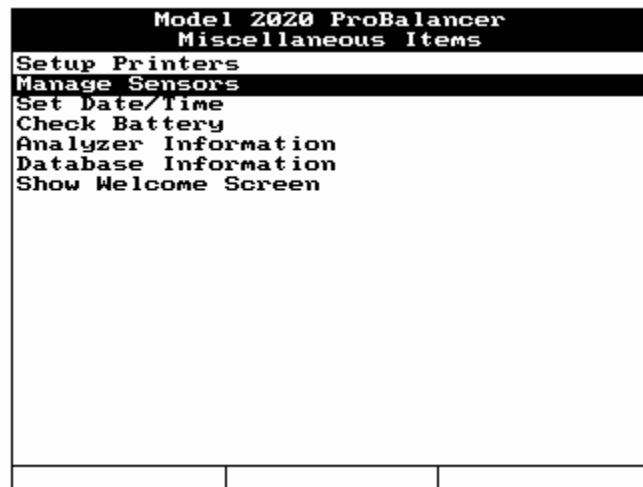
ACES Systems. ACES Systems does not provide support for difficulties in printing associated with printer converters not purchased through ACES Systems due to the large number of converters available for which we have no technical information.

Print quality is largely determined by the visual quality of spectral graphics and print desired by the user. The higher quality print takes longer for the dot matrix printer to perform. Experiment with the three quality options to determine which best fits your needs.

To complete the “Setup Printer” process, do the following:

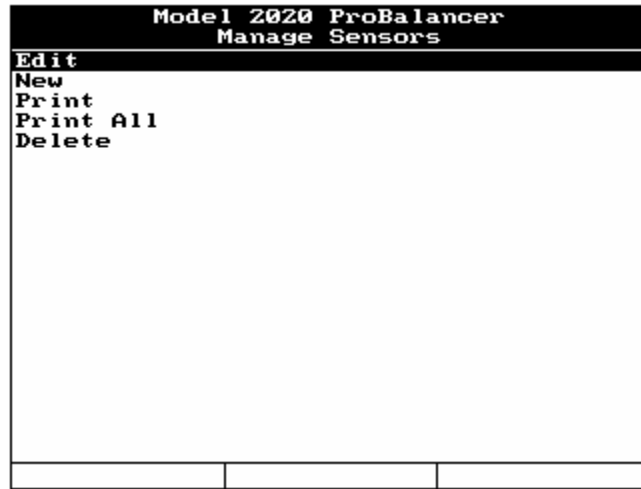
1. Select “Miscellaneous Items” from the Main Menu banner screen.
2. Select “Setup Printers” from the “Miscellaneous Items” banner screen menu.
3. Use the [⇒] key to toggle between the three printer choices in the “Printer” field to select a printer.
4. Use the [↓] key to move down to the next field, “Quality.” Select print quality by using the [⇒] key to toggle between the choices.
5. Use the [↓] key to move down to the next field, “Pg Margin, Horiz” Enter the desired margin size using the keypad. Use the [↓] key to move to the next field in this area of the screen. Enter all dimensions in the four fields in this part of the screen using the keypad. The “Pg Margin” fields are fixed for the DPU-414 printer selection and not editable.
6. Press [ENTER] to accept your settings and exit the screen.

13.2.2 - Manage Sensors

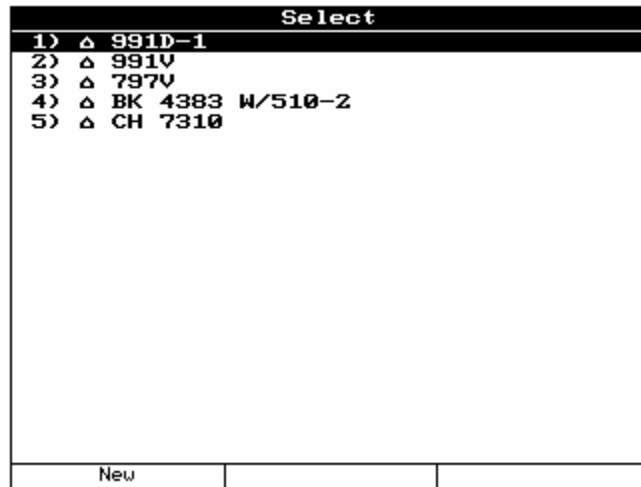


The “Manage Sensors” option allows you to preprogram information about all the vibration sensors you own or use. Once all sensors are preprogrammed, they can be recalled and selected from an option list during a balance/analysis procedure, saving time during the procedure by eliminating the need to reinput sensor data.

The “Manage Sensors” option also allows you to edit, create, print, and delete sensors from the analyzer’s memory. The “Manage Sensors” banner screen is shown below.



When the “Edit” function is selected, the screen changes to the “Select” banner screen. On this screen you may choose to “Edit” the information for any of the listed sensors simply by selecting that sensor from the list. The screen will then change to the “Sensor Setup” screen and show the complete information currently in memory for the selected sensor. If you want to add a “New” sensor to your list, you may choose “New” from the Manage Sensors banner screen or press the [F1] “New” key from the “Select” banner screen. Either will change the screen to the “Sensor Setup” banner screen where all fields will be blank. Enter the sensor information as necessary for the new sensor.



13.2.2.1 – Add or Edit Sensor

Names for some industry-standard sensors have already been preloaded into the analyzer at the factory. The default sensors preloaded in the Model 2020 ProBalancer Analyzer will have a “Δ” preceding the sensor name. These sensors are locked and cannot be edited or deleted. If your sensor name appears in the preprogrammed list, you may not need to proceed further.

If your sensor name does not appear, then you must select [F1] “New” to add a new sensor name and specifications.

To preprogram a sensor in the analyzer’s memory, you will need the follow sensor specifications which should be available from the data sheet supplied with your sensor.

1. The sensor’s model or name that will be familiar to you and other users.
2. The sensor’s amplitude units, sometimes called EU or engineering units. This will be expressed in one of the following formats: g’s (for equivalent gravities), IPS (Inches Per Second), mm/sec (millimeters per second), cm/sec (centimeters per second), mils (1000th of an inch) or microns (1,000,000th of a meter).
3. The sensor’s sensitivity. This is normally expressed in mV per engineering unit, as described above. For instance, the standard accelerometer supplied with the 2020 ProBalancer Analyzer is the model 991D -1. Its engineering unit is in g’s and it produces 20 mV for every g of force exerted on it, therefore its sensitivity is 20 mV/g.

To add a sensor or to edit the specifications for an already programmed sensor, do the following:

1. Select “Miscellaneous Items” from the Main Menu banner screen.
2. Select “Manage Sensors” from the “Miscellaneous Items” banner screen menu.
3. Select “Edit” from the “Manage Sensors” banner screen menu.

NOTE

To edit an existing sensor in the list, select it at this point, and proceed with step 5. For adding a new sensor, go to step 4. Preset sensors cannot be edited, only those entered by the user.

4. Press the [F1] key, which corresponds, to the function key window labeled “New” at the bottom of the screen.

The “Sensor Setup” screen shown below will be displayed. Toggle between the fields using the [↑] or [↓] key.

The screenshot shows a terminal-style interface for the Model 2020 ProBalancer. The title bar reads "Model 2020 ProBalancer Sensor Setup". Below the title, there are four rows of data, each with a label and a value in a rectangular box:

- Name: SENSOR NAME
- Amplitude Units: g's
- Probe Sensitivity: 0.000
- Reverse Polarity: No

At the bottom of the screen, there is a horizontal line with three small rectangular boxes below it, likely representing function keys.

5. Enter a name for the sensor in the “Name:” field, using the keypad. The field will accept up to twenty, alphanumeric characters.
6. The “Amplitude Units:” field is a toggle selection field. Use the [⇐] or [⇒] key to toggle between the selections until the appropriate units are displayed. The choices are gs; (for equivalent gravities), IPS (Inches Per Second), mm/sec (millimeters per second), cm/sec (centimeters per second), mils (1000th of an inch) or microns (1,000,000th of a meter).
7. The “Probe Sensitivity” field is used to enter the amount of sensor output equal to one amplitude unit as defined in paragraph 6 above. In the example shown above, the 991D-1 will output 20 mV per one g of vibration. This value will be expressed in mV per unit. If the sensor’s output is not in mV, a charge amplifier will need to be included in the circuit.
8. The “Reverse Polarity” is a toggle selection field. The two selections are “Yes” and “No”. This is a special function that will only apply to a very few sensors available. The selection should be toggled to “No” for the majority of cases. The 991V sensor is a factory installed sensor type that uses the reverse polarity and is set to “Yes”. If you do not know the polarity requirements of the sensor, call ACES Systems and ask for Customer Support.
9. When all fields are completed as required, press [ENTER] to accept your answer and exit the screen.

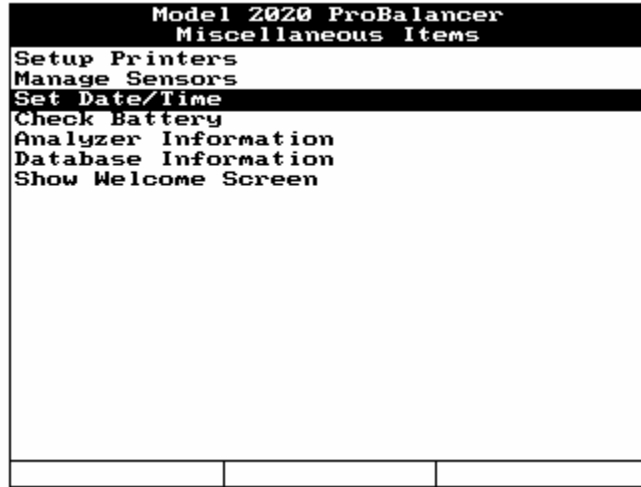
13.2.2.2 - Print, Print All, or Delete Sensor

Print, Print All, and Delete are all selections available on the “Manage Sensors” banner screen menu.

To access any of these functions, do the following:

1. Select Print, Print All, or Delete from the “Manage Sensors” banner screen menu.
 - a. If you select “Print,” next select a sensor from the list that appears. The analyzer will display the message “Output to printer complete.” Press [F3] to continue.
 - b. If you select “Print All,” the analyzer will display a message that asks “Are you sure?” Press [F1] to confirm “Yes,” press [F3] for “No” and to return to the “Manage Setups” screen.
 - c. If you select “Delete,” next select a sensor to delete from the list that appears. The analyzer will display a message that asks “Are you sure?” Press [F1] to confirm “Yes,” press [F3] for “No” and to return to the “Manage Setups” screen.

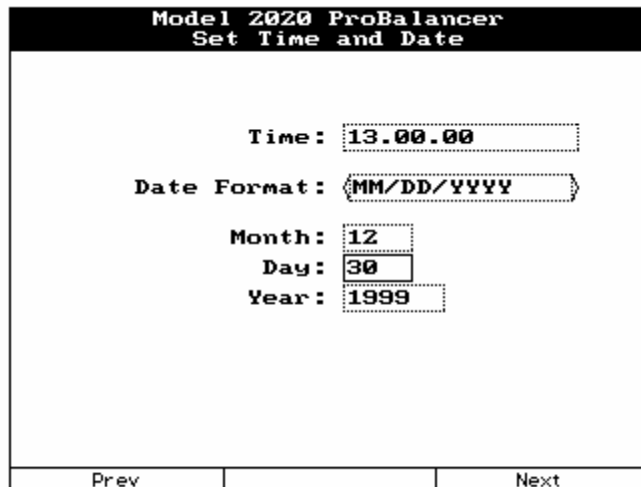
13.2.3 - Set Date and Time



The “Set Date and Time” selection allows you to set the desired date and time in the analyzer. These settings are entered directly using the analyzer keypad.

To set the date and time, do the following:

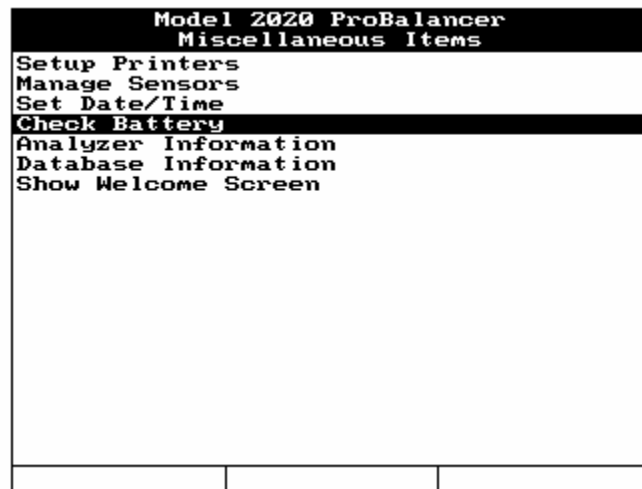
1. Select “Miscellaneous Items” from the Main Menu banner screen.
2. Select “Set Date and Time” from the “Miscellaneous Items” banner screen menu. The screen shown below will appear.



3. Enter the time in a 24-hour format as follows in the “Time” field.
Hour - Valid range is 1 through 24, followed by a “.” (Decimal)
Minute - Valid range is 0 through 59, followed by a “.” (Decimal)
Seconds - Valid range is 0 through 60

4. Use the [↓] to move to the “Date Format” field. You may specify the date format you wish to use by using the [⇒] key to toggle the selection to the format you wish to use. Available formats are: MM/DD/YYYY, DD/MM/YYYY and YYYY/MM/DD, where YYYY = Year, MM = Month and DD = Day.
5. Use the [↓] key to move to the “Month” field and enter the month. Valid range is 01 through 12.
6. Use the [↓] key to move to the “Day” field and enter the date. Valid range is 01 through 31.
7. Use the [↓] key to move to the “Year” field and enter the Year. The valid range is 1998 through 9999. Press [ENTER] to accept the entries and exit the screen.

13.2.4 - Check Battery



The Check Battery function allows the user to check the remaining battery life prior to beginning a job. The current state of the battery is presented in a percentage of full charge remaining. This check is for planning purposes only but should give you sufficient information to determine if you have enough battery capacity remaining to conduct a normal job. A fully charged, new battery should normally supply constant power to the analyzer using two vibration sensors and one optical tachometer for approximately 10 hours. This time will vary dependent on the number of sensors and tachometers and their power requirements. Therefore, for planning purposes, an indication of 50% should be sufficient charge remaining for 5 hours of operation.

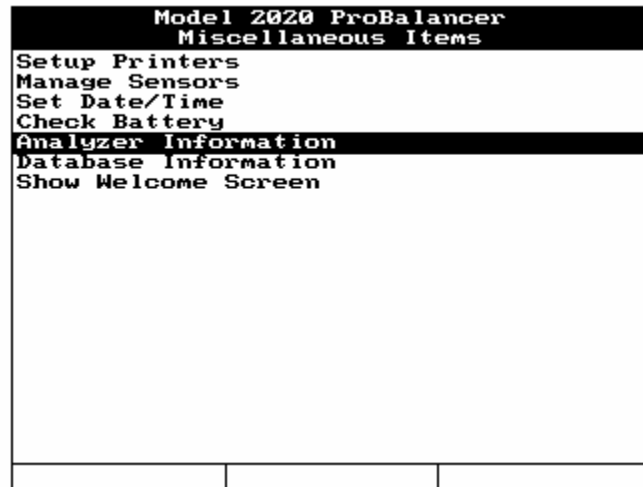
To check the battery state, do the following:

1. Select “Miscellaneous Items” from the Main Menu banner screen.
2. Select “Check Battery” from the “Miscellaneous Items” banner screen menu as shown above.
3. The analyzer will display the percentage of full battery charge remaining.

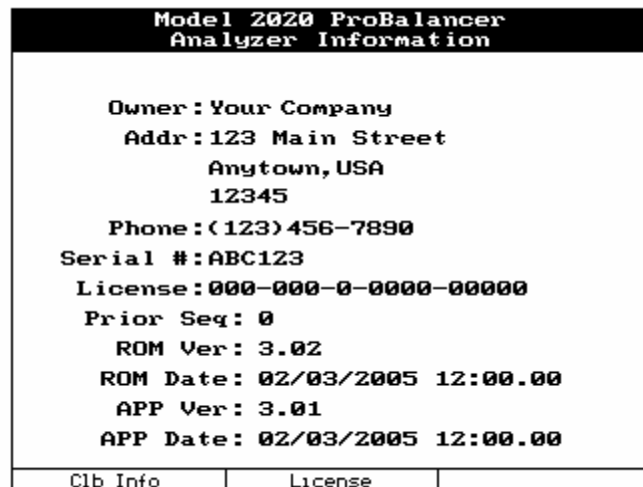
NOTE

We recommend the battery be charged on a regular schedule and that a job not be started with less than 50% of full charge remaining. See “Chapter 2, Analyzer Description” for instructions on charging the battery.

13.2.5 - Analyzer Information



The “Analyzer Information” banner screen contains information about the analyzer and its owner. The information is entered into each individual analyzer at the factory at the time of purchase. A sample screen is shown below.



This information is significant for two reasons. If your analyzer is ever stolen or lost, it can easily be identified by the information contained on this screen. The information cannot be deleted or altered and remains intact regardless of the availability of power to the analyzer. Also, if the analyzer is used in a business, this information is used as advertisement and future reference to your customers as each printout from the analyzer contains a header based on the information from this screen. The analyzer information can only be entered or changed

by technicians at the ACES Systems facility. Check to insure all information on this screen is correct. If changes are required, contact ACES Systems at the phone number listed at the front of this manual.

To access the “Analyzer Information” banner screen, do the following:

1. Select “Miscellaneous Items” from the Main Menu banner screen.
2. Select “Analyzer Information” from the “Miscellaneous Items” banner screen menu.

In addition to owner information, this screen displays the following information. The screen will also show:

License – Indicates whether you currently have Enhanced Performance software capabilities.

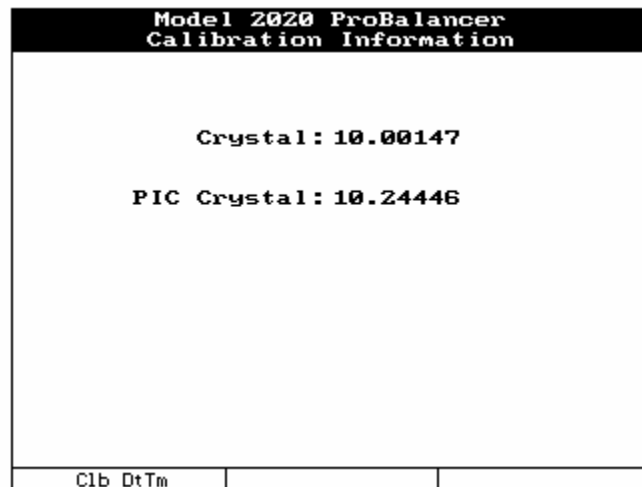
Prior Seq - Indicates whether you have purchased a limited-use license.

ROM Ver – Indicates the version of Read Only Memory currently installed in your analyzer. This may also be referred to as the “BOOT ROM.”

APP Ver – Indicates the version of the currently installed application software running in your analyzer (The application version is upgraded by you, the user via ACES Systems’ *AvTrend* or *WinFlash* Software.).

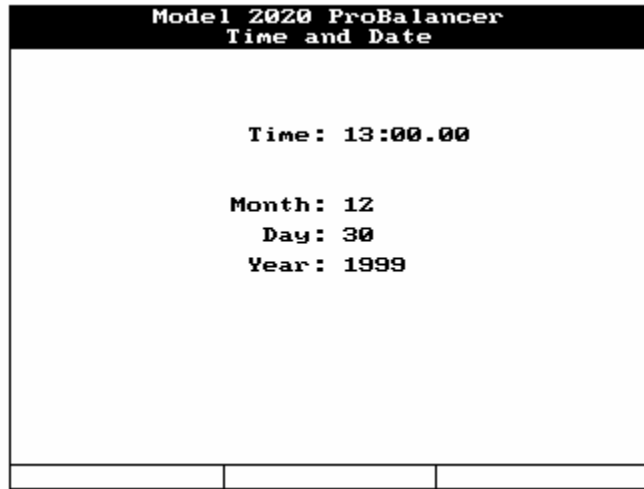
APP Date – Indicates the date of the currently installed application software.

At the bottom of the screen, the [F1] and [F2] keys correspond to “Clb Info” and “License” on the screen. By pressing the [F1] “Clb Info” key, the screen will display the “Crystal” and “Pic Crystal” calibration factors as shown below. Technicians at the factory use these factors in calibration procedures as a reference. They cannot be altered in any way by the end user. License information that correlates to the [F2] key is described in paragraph 13.2.5.1 below.

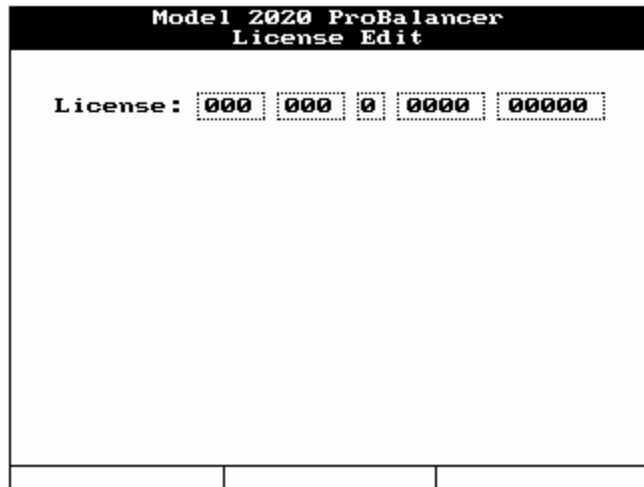


Press [F1] “Clb DtTm” (Calibration date and time) again to display the date and time that the analyzer was last calibrated as shown below. Press [ENTER] to exit this screen and return to

the “Crystal” and “Pic Crystal” display. Pressing [ENTER] at this screen will take the user back to the “Analyzer Information” screen.



13.2.5.1 - Entering a License Number for Enhanced Performance Software (EPS)

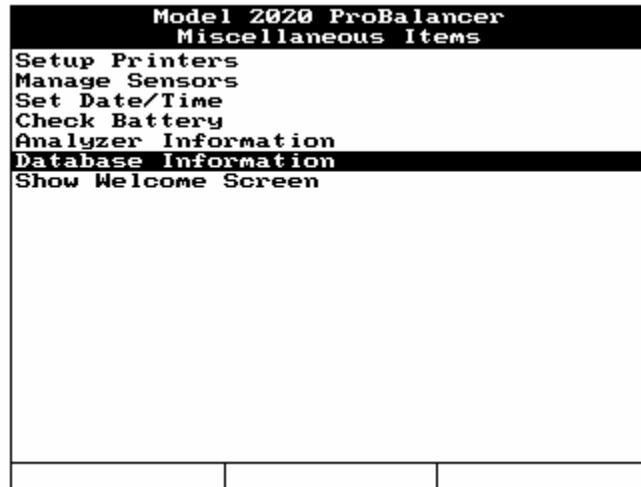


If you purchase the optional Enhanced Performance Software (EPS), you will be issued a license number for the functions of your choice. When you receive the license number it must be entered into the analyzer as follows:

1. Select “Miscellaneous Items” from the Main Menu banner screen.
2. Select “Analyzer Information” from the “Miscellaneous Items” banner screen menu.
3. When the “Analyzer Information” banner screen appears, press the [F2] key corresponding to “License” in the rectangular block directly above it.

4. When the “License Edit” banner screen appears, as shown above, enter the license number in the fields using the number keys. As each field is filled with its maximum number of numeric characters, move to the next field using the [↓] key. When all fields are filled, press [ENTER] to accept. If the number was entered incorrectly or is invalid, a screen will warn you of this. In this case, press the [F3] key to “Continue” and attempt to reenter the number. If no error message is displayed, you entered the license number correctly.

13.2.6 – Database Information



The “Database Information” selection will produce the “Database Information” banner screen as illustrated by the sample below. In the center of the screen the total number of objects stored and read successfully will be displayed. The total free memory (in bytes) and the total amount of stored data (in bytes) will also be displayed. This is an information (read only) screen and its contents cannot be altered by the user from within this screen. Press the [F3] “Continue” key or the [BACKUP] key to exit this screen.

