7. Balancing the Transducer

1. If the BPA-400 is **OFF**, turn **ON** the back **BPA POWER SWITCH** and allow the transducer to "warm up" for 10 to 15 minutes. Then turn **ON** the **BPA RESET SWITCH**.

2. Open one of the stopcocks to air (zero reference pressure). The transducer should be filled with saline as described in **Quick Start** (Section 3).

3. After power-up, the displays will read as follows and Light 1 will glow:

   run
   bAL
   CAL
   InTr

4. Press and release Button 2 beside the bAL display. A Balance Menu will appear:

   rET
   bAL

5. Press and release Button 2 beside the bAL display. Light 2 will come on and stay lit while the analyzer zero-balances the transducer. When Light 2 goes **OFF**, the transducer has been balanced. The display will continue to read

   rET
   bAL

If Light 2 remains lit for more than 1 minute or if the display reads BPA SET Err, switch the front panel **BPA Reset Switch OFF** and then **ON** again. Then repeat Items 2 through 5 above.

If Light 2 still remains lit for over a minute or if the display again reads BPA SET Err, replace the transducer and perform the procedures in **Quick Start** (Section 3), **Balancing the Transducer** (Section 7) and **Calibrating the Transducer** (Section 8), in that order.

6. Lightly press and release the **MODE** Button to switch the analyzer back to the Main Menu:

   run
   bAL
   CAL
   InTr

NOTE: *To achieve optimal accuracy for the BPA, balance and calibration should be performed together. (See Section 8, Item 3.)*

7. To enter Operating Mode, press the **MODE** Button again. The displays will briefly show dATA COLL in the top two windows, then will show pressure values as the BPA switches into Operating Mode.

8. If the transducer has one stopcock open to the atmosphere, the **MEAN** Display should read 0.0 $\pm$ 0.2 mmHg, and the other three displays should be blank.

9. If the four displays show the values indicated in Item 8 above, close the transducer to the atmosphere and open the transducer to the catheter to begin collection of experimental data.

NOTE: *The first displayed values and the first printout of data after opening the transducer to the catheter* ***MAY NOT*** *be physiologic-useful data.*

> If the transducer is not open to air at this point, it may be subject to a pressure, and therefore the analyzer displays could read values other than those indicated above.

10. If the displays show numerical values other than those indicated in Item 8 above, perform the steps in the **Calibrating the Transducer** (Section 8) procedure. If the display BPA SET Err should appear, turn **OFF** the **BPA Reset Switch** and the **BPA Power Switch**. Then repeat the steps in this section on **Balancing the Transducer**.

11. The BPA-400 will skip a line on the printout whenever the **MODE** Button is pressed during operation. For example, if operation is interrupted during an experiment to balance and/or calibrate the transducer, the analyzer will restart the time stamp at zero. It will also print a new parameter label line and the print speed will be the same as when you exited Operating Mode.