3.   **Carbon Monoxide:**

Press LOGO and CAL at the same time, then CO/EFFIC. The LCD will display the current carbon monoxide reading and the word "ZERO". Run zero gas through the

analyzer, use the arrow keys, as needed, to adjust the reading to the zero gas concentration (usually zero). To store and proceed to manual span calibration, press ENTER, SPAN & WAIT is displayed at the top of the LCD. Run carbon monoxide span gas through the instrument; use the up or down arrow keys to adjust the number displayed on the LCD to match the concentration marked on the tank (PPM CO), if required.

Press ENTER (after WAIT message disappears) to store the value and return to the normal operating mode.

To restore the built in temp. calibration constants press the CAL and LOGO keys simultaneously, then press °F/°C key. Press the CAL and COMB/TEMP keys simultaneously. This restores the proper values and exits the calibration mode.

SPECIAL FUNCTIONS

To activate the other special functions press both the arrow keys simultaneously. The LCD will show:

<div align="center">

1 2 3
4 5 6
7 8 9

</div>

The numbers 1 through 9 represent the nine keys on the keypad. The "1" above represents the "O_2/CO_2" key, the "9" represents the "ENTER" key, etc. The keys 1 through 9 correspond to the special functions below.

TEMPERATURE SIMULATION

If the thermocouple probe is disconnected or bad, the display will show "OPt", and "CELL FAIL" at the bottom, when temperature mode is selected. If a temperature simulation is desired press the F/C key. The "OPt" is replaced by a simulated temperature reading. To change the temperature press LOGO and CAL keys simultaneously, followed by F/C (this key toggles between °F & °C). The simulated temperature is displayed. Use the arrow keys to change reading, as desired. To store reading and return to normal mode press ENTER.

COST SAVINGS
(Keys 1 and 2)

1.   Press CO/EFFIC key to display efficiency on the LCD.

2.   Activate Special Functions.

3.   Press O_2/CO_2 (number 1 above); instrument will store measurement and return to the operating mode for burner adjustments.

4.   Adjust the burner for optimum conditions.

5.   Press arrow keys again to resume Special Functions; then press key 2.

6.   The display will read "5 0 0"; adjust with arrow keys to represent three significant figures of an average fuel expense over some period of time. Press ENTER; the top line of the display will show the fuel savings. The second line will show the efficiency before adjustment, and the third (bottom) line will show the current efficiency. Press any key to return to normal operation (previous operation will resume).

To STORE current readings
(Key 3)

1.   Activate Special Functions.

2.   Press key number 3; the display will read "5 0 0".

CAUTION: If you press ENTER while the display reads "0 0 0", you will ERASE all previous readings. To abort the erasing feature, simply press the LOGO key instead of ENTER.

3.   Set the display to an ID number (1 to 999 set-table) using the arrow keys.

4.   Press ENTER to store the reading and the I.D. number (or Teledyne key to exit). Normal operation will resume.

5.   The readings of up to twenty burners can be stored by the above method of selecting an I.D. number for each. Multiple readings under one I.D. number are OK (up to 20 readings total). All 20 readings and I.D. numbers can be printed under function 5.

To DISPLAY readings that have been stored
(Key 4)

1.   Activate Special Functions.

2.   Press key #4. The instrument will display the first I.D. number. Press the LOGO key to escape; and other key to proceed. The instrument will display the first set of readings. Press any key except the LOGO key to display the second set of readings and repeat for all readings. Press the LOGO, PUMP ON/OFF, and *keys to return to normal operation.

To PRINT stored readings
(Key 5) (Optional - See Appendix)

1.   Plug the printer cable into the MAX 5 serial port and the printer. Turn on the printer.

2.   Activate Special Functions and press key #5. The printer will print the I.D. number and the six numerical values of each of the stored readings in chronological order.

To TEST the keyboard/LCD/RESET
(Key 6)

1.   Activate Special Functions.

2.   Press key 6 to call for a keyboard test.

3.   To test, press any key other than the LOGO or ENTER keys; to resume normal operation press the LOGO key.

4.   To perform a total memory reset press the ENTER key twice in succession.

AUTOMATIC DATA OUTPUT
(Function 7)

1.   Activate Special Functions.

2.   Press key 7 to activate the Data Output function.

3.   Press the up or down arrow as needed to cause the display to read the desired time interval (002 to 999 seconds) between reports. Press ENTER. A report is a continuous transmission, through the serial port, of all six data factors (measurements and calculations).

4.   To stop data output, repeat steps 1 & 2 and set the time interval in step 3 to "000" followed by the ENTER key.

To PRINT an instruction manual
(Key 8)

1.   Connect a serial printer to the instrument's serial port. Turn on the printer and switch it "on-line".

2.   Activate Special Functions, then press key 8.

3.   This abridged version of the instrument's instruction manual will be printed.

To check the VERSION of your instrument's software
(Key 9)

1.   Activate Special Functions.

2.   Press key number 9.

3.   The display will show the model number and the month on the first line, the hour and the date on the second line, and the year on the third line. The model, month, day, and year correspond to the date of software release.

4.   Press any key to resume normal operation.

ELECTRONIC ZEROING OF OXYGEN SECTION

1.   Turn power switch on (without O_2 sensor installed). If a negative O_2 reading is displayed,
      proceed to step 2. If a negative reading is not displayed, electronic zeroing is not required.

2.   Press the CAL and LOGO keys simultaneously. CAL will display on the screen.

3.   Press the CAL key.

4.   Press the CAL, UP and DOWN keys simultaneously. A double beep will occur followed by a short interval and a second double beep. Electronic zeroing is now completed.