

SPECTRUM Training

I. General

- A. **Display** (8 digit Large LCD)
- B. **Visual Alarm** (side of enclosure)
- C. **Audio Alarm** (side of enclosure)
- D. **Operation Buttons**
 - 1. Power/Backlight (Turns instrument & backlight on/off)
 - 2. Option (takes down ↓ in a menu)
 - 3. Select (takes over → in a menu, or chooses)

II. Turn instrument on (press, hold for a second, and release power button).

- A. Display may run up to 20 ppm and then work its way down within 10 seconds.
- B. Audio alarm is automatically disabled for 30-60 seconds for sensor stabilization. (wait for first confidence chirp)
- C. Confidence chirp every 30 seconds.
- D. To turn instrument off, press and hold the **Power** button for 2-4 seconds.

III. Alarms

- A. Alarm is preset, but can be changed in the maintenance menu.
- B. When alarm concentration is reached audio and visual alarms activate. (simulate if possible)
- C. Audio alarm can be disabled for four minutes by pressing **SELECT** button. After four minutes, if still above alarm concentration, audio reactivates.
- D. There is a second higher alarm point which cannot be acknowledged (audio cannot be defeated). The setpoint is listed in the instrument manual.

IV. Power Supply

- A. 9 Volt alkaline supplied. Will run for 40-60 hours continuously.
- B. Can operate from nicad or lithium 9 Volt battery. Pull out alkaline, plug in replacement. Nicads must be charged externally.

V. Operation Menu

- A. Press OPTION button to cycle through menu names. Press SELECT button to enter the menu.
- B. **Batt=** states the battery condition. OK means OK. low means getting very low (will have chirp every five seconds in this condition). LOW means time to change battery (will have chirp every two seconds in this condition). Nothing further.
- C. **ALM=** states the alarm point the instrument is set to activate at. Nothing further.
- D. **See DATA** allows the user to see the maximum and minimum values the instrument has seen since it was turned on. **SELECT** enters the menu and OPTION cycles through it. The user has the option to clear the data stored. The temperature display shows internal temperature and an internal clock counter.
- E. **go SETUP** is the entrance into the maintenance menu. Press the select button. Use the OPTION button to set the digit and the **SELECT** button to move the cursor over. The default password is **1270**. Entering the wrong password is indicated by a quick "Invalid" prompt.

VI. Maintenance Menu

*** Turn power off if a menu has been entered that shouldn't have been ***

- A. Enter proper password at **Key=** display (after selecting **go Setup**).
- B. **run Zero** allows you to "zero" the gas reading. This should only be done when necessary and in a fresh air environment!!! Press **SELECT** at this screen to enter the menu and **SELECT** again to initiate the procedure. 30 second count down.
- C. **run Cal** allows the user to calibrate the instrument. Requires either zero gas or a fresh air environment to zero and then calibration gas to perform the span setting. Same procedure as zero, but calibration gas is also applied. Span countdown is 60-480 seconds depending on gas detected. The **SELECT** button is used to move through the procedure.
- D. **set ALM** allows the user to change the alarm point. The alarm set point must be within a pre-programmed window. Window information for specific sensors is in the instrument manual. Setting the alarm is accomplished the same way the password was entered.
- E. **set BATT** allows the user to set the battery type. Alkaline is default and it should be changed if another battery type is installed. **OPTION** shows the types, **SELECT** makes the selection.
- F. **set KEY** allows the user to set the password to something different than **1270**. Setting the new key is accomplished the same way the original password was entered to get into the maintenance menu.
- G. **exit**. Press **SELECT** to exit the maintenance menu.

Sections I through IV are for basic users.

Sections I through V are for advanced users.

Sections I through VI are for advanced users and maintenance personnel.