



## Using the BadgeRAE

Maintenance-free single gas detector

PROTECTION THROUGH DETECTION

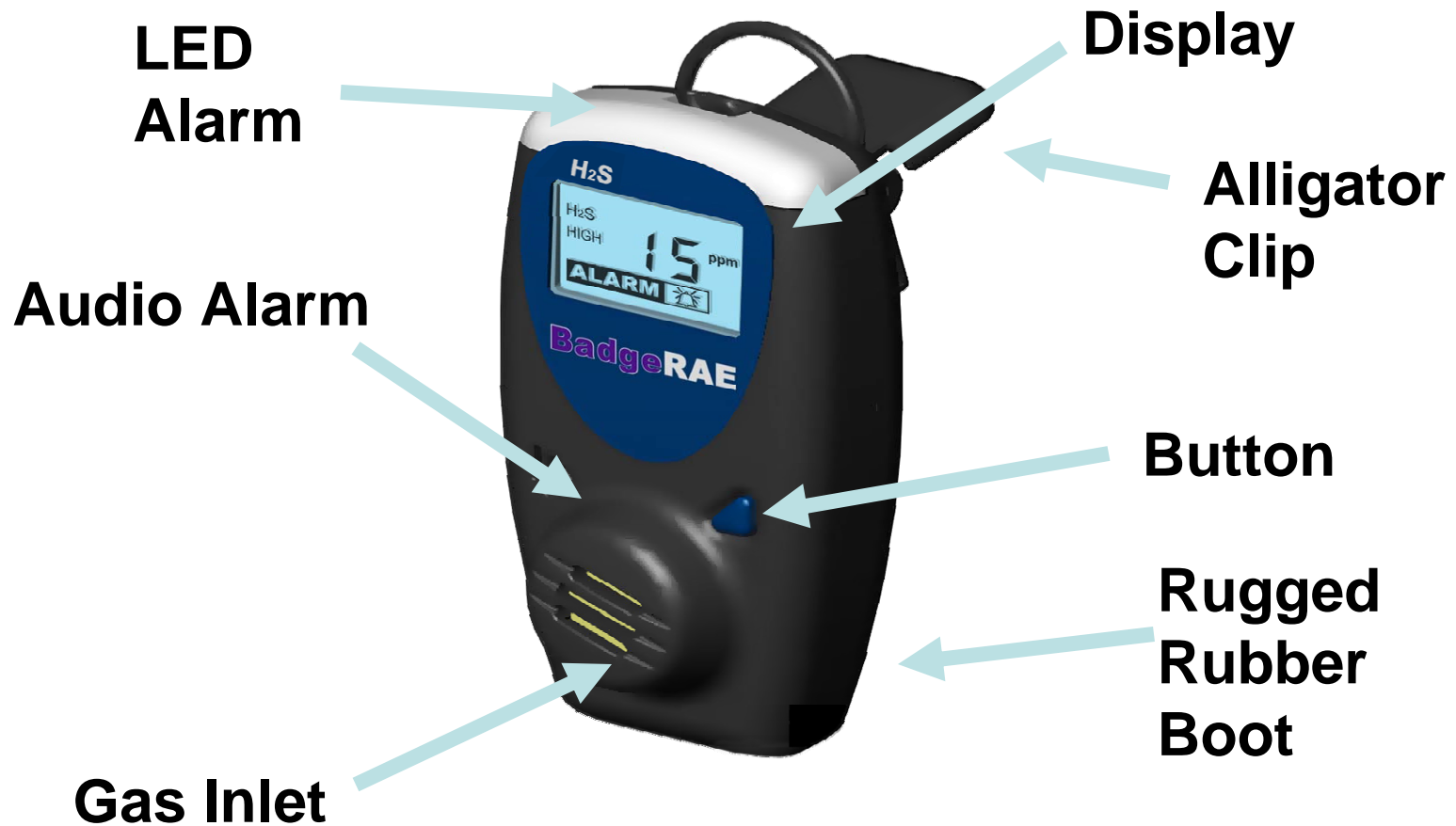
# BadgeRAE

2 years of continuous and maintenance-free monitoring for H<sub>2</sub>S and CO



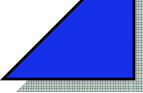
PROTECTION THROUGH DETECTION

# Components BadgeRAE Features



PROTECTION THROUGH DETECTION

## Turning on the BadgeRAE

- Press and hold the button  for 5 seconds
- After a long beep, the unit will count down 30 seconds to warm-up



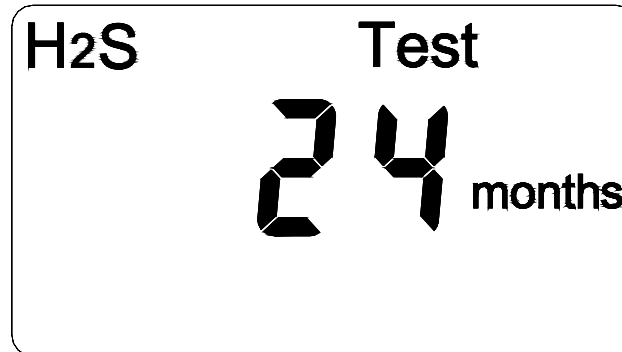
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## Normal Display



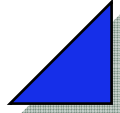
- During normal operation, the unit displays the remaining operating life, counting down from 24 months
- No gas concentration is displayed
- The “OK” message indicates that the unit has passed a bump test with gas within the last 30 days

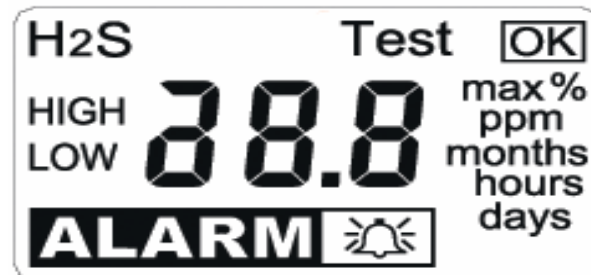
## “Test” Display



- The “Test” message indicates that it has been 30 days since the last successful bump test
- A successful bump test will clear the “Test” message and the display will read “OK”
- If the bump test fails, the “Test” message will remain

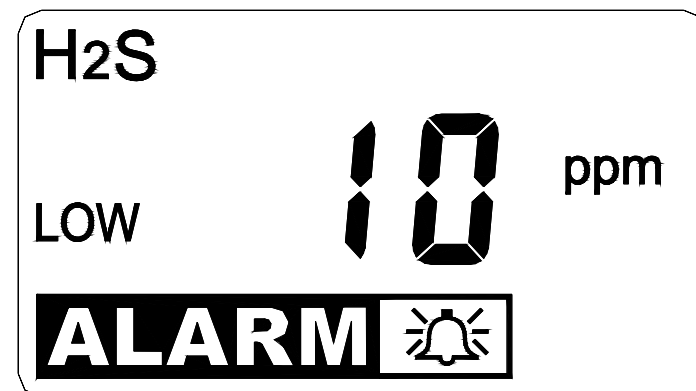
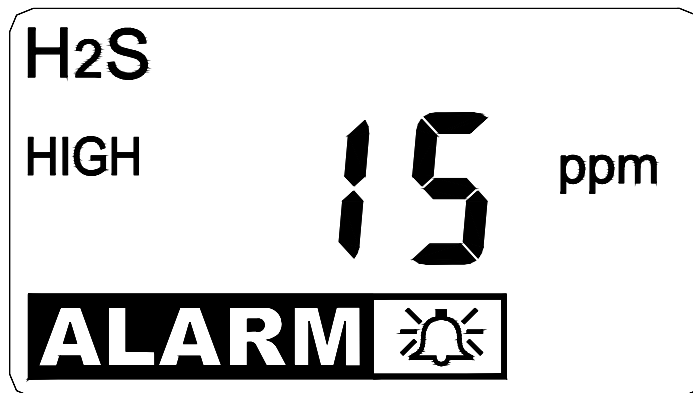
## Display alarm set points

- To scroll through the alarm set points and peak readings:
- Press the button  once
- The dummy screen will appear and the three alarms (visual, audible and vibration) will activate.



## Display alarm set points

- Then the BadgeRAE displays the high alarm limit and the low alarm limit



## Display version number

- Then it displays the firmware version number.



ur



1.5

## Display Peak

- If the detector has alarmed within the last 24 hours it will display the peak value and elapsed time since the alarm



# BadgeRAE Alarm Signals

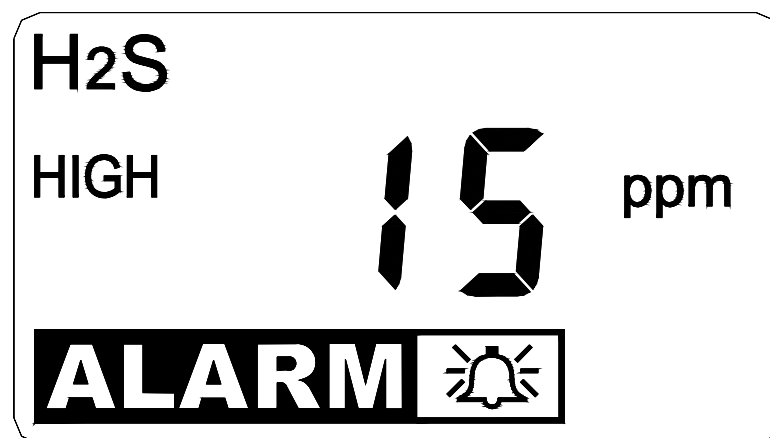
- The BadgeRAE has three alarm signals:
  - 3-D Bright LED alarm
  - Loud audible buzzer – 90dB at 10cm
  - Built-in vibration alarm



PROTECTION THROUGH DETECTION

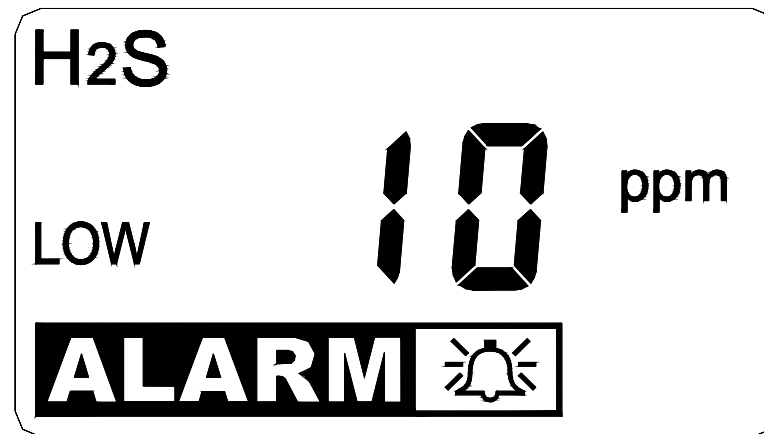
## High Alarms

- The “High” and “Alarm” message along with 3 beeps every 2 seconds, vibration every 2 seconds, and red LED every 2 seconds indicates that the unit has gone into high alarm
- During alarm, the alarm set point will appear. Standard high alarm set points: 15 ppm for H<sub>2</sub>S and 200 ppm for CO.



## Low Alarm

- The “Low” and “Alarm” message along with 1 beeps every 2 seconds, vibration every 2 seconds, and red LED every 2 seconds indicates that the unit has gone into low alarm
- During alarm, the alarm set point will appear. Standard low alarm set points: 10 ppm for H<sub>2</sub>S and 35 ppm for CO.

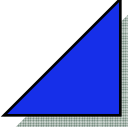
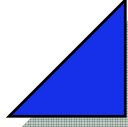


# Bump Test

- Connect tubing to the calibration adapter
- Hook the tubing up to the appropriate gas cylinder
- Attach the calibration adapter to the gas inlet on the detector



## Bump Test

- Press and hold the button  for 5 seconds until the display toggles back and forth between “go” and “bp”. Release the button.
- Press and hold the button  for 5 seconds until the display stops toggling and reads “bp”. Release the button.



bp



go

# Bump Test

- Turn on the gas
- Wait until the display reads either “PA” (pass, or “Er” (error or fail)



PA



Er

# Bump Test

- If the display reads “PA” the detector will then display “Okay” and re-set the 30-day bump test clock



PROTECTION THROUGH DETECTION

# Bump Test

- If the display reads “Er”, the LED is red, and a long beep sounds, the unit failed the bump test
- To clear the alarm, press the button for 5 seconds. The monitor will display “cL” (clear) for 1 second and then revert to normal display with the “Test” warning
- Check to make sure that the gas cylinder is not empty and repeat the test



# Bump Test

- If the unit continues to fail, return it to RAE Systems
- DO NOT attempt to repair the unit. Disassembling the unit will void the warranty





PROTECTION THROUGH DETECTION

# Bump Test Station

- Connect span gas to the station
- Press and hold the blue “Test” button (power indicator will turn on)
- Open the gas source – an internal valve will control the flow of gas



## Bump Test Station

- Press and hold the button  for 5 seconds until the display toggles back and forth between “go” and “bp”. Release the button.
- Press and hold the button  for 5 seconds until the display stops toggling and reads “bp”. Release the button.

## Bump Test Station

- Place the BadgeRAE into the socket (the “Load” light will turn on)
- Press the “Test” button to start the bump test
  - All of the detector’s functions will be tested and the corresponding light will turn on



# Bump Test Station

- Testing lasts about 20 seconds
- The “Pass” light indicates the detector passed the bump test
  - The Test Station will update the status of the detector to “Okay” and re-set the 30-day bump test clock



# Bump Test

- If the display reads “Er”, the LED is red, and a long beep sounds, the unit failed the bump test
- To clear the alarm, press the button for 5 seconds. The monitor will display “cL” (clear) for 1 second and then revert to normal display with the “Test” warning
- Check to make sure that the gas cylinder is not empty and repeat the test



# Bump Test

- If the unit continues to fail, return it to RAE Systems
- DO NOT attempt to repair the unit. Disassembling the unit will void the warranty



PROTECTION THROUGH DETECTION

## Changing the battery

- If the detector undergoes more than 12 hours of alarm, the battery may wear down
- Replace the battery by opening the rear compartment
- Using only RAE Systems batteries



Questions?



PROTECTION THROUGH DETECTION