

# ARSON & FORENSIC INVESTIGATION GAS & LEAK DETECTION INSTRUMENTS



Forensic Scanner



Model 20



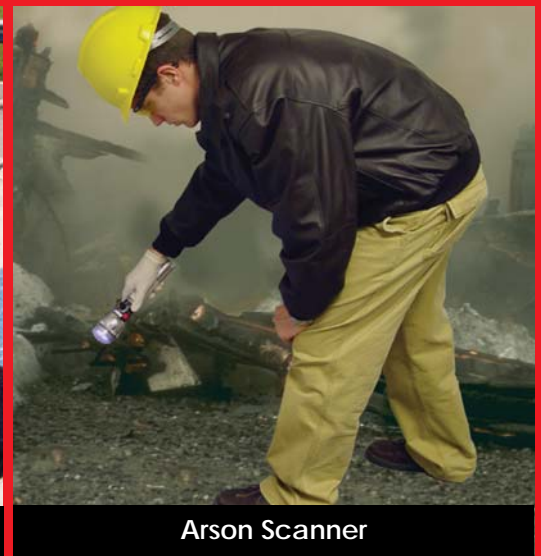
Model 850 & 851



Model C & C+



Haz-Alert



Arson Scanner

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USA**

# MODEL 850 Investigator's Aid

For Detection of Hydrocarbons,  
Accelerants, Petroleum Volatiles  
and Various Gases

The Model 850 Investigator's Aid is a ruggedly constructed gas detection and field survey tool. This unit will detect the presence of hydrocarbons that may be present at the fire scene and is equally effective as a general purpose gas detector.

**Operation:** Turn unit ON and extend the telescoping sensor probe. Allow several minutes for warm up and scan area of concern. If a hydrocarbon is present, a deflection of the meter will occur, followed by a series of beep tones in synchronism with two indicator lights (Red LEDs). The Model 850 is equipped with a High and Low Sensitivity range. High Sensitivity permits detection of extremely small amounts of hydrocarbons. Low Sensitivity permits meter indication in areas of high concentration, which aids in pinpointing the source. The Model 850 telescoping sensor probe permits easy access into hard to reach areas. An *optional* 10' extension cord for the sensor is available. This extension cord is useful for lowering into inspection pipes and other confined spaces.

## FEATURES:

**Two Modes of Operation** - High or Low Sensitivity.

**Sensor** - Solid state plug-in type, housed in a protective guard mounted at end of telescoping probe.

**Meter readout** - Provides visual indication of relative concentrations of hydrocarbons.

**Displays** - Audio and visual indication of the detection of accelerants and gases. A Yellow "Purge" Indicator and Red "Sensor / Detection" Indicators.



Model 850 comes with  
attache case, battery charger  
and manual

**Electronic Purge** - Permits quick recovery of sensor element.

**Mute Switch** - Turns off audio tones and permits discreet investigation.

**Telescoping Probe with Sensor Guard** - Sensor guard mounted at end of telescoping probe which extends to 45" and retracts to 19" for easy storage.

**Power** - Two Nickel Cadmium rechargeable batteries, each battery providing 3 hours of operation. Second battery is accessed by

switching from "A" to "B" with battery transfer switch.

**Housing** - Chrome-Finished Steel Enclosure that measures 5-3/4" long, 2-1/2" wide, weight 2 lbs 7 oz.

**Applications** - Arson Investigation, Site survey, Methane outgassing (landfills), Leaking underground storage tanks, General purpose gas detection.

**Made in U.S.A.**

# MODEL 851 Investigator's Aid

For Detection of Hydrocarbons,  
Accelerants, Petroleum Volatiles  
and Various Gases

The Model 851 Investigator's Aid is a Calibrated, precision instrument designed specifically for detecting petroleum volatiles, hydrocarbons and natural gas. The detector features two modes of operation: a High Sensitivity search mode for locating very small gas leaks and a Calibrated mode of operation that indicates 0% to 100% of the lower explosive limit (LEL), with methane used as the test gas.

**Operation:** Turn unit ON and extend the telescoping sensor probe. Allow several minutes for warm up and scan area of concern. If hydrocarbon is present, a deflection in the meter will occur, followed by a series of audible beep tones in combination with two flashing visual indicators (Red LEDs). The Model 851 telescoping sensor probe permits easy access into hard to reach areas. An *optional* 10' extension cord for the sensor is available. This extension cord is useful for lowering into inspection pipes and other confined spaces.

## FEATURES:

**Two Modes of Operation** - High Sensitivity mode or Calibrated mode of operation.

**Sensor** - Solid state plug-in type, housed in a protective guard mounted at end of telescoping probe.

**Meter readout** - Provides visual indication of relative concentrations of hydrocarbons. Reads % Lower Explosive Limit (LEL) and parts per million (ppm).

**Displays** - Audio and visual indication of the detection of accelerants and gases. A Yellow "Purge" Indicator and Red "Sensor / Detection" Indicators.



**Electronic Purge** - Permits quick recovery of sensor element.

**Mute Switch** - Turns off audio tones and permits discreet investigation.

**Telescoping Probe with Sensor Guard** - Sensor guard mounted at end of telescoping probe which extends to 45" and retracts to 19" for easy storage.

**Power** - Two Nickel Cadmium rechargeable batteries, each battery provides 4 hours of operation. Second battery is accessed by

switching from "A" to "B" with battery transfer switch.

**Housing** - Chrome-Finished Steel Enclosure that measures 5-3/4" long, 2-1/2" wide, weight 2 lbs 7 oz.

**Applications** - Arson Investigation, Site survey, Methane out-gassing (landfills), Leaking underground storage tanks, General purpose gas detection.

**Made in U.S.A.**

## Model C & Model C+

For Arson Investigation  
and General Purpose  
Hydrocarbon Detection

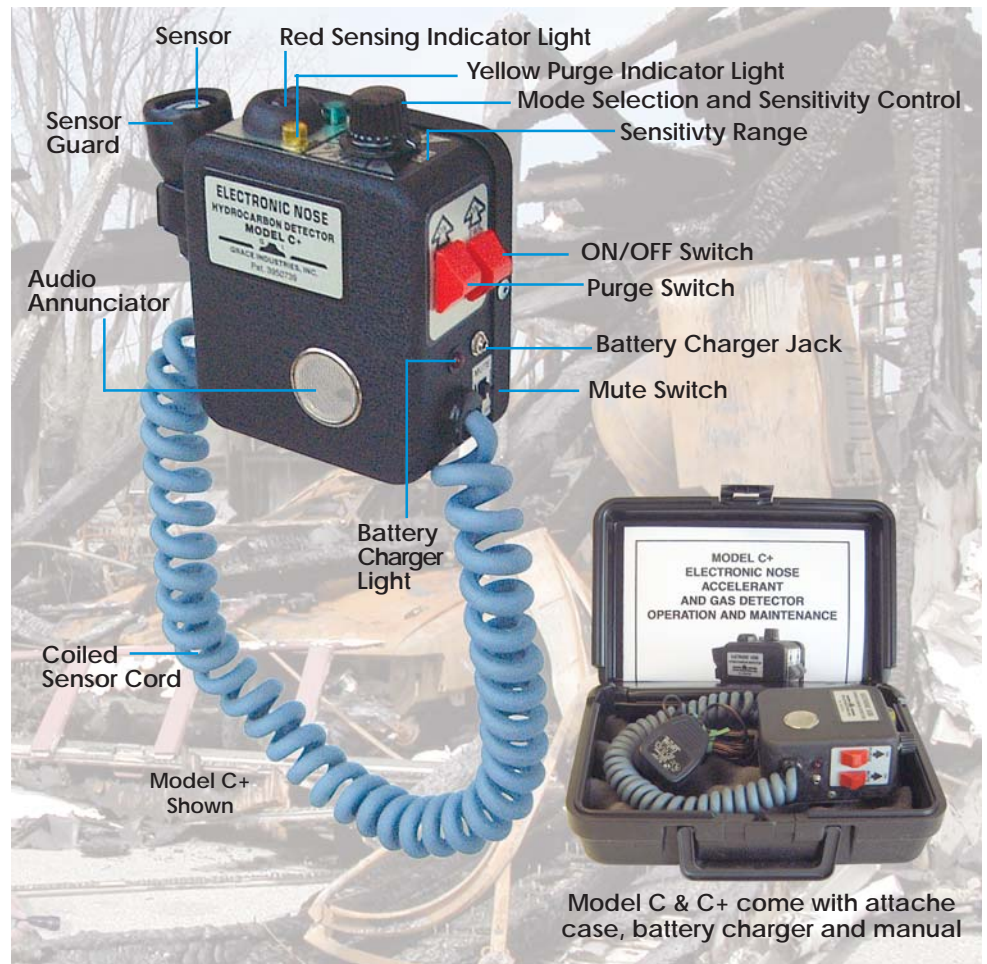
The Model C and Model C+ are highly sensitive hydrocarbon detectors with similar features. Both models easily detect fuel oil concentrations of less than 200 ppm or gas leaks of less than one cubic foot per year.



The Model C is a non-calibrated detector used primarily for arson investigation and where it is desirable to detect trace amounts of hydrocarbons.



The Model C+ features both a High Sensitivity and Calibrated mode of operation. Model C+ is used when it is desirable to know if a gas is explosive. In the "Calibrated Mode", the detector will only annunciate if a gas has exceeded a preset level, 20% of the lower explosive limit (methane used as test gas).



**Operation:** Turn unit ON, allow several minutes for warm up, and then scan area of concern. When gas or a hydrocarbon is present, beep tones in synchronism with a red indicator light will occur. A slow beep rate indicates a small amount of gas or accelerant, whereas a more rapid rate indicates a higher gas concentration. A mute switch is provided to silence the audio tones and an electronic purge permits rapid recovery of the sensor.

### FEATURES:

Detects Approx. 125 toxic/combustible gases and/or vapors - including all heating gases.

**Adjustable Sensitivity** - Higher sensitivity is used to locate trace amounts of hydrocarbons. Lower sensitivity aids in pinpointing the source in areas of high concentration.

**Sensor** - Solid state plug in type, housed in a protective guard, mounted at end of 6 foot coiled sensor cord.

**Displays** - Audio and visual indication of the detection of accelerants and gases. A Green "Ready" Indicator, Yellow "Purge" Indicator and Red "Sensor / Detection" Indicators.

**Electronic Purge** - Permits quick recovery of sensor element.

**Mute Switch** - Turns off audio tones and permits discreet investigation.

**Coiled Sensor Cord** - Easy to extend and automatically retracts.

**Power** - Nickel Cadmium rechargeable batteries with 6 to 7 hours of use.

**Housing** - Corrosive Resistant, Steel Enclosure - 3-1/4" x 3-7/16" x 2" wide, weight 1 lb. 7oz.

**Applications** - Arson Investigation, Leak detection, General purpose gas detection.

**Made in the U.S.A.**

## MODEL 20 Non-Calibrated Detector For Arson Investigation, Gas Detection, Field Survey Use

The Model 20 Investigator's Aid Hydrocarbon Detector incorporates the most desirable features of any compact, metered detector available. This unit was specifically designed for detecting hydrocarbon accelerants that may be present at the fire scene.

**Operation:** Turn unit ON, allow several minutes for warm up, and then scan the area of interest. If an accelerant is present, a deflection on the meter will occur, followed by a series of beep tones in synchronism with a red flashing indicator light. The Model 20 is equipped with a High and Low Sensitivity range that permits detection of extremely small amounts of accelerants as well as pinpointing sources in highly saturated areas.

### FEATURES:

Detects Approx. 125 toxic/combustible gases and/or vapors - including all heating gases.

**Two Modes of Operation** - High or Low Sensitivity - High sensitivity is used to locate trace amounts of hydrocarbons. Low sensitivity permits meter indication in areas of high concentration which aids in pinpointing source.

**Sensor** - Solid state permanent type, housed in a protective guard, mounted at end of a 4 foot coiled sensor cord.

**Meter readout** - Provides visual indication of relative concentrations of hydrocarbons. Useful for detecting very small amounts of accelerants.

**Displays** - Audio and visual indication of the detection of accelerants and gases. A Yellow



Model 20 shown with protective metal top in place

Model 20 comes with attache case, battery charger and manual

Purge Indicator and Red Sensor / Detection Indicator.

**Electronic Purge** - Permits quick recovery of sensor element.

**Power** - Two Nickel Cadmium rechargeable batteries, each battery provides 3 hours of operation. Second battery is accessed by switching from "A" to "B" with battery transfer switch.

**Housing** - Self-storing, corrosion resistant, steel enclosure, measures 5-3/4" long, 2-1/2" high and 3-3/4" wide, weight 1 lb. 10 oz. The 4 foot coiled sensor cord may be easily stored in the recessed cavity.

**Applications** - Arson Investigation, Leak detection, General purpose gas detection.

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# ARSON SCANNER

Investigators Aid  
For Arson Investigation,  
Including Detection of  
Hydrocarbon based Accelerants  
and Gases



The **ARSON SCANNER** is a highly sensitive gas detector that combines an array of **16 Ultraviolet LEDs** and **16 Bright White LEDs** in a compact arson investigation tool. The array of 16 Ultraviolet LEDs provides an ultraviolet light source that may cause certain accelerants to glow and fluoresce. An outer ring of 16 Bright White LEDs is useful in poorly lit areas for safer investigation.

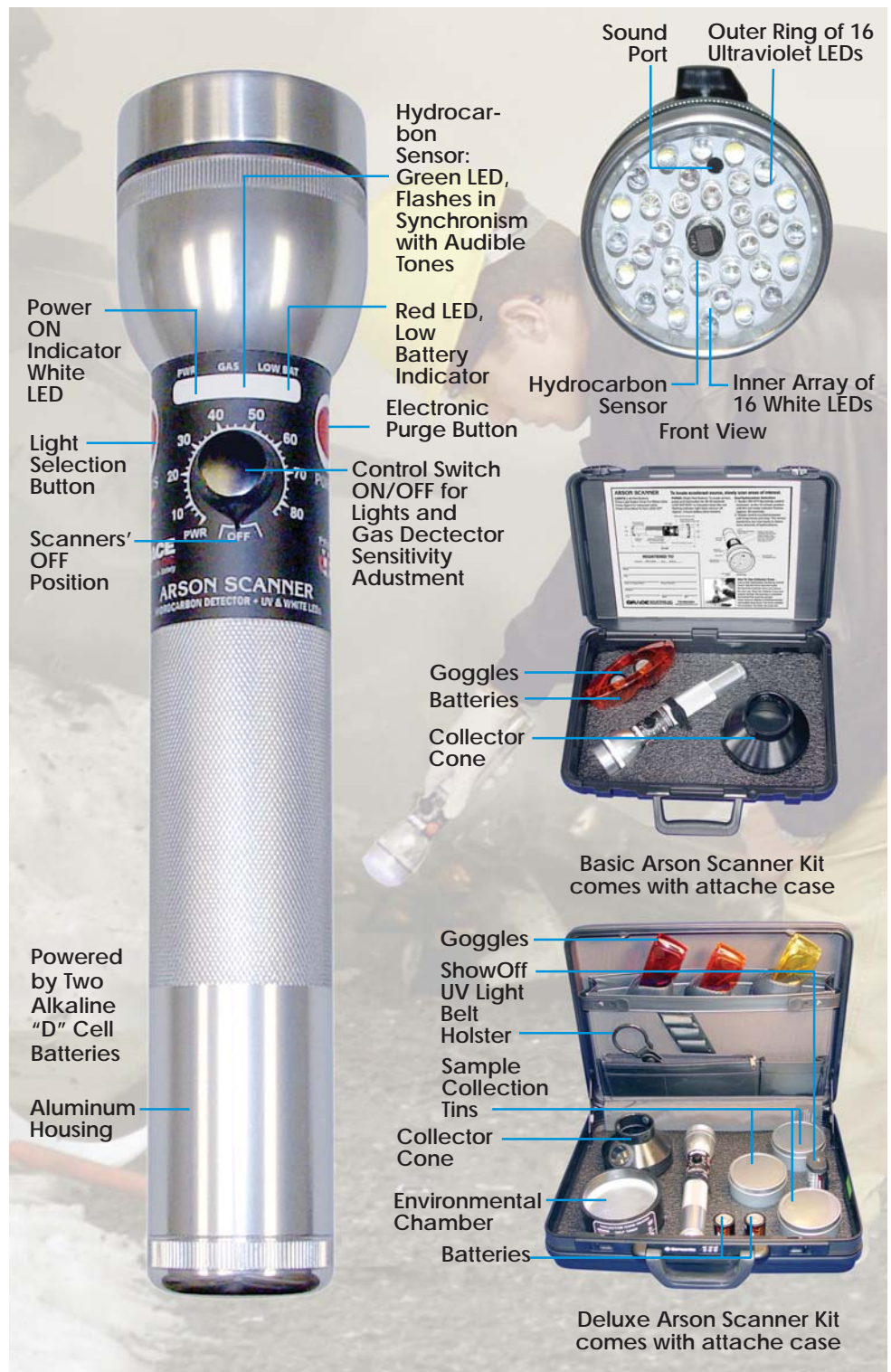
**Operation:** Turn unit ON, allow several minutes for warm up, and then scan area of concern. If a hydrocarbon is present, a series of beep tones in synchronism with the indicator light (Red LED) will occur. The Arson Scanner is equipped with adjustable sensitivity. The provided collector cone isolates suspect material from the surrounding atmosphere allowing the Arson Scanner to detect trace amounts of hydrocarbons.

## FEATURES:

Detects Approx. 125 toxic/combustible gases and/or vapors - including all heating gases.

**Adjustable Sensitivity** - Higher sensitivity is used to locate trace amounts of hydrocarbons. Lower sensitivity aids in pinpointing the source in high concentrations.

**Sensor** - Solid state broad band permanent MOS type, will provide years of service.



**Displays** - Audio and visual indication of the detection of accelerants and gases.

**Electronic Purge** - Permits quick recovery of sensor element.

**16 ULTRAVIOLET LEDs** - An array of 16 Ultraviolet LEDs provides ultraviolet light source.

**16 WHITE LEDs** - An array of 16 Bright White LEDs, illuminates poorly lit areas.

**Power** - Two "D" size alkaline batteries (disposable), provides 8 to 10 hours of use.

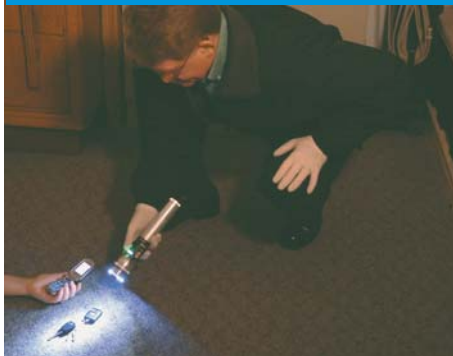
**Housing** - Flashlight like, aluminum enclosure, 10-3/8" long, 2-1/4" wide, weight 1 lb. 8oz.

**Applications** - Arson Investigation, Leak detection, General purpose gas detection.

**Made in U.S.A.**

# FORENSIC SCANNER

For Observation and Collection of Potential Evidence, Detects Accelerants and Gases

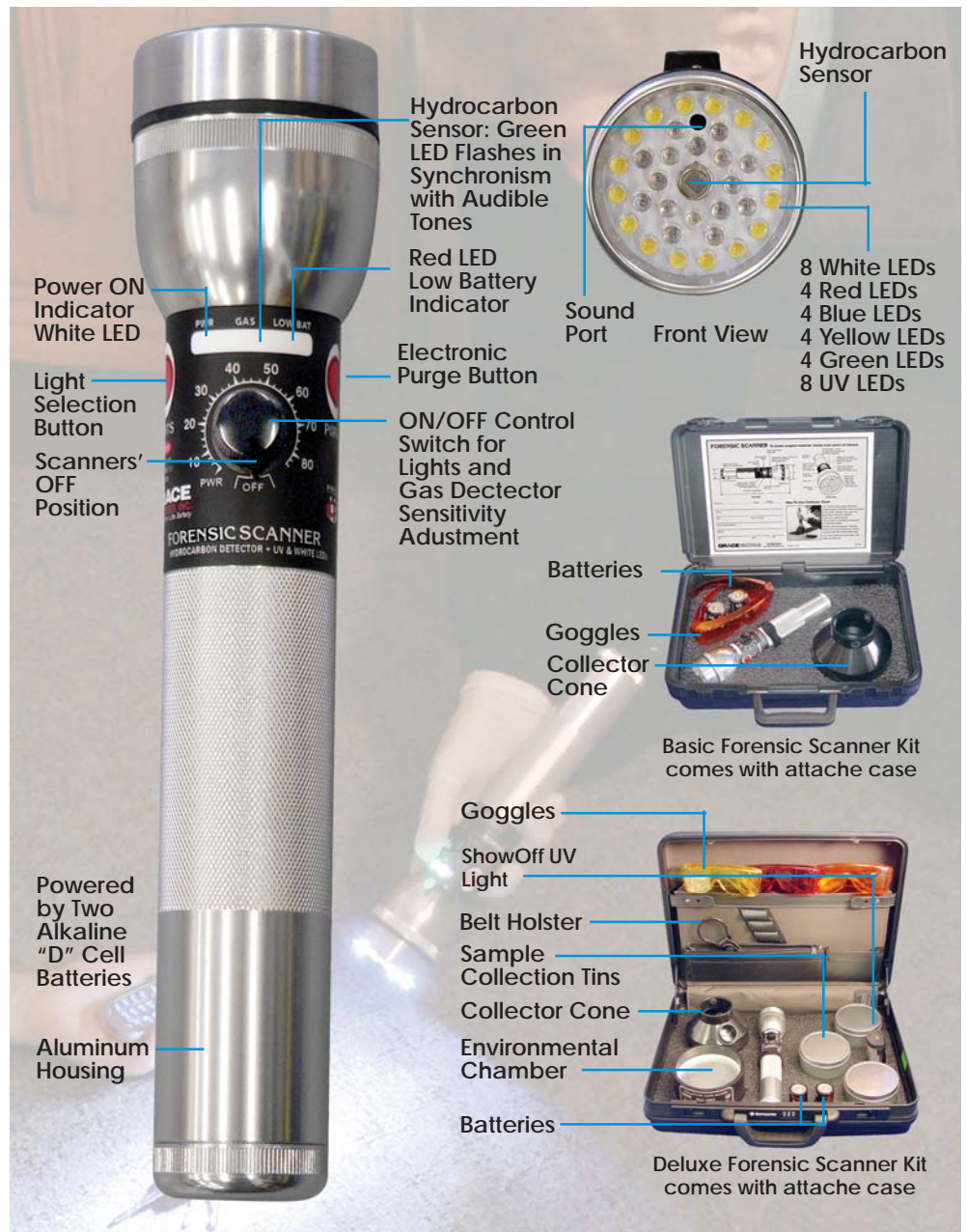


The **Forensic Scanner** is an investigative tool developed for personnel involved in forensic and arson investigation. Forensic Scanner combines powerful Ultraviolet, Blue, Red, Yellow, Green and White LEDs with a sensitive gas/hydrocarbon detector in a portable crime scene investigation tool.

**Operation:** Turn the unit ON and allow several minutes for warm up. If a hydrocarbon is present, a series of beep tones in synchronism with the indicator light (Red LED) will occur. The Forensic Scanner is equipped with variable sensitivity. The Higher sensitivity range is used to locate trace amounts of hydrocarbons. The Lower sensitivity range aids in pinpointing the source in areas of high concentration. The provided collector cone isolates suspect material from the surrounding atmosphere allowing the Forensic Scanner to detect trace amount of hydrocarbons. This aids investigators in detecting the presence of accelerants several days after a fire. The Forensic Scanner gas detector may remain active while using the various colored LEDs for visual investigation.

## FEATURES:

**Enhances Observation and Collection of Potential Evidence such as:** Latent Fingerprints, Body Fluids, Fibers, Hairs, Bone, Teeth Fragments, Drugs, Chemicals, Solvent Residue, Arson Accelerants and Detects Approx. 125 toxic/combustible gases and/or vapors - including all heating gases.



**Adjustable Sensitivity** - Higher sensitivity is used to locate trace amounts of hydrocarbons. Lower sensitivity aids in pinpointing the source in areas of high concentration.

**Sensor** - Solid state broad-band permanent MOS type will provide many years of service.

**Displays** - Audio and visual indication of the detection of accelerants and gases. A White "ON" Indicator and Green "Sensor / Detection" Indicator.

**Electronic Purge** - Permits quick recovery of sensor element.

**Light Source:** Various color Solid-State LEDs provide light sources that may cause evidence to glow and fluoresce. Wavelength ranges (approximate):

- 8 Ultraviolet LEDs (390-420 nm)
- 4 Blue LEDs (430-490 nm)
- 4 Green LEDs (500-550 nm)
- 4 Yellow LEDs (565-590 nm)
- 4 Red LEDs (600-650 nm)
- 8 Bright White LEDs are very useful in illuminating poorly lit areas.

**Power** - Two "D" size alkaline batteries (disposable), provides 8 to 10 hours of use.

**Housing** - Flashlight like, aluminum enclosure, 10-3/8" long, 2-1/4" wide, weight 1 lb. 8oz.

**Applications** - Crime scene investigation, Evidence discovery, Hydrocarbon accelerant detection, General Gas detection.

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# HAZ-ALERT

Personal Gas Detector and  
Emergency Call Alarm

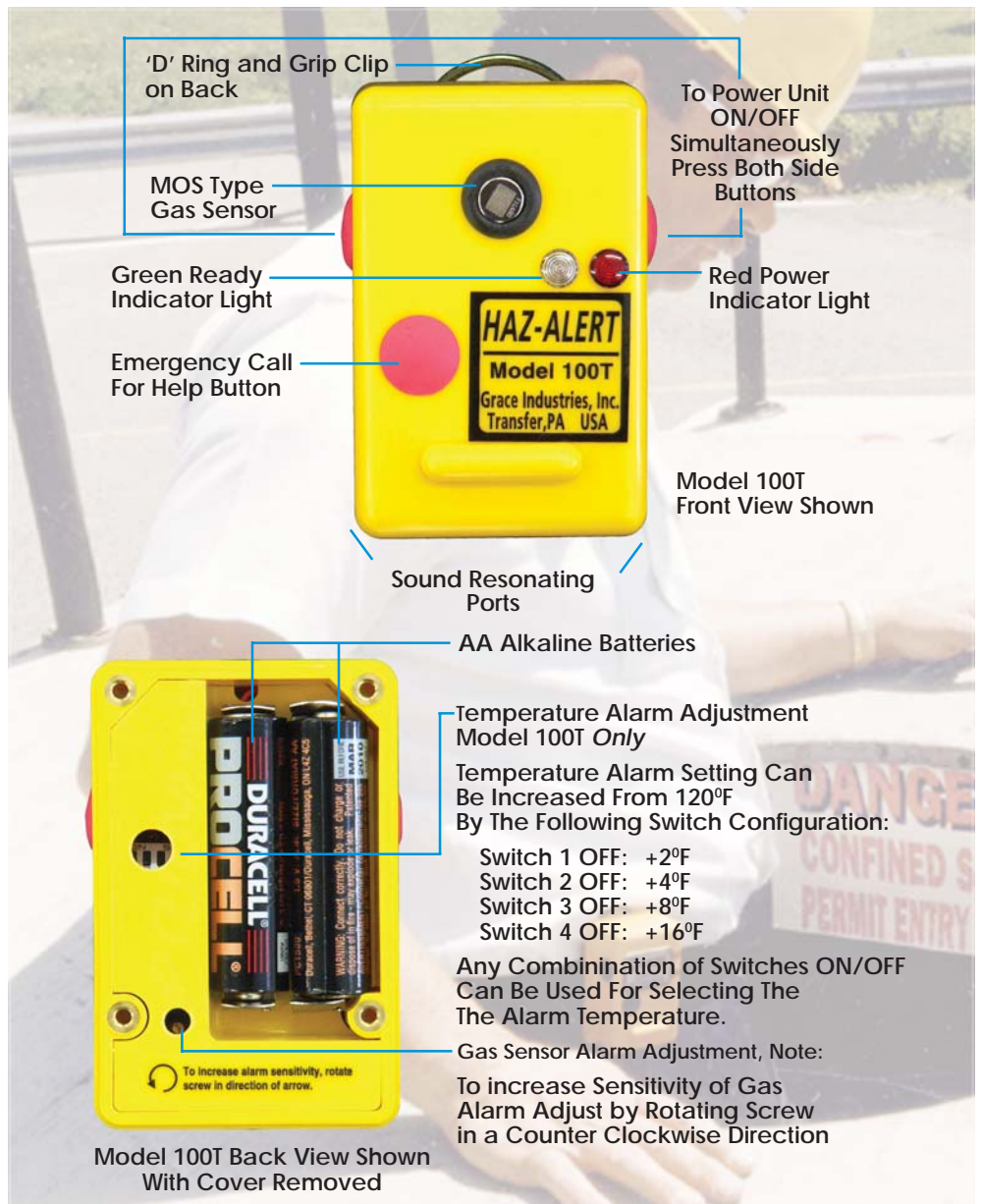
MODEL 100 - Detects Gas,  
Emergency Call Alarm.

MODEL 100T - Detects Gas,  
Emergency Call Alarm and  
Excess Temperature



**HAZ-ALERT** is a small, lightweight gas alarm (temperature alarm optional) that detects 125 toxic/combustible gases or vapors and sounds an alarm if any are present. The automatic temperature sensor sounds an alarm (Model 100T only) if the wearer is exposed to excess temperature. The Emergency Call for Help Alarm is activated by pressing the button located on the front of the case.

**OPERATION:** Simultaneously squeeze both side buttons to turn unit ON. The green “ready light” will glow indicating the gas sensor is operational. The HAZ-ALERT has three distinct audio tones to distinguish each alarm condition. If gas is detected, a harsh buzzing sound is heard. When the emergency call for help alarm is activated a loud (95 dBA) sweeping audio tone will be heard. A pulsed tone is observed if the environmental temperature rises above 120 degrees Fahrenheit. The HAZ-ALERT has many applications. It may be attached to a line and lowered into manholes, storage tanks or other confined spaces. A HAZ-ALERT may be worn as a personal monitor when working in confined spaces and is useful as a signaling device in emergency situations by activating the emergency call alarm.



## FEATURES:

Detects Approx. 125 toxic/combustible gases and hydrocarbons - including all heating gases. Haz-Alert is factory calibrated to 10% LEL (lower explosive limit) of Methane.

**Sensor** - Solid state broad-band permanent MOS type, will provide years of service.

**Temperature sensor (Model 100T only)** - Permanent type, precision solid-state temperature sensor, sounds alarm if user is exposed to excess temperature. Temperature Alarm response threshold is adjustable.

**Displays** - Audio and visual indication of the detection of accelerants and gases. A Green “Ready” Indicator and Red “Sensor / Detection” Indicator.

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**Emergency Call for Help** - is activated by pressing the button located on the front of the case. This action provides a loud (95 dBA) series of audio tones.

**Power** - Two “AA” size alkaline batteries (disposable), providing 5 hours of continuous use.

**Housing** - Small, lightweight, rugged, heavy duty plastic case, 2" wide x 3-3/4" high x 1-1/8" deep, weight 8 oz.

**Attachments** - Easily attaches to clothing with Grip clip and D-ring.

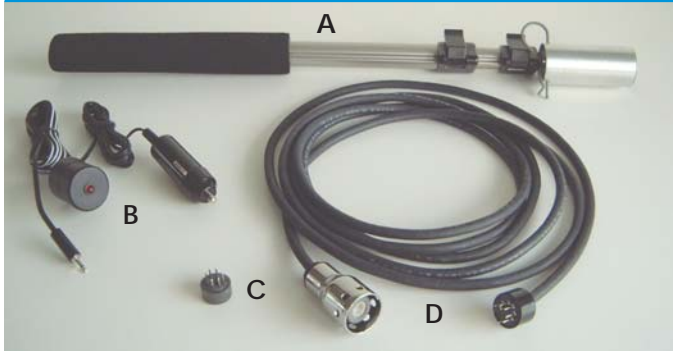
**Applications** - Confined space entry, Haz-mat cleanup, General purpose gas detection.

**WARNING - HAZ-ALERT should not be used to detect carbon monoxide.**

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## ACCESSORIES



### Model C, C+, 20, 850 & 851 Accessories

- A. Telescoping Investigator's Probe  
Dimensions: 18" retracted, 40" extended.  
For use with **Model C, C+** and **20**.
- B. Universal Charger: Charge detector from cigarette lighter.  
For use with **Model C, C+, 20, 850** and **851**.
- C. Replacement Sensor:  
For use with **Model C, C+, 850** and **851**.
- D. 10 Foot Extension with sensor and sensor guard.  
For use with **Model 850** and **851**.

### WARRANTY

Grace Industries, Inc. warrants your unit to be free from defects in workmanship and materials for a period of one (1) year from the date of original purchase. Grace Industries will repair or replace at their option. Send all returned merchandise, prepaid and accompanied by proof of purchase that states the date and location of purchase, to: Grace Industries, Inc., Repair Division, 305 Bend Hill Road, Fredonia, PA 16124, U.S.A. Customer is responsible for return shipping and handling. The product is warranted providing that defect or damage was not due to accident, misuse or abuse while in possession or control of the consumer and not to repairs or parts replacement that were made or attempted by other than Grace Industries personnel. GRACE INDUSTRIES, INC. SHALL NOT BE LIABLE FOR ANY DIRECT, INCIDENTAL OR CONSEQUENTIAL LOSS OR DAMAGE ARISING OUT OF THE FAILURE OF THE DEVICE TO OPERATE.

The sole and exclusive remedy under all guarantees or warranties, expressed or implied, is strictly limited to repair or replacement as herein provided. ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTIES OF FITNESS AND MERCHANTABILITY, ARE HEREBY LIMITED IN DURATION TO A PERIOD OF ONE (1) YEAR FROM THE DATE OF PURCHASE. The warranty and liability set forth in the prior paragraphs are in lieu of all other warranties, expressed or implied, in law or in fact, including warranties of merchantability and fitness for a particular purpose. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

## A Partial Listing Of Accelerants, Hydrocarbons and Gases Detected

Acetone	Hydrogen
Acrylonitrile	Hydrogen Sulfide
Alcohol	Jet Fuel
Ammonia	Kerosene
Benzene	Methane
Butane	Methyl
Chloropicrin	Mercaptan
Diesel Fuel	Methyl Acetate
Dimethyl Amine	Methyl Chloride
Ethane	Methyl Chloride
Ethanol	Methyl Ethyl
Ether	Ketone
Ethylene	Methylene
Ethylene Oxide	Chloride
Formaldehyde	Naphtha
Freon 11	Paint Thinner
Freon 113	Pentane
Freon 12	Propane
Freon 21	Sulfur Dioxide
Freon 22	Trichlorethane
Freon 502	Trichlorethylene
Fuel Oil	Turpentine
Gasoline	Vinyl Chloride
Halon 1211	
Halon 1301	
Hexane	

**GRACE**  
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