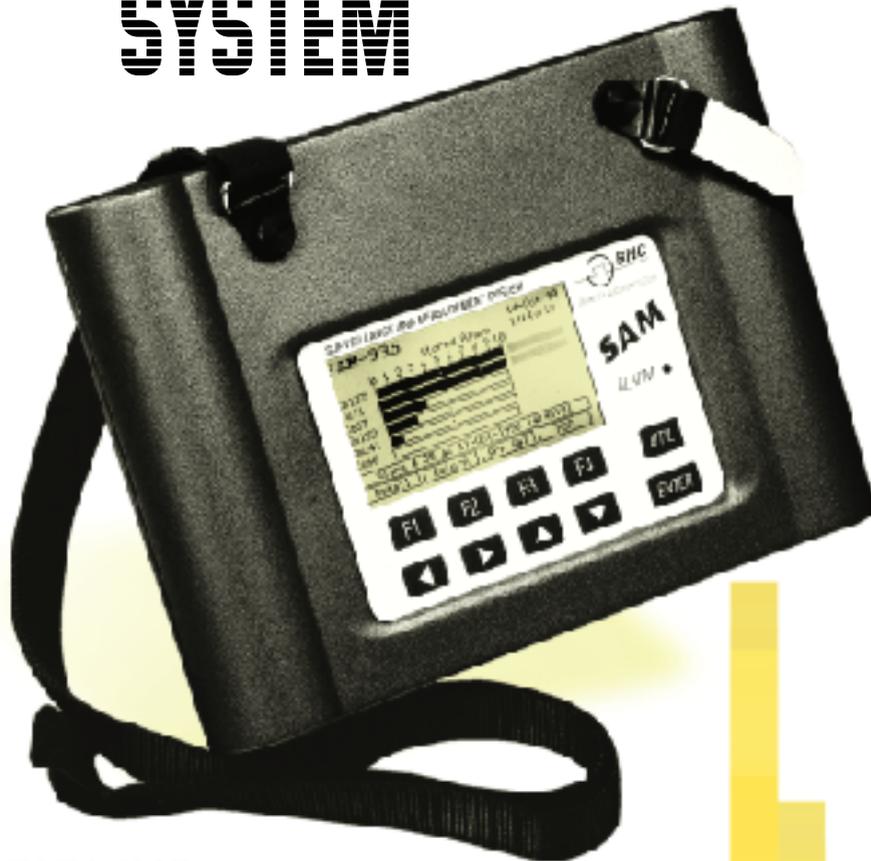


# SURVEILLANCE AND MEASUREMENT SYSTEM



- ❖ EASY TO USE
- ❖ FAST & ACCURATE ID
- ❖ OPTIONAL  $^3\text{He}$  NEUTRON DETECTOR
- ❖ PORTABLE OR BENCHTOP

NUCLEAR DETECTION





**MODEL 905**

**BENCHTOP**

**MODEL 925**

**PORTABLE**

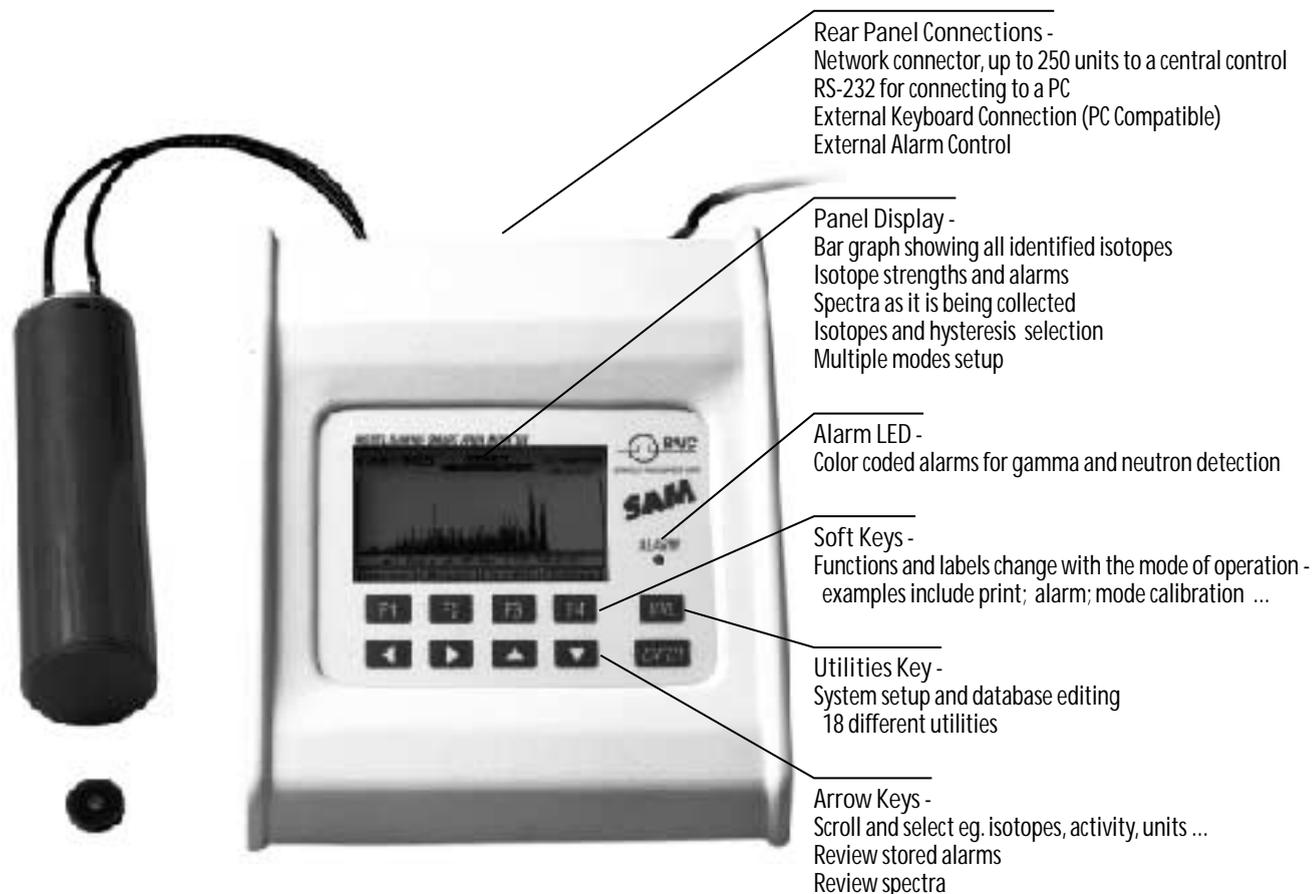
**IMMEDIATE RESULTS**

**ACCURATE**

**EASY TO USE**

The high performance Models 905/925 Nuclear Detection Systems and 935 Surveillance and Measurement System from Berkeley Nucleonics combine NaI spectroscopy with proprietary technology. Time slicing and data compression techniques result in short acquisition times, accurate identification and spectroscopic capabilities. Isotopes may be identified within a second, allowing effective surveillance of moving vehicles, materials and people. OCC, a technique to enhance the ID algorithm, even allows the controller to identify multiple isotopes in 1 second while a spectra for another source has been accumulating for hours.

Non-technical personnel can readily use the Model 905/925 and 935 with minimal training. A convenient bar graph displays identified isotopes and indicates intensity. For the more technical user, the sophistication of a MCA with quantitative analysis and software support is available at the press of a button.



Rear Panel Connections -  
 Network connector, up to 250 units to a central control  
 RS-232 for connecting to a PC  
 External Keyboard Connection (PC Compatible)  
 External Alarm Control

Panel Display -  
 Bar graph showing all identified isotopes  
 Isotope strengths and alarms  
 Spectra as it is being collected  
 Isotopes and hysteresis selection  
 Multiple modes setup

Alarm LED -  
 Color coded alarms for gamma and neutron detection

Soft Keys -  
 Functions and labels change with the mode of operation -  
 examples include print; alarm; mode calibration ...

Utilities Key -  
 System setup and database editing  
 18 different utilities

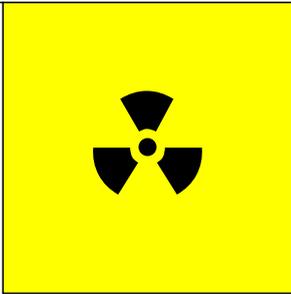
Arrow Keys -  
 Scroll and select eg. isotopes, activity, units ...  
 Review stored alarms  
 Review spectra

Contact the factory for an evaluation unit,  
 interactive on-line demo (complete with user  
 interface) or product instruction manual.  
 (800) 234-7858  
[www.berkeleynucleonics.com](http://www.berkeleynucleonics.com)





MODEL 935



*Search, identify and quantify even with moving targets*  
*Identifies in High Background*  
*High Confidence in ID's and Alarms*  
*Easy / Detail / MCA / Surveillance Modes*  
*Highest sensitivity*

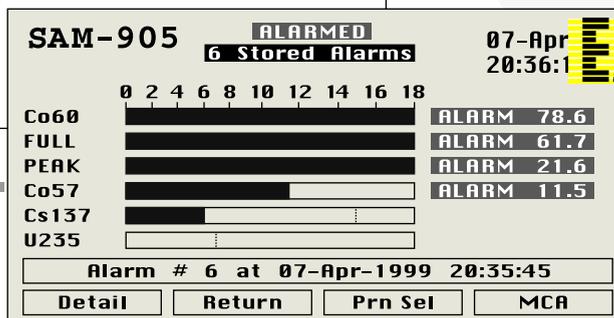
**BAR GRAPH**

**DISPLAY EXAMPLES**

**DETAIL OF BAR GRAPH**

**MCA MODE**

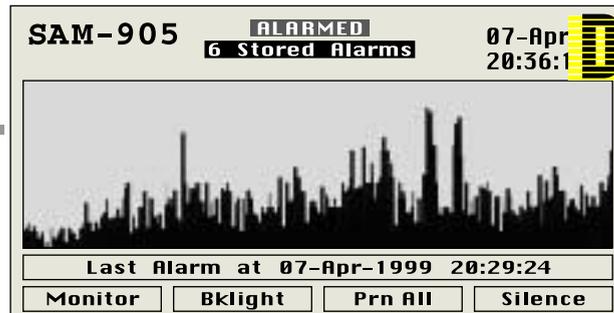
**SURVEILLANCE MODE**



**EASY**

Most operations start with this screen. It shows the strength and alarm status of identified isotopes in real time.

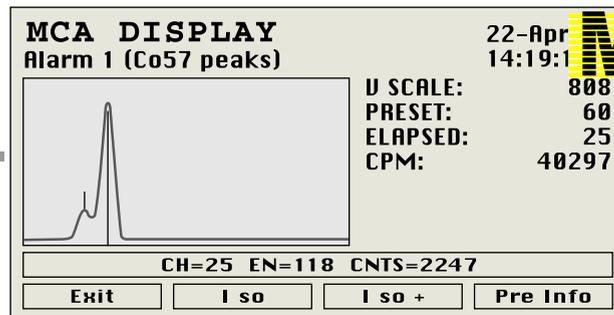
Detail - detail mode shown below  
 Return - return to Time Slice display  
 Prn Sel - Prints the currently displayed alarm through serial port  
 MCA - MCA mode shown below



**DETAIL**

The spectrum being acquired is displayed in real time.

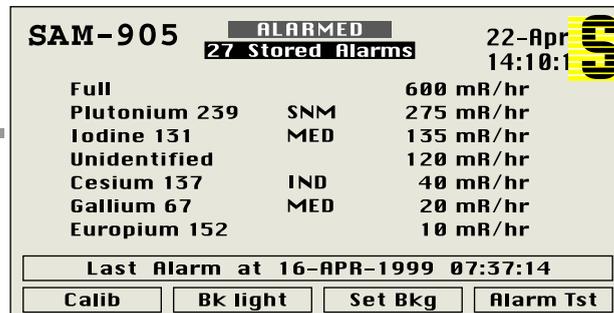
Monitor - returns to bar graph mode  
 BKlight - toggles the backlight  
 Prn all - prints all the alarms through the serial port  
 Silence - turns off audible alarm



**MCA**

Displays the data acquisition and analysis in pulse height analyzer mode.

Wide - view spectrum using full width of display  
 Strip - removes the ambient background  
 Log/Lin - toggles the display between log and linear  
 Accept - performs peak analysis and radionuclide identification



**SURVEILLANCE**

Displays isotope specific dose rate and category.

Calib - energy calibration  
 Bk light - toggles the backlight  
 Set Bkg - set background  
 Alarm Tst - alarm test



## MANY APPLICATIONS AREAS

SAFEGUARDS REQUIRE FAST, SENSITIVE AND ACCURATE IDENTIFICATION

Customs  
Nuclear smuggling  
Counter terrorism  
Treaty compliance  
Non-proliferation enforcement  
Passengers and freight monitoring

IDENTIFIES A VAST NUMBER OF INDUSTRIAL, MEDICAL AND SNM ISOTOPES

Environmental waste monitoring  
Site redemption  
Compliance  
Decontamination and decommissioning  
Health physics  
Medical

EASY FOR NON-TECHNICAL PEOPLE

Area monitor  
Security  
Survey  
Employee education  
Portals  
Emergency response



## PERFORMANCE DETAILS

(See complete technical specifications at [www.berkeleyneucleonics.com](http://www.berkeleyneucleonics.com) under Gamma Spectroscopy, or call 800.234.7858)

A high resolution ADC, 14-bit successive approximation, with a patented data compression algorithm provides enhanced statistics for analysis and display within one second. The 905/925/935 takes successive time samples of data continuously, and the powerful 16-bit microprocessor analyzes each sample concurrently. This immediate and accurate identification of moving and stationary radionuclides separates the BNC system from others.

I/O includes both RS-232 and networking. Connector for standard PS-2 keyboard. Data storage includes 400 independent spectra/alarm conditions (100 for Model 925) in a battery-backed RAM. Alarms are both audible and visual with relay closure for remote alarm. BNC offers the Model 925, with less storage capacity and a 12-bit controller, in a larger package.



**905 BENCH TOP**  
14 bit ADC

**925 PORTABLE**  
12 bit ADC  
13" x 9" x 2", 9.0 lbs

**935 PORTABLE**  
14 bit ADC  
Internal or external detector options  
11" x 8" x 2", 5.5 lbs

## OPTIONS & ORDERING INFORMATION

Model A-B-C-D

(Example: An AC powered controller with a 2.0"x2.0" NaI Detector, a Detector Carrying Handle, and Dose Rate Firmware -- Model 905-2-B-Q)

A - Smart Controller

905: AC powered - 14 bit ADC

925: Battery powered ('D' cell) - 12 bit ADC

935: Battery powered, (NiMH charger & Option Q included) - 14 bit ADC

B - Ruggedized NaI Detector Size

1: 1.5" x 2.0"

2: 2.0" x 2.0"

3: 3.0" x 3.0"

C - Detector Options

A: Tube Base (included with all detectors)

B: Carrying Handle

C: Wall Mount

D: Detachable Bracket

E: Shielded

F: Shielded, Temperature Stabilized (available only on -2 detector)

G: Neutron Detector (available on 935 only)

H: Internal 1.5" x 2.0" detector

D - Firmware Options

Q: Gamma Dose Rate Firmware (included on 935)

Accessories

P/N 6880: Extended Range Temp. Controller (0 to -50° C)

P/N 6881: Quantum MCA Software Package (Windows based)

P/N 6882: Quantum Gold Software Package (Windows based)

P/N 6883: Car Adapter

P/N 6884: Battery Pack

P/N 6885: NiMH Charger

P/N 6886: Wall Mount for 905 Controller

NUCLEAR DETECTION



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