

## CONCEALED CEILING MONITORS

The Southern Scientific Ceiling Monitor has been developed to provide activity monitoring of therapy patients following administration of radioactive therapeutic treatment

Typically the monitoring detector(s) is mounted in the ceiling (generally behind the ceiling tiles). A lead shield is used to collimate the detector to improve measurement response.

### OPTIONS

1. **GM Detector** (used for high range dose/activity measurements)
2. **GM and NaI(Tl) detector** (used for High range and low activity range measurements)
3. **GM and NaI(Tl) Spect detector** (used for High range and low activity range with gamma spectroscopy measurements)

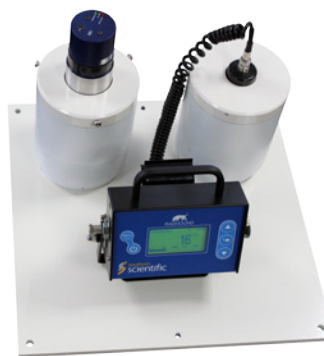
The GM only detector option is generally used for high energy isotope and where the activity levels are likely to be high.

The GM/NaI(Tl) detector option is used when the isotope energy can be relatively low (>200 keV) and activity levels will range from very high to low.

The systems are available with a range of optional detector configurations, the selection of which are dependent on the application. i.e. the isotope of interest, the expected activity range to be measured and the distance to the patient bed.

The system has two key advantages:

1. To follow ALARA regarding unnecessary exposure to staff
2. Improve security and safety - with assurance that the patient is resident in the therapy ward.

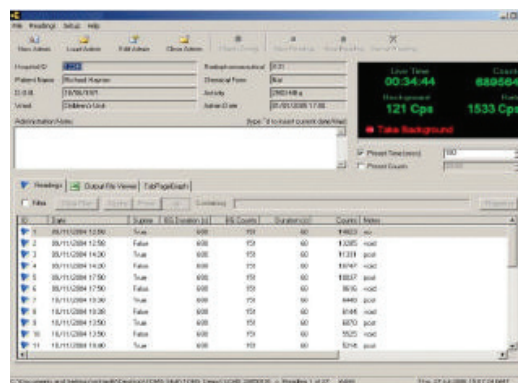


The GM/NaI(Tl) with gamma spectroscopy option would be selected if the relative background is high and windowing of the isotope is required, or the system will be used for a range of different therapy isotopes (we offer the FLIR scintiSPEC system for this).

### TOTAL ACTIVITY MEASUREMENT SOFTWARE (TAMS)

The Southern Scientific Total Activity Measurement Software (TAMS) remotely records the patient activity. It is possible to plot and review the data, and there is the option of calculating the equivalent dose rate. This can assist in making the decision as to when the patient is safe to leave the department.

**PLEASE NOTE:** TAMS does not incorporate the ScintiSPEC winMCA32 software for the spectroscopy option.



# CEILING MONITOR PROBE OPTIONS

## SS335 PROBE

Compensated pancake Geiger for dose rate measurement.

	SS335
Operating Voltage	550 V
Measurement Range	0.1 $\mu$ Sv/hr - 1 mSv/hr
Plateau Length	150 V minimum
Dead Time	100 $\mu$ s
Temperature Range	-10°C to +50°C
Gamma Sensitivity	Typically 5 cps/ $\mu$ Sv/hr
Energy Sensitivity	H*(10) for 20 keV - 1.5 MeV
Housing Connector	MHV
Dimensions	$\varnothing$ 70 x 180 mm
Active Area	15.5 cm <sup>2</sup>
Weight	450 g
Humidity	Up to 95% RH non-condensing

## SS550 PROBE

End-window gamma scintillation probe, with a 2"x2" NaI(Tl) detector.

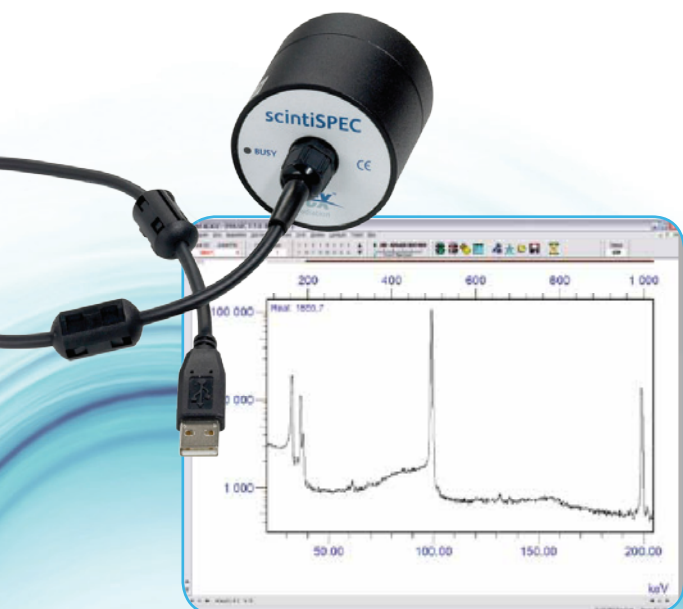
	SS550
Operating Voltage	650 V DC
Detector Crystal	50.8 x 50.8 mm / 2" x 2" NaI(Tl)
Window Weight	35 mg/cm <sup>2</sup>
Gamma Sensitivity	TBA
Energy Response	50 keV - 2.0 MeV
Housing Connector	MHV
Dimensions	$\varnothing$ 57 x 220 mm
Weight	300g
Temperature	-10°C - +50°C
Humidity	Up to 95% RH non-condensing



## scintiSPEC / NaI(Tl)

Universal multi-channel analyser.

The scintiSPEC is an easy to use, intuitive, universal MCA for scintillation detector spectroscopy and counting. Using a USB interface for communications and power. The scintiSPEC provides power to the detector PMT and contains signal processing electronics, a Wilkinson ADC and memory.



## SPECIFICATIONS

SPECTRUM PARAMETERS	Spectrum Length	1024 channels
	Bits per channel	32
	Operating Mode	PHA, opt. MCS
PROGRAMMABLE CONTROLS	Fine Gain	x0.5 - x2.0
	Preset Mode	Life or Real Time
	Preset Time	0.1 - 10 <sup>6</sup> sec
INPUTS/OUTPUTS	Detector	2" x 2" NaI(Tl)
	Computer	USB with cable
	High Voltage Range	0 to +1200 V DC, 1 mA integrated into tube base, 4096 steps, software controlled
SIGNAL PROCESSING	ADC	Integrated Wilkinson 60 MHz
	Conversion Range	1024 Channels
ENVIRONMENT	Temperature	0 to 50°C (32 to 122°F)
	Humidity	Up to 80% non-condensing
SOFTWARE	winTMCA32	Includes basic spectroscopy software



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