Model GSpec is a versatile compact USB based 1024 channel Multichannel Analyzer based Gamma Spectroscopy system. GSpec is designed and manufactured indigenously by Para Electronics Mfg. Division of Electronic Enterprises (I) Pvt Ltd for 14 pin NaI(Tl) Scintillation Detector based Gamma Spectroscopy.

GSpec is powered by USB interface and includes preamplifier, spectroscopy amplifier, high voltage power supply for the detector and 1024 channel 48 MHz Wilkinson ADC with SiLab microcontroller for USB interface with PC for spectrum acquisition and data processing.

Data acquisition software is loaded on PC / Laptop and provides spectrum acquisition and display, spectrum analysis software for Energy calibration, ROI selection, area calculation, peak search, peak information, spectrum smoothing and spectrum data storage on PC hard disk.

High voltage supply necessary to operate scintillation detector is software programmable from 0 to 1200 volts in 256 steps. Spectroscopy amplifier gain is settable through PC. The whole setup has a resolution of around 7% or better with NaI(Tl) detector. It is suitable for applications where low resolution of nuclides is acceptable.

GSpec is ideally suited for Nuclear Spectroscopy experiments carried out at Universities, Environmental Survey Labs and Health Physics Units of Nuclear Power Plants and Chemical Control Labs.
## Specifications

### Input Signal Configuration:
- 14 Pin base for standard NaI(Tl) Scintillation detectors
- Built in Voltage Divider Network
- Preamplifier for NaI(Tl) detector

### High Voltage Power Supply:
- 0 to +1200 V dc, 0.5 mA
- 256 steps software programmable
- Ripple < 30 mv

### Spectroscopy Amplifier:
- 1 μ sec semi Gaussian shaping with internal PZ adjustment
- Gain Setting settable through PC
- Output: 0 to 5 V unipolar semi Gaussian, connected internally to ADC input

### ADC:
- 1K Channel Willkinson type
- 48 MHz clock frequency
- Conversion time - 20 μ sec for FS input
- ADC control through Silab F340 micro controller via USB interface
- USB cable length upto 5 meters
- Differential Non Linearity less than 2 %

### Power Supply:
- From USB Port of PC

### Data Acquisition and Processing Software:
- Acquisition and display of Gamma Spectrum
- Energy Calibration, ROI selection, Area Calculation,
- Peak search and peak information
- Spectrum Stabilization & Smoothening of spectrum
- Data Storage on PC hard disk

### Mechanical:
- Dimensions: 76mm Dia x 125mm Height, Cylindrical steel housing with 14 pin Socket
- Weight: Approximately 1 Kg

### Optional:
- NaI(Tl) Detector, Lead Shield suitable for detector

---

Due to continuous R&D, specifications are likely to change without notice

---

For further details contact:

Electronic Enterprises (I) Pvt. Ltd.
Para Electronics Manufacturing Division

306, Nimesh Industrial Estate
Vidyalaya Marg, Mulund (East)
Mumbai 400 081
Phone : 022-2563 5600 / 2741
Fax : 022-2563 7835
Website : www.eeipl.in
Email: pemd@eeipl.in

### BRANCHES

- **Mumbai**: 022-25639904, eemulund@eeipl.in
- **Hyderabad**: 040-23243352, eehyd@eeipl.in
- **Bangalore**: 080-23380451, eebng@eeipl.in
- **Kolkata**: 033-25770551, eecal@eeipl.in
- **Delhi**: 011-27240436, eedelhi@eeipl.in
- **Kota**: 0744-2501113, eekota@eeipl.in