Model GSPEC-A Ethernet Based Gamma Spectroscopy System

(Complete system with 1K MCA, High Voltage Supply, Spectroscopy Amplifier, Preamplifier)

Ethernet Based Gamma Spectroscopy System

Controls of GSPEC-A

Model **GSPEC-A** is a versatile compact 1024 channel Multichannel Analyzer based Gamma Spectroscopy system. GSPEC-A 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-A requires +5VDC,1A external supply. It includes preamplifier, spectroscopy amplifier, high voltage power supply for the detector and 1024 channel, 48 MHz Wilkinson ADC with SiLab microcontroller for ethernet interface with PC for spectrum acquisition and data processing.

Data acquisition software 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. DLL file will be provided for communication with device. User can develop his application using our DLL. DLL is suitable for Windows operating system

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.

GSPEC-A 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 suitable 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
Differential Non Linearity less than 2 %

Supply Input : +5VDC, 1A

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's 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

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