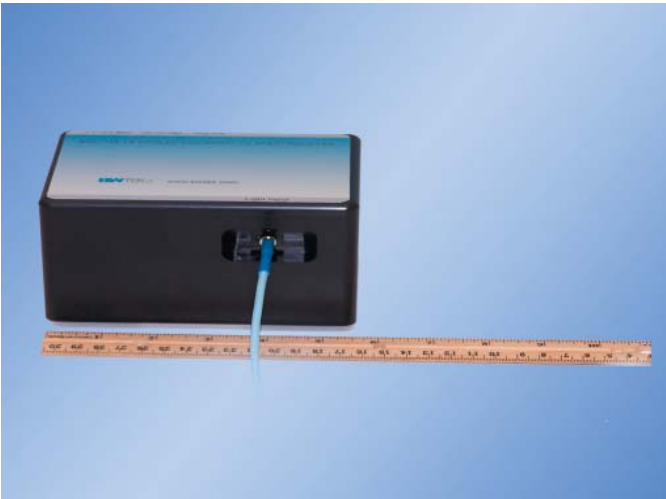


## Miniature UV CCD Array Spectrometer



The BTU142E is a miniature high performance UV CCD array spectrometer. An aberration corrected holographic flat field concave grating minimizes stray light and maximizes throughput. The BTU142E provides low dark noise and improved stability using a TE cooled 2048 element CCD Array. The BTU142E is ideal for fluorescence measurements and low light level UV spectroscopy such as DNA sequencing. Light coupling to the spectrometer can be either through a fiber patch cord, a fiber bundle or via free space optics.

### Highlights

- High resolution
- Low stray light with holographic grating
- High throughput optics
- Detachable fiber bundle option
- TE cooled and temperature regulated

### Applications

- Fluorescence Spectrometer
- Low Light Level UV Detection
- DNA Sequencer

Figure 1 : Mercury Lamp Spectrum measured by BTU142E

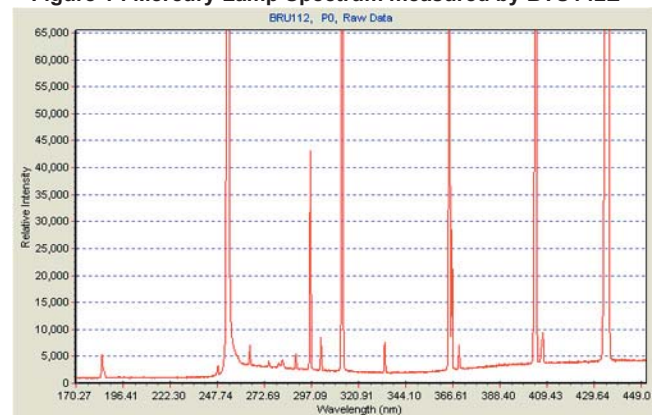
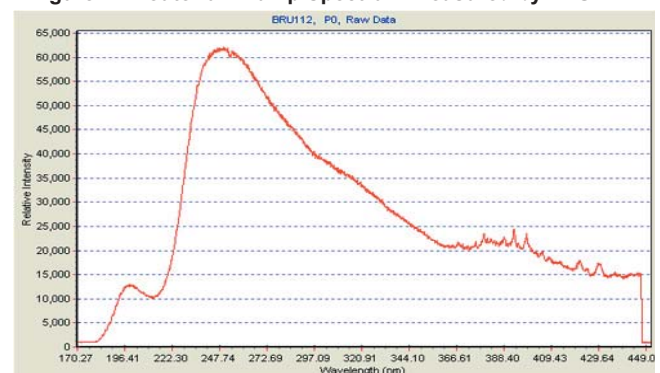


Figure 2 : Deuterium Lamp Spectrum measured by BTU142E



# BTU142E

## Miniature UV CCD Array Spectrometer

### Typical Specifications

Optical Interface	Option 1 Single Fiber	NA = 0.22 single fiber with 50 $\mu\text{m}$ or custom slit
		Connector: SMA905
	Option 2 Bundled Fiber	NA = 0.22 fiber bundle, Spectrometer end Linear 100 $\mu\text{m}$ x 1250 $\mu\text{m}$
		Connector: SMA 905
	Option 3 Free Space	Free Space, slit width 10 - 300 $\mu\text{m}$ , slit height 1000 $\mu\text{m}$
F/#	2.2	
Grating	Flat-Field, Aberration corrected, Concave Holographic	
Spectral Range	180 nm – 450 nm	
Detector Length	25 mm	
Spectral Resolution	0.75 nm with 50 $\mu\text{m}$ slit, custom options available	
Pixel Resolution	0.25 nm	
Minimum Integration Time	5 ms	
Wavelength Accuracy	0.2 nm	
Stray Light	< 0.06% @ 240 nm by D <sub>2</sub> Lamp	
A/D Resolution	16 bit	
Detector	2048 elements@14 $\mu\text{m}$ x 200 $\mu\text{m}$ per element	
Power Input	5 V DC @ < 2 A	
Computer Interface	USB 2.0	
Dimensions	164.7(L)x103(W)x69(H)mm	
Weight	5 kg	

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### Dimensional Drawing

