



530 Main Street, Acton, MA 01720

**Phone:** (978)263-3584, **Fax:** (978)263-5086

**Web Site:** [www.acton-research.com](http://www.acton-research.com)

**Model ID-441  
InGaAs Near Infrared Detector  
with Preamplifier Operating Instructions**

## **I. Description**

The Acton Research Corporation Model ID-441 InGaAs near infrared detector assembly consists of a 3mm diameter InGaAs detector mounted in a sealed housing, a preamplifier and a power supply. The preamplifier is built into the detector assembly and provides a positive voltage output proportional to the incident near IR radiation. The detector is usable over the wavelength range of 850nm to 1700nm. The power provides the necessary voltages for the preamplifier.

## **II. Installation**

The InGaAs detector assembly mounts to the Acton Research Corporation SpectraPro monochromator exit slit using the four cap screws provided. For maximum transfer to signal, the detector should be mounted directly to the monochromator slit housing and not spaced away from the slit by a filter assembly or other accessory.

Connect the cable from the power supply module to the 9 pin connector on the detector assembly. Plug the power supply module into a 115 vac outlet. The power supply module can remain plugged in continuously without damage to the power supply or detector.

Connect the BNC output from the detector assembly using the BNC cable provided to a readout system such as the Acton Research Corporation NCL or other device capable of reading 0 to +10 volts.

## **III. Operation**

The InGaAs detector assembly is sensitive to near IR radiation in the wavelength range of approximately 850nm to 1700nm.

The InGaAs detector is operated in the photovoltaic mode for lowest noise performance. The preamplifier has a fixed gain to provide +10 volts out for  $1.0 \times 10^{-6}$  amps input. The detector supplied has the following specifications:

Size	mm dia.
Cd @ volts	_____
Rd @ 25 deg. C	_____
R [A/W] @ 1300nm	_____
R [A/W] @850nm	_____