



Amplifier on Vacuum-safe Ceramic Board

The new [McPherson](#) 671MX amplifier is a high vacuum compatible, current-to-voltage converting amplifier developed specifically for use with vacuum ultraviolet Silicon photodiodes. With integral socketed photodiode mount, the combination detector/amplifier hybrid can be used to measure small photo generated currents with resolutions of 10 fA and dynamic ranges of four orders of magnitude. The 671MX consists of a very low noise operation amplifier with selectable feedback resistor. The feedback resistor is also socketed and may be changed to match the gain and dynamic range requirements of your experiment.

McPherson [VUV series photodiodes](#) are used for the detection of UV, EUV and x-ray (wavelength range 1100 nm to .124 nm, energy range 1.13 eV to 1 keV) photons. Unlike common p-n junction diodes, the photodiodes do not have a doped dead-region and have zero surface recombination. These devices can be used to cover the complete photon spectral range (0.0124 nm to 1100 nm) because of their extremely thin 6 nm oxide window and 100% internal quantum efficiency.

During the CW XUV radiation measurements, general purpose electrometers are used to measure current generated by the photodiodes. The relatively large size of many commercial electrometers – and vacuum chambers for VUV applications – may make it difficult to locate them very close to the detector. Long interconnecting cables can pick up significant amounts of noise from electromagnetic interference and from mechanical vibration.

All amplifier components are low tolerance, resulting in consistent current-to-voltage transfer characteristics with minimal offset voltage. The amplifier is produced on a vacuum compatible ceramic board and uses all vacuum compatible components. It is sold without the photodiode and requisite ± 15 volt power supply required for operation. We are happy to quote all these component level parts or integrated detection systems with our spectrometers, per your request.

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About McPherson

[McPherson](#) (Chelmsford MA USA) manufactures instruments that measure and tune wavelengths of light; providing solutions for optical spectroscopy. The company is proud of its ongoing worldwide role in photonics research. We engage scientists involved in basic research as well as in the semiconductor, pharmaceutical, energy and environmental industries. For more information call 1-978-256-4512 or visit the [McPhersonInc.com](http://www.McPhersonInc.com). For more information <http://www.McPhersonInc.com>

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