

NEWS

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Vertilon Introduces SIB064 PMT Sensor Interface Board

*Latest Product Supports Hamamatsu H8500D
Sixty-Four Element Multianode Photomultiplier Tube*

WESTFORD, MA (April 23, 2008) – Vertilon Corporation (<http://www.vertilon.com>) has announced today that it has introduced the SIB064 sensor interface board for the Hamamatsu H8500D sixty-four element multianode photomultiplier tube. The SIB064 is the latest addition to Vertilon's line of sensor interface boards which are products specifically designed to provide the mechanical interface and electrical connectivity between a multianode PMT (MAPMT) and a multichannel data acquisition system. In a typical application such as positron emission tomography (PET) or a high energy physics experiment, an H8500D PMT is plugged into the SIB064 and the assembly mounted directly behind a scintillation crystal. The PMT's 64 anode signals are carried from the SIB064 on two specialized high density coaxial cables to a 64 channel data acquisition system like Vertilon's PhotoniQ IQSP482. Using an externally generated trigger, the PhotoniQ IQSP482 performs the simultaneous parallel charge integration and data acquisition of the 64 anode signals for each scintillation event. A data packet representing the amount of scintillation energy incident on each anode of the PMT is then sent to a PC over a USB port where events can be binned by energy level or further processed by the user's custom software application. The SIB064 also includes circuit functions to process the last dynode signal from the Hamamatsu H8500D. In many applications the last dynode from the PMT offers a practical means of detecting an impinging particle or scintillation event since it is effectively a shared connection between all anodes in a multianode photomultiplier tube. When one or more particles hit the photocathode of a MAPMT, a positive pulse is produced on the last dynode output. This pulse is coincident with the pulse output from the PMT anodes and therefore can be used to trigger the data acquisition system to collect the charge signals. A high bandwidth preamplifier on the SIB064 connects directly to the H8500D last dynode and provides its amplified output to one of three on-board pulse discriminators. Depending on the application, the user can employ either a leading edge, constant fraction, or zero slope discriminator on the SIB064 to directly trigger the PhotoniQ IQSP482 data acquisition process. For more demanding applications requiring extremely precise timing, the discriminators can be bypassed and the SIB064 preamplifier output can instead be connected to an external discriminator. The SIB064 also includes the interface to the H8500D high voltage cathode bias which can be conveniently supplied by the PhotoniQ. "The SIB064 represents a new generation of sensor interface boards from Vertilon" said Vincent Palermo, President and Founder of Vertilon. "Not only have we significantly expanded the number of signal channels over prior generations, but we have added essential functionality that would have otherwise had to be implemented using expensive external test equipment." He added "Our customers who use the Hamamatsu H8500D can now meet all their interface and data acquisition electronics needs with simply a SIB064 and PhotoniQ IQSP482 — no other test equipment should be necessary." Vertilon says the SIB064 is currently in production and available today. Target applications include PET, single photon emission computed tomography (SPECT), high energy particle physics, small animal imaging, and radiation monitoring. In addition to the SIB064, Vertilon also manufactures sensor interface boards for Hamamatsu's H8711, H7260, and R5900U-L16, as well as Pacific Silicon Sensors' AD-LA-16-9-DIL18 16 element linear avalanche photodiode array.

About Vertilon Corporation (<http://www.vertilon.com>)

Vertilon manufactures advanced products for markets utilizing multi-anode photomultiplier tubes, avalanche photodiode arrays, silicon photomultipliers, and other multi-element charge-based sensors. Vertilon's core product line is the PhotoniQ, a family of high performance multi-channel data acquisition systems that interface to optical sensors and collect and process their output signals. Over the last seven years, Vertilon's PhotoniQ products have been used throughout the world by leading universities, government laboratories, and corporate R&D groups in applications that include particle physics, flow cytometry, bioaerosol detection, SPECT, PET (positron emission tomography), and confocal microscopy.

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