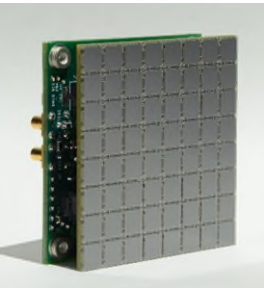
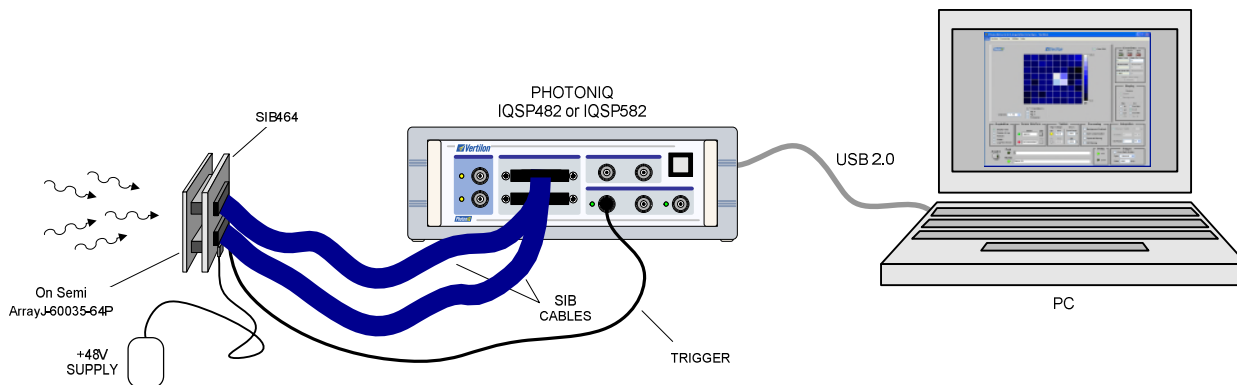


Description

The SIB464 sensor interface board allows for a On Semi ArrayJ-60035-64P 8 x 8 silicon photomultiplier (SiPM) array to easily interface to a Vertilon PhotoniQ multichannel data acquisition system. The SiPM is inserted into the bottom side of the printed circuit board where its anode output signals are routed directly to two sensor interface board (SIB) connectors. Each connector mates to a micro-coaxial cable assembly that connects 32 device outputs to the PhotoniQ. Bias to SiPM array is provided by an on-board adjustable high voltage bias supply. A special current-sense output on the supply is available that represents the AC charge signal produced by the SiPM array. This signal is fed into a user-programmable leading edge discriminator that generates a trigger signal when an event exceeding a preset energy threshold is detected on the ArrayJ-60035-64P device. The trigger output is typically connected to the trigger input on the PhotoniQ data acquisition system where it is used to initiate the collection of the energy signals from the SiPM array connected to the DAQ system's inputs.

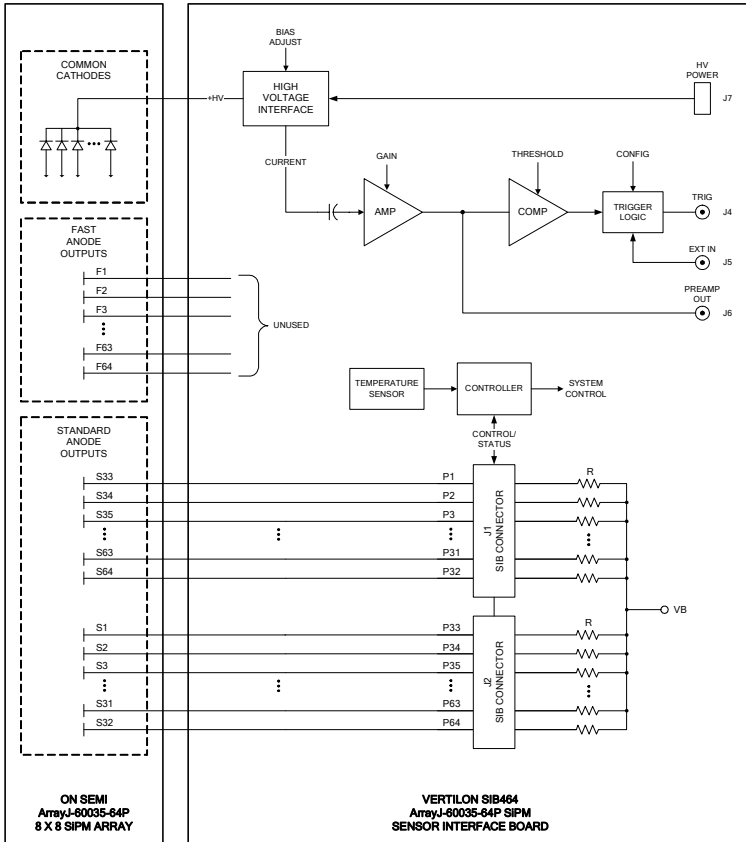


Typical Setup

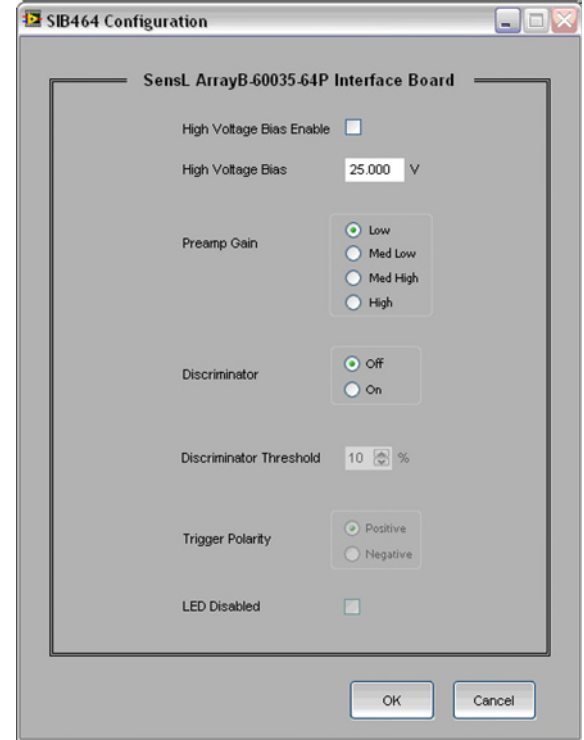


The On Semi ArrayJ-60035-64P silicon photomultiplier is inserted into the SIB464 which is positioned in an optical assembly to detect incoming radiation. The 64 outputs from the SiPM array are routed on the SIB464 to the SIB connector that connects to a PhotoniQ IQSP482 or IQSP582 multichannel data acquisition system. The discriminator channel produces a trigger to the PhotoniQ whenever a radiation event is detected on the SiPM. The energy level threshold for the radiation event is set by the user through the PhotoniQ graphical user interface. Charge signals from the 64 anodes of the ArrayJ-60035-64P device are acquired by the PhotoniQ for each trigger produced by the SIB464. Digitized output data from the PhotoniQ is sent through a USB 2.0 connection to a PC for display, logging, or real time processing. In the figure above, the PhotoniQ GUI is set to display an 8 x 8 image of the energy levels for each event captured.

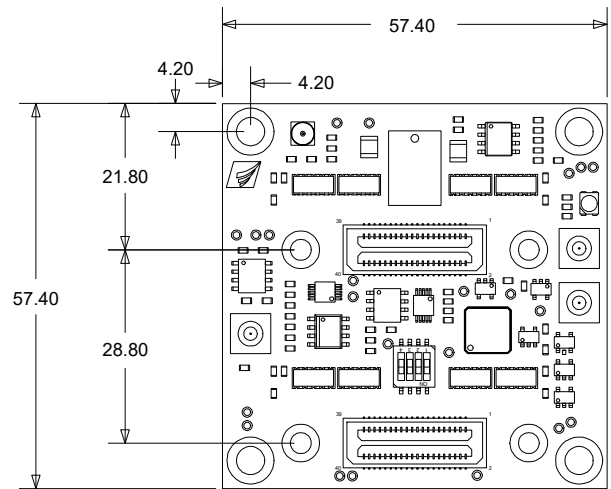
Functional Block Diagram



Configuration Dialog Box



Mechanical Data



ALL DIMENSIONS IN MILLIMETER

Ordering Information

SIB464 directly compatible with Vertilon PhotoniQ IQSP482 / IQSP582 64 channel data acquisition systems. PhotoniQ systems sold separately. See User Manual for performance specifications.

SIB464 includes +48V power source for high voltage bias supply and two SMB120 coaxial cables, SMB plug to BNC plug, 120 cm.

Sensor interface board (SIB) cables ordered separately. Specify part number SBCxxx, where "xxx" equals length in centimeter.

See SIB464 User Guide for complete specification.

See SensL ArrayJ-60035-64P datasheet for specific device information



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