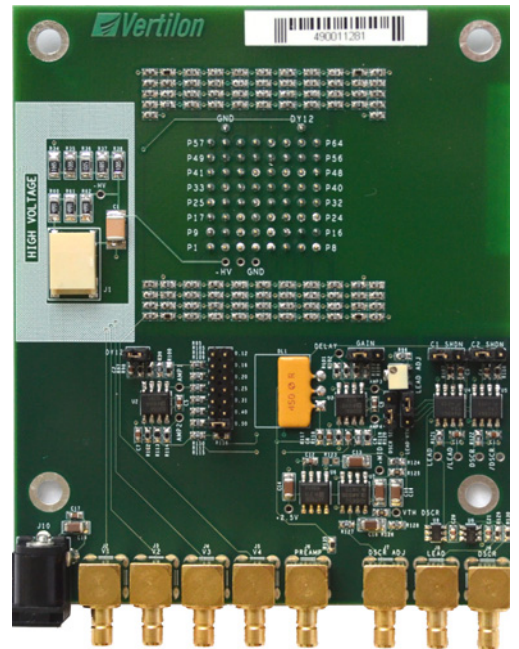
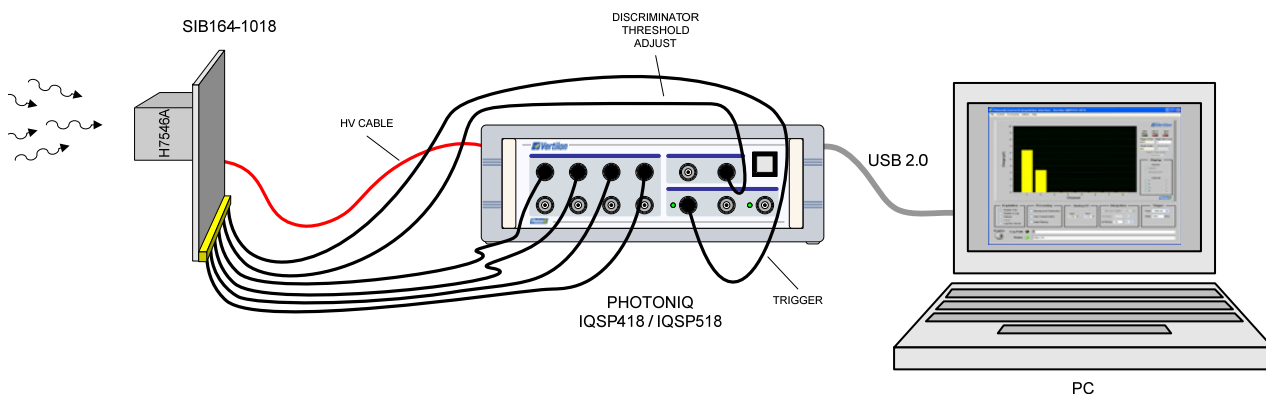


## Description

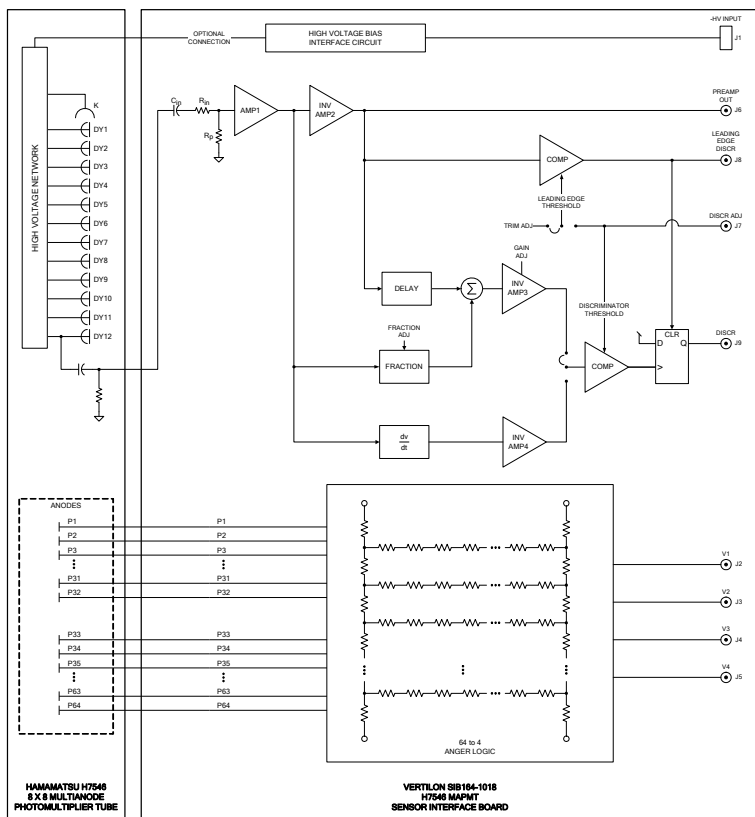
The SIB164-1018 multianode photomultiplier tube interface board provides the mechanical and electrical connectivity between the Hamamatsu H7546 64 anode PMT and external signal processing electronics such as Vertilon's PhotoniQ multichannel data acquisition systems. The H7546 is mounted to the bottom side of the SIB164-1018 through 66 socket pins that connect the PMT's 64 anode signals, last dynode output, and high voltage input to the board. The anode signals are routed to an on-board resistive anger logic circuit that generates four anger signal outputs. These outputs connect using four coaxial cables to Vertilon's PhotoniQ IQSP418 or IQSP518 multichannel data acquisition system where the charge from each is separately integrated, digitized, and sent to a PC for display or further signal processing. For applications utilizing the last dynode output of the H7546, the SIB164-1018 includes a two stage high speed preamplifier whose output is available on an SMB connector. One of three on-board discriminators can be used with the last dynode signal to generate a trigger to the data acquisition system or other external electronics. The outputs from a leading edge, constant fraction, and zero slope discriminator — which respectively generate trigger signals based on threshold, percentage of pulse height, and pulse peak — are available on SMB connectors. Several user adjustments are included for optimizing system gain and trigger thresholds for the discriminators. When using an H7546A PMT, the negative high voltage bias to the PMT's cathode is supplied through its high voltage cable. This cable is compatible with the high voltage SHV output from the PhotoniQ. Alternatively, when using an H7546B, three optional socket pins can be added to the board for direct connection of the PMT's high voltage input. In this case, the high voltage bias is supplied through the SIB164-1018 on a specialized cable from the PhotoniQ.



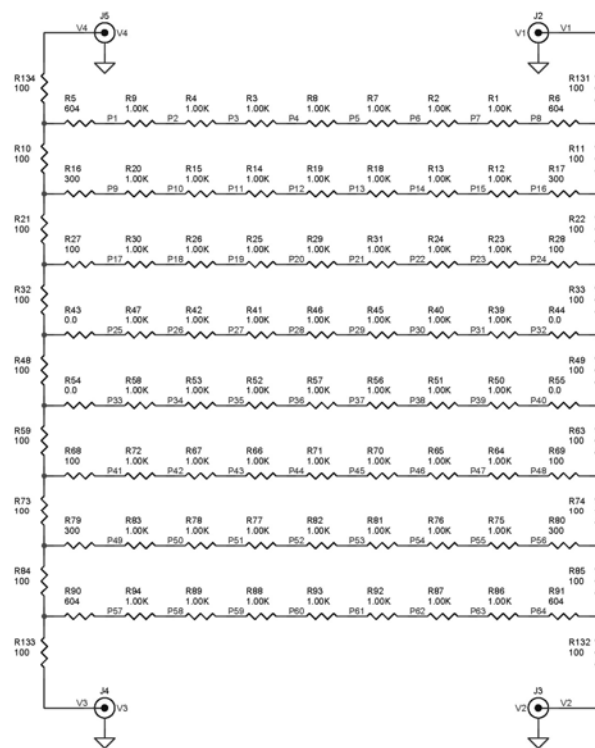
## Typical Setup



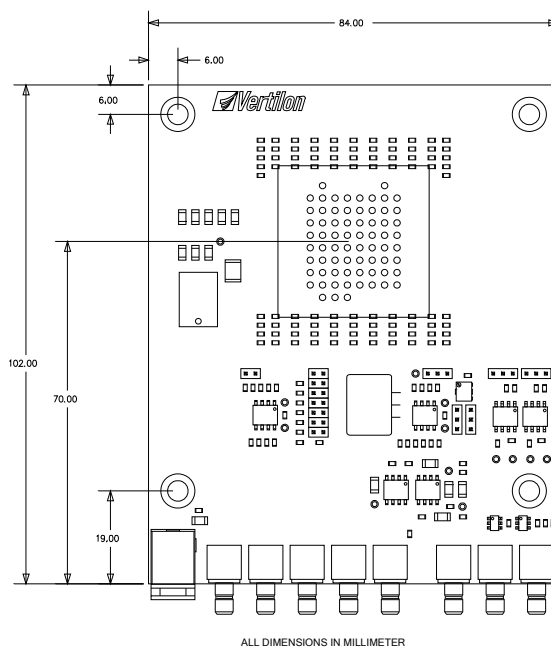
### Functional Block Diagram



### Anger Logic Circuit



### Mechanical Data



### Ordering Information

SIB164-1018 is directly compatible with Vertilon PhotoniQ IQSP418 / IQSP518 expandable charge integrating data acquisition systems. PhotoniQ systems sold separately. See PhotoniQ User Manual for performance specifications.

SIB164-1018 includes power supply and six SMB120 coaxial cables, SMB plug to BNC plug, 120 cm.

See SIB164-1018 User Guide for complete specification.

See Hamamatsu H7546 datasheet for specific device information



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Vertilon Corporation, 66 Tadmuck Road, Westford, MA 01886 / Tel: (978) 692-7070 / Fax: (978) 692-7010 / [www.vertilon.com](http://www.vertilon.com)