

Photomultiplier tubes are used to convert flashes of light into an electrical signal whose integrated area is proportional to the number of photons in the flash of light. Also, the time at which the electrical pulse is produced can be used to infer the arrival time of the light pulse. The light can come from a distant source, such as a fluoresced sample in single-photon counting experiments, or from a scintillator that is tightly coupled to the PMT photocathode and excited by nuclear radiation.

Scintillation detectors produce light as they absorb energy, and these light flashes result in the release of a proportionate number of photoelectrons at the cathode of a photomultiplier tube (PMT). The PMT amplifies this signal, producing a current pulse that is larger in amplitude at each of its successive dynodes, and culminating in an output signal at its anode.

Each of the ORTEC Photomultiplier Tube Bases is designed to accommodate a particular type of PMT to distribute the operating voltages to all its elements, and to derive signals from its anode and from a selected dynode. The high-voltage accommodation in a PMT base is adequate for the requirements of any of the compatible tubes listed in the Comparison Chart; the tube types listed represent those most commonly used in these applications.

The Model 276 Photomultiplier Tube Base incorporates an integral low-noise preamplifier, and an anode output for either timing or auxiliary energy analysis. The Model 296 ScintiPack has all the features of the Model 276, but adds an integral high-voltage bias supply with active dynode voltage regulation. The ScintiPack is ideal for high counting rates and portable applications. Both the Model 276 and the Model 296 are compatible with Model 905 Series Scintillation Detectors.

The other photomultiplier tube bases in this group also include two outputs: a signal obtained from the anode and a signal obtained from a dynode. The anode signal is typically used for time measurements. The dynode is intended for making energy measurements through a preamplifier and a pulse-shaping amplifier.

Specifications subject to change  
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