ORTEC®

AMETEK®

266
Photomultiplier Base

- **For use with 10-stage PMTs that fit standard 14-pin sockets**
- **Linear output available from anode or tenth dynode**
- **Focus control for optimum peformance**





The ORTEC Model 266 Photomultiplier Base provides voltage distribution to essentially all 10-stage photomultiplier tubes (PMTs) that fit its standard 14-pin tube socket. It provides capacitively-coupled linear output signals from the anode and the tenth dynode that can be used in either timing or linear pulse height analysis systems. This arrangement allows the use of either polarity of output without an inverting amplifier. High-quality signals are maintained when these outputs are fed through 50-Ω terminated cables or directly into a linear preamplifier such as the ORTEC Model 113 Scintillation Preamplifier. The Model 113 output is fed into one of the ORTEC main amplifiers, where it can be either active-filter- or delay-line-shaped for analysis. The focus control on the Model 266 allows optimum adjustments for the best performance of the particular PMT.

The Model 266 is compatible with most standard 10-stage PMTs that fit standard 14-pin sockets, including those listed in Table 1.

Other compatible tubes may be determined by comparison with those that are listed (also see Figs. 1 and 2). Note that all photomultiplier tube specifications are given by the PMT manufacturer.

Specifications

PERFORMANCE

BLEEDER RESISTANCE 1.5 MΩ total, tapped to provide proportional bias steps to successive tube elements.

CONTROL

FOCUS The voltage to the focus electrode in the tube is available as an external trim adjustment using a screwdriver potentiometer.

INPUTS

POS HV SHV connector accepts positive bias voltage to 2.5 kV maximum.

PMT SOCKET TRW 3B14. Fits JEDEC B14-38 PMT pin base (see Fig. 2).

OUTPUTS

ANODE BNC connector provides negative linear output through Z_o ~1.1 MΩ, capacitively-coupled.

DYNODE BNC connector provides positive linear output from the tenth dynode through 1.1 MΩ, capacitively-coupled.

ELECTRICAL AND MECHANICAL

WEIGHT
Net 0.37 kg (0.81 lb).
Shipping 0.96 kg (2.12 lb).

DIMENSIONS 5.6 cm (2.2 in.) diam x 10.2 cm (4 in.) long.

Table 1. Compatible Photomultiplier Tubes.

ADIT	Burle (formerly RCA)	Hamamatsu	Phillips	Electron
B51B01	4900	PM55	XP2202	9266K
L51B01	5819	R208	XP2203B	9272K
V51B01	6342A	R550	XP2412B	9250K
B51D01	6655A	R594		9256K
B51C01	S83006E	R877		9305K
B76B01	S83013F	R878		9265K
V76B01	S83019F	R1507		9269K
B76C01	S83020F	R1512		9273K
B89B01	S83021E	R1513		9274K
B89C01	S83022F	R1612		9306K
B89D01	S83025F	R1791		9390K
B133D01		R1836		9275K
B133C01		R1847-07		
V133B01		R1848-07 7696		

266
Photomultiplier Base

Related Equipment

Either the anode or dynode signal may be processed through an ORTEC Model 113 Scintillation Preamplifier that is connected to a main shaping amplifier such as ORTEC Models 460, 570, 572A, 575A, or 590A. These signals may also be connected through 50-Ω coaxial cables and amplified by fast amplifiers to be used in timing applications with the ORTEC Model 473A Constant-Fraction Discriminator or other fast discriminators. If one of the outputs is not used, it should be terminated with a C-27 100-Ω terminator to prevent distortion on the other outputs. The ORTEC Model 556 High-Voltage Power Supply is recommended for supplying the positive high voltage. A C-24-1 Cable is recommended for connecting the dynode output to a Model 113 Preamplifier. A C-24-12 Cable can be used between the preamplifier output and the input to the main shaping amplifier. For timing from the anode use a C-25-12 Cable. The C-36-12 Cable is recommended for the high voltage connection.

Ordering Information

Model	Description
266	Photomultiplier Base
C-24-1	RG-62A/U 93-Ω Cable with two BNC male plugs, 1-ft length
C-24-12	Same as above, 12-ft length
C-25-12	RG-58A/U 50-Ω Cable with two BNC male plugs, 12-ft length
C-36-12	RG-59A/U 75-Ω Cable with two SHV female plugs, 12-ft length
C-27	Terminator, 100 Ω, BNC male plug

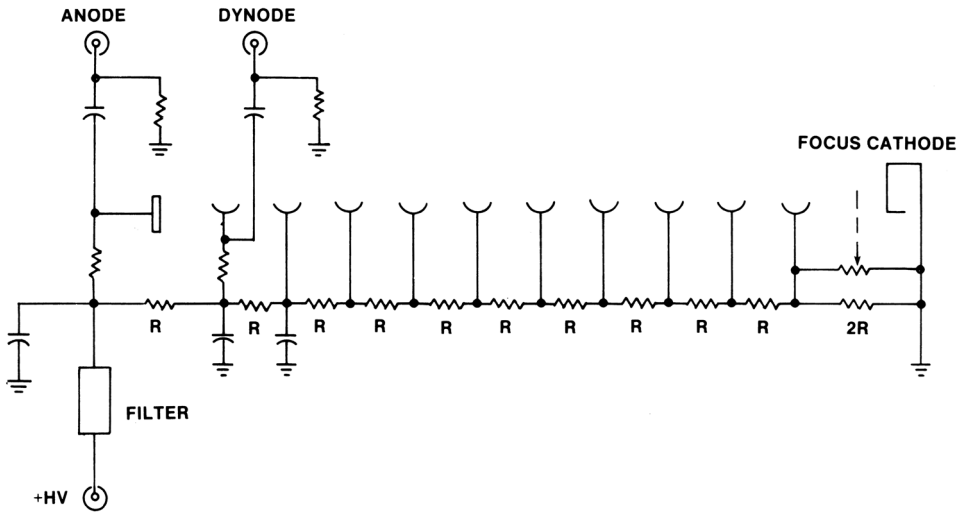


Fig. 1. Simplified Schematic Diagram of ORTEC Model 266 Photomultiplier Base.

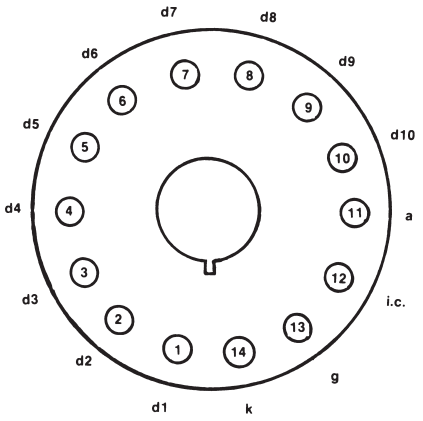


Fig. 2. JEDEC B14-38 PMT Pin Base, with Pin Assignments:	
d1 – d10	dynodes 1 to 10
a	anode
i.c.	internal connection
g	grid
k	cathode

ORTEC®
AMETEK®

www.ortec-online.com
Tel. (865) 482-4411 ortec.info@ametek.com
801 South Illinois Avenue, Oak Ridge, TN 37830 U.S.A.
Visit Our Website For International Office Locations

Specifications subject to change
24-0808