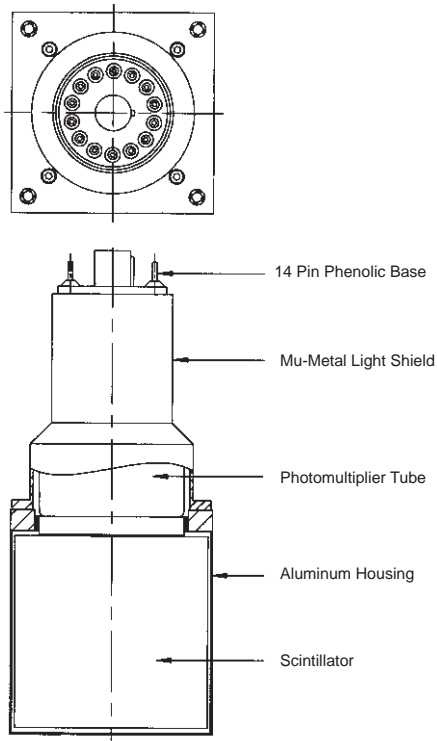


squareline

Square Scintillation Detector with Demountable PMT

■ features/advantages

- Easily stacked in arrays
- Increased efficiency
- Only one PMT for a large crystal volume



Bicron *Squarelines* are scintillator-photomultiplier combinations that allow the removal of the photomultiplier tube or tubes without disturbing the scintillator package. A square detector is a cost-effective alternate to the standard right cylinder. The cubic scintillator provides a 27% increase in volume over a comparable cylindrical scintillator. This increase in crystal volume substantially increases detector efficiency while still minimizing package size and shielding requirements.

■ options

- Scintillator containers of low-background stainless steel or copper
- PMTs selected for low background, premium resolution, fixed HV use, or gain matching
- Special flanges, mounting fixtures or other modifications
- Integrated, low-background voltage divider/preamp bases
- Premium resolution assemblies

■ other configurations

- Ruggedized and high-temperature detectors
- All-welded construction
- Side or end wells available

■ design notes

- Square scintillators can be stacked to build massive radiation detectors for medium and high energy physics. The modular concept offers large detector area and/or volume with economy and flexibility that complicated designs cannot provide.
- For rugged environments, this style detector can be built with a welded, glass-to-metal seal in a stainless steel housing. This package will operate in temperatures of -55°C to $+60^{\circ}\text{C}$ and withstand shock up to 20g's.
- With a PMT on each end, the position of interaction of the photon can be obtained.
- Excellent uniformity can be achieved for long squareline detectors (up to 1m have been designed and assembled). The stopping power is sufficient for high energy gammas.



BICRON[®]

squareline... Square Scintillation Detector with Demountable PMT

popular configurations

solid crystal

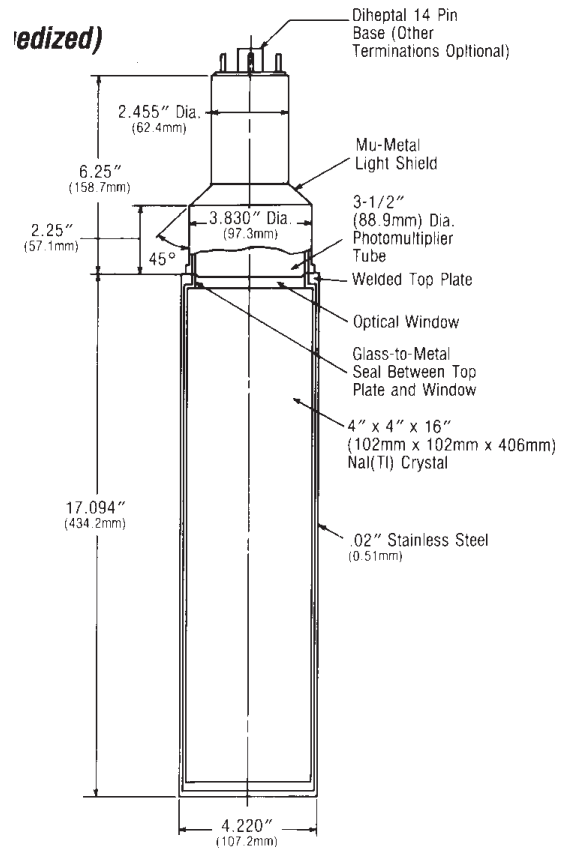
The 4" X 4" x 16" long NaI(Tl) assembly is the preferred detector for aerial survey applications. Squareline detectors are also used in whole body counting, geological surveying and medium and high energy physics applications.

Model 4X4HG16/3.5 (ruggedized) shown

Typical Solid Crystal Squareline Models

Model	Crystal Size	PMT Size
2x4H16/1.5A	2" x 4" x 16"	1.5"
4x4H4/3.5A	4" x 4" x 4"	3.5"
4X4HG4/3.5SS	4" x 4" x 4"	3.5"
4X4HG16/3.5SS	4" x 4" X 16"	3.5"

HG = all-welded construction
 A = aluminum housing
 SS = stainless steel



Manufacturer reserves the right to alter specifications.

3007(04-98)



12345 Kinsman Road • Newbury, Ohio • 44065 • USA • Phone: (440) 564-2251 • Fax: (440) 564-8047 • <http://www.bicron.com>

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