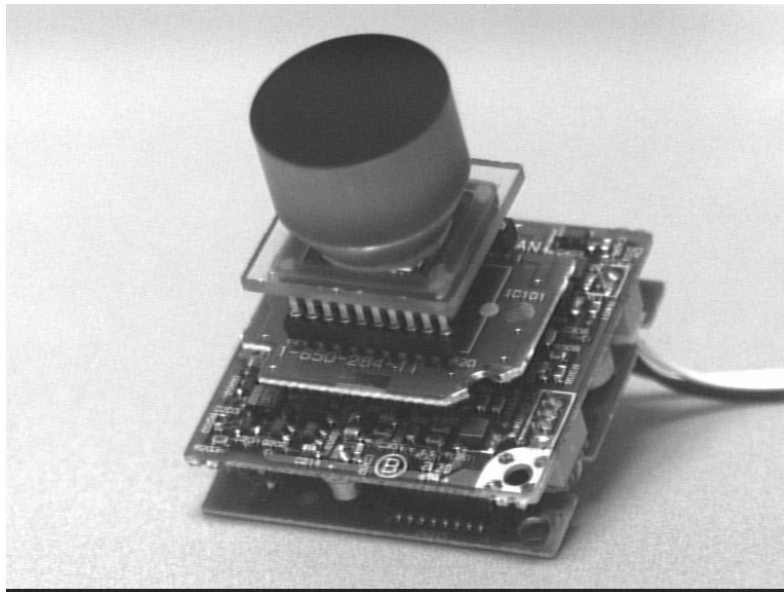


Fiber Optic Couplings



Applications

- Electron microscopy cameras
- MCP detector cameras
- Low light level cameras
- High speed cameras
- UV cameras
- X-Ray cameras
- Night vision cameras

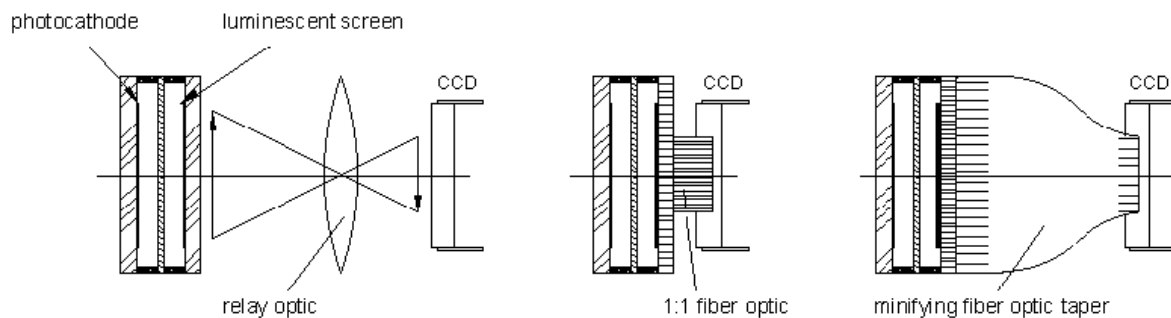
Features

- efficiency up to 70% (1:1)
- Coupling of fiberoptic plates or tapers
- Coupling with line CCDs
- Coupling with area CCDs
- All dimensions possible
- Selected coupling oil
- Good protection of bond wires

Preparation and Features

As a manufacturer of image intensifiers and low-light CCD cameras, PROXITRONIC has a profound experience in coupling fiber optics to CCD sensors. This means that almost any CCD camera can be equipped with an image intensifier to increase its sensitivity and to extend its spectral range into the UV range.

In principle, the transmission of the screen-picture to the CCD can be done via a relay optic or via fiber optic coupling.



Transmission of the screen-picture to the image intensifier via a relay optic or via fiber optic coupling

As luminescent screens give off light distributed over an angle of 180° (halfspace, Lambert distribution), a relay optic transmits only a relatively small fraction of the complete light intensity. This means that for example a size 1:1 optic of the relative aperture 1:1.0 has a transmission of ca. 5%! For comparison, a high quality 1:1 fiber optic shows a transmission of up to 70%. This is why PROXITRONIC exclusively uses fiber optic couplings for low-light and high-speed cameras.

Whether a coupling is done with a 1:1 fiber optic block or a magnifying/minifying fiber optic taper depends on the active area of the image intensifier, the size of the CCD sensor and the application.

The optic coupling implies the use of a coupling oil. On request, an optic glue can be used. The image intensifier is connected to the camera via a mechanic frame.

Not only image intensifiers but also fiber optic blocks or tapers can be coupled to virtually any CCD on the market.

Experience with CCD's

We have experience with the coupling of CCD area and CCD line elements for example:

DALSA	IA-D1-0064E, IA-D1-00124E, IA-D1-0256D, IL-C6-2048B
EEV	CCD15-11-5-656
Fairchild	FCCD 181 IEDC
Kodak	C2L, KFA 1000, MA 361
Philips	FT 1010, FT-18V1
Reticon	RL 0128 KAU-011, HS0256JAU-11, RA 1024 JAU 022, RL 2048 SAQ-011
Sony	ICX 022, ICX 024, ICX 038, ICX 039, ICX 055, ICX 083, ICX 085
Thomson	TH 7696, TH 7863, TH 7883, TH 7888, TH 7895, TH 7896, TH 7899

Before a fiber optic is mounted to a CCD, it is necessary to remove the protective window of the CCD. PROXITRONIC has developed different procedures for this process and for a variety of CCD types.

Warranty

The removing of the protection window of the CCD bares a risk of 10-20 % to damage the CCD. If you can supply the CCD without the protection window the risk would be only 5 %.

In the case of the destruction of the CCD due to the removing of the protection window or the preparation of the fiberoptical coupling we assume liability only at rough negligence.