



## Fiber optics by SCHOTT for increased safety

### Data communication in planes

Mainz, May 18, 2010 - Whether in the cockpit or the cabin, data communication has an increasing role to play in the modern aircraft. The infotainment systems are becoming more complex by the minute. There are many new opportunities for information management and control technology improving comfort, efficiency and sustainability on board. But that also means more cables, and that's where fiber optics comes in. It offers numerous advantages over ordinary cables – one of which is the safety factor. Fiber-optic cables from SCHOTT are an excellent solution for use in aircraft.

While conventional copper cables communicate information as electric impulses, fiber optics use light. This enables a much larger volume of data to be transported. Fiber-optic connections are immune to electromagnetic disturbance, emit no radiation themselves and are much lighter than copper cable. All of which are important factors when it comes to use in aircraft.

However, the greatest advantage is safety. When copper cables age or become damaged, sparks can fly between open sections. This poses a significant risk, and the danger is growing around the globe. More and more fires are occurring on board planes due to cable failures. Various investigations in the United States, e.g. those made by aviation experts from the US National Transportation Safety Board (NTSB), have shown that even brand-new aircraft often fly with damaged cables.

It's a different story with fiber optics: they are resistant to chemicals and temperature, and hardly age at all. If they are damaged, there are no sparks. Fiber-optic cables take the strain off standard copper cables wherever data is being transferred, and at the same time mean more data can be transferred.

"Fiber-optic solutions from SCHOTT were specially developed for use in aircraft and meet all the standard norms," Dr. Armin

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Plichta, General Manager of SCHOTT Aviation, comments.  
“When it came to designing solutions for planes, SCHOTT was able to draw on its considerable expertise from the automotive industry – both in terms of R&D and practical experience.”

With a very small bending radius of under 5 mm, SCHOTT fiber-optic cables are extremely flexible. Unlike other fiber optics, SCHOTT’s data cables all consist of 280 individual fibers. Even if damaged, the redundancy is very high, so faults are nearly impossible. This also means that fiber-optic cables do not need the complex mechanical protection present in copper cabling, which saves weight. SCHOTT fiber optics makes it simple to build connections, and with optic amplifiers, long distances can even be bridged.

SCHOTT has long had a leading role in fiber optics and data communication worldwide.

Already today, SCHOTT Aviation components can be found in many airplanes. The business platform has intensified its commitment to the aircraft industry by bundling its related activities. SCHOTT has been active in this sector since the early 1990s and offers its customers specially-designed products: innovative solutions provide both intelligent illumination as well as attractive design inside the cabin. In-seat reading lights and mood lighting scenarios increase passenger comfort even further. Optoelectronic components on the basis of glass/ceramic-to-metal seals in addition to special optical glass and coatings also contribute towards greater safety on board an aircraft.

SCHOTT Aviation – your partner for solutions in Interior Design, Electronics & Sensors, Datacom and Navigation.

*3,565 characters including empty spaces*

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*To this end, the company has been developing special materials, components and systems for over 125 years. The main areas of focus are the household appliances industry, pharmaceuticals, solar energy, electronics, optics and the automotive industry. The SCHOTT Group is present in close proximity to its customers with production and sales companies in all its major markets. The Group's approximately 17,400 employees generated worldwide sales of approximately 2.3 billion euros in the fiscal year 2008/2009. The company's technological and economic expertise is closely linked with its social and ecological responsibility. SCHOTT AG is an affiliate of the Carl-Zeiss-Stiftung (Foundation).*



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While conventional copper cables communicate information as electric impulses, fiber optics use light. This enables a much larger volume of data to be transported. For aviation, glass fibers offer numerous advantages such as high thermal stability, low inflammability or a narrow bend radius.

Press photographs from SCHOTT are available for downloading from: [www.schott-pictures.net](http://www.schott-pictures.net)

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