



The Fibreoptic Industry Association

www.fia-online.co.uk

NEWSLETTER

Issue 81

June/July 2006

THE FIBREOPTIC INDUSTRY ASSOCIATION

Tel: +44 (0)1763 273039

Fax: +44 (0)1763 273255

Email: fia@fiasec.demon.co.uk

Head Office: The Manor House,
BUNTINGFORD, Hertfordshire SG9 9AB
United Kingdom

Index

FIA and ISO/IEC 14763-3.....	1
FIA Approved Installers Scheme.....	1
FIA Technical Director is an oaf - it's official.....	2
FIA Seminars - September 2006.....	2
UKCPO bag KTN grant.....	2
ADC KRONE Awarded T5.....	3
FIA Web-Site Advertising.....	3
FIA Standards Forum.....	3
The amazing shrinking world of 10GBASE-T!!!.....	4
FIA Members e-Guide.....	5
Forthcoming Events.....	5
FIA attends OPTO2006.....	5

A warm welcome to the following NEW MEMBERS

Corporate

- 594 - GLOBALCOM (UK) LIMITED
- 592 - COBALT DATA SERVICES LIMITED
- 591 - PASSCOMM LIMITED
- 589 - A TO B COMMUNICATIONS LIMITED
- 588 - SERVICEPOWER LIMITED
- 587 - TRATOS LIMITED

Associate

- 593 - FIBRE TEST AND MEASUREMENT LIMITED

Personal

- 590 - Mr. Paul Hutchinson

FIA and ISO/IEC 14763-3

The new international standard for testing of installed optical fibre cabling has now been published. The document is available as an electronic download (following the appropriate electronic payment) from www.iec.ch.

This is a document of some significance since its development was initiated following work within the FIA Technical Directorate and in response to our own publications of TSD-2000-4-2-1 and 4-2-2.

The FIA will publish a special Newsletter covering the impact of ISO/IEC 14763-3 in the next few weeks and we have already set aside a part of the web-site to provide specific advice to FIA members.

FIA Approved Installers Scheme

The Approved Installers Scheme (AIS) is about to undergo a major revision both to its intent and its processes.

The **Mark.II FIA AIS** is specifically targeted at the reduction of risk in installation contracts – both for the installer and their clients.

The FIA will publish a special Newsletter covering the changes to the AIS. The launch of the updated scheme will take place at a special FIA seminar on September 13th in London (with a repeat in Leeds on the following day).

FIA-online.co.uk

Visit the site and familiarise yourselves with its content - to access member-only pages you will need your membership password.

BSI and FIA BIP 0007:2004

Telecommunication cabling and equipment installations: A guide to requirements and responsibilities

Don't forget – the FIA sponsored the BIP in support of BS 6701:2004 - it's a free download to members.

FIBREOPTIC INDUSTRY ASSOCIATION

The FIA is a Company Limited by Guarantee

Management Council

- Paul Bateson - Chairman
(Optical Test and Calibration)
- Peter Lythgoe - Vice Chairman
(Lythgoes)
- John Marson - Commercial Director
(Twistnet Communications)
- Mike Gilmore - Technical Director and Treasurer
(The Cabling Partnership e-Ready Building Limited)

Industry Sector Directors

- Paul Bateson - Test & Measurement
(Optical Test and Calibration)
- John Colton - Training
(Lucid Optical Services Ltd.)
- Lee Funnell - Qualifications
(Astro Communications Limited)
- Sydney Hogg - Passive Components
(Schneider Electric UK Limited)
- Peter Lythgoe - Installation
(Lythgoes)
- Phil Whitehead - Certification Schemes
(Ortronics)

FIA Technical Director is an oaf - it's official

A lot of people have said it - and for many years - but now it's official. The FIA Technical Director, Mike Gilmore, is an oaf. Not actually an oaf but a Certified OFE - Optical Fibre Expert. Mike Gilmore was the guinea pig for the highest, Level V, award under the FIA Qualification Scheme and earned his spurs following an oral examination on 14th March 2006.

His thesis ""Multimode fibre bandwidth - its true value for high bit rate networks within plug-and-play data centre infrastructures" is now available for download at www.fia-online.co.uk/eexperts-01.htm on the FIA web-site.

Mike Gilmore hopes that not only will others benefit from the content of the thesis but may follow his example - using his thesis as a template. But you don't have to be an OFE - check out the FIA web-site for other awards under the FIA Qualification Scheme.



Mike Gilmore
CFE

Examining Board:
Paul Bateson
(FIA)
John Colton (FIA)

Prof. Ian White
(Cambridge
University)
Mike Daly
(HSBC)



FIA Seminars - September 2006

The next FIA Commercial Awareness Seminars are to be held in **London on 13th September 2006** and in **Leeds on the following day**.

The morning session on each day will feature the launch of the **Mark. II FIA Approved Installer Scheme**.

In the afternoon three separate technical presentations will be delivered. One will cover the publication of the 10GBASE-T standard and will provide an explanation of the technical shortcut (some would call it a fudge) to launch the "Short Reach" product set in order to publish the standard on time. Another will detail the impact of the publication of ISO/IEC 14763-3 (which will be addressed in a special Newsletter in the coming month) and will answer questions from members in addition to explaining the further changes that will result from this ground-breaking work. The final paper will present the imminent changes to the BS EN 50173 and 50174 series of standards.

In addition there is room for one or two more papers on topics to be selected by FIA members. Paul Bateson, FIA Chairman, said **"it is up to members to decide the topics - not the FIA Council to impose them"**. So if you have any burning issue which you wish to raise or have explained please let us know and we can build them into the September seminars - contact the Secretariat on 01763 273039 or by e-mail at jane@fiasec.demon.co.uk.



If you already receive **networking+** magazine you will have seen that the FIA produces a half-page editorial in each issue. In order to save space in this Newsletter we have arranged for all recipients of this e-mail to also receive a free-copy of **networking+**. So - you can keep in touch with the FIA and the other contributors to this broad-based, well balanced networking magazine.

If you want to download the text of earlier **FIA** articles go to <http://www.fia-online.co.uk/earticles.htm>.



UKCPO bag KTN grant

The UK Consortium of Photonics Organisations has just received the news that it has been awarded a £3M DTI grant to undertake a three-year Knowledge Technology Network project. The objective of the work is to identify and bring together the diverse photonics organisations currently operating in the UK. The act of "bringing together" will encourage collaboration and will define the necessary technology translation work in order to make such collaboration fruitful. The work benefits the DTI by enabling access to both technology and commercial surveys and by producing technology roadmaps. The latter will allow more focus to be applied to specific areas by both photonics groups and the DTI.

The work is to be undertaken by a group of photonics associations with UKCPO acting as project managers. Much of the work will be channelled via regional bodies such as Photonics Cluster UK (covering the North East and Midlands areas) but there are roles to be played by industry associations including the **FIA** which can help to focus the decision-making of the more research-based groups. Paul Bateson, **FIA** Chairman, was pleased to hear the news of the award and committed the **FIA**, as a member of UKCPO, to play its part as and when we are able to contribute in a constructive manner.

ADC KRONE Awarded T5

ADC KRONE has been awarded a significant contract from British Airports Authority (BAA), through their major infrastructure provider ntl. The terms of the contract call for a range of ADC KRONE enterprise networking, copper and fibre connectivity solutions to be deployed at London Heathrow Airport, Terminal 5. When completed in 2011, Terminal 5 will have the capacity to handle 30 million passengers annually, taking London Heathrow's total number of passengers to around 90 million per year. This will make London Heathrow the world's busiest airport.

ADC KRONE's total networking solution will enable a variety of voice and data applications from supplying the data for passenger information displays, check-in desk computer systems, baggage handling security through to point-of-sale units at the terminal's planned extensive retail and hospitality outlets.

"We selected ADC KRONE because it has experience in providing robust solutions for data intensive, mission critical environments where any downtime can be disastrous," said Kevin Fallon of BAA. "The complexity of building Terminal 5 means that it is essential to have an end-to-end voice and data solution from one company that will respond quickly to our needs. We are confident that ADC KRONE is the right partner for us on this project."

"This is a very exciting challenge for us," said Nick Norris, UK and Ireland sales director with ADC KRONE. "When fully constructed, the new Terminal 5 building will be big enough to fit around fifty football pitches across its five floors – this demonstrates the enormity of the task ahead of us. We look forward to working with ntl and BAA to provide the best performance solutions available on the marketplace, which will guarantee a superior service to the millions of staff and passengers who will work at and pass through the terminal in the future."

ADC KRONE has worked closely with ntl on design and specification of the cabling system for Terminal 5. Building on the experience gained during the building of Hong Kong airport, ADC KRONE and ntl were able to create the right cabling solution for Terminal 5.

**Are you an FIA member?
Have you got any NEWS?**

This Newsletter is provided as a means of maintaining communication between and with our Members.
It can, therefore, promote the activities of Members to other Members.
Articles, product information, news items etc. are always welcome.
Please send the information via email (jpg illustrations) to Jane Morrison via jane@fiasec.demon.co.uk

FIA Web-Site Advertising

The annual contracts covering the sponsorship of the **FIA** web-site ended on 28th February 2006. We are therefore pleased to report that Cablelines (Cablenet Trackmaster Ltd) has continued its sponsorship of the site and both CTTS and DMOptics have taken the opportunity to sponsor individual pages. But there are plenty more opportunities for FIA members to "get their name in lights".

To sponsor a page until 1st March 2007 with a logo of up to 150(H) x 100 (V) pixels costs only £175 + VAT. Full details are shown at <http://www.fia-online.co.uk/esponsor.htm> but to summarise there are just two basic designs of web-page on the **FIA** site - which we call Template and List. The way in which your sponsorship logo is positioned on the page depends upon the page design. The list of available pages is shown on the right. If you want to advertise in this way please contact Jane Morrison at the FIA Secretariat on 01763 273039 or by e-mail at jane@fiasec.demon.co.uk.

Template Pages

Open Pages
About the FIA
Approved Installer Scheme
Audit Scheme
Arbitration Scheme
e-solutions
Insurance Scheme
Jobs in our Industry
Links
Qualification Scheme
Skillsmatch
Standards Forum

List Pages

Open Pages
Articles
Events
FAQs
Newsletters
Presentations of past events
Press Releases
Stolen Equipment Register
Technical Support Documents
White Papers
Members Only Pages
Cost Modelling
Skillsmatch
Standards Forum
Technical Support Documents

FIA Standards Forum

- **documents available for download and comment NOW**

The Standards Forum now offers **FIA** Members the opportunity to comment on the standards in development by the fibre optics and cabling committees in ISO/IEC, IEC, CENELEC and BSI. These cover a range of optical fibre products such as optical fibres, cables and system components together with the design, installation and commissioning standards for cabling.

To get involved - go to the members-only area of the **FIA** site area, type in your password, go to Standards Forum and follow the instructions.

The amazing shrinking world of 10GBASE-T!!!

By Mike Gilmore, FIA Technical Director

The IEEE standard for 10 Gigabit Ethernet over balanced cabling (twisted pair to most of us) has been approved and is ready for publication. This work, initiated to provide lower cost equipment solutions to replace optical fibre in data centres, has spawned a range of cabling standards activities. But is 10GBASE-T (or more correctly IEEE 802.3an) all that it is cracked up to be? It appears not to be - at least for the moment - and some significant technical changes have been required to deliver it on time.

The intention of 10GBASE-T was to provide a delivery system for 10 Gigabit Ethernet over 100 metres of twisted pair cabling containing the usual four connections (not counting those on the equipment itself). This is already possible using screened Category 7 cabling components (producing a Class F channel). However, Category 7/Class F is only specified in European and international standards - not in the USA. So in order to provide their Category 6 components with some of the attributes of screened Category 7, the USA began to develop Augmented Category 6. The particular parameters addressed by this specification are a higher frequency range (up to 500 MHz), a lower insertion loss and, for the first time, a specification for alien crosstalk - the interference created by adjacent cables.

The proposals for Augmented Category 6 cabling being developed by ANSI/TIA/EIA represent the pinnacle of unscreened cabling performance. However, in Europe EN 50173:2002 contains a Class F channel that has already been specified to 600 MHz, already has the required insertion loss and has, by means of screening, delivers the required protection against alien crosstalk.

Therefore, we have to consider the US-inspired Augmented Category 6 and the future European equivalent channel specification (Class E_A) as being an interim, or indeed may be the last, roll of the dice before everyone recognises the need for screened cabling in support of high bitrate applications.

Nevertheless, we must not forget why 10GBASE-T itself, rather than the cabling, was being developed - to offer a low cost alternative to optical fibre in terms of the transmission equipment. The primary focus of this work was on data centres - the natural home of high bitrate applications. The Fibreoptic Industry Association has already pointed out that the replacement of optical fibre infrastructures by copper had some fundamental disadvantages in terms of channel lengths, connectivity options, cabling volumes and loads (both physical and burning). The thesis produced in support of my own Certified Optical Fibre Expert status (available for download at www.fia-online.co.uk/eexperts-01.htm) provides much more detail than we have space for here.

However, no one disputes a role for twisted pair cabling within data centres and the maximum channel length of 100 metres represents a sensible template for such areas. Indeed many infrastructure designers have adopted the 100 metre template for construction and it has been embodied in data centre standardisation both in the USA, via ANSI/TIA/EIA-942, and in Europe in the forthcoming EN 50173-5.

So what has gone wrong? Well, for the time being at least, it looks like 10GBASE-T has gone wrong. In order to encode the 10 Gigabit signal and to provide signal processing to protect that encoded signal from the ravages of electromagnetic noise, the chips obviously have to contain an enormous number of circuits. Circuits create heat - to address this we can either package the circuits to run cool or we can shrink the silicon. The standard packages on our network cards are designed to handle 4 watts. Using current silicon fabrication techniques the 10GBASE-T power dissipation approaches 12 watts.

This represented a stumbling block for the IEEE802.3an project - the solutions were limited and are quite simple. First, wait for the new silicon: second, find some new packaging and third, turn off some of the functions to reduce the heat output. The third option will allow shipments ahead of the other two. Unfortunately, the functions that have had to be turned off are quite important for cabling - i.e. removal of some of the noise cancellation processing. This has led to the last minute inclusion of a "short reach" option that is only targeted to operate over a 30 metre channel. It is expected that such equipment will be the only product that ships, at least for while. Last minute changes to standards are always risky and just two of those risks are interoperability and forward compatibility.

So where does this leave 10GBASE-T? In the short to medium term, support over channel lengths greater than 30 metres may not be guaranteed whatever type of balanced cabling is installed. It is possible that some types of cabling may provide better support than others. For example PIMF cables may go further but that is not a topic for debate here - there will no doubt be a queue of experts wanting to discuss it and in any case such guarantees may be equipment-specific.

In the meantime, optical fibre offers exactly what it always did. Check out the FIA web-site - particularly the hyperlink mentioned above - for more information on this subject.

This article was published in Networking+ in June 2006

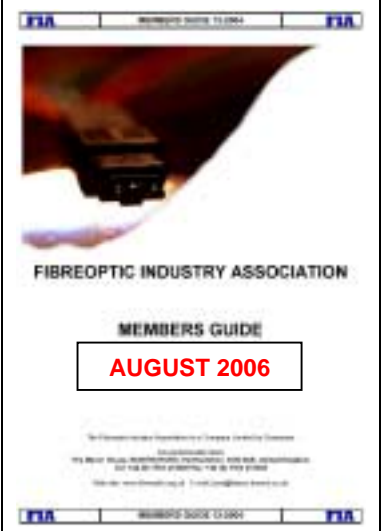


FIA Members e-Guide

The fourth electronic version of the **FIA** Members Guide will soon be available for download via the hyperlink on the home page at www.fia-online.co.uk. The e-Guide contains a listing of our member's products and services together with separate sections for FIA Approved Installers and Training Providers. The document is updated on a regular basis, to keep pace with changes in membership and member's details. Please make sure you update your information by advising the FIA Secretariat.

The FIA Secretariat takes this opportunity to thank all those advertisers who have taken space in the e-Guide. Advertising space in the e-Guide is available at any time. The advertising contract lasts for twelve months, independent of how many revisions are published during that time. If you to advertise in this way please contact Jane Morrison at the FIA Secretariat on 01763 273039 or by e-mail at jane@fiasec.demon.co.uk.

The pdf download from the FIA web-site is a print-quality file and contains hyperlinks to all companies that have advertised. It is proposed that electronic copies of the e-Guide will be made available at exhibitions and upon request from the Secretariat.



Version 1.02 of BIP0007 now available
for download
from
www.fia-online.co.uk
MEMBERS ONLY

Telecommunication cabling and equipment installations

A guide to requirements and responsibilities



Forthcoming Events

opto

Le seul salon européen
dédié à toutes
les solutions optiques

cabling systems europe

Le salon
de l'infrastructure
des réseaux câblés
et sans fil

forum de l'électronique

Le rendez-vous annuel de toute la filière électronique

mesurexpo

Le salon
de l'instrumentation
pour la recherche,
les essais et l'industrie

FIA attends OPTO2006

Our French colleagues in Club Optique and many other organisations are exhibiting at this years OPTO show in Paris (see right).

The FIA hopes to be there - promoting both our activities and those of our members.

.. what about you?

If FIA members wish to exhibit separately from the FIA a special rate has been agreed for those wishing to have a small exhibition stand. The "TABLE TOP" offer is available for only 1157 € (excluding VAT) for a table, 2 chairs, carpeting, signage with your company name, registration fees and automatic insurance.

All this information is included in the attached leaflet.

In association with our French colleagues Club Optique we take this opportunity to draw your attention to the four-exhibitions-in-one event in Paris (17th-19th October 2006) at the Paris-Expo, Porte de Versailles.

www.cablingexpo.com
www.forum-electronique.com
www.mesurexpo.com
www.optoexpo.com

Watch this space for further information.

October 17, 18, 19, 2006 • Paris-Expo • Porte de Versailles • France
A 3-day exhibition **Hall 7.3**



OPTO hosts the EOS Annual Meeting

A **4** day international conference
From October 16-19, 2006

www.optoexpo.com

A 4-day conference

October 16, 17, 18, 19



A 3-day exhibition

October 17, 18, 19, 2006

OPTO/EOS ANNUAL MEETING the best opportunity for you to:

- Participate in an event recognized in the world of industry and research;
- Show the new developments in your equipment, the technical advancements to validate the products' behaviour during their lifetime.
- Review the market trends;
- Optimize the presence of key accounts from the aircraft, automotive, armament, space, energy, industries ...,
- Reinforce or develop your reputation;
- Benefit from the attractiveness of a top-level symposium;
- Profit by the synergy of the complementary exhibitions Forum de l'Electronique and Mesurexpo that will be held at the same dates and in the same venue.

On the exhibitors side

200 expected exhibitors who will include all the French and European optics leaders:

Research & Development, Integration, Convergence and Applications.

- Super broad-band optical networks
- Industrial lasers and laser systems
- Optical solutions for testing, measuring and safety
- OEM optical and optoelectronic components
- Nanotechnologies
- Imaging and display
- Lighting and signs
- Services

INTERNATIONAL CONGRESS EOS ANNUAL MEETING

EOS (European Optical Society)

Coherence for Europe™

The combination of a scientific conference and an exhibition is a good opportunity to show the vitality of the optics and photonics industries in Europe.

The scientific conference will feature **6 topical meetings** covering:

- Nanophotonics and Metamaterials;
- Nonlinear Optics;
- Photonic Devices in Space;
- Biophotonics;
- Micro-Optics;
- Extreme Optics.

Programme and registration at:
www.myeos.org

Contact: Silke KRAMPFICH
E-mail: paris@myeos.org



Choose your stand package according to your needs

3 packages exclusively reserved for new exhibitors*

Table Top Module

- Surface
- Furniture (1 table, 2 chairs)
- Carpeting
- Sign with company name
- Registration fees
- Automatic Insurance

1 157 € HT



Equipped module

- Surface: 12 sq.m
- Aluminium structure
- Melamine partitions
- Carpeting
- Spotlights
- Sign with company name
- Electrical connection (3kw)
- Registration fees
- Automatic Insurance

5 197 € HT



Personalized module

- Surface: 12 sq.m
- Aluminium structure
- Melamine partitions
- Carpeting
- Spotlights
- Storeroom
- Sign with company name
- Sign above the stand
- Electrical connection (3kw)
- Furniture credit
- 2 parking spaces
- Registration fees
- Automatic Insurance

5 977 € HT

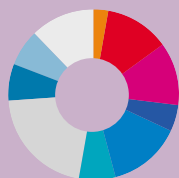


*Companies which have never participated in the exhibition OPTO
VAT 19.6%
Non contractual images

On the visitors side

4 100 expected visitors

Equipment manufacturers, Manufacturers, Distributors, Installers, Integrators, Laboratories, Operators, Local authorities, Users



Main industries

- 3% Automotive
- 12% Building, civil engineering, town planning, property developers
- 12% Optical engineering
- 5% Space, aircraft
- 14% Electrical engineering and electronics
- 7% Military, defence
- 21% Research, laboratories, research organisms
- 7% Healthcare, pharmaceutical
- 7% Services, consulting firms
- 12% Telecommunications

Main departments

- RESEARCH AND DEVELOPMENT 36%
- TECHNICAL ENGINEERING DEPARTMENTS 12%
- GENERAL MANAGEMENT 9%

- DESIGN/PLANNING 8%
- TECHNICAL MANAGEMENT 6%
- MEASURING, METROLOGY 6%

Visitors admittance figures GLDS statistics for Opto 2005

- 4 100 visitors
- 200 exhibitors
- 600 congress delegates

A communication plan equal to this new dynamic

➤ A large-scale communication campaign aimed at the French and European press.

➤ Strong partnerships with trade associations and leading magazines.

➤ Special events and programmes during the exhibition.



➤ An Internet site to give you the latest exhibition updates, and prompt visitors to prepare their visit.

➤ Targeted direct marketing exercises aimed at all photonics companies and professionals.

Opto is actively supported by the trade associations

APOP ALPHA



EOS European Optical Society



The Team

Valéry LINYER

Director
Industry, Commerce & Technologies Division

Benoît GAUTHIER

Exhibition Director

www.optoexpo.com
www.myeos.org

Martine RENOULT

Deputy Exhibition Manager
Tel.: 33 (0) 1 49 68 51 89
email: mrenoult@exposium.fr

Guillaume DODEMAN

Sales Manager
Tel.: 33 (0) 1 49 68 51 83
email: gdodeman@exposium.fr

SAME PLACE, SAME DATES:

FORUM DE
L'ÉLECTRONIQUE

www.forum-electronique.com



Mesurexpo

www.mesurexpo.com