FIA
The Fibreoptic Industry Association

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Market Review September 2005

by
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for Networking+

The Fibreoptic Industry Association (FIA) is pleased to have the opportunity to have been offered a regular slot in Networking+. We hope that the information provided will be of direct use to readers and to set the scene this first article will provide an overview of the optical fibre market in the telecommunications arena, detail some of the current pervading trends and burning issues. We also explain the role of the FIA and take a brief look at some of the topics that will be covered in the coming months.

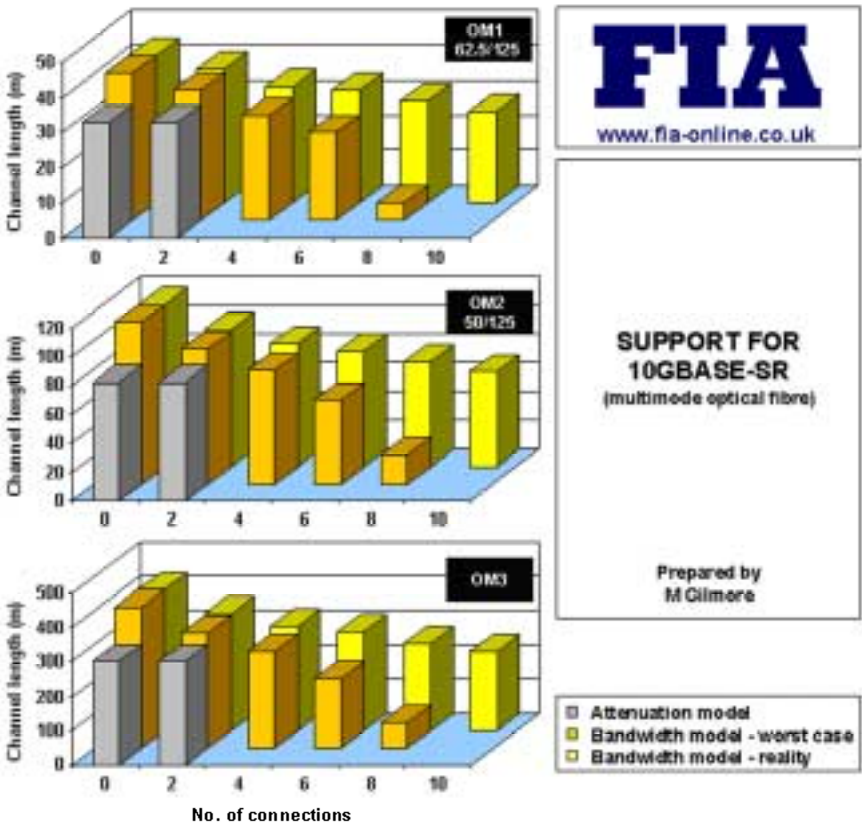
We have to start by defining the term "telecommunications": the FIA have adopted the international standards definition which covers all types of communications services be it for voice, data, command and control etc. The FIA recognised, many years ago, that the convergence of these services would occur by natural evolution and that cabling infrastructures within and between premises would become application-independent. As most of our members are involved in installation of cabling infrastructures, this article focuses on the trends and issues in the area of product selection and working practices.

Product selection for optical fibre cabling has radically changed over the past three years. In long-haul telecommunications, bandwidth has always been king – singlemode optical fibres of ever increasing data-carrying potential have been developed to meet the demands of WAN and MAN markets and their transmission technologies.

In comparison, for almost twenty years, the short-haul premises distribution market focused on multimode optical fibre (62.5/125 MMF) which had comparatively poor bandwidth. With the arrival of 1Gb/s and 10Gb/s data rates the whole selection criteria has altered in a most fundamental manner. Bandwidth is now king in premises as well as between them. Anyone considering installing 62.5/125 MMF in a new-build would be subject to detailed questioning by any professional installer worth their salt. As a reflection of this change, the optical fibres within cables are now "Categorised", similar to copper cables.

The adoption of Category OM1, OM2 and OM3 multimode optical fibres (defined in terms of increasing bandwidth) has become widespread. Not only have we got new levels of bandwidth performance within the optical fibres - we have also modified the way in which we value bandwidth. Once upon a time, improved bandwidth was simply seen as a means of getting a given data rate over a greater distance or a higher bit rate over a given distance. Now, for the 1Gb/s and 10Gb/s networks such as Ethernet, we see the use of OM3 optical fibre as an enabler of increased levels of connectivity – enabling plug-and-play services within data centres – and, alternatively, a provider of significantly higher network reliability and contamination-proofing.

So do we see a continuing migration to ever increasing bandwidths and the growth in the use of singlemode optical fibre within premises? It is certainly true that singlemode optical fibre offers further massive increases in capacity. However, the cost of transmission equipment and the increased risk of contamination-related failures for the small core areas serve as a brake on this trend. A close-eye needs to be kept on the development of new plastic fibres that combine large core areas (proof against dirt at connections) with bandwidths significantly beyond that of OM3.



Following a period of relative chaos on the field of RJ-45 size connector choice, the duplex LC connector seems to have won the standards debate (supplanting the larger SC in a number of cases). There is considerable interest in multi-fibre connectors - particularly in data centre environments and linked into the plug-and-play concepts mentioned above.

While the trends in product use are clear, there are growing concerns about the tendency to include and, in some cases bury, telecommunications cabling within more general mechanical and electrical contracts. The stabilisation of product selection has led to a treatment of cabling infrastructures as commodity items - which at the basic level they certainly are - without realising that design, planning, installation and commissioning continues to require expertise and supervision. Optical fibre is not alone - the same is true of copper telecommunications cabling - but the trend towards installation cost reduction by removal of expert personnel comes with considerable risk for the end-client and installer alike. This approach has resulted in an increase in installations that do not meet clients needs and which cannot, realistically, be made to do so - to say nothing of the costs of associated delays and litigation.

The FIA finds itself in a market where the products used by its members deliver more than ever before but where a de-skilling of basic project management jeopardises any benefits that may have resulted from their use. In the face of this environment the FIA has set out to define best practice for the industry and in the technical area has grown increasingly involved with international standards associated with installation practices.

A wide range of Technical Support Documents have been produced covering design, installation, testing and operational matters in including safety. A ground-breaking Qualification Scheme has just been launched and a new Approved Installer Scheme is being developed for launch before year end 2005.

The FIA also produces “White Papers” on a number of topics and some of these will be covered in future Networking+ articles – including the management of dark fibre, new test procedures for in-building networks the true impact of 10GBASE-T.

If you wish to access the resources provided by the FIA go to www.fia-online.co.uk. Enquiries can be e-mailed to jane@fiasec.demon.co.uk.or, alternatively, you can contact the FIA Secretariat in 01763 273039.