Contribution to IEEE 802.5 Committee

Standards Project:	IEEE 802.5 100Mbps and 1000Mpbs Token Ring
Subject:	Normative Annex on Small Form Factor Optical Fiber Connectors
Date:	December 3, 1998
Source:	John Hill/Ken Hall, AMP Inc Paul Kolesar, Lucent Technologies Tad Szostak, 3M Corp

Background:

Manufacturers, industry and more importantly end-users recognize the need for, and the benefits of, small-form factor connectors, both as a LAN electronic interface and as a cabling connectivity solution. However, previous attempts by TIA TR-41.8.1, IEEE 802.3 and the ATM Forum to select one of the various small form factor connectors have resulted in non-decision. In each case the selection process has been non-productive, time consuming and kept the committee from dealing with other pressing issues delaying the publication of their representative standards. AMP Inc, Lucent Technologies, and 3M Corp, recognizing the same outcome will likely occur within IEEE 802.5, have agreed that the three small-form factor connectors (SG, LC and MT-RJ) previously proposed to the IEEE 802.5 committee should be allowed as alternate connectors to the duplex SC. While this is a compromise, it recognizes the benefits of the three small-form factor connectors and pragmatically addresses the current state of the industry.

Motion:

John Hill / Ken Hall – AMP Inc, Paul Kolesar - Lucent Technologies, and Tad Szostak - 3M Corp propose the following information to be placed in the main body and in a normative annex of the 100Mbps and 1000Mbps Token Ring IEEE 802.5 standard. This is in response to the action item to develop a comparison matrix and completes this work item.

Yes: _____ No: _____ Abstain: _____

Notice:

This contribution has been prepared to assist the IEEE. This document is offered to the Committee as a basis for discussion and is not a binding proposal on AMP Inc, Lucent Technologies, 3M Corp or any other company. The requirements are subject to change in form and numerical value after more study. AMP Inc, Lucent Technologies and 3M Corp specifically reserve the right to add to, or amend, the statements contained herein.

Copyright Statement

Intellectual Property Statement

The individual preparing this contribution does not know of patents, the use of which may be essential to standard resulting in whole or part from this contribution.

The following statement is proposed for insertion to the main body of the IEEE 802.5 100Mbps and 1000Mbps standard in the section concerning connector interface.

Small-form factor, optical receptacles and connectors as documented in annex xx may be implemented when requiring higher port density than possible with the duplex SC.

Annex XX
(normative)

Small Form Factor Optical Fiber Connectors

XX.1 Scope

This annex defines small form factor, high density, optical fiber connectors and corresponding interfaces for Token Ring applications. Intermateability specification and graphical representation for each connector type are included. References to other applicable IEC and/or TIA standards are provided.

In the context of this annex, the term connector refers to the family of components that comprise the connector system, including receptacles, plugs, and adapters/sockets/jacks.

XX.2 Connector Requirements

a) The connector shall comply with all of the optical fiber performance requirements of ISO/IEC 11801 and ANSI/TIA/EIA-568 cabling standards.
b) The connector shall meet the dimensions and interface specifications of the corresponding IEC 61754 standard, or national equivalent (for example ANSI/TIA/EIA 604). The IEC 61754 standard supercedes the national equivalent.
c) The connector shall ensure transmit and receive polarity is maintained.

XX.3 Connector Interfaces

XX.3.1 SG Interface

The SG optical fiber connector interface is defined by the ANSI/TIA/EIA 604-7 Fiber Optic Connector Intermateability Specification, Type "SG" (FOCIS-7). Figure XX.1.a depicts SG plug and receptacle, as might be implemented on active network equipment. Figure XX.1.b depicts SG plug and socket, as might be implemented for passive network connections.

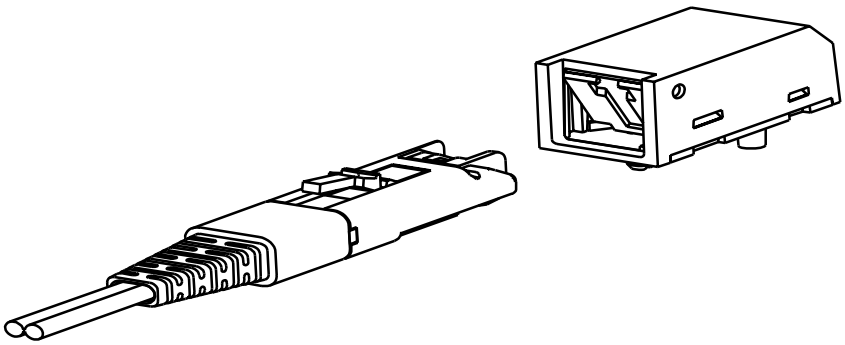

Figure XX.1.a - SG Plug and Receptacle

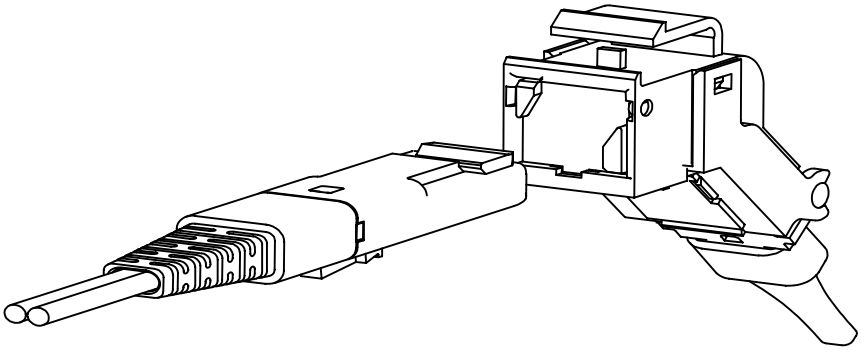

Figure XX.1.b - SG Plug and Socket Configuration

XX.3.2 LC Interface

The LC optical fiber connector interface is mechanically defined by the ANSI/TIA/EIA 604-10 Fiber Optic Connector Intermateability Specification, Type "LC" (FOCIS-10). Figure XX.2.a depicts LC plug and receptacle, as might be implemented on active network equipment. Figure XX.2.b depicts LC plug and adapter, as might be implemented for passive network connections.

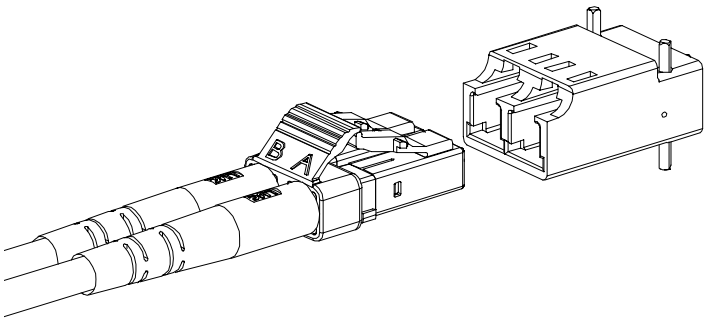

Figure XX.2.a - LC Plug and Receptacle

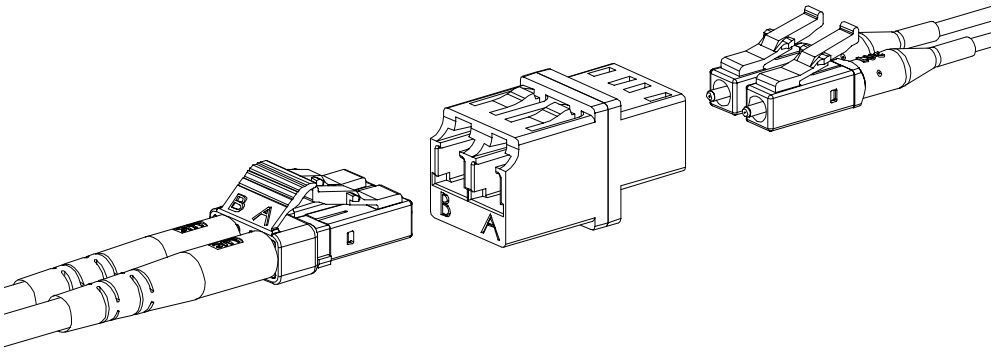

Figure XX.2.b - LC Plug and Adapter Configuration

XX.3.3 MT-RJ Interface

The MT-RJ optical fiber connector interface is mechanically defined by the ANSI/TIA/EIA 604-12 Fiber Optic Connector Intermateability Specification, Type "MT-RJ" (FOCIS-12). Figure XX.3.a depicts MT-RJ plug and receptacle, as might be implemented on active network equipment. Figure XX.3.b depicts MT-RJ plug and jack, as might be implemented for passive network requirements.

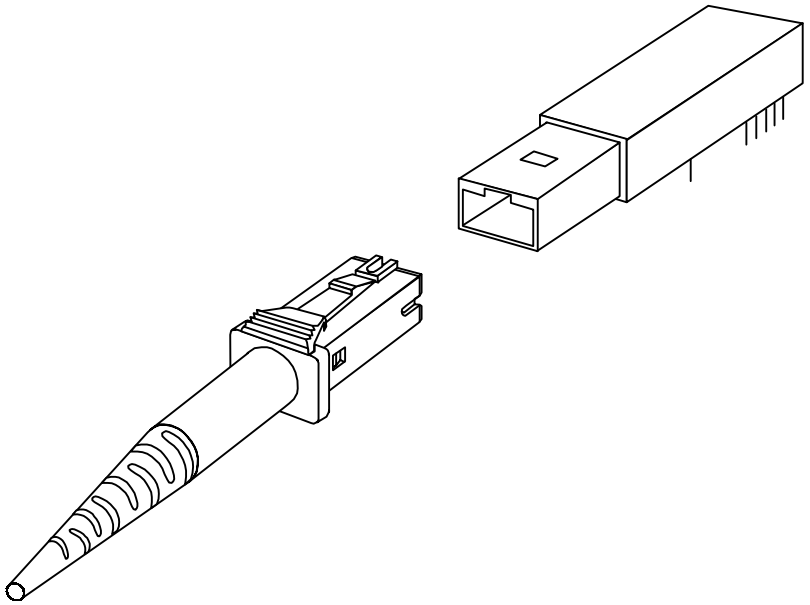

Figure XX.3.a – MT-RJ Plug and Receptacle

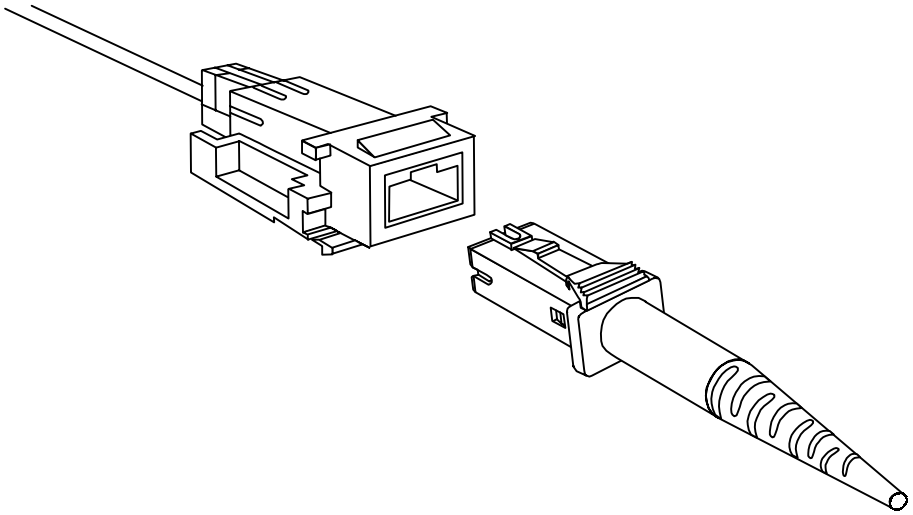

Figure XX.3.b – MT-RJ Plug and Jack Configuration